

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

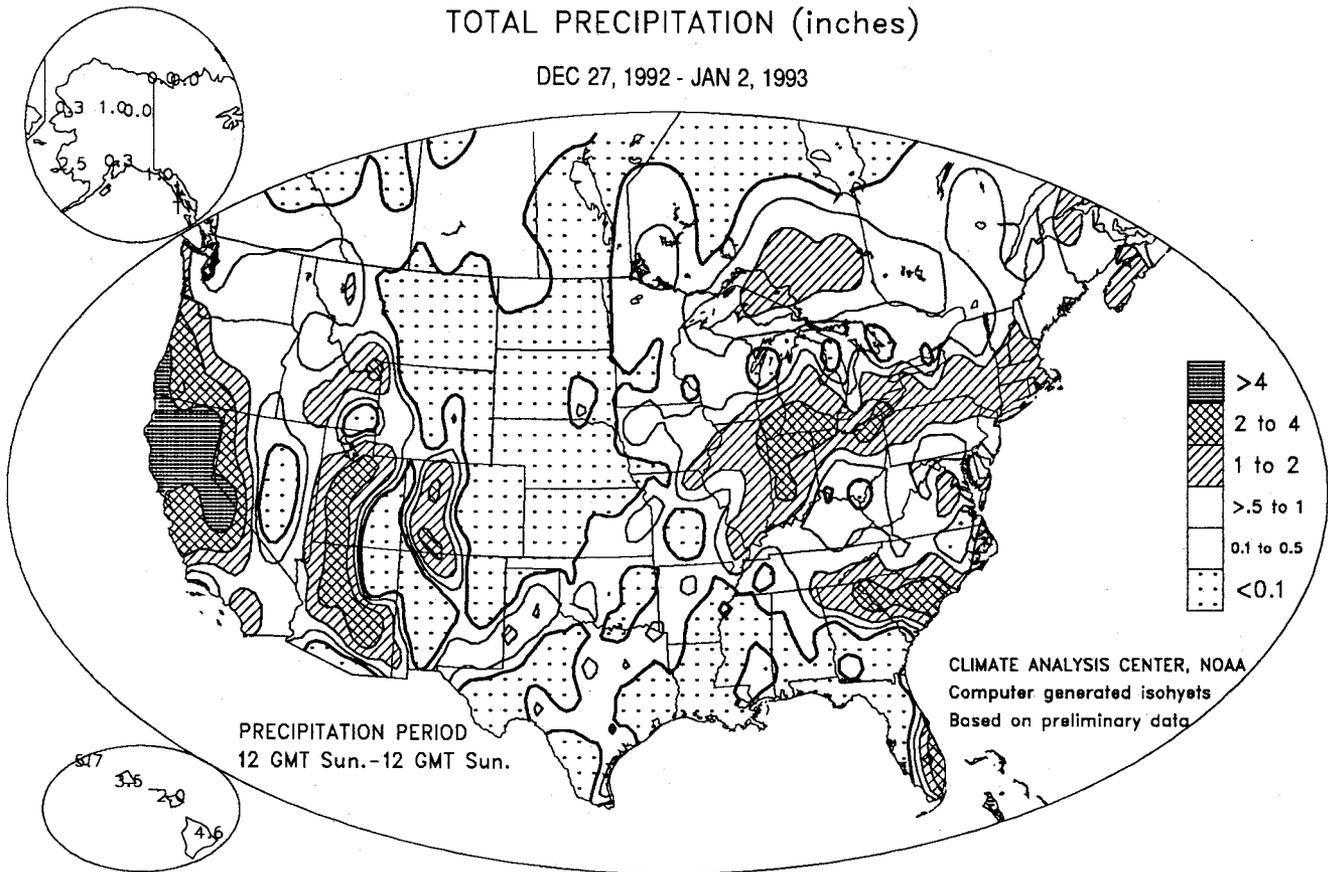
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January 5, 1993

TOTAL PRECIPITATION (inches)

DEC 27, 1992 - JAN 2, 1993



HIGHLIGHTS

December 27, 1992 - January 2, 1993

Powerful storms delivered up to 8 feet of snow to the Sierra Nevada, while an arctic grip held temperatures as much as 33°F below normal in the northern Plains. Early in the week, freezing rain spread northward through the Atlantic Coast States, disrupting Monday morning travel. A band of heavy rain stretched across the Southeast, with more than 3 inches reported in Rome, GA, and Cape Hatteras, NC. Meanwhile, the calendar year ended with ferocity in the Western and Northern States as a chain of storms slammed ashore and cold air drove southward. Snow and gusty winds produced ground blizzard conditions at times from Montana to Minnesota, and wind chills fell to as low as -65°F. Midweek temperatures failed to climb above 0°F throughout the northern Plains. In Montana, snow covered winter wheat areas, but the temperature fell to -24°F in Great Falls

(Continued to p. 15)

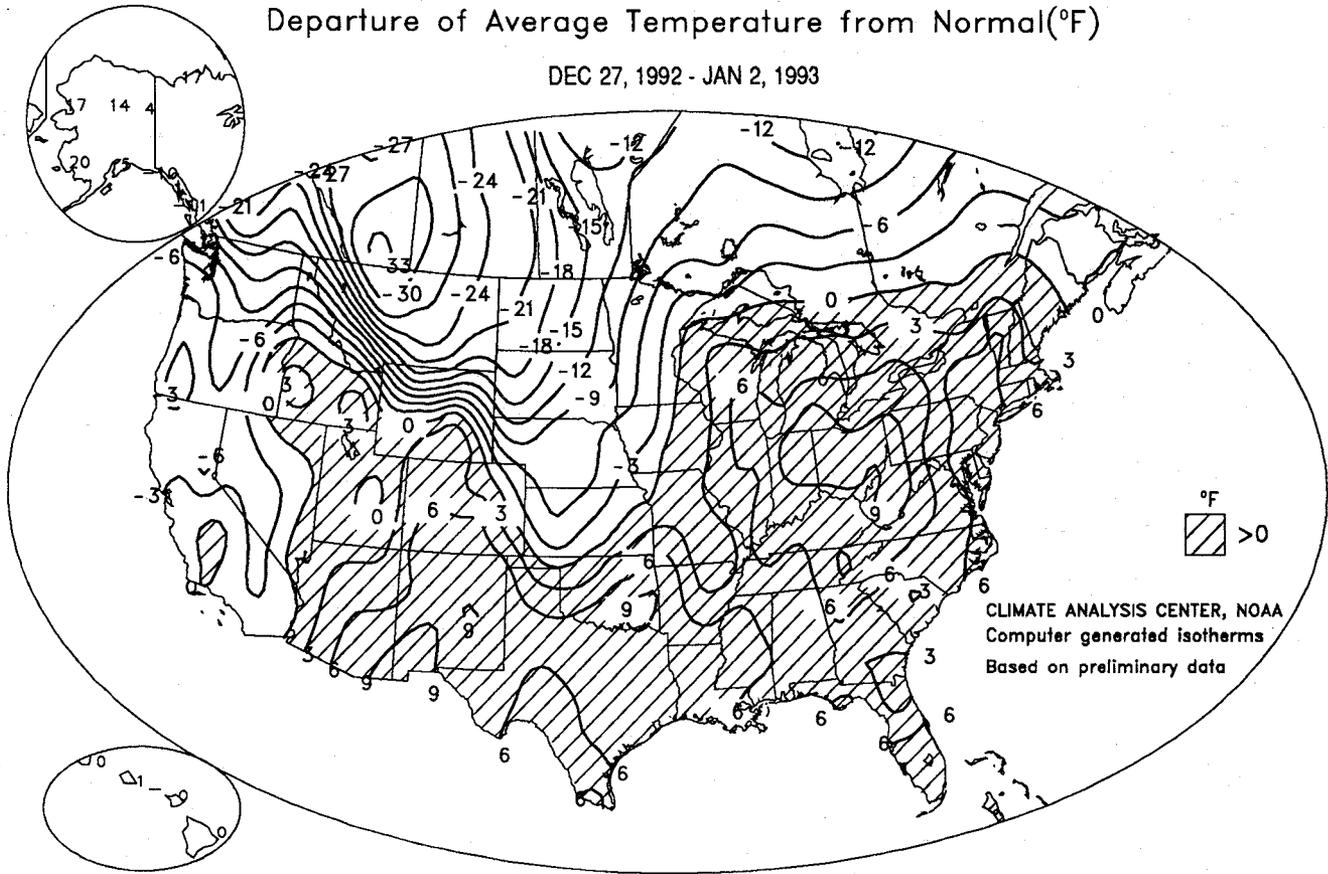
Contents

Page

Highlights & Total Precipitation Map	1
Temperature Departure & Extreme Minimum Temperature Maps	2
90-Day Outlook for January-March	3
Snowstorms Bury the Sierra Nevada	4
Snow Cover Map	5
National Weather Data for Selected Cities	6
Weekly Heating Degree Day Table	9
December Weather and Crop Summary	10
December Precipitation & Temperature Maps	11
December Data for Selected Cities	13
December Heating Degree Day Table	14
National Agricultural Summary	15
State Summaries of Weather and Agriculture	16
International Weather and Crop Summary & December Temperature/Precipitation Table	19
Subscription and Mailing Permit Information ..	24

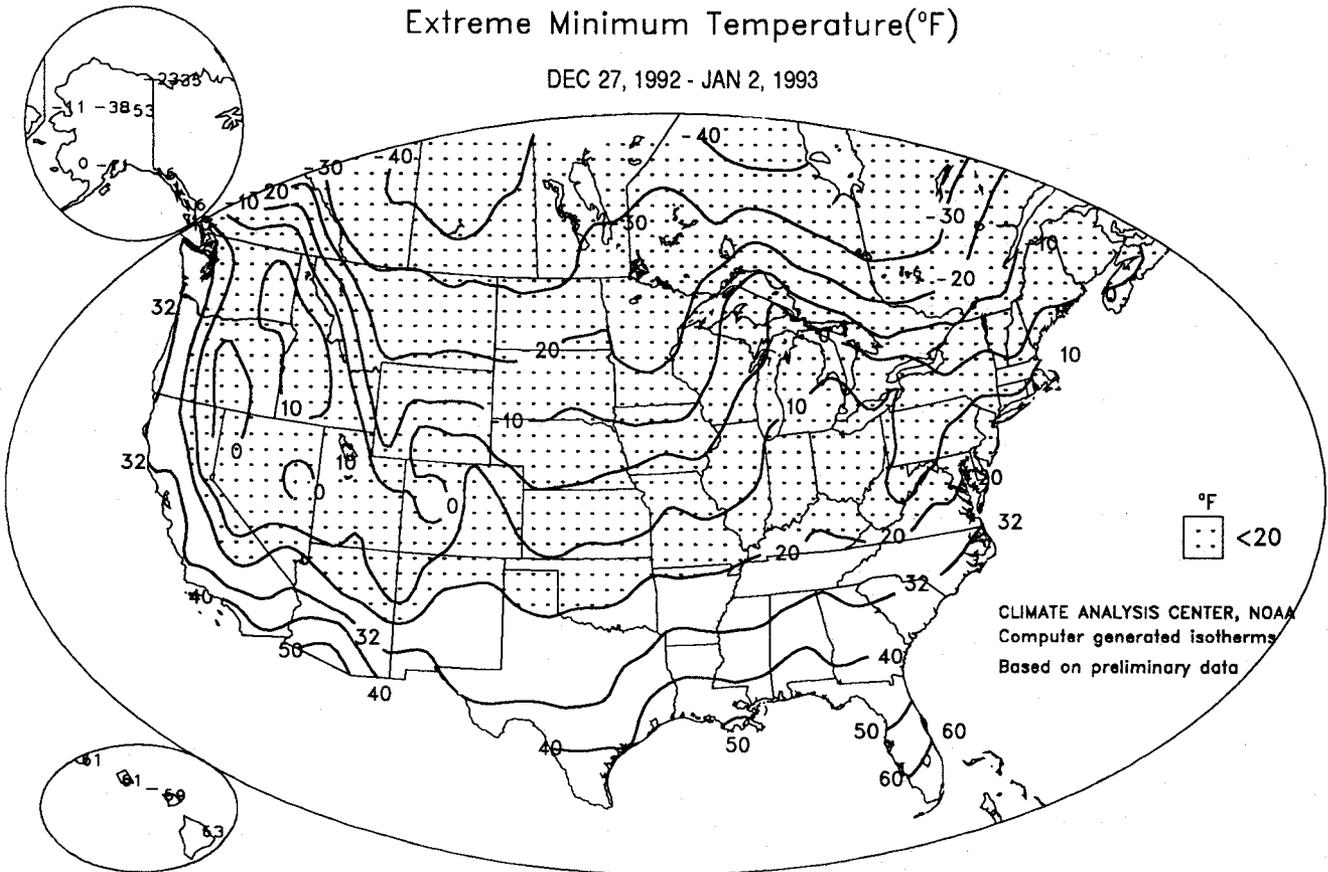
Departure of Average Temperature from Normal(°F)

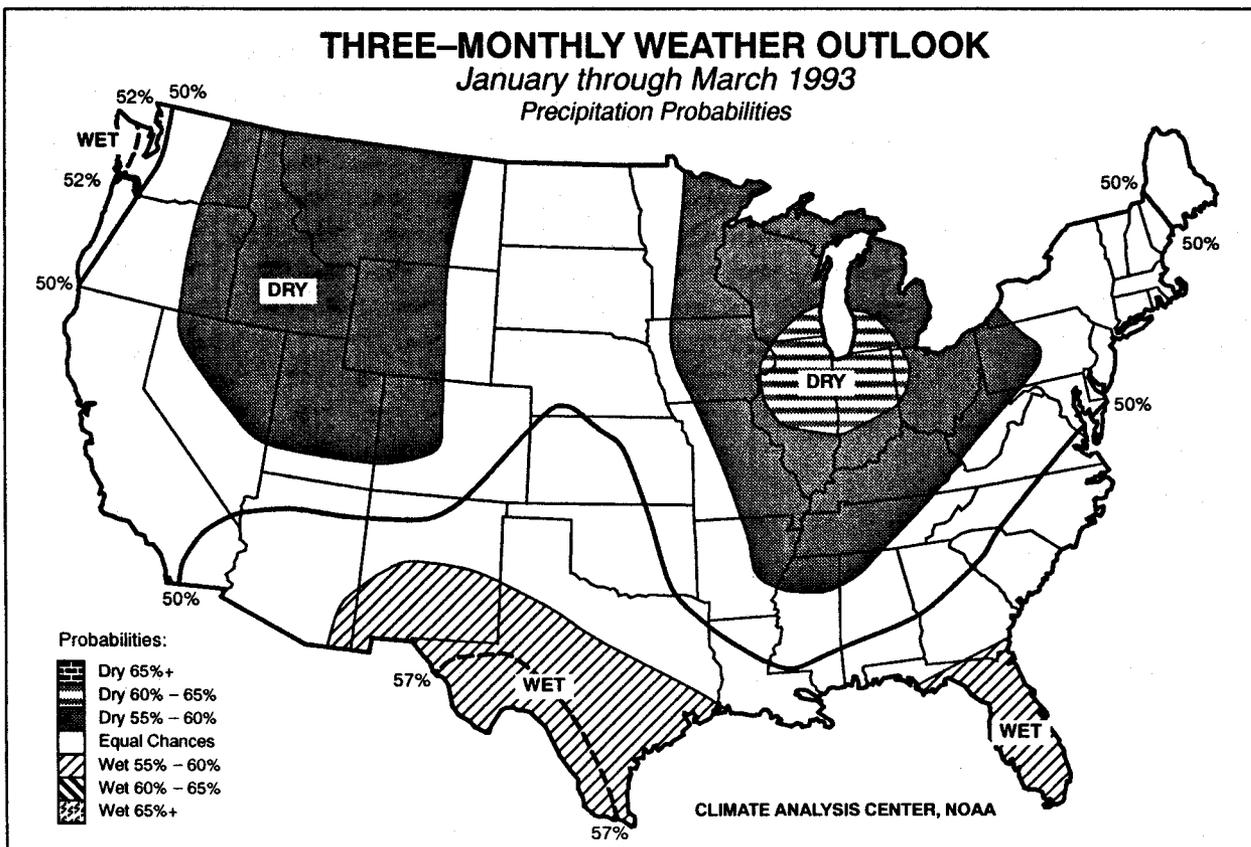
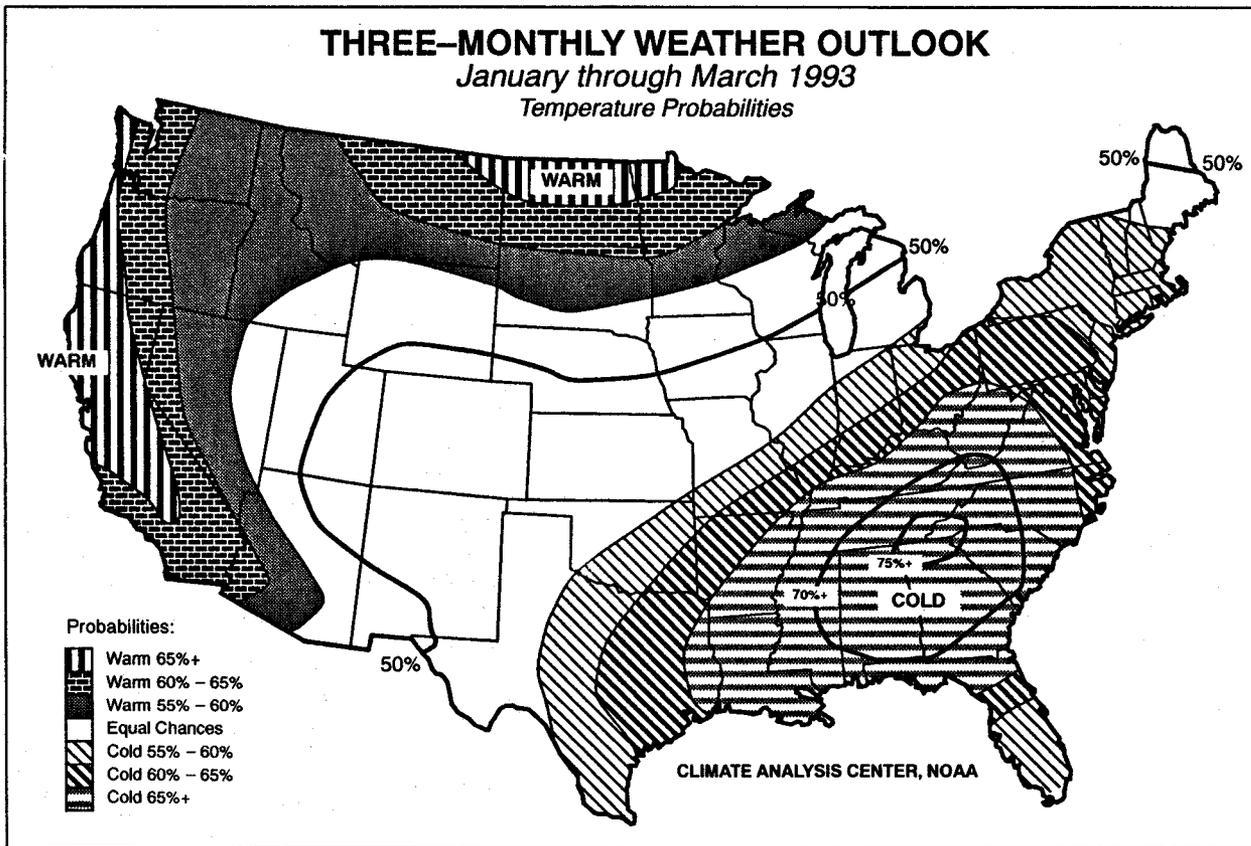
DEC 27, 1992 - JAN 2, 1993



Extreme Minimum Temperature(°F)

DEC 27, 1992 - JAN 2, 1993





For information on the techniques that the Climate Analysis Center's Prediction Branch uses to prepare the long-range outlooks, see an article by A. J. Wagner entitled "Medium- and Long-Range Forecasting," published by the American Meteorological Society in its journal, *Weather and Forecasting*, Sept. 1989, pp. 413-426. For information on subscribing to their 30- and 90-day outlooks, write to: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Snowstorms Bury the Sierra Nevada

For the second time in 4 weeks, a barrage of storms blanketed the Sierra Nevada range, pushing late-December snowpack above normal for the first time since 1984. The latest series of storms buffeted the higher peaks with 100 mph winds and closed numerous trans-Sierra highways, but more importantly delivered 6 to 14 inches of moisture (up to 8 feet of snow) to the northern and central Sierras (fig. 1).

The latest storms, combined with heavy rain and snow during the second week of December, provided 150 to 300 percent of the normal precipitation for the month. From Mt. Shasta southward through the Sierras, monthly precipitation (melted snow) generally ranged from 10 to 22 inches, with local amounts reaching 32 inches near Lake Almanor in Plumas County (fig. 2). The monthly total of 1.80 inches in Bakersfield was three times the normal, and a record for that location. The surplus moisture in December brought 1993 water year (October 1, 1992, to date) precipitation totals to near- or above-normal statewide except along the north coast.

In the northern Sierra Nevada, an 8-station index indicated that water year precipitation was 112 percent of normal through December 31, with additional moisture falling on New Year's Day. And snowpack in the Sierra Nevada chain, based upon the preliminary observations of more than 100 automated sensors, stood at 133 percent of normal on January 4. That snow contained an estimated water equivalent of 16 inches, which is "money in the bank" for California's reservoirs when the spring snowmelt season arrives.

However, if California is to reduce its 6-year precipitation deficit, frequent storms will be required throughout the remainder of the wet season, which ends in April. In California's north-central climatic division, which includes the snowmelt headwaters for most of the State's major reservoirs, only 37 percent of the precipitation normally falls between October 1 and December 31. More than half (55 percent) of the normal annual precipitation is expected between January 1 and April 30. Typically, only 8 percent of the annual total falls between May 1 and September 30.

Figure 1

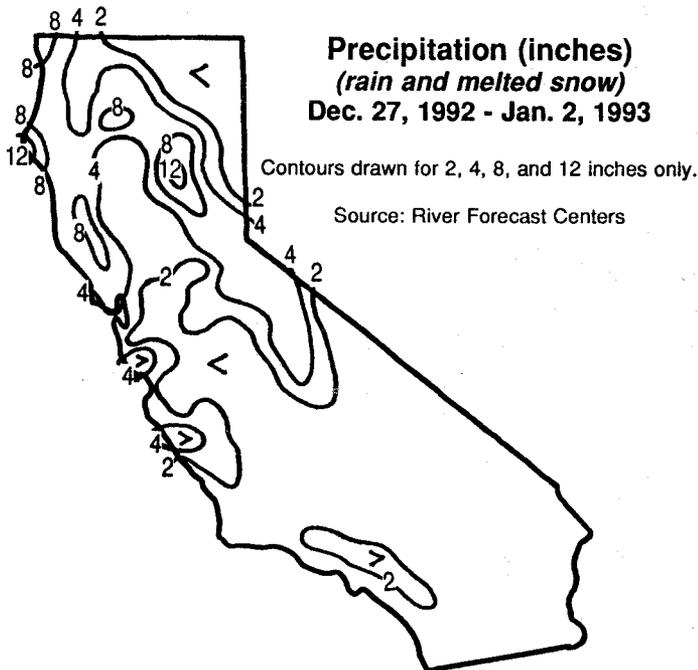
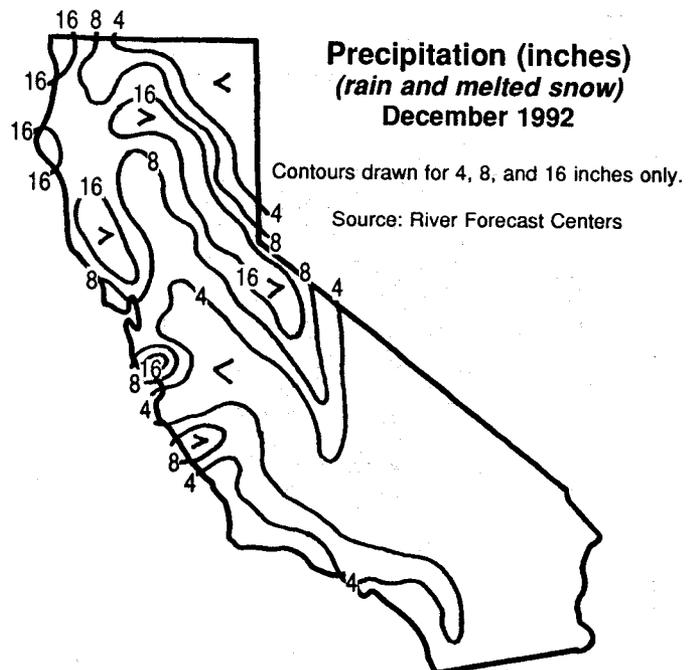


Figure 2



National Weather Data for Selected Cities

Weather Data for the Week Ending January 2, 1993

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT	NUMBER OF DAYS						
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 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	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	56	40	63	34	48	5	.2	-1.0	.1	5.3	99	.7	0	99	64	0	0	0	0	
MOBILE	65	48	70	42	56	5	.2	-1.2	.1	5.3	92	.0	0	98	70	0	0	0	0	
MONTGOMERY	58	43	66	40	50	3	.6	-.5	.6	7.7	153	.0	0	97	66	0	0	3	1	
AK ANCHORAGE	24	12	40	-6	18	6	.3	.1	.2	1.0	85	.3	433	93	66	0	7	3	0	
BARROW	14	-5	21	-14	5	19	.2	.2	.1	.3	173	.5	50	89	77	0	7	5	0	
FAIRBANKS	6	-13	20	-44	-4	9	.4	.3	.2	1.5	197	.3	700	85	71	0	7	3	0	
JUNEAU	22	8	34	-1	15	-9	.4	-.9	.7	5.7	118	.8	8	82	51	0	7	1	0	
KODIAK	39	26	43	13	33	3	.4	-.9	.4	4.8	82	.0	0	89	57	0	5	3	0	
NOME	23	11	31	1	17	13	.3	.1	.1	1.3	197	.0	0	97	83	0	7	4	0	
AZ PHOENIX	65	50	70	46	58	6	.9	.7	.8	3.1	350	.0	0	91	57	0	0	3	1	
PRESCOTT	52	32	60	24	42	4	.9	.6	.5	2.1	176	.1	71	92	51	0	4	4	1	
TUCSON	68	50	76	43	59	8	.7	.5	.7	3.5	351	.0	0	95	50	0	0	2	1	
YUMA	63	49	68	46	56	1	.7	.6	.4	2.9	840	.0	0	73	46	0	0	2	0	
AR PORT SMITH	55	38	74	27	47	8	.1	-.5	.0	5.5	187	.8	8	92	66	0	2	2	0	
LITTLE ROCK	51	37	64	27	44	4	.1	-.8	.1	4.5	101	.0	0	89	78	0	4	4	0	
CA BAKERSFIELD	56	39	66	30	47	0	.5	.3	.3	2.2	310	.4	600	95	53	0	1	4	0	
EUREKA	48	40	52	31	44	-4	4.2	2.7	1.1	9.7	144	.3	72	90	73	0	1	6	3	
FRESNO	54	38	60	32	46	2	1.4	1.0	.7	3.4	198	.7	569	93	56	0	1	4	1	
LOS ANGELES	60	48	64	45	54	-2	1.7	1.2	.7	4.6	256	.4	259	91	56	0	0	4	4	
REDDING	46	34	50	26	40	-6	2.0	.2	.8	10.6	140	.3	48	97	65	0	2	6	4	
SACRAMENTO	49	37	54	32	43	-1	3.0	2.2	1.5	5.5	175	.5	200	96	65	0	1	4	2	
SAN DIEGO	61	50	63	45	55	-1	1.0	.6	.4	2.7	185	.2	146	94	62	0	0	4	4	
SAN FRANCISCO	53	42	58	36	48	0	3.4	2.4	1.4	7.4	191	1.3	455	91	64	0	0	5	3	
CO DENVER	46	18	59	13	32	1	.1	-.1	.0	.4	121	.0	0	93	37	0	7	0	0	
GRAND JUNCTION	41	21	51	1	31	6	.1	-.1	.0	.4	57	.0	0	96	55	0	6	2	0	
PUEBLO	49	24	59	21	36	6	.6	-.1	.0	.5	150	.0	0	94	43	0	4	2	0	
CT BRIDGEPORT	43	29	54	15	36	5	1.1	.3	.6	4.3	109	.0	0	81	65	0	7	5	1	
HARTFORD	37	23	48	9	30	4	.7	-.2	.4	4.3	99	.0	0	89	58	0	5	4	4	
DC WASHINGTON	49	34	67	22	41	5	.5	-.5	.5	2.9	86	.0	0	86	65	0	4	4	1	
FL APALACHICOLA	--	--	--	--	--	--	.0	-.8	.0	1.6	42	.0	0	--	--	0	0	2	0	
DAYTONA BEACH	68	57	76	53	63	4	.3	-.3	.2	.5	20	.0	0	100	81	0	0	2	0	
JACKSONVILLE	63	50	79	43	57	2	.2	-.4	.2	.8	32	.2	112	100	77	0	0	2	1	
KEY WEST	79	71	81	68	75	5	.7	-.3	.7	1.1	6	.0	20	91	72	0	0	1	0	
MIAMI	80	69	82	65	75	7	3.1	2.6	1.5	3.6	180	1.6	>1000	98	66	0	0	6	2	
ORLANDO	72	58	80	53	65	5	.2	-.2	.1	1.0	47	.1	58	100	75	0	0	4	0	
TALLAHASSEE	66	50	76	45	58	6	.1	-.1	.4	1.4	28	.0	0	94	61	0	0	0	0	
TAMPA	76	58	82	51	67	7	.7	.5	.7	2.0	44	.0	0	97	64	0	0	0	0	
WEST PALM BEACH	79	68	81	63	73	7	3.1	2.6	1.6	2.6	152	1.8	>1000	97	70	0	0	5	2	
GA ATLANTA	56	41	65	33	49	6	.5	-.6	.4	6.4	141	.0	0	97	62	0	0	3	0	
AUGUSTA	59	43	75	35	51	6	.7	-.1	.4	2.2	65	.0	0	93	59	0	0	2	0	
MACON	59	44	75	36	51	4	.3	-.7	.2	3.2	73	.0	0	96	64	0	0	2	0	
SAVANNAH	60	46	75	39	53	4	.1	-.6	.0	1.5	51	.0	0	96	67	0	0	2	0	
HI HILO	77	66	81	63	71	0	4.6	2.2	2.3	17.8	134	.8	132	95	74	0	0	7	3	
HONOLULU	80	68	82	61	74	1	3.5	2.7	2.0	6.5	177	.0	0	92	61	0	0	3	3	
KAHULUI	82	64	86	59	73	1	2.0	1.2	.9	3.0	99	.5	208	95	63	0	0	3	3	
LIHUE	79	66	80	61	72	0	5.7	4.4	2.9	2.2	378	.0	0	91	62	0	0	4	3	
ID BOISE	40	28	49	16	34	4	.1	-.2	.1	.9	63	.0	0	92	56	0	6	4	0	
LEWISTON	34	25	48	12	30	-3	.5	.2	.2	.7	50	.3	344	91	67	0	6	5	0	
POCATELLO	37	19	44	7	28	4	.7	.5	.6	1.9	192	.1	143	87	53	0	7	3	1	
IL CHICAGO	39	24	51	8	32	9	1.5	1.0	.9	2.6	104	.1	69	91	71	0	4	3	1	
MOLINE	36	17	47	1	26	4	1.5	1.1	.9	4.1	201	.1	108	92	66	0	6	4	1	
PRORIA	39	20	59	4	30	6	1.1	.7	.5	3.2	150	.2	175	93	73	0	6	4	0	
QUINCY	39	20	61	5	29	4	.6	.2	.4	2.3	129	.4	389	88	72	0	6	4	0	
ROCKFORD	36	19	44	3	28	8	1.1	.7	.7	3.4	173	.1	73	93	71	0	5	3	1	
SPRINGFIELD	43	24	63	8	34	7	.6	.1	.3	2.5	110	.1	83	92	75	0	5	4	0	
IN EVANSVILLE	48	31	63	17	40	7	.8	.0	.4	1.7	46	.0	0	93	73	0	4	4	0	
FORT WAYNE	44	28	58	15	36	10	1.5	.9	.9	2.7	106	.1	60	91	77	0	4	4	1	
INDIANAPOLIS	45	28	60	16	37	9	1.0	.4	.6	2.0	63	.1	44	92	74	0	4	5	1	
SOUTH BEND	43	28	57	16	35	10	2.5	1.9	2.0	4.1	132	.1	44	93	77	0	4	5	1	
IA DES MOINES	29	14	45	0	22	1	.4	-.2	.2	2.0	185	.7	67	92	69	0	7	4	0	
SIOUX CITY	22	8	44	-5	15	-3	.3	-.3	.3	.8	104	.7	25	94	76	0	7	4	0	
WATERLOO	28	10	37	-7	19	2	.6	-.3	.3	1.6	136	.7	0	94	78	0	7	2	0	
KS CONCORDIA	30	16	46	3	23	-4	.1	-.1	.1	1.3	184	.7	0	95	76	0	7	1	0	
DODGE CITY	36	17	45	7	27	-4	.7	-.1	.7	.9	170	.0	0	96	70	0	7	0	0	
GOODLAND	35	12	49	2	23	-5	.7	-.1	.2	.2	38	.0	0	93	70	0	7	0	0	
TOPEKA	37	20	53	6	29	1	.4	-.1	.2	2.3	174	.3	450	95	79	0	6	4	0	
WICHITA	39	23	57	10	31	0	.2	.0	.1	1.3	132	.2	340	97	80	0	6	3	0	
KY BOWLING GREEN	51	31	64	15	41	6	.5	-.6	.3	3.0	62	.0	0	96	71	0	4	3	0	
LEXINGTON	48	33	65	20	41	7	.3	-.6	.1	1.8	45	.0	0	94	71	0	4	3	0	
LOUISVILLE	49	34	66	18	41	7	.4	-.4	.2	1.6	43	.0	0	93	73	0	4	3	0	
LA BATON ROUGE	65	53	70	46	59	8	.7	-.1	.7	4.7	89	.0	0	99	79	0	0	1	0	
LAKE CHARLES	67	52	75	44	60	8	.7	-.2	.7	3.8	71	.0	100	79	0	0	0	0	0	
NEW ORLEANS	65	53	72	48	59	6	.1	-.1	.1	5.7	102	.0	100	75	0	0	1	0		
SHREVEPORT	61	48	74	35	55	8	.5	-.4	.3	6.1	147	.3	107	95	74	0	0	3	0	

Based on 1951-80 normals.

Weather Data for the Week Ending January 2, 1993

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS								
	AVERAGE	MAXIMUM	MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE	MAXIMUM	MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP.	
																				.01 INCH OR MORE	.50 INCH OR MORE		
ME CARIBOU	16	4	27	-10	10	-2	.6	.0	.4	1.6	48	T	0	82	64	0	0	7	3	0	0		
PORTLAND	32	18	42	2	25	9	.7	1.1	.6	2.1	45	T	0	93	62	0	0	6	4	3	0		
MD BALTIMORE	52	34	72	18	43	9	.6	1.2	.6	4.6	129	T	0	91	66	0	0	4	4	2	1		
SALISBURY	52	34	66	18	43	9	.6	1.2	.6	4.6	139	T	0	96	68	0	0	4	3	2	0		
MA BOSTON	41	26	53	14	34	3	.8	1.2	.7	3.3	175	T	0	78	55	0	0	4	4	3	0		
CHATHAM	41	30	49	18	36	3	1.8	1.0	.7	7.0	133	T	0	83	65	0	0	4	3	3	2		
MI ALPENA	33	16	39	6	25	4	.4	.0	.3	1.3	61	T	17	94	68	0	0	7	7	4	0		
DETROIT	41	27	56	16	34	8	1.2	.7	1.0	2.4	91	T	36	88	69	0	0	5	5	3	1		
FLINT	40	24	55	13	32	8	1.4	1.0	1.0	2.1	99	T	45	90	67	0	0	5	5	3	1		
GRAND RAPIDS	39	24	49	11	32	7	2.2	1.7	1.1	3.5	128	T	140	92	62	0	0	6	6	4	2		
HOUGHTON LAKE	31	16	37	2	24	5	.7	.3	.5	2.0	101	T	27	93	74	0	0	6	6	4	1		
LANSING	41	23	55	13	32	10	1.4	.9	.9	2.2	87	T	54	93	67	0	0	5	5	5	1		
MARQUETTE	25	9	29	-6	17	3	.8	.3	.5	2.5	99	T	57	93	85	0	0	5	5	5	0		
MUSKOGON	37	21	46	5	29	4	1.4	.8	.8	2.8	103	T	76	97	67	0	0	5	5	6	1		
SAULT ST. MARIE	26	7	32	-2	17	1	.6	.0	.2	3.6	133	T	75	91	78	0	0	7	7	6	0		
MN ALEXANDRIA	10	-5	25	-20	3	-6	.5	.3	.2	1.1	135	T	333	86	71	0	0	7	7	4	4		
DULUTH	17	2	26	-18	10	1	.4	.1	.2	1.2	92	T	0	88	67	0	0	7	7	4	0		
INT'L FALLS	5	-11	21	-27	-3	-5	.6	.4	.3	1.7	180	T	50	86	70	0	0	7	7	4	0		
MINNEAPOLIS	20	4	37	-16	12	-2	.3	.2	.2	1.1	120	T	33	90	73	0	0	7	7	4	2		
ROCHESTER	21	4	33	-17	13	0	.2	.2	.2	1.3	140	T	0	93	78	0	0	7	7	4	0		
MS GREENWOOD	61	44	74	32	53	9	T	-1.2	T	5.6	97	T	0	96	61	0	0	1	1	1	0		
JACKSON	62	46	74	35	54	8	T	-1.2	T	4.3	76	T	0	99	67	0	0	0	0	1	1		
MERIDIAN	61	43	72	36	52	6	T	-1.1	T	5.9	98	T	0	97	67	0	0	0	0	1	1		
MO CAPE GIRARDEAU	46	31	60	17	39	-1	T	-1.0	T	2.8	46	T	8	97	80	0	0	4	4	4	0		
COLUMBIA	44	23	67	9	33	4	T	-1.0	T	2.8	134	T	150	95	69	0	0	6	6	6	0		
KANSAS CITY	37	20	53	6	29	-1	T	-1.2	T	4.1	266	T	344	94	70	0	0	7	7	5	5		
SAINT LOUIS	44	27	66	11	36	5	T	-1.1	T	3.7	161	T	33	90	70	0	0	5	5	4	0		
SPRINGFIELD	47	28	68	13	38	5	T	-1.3	T	4.3	161	T	8	93	72	0	0	5	5	4	0		
MT BILLINGS	8	-9	37	-19	-1	-24	.1	.1	.1	.5	64	T	17	74	51	0	0	7	7	4	0		
GLASGOW	-3	-20	19	-31	-11	-23	.1	.1	.1	.3	71	T	50	79	64	0	0	7	7	0	0		
GREAT FALLS	-5	-17	13	-24	-11	-33	.3	.1	.1	.4	52	T	217	78	62	0	0	7	7	6	0		
HAVRE	-7	-21	13	-29	-14	-29	T	.1	T	T	0	T	0	67	52	0	0	7	7	0	0		
HELENA	5	-12	33	-21	-4	-23	.2	.1	.1	.7	100	T	180	77	56	0	0	7	7	2	0		
KALISPELL	10	-3	31	-6	3	-18	1.4	1.0	.4	2.2	133	T	218	86	69	0	0	7	7	7	0		
MILES CITY	4	-12	29	-23	-4	-20	.1	.0	.1	.4	60	T	0	80	62	0	0	7	7	3	0		
MISSOULA	17	3	33	-1	10	-12	.8	.5	.3	1.1	82	T	322	86	65	0	0	7	6	6	0		
NE GRAND ISLAND	24	9	51	-2	16	-6	T	-1.1	T	.9	123	T	0	94	69	0	0	7	7	0	0		
LINCOLN	26	11	47	0	19	-3	.1	-1.1	.1	.9	129	T	50	95	71	0	0	7	7	2	0		
NORFOLK	22	7	45	-4	15	-5	.2	.0	.1	1.0	150	T	0	92	69	0	0	7	7	3	0		
NORTH PLATTE	27	8	57	-1	17	-6	T	-1.1	T	.3	79	T	0	94	63	0	0	7	7	0	0		
OMAHA	27	11	47	-3	19	-4	.2	.0	.1	1.0	129	T	0	85	67	0	0	7	7	3	0		
SCOTT'S BLUFF	28	10	46	-8	19	-6	T	-1.1	T	.7	127	T	0	91	68	0	0	7	7	0	0		
VALENTINE	24	2	51	-10	13	-7	T	-1.1	T	.1	32	T	0	87	55	0	0	7	7	0	0		
NV ELY	37	10	41	-5	24	-1	.9	.7	.4	1.2	153	T	560	85	49	0	0	7	5	0	0		
LAS VEGAS	54	36	58	29	45	1	.6	.5	.5	1.7	552	T	0	82	42	0	0	1	4	1	1		
RENO	40	17	53	5	29	-2	1.4	1.1	.6	2.1	165	T	300	96	40	0	0	7	4	2	0		
WINNEMUCCA	37	19	45	5	28	-1	.3	.1	.1	1.1	118	T	100	79	50	0	0	7	7	3	0		
NH CONCORD	31	16	40	-2	24	2	.8	.0	.3	2.2	62	T	0	94	62	0	0	7	4	0	0		
NJ ATLANTIC CITY	51	32	65	11	42	8	.5	-.3	.3	4.0	104	T	0	94	64	0	0	3	3	0	0		
NM ALBUQUERQUE	51	35	55	22	43	9	.1	.0	.1	1.2	223	T	0	90	53	0	0	2	2	0	0		
CLOVIS	57	34	69	24	45	8	.2	.1	.2	.4	71	T	667	86	43	0	0	3	1	0	0		
ROSWELL	59	38	75	25	48	9	.2	.1	.1	.7	174	T	600	86	48	0	0	2	2	0	0		
NY ALBANY	37	22	54	4	30	7	.7	.1	.4	3.0	96	T	0	89	61	0	0	5	4	0	0		
BINGHAMTON	37	23	55	6	30	7	1.1	.5	.5	3.0	98	T	6	94	70	0	0	5	5	1	1		
BUFFALO	40	26	55	9	33	7	1.4	.7	.8	3.8	106	T	0	86	58	0	0	5	3	1	0		
NEW YORK	45	32	62	19	39	6	.6	-1.1	.5	5.5	142	T	0	85	65	0	0	4	4	4	0		
ROCHESTER	39	24	56	2	31	6	.9	.3	.5	3.0	110	T	31	94	70	0	0	4	4	1	1		
SYRACUSE	41	23	59	-2	32	7	1.0	.4	.6	2.6	78	T	22	94	63	0	0	4	6	1	1		
NC ASHEVILLE	57	34	70	23	45	8	.5	-.2	.4	3.7	110	T	0	98	46	0	0	1	2	0	0		
CHARLOTTE	52	39	65	29	46	5	.7	-.2	.4	2.8	77	T	0	92	59	0	0	2	2	0	0		
GREENSBORO	51	35	66	23	43	5	.4	-.5	.3	2.5	69	T	0	94	55	0	0	3	2	0	0		
HATTERAS	61	49	74	40	55	9	3.5	2.4	3.2	5.7	120	T	0	94	65	0	0	0	2	1	1		
NEW BERN	59	44	70	34	51	7	1.1	.3	1.1	3.1	78	T	0	95	67	0	0	0	4	1	1		
RALEIGH	50	38	62	28	44	4	.4	-.3	.3	2.4	73	T	0	97	71	0	0	3	2	0	0		
WILMINGTON	58	44	73	35	51	5	1.8	1.0	1.1	4.5	122	T	0	94	63	0	0	0	2	2	0		
ND BISMARCK	1	-12	15	-23	-6	-15	.1	.0	.1	.5	92	T	0	77	63	0	0	7	2	0	0		
FARGO	4	-9	26	-18	-3	-10	.1	.0	.1	.6	89	T	50	82	68	0	0	7	4	0	0		
GRAND FORKS	1	-14	23	-21	-6	-11	.1	.0	.1	.7	107	T	0	83	68	0	0	7	2	0	0		
WILLISTON	-2	-18	23	-26	-10	-20	.3	.2	.1	.4	83	T	0	78	66	0	0	7	5	0	0		
OH AKRON-CANTON	44	29	57	14	37	10	1.1	.5	.7	2.3	80	T	12	90	67	0	0	5	4	1	1		
CINCINNATI	47	32	60	17	40	9	.4	-.3	.2	1.4	43	T	0	91	71	0	0	4	2	0	0		
CLEVELAND	45	30	59	16	37	10	3.1	2.5	2.6	4.3	148	T	0	85	61	0	0	5	3	1	1		
COLUMBUS	46	31	60	14	39	10	.5	-.1	.4	1.3	48	T	0	91	67	0	0	4	3	0	0		
DAYTON	45	30	59	15	38	9	.9	.3	.6	1.6	60	T	0	90	71	0	0	4	3	1	1		

Based on 1951-80 normals.

Weather Data for the Week Ending January 2, 1993

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT	NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1		PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.
													90 AND ABOVE				32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
TOLEDO	44	27	58	12	36	11	2.7	2.2	2.5	3.6	132	T	27	91	70	0	4	3	1
YOUNGSTOWN	42	28	57	12	35	9	2.0	1.4	1.6	3.6	122	T	28	90	70	0	4	4	1
OK OKLAHOMA CITY	52	33	71	16	42	5	2	1.1	1.2	3.2	265	T	250	97	75	0	5	2	0
TULSA	49	32	71	16	41	4	1	1.2	1.1	5.3	283	T	122	96	74	0	5	1	0
OR ASTORIA	41	33	44	30	37	-5	1.8	-1.8	1.1	6.0	49	T	7	94	73	0	4	4	0
BURNS	32	16	39	1	24	-2	3	0	0	1.4	83	T	200	90	61	0	7	2	0
MEDFORD	42	32	48	27	37	0	3	1.1	1.4	3.6	96	T	25	99	71	0	3	6	0
PENDLETON	31	21	50	16	26	-8	3	1.1	1.1	9	50	T	125	97	76	0	7	4	0
PORTLAND	39	32	50	28	36	-4	1.0	-1.5	1.3	5.0	73	T	9	94	68	0	4	6	0
SALEM	41	32	47	25	37	-3	1.2	-1.5	1.4	7.8	103	T	2	92	71	0	4	6	0
PA ALLENTOWN	43	29	59	10	36	7	1.4	-1.4	1.2	3.3	83	T	0	89	62	0	4	3	0
ERIE	44	30	60	13	37	10	1.6	1.0	1.4	3.4	98	T	6	84	60	0	4	4	1
HARRISBURG	41	31	64	20	36	6	T	-1.7	T	2.0	59	T	0	87	67	0	4	0	0
PHILADELPHIA	48	34	63	19	41	9	3	-1.5	2	4.6	127	T	0	87	61	0	3	3	0
PITTSBURGH	47	30	61	9	38	10	6	-1.1	2	2.8	103	T	5	90	63	0	4	4	0
SCRANTON	41	27	58	9	34	7	1.0	1.4	1.9	2.9	110	T	0	91	65	0	4	3	1
RI PROVIDENCE	42	26	51	12	34	4	1.2	1.2	1.5	6.9	145	T	0	89	57	0	4	3	1
SC CHARLESTON	60	46	76	38	53	5	3	-1.5	2	1.5	45	T	0	97	67	0	0	2	0
COLUMBIA	58	42	74	34	50	4	2.1	1.2	1.3	3.3	86	T	0	93	60	0	0	4	2
FLORENCE	57	43	73	34	50	4	2.4	1.7	1.7	3.8	116	T	0	92	60	0	0	4	2
GREENVILLE	56	38	68	31	47	6	1.9	0	0	5.1	117	T	0	93	52	0	1	3	1
SD ABERDEEN	7	-19	29	-18	-1	-11	1	0	1	2	38	T	0	82	67	0	7	1	0
HURON	12	-4	35	-14	4	-10	T	-1.1	T	3	60	T	0	84	67	0	7	0	0
RAPID CITY	16	-2	40	-13	7	-16	1	0	1	6	133	T	0	89	70	0	7	2	0
SIOUX FALLS	16	0	35	-16	8	-7	1	2	3	8	114	T	0	89	69	0	7	2	0
TN CHATTANOOGA	52	40	62	33	46	7	8	-1.4	7	5.6	101	T	0	95	71	0	0	3	1
KNOXVILLE	50	38	62	27	44	5	6	-1.5	5	6.7	136	T	0	96	72	0	1	2	0
MEMPHIS	54	39	68	27	46	6	1	-1.0	1	3.5	67	T	0	96	64	0	3	2	0
NASHVILLE	53	35	64	25	44	5	6	-1.5	5	2.9	58	T	0	91	65	0	4	3	1
TX ABILENE	60	42	75	25	51	7	1	-1.1	1	1.1	115	T	117	95	69	0	3	1	0
AMARILLO	55	29	71	15	42	6	2	-1	2	6	121	T	700	94	62	0	4	1	0
AUSTIN	63	48	80	32	56	6	3	-1	2	3.4	157	T	60	98	76	0	1	6	0
BEAUMONT	67	56	79	47	61	9	T	-1.0	T	6.5	125	T	0	98	79	0	0	6	0
BROWNSVILLE	74	59	82	47	66	6	1	-2	1	9	72	T	14	100	76	0	0	2	0
CORPUS CHRISTI	70	55	82	43	63	6	1	-2	1	1.1	81	T	89	98	74	0	0	2	0
DEL RIO	61	49	72	37	55	5	2	-1	2	4	74	T	0	83	71	0	0	2	0
EL PASO	60	45	71	31	53	9	4	-1.3	3	1.6	415	T	>1000	89	56	0	1	2	0
FORT WORTH	62	46	78	30	54	9	T	-1.4	T	4.3	233	T	9	94	72	0	2	2	0
GALVESTON	65	55	72	45	60	6	T	-1.8	T	3.8	100	T	0	100	85	0	0	2	0
HOUSTON	67	53	81	41	60	7	T	-1.8	T	3.5	86	T	0	98	71	0	0	2	0
LUBBOCK	59	37	73	25	48	9	8	-1.7	5	1.9	487	T	>1000	94	58	0	2	2	1
MIDLAND	61	38	75	27	50	6	1	0	1	6	133	T	0	98	60	0	3	1	0
SAN ANGELO	60	43	74	28	51	5	1	-1	1	8	121	T	125	95	75	0	3	2	0
SAN ANTONIO	65	51	81	37	58	7	4	-1	2	2.3	159	T	111	96	76	0	0	4	0
VICTORIA	69	52	81	39	60	7	1	-1.4	1	2.1	92	T	0	100	75	0	0	1	0
WACO	62	46	79	30	54	9	T	-1.4	T	3.3	166	T	0	98	77	0	2	2	0
WICHITA FALLS	61	39	77	24	50	7	T	-2	T	2.2	177	T	0	99	65	0	3	0	0
UT CEDAR CITY	41	22	45	5	31	2	7	-1.5	4	1.2	170	T	325	92	55	0	5	4	0
SALT LAKE CITY	41	20	49	12	31	2	5	-2	2	1.3	87	T	200	95	51	0	6	4	0
VT BURLINGTON	32	17	43	-1	25	6	3	-2	2	1.0	38	T	8	93	66	0	7	5	0
VA NORFOLK	54	41	69	30	48	6	7	-1	5	3.2	93	T	0	94	70	0	2	3	0
RICHMOND	52	34	73	19	43	6	8	-1	8	2.8	78	T	0	95	66	0	4	2	1
ROANOKE	53	32	72	16	42	6	6	0	5	2.6	85	T	0	86	51	0	4	2	1
WA QUILLAYUTE	36	27	40	19	32	-8	1.3	-2.5	9	9.8	53	T	0	96	77	0	4	4	1
SEATTLE-TACOMA	39	30	45	24	35	-5	3	-1.2	1	4.0	60	T	0	96	60	0	7	4	0
SPOKANE	22	15	29	12	18	-9	8	3	4	2.2	82	T	6	92	60	0	5	4	0
YAKIMA	27	14	31	-1	20	-9	8	5	2	2.3	168	T	0	93	79	0	7	6	0
WV BECKLEY	49	32	64	20	41	9	2	-1.5	1	3.9	118	T	0	97	76	0	7	5	0
CHARLESTON	53	34	70	13	43	9	2	-1.6	1	3.5	100	T	0	92	58	0	4	3	0
HUNTINGTON	50	33	66	13	42	7	2	-1.5	1	2.8	84	T	0	91	58	0	3	3	0
PARKERSBURG	49	33	63	11	41	8	3	-1.4	2	2.0	69	T	0	93	62	0	3	3	0
WI GREEN BAY	30	14	36	-1	22	6	4	-2	3	2.3	157	T	67	96	74	0	7	4	0
LACROSSE	26	10	37	-9	18	1	3	-1	3	1.6	139	T	0	91	69	0	7	1	0
MADISON	33	16	38	1	25	7	7	-1.4	4	2.5	156	T	100	90	69	0	5	3	0
MILWAUKEE	36	21	45	6	29	7	1.1	-1.7	6	2.5	118	T	58	90	65	0	5	3	0
WAUSAU	29	9	41	-7	19	6	6	-1.3	3	1.9	141	T	129	95	76	0	7	4	0
WY CASPER	42	15	48	-8	28	5	3	-2	2	1.1	206	T	633	77	48	0	6	3	0
CHEYENNE	44	19	52	15	32	4	0	-1	0	5	126	T	0	78	28	0	7	0	0
LANDER	33	11	41	2	22	2	2	-1	2	1.0	187	T	633	86	43	0	7	1	0
SHERIDAN	11	-5	30	-13	3	-18	T	-2	T	1.3	162	T	0	85	61	0	7	1	0

Based on 1951-80 normals.

HEATING DEGREE DAYS (Base 65° F) December 27, 1992 - January 2, 1993

(Cumulative totals and departures from normal are for the period July 1, 1992 - January 2, 1993)

STATES AND STATIONS	WEEKLY		CUMULATIVE			STATES AND STATIONS	WEEKLY		CUMULATIVE			STATES AND STATIONS	WEEKLY		CUMULATIVE		
	TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP fm 91-92		TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP fm 91-92		TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP fm 91-92
AL BIRMINGHAM	117	-33	1143	-33	57	ME SHREVEPORT	76	-53	943	31	39	DAYTON	191	-66	2252	50	93
MOBILE	59	-39	609	-69	-138	ME CARIBOU	382	7	3789	-91	15	TOLEDO	203	-80	2442	-103	104
MONTGOMERY	100	-26	875	-53	-51	PORTLAND	279	-19	2856	-35	153	YOUNGSTOWN	207	-68	2573	56	217
AK ANCHORAGE	328	-43	4928	3	380	MD BALTIMORE	152	-67	1768	-31	21	OK OKLAHOMA CITY	161	-36	1529	49	63
BARROW	419	-134	8738	-68	-224	SALISBURY	150	-52	1672	9	113	TULSA	169	-31	1608	131	210
FAIRBANKS	478	-71	6679	106	374	MA BOSTON	219	-22	2208	158	262	OR ASTORIA	195	31	2242	88	192
JUNEAU	348	57	3889	-151	201	CHATHAM	202	-27	2110	8	230	BURNS	284	11	3477	541	618
KODIAK	223	-19	3947	11	229	MI ALPENA	280	-38	3352	123	216	MEDFORD	193	-6	1735	-263	73
NOME	333	-95	6613	403	946	DETROIT	218	-61	2464	-62	114	PRNDLETON	273	53	2327	115	247
AZ FLAGSTAFF	214	-45	2892	-25	278	FLINT	228	-65	2708	20	57	PORTLAND	203	22	1780	-133	214
PHOENIX	50	-41	477	-89	89	GRAND RAPIDS	233	-56	2745	93	72	SALEM	196	16	1833	-195	137
PRESCOTT	159	-44	1796	-126	65	HOUGHTON LAKE	286	-35	3272	38	156	PA ALLENTOWN	203	-54	2291	45	236
TUCSON	42	-56	683	19	88	LANSING	227	-65	2844	164	101	ERIE	194	-76	2248	-239	101
WINSLOW	195	-43	2332	318	214	MARQUETTE	334	-24	4079	287	172	HARRISBURG	201	-42	2107	44	178
YUMA	61	-9	397	1	143	MUSKEGON	247	-34	2713	103	121	PHILADELPHIA	167	-62	1729	-134	99
AR FORT SMITH	128	-58	1368	-36	38	SAULT ST MARIE	336	-11	3801	190	308	PITTSBURGH	185	-73	2285	-39	155
LITTLE ROCK	142	-28	1286	5	80	MN ALEXANDRIA	435	37	3798	171	108	SCRANTON	214	-56	2389	-72	82
CA BAKERSFIELD	123	-3	876	1	-12	DULUTH	386	-8	4153	183	08	RI PROVIDENCE	218	-33	2195	-5	261
EUREKA	146	20	1723	-341	-91	INT'L FALLS	472	33	4489	161	177	SC CHARLESTON	81	-42	726	-117	19
FRESNO	134	-13	974	-123	34	MINNEAPOLIS	368	9	3286	134	-125	COLUMBIA	105	-35	1079	10	72
LOS ANGELES	73	10	366	-158	66	ROCHESTER	365	2	3516	251	-30	FLORENCE	104	-36	968	-45	47
REDDING	156	16	1041	-11	85	SAINT CLOUD	413	26	3761	181	26	GREENVILLE	124	-41	1450	140	217
SACRAMENTO	151	4	1034	-55	88	MS GREENWOOD	85	-62	996	-123	01	SD ABERDEEN	456	78	3665	244	334
SAN DIEGO	70	7	345	-71	75	JACKSON	75	-56	899	-66	-18	HURON	422	63	3430	201	273
SAN FRANCISCO	118	-1	881	-378	-54	MERIDIAN	89	-44	890	-133	-39	RAPID CITY	404	107	3242	328	399
STOCKTON	150	3	997	-77	29	MO CAPE GIRARDEAU	183	-41	1774	16	133	SIoux FALLS	398	46	3305	162	99
CO DENVER	230	-12	2636	224	127	COLUMBIA	221	-30	2142	107	94	TN CHATTANOOGA	132	-48	1413	-52	69
GRAND JCT.	235	-44	2419	48	-14	KANSAS CITY	253	-8	2199	141	42	KNOXVILLE	147	-35	1560	66	99
PUEBLO	202	-41	2646	399	186	SAINT LOUIS	205	-37	1854	-82	77	MEMPHIS	129	-42	1238	-46	53
CT BRIDGEPORT	202	-36	2008	66	172	SPRINGFIELD	191	-34	1852	11	64	NASHVILLE	146	-41	1457	-48	47
HARTFORD	243	-30	2494	100	290	MT BILLINGS	455	161	3116	216	377	TX ABILENE	99	-47	1022	-54	-167
DE WILMINGTON	165	-63	1828	-53	132	GLASGOW	530	154	3718	122	370	AMARILLO	161	-41	1965	248	77
DC WASHINGTON	165	-38	1644	77	199	GREAT FALLS	527	220	3527	395	629	AUSTIN	82	-30	645	-51	-27
FL APALACHICOLA	34	-50	367	-155	-161	HAVRE	549	189	3795	244	518	BEAUMONT	34	-54	546	-32	-38
DAYTONA BEACH	21	-35	205	-103	-22	HELENA	476	159	3620	195	310	BROWNSVILLE	23	-19	193	-24	-67
FORT MYERS	0	-28	52	-88	-15	KALISPELL	429	119	3737	122	350	CORPUS CHRISTI	37	-25	316	-49	-45
JACKSONVILLE	59	-26	454	-92	-59	MILES CITY	477	138	3267	57	303	DEL RIO	68	-30	569	-77	-32
KEY WEST	0	-7	3	-22	03	MISSOULA	382	81	3523	154	388	EL PASO	85	-69	1174	-13	45
MIAMI	0	-14	13	-37	05	NE GRAND ISLAND	339	40	2843	235	263	FORT WORTH	90	-44	909	5	-63
ORLANDO	18	-24	150	-68	-11	LINCOLN	322	19	2661	140	159	GALVESTON	34	-40	390	-49	-51
TALLAHASSEE	46	-52	516	-142	-136	NORFOLK	350	30	2906	94	95	HOUSTON	44	-47	571	-41	-58
TAMPA	9	-40	145	-107	-48	NORTH PLATTE	334	37	3031	201	350	LUBBOCK	116	-63	1415	-31	-123
W. PALM BEACH	0	-14	36	-34	02	OMAHA	322	23	2636	197	24	MIDLAND-ODESSA	103	-43	1126	7	-172
GA ATLANTA	112	-47	1176	-38	118	SCOTTSDALE	324	44	3155	403	450	SAN ANGELO	97	-36	926	-40	-152
AUGUSTA	96	-44	993	-53	07	VALENTINE	363	50	3230	276	267	SAN ANTONIO	66	-32	592	-54	-35
MACON	94	-32	961	35	66	NV ELY	288	1	3149	3	187	VICTORIA	48	-29	444	-39	-30
SAVANNAH	79	-33	664	-110	16	LAS VEGAS	138	-9	1069	10	104	WACO	87	-40	829	0	-13
ID BOISE	216	-30	2594	177	232	RENO	252	14	2218	-323	233	WICHITA FALLS	111	-55	1183	-36	-49
LEWISTON	244	17	2298	-7	195	WINNEMUCA	259	7	2741	37	319	UT BLANDING	200	-66	2401	-93	163
POCATELLO	257	-30	3126	195	200	NH CONCORD	289	-20	3057	111	288	CEDAR CITY	235	-17	2510	93	143
IL CHICAGO	232	-60	2636	187	97	NJ ATLANTIC CITY	162	-62	1964	88	160	SALT LAKE CITY	239	-20	2507	124	203
MOLINE	269	-34	2658	144	104	NM ALBUQUERQUE	150	-67	1910	53	148	VT BURLINGTON	280	-46	2976	-89	74
PEORIA	246	-45	2434	10	09	CLOVIS	137	-57	1747	70	-107	VA LYNCHBURG	146	-57	1670	-46	101
QUINCY	249	-28	2399	157	103	ROSWELL	115	-53	1407	32	-113	NORFOLK	122	-46	1207	-56	75
ROCKFORD	258	-56	2857	150	126	NY ALBANY	245	-52	2733	62	197	RICHMOND	151	-43	1543	-19	176
SPRINGFIELD	218	-52	2133	-50	-54	BINGHAMTON	243	-53	3036	213	459	ROANOKE	156	-47	1781	47	224
IN EVANSVILLE	176	-53	1770	-102	-27	BUFFALO	223	-55	2593	54	171	WA COLVILLE	333	53	3272	166	411
FORT WAYNE	204	-75	2421	-12	74	NEW YORK	181	-43	1792	17	259	QUILLAYUTE	232	53	2475	-52	212
INDIANAPOLIS	195	-66	2166	-37	103	ROCHESTER	232	-45	2743	232	232	SEATTLE-TACOMA	210	31	1958	-174	239
SOUTH BEND	207	-72	2482	55	65	SYRACUSE	231	-53	2681	135	223	SPOKANE	326	56	3087	162	417
IA DES MOINES	301	-9	2685	148	06	NC ASHEVILLE	135	-59	1749	-4	134	YAKIMA	312	57	2780	172	443
DUBUQUE	310	-21	3160	274	177	CAPE HATTERAS	68	-63	744	-156	32	WV BECKLEY	168	-69	---	---	---
SIoux CITY	348	21	2936	189	29	CHARLOTTE	133	-35	1274	-73	165	CHARLESTON	152	-64	1835	-42	144
WATERLOO	320	-21	3023	50	-16	GREENSBORO	148	-41	1612	61	234	HUNTINGTON	162	-54	1816	-54	92
KS CONCORDIA	292	24	2471	274	241	NEW BERN	93	-58	957	-147	32	PARKERSBURG	168	-59	1974	32	56
DODGE CITY	268	27	2488	479	361	RALEIGH-DURHAM	145	-30	1386	-23	132	WI GREEN BAY	299	-43	3245	88	96
GOODLAND	290	29	2861	394	452	WILMINGTON	93	-40	909	-39	13	LA CROSSE	329	-12	3073	123	-89
TOPEKA	253	-9	2193	76	127	ND BISMARCK	489	102	3921	264	381	MADISON	279	-52	3020	11	40
WICHITA	237	-1	1996	99	83	FARGO	467	61	3946	230	234	MILWAUKEE	253	-58	2731	-30	136
KY BOWLING GREEN	166	-42	1724	-2	106	GRAND FORKS	492	72	4138	178	226	WAUSAU	320	-42	3572	186	17
LEXINGTON	169	-54	1874	-15	97	WILLISTON	520	130	4084	320	514	WY CASPER	254	-39	3032	-70	08
LOUISVILLE	164	-53	1662	-113	69	OH AKRON-CANTON	196	-72	2479	95	171	CHEYENNE	230	-34	3062	133	150
LA BATON ROUGE	40	-58	593	-80	-61	CLEVELAND	191	-72	2332	8	168	LANDER	297	-15	3366	89	23
LAKE CHARLES	37	-57	561	-65	-70	COLUMBUS	184	-70	2143	-75	82	SHERIDAN	428	120	3491	280	389
NEW ORLEANS	39	-52	476	-103	-149	CINCINNATI	176	-66	2083	29	141						

Based on 1951-80 normals.

December Weather and Crop Summary

Weather

December 1992 will be remembered for its cold in the West, its mountain snows in California, and a ferocious storm in the Northeast. But in a year during which many weather events seemed to arrive late, such as growing-season rains in July in the Midwest, and wet-season precipitation in December in California, farmers will remember this month for the near-completion of an unusually late harvest.

Early-month weather developments included the cessation of rains in the Corn Belt, allowing harvest to proceed, and the arrival of precipitation in California after an ominously dry November. The first storm reached California on December 6, beginning a 6-day spate of much-needed rain and snow. Meanwhile, another storm traversed the southern Plains and southern Rockies. These areas, which had just recovered from a Thanksgiving-week snowstorm, were hit again.

By December 10, a unique combination of jet streams' energy produced one of the most powerful east coast storms this century. The southern stream, which carried a remnant of the December 6 west coast storm, supplied ample moisture. And the northern stream triggered rapid development of the storm by infusing a dose of cold air. By December 11, a 985-millibar low pressure center hovered over southern Delaware, creating howling northeasterly winds between it and a high pressure center over southeastern Canada. Winds gusted to 90 mph along the New Jersey coast, and epic snows wrapped back into the Appalachians. A narrow band of 3-foot snowfalls was reported from eastern West Virginia to western Massachusetts.

After mid-month, the last in the series of the west coast storms drifted eastward, spreading heavy rain from Texas to Ontario, and into the Southeast. Cold air continued to flow southward through the Rockies and High Plains behind each storm. A frigid pool of air began to build over Alaska, with core temperatures reaching -50°F in Umiat.

Modified pieces of that airmass began to arrive in the contiguous States around December 20, with a couple of sub-freezing mornings (lows to 18°F) in southern California's deserts. True arctic air spilled into the northern Plains on December 24, with sub-zero cold noted as far south as northern Illinois. Temperatures dropped below -30°F in northern Minnesota on December 26. Elsewhere, Hawaii's western islands were inundated by heavy rain toward month's end. In Lihue, HI, nearly 15 inches of rain fell after December 20.

At month's end, renewed storminess crashed ashore in the West (see related articles on pages 1 and 4), while bitterly cold air remained entrenched over the northern Plains. In Klamath Falls, OR, the 2 stormy weeks fueled a snowfall record (for any month) of 39.2 inches. The normal December total for Klamath Falls is 8.5 inches, and the total for the entire 1991-92 wet season was 7.8 inches. The year 1992 ended on a frigid note in some parts of the country--Glasgow, MT, reported -31°F--and on a balmy note in other areas. On December 31, Baltimore, MD, reached 72°F.

Crop Progress

The beginning of the month saw corn and sorghum harvests advance despite high moisture content in the crops and muddy fields. Soybean and cotton harvests, as well as winter wheat plantings, advanced where conditions allowed. Corn harvest the first half of December advanced slowly as rain, snow, and mild temperatures combined to keep fields muddy and grain moisture content high. Cold and drier conditions the second half, which froze fields and permitted grain to dry down, allowed harvest to gain some momentum. However, by the end of the month, significant acreage was still to be harvested, especially in the Upper Great Lakes region.

Sorghum harvest was also slowed the first half of December by wet conditions. A major snowstorm during the middle of the month brought sorghum harvest to a halt in Kansas, and severely hindered harvest in Nebraska and Missouri. Cold and drier conditions the end of the month allowed harvest to gain momentum. At the end of the period, some sorghum acreage remained to be harvested in Kansas and Nebraska.

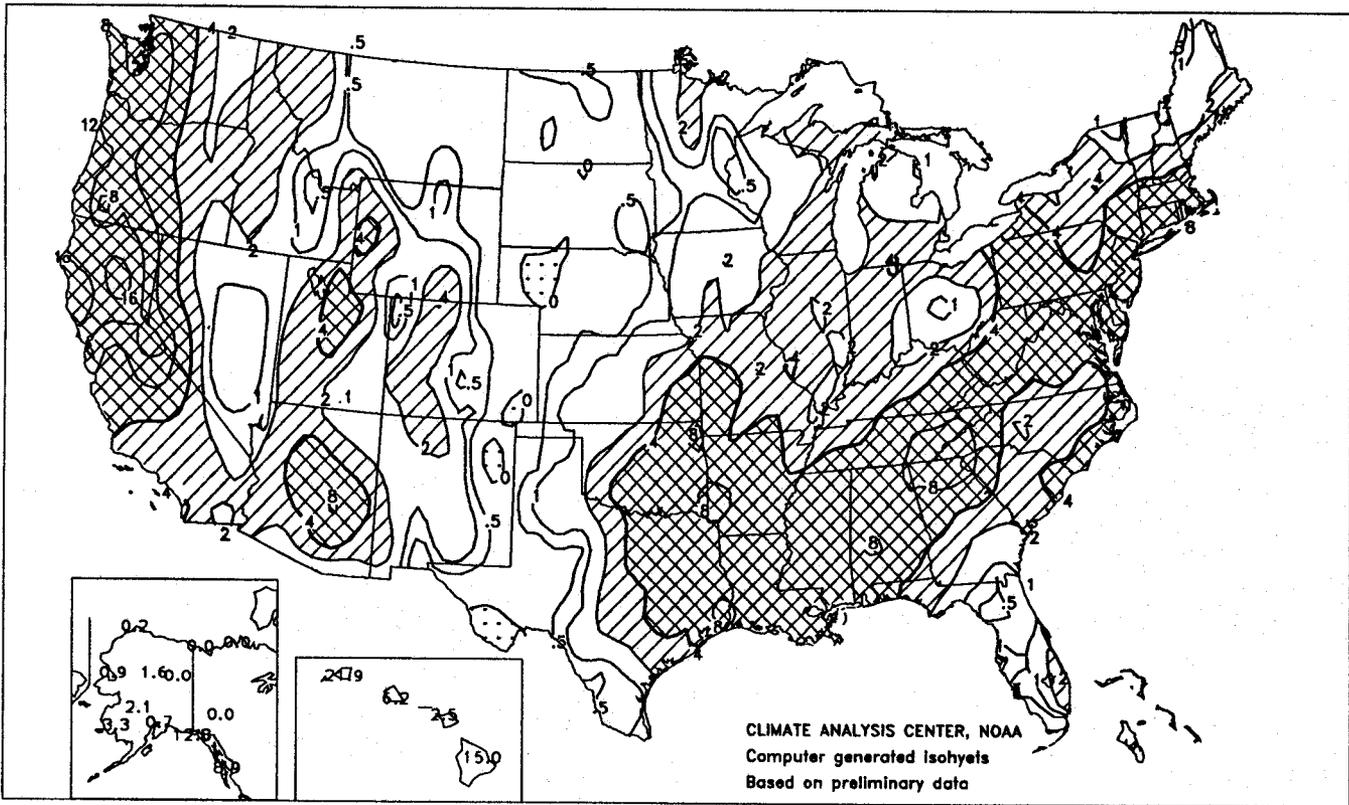
The beginning of the month saw considerable acreage of soybeans still to be harvested in the Southeast. Damp weather the first half of the month delayed the completion of the harvest. Drier weather the last part of the month allowed the harvest to reach its conclusion.

Cotton harvest neared completion in the South and advanced in Texas the first half of the month. Wet weather the middle of the month delayed the Texas harvest, and prevented completion of the harvest in the South. By the end of the month, drier conditions were needed to finish the harvests in Texas and the South.

The winter wheat crop was in fair to good condition the beginning of the month. Snow during the middle of the month generally provided good cover to the crop in central and western Kansas, Idaho, Wyoming, North Dakota, and Washington. By the end of the month, the crop was in generally good condition.

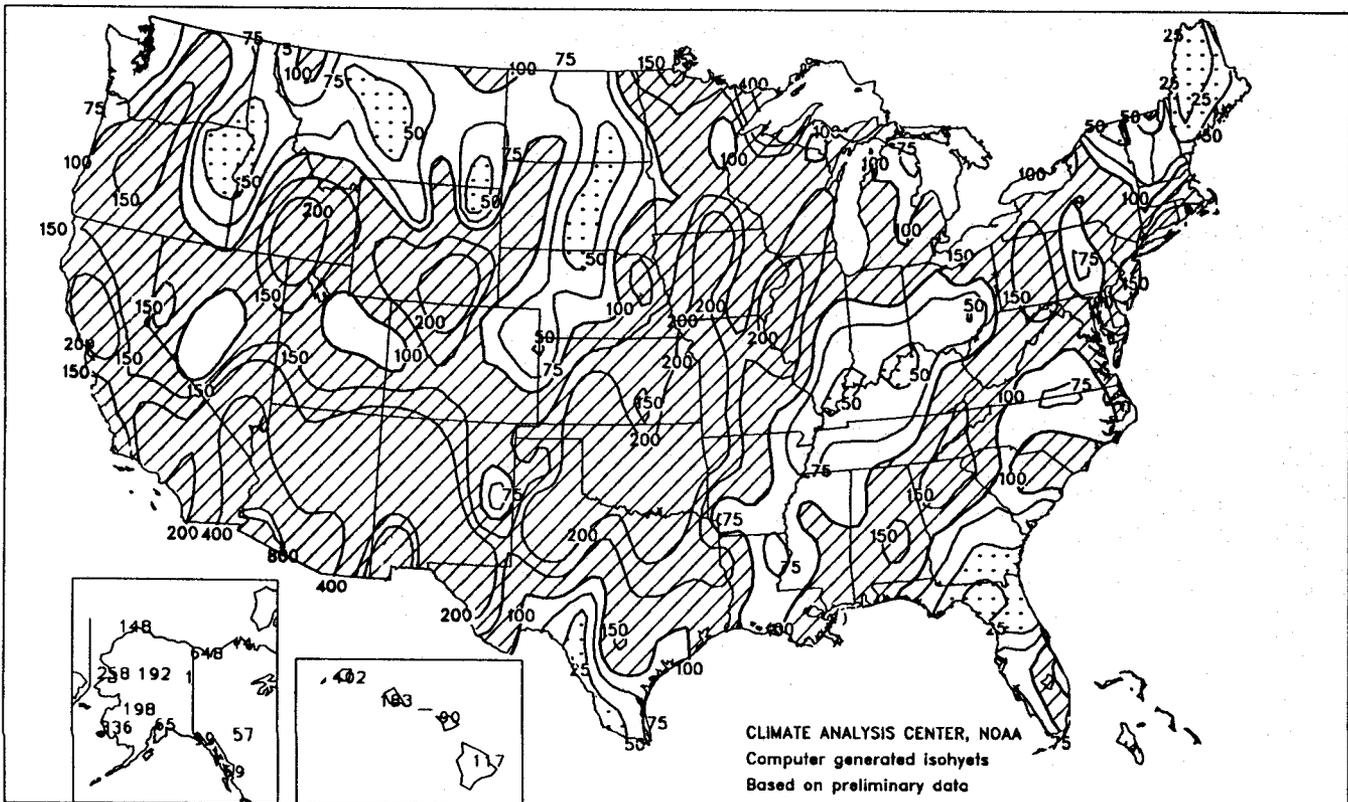
TOTAL PRECIPITATION (inches)

DEC 1992



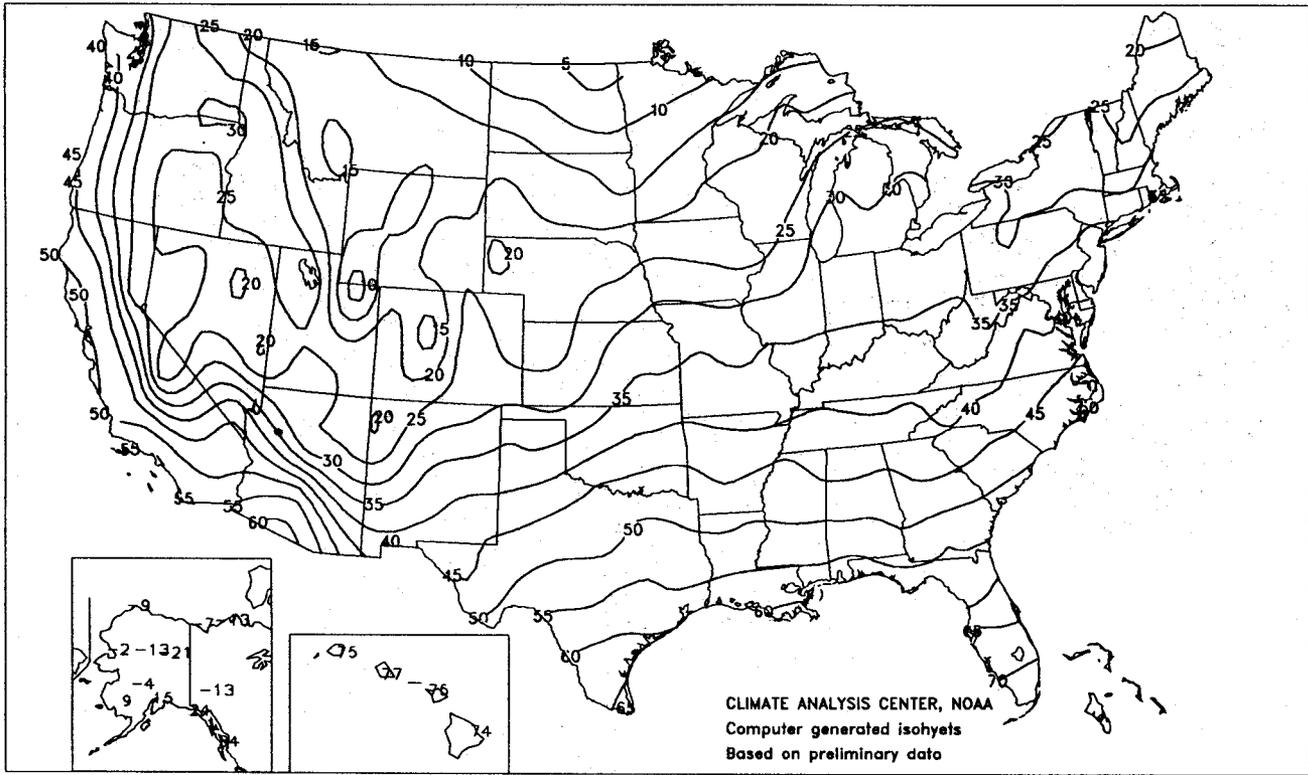
PERCENT OF NORMAL PRECIPITATION

DEC 1992



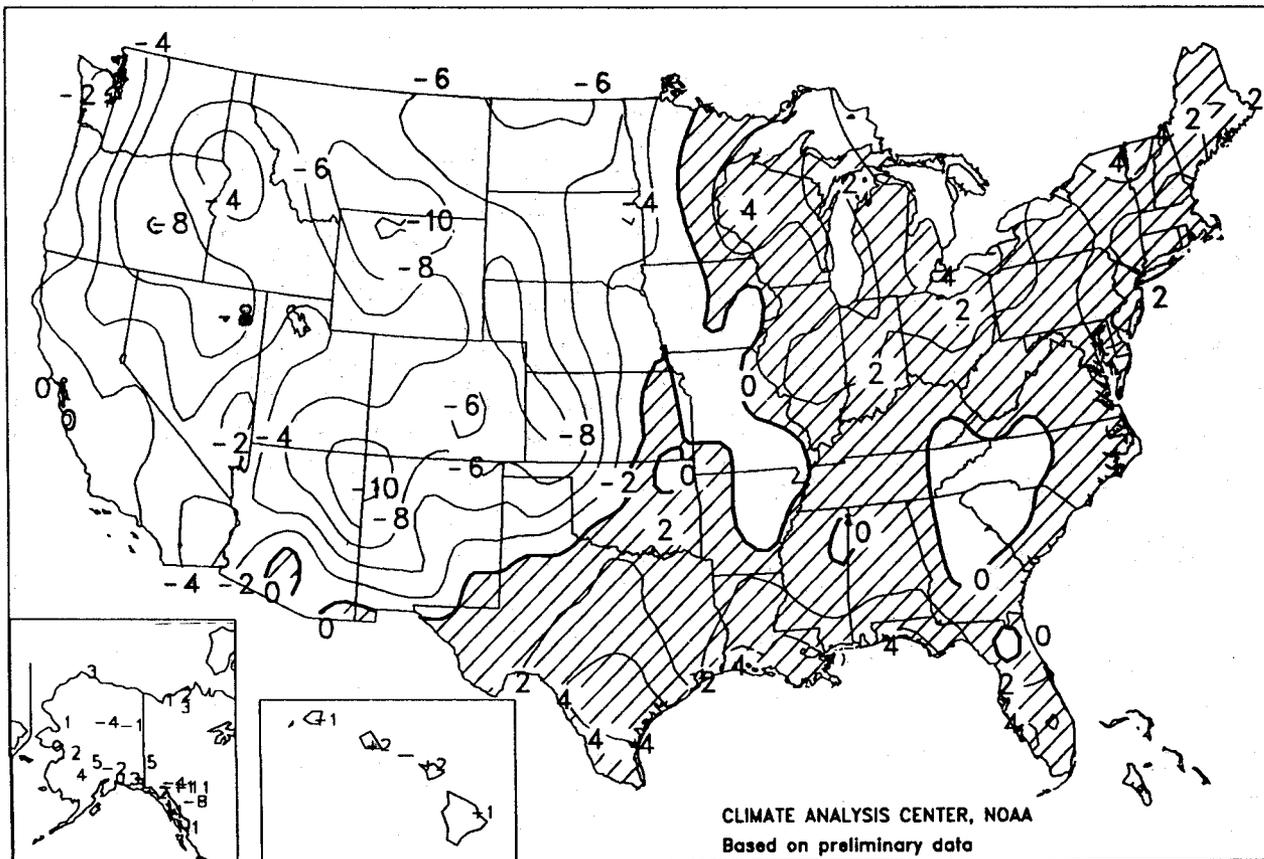
AVERAGE TEMPERATURE(°F)

DEC 1992



Departure of Average Temperature from Normal(°F)

DEC 1992



TEMPERATURE AND PRECIPITATION SUMMARY December 1992

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	46	0	5.3	0.3	LA BATON ROUGE	56	3	4.7	-0.3	OK YOUNGSTOWN	32	3	3.5	0.8
AL HUNTSVILLE	43	0	6.0	0.6	LA LAKE CHARLES	57	3	3.8	-1.2	OK OKLAHOMA CITY	40	0	3.1	-1.9
AL MOBILE	56	3	5.3	-0.1	LA NEW ORLEANS	58	3	5.7	0.4	OK TULSA	39	-1	5.2	3.4
AL MONTGOMERY	49	1	7.7	3.0	ME SHREVEPORT	49	1	5.8	2.0	OR ASTORIA	41	-2	6.0	-5.6
AK ANCHORAGE	15	1	0.7	-0.4	ME CARIBOU	19	3	1.6	-1.6	OR BURNS	20	-7	1.2	-0.4
AK BARROW	-9	4	0.2	0.1	ME PORTLAND	29	3	2.1	-2.4	ME MEDFORD	38	-4	3.5	0.0
AK FAIRBANKS	-8	2	1.2	0.5	MD BALTIMORE	39	2	4.6	1.2	ME FENDLETON	32	-4	0.7	-0.9
AK JUNEAU	26	-1	5.7	1.1	MA SALISBURY	40	1	5.5	1.8	ME PORTLAND	39	-1	5.0	-1.4
AK KODIAK	30	0	4.8	-0.7	MA BOSTON	35	1	8.3	3.8	ME SALEM	39	-1	7.8	0.8
AK NOME	4	-1	1.3	0.7	MA CHATHAM	37	2	7.2	2.2	PA ALLENTOWN	34	2	3.3	-0.4
AZ FLAGSTAFF	26	-4	6.8	4.5	MI ALPENA	28	4	1.2	-0.7	PA ERIE	35	4	3.3	0.1
AZ PHOENIX	54	1	3.1	2.3	MI DETROIT	33	4	2.4	-0.2	PA HARRISBURG	35	2	2.4	-0.8
AZ PRESCOTT	36	-3	2.0	0.9	MI FLINT	31	4	2.0	0.0	PA PHILADELPHIA	39	3	4.6	1.2
AZ TUCSON	51	-1	3.5	2.6	MI GRAND RAPIDS	31	3	3.3	0.7	PA PITTSBURGH	34	2	2.8	0.3
AZ WINSLOW	25	-5	1.7	0.7	MI HOUGHTON LAKE	26	3	2.0	0.1	PA SCRANTON	33	3	2.9	0.4
AZ YUMA	55	-1	2.9	2.6	MI LANSING	31	4	2.2	-0.3	RI WILLIAMSPORT	33	2	2.4	-0.9
AR FORT SMITH	42	1	5.5	2.6	MI MARQUETTE	20	2	2.5	0.0	RI PROVIDENCE	34	2	6.9	2.4
AR LITTLE ROCK	43	0	4.5	0.3	MI MUSKEGON	31	2	2.7	0.1	SC CHARLESTON	51	1	1.5	-1.6
CA BAKERSFIELD	47	-2	1.8	1.2	MI SAULT ST. MARIE	24	4	3.4	0.9	SC COLUMBIA	46	-1	3.3	-0.2
CA BISHOP	34	-5	1.7	0.7	MN ALEXANDRIA	14	0	0.9	0.1	SC FLORENCE	47	0	3.8	0.8
CA EUREKA	47	-1	9.3	3.1	MN DULUTH	16	2	1.2	0.0	SC GREENVILLE	42	-2	5.1	1.0
CA FRESNO	45	0	2.7	1.1	MN INT'L FALLS	9	0	1.7	0.8	SD ABERDEEN	15	-2	0.2	-0.2
CA LOS ANGELES	56	-1	4.2	2.6	MN MINNEAPOLIS	21	2	1.0	0.2	SD HURON	18	-2	0.3	-0.2
CA REDDING	43	-4	10.4	3.3	MN ROCHESTER	20	2	1.3	0.4	SD RAPID CITY	19	-7	0.6	0.1
CA SACRAMENTO	44	-1	5.5	2.6	MN ST. CLOUD	17	2	0.9	0.0	SD SIOUX FALLS	19	-1	0.8	0.1
CA SAN DIEGO	55	-2	2.6	1.2	MS GREENWOOD	48	2	5.6	0.2	TN BRISTOL	38	0	5.1	1.6
CA SAN FRANCISCO	50	0	6.0	2.5	MS JACKSON	50	2	4.3	-1.0	TN CHATTANOOGA	42	1	5.6	0.4
CA STOCKTON	--	--	--	--	MS MERIDIAN	50	2	5.9	0.3	TN KNOXVILLE	40	-1	6.7	2.1
CO ALAMOSA	7	-11	0.8	0.4	MS TUPELO	45	1	4.1	-1.5	TN MEMPHIS	44	0	3.5	-1.4
CO CO. SPRINGS	29	-2	0.1	-0.2	MO CAPE GIRARDEAU	38	--	1.8	-1.9	TN NASHVILLE	41	0	2.9	-1.7
CO DENVER	25	-7	0.7	0.2	MO COLUMBIA	34	0	2.6	0.6	TX ABILENE	48	1	1.0	0.2
CO GRAND JUNCTION	25	-4	0.4	-0.2	MO KANSAS CITY	33	-1	3.8	2.3	TX AMARILLO	34	-4	0.4	0.0
CO PUEBLO	28	-4	0.4	0.2	MO SAINT LOUIS	36	1	3.7	1.5	TX AUSTIN	55	3	3.3	1.2
CT BRIDGEPORT	36	2	4.3	0.6	MO SPRINGFIELD	36	0	4.2	1.7	TX BEAUMONT	57	3	6.4	1.6
CT HARTFORD	31	2	4.3	0.2	MT BILLINGS	20	-8	0.5	-0.3	TX BROWNSVILLE	65	2	0.8	-0.3
DC WASHINGTON	40	1	2.9	-0.3	MT GLASGOW	13	-4	0.2	-0.1	TX CORPUS CHRISTI	62	3	1.0	-0.2
FL APALACHICOLA	58	3	1.6	-1.9	MT GREAT FALLS	19	-8	0.3	-0.5	TX DEL RIO	56	3	0.4	-0.1
FL DAYTONA BEACH	61	2	0.5	-1.7	MT HAVRE	14	-6	0.0	-0.5	TX EL PASO	45	0	1.4	1.0
FL FT. MYERS	--	--	--	--	MT HELENA	15	-9	0.6	0.0	TX FORT WORTH	50	2	4.3	2.6
FL JACKSONVILLE	56	1	0.6	-1.8	MT KALISPELL	18	-6	2.0	0.4	TX GALVESTON	59	2	3.8	0.2
FL KEY WEST	73	2	0.1	-1.6	MT MILES CITY	17	-4	0.4	-0.2	TX HOUSTON	57	2	3.5	-0.3
FL MIAMI	72	3	1.9	0.1	MT MISSOULA	20	-6	0.8	-0.4	TX LAREDO	59	1	1.4	0.5
FL ORLANDO	64	2	0.9	-1.0	NE GRAND ISLAND	25	-2	0.8	0.2	TX LUBBOCK	42	0	1.4	0.9
FL TALLAHASSEE	56	2	1.4	-3.2	NE LINCOLN	26	0	0.9	0.2	TX MIDLAND	47	1	0.6	0.2
FL TAMPA	64	3	1.0	-1.1	NE NORFOLK	24	0	1.0	0.3	TX SAN ANGELO	50	2	0.8	0.1
FL WEST PALM BEACH	69	2	1.8	-0.4	NE NORTH PLATTE	22	-4	0.3	-0.1	TX SAN ANTONIO	56	3	2.2	0.8
GA ATHENS	44	-1	5.7	1.6	NE OMAHA	28	0	1.0	0.3	TX VICTORIA	59	3	2.1	0.0
GA ATLANTA	44	0	6.4	2.2	NE SCOTTSBLUFF	19	-9	0.7	0.2	TX WACO	51	2	3.3	1.4
GA AUGUSTA	47	-1	2.2	-0.9	NV VALENTINE	21	-4	0.1	-0.2	TX WICHITA FALLS	45	1	2.2	1.0
GA MACON	47	-1	3.2	-0.8	NV ELKO	17	-9	1.9	0.9	UT BLANDING	--	--	2.3	1.0
GA SAVANNAH	52	1	1.5	-1.2	NV ELY	24	-2	0.9	0.2	UT CEDAR CITY	26	-5	1.0	0.4
HI HILO	74	2	17.0	4.2	NV LAS VEGAS	44	-2	1.7	1.4	UT SALT LAKE CITY	27	-3	1.1	-0.3
HI HONOLULU	77	3	6.5	3.1	NV RENO	31	-2	1.9	0.7	VT BURLINGTON	28	5	1.0	-1.4
HI KAHULUI	75	2	2.5	-0.3	NH WINNEMUCCA	27	-4	1.0	0.2	VA LYNCHBURG	40	2	3.5	0.3
HI LIHUE	74	2	22.2	16.8	NH CONCORD	26	2	2.2	-1.2	VA NORFOLK	45	1	3.2	0.0
ID BOISE	29	-3	0.9	-0.4	NJ ATLANTIC CITY	37	1	4.0	0.4	VA RICHMOND	41	1	2.8	-0.6
ID LEWISTON	33	-3	0.4	-0.9	NM ALBUQUERQUE	33	-3	1.2	0.6	VA ROANOKE	38	0	2.6	-0.3
ID POCATELLO	22	-4	1.8	0.9	NM CLOVIS	37	-2	0.2	-0.4	WA COLVILLE	20	-8	1.5	-1.0
IL CAIRO	--	--	--	--	NY ROSWELL	41	1	0.6	0.2	WA QUILLYUTE	38	-3	9.8	-7.7
IL CHICAGO	29	1	2.5	0.1	NY ALBANY	30	3	3.0	0.0	WA SEATTLE-TACOMA	39	-2	4.0	-2.3
IL MOLINE	27	1	4.0	2.1	NY BINGHAMTON	28	2	3.0	0.1	WA SPOKANE	23	-6	2.2	-0.3
IL PEORIA	29	1	3.0	1.0	NY BUFFALO	32	2	3.8	0.4	WA WALLA WALLA	--	--	--	--
IL QUINCY	30	0	2.0	0.3	NY NEW YORK	38	2	5.5	1.8	WV YAKIMA	25	-7	2.3	1.0
IL ROCKFORD	26	1	3.4	1.5	NY ROCHESTER	30	1	3.0	0.4	WV BECKLEY	35	1	3.9	0.8
IL SPRINGFIELD	33	2	2.4	0.2	NY SYRACUSE	31	2	2.6	-0.6	WV CHARLESTON	38	1	3.5	0.2
IN EVANSVILLE	36	1	1.7	-1.8	NC ASHEVILLE	39	0	3.7	0.5	WV ELKINS	33	0	4.5	1.1
IN FORT WAYNE	32	2	2.6	0.2	NC CHARLOTTE	43	0	2.8	-0.6	WV HUNTINGTON	38	0	2.8	-0.3
IN INDIANAPOLIS	33	2	1.9	-1.1	NC GREENSBORO	40	-1	2.5	-0.9	WV PARKERSBURG	37	1	2.0	-0.7
IN SOUTH BEND	31	1	4.0	1.1	NC HATTERAS	51	2	5.7	1.2	WI GREEN BAY	24	3	2.3	0.9
IA DES MOINES	27	1	2.0	1.0	NC NEW BERN	48	2	3.1	-0.6	WI LACROSSE	24	2	1.6	0.5
IA DUBUQUE	24	1	2.1	0.2	NC RALEIGH	42	0	2.4	-0.7	WI MADISON	25	2	2.4	0.9
IA SIOUX CITY	24	0	0.8	0.1	NC WILMINGTON	48	0	4.5	1.0	WI MILWAUKEE	28	3	2.4	0.4
KS WATERLOO	24	1	1.6	0.5	ND BISMARCK	12	-4	0.5	0.0	WI WAUSAU	21	2	1.8	0.5
KS CONCORDIA	29	-2	1.3	0.6	ND FARGO	10	-3	0.6	0.0	WY CASPER	22	-4	0.9	0.4
KS DODGE CITY	27	-8	0.9	0.4	ND GRAND FORKS	8	-3	0.7	0.1	WY CHEYENNE	26	-4	0.5	0.1
KS GOODLAND	23	-8	0.2	-0.2	OH WILLISTON	10	-6	0.4	-0.1	WY LANDER	16	-7	0.8	0.3
KS TOPEKA	33	1	2.0	0.8	OH AKRON-CANTON	33	3	2.2	-0.4	WY SHERIDAN	14	-11	1.3	0.6
KS WICHITA	33	-1	1.2	0.2	OH CINCINNATI	36	1	1.4	-1.6	PR SAN JUAN	79	2	4.7	0.3
KY BOWLING GREEN	38	0	3.0	-1.5	OH CLEVELAND	34	2	4.3	1.6					
KY JACKSON	38	4	4.9	1.4	OH COLUMBUS	35	2	1.3	-1.3					
KY LEXINGTON	37	1	1.8	-2.0	OH DAYTON	33	1	1.6	-0.9					
KY LOUISVILLE	39	1	1.6	-1.9	OH MANSFIELD	32	2	2.4	0.0					
KY PADUCAH	39	1	1.8	-2.4	OH TOLEDO	33	4	3.6	1.0					

Based on 1951-80 normals.

HEATING DEGREE DAYS (Base 65° F) December 1992

STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL
AL BIRMINGHAM	589	-12	SHREVEPORT	480	-25	DAYTON	988	-41
MOBILE	297	-85	ME CARIBOU	1402	-126	TOLEDO	987	-157
MONTGOMERY	474	-25	PORTLAND	1112	-103	YOUNGSTOWN	1005	-99
AK ANCHORAGE	1543	-44	MD BALTIMORE	801	-83	OK OKLAHOMA CITY	775	-3
BARROW	2275	-140	MA BOSTON	765	-47	TULSA	812	31
FAIRBANKS	2253	-75	MI ALPENA	933	-37	OR ASTORIA	747	68
JUNEAU	1217	33	CHATHAM	862	-59	BURNS	1387	224
KODIAK	1079	-18	MI ALPENA	1144	-143	MEDFORD	844	-2
NOME	1883	4	DETROIT	976	-156	PENDLETON	1015	116
AZ FLAGSTAFF	1190	99	FLINT	1032	-140	PORTLAND	789	42
PHOENIX	340	-28	GRAND RAPIDS	1060	-109	SALEM	792	39
PRESCOTT	899	37	HOUGHTON LAKE	1194	-111	PA ALLENTOWN	955	-84
TUCSON	418	15	LANSING	1050	-128	ERIE	928	-157
WINSLOW	1236	235	MARQUETTE	1383	-77	HARRISBURG	914	-66
YUMA	331	55	MUSKEGON	1047	-91	PHILADELPHIA	804	-111
AR FORT SMITH	700	-38	SAULT ST MARIE	1279	-125	PITTSBURGH	956	-86
LITTLE ROCK	672	-4	MN ALEXANDRIA	1577	2	SCRANTON	993	-101
CA BAKERSFIELD	562	41	DULUTH	1518	-69	RI PROVIDENCE	949	-65
EUREKA	556	38	INT' L FALLS	1746	-15	SC CHARLESTON	430	-41
FRESNO	602	-9	MINNEAPOLIS	1351	-69	COLUMBIA	587	20
LOS ANGELES	277	22	ROCHESTER	1394	-48	FLORENCE	533	-19
REDDING	671	97	SAINT CLOUD	1495	-49	GREENVILLE	713	43
SACRAMENTO	631	30	MS GREENWOOD	527	-53	SD ABERDEEN	1556	52
SAN DIEGO	294	54	JACKSON	452	-61	HURON	1463	37
SAN FRANCISCO	466	-24	MERIDIAN	461	-66	RAPID CITY	1418	212
STOCKTON	630	25	MO CAPE GIRARDEAU	869	-20	STIOUX FALLS	1414	10
CO DENVER	1219	215	COLUMBIA	973	-22	TN CHATTANOOGA	689	-40
GRAND JCT.	1245	107	KANSAS CITY	987	-39	KNOXVILLE	769	28
PUEBLO	1125	127	SAINT LOUIS	902	-53	MEMPHIS	653	-20
CT BRIDGEPORT	892	-63	SPRINGFIELD	878	-15	NASHVILLE	731	-16
HARTFORD	1042	-71	MT BILLINGS	1408	233	TX ABILENE	530	-47
DE WILMINGTON	817	-98	GLASGOW	1612	121	AMARILLO	949	121
DC WASHINGTON	781	-28	GREAT FALLS	1441	223	AUSTIN	327	-79
FL APALACHICOLA	225	-95	HAVRE	1567	135	BEAUMONT	251	-76
DAYTONA BEACH	136	-73	HELENA	1552	265	BROWNSVILLE	93	-57
FORT MYERS	33	-74	KALISPELL	1447	182	CORPUS CHRISTI	146	-74
JACKSONVILLE	277	-55	MILES CITY	1463	114	DEL RIO	290	-98
KEY WEST	3	-20	MISSOULA	1405	162	EL PASO	624	-15
MIAMI	10	-32	NE GRAND ISLAND	1243	56	FORT WORTH	474	-38
ORLANDO	102	-55	LINCOLN	1191	1	GALVESTON	193	-74
TALLAHASSEE	291	-92	NORFOLK	1259	-15	HOUSTON	268	-81
TAMPA	83	-90	NORTH PLATTE	1310	98	LUBBOCK	716	-13
W. PALM BEACH	27	-30	OMAHA	1149	-23	MIDLAND-ODESSA	564	-25
GA ATLANTA	627	-9	SCOTTSBLUFF	1430	277	SAN ANGELO	473	-54
AUGUSTA	565	4	VALENTINE	1369	98	SAN ANTONIO	287	-91
MACON	534	29	NV ELY	1268	59	VICTORIA	206	-85
SAVANNAH	401	-43	LAS VEGAS	655	47	WACO	435	-46
ID BOISE	1124	101	RENO	1056	48	WICHITA FALLS	614	-40
LEWISTON	993	60	WINNEMUCCA	1198	125	UT BLANDING	1155	54
POCATELLO	1323	133	NH CONCORD	1190	-66	CEDAR CITY	1190	139
IL CHICAGO	1122	-34	NJ ATLANTIC CITY	849	-56	SALT LAKE CITY	1169	93
MOLINE	1158	-39	NM ALBUQUERQUE	991	80	VT BURLINGTON	1137	-177
PEORIA	1094	-59	CLOVIS	851	54	VA LYNCHBURG	773	-55
QUINCY	1071	-17	ROSWELL	730	32	NORFOLK	623	-44
ROCKFORD	1207	-39	NY ALBANY	1082	-112	RICHMOND	739	-39
SPRINGFIELD	991	-72	BINGHAMTON	1136	-67	ROANOKE	813	-15
IN EVANSVILLE	875	-36	BUFFALO	1021	-101	WA COLVILLE	1315	152
FORT WAYNE	1028	-88	NEW YORK	831	-62	QUILLAYUTE	825	75
INDIANAPOLIS	973	-66	ROCHESTER	1071	-45	SEATTLE-TACOMA	805	61
SOUTH BEND	1054	-59	SYRACUSE	1047	-91	SPOKANE	1297	182
IA DES MOINES	1169	-49	NC ASHEVILLE	794	-3	YAKIMA	1249	210
DUBUQUE	1281	-30	CAPE HATTERAS	426	-84	WV BECKLEY	937	-33
SIOUX CITY	1262	-31	CHARLOTTE	679	-15	CHARLESTON	834	-37
WATERLOO	1278	-67	GREENSBORO	777	8	HUNTINGTON	837	-34
KS CONCORDIA	1102	42	NEW BERN	516	-82	PARKERSBURG	877	-34
DODGE CITY	1191	221	RALEIGH-DURHAM	691	-22	WI GREEN BAY	1274	-96
GOODLAND	1301	225	WILMINGTON	509	-12	LA CROSSE	1274	-75
TOPEKA	996	-33	ND BISMARCK	1645	107	MADISON	1236	-85
WICHITA	976	27	FARGO	1686	65	MILWAUKEE	1132	-105
KY BOWLING GREEN	830	-4	GRAND FORKS	1753	82	WAUSAU	1372	-76
LEXINGTON	863	-33	WILLISTON	1704	151	WY CASPER	1328	110
LOUISVILLE	813	-49	OH AKRON-CANTON	986	-90	CHEYENNE	1216	109
LA BATON ROUGE	271	-109	CLEVELAND	952	-99	LANDER	1514	218
LAKE CHARLES	254	-97	COLUMBUS	932	-88	SHERIDAN	1538	286
NEW ORLEANS	218	-118	CINCINNATI	907	-60			

Based on 1951-80 normals.

National Agricultural Summary

December 28, 1992 - January 3, 1993

HIGHLIGHTS: Bitter cold weather dominated the northern Plains for the week. Temperatures elsewhere were mild. Precipitation occurred in the Ohio Valley as well as in the Southeast. Toward the end of the week, a major winter storm brought much-needed rain to the Pacific Coast and heavy snow in the Rocky Mountains. The dry cold weather in the Plains allowed corn and sorghum harvests to advance, while moisture in the South continued to hamper harvest activities.

SMALL GRAINS: Winter wheat was in generally good condition across the Nation last week. Snow cover in Washington, North Dakota, and Montana was adequate to protect the wheat. Continued cloudy weather in central Texas limited small grain growth. Wet weather in the Southeast hindered the completion of small grain plantings.

CORN: The corn harvest progressed last week where weather conditions allowed. The corn harvest neared completion in Kansas and Iowa. In Michigan, the harvest advanced to 75 percent (%) complete, up 5 percentage points from the previous week. The Pennsylvania harvest advanced to 85% complete, compared with 83% last week. Missouri reported 94% of their crop harvested, while 77% of the Wisconsin crop was harvested. Problems with quality in the standing corn were reported.

COTTON: The Texas plains harvest advanced last week until it was stopped by cold and wet conditions. By week's end, 95% of the crop was harvested, compared with 92% last year and the average of 98%. In Oklahoma, 67% of the crop was harvested as wet weather delayed progress. Progress was also delayed in Georgia. Rain delayed fieldwork in Arizona and California.

OTHER FIELD CROPS: The completion of the soybean harvest in the Southeast was delayed by the wet weather. Weather limited the advance of the sorghum harvest in Kansas. Sugarcane harvest remained active in Florida and was slowly winding down in Louisiana. Tobacco seedbed preparation was active in the Southeast, and planting had begun in Florida where weather permitted. Sunflower harvest was 94% complete in North Dakota. Normally it is finished in early November. Planting of the Georgia onion crop was behind normal due to wet weather, but conditions remained favorable. Progress of the crop in the Rio Grande Valley remained favorable.

FRUIT AND NUTS: The Florida Citrus crop remained in very good condition in spite of dry conditions. Early orange harvest for processing was very heavy. Grapefruit harvest was active on the lower east coast for domestic and export shipments. The Dancy tangerine and tangelo harvests were active. In California, the Navel orange harvest continued steady in most areas. Grapefruit, lemon, tangerine, and tangelo harvests were active. Welcomed rains hindered citrus harvests in some areas. The Arizona citrus harvest remained active in the central and western areas. The pecan harvest continued active where weather allowed. In Texas, dry weather allowed harvest to draw near to completion in the Cross Timbers and Hill Country. Harvest in the High Plains advanced rapidly.

VEGETABLES: Cloudy and wet weather prevailed over the major vegetable areas of Florida. Continued wet conditions delayed vegetable harvest in east Texas and hampered activities in California. Broccoli harvest continued in western and central Arizona and in the Westside, desert, Salinas-Watsonville, and Santa Maria areas of California. Cabbage and cauliflower harvests remained active in Arizona and California. Celery harvest continued in the Coachella Valley of California, and remained active in Florida. Sweet corn harvest began along the east coast, and the tomato harvest continued in Florida.

PASTURES AND LIVESTOCK: Livestock was in generally good condition. However, some sickness was reported in Kansas due to the damp and cold weather. Supplemental feeding continued as needed, especially in areas with below-normal temperatures. Feed supplies remained adequate. Ice on water ponds and water tanks was a problem. Cattle conditions in Texas continued to improve with warmer temperatures. Supplemental feeding increased in areas with below-normal temperatures.

(Continued from front cover)

(with a 3-inch snow cover) on Thursday. **Jordan, MT**, reported -42°F. Farther west, heavy snow arrived late on Monday, accompanied by fierce winds. In the **Sierra Nevada**, snowfall was heaviest on December 28 and 29, and again on New Year's Day. Sierra snowpack, which had been languishing at less than 30 percent of normal in early December, reached 133 percent of normal (preliminary data) by January 4. At **Sierra Ski Ranch, CA**, southwest of **Lake Tahoe**, the weekly snowfall total of 98 inches boosted their snow depth to 126 inches. **Blue Canyon, CA**, increased their snowpack from none to 66 inches by week's end. **Nevada** also benefited from the storms' bounty, as weekly snowfall reached 44 inches in **Virginia City**. Automated sensors atop the **Sierra Nevada** crest recorded winds approaching 100 mph, and

farther south, wind gusts were clocked to 100 mph near **Big Bear Lake, CA**, before the instrument was destroyed. Snowfall was also quite heavy elsewhere throughout the West. In **central Washington**, at **Wenatchee**, the snow depth reached 26 inches to set a record for that location. In **Utah**, **Alta** received more than 30 inches. Late in the week, moisture from the storms streamed eastward across the arctic air, causing severe icing and travel miseries from **northern Texas** to **Wisconsin**. Farther east, rainfall exceeded 1 inch from **Illinois** to **New York State**, resulting in considerable flash flooding. Elsewhere, locally heavy rain pelted **eastern Florida**, and record warmth briefly graced the **East Coast States** before cooler weather arrived at week's end. Among the 13 daily record highs was a reading of 73°F in **Lynchburg, VA**.

State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service.

ALABAMA: Rainfall none to 0.04 in. north, south; none to 0.10 in. central. Temperatures 5 to 10° above north; 5 to 11° above normal central; 5 to 8° above normal south. Lows 29 to 43° north; 29 to 40° central; 37 to 44° south. Highs 59 to 69° north; 66 to 72° central; 69 to 73° south.

Activities: Harvesting timber; marketing cattle; land-use planning, management; general care of livestock, poultry, catfish.

ARIZONA: Rain 27th, western two-thirds, 28th statewide. Cloudy with scattered showers 29th through 2nd. Temperatures normal to 10° above; Extremes 3°; 68°, higher elevations; 26°; 76° deserts.

Cotton stalk shredding, plowdown slow due to wet fields. Alfalfa good; harvest, light all areas. Small grains planted 80%, 80% 1992, 83% avg.; stands established 64%, 66% 1992, 63% avg.; field preparations slow due to rains. Broccoli, cabbage, lettuce, bok choy, cilantro, kale, parsley, napa, spinach available western, central areas. Also available west: Cauliflower, escarole, endive, anise. Leeks, beets, dill, kohlrabi, radishes, rapini, mixed greens, turnips available, central. Citrus harvest continued active central, western areas. Pecans, tomatoes, chilies, harvested east. Pasture, range 86% of normal. Cattle, calves good north, fair to good central, good southeast. Stockwater, soil moisture, adequate north, adequate to surplus central, mostly adequate southeast. Range feed supplies were mostly average statewide. Insect damage, light.

ARKANSAS: Temperatures well above normal, light rain statewide. Extremes 16°; 74°. Rainfall none to 0.73 in.

Soil moisture supplies adequate to surplus. Cotton gins were cleaning up modules, continued to close down for the year. As of December 31st, the cotton classing office reported 1,610,612 bales of Arkansas cotton had been classed. Wheat good. Livestock good. Producers were feeding hay. Pastures good.

CALIFORNIA: Strong high pressure replaced by deep, cold low-pressure system that slammed north, central State. Major snowstorm northern mountains, Sierra. Rain fell throughout entire State during week. Temperatures unseasonably cool.

Rains halted field activities virtually all areas. Rice stubble burning delayed wet conditions. Plowdown harvested cotton for pink bollworm control essentially complete. Ground preparation 1993 row crop plantings ongoing between rains. General activities included fertilization, herbicide applications, ripping, furrowing. Small grains, winter forages good growth southern counties; slowed, cold temperatures north. Few isolated fields barley, oats, wheat seeded. Grain corn harvested southern counties. Some emerged small grain fields sprayed broadleaf herbicide. Winter orchard, vineyard cultural practices continued. Dormant spraying deciduous trees. Navel orange harvest steady most areas. Western Riverside County Navel orange harvest stopped due rain. Grapefruit, lemon, tangerine, tangelo harvests continued. Melo Gold, Oro Blanco grapefruit moved export markets. Movement grapes, kiwifruit slow. Fuji, Granny Smith apples packed. Broccoli moderate movement, good quality Salinas-Watsonville; variable quality Santa Maria. Cauliflower light movement, variable quality central coast. Broccoli, cauliflower harvests active Westside, desert areas. Celery harvest moved towards completion Santa Maria; light movement, variable quality. Cabbage picked fresh, freezer markets Westside area, Palo Verde Valley, Riverside district. Celery harvest continued Coachella Valley. Garlic, onion fields planted Huron district. Iceberg lettuce shipped Palo Verde Valley; leaf, Romaine lettuce trucked Coachella Valley. Fall potato movement active Tullake-Butte Valley storages. Other crops harvested: radishes, beets, green onions, spinach, turnips, various oriental vegetables. Rangeland, pasture vegetation

replaced drought forage. Conditions good to fair. Cool temperatures slowed growth. Snow pack good. Stockwater supplies improved. Some ranchers cutting supplemental feeding. Yearling lambs growing well. Livestock movement moderate.

COLORADO: A winter storm moved through the State on the 28th leaving 1 to 2 feet of snow in the mountains. Blowing, drifting snow in the lower elevations, freezing rain occurred near the Kansas border. Scattered snow showers in the mountains, strong winds continued 29th, 30th along with dense fog in many sections, a few rain showers in the southeast. Skies cleared on the 31st, 1st, a weak system brought light snow to the mountains on 2nd, 3rd along with 1 to 4 in. of snow near the front range, lesser amounts in the eastern plains. Temperatures mostly 2 to 4° above normal southeast and 1 to 3° above normal west of the Continental Divide. The Rio Grande Basin, northeast reported temps. mostly 1 to 3° below normal.

The major activity was the care, feeding of livestock.

FLORIDA: Temperatures 4 to 7° above normal. Highs; mid 70s Panhandle, Big Bend, upper 70s northeast, lower 80s central, mid 80s south. Lows; around 40° Panhandle, Big Bend, mid 40s northeast, lower 50s central, upper 50s south. Rain 3 days or less except southeast coast, 5 to 7 days. Most locations 0.20 in. or less except southeast, 1.00 to 4.00 in.

Soil moisture in Panhandle mostly adequate to surplus, Peninsula short to adequate. Cotton harvest complete. Sugarcane harvest, planting active. Sowing tobacco plant beds. Citrus groves very good. Rainfall below normal, irrigation continues. Early orange harvest for processing very heavy. Grapefruit movement for domestic, export use active lower east coast. Dancy tangerine, tangelo harvest increasing. Caretakers cutting cover crops. Cloudy skies over major vegetable producing areas with fog west, central. Up to 2.00 in. rain Everglades, southeast. East coast sweet corn harvesting begun. Potato planting started in Hastings area. Volume leaders: Tomatoes, peppers, cucumbers, celery, cabbage. Also available: Snap beans, carrots, Chinese cabbage, sweet corn, eggplant, escarole, iceberg lettuce, specialty lettuces, radishes, squash, strawberries, cherry tomatoes. State's pastures poor to good. Pasture 10% poor, 40% fair, 50% good. Moisture levels short to adequate. State's cattle herds fair to good.

GEORGIA: Warm, relatively dry week. Temperatures 4 to 13° above normal, warmest departures across north. Warmest highs upper 60s middle 70s statewide except low to mid 60s northwest. Coolest lows near freezing some locations mountains to upper 30s to mid 40s elsewhere. Rain 1 or 2 days. Rainfall 0.10 in., isolated spots near 0.25 in.

Soil moisture adequate to surplus, mostly surplus. Harvest, land preparation limited. Pecan, soybean, cotton harvest very slow, conditions declining. Tobacco bed preparation, onion transplanting well behind normal, conditions good. Disease control in onions active as conditions permitted. Small grain seedings nearly complete, conditions fair to good. Pastures fair, livestock good.

HAWAII: Winter like weather occurred in the State. A low pressure system, a cold front brought rainy weather to the island chain flooding lowland areas. Some farmers reported minor damage to crops from flooding, runoffs. On News Year's Eve, snow fell on Mauna Kea welcoming 1993. Sunny weather returned over the weekend drying muddy fields. Temperatures mid 80s to high 50s. Rainfall 0.80 to 9.30 in.

Field operations were delayed with inclement weather. Despite rainy weather some areas received less than adequate rainfall requiring irrigation to ensure normal progress. Cool, rainy weather slowed progress for some crops. Orchard growers increased spraying efforts to reduce disease

outbreaks. Banana harvesting should continue near last week's level. Papaya orchards were still experiencing phytophthora damage after recent rains. The number of tree eradicated due to papaya ringspot virus has declined. Sweet corn picking was very light.

IDAHO: No weather data available.

Soil moisture varied across State. Surplus amount in southwest; adequate amount southeast, north; short amount south central. Activities: Marketing crops, repairing farm machinery, attending commodity meetings, workshops. Hay, roughage supplies adequate. Livestock activities: Marketing cattle, cattle on winter hay, lambing activity is increasing across the State. Livestock good.

ILLINOIS: Unseasonably mild weather came to an end on New Year's Eve, as an arctic cold front swept across the State. Lows 20s to 30s, while average highs mid 30s to upper 40s. These weekly temperatures 4 to 14° warmer than normal.

Precipitation was generally between 1.00 to 2.00 in. across north, central areas of State, leaving saturated soils, standing water, except in the far south which experienced below normal precipitation.

INDIANA: Temperatures 9 to 16° above normal. Highs 40 to 50°. Lows mid to upper 20s north to upper 30s south. Precipitation was heavy in the north were 1.00 to 2.50 in. fell on the third into the fourth. Rainfall 3.00 to 4.00 in. over the north, decreasing to 1.00 to 2.00 in. central with only 0.50 in. far south.

Most areas of the State topsoil moisture to be in surplus, while subsoil moisture varied from adequate to surplus. Corn harvest is slowly reaching the end, but little was done during the holiday season, the past week. Wheat crop looks good in most locations. The amount of fall tillage is well behind last year's. Farming activities included: Hauling grain, tending to livestock, stripping tobacco, putting machinery into storage.

IOWA: Temperatures 5° below normal northwest to 5° above normal southeast. Extremes -14° northwest (1st); 47° southeast (20th, 3rd). Seasonally heavy precipitation, mostly rain, freezing rain, 0.20 in. Sidney (southwest) to 1.83 in. Donnellson (southeast).

Corn harvest continues, many farmers are moving feeder calves to market.

KANSAS: Temperatures 5° below normal to 6° above normal over State. Light amounts of precipitation received all districts.

Precipitation in the form of rain or freezing rain was received over the State early in the week, then again at the end of the week. Weather conditions may have allowed some harvest progress 30th, 1st depending on locality. Sorghum harvest made some progress, was limited by the weather. With a few days of suitable weather Christmas week, a couple harvest days last week, corn harvest is probably complete. Stockmen busy tending livestock. With the damp, cold weather instances of livestock sickness have increased. Consequently, livestock feed, care requirements have increased.

KENTUCKY: Warm, mostly dry. High temperatures lower 50s, lows mid 30s. Temperatures about 10° above normal. Precipitation averaged 0.33 in. Deficits were 0.75 in.

Topsoil adequate, sub-soil moisture would benefit from widespread rains. Soils unfrozen. Fall seeded grains green, good. Burley stripping active in preparation for market reopening on 4th. Livestock satisfactory, ample feed supplies.

LOUISIANA: Temperatures 7.1 to 8.7° above normal. Extremes 33°; 77°. Rainfall none in. south central to 0.19 in. northwest.

Sugarcane harvesting slowly wrapping up. Crawfishing, caring for livestock. Topdressing pastures. Repair, maintenance of farm equipment.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.54 in. Temperature 40.6°, normal 33.4°. Extremes 1°; 72°.

Snow western pastures, cattle mostly excellent. Hay supplies adequate. Small grains good. Enjoying the holidays. Cutting firewood, feeding hay, caring for livestock.

DELAWARE: Precipitation 0.35 in. Temperature 41.8°, normal 34.5°. Extremes 16°; 67°.

Hay supplies adequate. Pastures, livestock mostly excellent. Small grains good. Celebrating the holidays.

MICHIGAN: Extremes -6°; 56°. Precipitation 0.23 to 3.53 in.

Corn 75% harvested, 100% 1991, 100% avg. Major activities: Cutting firewood, drying corn, harvesting when possible, hauling manure, grading apples, repairing machinery, making plans for 1993.

MINNESOTA: Temperatures 9° below normal northwest to 1° above normal in the southeast. Extremes -32°; 39°. Precipitation 0.17 to 0.41 in., near normal to 0.19 in. above normal. Greatest weekly total was 0.66 in. Snowfall 3 to 9 in. Snow depth 16 to 19 in. northeast, north central regions, 3 to 10 in. elsewhere. Temperatures bitter cold to seasonably mild. Freezing rain, snow were common, created travel problems throughout the week.

MISSISSIPPI: Weather data not available.

Days suitable for fieldwork 2.0, 3.2 1991, 1.7 avg. Soil moisture 60% adequate, 20% surplus, 20% excessive. Wheat 25% poor, 25% fair, 50% good. Hay supply 80% adequate, 20% surplus. Feed grain 80% adequate, 20% surplus. Livestock 20% fair, 80% good. Major activity: feeding livestock.

MISSOURI: Temperatures normal west to 6° above normal east. Precipitation mostly less than 0.50 in. except northeast around 1.00 in.

Topsoil 39% adequate, 61% surplus. Some further progress made in late crop harvesting, frequent damp weather still delaying completion. About 94% corn, 97% soybeans, 96% sorghum harvested. Most unharvested corn is in northern, west central districts. Around 10% of the sorghum, soybeans in the west central, southwestern districts is still in field. Wheat 5% poor, 41% fair, 54 percent good. Surplus moisture detrimental to wheat in low areas. Livestock 19% fair, 78% good, 3% excellent. Hay supply 8% short, 81% adequate, 11% surplus.

MONTANA: Precipitation normal to slightly below normal except west, south which received good snowfalls. Temperatures much below normal statewide.

The protectiveness of snowcover for winter wheat is 4% poor, 22% fair, 58% good, 16% excellent. Wind damage to winter wheat is 48% none, 35% light, 16% moderate, 1% heavy. Grazing was 16% open, 67% difficult, 17% closed. More than 90% livestock receiving supplemental feed.

NEBRASKA: Temperatures 4 to 10° below normal. Scattered light precipitation; amounts ranged from 0.20 in. east to trace amounts west.

Winter wheat 27% fair, 71% good, 2% excellent. Limited grain harvest occurred due to weather conditions. Feed grain supplies 1% short, 69% adequate, 30% surplus. Hay, forage supplies 1% short, 83% adequate, 16% surplus. Cattle grazing stalks with some supplemental feeding due to snow, ice. Other farm activities included monitoring grain in on-farm storage, routine chores.

NEVADA: Began with rain in southern areas. Major winter storm moved into western areas and Sierra on Monday accompanied by strong winds, heavy snow. Storm progressed eastward dumping up to 18 in. snow in northeast. Snow continued heavy in west with 1 to 2 foot accumulation most valleys and 3 to 5 feet or more in higher elevations. Another storm moved in by early New Year's Day, spread into western areas. High pressure followed, conditions slowly improved by end of period.

Snow, stormy weather hampered feeding operations, increased stress on livestock. Major farm/ranch activities: Care, feeding of livestock, chopping ice for livestock water, general maintenance.

NEW ENGLAND: Precipitation 0.28 to 0.90 in. north, 0.55 to 1.41 in. south. Temperatures 11° to mid 20s north, mid 20s to mid 30s south. Maximum temperatures mid 30s to mid 50s. Minimum temperatures -17 to 5° north, -1 to 17° south.

Major farm activities: Tending livestock, cutting firewood, making general repairs.

NEW JERSEY: Temperatures much above normal, 36° north, 41° south, 44° coastal. Extremes 15°; 69°. Precipitation below normal; averaged 0.63 in. north, 0.44 in. south, 0.55 in. coastal. Heaviest 24 hour total 0.66 in. on 30th, 31st.

Farmers caring for livestock, tending to other normal winter chores.

NEW MEXICO: Temperatures 5 to 10° above normal over much of State. Extremes 4°; 79°. Two winter storms affected the State during the week with higher precipitation totals near 1.40 in.

Pecan harvest was on the decline with some late red chile harvest wrapping up. Livestock producers were busy breaking ice, supplemental feeding.

NEW YORK: Week began very cold. Minimum temperatures below -10° in many locations. A series of weak warm fronts allowed daytime temperatures to reach 30s to 40s. Light precipitation, including freezing rain, fell early-week. Cold front moved in on 30th and rain persisted from the southern Adirondacks south. Powerful warm front brought 60° air to a few spots on 31st, but a strong cold front was in quick pursuit. Freezing rain continued in northern areas. Temperatures continued to fall on 1st, snow fell east of Lake Ontario. The 2nd stayed cold with some snow. Extremes -19°; 62°.

Major activities: Caring for livestock, winter chores, corn harvesting, drying corn, grading onions, orchard maintenance.

NORTH CAROLINA: Temperatures 3 to 9° above normal. The largest positive departures were along the coast. Precipitation 0.07 in. at Roxboro to 3.50 in. at Cape Hatteras.

Crop condition: Winter wheat 1% poor, 26% fair, 69% good, 4% excellent. Oats 2% poor, 25% fair, 72% good, 1% excellent. Barley 21% fair, 77% good, 2% excellent. Rye 2% poor, 22% fair, 75% good 1% excellent. Hay, roughage supplies 94% adequate, 6% surplus. Feed grain supplies 2% short, 92% adequate, 6% surplus. Major activities: Harvesting soybeans, cotton. Other activities: Seeding small grains; preparing tobacco plant beds; tending livestock; equipment repair, general farm maintenance.

NORTH DAKOTA: Frigid arctic high pressure held temperatures below normal. Temperatures 19° below normal in the southwest to 11° below normal southeast. Extremes -36° northeast; 31° southwest. Precipitation 0.06 in. southeast to 0.21 in. northeast.

Corn, sunflower harvest slowed due to snow. Corn for grain 96% harvested, sunflower 94% harvested; normally complete by early November. Snowcover sufficient to protect 82% of winter wheat, 86% rye, 85% alfalfa. Winter wheat 53% fair, 45% good, 2% excellent; rye 59% fair, 40% good, 1% excellent. Livestock mostly good. Cattle 12% fair, 81% good, 7% excellent; sheep 13% fair, 80% good, 7% excellent. Nearly all cattle, sheep being fed supplemental feed. Supplies of supplemental feed 5% short, 84% adequate, 11% plentiful. Livestock marketings normal.

OHIO: Warmer, wetter than normal weather occurred the past week across northern areas. Heavy rain posed a flash flood threat over the State by the end of the period with spring-like temperatures reaching the 50s to

60s. Precipitation water equivalent 0.40 in. to over 3.00 in. north to 0.25 in. to 0.60 in. south. Northern areas received up to 3.00 in. Southern areas were as much as 0.65 in. below normal. Daily high temperatures in the mid 40s to the low 50s which was 9 to 13° above normal. Lows 30s to the low 40s which was 11 to 20° above normal. Coldest readings were in the mid-teens to the 20s. Soil temperatures at the 4-inch depth under bare ground averaged mid 30s to low 40s.

OKLAHOMA: Temperatures 3° above normal west central to 10° above normal southeast. Precipitation 0.12 in. south central to 1.23 in. southeast.

Cotton harvest 67% complete, still hampered by wet conditions. Wheat 33% grazed. Cattle good, marketings average. Prices for feeder steers, heifers steady to \$2.00 per cwt. higher than preceding week.

OREGON: Temperatures 2 to 6° below normal, statewide. Extreme low: -12° Klamath Falls. Abundant precipitation statewide. High Plateau 4.90 in., coastal areas 4.50 in., southwestern 3.00 in., Willamette Valley 1.00 to 1.50 in., elsewhere 1.00 in. or less.

Soil moisture mostly adequate to surplus west, short to adequate east. Wheat snowcover adequate, Columbia Basin. Fruit, nut orchard winter activities continue, Willamette Valley. Cranberry growers maintaining equipment. Livestock good. Western pastures continue improvement. Some pasture flooding, southern coast. Snows continue to improve future stock water supplies, some frozen stockwater problems, early calving beginning, pastures, ranges dormant, continued supplemental feeding; eastern areas.

PENNSYLVANIA: A very warm week following the coldest week of the season. Temperature 37°, 8° above normal. Extremes -3°; 65°. Precipitation 0.74 in., 0.05 in. above normal.

Corn 85% harvested, 100% 1991, 100% avg. Soybean harvest 97% complete, 100% 1991. Activities: Hauling manure; maintaining machinery; harvesting soybeans, grain corn; fixing fence; caring for livestock.

PUERTO RICO: No weather data available.

SOUTH CAROLINA: Temperatures across the State 4° above normal. Rainfall 1.40 in. statewide.

Farm activities: Land preparation for small grains, tobacco bed preparation continued slowly; pastures wet; livestock fair to good.

SOUTH DAKOTA: Temperatures -5° northwest to 10° southeast. Extremes -24°; 51°. Precipitation was widespread, light throughout the week. Most amounts were less than a quarter inch with 0.43 in. being the most reported.

TENNESSEE: Warm southerly winds provided temperatures 8 to 9° above normal for the week. A cold front pushed readings below normal on the 1st, but warm temperatures quickly returned on the 2nd. A high of 69° was recorded in Memphis on the 3rd. Most locations received less than 0.10 in. of precipitation during the week, averaged approximately 1.00 in. below normal. The largest amount of rainfall recorded was 0.25 in. in Dyersburg, with most of that falling on the 31st.

Activities mostly consist of livestock care, winter chores, general farm maintenance.

TEXAS: General southwest flow kept temperatures relatively warm, especially during first, last of week. Cold front pushed through New Year's Day bringing short interruption to mild weather. Precipitation on light side, coverage fairly widespread. Few showers Northern Low Plains, Southern High Plains, East Texas received more than 1/2 inch precipitation. Precipitation above normal High Plains, below normal elsewhere. All districts reported precipitation sometime. Temperatures warm for season with averages from 1 to 14° above normal.

(Continued to back cover)

**International Weather and Crop Summary
HIGHLIGHTS**

December 27, 1992 - January 2, 1993

FSU-WESTERN: Unseasonably cold weather was accompanied by light snow.

EUROPE: Unseasonably cold weather encompassed the entire region, with limited snow cover in the northeast.

NORTHWESTERN AFRICA: Adverse dryness continued over Morocco and western Algeria. Soaking rain benefited crops in central and eastern Algeria and Tunisia.

SOUTH AFRICA: Unseasonably dry, warm weather returned to western corn areas.

SOUTH ASIA: Dry weather favored crop development.

SOUTHEAST ASIA: Seasonable showers benefited Indonesian and Malaysian oil palm and rice.

EASTERN ASIA: Winter grains remained dormant across the north.

AUSTRALIA: Warmer and drier weather aided winter grain maturation and harvesting.

SOUTH AMERICA: Drier and warmer weather developed across southern Brazil. Wetness continued across most of Argentina.

**December 1992
MONTHLY DATA FROM SELECTED FOREIGN CITIES
CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
*** = DATA NOT AVAILABLE**

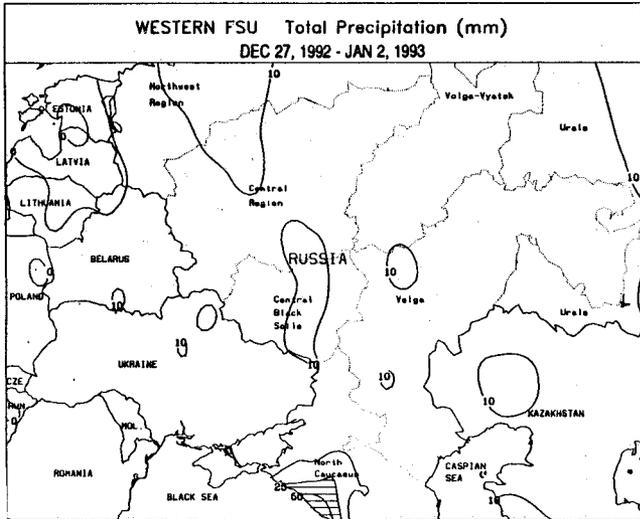
COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG	MAX	MIN	HI	LO	AVG	DPART	F/NRM
NORWAY	OSLO	0	-4	6	-14	-2	2.6	60	-8
SWEDEN	STOCKHOLM	3	-1	9	-9	1	1.1	14	-33
FINLAND	HELSINKI	2	-1	6	-12	0	3.4	36	-20
U KING	GLASGOW	6	2	11	-7	4	-1.0	83	-34
	EDINBURGH	6	1	11	-9	3	-0.8	35	-23
	BIRMINGHAM	6	1	13	-7	3	-1.0	61	-4
	LONDON	7	2	13	-8	4	0.0	81	5
IRELAND	DUBLIN	8	4	13	-4	6	-0.4	43	-36
ICELAND	REYKJAVIK	2	-2	11	-8	0	-0.3	114	38
DENMARK	COPENHAGEN	5	2	10	-8	3	0.6	32	-17
LUXEMB	LUXEMBOURG	4	1	11	-6	3	1.3	64	-13
SWITZL	ZURICH	2	-1	10	-5	1	0.3	81	6
	GENEVA	5	1	14	-4	3	0.8	66	-15
FRANCE	PARIS/ORLY	7	3	14	-5	5	***	75	**
	STRASBOURG	5	1	13	-10	3	0.8	14	-18
	BOURGES	8	3	14	-5	5	1.2	35	-26
	BORDEAUX	11	6	18	-2	8	1.9	121	18
	TOULOUSE	11	6	16	-3	8	2.3	47	-12
	MARSEILLE	13	7	18	-3	10	2.5	9	-54
SPAIN	VALLADOLID	9	3	13	-2	6	1.7	58	17
	MADRID	11	4	15	-4	8	2.0	15	-31
	SEVILLE	17	8	20	4	13	1.6	21	-63
PORTUG	LISBON	15	10	18	5	12	0.9	107	3
GERMANY	HAMBURG	4	1	12	-8	3	0.9	42	-29
	BERLIN	3	-1	11	-9	1	-0.3	60	11
	DUSSELDORF	6	2	13	-9	4	1.0	61	3
	LEIPZIG	3	0	11	-8	2	0.3	51	14
	DRESDEN	3	-1	12	-9	1	0.9	31	-6
	STUTTGART	4	-1	14	-10	2	1.1	32	-14
	NURNBERG	3	-1	11	-14	1	0.5	33	-17
	MUNICH	3	-1	14	-9	1	1.9	53	8
AUSTRIA	VIENNA	2	-2	13	-13	0	-0.4	39	2
	INNSBRUCK	4	-4	14	-12	0	0.8	75	23
CZECH	PRAGUE	1	-3	11	-12	-1	-0.5	21	-4
POLAND	WARSAW	1	-3	11	-13	-1	-0.3	61	29
	LODZ	1	-3	12	-14	-1	0.2	43	1
	KATOWICE	1	-4	12	-17	-1	-0.2	62	18
	PRZEMYSL	1	-4	13	-17	-2	-1.1	19	-21
HUNGAR	BUDAPEST	2	-2	13	-12	0	-0.8	47	6
F YUGO	BELGRADE	4	-1	16	-11	2	-0.8	37	-24
ROMANI	BUCHAREST	2	-6	14	-15	-2	-2.4	39	-8
BULGAR	SOFIA	3	-4	13	-13	-1	-0.8	11	-51
ITALY	MILAN	7	2	13	-6	4	2.1	67	1
	VERONA	8	1	14	-7	4	2.5	65	14
	VENICE	8	2	16	-4	5	1.5	79	13
	GENOA	12	7	17	2	10	0.3	75	-33
	ROME	15	7	20	2	11	1.6	109	23
	NAPLES	14	8	18	3	11	1.6	80	-39
GREECE	THESSALONIKA	10	2	18	-5	6	-1.5	33	-22
	LARISSA	9	1	17	-5	5	-1.8	27	-29
	ATHENS	13	8	19	2	10	-2.3	27	-41
TURKEY	ISTANBUL	8	3	18	-4	6	-2.3	71	-20
	ANKARA	1	-5	8	-16	-2	-3.5	45	16
CYPRUS	LARNACA	16	7	19	1	11	-2.7	70	-33
FSU	TALLINN	3	0	7	-10	1	3.5	32	-16
	LENINGRAD	1	-2	6	-10	0	4.0	29	-14
	KAUNAS	1	-1	7	-9	0	2.2	43	-2
	MINSK	-1	-4	5	-14	-3	1.0	28	-15
	KAZAN	-5	-9	1	-22	-7	1.9	12	-22
	MOSCOW	-3	-6	3	-18	-5	1.5	17	-27
	SVERDLOVSK	-6	-11	1	-30	-9	2.7	6	-16
	OMSK	-11	-15	-1	-27	-13	1.7	13	-4
	KUSTANAY	-11	-17	-3	-31	-14	-1.2	11	-7
	KRASNOYARSK	-9	-14	-1	-29	-12	3.0	25	1
	NOVOSIBIRSK	-8	-13	-2	-30	-11	5.6	42	20
	BARNAUL	-7	-12	-1	-27	-9	4.7	45	13
	KHABAROVSK	-13	-21	-7	-25	-17	0.8	21	2
	VLADIVOSTOK	-6	-11	5	-22	-9	1.0	42	25
	KIEV	-2	-5	5	-12	-4	-1.5	12	-32
	LVOV	0	-5	11	-20	-2	-0.5	28	-26

Based on Preliminary Reports

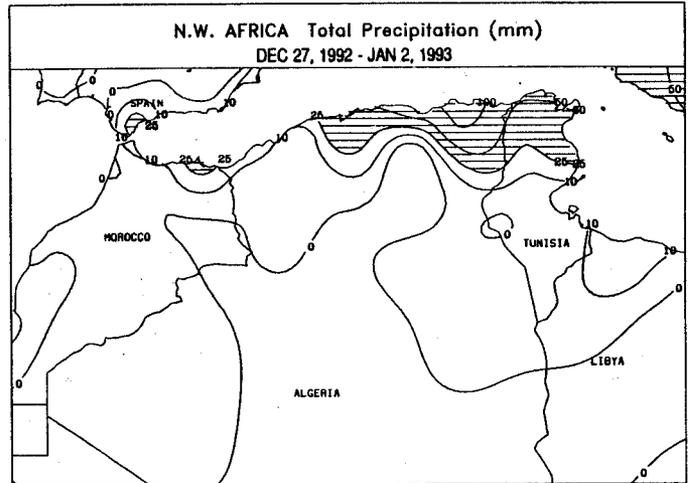
December 1992

COUNTRY	CITY	TEMPERATURE					PRECIPITATION			COUNTRY	CITY	TEMPERATURE					PRECIPITATION								
		(C)					(MM)					(C)					(MM)								
		AVG	AVG	HI	LO	DPART	DPART	AVG	AVG			HI	LO	DPART	DPART	AVG	AVG	HI	LO	DPART	DPART				
MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM	MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM	MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM		
FSU	KIROVOGRAD	-3	-6	5	-15	-4	-2.1	9																	
	ODESSA	0	-3	9	-9	-1	-2.5	10																	
	YALTA	6	2	14	-5	4	-2.3	41																	
	VORONEZH	-4	-9	2	-21	-7	-1.7	26																	
	SARATOV	-4	-8	2	-16	-6	1.2	13																	
	KHARKOV	-3	-7	6	-15	-5	-1.8	18																	
	VOLGOGRAD	-3	-8	2	-23	-6	-0.6	29																	
	ROSTOV	-2	-6	4	-16	-4	-2.2	22																	
	ASTRAKHAN	-1	-7	6	-15	-4	-1.5	17																	
	KRASNODAR	1	-5	9	-15	-2	-3.6	50																	
	ORENBURG	-6	-14	19	-23	-10	-0.2	8																	
	TSELINOGRAD	-9	-15	0	-28	-12	2.7	16																	
	KARAGANDA	-7	-13	-1	-26	-10	2.0	32																	
	TBILISI	6	0	14	-10	3	-0.5	102																	
	TASHKENT	10	3	19	-3	7	4.3	75																	
	ASHKHABAD	9	3	23	-3	6	2.0	48																	
SYRIA	DAMASCUS	11	1	32	-6	6	-2.1	64																	
ISRAEL	JERUSALEM	11	4	20	-1	8	-3.1	264																	
PAKIST	KARACHI	29	14	32	9	22	2.1	0																	
INDIA	AMRITSAR	21	6	28	2	13	0.3	5																	
	NEW DELHI	24	9	28	6	17	0.9	0																	
	AHMEDABAD	30	15	32	11	23	1.2	0																	
	INDORE	27	11	29	8	19	0.7	0																	
	CALCUTTA	27	13	29	10	20	-0.3	0																	
	VERAVAL	31	19	33	17	25	1.9	0																	
	BOMBAY	34	19	35	16	26	1.4	0																	
	POONA	29	10	31	7	19	-1.4	0																	
	BEGAMPET	27	14	28	11	21	-0.5	0																	
	VISHAKHAPATNAM	28	20	30	11	24	***	0																	
	MADRAS	29	21	30	18	25	0.1	148																	
	MANGALORE	33	21	34	15	27	0.0	0																	
H KONG	KINGS PEAK	23	17	29	11	20	***	57																	
N KREA	PYONGYANG	2	-7	10	-20	-3	1.7	55																	
S KREA	SEOUL	5	-1	13	-10	2	3.3	73																	
JAPAN	SAPORO	3	-2	13	-8	0	1.6	97																	
	NAGOYA	12	5	18	-2	8	2.2	85																	
	TOKYO	13	6	21	1	10	2.3	67																	
	YOKOHAMA	13	6	22	1	10	2.1	59																	
	KYOTO	12	5	19	0	9	3.0	79																	
	OSAKA	13	7	20	1	10	2.2	68																	
THAILN	PHETCHABUN	32	17	34	11	24	-0.1	8																	
	BANGKOK	31	22	33	17	27	0.9	12																	
MALAYS	KUALA LUMPUR	32	23	33	19	27	1.2	423																	
VIEINM	HANOI	24	17	30	10	21	2.3	37																	
CHINA	HARBIN	-10	-21	2	-33	-16	1.6	7																	
	HAMI	0	-12	4	-19	-6	1.9	1																	
	LANCHOW	4	-7	8	-15	-2	3.7	0																	
	BEIJING	4	-4	9	-8	0	2.6	0																	
	TIENTISIN	4	-5	8	-9	-1	1.0	0																	
	LHASA	4	-10	9	-15	-3	-2.4	7																	
	KUNMING	15	2	19	-1	9	0.3	1																	
	CHENGCHOW	8	-2	16	-8	3	1.9	15																	
	YECHANG	11	5	18	-2	8	0.8	25																	
	HANKOW	11	4	17	-2	7	2.3	35																	
	CHUNGKING	13	7	18	1	10	***	15																	
	CHIHKIANG	13	6	20	-1	9	2.0	55																	
	WU HU	10	3	16	-3	7	***	42																	
	SHANGHAI	12	5	20	-2	8	***	33																	
	NANCHANG	13	7	19	-1	10	1.9	67																	
	TAIPEI	21	17	27	13	19	2.1	75																	
	CANTON	23	14	29	7	19	3.2	43																	
	NANNING	23	14	28	8	18	3.2	64																	
CNRY I	LAS PALMAS	22	16	25	13	19	0.7	21																	
MOROCC	CASABLANCA	19	11	22	7	15	1.8	8																	
	MARRAKECH	19	8	24	4	13	1.8	1																	
ALGERI	ALGER	18	9	23	3	13	1.7	70																	
	BATNA	13	2	18	-3	7	1.4	52																	
TUNISI	TUNIS	17	8	25	3	13	0.6	92																	
NIGER	NIAMEY	33	17	36	14	25	0.2	0																	
MALI	TIMBUKTU	32	15	35	12	24	1.5	0																	
	BAMAKO	34	21	37	18	28	2.9	0																	
MAURIT	NOUAKCHOTT	31	16	40	14	24	1.9	0																	
SENEGL	DAKAR	26	21	34	19	24	0.8																		

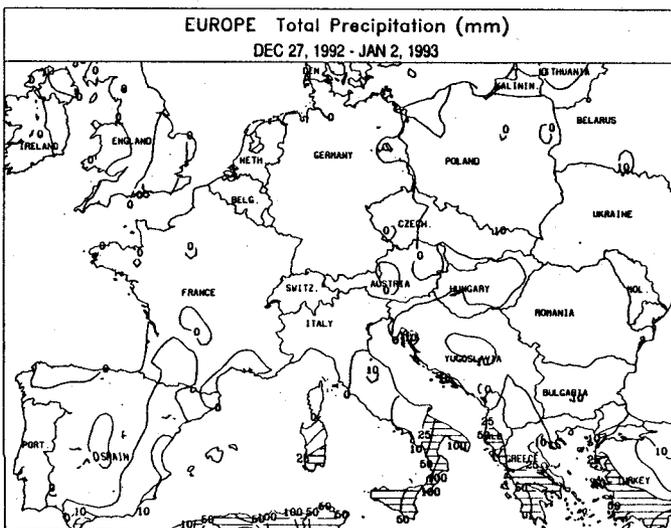
FSU-WESTERN: Unseasonably cold weather was accompanied by generally light precipitation over most winter grain areas. Lowest minimum temperatures ranged from -20 to -27 degrees Celsius (C) across the north and -15 to -25 degrees C across the south. Light snow blanketed most of the region, with precipitation amounts ranging from 2 to 10 mm. Greatest amounts of moisture (10-20 mm) in the form of snow covered crop areas in Krasnodar Kray Oblast in North Caucasus. A shallow to moderate snow cover existed over most winter grain areas, providing adequate protection from extreme cold. However, snow cover was limited in Belarus, leaving crops vulnerable to potential freeze damage.



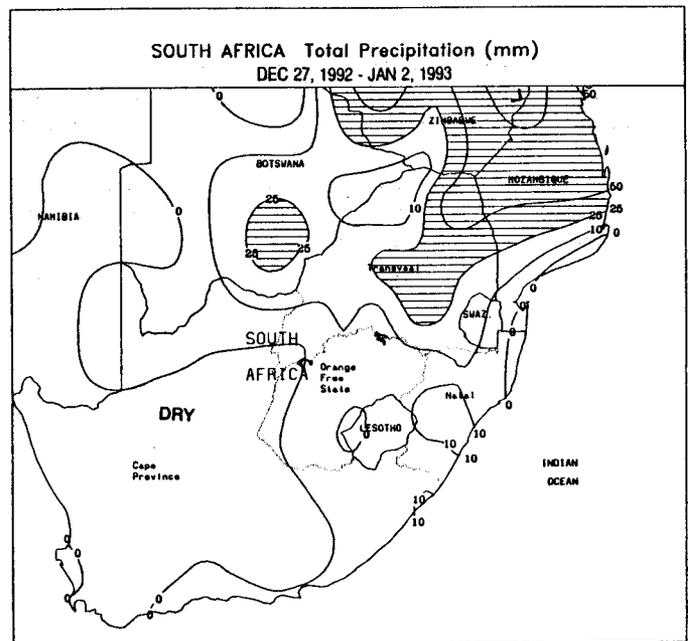
NORTHWESTERN AFRICA: Soaking rain (25-50 mm, with local amounts in excess of 75 mm) benefited vegetative winter grains in central and eastern Algeria and Tunisia. Further west, little, if any, rain (less than 5 mm) further exacerbated dryness in Morocco and western Algeria. Persistent dryness in these areas since the beginning of the growing season has created highly adverse conditions for winter grain planting and crop establishment. Rain is needed soon to avert significant declines in crop production.



EUROPE: Unseasonably cold weather continued in the east and expanded across the west to encompass the entire region. Temperatures averaged 3-7 degrees C below normal from France to Poland and southward to Greece. Daily minimum temperatures fell to the -5 to -13 degrees C range in the west, and to the -10 to -20 degrees C range from Poland to Bulgaria. Subfreezing minimum temperatures reached the Mediterranean regions from eastern Spain to interior sections of Greece. Significant precipitation (10-50 mm or more) was confined to southern Italy and Greece. Very little precipitation fell elsewhere over most of Europe. Winter grains in the northeast were particularly vulnerable to winterkill conditions, due to limited snow cover and bitter cold weather. Snow cover increased over east-central and southeastern crop areas, providing some protection to winter crops.

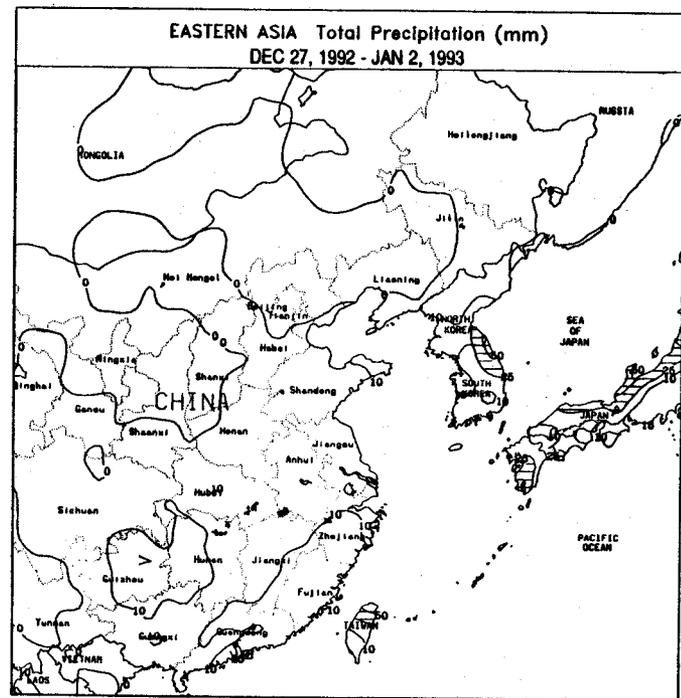
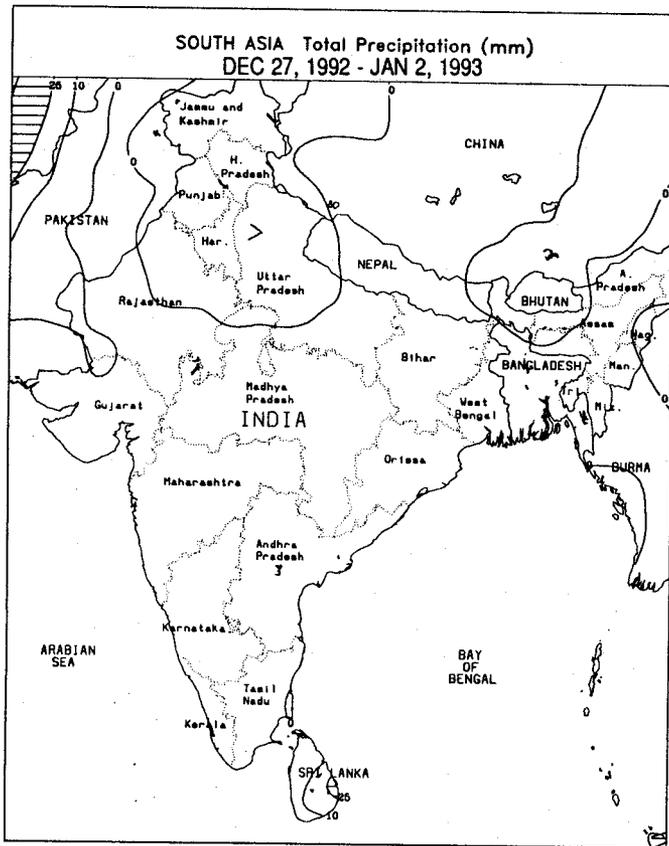


SOUTH AFRICA: Dry, warm weather returned to primary western grain areas, reducing moisture for vegetative corn. Moderate showers (10-36 mm) maintained favorable moisture levels in corn areas of south-central Transvaal, but warm weather (highs in the low to mid 30's C) enhanced crop moisture demands. Rainfall was unseasonably light (10 mm or less) over most crop areas of Natal and Cape Province.

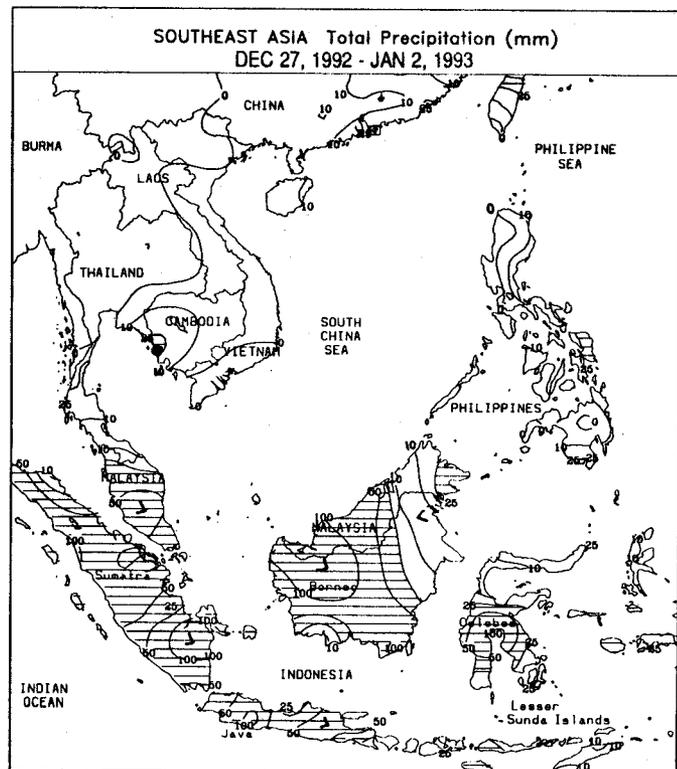


SOUTH ASIA: Seasonably dry weather covered the region. Near- to above-normal temperatures across northern winter grain and oilseed areas favored vegetative growth, while cooler-than-normal weather covered southern India, slowing winter crop growth. Summer cotton harvests typically last until February.

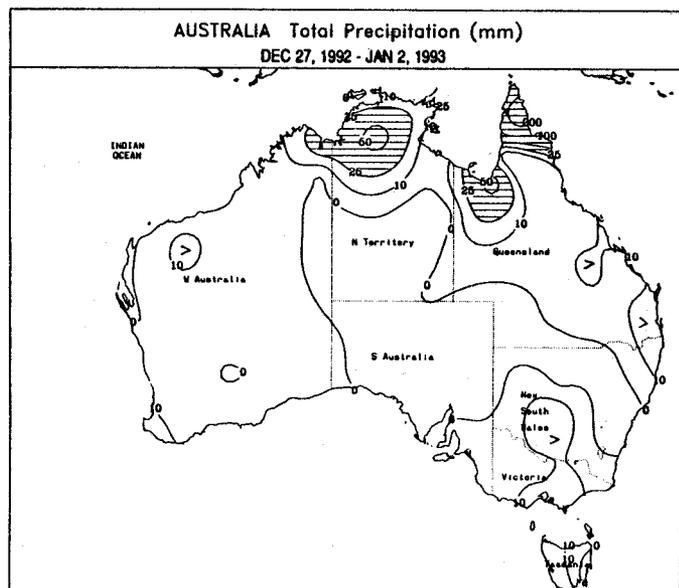
EASTERN ASIA: Winter grains remained dormant across the North China Plain, despite temperatures averaging 2-4 degrees C above normal. The region received little, or no, precipitation. Light to moderate rain (4-30 mm) fell across southeastern China, aiding reservoirs.



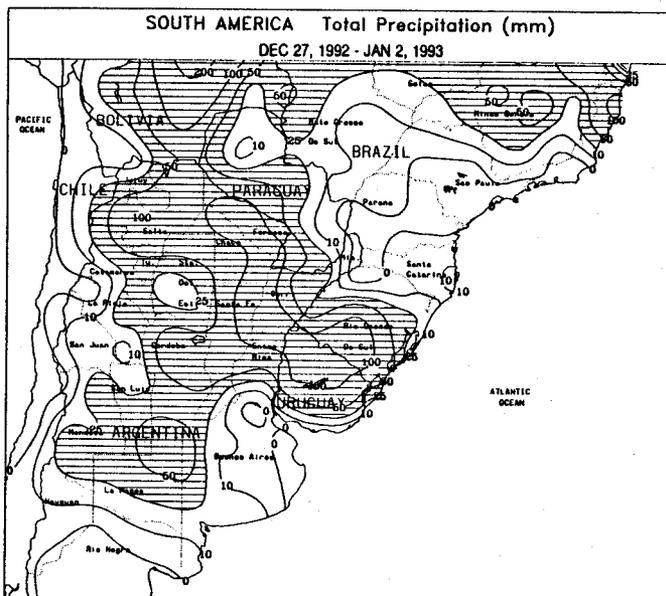
SOUTHEAST ASIA: Seasonable showers (35-100 mm or more) continued over Malaysia and returned to Java, maintaining favorable moisture levels for oil palm and rice. To the north, only isolated locations of peninsular Thailand received more than 25 mm. Seasonably drier weather returned to northern Indochina following last week's heavy rain. In the Philippines, rainfall continued to be lighter-than-normal (10-34 mm) over the eastern islands, limiting moisture for fall planted grains.



AUSTRALIA: Drier weather prevailed across South Australia, Victoria, and southern New South Wales, favoring winter wheat maturation and harvesting. Also, temperatures warmed up (maximum temperatures ranged from 35 to 39 degrees C) late in the week, aiding drydown of winter grains. Western wheat areas remained dry, promoting favorable maturing and harvesting conditions. Little, or no, rain fell across the eastern summer crop region, aiding late planting, but additional rain is still needed to replenish reservoirs. Tropical Cyclone Nina, which moved eastward off of Cape York early in the week, and late-week tropical showers produced heavy rain (greater than 150 mm) across the peninsula. The main Queensland sugarcane region received only light rain (5-15 mm).



SOUTH AMERICA: A series of storm systems swept across Argentina, producing moderate to heavy rain (23-100 mm). The rains continued to delay winter wheat harvesting and reduced wheat quality in La Pampa, Cordoba, and southern Santa Fe. Soil moisture levels are abundant throughout most of the country, but excessive moisture hindered early growth of northern cotton and some southern soybeans. Buenos Aires province received only light to moderate rain (7-24 mm), allowing winter wheat harvesting to progress and favoring soil moisture for summer crop growth. Temperatures averaged near normal across Argentina. In southern Brazil, drier (2-16 mm) and warmer weather prevailed from northern Rio Grande do Sul northward into southern Mato Grosso do Sul, prompting concern for vegetative to early reproductive soybeans. Maximum temperatures ranged from 33 to 37 degrees C (averaging 2-4 degrees C above normal for the week), increasing crop water use. While the situation is not critical, rain is needed the next few weeks during the flowering phase to prevent yield losses. Elsewhere, tropical moisture brought moderate to isolated heavy showers (20-100 mm) to Minas Gerais, Goias, and Mato Grosso, favoring soybean development.



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(Continued from p. 18)

Crops: Cotton harvest continued Plains, halted late week by cold, wet conditions. Harvested fields plowed under. 95% harvested, 92% 1991, 98% avg. Small grain growth Central Texas slowed by continually overcast skies. Several fields Low Plains, Blacklands suffered from greenbug, mite infestations. Stands Cross Timbers continued improve with increased moisture levels, warmer temperatures. Statewide wheat condition 67% normal compared 82% 1991.

Commercial Vegetables: Rio Grande Valley, onions progressing well. Land preparation for melon planting began. Citrus harvest continued. East Texas, wet conditions delayed harvest greens. Some sweet potatoes, spinach harvested. Some soil preparation for spring planting occurred. Trans-Pecos, irrigation, weed control of fields continued. Pecan harvest continued where conditions allowed. Dry weather allowed harvest Cross Timbers, Hill Country near completion. Trans-Pecos shucks sticking to nuts. Harvest High Plains advanced rapidly.

Range and Livestock: Condition cattle most areas improved with warmer temperatures. Supplemental feeding still occurring all areas, heavier Plains than other areas. Low Plains, some cattle moved to small grain fields for grazing. Some tanks Plains still low. Winter pastures improving with warmer, wet conditions, but needed more sunshine promote growth. Livestock conditions remained fair to good.

UTAH: Temperature maximums and minimums 2° less than normal. Moderate to heavy precipitation was reported in all areas except the western, southeastern divisions, where it ranged from light to moderate.

Large amounts of snow fall have hindered many outdoor farm activities. Major farm, ranch activities were feeding, caring for livestock, moving snow, year end bookkeeping.

VIRGINIA: Temperatures above normal. Extremes 17°; 76°. Precipitation slightly above normal. Most areas received 0.50 to 1.00 in. The greatest amount was 1.21 in. recorded at Charlottesville.

Days suitable for fieldwork 1.0. Topsoil 26% adequate, 74% surplus. Soybean, cotton harvest nearing completion, slow due to continued wet, rainy weather. Winter grains, grazing crops 4% poor, 46% fair, 46% good, 4% excellent. Forage from pastures, grazing crops dairy cattle 6%, beef cattle 30%, sheep 20%. Reconditioning or repairing tillage, planting equipment. Wet weather hampered soybean, cotton harvesting. Marketing dark-fired, burley tobacco.

WASHINGTON: Temperatures 11° below normal to 1° below normal west; 9° below normal to normal east. Precipitation 0.19 in. to 1.73 in. west; none to 1.94 in. east.

Soil moisture 9% short, 85% adequate, 6% surplus. Hay, other roughage 15% short, 68% adequate, 17% surplus. Range, pasture 30% very poor, 16% poor, 22% fair, 7% good, 25% excellent. Winter wheat dryland 50% fair, 50% good; irrigated 100% good. Barley dryland 75% fair, 25% good; irrigated 100% good. Heavy snow, cold weather statewide restricted most field activities. Crops protected by snowcover, with new snow accumulations expected to significantly improve 1993 crop conditions, water supplies. Livestock feed very short with most livestock on winter feeding programs.

WEST VIRGINIA: Temperature 42°. Extremes 15°; 71°. Precipitation 0.44 in.

Hay feed supplies adequate. Other feed supplies adequate. Cattle good. Sheep good. Farm activities: feeding livestock, bookkeeping.

WISCONSIN: Temperature 20°. Extremes -23°; 46°; A mixture of precipitation fell on the night of 28th. Rain fell across the southeast; a mixture of rain, sleet, freezing rain occurred elsewhere. On the 29th, northern areas received heavy snow showers with some locations having from 6 to 9 in. accumulations. The southeast received more rain on the 30th, with a mixture of precipitation elsewhere. Light snow developed over the south on 2nd, which changed to light rain, freezing drizzle; there was snow in the north. The snow in the north changed to light rain, drizzle on the 3rd.

Corn 77% harvested as of January 3rd. Comments from ag agents indicate that farmers are still expecting to harvest the rest of the corn. The mold problems may cause them to abandon some of it though.

WYOMING: Temperatures 10 to 22° below normal last week with the exception of the south, west central regions where temperatures 1 to 5° above normal. Precipitation was below normal with only isolated areas in the west central, northeast areas receiving above normal precipitation.

1993 Winter wheat fair to good, snowcover adequate in most areas. Livestock mostly good. Cold weather increasing feed requirements. Some stress due to wind. Supplemental feeding continuing. Farm, ranch activities include feeding, caring for livestock, preparation for calving, lambing, tax season.

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