

# WEEKLY WEATHER AND CROP BULLETIN

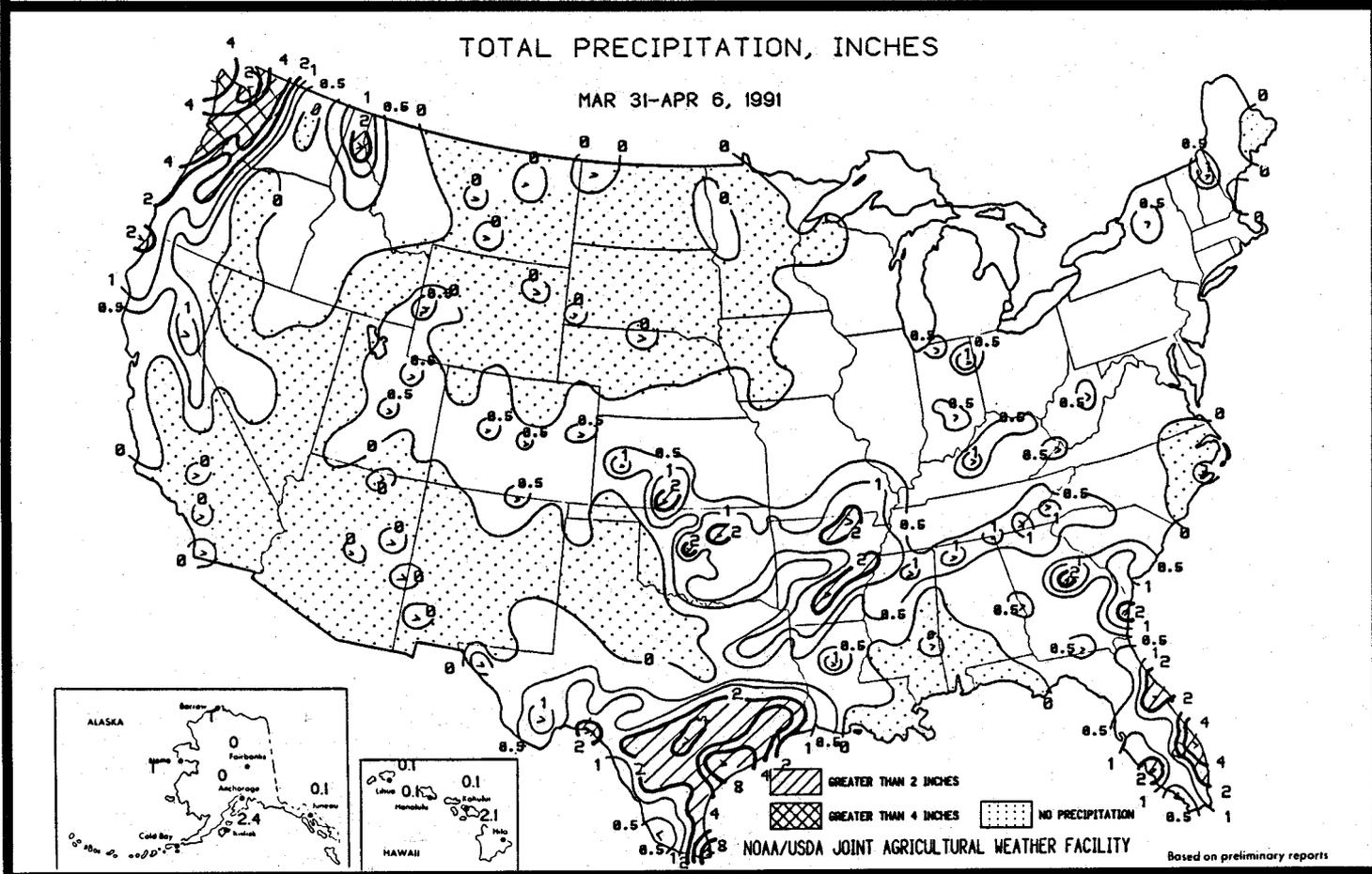
U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration, National Weather Service

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## HIGHLIGHTS

March 31 - April 6, 1991

March's frenzied weather pattern gave way to a more tranquil regime as April began, but stormy conditions returned to parts of the Nation as the week progressed. Mild air spread eastward from the **northern Plains**, resulting in more than 100 record highs from **Montana to Maine**. No rain fell during the week from **southern California** eastward to **northern Texas**, and from the **northern Plains** southward to **northern Kansas**. The week started on a chilly note in the **East**, as Sunday minimums dipped to 8° F in **Elkins, WV**, and to 32° F in **Tupelo, MS**. A few locally heavy showers drenched **eastern Florida**. Thunderstorms erupted on Tuesday in **southern Kansas** and **eastern Oklahoma**, providing locally heavy rain and beneficial crop moisture. The storms also produced large hail and five tornadoes. The storminess moved slowly eastward and weakened, reaching the **east coast** in the

(Continued to back cover)

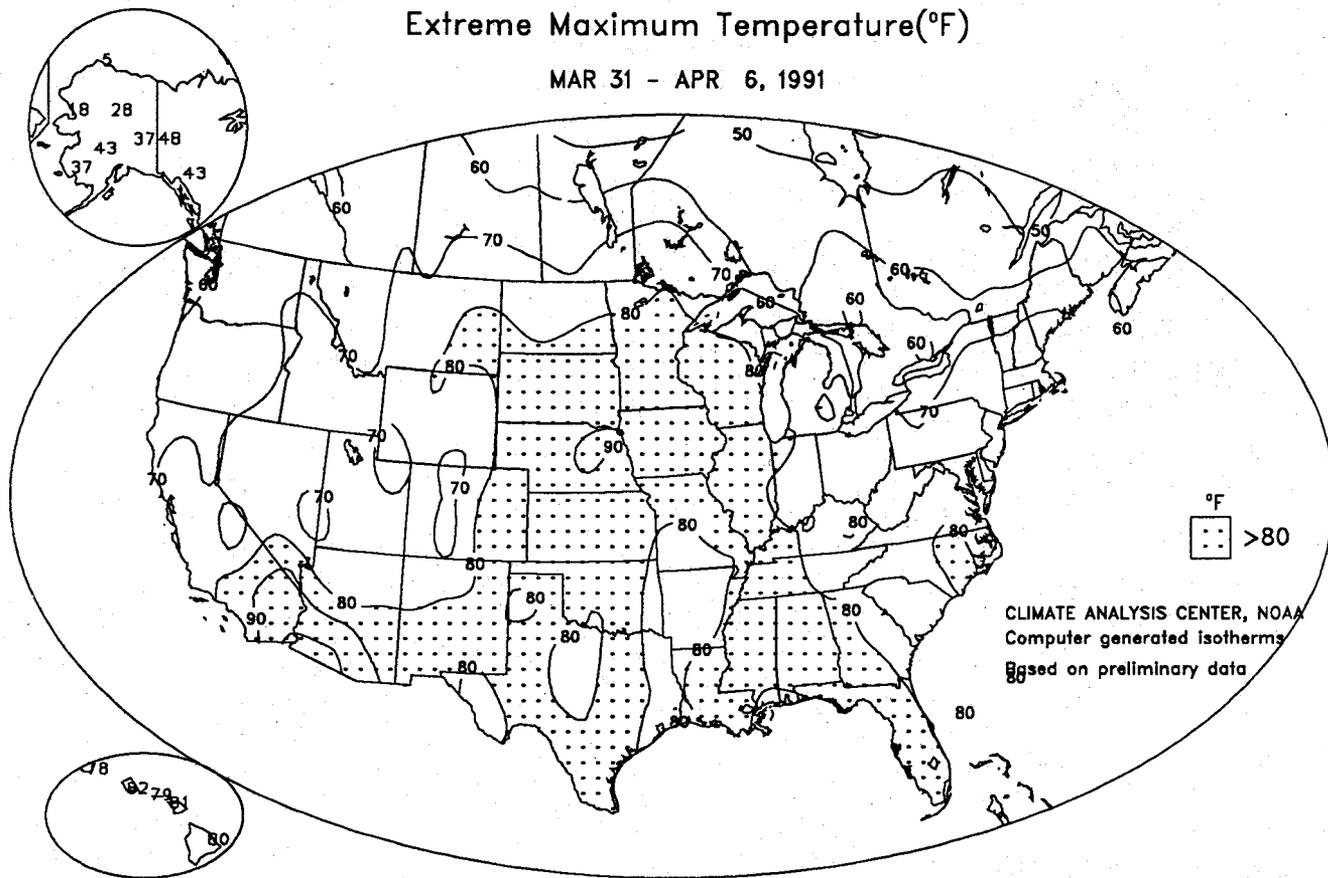
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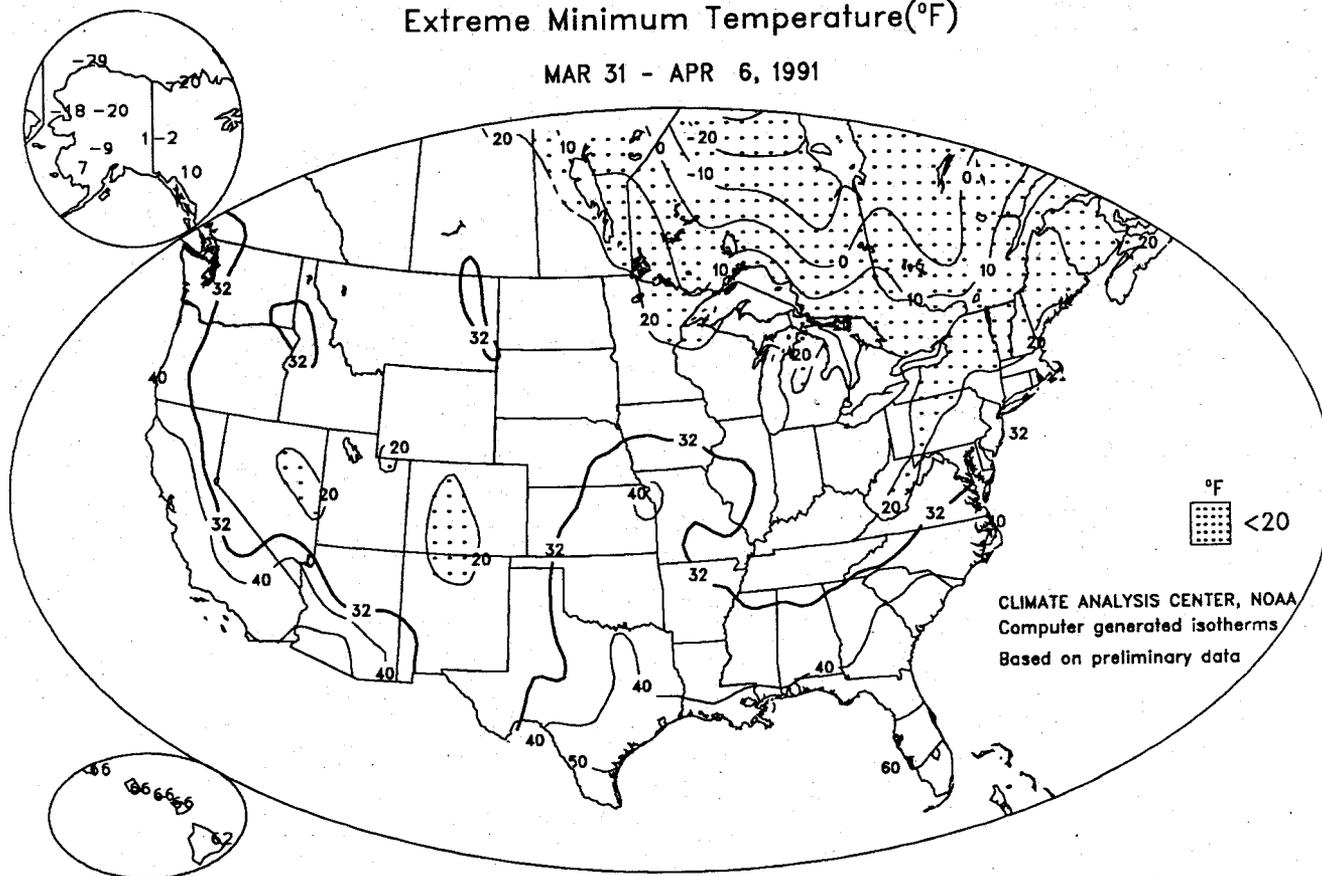
### Extreme Maximum Temperature(°F)

MAR 31 - APR 6, 1991



### Extreme Minimum Temperature(°F)

MAR 31 - APR 6, 1991

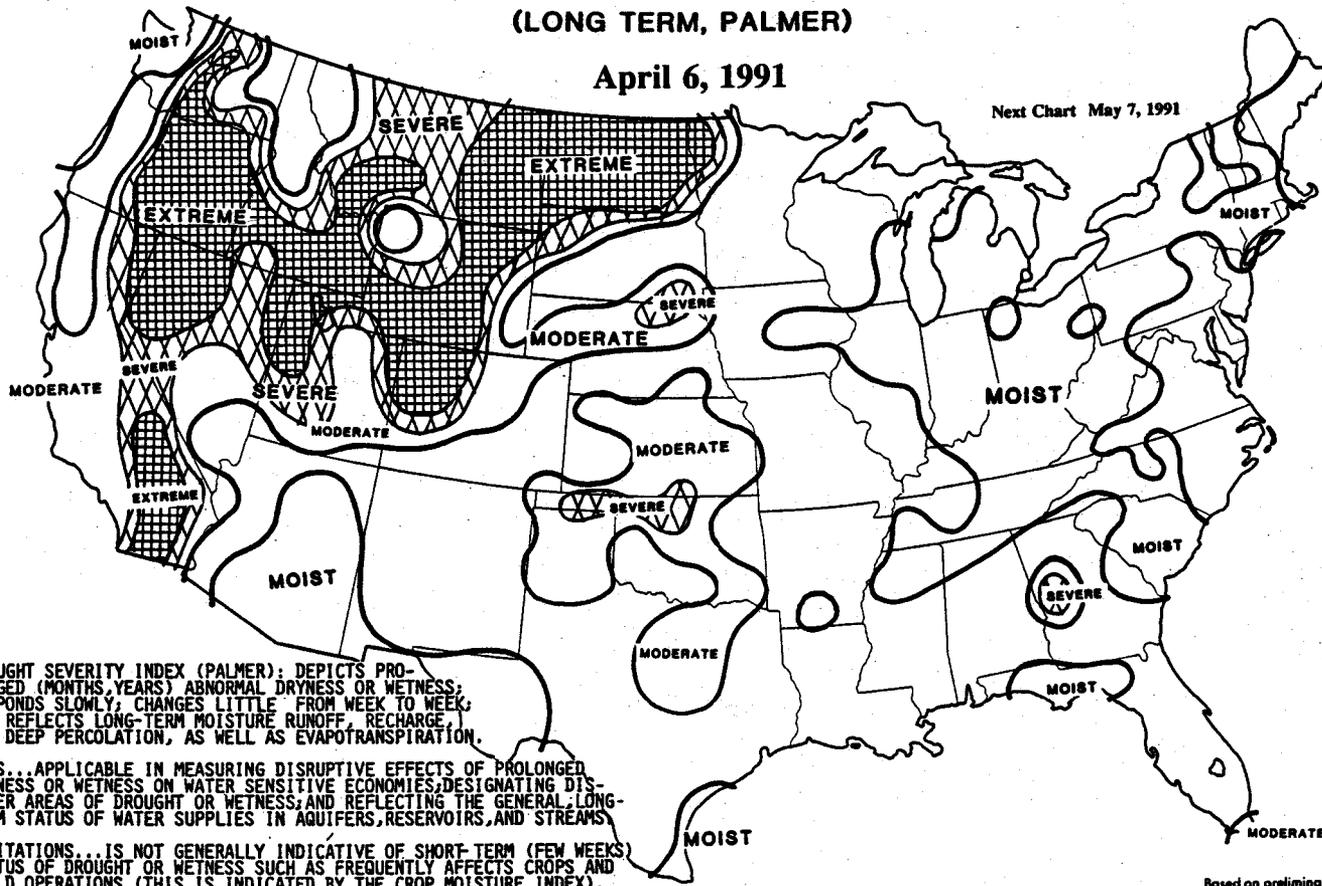


### DROUGHT SEVERITY

(LONG TERM, PALMER)

April 6, 1991

Next Chart May 7, 1991



DROUGHT SEVERITY INDEX (PALMER); DEPICTS PRO-  
LONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS;  
RESPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK;  
AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE,  
AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.

USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED  
DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES; DESIGNATING DIS-  
ASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-  
TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.

LIMITATIONS... IS NOT GENERALLY INDICATIVE OF SHORT-TERM (FEW WEEKS)  
STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND  
FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

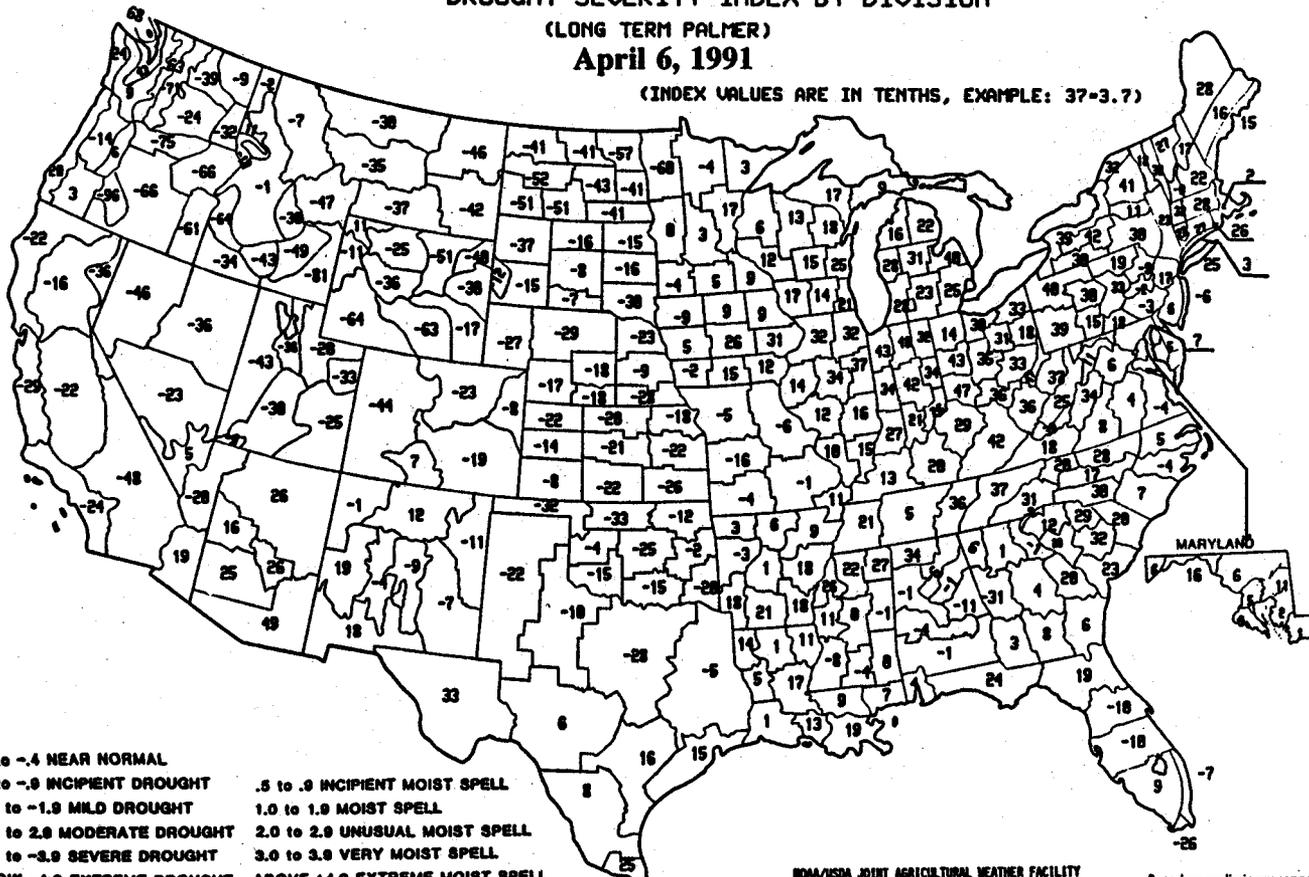
Based on preliminary reports

### DROUGHT SEVERITY INDEX BY DIVISION

(LONG TERM PALMER)

April 6, 1991

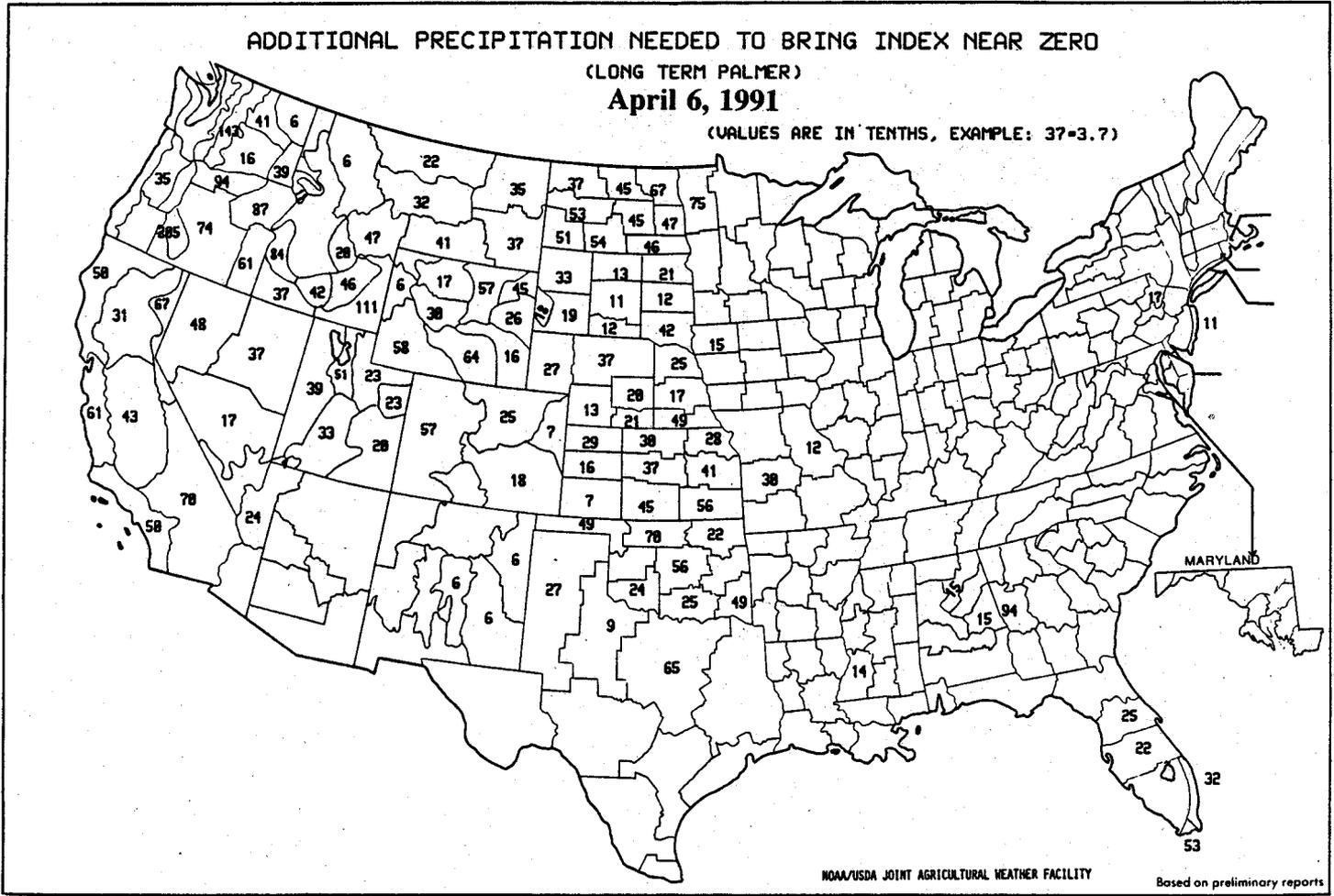
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37-3.7)



- |                                |                                |
|--------------------------------|--------------------------------|
| .4 to -.4 NEAR NORMAL          | .5 to .9 INCIPIENT MOIST SPELL |
| -.5 to -.9 INCIPIENT DROUGHT   | 1.0 to 1.9 MOIST SPELL         |
| -1.0 to -1.9 MILD DROUGHT      | 2.0 to 2.9 UNUSUAL MOIST SPELL |
| -2.0 to 2.9 MODERATE DROUGHT   | 3.0 to 3.9 VERY MOIST SPELL    |
| -3.0 to -8.9 SEVERE DROUGHT    | BELOW -4.0 EXTREME DROUGHT     |
| ABOVE +4.0 EXTREME MOIST SPELL |                                |

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports



# National Weather Data for Selected Cities

Weather Data for the Week Ending April 6, 1991

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	TEMP. °F		PRECIP.	
																			.01 INCH OR MORE	.50 INCH OR MORE		
AL BIRMINGHAM	76	47	81	32	62	2	.2	-1.2	.2	5.0	64	12.5	71	87	33	0	1	1	0	0		
MOBILE	77	50	81	38	63	-1	.0	-1.3	.0	4.8	64	24.3	142	90	38	0	0	0	0	0		
MONTGOMERY	78	48	83	37	63	1	.4	-1.1	.4	8.4	122	19.5	125	93	35	0	0	0	0	0		
AK ANCHORAGE	45	23	50	15	34	4	.0	.2	.0	.7	82	1.7	70	88	38	0	0	0	0	0		
BARROW	-1	-19	5	-29	-10	-1	.4	-1.1	.4	12	2	33	79	63	0	0	0	0	0	0		
FAIRBANKS	39	9	44	3	24	3	.0	-1.1	.0	2.2	498	3.6	250	83	39	0	0	0	0	0		
JUNEAU	43	33	47	31	38	2	1.7	1.0	1.6	5.6	145	17.1	151	99	63	0	0	0	0	0		
KODIAK	40	33	43	24	37	2	2.4	1.6	.9	3.0	66	23.8	155	89	64	0	0	0	0	0		
NOME	25	5	34	-6	15	3	.4	-1.1	.4	.6	82	2.1	109	75	46	0	0	0	0	0		
AZ PHOENIX	88	59	97	54	73	9	.0	-1.1	.0	2.1	230	3.2	149	52	12	3	0	0	0	0		
PRESCOTT	71	34	80	26	53	6	.0	-2.0	.0	4.0	232	6.2	124	72	15	0	2	0	0	0		
TUCSON	84	50	92	44	67	5	.0	-1.1	.0	1.4	179	3.5	158	59	12	2	0	0	0	0		
YUMA	90	59	101	51	75	7	.0	.0	.0	.8	453	1.8	235	43	14	4	0	0	0	0		
AR FORT SMITH	74	47	81	35	61	3	.6	-3.0	.6	4.5	96	7.5	83	91	36	0	0	0	0	0		
LITTLE ROCK	73	53	77	37	63	4	.4	-8.4	.4	3.2	56	11.4	85	76	45	0	0	0	0	0		
CA BAKERSFIELD	74	48	81	44	61	1	.4	-2.2	.4	3.7	367	4.5	147	87	40	0	0	0	0	0		
EUREKA	58	47	63	44	52	4	1.3	.4	1.0	8.2	143	12.7	71	91	64	0	0	0	0	0		
FRESNO	72	49	77	44	61	3	.4	-3.3	.4	7.2	385	8.4	146	91	43	0	0	0	0	0		
LOS ANGELES	68	53	78	51	60	2	.4	-3.3	.4	4.0	198	7.9	105	93	58	0	0	0	0	0		
REDDING	67	48	73	43	57	0	.2	-7.7	.1	9.9	173	14.7	72	90	40	0	0	0	0	0		
SACRAMENTO	70	48	78	43	59	3	.4	-4.4	.4	6.2	261	9.6	104	94	45	0	0	0	0	0		
SAN DIEGO	69	54	80	52	62	2	.1	-2.2	.1	7.3	369	10.4	183	92	56	0	0	0	0	0		
SAN FRANCISCO	64	50	70	46	57	3	.4	-5.5	.4	6.1	201	10.1	93	89	53	0	0	0	0	0		
CO DENVER	71	39	83	32	55	12	.4	-3.3	.4	.8	51	1.6	60	59	15	0	2	0	0	0		
GRAND JUNCTION	67	38	79	30	53	6	.3	-1.1	.2	1.0	116	2.0	101	73	25	0	1	2	0	0		
PUEBLO	74	30	90	18	52	6	.1	-1.1	.1	.8	101	.9	70	82	16	1	4	1	0	0		
CT BRIDGEPORT	54	37	70	30	46	1	.4	-9.9	.4	4.1	87	8.7	80	86	45	0	2	1	0	0		
HARTFORD	61	33	80	24	47	3	.4	-9.9	.4	4.6	92	8.8	75	87	30	0	5	1	0	0		
DC WASHINGTON	62	41	77	32	51	-1	.1	-6.6	.1	4.5	111	8.2	88	84	39	0	1	1	0	0		
FL APALACHICOLA	75	55	77	48	65	0	.0	-8.0	.0	11.4	238	35.5	297	90	50	0	0	0	0	0		
DAYTONA BEACH	75	60	79	47	68	0	2.2	1.6	1.3	9.4	273	13.3	149	90	58	0	0	0	0	0		
JACKSONVILLE	76	53	80	44	65	-2	.3	-4.4	.3	7.6	190	19.3	183	96	52	0	0	0	0	0		
KEY WEST	82	71	87	67	77	0	.4	-1.2	.4	3.1	212	5.6	109	87	66	0	0	0	0	0		
MIAMI	83	68	90	63	75	1	3.4	2.8	2.7	5.2	221	8.8	137	89	54	1	0	4	2	3		
ORLANDO	78	60	85	54	69	-1	3.1	2.5	1.2	9.0	239	12.3	137	93	54	0	0	0	0	0		
TALLAHASSEE	80	49	86	38	65	0	.1	-1.0	.1	12.6	195	32.4	201	95	37	0	0	0	0	0		
TAMPA	81	59	87	50	70	1	.5	.0	.4	4.9	126	7.7	85	96	49	0	0	0	0	0		
WEST PALM BEACH	81	68	88	64	75	2	5.9	5.3	2.7	9.0	281	23.8	280	89	61	0	0	0	0	0		
GA ATLANTA	72	49	81	34	61	3	.3	-9.9	.3	7.2	105	15.0	92	81	38	0	0	0	0	0		
AUGUSTA	73	46	78	39	60	0	.8	-1.1	.8	9.3	164	18.8	138	94	43	0	0	0	0	0		
MACON	75	47	80	38	61	-1	.5	-5.5	.5	10.5	175	23.1	157	95	42	0	0	0	0	0		
SAVANNAH	76	54	80	47	65	2	1.1	-3.3	1.1	6.6	147	15.8	147	95	40	0	0	0	0	0		
HI HILO	79	65	80	62	72	0	2.1	-1.1	1.3	39.9	245	53.1	136	98	60	0	0	0	0	0		
HONOLULU	80	69	82	66	75	0	.1	-4.4	.1	6.3	162	9.2	88	76	51	0	0	0	0	0		
KAHULUI	80	67	81	66	74	1	.1	-4.4	.0	2.3	73	7.2	72	86	50	0	0	0	0	0		
LIHUE	77	68	78	66	73	0	.1	-8.0	.0	9.8	188	12.1	80	83	64	0	0	0	0	0		
ID BOISE	67	41	74	31	54	9	.3	-1.1	.3	.9	71	2.3	59	76	26	0	0	0	0	0		
LEWISTON	64	45	76	38	54	8	.1	-2.2	.1	1.2	98	1.7	47	59	35	0	0	0	0	0		
POCATELLO	66	37	75	25	52	11	.4	-2.2	.4	2.3	199	3.2	106	67	20	0	3	0	0	0		
IL CHICAGO	62	40	83	26	51	7	.2	-7.7	.1	3.7	106	5.7	92	86	36	0	0	0	0	0		
MOLINE	67	42	85	27	54	10	.1	-7.7	.1	6.4	185	8.0	126	79	36	0	0	0	0	0		
PEORIA	67	42	82	33	55	9	.3	-5.5	.3	4.0	110	5.7	87	81	36	0	0	0	0	0		
QUINCY	68	46	81	34	57	10	.4	-8.0	.4	2.7	70	3.6	53	66	33	0	0	0	0	0		
ROCKFORD	64	37	84	26	51	8	.1	-8.0	.1	4.8	144	6.4	108	87	32	0	2	0	0	0		
SPRINGFIELD	67	44	80	36	56	7	.3	-6.6	.3	2.9	76	4.9	70	80	39	0	0	0	0	0		
IN EVANSVILLE	68	43	80	26	56	4	.3	-7.7	.3	4.6	84	10.6	93	92	43	0	1	1	0	0		
FORT WAYNE	60	37	76	24	48	4	1.0	-2.2	.9	3.7	102	6.8	89	88	40	0	4	3	0	0		
INDIANAPOLIS	62	40	76	27	51	4	.4	-5.5	.3	6.8	157	10.3	109	81	40	0	2	3	0	0		
SOUTH BEND	61	38	81	22	49	6	.5	-4.4	.5	3.3	85	6.7	81	86	38	0	3	2	0	0		
IA DES MOINES	73	46	88	31	59	15	.4	-7.7	.4	3.9	142	5.0	104	72	31	0	1	0	0	0		
SIoux CITY	76	44	91	31	60	16	.4	-5.5	.4	2.0	97	2.9	79	77	27	1	1	0	0	0		
WATERLOO	68	41	88	25	55	14	.1	-6.6	.1	4.0	142	5.1	112	83	34	0	2	0	0	0		
KS CONCORDIA	74	47	85	36	61	13	.3	-1.1	.3	2.4	109	3.2	86	80	31	0	0	0	0	0		
DODGE CITY	75	44	85	34	60	10	.1	-2.2	.1	1.2	67	1.5	55	81	26	0	0	0	0	0		
GOODLAND	73	40	88	31	56	12	.1	-2.2	.1	1.1	95	1.5	78	83	24	0	2	1	0	0		
TOPEKA	74	47	84	39	61	11	.1	-5.5	.1	3.1	112	3.9	83	87	32	0	0	0	0	0		
WICHITA	73	45	83	35	59	7	.2	-3.3	.1	.9	35	1.9	47	90	36	0	0	0	0	0		
KY BOWLING GREEN	69	43	78	26	56	3	.4	-7.7	.4	5.0	77	15.5	103	91	46	0	1	1	0	0		
LEXINGTON	64	41	77	27	53	2	.2	-8.0	.1	6.0	105	12.4	99	80	40	0	1	2	0	0		
LOUISVILLE	68	44	82	28	56	4	.2	-8.0	.2	5.0	89	12.0	99	79	34	0	1	1	0	0		
LA ALEXANDRIA	76	52	80	37	64	1	.4	-1.2	.4	6.9	114	20.8	138	93	46	0	0	0	0	0		
BATON ROUGE	78	52	85	38	65	0	.4	-9.9	.4	3.6	63	21.1	139	93	39	0	0	0	0	0		
LAKE CHARLES	73	54	77	40	64	-2	.6	-2.2	.6	3.0	78	19.8	169	97	56	0	0	0	0	0		
NEW ORLEANS	76	55	81	45	65	0	.4	-1.0	.4	6.3	112	31.0	197	92	45	0	0	0	0	0		

Based on 1951-80 normals

Weather Data for the Week Ending April 6, 1991

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	
																			90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SRKEVEPORT	76	52	79	35	64	2	.3	-.7	.3	3.2	69	16.1	132	94	43	0	0	0	0	0	0	
ME CARIBOU	47	25	55	10	36	5	.1	-.5	.1	4.8	165	8.0	108	79	36	0	0	0	0	0	0	
PORTLAND	56	31	76	20	43	5	.1	-.9	.1	6.2	130	11.0	91	83	37	0	0	0	0	0	0	
MD BALTIMORE	60	35	76	28	48	-2	.1	-.8	.1	5.7	130	10.0	97	85	37	0	0	0	0	0	0	
SALISBURY	61	33	75	27	47	-3	.1	-.8	.1	6.5	136	13.4	116	98	38	0	0	0	0	0	0	
MA BOSTON	58	39	78	28	49	5	.2	-.8	.1	4.5	92	9.3	74	81	40	0	0	0	0	0	0	
CHATHAM	49	37	61	31	43	2	.1	-.8	.1	4.7	98	10.0	75	88	66	0	0	0	0	0	0	
MI ALPENA	59	33	78	21	46	10	.1	-.5	.1	3.1	134	4.6	85	86	33	0	0	0	0	0	0	
DETROIT	59	35	80	24	47	5	.2	-.6	.1	1.6	50	4.0	60	84	36	0	0	0	0	0	0	
FLINT	58	35	79	22	46	6	.3	-.3	.3	3.2	118	5.4	94	83	38	0	0	0	0	0	0	
GRAND RAPIDS	58	35	81	20	46	5	.3	-.5	.2	3.7	114	5.7	84	88	42	0	0	0	0	0	0	
HOUGHTON LAKE	55	32	74	19	43	7	.3	-.3	.2	3.3	140	5.2	100	80	40	0	0	0	0	0	0	
LANSING	57	34	79	20	46	5	.4	-.2	.4	4.2	140	6.3	105	93	46	0	0	0	0	0	0	
MARQUETTE	58	33	79	20	46	14	.1	-.7	.1	3.8	107	6.5	87	83	40	0	0	0	0	0	0	
MUSKOGON	56	33	73	19	45	5	.3	-.4	.2	4.6	148	6.7	95	92	45	0	0	0	0	0	0	
SAULT ST. MARIE	49	27	69	15	38	5	.3	-.3	.1	3.8	154	5.9	94	97	51	0	0	0	0	0	0	
MN ALEXANDRIA	66	39	80	25	53	18	.4	-.4	.4	4.6	38	2.1	67	79	30	0	0	0	0	0	0	
DULUTH	60	34	79	13	47	14	.4	-.4	.4	1.2	55	2.3	54	76	31	0	0	0	0	0	0	
INT'L FALLS	62	33	81	17	47	16	.2	-.4	.2	1.3	97	3.0	104	84	31	0	0	0	0	0	0	
MINNEAPOLIS	68	41	86	29	54	15	.5	-.4	.4	2.3	113	3.8	104	72	28	0	0	0	0	0	0	
ROCHESTER	67	39	89	29	53	15	.1	-.5	.1	2.8	128	3.9	106	82	34	0	0	0	0	0	0	
MS GREENWOOD	74	51	81	32	63	2	.7	-.7	.7	4.6	62	17.6	103	92	41	0	0	0	0	0	0	
JACKSON	77	48	81	35	63	1	.7	-.3	.7	7.5	111	17.8	112	95	39	0	0	0	0	0	0	
MERIDIAN	79	47	83	34	63	2	.0	-.4	.0	6.5	83	19.7	113	93	34	0	0	0	0	0	0	
MO CAPE GIRARDEAU	71	48	79	29	60	6	.6	-.5	.4	3.8	64	9.9	83	89	45	0	0	0	0	0	0	
COLUMBIA	72	45	81	31	59	8	.1	-.8	.1	2.2	54	3.9	50	77	34	0	0	0	0	0	0	
KANSAS CITY	73	48	81	41	61	10	.7	-.7	.7	2.4	74	4.0	70	82	33	0	0	0	0	0	0	
SAINT LOUIS	73	50	85	37	61	10	.4	-.4	.4	3.6	91	6.1	79	67	30	0	0	0	0	0	0	
SPRINGFIELD	69	45	78	30	57	6	.4	-.5	.4	1.6	37	5.5	69	84	41	0	0	0	0	0	0	
MT BILLINGS	70	41	79	34	56	16	.7	-.3	.7	.7	50	2.0	66	58	19	0	0	0	0	0	0	
GLASGOW	69	38	79	30	54	17	.7	-.1	.7	1.2	165	1.2	113	76	21	0	0	0	0	0	0	
GRATY FALLS	63	38	70	28	51	13	.7	-.3	.7	1.2	106	2.1	73	60	24	0	0	0	0	0	0	
HAVRE	66	35	73	29	50	13	.0	-.2	.0	.5	73	1.0	58	72	23	0	0	0	0	0	0	
HELENA	64	36	70	27	50	12	.1	-.1	.0	1.0	112	1.3	64	75	25	0	0	0	0	0	0	
KALISPELL	57	33	64	25	45	7	.7	-.2	.7	.8	81	3.0	82	84	39	0	0	0	0	0	0	
MILES CITY	73	41	84	32	57	18	.7	-.2	.7	1.1	16	1.1	57	70	24	0	0	0	0	0	0	
MISSOULA	61	35	69	27	48	8	.7	-.2	.7	1.3	130	2.1	66	78	32	0	0	0	0	0	0	
NE GRAND ISLAND	77	43	90	32	60	16	.1	-.4	.1	1.9	94	2.4	75	78	25	1	1	0	0	0	0	
LINCOLN	77	45	87	31	61	16	.7	-.5	.7	2.6	109	3.7	90	80	26	0	0	0	0	0	0	
NORFOLK	77	43	91	30	60	17	.7	-.4	.7	1.9	104	3.3	104	78	25	1	1	0	0	0	0	
NORTH PLATTE	75	37	89	25	56	14	.7	-.3	.7	1.0	73	1.6	68	88	21	0	0	0	0	0	0	
OMAHA	75	47	87	36	61	15	.1	-.5	.1	4.3	182	5.7	143	72	35	0	0	0	0	0	0	
SCOTTSBLUFF	74	33	86	20	53	12	.0	-.3	.0	.5	42	1.4	67	75	19	0	0	0	0	0	0	
VALENTINE	77	37	89	24	57	17	.7	-.3	.7	1.8	161	2.5	133	74	19	0	0	0	0	0	0	
NV ELY	65	29	73	19	47	9	.7	-.2	.7	1.7	159	2.0	80	74	21	0	0	0	0	0	0	
LAS VEGAS	80	52	92	45	66	7	.0	-.1	.0	1.0	224	1.8	128	52	14	1	0	0	0	0	0	
RENO	67	35	75	29	51	8	.2	-.1	.2	1.6	193	1.8	61	75	19	0	0	0	0	0	0	
WINNEMUCCA	67	33	75	22	50	8	.7	-.2	.7	1.2	150	1.9	81	71	20	0	0	0	0	0	0	
NH CONCORD	60	26	79	14	43	4	.7	-.7	.7	3.1	86	6.3	72	93	30	0	0	0	0	0	0	
NJ ATLANTIC CITY	59	33	75	23	46	-1	.1	-.7	.1	5.6	118	11.9	104	97	39	0	0	0	0	0	0	
NM ALBUQUERQUE	74	39	83	29	56	5	.0	-.1	.0	.1	25	.8	60	53	13	0	0	0	0	0	0	
CLOVIS	73	43	79	26	58	6	.0	-.1	.0	.4	66	1.1	71	80	27	0	0	0	0	0	0	
ROSWELL	77	41	83	23	59	3	.7	-.1	.7	.9	9	.6	45	61	18	0	0	0	0	0	0	
NY ALBANY	58	33	75	18	45	4	.1	-.6	.0	2.6	72	6.4	78	87	34	0	0	0	0	0	0	
BINGHAMTON	53	33	72	18	43	4	.3	-.4	.2	3.7	105	8.0	96	87	42	0	0	0	0	0	0	
BUFFALO	53	34	67	24	44	3	.4	-.3	.2	6.4	179	10.5	117	88	43	0	0	0	0	0	0	
NEW YORK	57	41	77	32	49	2	.1	-.8	.1	3.8	79	8.8	80	78	40	0	0	0	0	0	0	
ROCHESTER	55	35	69	23	45	4	.2	-.4	.1	4.9	161	7.8	101	89	45	0	0	0	0	0	0	
SYRACUSE	57	34	76	21	45	4	.4	-.4	.2	4.5	119	8.5	95	89	39	0	0	0	0	0	0	
NC ASHEVILLE	66	38	77	29	52	0	.7	-.2	.6	6.8	124	11.8	99	94	43	0	0	0	0	0	0	
CHARLOTTE	70	46	77	36	58	2	.5	-.4	.5	7.6	138	15.0	115	79	37	0	0	0	0	0	0	
GREENSBORO	67	41	77	33	54	0	.1	-.7	.1	7.8	173	13.5	119	85	38	0	0	0	0	0	0	
HATTERAS	65	51	74	48	58	2	.7	-.8	.7	6.6	143	20.1	149	86	47	0	0	0	0	0	0	
NEW BERN	71	45	81	38	58	0	.7	-.7	.7	3.2	76	12.4	102	92	35	0	0	0	0	0	0	
RALIGH	69	42	81	36	56	0	.7	-.7	.7	4.6	108	9.5	84	90	32	0	0	0	0	0	0	
WILMINGTON	72	47	82	40	60	0	.7	-.7	.7	6.5	140	18.4	157	96	34	0	0	0	0	0	0	
ND BISMARCK	72	32	79	25	52	16	.7	-.3	.7	.6	68	1.0	55	79	20	0	0	0	0	0	0	
FARGO	70	39	82	23	55	19	.7	-.3	.7	1.0	89	2.6	125	78	27	0	0	0	0	0	0	
GRAND FORKS	69	37	80	24	53	20	.7	-.2	.7	.4	41	1.5	66	72	22	0	0	0	0	0	0	
WILLISTON	71	37	79	29	54	18	.7	-.2	.7	.5	60	1.0	58	68	19	0	0	0	0	0	0	
OH AKRON-CANTON	60	37	75	25	48	4	.2	-.5	.2	2.9	72	7.3	84	81	34	0	0	0	0	0	0	
CINCINNATI	64	40	78	24	52	3	.2	-.6	.2	6.4	138	13.2	126	81	38	0	0	0	0	0	0	
CLEVELAND	58	35	77	22	47	3	.3	-.5	.2	3.9	106	8.4	101	83	39	0	0	0	0	0	0	
COLUMBUS	62	37	78	24	50	3	.3	-.5	.2	4.2	109	8.5	96	80	33	0	0	0	0	0	0	

Based on 1951-80 normals

Weather Data for the Week Ending April 6, 1991

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	PRECIP.	
																		.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	61	38	77	25	50	3	.5	-.3	.4	5.7	153	10.8	129	92	33	0	3	2	0
TOLEDO	60	35	79	23	47	4	.3	-.4	.2	1.7	53	4.5	65	87	35	0	4	3	0
YOUNGSTOWN	59	33	75	18	46	3	.3	-.5	.3	2.9	72	6.5	73	86	38	0	4	3	0
OK OKLAHOMA CITY	72	48	80	37	60	4	.6	.0	.5	2.1	85	3.1	64	87	40	0	0	2	1
TULSA	75	50	81	43	63	6	1.4	.5	.8	2.4	61	4.2	61	86	40	0	0	2	2
OR ASTORIA	52	43	53	39	47	1	6.3	4.9	2.8	11.9	143	27.3	102	97	74	0	0	6	4
BURNS	59	31	66	20	45	5	.1	-.1	.1	.7	69	1.8	50	82	27	0	3	1	0
MEDFORD	60	41	68	36	50	3	.3	.0	.2	2.7	132	6.0	79	89	46	0	0	3	0
FENDLETON	62	42	70	34	52	5	.1	-.2	.1	1.0	82	2.6	64	76	36	0	0	1	0
PORTLAND	58	46	69	38	52	4	1.9	1.2	1.0	6.5	158	12.8	90	87	55	0	0	5	2
SALEM	58	43	69	33	50	4	1.8	1.1	.8	7.0	144	13.2	80	90	56	0	0	2	2
PA ALLENTOWN	58	33	76	24	45	0	.1	-.8	.1	3.8	82	7.7	70	90	39	0	5	2	0
ERIE	54	35	76	23	45	4	.2	-.6	.1	3.5	100	7.3	92	87	46	0	4	2	0
HARRISBURG	59	34	77	25	47	-1	.2	-.6	.1	3.7	89	7.6	78	85	39	0	4	2	0
PHILADELPHIA	59	38	76	33	49	0	.1	-.8	.1	4.2	92	9.1	86	89	43	0	0	2	0
PITTSBURGH	60	34	74	22	47	1	.1	-.8	.1	3.0	70	7.4	79	86	34	0	5	1	0
SCRANTON	56	34	75	22	45	2	.2	-.5	.1	3.1	96	6.0	80	84	38	0	4	3	0
RI PROVIDENCE	59	37	77	29	48	4	.1	-1.0	.1	6.6	130	12.4	96	90	38	0	1	1	1
SC CHARLESTON	73	51	79	47	62	1	.9	-.2	.9	5.6	113	14.3	123	98	39	0	0	1	1
COLUMBIA	75	47	79	38	61	1	.1	-.8	.1	7.7	129	15.1	105	93	36	0	0	1	0
FLORENCE	73	48	78	41	61	1	.1	-.7	.1	6.3	131	12.9	110	96	35	0	0	1	0
GREENVILLE	69	43	77	35	56	0	.5	-.7	.5	6.3	90	13.3	85	90	43	0	0	2	0
SD ABERDEEN	75	36	86	27	56	18	.0	-.4	.0	.8	60	1.6	66	79	21	0	2	0	0
HURON	75	37	88	26	56	17	.0	-.4	.0	.6	40	1.6	61	75	22	0	2	0	0
RAPID CITY	75	40	84	32	58	18	.7	-.4	.1	.6	48	1.7	74	61	16	0	1	0	0
SIoux FALLS	74	39	88	23	56	16	.0	-.5	.0	.9	44	1.4	42	74	25	0	2	0	0
TN CHATTANOOGA	73	45	80	34	59	3	.9	-.3	.9	7.5	102	18.4	106	92	32	0	0	2	1
KNOXVILLE	71	45	78	31	58	2	.6	-.5	.6	7.0	109	16.5	109	85	36	0	1	2	1
MEMPHIS	75	49	81	31	62	3	1.8	.5	1.1	5.5	84	14.9	96	88	42	0	1	2	2
NASHVILLE	73	47	81	28	60	5	.1	-1.0	.1	4.4	67	12.7	85	89	33	0	1	2	0
TX ABILENE	75	48	78	33	62	0	.0	-.4	.0	.5	35	3.4	39	88	37	0	0	0	0
AMARILLO	73	40	79	30	57	4	.0	-.2	.0	.4	42	1.3	63	84	20	0	1	0	0
AUSTIN	75	54	82	41	65	-1	3.3	2.8	1.8	4.2	194	16.4	264	94	53	0	0	3	2
BRAUNTON	75	57	80	42	66	0	2.1	1.2	1.5	4.5	119	23.9	198	96	58	0	0	2	2
BROWNSVILLE	80	63	85	54	71	-1	9.5	9.3	9.2	9.6	>1000	12.6	363	91	53	0	0	2	1
CORPUS CHRISTI	77	59	80	46	68	-2	3.7	3.4	2.7	5.3	506	9.0	219	94	61	0	0	3	2
DEL RIO	75	55	80	41	65	-3	1.8	1.5	1.7	1.8	201	3.2	136	73	42	0	0	2	1
EL PASO	78	41	84	26	59	-1	.1	-.1	.1	.1	29	1.6	136	59	14	0	1	0	0
FORT WORTH	76	53	82	42	64	2	.1	-.8	.1	1.4	44	6.7	101	87	43	0	0	1	0
GALVESTON	72	62	75	51	67	1	1.6	1.0	1.5	2.8	107	19.8	251	90	64	0	0	2	1
HOUSTON	74	54	79	40	64	-2	4.5	3.8	2.6	6.3	191	21.8	217	96	57	0	0	3	2
LUBBOCK	76	42	80	28	59	3	.0	-.2	.0	.1	8	1.8	91	85	23	0	1	0	0
MIDLAND	75	43	83	31	59	-1	.1	-.1	.1	.1	2	2.0	133	88	25	0	1	1	0
SAN ANGELO	74	46	80	31	60	-3	.2	-.1	.1	.1	77	3.1	127	94	41	0	1	2	2
SAN ANTONIO	74	55	81	41	65	-2	3.6	3.2	2.5	4.7	270	12.1	238	96	52	0	0	3	2
VICTORIA	76	58	83	45	67	-1	10.0	9.6	9.9	13.2	778	24.0	415	95	57	0	0	2	1
WACO	76	55	84	40	65	2	.1	-.7	.1	.9	36	5.5	88	87	47	0	0	0	0
WICHITA FALLS	75	47	79	36	61	1	.1	-.5	.1	.7	31	3.4	81	89	39	0	0	1	0
UT CEDAR CITY	67	34	74	26	51	7	.1	-.1	.1	.7	58	1.8	67	73	16	0	3	1	0
SALT LAKE CITY	69	43	80	32	56	11	.1	-.4	.1	1.2	56	2.9	61	70	22	0	1	1	0
VT BURLINGTON	56	33	74	16	45	7	.1	-.5	.1	2.7	99	4.9	78	84	35	0	4	1	0
VA NORFOLK	64	43	74	35	53	-1	.1	-.7	.1	4.7	107	10.3	90	87	36	0	0	1	0
RICHMOND	66	38	79	32	52	-2	.1	-.7	.1	5.9	141	10.6	101	91	31	0	1	1	0
ROANOKE	65	38	80	29	52	0	.1	-.7	.1	7.6	176	13.3	129	80	32	0	2	1	0
WA QUILLAYUTE	48	40	50	37	44	0	4.7	2.6	2.3	11.5	84	40.9	102	100	83	0	0	0	7
SEATTLE-TACOMA	52	42	61	39	47	1	5.1	4.5	2.8	9.8	236	18.9	132	98	74	0	0	5	3
SPOKANE	55	36	69	28	46	4	.8	.6	.4	3.1	201	5.7	101	89	47	0	2	4	0
YAKIMA	62	38	70	24	50	4	.1	-.1	.1	1.2	169	1.8	63	87	41	0	2	1	0
WV BECKLEY	61	36	74	16	48	1	.4	-.5	.4	7.0	148	13.6	121	79	33	0	2	1	0
CHARLESTON	67	37	81	21	52	1	.4	-.5	.4	6.5	137	12.1	108	82	26	0	3	1	0
HUFFINGTON	67	39	80	23	53	1	.3	-.6	.2	8.0	168	13.7	127	80	27	0	2	3	0
FARMERSBURG	64	36	77	25	50	0	.2	-.6	.2	5.0	118	10.4	108	85	29	0	3	1	0
WI GREEN BAY	61	36	84	25	49	11	.1	-.5	.0	2.9	122	3.9	85	91	36	0	4	2	0
LACROSSE	67	42	91	25	55	14	.1	-.6	.1	2.2	93	3.6	86	77	31	1	2	1	0
MADISON	64	36	85	23	50	9	.1	-.6	.1	4.2	158	5.9	122	87	36	0	3	1	0
MILWAUKEE	60	40	85	28	50	10	.2	-.6	.1	4.1	127	6.0	98	88	38	0	3	2	0
WAUSAU	62	36	85	23	49	12	.2	-.4	.2	4.5	188	5.8	135	88	34	0	3	2	0
WY CASPER	69	37	77	31	53	15	.0	-.3	.0	.5	37	1.4	61	62	17	0	1	0	0
CHEYENNE	66	35	72	24	51	13	.0	-.2	.0	.4	37	.9	47	58	16	0	2	0	0
LANDER	68	38	77	29	53	15	.0	-.4	.0	.4	27	1.5	60	54	16	0	1	0	0
SHERIDAN	70	37	78	28	54	16	.0	-.4	.0	1.1	79	2.6	88	66	21	0	2	0	0

Based on 1951-80 normals

## March Weather and Crop Summary

### Weather

A major shift in the North American weather pattern occurred in late February. After a moisture-laden surge of subtropical air brought rain and snow to California, a strong, semi-permanent trough of low pressure took residence off the coast. This provided the impetus for strong storms to form in the West and track across the Nation. The storms dropped abundant moisture on California, added to snowpack in the central and southern Rockies, and delivered sporadic precipitation to the Plains. Precipitation was generally below normal in the Dakotas, southeastern Montana, Kansas, eastern Oklahoma, and northern Texas. Much of the Nation east of the Mississippi River had wetter-than-normal conditions in March. As the storms churned eastward out of the Rockies, frequent severe thunderstorm outbreaks plagued the Plains, the Midwest, and the Southeast. Tornadoes touched down in most States between the Rockies and the Appalachians.

Polar air repeatedly spilled into the West Coast States and the Southwest behind storm centers, holding temperatures well below normal. But temperatures averaged above normal in all locations east of the Rocky Divide. Frequent southerly winds ahead of storm systems and a lack of polar air intrusions allowed for prolonged warm spells. The warmth was especially notable in the northern and central Plains, where temperatures averaged 4 to 7° F above normal.

In late February and early March, a strong high pressure ridge off the west coast began to drift northwestward. In the void it left behind, a series of storms formed in the Gulf of Alaska and plunged southeastward into California. The seemingly endless supply of cold Pacific energy fueled the Nation's active weather pattern.

California welcomed heavy precipitation during the first 5 days of March. The early-month storms raced eastward, touching off tornadoes along the Gulf coast. A major ice storm damaged orchard trees and knocked out power in New York. The Nation's first 100° F reading of the spring was reported in Laredo, TX, on the 5th. But chilly air began to filter into the eastern two-thirds of the Nation on the 6th. Tallahassee, FL, cooled to 27° F on the 10th.

Active weather returned nationwide during the middle third of the month. Two consecutive storms hit California with heavy rain and snow, hail, and rare tornadoes. High winds swirling around a low pressure center whipped up a dust storm in the central and southern Plains. The same storm dumped heavy snow from eastern Nebraska to Indiana.

Storms turned increasingly destructive during the final 10 days of March. On the 21st and 22nd, tornadoes struck the western Corn Belt and a corridor from Texas to Tennessee. The same storm center was responsible for up to 17 inches of snow in Minnesota and the spreading of wildfires in Oklahoma and the Carolinas. A final flurry of storminess swept across the Nation during the final days of the month. Up to 4 feet of snow fell in the Sierra Nevada of California, and high winds raked the West. Another dust storm swept across Kansas, and blizzard conditions immobilized

portions of Nebraska and Iowa. Tornadoes tore through the upper Midwest on the 27th. Two days later, twisters and widespread flooding made for a rough day in the Southeast. But after the month-long spate of chaotic weather, March ended quietly, with flurries around the upper Great Lakes and showers in Florida.

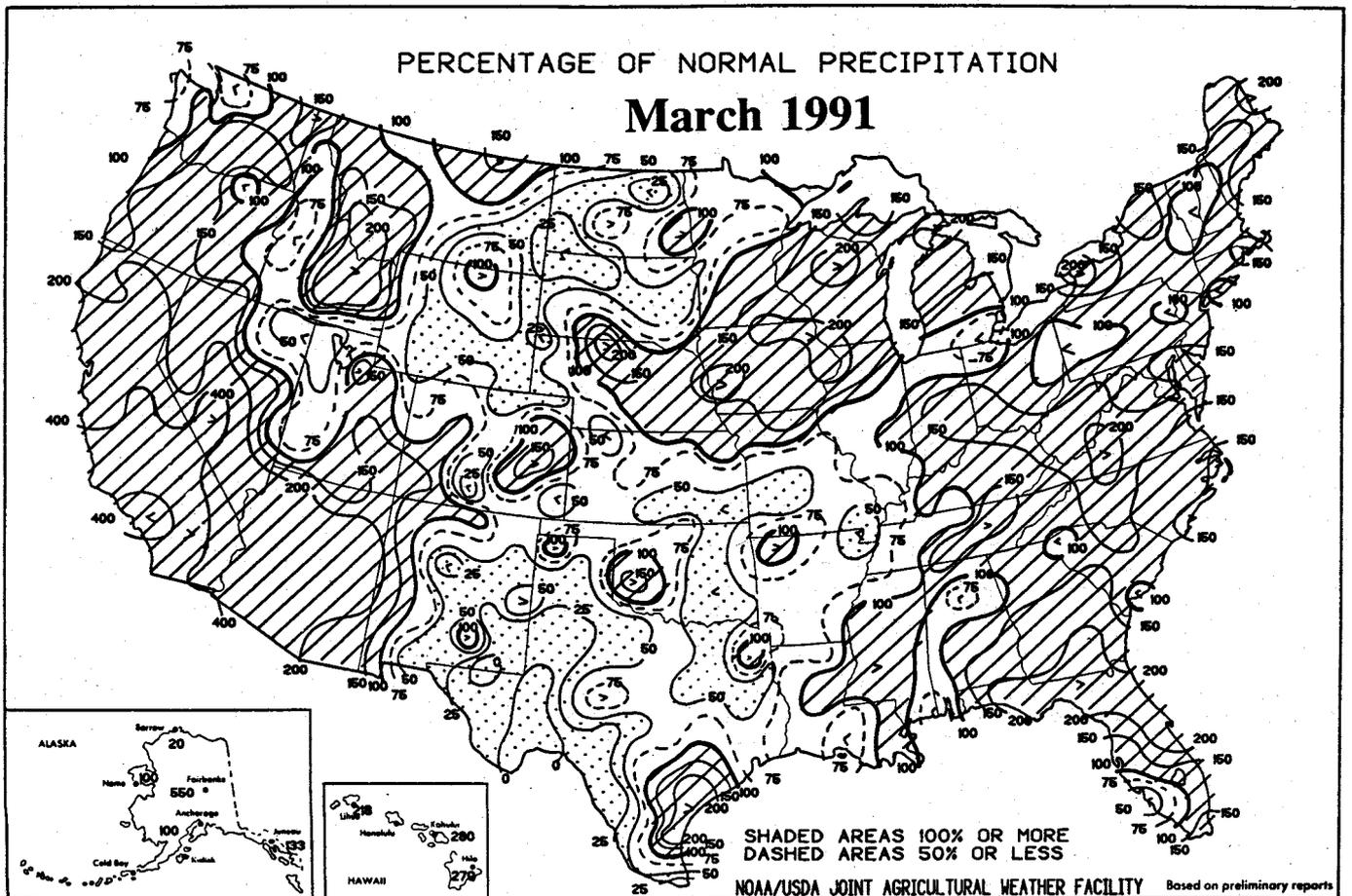
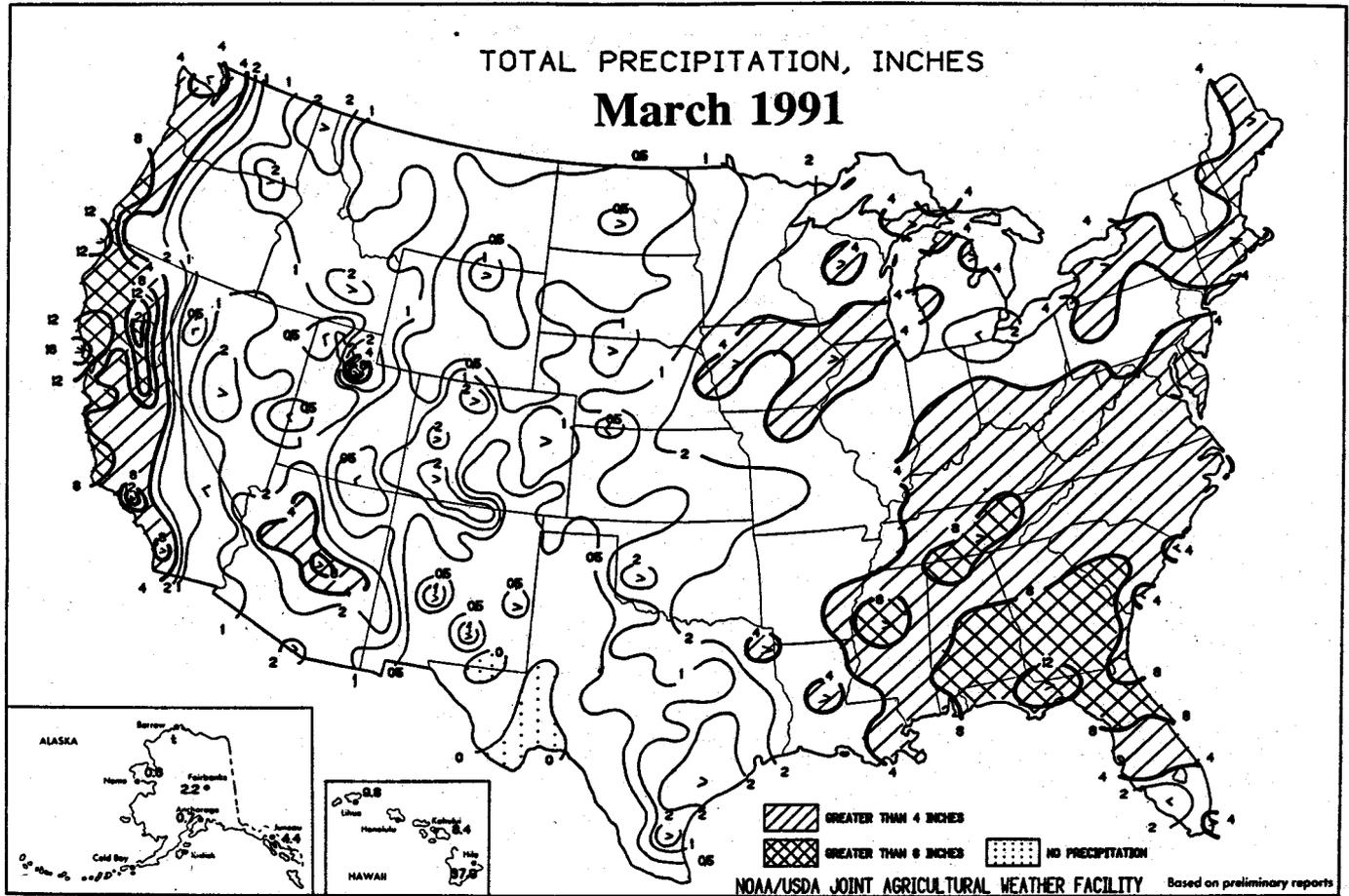
### Fieldwork

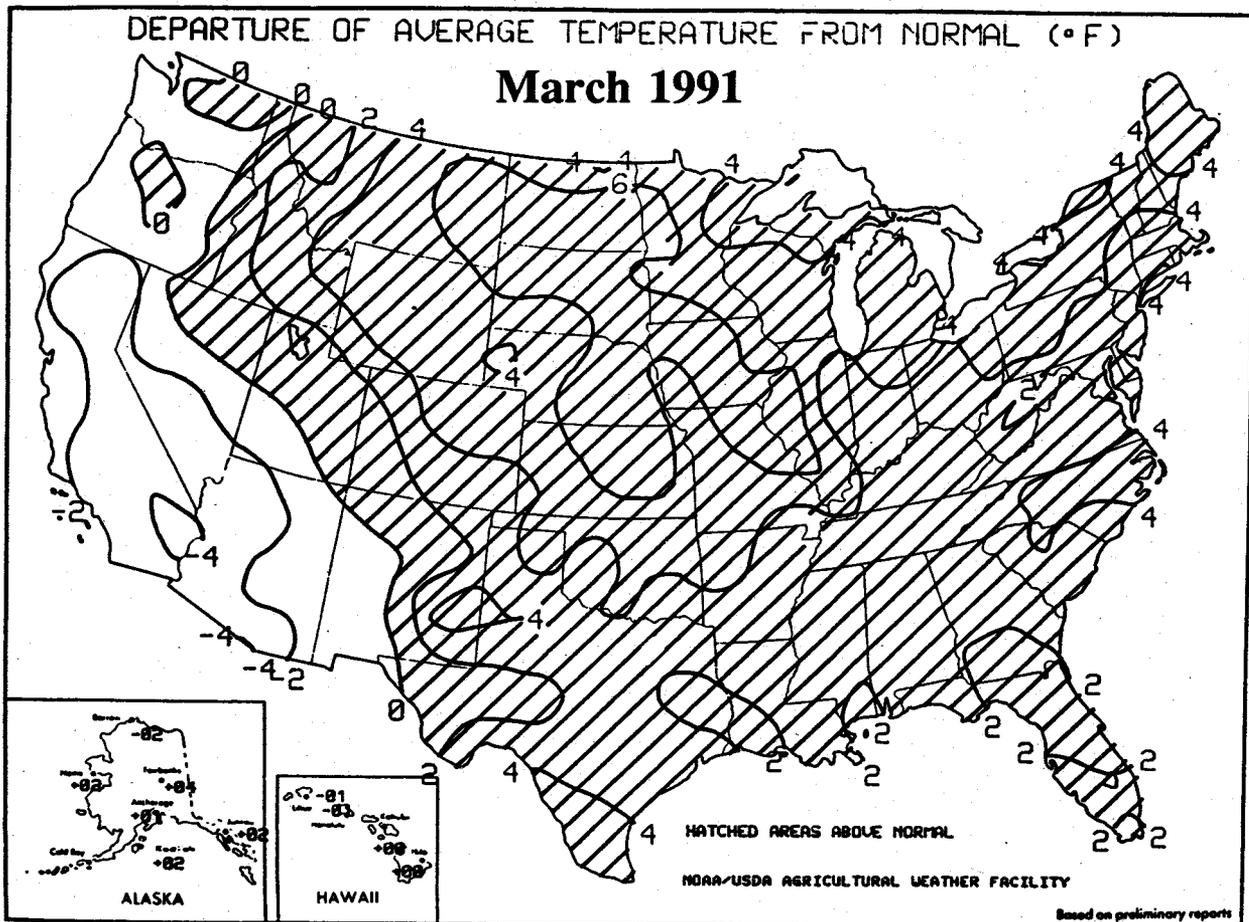
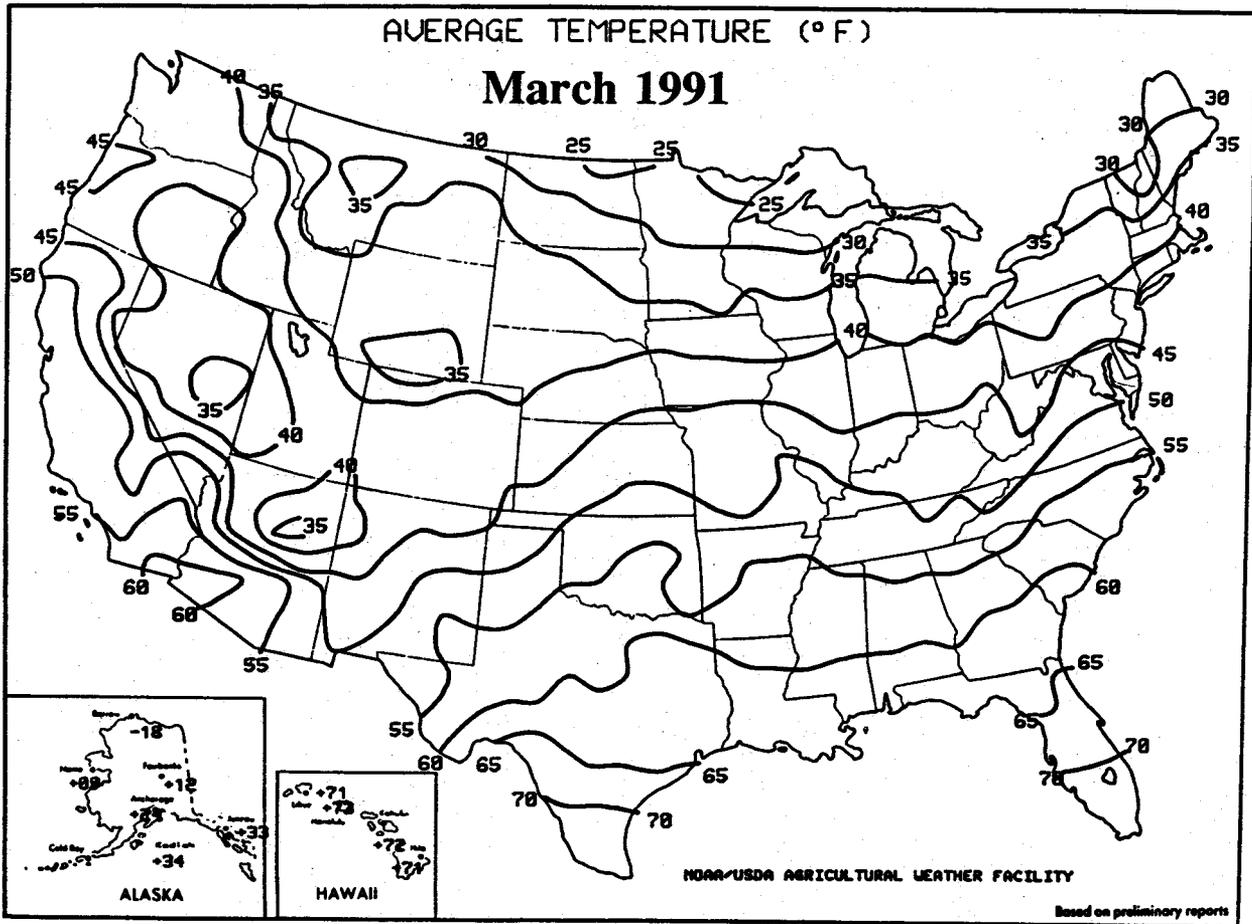
Rains in California during March interrupted field activities as one weather system after another brought welcome moisture. The Plains and portions of the Mountain States experienced less-than-normal precipitation. A combination of high winds and dry soil caused blowing dust during the middle of the month from Nebraska to the Texas High Plains. However, Iowa had the wettest week in 2 months during that same period.

As March began, a few fields of corn were planted in Alabama, Florida, and Georgia. Sorghum and corn planting continued in south Texas, with showers causing a few delays. South Carolina tobacco plants in beds began to grow and were in good condition. Rice planting began in Louisiana. By mid-March, Alabama corn planting was 17 percent(%) complete, 6 percentage points behind normal. Georgia corn was 8% planted, compared with 22% for the average. Arizona cotton was 2% planted. Precipitation and low temperatures slowed planting. Arkansas rice planting began. Louisiana rice was 9% planted and 4% emerged. Blackbirds continued to be a problem in newly emerged rice fields. The safflower crop began to emerge in California. By the end of the month, corn in Alabama and Georgia was over 40% planted. Cotton in Texas was 7% planted, 2 points behind normal. Kentucky had considerable soil erosion from heavy winter rains. Tennessee tobacco was 80% seeded, 1 point behind normal, with 24% of the crop emerged. Colorado and Nebraska sugarbeet planting had begun. Top soil moisture in North Dakota was short to very short.

### Winter Wheat

The winter wheat crop was in mostly good condition. Producers topdressed the wheat crop as weather permitted. Early in March, rains benefited the crop on the west coast. Winter wheat was breaking dormancy due to the warm weather in most Southern Plains States. Army cutworms caused moderate damage to wheat in some areas of Kansas. Texas wheat continued to show signs of good progress. However, dry weather, cutworms, and greenbugs concerned producers in the High Plains. By mid-March, the wheat crop was greening in parts of Kansas, Indiana, and eastern Montana. Rains helped revive some drought-stressed wheat in Washington, but the crop was in mostly very poor condition. Army cutworm damage was evident in western Oklahoma. Toward the end of March, rains boosted the wheat condition to mostly good to excellent in Kansas. Army cutworms continued to be a problem, but control measures were reducing the numbers. Irrigated fields in Texas showed good growth, while the dryland fields continued to endure drought-like conditions. Thirty percent of the Oklahoma wheat crop was jointed, 10 points ahead of normal. Montana wheat was green and growing, but eastern counties were critically dry.





# TEMPERATURE AND PRECIPITATION SUMMARY MARCH 1991

STATES AND STATIONS	Temp. °F		Precip.		STATES AND STATIONS	Temp. °F		Precip.		STATES AND STATIONS	Temp. °F		Precip.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	56	2	4.8	-1.8	LA PADUCAH	51	5	3.6	-1.4	DAYTON	43	3	5.3	2.3
HUNTSVILLE	54	3	9.3	2.5	LA ALEXANDRIA	61	2	6.8	1.9	MANSFIELD	41	4	3.6	0.6
MOBILE	62	2	4.8	-1.6	BATON ROUGE	63	3	3.2	-1.4	TOLEDO	40	5	1.4	-1.2
MONTGOMERY	59	2	8.4	2.5	LAKE CHARLES	62	1	2.4	-0.8	YOUNGSTOWN	41	6	2.6	-0.7
AK ANCHORAGE	24	1	0.7	0.0	NEW ORLEANS	64	3	6.3	1.6	OK OKLAHOMA CITY	54	5	1.6	-0.5
BARROW	-17	-2	T	-0.1	SHREVEPORT	60	3	2.9	-0.9	TULSA	55	6	1.0	-2.1
FAIRBANKS	12	4	2.2	1.8	ME CARIBOU	27	3	4.7	2.3	OR ASTORIA	43	-1	5.6	-1.6
JUNEAU	33	2	4.4	1.1	PORTLAND	37	5	6.2	2.2	BURNS	36	-1	1.0	0.1
KODIAK	34	2	0.7	-3.3	MD BALTIMORE	47	3	5.6	2.0	MEDFORD	46	0	2.4	0.6
NOME	9	2	0.6	0.0	MA SALISBURY	47	3	6.5	2.4	PENDLETON	43	-1	1.0	0.0
AZ FLAGSTAFF	32	-3	6.0	3.9	BOSTON	42	4	4.3	0.2	PORTLAND	46	0	4.6	1.0
PHOENIX	60	0	2.0	1.2	CHATHAM	40	3	4.6	0.7	SALEM	45	0	5.2	0.9
PRESCOTT	41	-2	4.0	2.5	MI ALPENA	31	3	3.0	1.2	PA ALLENTOWN	42	4	3.7	-0.2
TUCSON	55	-2	1.4	0.7	DETROIT	40	5	1.4	-1.1	ERIE	39	5	3.4	0.5
WINSLOW	42	-3	1.6	1.1	FLINT	38	5	2.9	0.8	HARRISBURG	44	3	3.6	0.1
YUMA	62	-2	0.8	0.6	GRAND RAPIDS	38	4	3.6	1.0	PHILADELPHIA	46	4	4.1	0.3
AR FORT SMITH	55	4	3.9	0.0	HOGHTON LAKE	33	6	3.0	1.1	PITTSBURGH	43	4	2.9	-0.6
LITTLE ROCK	56	4	2.8	-1.9	LANSING	38	4	3.8	1.4	SCRANTON	40	4	2.9	0.3
CA BAKERSFIELD	53	-4	4.3	3.4	MARQUETTE	27	3	3.8	0.9	WILLIAMSPORT	42	4	3.8	0.2
BISHOP	42	-5	2.9	2.5	MUSKOGON	38	5	4.4	1.9	RI PROVIDENCE	41	4	6.6	2.3
EUREKA	48	0	8.9	3.9	SAULT ST. MARIE	27	3	3.7	1.7	SC CHARLESTON	60	4	4.7	0.3
FRESNO	51	-3	7.2	5.6	MN ALEXANDRIA	30	6	0.6	-0.6	COLUMBIA	58	4	7.6	2.4
LOS ANGELES	55	-3	4.0	2.2	DULUTH	26	2	1.2	-0.6	FLORENCE	58	3	6.2	2.0
REDDING	49	-5	9.7	4.7	INT'L FALLS	25	5	1.1	0.0	GREENVILLE	53	2	5.8	-0.2
SACRAMENTO	51	-2	6.2	4.2	MNNEAPOLIS	34	5	2.3	0.6	SD ABERDEEN	34	6	0.8	-0.2
SAN DIEGO	57	-2	7.0	5.4	ROCHESTER	34	5	2.8	1.0	HURON	36	6	0.6	-0.6
SAN FRANCISCO	52	0	6.1	3.4	ST CLOUD	32	6	1.8	0.4	RAPID CITY	38	6	0.6	-0.4
STOCKTON	52	-2	5.4	3.6	MS GREENWOOD	57	2	3.9	-2.4	SIoux FALLS	37	6	0.9	-0.7
ALAMOSA	34	2	0.3	-1.1	JACKSON	59	3	7.5	1.9	TN BRISTOL	49	3	6.3	2.0
CO. SPRINGS	40	3	0.4	-0.4	MERIDIAN	59	3	6.5	-0.1	CHATTANOOGA	54	4	6.6	0.3
DENVER	43	5	0.8	-0.4	TUPELO	55	3	6.3	-0.7	KNOXVILLE	52	2	6.4	0.9
GRAND JUNCTION	42	0	0.7	0.0	MO CAPE GIRARDEAU	—	—	3.2	-1.8	MEMPHIS	55	4	3.7	-1.7
PUEBLO	43	3	0.7	0.1	COLUMBIA	49	6	2.1	-1.2	NASHVILLE	53	4	4.2	-1.3
CT BRIDGEPORT	42	4	4.1	0.2	KANSAS CITY	47	5	2.4	-0.3	TX ABILENE	59	3	0.5	-0.6
HARTFORD	40	3	4.5	0.4	SAINT LOUIS	50	7	3.2	-0.1	AMARILLO	50	3	0.4	-0.4
DC WASHINGTON	49	3	4.4	1.0	SPRINGFIELD	49	4	1.1	-2.3	AUSTIN	64	3	0.9	-0.8
FL APALACHICOLA	63	3	11.4	7.3	MT BILLINGS	38	5	0.6	-0.4	BEAUMONT	64	4	2.4	-0.6
DAYTONA BEACH	66	1	8.1	5.1	GLASGOW	34	6	0.6	0.3	BROWNSVILLE	73	5	T	-0.5
FT. MYERS	72	3	1.1	-1.8	GREAT FALLS	35	3	1.2	0.3	CORPUS CHRISTI	70	4	1.6	0.8
JACKSONVILLE	65	2	7.3	3.9	HAVRE	34	4	0.5	0.0	DEL RIO	67	3	T	-0.6
KEY WEST	76	2	2.9	1.7	HELENA	35	3	0.9	0.2	EL PASO	54	-1	0.1	-0.2
MIAMI	74	2	2.3	0.4	KALISPELL	33	1	0.8	0.0	FORT WORTH	60	4	1.4	-1.0
ORLANDO	68	1	6.7	3.4	MILES CITY	38	7	0.1	-0.5	GALVESTON	65	3	1.2	-0.9
TALLAHASSEE	62	2	12.6	7.0	MISSOULA	36	1	1.2	0.4	HOUSTON	64	2	1.8	-0.9
TAMPA	68	2	4.7	1.3	NE GRAND ISLAND	42	6	1.8	0.2	LAREDO	72	4	0.2	-0.2
WEST PALM BEACH	73	2	3.4	0.7	LINCOLN	44	8	2.6	0.7	LUBBOCK	54	4	0.1	-0.8
GA ATHEN	56	4	6.1	0.3	NORFOLK	40	7	1.9	0.4	MIDLAND	57	2	T	-0.5
ATLANTA	56	4	7.0	1.1	NORFOLK	40	7	1.9	0.4	SAN ANGELO	59	1	0.6	-0.2
AUGUSTA	58	3	8.5	3.6	NORFOLK	40	7	1.9	0.4	SAN ANTONIO	64	2	1.1	-0.2
MACON	60	3	10.0	4.8	OMAHA	42	5	4.2	2.4	VICTORIA	66	2	3.2	1.9
SAVANNAH	62	4	5.5	1.6	SCOTTSBLUFF	39	4	0.5	-0.5	WACO	61	3	0.9	-1.0
HI HILO	71	0	37.9	24.3	VALENTINE	38	5	1.8	0.9	WICHITA FALLS	57	4	0.7	-1.1
HONOLULU	73	-1	6.2	2.8	NV ELKO	37	1	0.6	-0.3	UT Blanding	—	—	1.4	0.6
KAHULUI	72	0	8.4	5.4	KLY	33	0	1.7	0.8	CEDAR CITY	37	-2	0.6	-0.4
LIHUE	71	-1	9.8	5.3	LAS VEGAS	53	-2	1.0	0.6	SALT LAKE CITY	43	2	1.1	-0.6
ID BOISE	43	2	0.6	-0.5	RENO	40	-1	1.4	0.7	VT BURLINGTON	34	4	2.6	0.4
LEWISTON	45	3	1.1	0.1	WINNEVOCA	39	1	1.2	-0.5	VA LYNCHBURG	50	4	6.7	3.0
POCATELLO	38	3	2.2	1.3	NH CONCORD	36	4	3.0	0.1	NORFOLK	53	4	4.7	0.9
IL CAIRO	—	—	3.3	-1.7	NJ ATLANTIC CITY	44	2	5.5	1.5	RICHMOND	51	4	5.9	2.3
CHICAGO	40	4	3.5	0.8	NM ALBUQUERQUE	46	0	0.1	-0.4	ROANOKE	49	3	7.6	3.9
MOLINE	42	6	6.3	3.6	CLOVIS	51	4	0.4	-0.1	WA COLVILLE	35	-2	1.2	0.0
PEORIA	43	5	3.7	0.8	ROSNELL	55	4	T	-0.4	QUILLAYUTE	42	-1	6.9	-5.1
QUINCY	46	7	2.7	-0.4	ALBANY	37	4	2.5	-0.5	SEATTLE-TACOMA	44	0	4.7	1.1
ROCKFORD	39	5	4.8	2.2	BINGHAMTON	36	4	3.4	0.5	SPOKANE	37	0	2.3	1.0
SPRINGFIELD	45	5	2.6	-0.4	BUFFALO	38	4	6.0	3.0	WALLA WALLA	—	—	2.5	1.4
IN EVANSVILLE	48	3	4.3	-0.3	NEW YORK	45	4	3.7	-0.4	YAKIMA	41	-1	1.2	0.5
FORT WAYNE	41	5	2.8	-0.1	ROCHESTER	37	4	4.7	2.2	BECKLEY	44	3	6.6	2.6
INDIANAPOLIS	44	4	6.4	2.8	SYRACUSE	38	4	4.1	1.0	CHARLESTON	47	2	6.1	2.1
SOUTH BEND	42	5	2.8	-0.2	ASHEVILLE	50	3	6.1	1.4	ELKINS	41	2	5.9	.2
IA DES MOINES	42	7	3.9	1.7	CHARLOTTE	55	5	7.2	2.4	HUNTINGTON	48	3	7.7	3.7
DUBUQUE	38	6	5.8	2.9	GREENSBORO	52	4	7.8	3.9	PARKERSBURG	46	2	4.8	1.2
SIoux CITY	40	6	2.0	0.3	HATTIESBURG	56	5	6.6	2.6	WI GREEN BAY	34	5	2.9	1.0
WATERLOO	38	6	4.0	1.8	NEW HERRN	56	3	3.2	-0.5	LA CROSSE	37	5	2.2	0.3
KS CONCORDIA	47	6	2.1	0.3	RALEIGH	54	5	4.6	0.9	MADISON	37	5	4.2	2.1
DODGE CITY	47	5	1.0	-0.4	WILMINGTON	58	3	6.5	2.5	MILWAUKEE	38	6	4.1	1.5
GOODLAND	42	5	1.1	0.1	BISMARCK	33	6	0.6	-0.1	WAUSAU	31	4	4.5	2.6
TOPEKA	48	6	3.0	0.8	FARGO	30	6	1.0	0.2	NY CASPER	37	5	0.4	-0.5
WICHITA	50	6	0.7	-1.4	GRAND FORKS	29	7	0.4	-0.4	CHEYENNE	36	5	0.4	-0.5
KY BOWLING GREEN	50	3	4.6	-0.9	WILLISTON	33	7	0.4	-0.1	LANDER	38	6	0.4	-0.7
JACKSON	49	8	6.1	1.5	AKRON-CANTON	43	6	2.7	-0.7	SHERIDAN	37	5	1.1	0.0
LEXINGTON	47	3	5.8	1.0	CINCINNATI	45	3	6.2	2.3	PR SAN JUAN	78	1	2.0	-0.2
LOUISVILLE	49	4	4.8	0.1	CLEVELAND	41	4	3.6	0.7					
					COLUMBUS	44	4	4.0	0.8					

Based on 1951-80 normals

## Heating Degree Days (Base 65°) For March 1991

States and Stations	TOTAL	Depart Normal	States and Stations	TOTAL	Depart Normal	States and Stations	TOTAL	Depart Normal
AL. Birmingham . . .	304	-64	MD. Baltimore . . .	562	-111	OK. Okla. City . . .	339	-167
AL. Mobile . . .	156	-35	MA. Boston . . .	721	-104	OK. Tulsa . . .	327	-173
AL. Montgomery . . .	224	-60	MI. Chatham . . .	769	-105	OR. Astoria . . .	667	28
AK. Anchorage . . .	1273	-7	MI. Alpena . . .	1040	-144	OR. Burns . . .	902	18
AK. Barrow . . .	2568	60	MI. Detroit . . .	761	-169	OR. Medford . . .	588	-17
AK. Fairbanks . . .	1640	-112	MI. Flint . . .	838	-182	OR. Pendleton . . .	689	35
AK. Nome . . .	1743	-67	MI. Grand Rapids . . .	830	-159	OR. Portland . . .	575	-17
AZ. Flagstaff . . .	1007	61	MI. Houghton Lake . . .	985	-181	OR. Salem . . .	624	-2
AZ. Phoenix . . .	161	-26	MI. Lansing . . .	841	-151	PA. Allentown . . .	696	-126
AZ. Tucson . . .	296	50	MI. Marquette . . .	1182	-114	PA. Erie . . .	800	-177
AZ. Winslow . . .	723	100	MI. S. Ste. Marie . . .	1169	-105	PA. Harrisburg . . .	651	-105
AZ. Yuma . . .	119	15	MN. Duluth . . .	1201	-104	PA. Philadelphia . . .	576	-143
AR. Fort Smith . . .	324	-137	MN. Internatl Falls . . .	1219	-161	PA. Pittsburg . . .	674	-148
AR. Little Rock . . .	290	-127	MN. Minneapolis . . .	945	-165	PA. Scranton . . .	757	-139
CA. Bakersfield . . .	368	113	MO. Rochester . . .	950	-197	RI. Providence . . .	726	-130
CA. Eureka . . .	516	-2	MO. St. Cloud . . .	1029	-189	SC. Charleston . . .	185	-101
CA. Fresno . . .	412	76	MS. Jackson . . .	229	-74	SC. Columbia . . .	233	-113
CA. Los Angeles . . .	303	63	MO. Meridian . . .	223	-89	SC. Greenville . . .	358	-84
CA. Redding . . .	499	166	MO. Columbia . . .	511	-211	SD. Aberdeen . . .	961	-195
CA. Stockton . . .	405	55	MO. Kansas City . . .	553	-176	SD. Huron . . .	898	-206
CA. San Diego . . .	254	61	MO. St. Louis . . .	474	-202	SD. Rapid City . . .	815	-189
CA. San Francisco . . .	387	9	MO. Springfield . . .	508	-132	SD. Sioux Falls . . .	859	-214
CO. Denver . . .	682	-155	MT. Billings . . .	814	-153	TN. Chattanooga . . .	349	-129
CO. Pueblo . . .	667	-89	MT. Glasgow . . .	962	-241	TN. Knoxville . . .	405	-78
CO. Bridgeport . . .	700	-131	MT. Great Falls . . .	922	-120	TN. Memphis . . .	329	-104
CO. Hartford . . .	755	-119	MT. Havre . . .	963	-172	TN. Nashville . . .	402	-108
DC. Washington . . .	502	-93	MT. Helena . . .	914	-121	TX. Abilene . . .	224	-97
FL. Apalachicola . . .	108	-60	MT. Kalispell . . .	985	-41	TX. Amarillo . . .	467	-110
FL. Jacksonville . . .	100	-16	MT. Miles City . . .	840	-205	TX. Austin . . .	110	-93
FL. Key West . . .	2	-37	MT. Missoula . . .	898	-60	TX. Beaumont . . .	113	-54
FL. Miami . . .	5	-9	NE. Grand Island . . .	708	-194	TX. Brownsville . . .	5	-48
FL. Orlando . . .	52	-16	NE. Lincoln . . .	641	-246	TX. Corpus Christi . . .	19	-78
FL. W. Palm Beach . . .	17	-1	NE. Norfolk . . .	755	-222	TX. Del Rio . . .	58	-87
FL. Tallahassee . . .	149	-42	NE. North Platte . . .	754	-185	TX. El Paso . . .	336	18
FL. Tampa . . .	46	-41	NE. Omaha . . .	699	-225	TX. Fort Worth . . .	198	-115
GA. Atlanta . . .	281	-119	NE. Valentine . . .	847	-182	TX. Galveston . . .	65	-95
GA. Augusta . . .	223	-109	NV. Ely . . .	987	7	TX. Houston . . .	115	-60
GA. Macon . . .	201	-86	NV. Las Vegas . . .	376	63	TX. Lubbock . . .	340	-130
GA. Savannah . . .	139	-104	NV. Reno . . .	772	16	TX. Midland . . .	260	-69
ID. Boise . . .	676	-56	NV. Winnemucca . . .	796	-19	TX. San Angelo . . .	214	-60
ID. Lewiston . . .	601	-84	NH. Concord . . .	893	-127	TX. San Antonio . . .	96	-82
ID. Pocatello . . .	813	-102	NJ. Atlantic City . . .	649	-95	TX. Victoria . . .	61	-79
IL. Chicago . . .	756	-143	NM. Albuquerque . . .	581	-2	TX. Waco . . .	177	-80
IL. Moline . . .	719	-189	NY. Albany . . .	850	-123	TX. Wichita Falls . . .	265	-123
IL. Peoria . . .	683	-176	NY. Binghamton . . .	893	-149	UT. Salt Lake City . . .	682	-71
IL. Rockford . . .	798	-169	NY. Buffalo . . .	836	-156	VT. Burlington . . .	954	-156
IL. Springfield . . .	612	-175	NY. New York . . .	619	-125	VA. Lynchburg . . .	469	-129
IL. Fort Wayne . . .	730	-150	NY. Rochester . . .	862	-121	VA. Norfolk . . .	386	-126
IL. Indianapolis . . .	651	-124	NY. Syracuse . . .	839	-144	VA. Richmond . . .	443	-109
IL. South Bend . . .	722	-177	NC. Asheville . . .	472	-105	VA. Roanoke . . .	486	-100
IA. Des Moines . . .	699	-228	NC. Charlotte . . .	313	-146	WA. Quillayute . . .	710	3
IA. Dubuque . . .	833	-190	NC. Greensboro . . .	391	-142	WA. Seattle-Tacoma . . .	639	-6
IA. Souix City . . .	759	-208	NC. Hatteras . . .	281	-156	WA. Spokane . . .	866	17
KS. Concordia . . .	571	-207	NC. Raleigh . . .	354	-142	WA. Walla Walla . . .		
KS. Dodge City . . .	555	-155	NC. Wilmington . . .	265	-85	WA. Yakima . . .	749	33
KS. Goodland . . .	718	-144	ND. Bismark . . .	995	-214	WV Beckley . . .	636	-108
KS. Topeka . . .	523	-196	ND. Fargo . . .	1066	-205	WV Charleston . . .	558	-68
KS. Wichita . . .	475	-181	ND. Williston . . .	997	-234	WV Huntington . . .	533	-84
KY. Lexington . . .	544	-117	OH. Akron-Canton . . .	684	-193	WI. Green Bay . . .	967	-161
KY. Louisville . . .	482	-142	OH. Cincinnati . . .	602	-117	WI. La Crosse . . .	867	-181
LA. Baton Rouge . . .	146	-41	OH. Cleveland . . .	748	-132	WI. Madison . . .	868	-180
LA. Lake Charles . . .	143	-41	OH. Columbus . . .	649	-126	WI. Milwaukee . . .	822	-198
LA. New Orleans . . .	105	-66	OH. Dayton . . .	678	-113	WY Casper . . .	875	-151
LA. Shreveport . . .	197	-85	OH. Toledo . . .	758	-160	WY Cheyenne . . .	879	-141
ME. Caribou . . .	1172	-90	OH. Youngstown . . .	745	-176	WY Lander . . .	844	-176
ME. Portland . . .	861	-159				WY Sheridan . . .	858	-168

Based on 1951-80 normals.

March Weather in Historical Perspective

Temperatures and precipitation for March 1991 averaged well above normal for the Nation. It was the 26th warmest March on record and marked the seventh consecutive March with above-normal temperatures (fig. 1). Based on areally weighted standardized precipitation data, March 1991 ranked as the 32nd wettest on record, continuing a 20-year trend of generally wetter-than-normal March's (fig. 2).

Only the West region experienced significantly below-normal temperatures (table 1). Temperatures were above normal in all regions east of the Rockies. Precipitation was below normal in only the center third of the Nation (South and West North Central regions), which includes the majority of the Plains, continuing a drier-than-normal trend that began last autumn. Since October 1, precipitation in the primary Hard Red Winter Wheat areas has been less than 75 percent of normal (fig. 3). The West, East North Central, and Southeast regions experienced a March within the wettest 10 percent of the historical rankings. Violent weather accompanied the abundant rain. Since January 1, more than 250 tornadoes have struck the United States, making the first 3 months of 1991 the most tornadically active since at least 1952 (fig. 4).

Despite generous March rain and snow in California, the State's water year (October 1 to date) precipitation has reached just 70 percent of normal (up from less than 25 percent near the end of February). Barring renewed late season rainfall, California will conclude this wet season with an unprecedented fifth consecutive year of 75 percent or less of the normal precipitation (fig. 5). Figure 6 provides an historical comparison of California's dry and wet periods, based on statewide Palmer hydrologic drought indexes.

Figure 1

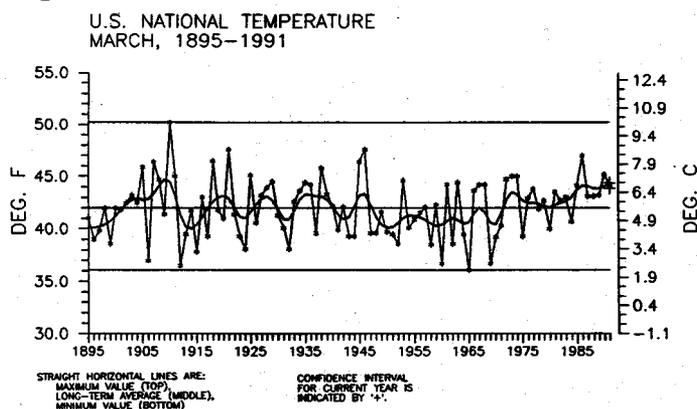


Figure 2

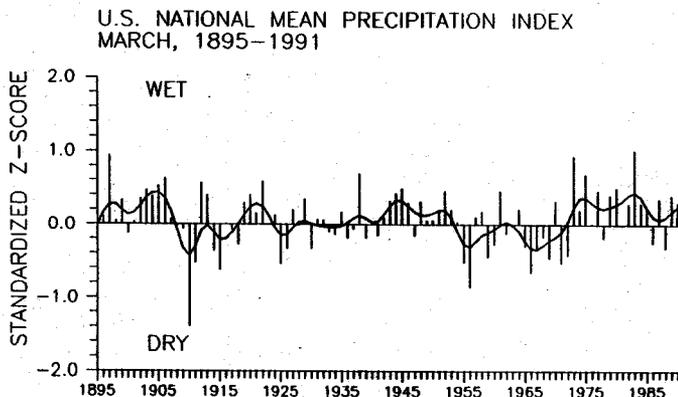
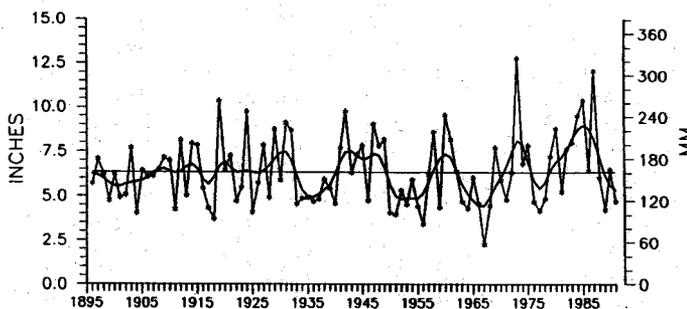


TABLE 1. TEMPERATURE AND PRECIPITATION RANKINGS FOR MARCH 1991, BASED ON THE PERIOD 1895-1991. 1 = DRIEST/COLDEST, 97 = WETTEST/HOTTEST.

REGION	PRECIPITATION	TEMPERATURE
NORTHEAST	80	84
EAST NORTH CENTRAL	92	76
CENTRAL	60	76
SOUTHEAST	90	69
WEST NORTH CENTRAL	33	83
SOUTH	26	75
SOUTHWEST	65	44
NORTHWEST	79	46
WEST	92	24
NATIONAL	84	72

Figure 3

PRIMARY HARD RED WINTER WHEAT BELT PRECIPITATION OCTOBER-MARCH, 1895-96 to 1990-91



## National Agricultural Summary

April 1 - 7, 1991

**HIGHLIGHTS:** Winter wheat was in mostly good condition. Washington winter wheat was mostly very poor to poor, while it had not begun to head in the Plains from Oklahoma northward. Spring planting was in full swing in most areas where the fields were dry. Corn in the 17 major producing States was 3 percent (%) planted, the same as the 5-year average. Cotton was 5% planted, 5 percentage points behind normal. Arizona cotton lagged 41 points behind normal. Some cotton replanting was necessary due to excessive rain.

**SMALL GRAINS:** Winter wheat was in mostly good condition. Winter wheat planted in the 19 major producing States was 1% headed, 2 points behind the 5-year average. Washington wheat was in mostly very poor to poor condition. Winter barley was mostly in very poor and poor condition. Top soil in North Dakota was 97% very short to short. California wheat was 30% headed, 14 points behind normal. Kansas winter wheat continued to grow well under relatively short moisture conditions. Winter kill, army cutworms, and crown rot affected some wheat fields in Nebraska. Winter wheat was 31% headed in Georgia, 3 points behind normal, but had not begun to head in the Plains from Oklahoma northward. Idaho winter wheat had significant amounts of winter kill. Spring wheat was 6% planted, 2 points ahead of normal. Idaho spring wheat was 34% planted, 8 points ahead of normal. Spring wheat in South Dakota was 11% planted, 2 points ahead of normal. Barley was 55% planted in Wyoming, 30 points ahead of normal.

**CORN:** Corn in the 17 major producing States was 3% planted, the same as the 5-year average. Kansas and Missouri corn was 10% planted, 8 and 6 points ahead of normal, respectively. Georgia corn was 73% planted, 1 point ahead of normal. Texas corn was 59% planted, 1 point behind normal.

**COTTON:** California cotton was 5% planted, 28 points behind normal. Cotton planting in Texas was 9% complete, 1 point behind normal. Wet fields slowed planting along the upper coast, while heavy rains in the southern part may make replanting necessary. Arizona cotton lagged 41 points behind normal. Some cotton replanting was necessary due to excessive rain.

**GRAIN SORGHUM:** Grain sorghum was 14% complete, the same as normal. Louisiana and Mississippi sorghum planting was 25% or more complete, 21% and 25% ahead of normal, respectively. Texas sorghum was 46% planted, 1 point behind normal.

**RICE:** Rice was 14% planted, 3 points ahead of normal. Forty percent of the rice in Louisiana was planted, 13 points ahead of normal. Blackbirds continued to be a problem in newly planted fields, with some fields being replanted. Rice planting in Texas was light because of wet weather.

**OTHER FIELD CROPS:** Peanut planting began in Alabama. Tobacco transplanting was almost complete in Florida, while the peanut planting was beginning. Peanut planting in Georgia was 2% complete, 1 point ahead of normal. Tobacco was 59% transplanted, 6 points behind normal. Kentucky tobacco was 24% emerged, 11 points behind normal. Tennessee tobacco was 50% emerged, 1 point ahead of normal. Tobacco in West Virginia was in mostly good condition, with 6% of the crop emerged. Montana sugarbeets were 15% planted, 13 points ahead of normal. Idaho potatoes were 2% planted, 1 point ahead of normal. Washington potato planting continued in the Columbia Basin. California potato harvest continued in the Hemet San Jacinto area. Sugarbeets in Colorado and Wyoming were 45% and 20% planted, respectively.

**FRUIT AND NUTS:** Moisture levels in the Florida citrus areas were excellent. The fruit tree blooming was virtually complete. Valencia orange and grapefruit harvests remained active. The Georgia peach crop was in mostly good condition, but progress was 4-5 days behind normal. Citrus picking continued in California. Prune, apple, pear, and cherry orchards were in full or nearly full bloom. Arizona Valencia orange and grapefruit harvests continued. Oregon cherry, peach, plum, and early pear trees were in late bloom in the Willamette Valley. Heavy rains and high winds prevented bloom spraying. Arkansas pecan trees began to bud. The peach trees in Texas continued in excellent condition.

**VEGETABLES:** Vegetable harvest remained active in Florida. Spring vegetable planting was nearly complete. California asparagus harvest gained momentum due to drier conditions. Broccoli and cauliflower were in heavy to moderate supply, with variable quality. The desert head lettuce harvest was winding down, while the iceberg lettuce harvest began in the west. Mixed vegetable harvest continued in Arizona. Rains slowed the onion and the mixed vegetable harvests in the Rio Grande Valley and San Antonio Winter Garden areas of Texas. Early-planted vegetables in the east had excellent growth.

**PASTURES AND LIVESTOCK:** Pasture and range conditions were in mostly fair to good condition. Feed supplies from pastures in Alabama were mostly adequate to surplus. Livestock was in mostly fair condition. Calving and lambing were winding down in most States. New Mexico cattle and sheep were in poor to good condition.

Crop Progress

FOR WEEK ENDING APRIL 7, 1991

	COTTON % PLANTED		
	1991	1990	AVG.
AL	2	7	6
AZ	10	48	51
AR	0	0	0
CA	5	35	33
GA	1	0	2
LA	0	0	3
MS	3	0	0
MO	0	0	0
NM	2	3	3
NC	0	0	0
OK	0	0	0
SC	0	0	0
TN	0	0	0
TX	9	10	10
14 STATES	5	10	10

THESE 14 STATES PRODUCED 99% OF THE 1990 COTTON CROP.

	CORN % PLANTED		
	1991	1990	AVG.
CO	0	0	0
GA	73	79	72
IL	0	0	0
IN	0	0	0
IA	0	0	0
KS	10	1	2
KY	0	0	0
MI	0	0	0
MN	0	0	0
MO	10	1	4
NE	0	0	0
NC	14	12	14
OH	0	0	0
PA	0	0	0
SD	0	0	0
TX	59	54	60
WI	0	0	0
17 STATES	3	2	3

THESE 17 STATES PRODUCED 95% OF THE 1990 CORN CROP.

	GRAIN SORGHUM % PLANTED		
	1991	1990	AVG.
AR	4	0	3
CO	0	0	0
IL	0	0	0
KS	0	0	0
LA	27	0	6
MS	25	7	0
MO	0	0	0
NE	0	0	0
NM	0	4	NA
OK	0	0	0
SD	0	0	0
TX	46	38	47
12 STATES	14	11	NA
EXCL. STATES WITH NA	14	11	14

THESE 12 STATES PRODUCED 98% OF THE 1990 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

	RICE % PLANTED		
	1991	1990	AVG.
AR	3	0	2
CA	0	0	0
LA	40	30	27
MS	9	5	0
TX	30	37	41
5 STATES	14	11	11

THESE 5 STATES PRODUCED 98% OF THE 1990 RICE CROP.

	SPRING WHEAT % PLANTED		
	1991	1990	AVG.
ID	34	34	26
MN	0	2	4
MT	4	5	4
ND	5	1	1
SD	11	19	9
5 STATES	6	5	4

THESE 5 STATES PRODUCED 97% OF THE 1990 SPRING WHEAT CROP.

	WINTER WHEAT % HEADED		
	1991	1990	AVG.
AR	1	0	2
CA	30	40	44
CO	0	0	0
GA	31	36	34
ID	0	0	0
IL	0	0	NA
IN	0	0	0
KS	0	0	0
MI	0	0	0
MO	0	0	0
MT	0	0	0
NE	0	0	0
NC	4	8	5
OH	0	0	0
OK	0	0	1
OR	0	0	0
SD	0	0	0
TX	4	6	9
WA	0	0	0
19 STATES	1	2	NA
EXCL. STATES WITH NA	1	2	3

THESE 19 STATES PRODUCED 91% OF THE 1990 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

Crop Condition

PERCENT

FOR WEEK ENDING APRIL 7, 1991

STATE	WINTER WHEAT				
	VP	P	F	G	EX
AR	0	0	22	69	9
CA	0	0	5	85	10
CO	2	13	26	56	3
GA	0	1	33	64	2
ID	12	7	34	35	12
IL	0	2	40	50	8
IN	0	5	46	46	3
KS	0	0	36	49	15
MI	N/A				
MO	0	8	45	44	3
MT	7	21	45	25	2
NE	2	14	51	31	2
NC	0	0	9	87	4
OH	N/A				
OK	0	5	60	35	0
OR	0	5	60	35	0
SD	0	7	21	72	0
TX	4	13	53	26	4
WA	56	25	10	9	0
19 STATE	4	7	41	42	6
PREV WEEK	N/A				
PREV YEAR	0	6	26	56	12

## 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 in. or less; 1.00 to 2.00 in. local areas. Temperatures 4 to 8° above normal north; 3 to 6° above normal elsewhere.

Days suitable for fieldwork 4.5. Soil moisture 22% short, 58% adequate, 20% surplus. Acreage intended for spring planting 60% prepared, 47% 1990, 57% avg. Fieldwork progress 32% behind, 65% on schedule, 3% ahead. Corn 58% planted, 59% 1990, 55% avg. Sorghum 4% planted, 6% 1990, 4% avg. Cotton 2% planted, 7% 1990, 6% avg. Winter wheat 33% headed, 40% 1990, 29% avg.; 1% turning color, 4% 1990, 4% avg.; 12% fair, 79% good, 9% excellent. Few fields peanuts planted Henry County. Feed, pastures 11% short, 33% adequate, 56% surplus. Pastures 8% poor, 34% fair, 49% good, 9% excellent. Livestock 28% fair, 70% good, 2% excellent. Primary activities: Land preparation; planting corn, spring vegetables, sorghum, peanuts, cotton; applying fertilizer, lime, herbicides; spraying fruit trees; stocking ponds; feeding catfish; general care of livestock, poultry, catfish.

**ARIZONA:** Sunny skies, warming throughout period. Temperatures 2 to 8° above normal. Maximum temperatures higher elevations; upper 70s to lower 80s at 5,000 ft.; mid 90s to 100s lower deserts. Lows 12° higher elevations, 43° deserts. Precipitation none.

Cotton planted 10%, 48% 1990, 51% avg.; some replanting southwest due to previous rain; insects light. Alfalfa good to excellent; except southeast fair to poor; Egyptian alfalfa weevil controls ineffective southeast, elsewhere light infestation; harvest moderate. Small grains jointing 99%, 100% 1990, 98% avg.; heading 66%, 58% 1990, 64% avg.; turning color 5%, NA 1990, avg.; small grains good. Valencia oranges, grapefruit harvested west, central. Mixed vegetable harvests, including spring lettuce, continued west, central.

**ARKANSAS:** Temperatures above normal with scattered thunder showers mid week. Extremes 27°; 88°. Rainfall 0.27 to 3.04 in.

Soil moisture supplies 2% short, 70% adequate, 28% surplus. Main activities: Land preparation, seeding of field crops; applying fertilizers, herbicides; scouting wheat for insects, diseases; performing general livestock chores. Rice 3% planted, 0% 1990, 2% avg. Sorghum 4% planting, 0% 1990, 3% avg. Corn 24% planting, 0% 1990, 10% avg. Wheat 1% headed, 0% 1990, 2% avg. Septoria, blast problems reported as light. Peaches had light to heavy freeze damage depending on location. Table grape, strawberry crops expected good. Pecans started budding. Tomato crop 40% set, condition good. Alfalfa weevils were sprayed. Pastures good. Livestock excellent.

**CALIFORNIA:** Low pressure systems brought light rains north, showers mountain areas. Warming trend pushed temperatures above normal. No frost, sensitive locations.

Field activities progressed most areas; dry conditions until 6th. Small grains continued good growth. Broadleaf weed control ongoing. Some fields fertilized, irrigated. Oats

received aphid treatments. Cotton planting active southern areas, just underway central, north. Ground preparation corn, dry beans, rice progressed. Alfalfa received weevil, aphid treatments. Some fields had hay cut, others green chopped. Germination, emergence newly seeded safflower continued. Fieldwork resumed, orchards, vineyards. Central Valley growers thinned apricot, peach, nectarine orchards. Prune, apple, pear, cherry orchards had full bloom or nearing bloom end. Kiwifruit, grape vineyards had new growth. Strip spraying, fungicide applications continued. Citrus began pushing new buds, shoots. Some citrus picking continued, southern areas. Asparagus harvest improved with drying conditions. Broccoli, cauliflower heavy to moderate supply, variable quality. Iceberg lettuce harvest began Westside. Desert head lettuce harvest winding down. Potato harvest continued Hemet San Jacinto area. Sweet potato fumigation began. Pastures improved statewide. Conditions good most areas. Some counties fair, some excellent. Light supplemental feeding. Water supplies improved.

**COLORADO:** Storm night of 1st brought 4.00 to 8.00 in. snow to the mountains, significant moisture to most of the lower elevations. Dry, warm conditions followed with record high temperatures 4th to 6th. Temperatures 3 to 6° above normal except along the front range where temperatures 6 to 9° above normal.

Days suitable for fieldwork 3.6. Soil moisture 9% very short, 30% short, 54% adequate, 7% surplus. Barley, 27% seeded; oats, 38% seeded; spring wheat, 10% seeded. Onions 52% planted; sugarbeets, 45% planted; planting of summer potatoes just underway. Winter wheat 2% very poor, 13% poor, 26% fair, 56% good, 3% excellent. Pasture, range feed mostly fair. Calving, lambing 70%, 76% completed, respectively.

**FLORIDA:** Temperatures 2° above normal. Extremes 39°; 93°. Rainfall under 1.00 in., Panhandle, northern Peninsula; generally 1.00 to 2.00 in. central, south. Greatest weekly total 5.66 in, West Palm Beach.

Soil moisture adequate Panhandle; adequate to surplus, northern Peninsula; short to adequate, central Peninsula; mostly adequate southern Peninsula. Farmers prepared for planting spring sown crops. Tobacco transplanting winding down. Planting peanuts becoming active. Spring planting corn virtually complete. Corn, winter wheat, sugarcane making good progress. Statewide pastures 5% poor, 25% fair, 60% good, 10% excellent. Panhandle, northern Peninsula cattle good to excellent. Central, southern Peninsula cattle fair to good. Good rains all citrus areas; moisture levels excellent; bloom virtually complete. Harvest of valencias heavy; good movement to fresh market; grapefruit to domestic, export. Growers active fertilizing, applying herbicides. Warm temperatures continued over major vegetable producing areas. Late week rain, heavy some areas, generally beneficial. Planting spring crops near complete most areas. Harvest active. Volume leaders: Tomatoes, potatoes, cucumbers, peppers, cabbage, squash, celery, sweet corn. Also available carrots, snap beans,

lettuce, radishes, strawberries, eggplant, escarole. Initial harvest west coast bell peppers underway.

**GEORGIA:** Some rain 6th. Rain generally under 1.00 in., isolated 2.00 in. Temperatures 3 to 6° above normal. Warmest mostly in low 80s; upper 70s in mountains to mid 80s south. Coolest early in week, lows from 30s in colder mountain locations, upper 40s southeast.

Days suitable for fieldwork 4.8. Soil moisture 3% short, 79% adequate, 18% surplus. Corn 38% fair, 60% good, 2% excellent. Sorghum 6% planted, 4% 1990, 3% avg. Peanuts 2% planted, 1% avg. Tobacco 46% fair, 51% good, 3% excellent; 59% transplanted, 81% 1990, 65% avg.; tobacco beds mostly good. Watermelons poor to good, almost 80% planted. Wheat 97% jointing, 97% 1990, 95% avg.; 74% boot, 74% 1990, 71% avg.; spraying for disease. Other small grains fair to mostly good. Apples behind normal, good. Peaches 4 to 5 days behind normal, 17% fair, 70% good, 13% excellent; 91% blooming, 100% 1990, 99% avg. Onions 30% fair, 70% good; 1% harvested, 1% 1990. Pastures good. Cattle, hogs good. Activities: Land preparation for later row crops; spraying, fertilizing pastures; planting vegetables.

**HAWAII:** Weather was generally favorable for agriculture during the week. Although there were occasional showers, frequent sunshine, brisk trade winds continued to dry previously wet fields allowing farmers to return to normal field activities. Brisk trade winds 15 to 30 mph. Temperatures low 60s to low 80s. Rainfall none to 2.60 in.

Days suitable for fieldwork 7.0. Drier field conditions permitted planting, harvesting activities to return to normal for sugarcane, most other crops. Papaya output remains at relatively low levels. Moderate trade winds hampered efforts of some farmers to spray for disease, insect control.

**IDAHO:** Temperatures 2 to 10° above normal. Above normal precipitation southwest, up to 1.00 in. north.

Days suitable for fieldwork 5.0. Soil moisture 10% very short, 33% short, 41% adequate, 16% surplus. Little winter wheat acreage jointed. Spring barley 34% planted, 34% 1990, 20% avg. Potatoes 2% planted, 4% 1990, 1% avg. Sugarbeets 50% planted, 52% 1990, 35% avg. Onions 85% planted, 93% 1990, 61% avg. Conditions remained wet north. Well irrigation used to help emerging crops southwest. Seed potato pieces cut, sorted, shipped. Reseeding of winter wheat north, east. Significant amounts winterkill to winter wheat reported all areas. Apricots blooming, other fruit trees early bud stage. Calving 86% complete. Lambing 92% complete. Livestock condition good. Activities: Fixing fence, feeding, branding, general spring care. Range sheep bands beginning to move to low desert. Water holes very short of water some ranges south central. Pastures greening all locations. Range, pasture condition 79% of normal. Hay, roughage supplies adequate.

**ILLINOIS:** Temperatures 7 to 11° above normal in the south, 10 to 15° above normal over the central to north. Precipitation generally below normal 0.08 to 1.00 in. across State.

Soil moisture adequate to surplus. Winter wheat fair to good.

**INDIANA:** Temperatures 6 to 12° above normal. Lows low 40s to near 50, highs low 70s to low 80s. Precipitation near 0.50 in.

Days suitable for fieldwork 2.8. Topsoil 70% adequate, 30% surplus. Subsoil 69% adequate, 31% surplus. Spring cropland 59% tilled, 65% 1990, 67% avg. Wheat 5 in. high, 6 in. 1990, 5 in. avg. Wheat 6% jointed, 17% 1990, 8% avg. Oats 26% seeded, 37% 1990, 38% avg. Clover 50% seeded, 60% 1990, 60% avg. Pasture 2% excellent, 41% good, 45% fair, 11% poor, 1% very poor. Record high temperatures 5th to 6th.

**IOWA:** Temperatures 14 to 20° above normal. Extremes 27°; 91°. Precipitation none to 0.26 in.; average 0.03 in.

Days suitable for fieldwork 3.8. Topsoil 2% short, 92% adequate, 6% surplus. Subsoil 8% short, 80% adequate, 12% surplus. Winter wheat 2% poor, 16% fair, 73% good, 9% excellent. Pasture 11% very poor, 4% poor, 10% fair, 12% good, 63% excellent. Oats 30% sown, 40% 1990, 35% avg. Seedbed preparation 55% completed, 53% 1990, 44% avg. Fertilizer application 50% completed, 47% 1990, 40% avg. Livestock mostly good.

**KANSAS:** Temperatures 10° above normal northwest down to 4° above normal southeast. Precipitation nearly 1.00 in. south central, 0.10 to 0.40 in elsewhere.

Days suitable for fieldwork 5.0. Surface moisture 56% short, 43% adequate, 1% surplus. Subsurface moisture 72% short, 28% adequate. Wheat continues good growth under relatively short moisture conditions. Rains mid week very timely. Most stands jointing some areas considerably ahead of schedule. Corn planting good progress especially south central, east central, southeast. Feed grain, forage supplies adequate; grazing short but wheat pasture taking up slack. Lambing, calving about over.

**KENTUCKY:** Cool, temperatures moderated. Showers received later half week with no heavy rain. High temperatures upper 60s and lower 70s, average low 40s. Precipitation 0.33 to 0.50 in., 0.50 below normal.

Days suitable for fieldwork 3.5. Field activities limited by wet fields. Soil moisture 1% short, 65% adequate, 34% surplus. Tobacco 82% seeded, 89% 1990, 87% avg. Plants up 24% seeded beds, 38% 1990, 35% avg. Very little corn planted. Winter wheat 7% poor, 18% fair, 67% good, 8% excellent. Average height 7 in. Burley crop fair to good. Fruit acreage 57% budding or in bloom. Still feeding hay to livestock. Farmers monitoring alfalfa weevil population.

**LOUISIANA:** Temperatures 1.9° below to 1.5° above normal. Extremes 31°; 85°. Rainfall none south central, 0.83 in. northwest.

Days suitable for fieldwork 5.9. Soil moisture supplies 7% short, 93% adequate. Spring plowing 58%, 45% 1990, 49% avg. Corn planted 87%, 73% 1990, 51% avg.; emerged 68%, 49% 1990, 36% avg. Rice emerged 15%, 16% 1990, 16% avg. Blackbird problem continued in newly planted fields, south, sporadic replanting continued. Sorghum emerged 17%, 0% 1990, 1% avg. Wheat 42% fair, 50% good, 8% excellent; headed 60%, 73% 1990, 51% avg. Sugarcane 14% fair, 86% good. Spraying, fertilizing, active. Vegetables 4% poor, 57% fair, 35% good, 4% excellent. Pasture 39% fair, 58% good, 3% excellent. Top dressing active. Livestock 30% fair, 67% good, 3% excellent. Crawfish harvest continued, catches, size, improving.

**MARYLAND & DELAWARE:** MARYLAND: Precipitation 0.54 in. Temperature 46.0°, normal 49.8°. Extremes 15°; 72°.

Activities for the week: Repairing fence; hauling manure; spreading fertilizer; soil preparation; planting vegetables; pruning fruit trees; maintaining machinery; tax preparation; caring for livestock.

DELAWARE: Precipitation 0.19 in. Temperature 44.6°, normal 49.4°. Extremes 27°; 66°.

Activities for the week: Repairing fence; hauling manure; spreading fertilizer; soil preparation; planting vegetables; pruning fruit trees; maintaining machinery; tax preparation; caring for livestock.

**MICHIGAN:** Temperatures 7 to 15° above normal. Extremes 13°; 83°. Precipitation 0.03 to 0.65 in. across State. Temperatures varied drastically throughout the week as cool weather early in the week gave way to unseasonably high temperatures by weekend. Farmers continue to spread manure, plow fields and purchase seed, fertilizer, as well as, enroll in farm programs, research chemical regulations. Livestock are in good shape as more calves, lambs were born this week. Feed supplies are in good shape, there is some movement in corn, hay supplies. Winter wheat looks good. Major activities included: Purchasing seed, fertilizer, spreading manure, repairing fences, equipment, looking after newborn, shearing sheep, clearing brush, spraying orchards.

**MINNESOTA:** Record breaking warmth with maximum temperatures in the mid to upper 80s was dominant across the State on 6th to 7th. Temperatures 15 to 21° above normal. Extremes 13° at Duluth; 91° at Canby. Precipitation generally less than 0.20 in. Cambridge was the only reporting station to record near normal precipitation receiving a total of 0.50 in.

Fieldwork began as fields dried quickly with the warm to dry weather.

**MISSISSIPPI:** Temperatures 61°, 4° above normal. Extremes 27°; 85°. Dry statewide. Rainfall 0.31 in., 1.05 in. below normal. Soil temperatures 62°.

Days suitable for fieldwork 3.1, 3.1 1990, 3.0 avg. Soil moisture 62% adequate, 35% surplus, 3% excessive. Pasture 9% poor, 37% fair, 48% good, 6% excellent. Wheat 2% very poor, 2% poor, 52% fair, 40% good, 4% excellent. Wheat jointing 83%, 89% 1990, 84% avg. Wheat heading 16%, 29% 1990. Hay supply 54% very short, 46% short. Watermelons 42% planted, 41% 1990, 29% avg. Livestock 6% poor, 32% fair, 49% good, 13% excellent. Feed grain 31% short, 69% adequate. Corn planted 52%, 29% 1990, 31% avg. Corn emerged 35%, 19% 1990, 16% avg. Rice planted 9%, 5% in 1990, 5% emerged. Sorghum planted 25%, 7% 1990. Cotton planted 3%. Activities: Preparation of land, crop planting, shopwork.

**MISSOURI:** Temperatures 11° above normal. Precipitation 0.25 in. or less northern two thirds, to about 1.00 in. south central, southeast.

Days suitable for fieldwork 5.2. Topsoil 36% short, 58% adequate, 6% surplus. Ground worked at least once for spring crops 70%, 50% 1990, 49% avg. Oats sown 77%, 42% 1990, 63% avg. Pasture 6% poor, 47% fair, 45% good, 2% excellent.

**MONTANA:** Topsoil 75% short, 25% adequate, subsoil moisture 85% short, 15% adequate.

Winter wheat still dormant 20%, greening 60%, green and growing 20%. Freeze, drought damage to winter wheat 25% none, 40% light, 25% moderate, 10% heavy. Barley planted 4%, 3% 1990, 5% avg. Oats planted 4%, 2% 1990, 4% avg. Sugarbeets 15% planted, 2% 1990, 2% avg. Current rate of grass growth compared with average 60% slow, 35% avg., 5% above average.

**NEBRASKA:** Temperatures 12° above normal northwest to 20° above in northeast. Precipitation first half of the week, varying from traces to 0.12 in.

Days suitable for fieldwork 5.4. Topsoil 36% short, 61% adequate, 3% surplus. Subsoil moisture 70% short, 30% adequate. Wheat 2% very poor, 14% poor, 51% fair, 31% good, 2% excellent. Winter kill, army cutworms, crown rot affecting some fields. Oats 46% seeded, 60% 1990, 43% avg. Pasture, range conditions 72% normal.

**NEVADA:** Temperatures above normal. Extremes 16°; 92°. Precipitation northern, central 0.09 in. to 18 in.; south generally dry.

Winter wheat greening, preparing potato, small grain ground for planting. Small amount oats, barley already planted. Many areas will have only about 30% of normal allocation for irrigation with surface water. Cattle, sheep movement to summer ranges starting. Calving, lambing about 70% complete.

**NEW ENGLAND:** Precipitation none to 0.35 in. Temperatures mid 30s northern Maine, high 30s to mid 40s elsewhere north, mid to upper 40s south. Maximum temperatures mid 50s north to low 80s south; minimum temperatures 10° north to 32° south.

Major farm activities: General repairs, maintenance, tending livestock, moving crops from storage. Maple sugaring winding down.

**NEW JERSEY:** Temperatures above normal. Extremes 20°; 87°. Rainfall 0.14 in. north, 0.09 in. central, 0.03 in. south. Heaviest 24 hour total 0.23 in. on 1st, 2nd. Estimated soil moisture percent field capacity, averaged 98% north, 95% central, 92% south. Four inch soil temperature 45° north, 47° central, 49° south.

Dryer weather, above normal weekend temperatures increased soil preparation, planting. Some oats planted. Irish potato planting advanced. Fertilizing, liming active. Peach bloom advanced. Light volumes of spinach, leeks, dandelion, other early greens continue to be harvested.

**NEW MEXICO:** Temperatures well above normal across all of the State. Rainfall generally scant across the State, except in northeastern plains, in central highlands, several stations more than 0.50 in. for the week.

Days suitable for fieldwork 6.3. Soil moisture 63% short, 37% adequate. Light wind and freeze damage reported in some areas. Alfalfa 6% poor, 69% fair, 25% good. Irrigated wheat 14% poor, 36% fair, 50% good. Dryland wheat 33% very poor, 67% poor. Onions in good condition. Lettuce 50% fair, 50% good. Cattle, sheep poor to good. Range, pasture condition 74%, 30% to 120%.

**NEW YORK:** Week started wintry, warm weather arrived by weekend. Temperatures above normal. Extremes 16°; 77°. Precipitation 0.10 to 0.25 in. Some isolated areas received up to 0.75 in.

Warm weather brought an end to maple season. Major activities: Tending livestock, spreading manure, making maple syrup, preparing for upcoming season.

**NORTH CAROLINA:** Temperatures were about normal across the State. Precipitation none to 1.80 in.

Days suitable for fieldwork 4.1. Soil moisture 80% adequate, 20% surplus. Pasture 25% fair, 70% good, 5% excellent. Crop condition: Wheat 9% fair, 87% good, 4% excellent; oats 10% fair, 87% good, 3% excellent; barley 8% fair, 90% good, 2% excellent; rye 8% fair, 90% good, 2% excellent; Irish potatoes 27% fair, 70% good, 3% excellent; tobacco plant beds 17% fair, 76% good, 7% excellent; peaches 19% fair, 78% good, 3% excellent; truck crops 3% poor, 17% fair, 76% good, 4% excellent. Irish potatoes planted 90%; cabbage transplanted 79%; corn planted 14%. Hay and roughage supplies 1% very short, 8% short, 86% adequate, 5% surplus. Feed grain supplies 1% very short, 6% short, 92% adequate, 1% surplus. Tobacco plant bed supplies 2% short, 98% adequate. Activities: Tending livestock; planting corn; tending tobacco plant beds; pruning trees; equipment repair; top dressing small grains, pastures; land preparation; planting Irish potatoes, cabbage; general farm maintenance.

**NORTH DAKOTA:** Temperatures 20° above normal north central, northeast to 22° above normal northwest, east central, southeast. Extremes 21°; 85°. Precipitation none for all districts except 0.01 in. southeast, 0.02 in. east central, northwest.

Soil moisture supplies remained well below average. Topsoil 52% very short, 45% short, 3% adequate. Subsoil 67% very short, 33% short. Average statewide expected starting date for spring fieldwork is 8th. Hard red spring wheat 5% planted, durum wheat none, barley 5%, oats 2%. Winter wheat 4% very poor, 29% poor, 61% fair, 6% good; 48% green, 52% dormant. Winter kill 6% less than normal, 62% normal, 29% more than normal. Livestock mostly good, calving 68% completed, lambing 78%, shearing 85%. Hay, roughage supplies 23% short, 77% adequate. Grain, concentrate supplies 9% short, 91% adequate. Nearly all livestock received supplemental feeding. Pastures, ranges 87% dormant; 81% open for grazing; 52% of normal condition.

**OHIO:** Daily high temperatures 60s to 70s; 8 to 10° above normal. Lows 40s; 5 to 10° above normal. Precipitation 0.20 to 0.40 in. Soil temperatures upper 40s to the lower 50s. Daytime soil temperatures reached the 60s.

Mild weather during most of the period produced more field activity. Spring fieldwork included hauling, spreading fertilizers, manure, tilling lighter soils, planting some corn. Winter wheat continued to green, grow.

**OKLAHOMA:** Temperatures 4° above normal south central to 9° above normal Panhandle. Precipitation none west central to 1.29 in. east central.

Days suitable for fieldwork 6.1. Topsoil 60% short, 35% adequate, 5% surplus. Subsoil 55% short, 45% adequate. Wheat 5% poor, 60% fair, 35% good; 60% jointing, 70% 1990, 55% avg. Wheat fair. Additional moisture needed. Insect activity light. Corn 85% seedbed prepared, 50% 1990, 80% avg. Sorghum 40% seedbed prepared, 45% 1990, 35% avg. Soybeans 40% seedbed prepared, 30% 1990, 30% avg. Peanuts 25% seedbed prepared, 25% 1990, 40% avg. Cotton 55% seedbed prepared, 40% 1990, 35% avg. Pasture condition 70%. Cattle good; marketings average, prices

higher.

**OREGON:** Warm wet week. Temperatures above normal all areas. South central, northeast 6° above normal, rest of State up to 3° above. Week long rains brought precipitation 5.00 in. coast; 2.00 in. Willamette Valley, northern Cascades; 1.00 in. rest of west; less than 0.10 in. east of Cascades.

Soil moisture 20% short, 72% adequate, 8% surplus. Barley 59% seeded, 65% 1990, 64% avg. Cool, wet weather slowed field operations west. Some spring grain seeding, spraying, fertilizing, tillage operations in east. Reseeding in winter wheat fields affected by winterkill. Cherries, peaches, plums, early pears bloomed Willamette Valley; the heavy rains, high winds prevented bloom spraying. Apples, pears in early bloom lower Hood River Valley, no major pitfalls to date. Extent of winter damage not yet known. Cherries in blossom Wasco Co. Cranberry development varied from popcorn to roughneck southern coast. Onion, potato planting continued Morrow, Umatilla, Malheur Cos. Some early onion plantings emerged. Planting field preparations slowed by rains Willamette Valley. Livestock good to excellent. Lambing 80% completed. Good calving, lambing weather for most of season. Ranges, pastures fair to good east; mostly excellent, very muddy west; statewide 10% poor, 10% fair, 30% good, 50% excellent.

**PENNSYLVANIA:** Slightly above normal temperatures, well below normal precipitation. Temperature 45°, 2° above normal. Extremes 15°; 78°. Precipitation 0.17 in, 0.64 in. below normal.

Days suitable for fieldwork 4. Soil moisture 3% short, 62% adequate, 35% surplus. Plowing 17% complete, 27% 1990, 18% avg. Oats 10% planted, 22% 1990, 13% avg. Potatoes 1% planted, 10% 1990, 5% avg. Tobacco beds 1% planted, 56% 1990, 31% avg. Barley 100% pre boot, 100% 1990, 100% avg.; 0% boot, 0% 1990, 0% avg. Wheat 100% pre boot, 100% 1990, 100% avg.; 0% boot, 0% 1990, 0% avg. Wheat 2% very poor, 5% poor, 19% fair, 51% good, 23% excellent. Oats 6% very poor, 20% poor, 10% fair, 50% good, 14% excellent. Hay stands mostly fair to good. Feed from pastures 29% very poor, 12% poor, 32% fair, 27% good. Peaches 95% pre pink, 69% 1990, 89% avg.; 5% pink, 21% 1990, 8% avg.; 0% full bloom or past, 10% 1990, 3% avg. Cherries 96% pre pink, 89% 1990, 91% avg.; 4% pink, 9% 1990, 8% avg.; 0% full bloom or past, 2% 1990, 1% avg. Apples 98% pre-pink, 94% 1990, 98% avg.; 2% pink, 6% 1990, 2% avg. Activities: Spring plowing; planting crops; repairing fence; hauling manure; spreading fertilizer; maintaining machinery; caring for livestock.

**PUERTO RICO:** Rainfall 0.56 in. was 0.19 in. below normal. Highest weekly total rainfall 4.00 in. at Toro Negro, 1.76 in. at Guanica, 1.32 in. at Dos Bocas. Highest 24 hour total 1.95 in. at Toro Negro. Divisional temperature 76 to 77° on the coasts, 69 to 72° in the Interior with mean station temperature 62.1° at Pico Del Este Luquillo to 80.2° at Roosevelt Roads N.S. Extremes 57°; 89°.

**SOUTH CAROLINA:** Temperatures 2 to 3° above normal. Rainfall 0.20 in. northeast to 0.90 in. mountains.

Days suitable for fieldwork 4.9. Soil moisture 18% very short, 80% adequate, 2% surplus. Tobacco fair to good; 10% planted, 32% 1990, 13% avg. Corn fair to good; 52% planted, 68% 1990, 49% avg. Watermelons fair to good; 51% planted, 48% 1990, 52% avg. Cantaloupes fair to good; 32%

planted, 27% 1990, 33% avg. Tomatoes good; 53% planted, 89% 1990, 80% avg. Cucumbers fair to good; 47% planted, 61% 1990, 50% avg. Snap beans fair to good; 36% planted, 29% 1990, 28% avg. Oats fair to good; 11% headed, 20% 1990, 10% avg. Wheat fair to good; 8% headed, 26% 1990, 10% avg. Grain hay fair to good; 3% harvested, 3% 1990, 3% avg. Pastures fair to good.

**SOUTH DAKOTA:** Temperatures 15 to 25° above normal. Extremes 13°; 93°. Precipitation southwest, northeast. Precipitation for year below normal. Rainfall 0.62 in. above to 2.07 in. below normal.

Days suitable for fieldwork 6.0. Topsoil 16% very short, 70% short, 14% adequate. Subsoil 32% very short, 35% short, 33% adequate. Rye 53% fair, 47% good. Livestock 7% fair, 66% good, 27% excellent. Feed supplies mostly adequate. Stockwater supplies adequate to short. Above normal temperatures allowing rapid completion of planting.

**TENNESSEE:** Temperatures 4 to 10° above normal. East, Plateau coolest, averaged upper 50s. West warmest, averaged mid 60s. Precipitation below normal except extreme west.

Soil moisture mostly adequate to surplus. Corn 8% planted, 4% 1990, 7% avg. Tobacco 92% beds seeded, 92% 1990, 87% avg.; 44% plants up, 50% 1990, 49% avg. Wheat 32% jointed, 58% 1990, 40% avg. Apple trees 68% budding, 70% 1990, 63% avg.; 28% blooming, 45% 1990, 38% avg. Peach trees 94% budding, 85% 1990, 81% avg.; 74% blooming, 79% 1990, 65% avg. Main Activities: Seeding tobacco, preparing fields. Insect populations increasing.

**TEXAS:** Upper air disturbance stalled over Mexico triggered large rain amounts several areas of southern areas last week. On 3rd, eastern areas picked up rains 1.00 to 1.50 in. Mornings of 4th to 5th, San Antonio, Lower Valley section of State picked up huge amounts at weekend. San Benito, in Lower Valley had three day total of 19.06 in. Western areas reported below normal rainfall amounts. Southern areas, Lower Valley districts had departures of +3.00 to +5.00 in. rain overall. Temperature departures at or above normal except for Lower Valley where cloudiness kept weekly average one degree below normal. Largest temperature departure from normal was in High Plains with +6.00 in.

**Crops:** Small grains making good progress many areas of state last week with warmer weather, late week moisture. Blowing sand affected fields some parts of State. Many fields across Blacklands, central areas heading. Producers northern Plains wheat beginning to boot, showing signs of moisture stress. Statewide wheat condition 63% of normal compared with 61% 1990. Corn planting getting underway slowly in Plains. Fields in eastern half of State emerged to good stands. Some cultivating occurring. Showers delayed corn planting some areas of state after mid week. Statewide corn 84% of normal compared with 88% 1990. Grain sorghum planting slowly winding down in Blacklands, central areas. Cool temperatures, slowed early growth. Statewide condition 69% of normal compared with 89% 1990. Cotton pre planting operations underway in Plains. Producers in Cross Timbers plowing cotton ground. Wet fields slowed planting along Upper Coast. Heavy rains in southern part of State may make replanting necessary. Rice planting on Upper Coast light because of

weather. Soybean planting eastern areas moved ahead as field conditions allowed. Other crops: Sugarbeets 5% planted, 16% 1990, 6% avg.

**Commercial Vegetables:** Rio Grande Valley, rains slowed onion harvest. Citrus groves, however, should benefit from additional moisture. San Antonio Winter Garden, spring crops continue to grow well. Mid week weather conditions slowed harvest. Eastern areas, planting progress remained slow due wet conditions. Early planted vegetables making excellent growth. Sweet potato fields being prepared for planting. High Plains, potato planting still active. Onions continued good progress. Trans Pecos, tomatoes being transplanted. Onions beginning to bulb. Chile planting continued, young cabbage plants good with adequate moisture. Peach producers continued to expect good crop.

**Range and Livestock:** Ranges, pastures greening with warmer temperatures, additional moisture. Producers vaccinating, worming, preparing for fly control. Calving season almost complete. Most cattle in good condition. Sheep producers preparing for shearing. Range, pasture 1% very poor, 8% poor, 53% fair, 31% good, 7% excellent.

**UTAH:** Temperature maximums 4° above normal, minimums approximated normal in the State this week. Light precipitation throughout the State.

Days suitable for fieldwork 6.3. Soil moisture 65% short, 35% adequate. Winter wheat 56% good, 30% fair, 14% poor. Spring wheat planted 51%, 72% 1990, 54% avg. Barley planted 50%. Oats planted 24%. Lack of soil moisture extreme problem in some areas. Winter wheat freeze damage mostly light. Spring calving 60% complete, 65% avg. Lambing in farm flocks 65% complete, range flocks 22%. Farm flock shearing 51% complete, range flocks 32%. Range, pasture condition 67% of normal.

**VIRGINIA:** Temperatures below normal. Extremes 19°; 76°. Precipitation at or above normal 0.40 to 1.79 in.

Days suitable for fieldwork 3.5. Topsoil 86% adequate, 14% surplus. Pasture condition 2% poor, 30% fair, 56% good, 12% excellent. Alfalfa 34% fair, 57% good, 9% excellent. Barley 23% fair, 75% good, 2% excellent. Wheat 24% fair, 75% good and 1% excellent. Apples mostly good. Peaches mostly fair. Tobacco plantbeds 97% seeded; 3% poor, 68% fair, 29% good. Corn planted 6% completed, 1% 1990, 2% avg. Top dressing small grains; preparing for spring planting. Fruit prospects appear good, no unusual damage from cold weather. Some spraying wheat for powdery mildew. Cultivating, spraying potatoes. Planting snap beans, preparing for strawberry harvest.

**WASHINGTON:** Temperatures 1 to 7° above normal east; normal to 3° above normal west. Precipitation none to 0.25 in. east; 0.66 to 6.48 in. west.

Days suitable for fieldwork 3.6. Soil moisture 58% short, 42% adequate. Range, pasture 13% very poor, 23% poor, 43% fair, 21% good. Hay, other roughage 1% very short, 2% short, 97% adequate. Winter wheat 56% very poor, 25% poor, 10% fair, 9% good. Winter barley 80% very poor, 8% poor, 9% fair, 3% good. Potatoes planted 5%. Spring wheat planted 64%. Spring barley planted 38%. Dry peas planted 10%. Green peas planted 11%. Spokane County estimated 90% of their winter wheat will need to be replanted due to winter kill. Spring seeding of wheat, barley continued in most areas. Soil moisture was low. Potato planting was in progress in the Columbia Basin. Dormant sprays

were being applied to the fruit trees. Apricots were in full bloom. Cherries were at white tip State. Spinach, green peas were being planted. Daffodil harvest ended, tulip harvest began. Christmas trees are being protected with fungicides. Cattle were starting to move from winter pastures to spring ranges.

**WEST VIRGINIA:** Temperature 52°. Extremes 16°, 86°. Precipitation 0.33 in.

Days suitable for fieldwork 3.7. Soil moisture 78% adequate, 22% surplus. Wheat, barley good. Gardens, 50% good, 50% fair, 10% planted, 9% emerged. Tobacco good, 72% beds seeded, 6% emerged. Barley good. Wheat 13% fair, 63% good, 24% excellent. Hay 27% fair, 73% good. Apples, peaches good. Pastures 43% fair, 56% good, 1% excellent; 94% of normal. Cattle, sheep condition, good. Calving 81% complete. Lambing 78% complete. Hay supplies 46% adequate, 54% surplus. Other feed 90% adequate, 10% surplus. Farm activities: General maintenance, feeding livestock, calving, lambing, fieldwork preparation, plowing, spraying, seeding tobacco beds.

(Continued from p. 14)

**WISCONSIN:** Temperature 53°, 13° above normal. Extremes 12°; 91°. Precipitation 0.10 to 0.30 in.

Days suitable for fieldwork 3.1. Soil moisture 1% short, 83% adequate, 16% surplus. Spring plowing 3% complete, 5% 1990, 4% avg. Oats planted 2%, 2% 1990, 2% avg. Wet fields delaying fieldwork some.

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

Days suitable for fieldwork 6.0. Topsoil 65% short, 35% adequate. Subsoil 78% short, 22% adequate. Spring wheat 20% planted, 10% 1990, 5% avg. Barley 55% planted, 35% 1990, 25% avg. Oats 10% planted, 5% 1990, 5% avg. Sugarbeets 20% planted, 5% 1990, 5% avg. Winter wheat 15% poor, 50% fair, 35% good. Wind, freeze damage mostly light. Livestock mostly good. Spring calves born 60%, 65% 1990, 60% avg. Death losses light to normal. Farm flock: Ewes lambed 65%, 65% 1990, 60% avg.; 65% shorn, 60% 1990, 55% avg. Range flock: Ewes lambed 25%, 25% 1990, 25% avg.; 40% shorn 40% 1990, 30% avg. Death losses light to normal. Ranges, pastures poor to fair.

Figure 4

**TOTAL NUMBER OF TORNADES, U.S.**

JANUARY-MARCH TOTAL, 1953-1991

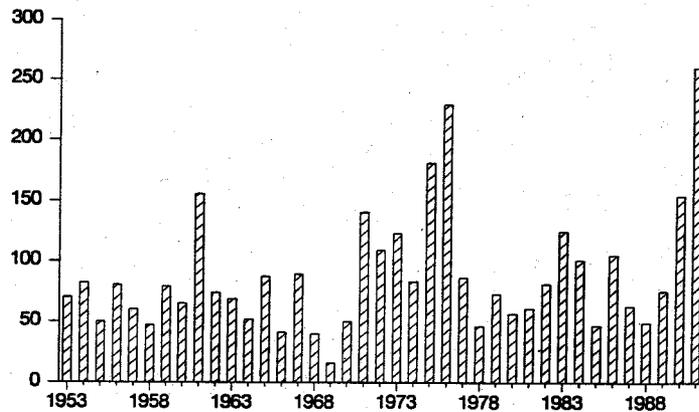


Figure 6

**CALIFORNIA STATEWIDE**

Palmer Hydrologic Drought Indexes (PHDI)

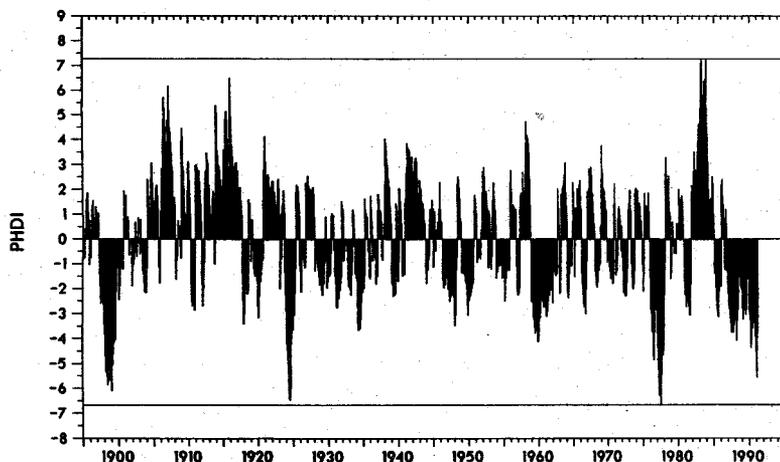
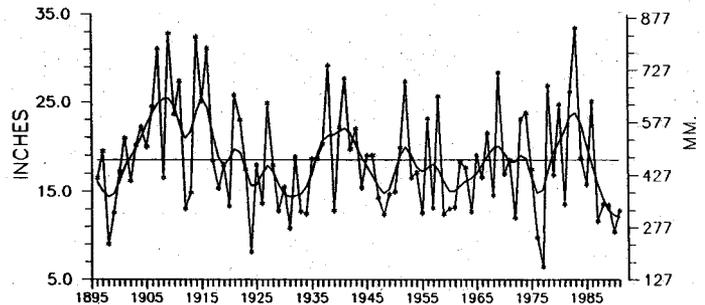


Figure 5

**CALIFORNIA STATEWIDE PRECIPITATION**  
OCTOBER-MARCH, 1895-95 to 1990-91



**MARCH 1991**  
**MONTHLY DATA FROM SELECTED FOREIGN CITIES**  
**CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA**  
**\*\*\* = DATA NOT AVAILABLE**

**International Weather and Crop Summary**  
**HIGHLIGHTS**

**March 31 - April 6, 1991**

WESTERN USSR ... Winter grains are greening at near-normal dates. Generally dry weather helps early spring fieldwork.

NORTHWESTERN AFRICA ... Mostly favorable weather continues over winter grain areas in Morocco, Algeria, and Tunisia.

EUROPE ... Mostly dry weather continues over the northern portion of the continent. Beneficial rain covers winter grains in Italy and Greece.

EASTERN ASIA ... Widespread showers improve planting moisture in southern China. Dry weather returns to the northern wheat areas.

SOUTHEAST ASIA ... Much needed rain covers local areas of Thailand and the Philippines. Showers linger over Malaysia and Indonesia.

SOUTH AFRICA ... Warm, dry weather benefits maturing crops, but cold weather occurs recently.

SOUTH AMERICA ... In Brazil, mostly dry weather favors crop harvesting in the south. In Argentina, showers slow corn and sorghum harvesting.

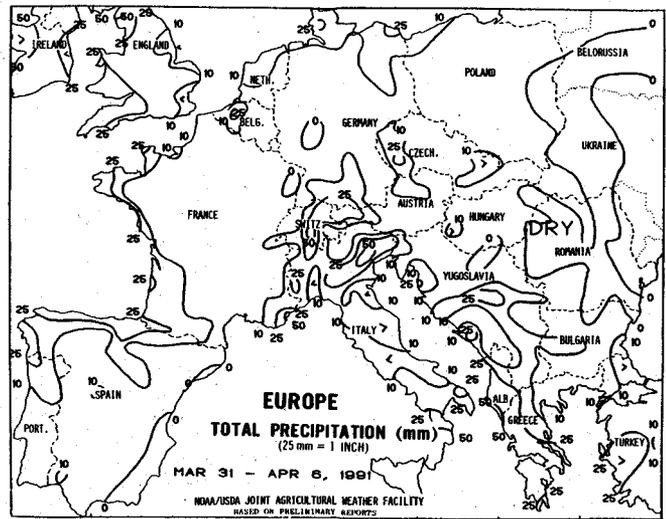
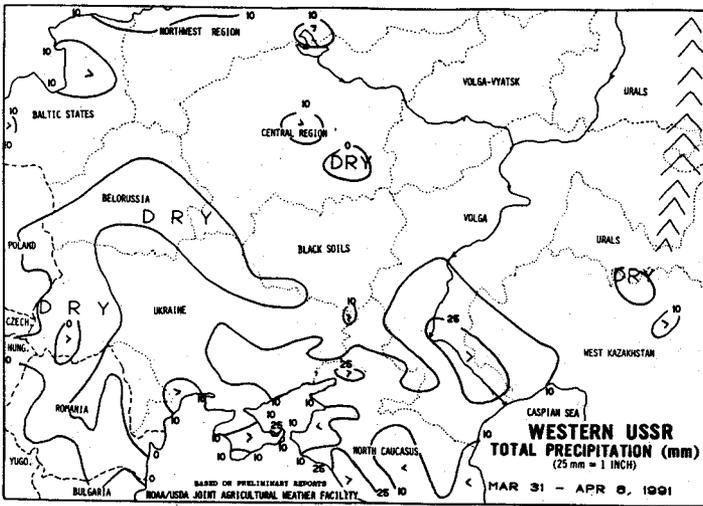
AUSTRALIA ... Dryness promotes summer crop harvesting in the east.

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG MAX	AVG MIN	HI	LO	DPART	TOTAL	F/NRM	
NORWAY	OSLO	3	-2	13	-14	1	3.0	65	24
SWEDEN	STOCKHOLM	4	0	12	-9	2	2.1	26	4
FINLAND	HELSINKI	2	-3	9	-14	-1	2.4	29	-1
U KING	GLASGOW	10	4	15	-5	7	0.8	85	14
	EDINBURGH	10	3	15	-4	7	1.3	57	16
	BIRMINGHAM	11	5	18	-3	8	2.7	53	2
	LONDON	12	5	18	-2	9	2.9	35	-22
IRELAND	DUBLIN	11	6	15	-1	8	1.9	91	41
ICELAND	REYKJAVIK	4	0	9	-6	2	0.7	68	-5
DENMRK	COPENHAGEN	7	2	12	-2	4	2.5	4	-28
LUXEMB	LUXEMBOURG	11	5	18	-2	8	3.5	73	16
SWITZL	ZURICH	11	5	19	-3	8	3.2	63	-5
	GENEVA	12	4	19	-2	8	2.8	77	3
FRANCE	PARIS	14	6	19	-2	10	3.3	28	-15
	STRASBOURG	13	4	19	-2	8	2.8	15	-19
	BOURGES	14	6	20	0	10	3.1	26	-32
	BORDEAUX	16	8	21	3	12	3.2	18	-56
	TOULOUSE	16	7	21	2	11	2.8	29	-28
	MARSEILLE	18	9	23	4	13	3.4	21	-23
SPAIN	VALLADOLID	14	5	21	1	9	1.6	57	13
	MADRID	15	6	22	2	11	0.8	31	-16
	SEVILLE	19	10	27	7	15	1.2	95	20
GERMNY	LEIPZIG	11	3	19	-2	7	3.7	25	-9
	DRESDEN	11	4	19	-3	7	4.1	24	-13
	HAMBURG	11	3	18	-2	7	3.8	22	-22
	BERLIN	11	3	18	-2	7	3.2	36	4
	DUSSELDORF	13	6	20	-2	10	3.8	39	-2
	STUTTGART	12	3	20	-3	7	2.9	43	2
	NURNBERG	11	2	19	-4	7	3.1	33	-9
	MONICH	11	2	23	-4	6	3.1	45	-9
AUSTRI	VIENNA	11	3	21	-1	7	1.8	32	1
	INNSBRUCK	14	4	20	-3	9	4.3	60	14
CZECH	PRAGUE	10	2	18	-3	6	3.2	19	-9
POLAND	WARSAW	8	1	17	-4	4	3.0	13	-10
	LODZ	9	2	16	-3	5	3.2	16	-20
	KATOWICE	10	1	18	-6	6	3.4	25	-13
	PRZEMYSL	8	2	19	-3	5	3.1	11	-20
HUNGAR	BUDAPEST	12	4	22	-2	8	2.5	24	-2
YUGOSL	SARAJEVO	15	4	26	-3	9	5.2	43	-42
ROMANI	BUCHAREST	10	1	22	-7	6	1.7	8	-25
BULGAR	SOFTA	12	3	23	-7	7	2.3	13	-25
ITALY	MILAN	15	6	21	1	10	2.3	60	-19
	VERONA	14	6	18	2	10	2.4	68	12
	VENICE	15	7	20	-4	11	3.1	57	-6
	GENOA	16	11	20	7	14	2.1	44	-43
	ROME	18	9	26	2	13	2.8	30	-34
	NAPLES	18	9	26	6	14	3.4	61	-24
GREECE	THESSALONIKA	14	7	20	-1	10	0.9	45	4
	LARISSA	15	6	24	-3	10	0.9	51	9
	ATHENS	17	9	21	4	13	0.3	38	4
TURKEY	ISTANBUL	10	4	15	0	7	0.3	54	-9
	ANKARA	13	-1	23	-12	6	1.0	14	-13
CYPRUS	LARNACA	20	10	30	4	15	1.7	57	18
USSR	TALLINN	3	-2	7	-8	1	3.2	39	15
	LENINGRAD	2	-3	9	-11	-1	2.3	39	10
	KAUNAS	5	0	16	-5	2	3.3	20	-9
	MINSK	4	-2	14	-10	1	3.4	20	-15
	KAZAN	-2	-8	3	-18	-5	0.9	28	7
	MOSCOW	2	-5	9	-13	-1	2.1	39	3
	SVERDLOVSK	-4	-12	3	-25	-8	-3.2	38	21
	OMSK	-8	-18	3	-27	-13	-3.3	22	11
	KUSTANAY	-4	-12	5	-26	-8	1.3	11	-4
	KRASNOYARSK	-5	-15	9	-25	-10	-2.2	15	1
	NOVOSIBIRSK	-7	-16	5	-27	-11	0.3	6	-9
	BARNAUL	-6	-14	7	-23	-10	-1.8	16	-6
	KHABAROVSK	-4	-14	4	-21	-9	-1.3	1	-17
	VLADIVOSTOK	1	-6	7	-11	-2	0.5	15	-10
	KIEV	5	-3	17	-10	1	1.0	7	-32
	LVOV	7	0	19	-10	4	3.0	5	-34
	KIROVOGRAD	5	-3	19	-12	1	1.3	6	-18

Based on Preliminary Reports

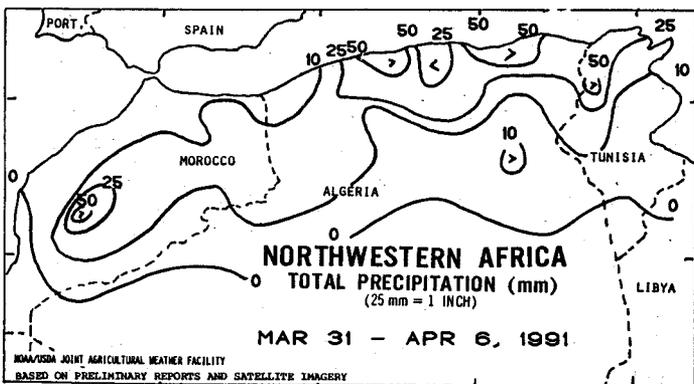
MARCH 1991

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)												
		AVG	AVG	HI	LO	DPART	MAX	MIN	TOTAL			DPART	AVG	AVG	HI	LO	DPART	MAX	MIN	TOTAL	DPART								
USSR	ODESSA	5	1	20	-5	3	0.5	1	-27	TANZAN	DAR ES SALAAM	32	23	35	21	28	0.2	75	-59	TOGO	LOME	32	26	35	20	29	0.5	28	-42
	YALTA	8	3	14	-2	5	-0.8	36	-6	B FASO	OUAGADOUGOU	39	25	42	20	32	1.1	0	-6	IVRY C	ABIDJAN	32	26	36	22	29	1.2	54	-61
	VORONEZH	1	-7	8	-20	-3	0.4	22	-9	MOZAMB	MAPUTO	30	22	41	17	26	0.7	75	-14	ZAMBIA	KAEWE	27	17	30	13	22	1.5	78	-36
	SARATOV	-1	-6	5	-17	-4	1.2	18	-2	ZIMBAB	HARARE	27	16	30	11	22	1.9	55	-32	S AFRI	PRETORIA	26	16	33	12	21	0.7	161	87
	KHARKOV	3	-4	12	-14	-1	0.5	21	-7	KROONSTAD		26	14	33	10	20	-0.2	89	7	JOHANNESBURG		23	13	30	9	18	0.1	127	47
	VOLGOGRAD	2	-5	14	-16	-2	1.1	17	-13	BETHAL		24	12	30	6	18	-0.2	80	2	DURBAN		27	21	35	18	24	0.7	234	108
	ROSTOV	4	-2	16	-11	1	0.1	49	13	CAPE TOWN		27	15	38	10	21	1.7	11	-3	CANADA	TORONTO	6	-3	16	-11	2	2.5	98	37
	ASTRAKHAN	7	-2	20	-9	3	2.0	19	3	MONTREAL		3	-5	12	-14	-1	1.6	95	22	WINNIPEG		-1	-10	14	-30	-5	2.5	28	5
	KRASNODAR	9	1	20	-4	5	1.5	48	-8	REGINA		1	-11	14	-27	-5	2.5	31	13	SASKATOON		0	-12	16	-29	-6	2.9	11	-7
	ORENBURG	-2	-10	4	-23	-6	-0.3	6	-16	LETHBRIDGE		4	-8	19	-24	-2	0.1	21	-3	CALGARY		2	-9	16	-23	-4	0.3	21	5
	TSELINGRAD	-7	-15	4	-28	-11	-0.4	20	11	EDMONTON		1	-10	16	-28	-4	0.4	22	3	VANCOUVER		9	2	14	-3	5	-0.4	105	4
	KARAGANDA	-6	-14	14	-25	-10	-2.2	17	-1	MEXICO	GUADALAJARA	29	9	33	4	19	-0.3	0	-6	MEXICO	CITY	29	13	36	7	21	5.3	0	-9
	TBILISI	10	3	21	-3	7	0.2	82	50	ACAPULCO		31	23	33	20	27	0.5	0	0	BERMUD	ST. GEORGES	22	16	24	9	19	1.3	236	123
	TASHKENT	13	4	24	-3	9	0.6	64	-15	BAHAMA	NASSAU	28	19	31	10	23	1.3	32	1	CUBA	HAVANA	29	20	33	16	25	1.3	10	-33
	ASHKHAHAD	13	6	24	-2	9	0.0	80	35	JAMAIC	KINGSTON	31	24	34	20	27	1.2	14	-6	P RICO	SAN JUAN	30	22	32	21	26	0.7	51	-5
	DAMASCUS	20	6	30	-2	13	1.2	83	60	GUADEL	RAIZET	30	22	31	20	26	1.8	31	-16	BARBAD	BRIDGETOWN	30	24	30	21	27	0.7	25	-14
	JERUSALEM	17	9	26	3	13	0.9	121	30	TRINID	PORT OF SPAIN	31	22	33	20	27	1.2	31	-1	COLOMB	BOGOTA	19	9	23	1	14	0.4	128	69
	KARACHI	32	19	41	11	25	0.8	0	-11	VENEZU	CARACAS	29	23	32	21	26	1.1	16	-9	F GUIA	CAYENNE	29	24	31	17	26	0.8	140	-264
	AMRITSAR	27	11	38	5	19	-0.8	0	-29	BRAZIL	FORTALEZA	28	24	30	22	26	-0.7	581	253	RECIFE		29	23	31	21	26	-0.3	119	-133
	NEW DELHI	29	16	37	12	23	0.1	6	-11	BELO	HORIZONTE	27	20	30	17	24	0.5	203	67	CAMPO	GRANDE	29	21	33	17	25	1.2	248	108
AHMEDABAD	36	20	43	15	28	0.9	0	0	FRANCA		26	20	30	16	23	1.7	378	191	RIO DE	JANEIRO	28	24	34	21	26	-0.4	221	78	
INDORE	35	17	41	13	26	0.6	0	-3	LONDRINA		28	20	32	17	24	0.7	97	-37	SANTA	MARIA	30	19	33	13	24	1.6	101	-8	
CALCUTTA	34	23	39	19	28	0.9	0	-22	PORTO	ALEGRE	29	17	36	10	23	-0.1	64	-25	PERU	LIMA	28	20	31	18	24	2.0	0	-1	
VERAVAL	31	17	41	13	24	-1.0	0	0	BOLIVI	LA PAZ	14	4	18	1	9	0.0	78	1	CHILE	SANTIAGO	28	9	33	6	19	1.0	0	-3	
BOMBAY	32	21	39	17	26	-0.2	0	0	ARGENT	IGUAZU	31	21	36	16	26	***	44	****	FORMOSA		31	22	35	15	27	1.8	215	58	
POONA	36	16	39	12	26	-0.3	0	-5	CERES		30	19	35	12	24	1.6	127	-8	CORDOBA		28	17	33	12	23	2.4	66	-46	
BEGAMPET	37	23	39	21	30	2.0	1	-10	RIO	CUARTO	27	17	32	10	22	2.5	93	-18	ROSARIO		29	17	34	11	23	2.4	29	-138	
MADRAS	34	24	39	22	29	0.7	0	-3	BUENOS	AIRES	28	16	33	8	22	1.8	36	-64	SANTA	ROSA	29	15	35	7	22	2.4	20	-65	
MANGALORE	34	24	37	20	29	0.8	0	-9	TRES	ARROYOS	26	13	32	5	19	1.5	53	-43	MIDW I	MIDWAY ISLAND	22	18	24	14	20	0.8	64	-68	
H KONG	22	19	28	14	21	2.4	63	8	N CALD	NOUMEA	27	22	31	20	25	-0.5	203	85	FIJI	NAUSORI	30	24	33	21	27	0.5	310	-63	
N KREA	6	-3	18	-11	2	-0.7	10	-42	SAMOA	PAGO PAGO	31	25	33	24	28	1.1	224	-61	TAHITI	PAPEETE	32	25	34	23	29	1.6	176	22	
S KREA	10	1	19	-6	5	1.8	92	37	N ZEAL	AUCKLAND	22	14	25	10	18	-0.5	54	-28	PA N G	PORT MORESBY	30	23	32	22	26	-0.6	75	-128	
JAPAN	4	-3	11	-7	1	0.8	65	-13	AUSTRAL	DARWIN	31	25	34	22	28	0.0	121	-182	MOREE		31	18	35	11	24	0.6	38	-10	
NAGOYA	15	6	23	0	10	2.9	185	86	BRISBANE		28	19	30	17	23	-0.8	23	-127	PERTH		28	16	40	7	22	-0.9	2	-13	
TOKYO	12	7	22	2	10	1.2	170	67	CEDUNA		25	12	38	7	18	-1.8	3	-16	ADELAIDE		24	14	36	9	19	-1.6	8	-8	
YOKOHAMA	12	6	21	0	9	1.0	196	78	MELBOURNE		22	11	39	7	16	-1.9	23	-11	WAGGA		28	13	38	5	20	-0.4	10	-30	
KYOTO	14	6	21	0	10	3.2	188	81	WAGGA		25	10	33	5	18	0.1	16	-37	CANBERRA		25	10	33	5	18	0.1	16	-37	
OSAKA	14	7	22	1	11	2.3	151	51	PHILIP	MANILA	32	24	33	21	28	0.6	19	13											
THAILN	PHETCHABUN	38	24	41	19	31	1.6	18	-26																				
BANGKOK	34	27	38	25	31	1.3	12	-10																					
MALAYS	KUALA LUMPUR	34	24	37	23	29	2.2	315	86																				
VIETNM	HANOI	24	21	28	15	22	2.4	131	93																				
CHINA	HARBIN	2	-11	11	-20	-5	2.0	10	-1																				
HAMI		12	-3	17	-9	5	0.3	0	-1																				
LANCHOW		13	2	23	-4	7	2.2	14	6																				
BELJING		9	0	18	-5	5	0.1	25	17																				
TIENTSIN		9	1	21	-5	5	0.0	10	4																				
LHASA		14	-2	20	-7	6	1.4	2	-1																				
KUNMING		22	7	25	4	15	1.9	24	10																				
CHENGCHOW		11	1	24	-3	6	-2.1	63	36																				
YEHCHANG		13	7	26	1	10	-1.3	62	1																				
HANKOW		12	6	24	0	9	-1.1	123	19																				
CHIHKIANG		13	8	30	3	11	-0.2	139	56																				
SHANGHAI		11	6	22	1	9	0.3	133	55																				

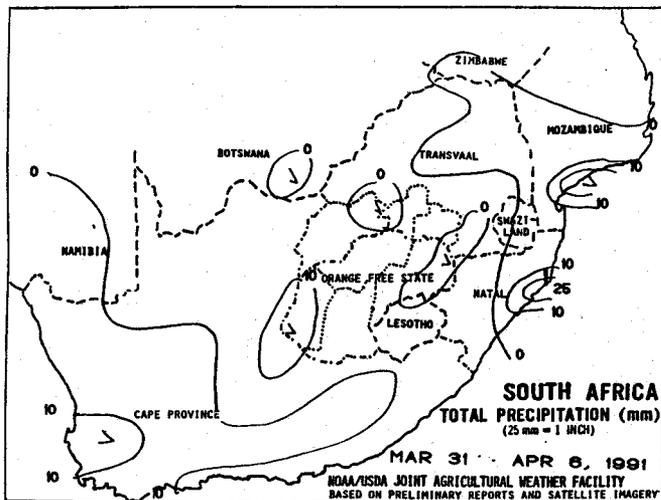


**WESTERN USSR ...** Unseasonably warm, dry weather over the southern Baltic States, Belorussia, the Black Soils Region, and the western and northern Ukraine helped to condition soils for spring planting just beginning in southern crop areas. Although light showers (10-25mm) in the southeastern Ukraine and the North Caucasus caused some temporary interruptions in fieldwork, the moisture was beneficial in increasing topsoil moisture for planting as well as for winter grains breaking dormancy. Winter grains were greening over the southern Ukraine and western North Caucasus at near-normal dates. Reports indicate winter grains were in good to excellent condition and most winter grain areas were without snow cover. Regarding the upcoming spring planting season, more spring fieldwork is needed this year because of last fall's wet field conditions.

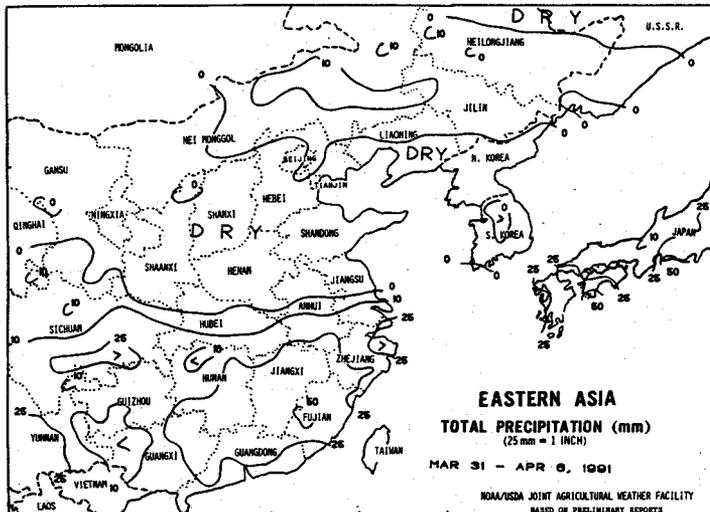
**EUROPE ...** Winter grains were in the vegetative stage in the north and advancing through reproduction in Mediterranean areas. Mostly dry weather continued over the north, helping fieldwork for spring planting. At week's end, an approaching storm brought widespread rain (10-33mm) to Ireland and England. Significant rain (10-52mm) benefited winter grains in Italy and Greece. In southeastern Europe, dry weather returned to Hungary, Romania, eastern Yugoslavia, and most of Bulgaria, helping early spring fieldwork. Weekly average temperatures over the continent were near to slightly below normal in the west and south and 3-5 degrees C above normal in the northeast.



**NORTHWESTERN AFRICA ...** Winter grains were advancing through reproduction over the region. In Morocco, little precipitation covered coastal crop areas, while light to moderate showers (16-73mm) covered marginal producing areas further east. Beneficial rain (11-51mm) continued over crop areas in Algeria and Tunisia. Weekly average temperatures were 1 to 3 degrees C below normal in Morocco and 5 to 7 degrees C below normal in eastern Algeria and Tunisia. On April 6, localized frost (minimum temperatures as low as -1 degrees C) covered winter grains in eastern Algeria and southern Tunisia, creating the potential for some minor damage, especially to crops in the flowering stage.

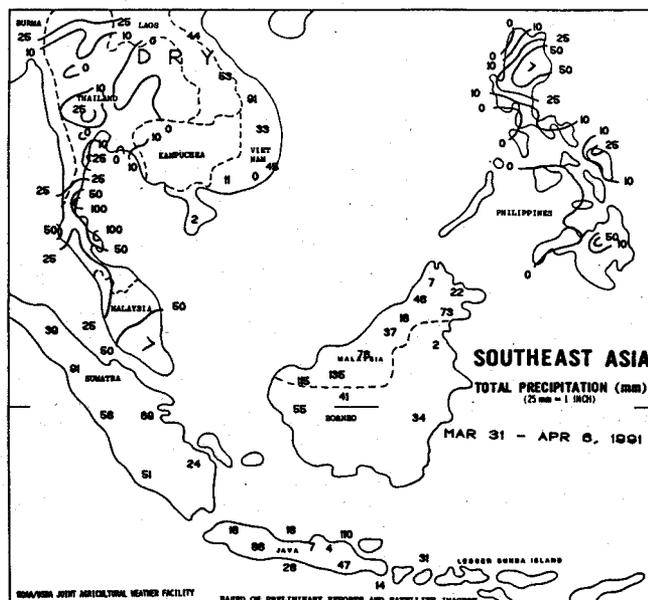


**SOUTH AFRICA** ... Dry, seasonably warm weather covered South Africa's primary crop regions, favoring growth of late-planted corn and, in general, benefiting maturing crops planted on schedule. Temperatures averaged near to slightly above normal across the Maize Triangle, with highs in the west averaging in the upper 20's C. The unusually late planted corn during January in the western Maize Triangle advanced through reproduction with adequate moisture. On April 8, an early freeze likely caused local damage in the west. More details will be presented in next week's issue.



**EASTERN ASIA** ... Beneficial showers (10-85mm) covered most of southern China, reaching single crop rice areas as far west as Yunnan and southern Sichuan for the first time this spring. The recent rains along China's southern coast benefited newly planted rice. Spring plantings elsewhere in southern China will begin in April and May as seasonal warming progresses. Further north, dry weather covered all but the southernmost winter wheat areas. Colder weather accompanied the dryness early in the week, with lows of -1 to -5 degrees C burning some new growth. By week's end, however, seasonably warmer weather returned to the region, stimulating vegetative growth.

**SOUTHEAST ASIA** ... Early-week scattered showers (10-41mm) and milder weather brought relief to grain regions of northern and western Thailand, affected in recent weeks by unseasonably hot and dry weather. Temperatures averaged 1-3 degrees C below normal over most Thai rice and corn areas, but hot weather returned by week's end, reducing prospects for early plantings. Elsewhere in Indochina, moderate to heavy showers (25-50mm or more) fell from central to northern Vietnam, as well as most plantation crop regions of peninsular Thailand. To the south, late-season rains (25-133mm) lingered over Indonesia and Malaysia. In the Philippines, highly beneficial rainfall (10-79mm) over Luzon's grain regions, including the Cagayan Valley, boosted preplanting moisture reserves, following several months of unseasonably dry weather.





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(Continued from front cover)

form of showers by Friday. Heavy afternoon thunderstorms returned to **southern Florida** at midweek. Thursday rainfall was 6 inches at **Hollywood, FL**. Heavy rain and gusty winds stormed the **Pacific Northwest** on Wednesday. **Seattle, WA**, attained its record April rainfall by the 4th; the former monthly record was 4.19 inches. Heavy rain and strong thunderstorms broke out in **southern Texas** on Thursday under a subtropical fetch of moisture. Intense rains on Friday induced major flooding in **southeastern Texas**. Rainfall included 10 inches in **Victoria** and 13 inches in **Brownsville**. As the week closed, maximum temperatures soared into the 90's as far north as **Wisconsin** and **South Dakota**, surpassing normal highs by as much as 40° F.

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