

# WEEKLY WEATHER AND CROP BULLETIN

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

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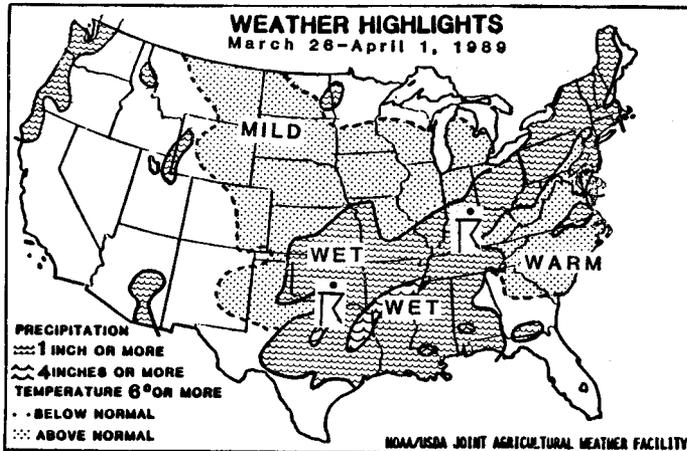
Washington, D.C.

Apr. 4, 1989

## National Weather Summary

March 26-April 1, 1989

### FIRST WHEAT CROP CONDITION TABLE OF THE YEAR



**HIGHLIGHTS:** Moisture laden southerly winds from the Gulf of Mexico and a slow moving frontal system were responsible for severe weather and soaking rains from the Gulf Coast States to the Northeast. Much needed rain fell across the central Plains into the middle Mississippi Valley, and torrential rain caused flooding in northeastern Texas. Pacific fronts brought persistent showers into the Northwest, while heavy rain caused local flooding in the Southwest at the first of the week. Unseasonably warm weather covered the Nation. Cooler air, however, spread over the East at week's end.

**SUNDAY:** Southerly winds brought mild weather into the eastern two-thirds of the Nation. Moisture from the Gulf of Mexico produced thunderstorms over the Delta and into the southern Great Plains. An upper level disturbance caused locally heavy rain in the Southwest, and an approaching front caused showers along the northern and central Pacific coast. Dry weather prevailed across the rest of the Nation.

**MONDAY:** Thunderstorms continued to develop in the warm, humid air over the Ozarks and southern and central Plains. Severe thunderstorms produced damaging wind and hail in Texas and Oklahoma. Showers were scattered over the Great Lakes and Pacific Northwest. Unseasonably warm air continued to spread into the East.

**TUESDAY:** Showers and thunderstorms continued ahead of a frontal system reaching from central Texas into the Northeast. Thunderstorms caused heavy rain, damaging wind, and hail and spawned tornadoes from northeastern Texas into the lower Ohio Valley. Scattered rain continued across the

Northwest. Numerous high temperature records were set in the Southeast and along the Atlantic seaboard.

**WEDNESDAY:** Severe thunderstorms produced heavy rain across the Gulf Coast States and into the Ohio Valley. Torrential rain drenched northeastern Texas as over 14 inches fell at Longview, Texas. Showers and thunderstorms brought much needed rain for the winter wheat in the central and southern Plains. Precipitation was also widespread across the Northern States. Rain and rapid snowmelt caused flooding in Vermont.

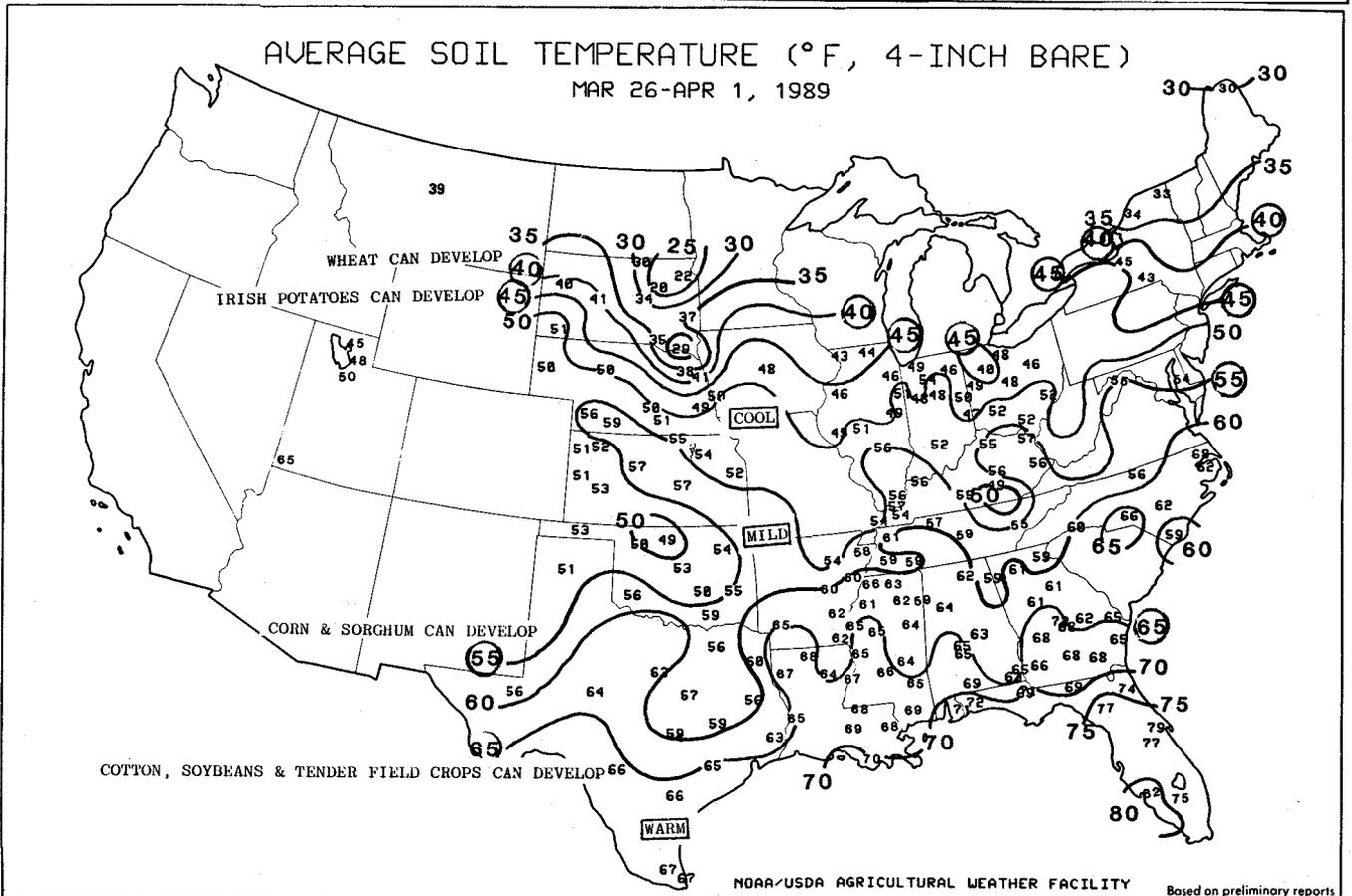
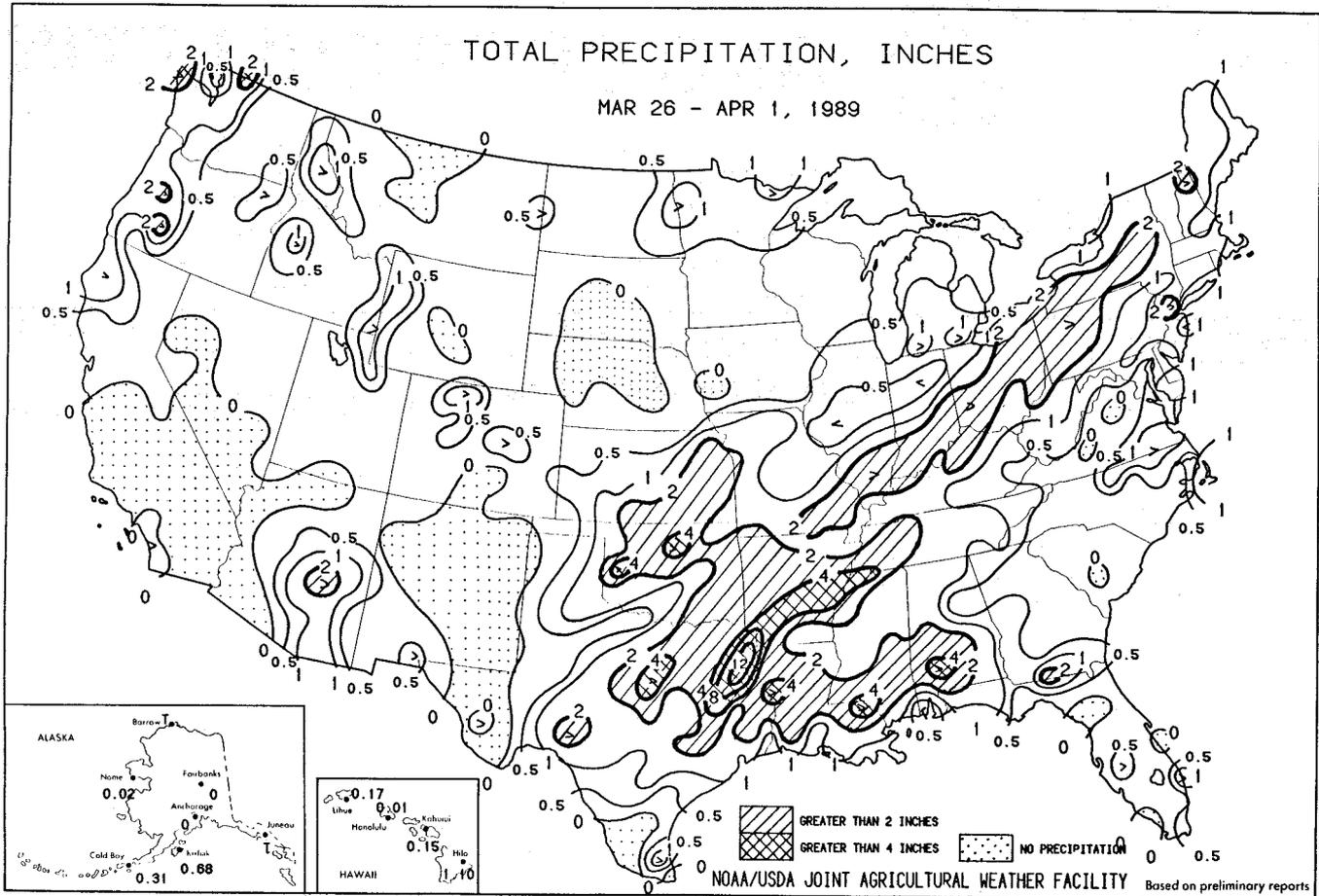
**THURSDAY:** Showers and thunderstorms spread from the central Plains, across the Tennessee and Ohio Valleys, and down the Atlantic seaboard. Severe weather continued across the Ozarks to the southern Appalachians. A Pacific front brought scattered showers into the Northwest.

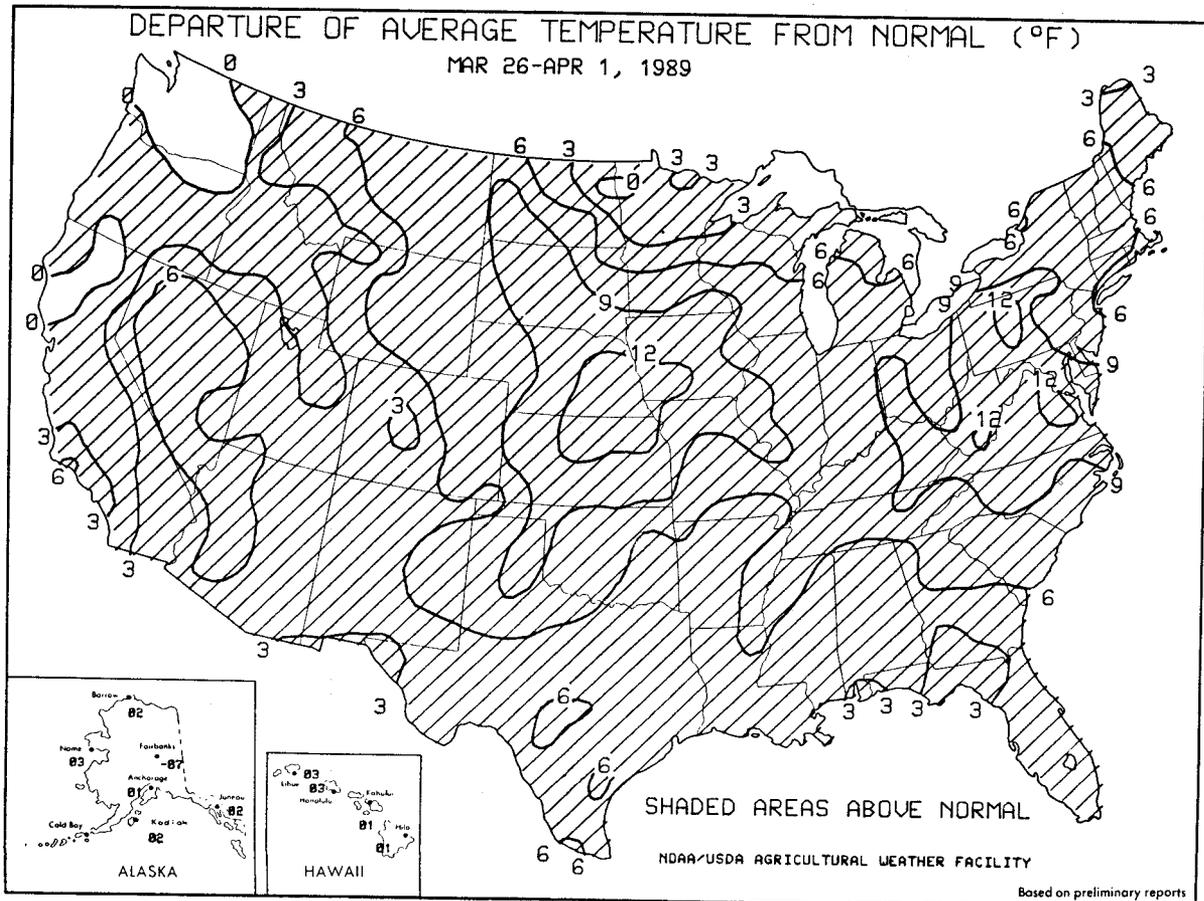
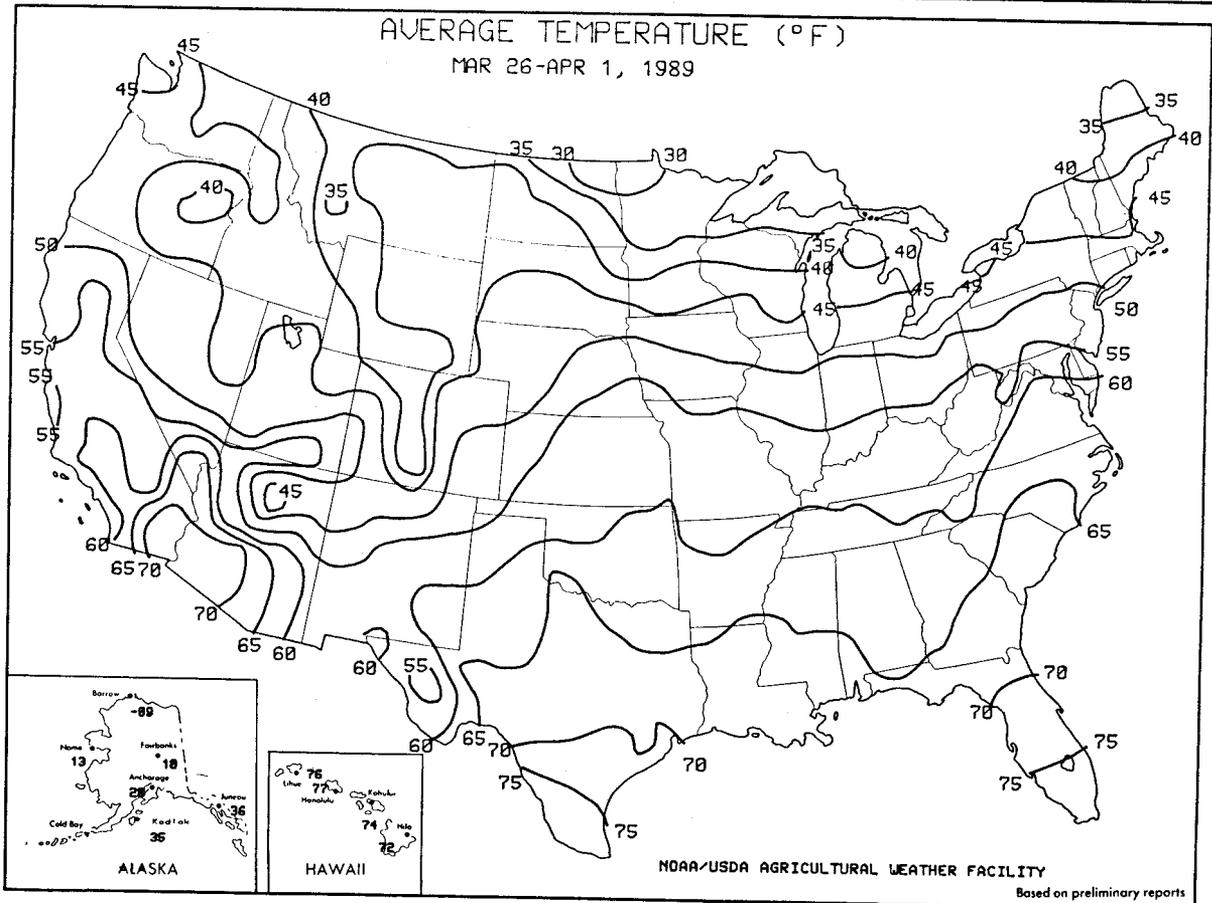
**FRIDAY:** Rain showers in the Ohio Valley continued into the morning. Colder air moving into the East caused snow in Ohio. Low pressure over the central Appalachians intensified and moved into New England, bringing rain and snow. Strong thunderstorms rumbled over the middle Atlantic Coast States and Florida. Precipitation was scattered in the Northwest.

**SATURDAY:** The area of low pressure moved into the Atlantic, leaving heavy snow in the mountains of the Northeast. A frontal system brought rain showers into the upper and middle Mississippi Valley and central Plains. Another Pacific front spread more precipitation across the Northwest. A large, cool high pressure system brought clear skies and an end to the unseasonable, warm weather in the eastern third of the Nation.

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# National Weather Data for Selected Cities

Weather Data for the Week Ending April 1, 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	TEMPERA- TURE		PRECIPI- TATION	
																90 AND ABOVE	52 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	75	48	84	32	62	4	.5	-1.0	.5	3.6	54	11.0	71	94	43	0	1	1	0
MOBILE	77	56	82	43	66	3	.5	-1.0	.5	5.6	94	9.2	57	95	49	0	0	1	0
MONTGOMERY	77	49	87	36	63	3	2.1	.8	2.1	8.1	133	13.0	88	98	42	0	0	1	1
AK ANCHORAGE	36	20	48	11	28	0	0	-1.1	0	.3	36	.7	30	59	32	0	0	0	0
BARROW	-1	-18	2	-24	-10	0	0	0	0	.2	146	.5	92	80	70	0	0	0	0
FAIRBANKS	27	-7	39	-16	10	-7	0	-1.1	0	.1	32	1.6	117	65	26	0	0	0	0
JUNEAU	42	30	49	22	36	2	.5	-1.2	0	1.0	28	7.8	72	95	59	0	0	4	4
KODIAK	40	31	48	24	36	2	.7	-1.1	.4	3.4	84	7.4	50	95	68	0	0	5	5
NOME	23	4	28	-6	13	3	0	-1.1	0	.4	83	3.3	178	85	56	0	0	7	7
AZ PHOENIX	82	56	94	48	69	6	1.1	.9	1.1	1.3	152	2.4	116	67	20	2	0	1	1
PRESCOTT	66	37	76	30	52	2	.2	-1.1	.2	.6	37	2.2	47	68	25	2	1	1	0
TUCSON	80	48	91	42	64	3	.6	.5	.6	.8	89	1.8	88	72	17	2	0	1	1
YUMA	87	58	98	51	73	3	0	0	0	.1	87	.7	96	54	16	4	0	0	0
AR FORT SMITH	72	50	83	35	61	6	3.1	2.1	2.4	6.0	150	16.0	192	98	55	0	0	4	4
LITTLE ROCK	71	54	78	44	62	6	3.8	2.7	1.5	8.7	179	20.5	183	82	55	0	0	3	3
CA BAKERSFIELD	73	47	79	40	60	1	0	-1.2	0	.9	97	1.8	83	89	36	0	0	0	0
EUREKA	56	45	58	40	51	2	1.6	.6	.9	8.0	155	15.6	90	89	67	0	0	6	1
FRESNO	71	46	77	39	59	2	0	-1.3	0	2.3	136	3.9	71	92	44	0	0	0	0
LOS ANGELES	67	53	74	49	60	1	0	-1.3	0	.9	48	3.2	43	92	53	0	0	0	0
REDDING	63	45	68	35	54	3	.7	-1.3	.4	11.1	218	14.4	73	93	47	0	0	5	0
SACRAMENTO	67	45	73	38	56	1	.3	-1.1	.2	6.3	300	8.3	92	94	49	0	0	2	0
SAN DIEGO	68	55	76	51	61	2	.1	-1.3	.1	.7	38	1.8	33	87	56	0	0	1	1
SAN FRANCISCO	62	48	65	43	55	2	.2	-1.5	0	4.0	149	6.6	62	90	57	0	0	3	0
CO DENVER	62	35	72	26	48	7	.3	-1.1	.1	.7	56	2.5	104	87	26	0	2	2	0
GRAND JUNCTION	60	38	67	31	49	3	.2	-1.1	.2	.7	91	3.0	157	68	26	0	2	2	0
PUEBLO	69	32	76	24	51	6	6	-1.2	0	.1	20	1.2	105	83	19	0	2	0	0
CT BRIDGEPORT	57	40	74	36	49	6	0	-1.1	.2	.8	70	6.7	65	80	56	0	0	2	1
HARTFORD	60	37	83	29	48	7	1.3	.3	.9	3.0	71	5.8	53	90	44	0	1	2	1
DC WASHINGTON	71	49	85	39	60	10	.5	-1.3	.5	4.3	121	9.6	108	87	49	0	0	2	0
FL APALACHICOLA	76	57	80	47	67	3	.4	-1.5	.4	6.0	144	9.2	81	95	58	0	0	1	0
DAYTONA BEACH	80	61	88	50	71	4	.3	-1.3	.3	2.0	85	9.5	111	90	53	0	0	1	0
JACKSONVILLE	81	56	87	43	69	3	0	-1.4	.3	2.1	61	5.7	58	96	47	0	0	1	0
KEY WEST	83	74	85	70	78	2	0	-1.3	0	1.1	83	1.8	37	84	62	0	0	0	0
MIAMI	84	70	86	63	77	4	.4	-1.1	.4	.9	46	2.3	38	85	52	0	0	1	0
ORLANDO	84	63	87	53	74	5	.2	-1.4	.2	1.4	40	5.3	62	94	42	0	0	1	0
TALLAHASSEE	81	49	84	35	65	2	.3	-1.8	.3	4.4	78	7.7	50	97	35	0	0	1	0
TAMPA	83	63	88	53	73	5	.1	-1.0	.1	1.8	51	3.7	43	90	48	0	0	1	0
WEST PALM BEACH	83	68	92	61	76	4	1.1	.5	.9	2.6	83	4.6	57	94	51	1	0	3	1
GA ATLANTA	76	52	84	38	64	8	.4	-1.0	.3	3.9	63	10.7	70	90	38	0	0	2	0
AUGUSTA	80	50	86	38	65	7	.1	-1.0	.1	4.4	87	9.1	70	97	37	0	0	1	0
MACON	79	51	85	39	65	4	.4	-1.7	.4	4.9	82	11.3	81	**	41	0	0	1	0
SAVANNAH	80	54	84	42	67	5	.1	-1.7	.1	1.4	36	2.5	25	94	43	0	0	1	0
HI HILO	80	64	83	62	72	1	1.1	-2.0	.5	1.7	55	41.7	113	83	63	0	0	3	1
HONOLULU	85	69	87	65	77	3	0	-1.7	.7	2.6	74	11.2	112	85	51	0	0	1	0
KAHULUI	83	66	85	62	74	1	.2	-1.4	.1	2.7	96	9.7	99	91	58	0	0	2	0
LIHUE	80	71	80	69	76	3	.2	-1.8	.1	8.7	189	27.2	187	88	70	0	0	2	0
ID BOISE	53	36	56	27	45	1	.9	.6	.5	3.5	335	5.8	158	82	45	0	2	5	0
LEWISTON	56	41	59	34	49	3	.3	-1.2	0	1.7	181	3.5	104	75	37	0	0	1	0
POCATELLO	48	33	54	27	41	2	.7	.1	.1	3.0	313	4.9	172	81	49	0	2	5	0
IL CHICAGO	58	39	76	25	49	7	.5	-1.3	.5	1.7	60	3.3	59	86	63	1	1	2	1
MOLINE	61	39	80	25	50	8	1.0	.2	.9	1.9	65	4.3	74	89	55	0	2	2	1
PEORIA	61	42	78	24	52	9	.3	-1.3	.5	1.1	38	3.3	55	91	54	0	2	1	0
QUINCY	65	46	80	31	55	11	.5	-1.5	.3	1.2	35	2.5	40	95	55	0	2	1	1
ROCKFORD	56	37	75	22	47	7	.9	.1	.9	1.7	63	3.1	60	90	63	0	2	1	0
SPRINGFIELD	62	45	75	29	53	8	.2	-1.6	.1	1.7	53	3.8	59	94	64	0	2	2	0
IN EVANSVILLE	67	46	79	28	56	7	3.1	2.0	1.1	6.4	136	16.8	156	96	57	0	2	4	3
FORT WAYNE	60	40	76	29	50	9	.3	-1.5	.1	1.4	46	4.5	63	94	58	0	2	5	0
INDIANAPOLIS	62	44	78	30	53	8	1.0	.1	.6	3.7	101	6.8	78	91	59	0	1	5	1
SOUTH BEND	59	40	76	28	50	8	1.0	.2	.9	2.3	72	4.9	65	92	54	0	2	2	1
IA DES MOINES	64	41	82	27	53	12	.1	-1.5	.1	.4	18	2.7	63	89	49	0	1	3	0
SIoux CITY	65	37	83	25	51	11	.2	-1.3	.1	.9	49	2.2	65	91	42	0	2	2	0
WATERLOO	59	36	79	24	48	10	.2	-1.5	.1	1.0	49	2.4	58	96	55	0	3	2	0
KS CONCORDIA	72	44	85	29	58	13	.3	-1.1	.2	.8	29	1.7	50	96	33	0	1	3	0
DODGE CITY	71	44	88	31	57	11	.8	.5	.4	.9	57	1.4	56	89	33	0	1	3	0
GOODLAND	67	34	81	19	51	10	.1	-1.2	.1	.3	25	.8	36	78	22	0	2	1	0
TOPEKA	70	48	82	33	59	12	2.7	2.1	1.5	3.1	136	5.2	123	87	50	0	0	3	2
WICHITA	70	47	80	33	59	9	2.1	1.6	1.1	2.4	112	3.8	98	92	50	0	0	4	2
KY BOWLING GREEN	69	48	82	30	58	7	1.0	.2	.5	5.4	94	22.5	158	96	58	0	1	5	0
LEXINGTON	67	48	81	34	58	9	1.6	.5	1.1	6.1	122	20.2	171	89	53	0	0	3	2
LOUISVILLE	68	48	82	32	58	8	1.8	.7	.8	5.5	113	18.2	159	93	53	0	1	4	2
LA ALEXANDRIA	76	58	83	49	67	6	3.8	2.6	.8	6.2	122	20.5	144	92	51	0	0	2	2
BATON ROUGE	80	59	87	45	70	6	2.2	1.1	2.2	4.6	97	10.2	71	95	46	0	0	1	1
LAKE CHARLES	78	60	83	48	69	5	2.3	1.6	1.8	5.0	154	10.2	81	91	49	0	0	2	2
NEW ORLEANS	77	60	83	50	69	4	1.4	.4	1.4	7.2	147	9.8	65	97	54	0	0	1	1

Based on 1951-80 normals

Weather Data for the Week Ending April 1, 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	
SHREVEPORT	77	53	89	41	65	4	2.2	1.2	.9	3.4	87	14.7	129	97	49	0	0	3	2	
ME CARIBOU	40	26	58	12	33	3	.6	.1	.2	1.4	56	4.7	68	94	62	0	6	6	0	
PORTLAND	53	33	74	27	43	6	.7	-.3	.6	2.1	52	5.7	50	86	49	0	4	2	0	
MD BALTIMORE	68	47	85	34	58	10	.4	-.5	.2	4.2	110	10.6	109	92	51	0	0	3	0	
SALISBURY	72	47	83	38	60	11	1.5	.6	1.1	6.7	159	11.2	103	92	51	0	0	3	0	
MA BOSTON	58	39	81	34	49	6	1.0	.1	.9	3.1	72	6.2	52	88	48	0	0	3	1	
CHATHAM	49	40	54	37	44	4	.9	0	0	4.7	114	9.9	78	92	75	0	0	2	0	
MI ALPENA	48	27	74	23	38	5	.2	-.3	.2	2.7	139	4.7	95	96	62	0	6	2	0	
DETROIT	57	36	78	30	47	7	.8	-.1	.7	2.2	82	4.3	69	94	62	0	2	3	1	
FLINT	56	36	78	28	46	8	.4	-.2	.4	2.1	95	3.9	76	90	55	0	4	1	0	
GRAND RAPIDS	56	36	76	26	46	8	.6	-.1	.6	2.5	91	4.4	72	92	63	0	4	2	1	
HOUGHTON LAKE	48	30	70	23	39	6	.5	0	.5	3.0	152	4.6	98	93	63	0	5	1	0	
LANSING	56	35	78	26	46	7	.9	.3	.9	2.1	86	4.0	72	92	61	0	5	1	1	
MARQUETTE	41	23	62	8	32	3	.1	-.7	.1	2.9	100	6.4	93	93	66	0	5	2	0	
MUSKEGON	53	35	72	28	44	6	.3	-.4	.3	1.9	74	4.6	69	91	61	0	4	1	0	
SAULT ST. MARIE	42	25	60	16	33	4	.5	0	.3	2.4	114	6.4	109	92	59	0	6	2	0	
MN ALEXANDRIA	41	28	50	18	34	3	.4	0	.2	1.1	86	2.0	71	98	80	0	6	4	0	
DULUTH	38	24	55	16	31	1	.7	.3	.3	1.8	97	4.0	102	97	74	0	6	5	0	
INT'L FALLS	41	23	58	14	32	4	.6	.3	.3	1.0	84	2.7	100	97	56	0	6	5	0	
MINNEAPOLIS	53	35	71	24	44	4	.1	-.3	.1	2.2	127	3.8	111	88	57	0	3	3	0	
ROCHESTER	54	36	72	25	45	9	.1	-.4	.1	1.8	97	2.6	78	94	64	0	3	2	0	
MS GREENWOOD	75	54	84	36	64	6	1.3	-.1	1.2	2.8	44	16.5	103	92	48	0	0	2	1	
JACKSON	77	54	86	37	65	5	1.4	0	1.3	4.5	79	11.4	76	99	51	0	0	2	1	
MERIDIAN	77	52	85	35	64	5	3.1	1.6	3.1	9.8	143	16.8	103	95	48	0	0	4	2	
MO CAPE GIRARDEAU	66	50	78	34	58	8	1.8	.6	.9	5.5	106	19.4	174	96	64	0	0	1	1	
COLUMBIA	66	46	81	31	56	8	.6	-.2	.4	3.0	86	5.8	82	92	57	0	2	2	0	
KANSAS CITY	68	47	82	30	58	10	1.7	1.0	.9	2.2	79	3.7	72	90	53	0	1	4	2	
SAINT LOUIS	65	49	80	35	57	9	.8	0	.6	4.6	135	8.6	119	87	56	0	0	3	1	
SPRINGFIELD	67	48	81	33	57	8	1.2	.3	.6	5.0	139	8.5	116	94	61	0	0	2	2	
MT BILLINGS	52	35	56	31	44	6	.4	.1	.3	2.0	191	3.9	142	77	38	0	3	2	0	
GLASGOW	50	31	58	25	41	7	.2	-.1	.1	4	113	1.6	166	95	47	0	5	3	0	
GREAT FALLS	52	31	56	24	42	6	.1	-.2	.1	1.4	147	3.5	133	78	29	0	4	2	0	
HAVRE	50	31	56	27	40	6	0	-.2	0	.4	80	1.2	77	87	44	0	5	0	0	
HELENA	49	31	53	28	40	4	T	-.2	T	1.4	188	3.6	196	87	38	0	7	0	0	
KALISPELL	47	32	51	28	40	3	.2	0	.1	1.5	165	4.1	117	88	45	0	5	4	0	
MILES CITY	53	35	60	28	44	7	.4	.2	.3	1.2	187	2.5	139	73	38	0	3	2	0	
MISSOULA	49	32	53	25	40	3	.2	0	.1	2.1	254	3.3	110	98	46	0	3	2	0	
NE GRAND ISLAND	69	38	87	24	54	13	T	0	T	.4	26	1.8	61	84	28	0	4	5	0	
LINCOLN	71	41	85	27	56	14	.2	-.4	.2	.2	12	2.2	60	87	33	0	2	0	0	
NORFOLK	67	37	84	23	52	12	.1	-.3	.1	.9	57	2.7	94	87	31	0	1	1	0	
NORTH PLATTE	65	33	80	20	49	9	.1	-.3	.1	.4	33	1.7	82	84	26	0	2	2	0	
OMAHA	66	43	84	26	55	12	T	-.5	T	.3	16	1.8	51	81	47	0	4	1	0	
SCOTT'S BLUFF	62	32	75	19	47	8	T	-.2	T	.8	77	1.8	98	84	25	0	3	1	0	
VALENTINE	63	31	79	22	47	10	0	-.3	0	.4	49	1.2	77	84	25	0	5	3	0	
NV ELY	58	28	66	21	43	7	.1	-.1	.1	.6	68	1.6	68	86	26	0	7	0	0	
LAS VEGAS	80	51	88	43	65	7	0	-.1	0	.1	12	.6	47	44	15	0	0	0	0	
RENO	62	35	69	28	48	6	T	-.1	T	.5	64	1.5	51	70	22	0	2	0	0	
WINNEMUCCA	58	37	65	28	48	7	T	-.2	T	.9	133	1.8	82	73	28	0	2	0	0	
NH CONCORD	55	31	75	23	43	6	1.0	.3	.7	2.2	72	5.0	60	92	50	0	1	1	0	
NJ ATLANTIC CITY	64	40	82	30	52	7	1.3	.4	.6	4.7	113	10.5	96	94	55	0	5	2	1	
NM ALBUQUERQUE	70	40	77	33	55	5	0	-.1	0	.5	96	1.4	111	53	15	0	2	3	1	
CLOVIS	75	41	83	31	58	8	0	-.1	0	.2	38	.9	62	71	17	0	1	0	0	
ROSWELL	78	44	87	39	61	7	0	-.1	0	.2	59	1.0	86	60	15	0	0	0	0	
NY ALBANY	57	35	80	28	46	7	1.6	.9	1.2	2.7	88	4.8	62	90	53	0	3	3	1	
BINGHAMTON	54	38	72	28	46	9	2.2	1.5	1.3	4.1	134	7.5	96	90	62	0	2	5	2	
BUFFALO	52	37	75	31	45	7	2.0	1.3	1.1	3.2	103	7.5	89	96	62	0	2	4	2	
NEW YORK	59	44	81	39	52	7	1.2	.3	.8	4.2	101	9.6	93	81	46	0	2	2	1	
ROCHESTER	55	37	79	31	46	8	1.6	1.0	.7	3.8	144	6.5	89	93	60	0	2	4	2	
SYRACUSE	56	37	80	30	46	8	1.6	.8	.8	3.2	99	5.9	71	93	57	0	1	4	2	
NC ASHEVILLE	71	45	79	31	58	7	T	-.1	T	2.9	59	9.2	61	92	38	0	1	1	0	
CHARLOTTE	77	53	84	41	65	11	.1	-.1	.1	4.9	100	11.2	90	86	40	0	0	1	0	
GREENSBORO	74	50	83	34	62	10	.4	-.4	.4	5.7	144	11.1	103	88	43	0	0	2	0	
HATTERAS	72	57	77	49	65	10	1.3	.5	.8	11.2	276	17.6	136	91	56	0	0	2	1	
NEW BERN	77	52	84	37	64	8	.1	-.6	.1	5.1	136	11.7	100	96	48	0	0	2	0	
RALEIGH	77	52	86	33	64	11	T	-.8	T	5.4	142	13.2	123	92	39	0	0	1	0	
WILMINGTON	76	53	81	40	64	7	.1	-.7	.1	6.7	161	10.9	97	93	49	0	0	2	0	
ND BISMARCK	52	30	62	20	41	8	T	-.2	T	.3	42	1.1	67	97	51	0	5	1	0	
FARGO	37	29	48	21	33	2	.9	.6	.7	1.6	187	3.7	205	96	76	0	6	2	1	
GRAND FORKS	35	23	46	4	29	-1	1.0	.8	.6	1.3	157	3.0	147	96	76	0	6	4	1	
WILLISTON	52	30	60	25	41	9	.4	.2	.2	.6	107	2.0	131	94	53	0	6	4	1	
OH AKRON-CANTON	59	42	78	29	51	9	2.1	1.3	.7	3.9	113	8.2	101	94	60	0	2	5	2	
CINCINNATI	65	46	82	33	56	9	3.1	2.2	1.5	6.4	159	14.3	145	92	58	0	2	6	3	
CLEVELAND	58	40	80	32	49	8	2.4	1.7	1.1	3.5	114	7.3	95	97	64	0	1	6	2	
COLUMBUS	62	43	79	31	53	8	2.3	1.5	.9	4.2	126	9.2	113	97	58	0	1	5	3	

Weather Data for the Week Ending April 1, 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	TEMPERA- TURE		PRECIPI- TATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	62	45	79	32	53	9	2.8	2.0	.8	6.0	189	11.4	145	91	61	0	1	5	4
TOLEDO	58	39	79	30	49	8	.6	0	.6	2.0	75	4.6	71	93	58	0	2	3	1
YOUNGSTOWN	59	41	79	29	50	10	2.2	1.4	.9	3.6	107	7.5	91	96	62	0	2	5	1
OK OKLAHOMA CITY	71	52	78	43	62	8	2.1	1.6	1.8	2.6	121	6.0	135	91	52	0	0	4	2
TULSA	70	51	75	40	61	7	1.6	.8	.9	3.1	97	8.3	132	91	53	0	0	4	1
OR ASTORIA	51	41	52	37	46	0	1.6	.1	.5	10.4	140	25.3	98	93	68	0	0	3	1
BURNS	49	31	52	26	40	1	T	T	T	1.2	131	1.8	51	79	40	0	6	0	1
MEDFORD	54	39	60	30	47	-1	.3	0	.2	4.0	212	6.9	93	95	51	0	1	6	0
PENDLETON	54	37	58	32	45	-1	.4	.2	.2	1.9	178	5.3	134	82	45	0	2	5	0
PORTLAND	54	41	57	38	47	0	.9	.1	.2	6.9	188	13.1	95	92	56	0	0	6	0
SALEM	54	41	57	35	47	1	1.0	.1	.3	6.7	152	13.0	82	93	59	0	0	6	0
PA ALLENTOWN	63	41	81	31	52	8	1.0	.1	.5	3.8	96	7.8	75	89	48	0	1	3	1
ERIE	55	40	77	33	48	9	2.7	1.9	1.1	4.7	159	9.7	130	94	67	0	0	5	3
HARRISBURG	65	44	84	35	55	9	.6	-2	.4	3.6	100	7.8	84	90	51	0	0	3	0
PHILADELPHIA	63	43	81	36	53	7	1.3	.4	1.1	4.4	111	10.1	102	92	52	0	0	3	1
PITTSBURGH	63	43	81	29	53	9	2.4	1.5	.9	5.6	152	11.0	124	93	57	0	1	5	2
SCRANTON	60	41	76	31	50	9	.7	0	.3	2.2	82	5.0	71	87	53	0	1	3	0
RI PROVIDENCE	59	37	80	31	48	6	.8	-2	.6	4.1	94	7.9	65	96	47	0	1	2	1
SC CHARLESTON	79	56	84	45	67	7	.1	-.8	.1	2.9	64	6.1	54	94	46	0	0	1	0
COLUMBIA	80	51	86	37	66	7	T	T	T	4.9	92	10.0	73	96	36	0	0	1	0
FLORENCE	79	52	85	40	66	7	T	-.9	T	4.6	108	9.1	82	94	37	0	0	1	0
GREENVILLE	76	49	82	37	63	7	.2	-1.1	.2	4.5	73	10.9	74	94	39	0	0	1	0
SD ABERDEEN	48	32	60	26	40	6	.2	-1	.2	1.7	161	2.6	119	95	67	0	4	2	0
HUOH	56	32	73	21	44	8	.1	-2	.1	2.2	175	3.3	135	96	55	0	2	2	0
RAPID CITY	59	33	68	23	46	9	T	-3	T	1.0	91	1.3	65	86	29	0	2	2	0
SIOUX FALLS	60	32	79	22	46	9	.1	-4	.1	1.1	69	1.9	61	94	47	0	3	2	0
TN CHATTANOOGA	75	48	86	33	62	8	.7	-.6	.4	5.9	90	18.3	112	97	41	0	0	3	0
KNOXVILLE	74	47	82	36	60	6	.7	-5	.4	3.8	68	15.0	104	93	42	0	0	2	0
MEMPHIS	73	54	83	36	63	7	3.5	2.2	1.4	5.8	103	24.2	167	94	52	0	0	4	3
NASHVILLE	72	50	83	30	61	8	.9	-.4	.4	5.3	93	19.2	135	93	46	0	1	4	0
TX ABILENE	77	53	82	42	65	5	1.1	.7	.7	1.7	151	5.3	171	86	39	0	0	3	1
AMARILLO	75	43	84	32	59	9	.4	.2	.4	.5	60	1.2	65	88	22	0	1	1	0
AUSTIN	79	59	88	49	69	5	1.0	.5	.9	2.1	121	6.8	117	89	45	0	0	3	1
BEAUMONT	77	60	83	50	69	5	.5	-2	.5	2.4	76	9.4	82	92	53	0	0	1	1
BROWNSVILLE	87	62	100	53	75	3	T	-2	T	.2	33	2.2	67	94	43	3	0	0	0
CORPUS CHRISTI	86	61	102	52	73	4	T	-2	T	.2	25	3.1	80	90	44	2	0	0	0
DEL RIO	82	56	89	50	69	2	.8	-.6	0	.9	137	2.9	141	76	28	0	0	3	1
EL PASO	75	47	85	39	61	2	.4	-.3	.4	.6	200	1.5	129	67	19	0	0	1	0
FORT WORTH	74	55	82	44	64	4	3.1	2.4	2.6	3.7	151	10.0	165	91	52	0	0	3	1
GALVESTON	74	64	76	56	69	4	1.2	.7	1.1	2.4	109	8.8	117	91	58	0	0	4	1
HOUSTON	80	60	91	47	70	5	1.9	1.3	1.4	4.0	144	9.7	101	92	54	1	0	3	1
LUBBOCK	78	48	88	37	63	9	.2	-1	.2	.7	78	2.2	123	84	24	0	0	2	0
MIDLAND	80	48	87	38	64	5	.1	0	.1	.3	68	1.8	127	86	20	0	0	1	0
SAN ANGELO	79	52	86	43	66	4	1.5	1.3	.9	2.0	244	5.6	249	86	31	0	0	2	2
SAN ANTONIO	82	57	91	47	70	5	.9	.5	.7	1.2	89	4.5	95	86	37	1	0	3	1
VICTORIA	82	62	97	50	72	5	1.0	.6	1.0	1.7	124	6.1	111	89	48	1	0	1	1
WACO	76	57	82	45	66	4	1.5	1.0	1.0	2.4	117	7.1	124	91	49	0	0	2	1
WICHITA FALLS	76	53	83	44	65	7	.2	-.3	.2	1.5	82	6.1	161	92	44	0	0	1	0
UT CEDAR CITY	62	33	70	28	48	6	T	-2	T	.8	69	2.0	80	80	27	0	3	1	0
SALT LAKE CITY	56	38	69	36	47	3	.3	-2	.2	1.8	102	3.8	87	89	42	0	0	5	0
VT BURLINGTON	53	34	71	29	44	9	1.0	.5	.5	2.7	119	3.8	65	91	53	0	5	5	1
VA NORFOLK	75	53	86	40	64	12	.7	-1	.6	8.5	216	17.6	162	87	48	0	0	2	1
RICHMOND	76	51	86	37	64	12	.7	-1	.6	5.0	136	11.2	112	92	49	0	0	2	1
ROANOKE	73	50	83	30	62	11	T	-8	T	2.9	78	6.3	64	84	40	0	1	0	0
WA QUILLAYUTE	48	37	52	33	43	-1	3.1	.7	.9	10.7	87	32.5	84	99	75	0	0	7	2
SEATTLE-TACOMA	51	40	53	38	46	0	1.1	.3	.2	6.0	165	12.3	88	96	63	0	0	7	0
SPOKANE	48	34	52	27	41	0	.2	0	.1	3.0	217	5.2	95	94	47	0	2	4	0
YAKIMA	55	30	60	24	43	-2	T	-.1	T	1.0	165	1.9	69	90	35	0	5	1	0
WV BECKLEY	68	47	81	28	57	12	.6	-.3	.4	3.1	77	9.4	88	82	43	0	2	3	0
CHARLESTON	71	46	86	30	59	9	1.0	.1	.7	5.9	145	14.9	140	89	39	0	1	4	1
HUNTINGTON	70	47	86	34	58	8	.8	-1	.4	5.8	141	18.1	178	87	42	0	0	3	0
PARKERSBURG	68	46	85	33	57	9	2.1	1.3	1.0	5.5	151	13.7	150	88	47	0	0	4	2
WI GREEN BAY	49	31	71	22	40	5	T	-.5	T	2.9	148	3.7	89	90	58	0	4	2	0
LACROSSE	56	37	75	23	47	9	.1	-.5	.1	2.0	101	2.8	75	87	55	0	2	1	0
MADISON	55	34	75	20	44	7	.2	-.4	.2	1.7	78	2.9	66	89	60	0	5	2	0
MILWAUKEE	55	37	76	26	46	8	.8	.1	.8	3.1	114	4.6	82	88	61	0	5	2	1
WAUSAU	48	31	71	20	39	6	T	-.5	T	1.9	97	3.2	83	97	59	0	4	1	0
WY CASPER	55	30	64	24	43	7	.2	-1	.1	.5	49	2.0	100	80	30	0	5	2	0
CHEYENNE	55	29	66	21	42	7	.1	-2	.1	.5	49	2.0	113	85	30	0	6	1	0
LANDER	55	29	62	24	42	6	T	-.4	T	.1	11	.9	41	68	24	0	5	0	0
SHERIDAN	55	31	64	26	43	7	.2	-1	.2	1.6	145	2.4	93	96	36	0	5	1	0
PR SAN JUAN	83	69	83	68	76	-2	.9	.3	.4	3.6	157	7.9	108	91	62	0	0	6	0

Heating Degree Days Summary

CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NESDIS-NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 4-1-1989
ACUMULATIONS ARE FROM JULY 1
\*\* = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL, WEEK TOTAL, WEEK DEV, WEEK FROM, CUM TOTAL, CUM FROM, CUM FROM, CUM FROM, CUM FROM, CUM FROM. Lists cities and their corresponding heating degree day data.

## National Agricultural Summary

March 27-April 2, 1989

**HIGHLIGHTS:** Precipitation slowed fieldwork in portions of the central and southern Great Plains and the Delta. Rain improved small grain growth in the central and southern Plains. Soil moisture was mostly surplus to adequate in the Delta and mostly adequate in the Southeast. Soil moisture was mostly short to adequate in the Great Plains and western Corn Belt. Soil moisture was mostly adequate in the eastern Corn Belt. Days suitable for fieldwork averaged 2 to 3 in the Delta and 3 to 4 in the Southeast.

Winter wheat was mostly fair. Rain improved winter wheat condition in Kansas. Cotton planting continued in Arizona, California, and Texas. Corn planting lagged behind normal in portions of the Delta. Rain slowed rice planting in Louisiana and Mississippi. Florida's citrus and vegetable producing areas remained dry.

**SMALL GRAINS:** Winter wheat was mostly fair. Rain improved winter wheat condition in the central and southern Plains. In Kansas, winter wheat was mostly poor to very poor. Rain and warm temperatures improved conditions in most areas. Earlier freeze damage continued to become more evident as fields broke dormancy. Oats and barley seedings were nearly complete. Oklahoma's winter wheat was mostly good to fair. In Texas, winter wheat was mostly fair to poor. Rain improved conditions in the Blacklands and central areas. In the High Plains, lack of moisture continued to stress small grains. Nebraska's winter wheat was mostly fair to good. Additional moisture was needed. Winter wheat was mostly good to fair in Idaho, Montana, and South Dakota and fair to good in Colorado and Wyoming. In Washington, winter wheat was mostly poor to fair. Oregon's winter wheat was mostly fair to good. Winter wheat was good to fair in Illinois and fair to good in Indiana. In the Delta and Southeast, winter wheat was mostly good to fair. Powdery mildew and rust were problems in portions of Alabama, Georgia, Louisiana, and Mississippi. Some producers were spraying for septoria in Louisiana and Mississippi. Hessian fly infestations continued to be a problem in Alabama and Georgia.

**OTHER FIELD CROPS:** Cotton planting was active in California. In Arizona, planting was 35 percent (%) complete. In Texas, cotton planting was 9% complete, 1 percentage point ahead of the 5-year average. Planting neared completion in the Coastal Bend area and the Rio Grande Valley. Cool weather slowed planting in the Trans-Pecos. Planting was expected to begin soon in the

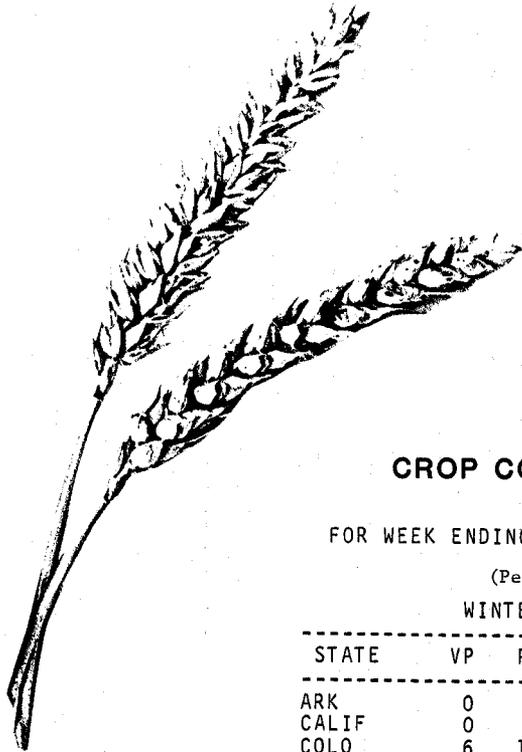
Blacklands. Cotton seedbed preparation continued ahead of normal in Oklahoma.

Corn planting continued in the Delta and Southeast as weather permitted. In Texas, planting was 58% finished, 3 points ahead of normal. Lack of moisture slowed crop emergence in the Rio Grande Valley. Planting was 49% complete in Alabama, 3 points ahead of normal. In Georgia, planting was 58% complete, 2 points ahead of normal. Planting lagged behind normal in Louisiana, Mississippi, and South Carolina. Tobacco beds were mostly good to fair in North Carolina. Tobacco bed seeding was 69% complete in Kentucky, 3 points behind normal. Georgia's tobacco was mostly good. Transplanting was 57% complete, 20 points ahead of normal.

**FRUIT AND NUTS:** Florida's citrus producing areas remained dry. Irrigation was active in all areas. Blooming continued but was past its peak. Valencia orange harvest increased and honey tangerine harvest slowed. Grapefruit movement was active. In Georgia, peaches were mostly good. Blooming was slightly behind normal. In Texas, fruit set was good in most citrus groves. Peaches were approaching full bloom in the Hill Country. Valencia oranges and some grapefruit were harvested in central and western Arizona. In California, apple and cherry orchards were blooming. Hail damaged some apricot and plum orchards in Fresno County. Lemon, grapefruit, and tangelo harvests were active. Almonds were sizing well. Rain slowed orchard pruning and spraying in Oregon.

**VEGETABLES:** In Florida, spring planting was virtually complete. Irrigation was heavy in all areas. Winter crop harvests continued. Irish potato planting lagged 52 points behind normal in North Carolina. Spring planting lagged behind normal in South Carolina. Rain slowed spring planting in east Texas. Onion harvest continued in the Rio Grande Valley and the San Antonio-Winter Garden areas. Onion and potato plantings continued in the High Plains. Winter crop harvests slowed seasonally in Arizona. Artichoke, asparagus, broccoli, and cauliflower harvests continued in California. Celery and strawberry harvests were active along the south coast. Cantaloup planting started in the Westside area. Iceberg lettuce harvest began in the Huron area.

**PASTURES & LIVESTOCK:** Livestock was in mostly good condition. Pastures were mostly good to fair in the Delta and Southeast.



**CROP CONDITION**

FOR WEEK ENDING APRIL 2, 1989

(Percent)

WINTER WHEAT

STATE	VP	P	F	G	EX
ARK	0	0	10	75	15
CALIF	0	0	5	75	20
COLO	6	12	54	26	2
GA	4	11	51	32	2
IDAHO	2	10	35	39	14
IND	0	10	47	40	3
KANS	38	32	19	8	3
MO	1	9	40	48	2
MONT	1	13	37	45	4
NEB	0	2	80	17	1
N MEX	30	58	9	3	0
N C	0	3	16	74	7
OLKA	0	10	35	53	2
OREG	0	1	67	32	0
S DAK	2	5	25	60	8
TEX	2	35	50	11	2
WASH	18	44	23	15	0
17 STATE	11	20	37	29	3

THESE 17 STATES PRODUCED 81% 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:** Rainfall mostly 1.00 to 2.50 in. Temperatures 2 to 6° above normal.

Days suitable for fieldwork 2.6. Soil moisture 48% adequate, 52% surplus. Fieldwork progress 50% behind schedule, 48% on schedule, 2% ahead of schedule. Spring planting 45% prepared, 56% 1988, 56% avg. Corn 49% planted, 54% 1988, 46% avg. Sorghum small amount planted. Winter wheat 28% headed, 18% 1988, 13% avg; few fields turning color; 2% very poor, 2% poor, 39% fair, 55% good, 2% excellent; Hessian fly, powdery mildew, rust continued problem south. Livestock, pastures mostly good to fair. Pasture feed 16% short, 84% adequate. Primary activities: Preparing land for spring planting; planting corn, vegetables, potatoes; spraying fruit trees; fertilizing pastures; soil testing; repairing machinery, equipment; general care of livestock, poultry.

**ARIZONA:** Rain south central, central 26th; 0.75 to 1.75 in. Phoenix Airport 1.23 in.; 3rd greatest 24-hour amount on record for March. West, south 0.25 to 0.50 in. Snowfall above 6,000 ft. 2 to 9 in. Sunny skies, warming trend last 5 days of month. Precipitation 1st, light showers northeast. Temperatures 1° below to 6° above normal.

Soil moisture remained short statewide. Cotton planting advanced to 35%. Wheat, barley progressed well statewide; 100% jointing stage, 60% heading. Last year's respective progress 94%, 35%. Irrigation continued as needed. Second cuttings alfalfa underway west; 1st cuttings continued central; curing conditions favorable. Valencia oranges, few grapefruit harvested west. Harvest, shipping broccoli, cauliflower, cabbage, boston, head, leaf, romaine lettuce; continued small scale. Kale, napa, escarole, bok choy, endive, anise harvest completed. Central areas harvested valencia oranges, grapefruit. Mixed vegetables including greens, leaf lettuce, cabbage, bok choy, rapini, green onions, parsley, beets, turnips, spinach, leeks, carrots harvested from Salt River Valley. Packing, shipping of broccoli, cauliflower continued small scale. Cattle, calves fair to good statewide. Ranges providing below average to average feed supplies.

**ARKANSAS:** Very warm. Temperature extremes 25°; 85°. Widespread rains early week, heavy amounts across south, moderate north. Rainfall 1.27 to 7.08 in.

Soil moisture adequate to surplus. Wheat mostly good, very little disease or freeze damage. Field operations almost stopped with wet field conditions. Fruit doing well with plenty of moisture, very little freeze damage. Pastures coming out rapidly, less hay being fed. Livestock average to good.

**CALIFORNIA:** Vigorous Pacific storm brought rain, snow northern area 25th. Entire State experienced fair, dry weather until another Pacific system brought rain, snow 31st.

Field activities good. Rain interrupted 1 or 2 days. Small grain growth good. Early fields heading, earliest flowering. Dryland grain Riverside County severe moisture stress. Russian wheat aphid populations several counties. Grain green-chopping active. Cotton seeding increased. South 50% seeded. San Joaquin Valley seeding active warmer soils. Other growers await warmer soils. Spring seeded sugarbeets thinned, weeded. Insect, mildew, weed controls applied. Harvest

active overwintered sugarbeets. Alfalfa hay harvest increased. Apples, cherries bloomed. Grapes grew. Leafhopper concern. Discing, irrigating, mildew control active. Some apricot, plum orchards hurt Fresno County hail storm. Statewide stonefruit doing well. Lemon, grapefruit, tangelo harvests active. Navel oranges harvested; interior freeze damage. Valencia oranges picked; small sizes. Almonds sizing. Artichokes fairly heavy, good quality. Asparagus harvest active. Broccoli moderate, good quality. Cauliflower light, variable quality. Cantaloup planting started westside. Celery harvest active south coast. Iceberg lettuce harvest began Huron. Strawberry harvest active south coast. Livestock good. Pasture, range improved due recent rains. Most stock ponds full, few areas short water. Supplemental feeding slowed.

**COLORADO:** Series of fronts brought moisture to State with precipitation 0.10 to 0.25 in. Temperatures above normal 3 to 9°.

Days suitable for fieldwork 5.9. Soil moisture 14% very short, 38% short, 48% adequate. Winter wheat 6% very poor, 12% poor, 54% fair, 26% good, 2% excellent. Barley 26% seeded, oats 22% seeded. Dry onions 22% planted. Sugarbeets 8% planted. Livestock, range fair to good. Cows calved 60%, ewes lambled 59%. Death losses average. Feed adequate.

**FLORIDA:** Temperatures 1° above normal west, 3 to 4° above, elsewhere. Extremes 30° Perry; 92° Ft. Myers. Rainfall mostly under 0.50 in. Greatest amount 1.80 in., Monticello. Rain only 1 or 2 days most areas.

Soil moisture adequate Panhandle; Peninsula mostly short. Corn planting active. Tobacco transplanting about completed. Farmers worked ground for peanuts, cotton. Winds, night of 30th, few areas of Panhandle blew down winter wheat. Weather generally favored forage growth except additional rain needed, most of Peninsula. Pastures western Panhandle mostly fair to good; elsewhere generally poor to good. Cattle mostly good, western Panhandle; elsewhere fair to good. Citrus groves dry, irrigation all areas. Peak bloom past, some blooming continued, valencia harvest increased. Grapefruit movement remained active. Temple, honey tangerine harvest slowed. Caretakers busy all areas with spring activities. Warm temperatures most of week boosted vegetable growth. Cooler weekend aided fruit sets. Limited rainfall caused continued heavy irrigation. Spring plantings virtually done. Harvest active. Volume leaders: Tomatoes, cabbage, potatoes, peppers, cucumbers, celery, strawberries, squash. Also available good volume: Sweet corn, lettuce, radishes, snap beans, carrots, eggplant, escarole, endive. Very light harvest southwest watermelons underway.

**GEORGIA:** Rain 1 to 3 days, amounts light. East, southeast under 0.15 in., less than 0.60 in elsewhere. Extreme west, northwest greater than 0.75 in. Temperatures 2 to 7° above normal. Lows upper 20s, low 30s north, mid 30s south, highs around 80s mountains, upper 80s south.

Days suitable for fieldwork 4.4. Soil moisture 14% short, 77% adequate, 9% surplus. Corn 23% fair, 70% good, 7% excellent; 58% planted, 55% 1988, 60% avg.; 20% planted last week. Tobacco 16% fair, 76% good, 8% excellent; 57% transplanted, 30% 1988, 37% avg. Nearly 33% transplanted last week.

Watermelon planting very active, near average. Wheat 32% headed, 3% 1988, 15% avg. Southern area heavily infested powdery mildew, aphids, Hessian fly; some rust. Rye, other small grains fair to good. Apples 4% fair, 82% good, 14% excellent; 23% blooming, 17% 1988, 33% avg. Peaches 14% fair, 85% good, 1% excellent; 93% blooming, 100% 1988, 97% avg. Pasture 4% poor, 15% fair, 74% good, 7% excellent. Cattle, hogs mostly good.

**HAWAII:** Favorable weather. Mostly sunny, relatively warm with light showers. Temperatures low 70s to mid 80s. Daily rainfall none to 4.90 in. Winds 10 to 25 mph.

Days suitable for fieldwork 7.0. Crops improved condition. Flower, fruit setting increased. Irrigation heavy most areas. Head cabbage output steady, good quality. Chinese cabbage production remained below year ago, overall supplies moderate. Tomato production steady. Papaya production increased. Banana shipments remained seasonally low. First major watermelon harvest expected middle of next week.

**IDAHO:** Temperatures near normal, while precipitation well above normal most areas.

Days suitable for fieldwork 1.0. Soil moisture 16% short, 45% adequate, 39% surplus. Irrigation water good. Very few sugarbeet, onion acres planted. Winter wheat fair to good. Some winter wheat fields to be reseeded north. Eastern growers monitoring Russian wheat aphid. Other crop activities include cultivating, fertilizing, shopwork, sorting, shipping seed potatoes. Fruit trees just starting to bud. Calving, lambing winding down. Livestock good. Main activities revolved around feeding, caring for livestock. Hay, roughage short to adequate. Some areas very short.

**ILLINOIS:** Temperatures 6° above normal central, south. Temperature 20 to 70° all areas. Precipitation near normal central. Heavy rains north, south; south double normal.

Winter wheat mostly good to fair. Livestock good to excellent.

**INDIANA:** Temperatures 4 to 10° above normal. Lows upper 30s to low 40s, highs 70s to 80s. Precipitation above normal; 1.00 in. north, 2.00 to 6.00 in. south.

Days suitable for fieldwork 2.4. Topsoil moisture 5% short, 54% adequate, 41% surplus. Subsoil moisture 25% short, 62% adequate, 13% surplus. Spring cropland 62% tilled, 68% 1988, 59% avg. Wheat 4 in. high, 4 in. 1988, 4 in. avg. Wheat 2% jointed, 2% 1988, 2% avg. Oats 16% seeded, 25% 1988, 33% avg. Clover 47% seeded, 45% 1988, 50% avg. Pastures 3% very poor, 19% poor, 53% fair, 24% good, 1% excellent. Hay, roughage 5% very short, 32% short, 63% adequate. Wet week helped soil moisture.

**IOWA:** Temperatures 6 to 11° above normal. Extremes 20°; 82°. Precipitation below normal except extreme southwest 0.03 to 0.95 in.

Days suitable for fieldwork 2.5. Topsoil moisture 64% short, 36% adequate. Subsoil moisture 94% short, 6% adequate. Winter wheat 14% poor, 50% fair, 36% good. Pasture 13% very poor, 35% poor, 39% fair, 12% good, 1% excellent. Oats 14% sown, 23% 1988, 17% avg. Seedbed preparation 48%. Fertilizer application 36%. Livestock mostly good. Northern areas waiting on topsoils to dry out, frost to leave before fieldwork starts.

**KANSAS:** Temperatures 53° northwest to 58° central, south central, southeast, 9° above normal southwest to 12° above normal elsewhere. Rainfall 1.50 in.

northeast, 2.00 in. south central, 2.50 in. southeast, 0.25 to 0.50 in. over rest of State.

Days suitable for fieldwork 4.0. Topsoil moisture 53% short, 26% adequate, 21% surplus. Subsoil moisture 77% short, 21% adequate, 2% surplus. Rain, warm weather boosts wheat condition, but for some stands too little, too late. Wheat 38% very poor, 32% poor, 19% fair, 8% good, 3% excellent. Freeze damage more evident as stands break dormancy, most stands behind schedule. Insect, disease problems not significant. Farmers fertilizing, preparing seedbeds for spring planting. Most oats, barley planted, some emergence noted. Few fields corn planted southeast, south central counties. Range, pastures greening up but little grazing available. Feed grain in adequate supply, hay, forage rapidly depleted. Lambing, calving winding down, few problems encountered.

**KENTUCKY:** Summer like weather start of week. High temperatures 80s over south, central; 27th, 28th. Showers, thunderstorms 29th west; north central over 1.00 in. of rainfall. Late week cold front, low temperatures below freezing west, central. Temperatures 60s weekend.

Days suitable for fieldwork 3.0. Soil moisture 1% short, 69% adequate, 30% surplus. Tobacco beds 69% seeded, 75% 1988, 72% avg. Wheat 1% poor, 21% fair, 60% good, 18% excellent. Winter loss minimal. Winter damage legumes 7%. Pastures mostly good to fair; 28% roughage from pastures.

**LOUISIANA:** Temperatures 3 to 5° above normal. Extremes 38°; 89°. Rainfall 0.84 to 3.48 in.

Days suitable for fieldwork 2.4. Soil moisture 48% adequate, 52% surplus. Spring plowing 46%, 32% 1988, 44% avg. Corn 32% planted, 20% 1988, 45% avg.; 24% emerged, 9% 1988, 31% avg. Rice 14% planted, 7% 1988, 19% avg.; 9% emerged, 3% 1988, 10% avg. Wheat 18% headed, 12% 1988, 25% avg. Wheat, oats damaged by February freezes recovering. Sprayed some fields southwestern area for septoria, blight, rust. Wheat mostly good to fair. Spraying, fertilizing sugarcane; mostly good to fair. Crawfish, strawberry harvesting. Pastures, livestock mostly good to fair. Vegetables mostly fair to good.

**MARYLAND & DELAWARE:** MARYLAND: Precipitation 0.79 in. Temperature 59°, normal 49°. Temperature extremes 31°; 89°.

Main farm activities caring for livestock, some soil preparation.

DELAWARE: Precipitation 1.26 in. Temperature 58°, normal 48°. Temperature extremes 35°; 85°.

Main farm activities caring for livestock, some soil preparation.

**MICHIGAN:** Temperatures 2 to 8° above normal. Temperature extremes 11°; 79°. Precipitation 0.06 to 0.98 in. across State.

Activities: Muddy fields down State limited fieldwork. Erosion noted on lighter soils. Upstate fields snow covered. Livestock good. Lambing, calving nearly over. Pasture remained wet. Feed short to adequate. Marketing livestock, crops. Planting, pruning fruit trees.

**MINNESOTA:** Temperatures 1 to 8° above normal. Extremes 3°; 77°. Precipitation 0.25 to 0.83 in. above normal northern third, near normal to 0.48 in. below normal elsewhere. Precipitation 0.06 to 1.09 in. Greatest week total 1.42 in. Snowfall 5 to 9 in. northeast, north central; trace elsewhere. Snow depth weekend 5 to 15 in. northern third, zero elsewhere.

Warming trend will benefit livestock.

**MISSISSIPPI:** Warm, wet. Temperature 65°, 6° above normal. Rainfall 1.91 in., 0.52 above normal. Greatest weekly rainfall 3.92 in.

Days suitable for fieldwork 1.8, 1.9 1988, 3.2 avg. Soil moisture 20% adequate, 55% surplus, 25% excessive. Wheat 72% jointing, 65% 1988, 72% avg.; 10% poor, 40% fair, 45% good, 5% excellent. Farmers sprayed for septoria, rust, powdery mildew. Corn 18% planted, 24% 1988, 29% avg. Watermelons 15% planted, 18% 1988, 20% avg. Pastures, livestock good. Hay, roughage less than adequate. Activities: Limited tillage, planted some early crops, sprayed wheat, pastures; mostly shopwork, paper work.

**MISSOURI:** Temperatures 7 to 10° normal. Widespread rain, over 2.00 in. east central, south, 1.00 to 1.50 in. other areas.

Days suitable for fieldwork 2.2. Topsoil moisture 37% short, 42% adequate, 21% surplus. Subsoil moisture 56% short, 34% adequate, 10% surplus. Wheat improving with more moisture, warmer weather, too much moisture southeast. Oat seeding 58%, 50% 1988, 41% avg. Corn none planted, 1% 1988, 2% avg. Pasture 11% very poor, 23% poor, 37% fair, 26% good, 3% excellent. Hay 8% very short, 37% short, 52% adequate, 3% surplus. Livestock water 16% critically short, 17% short, 67% adequate.

**MONTANA:** Temperatures 3 to 9° above normal. Some moisture most areas with heaviest amounts west, south central. Amounts none to 1.00 in.

Topsoil moisture 10% short, 75% adequate, 15% surplus. Subsoil moisture 55% short, 40% adequate, 5% surplus. Winter wheat still dormant 75%, greening 25%. Wind damage to winter wheat 35% none, 40% light, 25% moderate. Field tillage 5% started. Cattle, calves 5% poor, 30% fair, 55% good, 10% excellent. Sheep, lambs 3% poor, 25% fair, 60% good, 12% excellent. Calving 70%, lambing 50%.

**NEBRASKA:** Warm, mild weather with precipitation midweek. Amounts 0.10 in. Temperatures 6° above normal west, 10° above elsewhere. Extremes 15°; 84°.

Winter wheat 2% poor, 80% fair, 17% good, 1% excellent. Some winterkill, most indicated breaking dormancy fair to good. Additional moisture needed for continued development. Some crown rot Panhandle. Oats, barley seeded few areas. Range, pasture average to below average. Hay, forage, feed grain average. Calf losses average, some scours. Main activities: Small grain seeding, spring tillage, stalk shredding, fertilizer, herbicide application, equipment repair, calving, livestock care.

**NEVADA:** Series weak Pacific storms brought only light precipitation mainly north. Temperatures above normal all areas. Temperature extremes 21°; 88°.

Fieldwork progress delayed by light, scattered showers, gusty winds. Marketing potatoes continued good progress.

**NEW ENGLAND:** Precipitation (rainfall, water equivalent of snow) 1.00 to 1.50 in. across area. Temperatures low 30s northern Maine, near 40s central, to high 40s south. Temperatures above normal.

Major farm activities: Moving crops from storage, tending livestock, maple sugaring.

**NEW JERSEY:** Temperatures much above normal. Extremes 21°; 84°. Rainfall 1.19 in. north, central; 1.08 in. south. Heaviest 24-hour total 1.22 in. on 30th, 31st. Estimated soil moisture percent field capacity 98% north, 95% central,

south. Four inch soil temperatures 47° north, 52° central, south.

Soil preparation, planting of oats, irish potatoes, early vegetables continued. Fruit pruning active. Fruit buds continued to swell. Pastures greening.

**NEW MEXICO:** Some precipitation early week; temperatures above normal.

Days suitable for fieldwork 6.6. Soil moisture 87% short, 13% adequate. Wheat 30% very poor, 58% poor, 9% fair, 3% good. Cattle 8% very poor, 61% fair, 31% good. Sheep 56% fair, 44% good. Ranges 14% very poor, 29% poor, 57% fair.

**NEW YORK:** Temperatures above normal; peaked on 28th, below normal thereafter. Greatest surplus 7° western Plateau, Great Lakes. Smallest departure 3° St. Lawrence Valley. On 27th, new record maximums were set Buffalo, Rochester, Binghamton. Poughkeepsie warmest maximum temperature 83°, on 28th while Newcomb coldest minimum, 13°. Precipitation above normal all areas. Western plateau water equivalent 2.46 in. Least amount of rain Coastal area. Colder air moved area evening of 31st, 5 to 7 in. of snow St. Lawrence Valley, several areas south of Lake Ontario.

Maple Syrup season continued very active. Warmer weather conducive to outside work although fields in many areas too wet for plowing. Tending livestock, spreading manure still major activities.

**NORTH CAROLINA:** Temperatures 8 to 12° above normal across State. Temperature extremes 32°; 86°. Precipitation none to 1.68 in.

Days suitable for fieldwork 3.0. Soil moisture 3% short, 54% adequate, 43% surplus. Pasture 1% very poor, 3% poor, 21% fair, 68% good, 7% excellent. Oat 3% poor, 14% fair, 77% good, 6% excellent. Barley 2% poor, 20% fair, 72% good, 6% excellent. Rye 3% poor, 13% fair, 76% good, 8% excellent. Wheat 3% poor, 16% fair, 74% good, 7% excellent. Tobacco plantbeds 2% very poor, 5% poor, 39% fair, 54% good. Feed grains 1% very short, 10% short, 86% adequate, 3% surplus. Hay, roughage 7% short, 85% adequate, 8% surplus. Irish potatoes 36% planted, 96% 1988, 88% avg.; 10% poor, 38% fair, 52% good. Cabbage 50% transplanted. Major activities: General maintenance; tobacco planted maintenance, tending livestock; land preparation; topdress small grains. Other activities: Spraying for alfalfa weevil; pruning fruit trees; fertilizing pasture; planting corn, potatoes, cabbage.

**NORTH DAKOTA:** Above normal precipitation over most of State 0.20 in. south central to 1.04 in. northeast. Temperatures 2° below normal northeast to 10° above normal southwest, south central. Extremes -8° northeast 31st; 64° southwest, south central 26th.

Recent rains improved soil moisture. Topsoil 16% very short, 35% short, 45% adequate, 4% surplus. Subsoil 47% very short, 40% short, 13% adequate, none surplus. Starting date for spring fieldwork 19th, latest since 1983. Winter wheat 10% poor, 24% fair, 55% good, 11% excellent; 95% dormant, 5% green. Winterkill 7% below normal, 74% normal, 19% above normal. Livestock fair to good; calving 46%, lambing 62%, shearing 65%. Hay, roughage mostly short. Pastures mostly poor, 63% open for grazing.

**OHIO:** Temperatures 4 to 8° above normal. Lows upper 20s to low 30s. Highs upper 70s to low 80s. Some snow northeast. Most precipitation as rain 1.50 in. northwest to 3.50 in. southwest.

No fieldwork, too wet. Soil moisture adequate to mostly surplus. Winter wheat needed rain to firm

heaved root systems, moisture for growth. Soil temperatures upper 40s to lower 50s.

**OKLAHOMA:** Temperatures 5° above normal south central to 7° above normal Panhandle. Precipitation 0.53 in. Panhandle to 2.54 in. east central.

Days suitable for fieldwork 4.2. Topsoil moisture 7% short, 50% adequate, 43% surplus. Subsoil moisture 15% short, 85% adequate. Wheat 10% poor, 35% fair, 53% good, 2% excellent; 30% jointing, 30% 1988, 40% avg. Rain improved wheat prospects, reduced insect problems. Freezing temperatures burned back foliage Panhandle. Sorghum 40% seedbed prepared, 15% 1988, 30% avg. Cotton 50% seedbed prepared, 35% 1988, 25% avg. Pastures fair, livestock good. Cattle marketings average, prices up slightly from last week.

**OREGON:** Temperatures 2 to 4° below normal west, except coast near normal. East of Cascades mostly 2 to 3° below average. Precipitation near 1.50 in. along coast, maximum 3.20 in. Laurel Mountain, coast range. Willamette Valley 1.70 in. south, 0.80 in. north. Southwestern areas nearly 0.50 in. East of Cascades, precipitation less than 0.10 in. to nearly 0.67 in.

Soil moisture 3% short, 57% adequate, 40% surplus. Fall grains mostly good, some freeze damage northern Willamette Valley. Winter wheat development behind normal around Pendleton. Russian wheat aphids no longer a problem most areas. Field crop development slow up to 10 days behind normal due to cool, wet weather west. Spring field preparations, fertilizing, spraying slowed by wet conditions. Alfalfa, other hay began green-up southeast. Wet weather also hampering fruit activity. Most areas still pruning orchards. Delayed dormant sprays completed in Rogue Valley no winter damage recorded, full bloom expected 7th to 10th. Peaches 80% popcorn stage; Gravenstein apples, hazelnuts in green tip southern Willamette Valley. Training, fertilizing raspberries; herbicide applications on all caneberries west. Freeze damage to caneberries, strawberries; northern Willamette Valley significant strawberry plant damage in areas without snow cover during February freezes. Cranberries losing dormant color, early variety popcorn stage south coast. Very little activity vegetable fields due to wetness west, some fields by passed early pea planting. Green pea planting slowed by wet fields Milton-Freewater district; fall onion cultivation hampered. Vegetable crops good Malheur County. Livestock fair to good. Calving, lambing winding down with good crops considering the cold weather east. Range, pasture mostly fair to good. Tight hay supplies east may mean early turnout on immature spring ranges some areas. Most growers optimistic about this season's grass growth because of plentiful moisture. Pasture growth below normal west due to cold, rainy weather.

**PENNSYLVANIA:** Unseasonably mild, abundant rainfall. Temperature 11°; 11° above normal. Extremes 23°; 86°. Precipitation 1.60 to 0.79 in. above normal.

Activities: Early spring activities; caring for livestock, maintaining machinery, fixing fences, grading potatoes, hauling manure.

**PUERTO RICO:** San Juan WSFO mean temperature 76°; 2° below normal. Total rainfall 1.22 in., 0.62 in. above normal.

**SOUTH CAROLINA:** Temperatures 6 to 8° above normal. Weekend temperatures near or below freezing northern half of State. Scattered thunderstorms less than 0.25 in.

Days suitable for fieldwork 4.6. Soil moisture 2% very short, 8% short, 78% adequate, 2% surplus.

Corn good; 24% planted, 40% 1988, 33% avg. Tobacco fair to good; 5% planted, 4% 1988, 4% avg. Watermelons fair to good; 39% planted, 47% 1988, 42% avg. Tomatoes fair to good; 36% planted, 67% 1988, 67% avg. Spring cukes fair to good; 25% planted, 22% 1988, 43% avg. Wheat good; 7% headed, 1% 1988, 1% avg. Oats good; 4% headed, 1% 1988, 1% avg. Peaches fair to good.

**SOUTH DAKOTA:** Temperatures 1 to 17° above normal. Extremes 15°; 85°. Heaviest precipitation north. Precipitation for year above normal north, below normal south.

Winter wheat mostly good to fair. Winterkill under 10%. Bare soils largest damage.

**TENNESSEE:** Rain west 27th spread middle 28th, statewide 29th, 30th. Cold front 30th followed by decreased cloudiness, colder. Warmer temperatures weekend. Temperatures above normal statewide. Precipitation slightly below normal middle, east. Above normal West.

Days suitable for fieldwork 2.7. Primary activities topdressing wheat, seeding tobacco, care of livestock.

**TEXAS:** Strong upper level low triggered widespread thunderstorms moved eastward. Dry air filtered into northwest, spread over rest state, low moved out. Temperatures above normal across state. Rainfall moderate to heavy. East above average. South, lower valley below normal, rainfall welcomed.

**Crops:** Small grains central, Blacklands received boost with moisture. Some rust show up fields Blacklands. Topdressing as allowed. Fields beginning head parts central as warmer temperatures continued. Fields continued head south, Upper Coast. Fields High Plains still need moisture. Greenbugs, aphids problem. Wheat 1% headed, 1% 1988, 4% avg. Moisture helped corn fields. Planting continued Blacklands, most plantings complete central. Fields Rio Grande Valley slow to emerge because dry conditions. Land preparations Plains, planting to begin soon. Corn 58% planted, 61% 1988, 55% avg. Grain sorghum planting slow pace, wet conditions kept producers idle. Planting virtually complete central. Rains should help fields. Some fields Coastal Bend, Rio Grande Valley suffering from dry conditions. Planting complete Upper Coast, fields emerging to good stands. Land preparations Plains finished. Sorghum 42% planted, 48% 1988, 45% avg. Cotton planting winding down Coastal Bend, Rio Grande Valley. Cooler weather slowed planting Trans-Pecos. Planting begin soon Blacklands, operations underway central. Prewatering continued Plains. Cotton 9% planted, 9% 1987, 8% avg. Rice planting Upper Coast. Scattered showers slowed progress. Flushing beginning. Rice 33% planted, 23% 1988, 28% avg. Other field crops: Sugarbeets 2% planted, 1% 1988, 7% avg.

**Commercial Vegetables:** Rio Grande Valley harvest onions improved, market improved slightly. Melons continued bloom, set fruit. Good crop expected. Fruit set looks good. Irrigation continued steady. San Antonio-Winter Garden limited harvest continued cabbage, carrots, spinach. Onions normal progress. Rain slowed planting east. Flooding cause some replanting. High Plains onion, potato planting continued. Trans-Pecos chile planting winding down. Onions set out. Peaches approaching full bloom Hill Country, good crop expected. Some petal fall east. Much north crop hurt by late freeze.

**Range and Livestock:** Ranges, pastures continued improve slowly parts where rain fell. Small grains continued supply little grazing High Plains. Producers continued work sheep, goats Hill Country.

Producers liquidating herds drier parts State. Body conditions declining these areas.

**UTAH:** Precipitation moderate, heavy north area, light elsewhere. Temperatures 5 to 6° above normal.

Soils cool, wet. Livestock fair to good. Calving, lambing continued. Major farm activities: Care of livestock, planning fieldwork, purchasing supplies, equipment maintenance, tax records.

**VIRGINIA:** Well above normal temperatures with severe thunderstorms. High temperature 89°, some areas record high. Approaching cold front 30th sparked thunderstorms. Hail, damaging winds some areas southeast. Southeast 1.40 in. rain, lesser amounts elsewhere.

Days suitable for fieldwork 3.2 Topsoil moisture 10% short, 53% adequate, 37% surplus. Few clear, warm days allowed some small grain fertilization, other fieldwork. Tobacco plantbeds 90% seeded, mostly burley left to be seeded. Potatoes 17% planted, 95% 1988. Wheat 8% poor, 30% fair, 54% good, 8% excellent. Wet soils impeding small grain topdressing. Pastures 14% poor, 24% fair, 61% good, 1% excellent. Alfalfa 45% fair, 50% good, 5% excellent. Tobacco plantbeds 33% poor, 51% fair, 16% good. Peaches 50% fair, 43% good, 7% excellent.

**WASHINGTON:** Temperatures 1 to 0° below normal west; 2° below to 3° above normal. Precipitation 1.06 to 1.92 in. west, none to 0.74 in. east.

Days suitable for fieldwork 3.4. Soil moisture 35% short, 63% adequate, 2% surplus. Fieldwork hampered by wet soils many areas. Range, pasture 46% short, 54% adequate. Hay, other roughage 25% short, 35% adequate, 40% surplus. Winter wheat replanting Spokane County 25% to 40%, 50% for winter barley acreage. Winterkill Whitman County

50%. Cheatgrass greening up on rangeland. Moisture short some areas due to spring run-off. Christmas tree planting continued west. Some injury to fruit tree M7 roots. Chelan, Okanogan Counties. Calving, lambing, complete most areas.

**WEST VIRGINIA:** Temperature 55°, 7 to 11° above normal. Extremes 23° Terra Alta, Greenbank, Flat; 90° Creston. Precipitation 1.13 in., above normal.

Days suitable for fieldwork 3.0. Soil moisture 5% very short, 10% short, 55% adequate, 30% surplus. Wheat, barley good to fair. Livestock good. Feed 13% very short, 10% short, 74% adequate, 3% surplus. Farm activities: General maintenance, seeding oats, plowing, livestock care, fertilizing.

**WISCONSIN:** Temperatures 3°; 41° above normal. Extremes 9°; 80°. Precipitation 0.10 to 0.70 in., most southeast.

Frost prevented fieldwork.

**WYOMING:** Temperatures above normal statewide. Precipitation above normal northwest, north central, below normal elsewhere.

Days suitable for fieldwork 4.0. Topsoil moisture 38% short, 53% adequate, 9% surplus. Subsoil moisture 78% short, 19% adequate, 3% surplus. Spring wheat 5% planted, small amount 1988, 5% avg. Oats 5% planted, small amount 1988, 5% avg. Barley 15% planted, 30% 1988, 25% avg. Sugarbeets 5% planted, small amount 1988, 5% avg. Winter wheat 5% poor, 60% fair, 35% good, none to light wind, freeze damage. Alfalfa prospects fair to good. Livestock mostly good. Spring calves born 50%, 60% 1988, 55% avg. Death losses light to normal. Farm flock: Ewes lambed 60%, 65% 1988, 60% avg.; shorn 55%, 55% 1988, 50% avg. Range flock: Ewes lambed 30%, 30% 1988, 20% avg.; shorn 30%, 30% 1988, 25% avg. Death losses light to normal. Range, pasture poor to fair.

# International Weather and Crop Summary

March 26 - April 1, 1989

## HIGHLIGHTS

**WESTERN USSR** ... Light precipitation accompanies a cooling trend. Winter grains continue breaking dormancy, especially in the west.

**EUROPE** ... Dry weather returns to sections of the north. Scattered rain benefits crops in the southwest.

**SOUTH ASIA** ... Showers continue over Pakistan and north-central India, benefiting immature winter wheat.

**EASTERN ASIA** ... Moderate to heavy rain continues in sections of the Yangtze Valley.

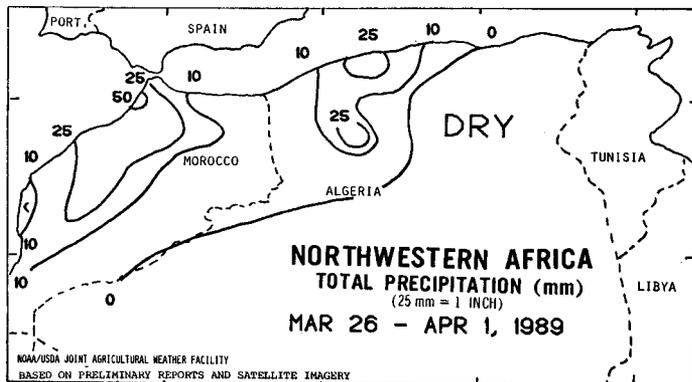
**SOUTHEAST ASIA** ... Widespread showers cover Thailand and the Philippines, boosting moisture reserves for secondary crops and upcoming plantings.

**SOUTH AMERICA** ... In Brazil, wet weather delays soybean harvesting. In Argentina, dry weather in central Cordoba and southern Santa Fe helps corn, sunflower, and sorghum harvests, while wet weather in Chaco and Formosa delays harvesting.

**AUSTRALIA** ... Heavy rain and flooding continue to delay harvest in the east.

**SOUTH AFRICA** ... Scattered, light rain and mild temperatures cover the Maize Triangle. Corn is filling to maturing.

**NORTHWESTERN AFRICA** ... Beneficial rains continue over Moroccan winter grain areas. Dry weather returns to reproductive to filling winter grains in eastern Algeria and Tunisia.



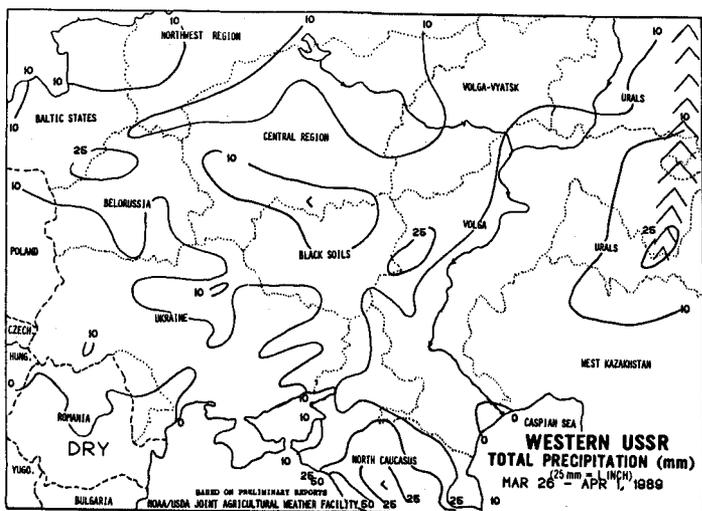
**NORTHWESTERN AFRICA** ... Widespread rain (10-32mm) continued over Morocco, benefiting winter grains in the reproductive to early filling stages of development. Light showers (10-25mm) over western Algeria followed last week's moderate to heavy rainfall, continuing to stabilize conditions for winter grains in the filling stage. Dry weather returned to winter grains in central and eastern Algeria and Tunisia. Weekly average temperatures in these areas, ranging from 1 to 4 degrees above normal, increased evapotranspiration rates, placing increased stress on winter grains entering reproduction in the south and filling in northern areas adjacent to the coast.

MONTHLY DATA FROM SELECTED FOREIGN CITIES  
CLIMATE ANALYSIS CENTER--NMC--NWS--NOAA  
\*\*\* = DATA NOT AVAILABLE

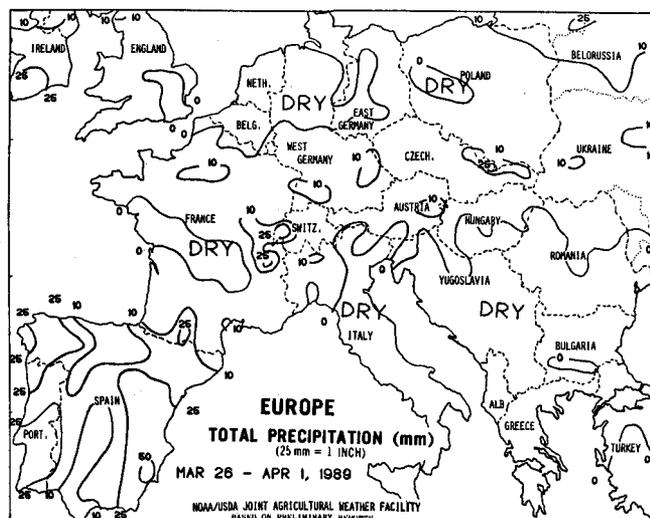
## March 1989

COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
	AVG MAX	AVG MIN	HI	LO	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY OSLO	5	-1	10	-10	2	4.6	83.2	43.1
SWEDEN STOCKHOLM	6	0	11	-5	3	3.3	43.3	20.5
FINLND HELSINKI	4	-1	9	-4	2	4.8	78.1	48.0
U KING GLASGOW	9	2	13	-7	6	-0.2	173.6	102.5
EDINBURGH	10	2	15	-5	6	0.8	64.3	22.6
BIRMINGHAM	11	4	18	-4	8	2.3	60.8	9.3
LONDON	12	4	19	-4	8	2.6	77.2	19.8
IRELND DUBLIN	11	5	15	-2	8	1.7	56.0	5.9
ICELND REYKJAVIK	1	-4	6	-12	-1	-2.2	102.3	29.8
DENMRK COPENHAGEN	8	3	15	-2	6	3.9	37.4	5.4
LUXEMB LUXEMBOURG	12	4	22	-1	8	3.4	94.0	37.3
SWITZL ZURICH	13	5	23	0	9	4.3	44.5	-24.0
GENEVA	14	3	24	-1	8	3.0	61.5	-12.5
FRANCE PARIS	15	6	24	2	10	3.6	73.0	29.9
STRASBOURG	15	4	26	-3	10	3.9	26.0	-8.2
BOURGES	15	5	24	-1	10	2.9	28.8	-29.2
BORDEAUX	17	6	24	-1	12	3.2	46.1	-27.8
TOULOUSE	16	6	22	-1	11	2.6	61.2	4.3
MARSEILLE	18	8	25	3	13	2.9	13.7	-30.6
SPAIN VALLADOLID	17	4	24	-2	11	3.0	16.5	-27.2
MADRID	19	4	24	0	12	1.8	10.6	-36.7
SEVILLE	22	10	28	5	16	1.9	12.1	-62.5
E GRMY LEIPZIG	13	4	23	0	8	4.7	31.9	-2.6
DRESDEN	12	4	22	0	8	4.8	28.3	-8.7
W GRMY HAMBURG	11	4	23	-2	8	4.3	72.5	29.0
BERLIN	12	4	22	0	8	4.1	22.3	-10.2
DUSSELDORF	14	6	24	-2	10	3.7	72.0	31.1
STUTTGART	14	3	25	-5	8	3.8	8.4	-32.9
NURNBERG	12	3	23	-3	8	3.8	28.0	-14.4
MUNICH	13	3	23	-4	8	4.8	36.0	-17.5
AUSTRI VIENNA	13	4	25	-1	8	3.4	14.5	-16.5
INNSBRUCK	15	2	24	-4	8	3.5	37.3	-9.3
CZECH PRAGUE	12	2	21	-2	7	4.3	35.7	7.6
POLAND WARSAW	10	1	17	-4	6	4.2	14.8	-8.7
LODZ	11	2	18	-3	6	4.2	14.7	-21.4
KATOWICE	11	1	19	-3	6	4.0	19.2	-18.9
PRZEMYSL	10	2	19	-3	6	4.4	17.1	-14.0
HUNGAR BUDAPEST	13	4	25	-1	9	3.5	50.2	24.2
YUGOSL SARAJEVO	14	2	24	-3	8	4.2	23.3	-60.8
ROMANI BUCHAREST	15	2	25	-3	9	4.8	11.2	-21.2
BULGAR SOFIA	13	4	22	-1	9	4.0	51.8	14.3
ITALY MILAN	17	6	24	-1	11	3.4	42.4	-37.2
VERONA	18	6	26	-1	12	3.9	40.2	-16.1
VENICE	15	6	20	1	10	2.5	28.0	-34.7
GENOA	17	11	22	-1	14	2.2	27.2	-59.7
ROME	18	7	24	2	12	1.5	75.4	11.5
NAPLES	20	8	26	2	14	3.3	19.4	-65.4
GREECE THESSALONIKA	16	7	24	2	11	1.8	29.5	-12.1
LARISSA	17	5	26	-1	11	1.4	35.6	-5.8
ATHENS	17	10	21	6	13	0.7	25.8	-8.6
TURKEY ISTANBUL	13	7	20	2	10	3.3	34.6	-28.4
ANKARA	15	-1	22	-6	7	2.0	7.9	-19.1
CYPRUS LARNACA	19	9	23	5	14	0.6	19.3	-19.8
USSR TALLINN	5	1	11	-2	3	5.5	57.8	33.8
LENINGRAD	4	1	11	-3	3	5.8	33.3	3.8
KAUNAS	7	1	13	-2	4	5.0	41.7	11.9
MINSK	7	1	11	-2	4	5.8	32.8	-1.8
KAZAN	-2	-9	3	-19	-5	0.9	42.4	21.0
MOSCOW	5	-1	10	-6	2	5.4	47.4	11.5
SVERDLOVSK	4	-8	7	-20	-3	2.4	16.4	-0.8
OMSK	0	-10	7	-20	-5	4.6	11.5	0.1
KUSTANAY	-1	-14	5	-24	-7	1.9	13.6	-1.2
KRASNOYARSK	3	-7	18	-23	-2	5.5	8.9	-4.6
NOVOSIBIRSK	0	-8	14	-25	-4	7.2	2.9	-12.3
BARNAUL	0	-9	16	-23	-4	3.8	6.1	-15.4
KHABAROVSK	2	-8	16	-20	-3	4.7	10.7	-7.4
VLADIVOSTOK	4	-3	11	-9	1	3.2	20.0	-5.8
KIEV	9	2	18	-2	6	5.5	36.5	-2.5
LVOV	10	0	18	-4	5	4.7	13.3	-25.3
KIROVOGRAD	10	2	16	-4	6	6.0	23.0	-1.0

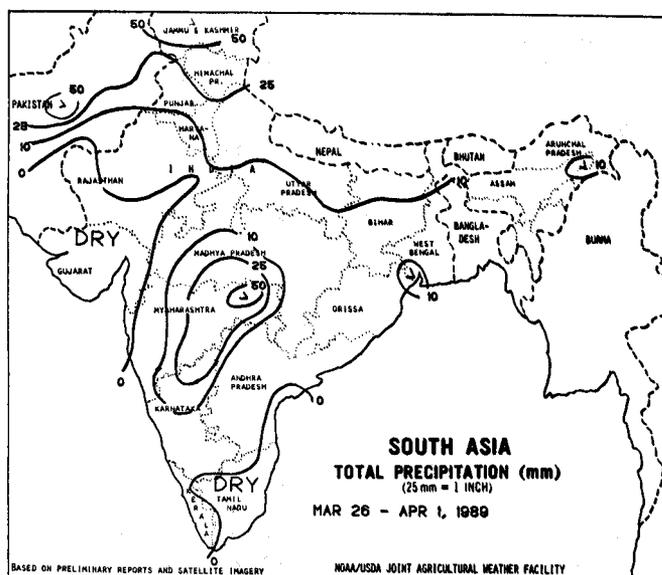
COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			
March 1989		AVG	AVG	HI	LO	DPART	DPART		TOTAL	March 1989		AVG	AVG	HI	LO	DPART	DPART		TOTAL	
		MAX	MIN	MAX	MIN	AVG	F	N/RM		F	N/RM	MAX	MIN	MAX	MIN	AVG	F	N/RM		F
USSR	ODESSA	9	4	18	0	7	4.5	11.6	-16.1	TANZAN	DAR ES SALAAM	31	23	35	20	27	-0.2	98.6	-35.7	
	YALTA	10	5	16	3	8	1.8	27.0	-14.9	GABON	LIBREVILLE	30	24	31	21	27	-0.3	319.4	-85.7	
	VORONEZH	6	-1	16	-8	3	5.7	23.7	-7.2	TOGO	LOME	32	26	34	21	29	0.9	38.4	-31.7	
	SARATOV	-1	-5	12	-12	-3	2.0	21.0	0.7	B FASO	OUAGADOUGOU	37	23	40	20	30	-0.7	16.3	10.2	
	KHARKOV	9	2	16	-3	5	6.2	19.5	-8.8	IVRY C	ABIDJAN	31	24	34	22	28	0.0	82.3	-32.7	
	VOLGOGRAD	5	-2	14	-7	2	4.7	10.5	-19.9	MOZAMB	MAPUTO	31	22	35	20	26	1.2	4.8	-83.9	
	ROSTOV	10	2	17	-3	6	5.1	17.4	-17.9	ZAMBIA	KABWE	26	17	28	15	21	0.5	131.7	18.4	
	ASTRAKHAN	11	0	17	-4	6	5.0	5.9	-10.4	ZIMBAB	HARARE	26	15	29	13	21	1.0	29.7	-56.9	
	KRASNODAR	14	4	22	-1	9	5.3	30.9	-24.9	S AFRI	PRETORIA	28	16	33	9	22	2.0	65.0	-9.7	
	ORENBURG	-1	-9	6	-17	-5	0.5	12.4	-9.5		KROONSTAD	26	12	32	4	19	-1.2	60.9	-21.1	
	TSELINOGRAD	-2	-12	9	-28	-7	4.1	24.3	15.1		JOHANNESBURG	25	14	29	5	19	1.5	38.3	-41.7	
	KARAGANDA	1	-9	15	-28	-4	3.2	8.0	-9.3		BETHAL	25	11	29	2	18	0.0	19.5	-58.5	
	TBILISI	15	6	23	1	10	3.5	8.8	-23.5		DURBAN	29	22	31	18	25	1.7	18.9	-106.6	
	TASHKENT	16	5	28	-3	11	2.9	20.0	-59.1	CANADA	CAPE TOWN	25	15	31	7	20	0.6	68.0	53.6	
	ASHKHABAD	18	5	31	-1	12	2.3	37.9	-6.7		TORONTO	3	-7	22	-20	-2	-1.3	37.7	-23.5	
SYRIA	DAMASCUS	19	5	26	-6	12	0.6	0.1	-22.8		MONTREAL	1	-10	17	-27	-5	-2.3	75.4	1.8	
ISRAEL	JERUSALEM	16	7	23	2	11	-1.1	105.1	14.3		WINNIPEG	-6	-15	5	-30	-10	-2.3	20.6	-2.1	
PAKIST	KARACHI	32	19	37	11	25	0.8	0.1	-11.0		REGINA	-5	-15	8	-31	-10	-2.4	6.5	-11.3	
INDIA	AMRITSAR	26	10	30	4	17	-2.1	32.3	3.4		SASKATOON	-5	-16	8	-33	-11	-2.4	5.1	-12.9	
	NEW DELHI	29	15	33	9	22	-0.5	38.0	21.9		LETHBRIDGE	0	-11	12	-30	-6	-3.6	45.3	21.1	
	AHMEDABAD	35	20	38	13	27	-0.3	0.1	0.1		CALGARY	-1	-13	11	-29	-7	-3.2	9.0	-7.1	
	INDORE	33	16	39	11	25	-0.6	19.1	16.2		EDMONTON	-4	-13	10	-25	-9	-3.8	7.8	-10.7	
	CALCUTTA	33	21	38	16	27	-0.2	2.4	-19.6		VANCOUVER	9	3	13	-5	6	0.1	127.9	26.9	
	VERAVAL	31	17	37	11	24	-1.0	0.5	0.5	MEXICO	GUADALAJARA	28	7	32	2	17	-1.9	0.1	-6.3	
	BOMBAY	32	21	36	18	27	0.1	0.1	0.0		MEXICO CITY	25	9	29	3	17	1.1	2.7	-5.9	
	POONA	34	16	38	12	25	-0.9	7.3	2.3		ACAPULCO	31	20	33	16	25	-1.2	0.1	0.1	
	BEGAMPET	34	21	37	13	27	-0.5	56.8	45.9		BERMUD	ST. GEORGES	24	19	27	16	22	3.9	38.6	-74.2
	MADRAS	33	23	37	18	28	-0.3	30.0	26.8		BAHAMA	NASSAU	27	20	29	13	24	1.4	26.1	-4.3
	MANGALORE	34	24	36	21	29	0.5	2.0	-6.9		CUBA	HAVANA	28	20	32	13	24	0.7	97.6	54.3
H KONG	HONG KONG	21	17	26	12	19	0.6	46.2	-8.6		JAMAIC	KINGSTON	31	22	31	20	26	0.2	16.2	-3.6
N KREA	PYONGYANG	8	-2	16	-12	3	0.5	100.1	49.0		P RICO	SAN JUAN	28	21	30	20	25	-0.6	86.0	30.2
S KREA	SEOUL	11	3	16	-5	7	3.0	122.8	66.9		GUADEL	RAIZET	29	20	30	16	25	0.4	45.9	-1.4
JAPAN	SAPPORO	5	0	13	-5	3	2.9	77.6	-0.3		MARTINQ	LAMENTIN	28	22	30	21	25	1.2	48.9	-20.9
	NAGOYA	14	5	18	0	10	2.2	100.5	2.1		BARBAD	BRIDGETOWN	29	23	29	20	26	-0.1	34.5	-3.6
	TOKYO	14	6	20	2	10	1.5	123.0	20.6		TRINID	PORT OF SPAIN	30	22	32	19	26	0.5	16.3	-15.8
	YOKOHAMA	13	6	20	1	10	1.3	157.1	38.3		COLOMB	BOGOTA	18	9	20	6	13	-0.2	84.7	29.3
	KYOTO	13	5	19	-1	9	2.2	110.7	2.9		VENEZU	CARACAS	29	22	32	21	26	0.9	0.9	-24.1
	OSAKA	14	6	21	1	10	1.7	113.0	12.7		F GUIA	CAYENNE	28	23	30	14	25	-0.2	668.9	265.8
THAILN	PHETCHABUN	35	23	38	17	29	-0.6	54.6	10.4		BRAZIL	FORTALEZA	30	23	32	20	26	-0.4	247.8	-79.8
	BANGKOK	33	25	35	20	29	-0.4	82.1	59.6		RECIFE		31	24	33	21	27	0.7	82.3	-169.6
MALAYS	KUALA LUMPUR	31	24	34	21	28	0.8	176.9	-52.4		BELO HORIZONTE	29	20	32	18	25	1.7	122.8	-13.5	
VIETNM	HANOI	22	18	28	8	20	0.0	170.4	132.3		CAMPO GRANDE	30	20	33	17	25	1.4	191.6	51.6	
CHINA	HARBIN	5	-7	16	-17	-1	5.2	1.9	-9.5		FRANCA		27	17	29	15	22	0.5	226.1	39.2
	HAMI	13	-3	26	-12	5	0.7	0.5	-0.8		RIO DE JANEIRO	30	24	33	22	27	1.1	13.2	-130.0	
	LANCHOW	10	1	19	-7	6	0.3	2.1	-6.2		LONDRINA	29	19	32	16	24	0.8	158.5	24.7	
	BEIJING	14	3	26	-5	9	4.1	0.1	-8.6		SANTA MARIA	28	18	35	10	23	0.4	219.9	110.9	
	TIENTSIN	14	3	23	-3	8	3.5	1.9	-4.5		PORTO ALEGRE	**	20	**	6	**	**	30.6	-58.3	
	LHASA	14	-2	19	-7	6	1.4	0.7	-2.7		PERU	LIMA	27	19	31	17	23	0.9	0.7	0.3
	KUNMING	20	6	24	3	13	0.1	16.3	2.4		BOLIVI	LA PAZ	14	3	18	1	8	-0.4	15.0	-62.2
	CHENGCHOW	14	3	26	-2	8	0.2	32.5	5.7		CHILE	SANTIAGO	28	8	32	5	18	0.5	0.1	-2.7
	YECHANG	14	7	24	0	10	-0.6	82.8	21.0		ARGENT	IGUAZU	29	19	34	14	24	**	121.3	****
	HANKOW	14	6	22	0	10	0.1	86.2	-17.0		FORMOSA		30	20	35	15	25	0.1	191.1	34.1
	CHIHKIANG	13	7	19	-1	10	-0.6	82.0	-1.6		CERES		29	17	35	10	23	-0.2	101.0	-33.8
	SHANGHAI	14	6	23	-1	10	1.6	82.8	4.6		CORDOBA		25	15	31	9	20	-0.6	109.1	-3.1
	NANCHANG	15	8	21	1	11	0.6	120.3	-42.8		RIO CUARTO		25	14	32	7	20	0.1	184.6	73.7
	TAIPEI	21	16	29	9	18	1.3	114.3	-59.7		ROSARIO		26	15	31	8	20	-0.5	55.5	-111.8
	CANTON	23	15	30	9	19	1.4	88.2	7.6		BUENOS AIRES		26	15	33	7	20	0.4	95.1	-4.2
	NANNING	21	16	29	5	18	0.6	112.7	58.1		SANTA ROSA		25	13	32	6	19	-0.7	164.3	79.4
CNRY I	LAS PALMAS	23	16	29	14	19	1.5	3.5	-7.0		TRES ARROYOS		25	13	31	7	19	1.2	51.8	-44.2
MOROCC	CASABLANCA	19	11	25	5	15	0.3	62.6	2.6	MIDW I	MIDWAY ISLAND	22	17	24	13	20	0.5	134.6	2.6	
	MARRAKECH	24	11	32	5	17	2.2	43.0	13.4	N CALD	NOUMEA	28	23	31	20	25	0.0	315.8	197.1	
ALGERI	ALGER	20	8	29	4	14	1.0	25.7	-44.4	FIJI	NAUSORI	30	23	32	21	26	0.0	365.0	-7.4	
	BATNA	19	4	24	-2	11	2.6	5.6	-37.3	SAMOA	PAGO PAGO	30	25	32	23	28	0.4	207.6	-76.8	
TUNISI	TUNIS	21	9	28	4	15	1.8	23.0	-27.8	TAHITI	PAPEETE	31	24	34	22	28	0.8	95.8	-57.9	
NIGER	NIAMEY	39	23	40	19	31	0.3	0.1	-3.1	N ZEAL	AUCKLAND	23	16	25	10	20	0.7	24.0	-57.9	
MALI	TIMBUKTU	35	18	39	13	27	-1.0	0.1	0.1	PA N G	PORT MORESBY	30	23	32	18	26	-0.6	255.5	52.5	
	BAMAKO	37	24	41	21	31	0.3	7.1	3.3	AUSTRAL	DARWIN	30	24	33	22	27	-1.2	579.4	277.1	
MAURIT	NOUAKCHOTT	32	17	39	14	24	0.0	0.1	-1.7		MOREE		29	19						



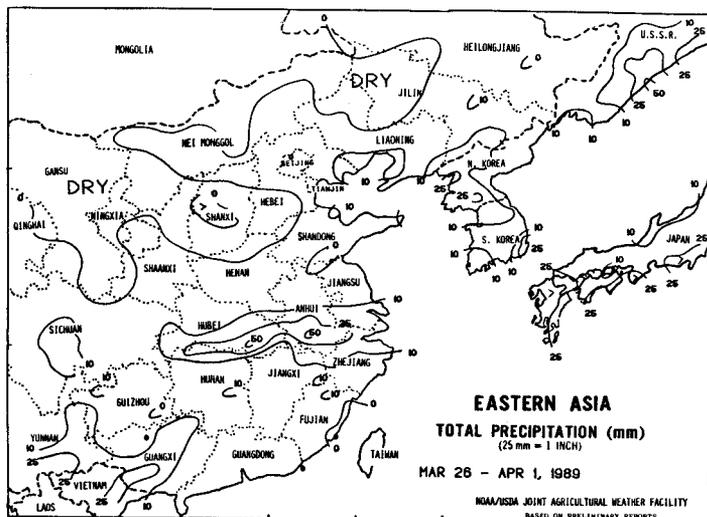
**WESTERN USSR** ... Winter grains continued to break dormancy, although a cooling trend considerably slowed the northward progression of greening during the week. By week's end, winter grains had likely broken dormancy as far north as central Belorussia, the extreme northern Ukraine, and the northern North Caucasus. Weekly average temperatures were 1 to 4 degrees Celsius above normal, continuing the unseasonably warm weather pattern which has covered crop areas for 15 consecutive weeks. Early spring planting continued to progress in the Ukraine, southern Black Soil Region, and the North Caucasus, helped by several days of dry weather. Light rain (10-25mm) in the northern and eastern Ukraine, and the western North Caucasus increased topsoil moisture for spring grain emergence and vegetative winter grains. Rain is needed in the southwestern Ukraine, the southern Black Soils Region, and the lower Volga, where topsoil moisture remained unfavorably low. Light precipitation (10-25mm) continued over the northern half of the region.



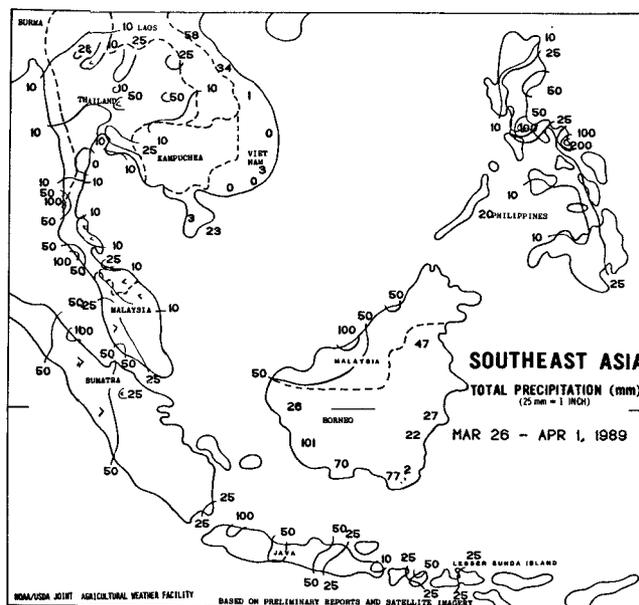
**EUROPE** ... Mostly dry and mild weather covered sections of eastern England, Benelux, northern West and East Germany, and western Poland, favoring progress in planting of spring crops. Mostly light rain (less than 10mm) fell in areas of France, southern West Germany, Czechoslovakia, and Austria. In the south, scattered rain (10-40mm, with isolated amounts greater than 40mm) covered the Iberian Peninsula, benefiting winter and recently planted spring crops. Much of south-central and southeastern Europe remained dry. Much warmer-than-normal temperatures (as much as 10 degrees C above normal in central crop areas) continued across all of the continent except the extreme southwest, accelerating growth and development of winter grains.



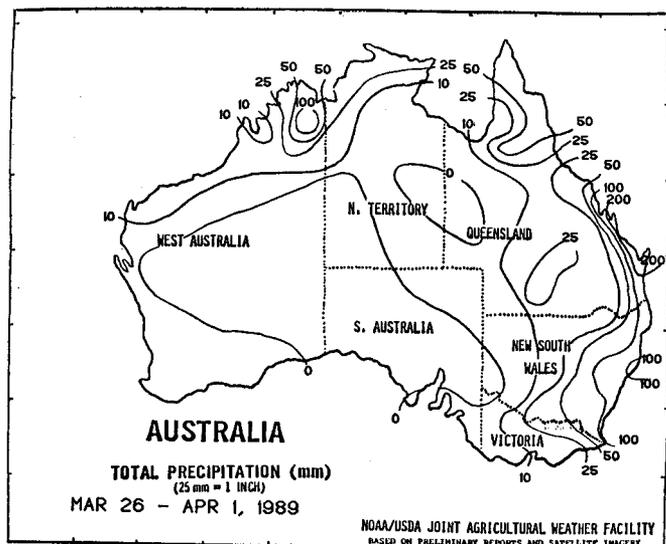
**SOUTH ASIA** ... Moderate to heavy showers (10-50mm or more) continued over winter wheat regions of Pakistan and north-central India, benefiting late developing, immature crops and improving irrigation supplies. Mostly dry weather occurred over winter grain regions from southern Uttar Pradesh and eastern Madhya Pradesh eastward, favoring mature crops and harvest activities. Unseasonable showers (15-68mm) covered a large area from western Madhya Pradesh to northern Karnataka, improving moisture reserves but impeding late winter wheat harvesting. Minimal rain (3mm or less) continued over rice areas of Bangladesh and south-coastal India. Maximum temperatures ranged from 35 to 40 degrees C for the second week from India's southern tip to Bangladesh, stressing immature rice.



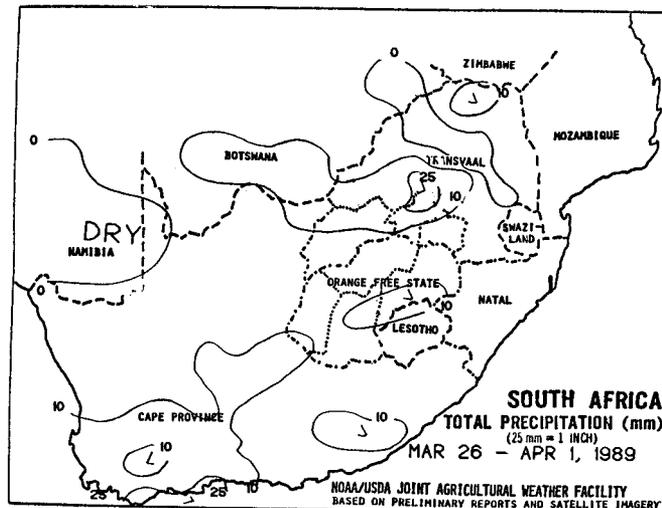
**EASTERN ASIA** ... Moderate to heavy rains (15-50mm, with scattered rainfall above 50mm) continued across southern sections of Hubei, Anhui, and Jiangsu, and northern Jiangxi and Zhejiang, while mostly light rain (less than 10mm) covered the remainder of eastern China. Early planting of single crop rice and other summer crops began across the Yangtze Valley. Heavy rain also fell across sections of Yunnan, western Guangxi, western North Korea, and eastern Honshu in Japan. In the north, light to moderate rain (5-20mm) fell over southern sections of Liaoning and Jilin, improving pre-season soil moisture levels. Mean temperatures were above normal in all but extreme southern and eastern areas, accelerating growth of winter crops.



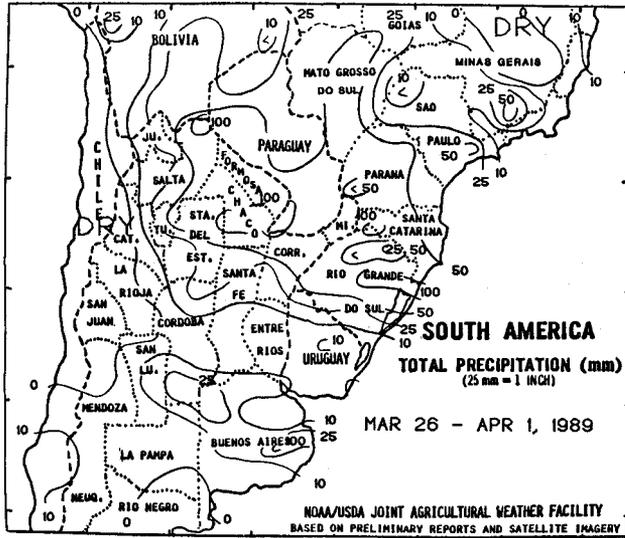
**SOUTHEAST ASIA** ... Widespread, variable showers (10-50mm or more) covered most main season growing areas of Thailand, improving soil conditions and irrigation supplies for rice planting activities. The rain also boosted irrigation reserves for the second season crop near Bangkok. Weekly temperatures averaged near to below normal but maximum temperatures exceeded 35 degrees C over much of the region, maintaining high evaporation rates. Moderate to heavy showers (25-50mm or more) continued over Indonesia and Malaysia, maintaining favorable irrigation reserves for immature crops. In the Philippines, moderate showers (25-50mm or more) continued from central Luzon to Mindanao, benefiting immature second season grains and improving main season pre-planting conditions. Local heavy showers (120-256mm) along Luzon's southern coast likely caused flooding.



**AUSTRALIA** ... Heavy rain (25-100mm) continued over much of eastern Queensland, New South Wales, and Victoria, delaying harvest of summer crops and possibly causing quality declines in unharvested cotton, but improving preplanting soil moisture for winter grains. Torrential rains (100-231mm) in coastal sections caused flooding. Elsewhere, light rain (less than 10mm) fell across crop areas of Western Australia, while South Australia was mostly dry. Mean temperatures remained below normal over much of the east, slowing maturation of summer crops and drydown of saturated soils.



**SOUTH AFRICA** ... Scattered, light rain (less than 10mm) and mild temperatures covered most of the Maize Triangle as well as Natal and eastern growing regions of the Cape Province. Corn across the region was filling to maturing. Harvesting usually begins in April, but much of the crop is behind schedule due to this season's cooler-than-normal weather. Elsewhere, moderate rain (10-34mm) covered winter wheat regions of the southern Cape Province, improving soil conditions for upcoming planting activities.



**SOUTH AMERICA** ... In Argentina, corn, sunflower, and sorghum harvests were reported to be at least 25, 50, and 25 percent complete, respectively. The soybean harvest has not yet begun. Dry weather in central Cordoba and southern Santa Fe helped harvests. At week's end, light to moderate showers (10-47mm) in southern Cordoba and northern Buenos Aires may have caused some harvest delays. Late-week heavy rain (50 to 113mm) in Chaco and Formosa likely halted the sorghum and cotton harvests. In Brazil, moderate to heavy rain (50-167mm) in Rio Grande do Sul soaked soybeans, which ranged from filling pods to maturity. Wet weather (50-69mm) in western Santa Catarina, Parana, and Mato Grosso do Sul caused further delays in soybean harvesting.

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