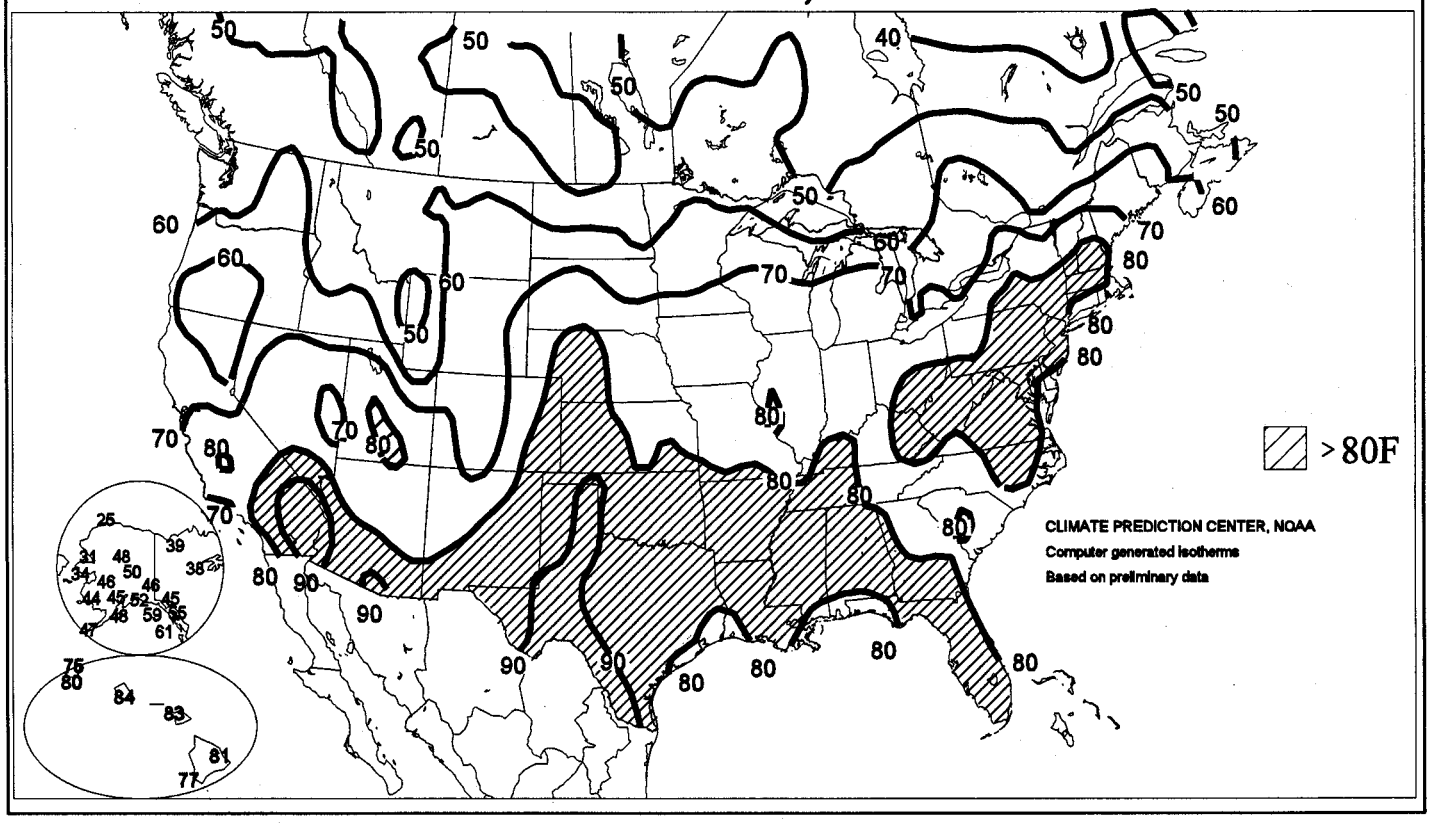
Volume 85, No. 13 March 31, 1998

WEEKLY WEATHER AND CROP BULLETIN

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

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

Extreme Maximum Temperature (F)
MAR 22 - 28, 1998



HIGHLIGHTS

March 22 - 28, 1998

Summer-like weather suddenly replaced wintry conditions in the **eastern two-thirds** of the Nation, while cool, unsettled weather displaced a mild and relatively tranquil pattern in the **Far West**. Additionally, most States along the **Gulf of Mexico** and **Atlantic Coast** experienced a rare event this year--dry weather. Unfortunately, after a month's respite, heavy rains (2 to 4 inches) returned to **southern California**, producing another round of mudslides and flash flooding, while snows blanketed the **Sierra Nevada** and higher elevations of **southern California** as readings dropped into the 30's by week's end. In sharp contrast, the mercury climbed to record-high levels in the **southern Rockies** and

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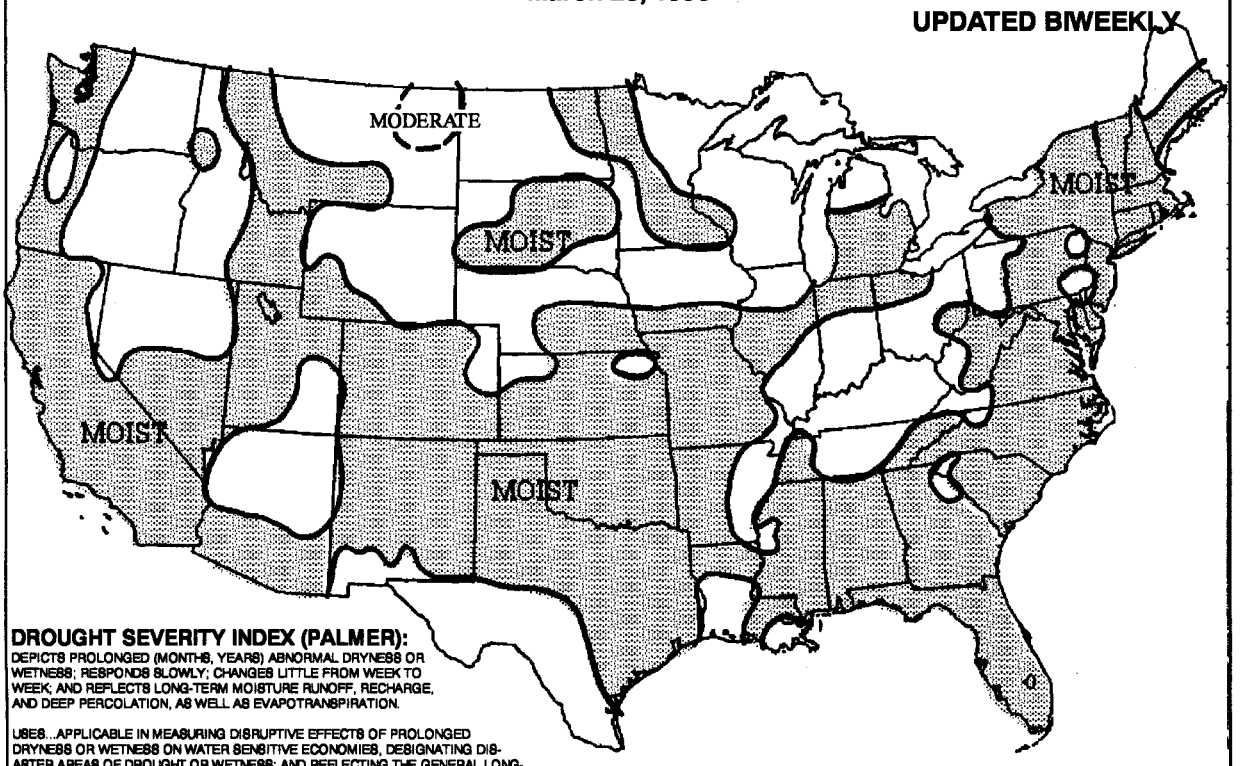
DROUGHT SEVERITY
(LONG TERM, PALMER)
March 28, 1998

UPDATED BIWEEKLY



DROUGHT SEVERITY INDEX (PALMER):
DEPICTS PROLONGED (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 DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.

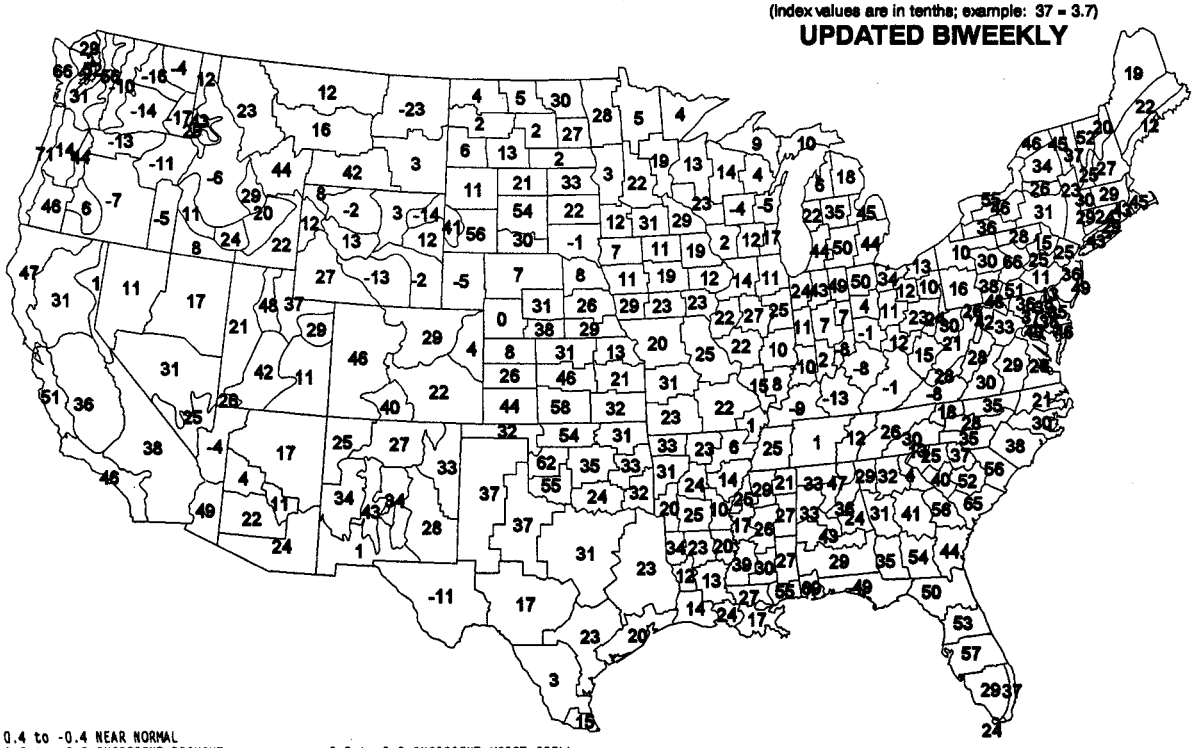
LIMITATIONS...IS NOT GENERALLY INDICATIVE OF SHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY Based on preliminary reports

DROUGHT SEVERITY INDEX BY DIVISION
(LONG TERM, PALMER)
March 28, 1998

(Index values are in tenths; example: 37 = 3.7)

UPDATED BIWEEKLY



0.4 to -0.4 NEAR NORMAL
-0.5 to -0.9 INCIPIENT DROUGHT
-1.0 to -1.9 MILD DROUGHT
-2.0 to -2.9 MODERATE DROUGHT
-3.0 to -3.9 SEVERE DROUGHT
BELOW -4.0 EXTREME DROUGHT

0.5 to 0.9 INCIPIENT MOIST SPELL
1.0 to 1.9 MOIST SPELL
2.0 to 2.9 UNUSUAL MOIST SPELL
3.0 to 3.9 VERY MOIST SPELL
ABOVE 4.0 EXTREME MOIST SPELL

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY Based on preliminary reports

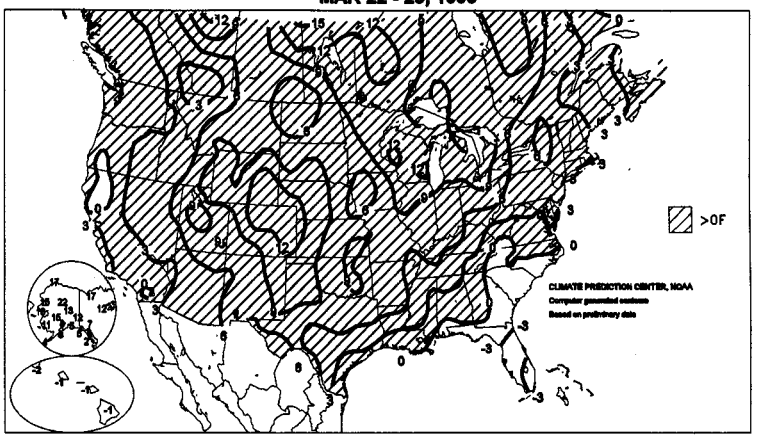
(Continued from front cover)

Plains Monday through Wednesday. Farther east, after a cool start to the week, temperatures rebounded into the 70's across the **Great Lakes** on Thursday and into the 80's by Saturday in **New England**, including all-time March record highs (86°F) at both **Blue Hill Observatory, MA** and **Concord, NH**. All told, over 100 daily record highs were set, and more than 60 record-high minimums were established. The greatest temperature departures (+9 to +16°F), however, were located in the **central Rockies** and **Plains** as alternating conditions kept weekly departures close to normal in the **western** and **eastern thirds** of the country. Across **central** and **northern Alaska**, temperatures averaged 10 to 20°F above normal for the third consecutive week, although more seasonable readings occurred after midweek. In **Hawaii**, cool and showery weather finally brought some measurable March rain to **Honolulu**--but only 0.02 inches. Other locations reported 0.10 to 0.60 inches; however, these weekly totals were still well below normal.

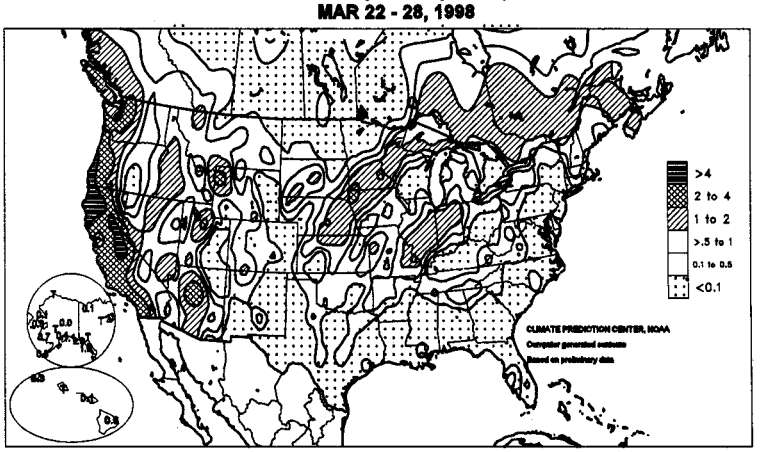
On Sunday, an intense but departing storm system off **Cape Cod** dropped the week's only significant precipitation in the **East** on **New England** as a large dome of high pressure gradually slipped southeastward out of **Canada** into the **Great Lakes** and **mid-Atlantic** regions, keeping the **eastern third** of the United States cool and relatively dry the first half of the week. Meanwhile in the **Far West**, a strong Pacific storm system brought heavy rain and strong winds to **northern California** and **southern Oregon**, including a record 2.04 inches at **Eureka, CA** on March 22. Ahead of the approaching system, warm southwesterly flow began to push the mercury to record-high levels in the **southern** and **central Rockies** and **Plains**. During Monday, at least 25 locations, mostly in **Utah, New Mexico**, and **western Texas**, set record highs, including 90°F at **Midland, TX**, and the warmth persisted into the night as 19 cities observed their highest minimum temperature for the 24th. Tuesday afternoon was a near copy of Monday as another 21stations tied or broke their record high.

As the cold front advanced southeastward into **southern California** by Tuesday, unstable cold air aloft generated severe thunderstorms in central portions of the

Departure of Average Temperature from Normal (°F)
MAR 22 - 28, 1998



Total Precipitation (inches)
MAR 22 - 28, 1998



State that dropped hail and heavy rains, and spawned a few weak tornadoes. By Wednesday afternoon, rain totals of 1 to 3 inches were common across **southern California**, with 6 to 18 inches of snow falling overnight on the **San Bernardino, Riverside**, and **San Diego Mountains**. Unsettled, cool weather spread over the **Southwest** in response to a slow-moving upper-air low pressure center. Farther east, 13 more record highs and 11 additional high lows were set on March 25 as the warmth advanced northeastward, while the cool high pressure center retreated off the **Delaware coast**. Eight more locations, mainly in the **Great Lakes**, reported record warmth on Thursday, and eight others observed record-high minimums.

Record warmth finally spread to the **East** by Friday, with 24 and 16 maximum and high minimum records set, respectively. The next day, the thermometer broke 80°F northward into **central Vermont** and **New Hampshire** as another 13 records fell. Meanwhile, the **Southwestern** storm system slowly tracked northeastward, producing showers and thunderstorms in the **central Plains** and **upper Midwest**. **Grand Island, NE** measured a record 1.57 inches of rain on March 27 while **Ely, NV** set a daily and March record of 1.02 inches. As the leading edge of cooler air slowly tracked into the unseasonably warm and humid air on Saturday, severe thunderstorms developed in the **Midwest**, including a tornadic cell that caused considerable property damage in **Mattoon, IL**. In the cooler air to the north, light to moderate rains dampened the **north-central Great Plains** and **western Great Lakes**. A trailing upper-air disturbance over **Arizona** kept the **Southwest** unsettled and unseasonably cold. The 0.37 inches of rain at **Bakersfield, CA** on Saturday was enough to push their seasonal total to a record 11.75 inches.

National Weather Data for Selected Cities

Weather Data for the Week Ending March 28, 1998

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7511) and the Southern Regional Climate Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	72	46	80	28	59	2	0.03	-1.38	0.03	4.89	87	21.47	139	87	45	0	1	1	0
	HUNTSVILLE	70	47	80	32	58	4	0.67	-0.83	0.55	4.27	71	18.85	118	86	47	0	1	2	1
	MOBILE	74	50	79	34	62	-1	0.05	-1.35	0.01	11.03	189	32.23	201	99	51	0	0	5	0
	MONTGOMERY	76	45	82	34	60	1	0.00	-1.37	0.00	2.60	46	16.50	104	87	37	0	0	0	0
AK	ANCHORAGE	41	30	45	27	36	8	0.06	-0.09	0.06	0.06	9	0.69	31	89	60	0	6	1	0
	BARROW	9	0	25	-12	5	17	0.01	-0.02	0.01	0.05	45	0.05	14	88	68	0	7	1	0
	FAIRBANKS	42	16	50	13	29	13	0.00	-0.08	0.00	0.00	0	0.08	7	91	50	0	7	0	0
	JUNEAU	45	30	55	26	38	3	–	–	–	–	–	–	–	96	68	0	5	5	0
	KODIAK	42	33	48	30	37	3	–	–	–	–	–	–	–	80	51	0	3	4	0
	NOME	26	17	34	7	21	10	0.27	0.14	0.12	0.99	215	2.20	118	88	72	0	7	4	0
AZ	FLAGSTAFF	52	28	66	23	40	3	2.21	1.65	1.19	3.72	160	7.16	111	88	49	0	7	4	2
	PHOENIX	79	56	92	49	68	4	0.47	0.29	0.39	0.66	80	3.94	181	68	27	1	0	3	0
	PRESCOTT	64	39	73	31	51	7	1.59	1.21	0.75	2.38	142	5.20	110	74	41	0	1	4	2
	TUCSON	78	50	89	45	64	4	0.30	0.15	0.27	0.55	86	3.91	179	63	23	0	0	2	0
	YUMA	83	58	94	49	70	4	0.22	0.16	0.21	0.29	132	1.55	199	61	30	2	0	2	0
AR	FORT SMITH	76	49	85	32	62	8	0.43	-0.51	0.43	4.26	120	15.07	187	85	47	0	1	1	0
	LITTLE ROCK	73	52	82	34	62	6	0.12	-1.06	0.07	3.95	89	14.16	126	85	48	0	0	2	0
CA	BAKERSFIELD	68	48	84	40	58	0	1.52	1.30	0.81	2.28	240	8.95	312	92	53	0	0	5	1
	EUREKA	57	46	64	35	52	2	4.12	2.99	2.12	6.82	128	22.48	145	92	74	0	0	7	2
	FRESNO	66	51	83	40	59	2	2.78	2.38	0.98	3.26	191	11.46	210	91	48	0	0	4	3
	LOS ANGELES	64	53	68	50	59	0	1.96	1.58	1.39	2.99	163	20.05	297	95	73	0	0	4	1
	REDDING	58	46	63	36	52	-1	2.36	1.45	1.26	4.92	122	34.35	236	95	61	0	0	6	1
	SACRAM/MCCLELL	64	51	70	43	58	–	0.89	–	0.54	1.23	–	20.40	–	97	59	0	0	4	1
	SAN DIEGO	65	55	71	50	60	0	1.58	1.21	0.83	1.89	117	12.22	246	86	61	0	0	4	2
	SAN FRANCISCO	62	52	67	43	57	3	1.09	0.46	0.40	1.75	62	23.63	229	90	63	0	0	7	0
CO	ALAMOSA	60	27	71	20	44	8	0.38	0.27	0.16	0.58	141	0.61	64	84	23	0	7	3	0
	CO SPRINGS	64	37	73	27	50	11	0.30	0.06	0.15	1.92	229	2.29	151	67	24	0	1	2	0
	DENVER	69	39	75	34	54	13	0.00	-0.33	0.00	1.06	94	1.33	61	69	19	0	0	0	0
	GRAND JUNCTION	64	44	76	37	54	8	0.41	0.19	0.26	1.31	158	2.26	120	76	36	0	0	3	0
	PUEBLO	73	34	80	27	53	9	0.84	0.65	0.48	2.63	381	2.89	221	84	21	0	3	2	0
CT	BRIDGEPORT	53	35	71	27	44	3	0.08	-0.80	0.08	3.35	99	11.98	124	84	48	0	4	1	0
	HARTFORD	56	33	84	22	44	4	0.07	-0.78	0.07	4.59	140	11.08	112	82	42	0	4	1	0
DC	WASHINGTON	61	41	81	31	51	1	0.00	-0.71	0.00	5.61	197	16.25	196	77	39	0	3	0	0
DE	WILMINGTON	59	39	82	27	49	3	0.02	-0.78	0.02	4.92	159	12.66	140	82	42	0	4	1	0
FL	DAYTONA BEACH	73	51	79	41	62	-4	0.00	-0.61	0.00	3.86	146	15.44	181	91	48	0	0	0	0
	JACKSONVILLE	74	47	82	40	60	-3	0.01	-0.77	0.01	2.69	80	17.30	163	95	42	0	0	1	0
	KEY WEST	75	66	81	61	71	-4	0.20	-0.18	0.20	3.01	194	10.31	192	81	62	0	0	1	0
	MIAMI	77	64	82	56	70	-3	0.02	-0.53	0.02	3.92	181	11.56	185	75	51	0	0	1	0
	ORLANDO	76	53	84	46	64	-4	0.00	-0.66	0.00	5.00	169	15.72	190	90	45	0	0	0	0
	TAMPA	75	55	83	47	65	-3	0.00	-0.58	0.00	5.18	185	20.64	263	91	53	0	0	0	0
	VALPARAISO/EGLIN	71	49	75	39	60	0	0.00	-1.30	0.00	1.59	32	17.44	130	86	46	0	0	0	0
	WEST PALM BEACH	76	63	82	51	69	-2	0.00	-0.81	0.00	4.03	121	21.43	243	77	52	0	0	0	0
GA	ATHENS	69	45	79	31	57	1	0.09	-1.12	0.05	5.07	102	18.65	133	91	44	0	1	2	0
	ATLANTA	68	47	77	37	57	1	0.12	-1.16	0.10	6.28	120	19.28	130	90	44	0	0	2	0
	AUGUSTA	72	41	80	31	57	-1	0.00	-1.01	0.00	6.10	144	19.97	159	93	40	0	1	0	0
	COLUMBUS	75	48	82	36	62	2	0.00	-1.28	0.00	4.61	88	12.05	82	86	35	0	0	0	0
	MACON	73	45	79	34	59	0	0.00	-1.03	0.00	4.23	97	16.17	118	90	41	0	0	0	0
	SAVANNAH	71	46	81	39	58	-3	0.00	-0.84	0.00	4.06	118	18.44	180	93	50	0	0	0	0
HI	HILO	78	65	81	63	71	-1	0.64	-2.73	0.30	1.57	13	4.01	12	93	66	0	0	7	0
	HONOLULU	80	68	84	64	74	-1	0.02	-0.46	0.02	0.02	1	1.00	13	70	50	0	0	2	0
	KAHULUI	80	65	83	61	73	-1	0.12	-0.47	0.12	0.12	5	0.98	10	81	50	0	0	1	0
	LIHUE	77	66	80	60	71	-2	0.29	-0.67	0.17	0.31	8	4.24	33	81	60	0	0	4	0
ID	BOISE	55	41	63	26	48	4	0.61	0.31	0.31	1.15	98	5.28	144	86	48	0	1	5	0
	LEWISTON	54	42	61	27	48	2	0.29	0.04	0.15	1.45	149	3.56	113	85	63	0	1	4	0
	POCATELLO	53	38	61	29	45	7	0.68	0.38	0.24	0.97	84	4.40	142	89	55	0	2	5	0
IL	CHICAGO/O'HARE	60	42	77	26	51	10	0.17	-0.53	0.16	3.80	160	8.18	156	76	43	0	3	2	0
	MOLINE	63	41	79	24	52	10	0.36	-0.42	0.28	3.02	114	8.70	161	86	47	0	2	2	0
	PEORIA	61	42	78	29	52	9	0.31	-0.44	0.24	3.93	152	9.12	165	89	50	0	2	4	0
	ROCKFORD	60	39	77	23	50	11	0.31	-0.34	0.31	1.95	90	5.89	128	83	43	0	3	1	0
	SPRINGFIELD	62	42	78	27	52	7	0.61	-0.20	0.41	3.70	128	8.82	143	89	52	0	3	4	0
IN	EVANSVILLE	66	46	79	29	56	7	0.01	-1.08	0.01	2.38	55	7.33	73	78	44	0	3	1	0
	FORT WAYNE	58	39	78	26	49	7	1.02	0.31	1.02	4.97	192	10.38	163	83	48	0	3	1	1
	INDIANAPOLIS	60	43	78	27	52	7	0.55	-0.36	0.43	4.99	146	8.74	107	89	52	0	3	4	0
	SOUTH BEND	58	39	77	21	49	8	0.71	-0.07	0.71	3.02	110	8.52	124	82	44	0	3	1	1
IA	BURLINGTON	65	43	81	28	54	11	0.26	-0.47	0.11	3.16	125	8.54	174	80	45	0	2	3	0
	CEDAR RAPIDS	59	38	76	22	48	9	0.18	-0.42	0.14	1.77	86	5.08	125	89	54	0	3	2	0
	DES MOINES	57	39	76	25	48	7	0.21	-0.40	0.11	2.08	102	4.86	113	88	59	0	3	3	0
	DUBUQUE	58	39	75	25	48	10	0.05	-0.69	0.04	1.70	66	5.89	111	85	51	0	3	2	0
	SIOUX CITY	56	37	80	26	47	7	1.57	1.07	1.35	2.80	154	4.08	132	96	68	0	3	5	1
	WATERLOO	56	37	75	21	47	8	0.14	-0.46	0.09	1.16	57	3.81	98	94	62	0	3	4	0
KS	CONCORDIA	65	44	78	31	54	9	0.86	0.31	0.84	1.78	90	4.15	126	89	56	0	1	3	1
	DODGE CITY	70	42	86	33	56	10	0.09	-0.31	0.09	2.33	169	3.42	137	91	41	0	0	1	0
	GOODLAND	72	37	84	31	55	13	0.03	-0.25	0.02	0.18	17	0.93	51	80	27	0	2	2	0
	TOPEKA	64	45	78	33	55	7	0.02	-0.61	0.02	2.14	98	3.70	89	84	53	0	0	1	0

Based on 1961-90 normals

Weather Data for the Week Ending March 28, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		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
	WICHITA	68	45	76	34	56	8	0.17	-0.43	0.17	3.77	173	5.11	130	88	50	0	0	1	0
KY	JACKSON	64	46	84	30	55	5	0.25	-0.82	0.21	2.81	65	10.99	92	78	37	0	2	3	0
	LEXINGTON	63	44	78	27	54	5	0.17	-0.85	0.15	2.91	73	9.48	94	80	40	0	2	2	0
	LOUISVILLE	66	49	80	32	58	8	0.25	-0.82	0.25	3.84	91	12.10	117	75	39	0	1	1	0
	PADUCAH	69	49	80	31	59	8	0.00	-1.16	0.00	2.86	65	10.68	92	77	45	0	1	0	0
LA	BATON ROUGE	77	52	83	34	64	1	0.00	-1.08	0.00	3.67	85	24.20	164	96	44	0	0	0	0
	LAKE CHARLES	75	54	80	37	64	1	0.01	-0.71	0.01	3.81	128	18.95	171	97	55	0	0	1	0
	NEW ORLEANS	75	55	80	44	65	1	0.00	-1.04	0.00	5.79	130	29.35	189	91	53	0	0	0	0
	SHREVEPORT	79	55	83	40	67	7	0.08	-0.72	0.08	2.34	72	15.37	139	86	42	0	0	1	0
ME	CARIBOU	40	21	61	8	30	2	0.95	0.37	0.37	3.03	138	9.71	149	93	50	0	5	4	0
	PORTLAND	51	29	75	22	40	4	0.02	-0.84	0.02	2.84	86	13.40	132	86	51	0	4	1	0
MD	BALTIMORE	62	39	84	25	51	4	0.02	-0.74	0.02	7.48	244	19.53	211	86	38	0	3	1	0
MA	BOSTON	56	37	85	29	46	5	0.35	-0.48	0.35	4.02	121	14.32	136	80	42	0	3	1	0
	WORCESTER	51	32	81	22	42	5	0.09	-0.82	0.09	5.89	165	13.64	127	83	42	0	5	1	0
MI	ALPENA	51	28	72	11	39	8	0.96	0.44	0.89	4.66	247	9.20	191	86	50	0	4	3	1
	GRAND RAPIDS	57	39	77	24	48	10	0.31	-0.36	0.31	3.82	165	9.45	169	79	45	0	4	1	0
	HOUGHTON LAKE	50	32	69	15	41	9	0.21	-0.29	0.21	2.28	127	5.28	118	82	51	0	4	1	0
	LANSING	56	37	76	19	47	9	0.41	-0.17	0.41	3.12	152	8.61	176	82	42	0	3	1	0
	MARQUETTE	44	23	55	0	34	6	0.99	0.31	0.87	3.83	153	7.68	120	96	57	0	5	4	1
	MUSKEGON	55	38	70	22	46	10	0.21	-0.42	0.21	2.49	112	6.83	113	80	41	0	3	1	0
MN	DULUTH	45	30	60	16	37	9	0.74	0.26	0.56	0.92	54	5.37	144	96	57	0	3	4	1
	INT'L FALLS	48	27	61	10	37	10	0.09	-0.18	0.09	0.28	30	1.99	81	91	50	0	4	1	0
	MINNEAPOLIS	55	35	72	20	45	10	1.66	1.17	1.53	1.96	114	4.40	124	92	56	0	3	5	1
	ROCHESTER	51	35	69	22	43	9	0.96	0.47	0.59	1.34	86	2.91	95	94	60	0	3	3	1
	ST. CLOUD	52	33	67	17	42	10	0.79	0.41	0.66	1.19	96	2.76	106	96	58	0	4	6	1
MS	JACKSON	77	50	84	31	64	4	0.01	-1.34	0.01	4.22	81	19.26	127	90	38	0	1	1	0
	MERIDIAN	77	46	84	28	62	3	0.01	-1.52	0.01	3.16	52	22.15	133	94	38	0	1	1	0
	TUPELO	72	48	81	29	60	3	0.05	-1.34	0.03	4.60	84	16.78	111	91	46	0	1	3	0
MO	COLUMBIA	65	45	78	30	55	8	0.57	-0.21	0.52	4.03	143	9.75	160	83	51	0	1	3	1
	KANSAS CITY	64	45	78	32	54	8	0.22	-0.41	0.22	2.44	109	4.50	102	81	54	0	1	1	0
	SAINT LOUIS	66	45	81	28	55	7	1.04	0.19	0.73	5.57	173	11.38	159	82	46	0	2	2	1
	SPRINGFIELD	68	46	79	29	57	7	0.51	-0.44	0.51	5.82	167	12.76	172	86	48	0	1	1	1
MT	BILLINGS	55	37	64	30	46	8	0.52	0.22	0.39	1.20	118	2.01	78	98	56	0	1	5	0
	BUTTE	46	31	55	23	39	8	0.25	0.06	0.11	0.87	128	2.17	135	88	52	0	5	4	0
	GLASGOW	50	30	63	25	40	6	0.46	0.35	0.25	0.73	203	1.14	114	87	47	0	5	3	0
	GREAT FALLS	50	34	60	27	42	6	0.16	-0.12	0.11	1.07	109	2.24	91	80	44	0	1	3	0
	KALISPELL	48	31	58	19	40	3	0.69	0.47	0.39	2.29	257	3.61	103	95	55	0	4	6	0
	MILES CITY	56	36	67	32	46	9	0.93	0.76	0.34	1.25	231	1.88	123	96	54	0	1	6	0
	MISSOULA	52	35	59	22	43	5	0.37	0.15	0.28	1.06	120	2.83	97	85	49	0	2	3	0
NE	GRAND ISLAND	59	39	76	28	49	8	1.72	1.24	1.57	1.97	118	2.85	99	95	64	0	3	4	1
	LINCOLN	58	38	76	25	48	5	0.92	0.38	0.87	3.06	165	5.06	163	96	68	0	3	4	1
	NORFOLK	56	38	79	26	47	8	1.35	0.88	1.06	2.13	129	2.65	90	96	67	0	3	4	1
	NORTH PLATTE	63	35	81	26	49	9	0.82	0.50	0.71	1.06	100	1.73	93	96	47	0	2	4	1
	OMAHA	57	38	78	26	47	5	1.00	0.48	1.00	2.99	165	4.59	138	93	66	0	3	3	0
	SCOTTSBLUFF	66	35	80	29	50	12	0.45	0.17	0.45	1.11	116	1.95	102	85	36	0	3	1	0
	VALENTINE	61	38	81	30	50	13	0.27	0.00	0.13	0.63	69	0.82	51	91	51	0	1	5	0
NV	ELY	55	33	70	22	44	8	1.17	0.95	1.02	1.28	151	3.39	151	73	35	0	4	3	1
	LAS VEGAS	72	52	88	40	62	4	1.17	1.09	0.52	1.31	336	4.37	331	70	34	0	0	4	1
	RENO	56	39	64	29	48	3	1.67	1.53	0.96	2.26	342	5.94	216	82	37	0	1	4	2
	WINNEMUCCA	54	38	73	30	46	4	0.83	0.64	0.25	1.04	149	4.31	208	90	52	0	2	7	0
NH	CONCORD	54	27	86	15	40	4	0.52	-0.11	0.51	3.60	146	9.69	129	87	41	0	5	2	1
NJ	NEWARK	60	39	84	30	49	4	0.20	-0.71	0.20	4.18	120	13.87	140	86	46	0	3	1	0
NM	ALBUQUERQUE	71	42	77	39	56	7	0.15	0.02	0.15	2.39	520	3.19	229	63	17	0	0	1	0
NY	ALBANY	54	31	83	14	42	4	0.30	-0.39	0.30	2.38	90	8.76	120	85	49	0	4	1	0
	BINGHAMTON	50	33	78	19	42	6	0.08	-0.58	0.07	3.23	128	10.83	149	77	49	0	4	2	0
	BUFFALO	52	32	77	16	42	5	0.55	-0.08	0.35	3.82	159	11.71	157	81	50	0	4	2	0
	ROCHESTER	55	35	83	16	45	8	0.39	-0.14	0.24	3.01	147	10.97	176	78	43	0	4	3	0
	SYRACUSE	53	34	83	20	44	6	0.25	-0.42	0.12	2.99	121	10.90	156	77	46	0	4	3	0
NC	ASHEVILLE	60	38	72	28	49	-1	0.02	-0.99	0.02	3.65	86	20.00	176	93	44	0	1	1	0
	CHARLOTTE	68	43	80	32	56	2	0.00	-0.94	0.00	3.01	74	12.57	108	84	37	0	1	0	0
	GREENSBORO	63	39	77	27	51	0	0.04	-0.77	0.04	3.66	109	14.93	151	82	41	0	1	1	0
	HATTERAS	55	46	63	39	51	-3	0.00	-0.95	0.00	2.15	68	19.61	148	93	75	0	0	0	0
	RALEIGH	65	42	79	32	54	0	0.00	-0.80	0.00	7.38	213	20.65	194	87	39	0	1	0	0
	WILMINGTON	68	45	78	38	57	0	0.00	-0.83	0.00	2.14	60	20.64	186	88	43	0	0	0	0
ND	BISMARCK	49	30	67	22	39	7	0.30	0.08	0.13	0.44	67	2.19	139	93	58	0	6	3	0
	DICKINSON	47	31	62	26	39	6	0.20	-0.02	0.11	0.39	66	2.78	212	94	64	0	4	4	0
	FARGO	45	32	56	24	38	8	0.02	-0.27	0.01	0.12	13	2.43	117	96	69	0	3	2	0
	GRAND FORKS	46	29	56	21	37	8	0.00	-0.24	0.00	0.49	59	2.43	120	97	70	0	4	0	0
	JAMESTOWN	49	30	63	23	39	8	0.06	-0.18	0.04	0.42	55	2.41	131	95	62	0	4	2	0
	WILLISTON	48	28	57	23	37	4	0.12	-0.07	0.12	0.32	53	2.43	155	93	61	0	6	1	0
OH	AKRON-CANTON	57	37	78	25	47	6	0.22	-0.55	0.12	2.55	86	8.76	119	79	40	0	4	2	0
	CINCINNATI	61	43	78	25	52	6	0.18	-0.81	0.16	3.42	90	9.72	107	80	46	0	3	2	0
	CLEVELAND	59	41	80	25	50	9	0.40	-0.29	0.37	3.31	127	9.14	134	77	40	0	4	3	0
	COLUMBUS	59	42	80	29	51	7	0.03	-0.74	0.03	1.92	65	6.69	91	77	39	0	4	1	0
	DAYTON	58	41	79	26	49	6	0.15	-0.67	0.15	2.50	81	8.12	110	81	47	0	4	1	0
	MANSFIELD	58	40	79	25	49	8	0.21	-0.59	0.19	2.23	76	7.69	111	83	43	0	4	2	0

Based on 1961-90 normals

Weather Data for the Week Ending March 28, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		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
	TOLEDO	58	39	78	25	48	9	0.45	-0.20	0.44	3.09	130	9.83	168	82	42	0	4	2	0
	YOUNGSTOWN	57	38	78	25	48	8	0.59	-0.15	0.20	3.02	108	9.75	140	82	41	0	4	4	0
OK	OKLAHOMA CITY	75	49	81	36	62	9	0.16	-0.47	0.16	5.33	219	9.54	187	83	39	0	0	1	0
	TULSA	74	50	84	35	62	8	0.28	-0.55	0.28	6.60	214	10.37	157	80	40	0	0	1	0
OR	ASTORIA	51	40	55	31	45	-1	3.92	2.42	1.41	10.00	155	36.71	153	99	73	0	1	7	4
	BURNS	50	34	59	24	42	4	0.56	0.34	0.41	1.23	134	6.45	242	94	52	0	3	5	0
	EUGENE	55	42	60	34	49	0	2.16	0.99	0.90	4.92	97	19.20	103	88	57	0	0	6	1
	MEDFORD	54	43	61	33	48	0	1.43	1.04	0.78	2.39	143	10.44	166	91	62	0	0	7	1
	PENDLETON	57	38	65	27	48	1	0.32	0.06	0.14	0.96	90	4.76	128	93	52	0	2	4	0
	PORTLAND	55	44	62	34	50	1	1.58	0.82	0.65	4.02	124	16.06	129	92	61	0	0	7	1
	SALEM	55	41	60	32	48	2	2.05	1.18	0.89	4.83	126	20.05	141	96	60	0	1	7	2
PA	ALLENTOWN	59	33	83	22	46	3	0.04	-0.72	0.04	3.81	129	11.08	122	87	44	0	4	1	0
	ERIE	56	37	80	21	47	8	0.57	-0.15	0.51	2.02	75	8.65	120	79	46	0	4	2	1
	MIDDLETOWN	60	39	85	25	50	5	0.04	-0.70	0.04	4.36	147	13.90	159	81	35	0	4	1	0
	PHILADELPHIA	59	39	82	30	49	4	0.02	-0.80	0.02	3.93	126	11.43	125	85	45	0	4	1	0
	PITTSBURGH	59	38	80	24	49	6	0.02	-0.78	0.02	1.95	63	8.13	102	76	37	0	4	1	0
	SCRANTON	56	35	79	22	46	5	0.07	-0.53	0.07	2.54	111	8.41	129	80	41	0	4	1	0
	WILLIAMSPORT	58	33	81	21	45	4	0.08	-0.66	0.08	2.85	99	13.39	164	86	40	0	4	1	0
RI	PROVIDENCE	57	34	83	25	45	5	0.04	-0.90	0.04	6.39	175	18.78	169	85	39	0	5	1	0
SC	BEAUFORT	69	48	78	40	59	-2	0.03	-0.88	0.03	2.51	67	18.76	175	91	50	0	0	1	0
	CHARLESTON	70	47	80	39	59	-2	0.00	-0.94	0.00	5.51	139	23.26	218	92	42	0	0	0	0
	COLUMBIA	70	41	81	31	56	-2	0.02	-1.03	0.02	4.27	97	17.43	134	93	39	0	1	1	0
	GREENVILLE	66	42	78	30	54	0	0.22	-0.97	0.20	4.16	85	17.87	133	88	41	0	2	2	0
SD	ABERDEEN	48	31	61	27	40	5	0.10	-0.25	0.10	0.26	22	1.65	82	95	63	0	4	1	0
	HURON	54	35	69	27	44	8	0.21	-0.21	0.08	0.36	24	1.31	52	93	57	0	3	5	0
	RAPID CITY	56	33	75	26	45	8	0.45	0.17	0.43	0.92	102	1.56	87	92	48	0	4	2	0
	SIOUX FALLS	53	35	77	25	44	7	1.84	1.40	1.54	2.67	185	3.83	148	95	60	0	3	5	1
TN	BRISTOL	62	37	80	25	50	0	0.06	-0.77	0.06	3.87	115	11.12	111	87	40	0	3	1	0
	CHATTANOOGA	68	46	81	36	57	4	0.23	-1.11	0.23	6.67	121	19.22	127	90	49	0	0	1	0
	KNOXVILLE	65	44	79	33	54	3	0.18	-0.95	0.17	4.64	100	11.96	93	80	43	0	0	2	0
	MEMPHIS	70	52	81	37	61	5	0.06	-1.21	0.06	4.52	93	16.81	130	82	47	0	0	1	0
	NASHVILLE	68	47	81	34	57	4	0.04	-1.07	0.04	2.30	53	10.08	86	78	41	0	0	1	0
TX	ABILENE	82	52	87	38	67	8	0.24	-0.09	0.24	3.19	266	5.04	149	76	31	0	0	1	0
	AMARILLO	77	42	87	33	59	10	0.03	-0.19	0.02	2.29	263	5.05	256	78	23	0	0	2	0
	AUSTIN	80	57	84	45	68	4	0.24	-0.18	0.24	2.20	131	8.13	146	84	42	0	0	1	0
	BEAUMONT	75	57	78	39	66	2	0.00	-0.74	0.00	4.48	151	18.34	165	94	60	0	0	0	0
	BROWNSVILLE	81	61	84	46	71	0	0.00	-0.14	0.00	0.62	135	2.71	88	91	51	0	0	0	0
	CORPUS CHRISTI	80	60	85	45	70	3	0.00	-0.19	0.00	2.49	293	6.20	137	92	52	0	0	0	0
	DEL RIO	86	58	91	47	72	6	0.00	-0.19	0.00	1.92	337	2.31	111	76	28	2	0	0	0
	EL PASO	79	48	86	39	63	6	0.00	-0.06	0.00	0.17	63	0.36	33	51	20	0	0	0	0
	FORT WORTH	79	56	84	39	68	8	0.12	-0.55	0.12	4.09	165	12.37	190	79	38	0	0	1	0
	GALVESTON	71	60	74	49	66	2	0.00	-0.49	0.00	1.43	72	11.88	158	95	72	0	0	0	0
	HOUSTON	79	55	83	37	67	4	0.00	-0.66	0.00	2.09	79	12.30	138	94	50	0	0	0	0
	LUBBOCK	81	46	90	32	63	9	0.08	-0.11	0.08	1.37	178	3.23	177	72	20	1	1	1	0
	MIDLAND	84	49	90	40	67	8	0.00	-0.14	0.00	0.44	80	1.17	75	64	15	1	0	0	0
	SAN ANGELO	83	51	88	36	67	6	0.09	-0.13	0.08	1.90	237	3.13	117	78	28	0	0	2	0
	SAN ANTONIO	79	57	82	40	68	4	0.05	-0.31	0.05	2.85	211	9.46	194	85	41	0	0	1	0
	VICTORIA	78	58	82	40	68	2	0.01	-0.35	0.01	2.03	147	7.03	126	92	52	0	0	1	0
	WACO	80	55	85	37	68	7	0.12	-0.44	0.12	2.12	101	12.28	211	86	41	0	0	1	0
	WICHITA FALLS	80	50	85	36	65	9	0.16	-0.39	0.16	2.90	148	7.65	172	81	36	0	0	1	0
UT	SALT LAKE CITY	63	43	75	33	53	9	1.53	1.06	0.80	2.75	161	9.27	228	84	42	0	0	5	2
VT	BURLINGTON	48	30	78	11	39	4	0.49	-0.05	0.44	3.48	176	10.46	193	80	54	0	4	4	0
VA	LYNCHBURG	61	36	82	22	48	-1	0.05	-0.73	0.05	3.99	127	17.92	198	84	39	0	5	1	0
	NORFOLK	63	45	80	36	54	3	0.00	-0.81	0.00	4.23	126	18.45	174	92	51	0	0	0	0
	RICHMOND	64	41	83	30	53	2	0.00	-0.80	0.00	6.72	205	19.34	200	86	38	0	2	0	0
	ROANOKE	61	39	84	28	50	0	0.00	-0.79	0.00	5.22	165	21.18	241	73	39	0	4	0	0
	WASH/DULLES	62	38	85	22	50	4	0.00	-0.72	0.00	5.68	199	16.91	202	85	38	0	4	0	0
WA	HANFORD	61	38	69	27	50	–	0.20	–	0.20	0.34	–	2.73	–	75	38	0	2	1	0
	OLYMPIA	54	38	60	27	46	1	2.17	1.13	1.09	5.33	118	22.37	122	99	63	0	2	6	1
	QUILLAYUTE	52	38	58	30	45	1	1.96	-0.47	0.62	6.54	62	37.46	100	99	71	0	2	6	2
	SEATTLE-TACOMA	53	43	58	36	48	2	1.69	0.95	0.82	4.08	126	14.52	115	96	68	0	0	4	1
	SPOKANE	52	36	60	26	44	4	0.57	0.24	0.43	1.24	91	4.89	101	92	54	0	2	3	0
	YAKIMA	56	35	62	24	45	1	0.51	0.37	0.44	0.71	116	4.51	176	88	45	0	2	2	0
WV	BECKLEY	56	37	80	23	47	2	0.07	-0.70	0.04	3.84	125	13.62	153	78	47	0	4	3	0
	CHARLESTON	63	40	85	27	51	2	0.03	-0.80	0.02	3.46	105	11.13	121	84	41	0	4	2	0
	ELKINS	58	31	82	20	45	2	0.21	-0.68	0.14	3.41	99	10.22	107	88	44	0	5	2	0
	HUNTINGTON	63	43	84	25	53	3	0.04	-0.81	0.02	2.03	61	10.64	117	74	38	0	2	2	0
WI	EAU CLAIRE	57	37	72	22	47	13	1.50	1.04	0.72	2.53	171	6.47	202	91	53	0	3	4	2
	GREEN BAY	55	36	71	22	46	12	0.03	-0.49	0.02	1.61	88	4.60	115	84	53	0	3	2	0
	MADISON	57	38	73	21	48	12	0.03	-0.53	0.03	1.94	101	5.63	139	80	48	0	3	1	0
	MILWAUKEE	57	41	75	26	49	12	0.12	-0.57	0.12	2.02	86	7.81	144	82	49	0	3	1	0
WY	CASPER	61	39	69	32	50	14	0.24	-0.01	0.19	0.33	40	1.38	70	76	38	0	1	4	0
	CHEYENNE	63	39	71	36	51	15	0.12	-0.15	0.08	0.56	62	0.93	55	74	26	0	0	3	0
	LANDER	57	33	64	26	45	8	0.34	0.03	0.26	1.21	122	1.91	93	77	42	0	2	4	0
	SHERIDAN	58	33	68	29	45	9	0.41	0.15	0.36	0.85	100	1.34	60	93	50	0	4	3	0

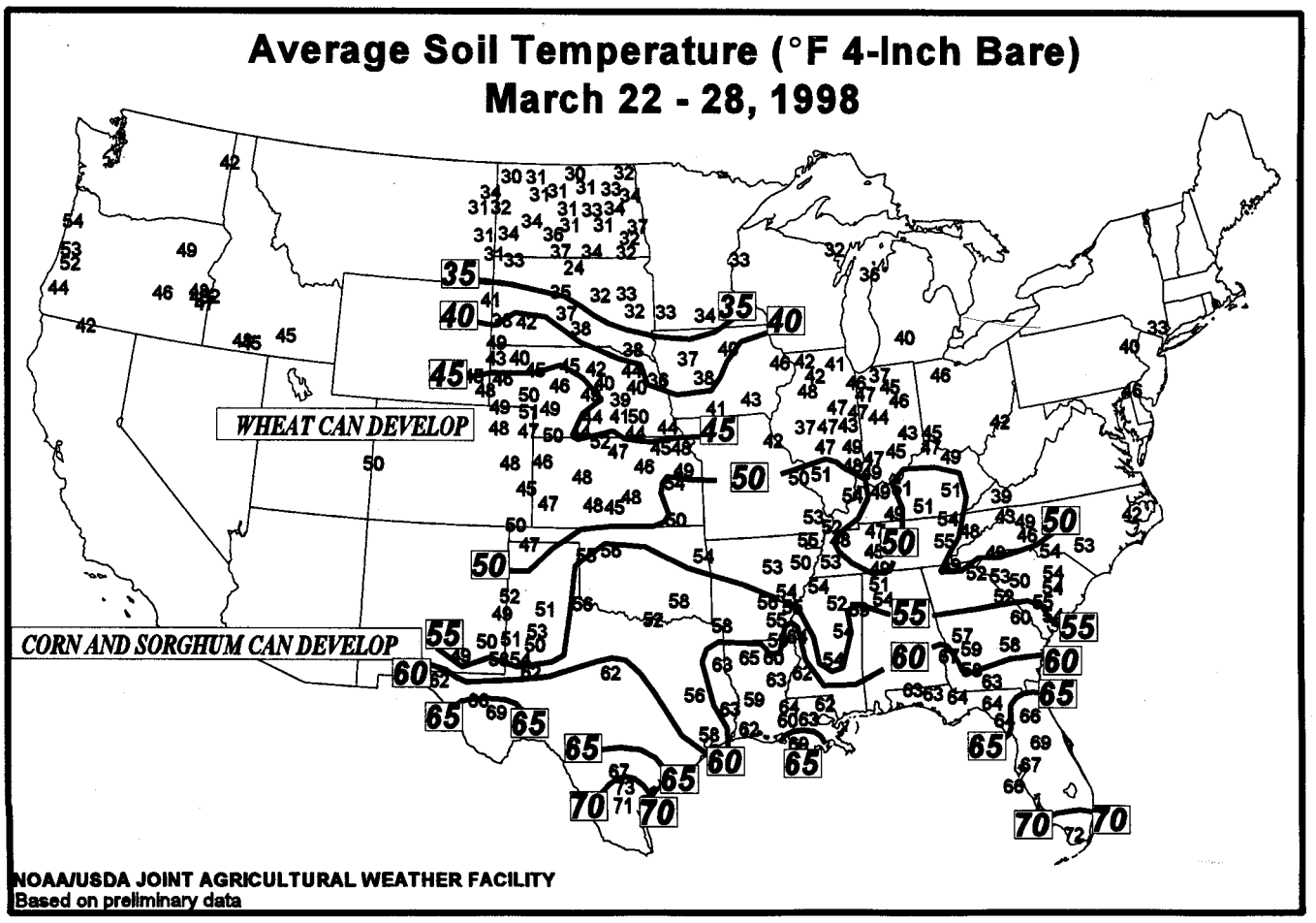
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

March 23 - 29, 1998

HIGHLIGHTS

Higher temperatures combined with dry, windy conditions rapidly dried the soggy Southeast, allowing farmers to make excellent progress on spring fieldwork. Tillage and corn planting activities were the top priorities as farmers worked around remaining wet spots. By the end of the week, Mississippi corn growers were caught up to the average planting progress, but Georgia corn growers were still a week behind normal. Cotton planting also got underway. Very warm weather in the central and southern Plains promoted emergence and crop development. In Kansas, Oklahoma, and the Texas plains, the winter wheat crop made good progress with substantial acreage entering the jointing stage. In the Blacklands and south-central Texas, winter wheat continued to head out. Strong winds stressed emerged seedlings in Oklahoma and Texas. Some Texas cotton fields became so dry that farmers were forced to replant. The northern Plains, Corn Belt, and Northeast also experienced unseasonably warm weather, but fieldwork was limited in some areas by heavy rainfall, especially in the western Corn Belt. Small grains were planted where rainfall was lighter. Colorado barley and oat seedings were ahead of normal. In New England, maple producers benefited from strong temperature variations, but sap flow declined in southern New York when record-high temperatures entered the State late in the week. Field activities in California and the Pacific Northwest were hampered by rain and wet soils for much of the week. In the San Joaquin Valley, strong winds caused some lodging of small grains. Between storms, farmers managed to plant a few fields of corn and cotton.



March State Agricultural Summaries

These summaries, issued weekly through the summer growing season, 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. The crop weather reports are also available on the Internet through the NASS Home Page on the World Wide Web at http://www.usda.gov/nass/ or from JAWF at http://www.usda.gov/oce/waob/jawf.

ALABAMA: Warm weather prevailed in all localities of the State. Land preparation for spring planting gained momentum. State peach crop is in a wait-and-see status. A late freeze may have damaged a few early-season varieties. Winter wheat condition was fair to good and will improve with favorable weather. Other activities included general care of livestock, poultry, and catfish.

ARIZONA: Cotton planting has progressed, is still well behind both last year and the 5-year average. At the beginning of March, 2% cotton had been planted. By the end on the month, 11% had been planted. Cotton planting has started in central areas. All of the planted small grains have emerged. Small grains headed started the month at 10%, by the end of March, 27%. Alfalfa hay harvest continued throughout the State. Scattered rains in the middle of the month slowed harvest for about 2 weeks. By the end of the month harvest activity was reported as 17% light, 34% moderate, 44% active. Sheeping off was virtually complete with less than 1% of the alfalfa acreage being sheeped off. Range and pasture conditions were virtually unchanged. At the beginning of the month, range and pasture 9% poor, 30% fair, 56% good, 5% excellent. At the end of the month, range and pasture was reported as 12% poor, 25% fair, 56% good, 7% excellent.

ARKANSAS: Coldest morning of the winter was March 12. Record-low temperatures were set at Jonesboro (15 degrees), North Little Rock (16 degrees). However, county agents report wheat crop in "good" condition. Some fields have suffered lodging, frozen growing points, and loss of yield potential. Loss of primary tillers has been compensated by secondary tillers. Second fertilizations are complete. Precipitation above normal for most reporting stations renews concern for disease development in wheat. Livestock were reported in good condition.

CALIFORNIA: March was significantly drier than the first 2 months of 1998. The third week of the month saw field activities in full swing. But as April approached, spring field activities were again disrupted by rains. Despite the precipitation, conditions were generally conducive to recovery and growth. Small grains and new alfalfa were growing well. Wheat plants in some low-lying, previously flooded fields were still suffering from stunted growth. A few fields in the Sacramento Valley remained soggy as April neared. Wheat head development was well underway in southern counties. Aerial applications of fertilizers, herbicides were ongoing in wheat and alfalfa fields. Planting of new alfalfa continued in the southern San Joaquin Valley. Alfalfa for hay and seed was mowed, treated for weevils. Cotton, dry bean fields were cultivated, fertilized, prepared for planting. As March was winding down, a few cotton fields began to be planted in the southern San Joaquin Valley. Most growers were awaiting warmer soil temperatures. Sugarbeets were cultivated, thinned, weeded. Corn planting resumed in the southern counties. Rice growers began draining fields in preparation for planting. Some rice stubble was burned where conditions permitted. Alfalfa, small grains and winter forage were cut for hay or greenchopped in southern counties. Sunny weather allowed growers to work in orchards and vineyards. Early varieties of almonds, stone fruit were blooming. By the end of the month, these early varieties were leafing out, as the later varieties began to bloom. Trees were sprayed to control blossom rot, thrips, weeds. With the surplus moisture this year, some growers expressed concerns about fungus and brown rot. Grapevines were developing new leaves and budding. Navel oranges were being picked in the Central Valley. Valencia orange harvest was active in the Coachella Valley. Lemon harvest continued in the south coast area. March's warmer, drier weather aided the progression of spring vegetables. By mid-month a few fields were dry enough for transplants. Asparagus harvest continued in Monterey and Kern Counties, as it declined in Imperial and Riverside Counties. Broccoli, cauliflower were harvested in the coastal, desert valleys. Harvest of lettuce progressed in the desert valleys. Spring lettuce was weeded, thinned, sprayed to control mildew. Spinach, lettuce were planted in the coastal areas. Planting of spring melons proceeded in the Imperial, Coachella Valleys. Many plantings were somewhat later than usual because of moist soil conditions. The garlic crop was progressing well. Harvesting of artichokes continued along the coast. Cabbage was harvested in the Imperial, San Joaquin Valleys. Fresh market tomatoes were being planted in Fresno County. Sweet corn, processing tomato planting continued. Cantaloupe planting began. Strawberries were starting to set fruit. Winter potato harvest continued in Kern, Riverside Counties. Other crops harvested were mushrooms, onions and radishes. Pasture, rangeland remained in good to excellent condition, as it continued to improve with sunshine, higher temperatures. In the north, where snow was melting at higher elevations, range and pasture grasses were growing well. In the warmer areas of the State and at lower elevations, forage continued to gain strength, quality as plants matured. There were ample supplies of feed and water for range animals in most areas. Range animals on drier foothill pastures were gaining weight on lush vegetation. Cattle, calves were in good shape, doing well. As the pollination period ended in almond orchards, beekeepers moved hives into cherry, apple orchards.

COLORADO: March was generally mild with only brief periods of cold temperatures. The mountains received additional snowfall. Portions of the eastern Plains received snow and/or rain at the middle of the month, and again at the end of the month. The heaviest snow at mid-month was along the Front Range. The southwestern mountains received the heaviest snow at the end of the month, with less amounts along the Front Range and the east. Planting of spring grains, onions, and sugar beets progressed favorably between storms. Calving and lambing is progressing quite well.

DELAWARE: Excessive rainfall drowned some small grains, delayed pea, potato planting. For southern Delaware, the fruit crop was doing well and may be a couple of weeks ahead of schedule. In the northern part of the State, a freeze may have caused some thinning in peaches. The general condition of livestock and poultry was fair to good. Wet feed lots presented some problems with livestock. Supply of hay, feed rated good. Activities: Spreading chicken manure, top-dressing small grains, broadcasting fertilizer for row crops, planting of peas and potatoes, removing plastic from strawberries.

FLORIDA: Cool, wet growing conditions persisted most of the month of March, with significant rains, strong winds and tornados during mid-month. Very cold weather followed the storms, with freezes occurring across the northern half of the State. The freezing temperatures damaged the early transplanted tobacco fields and the north Florida blueberries. Topsoil moisture was adequate to surplus throughout the State. The wet weather delayed the closing of the sugarcane mills for the season. Nearly all planting, harvesting, and fieldwork were delayed by the wet conditions. Strawberry harvest continued during the month, with picking delayed by wet fields. Vegetable fieldwork and harvest have been generally hampered by the windy, wet weather conditions. Citrus trees are in mostly good condition. Bloom for the 1998-99 crop year was variable as some low temperatures slowed development. By month's end, the harvest of the early and midseason oranges was virtually complete and movement of Valencia was very active. Both Honey tangerine and Temple harvest was slowing, and harvest of white and colored grapefruit continued strong.

GEORGIA: Soil moisture 1% short, 71% adequate, 28% surplus. Corn 3% poor, 41% fair, 54% good, 2% excellent; 39% planted, 59% 1997, 45% avg.; 14% emerged. Cotton 0% planted, 1% 1997, 0% avg. Tobacco 4% poor, 42% fair, 52% good, 2% excellent; 15% transplanted, 39% 1997, 21% avg. Wheat 1% very poor, 11% poor, 39% fair, 45% good, 4% excellent; 81% jointing, 93% 1997, 82% avg.; 25% boot, 53% 1997, 31% avg.; 7% headed, 13% 1997, 5% avg. Onions 8% poor, 31% fair, 50% good, 11% excellent. Watermelons 4% poor, 27% fair, 68% good, 1% excellent; 26% planted, 45% 1997, 31% avg. Apples 6% very poor, 16% poor, 49% fair, 27% good, 2% excellent; 36% blooming, 13% 1997, 6% avg. Peaches 23% very poor, 22% poor, 32% fair, 18% good, 5% excellent; 99% blooming, 98% 1997, 93% avg.

Pasture feed 3% very poor, 9% poor, 36% fair, 47% good, 5% excellent. Warmer weather and drier conditions encouraging an abundance of agricultural activity throughout the State. Farmers actively preparing fields for planting. Excellent corn planting progress, still a week behind last year, several days behind average. Cotton planting underway. Tobacco transplanting made good progress but still a week behind last year. Excellent week preparing land, still some wet spots, watermelon fields most affected. Pastures greening up and farmers busy applying fertilizer and herbicides. Other activities included fertilizing pecan trees, and small grains, harrowing cotton stalks and waiting on soil test samples.

HAWAII: Days suitable for fieldwork 31.0. Weather conditions fair for agriculture. Several high pressure systems north of State dominated weather for month. Mostly sunny and dry. Intermittent gusty winds associated with high pressure system brought windward showers on all islands. Warm days, cool nights. Irrigated crops made favorable growth. Non-irrigated crops are in need of rain. Soil moisture low. Banana orchards in need of more rain. Harvesting will remain steady. Crop condition varied fair to good. Papaya harvesting seasonally light. Head cabbage in good condition. Harvesting of dry onions steady.

IDAHO: Topsoil 53% adequate and 47% surplus. Calving is 75% complete, lambing 69%. Problems this past week with heavy rains have caused muddy conditions and spotted cases of calf scours. Hay and roughage supply 33% surplus, 53% adequate, 13% short, 1% very short. Irrigation supply 66% excellent, 34% good. Dry peas planted 4%. Lentils planted 1%. Oats planted 4%. Onions planted 41%; emerged 3%. Barley planted 10%; emerged 1%. Spring wheat emerged 2%. Sugarbeets planted 13%; emerged 3%. Activities: Planting small grains, dry peas, lentils, onions, and sugarbeets, shipping seed potatoes, calving, lambing, feeding livestock, branding calves, fertilizing, disking, repairing machinery, and working on taxes.

ILLINOIS: With the recent warm, windy weather, farmers were preparing for the upcoming planting season. When fields were not too muddy, anhydrous ammonia was applied to winter wheat fields and manure was spread on others. As of March 27, topsoil moisture was rated 29 percent surplus, 66 percent adequate and 5 percent short. Farmers began their spring seeding of oats, which was 3 percent complete by March 29. This compares with 16 percent last year and the 5--year average of 13 percent. The condition of winter wheat declined as an unusual cold spell hit the first 2 weeks of the month. The snow cover insulated stands with the near zero temperatures, while in areas with little to no snow cover, the tops of leaves were burned with stands still looking good. As of March 27, winter wheat was rated at 9 percent excellent, 60 percent good, 26 percent fair, 4 percent poor and 1 percent very poor. The warmer weather helped stretch hay supplies as pastures were greening up. The above-average precipitation left many fields muddy and made livestock yards difficult to get around for feeding and managing of livestock. Conditions for calving improved over the past week with a difficult beginning in early March.

INDIANA: March turned into the only month of winter for Hoosier farmers following a heavy snow and strong winds on March 9th. Many rural areas were without electricity for a few days and several roads were closed. Warmer weather and sunshine have arrived this past week. Recent showers, some heavy, have caused ponding and river bottom flooding in fields. Precipitation was below average for most of March. Winter wheat is growing rapidly and looks very good in most areas of the State. Very little fieldwork has been accomplished thus far this year. Livestock are in mostly good condition, but some respiratory problems are being reported. Nitrogen, fertilizer and lime have been applied on some fields. Tillage of soils has been completed in isolated areas. Farmers have been busy preparing equipment and purchasing supplies. Major activities: Applying nitrogen to wheat, marketing grain and livestock, attending meetings, hauling manure, repairing machinery, fixing tile, calving and lambing.

IOWA: Summary for March 1998. Fertilizer application (including fall) completed 45%; 34% 1997 and 34% 5-year avg. Average depth of snow cover 1 inch; average depth of frost penetration 2 inches. March weather brought a blizzard, with one foot of snow plus drifting to much of the State. Late in the month, temperatures were unseasonably warm. Fields and feedlots very muddy, reducing cattle herd health and possibly delaying fieldwork. Soil erosion 71% light to none, 27% moderate, 2% severe. Flooding potential 54% none, 34% limited, 10% moderate, 2% extensive. Grain movement was rated 8% none, 47% light, 41% moderate, 4% heavy. Availability of hay and roughage short 17%, adequate 74%, surplus 9%. Quality of hay and roughage was rated poor 13%, fair 51%, good 36%. Heavy snows, deep mud, and scours were very hard on newborn calves. Cattle and calf losses increased significantly from February and were rated 12% below average, 68% average, 20% above average. Hog and pig losses 15% below average, 81% average, 4% above average.

KANSAS: Topsoil moisture 3% short, 61% adequate, and 36% surplus. Subsoil moisture 2% short, 74% adequate, and 24% surplus. Wheat condition 2% poor, 19% fair, 58% good, and 21% excellent. Wheat jointing 9%, 22% 1997, 13% avg. Acreage lost to winterkill 1%, NA 1997, NA avg. Wheat wind damage 5% moderate, 11% light, 84% none. Wheat freeze damage 2% moderate, 17% light, 81% none. Two major snowstorms moved through the State during March. The first storm occurred early in the month causing blizzard conditions with the heaviest snowfalls in the north. The second storm dropped snow mixed with freezing rain, causing icy conditions in the southwest and central parts of the State. The storms, snowcover and cold weather are making evaluation of the winter wheat crop difficult. The damage, however, appears to be minimal. Insect infestations were light, with a few reports of army cutworms and winter grain mites. Disease infestations were also light, with some reports of leaf rust and wheat streak mosaic. Oats seeded 52%, 96% 1997, 76% avg. Field activities were limited due to snow and wet fields. Pasture conditions were rated 2% very poor, 7% poor, 23% fair, 59% good and 9% excellent. Major livestock activities included calving, lambing, and moving cattle. The recent precipitation is causing very muddy conditions and scours. Some newborn calves were lost due to the storms and low temperatures.

KENTUCKY: March began with seasonal temperatures and scattered light rain that keep soil moisture adequate to surplus and stimulated early growth of pastures and winter wheat. A blast of Arctic air lowered temperature into the 20's at mid-month, causing concern about potential damage to the advanced winter wheat fields. Saturated soils in most areas limited fertilizing and field preparation for spring planting. Burley tobacco producers continued to strip the late-curing crop as most markets had final sales. A few markets will hold clean up sales the week of April 6. Kentucky gross sales through March totaled 494.1 million pounds and averaged $189.13 per hundred pounds. Wet conditions made pastures muddy, but early growth provided some nutrient value late in the month. Cattle remained in fair to generally good condition as supplemental feeding continued.

LOUISIANA: Days suitable for fieldwork for the month was 14.1 days. Soil moisture throughout the State was in surplus for each week due to above-normal precipitation for the month. Temperatures were about normal. Most fieldwork was hindered by wet conditions, until rains ceased the last week of the month, which caused fieldwork to increase significantly. Corn: Planting was behind schedule until the last week of the month when conditions dried and a considerable amount of acreage was planted. Sugarcane: Wet fields kept growers out of the fields until late in the month when drier conditions allowed fieldwork to continue. Off-barring and herbicide applications were done as well as destroying old stubble cane. Wheat: Crop development was slow until late in the month when warm sunny weather enabled a large amount of acres to start heading. Rice: Water leveling was active as well as planting in the southern parishes. Land preparation for planting was active in the northern parishes. Vegetables: Commercial strawberry harvest was active and spring vegetable planting of bell peppers began late in the month. Livestock: Cattle were being fed hay and some grazed ryegrass pastures. Spring calving was in full swing. Pasture fertilization was active. Crawfish: Crawfish catches became heavier as the month progressed.

MARYLAND: Large amounts of precipitation caused standing water in some fields of small grains. Wet soils also slowed nitrogen applications and field preparations for corn planting. Freezing temperatures during the second week of March in western Maryland caused light damage to fruit and minor damage to small grains. For the State, the general condition of livestock and poultry rated good. The hay and feed supply for the lower Eastern Shore rated good. However, for the upper Eastern Shore and the Western Shore, hay supplies rated very poor to fair. For general crop condition, the lower Eastern Shore rated fair to mostly good and for the upper Eastern Shore, crop conditions rated poor. For the Western Sshore, crop conditions rated mostly good. Activities: fertilizing small grains and plowing fields (when condition allows).

MICHIGAN: Wheat has come through the winter in good condition. Frozen ground in early March allowed farmers to top dress wheat fields. Mild temperatures in late March accelerated wheat growth and fruit development. With the mild weather, farmers are looking to an early sugarbeet planting. Feed is in good supply. Major activities for the month were repairing equipment, planning for spring, hauling manure, spreading fertilizer, and caring for livestock.

MINNESOTA: Average temperatures returned for most of March, with the exception being a cold period during the middle of the month. There were some concerns of possible damage to forage that had broken dormancy during an unseasonably warm February. Slightly below-average precipitation occurred across most of the State for the first 3 weeks of the month. Much of the State received more precipitation toward the end of the month, with some locally severe storms in southern parts of the State. Livestock remained in good condition, with the calving season underway.

MISSISSIPPI: The main farming activities for the month of March were preparing land, planting corn and feeding and tending livestock. Wet conditions delayed most fieldwork until the latter part of the month. Freezing temperatures in some areas may have caused damage to some of the state's wheat crop. Hay supply was adequate across the state. Cattle were in mostly fair to good condition. Wheat was in mostly fair to good condition. Soil moisture was mostly adequate to surplus

MISSOURI: Wet weather characterized the majority of the month of March. Most areas are still too wet to begin fieldwork. Precipitation for the past week averaged 0.58 inch. Spring-like temperatures moved across much of the state this past week, with the overall average temperatures from 5 to 8 degrees above normal. Green wheat fields are seen throughout Missouri. A mild winter was beneficial for the wheat crop and it is mostly in good condition.

MONTANA: At month's end, field work in progress was rated 82% none, 17% just started, and 1% well underway. Recent snows and rains have left some fields too wet to work in. By the end of the month soil moisture was rated as follows, topsoil moisture 1% very short, 22% short, 64% adequate, 13% surplus. Subsoil moisture 12% very short, 35% short, 50% adequate, 3% surplus. Winter wheat emergence 28% still dormant, 45% greening, 27% green and growing. Winter wheat condition 0% very poor, 6% poor, 32% fair, 57% good, 5% excellent. Winter wheat wind damage 1% heavy, 10% moderate, 58% light and 31% none. Freeze and drought damage to winter wheat 2% heavy, 15% moderate, 59% light, and 24% none. Livestock reported in good to excellent condition. The mild winter has left feed supplies in good shape. Reports indicated no major livestock losses due to the winter weather. Calving is 58% complete and lambing is 41% complete. Supplemental feeding continues with 94% of cattle and calves and 99% of sheep and lambs receiving supplemental feeding.

NEBRASKA: Days suitable for fieldwork 2.3. Topsoil 1% very short, 8% short, 74% adequate, 17% surplus. Subsoil 1% very short, 12% short, 80% adequate, 7% surplus. Winter wheat condition 1% very poor, 5% poor, 20% fair, 56% good, 18% excellent. Fieldwork was limited in early March due to snow and again late in the month due to precipitation across most of the State. Oats 6% seeded, 16% 1997, 10% avg. Calving 66% complete. Activities: limited oats seeding, spring tillage, stalk shredding, spring equipment preparation, grain marketing, tax and ag census paper work, and livestock care.

NEVADA: Unusually warm temperatures were experienced statewide during March. Precipitation was limited, but mountain snow pack was reported as highest on record. Potential for spring flooding, particularly in the Carson and Walker River watersheds, remains. Repairs to ditches and levees continued, as irrigation season was commencing in central districts. Surface irrigation water deliveries to the Smith and Mason valleys began in early March. Sod harvest was underway in the extreme south. Fields were being prepared for planting central and spring grain planting was underway. Weed burning underway. Calving, lambing well along. Castrating, branding of calves underway. Main farm, ranch activities: Ditch repair, working livestock, grain planting, field leveling, irrigation.

NEW ENGLAND: Unseasonably warm temperatures during last week of month. Topsoil and subsoil moist from winter rain and snow. Maple production in full swing. Farmers marketing apples and potatoes from storage. Farmers placing orders for ducklings and chicks. Major farm activities: clearing debris, fixing fences; caring for livestock.

NEW JERSEY: Temperatures averaged above normal for the first and last weeks of the month with the middle of the month averaging below normal. Precipitation averaged above normal. The greatest 24-hour rainfall reported was 3.19 inches at Freehold on the 8th to 9th. Farmers are active maintaining equipment, caring for livestock and preparing and organizing records for tax and census purposes. Nursery workers are digging and shipping plant material while greenhouse workers prepare vegetable plants for transplant. In Gloucester county, peach trees are in full bloom. Planting of peas, cabbage and romaine lettuce reported in areas of southern areas.

NEW MEXICO: March weather was very erratic with winter storms moving across the state almost weekly. Average weekly temperatures ran from 4 degrees below normal to 7 degrees above normal. Each storm system brought rain, snow or both with accumulated precipitation for most reporting stations higher than normal for March. Farmers were busy with early spring planting and land preparation. Planting is complete for lettuce and onions, along with about half of the chile. Fruit trees suffered light to moderate freeze damage from the last storm to move through the state. Ranchers continued some supplemental feeding for livestock but pastures are beginning to green up.

NEW YORK: Mild weather permitted early fieldwork to progress rapidly. Orange County onion growers prepared fields and some early planting was underway. Maple producers reported an earlier than usual sap flow with sugar content higher than average. Warm weather at month's end put a stop to production in southern areas, but further north sap continued to flow in areas where producers were able to tap. Severe damage to trees from the winter ice storm in six north country counties prevented some producers from tapping

NORTH CAROLINA: Statewide, 4.2 days were suitable for fieldwork for the week of March 22-28. Though most of the month was filled with cold rainy weather, the last week in March helped farmers recover from the lack of dry days in the early planting season. Soil moisture for the week is rated 58% adequate and 42% surplus. Activities for the week included: planting Irish potatoes and corn; transplanting cabbage; preparing and tending tobacco beds; tending livestock; and repairing equipment.

NORTH DAKOTA: Seasonably warm temperatures in late March melted most of the heavy snow cover the western part of the State had at the beginning of the month. Livestock were reported in generally good condition while calving and lambing are in full swing. Farm yards and roads are soft and muddy, making it difficult to move grain, livestock and equipment. The wet, muddy conditions have also caused some scour problems in newborn calves. State average snow depth is 0.9 inches, down from 3.6 inches last year. Cattle condition: 2% poor, 18% fair, 73% good, 7% excellent; calves: 1% poor, 21% fari, 71% good and 7% excellent; sheep: 1% poor, 13% fair, 78% good, 8% excellent; lamb: 2% poor, 14% fair, 77% good and 7% excellent. Supplemental feeds were fed to 99% of the sheep and 98% of the cattle. Hay, forage supplies were 4% short, 89% adequate, 7% surplus. Grain and concentrates were rated 2% short, 95% adequate, and 3% surplus. Pastures were still 100% dormant but 72% were open for grazing.

OHIO: Temperatures were above average, but precipitation was below normal. Winter wheat greening up. In the Northern part: a few reporters mentioned the winter wheat in low spots was yellow due to water damage. Some growers were top dressing winter wheat. Alfalfa was reported in good condition, greening up. Tobacco growers are seeding float trays. Activities: Grain hauling; spreading manure; some field tillage; fencing; equipment repair, maintenance.

OKLAHOMA: Nearly double the average monthly rainfall delayed most seedbed preparation and planting. Excessive moisture caused minor crop damage and soil erosion in low-lying areas near the Cimarron River. Bitter cold weather during early March was responsible for many deaths of newborn calves in northwest Oklahoma. Peach trees in eastern Oklahoma survived freeze damage and a good crop is expected. Ample moisture and warm late-month temperatures improved wheat to one of its best condition ratings of the season. Strong March winds with gusts of more than 50 mph were recorded in many northern and western localities.

OREGON: Activities: spring fieldwork underway statewide as weather permitted. Fertilizing & spraying underway. Field crops state wide look good due to mild winter. Tree fruit blooming. Growers putting on scab sprays. Growers preparing for frost protection. Cranberry growers planning fertilizer program & fine tunning frost control on the South Coast. Rhubarb and root crops being harvested in the Willamet Valley. Onions being planted on east side. Greenhouses and nurseries digging, balling and shipping. Pastures greening up statewide. Some areas discontinued supplemental feed. Spring calving and lambing underway

PENNSYLVANIA: Recent cold weather and frosts caused some damage to orchards and flower crops that bloomed early after a mild winter. The majority of the damage was to apricots and plums. Damage to peaches and apples was being assessed. Concern for the effects of the unseasonably warm weather in January and February would have on pests and weeds in the coming summer continued. Major activities: hauling manure; fixing fences; caring for livestock; buying seed and other supplies; preparing machinery; and attending farm organization meetings

SOUTH CAROLINA: The first of the month brought rain and high winds. Record breaking low temperatures occurred mid-month. The extent of damage to peaches and other fruit crops is uncertain until later in the season. Currently it appears that only early season varieties were hurt severely. Field crop planting is underway as fields continue to dry out. Wet fields have caused problems in small grains, specifically wheat, as growers have been unable to apply nitrogen. Wheat diseases are present and control attempts are active. The month ended with several warm, sunny days, a major plus to help with the very wet fields still in the State.

SOUTH DAKOTA: The month of March started off with winter storms and colder temperatures. As the month progressed, temperatures became milder. In spite of early-month snow storms, snow cover was minimal for the month of March. Due to lack of quality snow cover, exposed winter wheat, rye and alfalfa crops could be hurt if colder temperatures return. The general opinion is: Winter crops are not damaged yet since temperatures were unusually mild. Winter wheat and rye crops are in fair to excellent condition. Most producers are taking advantage of mild conditions to prepare machinery and supplies for spring seeding. Producers are eager to prepare for planting as soon as the soils dry. At the end of March, 82% of the alfalfa crop was under no snow cover, 17% adequate snow cover, and 1% excellent snow cover. Seventy-seven percent of the winter wheat crop was under no snow cover and 23% under adequate cover. Fifty-nine percent of the winter rye crop was under no snow cover, 33% adequate, and 8% under excellent snow cover. Statewide, the average snow depth was 1 inch. Livestock are in good to excellent condition, despite the early March snow storms and cold temperatures. Calving was 34% complete, with lambing 50% complete. Calf deaths for March rated 21% below average, 77% normal and 2% above normal. Lamb deaths were rated 25% below average, 74% normal and 1% above normal. With the mild weather conditions, producers have been able to capitalize on open grazing conditions, allowing them to use less of their feed stocks. Grain and concentrates supplies were rated 2% short, 80% adequate, and 18% surplus, while hay and roughage supplies were rated 2% short, 77% adequate and 21% surplus. Stock water supplies were 2% short, 82% adequate, and 16% surplus.

TENNESSEE: March weather was characterized by normal precipitation and temperatures ranging from teens to the seventies. Temperatures dropped to record lows during the second week of the month. Wheat crop development has slowed due to the mid-month freeze and the condition has declined to mostly good-to-fair. Tobacco seeding is on schedule with normal growth. The apple and strawberry crops suffered light to moderate freeze damage. The peach crop freeze damage was reported as severe.

TEXAS: Producers endured wide swings in weather conditions during March. The month began under mostly open conditions, allowing planting operations to get underway. Mid month saw conditions turn wet, and field activity was limited. A very strong cold front moved through the state at mid month dropping temperatures into the freezing range well into Central Texas. Livestock suffered from these rapid changes with some calves and lamb losses reported. The month ended under open, warmer temperatures allowing fieldwork to rapidly increase. By the end of the month, planting operations had nearly caught up with average. Pastures were breaking dormancy and greening up rapidly by the end of the month. High winds caused some problems at the end of the month, most by drying out top soil and causing feeding problems.

UTAH: Major farm, ranch activities during the month of March included planting spring grains, feeding livestock, spreading fertilizer, and calving. The recent wet weather has delayed spring plantings in a few areas of the state. Cattle and sheep remain in good condition.

VIRGINIA: Wet and muddy fields have began drying down as unseasonably warm temperatures were reached by months end. Most fields remain saturated however, due to previous rains. Soil preparation and other field activities are two weeks behind schedule due to wet conditions. Grain corn producers in drier localities were able to get a few acres planted. Some producers were able to get their summer potatoes planted as conditions permitted. Pastures have started to green up in some localities and are in mostly fair to good condition. Fruit trees were potentially damaged due to sub-freezing temperatures during the second week of March. These extreme low temperatures were preceded by spring-like conditions in February which caused premature budding in some peach trees. Cloudy and cold weather reduced tobacco greenhouse seedling populations as well as quality. Late cold temperatures have limited alfalfa and small grain growth. Livestock were in mostly good condition for the month of March. Some localities reported livestock in poor and thin condition due to short hay supplies. A mild winter for some localities allowed for adequate hay supplies. Calving and lambing were in full swing last month with a few more losses than normal due to wet conditions. Muddy pastures continued to make feeding difficult for some livestock producers. Farming activities included orchard pruning, tending to livestock, transplanting cabbage, broccoli, and other vegetables, tax preparation, and attending producer meetings.

WASHINGTON: Topsoil 10% short, 70% adequate, 20% surplus; subsoil 15% short, 80% adequate, 5% surplus. Hay, and other roughage supplies, 95% adequate, 5% surplus. Mild winter weather conditions continued for Washington. West of the Cascade Mountain range, dry weather mid-month allowed fieldwork to begin. Fertilizer was applied to green chop fields, turf grass growers mowed, Christmas tree producers applied herbicide, vegetable fields were prepared for planting. Pastures were green and growing. Eastern Washington reported good moisture conditions, with most areas normal to slightly above for the year to date. Fieldwork began between showers. Winter wheat grew vigorously, spring wheat, barley, potatoes, were being seeded. Some producers are reseeding to spring wheat or barley. Fertilizers and herbicides were applied. Some aphid infestations were being monitored. Orchards came out of dormancy 7 - 10 days early. No severe freeze damage was reported. Grazing conditions were good. Hay supplies remained good in most areas. Spring calving was in full swing.

WEST VIRGINIA: Activities for the month of March: Some fields along the river are being worked in preparation for planting. Seeding is underway in pastures and meadows. Muddy conditions continue to be a problem in some areas as farmers try to spread manure and feed livestock.

WISCONSIN: As of late March, frost depths averaged 0.6 inch, compared to the 36-year average of 10.4 inches. One year ago the frost depth was 5.5 inches. The snow depth averaged 0.3 inch, compared to the average of 3.9 inches. One year ago, the snow depth was 6.9 inches. Soil moisture conditions were wet, statewide. Warm weather created muddy conditions for livestock. Some farmers were disking and planting oats.

WYOMING: Below normal precipitation most of March but occasional storms and good carry-over storage kept reservoir levels above normal. Topsoil moisture supplies at month's end 13% short, 72% adequate, 15% surplus. Subsoil moisture supplies, 21% short, 77% adequate, 2% surplus. Winter wheat condition 10% fair, 79% good, 11% excellent. Barley planted 20%, last year 41%, 5-yr ave. 22%; oats 5%, 4%, 4%; spring wheat 5%, 10%, 6%. Calves born 55%, last year 50%, 5-yr ave. 54%; farm flock lambs born 70%, 60%, 66%; range flock lambs born 5%, 3%, 6%; farm flock shorn 74%, 64%, 68%; range flock shorn 21%, 19%, 23%. Calf and lamb losses mostly normal. Pasture and range condition 15% fair, 72% good, 13% excellent. Warmer, drier weather needed for fieldwork.

International Weather and Crop Summary

March 22 - 28, 1998

HIGHLIGHTS

FSU-WESTERN: Continued unseasonably cold, damp weather kept winter grains dormant and slowed early-season fieldwork for spring grain planting.

EUROPE: Generally dry weather allowed fieldwork for spring grain planting in the west and north but continued to limit moisture for crop development in Spain. Unseasonably cold weather in the east slowed further growth of winter grains and spring grain planting.

EASTERN ASIA: Cool weather continued to slow winter wheat development in the North China Plain.

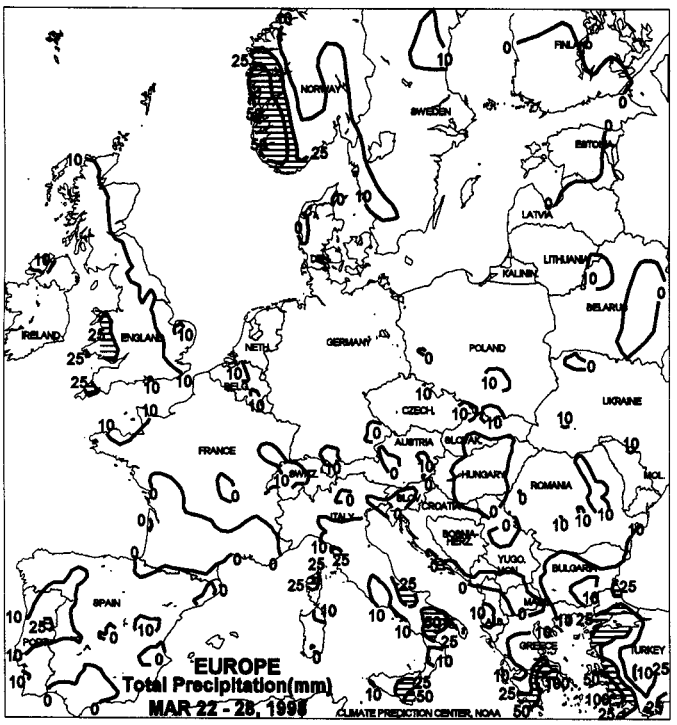
AUSTRALIA: Dryness favored summer crop maturation and harvesting.

SOUTH AFRICA: Heavy rain returned to the corn belt, keeping late-planted summer crops well watered.

SOUTHEAST ASIA: Showers benefited main-season rice in Java, while scattered showers provided some drought relief to stressed second-season crops across the eastern Philippines.

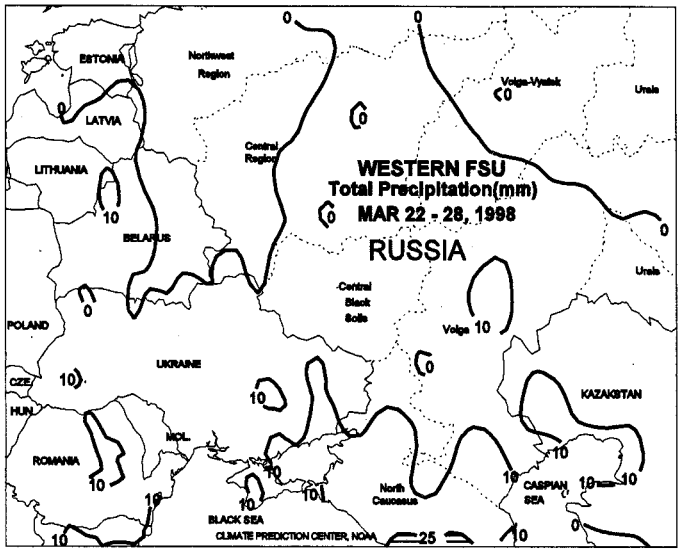
SOUTH AMERICA: In Rio Grande do Sul, Brazil, showers continued to slow soybean harvesting. Drier weather continued to benefit summer crop harvesting in central Argentina.

NORTHWESTERN AFRICA: Light showers brought temporary relief to winter grains in Morocco, previously stressed by prolonged dryness.



EUROPE

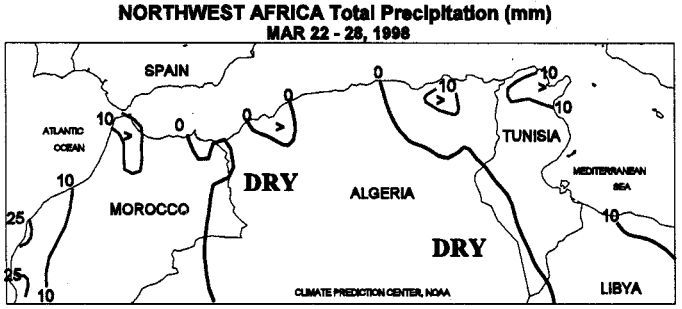
Weather conditions were mixed for crops throughout most of Europe. Cooler weather prevailed over winter grain areas in France, Germany, and Italy's Po Valley, slowing winter grain development. Extreme minimum temperatures fell below freezing (-2 to -8 degrees C) in these areas, increasing the potential for some damage to early-blooming fruit trees as well as early-flowering oilseeds in southwestern France. Furthermore, generally dry weather (precipitation amounts ranging below 10 mm) in these areas allowed spring grain planting to progress without delays. In England, mild weather (weekly temperatures averaging 2-3 degrees C above normal) and light precipitation (around 10 mm) continued to promote rapid development of winter grains. In Spain, dry weather has persisted in central and southern areas since February 10, lowering topsoil moisture. Rain is needed for winter wheat, in or nearing the heading stage in the south, and for the early development of spring-sown crops. Farther east, light showers favored winter grains in central and southern Italy. However, extreme minimum temperatures fell below freezing (-1 to -2 degrees C), which may have caused some damage to newly emerging summer crops. Elsewhere, unseasonably cold weather continued over eastern Europe, where weekly temperatures averaged 3 to 7 degrees C below normal. The cold weather slowed further greening of winter grains. Extreme minimum temperatures in the region ranged from -4 to -10 degrees C. The cold weather extended southward into Greece and was accompanied by rain (10-24 mm), slowing cotton planting.



FSU-WESTERN

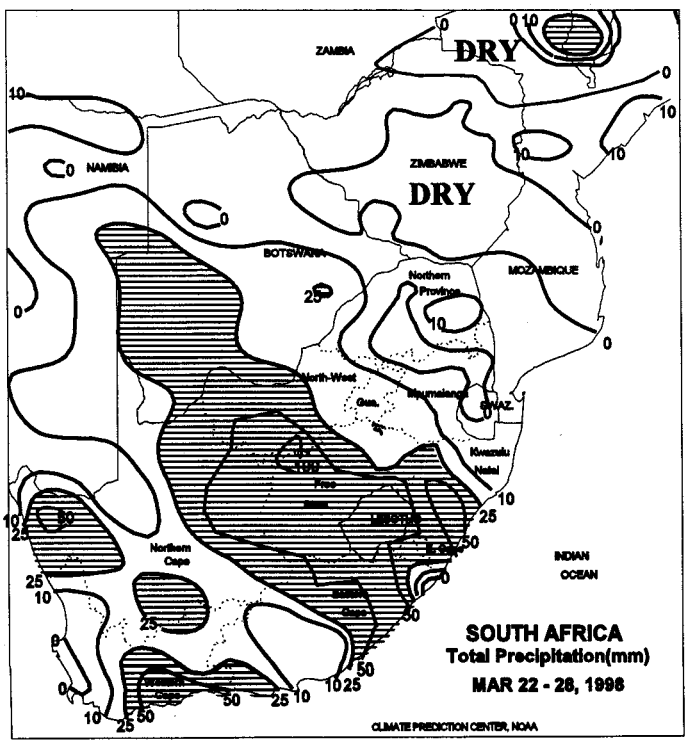
Unseasonably cold weather continued over major winter wheat-producing areas of Ukraine and southern Russia (southern Black Soils Region, lower Volga Valley, and the North Caucasus), keeping winter grains dormant in most areas. Typically, winter grains break dormancy in these areas in early April. Weekly temperatures averaged 1 to 3 degrees C below normal in most areas. Lowest temperatures ranged from 0 to -5 in extreme southern areas (southern Ukraine and southern North Caucasus region in Russia), and -5 to -12 over remaining winter grain areas. Light rain and snow (generally less than 10 mm liquid equivalent) accompanied the cold weather in most areas. The cold, wet weather pattern hampered early-spring grain planting in southern Ukraine and the North Caucasus region in Russia. In cotton-growing areas of Central Asia, reports indicated that planting has begun in Uzbekistan. Typically, most of the cotton crop is planted from mid-April through May. Mostly dry weather favored fieldwork for early planting, while unseasonably warm weather increased soil temperatures for germination.

NORTHWEST AFRICA Total Precipitation (mm)
MAR 22 - 28, 1998



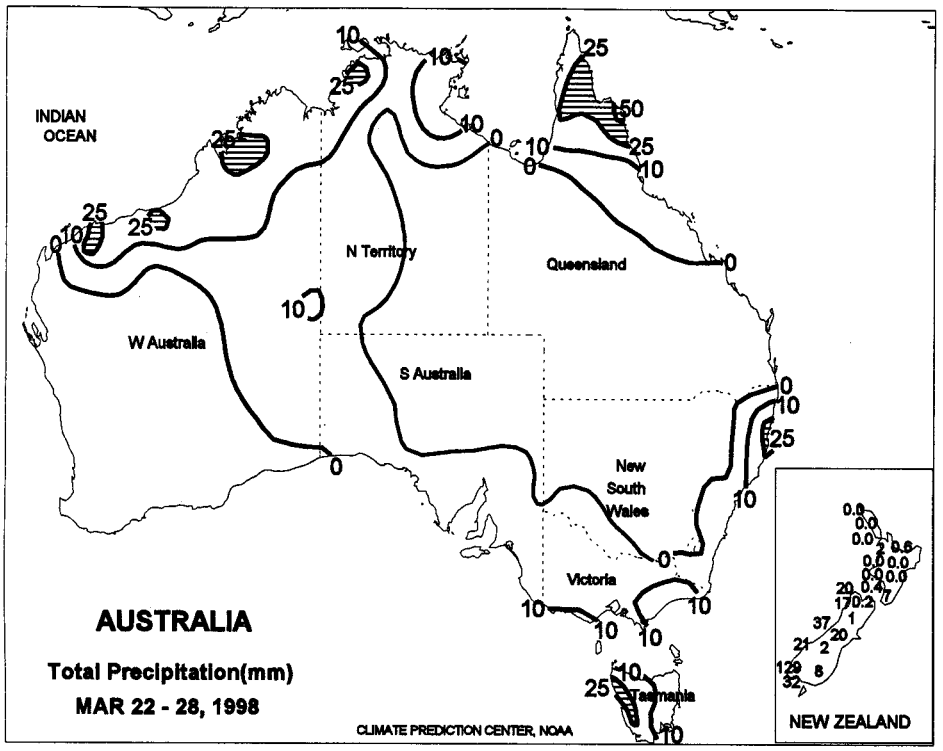
NORTHWESTERN AFRICA

Winter grains were likely advancing through the reproductive phase of development in most areas. Light showers (10-25 mm) dampened winter grains in southern Morocco, bringing temporary relief to winter grains, previously stressed by prolonged dryness. Light, if any, precipitation fell farther north in northern Morocco. Much-above-normal temperatures preceded the rain in Morocco, increasing heat stress on crops. Weekly temperatures averaged 4 to 7 degrees C above normal in Morocco. Farther east, drought continued in winter grain areas of western and central Algeria, causing further declines in crop conditions. Although scattered showers (3-12 mm) moistened topsoils in eastern Algeria and northern Tunisia, the precipitation was insufficient to meet the high moisture demands of the crop. As a result, crops had to rely on limited moisture reserves to sustain normal development. Moisture reserves remain limited for crop growth in all areas, and additional moisture is needed to prevent further declines in crop conditions. Weekly temperatures averaged 2 to 4 degrees C below normal in eastern Algeria and Tunisia, lowering heat stress on crops.



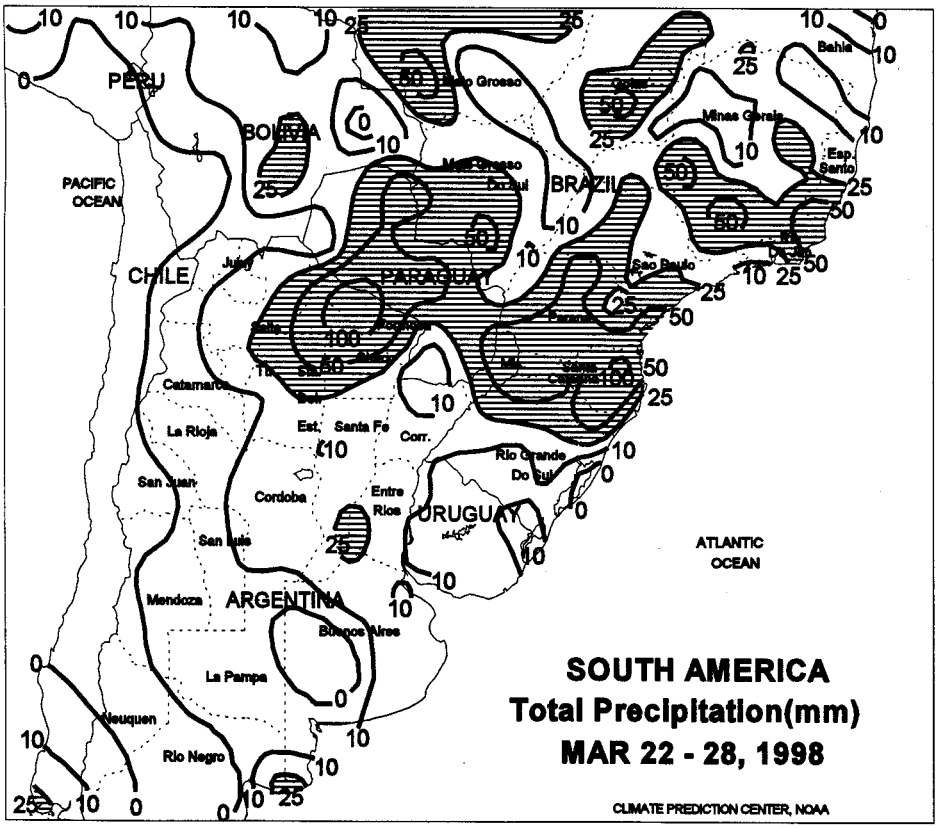
SOUTH AFRICA

Widespread, locally heavy rain (25-50 mm or more) developed late in the week over the western corn belt. The moisture, which gradually spread eastward, aided late-developing corn, sunflowers, and other summer crops, including sugarcane in Kwazulu-Natal. Prior to the rain, seasonable temperatures helped advance crop development. This was especially critical for corn in Free State and Northwest where late plantings increased the risk of frost damage.



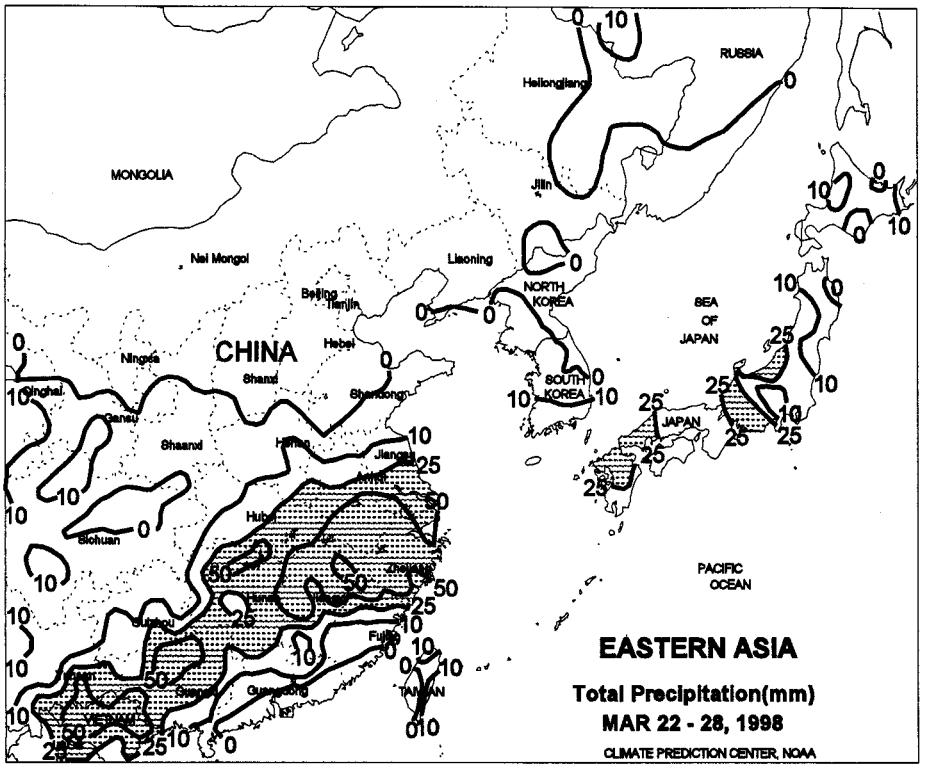
AUSTRALIA

A warm, dry pattern remained entrenched over the east, with temperatures averaging 2 to 4 degrees C above normal in primary growing areas of Queensland and New South Wales. Conditions continued favorable for maturing sorghum and cotton. However, the current drying trend in coastal sugarcane areas has reduced moisture for late sugarcane growth. Elsewhere, scattered, light showers (less than 10 mm) grazed the southeast coast, failing to provide significant moisture to the winter grain belt. No rain fell in West Australia's agricultural zones. In New Zealand, dry weather dominated the main pasture and crop production areas.



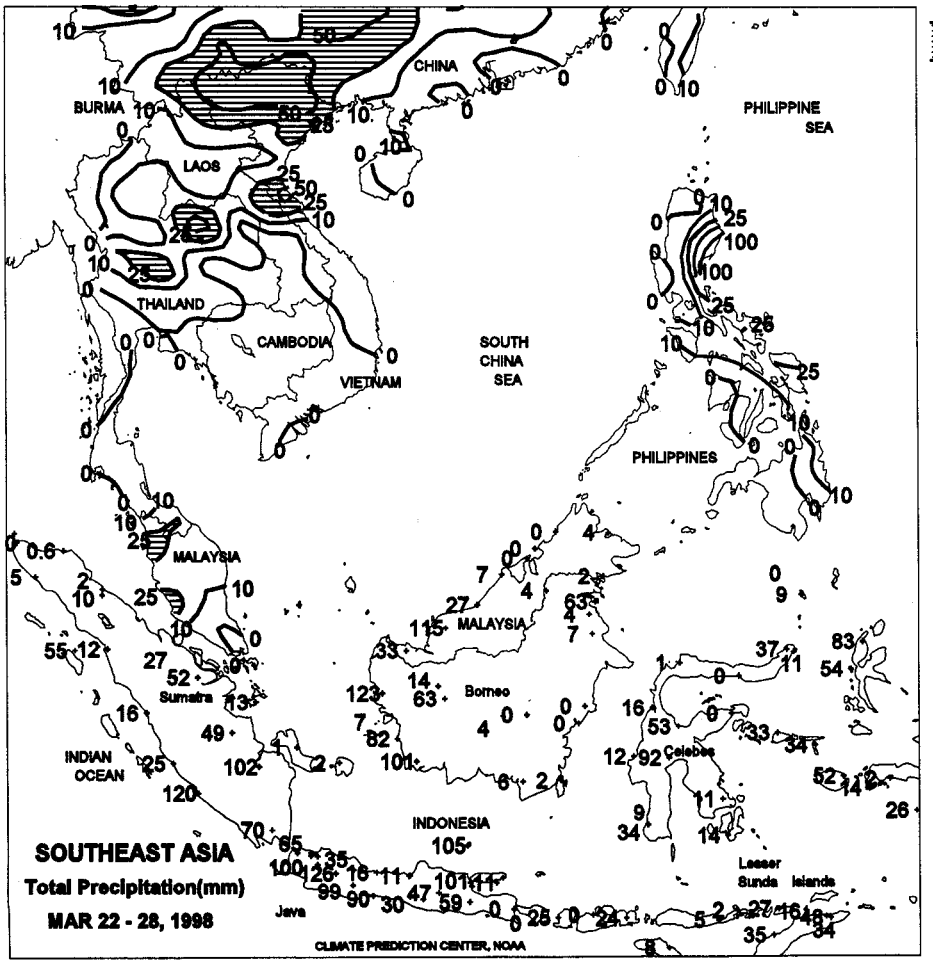
SOUTH AMERICA

Showers (30-70 mm) continued to slow soybean harvesting in Rio Grande do Sul and Parana, Brazil. Drier weather is needed to reduce disease problems for mature soybeans. Elsewhere in southern Brazil, moderate showers (10-60 mm) caused minor harvesting delays. According to reports as of March 26, Brazilian soybean harvesting was 19 percent completed, compared with 30 percent last year. In northern Argentina, showers (10-50 mm) slowed early cotton harvesting. Scattered, light showers (5-25 mm) caused only brief delays in summer crop harvesting across central Argentina. Isolated near-freezing temperatures on March 25 and 26 did not harm maturing summer crops in Buenos Aires and La Pampa provinces. According to reports as of March 20, Argentine sunflower, corn, and soybean harvesting was 58, 12, and 1 percent completed, respectively.



EASTERN ASIA

Early-week cool weather (lows just above freezing) lingered across the North China Plain, slowing winter wheat growth. Rainfall (15-50 mm, with scattered amounts greater than 75 mm) was confined to the Yangtze Valley and the southern North China Plain (southern Henan, Anhui, and Jiangsu). Drier weather (less than 10 mm of rain) favored early double-crop rice transplanting across extreme southern China.



SOUTHEAST ASIA

In Java and southern Sumatra, showers (40-80 mm or more) continued to benefit main-season rice. Scattered showers (10-50 mm, with isolated amounts greater than 100 mm) provided some drought relief to the eastern Philippines. Dry weather continued across the oil palm areas of eastern Malaysia (Sabah). Timely rain is needed during the next month for main-season rice planting. Typically, main-season rice planting occurs from April to June across the Philippines. In Thailand, hot weather (temperatures averaged 1-3 degrees C above normal) was tempered by scattered, light showers (5-34 mm). Dry weather reduced moisture supplies for oil palm across eastern peninsular Malaysia, while moderate showers (10-40 mm) prevailed in the west.

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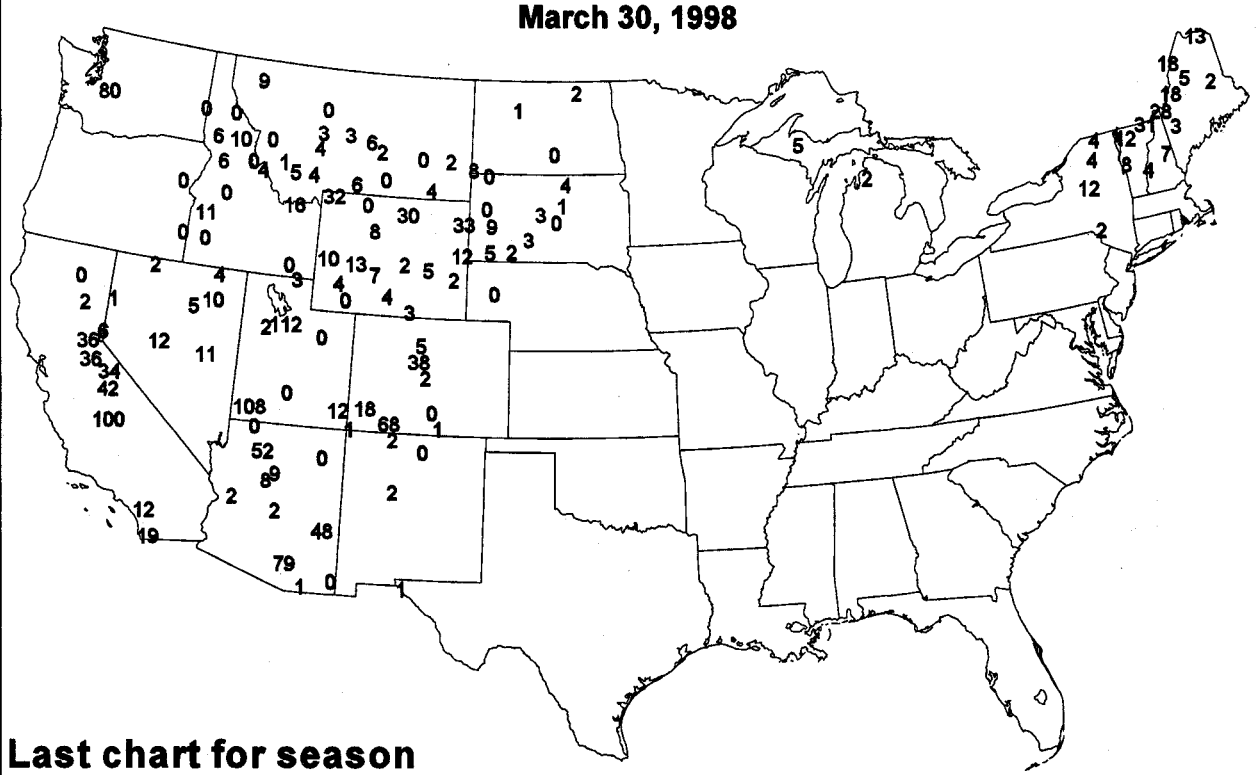
Snow Depth (Inches)
March 30, 1998



Last chart for season

Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

The NWS co-operative observer network is the principal source of the snow depth reports.

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