

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

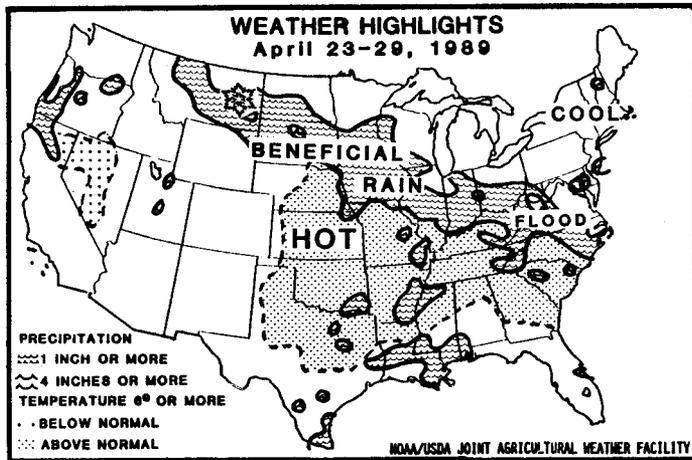
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National Weather Summary

April 23-29, 1989



TUESDAY: Thunderstorms continued to develop along the stationary front. These storms produced large hail, damaging wind, and heavy rain from the upper Ohio Valley to northeastern North Carolina. Up to 5 inches drenched central West Virginia and caused severe flooding. Rain showers were scattered down the Pacific seaboard and were widespread across the Northern States from the Northwest to the Great Lakes. Heavy snow fell in the Sierra Nevada mountains of California. Much of the southern half of the Nation had sunny skies and high temperatures.

WEDNESDAY: Thunderstorms again developed along the stationary front and produced rain, hail, and high wind from the western Corn Belt to North Carolina. Showers and thunderstorms were spread across the Pacific Northwest to the upper Mississippi Valley, bringing welcomed rain to the spring wheat areas of the northern Plains. The record-breaking heat in the central and southern Plains moved slowly Eastward.

THURSDAY: More thunderstorms caused soaking rain and severe weather from the northern Plains, across the Corn Belt, and to the Virginia and North Carolina coast. Heavy snow fell over the northern Rockies and northern High Plains. Cold air flowed into the North Central States, while hot, humid conditions remained ahead of the front and across the Southeast.

FRIDAY: Thunderstorms continued along the frontal system, extending through the central and eastern United States. Severe weather reached from the eastern southern Plains to the central and southern Appalachians. Rain was widespread in the Mississippi, Ohio, and middle Missouri River Valleys and Great Lakes. Snow continued over the northern Rockies and northern High Plains.

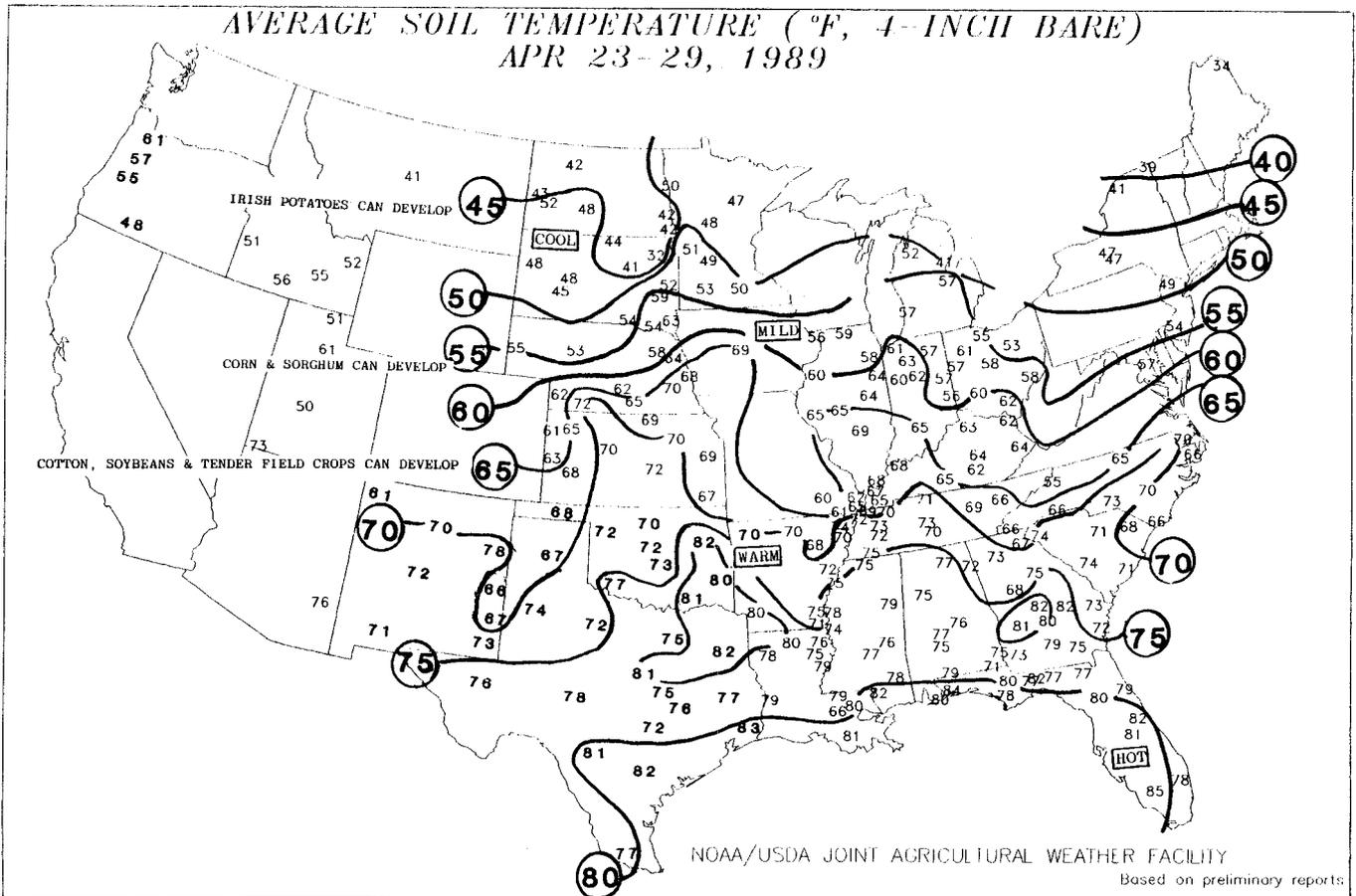
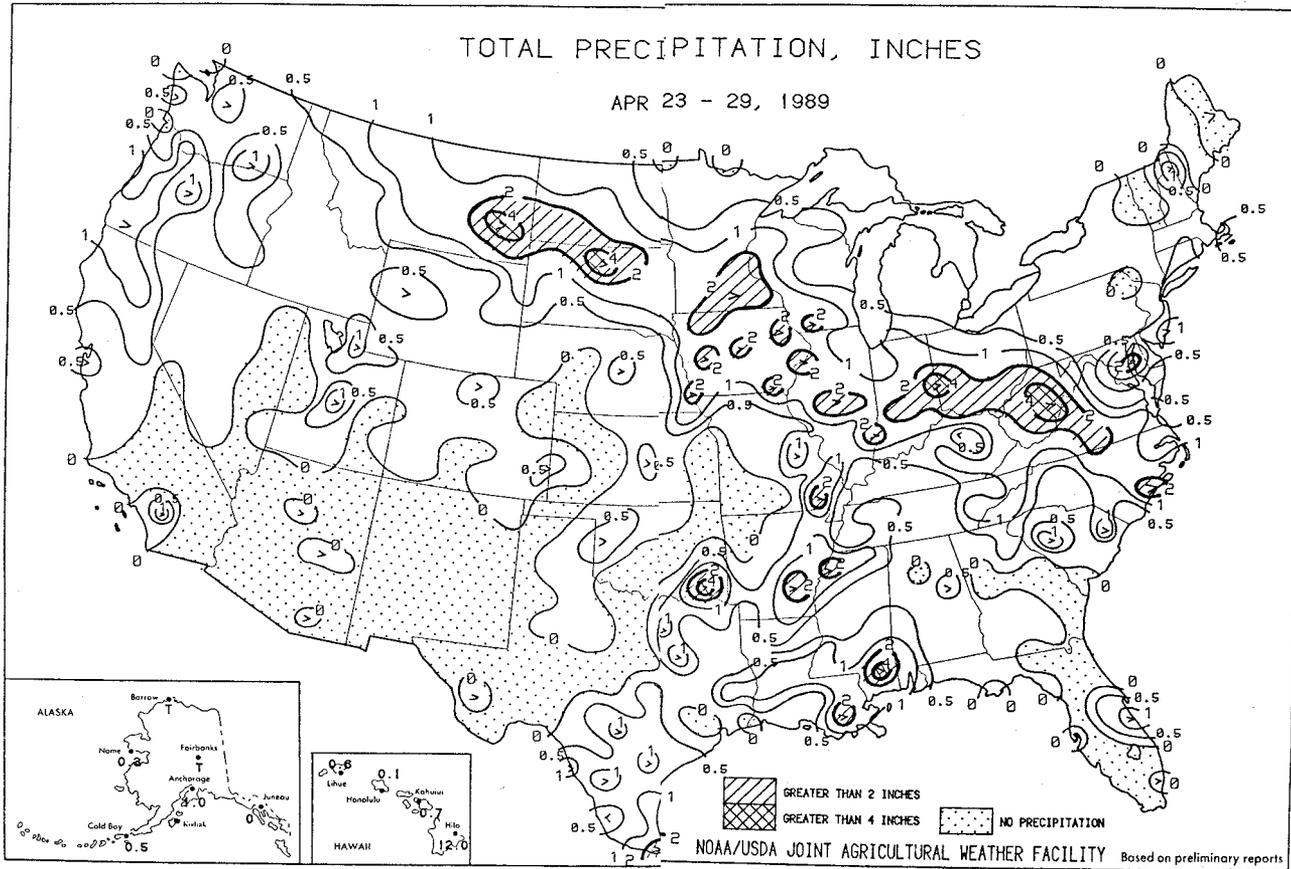
SATURDAY: The frontal system continued to shift eastward as rain showers and thunderstorms spread over much of the eastern half of the Nation. Snow showers spread from the Rockies into the upper Great Lakes. Thunderstorms spawned tornadoes in eastern Texas.

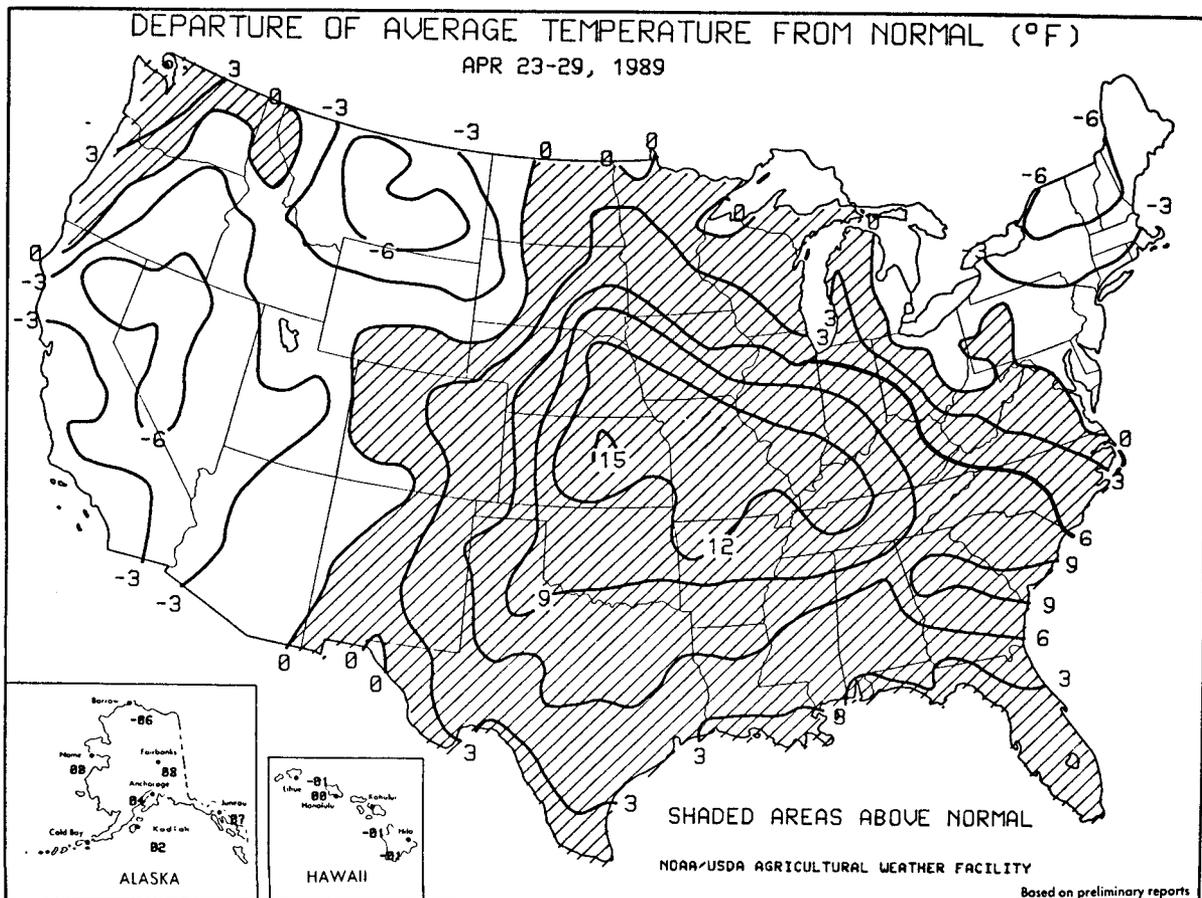
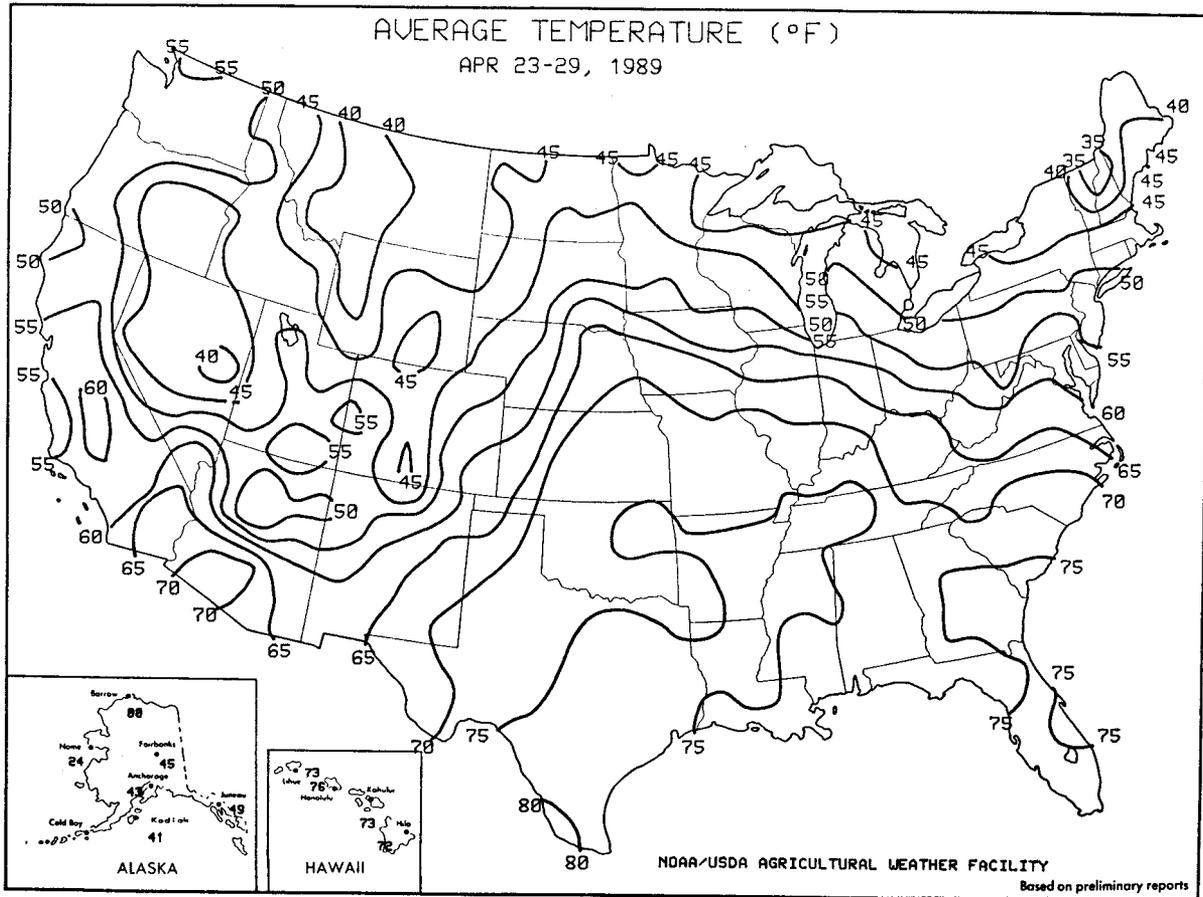
HIGHLIGHTS: A frontal system remained stationary during much of the week and separated hot, humid air in the central and southern Plains across to the southern Atlantic coast from cool air to the north. Rain showers and thunderstorms developed around the stationary front, bringing severe weather but generally very beneficial rain from the northern Plains, across the Corn Belt, and to the North Carolina Coast. Excessive rain caused severe flooding in central West Virginia and heavy snow blanketed the northern Rockies and northern High Plains. Cool weather replaced the persistent heat in the Southwest and Great Basin, while arctic air flowed into the North Central States at week's end.

SUNDAY: Intense thunderstorms during the morning dropped 2-3 inches of welcomed rainfall over eastern Iowa and northwestern Illinois. Several tornadoes were spawned in the central Plains. Rain was widespread across the Pacific Northwest with snow in the higher elevations. Cool weather remained in the Northeast and along the Pacific coast, while record-breaking high temperatures continued in the central portions of the country.

MONDAY: A stationary front curved from the central Plains to the Carolinas and separated cool air to the north from the hot air to the south. The temperature reached 101 degrees at Russell, KS. Thunderstorms were widely scattered around the front and in the southern Plains. Showers were scattered in the West. Brisk southerly winds prevailed from the southern High Plains to the lower Missouri Valley as blustery north winds crossed the northern Plains.

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National Weather Data for Selected Cities

Weather Data for the Week Ending April 29, 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	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	85	59	88	58	72	6	T	-1.1	T	9.4	83	17.7	83	91	39	0	0	0	0
MOBILE	86	62	89	58	74	3	1.4	.2	1.1	9.0	77	12.6	60	99	41	0	0	2	1
MONTGOMERY	86	60	89	56	73	5	T	-.9	T	14.5	143	19.4	103	94	46	0	0	1	0
AK ANCHORAGE	49	38	58	33	43	4	1.0	.8	.9	1.2	99	1.7	58	79	45	0	0	4	1
BARROW	6	-7	12	-21	0	0	T	0	T	.6	179	.9	125	85	71	0	7	1	0
FAIRBANKS	55	35	61	33	45	8	T	-1.1	T	.2	30	1.7	104	82	38	0	0	0	0
JUNEAU	62	36	66	32	49	7	T	-1.7	0	2.1	34	8.9	66	96	36	0	1	0	0
KODIAK	45	37	48	34	41	2	2.5	1.6	1.4	7.5	101	11.5	63	97	76	0	0	4	2
NOME	29	18	37	0	24	0	0	.3	.2	2.0	177	4.9	205	90	69	0	7	5	0
AZ PHOENIX	83	59	91	54	71	0	0	0	0	1.1	105	2.3	99	34	12	1	0	0	0
PRESCOTT	67	36	73	29	51	-1	0	-1.0	0	.6	26	2.2	41	48	13	0	1	0	0
TUCSON	82	50	87	41	66	-2	0	-1.0	0	.6	64	1.8	76	35	9	0	0	0	0
YUMA	82	58	91	53	70	-3	0	0	0	.1	50	.7	84	43	15	1	0	0	0
AR FORT SMITH	89	61	91	57	75	10	T	-1.0	T	6.5	82	16.5	135	94	38	3	0	0	0
LITTLE ROCK	86	65	87	63	75	10	T	-1.0	T	9.3	95	21.1	120	79	46	0	0	2	0
CA BAKERSFIELD	75	48	87	43	61	-4	T	-.1	T	.9	56	1.8	51	77	27	0	0	0	0
EUREKA	58	44	63	40	51	1	.6	0	.4	9.3	118	16.9	84	86	62	0	0	3	0
FRESNO	73	48	82	44	60	-2	.1	-2.1	.1	2.3	85	4.0	60	81	27	0	0	1	0
LOS ANGELES	66	51	71	48	59	-2	T	-1.1	T	.9	33	3.2	39	86	49	0	0	0	0
REDDING	66	42	78	40	54	-9	1.8	1.3	1.0	13.8	179	17.1	76	92	45	0	0	3	2
SACRAMENTO	71	44	80	39	58	-3	T	-2.2	T	6.4	195	8.4	83	91	35	0	0	1	0
SAN DIEGO	67	55	71	51	61	-1	.1	0	.1	.8	32	1.9	31	78	48	0	0	1	0
SAN FRANCISCO	65	47	73	45	56	0	.6	.3	.3	4.8	116	7.3	61	90	48	0	0	3	0
CO DENVER	67	43	85	31	55	4	.1	-4.1	.1	1.2	41	3.0	74	76	28	0	2	2	0
GRAND JUNCTION	68	47	82	36	58	3	T	-.2	T	.7	50	3.0	118	49	18	0	0	0	0
PUEBLO	75	40	90	29	58	3	T	-.3	T	.3	17	1.4	65	66	19	1	1	0	0
CT BRIDGEPORT	62	41	71	31	52	-1	.7	-.1	.7	6.2	82	10.0	73	52	27	0	1	1	1
HARTFORD	62	35	70	26	48	-5	.5	-.4	.5	6.5	81	9.2	62	70	24	0	2	1	0
DC WASHINGTON	71	50	79	40	61	0	1.0	.3	1.0	7.8	124	13.1	113	75	32	0	0	1	1
FL APALACHICOLA	83	63	86	58	73	3	T	-.7	T	6.5	90	9.7	67	97	56	0	0	0	0
DAYTONA BEACH	89	60	93	56	75	3	T	-.5	T	3.1	61	10.6	100	94	34	3	0	0	0
JACKSONVILLE	89	61	92	57	75	4	0	-7.0	0	4.6	73	8.1	63	91	31	3	0	0	0
KEY WEST	86	72	87	67	79	0	0	-5.0	0	2.4	91	3.2	50	83	57	0	0	0	0
MIAMI	88	70	91	67	79	2	.2	-.8	.2	2.3	46	3.6	40	87	44	2	0	1	0
ORLANDO	89	62	91	57	76	2	.5	0	.5	2.9	53	6.9	64	95	32	3	0	1	1
TALLAHASSEE	89	55	93	48	72	2	.1	-.9	.1	7.9	83	11.3	59	98	33	2	0	1	0
TAMPA	86	63	88	58	74	1	.2	-.2	.2	2.1	41	4.1	39	95	43	0	0	1	0
WEST PALM BEACH	86	64	89	61	75	11	T	-.9	T	8.4	147	10.4	94	89	45	1	0	0	0
GA ATLANTA	87	61	92	58	75	9	T	-.7	T	8.6	106	13.3	83	94	39	2	0	0	0
AUGUSTA	88	62	92	56	75	7	.1	-.7	.1	10.5	122	16.9	98	88	37	2	C	1	0
MACON	90	65	93	59	78	9	0	-.8	0	5.0	72	6.1	46	82	32	4	0	0	0
SAVANNAH	79	65	80	62	72	-1	12.0	9.1	5.8	35.9	137	69.9	142	96	69	0	0	5	4
HI HILO	84	68	86	64	76	0	.1	-.1	.1	3.9	79	12.5	109	85	53	0	0	2	0
HONOLULU	80	67	84	62	73	-1	.7	-.6	.7	16.9	445	23.8	222	92	67	0	0	2	1
KAHULUI	78	68	79	64	73	-1	.3	-.1	.5	10.6	139	29.0	165	89	67	0	0	5	1
LIHUE	61	36	66	31	48	-3	.3	0	.2	3.9	185	6.2	129	90	33	0	3	2	0
ID BOISE	66	44	72	41	55	2	.2	-.1	.1	2.1	99	3.9	88	73	33	0	0	2	0
LEWISTON	59	33	72	27	46	-2	.1	-.2	.1	3.3	162	5.2	132	85	29	0	2	2	0
POCATELLO	65	45	73	42	55	3	.8	-.1	.5	3.0	46	4.6	50	87	47	0	0	2	0
IL CHICAGO	75	52	86	41	63	8	2.0	1.1	1.4	5.5	83	7.9	84	93	55	0	0	4	1
MOLINE	77	54	85	41	65	10	1.9	1.0	1.3	5.7	87	7.8	82	95	58	0	0	4	1
PEORIA	81	58	90	44	70	12	.6	-.3	.4	3.2	47	4.5	47	94	52	1	0	3	0
QUINCY	69	49	79	45	59	7	.4	-.6	.4	3.3	50	4.8	52	90	54	0	0	1	0
ROCKFORD	78	57	86	45	67	10	2.8	1.9	1.3	7.2	104	9.3	92	98	58	0	0	5	2
SPRINGFIELD	85	62	91	55	74	13	.6	-.3	.5	10.6	124	21.0	144	88	44	2	0	3	1
IN EVANSVILLE	69	46	79	35	57	4	1.6	.7	1.1	4.8	75	7.9	76	86	48	0	0	3	1
FORT WAYNE	76	55	83	48	65	9	1.5	.6	.7	8.0	112	11.1	91	88	53	0	0	3	2
INDIANAPOLIS	70	48	79	38	59	6	1.1	.2	.9	5.1	73	7.7	68	80	46	0	0	2	1
IA DES MOINES	79	56	89	40	68	12	1.3	.5	.9	2.2	41	4.6	62	90	47	0	0	3	1
STOUC CITY	78	54	91	41	66	12	.7	.1	.4	1.8	46	3.1	57	87	41	1	0	3	0
WATERLOO	68	49	79	38	58	6	1.2	.3	.5	3.4	60	4.7	64	96	62	0	0	3	0
KS CONCORDIA	88	57	98	41	72	15	.2	-.4	.2	.8	20	1.9	35	72	22	5	0	1	0
DODGE CITY	86	54	98	36	70	12	T	-.5	T	1.3	40	1.8	44	71	13	4	0	0	0
GOODLAND	76	41	90	29	59	6	0	-.4	0	1.1	50	1.4	50	84	25	1	2	0	0
TOPEKA	86	59	94	41	73	14	0	-.8	0	3.7	72	5.8	81	83	34	5	0	0	0
WICHITA	85	59	93	47	72	12	T	-.6	T	2.6	59	3.8	64	73	32	3	0	1	0
KY BOWLING GREEN	86	61	90	58	74	13	T	-.9	T	7.8	82	25.0	137	90	43	1	0	1	0
LEXINGTON	77	57	86	50	67	9	.3	-.7	.2	8.7	99	22.8	147	89	51	0	0	4	0
LOUISVILLE	82	59	90	50	70	10	.9	-.1	.5	10.4	120	23.1	151	89	44	1	0	5	0
LA ALEXANDRIA	86	65	90	57	76	6	1.3	-.1	.7	8.2	80	22.4	116	96	52	1	0	3	1
BATON ROUGE	87	63	89	58	75	4	.4	-.9	.2	6.9	69	12.5	64	93	43	0	0	3	0
LAKE CHARLES	84	64	85	59	74	3	.3	-.8	.3	7.0	103	12.3	83	99	58	0	0	1	0
NEW ORLEANS	85	61	87	58	73	2	1.0	-.1	.9	9.2	102	11.8	62	100	53	0	0	3	1

Based on 1951-80 normals

Weather Data for the Week Ending April 29, 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	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
SHREVEPORT	87	64	90	57	75	7	.1	-1.0	.1	4.8	58	16.1	102	98	46	1	0	1	0	
ME CARIBOU	46	30	59	25	38	-4	T	-1.6	T	3.5	72	6.8	73	79	47	0	5	1	0	
PORTLAND	54	30	58	26	42	-5	T	-1.9	T	4.9	64	8.4	56	70	29	0	5	0	0	
MD BALTIMORE	68	46	77	32	57	0	.6	-1.2	.6	7.4	106	13.8	107	74	34	0	1	1	1	
SALISBURY	70	44	78	32	57	-1	T	-1.7	T	10.5	147	15.1	109	91	35	0	1	1	1	
MA BOSTON	59	40	66	31	50	-2	.4	-1.5	.4	6.4	83	9.5	62	72	25	0	0	1	0	
CHATHAM	54	39	57	31	47	-1	.9	0	.9	9.5	121	14.6	90	79	42	0	0	1	1	
MI ALPENA	55	33	63	18	44	-1	.2	-1.4	.2	4.7	109	6.7	92	87	36	0	3	1	1	
DETROIT	60	41	69	27	50	-1	.1	-1.6	.1	4.4	79	6.5	71	82	48	0	2	1	0	
FLINT	63	39	74	24	51	1	.1	-1.6	.1	3.6	72	5.5	68	78	34	0	2	3	0	
GRAND RAPIDS	65	42	78	27	53	2	.1	-1.7	.1	4.3	71	6.2	65	85	46	0	2	2	0	
HOUGHTON LAKE	63	37	75	20	50	3	.1	-1.6	.1	3.9	90	5.6	78	75	31	0	2	1	0	
LANSING	64	40	77	24	52	2	.2	-1.5	.1	3.6	69	5.4	66	83	43	0	2	2	0	
MARQUETTE	54	31	72	21	42	0	0	-1.2	.2	4.3	68	7.8	76	83	43	0	5	2	0	
MUSKOGON	66	42	75	31	54	5	.2	-1.5	.1	2.7	48	5.3	56	80	39	0	1	3	0	
SAULT ST. MARIE	57	34	64	26	46	3	T	-1.6	T	4.3	100	8.3	102	77	33	0	3	2	0	
MN ALEXANDRIA	58	43	76	34	51	3	.9	.4	.6	2.6	79	3.5	73	91	65	0	0	3	0	
DULUTH	51	34	70	31	43	-1	.8	-1.2	.6	3.5	92	5.7	97	84	50	0	2	2	1	
INT'L FALLS	58	36	70	31	47	4	T	-1.4	T	1.4	52	3.1	74	82	41	0	2	0	0	
MINNEAPOLIS	62	46	73	36	54	3	2.1	1.6	.5	4.9	134	6.4	121	89	59	0	0	5	3	
ROCHESTER	61	45	73	36	53	4	2.5	1.9	.8	5.1	123	6.0	105	96	64	0	0	7	2	
MS GREENWOOD	86	64	89	61	75	8	.4	-1.8	.4	6.9	59	20.6	97	86	40	0	0	1	0	
JACKSON	87	60	90	56	73	8	.4	-1.9	.4	6.7	60	13.5	67	97	41	1	0	0	0	
MERIDIAN	85	59	89	56	72	5	.8	-1.4	.5	12.8	108	19.8	92	99	41	0	0	2	0	
MO CAPE GIRARDEAU	86	63	91	60	75	1	.4	-1.6	.4	8.0	86	21.9	144	87	41	2	0	1	0	
COLUMBIA	83	60	89	47	71	12	.3	-1.7	.3	4.9	69	7.8	73	85	48	0	0	1	0	
KANSAS CITY	84	61	92	44	73	13	0	-1.9	0	3.6	62	5.2	63	80	35	4	0	0	0	
SAINT LOUIS	86	63	93	53	75	15	.3	-1.5	.3	6.6	99	10.7	101	81	40	4	0	2	0	
SPRINGFIELD	83	60	91	49	72	12	0	-1.0	0	5.1	70	8.7	78	85	45	4	0	0	0	
MT BILLINGS	47	35	58	29	41	-7	1.3	.8	.5	4.4	152	6.2	137	92	55	0	3	6	0	
GLASGOW	50	37	58	30	44	-4	.9	.7	.5	2.0	198	3.2	196	87	51	0	1	4	0	
GREAT FALLS	44	33	56	30	39	-8	1.6	1.2	.7	3.8	164	5.9	147	98	70	0	5	6	1	
HAVRE	48	36	55	31	42	-6	.9	.5	.4	1.6	95	2.3	87	84	56	0	2	4	0	
HELENA	46	33	54	26	40	-6	.5	.2	.3	2.0	120	4.2	153	90	57	0	2	4	0	
KALISPELL	57	34	65	27	46	-1	.7	.4	.5	2.7	146	5.4	120	88	34	0	2	3	1	
MILES CITY	48	37	68	29	42	-7	3.4	3.0	3.4	5.0	261	6.3	205	70	51	0	3	1	1	
MISSOULA	55	35	61	26	45	-2	.3	.1	.2	3.1	176	4.3	110	78	38	0	2	4	0	
NE GRAND ISLAND	85	48	96	37	66	12	T	-1.7	T	.5	12	1.8	35	85	23	5	0	1	0	
LINCOLN	85	55	97	43	70	14	.2	-1.6	.2	.5	10	2.4	39	82	27	4	0	1	0	
NORFOLK	81	52	94	38	66	13	.4	-1.2	.4	1.8	50	3.6	73	89	35	2	0	2	0	
NORTH PLATTE	75	43	87	33	59	7	0	-1.5	0	.5	17	1.8	48	88	30	0	0	0	0	
OMAHA	82	56	94	40	69	12	1.9	1.1	1.9	2.6	55	4.1	65	85	41	3	0	1	1	
SCOTT'SBLUFF	63	40	86	25	51	1	.3	-1.2	.3	1.4	59	3.4	76	83	44	0	2	1	0	
VALENTINE	65	44	84	31	54	4	T	-1.5	T	1.0	38	1.7	53	83	51	0	1	1	0	
NV ELY	55	26	60	19	40	4	T	-1.2	T	.6	34	1.6	49	72	20	0	5	0	0	
LAS VEGAS	73	50	79	45	62	-5	T	0	T	.1	8	.6	41	42	15	0	0	0	0	
RENO	57	29	68	25	43	-6	T	-1.1	T	.5	43	1.5	45	79	25	0	7	1	0	
WINNEMUCCA	56	26	67	21	41	-7	.1	-1.1	.1	1.1	79	2.0	68	85	26	0	6	1	0	
NH CONCORD	57	26	66	22	42	-7	T	-1.7	T	5.6	95	8.4	75	77	24	0	7	1	0	
NJ ATLANTIC CITY	66	38	71	24	52	-2	1.6	.9	1.5	9.2	130	15.1	109	84	31	0	3	2	1	
NM ALBUQUERQUE	76	45	83	34	60	2	0	-1.1	0	.5	55	1.4	87	27	8	0	0	0	0	
CLOVIS	81	50	90	42	65	5	0	-1.3	0	.3	23	1.0	45	50	14	1	0	0	0	
ROSWELL	85	53	93	39	69	6	0	-1.1	0	.3	39	1.1	70	29	11	2	0	0	0	
NY ALBANY	60	33	70	28	47	-4	.2	-1.5	.2	5.4	92	7.4	72	72	26	0	3	1	0	
BINGHAMTON	55	35	64	24	45	-3	.1	-1.6	.1	5.4	92	8.9	83	71	32	0	2	1	0	
BUFFALO	57	37	63	28	47	-2	.1	-1.6	.1	5.0	85	9.4	83	82	32	0	2	1	0	
NEW YORK	65	47	74	37	56	0	.4	-1.4	.4	7.3	94	12.6	91	56	24	0	0	1	0	
ROCHESTER	56	35	64	24	45	-5	.2	-1.4	.2	5.2	104	7.9	82	85	35	0	2	2	0	
SYRACUSE	57	34	64	28	45	-5	.2	-1.6	.2	4.7	74	7.4	65	84	36	0	3	1	0	
NC ASHEVILLE	80	55	87	48	67	8	1.1	.3	.6	6.0	74	12.3	85	96	47	0	0	4	1	
CHARLOTTE	82	60	90	55	71	7	T	-1.7	T	7.3	92	13.6	88	91	44	1	0	2	0	
GREENSBORO	80	56	87	50	68	6	.5	-1.3	.1	8.9	129	14.4	104	92	44	0	0	4	0	
HATTERAS	74	55	80	45	64	2	1.2	.4	1.1	20.4	290	26.9	169	97	59	0	0	3	1	
NEW BERN	82	58	90	51	70	5	1.3	.5	.7	10.4	160	17.0	117	97	47	1	0	2	2	
RALBIGH	82	55	88	48	69	6	1.6	.9	.8	10.1	156	17.9	133	97	42	0	0	4	1	
WILMINGTON	84	60	91	52	72	6	.4	-1.3	.3	14.3	207	18.5	132	98	53	3	0	2	0	
ND BISMARCK	59	42	78	34	51	3	1.2	.8	1.0	2.2	102	3.0	97	87	47	0	0	4	1	
FAHGO	62	43	77	34	53	5	.1	-1.4	.1	2.5	96	4.6	129	84	44	0	0	4	0	
GRAND FORKS	58	39	66	33	49	2	T	-1.3	T	1.4	68	3.2	95	84	44	0	0	1	0	
WILLISTON	55	38	67	31	47	-1	.6	.3	.4	1.9	110	3.3	122	84	43	0	2	3	0	
OH AKRON-CANTON	66	40	75	27	53	1	.7	0	.4	6.3	98	10.6	95	89	41	0	2	3	0	
CINCINNATI	77	55	85	46	66	9	2.4	1.6	1.0	11.6	157	19.5	148	85	51	0	0	3	3	
CLEVELAND	61	40	71	28	51	-2	.4	-1.4	.3	6.5	106	10.3	96	95	53	0	2	3	0	
COLUMBUS	70	46	78	35	58	3	1.1	.3	.5	7.7	118	12.7	112	85	43	0	0	4	0	

Weather Data for the Week Ending April 29, 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	52 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	72	51	82	39	61	6	3.2	2.4	1.6	12.5	197	17.9	162	84	51	0	0	5	2
TOLEDO	63	40	73	28	52	0	.7	0	.6	5.5	100	8.1	87	89	42	0	0	2	1
YOUNGSTOWN	65	37	73	27	51	-1	.1	-.7	-.1	5.2	79	9.1	79	86	38	0	2	2	0
OK OKLAHOMA CITY	84	63	90	54	74	10	0	0	0	2.8	57	6.1	86	77	40	1	0	0	0
TULSA	85	67	88	56	76	11	0	0	0	3.5	49	8.7	85	73	41	0	0	0	0
OR ASTORIA	65	43	78	36	54	5	T	-.9	T	12.4	104	27.2	90	91	50	0	0	0	0
BURNS	51	32	60	25	41	-5	.8	.7	.4	4.1	260	4.6	112	86	51	0	4	5	0
MEDFORD	63	40	79	37	51	-1	1.2	1.0	.8	6.0	212	8.9	107	92	40	0	0	3	1
PENDLETON	59	41	66	37	50	-3	1.2	1.0	.8	3.4	170	6.7	139	88	51	0	0	3	1
PORTLAND	66	45	75	38	55	3	1.3	.8	1.2	9.0	154	15.1	95	95	45	0	0	4	1
SALEM	65	40	80	34	53	2	.1	-.3	-.1	7.5	113	13.8	76	96	49	0	0	2	0
PA ALLENTOWN	66	39	75	30	52	-1	T	-.9	T	5.1	67	9.1	65	72	26	0	2	1	0
ERIE	56	38	65	27	47	-3	.2	-.6	-.2	6.4	102	11.4	106	82	37	0	2	1	0
HARRISBURG	67	41	78	30	54	-2	.1	-.6	-.1	4.7	71	8.9	72	74	31	0	2	2	0
PHILADELPHIA	69	44	77	34	56	-1	.4	-.4	-.4	6.7	93	12.4	94	71	29	0	0	1	0
PITTSBURGH	66	41	76	28	54	0	.4	-.4	-.2	7.0	103	12.4	103	77	36	0	2	3	0
SCRANTON	61	38	70	29	49	-3	T	-.7	T	3.2	58	6.0	61	69	27	0	2	0	0
RI PROVIDENCE	60	37	70	28	48	-3	.1	-.8	-.1	7.0	87	10.8	68	76	24	0	1	1	0
SC CHARLESTON	89	66	94	63	78	10	T	-.6	T	7.7	113	10.9	81	90	41	4	0	1	0
COLUMBIA	87	60	93	57	74	7	.6	-.2	.3	9.1	106	14.2	84	97	40	3	0	3	0
FLORENCE	85	61	92	57	73	6	.3	-.3	.3	9.1	130	13.6	98	94	45	1	0	1	0
GREENVILLE	82	56	90	54	69	5	.3	-.6	.2	7.3	72	13.8	73	96	45	1	0	2	0
SD ABERDEEN	60	44	78	33	52	2	2.0	1.5	1.8	4.4	155	5.3	134	93	65	0	0	3	1
HUON	68	47	83	32	57	7	1.1	.6	.4	3.7	120	4.8	112	94	60	0	1	4	0
RAPID CITY	52	40	78	27	46	-3	.8	.2	.4	2.4	84	2.8	72	95	70	0	3	5	0
SIoux FALLS	70	49	83	37	60	8	1.1	.5	.5	2.7	70	3.4	65	91	55	0	0	5	0
TN CHATTANOOGA	87	60	90	57	73	10	.1	-.9	-.1	9.8	91	22.2	108	93	38	1	0	1	0
KNOXVILLE	83	58	87	53	71	8	.9	-.1	-.4	7.0	76	18.2	101	97	51	0	0	4	0
MEMPHIS	87	66	89	62	76	10	.4	-.1	-.4	8.0	73	26.4	133	81	41	0	0	1	0
NASHVILLE	89	63	91	62	76	13	T	-.1	T	7.6	77	21.4	117	78	34	3	0	0	0
TX ABILENE	87	63	92	53	75	6	T	-.6	T	2.3	70	5.9	112	78	33	2	0	1	0
AMARILLO	84	52	93	40	68	8	T	-.3	T	1.1	60	1.8	63	61	14	4	0	1	0
AUSTIN	86	66	87	59	76	4	.3	-.6	.3	4.5	97	9.2	105	98	51	0	0	1	0
BEAUMONT	83	66	87	59	75	3	0	-.1	0	5.0	71	12.0	78	98	59	0	0	0	0
BROWNSVILLE	87	70	89	64	78	2	2.8	2.4	2.4	3.5	179	5.6	118	95	56	0	0	2	1
CORPUS CHRISTI	86	67	90	63	77	2	.9	.3	.5	3.7	144	6.6	117	98	57	1	0	2	0
DEL RIO	87	65	91	62	76	2	T	-.5	T	1.1	46	3.1	81	75	30	2	0	1	0
EL PASO	83	50	90	35	66	-1	0	0	0	.6	132	1.5	113	80	8	1	0	0	0
PORT WORTH	86	66	93	60	76	7	.1	-.1	.1	5.5	87	11.7	119	89	47	1	0	2	0
GALVESTON	80	71	83	69	76	4	.3	-.4	-.2	3.0	65	9.4	94	97	68	0	0	2	0
HOUSTON	88	68	90	58	78	6	T	-.1	T	4.5	73	10.2	79	95	47	1	0	0	0
LUBBOCK	88	57	97	43	72	9	T	-.3	T	.7	39	2.3	81	57	11	4	0	0	0
MIDLAND	90	58	98	50	74	7	T	-.3	T	.4	31	1.9	86	61	11	4	0	0	0
SAN ANGELO	88	61	93	51	75	5	0	-.5	0	2.9	120	6.6	169	78	27	4	0	0	0
SAN ANTONIO	88	67	93	59	78	6	.7	-.1	.7	3.8	96	7.0	96	90	43	1	0	1	1
VICTORIA	86	67	89	62	77	3	.6	-.2	.4	2.8	74	7.2	91	96	50	0	0	2	0
WACO	89	66	92	59	77	8	T	-.1	T	4.0	71	8.7	94	92	46	2	0	0	0
WICHITA FALLS	88	62	93	53	75	8	0	-.8	0	1.9	40	6.4	98	82	36	4	0	0	0
UT CEDAR CITY	60	33	70	23	46	-4	.1	-.2	-.1	.8	41	2.1	60	71	22	0	3	1	0
SALT LAKE CITY	61	39	75	35	50	-2	.1	-.4	-.1	2.2	57	4.2	65	74	27	0	0	2	0
VT BURLINGTON	52	29	59	27	41	-7	T	-.7	T	4.5	92	5.5	66	74	32	0	7	0	0
VA NORFOLK	71	50	82	42	61	-1	.3	-.4	-.3	12.1	184	21.2	157	93	42	0	0	3	0
RICHMOND	76	49	85	40	63	-1	.4	-.3	.2	9.0	142	15.2	120	94	44	0	0	5	0
ROANOKE	77	51	85	41	64	4	1.2	.5	.6	5.3	80	8.7	68	94	50	0	0	4	1
WA QUILLYUTE	68	40	78	34	54	7	T	-.4	T	15.7	82	37.5	82	96	40	0	0	0	0
SEATTLE-TACOMA	66	45	77	41	56	5	T	-.5	T	8.5	145	14.8	92	84	41	0	0	1	0
SPOKANE	60	38	68	35	49	0	T	-.2	T	3.8	158	5.9	92	86	36	0	0	2	0
YAKIMA	64	41	70	34	52	0	.3	-.2	.2	1.9	177	2.8	87	94	39	0	0	2	0
WV BECKLEY	74	49	79	37	62	7	3.0	2.2	1.3	7.7	106	14.0	100	88	44	0	0	5	3
CHARLESTON	75	51	80	39	63	4	2.5	1.7	.9	10.0	136	18.9	136	91	53	0	0	5	2
HUNTINGTON	76	54	85	45	65	6	1.7	.9	.6	9.6	129	21.8	162	87	46	0	0	5	1
PARKERSBURG	69	46	75	35	57	-1	3.3	2.5	1.7	10.5	155	18.6	152	87	44	0	0	4	3
WI GREEN BAY	58	40	70	32	49	0	.3	-.4	-.1	3.4	76	4.2	62	81	45	0	1	3	0
LACROSSE	64	46	76	41	55	3	1.2	.4	.3	3.9	82	4.7	72	86	52	0	0	6	0
MADISON	65	44	75	38	54	4	1.4	.6	.6	3.4	66	4.5	63	86	50	0	0	4	1
MILWAUKEE	55	41	73	36	48	-1	.9	-.1	.7	4.4	75	5.9	68	93	59	0	0	4	1
WAUSAU	61	41	74	34	51	3	.4	-.3	.3	2.7	57	3.9	60	86	45	0	0	4	0
WY CASPER	57	34	82	22	45	0	.5	-.1	.3	1.2	49	2.7	79	94	39	0	3	4	0
CHEYENNE	60	36	77	22	48	2	T	-.3	T	1.0	45	2.5	86	88	37	0	2	2	0
LANDER	56	35	77	27	45	-1	.8	-.3	.4	1.4	43	2.2	51	79	37	0	3	4	0
SHERIDAN	50	34	74	18	42	-5	.7	-.2	.3	3.2	108	4.0	90	91	66	0	3	4	0
PR SAN JUAN	-999	79	-999	73	-999	-1	0	-.1	0	3.9	69	8.3	77	85	54	0	0	0	0

Precipitation in the Plains: 1988 Versus 1989

On April 23-29, 1989, the heaviest precipitation in at least 6 months substantially improved topsoil moisture in Iowa and adjacent States, boosting early prospects for crops in the western Corn Belt. Heavy precipitation also increased moisture supplies in the northern Plains' spring wheat region. Nevertheless, subsoil moisture remains below normal in most of the western Corn Belt and in parts of the northern Plains due to earlier prolonged dryness. Drought continues to affect the winter wheat crop in the central and southern Plains, from Nebraska southward to the Texas Panhandle. Figures 1 and 2 show how 1989's precipitation compares with 1988's. Note that totals in the northern Plains are now near or above 100 percent of the long-term mean. In 1988 at this time, precipitation was well below normal in the Dakotas and Montana. A drought was centered in southern Iowa, but conditions improved markedly to the west and south. In 1989, drought is centered in north-central Kansas and extends into Nebraska and southern Iowa.

Figure 1

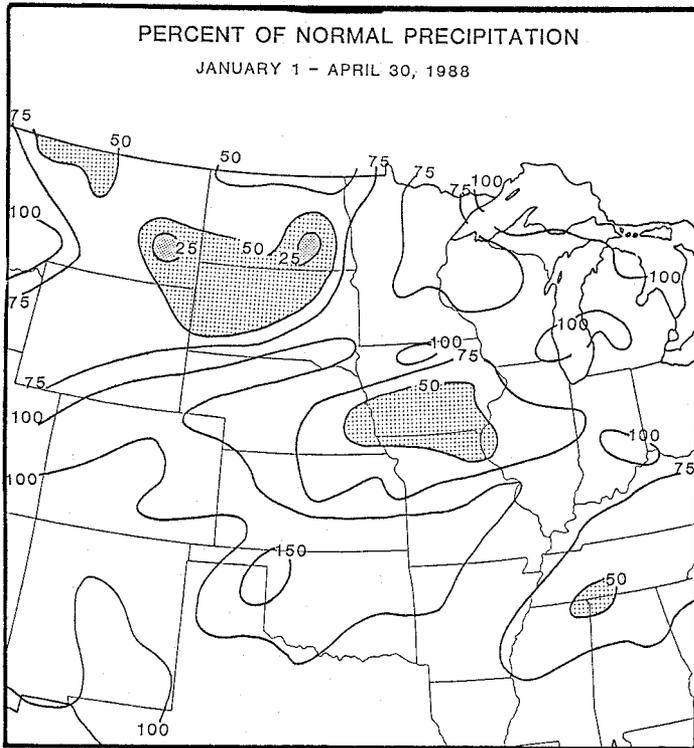
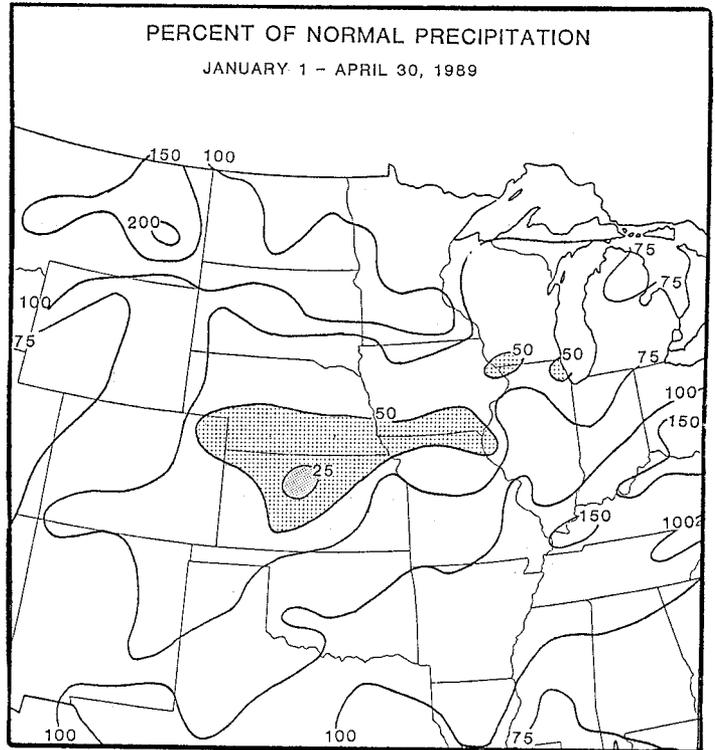


Figure 2



Winter Wheat Condition

In Kansas, high temperatures and dry winds during April 24-30 "took a drastic toll on wheat already stressed by extreme short moisture and freeze damage," according to the State summary (p. 12). Wheat condition is rated 57 percent very poor and 26 percent poor (fig. 1). Reported wheat condition also significantly deteriorated this week in Colorado, Nebraska, and Oklahoma. Accordingly, the amount of U.S. winter wheat in poor or very poor condition increased 10 percentage points to 45 percent (fig. 2).

Figure 1

Crop Condition Kansas Winter Wheat

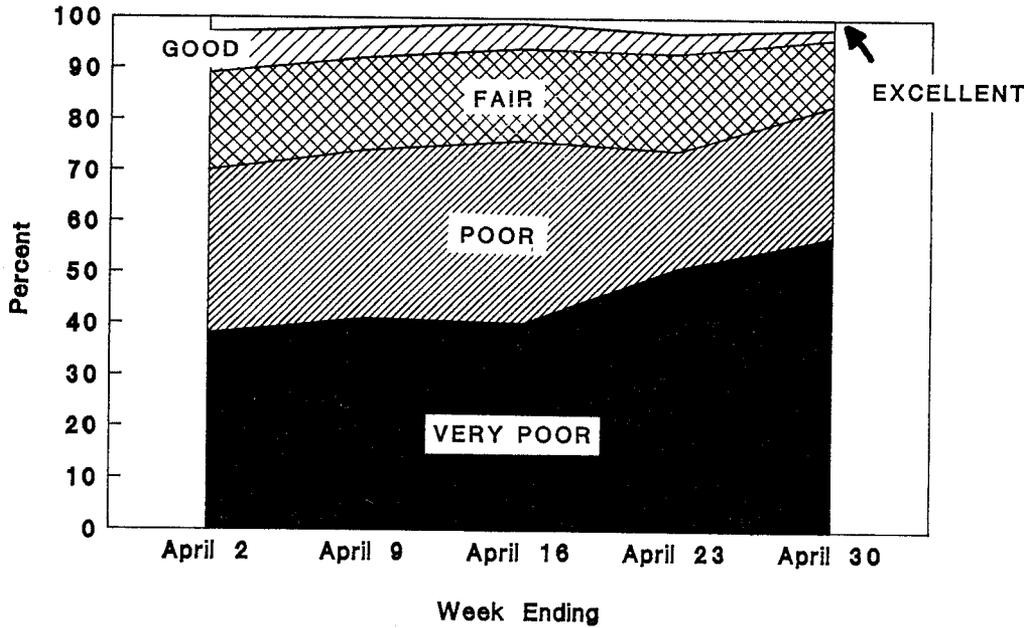
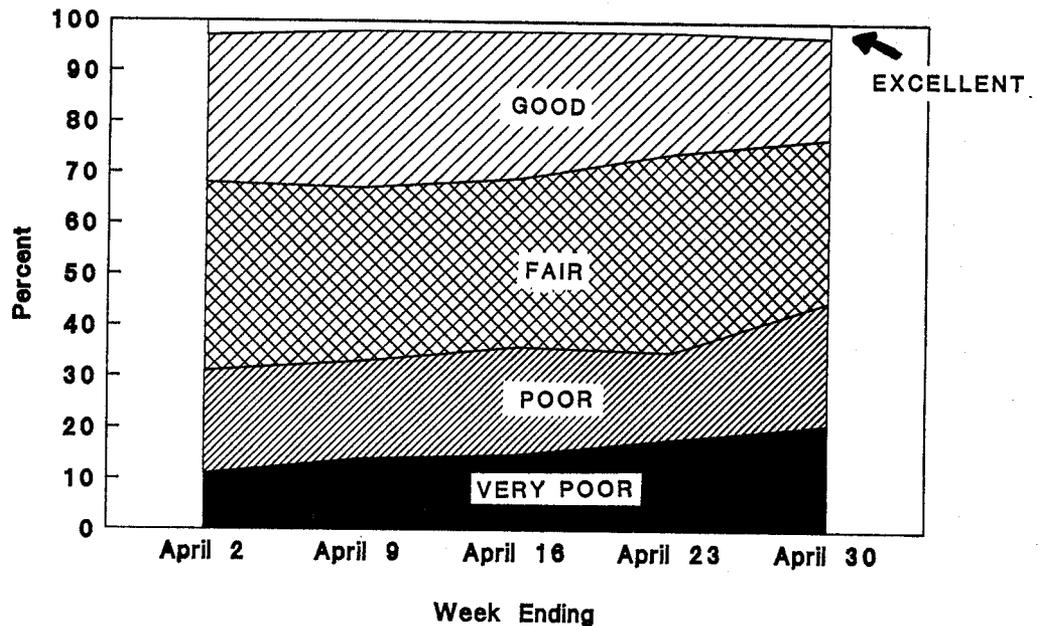


Figure 2

Crop Conditions Total US Winter Wheat



National Agricultural Summary

April 24-30, 1989

HIGHLIGHTS: Heavy rains delivered important moisture to dry areas of the western Corn Belt and northern spring wheat region, while high temperatures further stressed winter wheat in the central and southern Plains. Precipitation slowed fieldwork in the northern Great Plains and eastern Corn Belt. Days suitable for fieldwork averaged 2-4 in those areas. Days suitable for fieldwork averaged 5-6 in most other areas. Soil moisture was mostly adequate to surplus in the eastern Corn Belt. In the western Corn Belt and northern Great Plains, soil moisture was mostly adequate to short. Soil moisture was mostly short to adequate in the southern Great Plains and the Delta and adequate to short in the Southeast.

Winter wheat was mostly fair to poor. Eighteen percent of the acreage was headed, 2 percentage points ahead of the 5-year average. Rain improved winter wheat condition in the northern Great Plains. Spring wheat planting was 26 percent (%) complete, 22 points behind normal. Corn planting was 25% complete, 3 points behind normal. Producers planted over one-third of their acreage in Illinois, Kansas, and Missouri during the week. Cotton planting was 33% complete, 2 points ahead of normal. Producers planted over half of their acreage in Alabama. Sorghum planting was 20% complete, 1 point ahead of normal. Soybean planting was underway in the Delta and just beginning in the Corn Belt. Florida's citrus and vegetable producing areas needed rain. Valencia orange harvest began in the San Joaquin Valley of California.

SMALL GRAINS: Winter wheat was mostly fair to poor. Eighteen percent of the acreage was headed, 2 points ahead of normal. In the central Great Plains, winter wheat was mostly poor to fair. Winter wheat was mostly fair to poor in the southern Great Plains. Rain improved winter wheat condition in the northern Great Plains. Winter wheat was mostly good to fair in the Pacific Northwest, Corn Belt, Delta, and Southeast. In Kansas, high temperatures and wind stressed winter wheat. Condition was mostly very poor to poor. Crop development was poor in most fields. In Texas, winter wheat was mostly fair to poor. Producers continued to destroy poorer fields in the High Plains area. Lack of moisture continued to stress winter wheat in Nebraska. Crop condition was mostly poor to fair. Rain improved winter wheat condition in Montana and South Dakota. Crop condition was mostly fair to poor in Montana and good to fair in South Dakota. Winter wheat was mostly good to fair in Idaho and Oregon and mostly fair in Washington. Winter wheat was mostly good to fair in Ohio, Indiana, and Michigan and good to excellent in Illinois. Winter wheat was mostly good to fair in North Carolina and fair to good in Georgia.

Rain slowed spring wheat planting. Planting was 22 points behind the 48% average. Planting was over 20 points behind normal in three of the five major producing States. In North Dakota, planting was 16% complete, 23 points behind normal.

CORN: Corn planting advanced 17 points, reaching 25% completion, 3 points behind normal. Producers planted over one-third of their acreage in Illinois, Kansas, and Missouri during the week. In Illinois, producers planted 37% of their acreage, reaching 43% completion, 5 points ahead of normal. Lack of soil moisture slowed emergence in Kansas. Many producers were waiting for rain before planting in Nebraska. Rain and wet field conditions slowed planting in the eastern Corn Belt.

Planting progress was 13 points and 22 points behind normal in Indiana and Ohio, respectively. In North Carolina, planting advanced 25 points but was still 29 points behind the 71% average.

COTTON: Cotton planting was 33% complete, 2 points ahead of normal. Producers planted over half of their acreage in Alabama. Planting was 71% complete, 21 points ahead of normal. In California, planting was 90% complete, 10 points ahead of normal. In Texas, planting was 17% complete, equal to the average. Some irrigated fields were planted in the Plains area. In Mississippi, producers planted over one-third of the acreage during the week. Planting was 44% complete, 14 points ahead of normal. Planting lagged behind normal in the Southeast. Planting was 24 points and 36 points behind normal in North and South Carolina, respectively.

OTHER FIELD CROPS: Sorghum planting was 20% complete, 1 point ahead of normal. Planting began in Illinois and Nebraska. In Texas, planting was 61% complete, 1 point ahead of normal. Rice planting was 57% complete, 5 points ahead of normal. Twenty-six percent of the acreage was emerged, slightly behind the 28% average. In Arkansas, planting was 59% complete, 16 points ahead of normal. Soybean planting was underway in the Delta and beginning in the Corn Belt. Tobacco was mostly good to fair. Peanut planting continued in Texas and the Southeast. Crop condition was mostly good to fair in Georgia. Georgia peanut planting was 29% complete, 8 points behind normal.

FRUIT AND NUTS: Florida's citrus groves needed rain. Irrigation was active in all areas. Trees were setting new crop fruit. Valencia orange harvest was at its peak. Peaches were fair to good in Georgia. In Texas, rain benefited citrus groves in the Rio Grande Valley. Peaches were mostly good in the Hill Country. Pecan trees continued to bloom in central and southern areas. Valencia orange and grapefruit harvests continued in central and western Arizona. Peach harvest was active in western Arizona. Valencia orange and early variety cherry harvests were underway in the San Joaquin Valley of California. Avocado harvest continued in Riverside County and the southern coastal area. Early stone fruit varieties and grapefruit harvests continued in the Coachella Valley. Pears were blooming in the Hood River Valley of Oregon. Apples were blooming in the Willamette Valley and the Hermiston-Boardman area.

VEGETABLES: Florida vegetable harvests declined seasonally in the south and increased in the central area. Watermelon planting was nearly complete in Georgia. Onion harvest was at its peak in the Rio Grande Valley of Texas. Onion harvest began in the San Antonio-Winter Garden area. Carrot and pepper plantings continued in the High Plains. Red potato harvest was active in central and western Arizona. The central Arizona vegetable harvest included broccoli, cabbage, parsely, turnips, summer squash, and carrots. Sweet corn harvest began in the Coachella Valley of California. Broccoli, cauliflower, lettuce, and strawberry harvests were active in the Salinas and Santa Maria areas. Potato planting was nearly complete in the Hermiston-Boardman area of Oregon. In Idaho, potato planting was 23% complete, 4 points behind normal.

PASTURES AND LIVESTOCK: Livestock was in mostly good condition. Pastures were mostly good to fair. Pastures in Iowa and Missouri were mostly fair to poor.

Crop Progress

FOR WEEK ENDING APRIL 30, 1989

WINTER WHEAT
% HEADED

	1989	1988	AVG.
ARK	63	55	NA
CALIF	90	90	87
COLO	0	0	0
GA	98	89	88
IDAHO	0	0	0
ILL	1	3	4
IND	0	0	0
KANS	3	0	0
MICH	0	0	0
MO	3	8	11
MONT	0	0	0
NEBR	0	0	0
N MEX	59	32	NA
N C	54	33	NA
OHIO	0	0	0
OKLA	50	25	35
OREG	0	0	0
S DAK	0	0	NA
TEX	41	19	46
WASH	0	0	0
20 STATES	20	11	NA

EXCL. STATES WITH NA 18 10 16

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

NA - NOT AVAILABLE.

SPRING WHEAT
% PLANTED

	1989	1988	AVG.
IDAHO	66	76	67
MINN	25	85	55
MONT	25	78	51
N DAK	16	66	39
S DAK	56	91	63

5 STATES 26 75 48

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

RICE
% PLANTED

	1989	1988	AVG.
ARK	59	37	43
CALIF	10	15	9
LA	64	66	72
MISS	62	67	62
TEX	90	97	90

5 STATES 57 50 52

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

RICE
% EMERGED

	1989	1988	AVG.
ARK	9	8	14
CALIF	0	0	0
LA	55	42	58
MISS	16	17	23
TEX	75	55	63

5 STATES 26 21 28

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

COTTON
% PLANTED

	1989	1988	AVG.
ALA	71	62	50
ARIZ	89	80	89
ARK	25	15	18
CALIF	90	89	80
GA	20	19	30
LA	36	35	36
MISS	44	31	30
MO	11	15	16
N MEX	90	70	55
N C	9	9	33
OKLA	3	2	2
S C	7	25	43
TENN	16	29	25
TEX	17	19	17

14 STATES 33 32 31

THESE 14 STATES PRODUCED 99% OF THE 1988 COTTON CROP.

GRAIN SORGHUM
% PLANTED

	1989	1988	AVG.
ARK	53	39	44
ILL	1	0	0
KANS	0	0	0
LA	51	35	53
MISS	41	48	37
MO	11	10	8
NEBR	1	1	0
OKLA	3	2	3
S DAK	0	0	NA
TENN	6	20	19
TEX	61	58	60

11 STATES 19 17 NA

EXCL. STATES WITH NA 20 18 19

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

NA - NOT AVAILABLE.

CORN
% PLANTED

	1989	1988	AVG.
COLO	28	41	30
GA	95	96	95
ILL	43	54	38
IND	12	40	25
IOWA	20	27	24
KANS	50	45	25
KY	32	44	36
MICH	5	5	10
MINN	5	19	17
MO	65	68	48
NEBR	25	23	19
N C	42	75	71
OHIO	6	38	28
PA	7	13	12
S DAK	2	4	NA
TEX	92	88	90
WIS	3	4	5

17 STATES 24 34 NA

EXCL. STATES WITH NA 25 35 28

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

NA - NOT AVAILABLE.

Crop Condition Percent

FOR WEEK ENDING APRIL 30, 1989

WINTER WHEAT

STATE	VP	P	F	G	EX
ARK	0	0	46	50	4
CALIF	0	0	5	75	20
COLO	14	19	37	28	2
GA	5	18	47	30	0
IDAHO	8	9	25	53	5
ILL	0	0	6	78	16
IND	0	1	34	63	2
KANS	57	26	13	2	2
MICH	2	8	25	50	15
MO	1	13	47	34	5
MONT	25	16	24	32	3
NEB	16	47	25	12	0
N MEX	25	60	10	5	0
N C	0	2	32	61	5
OHIO	3	10	30	46	11
OKLA	10	40	40	10	0
OREG	0	3	29	51	17
S DAK	3	11	38	46	2
TEX	15	29	50	5	1
WASH	0	15	75	10	0
20 STATE	21	24	32	20	3
PREV YEAR	2	8	28	50	12

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: Rainfall 0.50 to 1.70 in. north; under 0.50 in. central, south. Temperatures 3 to 9° above normal.

Days suitable for fieldwork 6.6. Soil moisture 53% short, 47% adequate. Fieldwork progress 52% behind schedule, 48% on schedule. Spring planting acreage 79% prepared, 85% 1988, 83% avg. Corn 82% planted, 88% 1988, 81% avg. Sorghum 30% planted, 23% 1988, 20% avg. Cotton 71% planted, 62% 1988, 50% avg. Soybeans 8% planted, 7% 1988, 4% avg. Peanuts 34% planted, 43% 1988, 33% avg. Winter wheat 79% headed, 74% 1988, 73% avg.; 30% turning color, 22% 1988, 13% avg.; 2% very poor, 11% poor, 48% fair, 39% good. Livestock, pastures mostly good to fair. Primary activities: Preparing land for spring planting; planting row crops, vegetables; applying fertilizer, lime to cropland; pastures; applying herbicides, fungicides to winter wheat; general care of livestock, poultry.

ARIZONA: High clouds, strong winds, cooler air 23rd, 24th. Cool air mass remained 25th, 26th. Skies mostly clear, slight warming trend 27th, 28th, 29th. Temperatures normal to 5° below normal. Cotton planting continued 89% planted, 80% 1988. Small grains good. Statewide 98% heading, 40% turning color. Alfalfa good to excellent. Curing conditions favorable. Cutting active statewide. Peaches harvested west. Red potatoes harvested, shipped west, central. Spring lettuce harvest, shipping central. Vegetables shipped central included broccoli, cabbage, parsley, turnips, summer squash, carrots. Valencia orange, grapefruit harvest continued west, central.

ARKANSAS: Unseasonably warm week. Area had above normal temperatures. Light to moderate rain last part of week, heaviest in southeast. Temperature extremes 49°; 92°. Rainfall none to 3.79 in.

Days suitable for fieldwork 7.0. Soil moisture 83% short, 17% adequate. Main farming activities: Preparing land; planting corn, cotton, sorghum, rice, soybeans, vegetables; sprigging bermuda grass; fertilizing pastures; applying herbicides; spraying, worming cattle. Rice 9% emerged, 8% 1988, 14% avg.; 51% fair, 49% good. Oats 69% headed, 59% 1988.; 57% fair, 43% good. Corn 93% planted, 85% 1988, 81% avg.; 38% fair, 62% good. Sorghum 19% emerged, 16% 1988.; 48% fair, 52% good. Dry soil moisture delayed planting efforts most areas. Considerable diseases plagued the wheat crop, septoria, rust being most common. Alfalfa weevil damage continued on treated hay fields. Fruits, vegetables making good growth. Livestock mostly good, pest build-up reaching problem levels.

CALIFORNIA: Large cold low pressure system off northwest coast brought below normal temperatures, precipitation through middle of week. By mid-week a weak high pressure brought gradually clearing weather, return of near-normal temperatures, weekend. Light rains interrupted field activities early in week.

Barley, oats, winter forage hay, greenchop, silage harvests active. Cool temperatures slowed maturation. Early cotton good stands. Rice seeding active weekend, many fields flooded. Corn, dry edible bean seeding active. Harvest overwintered beets progressed. Some downed hay rained on, central, northern valleys. Scattered hail damage last week, Sacramento Valley. Avocado harvest continued Riverside, southern coastal counties, good quality fruit. Early San Joaquin Valley cherry varieties shipped. Grape growers removed suckers, applied materials pest, weed control. Early stone fruit varieties, desert grapefruit harvested, Coachella Valley. Navel

orange harvest nearly complete. Valencia harvest began, San Joaquin Valley. Nut crops developed normally. Artichokes continued heavy, good quality, Salinas. Broccoli declined slightly, Santa Maria. Salinas broccoli moderate, good quality. Cauliflower declined slightly, Santa Maria, moderate, variable quality, Salinas area. Coachella sweet corn harvest began, some pollination problems in early fields. Iceberg lettuce harvest, Huron district, winding down rapidly, as harvest began, Firebaugh district, volume remained seasonal Santa Maria, Salinas areas, with variable quality Salinas. Salinas strawberries light supply, variable quality. Moderate supplies, good quality strawberries picked, Santa Maria area. Market tomato transplanting continued, San Joaquin Valley. Other vegetables harvested included freezer peas, squash, radishes, turnips, green onions, many types oriental vegetables. Livestock generally good. Some cattle, some areas moved to summer, irrigated pasture. Northern ranges appeared better condition; other ranges, pastures continued dry. Statewide, feedlots at about 50% capacity. Water supplies appear generally adequate, more moisture is needed.

COLORADO: Record high temperatures early in week with scattered showers in crop areas later in week. Precipitation none to 0.50 in. on the Eastern Plains. Temperatures 5 to 10° above normal.

Days suitable for fieldwork, 6.1. Soil moisture 49% very short, 40% short, 11% adequate. Winter wheat 14% very poor, 19% poor, 37% fair, 28% good, 2% excellent; 27% jointed. Corn 28% planted; 3% emerged. Summer potatoes 41% planted. Fall potatoes 6% planted. Dry onions 91% planted. Spring barley 79% seeded. Oats 74% seeded. Sugarbeets 97% planted. Spring wheat 60% planted; 15% emerged. Livestock fair to good. Range, pasture mostly fair, starting to dry early. Cows calved 87%. Ewes lambled 91%.

FLORIDA: Showers, thunderstorms weekend gave parts of State much needed rain; several areas 0.50 to 1.50 in. for week. Warm, with temperatures 3 to 6° above normal north, 1 to 3° above, Peninsula. Hottest readings 94°, Ocala, Mountain Lake; coolest, mostly 50s north to 60s south.

Soil moisture short to adequate throughout. Peanut planting active. Cotton planting started, delayed some areas because of dry soils. Winter wheat starting to ripen. Corn, sugarcane, tobacco good progress. Growers prepared land for planting soybeans. Weekend showers brought some relief to many dry pastures. Warmer temperatures also helped stimulate growth. Most central, western Panhandle pastures continued fair to good. Elsewhere, few driest areas poor. Most areas, fair to good with greatest improvement generally along east coast. Cattle, calves fair to good with nursing cows in drier areas beginning to show stress. Citrus groves dry, irrigation continued all areas. Scattered showers, weekend beneficial, more general rains needed. Trees setting new crop fruit. Valencia harvest near peak. Grapefruit movement slowed; supplies running low. Temple, honey tangerine harvests nearly over. Caretakers cultivating, spraying, herbiciding. Temperatures warmed to above normal over major vegetable producing areas. Weekend rains beneficial most areas. Harvest declining seasonally south, increasing central. Volume leaders: Potatoes, tomatoes, cucumbers, watermelons, peppers, celery, cabbage, squash, sweet corn. Also available good volume: Snap beans, lettuce, radishes, carrots, eggplant. Immokalee watermelon harvest active.

GEORGIA: Temperatures 5 to 10° above normal. Extreme lows mid 50s mountains, around 60 south, highs lows to mid 90s. Rain 29th, 30th. Most areas north 0.20 in., many areas around 1.00 in. Central, south mostly under 0.40 in., isolated areas 1.00 to 2.00 in.

Days suitable for fieldwork 6.3. Soil moisture 2% very short, 60% short, 37% adequate, 1% surplus. Corn 31% fair, 64% good, 3% excellent. Cotton 31% fair, 69% good. Planting very active. Sorghum 11% planted, behind average. Peanuts 5% poor, 29% fair, 66% good; 29% planted, 29% 1988, 37% avg. Soybean planting beginning, 2% planted, 5% avg. Tobacco 48% fair, 52% good. Spotted tomato wilt virus. Watermelon planting near completion. Rye, other small grains fair to good. Apples, peaches fair to good. Hay cutting very active. Cattle, hogs mostly good.

HAWAII: Island experienced heavy thundershowers, flooding. Other islands generally fair; overcast with some sunny periods, light to moderate showers. Gusty winds 10 to 25 mph. Temperatures mid 60s to mid 80s. Daily rainfall none to 13.20 in.

Days suitable for fieldwork 7.0. Crop mostly poor to fair. Soil moisture more than ample. Papaya production steady. Heavy spraying still needed to control insects, diseases. Sugar, pineapple harvesting active.

IDAHO: Temperatures 3 to 5° below normal. Precipitation below normal, except North.

Days suitable for fieldwork 6.0. Soil moisture 25% short, 75% adequate. Spring wheat 66% planted, 76% 1988, 67% avg.; 21% emerged. Spring barley 59% planted, 74% 1988, 57% avg.; 18% emerged. Potatoes 23% planted, 31% 1988, 27% avg. Sugarbeets 93% seeded, 100% 1988, 85% avg.; 28% emerged. Onions 91% planted, 100% 1988, 96% avg.; 31% emerged. Oats 47% seeded, 57% 1988, 53% avg. Dry peas 39% planted, 48% 1988. Lentils 28% planted, 41% 1988. Field corn 12% planted. Farmers preparing ground, bean planting, sorting, shipping seed potatoes, repair, maintain irrigation systems. Most apple trees in full bloom. Winter wheat fair, good. Alfalfa fields damaged by harsh winter. Ranchers continued livestock movement to ranges. Livestock mostly good. Cold, wet winter left impact on calf survival rates. Sheep shearing continued. Hay, roughage mostly adequate.

ILLINOIS: Temperature highs upper 60s to mid 80s, 10° above normal, lows low 40s to upper 50s, 30s common north. Precipitation 0.60 to 0.90 in., less than 0.25 in. south, excess 2.00 in. area including Springfield, Urbana, Windsor, Lawrenceville.

Days suitable for fieldwork 4.8. Soil moisture 48% short, 46% adequate, 6% surplus. Soybeans 3% planted, 4% 1988, 2% avg. Oats 94% planted, 93% 1988, 88% avg. Alfalfa 1% poor, 26% fair, 69% good, 4% excellent. Pasture 2% poor, 30% fair, 65% good, 3% excellent; livestock roughage requirements 66%, 60% 1988, 63% avg.

INDIANA: Temperatures above normal. Lows upper 30s to 40°, highs upper 70s north to 90° south. Precipitation above normal, totals 1.00 to 2.00 in. most areas.

Days suitable for fieldwork 4.6. Topsoil moisture 13% short, 57% adequate, 30% surplus. Subsoil moisture 18% short, 71% adequate, 11% surplus. Spring cropland 82% tilled, 92% 1988, 83% avg. Wheat 10 in., 11 in. 1988, 10 in. avg.; 41% jointed, 48% 1988, 43% avg. Oats 75% seeded, 94% 1988, 92% avg.; 3 in. high, 3 in. 1988, 4 in. avg. Clover 87% seeded, 95% 1988, 87% avg. Pastures 1% very poor, 2% poor, 39% fair, 55% good, 3% excellent. Prospects good apple, peach crop.

IOWA: Temperatures 3 to 11° above normal. Extremes 27°; 94°. Precipitation near to above normal. Totals 0.46 to 3.00 in.

Days suitable for fieldwork 4.2. Topsoil moisture 55% short, 42% adequate, 3% surplus; Subsoil moisture 90% short, 10% adequate. Winter wheat 5% very poor, 14% poor, 49% fair, 32% good. Hay 8% very poor, 30% poor, 48% fair, 14% good. Pasture 14% very poor, 30% poor, 42% fair, 14% good. Oats 99% sown, 100% 1988, 90% avg.; 60% emerged, 66% 1988, 55% avg. Seedbed preparation 90% completed, 89% 1988, 76% avg. Livestock were in mostly good to excellent. Southern areas continue hauling water, feed to cattle.

KANSAS: Temperatures 6° above normal northwest, southwest; all other areas up 12° above normal except central 13° above normal. Record highs many areas. Precipitation 0.05 to 0.10 in. south central, southwest, central, north central. All other areas dry.

Days suitable for fieldwork 6.5. Topsoil moisture 96% short, 4% adequate. Subsoil moisture 91% short, 9% adequate. High temperatures, dry wind took drastic toll on wheat already stressed by extreme short moisture, freeze damage. Wheat 57% very poor, 26% poor, 13% fair, 2% good, 2% excellent. Wheat jointing on schedule, some stands central, south heading most stands short, poorly developed. Corn planting excellent progress, very little emerged. Little moisture available to germinate dryland corn. Ranchers culling herds hard to match available forage, reduce feed cost. Range, pastures generally short. Feed grains generally adequate, hay, forage short to adequate.

KENTUCKY: Stationary front northeast area kept temperatures cool east. Low temperatures upper 30s east. Rainfall mostly 1.00 to 2.50 in. east. Summer like rest State highs lower 90s. Rainfall few hundredths to 0.75 in. west. Weekend cold front dropped temperatures 70s.

Days suitable fieldwork 5.4. Soil moisture 18% short, 80% adequate, 2% surplus. Most tobacco under 2 in. high. Tobacco 3% poor, 27% fair, 67% good, 3% excellent. Corn 2% emerged; 5% poor, 28% fair, 64% good, 3% excellent. Wheat 9% headed; 12% fair, 80% good, 8% excellent. Soybeans 2% planted. Pastures rated 3% poor, 18% fair, 64% good, 15% excellent. Moisture, warmer temperatures promoting growth. Earlier freeze damaged peaches, apples generally survived.

LOUISIANA: Temperatures 2 to 6° above normal. Extremes 49°; 91°. Rainfall 0.12 to 0.93 in.

Days suitable for fieldwork 6.6. Soil moisture 60% short, 38% adequate, 2% surplus. Spring plowing 90%, 89% 1988, 89% avg. Corn 97% planted, 93% 1988, 93% avg.; 89% emerged, 74% 1988, 84% avg. Condition fair to good. Cotton 13% emerged, 10% 1988, 16% avg. Hay first cutting 12%, 8% 1988, 8% avg. Dry weather hindering grass growth. Livestock 17% fair, 83% good. Rice doing much better with warmer weather. Condition fair to good. Sorghum 37% emerged, 15% 1988, 38% avg. Soybeans 1% planted, 1% 1988, 2% avg. Spring plowing 90%, 89% 1988, 89% avg. Sugarcane 29% fair, 71% good. Sweetpotatoes 10% planted, 14% 1988, 15% avg. Pasture 2% poor, 28% fair, 70% good. Wheat 99% headed, 98% 1988, 92% avg.; 18% turning color, 20% 1988, 25% avg.; 4% poor, 34% fair, 60% good, 2% excellent. Vegetable 5% poor, 39% fair, 56% good. Some insect control needed on leafy vegetables.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.01 in. Temperature 57°, normal 57°. Temperature extremes 21°; 81°.

Days suitable for fieldwork 5.3. Topsoil moisture 4% short, 86% adequate, 10% surplus. Subsoil moisture 90% adequate, 10% surplus. Corn

13% planted, 25% 1988. Sweet corn 16%, 20% 1988, 34% avg. Wheat, barley, rye good. Barley 25% headed, 50% 1988, 41% avg.

DELAWARE: Precipitation none in. Temperature 56°, normal 57°. Temperature extremes 33°; 79°.

Days suitable for fieldwork 5.2. Topsoil moisture 30% adequate, 70% surplus. Subsoil moisture 90% adequate, 10% surplus. Corn 18% planted, 25% 1988. Sweet corn 35% planted, 45% 1988, 36% avg. Potatoes 61% planted, 98% 1988. Wheat, barley, rye good.

MICHIGAN: Temperatures 1° below normal to 5° above normal. Temperature extremes 22°; 79°. Precipitation none to 1.07 in. across State.

Days suitable for fieldwork 5.0. Soil moisture 15% short, 75% adequate, 10% surplus. Corn 5% planted, 5% 1988, 10% avg. Oats 55% planted, 60% 1988, 55% avg. Potatoes 10% planted, 10% 1988, 10% avg. Sugarbeets 70% planted, 60% 1988, 60% avg. Wheat 2% very poor, 8% poor, 25% fair, 50% good 15% excellent. Activities: Spring tillage, fertilizer application, corn, oats, barley, potato, sugarbeet planting. Fruit development slowed some areas by cold weather, little frost damage. Asparagus harvest started.

MINNESOTA: Temperatures 2 below to 3° above normal. Temperature extremes 24°; 83°. Precipitation 0.04 to 2.55 in. Greatest weekly total 3.55 in.

Days suitable for fieldwork 2.9. Topsoil moisture 1% very short, 21% short, 69% adequate, 9% surplus. Subsoil moisture 35% very short, 50% short, 14% adequate, 1% surplus. Spring wheat 25% planted, 85% 1988, 55% avg.; 5% emerged, 17% 1988, 16% avg. Oats 51% planted, 90% 1988, 65% avg.; 14% emerged, 26% 1988, 24% avg. Barley 15% planted, 75% 1988, 48% avg.; 2% emerged, 10% 1988, 10% avg. Corn 31% land prepared, 58% 1988, 40% avg.; 5% planted, 19% 1988, 17% avg. Soybeans 11% land prepared, 23% 1988, 16% avg.; none planted, 1% 1988, 1% avg. Sunflowers none planted, none 1988, 2% avg. Flax none planted, 10% 1988, 5% avg. Sugarbeets 41% planted, 91% 1988, 48% avg. Potatoes 6% planted, 19% 1988, 13% avg. Green peas 35% planted, 48% 1988, 39% avg. Sweet Corn 2% planted, 7% 1988, 5% avg.

MISSISSIPPI: Hot, dry. Temperatures 73°, 6° above normal. Rainfall 0.66 in., 0.60 below normal. Maximum weekly rainfall 2.11 in.

Days suitable for fieldwork 6.3, 5.3 1988, 4.3 avg. Soil moisture 5% very short, 50% short, 45% adequate. Wheat fair; 88% heading, 76% 1988, 73% avg.; 1% mature, 2% avg. Freeze damage. Corn fair; 74% planted, 72% 1988, 78% avg. Cotton 44% planted, 31% 1988, 30% avg. Rice 62% planted, 67% 1988, 62% avg. Sorghum 41% planted, 48% 1988, 37% avg. Soybeans 3% planted, 2% avg. Sweetpotatoes 21% planted, 35% 1988, 19% avg. Peaches 30% very poor, 25% poor, 25% fair, 20% good. Pastures, livestock good. Hay harvest just beginning. Activities: Planting all crops, preparing land for late crops. Dry weather starting to concern farmers.

MISSOURI: Temperatures 12° above normal. Eastern half 0.25 in., western half dry.

Days suitable for fieldwork 6.2. Topsoil moisture 83% short, 17% adequate. Subsoil moisture 68% short, 31% adequate, 1% surplus. Tillage, spring crops 85%, 86% 1988, 72% avg. Planting progress rapid all areas. Wheat growth shorter than usual, heading started southern counties. Pasture 12% very poor, 23% poor, 47% fair, 18% good, least growth northern districts. Livestock water 21% critically short, 24% short, 55% adequate.

MONTANA: Cooler air east of divide middle of week. Temperatures near normal west 8° below normal east. Wet snow, rain east provided over foot snow at Miles City, Broadus to near 3 ft. at Powderville. Precipitation near none to 2.89 in.

Days suitable for fieldwork 1.4. Topsoil moisture 2% short, 78% adequate, 20% surplus. Subsoil moisture 28% short, 68% adequate, 4% surplus. Winter wheat still dormant 18%, greening 38%, green, growing 44%. Winter freeze damage to winter wheat 21% none, 25% light, 16% moderate, 38% heavy. Barley 24% planted, 73% 1988, 53% avg.; 3% emerged. Oats 15% planted, 69% 1988, 45% avg.; 1% emerged. Calving 94% complete, 92% 1988, 89% avg. Lambing 81%, 88% 1988, 82% avg.

NEBRASKA: Widespread precipitation throughout week. Snow west, locally heavy rain, hail east. Precipitation trace to over 2.00 in. Temperatures 4° below normal west, 11° above normal east. Extremes 25°; 97°.

Days suitable for fieldwork 6.3. Topsoil moisture 86% short, 14% adequate. Subsoil moisture 83% short, 17% adequate. Winter wheat 16% very poor, 47% poor, 25% fair, 12% good; 20% jointed, 21% 1988, 23% avg. Winter wheat continues to show drought stress. Corn 25% planting complete, 23% 1988, 19% avg. Many dryland operators waiting rain before planting. Sorghum 1% planted, 1% 1988. Soybeans 1% planted equal to last years. Oat seeding 94% complete, 96% 1988, 86% avg. Emergence slow due to dry conditions. Pasture, range 73% short, 26% adequate, 1% surplus. Growth slowed by dry conditions. Hay fed to supplement pastures in many southern areas. Some operators selling cattle because of limited feed supplies. Main activities: Applying fertilizer, herbicides, field preparation, working calves, moving cattle to pasture.

NEVADA: Cool, wet with many areas receiving light precipitation except some southern areas. Cool temperatures persisted with some warming most areas late in week. Temperature extremes 12°; 91°.

Freezing nighttime temperatures some areas slowed growth alfalfa, spring grains. Irrigation water generally adequate. Calving nearing completion, ranges looking good. Major farm, ranch activities: Land leveling, irrigating, planting, normal spring fieldwork.

NEW ENGLAND: Precipitation 0.50 to 1.00 in. south, less than 0.10 in. north. Temperatures upper 30s near Canadian border to 50° south coast. Temperatures cooler than normal.

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

NEW JERSEY: Temperatures near normal. Extremes 26°; 79°. Rainfall 0.23 in. north, 0.82 in. central, 1.66 in. south. Heaviest 24-hour 3.13 in. 29th, 30th. Estimated soil moisture percent field capacity 89% north, 86% central, 87% south. Four in. soil temperatures 50° north, 51° central, 54° south.

Soil preparation, planting continued active sweet corn, oats, irish potatoes. Vegetable planting increased summer crops. Spring crop planting neared completion. Apple, blueberry, strawberry bloom continued to advance. Peach bloom neared completion in northern areas. Fruit spraying active as conditions permitted. Some fall sown grain cut for livestock feed. Hay, pasture growth improved.

NEW MEXICO: Scattered precipitation northeast; temperatures slightly above normal eastern plains, slightly below normal northwest.

Days suitable for fieldwork 6.9. Soil moisture 86% short, 14% adequate. Moderate to heavy

freeze, wind damage. Wheat 25% very poor, 60% poor, 10% fair, 5% good. Cattle 5% poor, 63% fair, 32% good. Sheep 7% poor, 50% fair, 43% good. Range 32% poor, 68% fair.

NEW YORK: Early week temperatures 10 to 15° below normal. Temperatures 24th thru 28th about normal, dropping well below normal 29th. Cool, dry northwesterly flow prohibited much precipitation most of week. Most rain fell 29th, heaviest on Long Island.

Days suitable for fieldwork 6.6. Soil moisture short to adequate. Pastures mostly fair. Hay fair to good. Wheat mostly good. Rapid crop growth noted. Corn 6% planted, 2% 1988, 4% avg. Oats 53% planted, 27% 1988, 23% avg. Potato planting underway some areas. Onion planting progressing well. Planting of green peas, cabbage, carrots continues. Celery planting underway.

NORTH CAROLINA: Temperatures 4 to 7° above normal across State. Temperature extremes 37°; 94°. Precipitation 0.02 to 2.09 in.

Days suitable for fieldwork 5.2. Soil moisture 18% short, 60% adequate, 22% surplus. Pasture 1% poor, 16% fair, 73% good, 10% excellent. Oat 1% poor, 30% fair, 66% good, 3% excellent. Barley 1% poor, 20% fair, 74% good, 5% excellent. Rye 3% poor, 11% fair, 80% good, 6% excellent. Tobacco plant beds 3% very poor, 6% poor, 43% fair, 48% good. Supply 26% very short, 70% short, 4% adequate. Transplanted 16%, 28% 1988, 29% avg. Irish potato 3% poor, 40% fair, 57% good. Peach 3% very poor, 15% poor, 30% adequate 52% good. Truck crops 2% poor, 33% fair, 62% good, 3% excellent. Sorghum 8% planted, 16% 1988, 17% avg. Major activities: Land preparation, planting corn, transplanting tobacco. Other activities: Spraying crops, tobacco plant bed maintenance, fertilizing fields, harvesting small grain silage, planting truck crops, cotton, tending livestock, general farm maintenance. Some weather, insect damage to tobacco plant beds. Cereal leaf beetle a problem in small grain fields.

NORTH DAKOTA: Much needed precipitation 0.14 northeast to 2.12 in. southwest, with 10.00 to 13.00 in. of heavy wet snow following rain in extreme southwest, 27th, 28th. Temperatures 1° below normal southwest to 4° above normal north central, east central, south central, southeast. Extremes 26° northwest, 28th; 89° south central, 23rd.

Days suitable for fieldwork 4.1. Soil moisture levels improved dramatically. Topsoil 4% very short, 24% short, 70% adequate, 2% surplus. Subsoil 17% very short, 74% short, 9% adequate, none surplus. Planting completed progressed, well below average. Planting of hard red spring wheat 16% complete, durum wheat 5%, barley 11%, oats 12%, sugarbeets 31%, with planting of corn, flax, soybeans not started yet. Winter wheat 4% very poor, 22% poor, 61% fair, 13% good. Winter wheat 4% dormant, 83% green, 13% stooling. Calving 91% completed, lambing 93%, shearing 93%. Range, pasture 7% very poor, 63% poor, 21% fair, 9% good; furnished 21% roughage requirement.

OHIO: Temperatures fluctuated widely; lows mid 40s to mid 50s; highs high 60s to low 70s. Overall temperatures 2 to 9° above normal. Precipitation subnormal north, above normal south; 0.11 to 3.47 in. Soil temperatures mid 50s.

Days suitable for fieldwork: 3.3. Soil moisture 3% short, 48% adequate, 49% surplus. Activities: Planting corn, oats, potatoes, sugarbeets, grasses, legumes; applying fertilizer, pesticides; maintenance work. Winter wheat, pasture, hay fair to mostly good. Some pastures too wet for grazing. Planting season late; too wet, rainy cool.

OKLAHOMA: Temperatures 4° above normal Panhandle to 9° above normal southeast. Precipitation none several areas to 0.19 in. southeast.

Days suitable for fieldwork 6.6. Topsoil moisture 90% short, 10% adequate. Subsoil moisture 55% short, 45% adequate. Wheat 10% very poor, 40% poor, 40% fair, 10% good; 50% heading, 25% 1988, 36% avg. Hot, dry weather causing rapid heading in western, southern areas. Sorghum 3% planted, 2% 1988, 2% avg. Soybeans 10% planted, 3% 1988, 3% avg. Corn 40% planted, 70% 1988, 55% avg. Pasture growth slow due to moisture shortage. Cattle good, marketings stable, prices down from preceding week.

OREGON: Cool, wet most of State. Many parts of east, south central received snow early in week; warmed by mid-week, precipitation was in form of rain or thundershowers. Temperatures 3° above normal along coast, northern Willamette Valley. Remainder of State below normal temperatures. South central was coldest, 6° below normal. Abundant rainfall most of State. Normally dry southwestern valleys 1.60 in. Elsewhere 0.40 to 1.20 in. except extreme north coast less than 0.10 in., high plateau 3.50 in., much as snow.

Soil moisture 6% short, 82% adequate, 12% surplus. Barley 82% seeded, 96% 1988, 92% avg. Spring fieldwork slowed by rains, some snow, east. Low levels of russian wheat aphid present some winter wheat fields Columbia Basin counties. Grass seed generally good west. Alfalfa growing well all areas, fertilizing, spraying west. Flaming mint fields Willamette Valley. Sugarbeet planting complete Malheur County. Pears blooming throughout Hood River Valley; no frost damage; apples beginning to bloom lower valley. Scab, psylla sprays applied; some orchards fertilized. Apples in full bloom Hermiston-Boardman, Willamette Valley. Peaches, pears have set crop west. Berry crops developing slowly due to cool temperatures. Extent of winter injury to caneberrys became more apparent during recent warm days. Pest controls applied to strawberries, some new plantings continued. Grapes with 6 in. shoots Boardman area. Fertilizer applied to cranberry bogs Clatsop, Coos Counties. Potato planting winding down Hermiston-Boardman; some emerged, being cultivated. Potatoes 45% planted, Malheur County. Asparagus harvest going strong Milton-Freewater. Onions all planted Malheur County; 50% planted, Willamette Valley, slowed by lack of surface moisture some areas. Cannery vegetable plantings back on schedule: Green peas sowing almost done; some snap beans emerged, still planting; table beets, broccoli, zucchini planted. Early sweet corn emerged Malheur County; being planted Washington County. Radishes, rhubarb harvested west. Livestock good, although snow in southeast was hard on young calves. Limited early movement of cattle to summer pasture Klamath Basin. Range, pasture fair to good. Eastern grass growth aided by recent rains. Western growth staying ahead of animals most areas.

PENNSYLVANIA: Week started quite cold. Frost, freezing temperatures widespread across State. Milder air, showers later in week. Temperature 2° to 52° above normal. Temperature extremes 20°; 78°. Precipitation 0.20 to 0.62 in. below normal.

Days suitable for fieldwork 6.0. Soil moisture 72% short, 28% adequate, none surplus. Plowing 59% complete, 70% 1988, 57% avg. Corn 7% planted, 13% 1988, 12% avg. Soybeans none planted, none 1988, 1% avg. Oats 65% planted, 76% 1988, 67% avg. Potatoes 28% planted, 56% 1988, 40% avg. Tobacco beds 100% planted, 99% 1988, 88% avg. Barley 94% pre-boot, 92% 1988, 87% avg.; 6% boot, 8% 1988, 12% avg; none heading or headed, none 1988, 1% avg. Wheat 98% pre-boot, 97% 1988, 95% avg.; 2% boot, 3% 1988, 5% avg. Wheat crop none very poor, 3%

poor, 19% fair, 50% good, 28% excellent. Oat crop none very poor, 2% poor, 30% fair, 51% good, 17% excellent. Hay stands mostly fair. Feed from pastures mostly below average to average. Peaches 30% pre-pink, 29% 1988, 33% avg.; 22% pink, 24% 1988, 22% avg.; 48% full bloom or past, 47% 1988, 45% avg. Cherries 36% pre-pink, 42% 1988, 30% avg.; 34% pink, 15% 1988, 17% avg.; 30% full bloom or past, 43% 1988, 53% avg. Apples 67% pre-pink, 55% 1988, 47% avg.; 28% pink, 28% 1988, 23% avg.; 5% full bloom or past, 17% 1988, 30% 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 81° plus 1.60, total rainfall none in. minus 1.03. Incomplete report due to insufficient data.

SOUTH CAROLINA: Temperatures 8 to 10° above normal. Precipitation less than 0.25 in. across State.

Days available for fieldwork 5.4. Soil moisture 2% very short, 33% short, 65% adequate. Corn fair to good; 85% planted, 98% 1988, 92% avg. Tobacco fair to good; 66% planted, 85% 1988, 81% avg. Watermelons fair to good; 83% planted, 82% 1988, 84% avg. Tomatoes good; 93% planted, 94% 1988, 97% avg. Peaches fair to good; some hail damage in Spartanburg county. Wheat good; 84% headed, 76% 1988, 68% avg.; 3% turning color, 1% 1988, 5% avg. Oats good; 97% headed, 72% 1988, 65% avg.; 5% turning color, 2% 1988, 5% avg.

SOUTH DAKOTA: Temperatures 6 below to 15° above normal. Extremes 11°; 93°. Above normal precipitation most State.

Winter wheat mostly good to fair. Winterkill 19%. Seeding small grains, field preparation, fencing, calving, lambing, fertilizing, applying chemicals major activities.

TENNESSEE: Frontal systems, low pressure north of State brought warm weather, little rain. Cold front 30th brought showers most sections. Temperatures above normal 10 to 15° west, middle. Precipitation below normal, except extreme northeast. Most amounts less than 0.50 in.

Days suitable for fieldwork 5.7. Soil moisture 1% very short, 44% short, 55% adequate. Corn 38% planted, 56% 1988, 51% avg. Tobacco 100% plants up, 95% 1988, 93% avg.; 1% transplanted, 1% 1988, 1% avg. Wheat 100% jointed, 92% 1988, 84% avg.; 16% headed, 41% 1988, 37% avg. Strawberries fair to good. Pastures, livestock good. Heavy alfalfa weevil infestation most areas.

TEXAS: Weather warm across Texas. Weak disturbance caused scattered showers midweek. Cool front entered Panhandle 27th, triggered widespread thunderstorm activity east, central, widespread showers northwest. Temperatures normal or above normal across State. Rainfall generally normal, despite active front. Lower Valley above normal.

Crops: Small grain conditions across State varied, worst fields High Plains. Producers plow up worst dryland fields. Some better irrigated fields beginning to head. Insects cause problems. Fields Blacklands, central blooming, some damage late frost showing up. Rain south probably too late to benefit much crop. Corn planting winding down many parts High Plains. Irrigation necessary for emergence. Growth improved over remainder State, most areas received rain past few weeks. Scattered hail damage central late week. Cultivation activities active. High Plains, Cross Timbers planting activities increased. Growth improved central, south, upper coast. Cultivation

activities active. Insect problems increasing Blacklands, fields good progress. Sorghum none headed; none 1988; 1% avg. Some cotton planting irrigated land beginning Plains. Final preparations completed other fields. Planting continued Blacklands, central. Fields Trans-Pecos coming up to stands. Fields squaring Coastal Bend, Valley. Recent rain these areas very beneficial. Cotton 1% squaring, 1% 1988, 1% avg. Rice fields continued emerge, some fields slow because of dry conditions. Flushing emerged fields continued. Planting continued. Peanut planting underway south, recent rains improved planting moisture. Producers other areas getting ready to start. Soybean planting certain varieties increasing Upper Coast. Early planted fields look good, need more moisture.

Other Field Crops: Peanuts none planted, 4% 1988, 5% avg. Soybeans 12% planted, 2% 1988, 7% avg. Sugarbeets 97% planted, 100% 1988, 93% avg. Sunflowers none planted, none 1988, 3% avg.

Commercial Vegetables: Rio Grande Valley, onion harvest reached peak, wind down soon. Rainfall slowed activities. Melons, tomatoes, peppers good progress. Citrus groves benefited from rains. Normal fruit drop occurring. San Antonio-Winter Garden, limited onion harvest started. Watermelons slow growth. East Texas, planting active. Growth improved most vegetables. Producers spraying some melon fields. High Plains, irrigation active all vegetables. Carrot, pepper planting continued. Trans-Pecos, onions doing well. Some spraying for thrips occurred. Chile planting continued. Hill Country peaches look good. Some hail night of 29th, little damage. Some thinning necessary. Varied crop expected east, current fruit sizing well. Pecan trees leafing, blooming many areas. Effects of late frost some areas unknown.

Range and Livestock: Ranges, pastures some improvement; growth slow many areas. Pastures good most east, some hay being cut. First cutting alfalfa Trans-Pecos. Stock tank water major concern some drier portions Low Plains. Shearing operations continued steady Hill Country. Movement cattle to High Plains.

UTAH: Temperatures 2 to 5° above normal. Precipitation light to heavy north Central, none to light rest of State.

Days suitable fieldwork 6.2. Soil moisture 90% short, 10% adequate. Spring wheat 91% planted, 94% 1988, 81% avg.; 58% emerged, 81% 1988, 38% avg. Barley 93% planted, 94% 1988, 80% avg.; 58% emerged, 69% 1988, 50% avg. Oats 78% planted, 78% 1988, 60% avg.; 37% emerged, 45% 1988, 30% avg. Corn 19% planted, 17% 1988, 11% avg. Winter wheat 7 in., alfalfa 9 in. Apples, peaches, pears in full bloom or past. Cow calved 91%; ewes lambing 97% farm flock, 71% range; sheep sheared 81% farm flock, 73% range. Major farm activities: Equipment maintenance, corn planting, irrigating, seedbed preparation, weed spraying, spreading fertilizer, cleaning corrals, preparing to move livestock to spring ranges.

VIRGINIA: Temperatures 4° above normal, rainfall above normal. Temperature low 32° west. Precipitation 0.75 to 1.00 in.

Days suitable for fieldwork 5.0 Topsoil moisture was 28% short, 54% adequate, 18% surplus. Corn 25% planted, 30% 1988, 31% avg. Peanut planting started. Corn 12% poor, 46% fair, 42% good. Wheat 2% poor, 31% fair, 67% good, some powdery mildew. Barley 5% poor, 15% fair, 76% good, 4% excellent. Pastures 9% poor, 30% fair, 53% good, 8% excellent. Alfalfa 11% poor, 29% fair, 52% good, 8% excellent. Other hay 13% poor, 31% fair, 48% good, 8% excellent. Apple 6% very poor, 6% poor, 50% fair, 38% good. Peach 31% very poor, 25% poor, 38% fair,

6% good. Potato 3% fair, 97% good. Feeder cattle placed on pasture. Vegetable planting active.

WASHINGTON: Temperatures 3 to 6° above normal, west; 2° above to 4° below normal, east. Precipitation none to 1.39 in., west; 0.10 to 1.71 in., east.

Days suitable for fieldwork, 5.4. Soil moisture 25% short, 70% adequate, 5% surplus. Spring wheat 90% seeded, 97% 1988, 91% avg.; 65% emerged, 90% 1988, 75% avg. Barley 75% seeded, 83% 1988, 80% avg. Potatoes 75% seeded, 40% emerged, condition mostly good. Vegetable planting continues. Asparagus cutting in progress. Range, pasture improving; 30% short, 70% adequate. Hay, roughage 5% very short, 35% short, 60% adequate.

WEST VIRGINIA: Temperature 60°, 1 to 8° below normal. Extremes 19° Greenbank; 87° Williamson. Precipitation 2.15 in., above normal except for northeast.

Days suitable for fieldwork 3.3. Soil moisture 3% very short, 9% short, 50% adequate, 38% surplus. Wheat good to fair. Barley fair to good. Oats poor to good, 53% planted; 7% emerged. Corn 11% planted. Tobacco beds good, 100% planted; 30% emerged. Hay good to fair. Apples fair. Peaches poor. Feed supplies adequate. Cattle, sheep good; cows calved 92%; ewes lambed 88%. Farm activities: Moving cattle, fertilizer spreading, building fence, plowing, planting corn.

WISCONSIN: Temperatures 50°, 1° below normal. Extremes: 27°; 84°. Precipitation 0.30 to 1.60 in; most west, south. Snow 5 to 9 in. extreme northwest 29th.

Days suitable for fieldwork 3.7. Soil moisture 67% short, 33% adequate. Spring plowing 39% complete, 58% 1988, 46% avg. Oats 51% seeded, 71% 1988, 56% avg. Corn 3% planted, 4% 1988, 5% avg. Winterkill alfalfa 5% none, 56% light, 35% moderate, 4% severe; most east, south. Winterkill winter wheat 4% none, 53% light, 40% moderate, 3% severe. Potatoes, peas, sweet corn being planted.

WYOMING: Temperatures mostly above normal. Above normal moisture except extreme south, central parts.

Days suitable for fieldwork 5.0. Topsoil moisture 52% short, 48% adequate. Spring wheat 55% planted, 60% 1988, 65% avg.; 15% emerged, 30% 1988, 30% avg. Oats 50% planted, 55% 1988, 55% avg.; 15% emerged, 15% 1988, 20% avg. Barley 80% planted, 80% 1988, 75% avg.; 45% emerged, 55% 1988, 45% avg. Sugarbeets 75% planted, 90% 1988, 85% avg.; 5% emerged, 15% 1988, 15% avg. Corn 10% planted, 15% 1988, 20% avg. Potatoes 15% planted, 5% 1988, 20% avg. Winter wheat fair to good. Alfalfa prospects fair to good. Livestock fair to good. Spring calves born 85%, 90% 1988, 85% avg. Death losses light to normal. Farm flock: Ewes lambed 90%, 85% 1988, 90% avg.; shorn 90%, 80% 1988, 85% avg. Range flock: Ewes lambed 50%, 55% 1988, 55% avg.; shorn 65%, 65% 1988, 60% avg. Death losses light to normal. Range, pasture poor to fair.

International Weather and Crop Summary

April 23-29, 1989

HIGHLIGHTS

WESTERN USSR ... Continued unseasonably warm weather accelerates crop growth and development. Moisture conditions are mostly favorable for early growth except for crop areas in the extreme south where topsoils are becoming unfavorably dry.

EUROPE ... Widespread, variable rain falls throughout the region, benefiting winter crop development and spring crop establishment.

SOUTH ASIA ... Showers in the east improve irrigation reserves and bring some relief to heat stressed crops.

EASTERN ASIA ... Heavy rain continues along the Yangtze Valley, while dry weather covers the North China Plain.

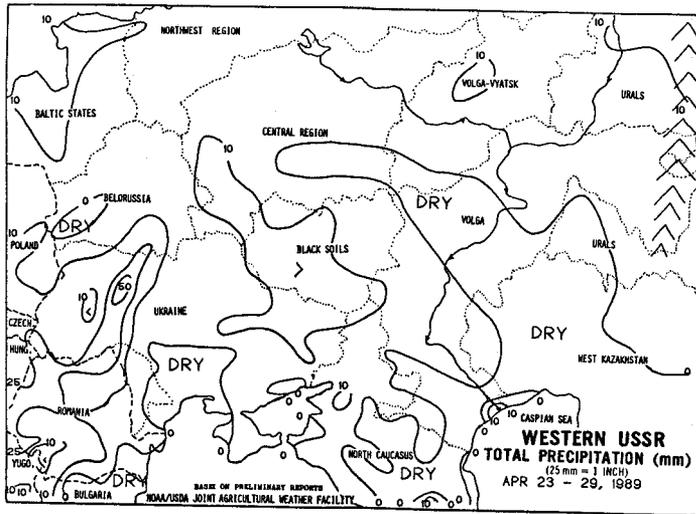
SOUTHEAST ASIA ... Widespread showers cover Thailand, improving moisture conditions for main season planting activities.

SOUTH AMERICA ... Harvesting progresses rapidly in most of Argentina's primary summer crop areas. Late-week showers slow Brazil's soybean harvest in the major southern states.

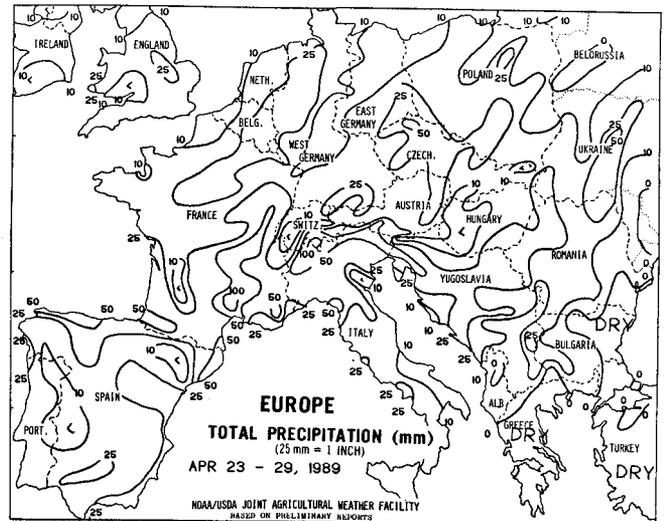
AUSTRALIA ... Highly beneficial rains in Western and South Australia increase topsoil moisture for winter grain planting. Heavy rains likely produce localized flooding along coastal areas in Queensland and northern New South Wales.

SOUTH AFRICA ... Scattered rain and cool weather continue, maintaining unfavorably wet conditions for corn maturation and early harvesting.

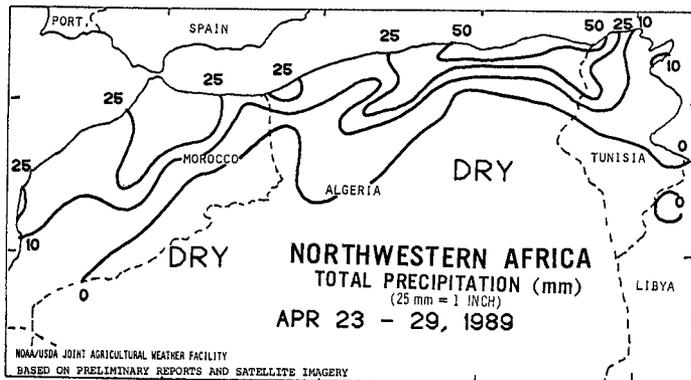
NORTHWESTERN AFRICA ... Widespread precipitation benefits immature crops.



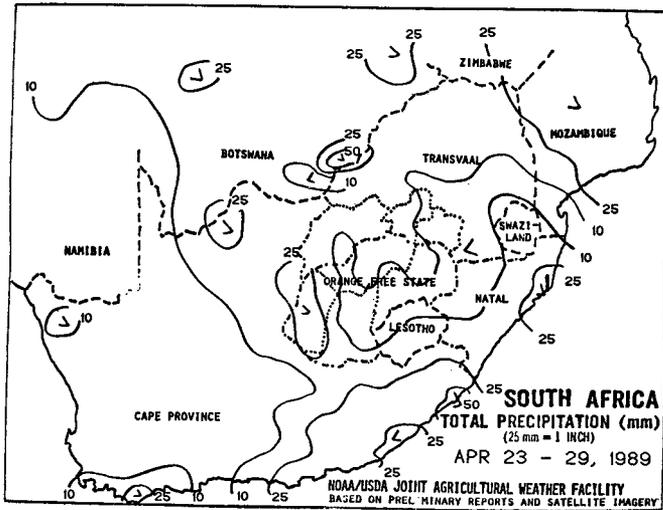
WESTERN USSR ... Winter grains broke dormancy over the entire region and were jointing as far north as the southern Baltic States, the northern Black Soils Region, and the central Volga. Spring grains were likely emerging in the Ukraine, southern Black Soils Region, North Caucasus, and the lower Volga. Spring planting continued to progress northward. Widespread showers (15-50mm) in the western Ukraine, northeastern Ukraine, southwestern Black Soils Region, and the extreme southwestern portion of the Central Region caused some delays in fieldwork. Light, scattered precipitation (1-10mm) over the remainder of the region caused only minimal delays in fieldwork. Moisture conditions were mostly favorable for early crop growth except for crop areas in the extreme southern Ukraine, crop areas around Krasnodar, and the lower Volga where topsoil moisture was limited. Rain is needed in these areas to prevent the potential for crop stress. Weekly average temperatures were 2-5 degrees Celsius (C) above normal over the region.



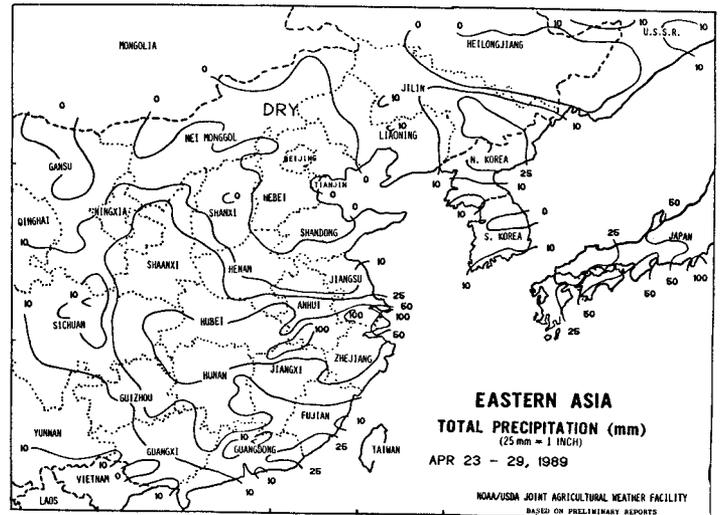
EUROPE ... Widespread showers fell over most of the region. The heaviest rain (40-100mm or more) was concentrated mostly over extreme northern portions of Spain and Italy, and southwestern France. Substantial showers (15-40mm) fell throughout the remainder of western and central Europe, and extended into Yugoslavia and western Romania. Showers diminished in the east, with weekly rainfall averaging less than 15mm in East Germany, northern and eastern Poland, Hungary, and southeastern Romania. Mostly dry weather prevailed over Bulgaria, Greece, and southeastern Italy. The moisture was beneficial across southern Europe for heading to filling wheat, while mostly favorable moisture prevailed in the north for jointing to heading winter wheat. Spring crop planting is underway throughout the region. Weekly temperatures averaged below normal in the west and above normal in the east.



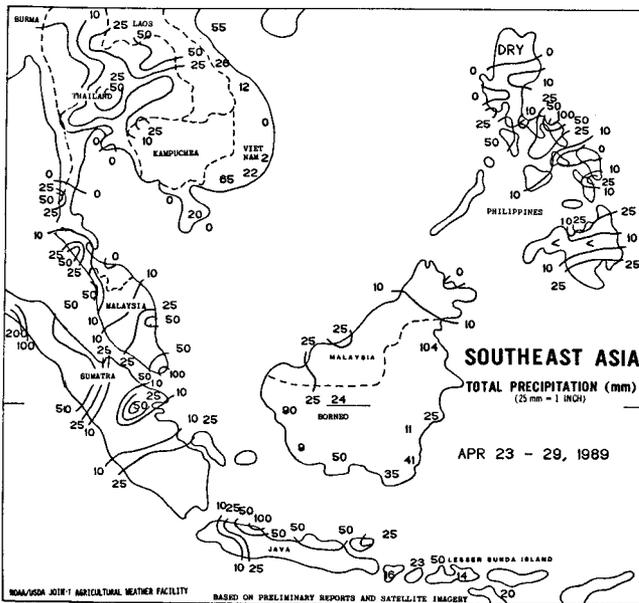
NORTHWESTERN AFRICA ... Widespread precipitation began over Morocco on April 26 and spread eastward over crop areas in Algeria and Tunisia. Precipitation amounts varied greatly, but generally ranged from 11 to 40mm. Isolated heavier rainfall (amounts greater than 50mm) covered northernmost crop areas along the coast of northeastern Tunisia. The precipitation which covered the region benefited immature crops. Usually, winter grain harvesting begins in May and extends through July.



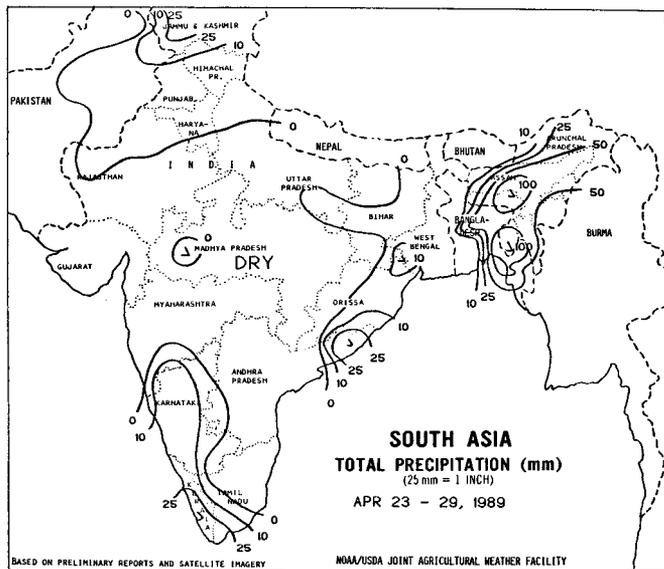
SOUTH AFRICA ... Light to moderate rain (3-23mm) continued across the primary corn regions, slowing early harvesting and maintaining excessively wet conditions in some regions for maturing crops. Temperatures continued cooler than normal, reducing evaporation rates. Corn harvesting is usually well underway during May, but the recent wet, cool weather has necessitated much drier conditions for normal progress. Scattered showers (2-25mm or more) continued across the Cape Province and Natal, improving moisture conditions for wheat planting and sugarcane growth. Heaviest rain (45-61mm) fell over coastal areas of the Cape Province as lighter amounts (11-17mm) returned to southern Natal, following last week's heavy rains.



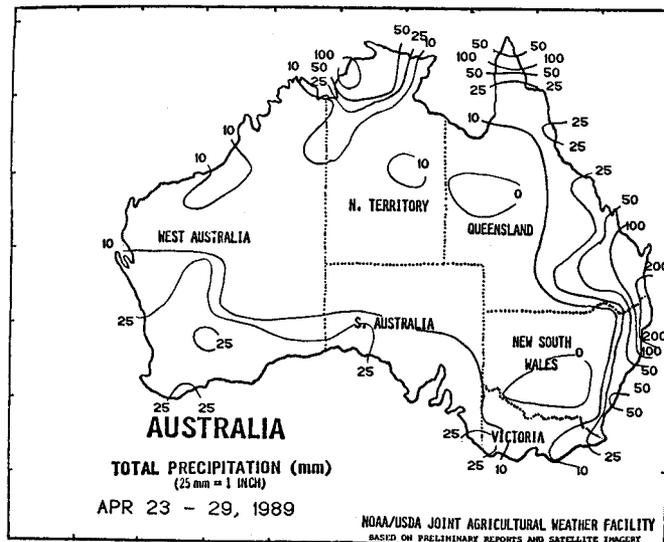
EASTERN ASIA ... Continued heavy rain (50-124mm) over the Yangtze Valley left soils saturated and caused spring planting delays in extreme eastern Sichuan, northern Hunan, along the border of Hubei and Jiangxi, southern Anhui, and Zhejiang. Widespread showers (25-40mm) generally benefited vegetative early crop rice in the southeast. Dry weather prevailed over most of the North China Plain, where winter wheat ranges from jointing in the north to reproductive in the south. Very light showers (6mm or less) fell in Liaoning and western Jilin. Moisture is needed especially in northern sections of the North China Plain and the northeast for spring crop emergence. Significant showers (10-46mm) fell over eastern Jilin and North Korea. Widespread rain also fell throughout Japan.



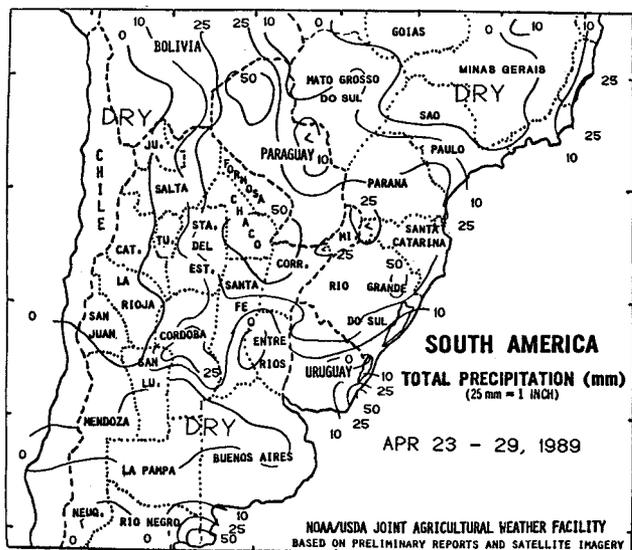
SOUTHEAST ASIA ... Widespread, variable showers covered Thailand's main season grain regions with heaviest rainfall (20-50mm or more) over a large area from the northeast to Bangkok and local areas of the Northern Hills region. The rainfall improved conditions for main season planting activities and immature secondary rice. Temperatures, however, averaged as much as 2 degrees C above normal, maintaining seasonably high evaporation rates. Further south, moderate to heavy rain (25-50mm or more) returned to peninsular Thailand and most of Malaysia and Indonesia. In the Philippines, light to moderate showers covered most areas, improving pre-planting conditions for the main season crop. Dry weather, however, persisted over Luzon's northernmost grain areas where rain is still needed for planting.



SOUTH ASIA ... Variable, scattered showers fell over eastern rice areas from Orissa through Bangladesh into India's eastern states, improving irrigation reserves for upcoming plantings and bringing some relief to heat stressed crops. Rainfall totaled 17-117mm from central Bangladesh to eastern Assam, but only 1-12mm fell from western Bangladesh westward. Temperatures averaged near normal, but maximum temperatures continued seasonably hot, increasing evaporation rates. Scattered showers (1-30mm) continued over wheat regions of northern Pakistan and northernmost India, benefiting immature crops. Warm, mostly dry weather continued across India's primary wheat regions, favoring maturation and harvesting. In the south, moderate rain (10-37mm) improved moisture conditions over a large area of Karnataka and Kerala, but dry, warmer-than-normal weather continued over rice areas along the southeast coast, favoring mature rice.



AUSTRALIA ... Remnants of Tropical Cyclone Orson produced highly beneficial rains (18-31mm) over previously dry areas of Western Australia, increasing topsoil moisture for upcoming winter grain planting. Widespread precipitation (10-25mm) also covered South Australia and extreme southern Victoria. Scattered moderate to heavy rain continued over eastern Queensland, and spread southward into southern Queensland. Rainfall in coastal areas of southern Queensland ranged from 100 to 244mm, likely causing some coastal flooding. Lighter amounts of rain (15-72mm) fell over interior areas in southern Queensland. In New South Wales, dry weather in the interior favored early wheat planting, while moderate to heavy rain (45-200mm) covered coastal locations. Drier weather with precipitation amounts ranging from 25 to 38mm covered sugarcane areas in northeastern Queensland.



SOUTH AMERICA ... Mostly dry weather prevailed over Buenos Aires, La Pampa, and extreme southeastern Santa Fe, favoring summer crop harvesting. Sunflower harvesting is nearly complete, and corn and soybean harvesting progressed significantly. Early-week showers (20-40mm) slowed harvesting in Cordoba and in northern cotton areas. Drier weather improved field conditions by late week, however. Winter wheat planting will begin soon and moisture is needed in southern Buenos Aires. In south-central Brazil, showers developed late in the week over southern soybean areas, slowing harvesting. Weekly rainfall averaged 20-40mm in Rio Grande do Sul, Parana, and southern Mato Grosso do Sul. Dry weather prevailed in northern soybean areas from extreme northern Parana, Sao Paulo, Minas Gerais, and Goias. Brazil's soybean harvest reached nearly 60 percent, still lagging the average pace by about 10 percentage points.

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