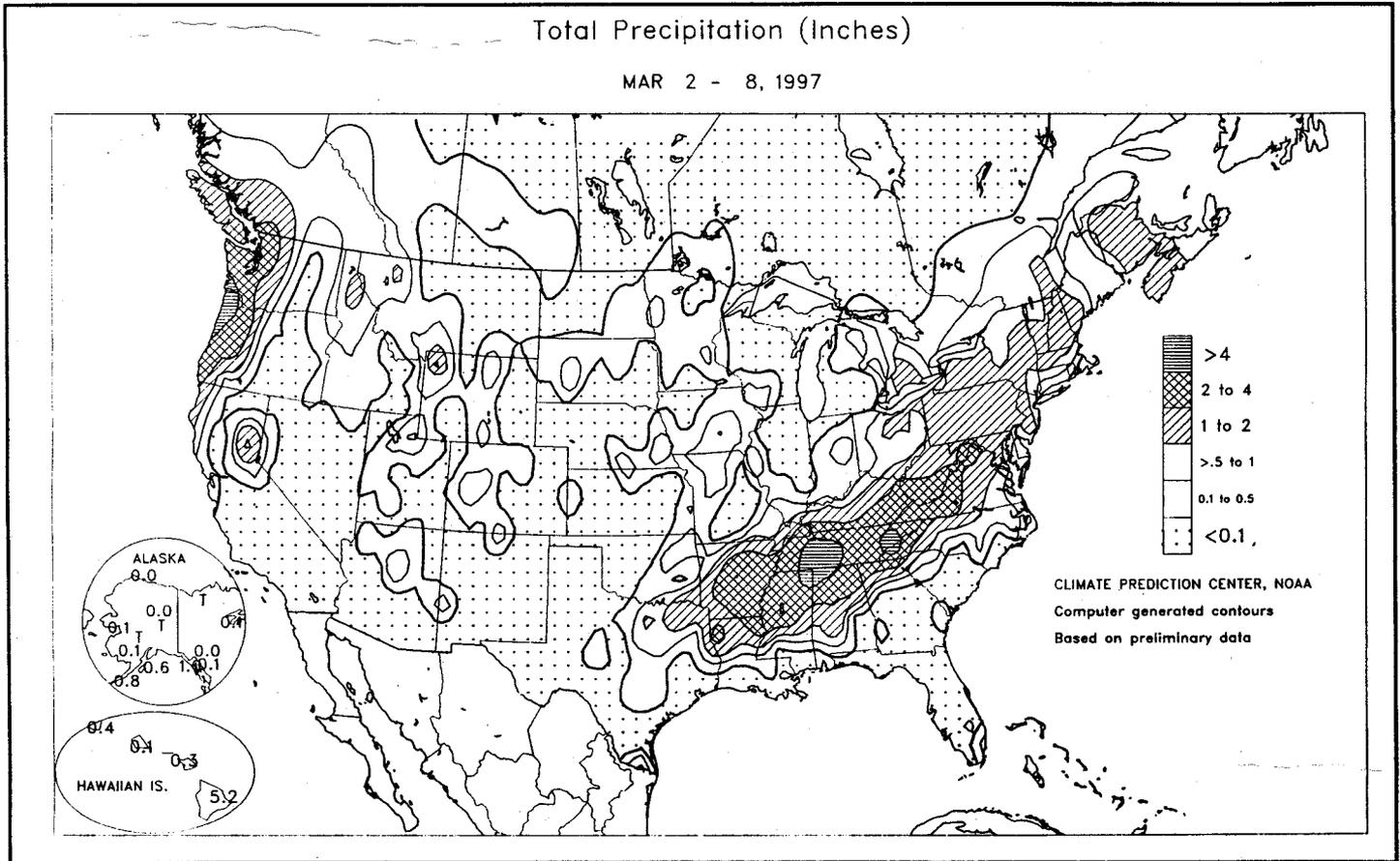


WEEKLY WEATHER AND CROP BULLETIN

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 2 - 8, 1997

Heavy rain fell south of the Ohio River on March 2-3 and again at midweek, hampering flood-recovery efforts and adding runoff to already saturated drainage basins. On March 5, the Ohio River crest passed Huntington, WV, and a day later reached Cincinnati, OH. Wet weather continued to delay fieldwork in the interior Southeast, but dryness persisted in Florida, where temperatures averaged up to 10°F above normal. Dry weather, accompanied by late-week warmth, returned to the central and southern Plains. Meanwhile, cold air trailed early-week snowfall across the North Central States, holding weekly temperatures as much

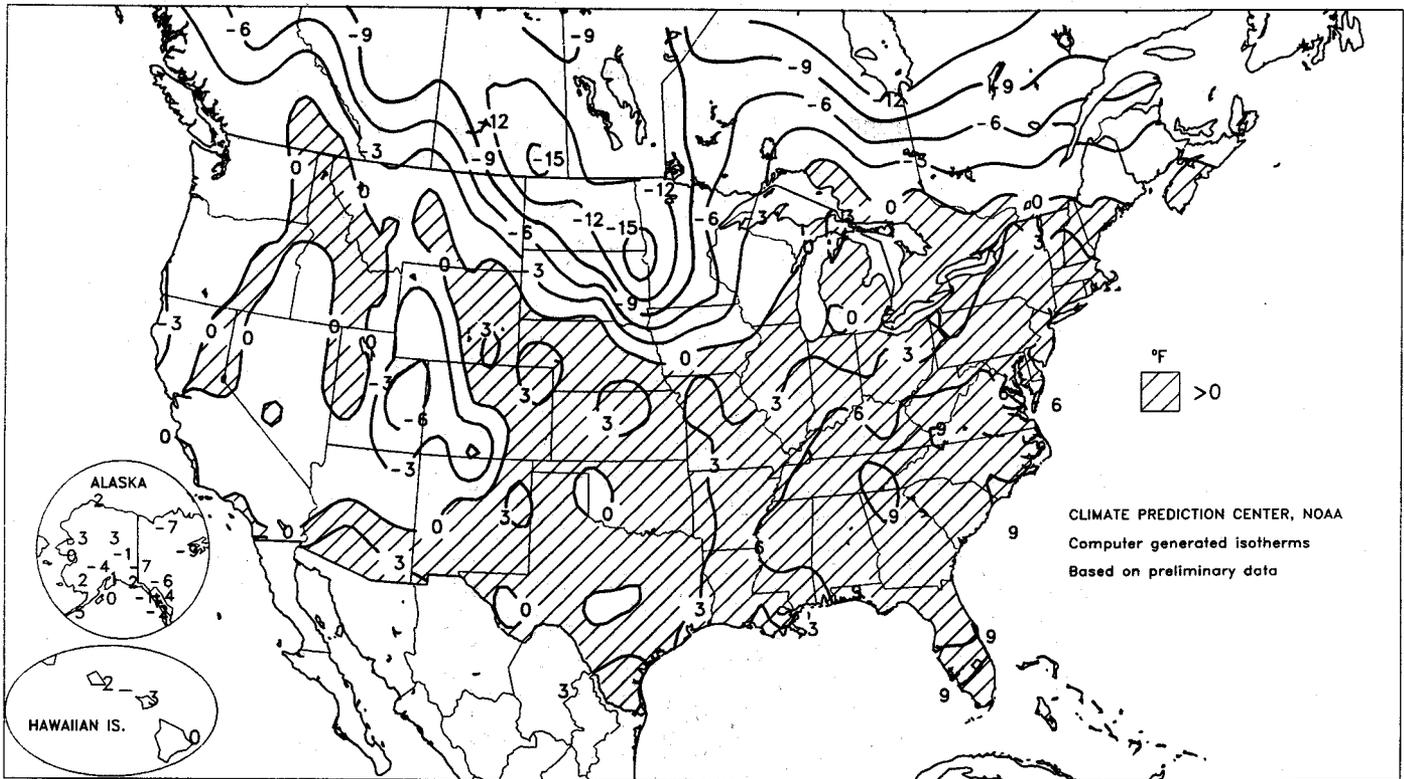
(Continued on page 10)

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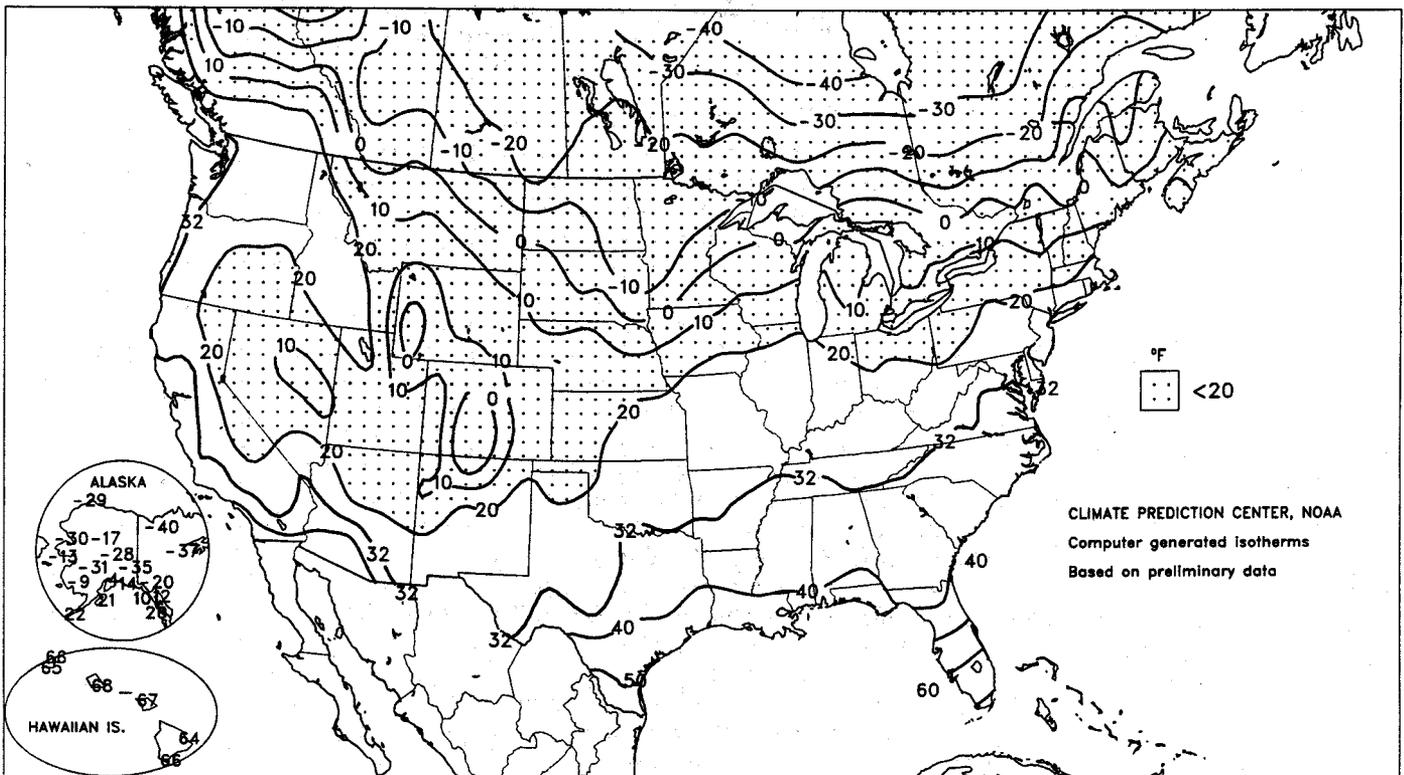
Departure of Average Temperature from Normal (°F)

MAR 2 - 8, 1997



Extreme Minimum Temperature (°F)

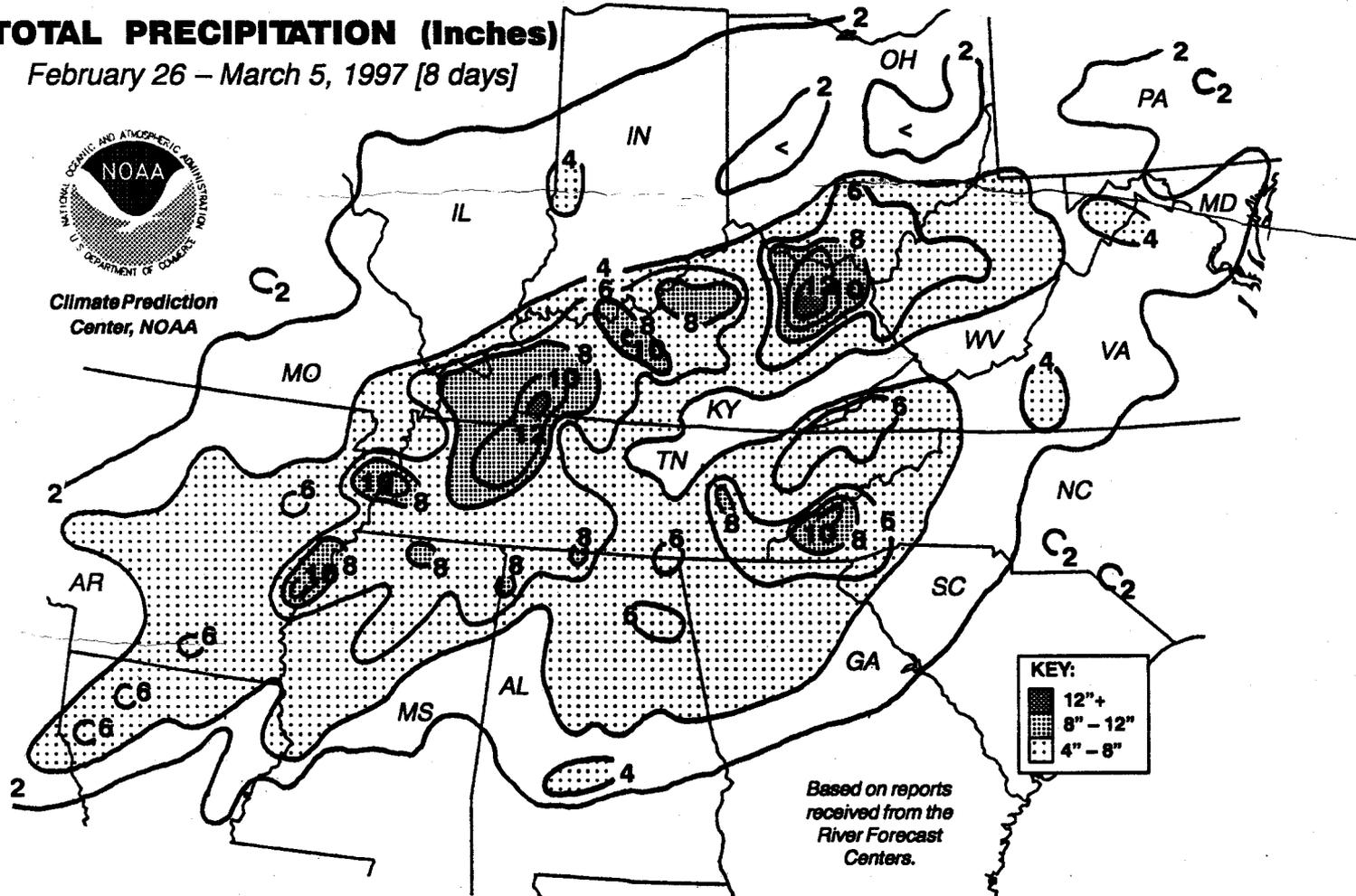
MAR 2 - 8, 1997



TORRENTIAL RAINS, FLOODING, AND TORNADOES AFFECT THE OHIO, TENNESSEE, AND LOWER MISSISSIPPI VALLEYS

TOTAL PRECIPITATION (Inches)

February 26 – March 5, 1997 [8 days]



March roared in like a lion across much of the lower Mississippi, Tennessee, and Ohio Valleys as widespread heavy rains, numerous occurrences of severe weather, and exceptional river flooding impacted many areas. During the 8-day period ending March 5, more than 4 inches of rain soaked a large area extending from western sections of Arkansas and Louisiana east-northeastward through the southern and central Appalachians. At least 8 inches pelted the northern lower Mississippi, parts of the Tennessee, and much of the central and lower Ohio Valleys, with 12.0 to 13.7 inches observed in portions of southwestern and northeastern Kentucky. As a result, severe river flooding developed along the Ohio River southwest of Wheeling, WV, portions of the middle Mississippi River, and many of the tributaries that feed these two rivers, according to the National Weather Service's Office of Hydrology and the United States Geological Survey. The Ohio River at Cincinnati, OH crested at 64.7 feet early March 6, 12.7 feet above flood stage (the highest since 1964 and the 9th highest since records began in 1858). Similarly, the Ohio River at Louisville, KY crested nearly 16 feet over flood stage early March 8, also the highest since 1964. Furthermore, the flow volume of the Ohio River through Huntington, WV, Cincinnati, OH, Louisville, KY, and Evansville, IN reached 280% to 340% of normal (108% to 154% of flood level) early March 7. Exceptional flooding was noted along the Licking, Salt, Rough, and Green Rivers in Kentucky, where record or near-record crests were observed (measurements were first archived in the late 1930's). Overall, river flooding affected 18 states across the central and eastern United States (AL, AR, FL, GA, IL, IN, KY, LA, MS, MO, NC, OH, SC, TN, TX, VA, WV, WI) sometime in late February or early March, with the most serious situations generally observed along and south of the middle and lower Ohio River. Some locations in Kentucky and Ohio reported flow volume 4 to 10 times the normal for the date along some of the smaller rivers and creeks. According to media sources, flooding took about 30 lives (through March 10), forced at least 98 counties to be declared Federal disaster areas, damaged at least 100,000 structures, washed out numerous roads and bridges, and interrupted potable water supplies for hundreds of thousands of residents. Farther south and west, flooding was less of a problem, but large tornadoes affected parts of Arkansas, Mississippi, and Tennessee on March 1. At least two dozen twisters reportedly touched down, causing severe damage and taking nearly 30 additional lives. One F4 tornado (207 to 260 mph winds) tore through downtown Arkadelphia, AR, taking 16 lives and causing extensive damage.

February Weather and Crop Summary

Weather

A string of dynamic storms traversed the southern branch of a split jet stream, resulting in February-record rainfall in parts of Texas but handing the West Coast a much-needed break from heavy precipitation. Significant precipitation eased dryness that developed during December from southern Nebraska to central Texas, boosting prospects for winter wheat. The North Central States, bracing for near-record to record flooding during the spring, gained a reprieve from more than 3 months of bitterly cold, windy, snowy weather. In fact, temperatures ranged from normal to above normal east of the Rocky Divide, with departures reaching +6 to +8°F from the Ohio Valley to the Middle Atlantic States. Monthly temperatures averaged within a few degrees of normal across the West.

Soil conditions across most of Texas quickly changed from dry to saturated. For example, the Trinity River at Dallas crested at 7.51 feet above flood stage on February 13, 7.19 feet above on February 21, and 5.19 feet above on February 26. The month's final two major storms (February 18-22 and 23-27) charted similar courses out of the Southwest, crossing Texas before lifting toward the Great Lakes States. The first system dumped 2 to 4 inches of rain from central Texas to lower Michigan, including a February-record, 24-hour total of 3.05 inches in Grand Rapids, MI. In the Midwest, the rain fell on partially frozen soils, enhancing runoff. As a result, the Rock River at Joslin, IL crested at an all-time-record 6.77 feet above flood stage on February 23. On February 26-27, the latter system dumped 1 to 3 inches of rain from the middle Mississippi Valley to the northern Middle Atlantic States, including the north side of the Ohio River drainage basin. At month's end, yet another powerful storm emerged from the Southwest, ensuring a stormy, flood-ridden start to March in the Ohio Valley.

As mentioned, several February rainfall records were broken in Texas:

Location	Total (Inches)	Former Record/Year
Waco	7.91	6.92 in 1992
Dallas-Ft. Worth	7.40	6.96 in 1945
San Angelo	4.54	4.45 in 1987

For the third consecutive month, a monthly precipitation record was established in Alpena, MI, where the 3.88-inch total included a February-record 50.3 inches of snow. Alpena's season-to-date snowfall reached 149.0 inches by month's end, less than 20 inches shy of their all-time record. February snowfall topped 30 inches at a few other locations from the Great Lakes States to northern New England, including Gaylord, MI (39.4 inches) and Caribou, ME (30.2 inches). Farther west, only light snow fell across the northern Plains and upper Midwest. Monthly snowfall included 8.0 inches in Fargo, ND and 2.9 inches in St. Cloud, MN. In Iowa, however, totals approached 20 inches in Dubuque (19.3 inches) and Cedar Rapids (18.5 inches). Late in the month, very heavy snow blanketed the Southwest, lifting monthly totals to 22.9 inches

in Flagstaff, AZ and 14.6 inches in Alamosa, CO. On February 27-28, 49 inches buried southern Arizona's Mt. Lemmon in 48 hours. In contrast, a nearly snow-free winter continued in the Northeast, although monthly snowfall of 4.4 inches in Newark, NJ and 7.1 inches in Baltimore, MD more than doubled season-to-date totals.

Due to the prevailing storm track, the South and East experienced more than 100 daily-record highs, mostly after mid-month. February-record warmth dotted the East on February 21, 22, and 27:

Location	Temperature/Date	Former Record/Year
Rochester, NY	73°F on February 21	70°F on Feb. 11, 1932
Buffalo, NY	70°F on February 21	68°F on Feb. 11, 1932
Vero Beach, FL	89°F on February 22	88°F in 1994 and earlier
Albany, NY	68°F on February 22	67°F in 1976
Florence, SC	86°F on February 27	85°F on Feb. 27, 1996
Harrisburg, PA	78°F on February 27	75°F in 1954 and 1985
Bridgeport, CT	67°F on February 27	67°F on Feb. 26 & 28, 1976

In addition, a high of 67°F (on the 22nd) in Concord, NH was their warmest in February since a reading of 68°F on February 27, 1880. Temperatures failed to dip below 20°F during the month in Philadelphia, PA, their first such occurrence in February since 1957.

Arctic air almost completely disappeared, locked over eastern Canada by the northern branch of the jet stream. On February 13, daily-record cold brushed Michigan, where Houghton Lake noted -22°F; 4 days later, Caribou, ME also notched -22°F. Toward month's end, cool air overspread the West in the wake of the major storms, lowering readings below 0°F in some high-elevation locations. In Nevada, Ely logged a daily-record low (-9°F) on February 28.

In California and Nevada, recovery from the New Year's flood progressed under favorably dry conditions. In the Sierra Nevada foothills, only 1.77 inches (18 percent [%] of normal) fell at Blue Canyon, CA. Blue Canyon had received 75.35 inches (329% of normal) in December-January, and 90.66 inches (263% of normal) since October 1, 1996. Little or no moisture was added to the Sierra Nevada's high-elevation snowpack, leaving the snow's water equivalent at about 115% of normal by month's end. Dry weather also prevailed across most of Florida, where totals included 0.46 inches in Daytona Beach and 0.66 inches in Tampa. Farther west, however, monthly rainfall topped 8 inches in locations such as Montgomery, AL (8.04 inches) and Shreveport, LA (8.09 inches). On the Plains, monthly precipitation reached 2.11 inches in Oklahoma City, 2.18 inches in Wichita, KS, and 2.86 inches in Wichita Falls, TX, accounting for more than 80% of the respective December 1, 1996, to February 28, 1997, totals.

Warmer-than-normal conditions dominated Alaska, where temperature departures ranged from +3 to +17°F. Fairbanks logged above-normal temperatures on every day during the month, and Anchorage (+12.0°F) recorded their second-warmest February,

behind 1977 (+14.0°F). Wet, stormy weather affected southern and western parts of the State. Cold Bay clocked a February-record wind gust to 84 mph on the 24th, while Juneau received 8.01 inches of precipitation, their fourth-highest February total. In Hawaii, February temperatures averaged slightly above normal and precipitation was below normal despite a late-month storm's passage.

Fieldwork

February was more favorable for farm activities than January. Weather conditions moderated somewhat in the north-central area of the country. Warmer weather and less snowfall allowed producers to continue to dig out and combat further losses from winter stress on livestock. High water has been reported in local areas, and there is a fear of severe flooding when the heavy snowpack begins to melt.

The central and southern Plains received beneficial moisture, allowing winter wheat conditions to improve. Generally, the winter wheat crop was in good to excellent condition. Very little winterkill and wind damage has been reported. Most winter wheat areas ended the month with little snow cover. In Kansas, the winter wheat crop is ready to break dormancy.

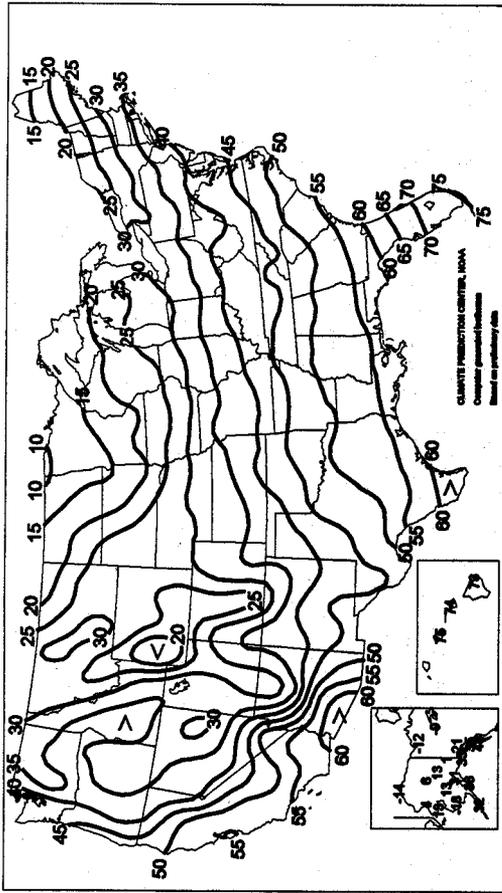
An area covering most of the Southeast and extending north through the Ohio Valley received extensive rainfall, causing heavy flooding in the Ohio Valley. Fieldwork in preparation for spring planting was delayed in many areas. Significant delays are also expected in Arkansas. By the end of the month, some spring field crops had been planted along the Gulf Coast and in Florida. Peach trees were in bloom in the deep South.

Field activities in California returned to full swing in most areas. Some localized areas remained flooded, but the open, warm weather allowed soils to dry and field operations to resume. Some Sacramento Valley wheat fields still showed signs of stress from the earlier flooding. In Florida, the sugarcane harvest was winding down. Growers were preparing to start tobacco transplanting. Field preparations for spring planting crops were active. Harvest of early and mid-season oranges was nearly complete. Freeze-damaged Valencias were going to processors rapidly. Grapefruit harvest was very active on the lower east coast.

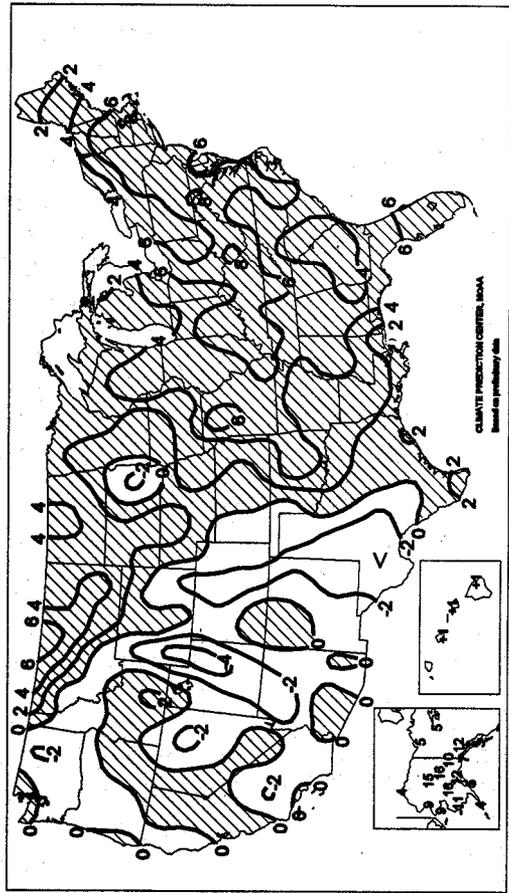
During the month, livestock remained under stress in many areas due to the weather and unusual wetness. Muddy conditions and winter temperatures made lambing and calving difficult. Losses were running above normal. Demand for feed remained high, adding pressure to an already short feed supply.

Notice to Readers: We are not publishing the weekly "National Weather Data for Selected Cities" table this week. The NWS/National Centers for Environmental Prediction is accomplishing a changeover to a new computer system, causing a number of unanticipated hardware and software problems. While NCEP hoped for a transparent transition from one computer system to the other, the attempt was unsuccessful. We regret any problems this may cause our readers, but we felt it better to forego the table rather than publish data that is unreliable. We hope that the problems will be solved in time for next week's *Bulletin*, but we do not know for sure at this time. We will try to publish the missing table in the next issue. The computer and data problems have not significantly affected our published maps.

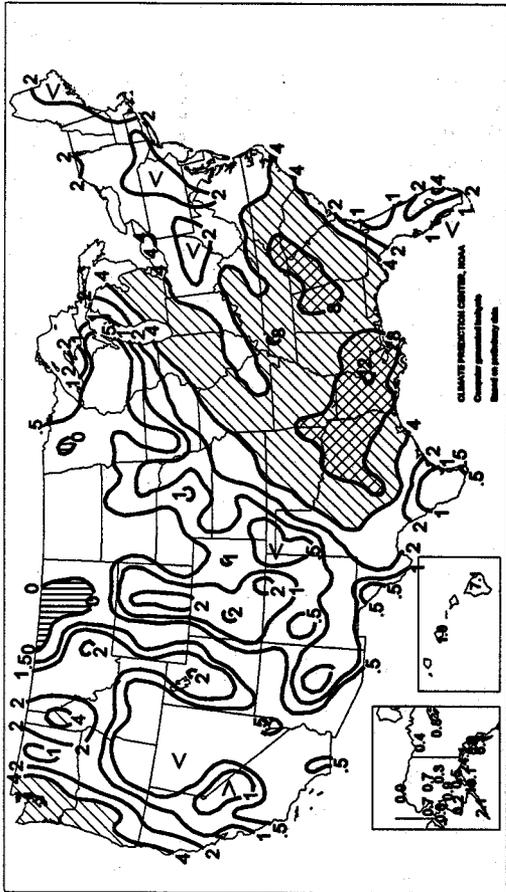
Average Temperature (°F)
February 1997



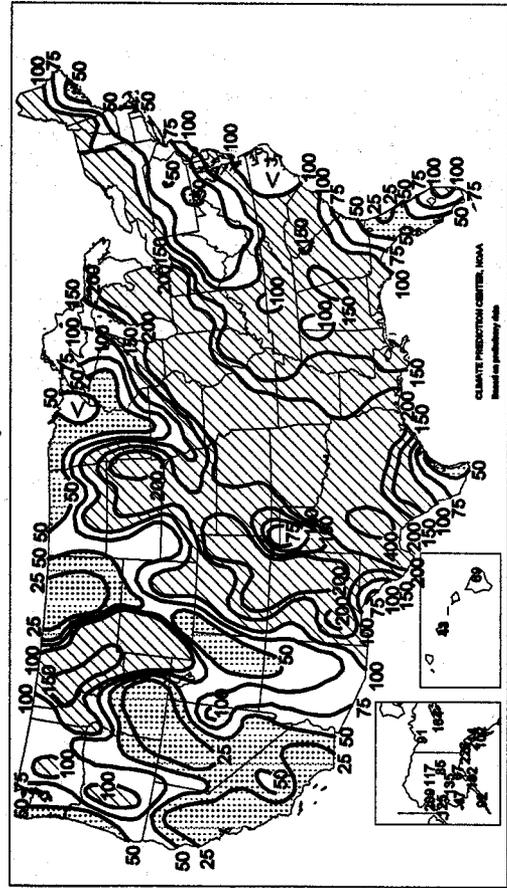
Departure of Average Temperature from Normal (°F)
February 1997



Total Precipitation (inches)
February 1997



Percent of Normal Precipitation
February 1997

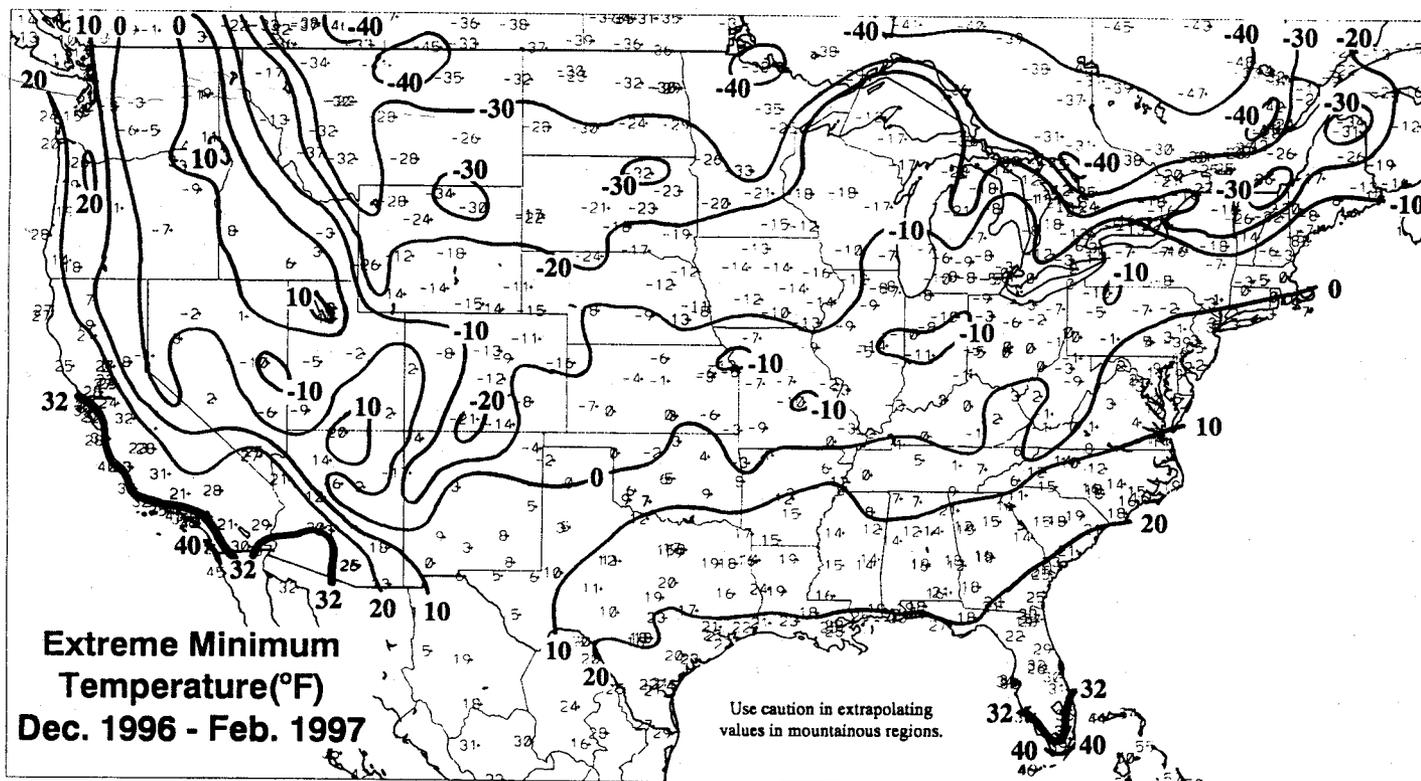


TEMPERATURE AND PRECIPITATION SUMMARY

February 1997

STATES AND STATIONS	TEMP. °F		PRECIP.		STATES AND STATIONS	TEMP. °F		PRECIP.		STATES AND STATIONS	TEMP. °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	60	5	4.82	0.10	LA BATON ROUGE	66	2	7.69	2.07	OK YOUNGSTOWN	33	7	1.57	-0.48
AL HUNTSVILLE	47	4	4.97	0.10	LA LAKE CHARLES	66	2	7.46	3.87	OK OKLAHOMA CITY	44	3	2.11	0.65
AL MOBILE	66	2	6.98	0.62	LA NEW ORLEANS	67	3	8.88	0.87	OK TULSA	44	4	3.41	1.44
AL MONTGOMERY	53	5	8.04	2.72	LA SHREVEPORT	61	2	8.09	4.17	OR ASTORIA	44	0	3.95	-3.84
AK ANCHORAGE	31	12	0.62	-0.26	ME CARIBOU	13	1	2.62	0.60	OR BURNS	32	2	0.29	-0.47
AK BARROW	-14	4	T	-0.16	ME PORTLAND	29	5	2.69	-0.74	OR MEDFORD	43	0	1.11	-0.82
AK FAIRBANKS	13	17	0.34	-0.06	MD BALTIMORE	41	6	2.23	-0.86	OR PENDLETON	39	-1	0.36	-0.75
AK JUNEAU	36	7	8.01	4.26	MD SALISBURY	43	6	3.78	0.32	OR PORTLAND	43	0	1.82	-2.09
AK KODIAK	36	6	10.13	4.86	MA BOSTON	36	6	1.66	-2.07	OR SALEM	43	0	2.08	-2.42
AK NOME	13	9	0.76	0.16	MA WORCESTER	30	5	1.80	-1.68	PA ALLENTOWN	36	6	1.32	-1.63
AZ FLAGSTAFF	30	-1	1.02	-1.07	MI ALPENA	20	2	3.88	2.69	PA ERIE	32	6	3.24	0.96
AZ PHOENIX	68	0	0.66	-0.13	MI DETROIT	31	5	4.04	2.30	PA HARRISBURG	-	-	1.47	-1.46
AZ PRESCOTT	38	-1	1.22	-0.32	MI FLINT	27	4	3.09	1.81	PA PHILADELPHIA	40	7	2.46	-0.31
AZ TUSCON	64	-1	0.67	-0.03	MI GRAND RAPIDS	27	4	4.80	3.38	PA PITTSBURGH	35	6	1.16	-1.24
AZ WINSLOW	38	-1	0.26	-0.26	MI HOUGHTON LAKE	21	2	2.66	1.40	PA SCRANTON	36	6	1.13	-1.02
AZ YUMA	61	0	0.13	-0.09	MI LANSING	28	5	3.83	2.62	PA WILLIAMSPORT	33	6	1.13	-1.63
AR FORT SMITH	48	4	6.60	3.90	MI MARQUETTE	17	3	0.97	-0.76	RI PROVIDENCE	37	7	1.93	-1.88
AR LITTLE ROCK	-	-	4.76	1.23	MI MUSKEGON	27	3	3.29	1.80	RI CHARLESTON	56	4	2.86	-0.44
CA BAKERSFIELD	61	-2	0.79	-0.27	MI SAULT ST. MARIE	17	3	0.86	-0.88	SC COLUMBIA	61	4	4.87	0.76
CA BISHOP	-	-	-	-	MN ALEXANDRIA	14	1	-	-	SC FLORENCE	62	5	3.69	0.36
CA EUREKA	48	-1	2.66	-2.18	MN DULUTH	16	2	0.47	-0.33	SC GREENVILLE	48	4	8.07	1.68
CA FRESNO	61	-1	0.20	-1.60	MN INT'L FALLS	10	3	0.19	-0.44	SD ABERDEEN	16	-1	0.86	0.41
CA LOS ANGELES	69	1	0.06	-2.46	MN MINNEAPOLIS	20	2	0.30	-0.68	SD HURON	19	-1	0.86	-0.03
CA REDDING	61	1	0.71	-3.74	MN ROCHESTER	19	2	0.82	0.18	SD RAPID CITY	29	2	0.28	-0.24
CA SACRAMENTO	63	2	0.26	-2.61	MN ST. CLOUD	16	2	0.26	-0.38	SD SIOUX FALLS	18	-2	1.39	0.76
CA SAN DIEGO	68	-1	0.31	-1.22	MS GREENWOOD	61	5	-	-	TN BRISTOL	43	6	4.16	0.72
CA SAN FRANCISCO	53	1	0.27	-2.90	MS JACKSON	61	5	6.76	1.98	TN CHATTANOOGA	47	5	5.28	0.47
CA STOCKTON	61	0	0.28	-1.69	MS MERIDIAN	62	3	6.13	0.70	TN KNOXVILLE	46	6	6.17	1.11
CO ALAMOGSA	29	-1	1.04	0.76	MO TUPELO	49	5	4.31	-0.41	TN MEMPHIS	48	4	7.83	3.28
CO CO. SPRINGS	30	-2	0.18	-0.22	MO CAPE GIRARDEAU	42	6	4.60	1.28	TN NASHVILLE	46	6	3.07	-0.74
CO DENVER	30	-3	0.64	0.00	MO COLUMBIA	36	6	4.63	3.04	TN ABILENE	47	0	3.49	2.33
CO GRAND JUNCTION	36	0	0.34	-0.14	MO KANSAS CITY	34	3	2.93	1.83	TN AMARILLO	39	0	0.47	-0.14
CO PUEBLO	32	-3	0.42	0.11	MO SAINT LOUIS	38	4	4.14	2.02	TN AUSTIN	63	0	3.94	1.77
CT BRIDGEPORT	37	7	2.16	-0.86	MO SPRINGFIELD	40	5	4.02	2.08	TN BEAUMONT	66	2	6.73	2.36
CT HARTFORD	36	7	1.63	-1.60	MT BILLINGS	32	4	0.02	-0.62	TN BROWNSVILLE	64	2	0.42	-0.64
DC WASHINGTON	46	7	2.43	-0.28	MT GLASGOW	19	1	0.04	-0.23	TN CORPUS CHRISTI	69	1	0.69	-1.27
FL PANAMA CITY	69	6	-	-	MT GREAT FALLS	31	4	0.34	-0.29	TX DEL RIO	64	-1	2.03	1.08
FL DAYTONA BEACH	66	6	0.46	-2.86	MT HAYRE	29	8	0.06	-0.30	TX EL PASO	48	0	0.30	-0.11
FL FT. MYERS	72	7	2.18	-0.06	MT HELENA	28	2	0.21	-0.20	TX FORT WORTH	48	3	7.40	4.98
FL JACKSONVILLE	60	4	1.26	-2.63	MT KALISPELL	28	0	1.70	0.60	TX GALVESTON	67	2	3.14	0.88
FL KEY WEST	76	5	0.63	-1.17	MT MILES CITY	30	6	0.07	-0.38	TX HOUSTON	66	1	6.36	2.40
FL MIAMI	74	6	1.58	-0.50	MT MISSOULA	27	-2	0.80	0.01	TX LAREDO	-	-	-	-
FL ORLANDO	68	6	2.44	-0.68	NE GRAND ISLAND	30	3	0.93	0.21	TX LUBBOCK	41	-2	1.30	0.62
FL TALLAHASSEE	58	4	-	-	NE LINCOLN	30	3	0.67	-0.06	TX MIDLAND	46	-3	1.69	1.07
FL TAMPA	69	7	0.66	-2.42	NE NORFOLK	28	3	0.86	0.00	TX SAN ANGELO	47	-2	4.64	3.47
FL WEST PALM BEACH	72	6	4.44	1.66	NE NORTH PLATTE	29	1	0.73	0.30	TX SAN ANTONIO	63	0	2.44	0.63
GA ATHENS	49	3	6.82	1.20	NE OMAHA	29	3	0.83	0.08	TX VICTORIA	67	1	1.66	-0.46
GA ATLANTA	61	6	7.93	3.12	NE SCOTTSSBLUFF	30	0	0.36	-0.11	TX WACO	60	0	7.91	6.82
GA AUGUSTA	61	4	4.84	0.67	NE VALENTINE	28	3	0.31	-0.12	TX WICHITA FALLS	47	2	2.86	1.40
GA MACON	62	3	4.99	0.26	NV ELKO	29	-2	0.21	-0.62	UT BLANDING	-	-	-	-
GA SAVANNAH	66	3	2.34	-0.88	NV ELY	28	-1	0.78	0.10	UT CEDAR CITY	33	-1	1.10	0.21
HI HILO	73	1	7.83	-2.46	NV LAS VEGAS	62	1	0.21	-0.27	UT SALT LAKE CITY	36	1	1.82	0.39
HI HONOLULU	76	2	0.96	-1.26	NV RENO	38	0	0.71	-0.28	VT BURLINGTON	24	6	1.38	-0.26
HI KAHULUI	74	2	-	-	NH WINNEMUCCA	34	-1	0.08	-0.64	VA LYNCHBURG	41	4	2.86	-0.19
HI LHIUE	-	-	-	-	NH CONCORD	29	7	2.20	-0.38	VA NORFOLK	46	6	2.94	-0.63
ID BOISE	37	1	0.18	-0.89	NJ ATLANTIC CITY	36	6	3.12	0.06	VA RICHMOND	44	5	3.71	0.66
ID LEWISTON	38	-1	1.20	0.31	NM ALBUQUERQUE	41	1	0.12	-0.34	VA ROANOKE	43	6	3.40	0.38
ID POCATELLO	31	1	0.13	-0.79	NM CLOVIS	39	-2	-	-	WA COLVILLE	-	-	-	-
IL CAIRO	-	-	-	-	NM ROSWELL	42	-3	-	-	WA QUILLAYUTE	42	0	7.49	-6.10
IL CHICAGO	29	4	6.68	4.20	NY ALBANY	30	7	2.00	-0.27	WA SEATTLE-TACOMA	42	-1	1.99	-2.00
IL MOLINE	29	4	3.63	2.30	NY BINGHAMTON	28	6	1.82	-0.41	WA SPOKANE	32	-1	1.40	-0.09
IL PEORIA	32	6	6.49	4.07	NY BUFFALO	30	5	2.97	0.88	WA WALLA WALLA	-	-	-	-
IL QUINCY	33	5	-	-	NY NEW YORK	40	7	2.76	-0.11	WV YAKIMA	38	-1	0.19	-0.66
IL ROCKFORD	27	4	2.83	1.69	NY ROCHESTER	31	6	2.40	0.30	WV BECKLEY	39	7	2.08	0.88
IL SPRINGFIELD	34	6	2.79	1.02	NY SYRACUSE	31	6	2.26	0.10	WV CHARLESTON	44	6	1.78	-1.29
IN EVANSVILLE	40	5	3.36	0.23	NC ASHEVILLE	43	4	5.29	0.83	WV ELKINS	36	8	1.74	-1.28
IN FORT WAYNE	31	5	3.76	1.84	NC CHARLOTTE	49	6	4.66	0.81	WV HUNTINGTON	42	9	1.78	-1.32
IN INDIANAPOLIS	36	6	4.08	1.82	NC GREENSBORO	43	4	3.60	0.28	WV PARKERSBURG	38	5	1.60	-1.36
IN SOUTH BEND	30	3	3.86	1.96	NC HATTERAS	49	3	3.66	-0.48	WI GREEN BAY	22	3	0.79	-0.24
IA DES MOINES	28	3	1.23	0.21	NC NEW BERN	61	5	3.88	-0.38	WI LACROSSE	28	6	1.16	0.28
IA DUBUQUE	26	3	2.26	0.93	NC RALEIGH	48	5	2.83	-0.86	WI MADISON	24	4	2.60	1.44
IA SIOUX CITY	26	1	1.01	0.30	NC WILMINGTON	61	5	3.69	-0.78	WI MILWAUKEE	28	6	2.47	1.02
IA WATERLOO	23	3	0.96	-0.12	ND BISMARCK	19	4	0.69	0.18	WI WAUSAU	22	5	-	-
KS CONCORDIA	32	1	1.68	0.83	ND FARGO	13	1	0.69	0.14	WY CASPER	26	-1	0.66	0.06
KS DODGE CITY	36	0	1.18	0.66	ND GRAND FORKS	13	3	0.30	-0.19	WY CHEYENNE	27	-2	0.31	-0.08
KS GOODLAND	31	-1	0.88	0.49	OH WILLISTON	18	1	0.21	-0.21	WY LANDER	27	2	0.70	0.13
KS TOPEKA	36	3	2.67	1.63	OH AKRON-CANTON	33	6	1.84	-0.69	PR SHERIDAN	27	0	0.47	-0.17
KS WICHITA	38	2	2.18	1.22	OH CINCINNATI	37	6	2.14	-0.66	PR SAN JUAN	-	-	-	-
KY BOWLING GREEN	44	6	3.78	-0.36	OH CLEVELAND	34	7	2.93	0.74					
KY JACKSON	43	6	2.97	-0.86	OH COLUMBUS	36	6	1.61	-0.63					
KY LEXINGTON	40	6	3.96	0.76	OH DAYTON	36	5	1.98	-0.19					
KY LOUISVILLE	42	6	3.76	0.46	OH MANSFIELD	32	5	2.02	0.00					
KY PADUCAH	42	5	5.32	1.42	OH TOLEDO	31	6	4.27	2.54					

Based on 1961-90 normals.



With the exception of a persistent chill across the northern Plains and upper Midwest, the winter of 1996-97 was characterized by short-lived but sometimes sharp cold snaps. On December 18-19, Arctic air briefly overspread much of the Nation, resulting in a hard freeze along the Gulf Coast and the lowest temperatures in nearly 6 years across parts of the Southwest and southern Texas. Less than 2 weeks into the New Year, a prolonged spell of sub-freezing weather gripped areas as far south as coastal Texas. And on January 19, a freeze struck central and interior southern Florida, causing locally extensive ground-crop damage.

Winter Weather Review

Highlights

Heavy snow followed by torrential rain and snowmelt caused a major New Year's flood across northern California and western Nevada. Flood and heavy snow impacts were also noted in parts of Washington, Oregon, Idaho, and western Montana. Farther east, bitterly cold, snowy, windy weather continued through January across the North Central States. Despite a February respite, the region continued to brace for near-record to record spring flooding. The Plains' wheat, despite being frequently uninsulated and exposed, weathered the winter better than last year despite a 2-month dry spell. The central Plains' wheat benefited from only minimal exposure to winterkill-caliber cold and the return of moisture during February.

Florida's freeze on January 19 interrupted an otherwise mild winter. Although citrus escaped with little damage, winter vegetables as far south as Dade County did not fare as well. On December 18-19, the lowest temperatures since December 1990 gripped parts of southern Texas and the Southwest. Another shot of cold air struck the regions on January 12-14. But neither cold snap produced temperatures low enough to cause noteworthy damage.

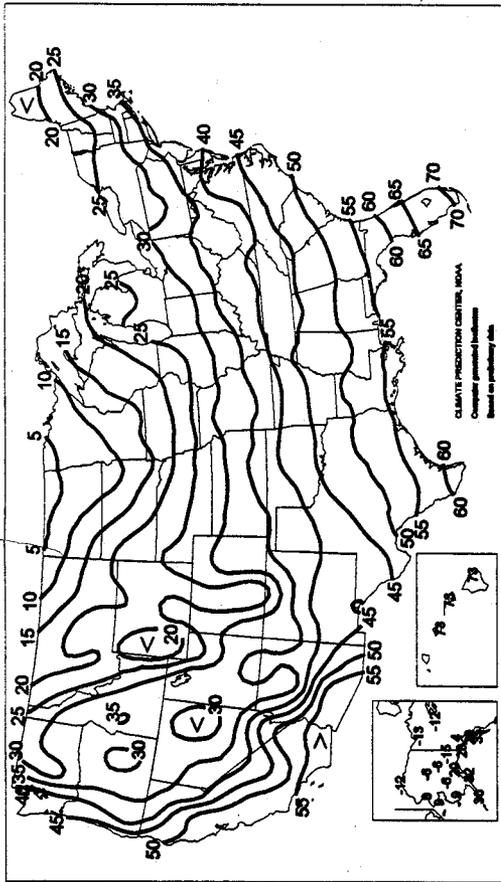
December

Temperatures averaged up to 9°F below normal across the northern Plains and upper Midwest, where frequent snow and high winds resulted in ground-blizzard conditions. Above-normal temperatures prevailed elsewhere, despite a pair of short-lived cold outbreaks after mid-month. December-record warmth dotted New England, where departures ranged from +5 to +11°F.

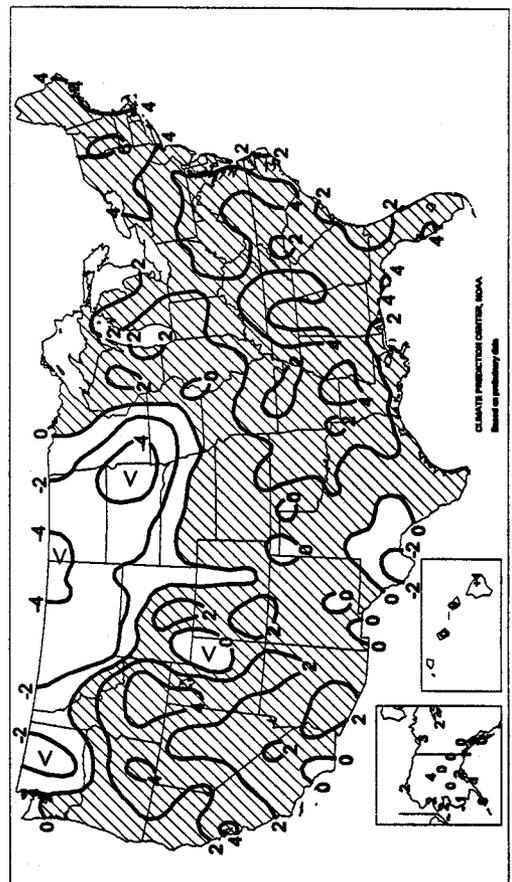
Across the Northwest, a 12-week wet spell culminated in December-record precipitation and major flooding. A string of moisture-laden storms lashed the region beginning around December 20, dumping heavy snow. At month's end, warmer weather and torrential rain melted much of the low-elevation snowpack. Before the meltdown, snow accumulated to record depths in parts of the Pacific Northwest. In the Sierra Nevada foothills, 9-day rainfall beginning on December 26 locally topped 40 inches. In contrast, little or no precipitation fell from the Southwest into the central and southern Plains.

(Continued on back cover)

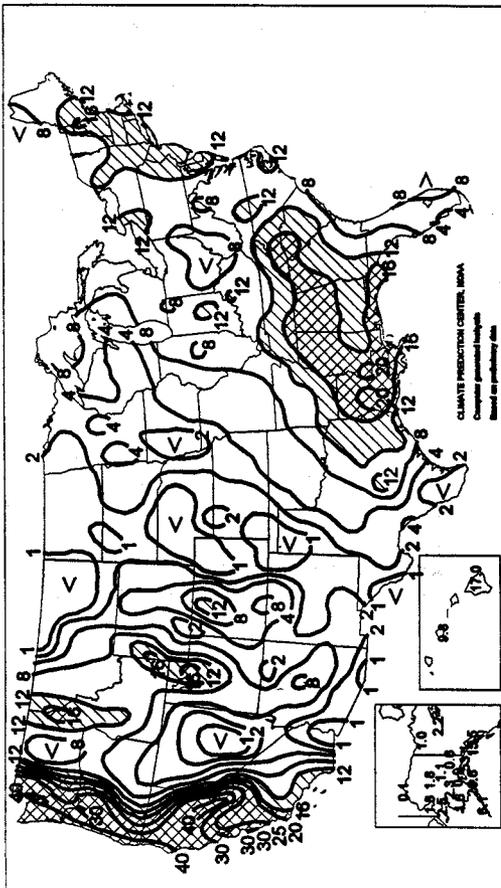
Winter Average Temperature (°F)
DEC 1996 - FEB 1997



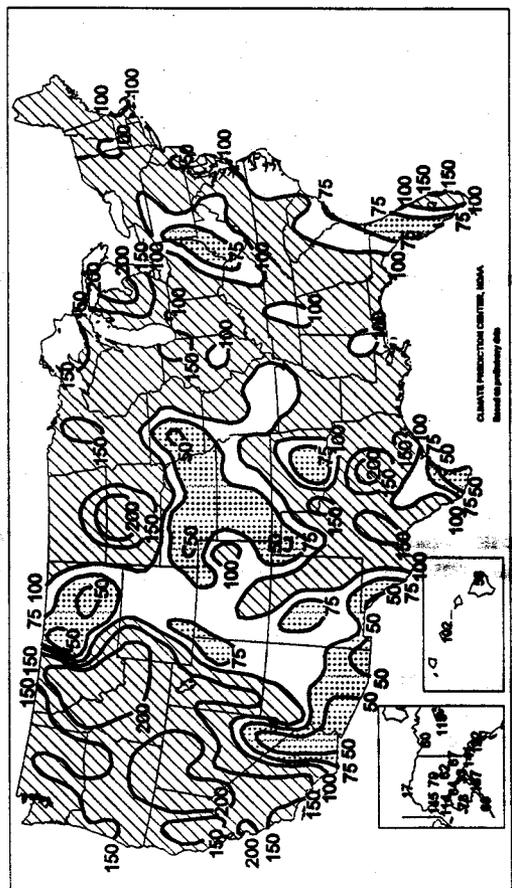
Winter Departure from Normal Average Temperature (°F)
DEC 1996 - FEB 1997

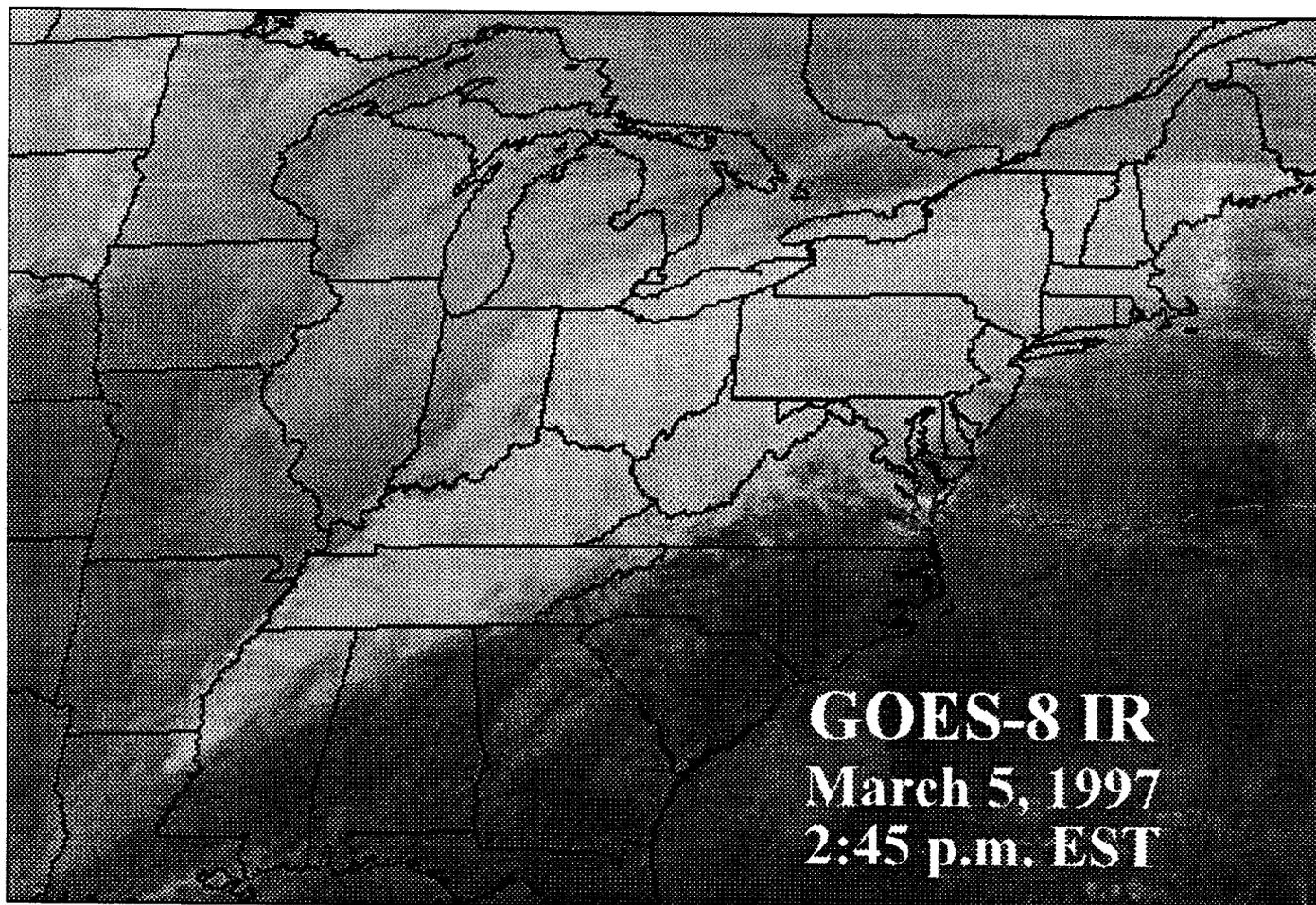


Winter Total Precipitation (inches)
DEC 1996 - FEB 1997



Winter Percent of Normal Precipitation
DEC 1996 - FEB 1997





(Continued from front cover)

as 10 to 15°F below normal. Farther west, wet weather intensified across the **Pacific Northwest**, especially from the **Cascades** westward. Snow fell frequently in the **interior Northeast**, accumulating heavily on Thursday.

After 10.48 inches of rain pelted **Louisville, KY** on March 1, another 1.87 inches fell during the week. (**Louisville's** wettest March on record [14.91 inches] occurred in 1964; their wettest month on record, January 1937 [19.17 inches], coincided with the **Ohio River** flood of record in the region.) Similarly, an additional 3.36 inches drenched **Lexington, KY**, boosting their monthly rainfall to 8.92 inches. Record crests were reported on several **Ohio River** tributaries in **Kentucky**, including **Rolling Fork** and **Licking River**. **Rolling Fork** at **Boston** crested at about 18.2 feet above flood stage on March 4, eclipsing the February 1989 record. In **Falmouth**, the **Licking River** overtopped the flood gauge, cresting at an unprecedented 24 feet (estimated) above flood stage on March 3, surpassing the March 1964 record crest by nearly 5 feet. The **Ohio River** surged 7.5 feet above flood stage in **Huntington, WV**, the highest level there since March 1955 and seventh highest on record. The flow of the **Ohio River** at **Cincinnati** topped 300 percent of normal as the water climbed 12.7 feet above flood stage, the highest level since March 1964, and ninth highest on record. The broad, flat **Ohio River** crest edged along the **Kentucky-Indiana** border at week's end.

Early in the week, nearly a dozen daily-record highs were set in the **Southeast**. On Sunday, maxima included 87°F in **Florence, SC** and 88°F in **Orlando, FL**. Meanwhile, chilly weather persisted in

the **West**, where daily-record lows included -3°F on Sunday in **Alamosa, CO** and 31°F on Tuesday in **Eureka, CA**. Unwelcomed precipitation returned to the **North Central States** on Monday, lifting weekly snowfall to 16.2 inches (1.14 inches of liquid) in **Fargo, ND**, 8.2 inches in **Grand Forks, ND**, and 4.9 inches in **Minneapolis, MN**. **Fargo's** seasonal snowfall reached 99.6 inches, shattering their record of 89.1 inches, set in 1993-94. In addition, **Fargo** notched a daily-record low (-22°F) at midweek.

Farther south, **Little Rock, AR** received a daily-record 2.28 inches of rain on Wednesday. Monthly rainfall through March 5 totaled 5.15 inches in **Little Rock**, 104 percent of their normal March value. Very warm weather lingered across **Florida**, where **Jacksonville's** reading of 87°F on March 5 marked their warmest of three consecutive daily-record highs.

On Thursday, a storm system intensified over **New England**, sparking heavy snow and strong winds. In **Maine**, **Caribou** received 18.1 inches of snow on March 6. Elsewhere across the **Northeast**, the storm helped to push weekly snowfall to 13.9 inches in **Rochester, NY** and 12.3 inches in **Burlington, VT**. Meanwhile, winds gusted to 59 mph in **Newark, NJ**, 60 mph at **New York's Kennedy Airport**, and 61 mph in **Bridgeport, CT**. Farther west, warmth spread onto the **Plains** at week's end. On Saturday in **Colorado**, **Pueblo's** high rebounded to 72°F from a low of 16°F. **Kearney, NE** (70°F) logged a daily-record high. Stormy weather continued in the **Northwest**, however, where monthly precipitation through March 8 reached 4.53 inches (228 percent of normal) in **Astoria, OR** and 2.49 inches (247 percent) in **Seattle, WA**.

International Weather and Crop Summary

March 2 - 8, 1997

HIGHLIGHTS

FSU-WESTERN: Unusually mild weather continued to diminish snow cover earlier than usual.

EUROPE: Continued mild weather spurred vegetative growth of winter grains in the west and prompted earlier than usual greening in the east.

NORTHWESTERN AFRICA: Drought continued in Algeria and Tunisia, while persistent dryness worsened conditions for Moroccan winter grains in or entering the heading stage.

AUSTRALIA: Persistent, untimely rains kept maturing cotton and sorghum unfavorably wet.

SOUTH AFRICA: Widespread, locally heavy rain benefited immature corn.

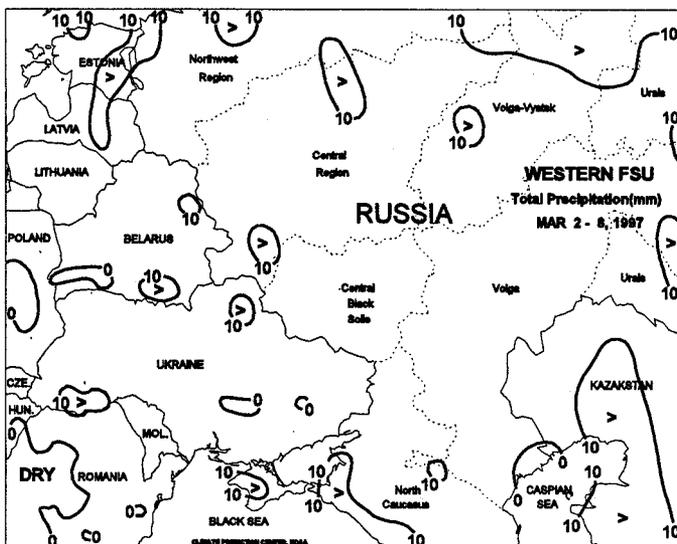
SOUTHEAST ASIA: Scattered showers allowed early main-season rice harvesting in Java to progress.

EASTERN ASIA: Winter wheat continued to break dormancy across the North China Plain.

SOUTH AMERICA: Continued below-normal rainfall stressed second-crop soybeans in Santa Fe, Argentina. Moderate to heavy showers slowed early soybean harvesting in southern Brazil.

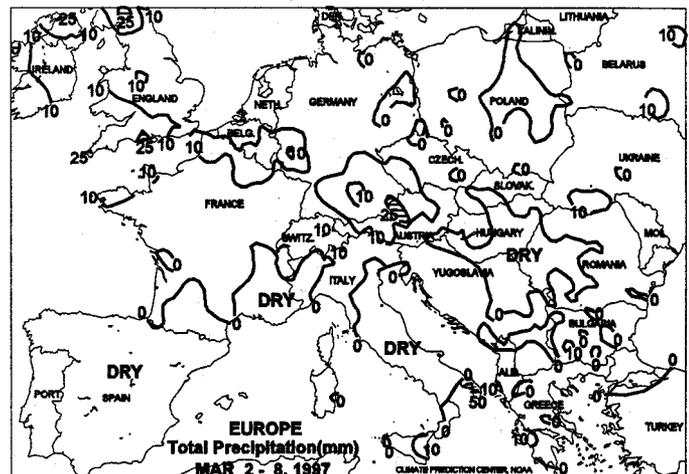
FSU-WESTERN

Unusually warm weather continued to prevail over most of the region, diminishing protective snow cover. Most areas in Ukraine, extreme southern Russia, Belarus, and the Baltics were snow free, allowing early season fieldwork. Precipitation amounts throughout most of the region varied below 10 mm. Winter grains were losing hardiness throughout the region, with some greening possible in the southwestern Ukraine and Moldova, where average temperatures have risen above 5 degrees C for the past 2 weeks. Weekly temperatures averaged 5 to 9 degrees C above normal in Ukraine, northern Russia, Belarus, and the Baltics, and 1 to 4 degrees C above normal in North Caucasus, Russia.

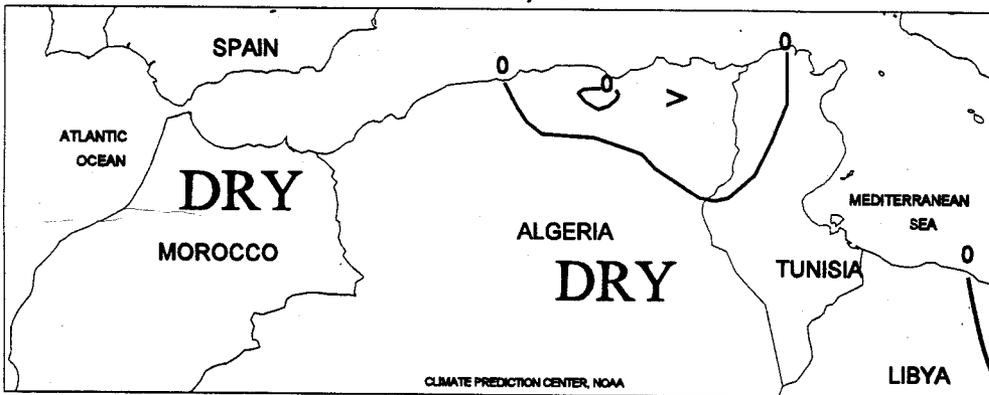


EUROPE

Unusually mild weather continued to prevail over most of Europe, spurring vegetative growth of winter grains in the northwest and prompting greening of crops in the east. Weekly temperatures averaged 3 to 7 degrees C above normal over most of Europe. Light showers (generally less than 10 mm) prevailed over most areas, causing only minor delays in early spring fieldwork for planting spring grains. Farther south, the sixth consecutive week of dryness in Spain reduced soil moisture reserves for winter grains nearing the highly moisture-sensitive heading stage. Rain is needed soon to sustain normal crop development and maintain favorable crop prospects. Furthermore, rain is needed for spring grain and summer crop planting, which typically begins in March.

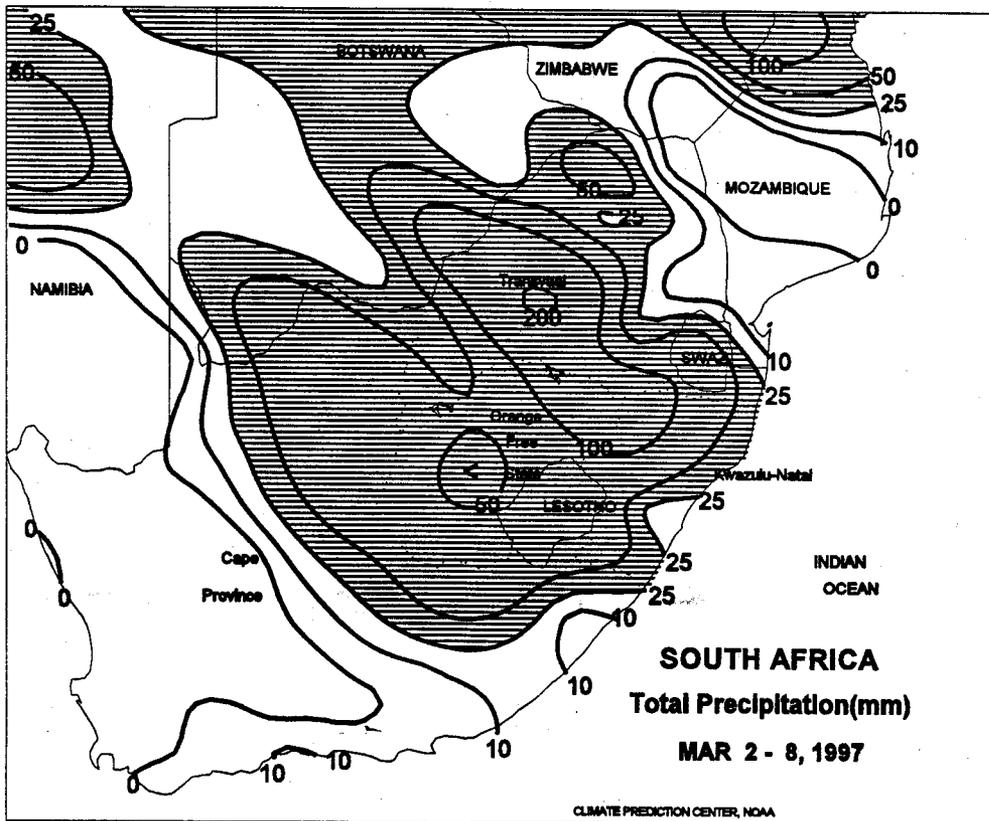


NORTHWEST AFRICA Total Precipitation (mm)
MAR 2 - 8, 1997



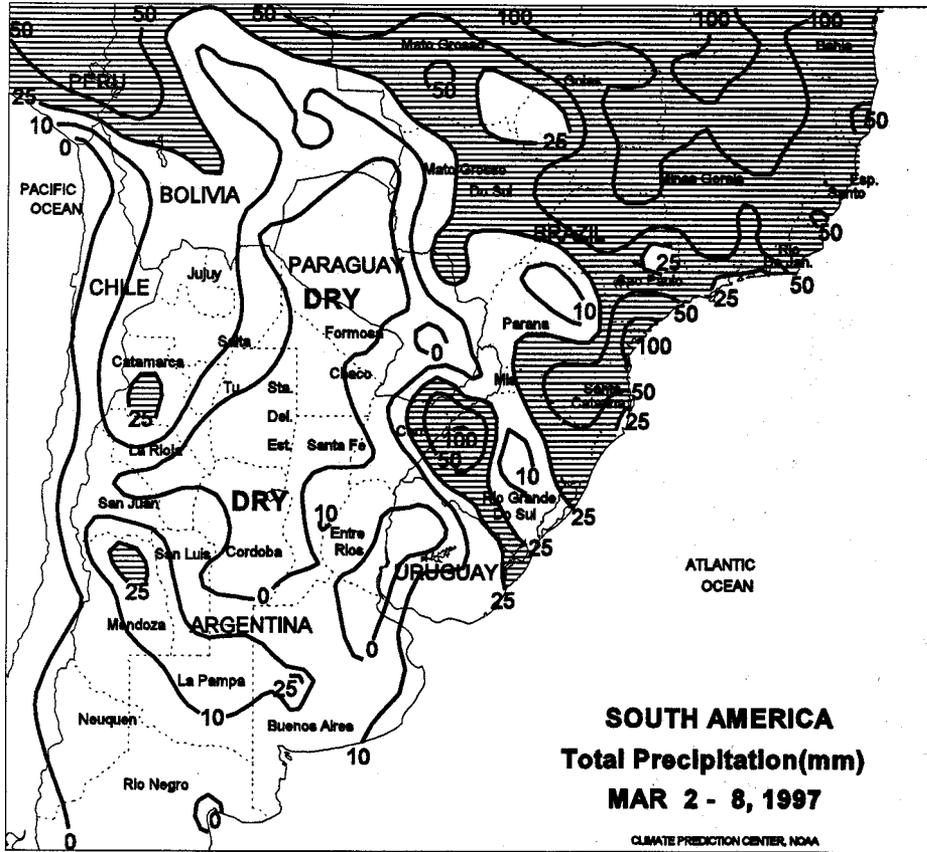
NORTHWESTERN AFRICA

The sixth consecutive week of dryness prevailed over winter grain areas in Morocco, stressing winter grains in or nearing the heading stage. Farther east, a few showers (mostly less than 10 mm) in Algeria and Tunisia brought little, if any, relief to drought-stressed crops. Weekly temperatures averaged 3 to 6 degrees C above normal in Morocco and western Algeria, increasing heat stress on crops. Weekly temperatures averaged near normal in eastern Algeria and Tunisia.



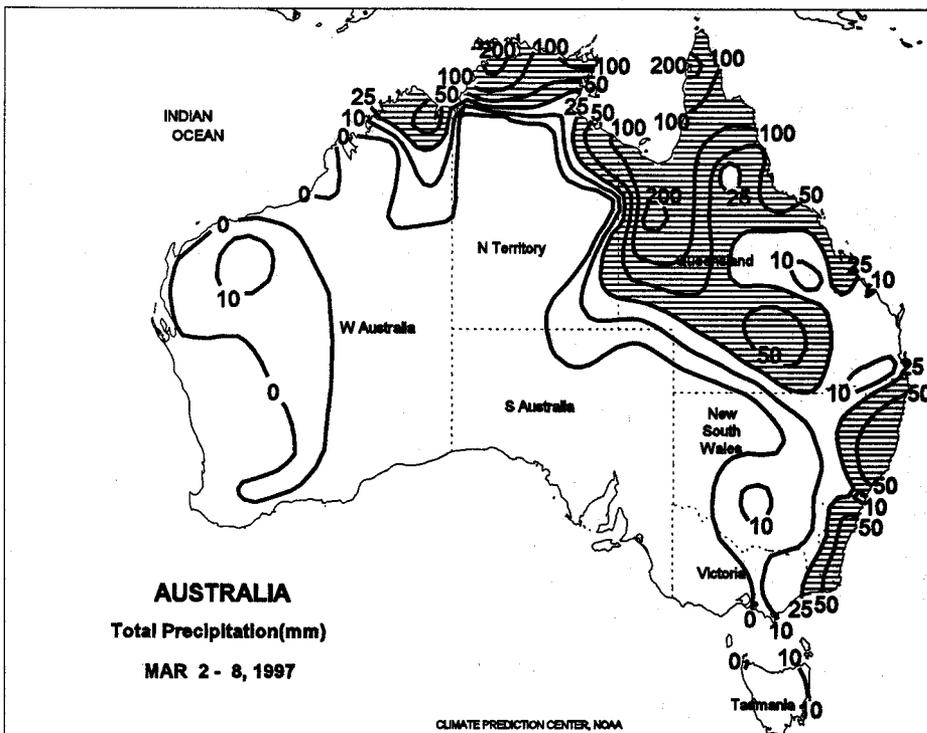
SOUTH AFRICA

Widespread, locally heavy showers (50-100 mm or greater) swept across the corn belt, benefiting immature crops. The heaviest rain (160-229 mm) fell in the Pretoria-Johannesburg area, likely resulting in some flooding. While coming too late to significantly improve summer crop yield prospects, the improved moisture situation will benefit winter wheat planting, which typically begins in May. Elsewhere, light to moderate rain (16-32 mm) fell over coastal sugarcane areas of Kwazulu-Natal.



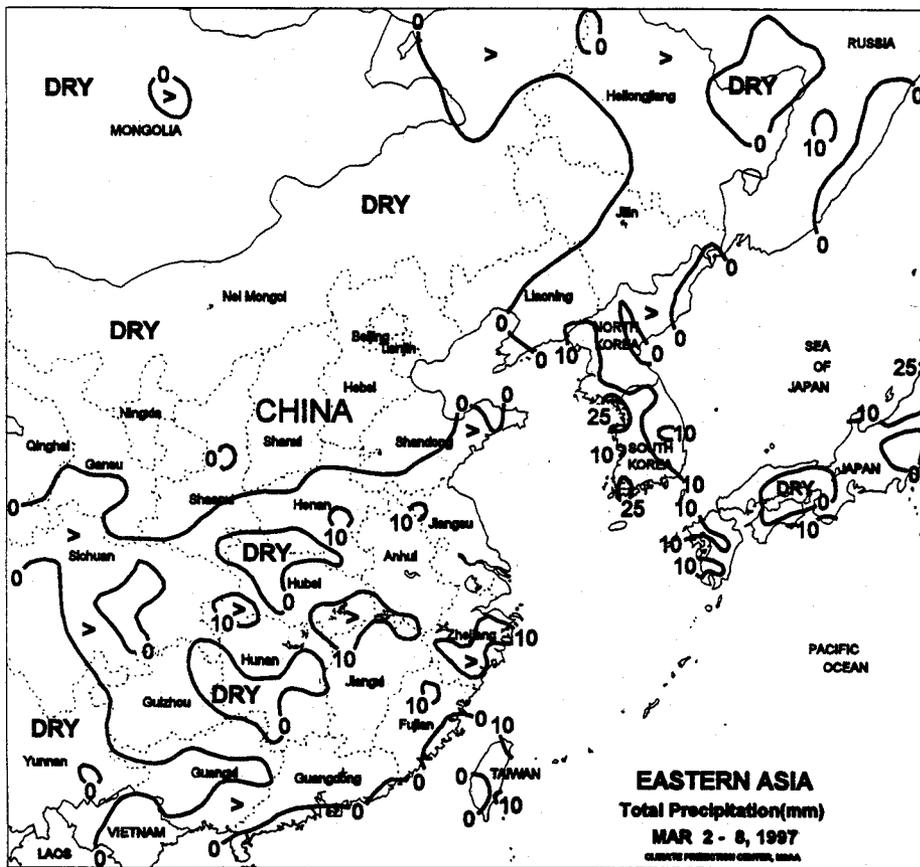
SOUTH AMERICA

In central Argentina, dry weather returned to southern Santa Fe and Cordoba. Below-normal rain since early January has reduced soil moisture supplies and started to stress reproductive second-crop soybeans. Timely rain is needed to maintain favorable yield prospects. Temperatures averaged near to slightly above normal, moderately increasing crop water use. First-crop soybeans are in the filling stage, and corn ranges from filling to maturity. Dry weather eased wetness across northern Argentina, favoring cotton harvesting. In southern Brazil, moderate showers (15-50 mm) slowed early soybean harvesting across the major crop regions. Heavier showers (75-150 mm) possibly caused some flooding in portions of Goias and western Minas Gerais. Temperatures averaged 1 to 2 degrees C below normal in Rio Grande do Sul and 1 to 3 degrees C above normal in Parana and Sao Paulo northwestward into Mato Grosso.



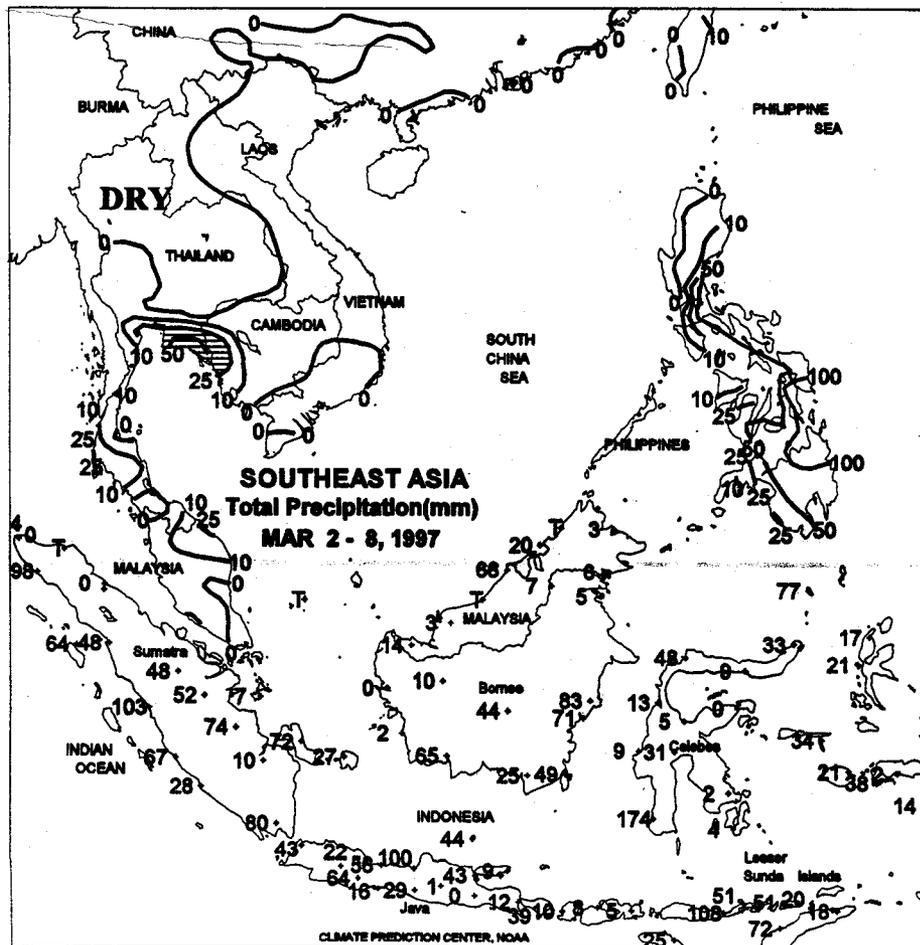
AUSTRALIA

Unseasonable showers persisted in Queensland's main sorghum and cotton areas. Rainfall totaling 25 to 68 mm kept maturing cotton and sorghum unfavorably wet, but added to abundant soil moisture reserves that will ultimately aid winter wheat planting. Scattered showers (10-25 mm) continued in the coastal sugarcane region, with pockets of heavier rain (50-100 mm or more) in extreme northern and southern growing areas. Mostly dry weather continued in the rangelands of western New South Wales. In New Zealand, moderate to heavy showers (25-50 mm or more) covered the main agricultural areas, including traditionally drier areas along the northeast coast of South Island.



EASTERN ASIA

Warm weather (4-6 degrees C above normal) allowed winter wheat to continue breaking dormancy across the North China Plain. Only very light rain (1-5 mm) fell across the southern portions of the wheat belt. Scattered heavier amounts (10-25 mm) were reported across the lower Yangtze Valley. Warm weather (3-6 degrees C above normal) continued to favor early double-crop rice transplanting across southern China.



SOUTHEAST ASIA

Scattered showers (5-60 mm) fell across Java, allowing early main-season rice harvesting to progress. Drier weather (less than 10 mm) eased wetness across peninsular Malaysia. Showers (20-75 mm) slowed second-season crop harvesting across the eastern Philippines. Heavier showers (130-190 mm) possibly caused flooding across the islands of Samar and Leyte, and northeastern Mindanao. Typically, main-season rice and corn planting begins in early April throughout the Philippines.

The *Weekly Weather and Crop Bulletin* is published weekly and jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the *Weekly Weather Chronicle*. It is issued under general authority of the Act of January 12, 1895 (44-USC 213), 53rd Congress, 3rd Session. NOAA is responsible for managing, printing, and distributing the bulletin. The contents may be reprinted freely, with proper credit.

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(Continued from page 8)

January

Runoff tore down the eastern and western slopes of the Sierra Nevada early in the month, flooding basins in western Nevada and northern California. After a respite, another pair of storms arrived after mid-month, depositing a month's worth of rainfall on northern California in less than a week. Farther east, snowy, windy, bitterly cold weather capped one of the worst November-January periods on record across the North Central States.

Although persistently frigid conditions were confined to the northern Plains and upper Midwest, Arctic air again strayed into the South.

Central and interior southern Florida witnessed temperatures in the middle 20's to lower 30's on January 19, less than a week after a prolonged period of sub-freezing weather ended across much of Texas. Some of the winter's lowest temperatures were observed on the central Plains on January 13 and 28, toward the end of a 2-month dry spell, stressing exposed wheat.

February

A complete summary begins on page 4.

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