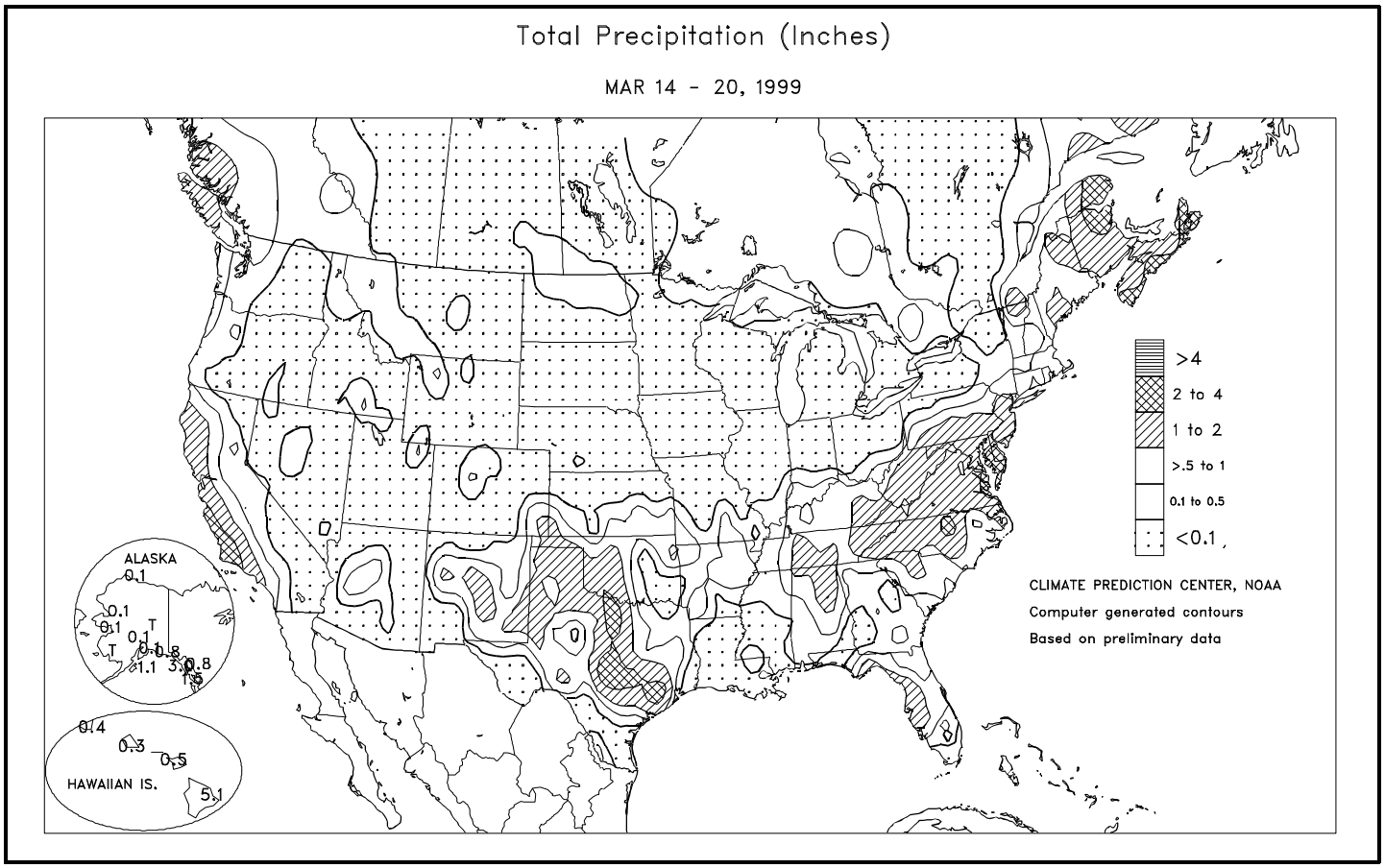
Volume 86, No. 12 **March 24, 1999**

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



HIGHLIGHTS

March 14 - 20, 1999

An early-week storm in the **East** and a mid- to late-week system across the **South** highlighted an otherwise tranquil weather pattern. The latter system provided much-needed soil moisture to the **Southwest** and maintained favorable moisture conditions in hard red winter wheat areas of the **central and southern Plains**. Little or no rain fell, however, across extreme **southern Texas**, where spring planting has been delayed by dryness. Both storms delivered rainfall to the **Southeast**, including parts of **Florida**, improving pre-planting moisture. In **California's Central Valley**, early- and late-week rainfall maintained generally adequate soil moisture but slowed

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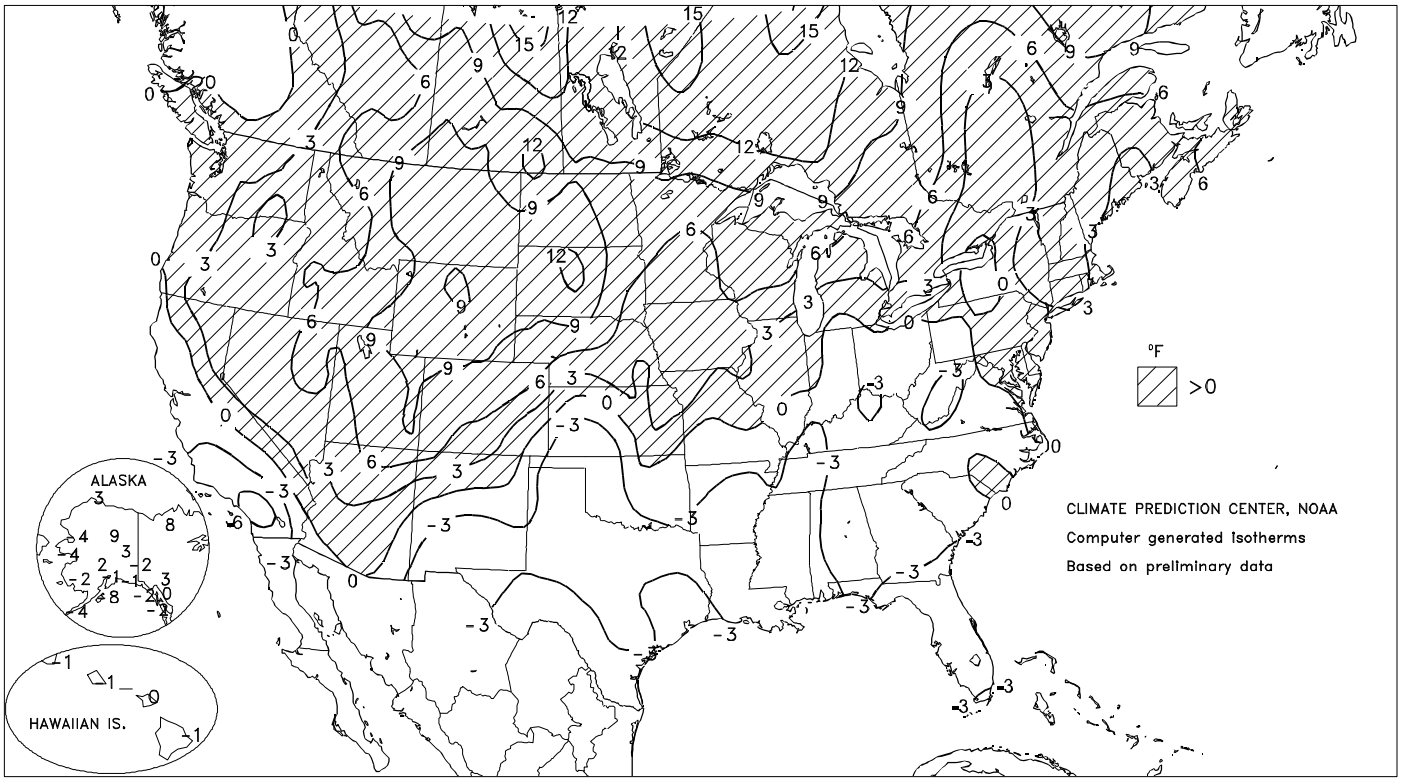
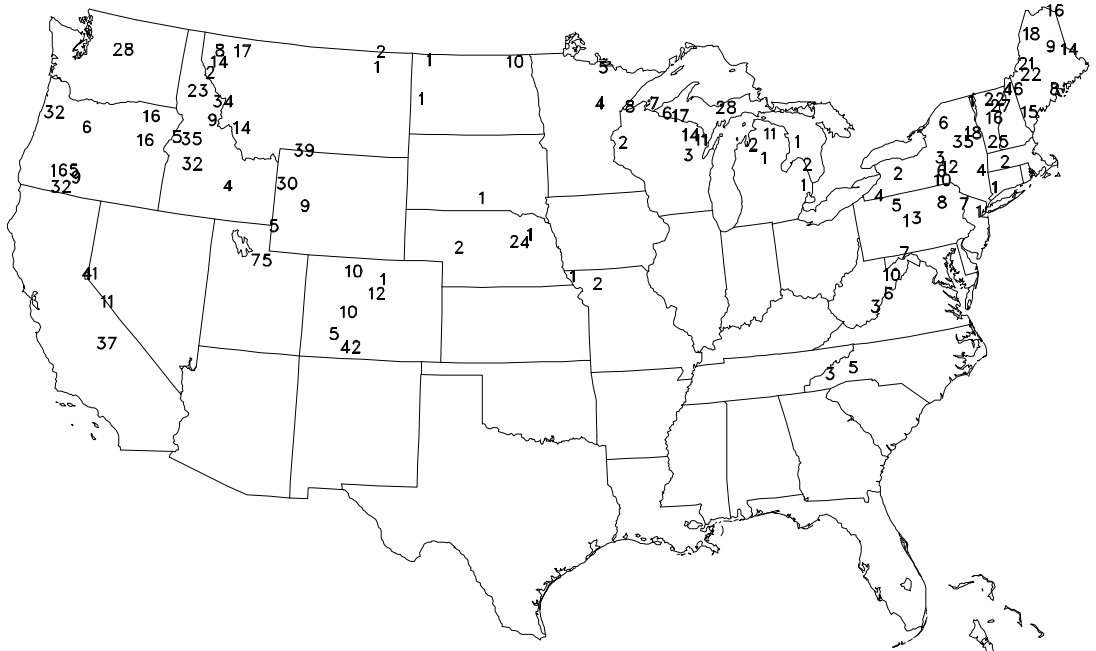
Departure of Average Temperature from Normal (°F)

MAR 14 - 20, 1999



Snow Depth (Inches)

Mar 22, 1999



Experimental product based on preliminary data

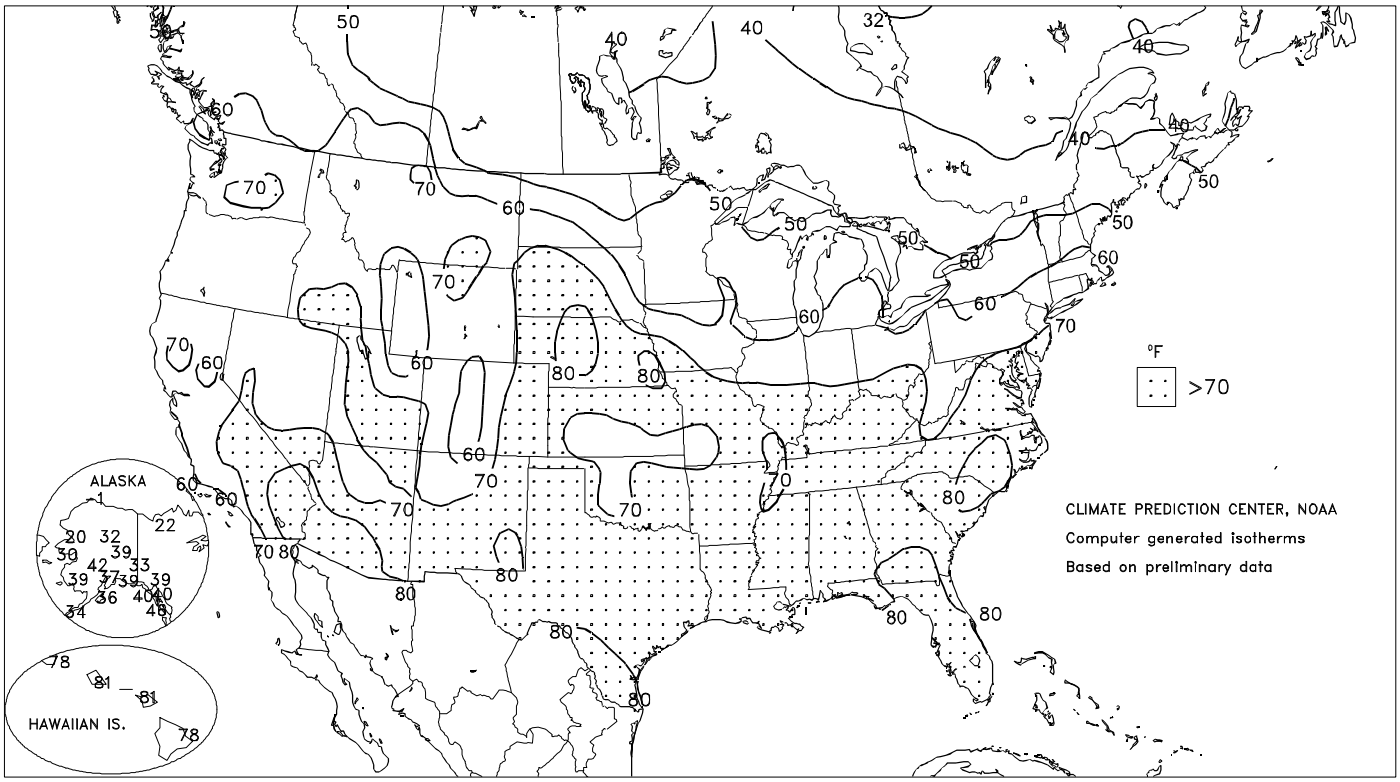
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

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

Last chart for season

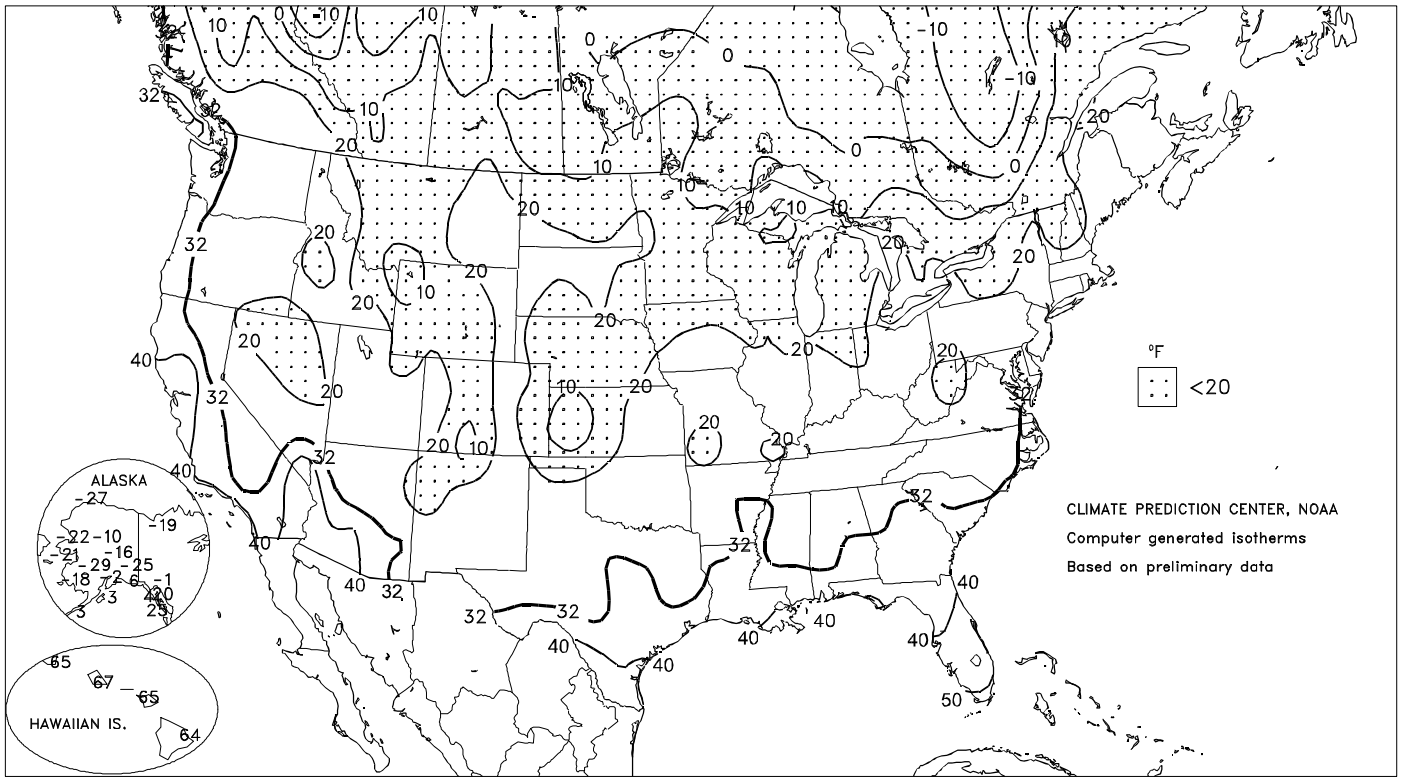
Extreme Maximum Temperature (°F)

MAR 14 - 20, 1999



Extreme Minimum Temperature (°F)

MAR 14 - 20, 1999



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fieldwork. Meanwhile, mostly dry weather prevailed in the **Corn Belt** and the **Northwest**, easing muddy conditions and livestock stress. Feedlots remained wet, however, across portions of the **central and southern Plains**. In the **South**, weekly temperatures averaged as much as 5°F below along the primary storm track. In contrast, readings generally ranged from 6 to 14°F above normal across the **northern Rockies** and **northern Plains**.

Early in the week, temperatures plummeted to daily-record levels on the deeply snow-covered **central High Plains**. On Sunday in **Kansas**, **Garden City** notched a low of 5°F, while Liberal reported 7°F. A day later, daily-record lows included 12°F in **Springfield, MO** and 32°F in **Houston, TX**. Meanwhile, warmth overspread the **northern High Plains** and parts of the **West**, producing the week's first of more than two dozen daily-record highs. On March 14, highs reached 76°F in **Winslow, AZ** and 71°F in **Worland, WY**. Two days later, highs in **Nebraska** soared to 81°F in both **Valentine** and **North Platte**. Farther north, wind gusts were clocked to 63 mph in **Billings, MT**, setting a March record. On Wednesday, gusts were measured at 61 mph in **LaCrosse, WI** and 51 mph in **Oelwein, IA**.

Farther east, widespread rain and snow affected the **East** into Monday. Storm-total snowfall reached 18.0 inches in **Bedford, PA**, 14.4 inches in **Berkeley Springs, WV**, and 12.0 inches in **Cumberland, MD**. Similar totals (locally 1 foot or more) were reported west of the major **East Coast** cities from **Washington, DC**, northward. **Sebec Lake, ME** noted 22 inches. City snowfall, however, totaled only 0.3 inch in **Washington, DC**, 4.7 inches in **Philadelphia, PA**, 4.0 inches in **New York City (Central Park)**, and 4.2 inches in **Boston, MA**. Along the storm's trailing cold front, beneficial rainfall reached **Peninsular Florida**, including a daily record-tying total (1.00 inch on March 14) in **Daytona Beach**.

A new storm arrived in **southern California** on Monday, producing daily-record rainfall in **Cuyama** (0.82 inch) and **Torrance** (0.77 inch). As much as 10 inches of snow accumulated in **Ventura County's Lockwood Valley**, northwest of **Los Angeles**. As the system progressed eastward, March 16-17 snowfall totaled 3.0 inches on **southern Arizona's Mt. Lemmon**, near **Tucson**. Only a trace of rain fell in **Tucson**, however, leaving their 104-day (December 7 to March 20) precipitation at 0.01 inch. Since the beginning of the water year (October 1, 1998), **Tucson's** precipitation has totaled 1.37 inches (28 percent of normal).

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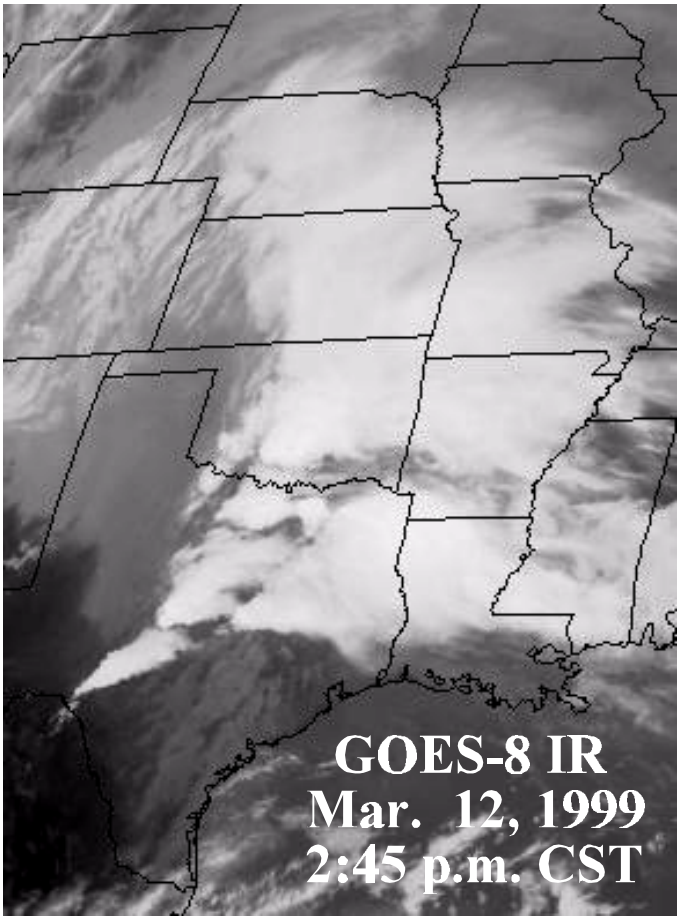


Late-Winter Storm: A slow-moving storm system crossed the South on March 12 (above right), producing near-blizzard conditions in its northwestern quadrant and strong to severe thunderstorms along its attendant cold front. An extensive snow cover (right) was apparent across southeastern Colorado, western and southern Kansas, northern Oklahoma, and on the Ozark Plateau. The system later produced a narrow band of heavy snow across the Ohio Valley and significant accumulations in the interior Northeast.

Weather Data for Selected Locations in the Delta

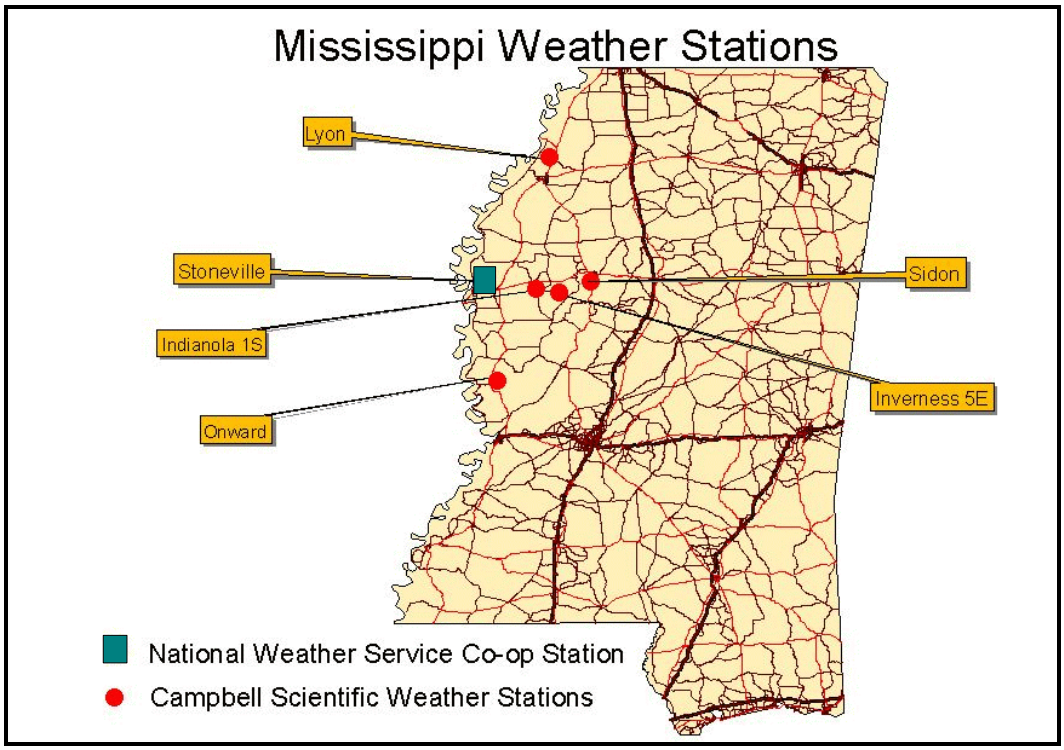
Weather Data for the Week Ending March 20, 1999

Data provided by the Mississippi State Delta Research and Extension Center and compiled by USDA/OCE/WAOB's Stoneville Field Office

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							4-INCH SOIL TEMP, °F		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
MS	INDIANOLA 1S	60	42	68	34	51	--	0.02	--	0.01	3.79	--	15.24	--	56	49	0	0	2	0
	INVERNESS 5E	61	45	69	37	53	--	0.09	--	0.06	2.53	--	--	--	58	51	0	0	2	0
	LYON	59	41	69	33	50	--	0.23	--	0.20	4.29	--	15.00	--	--	--	0	0	2	0
	ONWARD	64	43	71	34	54	--	0.01	--	0.01	4.63	--	14.93	--	54	51	0	0	1	0
	SIDON	61	43	68	35	52	--	0.11	--	0.06	2.63	--	14.80	--	59	52	0	0	2	0
	STONEVILLE *	60	41	69	32	51	-3	0.82	-0.37	0.81	2.93	86	18.03	140	58	48	0	1	2	1

*** Based on 1964-93 normals.**

Delta Weather and Crop Summary: Earlier this week, cold, gusty winds along with scattered snowfall dominated the northern Delta. As a result, some minor wheat damage was observed. However, condition improved as the week progressed with temperatures reaching the upper 60's degrees F. Overall, precipitation was light, enabling farmers to continue with necessary pre-planting fieldwork. Also, certain locations in the Delta have begun planting corn.



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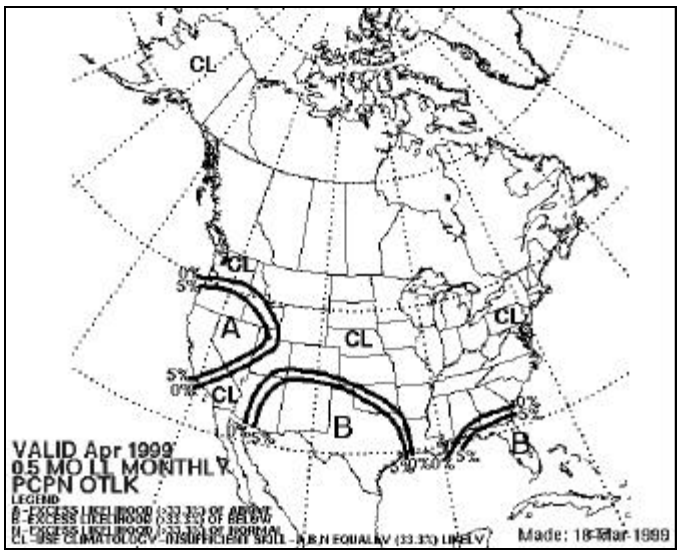
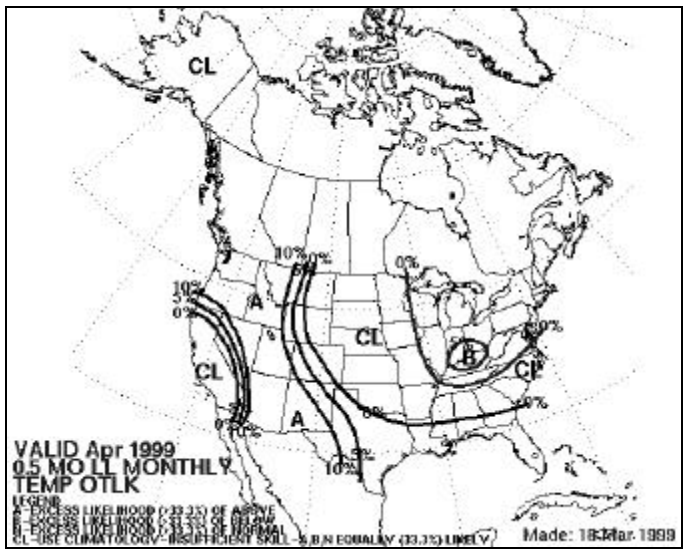
Warmer weather arrived in the **East** by midweek, producing nearly a dozen daily-record highs on March 17-18. On Thursday, records included 80ºF in **Raleigh-Durham, NC** and 70ºF in **Boston, MA**. Meanwhile, storminess again reached the **central and southern Plains**. On Thursday, **Wichita Falls, TX** noted daily-record precipitation (1.78 inches), lifting their March total to 5.72 inches. **Wichita Falls'** normal March rainfall is 2.21 inches. Although significant rain fell as far south as **San Antonio, TX**, boosting their month-to-date rainfall to 1.67 inches (174 percent of normal), the **lower Rio Grande Valley** remained mostly dry. Heavy, wet snow fell as far south as **northwesternmost Texas**, where up to 10 inches accumulated in **Hartley County**. On Friday morning, snow depths included 8 inches in **Dalhart, TX** and 2 inches in both **Dodge City, KS** and **Clovis, NM**. Friday's high temperatures on the **Plains** ranged from 36ºF in **Amarillo, TX** to 73ºF in **Miles City, MT**. Elsewhere across the **northern Plains** and the **Northwest**, daily-record highs on Friday included 71ºF in **Dickinson, ND** and 68ºF in **Wenatchee, WA**.

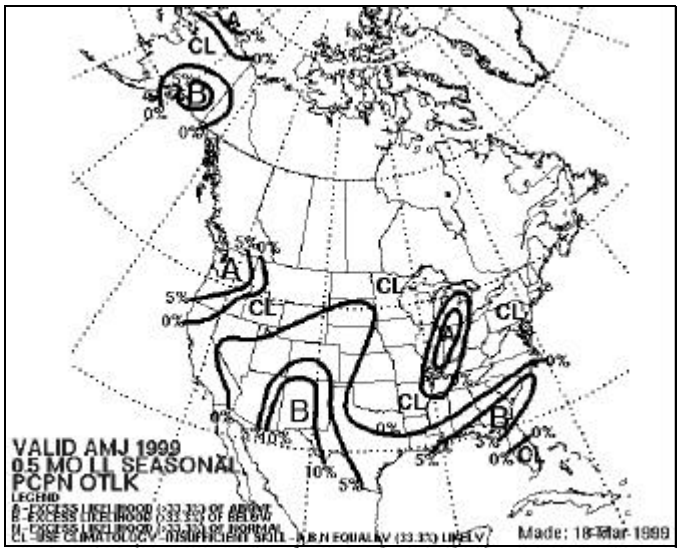
Alaskan temperatures varied widely, with significant warming and weekly temperatures as much as 9ºF above normal in the interior. In contrast, departures ranged from -2 to -8ºF across western and southern areas. **Kodiak** registered a daily-record low (2ºF) on Wednesday. Two days later, **McGrath** (37ºF) recorded their highest temperature since January 23. A 139-day period (October 26 - March 13) of sub-freezing weather ended in **Fairbanks**, their fourth-longest such streak on record behind 157 days in 1971-72, 142 days in 1958-59, and 141 days in 1932-33.



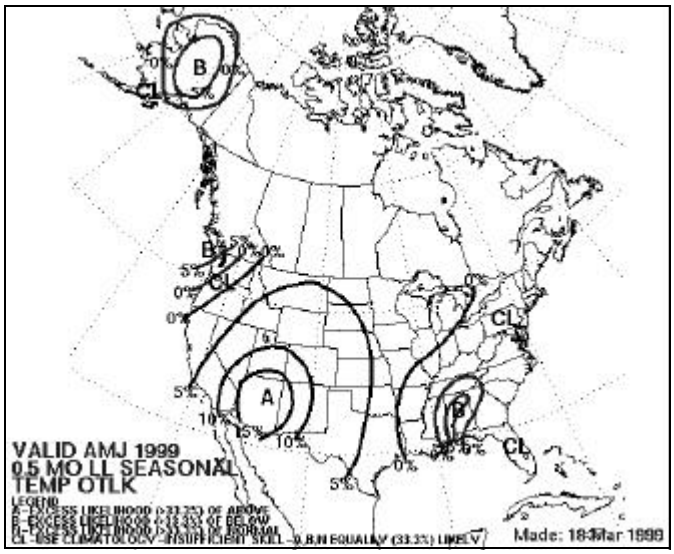
PRECIPITATION: April 1999



TEMPERATURE: April 1999



PRECIPITATION: April - June 1999



TEMPERATURE: April - June 1999

A complete set of long-lead products is available from the Climate Prediction Center at the following address:

http://nic.fb4.noaa.gov/index_frame.html

National Weather Data for Selected Cities

CORRECTION

In the last two ***Weekly Weather and Crop Bulletins*** (No. 10 & 11), the seasonal date of Dec 1 was incorrect. The seasonal date should have been Mar 1. Data in these two issues were correct except for the seasonal data at Flagstaff, AZ. Below is the correct ***seasonal*** data at ***Flagstaff, AZ***:

	Total, IN.	PCT. NORMAL
Week ending March 6	0.00	0
Week ending March 13	0.23	21

National Weather Data for Selected Cities

Weather Data for the Week Ending March 20, 1999

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7503)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS 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	67	38	75	30	53	-2	0.67	-0.76	0.35	4.66	116	15.55	113	84	33	0	1	3	0
	HUNTSVILLE	63	37	72	30	50	-2	0.73	-0.81	0.55	4.93	115	16.93	118	91	40	0	1	2	1
	MOBILE	70	45	78	34	58	-3	0.03	-1.45	0.03	8.55	202	14.84	103	96	51	0	0	1	0
	MONTGOMERY	70	41	79	33	56	-2	0.58	-0.86	0.53	7.39	179	12.27	86	86	33	0	0	2	1
AK	ANCHORAGE	32	19	37	-2	25	-1	0.08	-0.09	0.07	0.22	47	0.86	42	91	59	0	7	2	0
	BARROW	-6	-19	-1	-27	-12	3	0.06	0.03	0.02	0.13	163	0.30	97	80	68	0	7	4	0
	FAIRBANKS	30	-2	39	-16	14	3	0.01	-0.07	0.00	0.17	71	0.62	54	84	46	0	7	1	0
	JUNEAU	38	28	40	20	33	0	0.75	0.01	0.32	1.74	80	12.48	119	96	67	0	5	5	0
	KODIAK	32	18	36	3	25	-8	1.13	0.09	0.47	2.12	69	13.78	88	86	54	0	7	5	0
	NOME	12	-3	30	-21	5	-4	0.13	0.02	0.08	0.14	45	2.29	134	85	59	0	7	3	0
AZ	FLAGSTAFF	54	22	60	17	38	3	0.27	-0.32	0.23	0.50	29	1.26	22	87	27	0	7	3	0
	PHOENIX	76	52	88	46	64	1	0.08	-0.13	0.07	0.11	18	0.30	15	65	23	0	0	2	0
	TUCSON	74	43	86	36	59	0	0.00	-0.17	0.00	0.00	0	0.01	0	49	14	0	0	0	0
	YUMA	76	52	84	49	64	-1	0.00	-0.06	0.00	0.00	0	0.60	83	55	19	0	0	0	0
AR	FORT SMITH	62	39	77	28	51	-1	0.15	-0.76	0.08	3.64	147	6.93	99	89	42	0	2	3	0
	LITTLE ROCK	59	40	73	31	50	-4	0.62	-0.51	0.41	2.31	76	11.13	111	85	48	0	2	3	0
CA	BAKERSFIELD	65	43	79	36	54	-3	0.17	-0.07	0.10	0.22	31	4.60	176	93	39	0	0	4	0
	EUREKA	55	42	63	38	49	-1	1.38	0.15	1.03	3.73	105	18.43	129	90	67	0	0	2	1
	FRESNO	62	45	69	40	53	-2	0.31	-0.13	0.21	0.51	40	4.52	90	91	42	0	0	2	0
	LOS ANGELES	59	50	62	47	54	-3	1.07	0.62	0.66	1.35	96	3.76	60	88	60	0	0	4	1
	REDDING	63	44	73	35	54	2	0.17	-0.84	0.02	1.51	51	12.28	91	92	40	0	0	2	0
	SACRAMENTO	60	45	62	42	52	-1	0.07	-0.52	0.05	0.90	51	8.30	99	92	57	0	0	2	0
	SAN DIEGO	62	52	66	49	57	-3	0.19	-0.22	0.16	0.58	49	2.81	62	80	54	0	0	2	0
	SAN FRANCISCO	56	47	59	45	51	-2	0.75	0.05	0.44	2.27	109	9.85	102	85	62	0	0	5	0
CO	ALAMOSA	55	20	61	12	38	5	0.11	0.00	0.09	0.24	86	0.31	37	88	19	0	7	2	0
	CO SPRINGS	55	29	69	24	43	5	0.03	-0.19	0.02	0.13	23	0.30	24	73	23	0	5	2	0
	DENVER	61	33	71	20	47	8	0.00	-0.30	0.00	0.20	26	0.75	41	60	18	0	4	0	0
	GRAND JUNCTION	68	34	71	29	51	7	0.00	-0.22	0.00	0.03	5	0.40	25	47	12	0	1	0	0
	PUEBLO	61	28	76	20	44	2	0.07	-0.12	0.04	0.40	85	0.53	49	86	22	0	6	2	0
CT	BRIDGEPORT	49	33	67	30	41	2	0.86	0.01	0.49	2.05	86	12.50	145	89	44	0	4	2	0
	HARTFORD	51	32	68	26	41	3	0.42	-0.41	0.26	2.12	92	10.89	122	71	37	0	5	2	0
DC	WASHINGTON	57	37	73	32	47	-1	1.25	0.53	1.03	2.65	130	10.61	142	71	31	0	1	2	1
DE	WILMINGTON	53	34	70	31	44	1	1.17	0.39	1.08	1.92	88	10.85	133	74	36	0	2	2	1
FL	DAYTONA BEACH	72	50	80	44	61	-4	1.00	0.35	1.00	1.00	51	7.63	98	93	51	0	0	1	1
	JACKSONVILLE	71	44	77	33	57	-4	0.21	-0.62	0.21	0.36	15	6.50	67	96	44	0	0	1	0
	KEY WEST	77	67	81	58	72	-2	0.01	-0.38	0.01	0.72	64	4.80	97	86	62	0	0	1	0
	MIAMI	77	60	83	49	69	-3	0.20	-0.35	0.18	0.25	16	3.50	62	85	51	0	0	2	0
	ORLANDO	75	51	83	46	63	-4	0.53	-0.21	0.53	0.55	25	3.81	51	96	45	0	0	1	1
	PENSACOLA	71	47	77	39	59	-2	0.00	-1.29	0.00	3.70	98	10.33	74	90	41	0	0	0	0
	TALLAHASSEE	73	42	82	34	57	-3	1.73	0.30	1.73	3.09	74	9.01	62	94	37	0	0	1	1
	TAMPA	73	52	78	43	63	-4	0.67	-0.02	0.65	0.71	33	4.05	56	92	52	0	0	2	1
	WEST PALM	76	57	81	46	66	-4	0.36	-0.49	0.24	0.53	22	8.94	114	90	50	0	0	2	0
GA	ATHENS	67	40	76	32	53	-1	0.58	-0.68	0.58	2.12	59	10.27	81	87	37	0	1	1	1
	ATLANTA	66	41	74	36	54	0	0.41	-0.92	0.41	3.08	81	10.39	78	74	30	0	0	1	0
	AUGUSTA	72	37	78	31	54	-1	1.00	-0.07	0.96	1.68	54	9.77	86	97	30	0	2	2	1
	COLUMBUS	70	43	78	35	57	-1	0.66	-0.66	0.66	2.37	63	8.21	62	79	26	0	0	1	1
	MACON	72	41	77	32	56	-1	0.39	-0.70	0.39	1.36	43	9.54	76	94	33	0	1	1	0
	SAVANNAH	69	43	78	33	56	-4	0.46	-0.41	0.46	0.79	32	8.86	95	92	40	0	0	1	0
HI	HILO	76	65	78	64	71	-1	5.05	1.86	1.53	7.14	83	41.32	144	95	62	0	0	7	5
	HONOLULU	79	68	81	67	74	-1	0.33	-0.17	0.18	0.45	31	3.32	46	80	52	0	0	4	0
	KAHULUI	79	66	81	65	73	0	0.48	-0.14	0.47	0.60	33	4.74	54	87	51	0	0	2	0
	LIHUE	76	68	78	65	72	-1	0.41	-0.55	0.15	0.62	23	6.20	52	89	63	0	0	5	0
ID	BOISE	62	36	70	28	49	6	0.00	-0.30	0.00	0.50	61	3.85	116	67	24	0	2	0	0
	LEWISTON	59	37	71	33	48	4	0.03	-0.22	0.02	0.34	49	2.23	78	79	31	0	0	2	0
	POCATELLO	62	25	70	20	43	7	0.00	-0.30	0.00	0.35	44	2.99	108	82	36	0	7	0	0
IL	CHICAGO/O'HARE	47	29	59	20	38	0	0.00	-0.62	0.00	0.98	62	7.09	159	79	44	0	5	0	0
	MOLINE	53	29	62	19	41	3	0.00	-0.69	0.00	0.55	31	4.59	101	81	40	0	4	0	0
	PEORIA	53	30	65	22	42	2	0.00	-0.68	0.00	0.80	47	5.04	108	81	38	0	5	0	0
	ROCKFORD	49	26	58	19	38	2	0.00	-0.57	0.00	0.34	24	4.61	119	87	39	0	6	0	0
	SPRINGFIELD	55	30	68	22	43	1	0.00	-0.75	0.00	0.93	47	5.02	95	77	37	0	4	0	0
IN	EVANSVILLE	53	33	72	27	43	-3	0.81	-0.29	0.81	2.90	96	10.84	123	84	42	0	4	1	1
	FORT WAYNE	46	26	64	17	36	-2	0.00	-0.67	0.00	1.14	64	6.46	116	81	49	0	6	0	0
	INDIANAPOLIS	51	31	69	22	41	-1	0.00	-0.88	0.00	1.73	73	11.65	163	76	41	0	5	0	0
	SOUTH BEND	47	26	65	17	37	-1	0.00	-0.72	0.00	1.27	68	5.97	100	76	43	0	6	0	0
IA	BURLINGTON	57	33	68	25	45	5	0.00	-0.67	0.00	0.40	24	5.14	126	69	33	0	3	0	0
	CEDAR RAPIDS	51	27	61	21	39	3	0.00	-0.54	0.00	0.21	15	4.08	121	81	41	0	6	0	0
	DES MOINES	55	30	68	24	43	5	0.00	-0.54	0.00	0.70	51	2.93	86	77	36	0	5	0	0
	DUBUQUE	48	27	57	19	37	3	0.00	-0.67	0.00	0.63	37	3.75	88	78	43	0	6	0	0
	SIOUX CITY	55	25	69	14	40	4	0.01	-0.45	0.01	0.37	31	1.51	62	86	38	0	7	1	0
	WATERLOO	52	27	60	20	39	5	0.00	-0.53	0.00	0.25	19	2.45	76	85	39	0	5	0	0
KS	CONCORDIA	59	31	76	19	45	3	0.03	-0.49	0.03	0.84	62	1.61	60	82	27	0	4	1	0
	DODGE CITY	50	29	65	9	39	-4	0.38	0.01	0.38	1.83	199	3.81	188	86	49	0	4	1	0
	GOODLAND	55	28	75	6	41	2	0.02	-0.26	0.00	0.78	107	1.35	91	85	38	0	5	1	0
	TOPEKA	59	34	74	24	47	3	0.08	-0.49	0.00	0.97	66	3.07	89	73	25	0	3	1	0

Based on 1961-90 normals

Weather Data for the Week Ending March 20, 1999

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS 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	55	35	65	21	45	-1	0.27	-0.30	0.27	1.79	119	3.53	108	85	37	0	2	1	0
KY	JACKSON	56	35	73	29	46	-2	0.72	-0.38	0.67	2.65	85	12.27	115	73	33	0	3	1	1
	LEXINGTON	54	32	71	24	43	-3	0.89	-0.13	0.89	2.81	100	11.30	127	83	44	0	5	1	1
	LOUISVILLE	56	35	74	26	46	-1	0.81	-0.26	0.81	2.45	83	12.07	132	88	42	0	3	1	1
	PADUCAH	56	35	71	26	46	-2	0.57	-0.56	0.49	2.30	74	10.67	104	80	43	0	3	2	0
LA	BATON ROUGE	68	45	78	33	57	-5	0.04	-1.03	0.02	1.86	60	8.83	65	95	47	0	0	1	0
	LAKE CHARLES	68	47	75	34	58	-3	0.02	-0.72	0.01	3.07	142	9.83	96	97	54	0	0	2	0
	NEW ORLEANS	70	49	78	41	59	-2	0.00	-1.09	0.00	2.37	72	6.49	45	89	49	0	0	0	0
	SHREVEPORT	67	44	74	32	55	-3	0.53	-0.27	0.41	3.83	164	17.21	169	92	46	0	1	2	0
ME	CARIBOU	33	25	40	17	29	4	0.91	0.36	0.28	1.91	125	6.87	117	92	63	0	7	4	0
	PORTLAND	44	31	56	24	37	4	0.27	-0.56	0.26	1.48	64	11.50	125	81	45	0	4	2	0
MD	BALTIMORE	55	35	74	30	45	0	1.05	0.28	0.92	2.14	97	9.49	113	72	32	0	4	2	1
MA	BOSTON	49	35	69	31	42	3	0.26	-0.57	0.25	1.46	62	10.66	111	78	42	0	4	2	0
	WORCESTER	46	31	63	26	38	4	0.50	-0.41	0.31	2.20	87	11.59	120	76	43	0	5	3	0
MI	ALPENA	44	21	54	7	33	4	0.06	-0.43	0.04	0.63	48	4.38	104	89	43	0	7	2	0
	GRAND RAPIDS	45	26	60	18	36	1	0.00	-0.61	0.00	0.71	46	5.73	119	78	39	0	6	0	0
	HOUGHTON LAKE	44	19	57	7	32	3	0.01	-0.46	0.01	0.37	30	3.52	90	87	44	0	7	1	0
	LANSING	46	23	62	13	35	1	0.00	-0.54	0.00	0.94	68	4.25	100	83	49	0	6	0	0
	MARQUETTE	41	21	50	1	31	7	0.20	-0.45	0.11	0.81	47	8.90	158	85	41	0	7	3	0
	MUSKEGON	44	27	54	19	35	2	0.00	-0.58	0.00	0.45	30	4.16	78	80	48	0	5	0	0
MN	DULUTH	42	21	51	10	32	7	0.05	-0.40	0.04	0.23	20	1.74	55	87	44	0	7	2	0
	INT'L FALLS	42	18	52	3	30	7	0.43	0.19	0.43	0.89	141	1.47	69	90	43	0	7	1	0
	MINNEAPOLIS	46	25	51	13	35	4	0.00	-0.45	0.00	0.30	26	3.36	112	85	47	0	6	0	0
	ROCHESTER	46	27	55	21	37	6	0.00	-0.41	0.00	0.11	11	3.19	126	88	59	0	7	0	0
	ST. CLOUD	43	22	52	10	33	4	0.00	-0.33	0.00	0.58	72	1.49	69	89	48	0	7	0	0
MS	JACKSON	66	41	75	30	54	-4	0.02	-1.31	0.02	3.12	84	13.63	100	90	42	0	1	1	0
	MERIDIAN	69	39	77	31	54	-3	0.15	-1.39	0.14	4.58	105	12.38	83	94	39	0	2	2	0
	TUPELO	62	39	74	31	50	-4	0.73	-0.68	0.48	7.04	180	21.52	159	90	46	0	2	2	0
MO	COLUMBIA	59	32	75	25	46	2	0.03	-0.70	0.03	1.68	87	6.28	120	76	29	0	3	1	0
	KANSAS CITY	59	33	75	24	46	3	0.09	-0.50	0.00	1.26	83	5.31	143	73	29	0	3	1	0
	SAINT LOUIS	59	36	76	25	47	2	0.00	-0.83	0.00	1.39	62	9.99	162	67	31	0	2	0	0
	SPRINGFIELD	54	32	64	11	43	-3	0.45	-0.46	0.24	2.99	125	8.84	139	84	40	0	2	3	0
MT	BILLINGS	60	31	69	23	45	10	0.00	-0.27	0.00	0.78	115	1.85	82	63	21	0	4	0	0
	BUTTE	55	23	64	13	39	11	0.11	-0.06	0.09	0.60	130	1.50	108	89	26	0	7	1	0
	GLASGOW	49	29	59	25	39	9	0.08	0.00	0.08	0.34	142	1.72	200	88	48	0	6	1	0
	GREAT FALLS	59	28	66	17	44	11	0.00	-0.25	0.00	0.14	21	0.83	39	64	20	0	4	0	0
	KALISPELL	55	27	66	20	41	7	0.03	-0.19	0.02	0.90	141	3.46	106	88	33	0	6	2	0
	MILES CITY	62	31	72	23	47	13	0.06	-0.08	0.06	0.12	35	0.74	56	82	22	0	5	1	0
	MISSOULA	58	26	67	22	42	6	0.00	-0.22	0.00	0.29	46	2.35	88	85	25	0	7	0	0
NE	GRAND ISLAND	58	24	76	17	41	3	0.00	-0.44	0.00	0.21	19	0.85	37	83	28	0	7	0	0
	LINCOLN	59	25	78	16	42	3	0.00	-0.49	0.00	0.88	72	2.52	102	88	30	0	7	0	0
	NORFOLK	57	27	73	19	42	6	0.00	-0.43	0.00	0.36	32	1.20	50	82	31	0	7	0	0
	NORTH PLATTE	61	21	81	14	41	4	0.00	-0.28	0.00	0.39	57	1.00	67	92	25	0	7	0	0
	OMAHA	59	28	79	19	43	4	0.00	-0.48	0.00	0.92	76	2.91	107	95	38	0	6	0	0
	SCOTTSBLUFF	62	24	73	21	43	7	0.00	-0.25	0.00	0.75	117	1.05	66	82	18	0	7	0	0
	VALENTINE	63	24	81	15	44	10	0.00	-0.24	0.00	0.26	43	1.13	88	84	21	0	7	0	0
NV	ELY	60	26	62	18	43	8	0.00	-0.22	0.00	0.11	18	0.92	46	69	15	0	5	0	0
	LAS VEGAS	72	47	78	44	60	3	0.00	-0.09	0.00	0.00	0	0.08	7	44	17	0	0	0	0
	RENO	63	34	68	29	48	5	0.11	-0.05	0.00	0.26	52	2.27	88	64	13	0	3	1	0
	WINNEMUCCA	63	25	67	17	44	4	0.06	-0.12	0.03	0.14	29	2.19	118	83	19	0	6	2	0
NH	CONCORD	44	27	57	21	36	3	0.25	-0.36	0.21	1.52	88	9.74	144	80	45	0	7	2	0
NJ	NEWARK	53	36	69	32	45	2	0.24	-0.65	0.24	1.23	50	11.20	126	68	34	0	1	1	0
NM	ALBUQUERQUE	59	34	71	29	47	0	0.53	0.42	0.35	0.84	271	0.96	77	87	27	0	2	2	0
NY	ALBANY	45	30	59	23	37	3	0.17	-0.50	0.12	1.57	85	7.96	123	79	44	0	5	2	0
	BINGHAMTON	42	25	59	18	34	1	0.16	-0.48	0.07	1.64	93	7.94	122	91	52	0	6	3	0
	BUFFALO	42	27	58	21	34	0	0.02	-0.59	0.00	1.80	107	8.67	129	90	56	0	7	1	0
	ROCHESTER	42	25	54	17	33	-1	0.04	-0.48	0.00	3.19	222	7.80	139	82	49	0	5	1	0
	SYRACUSE	43	27	56	19	35	1	0.10	-0.53	0.04	2.51	147	9.26	149	81	43	0	5	3	0
NC	ASHEVILLE	59	33	74	28	46	-2	0.71	-0.36	0.62	1.84	60	11.50	113	87	36	0	4	2	1
	CHARLOTTE	64	37	76	25	50	-1	0.31	-0.71	0.30	0.87	29	7.06	67	76	27	0	2	2	0
	GREENSBORO	60	36	77	28	48	-1	0.71	-0.14	0.51	1.17	48	8.07	90	80	33	0	2	2	1
	HATTERAS	57	45	63	40	51	-1	0.93	-0.05	0.64	2.08	74	8.28	68	85	57	0	0	2	1
	RALEIGH	62	37	78	28	49	-1	2.10	1.23	1.99	2.51	99	10.24	105	84	35	0	1	2	1
	WILMINGTON	67	43	81	33	55	0	0.49	-0.40	0.49	1.03	40	7.83	77	84	39	0	0	1	0
ND	BISMARCK	55	26	65	20	40	12	0.18	0.01	0.14	0.35	85	1.88	142	90	45	0	7	2	0
	DICKINSON	59	27	71	22	43	13	0.01	-0.14	0.00	0.10	29	1.35	127	88	27	0	7	1	0
	FARGO	43	27	53	24	35	9	0.00	-0.24	0.00	0.05	8	1.41	81	87	56	0	7	0	0
	GRAND FORKS	37	20	40	12	28	4	0.23	0.01	0.23	0.70	125	1.92	110	95	76	0	7	1	0
	JAMESTOWN	45	26	55	22	35	8	0.00	-0.20	0.00	0.21	43	1.84	117	92	64	0	7	0	0
	WILLISTON	47	25	55	20	36	7	0.10	-0.06	0.06	0.40	103	2.69	196	93	56	0	7	2	0
OH	AKRON-CANTON	46	27	63	21	37	-2	0.00	-0.77	0.00	2.13	101	8.44	130	86	50	0	5	0	0
	CINCINNATI	52	30	71	22	41	-2	0.22	-0.77	0.22	2.00	74	10.43	131	78	35	0	5	1	0
	CLEVELAND	47	29	66	22	38	0	0.00	-0.67	0.00	1.75	96	7.46	123	82	50	0	5	0	0
	COLUMBUS	51	30	69	24	40	-1	0.00	-0.76	0.00	1.92	93	7.56	117	82	42	0	5	0	0
	DAYTON	48	28	67	19	38	-3	0.00	-0.79	0.00	0.95	45	8.86	138	78	46	0	6	0	0
	MANSFIELD	45	27	62	21	36	-2	0.00	-0.76	0.00	1.18	58	7.49	124	79	48	0	6	0	0

Based on 1961-90 normals

Weather Data for the Week Ending March 20, 1999

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS 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	47	29	65	22	38	1	0.00	-0.61	0.00	0.88	54	5.71	112	76	43	0	5	0	0
	YOUNGSTOWN	46	28	65	22	37	0	0.00	-0.72	0.00	2.14	110	9.56	156	76	41	0	5	0	0
OK	OKLAHOMA CITY	60	39	71	26	50	-1	0.47	-0.16	0.33	3.18	186	6.19	141	89	46	0	2	2	0
	TULSA	59	41	72	26	50	-1	0.31	-0.50	0.16	3.29	153	7.56	134	83	40	0	2	4	0
OR	ASTORIA	53	40	68	32	47	1	0.70	-0.91	0.25	6.24	132	38.30	172	97	59	0	1	6	0
	BURNS	51	28	61	24	40	3	0.08	-0.16	0.08	0.59	88	4.17	171	92	41	0	7	1	0
	EUGENE	54	39	63	33	47	-1	0.37	-0.90	0.26	1.78	48	19.47	113	96	60	0	0	4	0
	MEDFORD	60	42	70	38	51	4	0.14	-0.27	0.05	0.77	63	8.74	149	84	37	0	0	1	0
	PENDLETON	56	35	64	30	45	0	0.10	-0.18	0.08	0.50	64	2.53	74	89	42	0	4	2	0
	PORTLAND	56	40	70	34	48	1	0.39	-0.42	0.18	2.71	114	18.06	156	98	52	0	0	4	0
	SALEM	56	39	69	31	47	2	0.41	-0.54	0.24	2.91	103	23.92	181	96	52	0	1	3	0
PA	ALLENTOWN	50	30	66	24	40	0	0.60	-0.14	0.59	1.40	67	9.50	116	78	36	0	5	2	1
	ERIE	44	30	66	23	37	0	0.00	-0.69	0.00	1.05	56	7.85	123	80	45	0	5	0	0
	MIDDLETOWN	53	35	68	30	44	2	0.94	0.20	0.94	1.62	77	8.46	107	74	33	0	2	1	1
	PHILADELPHIA	53	35	68	29	44	1	1.08	0.29	1.04	1.92	88	9.76	119	84	46	0	1	2	1
	PITTSBURGH	49	29	66	22	39	-1	0.03	-0.76	0.03	1.27	59	8.55	121	77	36	0	5	1	0
	WILKES-BARRE	46	30	61	24	38	1	0.37	-0.21	0.37	1.49	94	7.75	132	78	45	0	5	1	0
	WILLIAMSPORT	48	30	66	24	39	1	0.30	-0.42	0.29	2.64	130	9.52	130	81	36	0	5	2	0
RI	PROVIDENCE	50	33	70	28	42	4	0.59	-0.33	0.40	2.18	84	14.34	143	79	41	0	4	2	0
SC	BEAUFORT	67	44	78	36	56	-3	0.43	-0.53	0.43	0.56	21	5.50	57	91	46	0	0	1	0
	CHARLESTON	69	45	78	33	57	-2	1.22	0.21	1.22	1.34	47	8.31	87	92	35	0	0	1	1
	COLUMBIA	69	39	78	30	54	-1	1.15	0.04	1.14	1.43	45	7.73	66	88	31	0	1	2	1
	GREENVILLE	64	41	76	33	53	1	0.43	-0.81	0.43	1.57	44	8.24	68	72	35	0	0	1	0
SD	ABERDEEN	54	24	62	19	39	9	0.00	-0.31	0.00	0.20	26	1.02	63	89	37	0	7	0	0
	HURON	55	25	64	21	40	8	0.00	-0.39	0.00	0.15	15	0.80	39	90	40	0	7	0	0
	RAPID CITY	57	27	72	20	42	8	0.00	-0.24	0.00	0.68	117	0.93	63	80	32	0	5	0	0
	SIOUX FALLS	49	23	58	9	36	3	0.00	-0.38	0.00	0.91	97	1.54	74	88	46	0	7	0	0
TN	BRISTOL	59	32	69	25	46	-2	0.70	-0.15	0.31	2.25	93	10.16	112	91	35	0	4	3	0
	CHATTANOOGA	65	39	74	31	52	1	0.27	-1.13	0.15	2.77	70	16.31	119	88	34	0	1	2	0
	KNOXVILLE	60	36	70	28	48	-1	0.72	-0.46	0.40	3.63	109	13.15	114	87	43	0	2	3	0
	MEMPHIS	59	42	70	32	51	-3	0.97	-0.27	0.75	5.39	157	13.64	119	81	44	0	1	2	1
	NASHVILLE	59	36	73	28	48	-3	0.82	-0.30	0.80	3.41	110	14.97	142	79	40	0	2	2	1
TX	ABILENE	65	40	76	31	53	-4	0.74	0.44	0.71	1.85	223	3.78	125	83	45	0	2	2	1
	AMARILLO	58	32	77	22	45	-2	0.84	0.62	0.76	1.38	226	4.06	236	87	35	0	4	2	1
	AUSTIN	70	49	75	40	59	-3	1.76	1.35	1.66	3.55	296	3.79	75	86	45	0	0	2	1
	BEAUMONT	69	50	75	35	60	-2	0.00	-0.72	0.00	1.88	89	6.10	60	94	52	0	0	0	0
	BROWNSVILLE	78	57	82	44	68	-1	0.03	-0.08	0.02	0.09	28	1.86	63	83	49	0	0	2	0
	CORPUS CHRISTI	75	55	79	43	65	-1	0.01	-0.18	0.01	0.04	6	0.83	19	84	49	0	0	1	0
	DEL RIO	76	50	79	38	63	-1	0.10	-0.04	0.09	0.24	67	0.28	15	75	29	0	0	2	0
	EL PASO	66	35	77	30	51	-5	0.04	-0.02	0.04	0.04	20	0.14	14	68	28	0	3	1	0
	FORT WORTH	65	45	72	31	55	-2	0.30	-0.33	0.28	2.70	157	4.61	80	85	47	0	1	2	0
	GALVESTON	67	57	73	43	62	0	0.02	-0.48	0.02	0.50	35	3.87	56	82	62	0	0	1	0
	HOUSTON	72	49	78	32	60	-1	0.94	0.28	0.86	2.27	120	5.19	64	90	47	0	1	2	1
	LUBBOCK	61	35	76	28	48	-3	0.85	0.66	0.56	1.17	213	2.52	157	83	41	0	3	2	1
	MIDLAND	68	37	77	25	53	-3	0.60	0.46	0.52	0.60	154	0.93	66	81	26	0	1	2	1
	SAN ANGELO	70	41	76	28	55	-3	0.47	0.28	0.45	1.02	185	1.64	68	86	32	0	2	2	0
	SAN ANTONIO	71	47	76	32	59	-3	1.12	0.79	0.90	1.71	182	1.80	40	87	42	0	1	2	1
	VICTORIA	71	49	75	34	60	-4	0.54	0.21	0.51	1.79	185	4.36	85	95	53	0	0	2	1
	WACO	66	45	73	31	56	-3	0.85	0.33	0.84	2.69	186	5.06	98	93	54	0	1	2	1
	WICHITA FALLS	62	39	72	29	50	-3	1.32	0.81	1.31	4.92	370	7.48	196	91	49	0	2	2	1
UT	SALT LAKE CITY	64	36	70	31	50	8	0.00	-0.44	0.00	0.41	35	2.66	75	67	19	0	2	0	0
VT	BURLINGTON	40	29	50	24	34	3	0.14	-0.37	0.12	1.68	123	6.33	132	79	49	0	6	2	0
VA	LYNCHBURG	58	32	76	25	45	-2	0.95	0.15	0.33	1.61	71	8.79	108	82	27	0	4	2	0
	NORFOLK	60	41	77	37	50	2	1.52	0.67	1.35	1.99	82	7.83	81	80	46	0	0	2	1
	RICHMOND	59	36	77	26	47	-1	1.77	0.94	1.48	2.51	106	8.68	99	75	31	0	2	2	1
	ROANOKE	58	37	75	30	47	0	1.15	0.35	0.74	1.92	85	7.77	98	66	26	0	3	2	1
	WASH/DULLES	55	34	74	30	45	1	0.67	-0.05	0.55	2.39	117	10.39	137	73	33	0	4	2	1
WA	OLYMPIA	54	35	70	31	45	1	0.50	-0.62	0.32	4.50	135	32.27	188	98	52	0	1	4	0
	QUILLAYUTE	51	34	66	27	43	-1	1.24	-1.37	0.55	9.10	118	50.45	145	98	55	0	2	5	1
	SEATTLE-TACOMA	53	40	63	37	46	1	0.48	-0.32	0.28	2.76	116	16.54	141	92	52	0	0	5	0
	SPOKANE	56	34	69	30	45	6	0.16	-0.17	0.13	0.34	34	5.46	123	82	35	0	3	2	0
	YAKIMA	59	32	72	25	45	2	0.00	-0.15	0.00	0.04	9	2.75	114	90	36	0	3	0	0
WV	BECKLEY	50	29	66	20	40	-3	0.84	0.07	0.56	2.68	124	10.98	137	79	40	0	5	2	1
	CHARLESTON	56	31	75	25	44	-2	0.82	-0.01	0.82	3.17	135	10.65	129	85	31	0	4	1	1
	ELKINS	48	22	63	9	35	-5	1.02	0.14	1.02	3.08	127	11.85	139	94	40	0	6	1	1
	HUNTINGTON	56	33	74	24	44	-2	0.82	-0.03	0.82	2.72	115	9.77	121	75	30	0	5	1	1
WI	EAU CLAIRE	48	23	60	15	36	6	0.00	-0.39	0.00	0.36	38	3.07	115	88	36	0	7	0	0
	GREEN BAY	50	27	61	18	38	8	0.00	-0.48	0.00	0.20	16	2.69	79	81	38	0	6	0	0
	LACROSSE	54	27	64	18	41	8	0.00	-0.46	0.00	0.39	34	4.01	134	81	31	0	5	0	0
	MADISON	49	26	58	19	38	5	0.00	-0.50	0.00	0.42	33	3.43	100	79	38	0	5	0	0
	MILWAUKEE	47	29	60	21	38	4	0.00	-0.61	0.00	0.37	23	5.73	124	74	39	0	6	0	0
WY	CASPER	59	25	66	14	42	8	0.00	-0.22	0.00	0.32	58	0.85	50	66	17	0	5	0	0
	CHEYENNE	56	28	62	22	42	8	0.00	-0.24	0.00	0.42	69	0.89	64	73	20	0	5	0	0
	LANDER	60	27	65	18	44	9	0.00	-0.26	0.00	0.16	25	0.90	53	57	15	0	7	0	0
	SHERIDAN	62	26	69	18	44	9	0.00	-0.22	0.00	0.50	91	1.09	56	78	23	0	6	0	0

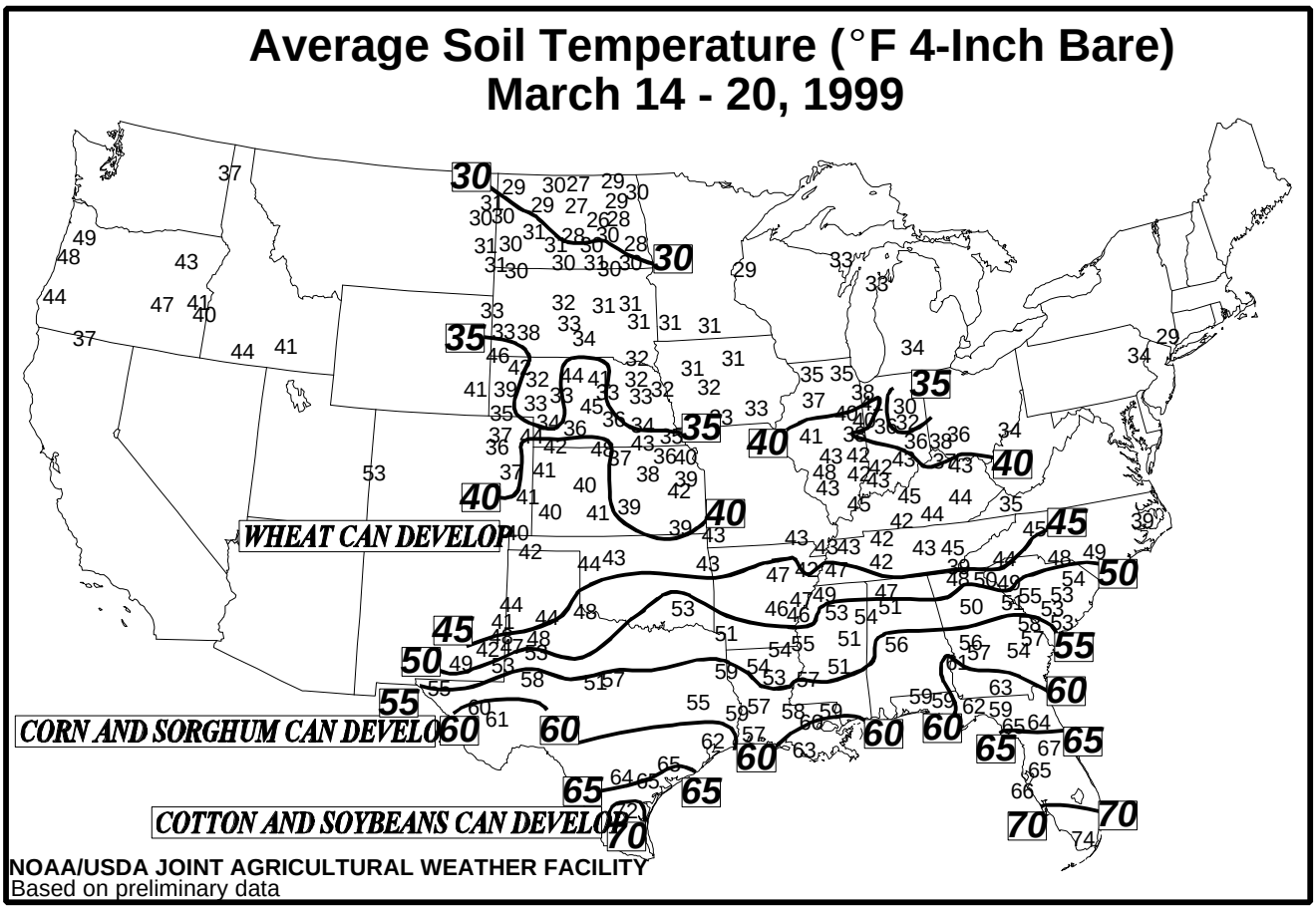
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

March 15 - 21, 1999

HIGHLIGHTS

The week began with a continuation of warm, windy, and dry weather in the southern Great Plains. Relief for the emerging drought conditions arrived midweek, when a slow-moving storm delivered soaking rains to much of northern and eastern Texas. The rain improved small grain conditions and aided corn, sorghum, and cotton emergence. After the front passed through the State, cold weather hindered crop development. Planting and other field activities were temporarily halted by muddy fields, especially in northern and southeastern parts of the State. Progress was only slightly delayed where rainfall was lighter. Dry conditions continued to persist in the central and northern Great Plains, but moisture shortages were not severe. Winter wheat conditions were aided by mild temperatures, while wind, disease, and insect damage remained light. Oat seeding progressed well in the central Great Plains due to dry conditions. Warm, dry weather aided tillage and fertilizing activities in the western and central Corn Belt. Fieldwork was less active in the eastern and southern Corn Belt, as fields slowly dried following heavy rains. Early and late-week storms hindered fieldwork in the Southeast and Atlantic Coastal Plains, but improved soil moisture levels in Florida. In the Great Lakes States and Northeast, a mixture of snow, rain, and freezing rain supplemented soil moisture supplies. Pacific storms shifted farther south, giving coastal areas of southern California needed moisture and allowing soils to dry in the Pacific Northwest.



International Weather and Crop Summary

March 14 - 20, 1999

HIGHLIGHTS

FSU-WESTERN: Cool weather kept winter grains dormant in most areas, while a mixture of rain and snow in Ukraine and southern Russia hampered early spring fieldwork.

EUROPE: Mild, dry weather favored developing winter grains in the west, while unseasonably cold weather in the northeast kept winter grains dormant.

NORTHWESTERN AFRICA: Timely showers in Morocco, Algeria, and Tunisia favored winter grains in or nearing the heading stage.

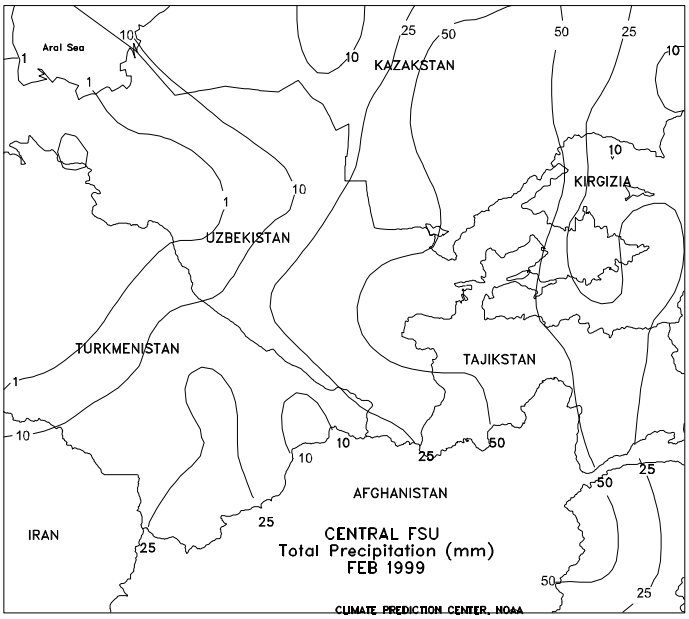
AUSTRALIA: Beneficial rain swept across the southern crop areas, benefiting pastures and improving long-term moisture levels.

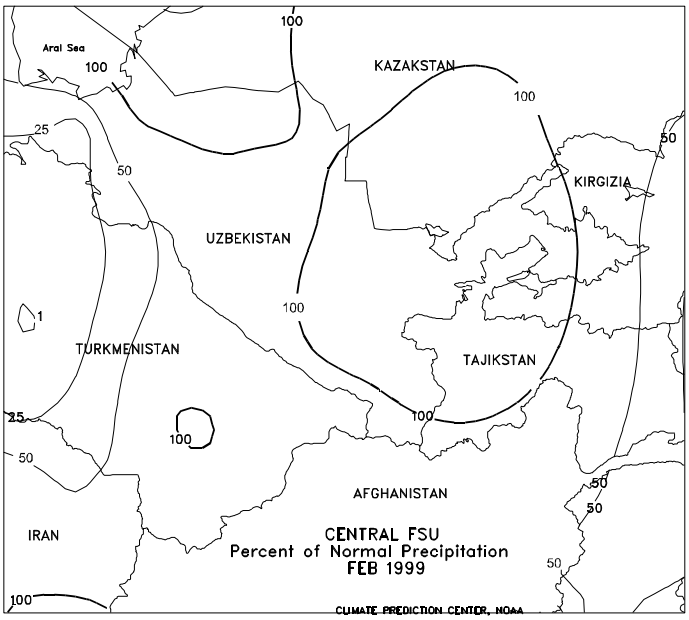
SOUTH AFRICA: Scattered, light to moderate showers benefited immature corn and other summer crops in eastern crop areas.

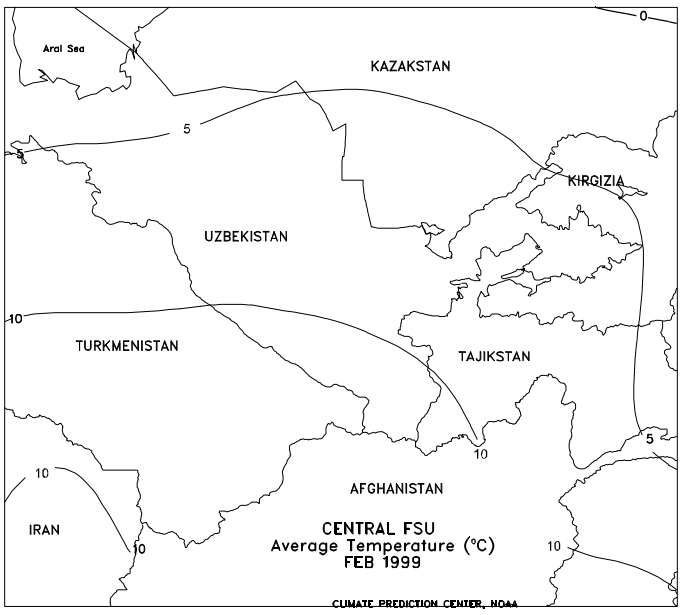
SOUTHEAST ASIA: Seasonable showers covered the eastern Philippines and Java, Indonesia, causing minor delays to rice harvesting.

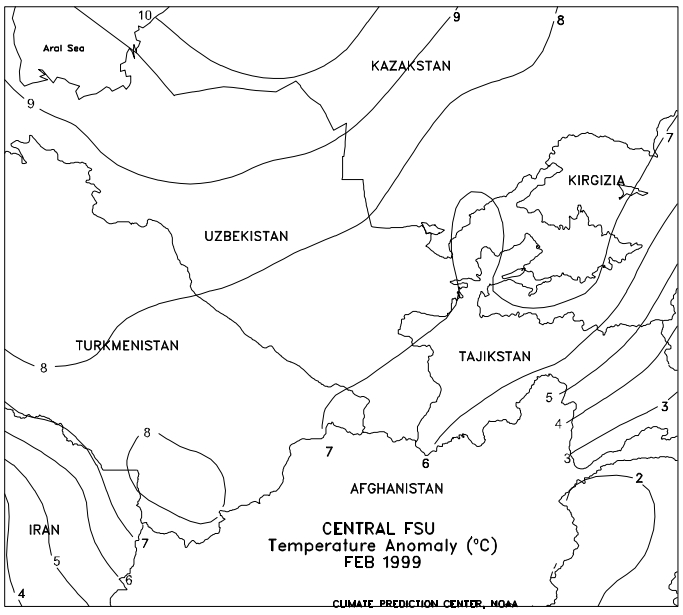
EASTERN ASIA: Widespread rain benefited vegetative winter wheat across the North China Plain and early rice transplanting in southern China.

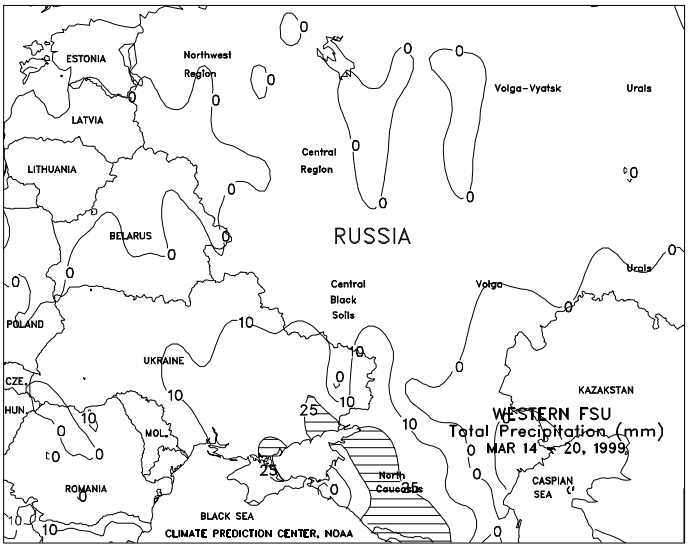
SOUTH AMERICA: Showers favored reproductive second-crop soybeans in Argentina but slowed summer crop harvesting elsewhere, especially in Mato Grosso, Brazil.





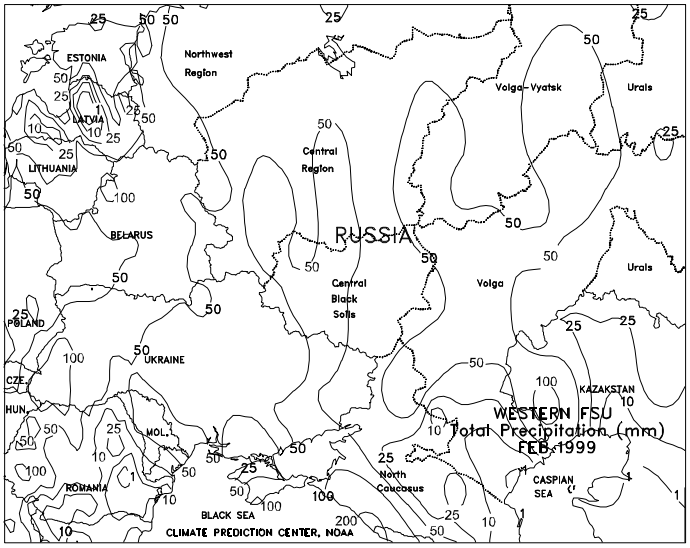


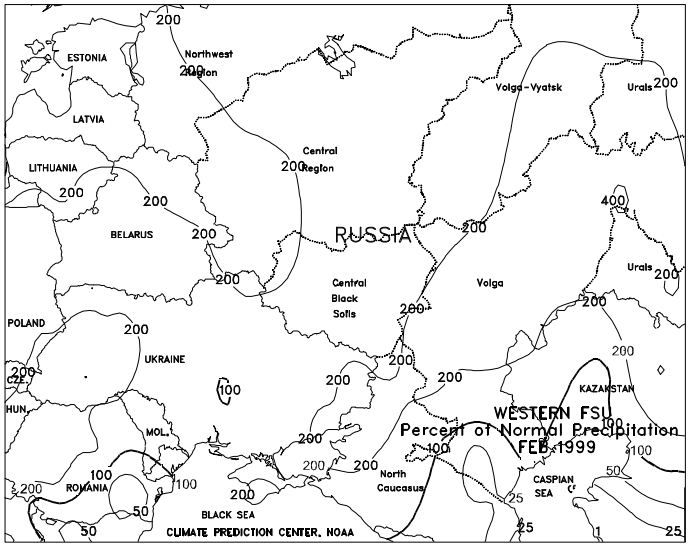


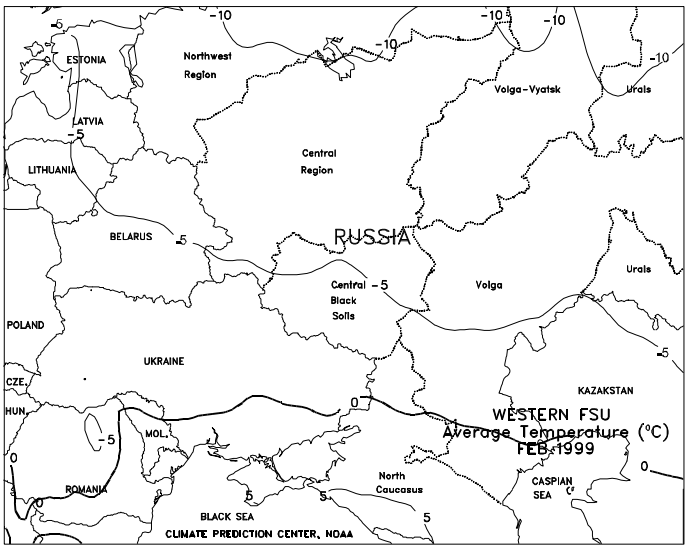


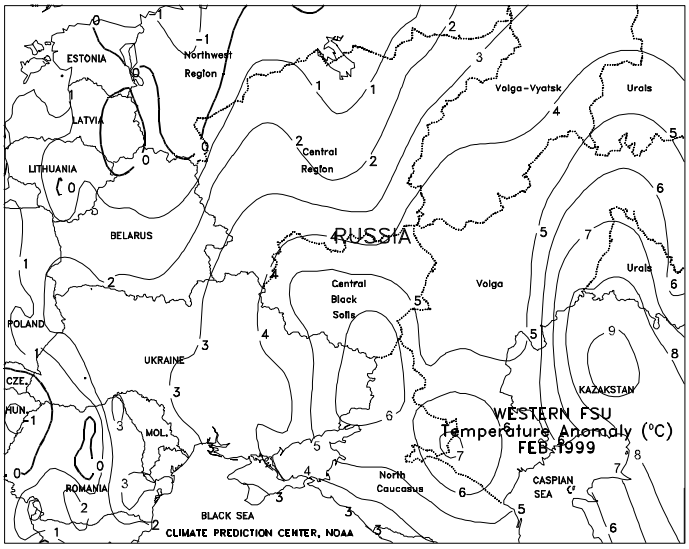
WESTERN FSU

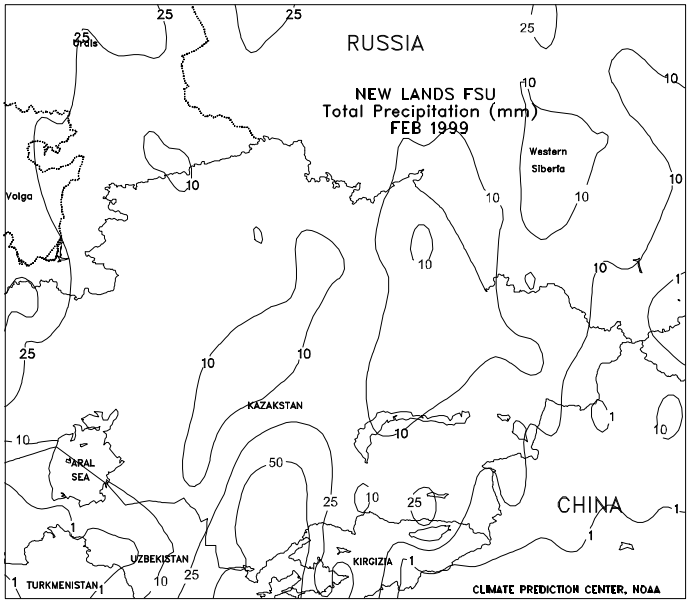
Unseasonably cool weather prevailed over most winter grain areas, keeping crops dormant. Weekly temperatures averaged 1 to 3 degrees C below normal in Belarus, Ukraine, and most of Russia. A mixture of rain and snow (6-27 mm, with local amounts in excess of 30 mm) fell in Ukraine and the North Caucasus region in Russia, hampering early spring fieldwork. Mostly dry weather stretched from the Baltics and Belarus eastward through northern Russia. A moderate to deep snow cover continued over winter grains in northern Russia. In February, overwintering conditions continued mostly favorable for winter grains in Russia, Ukraine, Belarus, and the Baltics. Above-normal precipitation fell in Russia, Ukraine, Belarus, and the Baltics in February, boosting potential moisture reserves. During February 4-5, bitterly cold air briefly edged southward into major winter wheat-producing areas of eastern Ukraine and the North Caucasus region in Russia. In areas that lacked a protective snow cover, extreme cold was of short duration, minimizing the potential for crop damage. On February 13, a warming trend began in most areas and continued until month's end, improving overwintering conditions for winter grains. During the latter half of February, a series of storms spread moderate to heavy snow over western Ukraine, the Baltics, Belarus, and northern Russia, further increasing the deep snow cover. The snow cover in northern Russia has persisted over unfrozen soils during the entire winter, increasing the likelihood for fungal development.

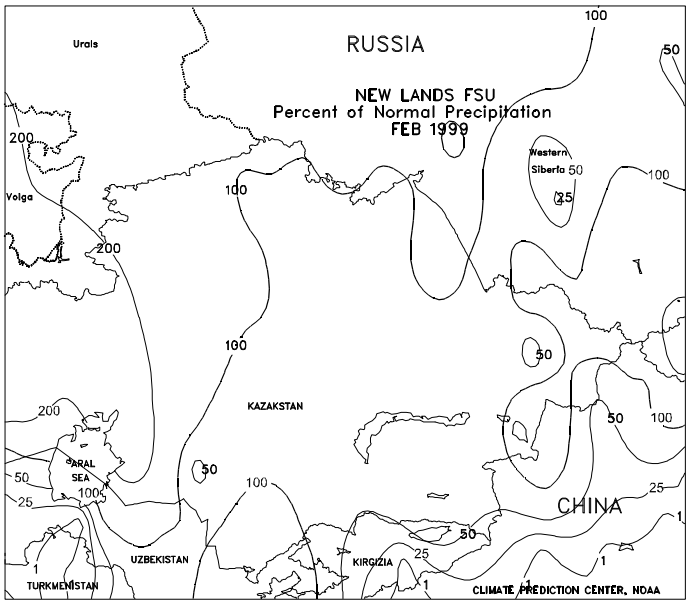


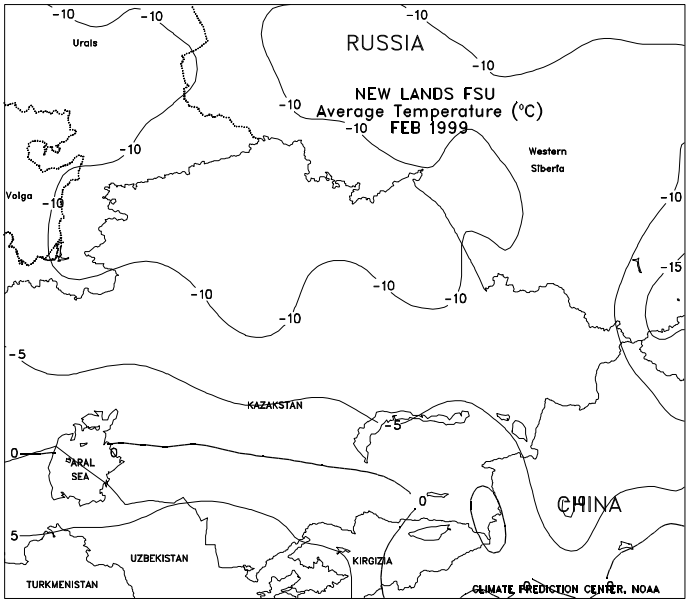


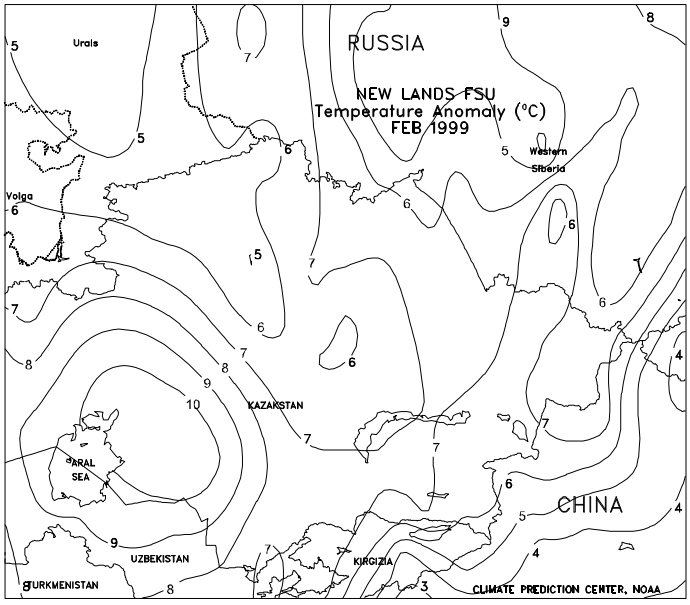


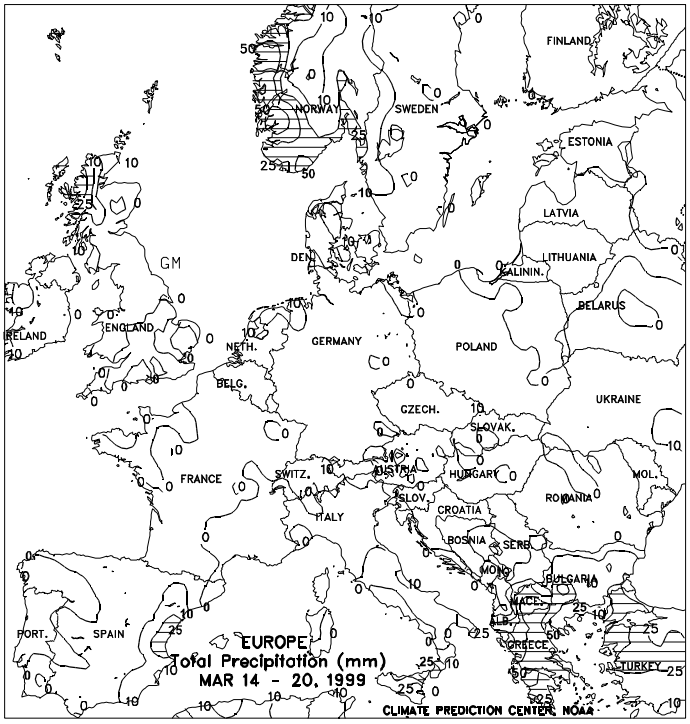



RUSSIA
NEW LANDS FSU
Total Precipitation (mm)
FEB 1999
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA
CLIMATE PREDICTION CENTER, NOAA


RUSSIA
NEW LANDS FSU
Percent of Normal Precipitation
FEB 1999
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA
CLIMATE PREDICTION CENTER, NOAA

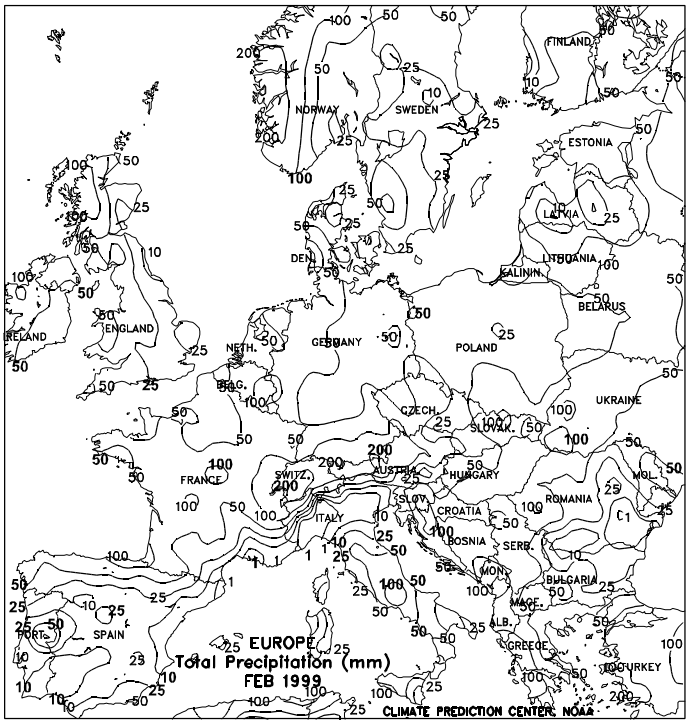

RUSSIA
NEW LANDS FSU
Average Temperature (°C)
FEB 1999
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA
CLIMATE PREDICTION CENTER, NOAA

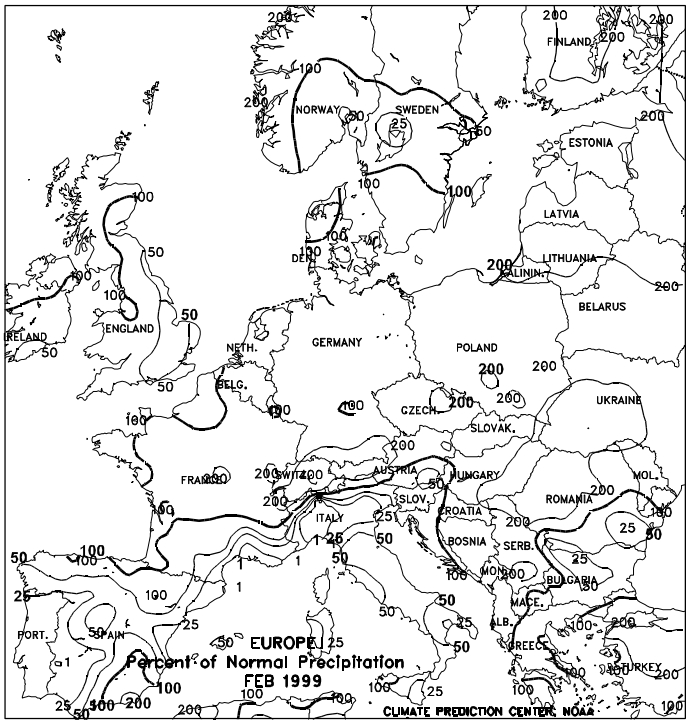

RUSSIA
NEW LANDS FSU
Temperature Anomaly (°C)
FEB 1999
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA
CLIMATE PREDICTION CENTER, NOAA

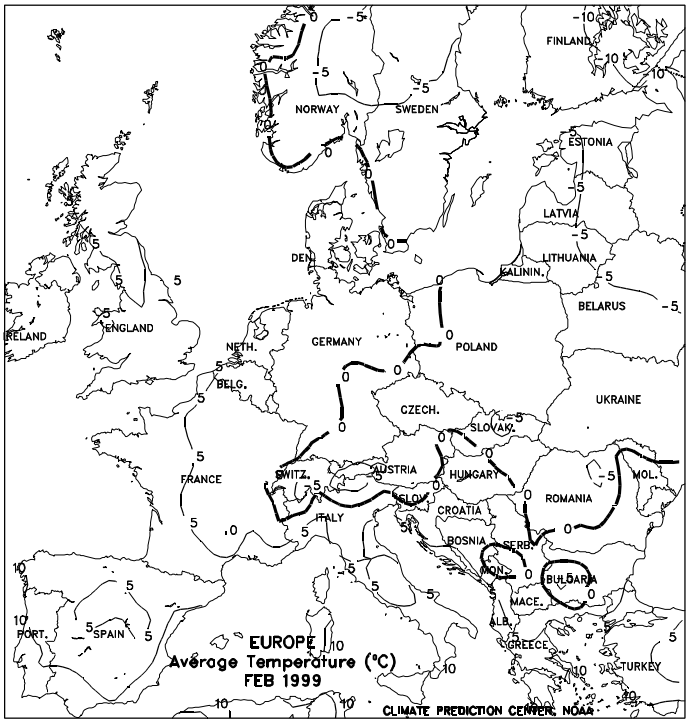


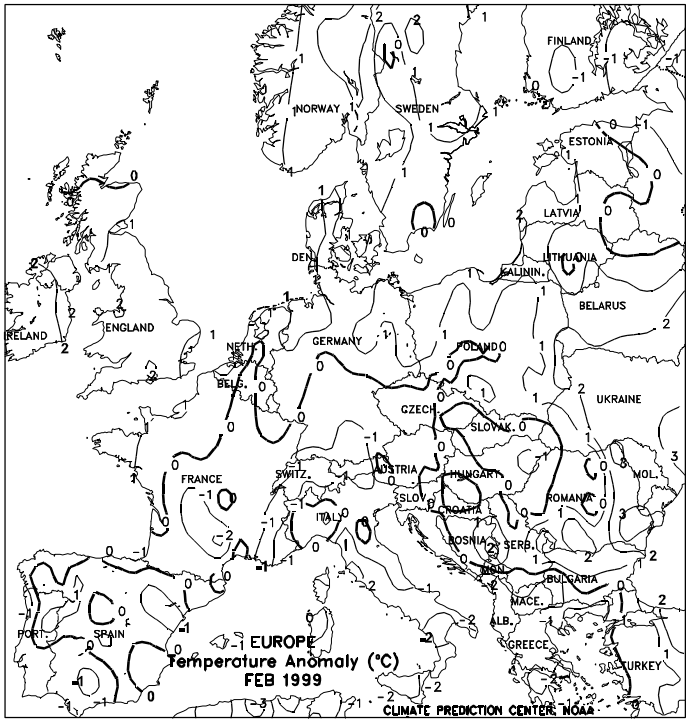
EUROPE

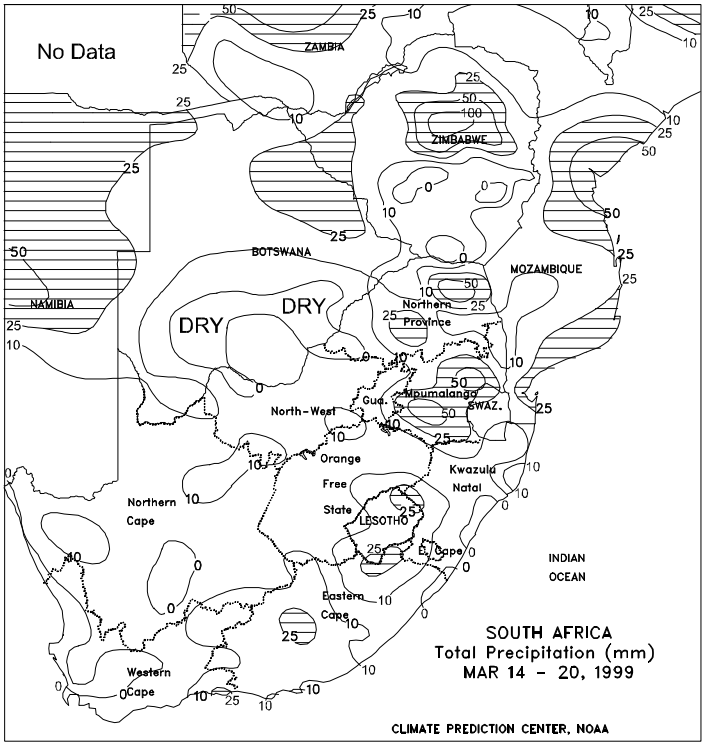
Unseasonably mild weather prevailed over the western half of Europe, promoting rapid development of winter grains. Furthermore, mostly dry weather favored spring grain and summer crop planting. Dry weather returned to crop areas in Portugal, following last week's abundant rains. In southern Spain, soils remained unfavorably dry for winter grains nearing the heading stage and for newly emerging spring-sown crops. In eastern Europe, unseasonably cold weather slowed further greening of winter grains in the south and kept crops dormant in northern areas. Late in the week, a storm system brought heavy rain (50-93 mm) to Greece, halting cotton planting but providing abundant soil moisture for crop emergence and establishment. Some of the precipitation (10-30 mm) extended as far north as Bulgaria, providing moisture for winter grains and spring grain planting. In February, above-normal precipitation was observed from France eastward across most of northern Europe to Poland, and southward into Serbia. Drought conditions continued to develop in Portugal and the southern half of Spain. Unseasonably cold weather gripped most of Europe early in the month. Near to slightly below-freezing temperatures were observed as far south as olive and citrus areas in southern Spain. Reports indicated some localized damage to citrus and olive trees in Malaga Province. A warming trend spread across Europe during the middle of the month and persisted until month's end. The combination of wet weather and rapidly melting snow cover in eastern Hungary and northwestern Romania late in the month caused flooding.





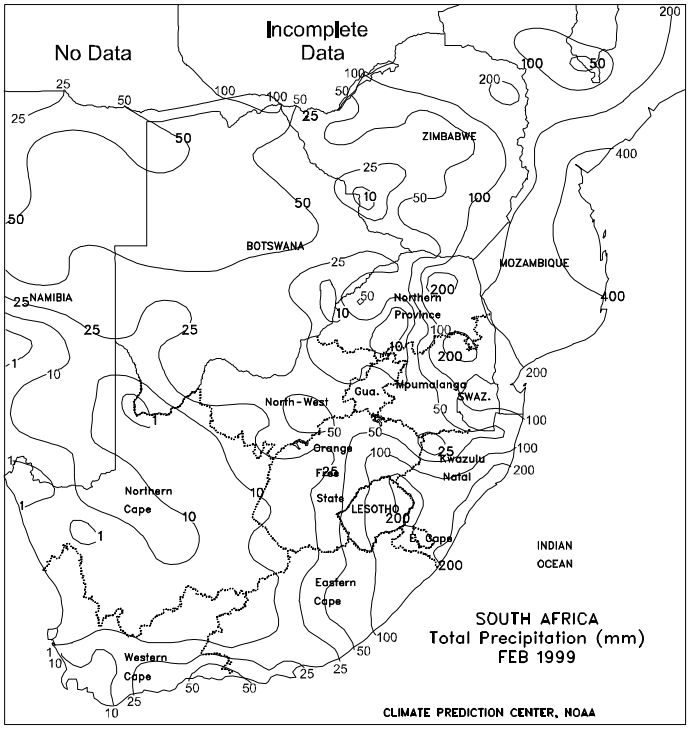


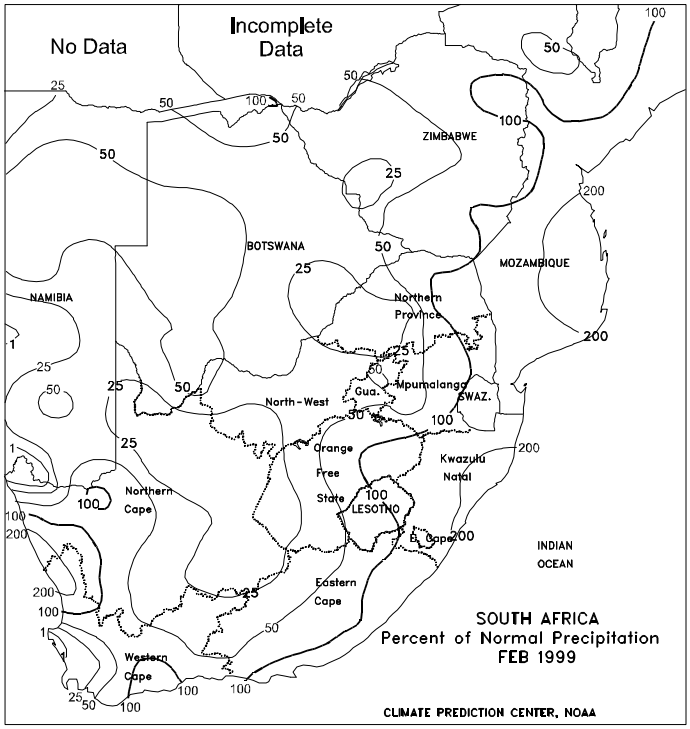


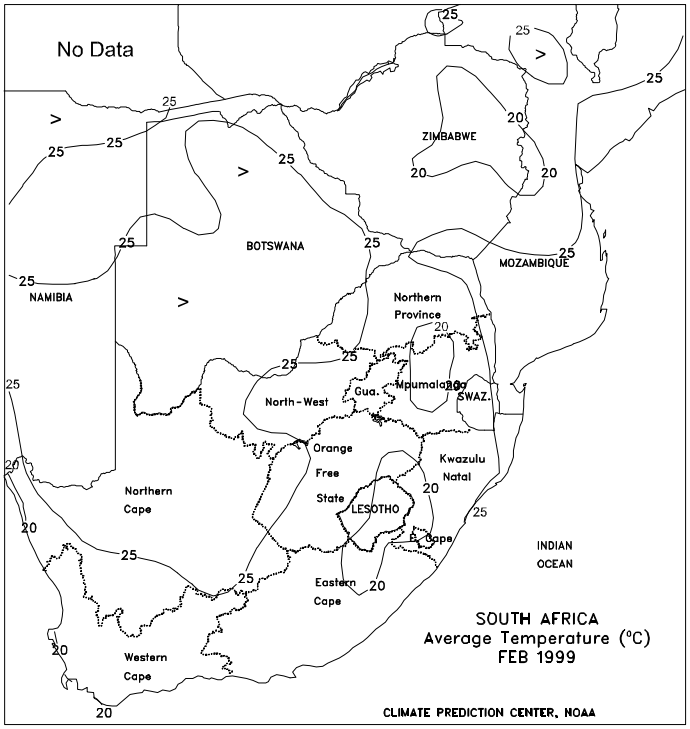


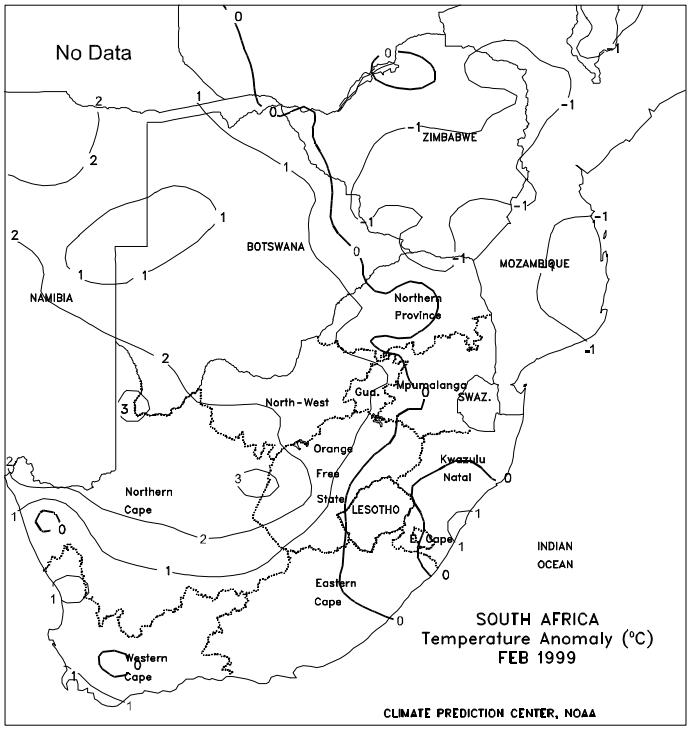
SOUTH AFRICA

Scattered showers, accompanied by generally seasonable temperatures, lingered over the corn belt. Rain benefited immature corn and other summer crops in eastern crop areas (eastern Free State and southern Mpumalanga). Out west, below-normal rainfall (10 mm or less, in most areas) and late summer warmth (highs in the lower 30's degrees C) enhanced crop development and favored crop maturation and dry down. Rainfall was also light in the coastal sugarcane areas of KwaZulu Natal. In Western Cape, a heat wave (highs in the middle to upper 30's degrees C) increased irrigation demands of vineyards and orchards. During February, rainfall was near to below normal across the corn belt, reducing moisture available to reproductive and filling crops. In the east, some of the nation's highest yielding areas were hardest hit by the dryness, although lack of excessive heat and favorable long-term moisture reserves were mitigating influences. Farther west, timely, albeit lighter-than-normal showers early in the month eventually gave way to warmer, drier conditions by month's end. The February drying trend set the stage for the damage caused by stressful heat in early March.


No Data
Incomplete Data
ZIMBABWE
BOTSWANA
MOZAMBIQUE
NAMIBIA
Northern Province
North-West
Gua.
Mpumalanga
SWAZ.
Orange Free State
Kwazulu Natal
LESOTHO
Northern Cape
E. Cape
INDIAN OCEAN
Eastern Cape
Western Cape
SOUTH AFRICA
Total Precipitation (mm)
FEB 1999
CLIMATE PREDICTION CENTER, NOAA


No Data
Incomplete Data
ZIMBABWE
BOTSWANA
MOZAMBIQUE
NAMIBIA
Northern Province
North-West
Gua.
Mpumalanga
SWAZ.
Orange Free State
Kwazulu Natal
LESOTHO
Northern Cape
E. Cape
INDIAN OCEAN
Eastern Cape
Western Cape
SOUTH AFRICA
Percent of Normal Precipitation
FEB 1999
CLIMATE PREDICTION CENTER, NOAA


No Data
ZIMBABWE
BOTSWANA
MOZAMBIQUE
NAMIBIA
Northern Province
North-West
Gua.
Mpumalanga
SWAZ.
Orange Free State
Kwazulu Natal
LESOTHO
Northern Cape
E. Cape
INDIAN OCEAN
Eastern Cape
Western Cape
SOUTH AFRICA
Average Temperature (°C)
FEB 1999
CLIMATE PREDICTION CENTER, NOAA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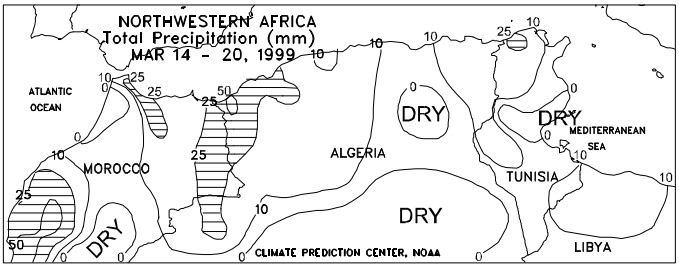
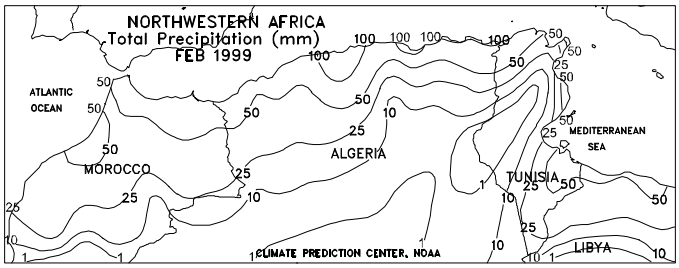
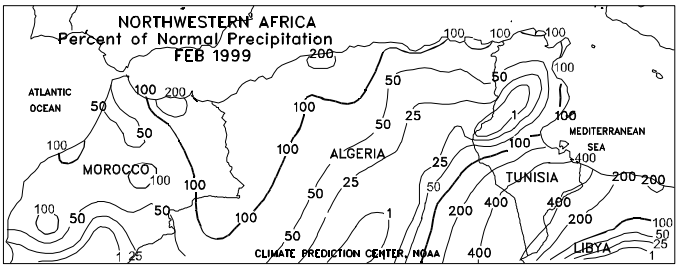
ZIMBABWE
BOTSWANA
MOZAMBIQUE
NAMIBIA
Northern Province
North-West
Gua.
Mpumalanga
SWAZ.
Orange Free State
Kwazulu Natal
LESOTHO
Northern Cape
E. Cape
INDIAN OCEAN
Eastern Cape
Western Cape
SOUTH AFRICA
Temperature Anomaly (°C)
FEB 1999
CLIMATE PREDICTION CENTER, NOAA

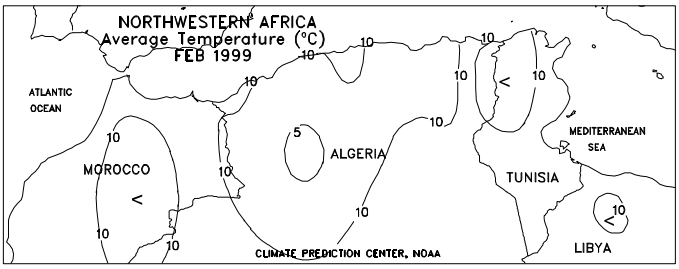


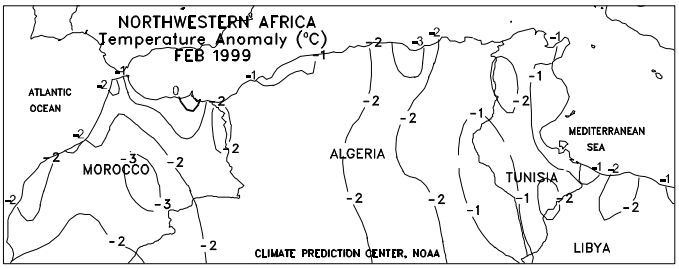
NORTHWESTERN AFRICA

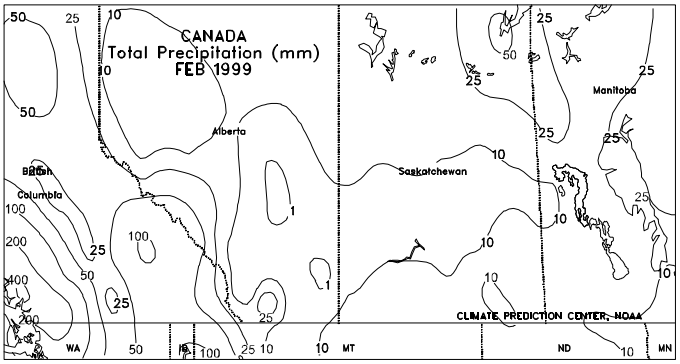
Winter grains were in or nearing the heading stage throughout the region. Timely rains continued to favor winter grains in Morocco and spread eastward into crop areas of Algeria and Tunisia. Greatest amounts of precipitation (25-50 mm) were observed in southern Morocco and western Algeria. Lesser amounts of moisture (4-25 mm) were reported in northern Morocco, central and eastern Algeria, and northern Tunisia. The rain that fell in Tunisia was especially welcomed, following 4 weeks of persistent dryness. In February, soaking rains fell over winter grain areas in Morocco during the last week, improving moisture conditions for crop development. Farther east, periodic showers maintained generally adequate moisture conditions for vegetative winter grains in Algeria and unseasonably cool weather lowered crop-moisture requirements. In Tunisia, a drying trend prevailed over winter grain areas, reducing soil moisture reserves to unfavorably low levels. Yield prospects for the winter grain crop in Morocco, Algeria, and Tunisia will be highly dependent on rain in upcoming weeks as the crop advances through the reproductive and filling stages of development.

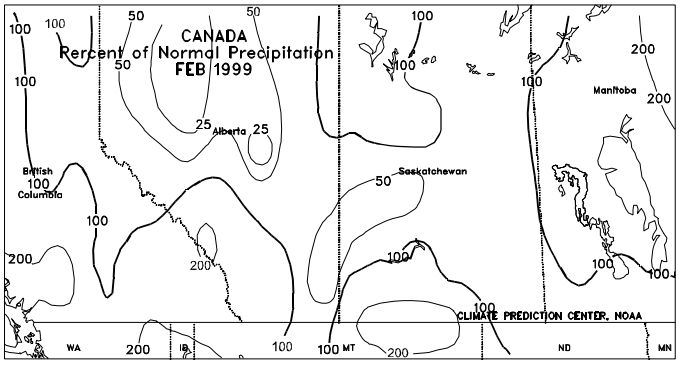


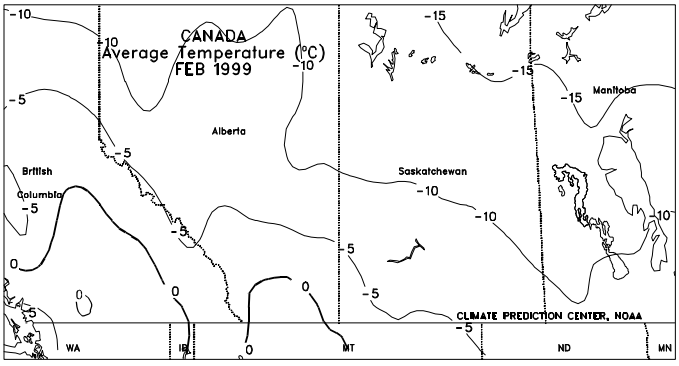


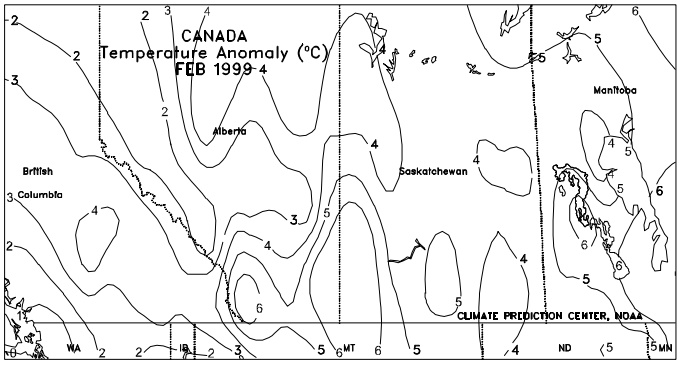


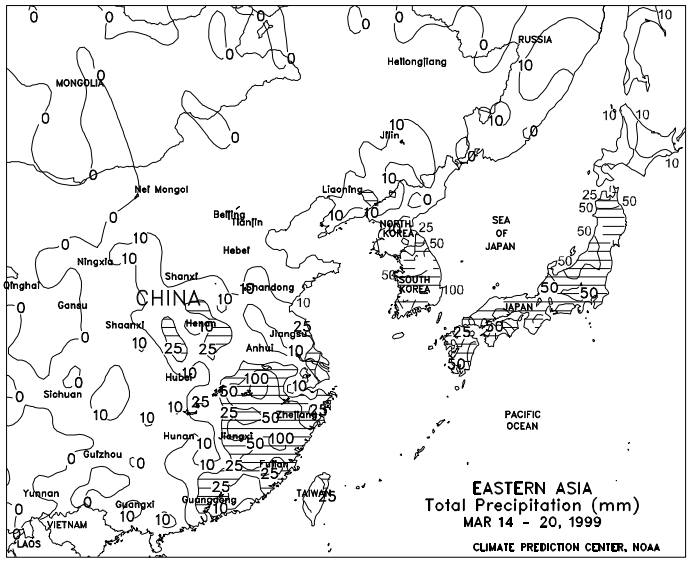






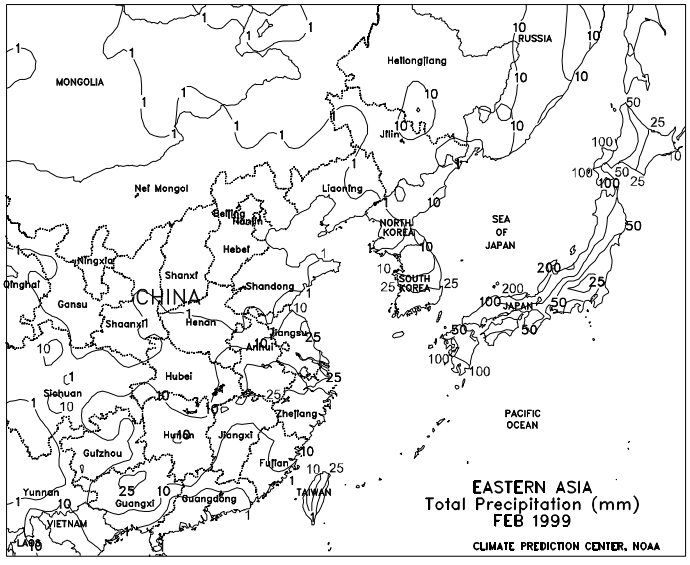


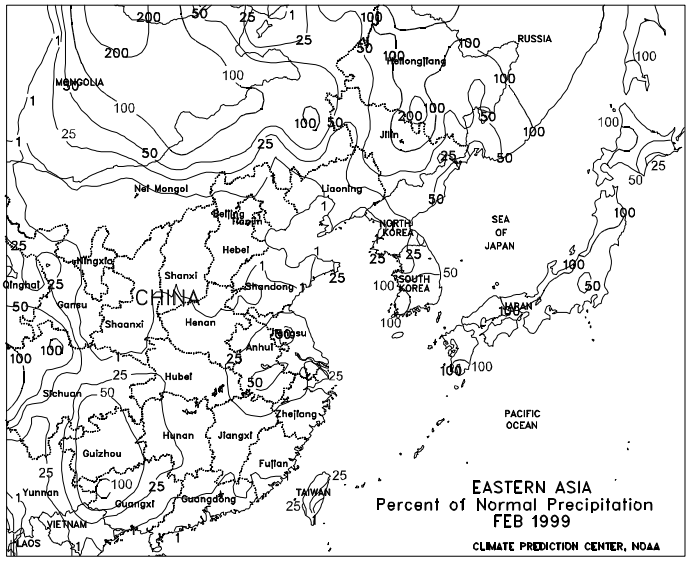


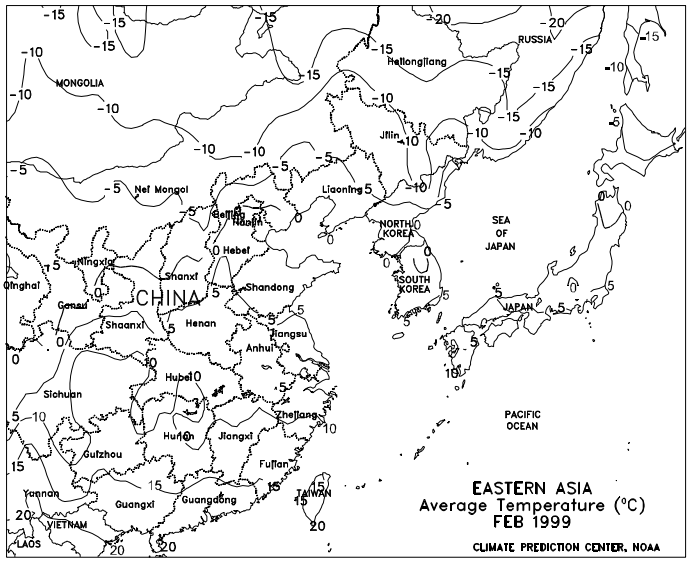


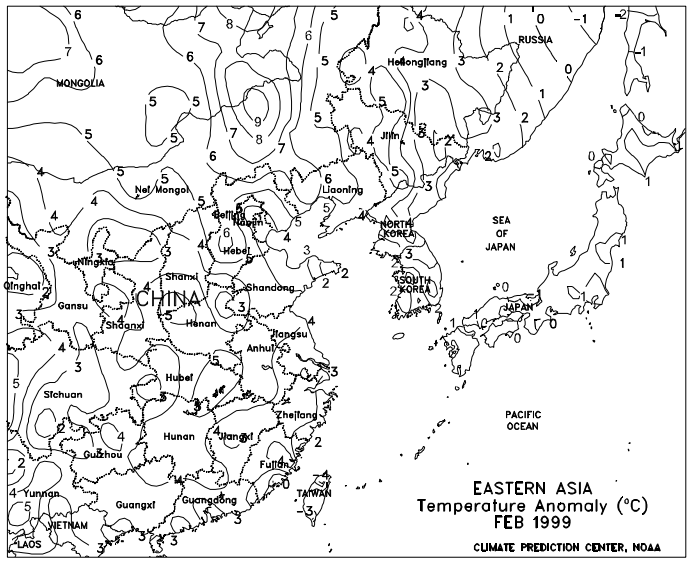
EASTERN ASIA

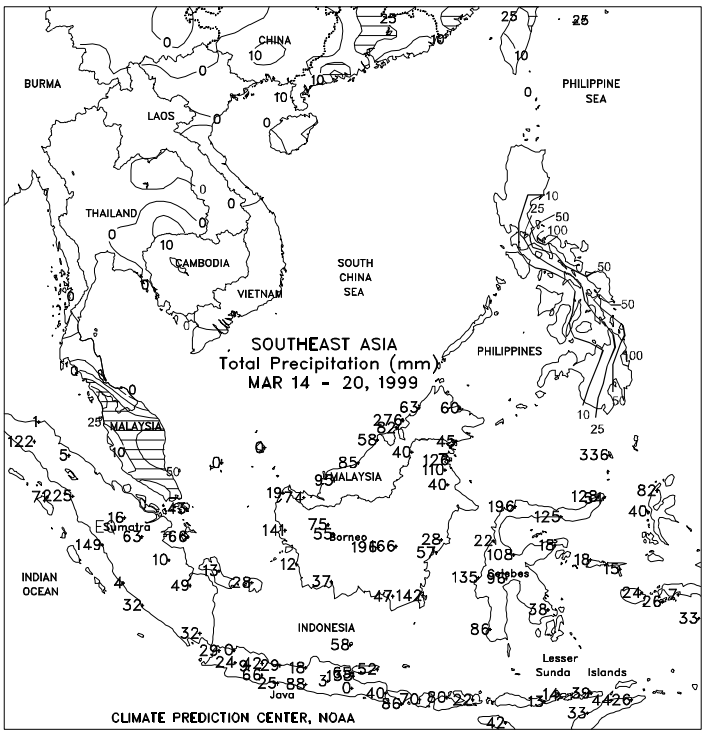
Much-needed precipitation (5-25 mm) fell across the North China Plain, greatly benefiting vegetative winter wheat. Most of the moisture fell as rain, with snow reported in the northern portions of the region. Heavier rain (15-40 mm) fell in Henan. Near-freezing minimum temperatures burned back winter wheat and slowed development. Widespread rain (10-75 mm) covered the Yangtze Valley and southern China, aiding early rice transplanting. Seasonable rain (5-20 mm) benefited winter grains in the Sichuan Basin. Temperatures averaged near normal across the North China Plain and 1 to 3 degrees C above normal across the southern half of China. During February, seasonably dry weather in the North China Plain continued to limit moisture supplies for rainfed winter wheat. Continued mild weather caused wheat to start breaking dormancy across the region. Irrigation supplies were adequate for irrigated winter wheat. Below-normal February rainfall hampered early rice transplanting across southern China.





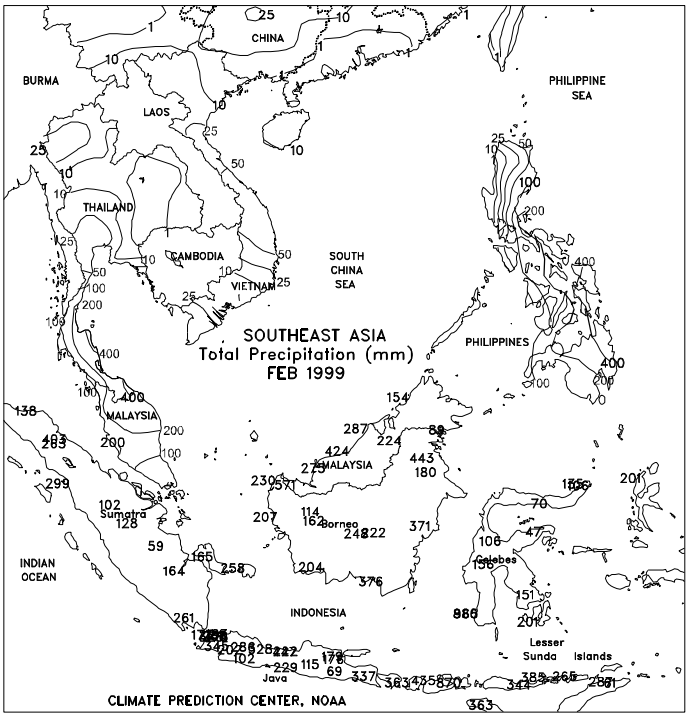


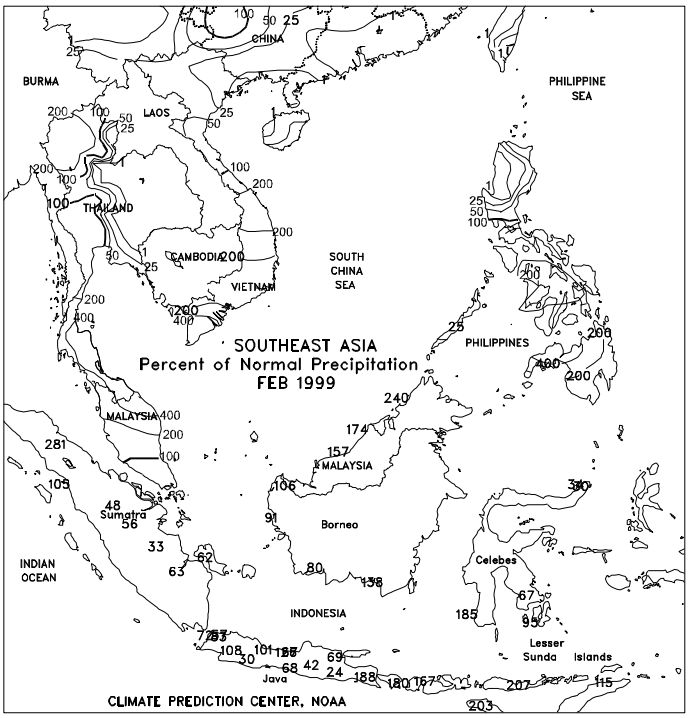


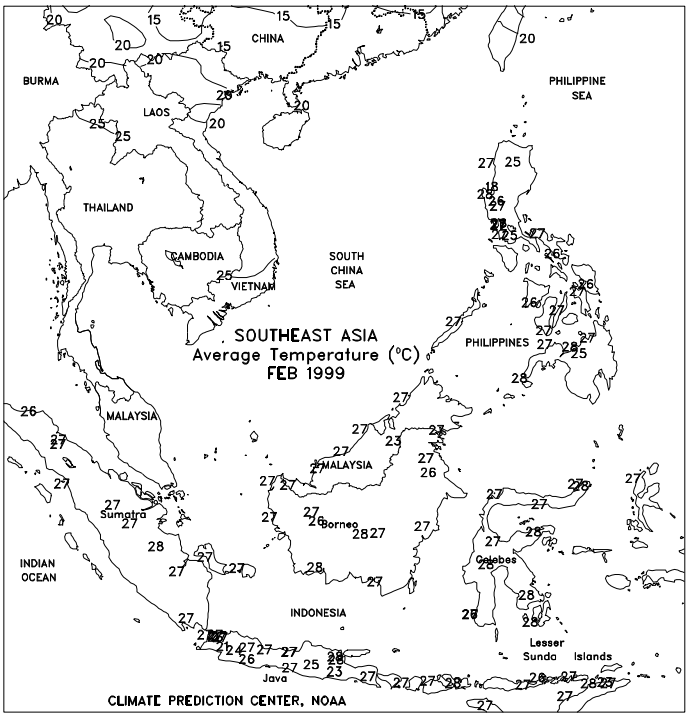


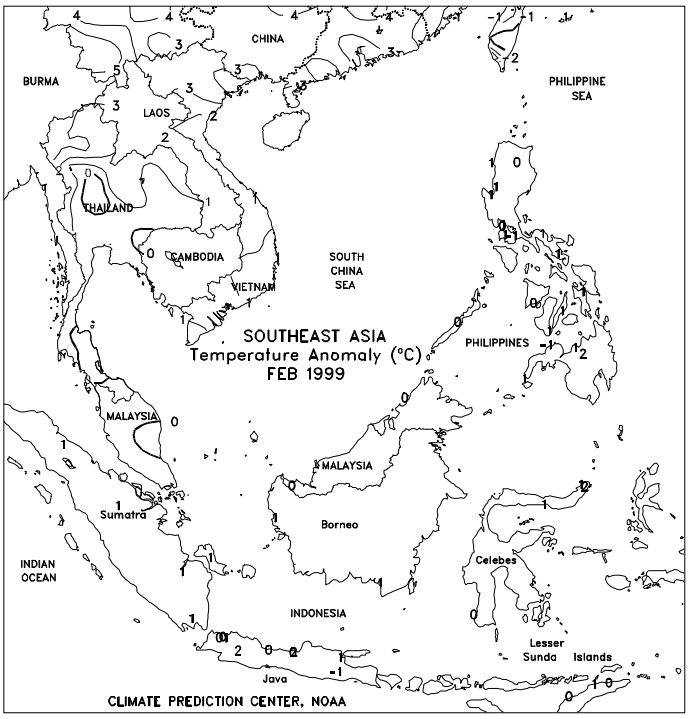
SOUTHEAST ASIA

Seasonable showers (30-100 mm, with isolated amounts greater than 100 mm) covered the eastern Philippines, slowing second-crop harvesting. In northern Vietnam, more rain is needed for winter-spring rice transplanting in the Red River Delta. Dry weather prevailed across Thailand, while moderate showers (10-80 mm) increased moisture supplies for oil palm in peninsular Malaysia. In Java, Indonesia, moderate showers (20-70 mm) caused only minor delays to main-season rice harvesting. During February, above-normal rainfall caused flooding and slowed second-grain harvesting along the east-central and southeastern Philippines. Unseasonably heavy showers boosted moisture supplies in western Thailand. Below-normal February rainfall slowed rice transplanting in northern Vietnam, while near-normal rainfall maintained moisture supplies in the south. Above-normal monthly rainfall maintained moisture supplies for oil palm across peninsular Malaysia. Near-normal monthly rainfall maintained adequate moisture for filling main-season grains in Java, Indonesia.


SOUTHEAST ASIA
Total Precipitation (mm)
FEB 1999
CLIMATE PREDICTION CENTER, NOAA
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
Sumatra
Borneo
Celebes
INDIAN OCEAN
INDONESIA
Lesser Sunda Islands
Java

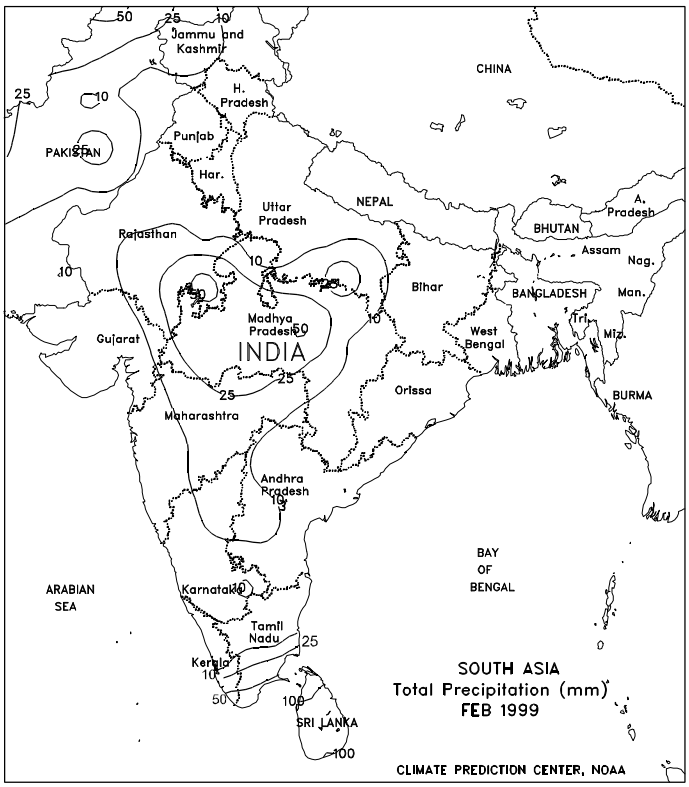

SOUTHEAST ASIA
Percent of Normal Precipitation
FEB 1999
CLIMATE PREDICTION CENTER, NOAA
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
Sumatra
Borneo
Celebes
INDIAN OCEAN
INDONESIA
Lesser Sunda Islands
Java

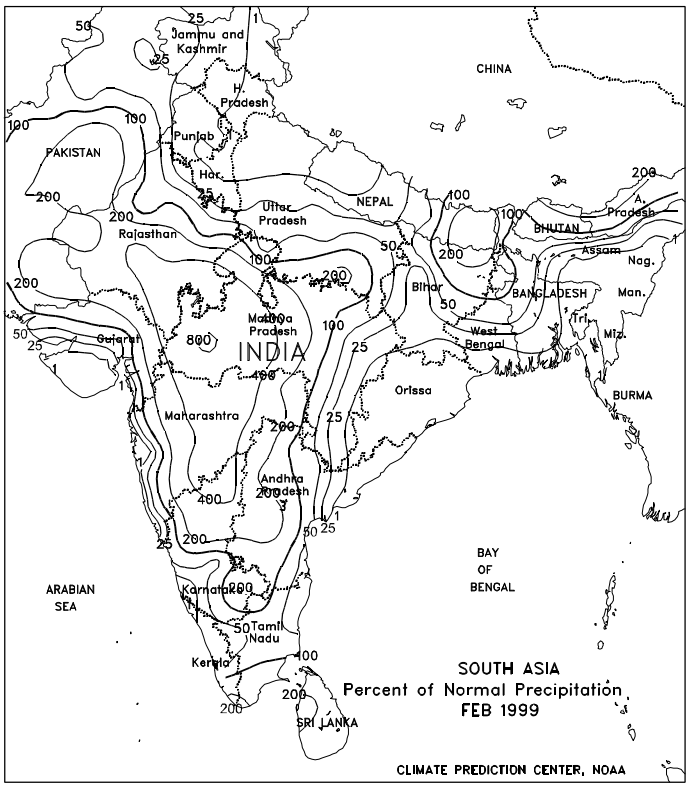

SOUTHEAST ASIA
Average Temperature (°C)
FEB 1999
CLIMATE PREDICTION CENTER, NOAA
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
Sumatra
Borneo
Celebes
INDIAN OCEAN
INDONESIA
Lesser Sunda Islands
Java

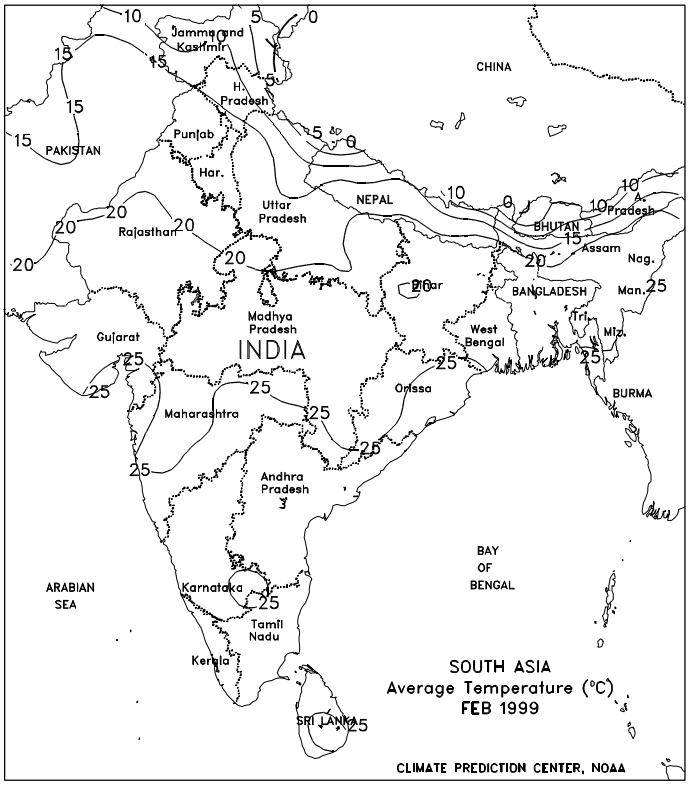

SOUTHEAST ASIA
Temperature Anomaly (°C)
FEB 1999
CLIMATE PREDICTION CENTER, NOAA
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
Sumatra
Borneo
Celebes
INDIAN OCEAN
INDONESIA
Lesser Sunda Islands
Java

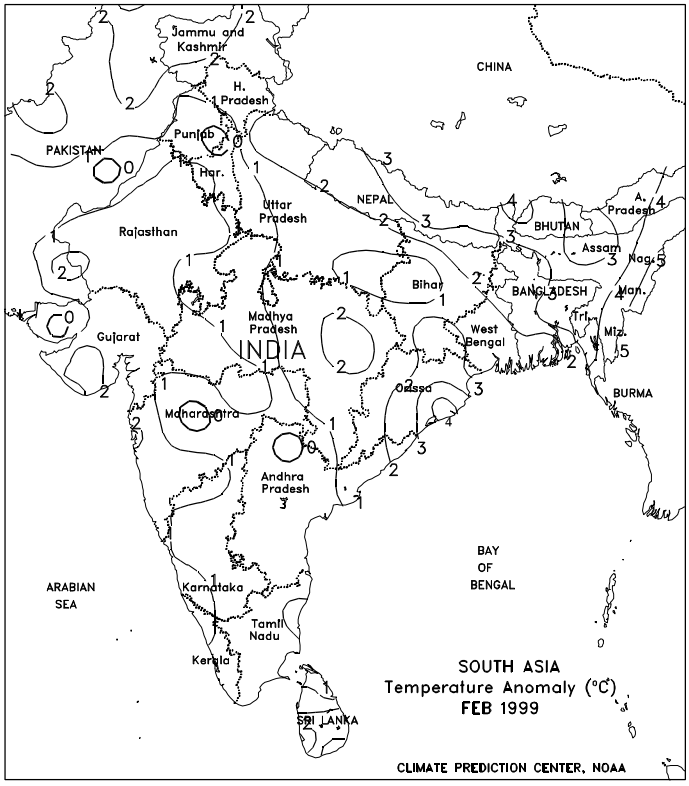
SOUTH ASIA

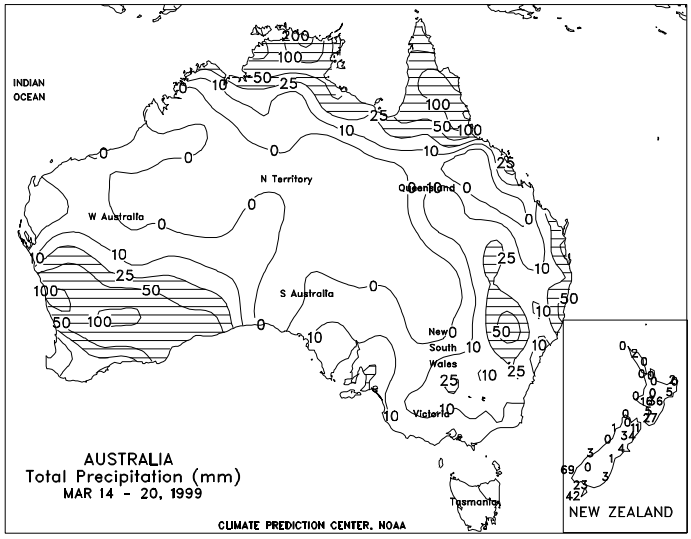
During February, unseasonable rainfall (10-50 mm or more) boosted moisture reserves for winter grains and oilseeds in the minor crop areas of central India (Madhya Pradesh and environs). Rainfall was near to below normal across winter wheat areas of Pakistan and northern India, and temperatures were above normal. However, moisture reserves were mostly adequate for wheat development in the northwest due to beneficial January rains.





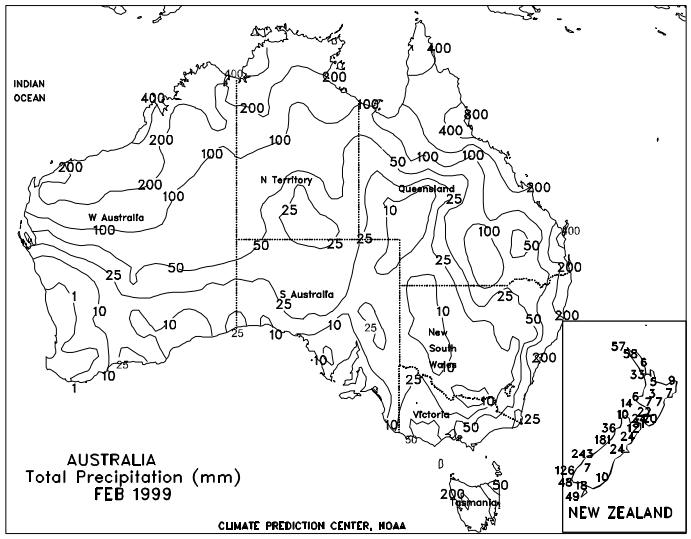


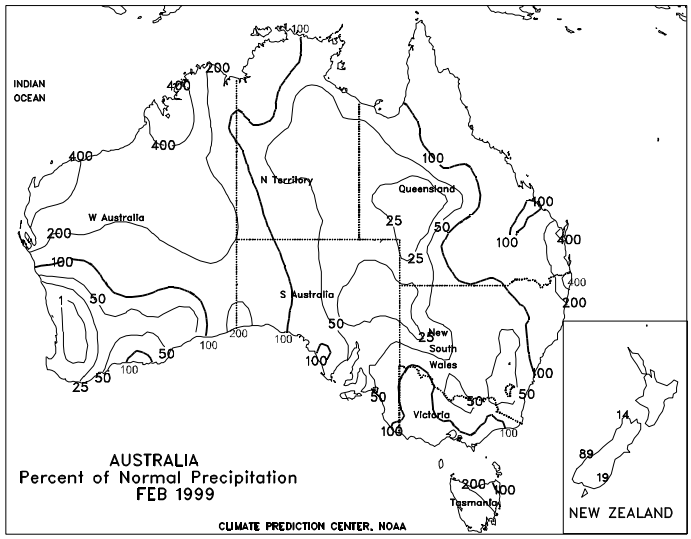


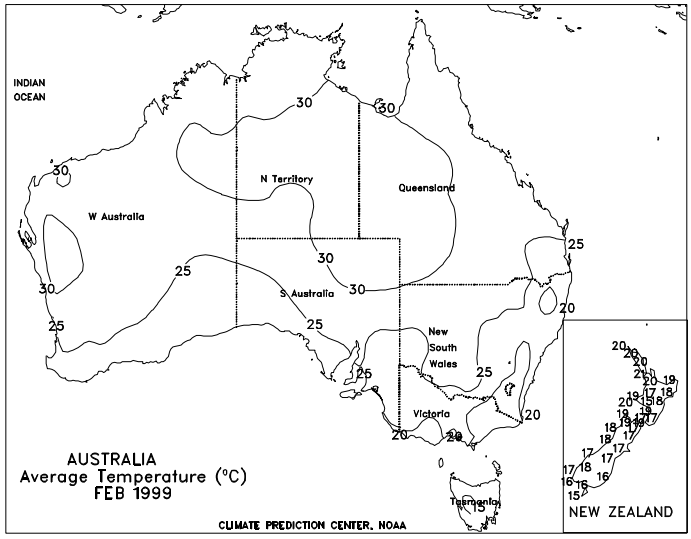


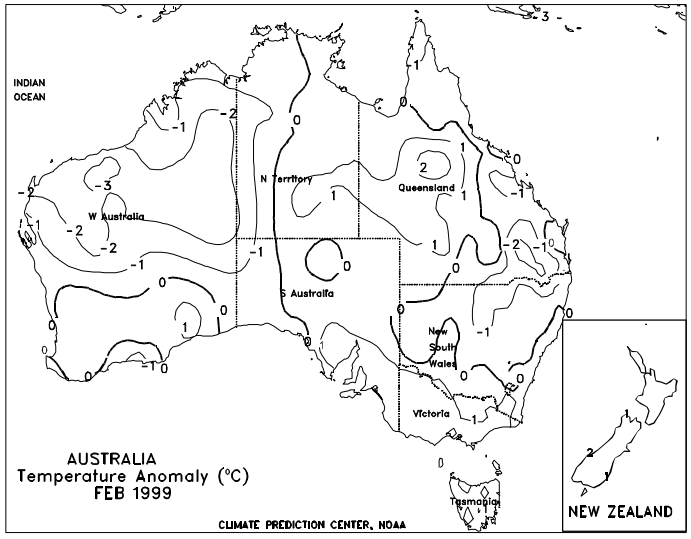
AUSTRALIA

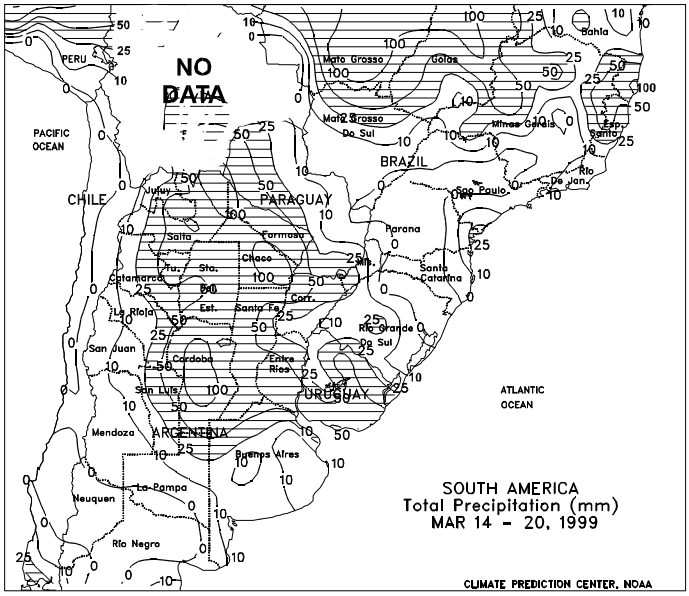
Beneficial rain swept across Australia's southern crop areas. In Western Australia, heavy rain (50-100 mm or more) overspread northern and eastern winter grain areas, increasing long-term moisture reserves. Lighter rain (25 mm or less, in most areas) improved grazing conditions elsewhere in Western Australia and across the southeast (South Australia, Victoria, and southern New South Wales), although dry pockets persisted in western Victoria. To the north, scattered showers (10-25 mm or more) disrupted cotton and sorghum harvesting in northern New South Wales and Queensland's western crop areas. Drier weather returned to New Zealand, with reports of moderate rain (greater than 25 mm) confined to the eastern coast. During February, rainfall was near to above normal in the primary summer crop areas of Queensland and northern New South Wales, slowing maturation and dry down of sorghum and cotton. However, a drying trend in New South Wales' southern major crop areas favored crop development during much of the month. Locally intense flooding in coastal sugarcane areas threatened production potential.





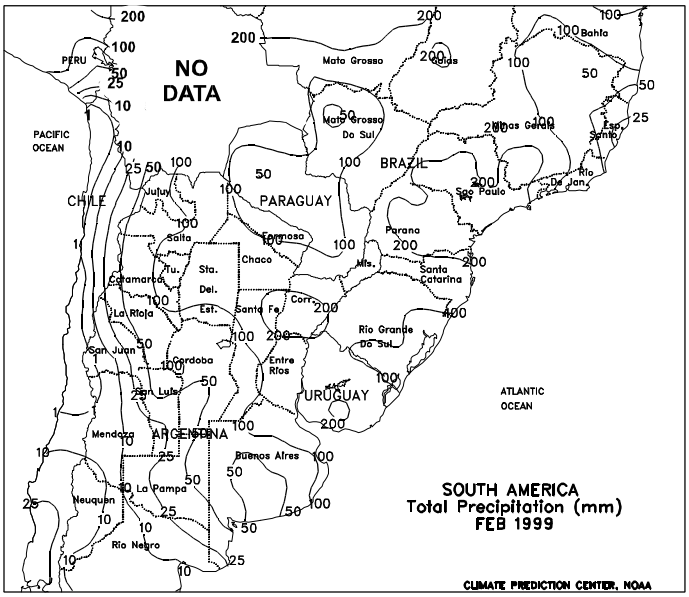


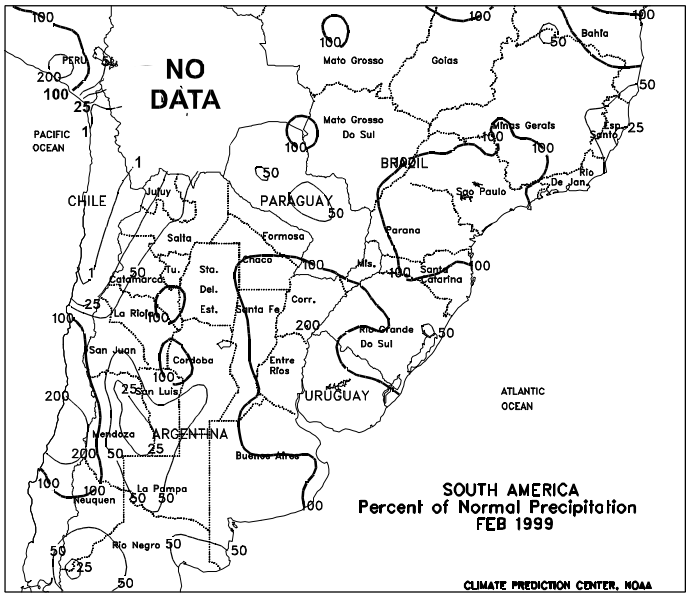


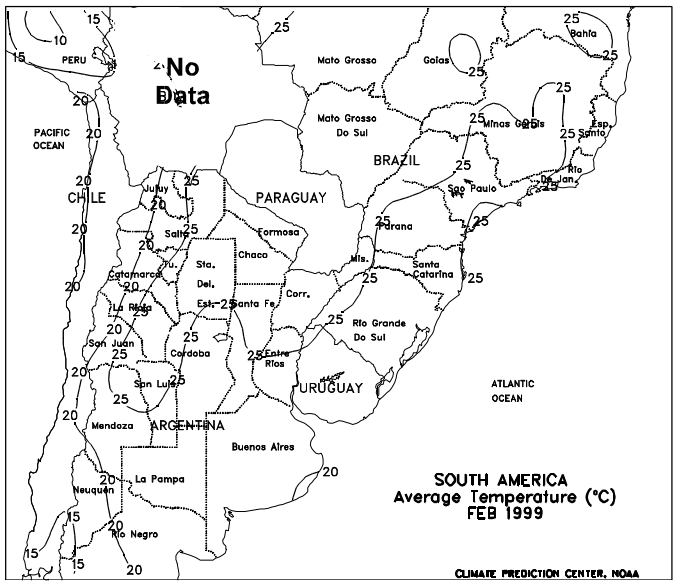


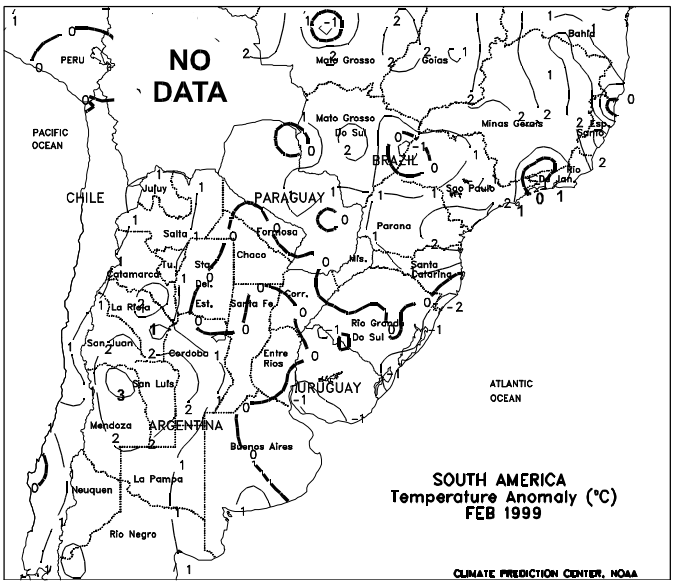
SOUTH AMERICA

In central Argentina, moderate to heavy showers (15-60 mm, with isolated amounts greater than 100 mm) favored second-crop soybeans, but slowed corn and sunflower harvesting. Heavy showers (20-100 mm) also slowed cotton harvesting in northern Argentina. According to reports as of March 12, corn was 10 percent harvested, compared with 8 percent last year, and sunflower was 39 percent harvested, compared with 41 percent last year. In southern Brazil, mostly dry weather aided soybean maturation and harvesting across most of Rio Grande do Sul, Parana, Sao Paulo, and southern Mato Grosso do Sul. Scattered showers (5-40 mm) fell across southwestern Rio Grande do Sul, favoring late-filling soybeans. Heavy showers (60-150 mm) slowed soybean harvesting in Mato Grosso. According to reports as of March 12, Brazilian soybeans were 11 percent harvested, compared with 14 percent last year. The soybeans were 20 to 25 percent harvested in Mato Grosso, Goias, and Sao Paulo, while harvesting has not started yet in Rio Grande do Sul. Above-normal temperatures favored maturing summer crops across Argentina and Brazil. During mid- to late-February, warm, dry weather stressed summer crops, especially second-crop soybeans, in portions of central Argentina. Timely early-March rain eased dryness in Argentina and favored filling soybeans in Rio Grande do Sul, Brazil. Heavy showers in late-February and early March slowed soybean harvesting in Mato Grosso, Brazil.









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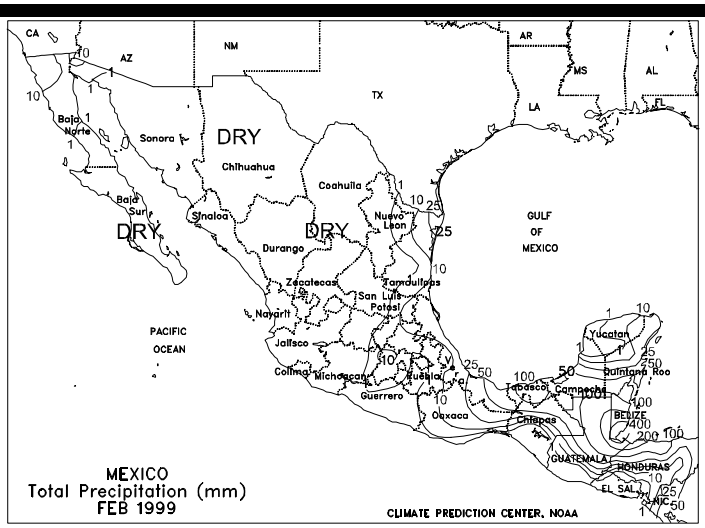

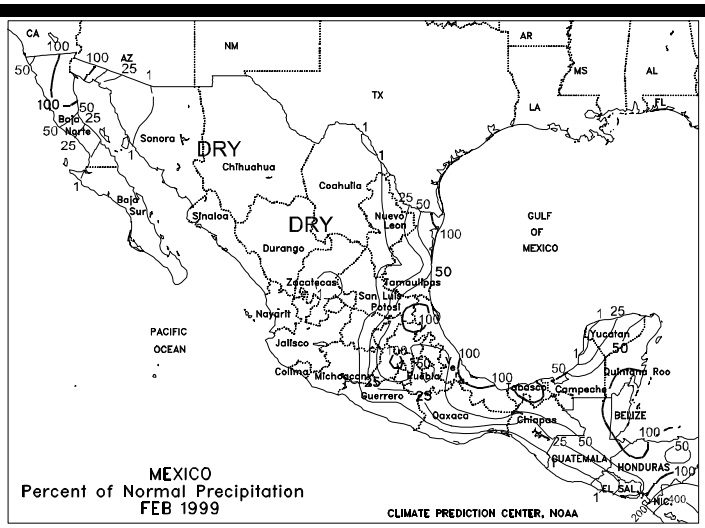

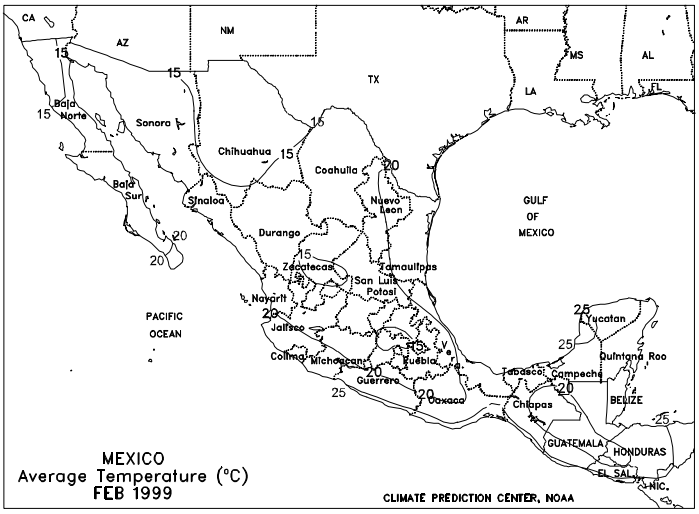

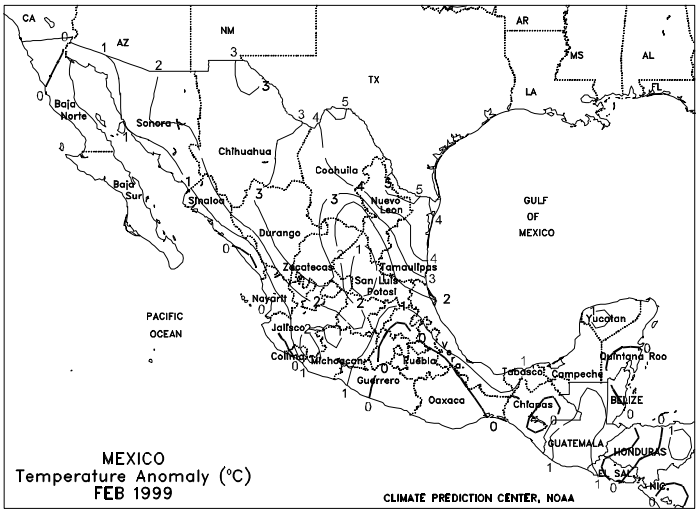

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