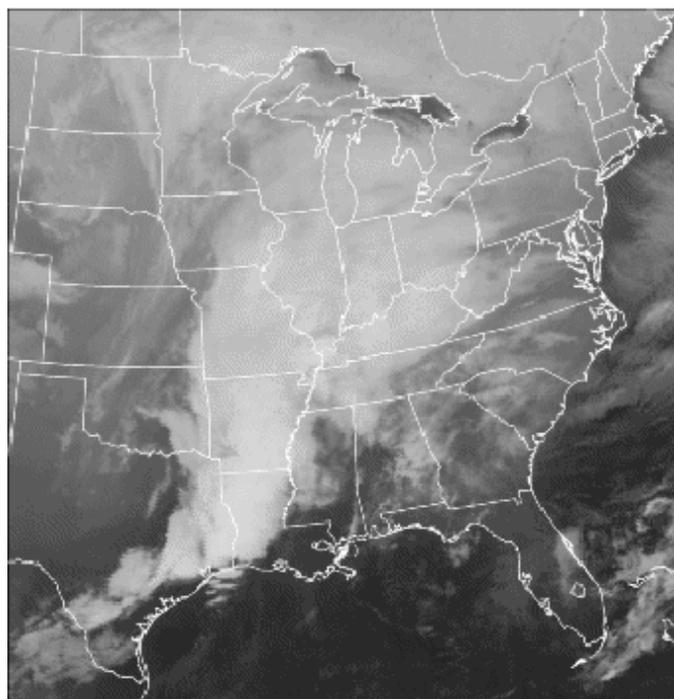


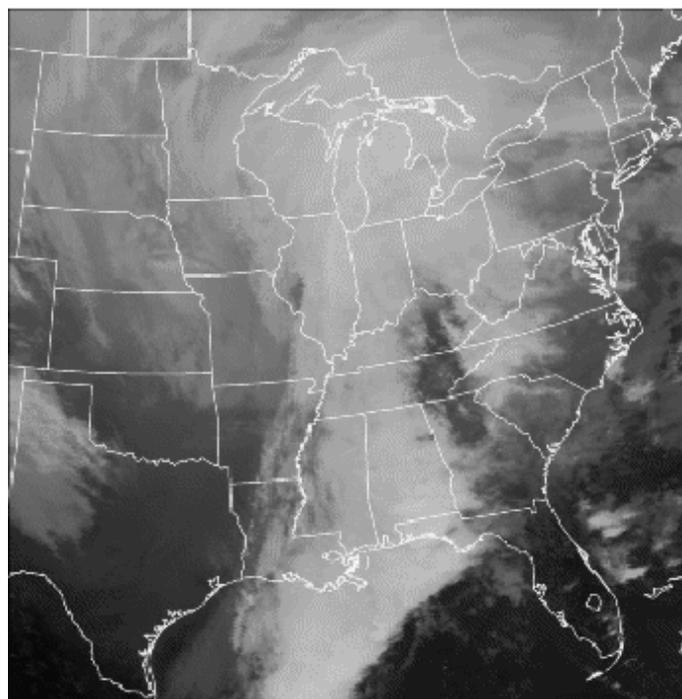
WEEKLY WEATHER AND CROP BULLETIN

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



GOES-8 IR: January 2, 1999, 1:00 a.m. EST



GOES-8 IR: January 2, 1999, 1:00 p.m. EST

HIGHLIGHTS

December 27, 1998 - January 2, 1999

Cold weather overspread the **eastern half of the Nation**, holding weekly temperatures as much as 7°F below normal and setting the stage for a late-week blizzard across the **Midwestern and Great Lakes States**. While the snowfall benefited soft red winter wheat, cold, windy conditions severely stressed livestock. Bitterly cold air trailed the storm into the **northern and central Plains** at week's end, lowering temperatures to 0°F as far south as **northern Kansas**. Hard red winter wheat on the **central Plains** had limited protection from the cold weather due to a light, patchy snow cover. Farther east, strong to severe late-week thunderstorms raced across the **Gulf Coast States**, while

(Continued on page 2)

Contents

Temperature Departure & Extreme Minimum Temperature Maps	2
National Weather Data for Selected Cities	3
National Agricultural Summary & Snow Cover Map	6
December State Agricultural Summaries	7
International Weather and Crop Summary & December Temperature/Precipitation Table .	11
Subscription Information & Total Precipitation Map	16

(Continued from front cover)

sleet, freezing rain, heavy rain, and gusty winds battered the **East**. In contrast, mild, dry weather prevailed in the **Southwest**, where weekly temperatures ranged from 3 to 11°F above normal. Warmer-than-normal weather (departures of +4 to +14°F) was also observed in the **Northwest**, but was accompanied by heavy rain. Rain- and snowmelt-induced flooding ensued, primarily **west of the Cascades**.

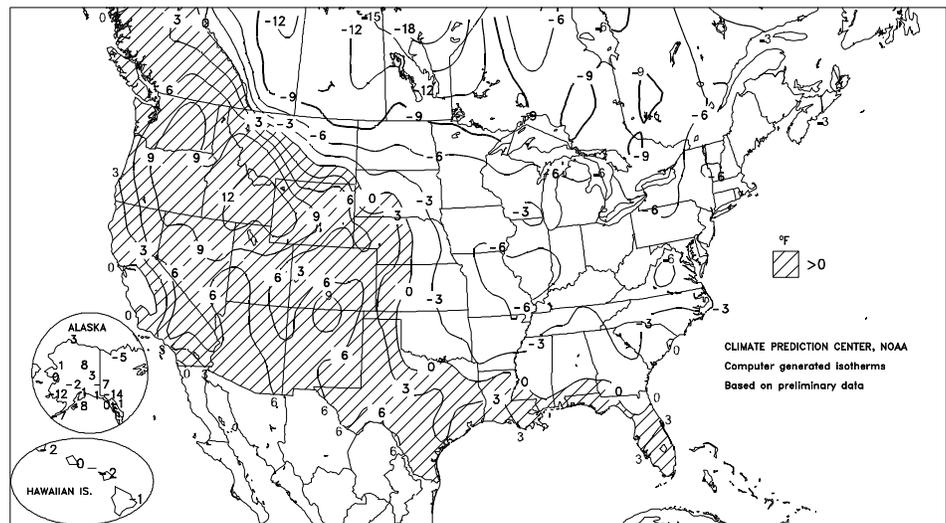
Early in the week, warm weather lingered across **Florida**, while record warmth developed across the **West**. **Miami Beach, FL** noted consecutive daily-record highs, including 84°F on Tuesday. About two dozen daily records were set or tied in the **West**, including a high of 86°F in **Chatsworth, CA** on December 30. On the same day, **Cuyama, CA** posted a December record-tying high of 79°F. On New Year's Day, highs topped 70°F as far north as **Redding, CA** (71°F). A day later, **Red Bluff, CA** notched 74°F. Unusually mild weather briefly spread as far east as the **High Plains**, where downslope winds on Monday pushed highs to 55°F in **Billings, MT** and 70°F in **La Junta, CO**. On the same day, **Cheyenne, WY** clocked a December-record wind gust to 75 mph.

In contrast, a reinforcement of the previous week's cold outbreak maintained or introduced below-normal temperatures from the **eastern Plains** to the **East Coast**. In **Indiana**, **Indianapolis** registered their lowest temperature of the year (4°F) on December 31. On New Year's Day, **Sault Ste. Marie, MI** (-23°F) reported a daily-record low, while minima in **northern Minnesota** plummeted to -37°F in **International Falls** and -42°F in **Embarrass**.

Snow accumulated across much of the **Midwest** on Wednesday, as a fast-moving storm crossed the region. The system dropped the season's first measurable snowfall in locations such as **Columbia, MO** (1.0 inch), **Evansville, IN** (1.5 inches), and **Huntington, WV** (2.0 inches). Days later, a much stronger storm developed on the **southern Plains** before tracking northeastward through **Michigan**. **Chicago's O'Hare Airport** netted 21.6 inches of snow from January 1-3, second only to their 23.0-inch storm total on January 26-27, 1967. On January 2, however, **Chicago's** 18.6-inch accumulation, accompanied by easterly wind gusts up to 47 mph, was their greatest calendar-day total on record (surpassing 16.5 inches on January 13, 1979). In **Wisconsin**, **Milwaukee** collected 15.4 inches, their greatest single-storm accumulation since January 28-30, 1947. Wind gusts in **Milwaukee** reached 51 mph. Elsewhere, January 1-3 totals included 7.5 inches in **Dayton, OH**, 9.3 inches in **Columbia, MO**,

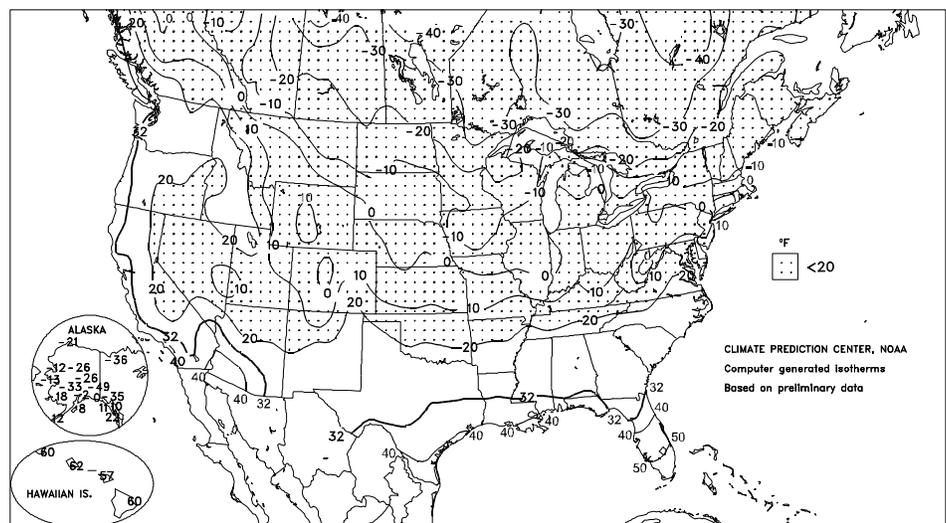
Departure of Average Temperature from Normal (°F)

DEC 27, 1998 - JAN 2, 1999



Extreme Minimum Temperature (°F)

DEC 27, 1998 - JAN 2, 1999



10.9 inches in **Indianapolis, IN**, 15.6 inches in **Grand Rapids, MI**, and 18.7 inches in **Burlington, IA**.

Meanwhile, damaging amounts of freezing rain glazed areas as far south as the **western Carolinas** before a rapid changeover to rain. Some significant icing also occurred in the **Ohio Valley** just south of the main heavy snow area. Storm-total rainfall exceeded 4 inches in a few locations along the **northern Atlantic Coast**, accompanied by strong winds. On Sunday, January 3, peak wind gusts included 61 mph in **Wilmington, DE** and 71 mph in **Chatham, MA**. Farther south, heavy rains accompanied a line of thunderstorms across the **South**. Daily-record totals for New Year's Day were reported in locations such as **Longview, TX** (2.05 inches) and **Texarkana, AR** (2.09 inches).

Renewed heavy rainfall and high freezing levels led to widespread flooding across the **Pacific Northwest** during the early- to midweek period. In **Washington**, Seattle's November-December precipitation totaled 20.60 inches (175% of normal), breaking their 1995 record of 18.46 inches. **Astoria, OR** received 36.13 inches (also 175%) during the same period. On December 28, several coastal rivers in **western Oregon**—responding to maximum 24-hour rainfall rates of 6 to 9 inches—crested at levels slightly above those observed during the February 1996 flood. The **Siletz River** at **Siletz** peaked at 8.7 feet above flood stage, while the **Wilson River** near **Tillamook** surged to 6.6 feet above flood stage.

National Weather Data for Selected Cities

Weather Data for the Week Ending January 2, 1999

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7503) and the Southern Regional Climate Center

(NOTE: Weekly precipitation totals may be under-reported at locations with automated sensors (ASOS) when frozen precipitation occurred.)

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	
AL BIRMINGHAM	50	34	55	28	42	-1	2.30	1.11	1.17	6.41	117	0.14	41	87	54	0	5	4	2	
AL HUNTSVILLE	45	31	50	26	38	-2	3.00	1.70	1.26	8.82	141	0.80	222	93	63	0	5	4	3	
AL MOBILE	61	41	68	35	51	0	0.78	-0.39	0.67	2.47	44	0.11	35	97	68	0	0	3	1	
AL MONTGOMERY	56	36	62	27	46	-1	0.48	-0.66	0.39	2.41	44	0.39	126	92	46	0	4	2	0	
AK ANCHORAGE	21	11	28	-2	16	1	0.01	-0.22	0.00	0.80	70	0.01	17	86	56	0	7	1	0	
AK BARROW	-5	-15	5	-21	-10	3	0.00	-0.03	0.00	0.46	354	0.00	0	80	71	0	7	0	0	
AK FAIRBANKS	3	-16	15	-26	-7	3	0.06	-0.10	0.04	0.53	61	0.00	0	79	59	0	7	2	0	
AK JUNEAU	28	21	39	10	25	-1	1.48	0.45	0.46	5.44	115	0.26	87	94	69	0	6	6	0	
AK KODIAK	27	17	32	8	22	-8	0.14	-1.52	0.08	4.79	66	0.08	16	81	54	0	7	3	0	
AK NOME	13	-1	28	-13	6	0	0.01	-0.18	0.00	0.88	97	0.01	17	71	47	0	7	1	0	
AZ FLAGSTAFF	53	21	59	14	37	9	0.00	-0.52	0.00	0.58	23	0.00	0	79	22	0	7	0	0	
AZ PHOENIX	69	44	72	40	56	3	0.00	-0.21	0.00	0.87	84	0.00	0	66	21	0	0	0	0	
AZ TUCSON	71	39	75	36	55	4	0.00	-0.24	0.00	0.57	50	0.00	0	49	14	0	0	0	0	
AZ YUMA	72	47	77	45	59	4	0.00	-0.10	0.00	0.17	35	0.00	0	44	20	0	0	0	0	
AR FORT SMITH	44	25	54	17	35	-3	0.60	0.06	0.60	3.64	114	0.60	429	91	52	0	7	1	1	
AR LITTLE ROCK	44	27	58	22	36	-4	0.97	0.03	0.68	4.78	94	0.96	384	94	55	0	7	3	1	
CA BAKERSFIELD	54	31	58	27	43	-3	0.01	-0.14	0.01	0.68	101	0.01	20	93	49	0	5	1	0	
CA EUREKA	56	40	59	34	48	0	0.49	-0.84	0.38	5.40	84	0.00	0	100	71	0	0	3	0	
CA FRESNO	53	33	57	27	43	-1	0.00	-0.37	0.00	0.73	47	0.00	0	96	52	0	4	0	0	
CA LOS ANGELES	65	46	70	44	55	-1	0.03	-0.40	0.01	0.91	51	0.01	8	98	50	0	0	3	0	
CA REDDING	62	39	74	34	51	7	0.08	-1.24	0.08	2.21	37	0.00	0	77	34	0	0	1	0	
CA SACRAMENTO	53	32	55	29	42	-1	0.00	-0.68	0.00	0.59	22	0.00	0	100	67	0	6	0	0	
CA SAN DIEGO	63	48	67	46	55	-1	0.01	-0.37	0.01	0.71	42	0.00	0	95	55	0	0	1	0	
CA SAN FRANCISCO	52	41	57	39	47	-1	0.04	-0.79	0.01	1.17	35	0.00	0	97	74	0	0	4	0	
CO ALAMOSA	42	8	50	3	25	11	0.03	-0.05	0.03	0.07	15	0.03	150	89	30	0	7	1	0	
CO CO SPRINGS	42	23	58	13	32	4	0.02	-0.06	0.00	0.29	59	0.02	100	80	42	0	7	1	0	
CO DENVER	42	22	56	3	32	3	0.13	0.00	0.06	0.48	70	0.13	325	83	46	0	7	2	0	
CO GRAND JUNCTION	35	16	44	7	26	0	0.01	-0.13	0.01	0.30	46	0.01	25	95	65	0	7	1	0	
CO PUEBLO	50	23	68	22	37	8	0.00	-0.08	0.00	0.29	64	0.00	0	90	39	0	7	0	0	
CT BRIDGEPORT	34	19	44	7	27	-4	0.53	-0.23	0.45	1.17	31	0.00	0	82	45	0	5	4	0	
CT HARTFORD	30	14	42	0	22	-4	0.34	-0.50	0.32	0.88	21	0.00	0	81	49	0	7	2	0	
DC WASHINGTON	36	26	47	20	31	-5	0.13	-0.54	0.04	1.79	54	0.02	11	84	46	0	5	5	0	
DE WILMINGTON	34	22	42	13	28	-4	0.30	-0.46	0.15	1.15	31	0.10	48	95	54	0	5	5	0	
FL DAYTONA BEACH	69	51	75	40	60	2	0.83	0.24	0.32	1.79	65	0.39	229	95	62	0	0	3	0	
FL JACKSONVILLE	64	40	73	30	52	-1	0.91	0.23	0.69	1.24	43	0.75	395	98	60	0	2	2	1	
FL KEY WEST	79	70	82	66	74	4	0.85	0.43	0.41	2.01	93	0.41	342	93	73	0	0	4	0	
FL MIAMI	77	66	81	57	72	4	1.45	1.03	1.20	2.31	117	0.17	131	93	61	0	0	4	1	
FL ORLANDO	72	54	77	43	63	2	1.20	0.71	0.83	1.87	82	0.83	638	96	58	0	0	3	1	
FL PENSACOLA	62	44	69	37	53	1	0.71	-0.31	0.60	4.58	100	0.10	34	95	65	0	0	2	1	
FL TALLAHASSEE	61	40	67	29	51	0	1.05	-0.08	0.91	2.66	50	0.91	294	98	55	0	2	3	1	
FL TAMPA	72	53	77	46	63	2	1.54	1.08	1.14	2.09	92	1.14	950	96	65	0	0	2	1	
FL WEST PALM BEACH	76	60	79	52	68	2	5.33	4.80	3.54	7.57	285	3.54	2082	96	57	0	0	3	2	
GA ATHENS	48	32	52	28	40	-3	1.36	0.37	1.30	3.22	74	1.30	448	92	53	0	5	2	1	
GA ATLANTA	47	33	55	28	40	-2	0.91	-0.12	0.79	2.84	61	0.79	263	89	53	0	3	2	1	
GA AUGUSTA	52	31	58	23	42	-3	0.75	-0.10	0.75	2.12	58	0.75	313	99	49	0	4	1	1	
GA COLUMBUS	53	38	61	32	46	-1	0.11	-1.01	0.10	1.59	30	0.11	35	86	44	0	2	1	0	
GA MACON	54	34	60	28	44	-3	1.19	0.15	1.18	2.91	63	1.18	407	98	49	0	3	2	1	
GA SAVANNAH	59	35	69	28	47	-2	0.69	-0.07	0.59	3.04	95	0.59	268	99	54	0	4	3	1	
HI HILO	78	63	80	60	71	-1	0.16	-2.25	0.09	10.33	81	0.00	0	97	69	0	0	3	0	
HI HONOLULU	80	66	82	62	73	0	0.68	-0.20	0.53	1.18	29	0.08	32	93	61	0	0	2	1	
HI KAHULUI	79	61	83	57	70	-2	0.89	0.03	0.87	1.29	36	0.02	8	96	57	0	0	2	1	
HI LIHUE	76	65	79	60	70	-2	0.60	-0.67	0.44	2.35	42	0.00	0	94	69	0	0	5	0	
ID BOISE	44	33	52	24	38	11	0.56	0.25	0.24	1.77	123	0.00	0	95	67	0	3	4	0	
ID LEWISTON	47	36	55	27	41	8	0.71	0.43	0.37	1.06	81	0.00	0	93	65	0	2	4	0	
ID POCATELLO	39	30	46	18	35	12	0.24	-0.01	0.11	0.73	62	0.00	0	89	66	0	5	4	0	
IL CHICAGO/O'HARE	29	12	45	1	20	-2	0.06	-0.40	0.02	1.27	49	0.03	23	86	54	0	7	2	0	
IL MOLINE	26	7	43	-4	17	-5	0.04	-0.40	0.00	0.94	40	0.02	17	87	59	0	7	2	0	
IL PEORIA	26	9	46	-2	18	-5	0.37	-0.09	0.15	2.02	79	0.26	217	89	61	0	7	3	0	
IL ROCKFORD	28	8	49	-2	18	-2	0.07	-0.31	0.01	0.94	44	0.01	10	85	52	0	7	3	0	
IL SPRINGFIELD	27	9	43	-4	18	-7	0.28	-0.23	0.20	0.91	32	0.23	177	89	62	0	7	3	0	
IN EVANSVILLE	33	19	43	5	26	-6	0.56	-0.16	0.16	3.56	92	0.46	242	93	67	0	7	4	0	
IN FORT WAYNE	29	14	38	8	22	-3	0.08	-0.48	0.06	1.08	36	0.06	40	91	63	0	7	3	0	
IN INDIANAPOLIS	29	15	38	2	22	-5	0.30	-0.36	0.18	1.45	41	0.22	129	89	73	0	7	5	0	
IN SOUTH BEND	27	16	40	9	21	-4	0.44	-0.21	0.30	2.46	71	0.31	182	91	58	0	7	4	0	
IA BURLINGTON	28	10	49	-6	19	-	0.45	-	0.28	1.93	93	0.28	-	83	55	0	7	3	0	
IA CEDAR RAPIDS	24	3	38	-11	13	-5	0.22	-0.06	0.12	0.61	37	0.12	151	91	62	0	7	4	0	
IA DES MOINES	24	7	40	-10	15	-5	0.00	-0.25	0.00	0.12	9	0.00	0	90	61	0	7	0	0	
IA DUBUQUE	23	5	38	-6	14	-3	0.10	-0.26	0.02	0.26	13	0.03	30	89	60	0	7	5	0	
IA SIOUX CITY	23	6	45	-8	15	-4	0.01	-0.14	0.01	0.13	16	0.00	0	88	66	0	7	1	0	
IA WATERLOO	23	1	37	-11	12	-4	0.16	-0.08	0.08	0.29	21	0.08	133	90	63	0	7	4	0	
KS CONCORDIA	36	15	50	4	26	-1	0.11	-0.06	0.05	0.28	31	0.11	220	79	46	0	7	2	0	
KS DODGE CITY	42	18	61	6	30	0	0.05	-0.08	0.05	0.33	48	0.05	167	85	46	0	7	1	0	
KS GOODLAND	41	19	58	2	30	2	0.01	-0.07	0.00	0.07	16	0.01	50	87	48	0	7	1	0	
KS TOPEKA	34	15	49	6	24	-3	0.11	-0.16	0.05	1.35	90	0.11	157	86	48	0	7	2	0	

Based on 1961-90 normals

Weather Data for the Week Ending January 2, 1999

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	0.1 INCH OR MORE	50 INCH OR MORE
KY WICHITA	37	18	52	9	27	-3	0.01	-0.21	0.01	1.11	88	0.01	17	87	49	0	7	1	0
KY JACKSON	37	23	49	11	30	-4	1.04	0.10	0.46	5.64	121	0.48	185	91	56	0	6	5	0
KY LEXINGTON	36	20	46	5	28	-5	0.73	-0.08	0.49	3.75	89	0.51	243	97	70	0	6	5	0
KY LOUISVILLE	36	23	44	13	30	-4	1.32	0.58	0.94	3.97	103	1.14	570	91	62	0	6	5	1
KY PADUCAH	36	22	47	12	29	-5	0.99	0.09	0.98	4.69	95	0.98	409	93	61	0	6	3	1
LA BATON ROUGE	63	41	70	34	52	2	2.27	1.05	1.12	4.17	71	1.15	348	96	63	0	0	2	2
LA LAKE CHARLES	67	44	71	38	55	4	2.89	1.76	1.57	5.39	100	1.67	539	98	61	0	0	3	2
LA NEW ORLEANS	65	44	73	39	54	2	0.83	-0.42	0.71	2.47	41	0.12	36	95	65	0	0	2	1
LA SHREVEPORT	57	36	66	30	47	1	2.37	1.49	1.76	8.41	193	2.17	868	95	55	0	3	3	1
ME CARIBOU	15	-2	36	-22	6	-4	0.34	-0.31	0.25	1.59	47	0.00	0	83	52	0	7	2	0
ME PORTLAND	27	7	40	-12	17	-5	0.58	-0.33	0.32	1.69	35	0.02	8	83	46	0	7	3	0
MD BALTIMORE	34	20	41	12	27	-6	0.06	-0.68	0.01	1.33	37	0.02	10	88	46	0	6	3	0
MA BOSTON	32	18	43	2	25	-5	0.77	-0.08	0.53	1.68	40	0.02	8	76	44	0	6	4	1
MA WORCESTER	28	13	40	-4	21	-3	0.40	-0.48	0.36	1.49	35	0.02	8	82	49	0	6	3	0
MI ALPENA	23	4	37	-5	13	-6	0.50	0.08	0.23	1.79	83	0.24	200	88	60	0	7	6	0
MI GRAND RAPIDS	25	13	37	5	19	-5	0.20	-0.34	0.07	1.27	42	0.07	47	88	59	0	7	4	0
MI HOUGHTON LAKE	21	5	35	-8	13	-6	0.35	-0.04	0.20	1.43	69	0.21	191	91	65	0	7	6	0
MI LANSING	25	9	39	-2	17	-6	0.50	0.06	0.21	1.78	73	0.21	175	92	58	0	7	4	0
MI MARQUETTE	16	-1	26	-12	7	-6	1.05	0.49	0.68	2.28	82	0.68	425	90	61	0	7	4	1
MI MUSKEGON	25	15	38	7	20	-5	0.33	-0.30	0.15	1.61	50	0.03	17	86	57	0	7	4	0
MN DULUTH	11	-9	27	-23	1	-7	0.21	-0.07	0.09	1.61	119	0.04	44	89	58	0	7	3	0
MN INT'L FALLS	2	-21	12	-37	-9	-11	0.25	0.06	0.11	0.42	46	0.05	83	85	62	0	7	5	0
MN MINNEAPOLIS	20	1	39	-9	11	-2	0.12	-0.10	0.03	0.51	45	0.07	117	82	55	0	7	4	0
MN ROCHESTER	21	0	43	-12	10	-2	0.12	-0.07	0.03	0.19	18	0.05	83	89	60	0	7	5	0
MN ST. CLOUD	16	-7	38	-19	4	-5	0.14	-0.03	0.05	1.09	124	0.14	233	83	60	0	7	2	0
MS JACKSON	55	35	59	28	45	0	1.09	-0.22	0.85	6.47	103	0.23	62	96	66	0	3	4	1
MS MERIDIAN	55	33	62	26	44	-2	0.79	-0.54	0.63	4.05	63	0.16	44	96	62	0	5	3	1
MS TUPELO	47	31	54	24	39	-2	1.63	0.31	0.93	8.63	132	0.53	151	94	59	0	5	4	1
MO COLUMBIA	29	14	45	3	21	-7	0.63	0.19	0.44	1.80	70	0.54	491	87	56	0	7	3	0
MO KANSAS CITY	30	14	47	2	22	-5	0.02	-0.29	0.00	0.91	54	0.00	0	87	55	0	7	1	0
MO SAINT LOUIS	32	15	48	7	24	-7	1.12	0.56	0.87	1.86	58	1.02	729	91	54	0	7	3	1
MO SPRINGFIELD	37	18	50	10	28	-4	1.47	0.90	1.37	2.88	87	1.47	980	89	54	0	7	2	1
MT BILLINGS	41	13	54	6	27	4	0.05	-0.15	0.04	0.60	71	0.00	0	88	53	0	7	2	0
MT BUTTE	36	18	44	11	27	11	0.10	-0.02	0.02	1.32	259	0.02	50	88	58	0	7	5	0
MT GLASGOW	11	-5	20	-12	3	-8	0.33	0.25	0.14	0.72	185	0.00	0	89	72	0	7	5	0
MT GREAT FALLS	37	14	43	4	25	4	0.20	-0.02	0.09	0.42	46	0.09	150	90	64	0	7	4	0
MT KALISPELL	38	24	45	10	31	11	0.99	0.60	0.47	2.64	144	0.00	0	94	61	0	5	5	0
MT MILES CITY	26	2	39	-9	14	-2	0.38	0.24	0.29	0.64	98	0.00	0	89	67	0	7	3	0
MT MISSOULA	37	27	46	23	32	11	0.28	0.00	0.09	1.53	123	0.00	0	95	64	0	5	5	0
NE GRAND ISLAND	35	11	51	0	23	1	0.13	0.00	0.10	0.21	28	0.10	333	83	51	0	7	2	0
NE LINCOLN	33	9	47	-1	21	-1	0.26	0.10	0.13	0.33	36	0.14	350	88	54	0	7	4	0
NE NORFOLK	28	9	50	-2	19	-1	0.37	0.23	0.15	0.28	36	0.15	375	83	55	0	7	3	0
NE NORTH PLATTE	40	11	61	-3	26	4	0.20	0.12	0.20	0.21	43	0.20	1000	87	48	0	7	1	0
NE OMAHA	28	8	45	-8	18	-3	0.31	0.12	0.17	0.33	31	0.21	350	85	56	0	7	3	0
NE SCOTTSBLUFF	40	23	53	11	32	7	0.12	0.01	0.08	0.86	141	0.00	0	87	53	0	6	3	0
NE VALENTINE	35	12	57	-6	23	4	0.18	0.11	0.06	0.25	62	0.10	500	89	54	0	7	3	0
NV ELY	46	21	56	12	34	10	0.01	-0.16	0.01	0.41	53	0.00	0	87	34	0	7	1	0
NV LAS VEGAS	64	40	68	32	52	8	0.00	-0.09	0.00	0.04	10	0.00	0	41	18	0	1	0	0
NV RENO	52	26	60	19	39	7	0.00	-0.23	0.00	0.04	4	0.00	0	84	33	0	5	0	0
NV WINNEMUCCA	48	25	57	15	37	8	0.00	-0.19	0.00	0.22	23	0.00	0	86	42	0	6	0	0
NH CONCORD	27	5	40	-14	16	-4	0.28	-0.35	0.19	1.05	32	0.04	24	86	48	0	7	3	0
NJ NEWARK	34	21	45	10	28	-4	0.68	-0.08	0.63	1.12	31	0.02	9	78	43	0	6	4	1
NM ALBUQUERQUE	53	30	60	22	42	8	0.00	-0.11	0.00	0.22	42	0.00	0	66	28	0	5	0	0
NY ALBANY	27	9	40	-10	18	-4	0.21	-0.39	0.16	1.09	35	0.00	0	88	49	0	7	2	0
NY BINGHAMTON	25	9	34	-4	17	-6	0.13	-0.49	0.04	1.68	53	0.02	12	88	59	0	7	4	0
NY BUFFALO	28	12	41	2	20	-6	0.79	0.05	0.63	2.18	56	0.64	320	88	54	0	7	5	1
NY ROCHESTER	28	11	40	1	20	-6	0.43	-0.12	0.20	1.85	64	0.26	173	90	58	0	7	5	0
NY SYRACUSE	29	10	39	-4	20	-4	0.59	-0.04	0.14	2.16	64	0.26	153	86	59	0	7	6	0
NC ASHEVILLE	42	29	48	24	35	-2	1.43	0.67	1.38	4.42	118	1.38	657	92	55	0	6	4	1
NC CHARLOTTE	46	28	52	22	37	-3	1.38	0.57	1.18	4.46	120	1.18	492	91	46	0	6	3	1
NC GREENSBORO	41	26	49	19	33	-5	1.22	0.46	1.22	6.56	183	1.22	581	92	52	0	6	1	1
NC HATTERAS	52	37	64	27	44	-2	0.31	-0.79	0.22	4.70	97	0.00	0	89	62	0	2	3	0
NC RALEIGH	47	27	55	20	37	-3	0.72	-0.04	0.63	4.18	121	0.63	286	94	50	0	5	4	1
NC WILMINGTON	56	34	68	26	45	-1	1.36	0.50	0.63	5.08	131	0.37	148	90	55	0	4	3	1
ND BISMARCK	13	1	27	-9	7	-3	0.52	0.41	0.24	0.72	138	0.30	1000	86	68	0	7	5	0
ND DICKINSON	16	0	34	-17	8	-6	0.27	0.19	0.07	0.36	92	0.08	400	89	74	0	7	6	0
ND FARGO	9	-8	24	-15	1	-6	0.03	-0.14	0.00	0.10	14	0.03	60	86	66	0	7	1	0
ND GRAND FORKS	5	-11	17	-20	-3	-8	0.14	-0.03	0.04	0.45	65	0.08	160	87	68	0	7	4	0
ND JAMESTOWN	9	-7	21	-13	1	-8	0.22	0.10	0.11	0.40	75	0.14	350	89	64	0	7	5	0
ND WILLISTON	9	-6	20	-20	1	-8	0.65	0.51	0.39	1.06	168	0.16	400	85	71	0	7	6	0
OH AKRON-CANTON	29	15	40	8	22	-5	0.61	0.02	0.35	2.67	86	0.35	219	94	64	0	7	4	0
OH CINCINNATI	33	18	43	3	26	-4	1.12	0.47	0.83	4.70	141	0.89	494	95	68	0	6	4	1
OH CLEVELAND	30	16	42	10	23	-4	1.09	0.49	0.67	2.96	91	0.82	513	89	60	0	7	5	1
OH COLUMBUS	32	17	42	7	25	-3	0.52	-0.05	0.36	3.71	123	0.37	231	91	61	0	7	4	0
OH DAYTON	31	14	40	1	22	-6	0.70	0.12	0.59	2.70	87	0.65	406	93	66	0	7	3	1
OH MANSFIELD	29	13	40	6	21	-5	0.37	-0.20	0.22	1.48	46	0.26	173	92	63	0	7	5	0

Based on 1961-90 normals

Weather Data for the Week Ending January 2, 1999

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	0.1 INCH OR MORE	5.0 INCH OR MORE	
OK TOLEDO	30	15	40	9	22	-2	0.77	0.21	0.67	1.37	44	0.69	493	88	57	0	7	4	1	
OK YOUNGSTOWN	29	15	42	5	22	-4	1.06	0.48	0.67	3.05	99	0.70	438	91	61	0	7	5	1	
OK OKLAHOMA CITY	47	25	53	19	36	-1	0.07	-0.20	0.07	1.72	116	0.07	100	84	46	0	7	1	0	
OK TULSA	43	22	52	14	32	-4	0.28	-0.12	0.26	1.85	81	0.28	255	87	48	0	7	2	0	
OR ASTORIA	51	42	53	32	46	5	4.49	2.12	2.25	16.67	148	0.01	1	98	80	0	1	6	2	
OR BURNS	42	28	48	20	35	12	0.21	-0.04	0.13	1.09	89	0.01	14	96	68	0	5	4	0	
OR EUGENE	51	42	60	31	46	6	4.53	2.62	1.99	8.98	98	0.00	0	96	78	0	1	4	2	
OR MEDFORD	46	36	52	30	41	4	0.31	-0.39	0.18	1.41	40	0.00	0	99	71	0	2	3	0	
OR PENDLETON	49	38	56	28	44	11	0.71	0.35	0.27	1.67	97	0.00	0	91	62	0	2	4	0	
OR PORTLAND	51	42	56	34	46	7	2.92	1.57	2.00	6.83	105	0.00	0	98	78	0	0	5	1	
OR SALEM	51	43	57	33	47	8	4.37	2.89	2.15	9.09	126	0.00	0	98	79	0	0	5	2	
PA ALLENTOWN	33	18	43	6	26	-2	0.27	-0.47	0.21	0.71	19	0.01	5	87	45	0	6	4	0	
PA ERIE	31	17	43	8	24	-4	0.21	-0.46	0.11	2.47	66	0.02	12	87	56	0	7	4	0	
PA MIDDLETOWN	33	20	43	11	27	-4	0.25	-0.43	0.12	0.48	14	0.12	63	89	46	0	7	3	0	
PA PHILADELPHIA	35	22	43	12	28	-4	0.20	-0.55	0.14	0.87	24	0.01	5	86	45	0	6	5	0	
PA PITTSBURGH	31	17	44	9	24	-4	0.74	0.11	0.47	2.52	82	0.50	278	89	54	0	6	5	0	
PA WILKES-BARRE	29	13	37	0	21	-6	0.15	-0.34	0.14	0.87	33	0.01	8	87	53	0	7	3	0	
PA WILLIAMSPORT	29	13	36	5	21	-6	0.06	-0.55	0.03	0.92	29	0.00	0	92	54	0	7	3	0	
RI PROVIDENCE	33	18	41	3	25	-4	0.74	-0.20	0.54	1.28	28	0.00	0	82	49	0	5	3	1	
SC BEAUFORT	59	37	66	30	48	-2	0.50	-0.31	0.42	2.98	87	0.42	175	99	57	0	4	4	0	
SC CHARLESTON	60	37	70	30	49	0	0.63	-0.14	0.51	4.93	146	0.51	232	95	50	0	4	4	1	
SC COLUMBIA	51	32	56	23	42	-3	0.79	-0.13	0.79	3.08	80	0.79	282	92	46	0	4	1	1	
SC GREENVILLE	45	30	50	26	38	-3	0.52	-0.44	0.31	4.56	103	0.31	115	94	50	0	6	2	0	
SD ABERDEEN	17	2	36	-7	10	-1	0.38	0.30	0.17	0.63	147	0.22	1100	89	59	0	7	4	0	
SD HURON	21	4	47	-4	13	-1	0.06	-0.02	0.00	0.12	24	0.04	200	87	64	0	7	3	0	
SD RAPID CITY	33	10	56	0	21	-1	0.16	0.06	0.06	0.29	57	0.10	500	87	54	0	7	5	0	
SD SIOUX FALLS	18	1	41	-9	9	-5	0.27	0.13	0.11	0.41	55	0.12	300	91	70	0	7	4	0	
TN BRISTOL	39	25	45	14	32	-3	0.78	0.02	0.45	5.93	165	0.46	219	92	60	0	5	4	0	
TN CHATTANOOGA	45	32	50	26	39	0	0.95	-0.21	0.47	6.88	125	0.47	142	90	55	0	4	4	0	
TN KNOXVILLE	40	29	45	21	34	-3	1.12	0.11	0.87	6.29	130	0.87	311	95	67	0	4	3	1	
TN MEMPHIS	44	28	55	23	36	-5	1.63	0.52	0.72	5.60	93	1.35	482	91	61	0	6	4	2	
TN NASHVILLE	41	25	49	18	33	-4	1.10	0.15	0.55	7.53	155	0.63	242	89	55	0	6	4	1	
TX ABILENE	60	31	71	25	45	2	0.03	-0.19	0.03	1.40	128	0.03	50	80	31	0	4	1	0	
TX AMARILLO	53	26	68	22	40	5	0.03	-0.06	0.03	0.44	100	0.03	100	83	32	0	7	1	0	
TX AUSTIN	67	43	75	39	55	6	0.01	-0.38	0.01	1.59	80	0.01	9	90	51	0	0	1	0	
TX BEAUMONT	68	44	73	37	56	4	1.48	0.37	1.03	3.96	77	1.23	384	97	63	0	0	4	1	
TX BROWNSVILLE	75	51	80	45	63	3	0.28	-0.03	0.24	0.77	57	0.25	278	100	62	0	0	4	0	
TX CORPUS CHRISTI	71	49	76	42	60	4	0.55	0.24	0.43	1.16	86	0.44	489	97	62	0	0	4	0	
TX DEL RIO	69	42	76	33	55	5	0.00	-0.13	0.00	0.40	62	0.00	0	91	34	0	0	0	0	
TX EL PASO	62	35	68	32	48	6	0.00	-0.12	0.00	0.34	55	0.00	0	67	30	0	1	0	0	
TX FORT WORTH	55	35	63	29	45	1	0.01	-0.40	0.01	4.62	235	0.01	9	95	54	0	3	1	0	
TX GALVESTON	67	50	71	44	59	5	1.50	0.73	1.16	4.87	131	1.18	537	100	71	0	0	5	1	
TX HOUSTON	69	43	76	34	56	5	1.17	0.40	0.87	5.19	141	0.92	418	96	53	0	0	4	1	
TX LUBBOCK	58	29	72	23	43	5	0.00	-0.10	0.00	0.26	46	0.00	0	76	26	0	6	0	0	
TX MIDLAND	62	32	72	26	47	4	0.00	-0.10	0.00	0.58	98	0.00	0	80	26	0	5	0	0	
TX SAN ANGELO	65	33	74	26	49	5	0.00	-0.17	0.00	0.49	60	0.00	0	83	29	0	3	0	0	
TX SAN ANTONIO	68	42	75	33	55	5	0.11	-0.21	0.01	0.63	39	0.02	20	91	44	0	0	3	0	
TX VICTORIA	68	44	74	37	56	3	0.29	-0.18	0.20	3.93	179	0.09	69	99	64	0	0	3	0	
TX WACO	61	37	70	30	49	3	0.07	-0.31	0.00	4.20	214	0.00	0	95	55	0	2	1	0	
TX WICHITA FALLS	51	28	58	22	40	0	0.00	-0.27	0.00	2.33	171	0.00	0	92	47	0	5	0	0	
UT SALT LAKE CITY	44	31	54	23	38	10	0.50	0.20	0.29	1.46	97	0.04	50	85	45	0	5	4	0	
VT BURLINGTON	26	5	37	-9	15	-3	0.17	-0.30	0.09	0.69	27	0.05	38	82	49	0	7	4	0	
VA LYNCHBURG	35	23	45	18	29	-6	0.61	-0.09	0.05	3.78	110	0.55	289	89	54	0	6	2	1	
VA NORFOLK	44	30	58	24	37	-3	0.76	-0.04	0.56	5.44	157	0.00	0	95	61	0	5	3	1	
VA RICHMOND	39	25	46	19	32	-5	0.19	-0.55	0.06	5.57	160	0.02	10	95	55	0	6	5	0	
VA ROANOKE	37	24	43	18	30	-5	0.35	-0.28	0.12	2.54	81	0.08	47	88	53	0	6	5	0	
VA WASH/DULLES	34	19	40	11	26	-6	0.30	-0.38	0.16	1.74	51	0.16	84	90	53	0	6	4	0	
WA HANFORD	52	38	60	30	45	--	0.02	--	0.01	0.44	--	0.00	--	86	53	0	1	2	0	
WA OLYMPIA	49	39	53	27	44	7	3.91	2.07	1.93	12.40	143	0.00	0	100	77	0	2	5	2	
WA QUILLAYUTE	48	38	51	29	43	4	4.46	1.03	1.99	24.03	146	0.02	2	100	88	0	1	6	2	
WA SEATTLE-TACOMA	49	42	52	33	45	6	2.93	1.63	1.57	8.98	143	0.00	0	98	77	0	0	5	2	
WA SPOKANE	39	30	47	19	35	9	0.72	0.20	0.38	3.78	148	0.00	0	98	83	0	4	3	0	
WA YAKIMA	49	31	57	22	40	12	0.35	0.03	0.29	0.87	57	0.00	0	97	52	0	4	3	0	
WV BECKLEY	32	20	41	8	26	-5	1.04	0.33	0.51	4.98	145	0.55	275	97	65	0	6	5	1	
WV CHARLESTON	36	22	46	15	29	-4	0.79	0.08	0.29	3.61	101	0.31	155	98	64	0	6	5	0	
WV ELKINS	34	14	46	-3	24	-5	0.46	-0.30	0.25	2.03	55	0.02	10	94	61	0	7	5	0	
WV HUNTINGTON	36	22	44	13	29	-5	0.67	-0.04	0.31	3.54	100	0.33	165	92	54	0	6	5	0	
WI EAU CLAIRE	18	-5	34	-20	7	-5	0.29	0.06	0.19	0.60	51	0.07	100	87	56	0	7	4	0	
WI GREEN BAY	22	0	35	-10	11	-5	0.29	-0.01	0.20	0.50	31	0.20	222	83	54	0	7	3	0	
WI MADISON	26	6	42	-4	16	-1	0.46	0.12	0.39	0.72	37	0.41	456	78	46	0	7	4	0	
WI MILWAUKEE	26	9	40	-3	17	-3	0.56	0.10	0.43	1.37	56	0.54	415	80	47	0	7	3	1	
WY CASPER	37	17	45	-1	27	5	0.13	-0.01	0.06	0.39	56	0.06	150	83	55	0	7	2	0	
WY CHEYENNE	39	23	48	5	31	5	0.17	0.08	0.12	0.61	139	0.15	500	85	53	0	7	3	0	
WY LANDER	39	23	49	9	31	12	0.03	-0.08	0.00	0.28	47	0.03	100	76	47	0	6	1	0	
WY SHERIDAN	37	14	55	7	25	5	0.15	-0.02	0.09	0.27	35	0.04	80	90	60	0	7	4	0	

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

National Agricultural Summary

December 28, 1998 - January 3, 1999

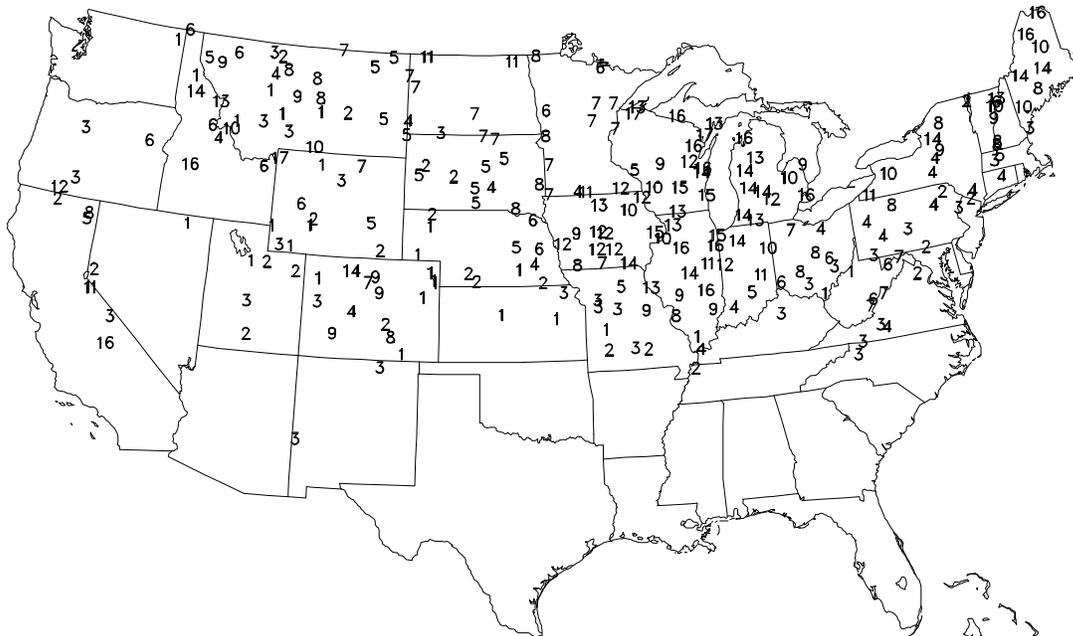
HIGHLIGHTS

Frigid temperatures spread across most of the eastern half of the United States as a cold Canadian airmass moved into the northern Plains early in the week. Most wheat fields in the northern Plains and eastern Corn Belt received an additional layer of snow, protecting them from the sub-zero temperatures and wind chills. Blizzard conditions developed as a storm pushed through the central Corn Belt and Great Lakes Region. Below-normal temperatures extended nearly to the Gulf Coast, and sub-freezing temperature readings were recorded in northern Florida. Peach orchards in the Southeast, in need of additional chill hours, welcomed the cold weather. In Florida, the cooler weather hindered development of some vegetables. A storm system that developed along the western Gulf Coast delivered a mixture of rain and freezing rain to the lower Mississippi Valley, Southeast, and

middle Atlantic Coast States. Icing caused power outages in some areas, but most areas welcomed the precipitation as soil moisture levels improved. In the Western United States, temperatures averaged above normal in most areas and well above normal through most of the Rocky Mountains. The snow pack continued to accumulate in the northern Rocky Mountains, but heavy rains and mild temperatures melted snow in the Pacific Northwest. The combination of heavy rain and snow melt caused flooding in low-lying areas along streams. In California, cold morning temperatures delayed winter vegetable harvesting. A slow warming trend in the San Joaquin Valley allowed citrus growers to salvage some fruit from their orchards. Farther south, the citrus harvest was active and growers were pruning and fertilizing vineyards and non-citrus trees.

Snow Depth (Inches)

Jan 04, 1999



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

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

December State Agricultural Summaries

These summaries, issued weekly through the summer growing season, provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service. The crop weather reports are also available on the Internet through the NASS Home Page on the World Wide Web at <http://www.usda.gov/nass/> or from JAWF at <http://www.usda.gov/occe/waob/jawf>.

ALABAMA: December has been drier than normal for most of the State. Areas in the northern part of the State, however, have seen above-average rainfall. A shortage of chill hours has created concerns for the 1999 peach crop. Most southern area pecan growers concluded harvest by mid December. A smaller-than-normal pecan crop is expected, quality problems persisted throughout the year. December was warm enough to cause outbreaks of bacterial disease in catfish ponds.

ARIZONA: Cotton harvest continued on a normal pace last week. Harvest has caught up to last year but is still slightly behind the 5-year average. As of January 3, cotton harvested was 98% complete compared with 98% 1997, 99% avg. Alfalfa harvest activity was reported as 71% not being harvested, 14% light, 13% moderate, 2% active. Sheeping off alfalfa fields declined remained steady. Small grains planting continued to increase last week. As of January 3, 45% of the Durum wheat, 40% of other wheat, 51% of the barley, 76% of the other small grains had been planted. As of January 3, 19% of the durum wheat, 12% of other wheat, 21% of the barley, 31% of the other small grains had emerged. Pasture conditions declined slightly in most of the State last month. Relatively mild weather has been good for the livestock. Pastures throughout the State were mainly in good condition. Livestock were reported in good to fair condition. Stock water was adequate and soil moisture was adequate to short in most areas of the State. Insect damage was light. Overall, northern grazing conditions were fair to good in December. High, mid-elevation pastures were in fair to good, while low-elevation pastures were in good to fair condition. Cattle, sheep were reported in fair to good condition. Stock water supplies were short to adequate, soil moisture was short. Insect damage was light. Central Arizona pasture conditions were generally in excellent condition. Conditions were excellent to good at mid, low elevations. No reports were received of conditions in high-elevation pastures. Livestock conditions were good, stock water was adequate. Soil moisture was short to adequate. Insect damage was light. Southern pasture conditions were good at all elevations. Livestock conditions were fair to good. Stock water, soil moisture were both adequate. Insect damage was minimal. Central areas shipped broccoli, cabbage, cantaloupes, carrots, cauliflower, celery, Chinese cabbage, endive, escarole, green onions, head lettuce, mixed greens, parsley, spinach last week. A light volume of beets, radishes and turnips were also shipped. Western producers harvested anise, bok choy, broccoli, broccoli, cabbage, cantaloupes, cauliflower, endive, escarole, kale, napa, parsley, salad savoy, spinach a light volume of cilantro, flowering kale, radicchio, swiss chard. Lettuce shipments included Boston, head, leaf, romaine, specialty leaf. Central, western area groves shipped fairchild tangerines, grapefruit, lemons, navel oranges last week.

ARKANSAS: Temperatures for the first week of December 1998, well above normal, while precipitation levels were near to slightly above normal for the week. Cold front during the second week of December brought more seasonal temperatures; most reporting stations had sub-freezing lows, while precipitation levels were above normal for most of the State. Temperatures were near to above normal and rainfall totals were generally below normal for the third week of the month. The year ended with a very cold Arctic airmass that moved into the State with temperatures falling into the single digits across the north. A wintry mix of precipitation accompanied the Arctic airmass. Colder weather of late December has had a slight, negative impact on livestock conditions; however, weather conditions have been fairly cooperative for winter wheat development.

CALIFORNIA: Winter's longest nights were also some of the coldest of the year. December's major weather event was the fruit freezing blast that hit the San Joaquin Valley just before Christmas. Citrus growers were severely impacted; only some of the fruit on the trees was salvageable. Orange and lemon growers in the San Joaquin Valley suffered substantial losses. Snow flurries were even seen in Fresno and San Francisco. Throughout the month most field activities continued, as cool, dry conditions prevailed. Seeding, growth of small grains, winter forages, new alfalfa were slowed by the cold, foggy weather near month's end. Some emerging wheat, barley, alfalfa fields in the northern San Joaquin Valley suffered damage from the big freeze; some replanting will be necessary. Dryland wheat, barley were in need of rain in most areas. Imperial Valley wheat planting made normal progress. San Joaquin Valley cotton harvest, second picking were essentially complete by the end of the month. Plowdown of harvested cotton fields was rapidly winding down as compliance deadlines neared. Imperial Valley sugar beets

were thriving. Grain sorghum was harvested in the southern San Joaquin Valley. Alfalfa, winter forages were cut for greenchop. Some alfalfa fields were sprayed for weeds. Ground preparation for spring planted row crops continued in the central, coastal valleys. Harvesting of persimmons, pecans kiwifruit continued as the month of December began. Other activities in December included picking of satsuma mandarins and navel oranges. An arctic blast that moved down from Canada during the week of the 20th drew the eyes of the world to the citrus crops in the San Joaquin Valley. As the end of the year approached, citrus growers in the San Joaquin Valley were searching their groves for any salvageable fruit. The slow-warming trend following the pre-Christmas freeze was beneficial for possible fruit recovery; most of the fruit was already ruined. San Joaquin Valley avocados on trees were damaged when the freeze hit. Some trees in the San Joaquin Valley were also damaged. Southern California, where the freeze did not reach, citrus fruit picking was active as the new year approached. Grape vineyards, non-citrus trees were fertilized, pruned. Growers also applied weed control measures, prepared for replanting. Harvest of winter vegetables continued, was slowed due to low morning temperatures later in the month. When the cold snap occurred, frost damage to winter broccoli, cauliflower crops remaining in the field was extensive in the San Joaquin Valley. The low temperatures also affected spring crops in early growth stages. Vegetables harvested in late December included carrots, potatoes, cabbage, parsley, green onions, kale, turnips, collard greens. As the end of the month neared, dry weather facilitated ground preparation for spring, summer vegetables. Pastures were in fair to good condition, cold, dry conditions caused some deterioration. An increased number of cattle were being supplemented with hay, mainly in the central area. A large amount of fair, low-quality hay was available for supplemental feeding. Many areas were in need of rain to stimulate growth of grass. Livestock were in good condition in most areas.

COLORADO: December temperatures were above normal for the first half of the month until an arctic front blew into the State near the middle of the month. Temperatures then dropped with daily lows falling below the zero mark. Some snow helped cover the winter wheat crop during the week's long cold snap, also brought much-needed moisture to the Eastern Plains area. Farmers are attending producer meetings, preparing financial reports, making plans to attend the National Western Stock Show in January.

DELAWARE: Warm, dry weather in early to mid-December allowed a dry finish to soybean harvest, made for good conditions for new building, drainage project construction, ditch bank maintenance. Dry conditions limited barley, wheat development. Only three showers took place during December. The northern part of the State was put under a drought advisory, although this had no impact on agriculture. A small amount of snow fell in late December, temperatures dropped into the high teens/low 20's. With these low temperatures came reports of respiratory disease in chicken flocks, issuing of bio-security cautions.

FLORIDA: By the beginning of December, haying was virtually complete and the cotton harvest was winding down. Sugarcane harvest, planting were active. Growers were planting wheat for grain. Dry weather, above-normal temperatures prevailed over most of the month. Planting wheat for grain was complete by the middle of the month, cotton harvest was virtually complete by month's end. Winter forages, wheat were in very poor condition in some areas due to lack of moisture. Fall vegetable harvesting was active to meet the holiday demand. Citrus harvesting was very active most of the month for processors, was being packed for fresh holiday use.

GEORGIA: Soil moisture adequate for much of the State. Following a dry fall, wet weather in some parts of the State prevented top dressing, land preparation. Pecan harvest continued, was about 90% complete. Cotton harvest neared conclusion with about 95% of the crop harvested. Soybean harvest was about 95% finished. Small grain sowing neared completion but was limited in some areas by the extremely dry planting season. Wheat, rye were in mostly fair to good condition, with a limited amount in poor condition. Onion transplanting, tobacco bed preparation were mostly finished. Onions were in fair condition, with the low temperatures causing some stress. Recent cold weather also stressed farm animals. Hogs, cattle were mostly fair, pasture was mostly fair. Pasture cattle continued to receive some supplemental feed. Other activities included maintaining equipment.

HAWAII: Weather conditions started unfavorable for agriculture then turned mostly favorable in December. Unseasonably strong trade winds raked the State during the first week. Flowering, fruit set were setback for exposed crops. Fruit bruising, leaf shredding also occurred. A period of overcast skies, cool temperatures then slowed crop development. From mid-month, mostly sunny skies prevailed. Banana field suffered extensive leaf shredding from winds. Harvesting was seasonally light. Fields in improved condition at end of month. Papaya production was light, spraying increased for control of disease. Head cabbage harvesting remained very active. Crop progress was good. Cucumber production was seasonally down, damage caused by the windy weather also adversely affected yields. Ginger root harvesting started in earnest.

IDAHO: Temperatures across the State were above normal for December, except in Eastern areas. Precipitation for the month was below normal, while yearly totals equal or exceed normal precipitation levels across most of the State. Irrigation water supply is still good as end of month snow accumulated. An arctic cold front mid-month required additional feeding of livestock, had an undetermined effect on winter wheat. Hay, roughage supply 47% surplus, 53% adequate. Snow cover in upper elevations has blanketed winter wheat fields. Winter wheat 3% excellent, 91% good, 6% fair. Activities: Repairing machinery, feeding, marketing livestock, attending educational meetings.

ILLINOIS: Topsoil moisture 6% very short, 23% short, 68% adequate, 3% surplus. Wheat 2% very poor, 2% poor, 24% fair, 61% good, 11% excellent. Unusually warm weather throughout most of December helped farmers complete fieldwork including tillage, fertilizer application. Mild temperatures have also been beneficial for livestock, allowing them to forage on pasture, corn stalks. Many farmers were concerned about the lack of snow for winter wheat cover, last week's snowfall provided the needed protection before temperatures fell too low. Wheat condition varies across the State, with some fields having too much growth, turning yellow, compared with some fields being very thin with little growth.

INDIANA: Weather during the first 3 weeks of the month were very mild. Temperatures were well above normal across the State. These mild conditions were ideal for livestock, winter wheat crop. Temperatures dropped to more normal levels during the last week to 10 days of the month, minimal amounts of snow fell across much of the State during this time. Activities: Brush, fence row clearing, feeding, caring for livestock, general maintenance.

IOWA: A warmer-than-average December allowed farmers to work on fertilizer applications, fall tillage activities later than normal. Average depth of snow cover 1 inch, though many of the reports used for this average did not include the Dec. 30 snowfall. Average depth of frost penetration 8 inches. Soil moisture availability 2% very short, 23% short, 72% adequate, 3% surplus. Grain movement 17% none, 52% light, 30% moderate, 1% heavy. Livestock were reported to be in good condition, with little sickness or disease. Warm temperatures, limited precipitation reduced normal weather-related stress to cattle. Availability of hay, roughage supplies for livestock feed 3% short, 84% adequate, 13% surplus; quality of hay, roughage supplies 5% poor, 37% fair, 58% good. The long, mild fall was excellent for grazing. Utilization of stubble fields for grazing 21% none, 19% light, 42% moderate, 18% extensive. Hog, pig losses 9% below average, 88% average, 3% above average; cattle and calf losses 17% below average, 81% average, 2% above average.

KANSAS: Winter wheat remained in mostly good to excellent condition at the end of December. Overall winter wheat 8% excellent, 64% good, 21% fair, 6% poor, 1% very poor. A general lack of snowfall across the State, combined with mild temperatures, resulted in very little snowcover. By late December, mild temperatures gave way to extreme cold. It appears little freeze damage has occurred to date. However, it is too soon to assess the potential impact of the cold weather on the wheat condition. Mild temperatures during much of December allowed cattle to remain on wheat, corn, milo stubble, pasture, which enabled producers to reduce the amount of supplemental feeding. Feedlot gains have been good, cows are in good condition for calving. By the end of the month, winter feeding was in full swing with the sharp drop in temperatures. Hay, forage supplies are rated mostly adequate. During December, most remaining soybean and milo fields were harvested. Other activities included stripping cotton, top-dressing wheat, fieldwork for spring-planted crops, repairing machinery, feeding, working cattle, mending fences, financial analysis, planning for the upcoming year.

KENTUCKY: Much-above-normal temperatures prevailed the first two-thirds of December, with below-normal temperatures finishing out the month. Rainfall alternated between a week of below-normal precipitation and a week of above-normal precipitation throughout the month. Cold Arctic air invaded

the State, bringing 0.5 to 2 inches of snow, ice to much of the State at the month's end. Burley tobacco stripping continued at a faster-than-normal pace, aided by favorable humidity levels. Kentucky, gross burley tobacco sales volume through December 17 was 306.3 million lbs. for an average price of \$191.12 per cwt. Auctions recessed for Christmas break and the reopening has been postponed until Monday, January 11, 1999. Burley cooperative took 5.8% for the season-to-date for the Burley Belt, compared with 4.3 percent last year before Christmas. Poor pasture conditions going into winter caused continued supplemental feeding of cattle for most of December. Hay supplies remain adequate, some spot shortages are expected by spring. Winter wheat conditions were generally good to fair as warm weather, sufficient rainfall maintained growth.

LOUISIANA: Days suitable for fieldwork 10. Temperatures at the beginning of the month greater than 10 degrees above the 20-year norm but had come back in line by the end of the December. Beginning of the month started out with lower amounts of precipitation, only .15 inches of rain across the State. Level of precipitation increased as the month progressed and ended with a State average of 3 inches. Northern, central areas received the most precipitation during the month of December. Soil moisture in the northern, central areas of the State was adequate to surplus due to over 7 inches of rain in December. Year-to-date amount was well above the 20-year norm for these areas. In the eastern, southern areas of the State, yearly precipitation was also above the 20-year norm. However, the December precipitation was only 1.8 inches for the area. Most fieldwork has been hindered by wet conditions. Producers were working on machinery. Southern sugarcane producers were trying to finish up harvesting, which was delayed due to wet conditions. In addition, Hurricane Mitch's high winds during late October and early November blew much of the sugarcane down, causing additional delays in December harvesting. Cattlemen were fertilizing winter pastures and feeding hay. Above-normal temperatures allowed pastures to continue to grow with moderate to good stands. Citrus producers were harvesting. Strawberry producers were harvesting. Other vegetable producers were preparing for spring planting. Crawfishing was underway.

MARYLAND: Conditions in the beginning of the month continued over from November, with dry weather affecting the germination of small grains. Spreading of fertilizer took place early in the month. Mid-December had more spreading of fertilizer, lime, manure, dry weather continued, affecting the ground water. Tobacco stripping took place in the southern area counties. Late-December was the same with no precipitation. Many counties reported that their ground water was drying up and that they desperately need a re-charge. Some producers bringing water to livestock due to dried up streams. Hay supply appears to be adequate for now but may become short in late winter.

MICHIGAN: The dry, mild fall weather continued from early-month to mid-month, allowing most fieldwork to be completed. In areas where the summer and fall were dry, pasture growth was reduced and winter feeding of livestock began early. Other activities included trimming trees, hauling manure. By mid-month, colder weather arrived, light snow covered some areas of the State. The cold weather continued through the end of the month.

MINNESOTA: Temperatures continued to be well above normal for the first half of December, allowing more fieldwork to be completed than in recent years. Cold weather arrived around mid-month, remained through the end of the month. Precipitation during the month was below average, with southern, central parts of the State having less than 4 inches of snow cover at the end of the month. Some concerns about how livestock, vegetation will be affected due to the sudden drop in temperature.

MISSISSIPPI: Soil moisture 6% short, 70% adequate, 24% surplus. Wheat 8% poor, 24% fair, 60% good, 8% excellent. Cattle 2% very poor, 13% poor, 44% fair, 34% good, 7% excellent. Hay supply 32% short, 65% adequate, 3% surplus. Feed grain 24% short, 73% adequate, 3% surplus. First half of December had below-normal rainfall for the State. Rain, ice came during the last half of December. Producers have been feeding hay to cattle throughout the month, and farmers are planning for 1999. Some producers have expressed concerns of low hay supplies because hay feeding started early this season.

MISSOURI: Exceptionally warm weather during most of December were favorable for accomplishing end of year activities such as hauling hay, repairing machinery, general maintenance work. Mild weather prolonged the grazing season, allowing cattle to obtain most feed from the excellent pasture growth until much colder weather, heavy snow over most of northern half of State arrived at end of month. Topsoil 3% short, 83% adequate, 14% surplus. Hay supply 3% short, 79% adequate, 89% surplus, the highest January 1 rating in many years. Stock water supplies 3% short, 89% adequate, 8% surplus. Livestock 1% poor, 12% fair, 74% good, 13%

excellent. Winter wheat 4% poor, 40% fair, 53% good, 5% excellent. Most wheat in northern half of State has snow cover.

MONTANA: First two, half weeks of December were mild, dry. During this time, some producers did some late fall field activities such as plowing, diking. First serious blast of arctic air for the winter arrived on the 17th. Starting that day, continuing for the last 2 weeks of December, the entire State remained very cold except for a few days of intermittent warm weather. Precipitation for the month was below normal for most areas. Topsoil moisture 3% very short, 11% short, 85% adequate, 1% excellent. Subsoil moisture 6% very short, 42% short, 52% adequate. The lack of snow caused some damage to the winter wheat crop as there was nothing to protect it from the elements. Winter wheat protectiveness of snow cover 25% very poor, 13% poor, 30% fair, 31% good, 1% excellent. Wind damage to winter wheat 25% none, 49% light, 19% moderate, 7% heavy. However, winter wheat 3% very poor, 6% poor, 48% fair, 42% good, 1% excellent. Despite the very cold weather, livestock are reported to be in good condition as feed supplies are adequate. As a result of the very cold conditions starting about the third week of December, producers started to rely more on supplemental feed to livestock. At the end of the month, 95% of the cattle, calves, 88% of the sheep and lambs were receiving supplemental feed. Cold weather made grazing more difficult as only 36% of the grazing was open at the end of the month.

NEBRASKA: Temperatures averaged from near normal to 13 degrees F above normals during the first 3 weeks. Fourth week had temperatures 8 to 21 degrees F below normal, which halted the previously active fieldwork. Trace amounts of precipitation during the month until snow fell during the last week. Producers monitoring farm stored grain, some grain going out of condition. Producer activities; record keeping, tax planning, 1999 crop year planning, livestock care.

NEVADA: Weather conditions were erratic during the month of December, oscillating between unusually warm, unusually cold periods. Relatively warm, mild weather entering the month was soon displaced by storms that swept across the entire State. Las Vegas recorded a very rare snow accumulation of 1 inch December 6. Mild weather returned near mid-month, but remained only about a week. Strong arctic blast swept into the State on the 19th, plunging temperatures to well below normal. Parts of northern State recorded temperatures as low as 20 degrees F or more below zero. Warmer weather returned again by Christmas, State enjoyed fair weather through the end of the month. Overall, temperatures for the month averaged near normal in most areas. Precipitation totals were below normal, snowpack was a bit below normal in most watersheds. Water supply outlook for the coming season. However, remained optimistic given good reservoir storage and groundwater supplies. Agricultural activity was limited during the month. Livestock were grazing dormant alfalfa, Sudan fields. Harsh weather increased incidence of pneumonia in cattle, heightened livestock feed demands. Equipment, fence repair were underway. Main farm, ranch activities: Livestock feeding, equipment maintenance, fence repair.

NEW ENGLAND: Temperatures were above average the first week of December. Snowfall was below normal, many fields were exposed to the weather. Christmas tree sales were brisk throughout the month across State. Farmers tending livestock and preparing for winter. Moving apples, potatoes out of storage. Snow fell across State the last week of December.

NEW JERSEY: Temperatures above normal with precipitation averaging below normal for December. Extreme temperatures 78 degrees F at Toms River on the 8th; 1 degree F at Wrightstown on the 25th. Harvesting of herbs, leeks, fall spinach occurring in parts of southern. Other activities include: Deer hunting as a pest control measure, repairing machinery, record keeping for end of the year reports taxes, ordering seed for next year, mowing and mulching of corn stalks. However, most outdoor activities came to a halt on the 24th when a dusting to 5 inches of snow blanketed the State with southern areas receiving the greatest accumulations. Since then, the snow coupled with below-normal temperatures have significantly limited the amount of outdoor farming activities.

NEW MEXICO: Temperatures well above normal the first 3 weeks of December. This was followed by a cold air mass that moved through the State the last week of December. The air mass dropped temperatures below zero in many areas throughout the northern, eastern regions of the State. Dry weather persisted, with most areas receiving zero precipitation for the month. Supplemental feeding continued to take place in most counties. Farmers completed chile, cotton harvests, pecan harvest winding down by month's end. Other farming activities consisted of turning crop stubble, land preparation for spring crops, end of the year bookkeeping, general maintenance.

NEW YORK: December weather was exceptionally mild. Lack of snow cover along with the above-normal temperatures permitted outside activities to progress with little or no difficulties. Many meetings, trade shows were held during the month. Machinery maintenance and repair, tending livestock, grading, packing fruit and vegetables, spreading manure were again major winter activities.

NORTH CAROLINA: Unseasonably warm weather throughout most of December came to a halt as the holiday season drew near. More normal, cooler weather prevailed the latter part of the month through the first part of 1999, including an ice storm Christmas Eve. However, there were no reports of crop damage. Precipitation was much needed for most of State as small grains are sure to benefit. Overall, the small grains, soil moisture conditions have improved since the last report. Soil moisture is rated 4% very short, 11% short, 64% adequate, 21% surplus. Indoor activities including record keeping, repairing equipment, preparing greenhouses dominated the last part of 1998, early 1999. Other activities included tending livestock, pasture maintenance.

NORTH DAKOTA: The relatively mild December ended with a significant cooling period, snowstorm. Producers indicated high levels of insect infestation in stored grain. However, last week's cold weather should help reduce insect populations. Producers continued to store more grain this year due to poor prices. Marketing of cattle is slightly below last year due to mild weather and prices. On average, statewide, there were 5.7 inches of snow cover. Snow cover was sufficient to protect 81 percent of the alfalfa. One hundred percent of the cattle, sheep received supplemental feed. Hay, forage supplies 5% short, 90% adequate, 5% surplus. Cattle 2% poor, 26% fair, 65% good, 7% excellent; sheep: 2% poor, 26% fair, 65% good, 7% excellent. Cattle sales 15% below normal, 84% normal, 1% above normal.

OHIO: Precipitation was almost an inch below normal for the month, ponding in low-lying areas was reported in the central part of the State. Temperatures were milder than normal, with the weather turning much colder at the end of the month. Cold weather was welcomed by some who noted that last year's winter was too mild, resulting in high pest, fly populations. Livestock conditions were good to excellent with only a few exceptions. Dairy production did decline as temperatures suddenly turned colder, stressing some dairy herds. Typical flu-like symptoms affected horses with the transition to winter weather. Otherwise, reporters mention good rates of gain and no problems getting feed and hay to livestock. Very little snow cover occurred except for the end of the month. The warmer weather during the beginning of the month allowed good top growth for winter wheat. There is concern that freezes with no snow cover may have damaged wheat, leaving some to expect stand losses in the spring. The early harvest and mild weather allowed most farmers to finish all of their tillage and fall seedings early. Producers expect to get an early start on spring plantings as much of their tillage is complete. The tobacco crop has fared well as producers are waiting for the market to open up again. Activities: Selling corn, soybeans, tobacco; hauling and spreading manure; equipment and barn repair; maintaining fences; winterizing equipment; fall tillage; feeding and selling hay; attending auctions, stripping tobacco.

OKLAHOMA: Mild temperatures, ample soil moisture extended beneficial wheat growth during early, mid-month. Hard freeze before Christmas made wheat enter winter dormancy. No major insect activity. Wheat turning yellow due to nitrogen deficiency. Mild fall weather during most of month improved growth of winter grasses, small grain pastures. Hay supplies adequate north, very short south. Extended cold weather may make hay supplies critical even in north. Livestock mostly good, recent cold weather created hardship for some livestock. Cattle marketings mostly average. Cows in south enter winter thinner than normal, which may affect calf crop, rebreeding.

OREGON: Activities: Nursery digging, container movement continued. Winter orchard pruning continued statewide. Winter farm and ranch activities continued. Cattle, sheep good. Several winter storms have moved through the State but have been tempered by stretches of warm weather.

PENNSYLVANIA: The weather was unusually mild in early December, record-high temperatures were set. Continued dry weather conditions contributed to a shortage of soil moisture. Areas in the northwest received some precipitation, but it was less than 1". In some areas, livestock continued to feed on pasture. Fall plowing, corn harvesting continued throughout the State. Temperatures dropped in mid-December. Though some areas received snow, dry conditions continued. The Governor declared a drought emergency for nine counties in central Pennsylvania. Drought warnings remain in effect for most of the State. Farmers are concerned about wells, springs drying up. In late December, temperatures continued

to drop. Despite some precipitation, dry conditions remained. As December 31, 1998, precipitation for most counties was more than 26 percent below normal and 75 percent below normal for most counties in central area. The ground is frozen, any precipitation received, ran off which had little impact on soil moisture. Major activities for December were hauling, spreading manure, machinery maintenance, hunting, caring for livestock, pruning fruit trees, repairing barns.

SOUTH CAROLINA: Overall, December was unseasonably warm, with the average high temperatures ranging from 9-13 degrees F above normal during the first half of the month, but near normal by month's end. December 1998 was one of the warmest Decembers on record; year of 1998, overall, was the warmest on record. Statewide precipitation was below normal, lack of rainfall was stressful on small grains. Farmers finished up cotton, soybean harvesting during the first part of the month; pasture and livestock conditions were fair at month's end.

SOUTH DAKOTA: December started with mild weather and little snowfall. Mild weather allowed producers to continue with harvest, fall tillage, general winter maintenance. By the middle of the month, the mild weather disappeared as bitterly cold weather moved into the region. Snowfall around the State increased, with temperatures, windchills dropping below zero. By the last week of the month, significant snowfall was recorded around the State. There is 3% of corn, sorghum remaining in the fields at month's end, compared with 9% of corn, 10% of sorghum at the beginning of December. Snow cover was minimal for the month of December, leaving winter crops vulnerable to the frigid temperatures that arrived at the end of the month. As December ended, alfalfa snow cover was 66% poor, 34% adequate. Winter wheat snow cover was 65% poor, 35% adequate. Winter rye snow cover was 63% poor, 37% adequate. There is some concern exposed winter wheat, rye crops will be hurt, due to the lack of snow cover. There were some reports of winter crops breaking dormancy, with mild temperatures early in the month. Cattle condition rated 11% fair, 67% good, 22% excellent. Sheep condition 8% fair, 71% good, 21% excellent. Livestock conditions benefited from mild weather the first of the month. As the month progressed and cold weather moved into the region, some livestock showed signs of stress. There were a few reports of pneumonia in weaned calves, which was attributed to the warm weather. Fall calf crop deaths 15% below normal, 84% normal, 1% above normal. Fall lamb crop deaths were rated 11% below normal, 88% normal, 1% above normal. Producers benefited from the minimal snow cover, snowfall, keeping livestock on stubble fields until late in the month, using less of their feed stocks. Feed supplies are 3% short, 80% adequate, 17% surplus. Stock water 1% short, 86% adequate, 13% surplus.

TENNESSEE: Early December brought above-normal temperatures, which were consistent with early, mid-fall. Typical late-fall seedings that normally take place in December were completed during November as a result of perfect seeding conditions throughout October, November. By mid-December, some wheat fields reached the tiller stage due to the season's mild weather, adequate moisture. A cold snap hit in late December, causing the wheat crop to move into dormancy. Cattle producers reported an increase in hay and supplemental feeding.

TEXAS: Began under unseasonably warm weather and mostly dry conditions. Fieldwork moved ahead with virtually no delays. Small grains responded favorably to these conditions. First hard freeze of the season occurred early in the second week of December. However warmer weather returned by late week. Fieldwork was limited most of the week as light moisture fell with the colder weather. Most harvest activity was completed in the High Plains ahead of a very strong cold front that moved through the State during the Christmas week. The colder weather slowed small grain progress. Front had virtually no moisture associated with it so some fieldwork continued. Supplemental feeding activity increased in all areas as the cold blast hit.

UTAH: Major farming activities for the month of December included selling hay, shipping onions, feeding livestock, repairing equipment, plowing fields. Livestock has remained in good condition thus far due to a mild winter.

VIRGINIA: Unseasonably mild temperatures, dry conditions persisted throughout the Commonwealth during the first part of December. Weather conditions were a mixed blessing for livestock producers. While mild temperatures allowed producers to graze their herds on available pastures for longer than was previously expected, a prolonged lack of significant rainfall caused many producers to engage in heavy culling of their herds in spite of low beef prices. Prolonged grazing, increased culling helped to reduce the amount of supplemental feeding that was necessary early on thus alleviating some farmers fears of running out of stored hay, silage. Lack of moisture caused many surface and ground water sources to be depleted severely. Many smaller producers resorted to using wells to water their

herds. Small grain producers reported that some acres were plagued by slow growth, development due to the lack of available soil moisture. Others, however, reported surprisingly good stands. Mild conditions made harvesting late-planted and double-cropped soybean acres easy. Middle part of December brought the return of seasonal temperatures to the majority of the Commonwealth. Many areas also received the first significant rainfall in some time. Rainfall helped to advance the growth, development of small grain crops to normal levels. A few isolated producers reported that their grain crop not only rebounded well but looked as good as any crop they had seen in a while. Producers are beginning to spray for weed and aphid control, as well as applying small amounts of nitrogen to stimulate tiller development. Livestock producers found it necessary to begin feeding at full winter levels as the month went on to maintain good body condition. It is especially important to maintain good body condition early to plan for the remainder of winter, as well as, spring calving. As the month came to a close, many areas of the Commonwealth received significant amounts of ice, snowfall. Ice caused much damage to rural, urban power lines causing many areas to lose electricity for up to a week or more. Ice caused damage to planted pines, landscape trees as well. No reports of significant damage to small grains were reported to-date; however, crop conditions may be affected as temperatures vary throughout the winter months. While the ice and snow melt will help to replenish surface water sources, most areas report that additional precipitation is necessary to recharge ground water tables to necessary levels. With most of the field crops harvested prior to the start of December, farm operators busied themselves with a variety of activities. Most common activities included soil sampling, attending pesticide re-certification classes, maintenance of buildings and fences, equipment repair, winterization, applying chemicals to control pests, pruning fruit trees, packing fruit crops, cutting firewood, grading and preparing dark, burley tobacco for market.

WASHINGTON: Heavy rainfall throughout the month resulted in several floods in western areas. Mild temperatures in early December promoted good winter wheat growth, some western fields were submerged due to flood conditions. Early December activities included pruning, winter preparation work in orchards, late field work, Christmas tree sales. Mid-month brought very cold weather across the State. Winter kill in wheat was a concern. Fruit-growing regions experienced some bud damage in stone fruits, other fruit appeared hardy enough to withstand the cold weather. The possibility of root damage due to low soil temperatures was also a concern. The cold curtailed most fieldwork, cold protection was necessary in many orchards. Ornamental nurserymen predicted only minor damage from near zero temperatures. Fields in eastern areas were nearly all snow covered by month's end. Some areas reported snow levels at 130 percent of normal. Pastures were frozen with most cattle on full winter feeding programs. Some lighter snowfall areas still had cattle on rangeland grazing areas. The major activity at the end of the month was livestock feeding.

WEST VIRGINIA: After a dry month, more rain is needed to restore soil moisture and improve wheat condition. Unseasonable warm, dry weather early part of the month. Dry conditions slowed pasture growth, caused producers to feed hay earlier than normal. Cold, icy conditions in most areas of the State the latter part of the month made field activities, livestock feeding difficult. Topsoil moisture 13% very short, 37% short, 50% adequate. Wheat 19% poor, 18% fair, 63% good; emerged 91%. Cattle 19% fair, 80% good, 1% excellent. Sheep 20% fair, 80% good.

WISCONSIN: Warmer-than-normal. First week was the warmest; the average temperature was 23 degrees F warmer than the 30-year average. In addition, the second, third weeks were each 11 degrees F warmer than average. However, frigid temperatures, winds returned with the approach of the Winter Solstice, last week of December was 7 degrees F colder than average. Mild weather allowed many farmers to continue fall tillage, manure spreading, other winter farm activities well into mid-December. Frost, snow depths for mid-December were tied with previous record minimums. Snow levels averaged 0.3 inches, frost penetration averaged 0.5 inches. Hay, winter wheat were in good shape through late December. Farmers were hoping for a good snow cover to protect hay, winter wheat from colder weather at the end of the month.

WYOMING: December began with unusually mild weather, but by mid-month, a winter storm hit with much colder weather and precipitation. Topsoil moisture 13% short, 87% adequate. Subsoil moisture 2% very short, 7% short, 91% adequate. Winter wheat 17% fair, 73% good, 10% excellent. Winter wheat freeze damage 89% none, 10% light, 1% moderate. Winter wheat wind damage 82% none, 12% light, 6% moderate. Cattle 5% fair, 79% good, 16% excellent. Sheep condition 8% fair, 87% good, 5% excellent. Hay supplies 8% short, 63% adequate, 29% surplus; shortages in some northeastern areas. Average depth of snowcover 1 inch with more in mountainous areas.

International Weather and Crop Summary

December 27, 1998 - January 2, 1999

HIGHLIGHTS

FSU-WESTERN: Warmer weather improved overwintering conditions for winter grains.

EUROPE: Showers eased prolonged dryness in Spain and Portugal, providing much-needed moisture for early winter grain development.

NORTHWESTERN AFRICA: Soaking rains in Morocco improved prospects for winter grain emergence and establishment.

AUSTRALIA: Cool, wet weather prevailed across the eastern summer crop areas, while dry weather favored wheat harvesting elsewhere.

SOUTH AFRICA: Light to moderate showers benefited corn, sugarcane, and other summer crops.

SOUTHEAST ASIA: Extremely heavy showers caused flooding and possible crop damage in southern Luzon, Philippines, and peninsular Malaysia.

EASTERN ASIA: Winter wheat remained dormant across the North China Plain.

SOUTH AMERICA: Showers benefited summer crops in central Argentina, but more rain is needed in extreme southern Brazil.

December 1998

MONTHLY DATA FROM SELECTED FOREIGN CITIES CLIMATE PREDICTION CENTER-NCEP-NWS-NOAA

*** DATA NOT AVAILABLE

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY	OSLO	-1	-4	5	-17	-2	3.2	39	-26
SWEDEN	STOCKHOLM	1	-2	8	-13	0	0.7	0	-46
FINLAND	HELSINKI	-1	-4	5	-16	-2	1.8	54	-3
UKINGDO	GLASGOW	8	3	15	-7	6	0.9	105	-12
	EDINBURGH	8	3	15	-7	6	1.4	48	-9
IRELAND	DUBLIN	9	4	15	-3	7	0.6	68	-7
ICELAND	REYKJAVIK	3	0	10	-9	2	1.6	58	-21
DENMARK	COPENHAGEN	3	-1	7	-10	1	-1.7	35	-14
LUXEMBO	LUXEMBOURG	4	0	9	-6	2	0.7	51	-29
SWITZERL	ZURICH	3	-1	11	-8	1	0.6	32	-45
	GENEVA	4	-1	13	-8	2	-0.2	35	-52
FRANCE	PARIS/ORLY	7	4	15	-2	5	***	35	**
	STRASBOURG	5	0	15	-7	3	0.7	20	-22
	BOURGES	7	2	14	-4	5	1.1	55	-8
	BORDEAUX	10	4	16	-3	7	0.9	61	-37
	TOULOUSE	9	3	15	-3	6	0.0	43	-12
	MARSEILLE	11	3	18	-4	7	-0.1	16	-39
SPAIN	VALLADOLID	7	0	14	-5	3	-0.9	29	-12
	MADRID	11	-1	16	-6	5	-0.8	13	-33
	SEVILLE	17	6	25	1	11	0.2	22	-62
PORTUGA	LISBON	14	7	18	3	11	-0.9	74	-30
GERMANY	HAMBURG	4	0	11	-10	2	-0.1	76	3
	BERLIN	3	-1	12	-14	1	-0.6	39	-14
	DUSSELDORF	6	2	12	-6	4	1.1	44	-14
	LEIPZIG	3	-1	12	-11	1	-0.1	19	-18
	DRESDEN	3	-1	11	-12	1	0.4	19	-19
	STUTTART	4	-2	14	-13	1	0.5	31	-16
	NURNBERG	3	-2	12	-12	1	0.2	18	-35
AUSTRIA	VIENNA	1	-3	9	-13	-1	-2.0	26	-12
	INNSBRUCK	2	-4	11	-13	-1	0.0	31	-20
CZECHRE	PRAGUE	1	-3	10	-14	-1	-0.4	9	-16
POLAND	WARSAW	0	-5	11	-17	-2	-1.6	30	-3
	LODZ	0	-4	9	-18	-2	-1.0	53	11
	KATOWICE	0	-4	9	-18	-2	-0.9	40	-4
	PRZEMYSL	-1	-7	10	-66	-4	-3.0	31	-9
HUNGARY	BUDAPEST	-1	-5	9	-12	-3	-3.7	26	-14
YUGOSLA	BELGRADE	2	-4	8	-11	-1	-3.5	31	-27
ROMANIA	BUCHAREST	-1	-9	6	-21	-5	-5.5	28	-19
BULGARIA	SOFIA	-1	-7	15	-16	-4	-4.0	24	-26
ITALY	MILAN	7	0	13	-6	3	1.3	6	-50
	VERONA	5	-1	9	-6	2	-0.7	6	-44
	VENICE	7	-1	11	-6	3	-0.1	9	-41
	GENOA	12	6	16	3	9	-0.2	53	-55
	ROME	12	4	16	-2	8	-1.1	55	-34
	NAPLES	**	**	17	-3	**	***	**	**
GREECE	THESSALONIKA	8	2	20	-3	5	-1.4	35	-21
	LARISSA	8	2	16	-4	5	-1.3	63	8
	ATHENS	13	8	22	0	11	-1.5	16	-49
TURKEY	ISTANBUL	9	5	17	-1	7	-1.1	73	-18
	ANKARA	7	0	12	-6	4	1.9	49	20
CYPRUS	LARNACA	19	10	25	6	15	1.1	87	-16
ESTONIA	TALLINN	0	-4	6	-13	-2	0.8	68	14
LITHUANI	KAUNAS	-2	-5	6	-21	-4	-1.2	56	10
BELARUS	MINSK	-3	-7	4	-22	-5	-0.9	44	-5
RUSSIA	KAZAN	-5	-9	3	-24	-7	2.3	35	-2
	MOSCOW	-4	-8	4	-24	-6	-0.4	46	-4
	YEKATERINBURG	-5	-9	1	-23	-7	3.1	31	9
	OMSK	-6	-11	1	-27	-9	5.5	33	12
	NOVOSIBIRSK	-8	-12	-1	-23	-10	6.2	28	5
	BARNAUL	-7	-13	1	-26	-10	3.6	34	5
	KHABAROVSK	-15	-22	-4	-30	-19	-0.9	28	9
	VLADIVOSTOK	-6	-11	4	-20	-9	1.0	23	8
	SARATOV	-4	-8	2	-23	-6	1.2	28	-5
	VOLGOGRAD	-3	-7	5	-20	-5	0.1	36	-9
	ASTRAKHAN	1	-5	8	-17	-2	0.2	5	-9
	KRASNODAR	4	-1	14	-10	1	-0.6	119	44
	ORENBURG	-5	-10	2	-28	-7	2.0	18	-13
KAZAKHS	TSELINOGRAD	-7	-11	1	-25	-9	3.6	9	-8
	KARAGANDA	-7	-13	1	-23	-10	1.5	13	-9
GEORGIA	TBILISI	9	2	14	-3	6	1.7	22	-4

Based on Preliminary Reports

December 1998

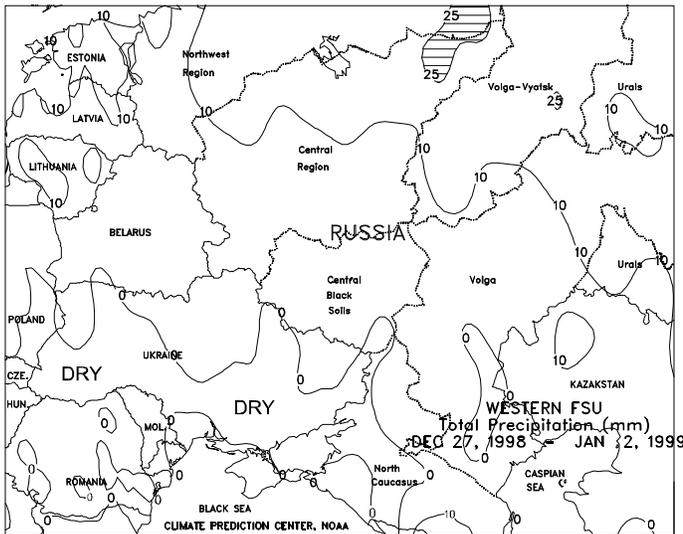
COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)			
	AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM	
UZBEKIST TASHKENT	11	3	23	-2	7	3.7	48	-6		JOHANNESBURG	23	13	27	5	18	-1.0	131	26
TURKMENI ASHKHABAD	12	4	30	-1	8	3.8	2	-19		BETHAL	24	13	29	4	19	-0.5	74	-51
SYRIA DAMASCUS	16	4	24	-3	10	2.4	3	-48		DURBAN	26	20	30	16	23	0.1	134	32
ISRAEL JERUSALEM	16	8	26	4	12	1.8	30	-88		CAPE TOWN	26	16	33	12	21	1.3	46	28
PAKISTAN KARACHI	29	17	33	13	23	3.2	0	-4	CANADA	TORONTO	5	-4	18	-17	1	4.0	63	-3
INDIA AMRITSAR	18	7	29	1	12	-0.5	0	-17		MONTREAL	3	-6	14	-25	-2	5.0	56	-30
NEW DELHI	22	8	28	4	15	-0.7	0	-10		WINNIPEG	-8	-17	9	-32	-13	1.8	17	-2
AHMEDABAD	30	11	32	4	21	-0.9	0	-3		REGINA	-8	-18	6	-31	-13	0.9	15	-1
INDORE	29	11	32	7	20	1.0	0	-10		SASKATOON	-9	-18	7	-33	-13	1.6	13	-4
CALCUTTA	27	14	29	10	20	0.1	0	-3		LETHBRIDGE	-1	-13	14	-34	-7	-0.5	27	7
VERAVAL	31	18	35	13	25	1.4	0	0		CALGARY	-2	-14	15	-30	-8	0.1	20	6
BOMBAY	32	19	34	15	25	0.5	0	-1		EDMONTON	-6	-15	8	-29	-10	0.1	7	-16
POONA	28	10	30	6	19	-1.3	0	-7		VANCOUVER	6	1	13	-10	4	0.3	247	68
BEGAMPET	29	13	31	10	21	-0.5	0	-7	MEXICO	GUADALAJARA	17	10	23	6	13	-2.1	0	-17
VISHAKHAPATNAM	29	20	30	17	24	***	0	**		MEXICO CITY	21	13	25	7	17	4.5	0	-16
MADRAS	29	22	31	18	25	0.4	264	106		ACAPULCO	32	23	33	22	27	0.4	0	-3
MANGALORE	33	22	35	19	27	0.5	34	16	BERMUDA	ST. GEORGES	24	19	25	15	21	2.1	118	2
HONGKO KINGS PEAK	22	16	27	13	19	***	16	**	BAHAMAS	NASSAU	27	21	29	15	24	2.2	54	-2
N KOREA PYONGYANG	**	**	7	-12	**	***	**	**	CUBA	HAVANA	**	**	29	18	**	***	**	**
S KOREA SEOUL	7	-1	13	-8	3	3.9	9	-24	JAMAICA	KINGSTON	31	24	33	22	28	1.4	143	108
JAPAN SAPPORO	1	-4	8	-9	-2	-0.6	143	43	P RICO	SAN JUAN	29	23	31	22	26	0.4	201	86
NAGOYA	12	5	15	0	9	2.2	44	3	GUADELO	RAIZET	30	23	31	21	27	1.9	298	204
TOKYO	12	6	18	3	9	1.2	58	12	MARTINIQ	LAMENTIN	29	24	30	23	27	1.8	379	207
YOKOHAMA	12	6	17	2	9	1.4	64	6	BARBADO	BRIDGETOWN	30	24	31	22	27	0.9	325	221
KYOTO	13	5	17	1	9	2.4	33	-12	TRINIDAD	PORT OF SPAIN	31	23	33	21	27	2.0	165	29
OSAKA	13	7	16	3	10	2.2	43	8	COLOMBI	BOGOTA	19	9	22	3	14	1.2	112	66
THAILAND PHETCHABUN	32	19	35	14	25	2.5	0	0	VENEZUE	CARACAS	31	24	32	22	27	1.7	41	-7
BANGKOK	32	23	36	20	28	1.6	0	-12	F GUIANA	CAYENNE	30	23	32	22	27	0.7	257	-105
MALAYSIA KUALA LUMPUR	31	24	33	22	28	1.6	240	9	BRAZIL	RECIFE	30	24	32	20	27	0.7	17	-43
VIETNAM HANOI	24	18	32	14	21	2.7	13	-8		BELO HORIZONTE	29	20	33	18	25	1.6	209	-107
CHINA HARBIN	-8	-17	0	-24	-13	4.8	5	-1		FRANCA	26	19	30	17	23	4.1	251	-25
HAMI	1	-10	4	-14	-5	2.7	1	0		RIO DE JANEIRO	29	24	36	22	27	1.4	137	-16
LANCHOW	6	-6	10	-10	0	4.6	0	-1		LONDRINA	26	21	35	16	23	0.0	236	-3
BEIJING	6	-5	13	-9	1	2.4	1	-2		SANTA MARIA	29	19	35	11	24	1.0	115	-19
TIENTSIN	6	-5	13	-9	0	1.4	0	-4		PORTO ALEGRE	27	18	34	10	**	***	83	-5
LHASA	8	-7	17	-11	1	1.2	0	0	PERU	LIMA	24	18	27	16	21	-0.2	0	0
KUNMING	17	6	25	1	12	3.4	17	0	BOLIVIA	LA PAZ	**	**	11	11	**	***	**	**
CHENGCHOW	10	-1	17	-5	5	3.6	3	-6	CHILE	SANTIAGO	29	12	35	9	20	0.8	0	-3
YECHANG	14	5	21	1	9	2.2	13	-8	ARGENTIN	IGUAZU	30	19	36	12	25	***	143	**
HANKOW	13	4	20	-1	8	3.2	34	7		FORMOSA	30	20	37	16	25	-1.0	327	182
CHUNGKING	12	9	17	5	11	***	40	**		CERES	31	17	40	11	24	-0.8	107	-23
CHIHKIANG	14	5	22	0	9	2.0	28	-7		CORDOBA	30	16	39	9	23	-0.1	85	-59
WU HU	11	3	19	-1	7	***	39	**		RIO CUARTO	28	16	35	10	22	-0.1	205	64
SHANGHAI	12	7	18	3	10	***	33	**		ROSARIO	28	16	37	11	22	-0.9	124	0
NANCHANG	13	7	19	2	10	2.3	9	-31		BUENOS AIRES	28	15	35	7	22	0.0	124	31
TAIPEI	21	18	28	14	20	2.6	130	56		SANTA ROSA	30	15	38	8	23	0.3	58	-27
CANTON	22	13	27	10	18	2.5	10	-15		TRES ARROYOS	28	14	37	4	21	0.9	22	-73
NANNING	22	14	29	9	18	3.0	35	12	NEW CAL	NOUMEA	28	23	33	20	26	0.9	164	92
CANARY I LAS PALMAS	23	17	26	15	20	1.6	43	21	FIJI	NAUSORI	32	24	33	22	28	2.6	244	-19
MOROCC CASABLANCA	17	9	22	6	13	-0.2	73	-5	SAMOA	PAGO PAGO	32	26	34	23	29	1.3	267	-98
MARRAKECH	19	6	25	3	13	-0.1	35	4	TAHITI	PAPEETE	30	24	33	22	27	0.4	746	446
ALGERIA ALGER	17	6	22	1	12	-0.2	85	-24	AUSTRALI	DARWIN	31	26	33	22	28	-1.0	599	365
BATNA	11	1	17	-5	6	0.0	12	-18		BRISBANE	27	21	32	14	24	-0.4	88	-44
TUNISIA TUNIS	16	9	21	4	12	0.0	37	-28		PERTH	29	17	39	9	23	0.9	7	-2
NIGER NIAMEY	34	18	39	14	26	1.2	0	0		CEDUNA	26	15	43	8	21	0.0	2	-15
MALI TIMBUKTU	29	18	36	12	24	1.9	0	0		ADELAIDE	25	16	39	10	20	0.1	11	-14
BAMAKO	32	19	36	15	26	0.8	0	0		MELBOURNE	23	13	40	8	18	-0.2	59	10
MAURITAN NOUAKCHOTT	30	17	33	11	23	1.4	0	0		WAGGA	30	15	38	7	23	1.0	50	0
SENEGAL DAKAR	27	22	30	20	24	1.9	0	0		CANBERRA	26	13	34	5	20	1.0	14	-39
CHAGOS DIEGO GARCIA	**	27	32	23	**	***	10	-255	INDONESI	JAKARTA	31	25	35	22	28	1.5	117	**
LIBYA TRIPOLI	17	7	27	3	12	-1.0	37	-8	PHILIPPI	MANILA	30	25	33	24	28	1.5	313	241
BENGHAZI	16	11	21	7	13	-1.0	82	15										
EGYPT CAIRO	20	12	30	8	16	0.9	2	-5										
ASWAN	**	**	24	9	**	***	**	**										
ETHIOPIA ADDIS ABABA	23	7	28	2	15	-0.6	0	-18										
KENYA NAIROBI	27	14	29	12	20	1.0	7	-72										
TANZANIA DAR ES SALAAM	32	24	33	21	28	0.3	0	-102										
GABON LIBREVILLE	30	24	31	22	27	0.2	191	-145										
TOGO LOME	33	25	35	22	29	1.8	0	-9										
BURKINA OUAGADOUGOU	34	19	39	17	27	1.5	0	0										
COTE D'I ABIDJAN	32	25	34	22	29	1.8	77	0										
MOZAMBI MAPUTO	29	22	37	17	26	0.6	99	22										
ZAMBIA LUSAKA	**	**	30	18	**	***	**	**										
ZIMBABW HARARE	25	17	28	14	21	0.5	398	229										
S AFRICA PRETORIA	27	17	32	9	22	-0.1	286	181										

Based on Preliminary Reports



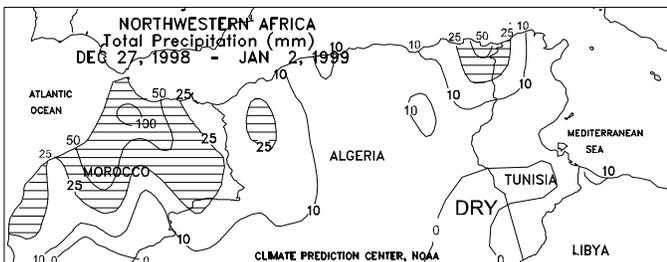
EUROPE

The first significant rain since early November fell in Spain and Portugal, providing much-needed moisture for early winter grain development. Precipitation amounts ranged from 10 to 43 mm in Spain and 25 to 60 mm in Portugal. Farther north, light to moderate showers stretched from England and northern France, eastward through the Benelux countries into western Germany. Mostly dry weather prevailed over the eastern half of Europe. At week's end, warmer weather improved overwintering conditions for winter grains in southeastern Europe, reversing a period of bitterly cold weather. Weekly temperatures averaged 2 to 4 degrees C above normal in northern Europe and 3 to 7 degrees C below normal in the southeast.



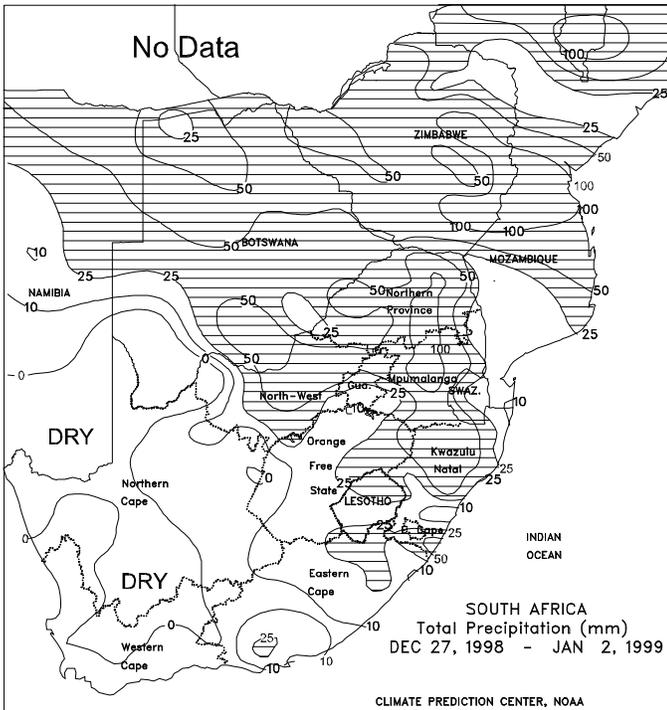
FSU-WESTERN

A warming trend spread eastward across the region, improving overwintering conditions for winter grains but melting some protective snow cover. During the middle of the week, maximum temperatures ranged from 2 to 4 degrees C in northern Russia and 4 to 7 degrees C in Ukraine, southern Russia, the Baltic States, and Belarus. Light rain (4-20 mm, with local amounts in excess of 20 mm) spread from the Baltic States eastward across northern Russia. Farther south, mostly dry weather prevailed over Ukraine and southern Russia. Weekly temperatures averaged 4 to 6 degrees C above normal in northern Russia, the Baltic States, and Belarus and from 1 to 3 degrees C above normal in Ukraine and southern Russia.



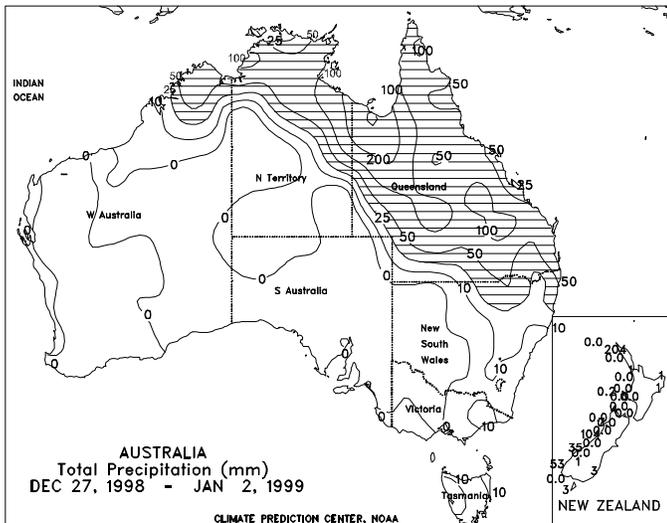
NORTHWESTERN AFRICA

Soaking rains fell over Morocco, easing drought conditions. Precipitation amounts ranged from 25 to 32 mm in southern winter grain areas and 50 to 100 mm in the north. While this past week's rain improved prospects for winter grain emergence and early establishment, timely rains will be required during the remainder of the growing season to prevent serious declines in crop-yield potential. Farther east, light to moderate showers (6-43 mm) fell in Algeria and Tunisia, maintaining adequate moisture conditions for winter grains in the vegetative stage of development.



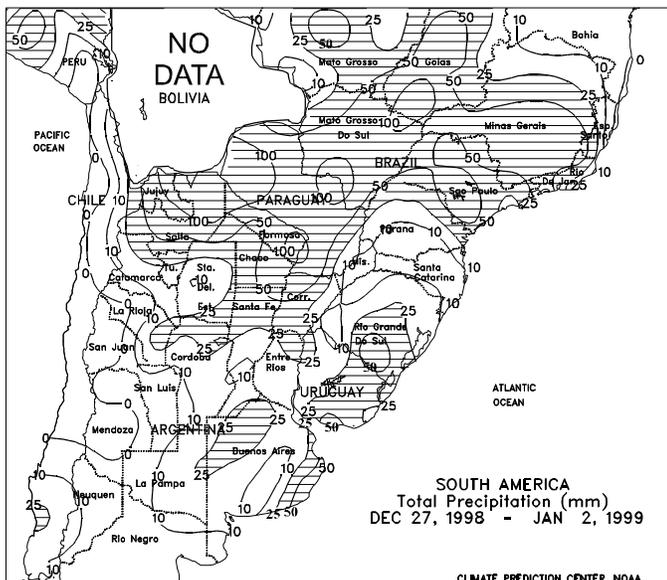
SOUTH AFRICA

Widespread showers fell over most of the corn belt, keeping vegetative crops well watered. Greatest amounts of precipitation (50-75 mm or more) fell from the Northern Province southward through Mpumalanga into sugarcane areas of Kwazulu Natal. Elsewhere, precipitation amounts in the Orange Free State ranged from 10 to 25 mm. Seasonable temperatures prevailed over the corn belt, with extreme maximum temperatures ranging from 28 to 33 degrees C. Elsewhere, beneficial dryness in winter wheat areas of the Western Cape continued to dry excessively wet fields.



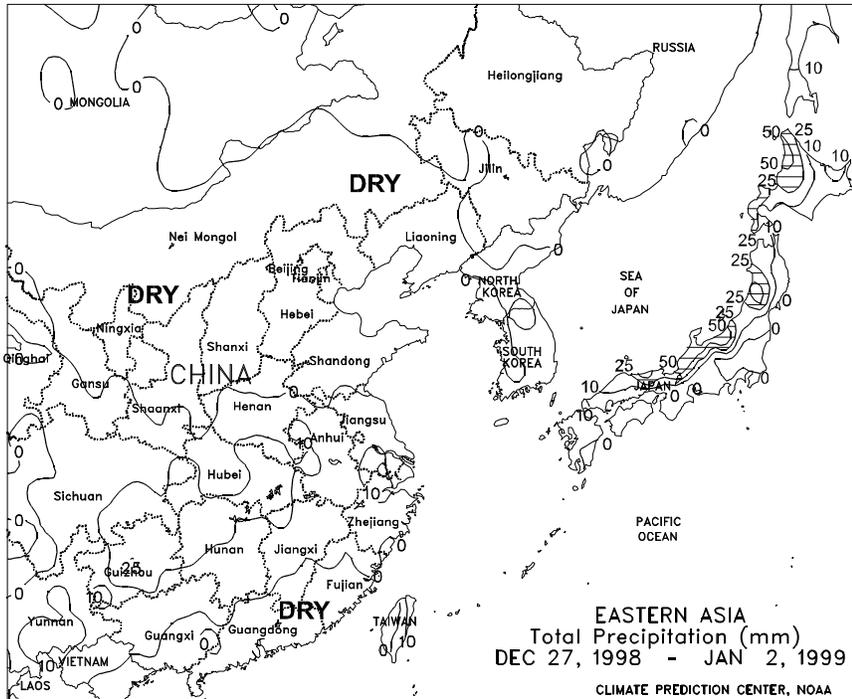
AUSTRALIA

Widespread showers covered the primary summer crop areas of eastern Australia, boosting moisture supplies for sorghum and cotton. Rainfall ranged from 15 to 30 mm in northern New South Wales to 30 to 120 mm in east-central Queensland. The heavier rains in Queensland possibly caused some flooding. Cool weather (temperatures 2-3 degrees C below normal) slowed summer crop development. Heavy showers (40-100 mm) benefited sugarcane along the northeast coast. Mostly dry weather aided winter wheat harvesting in South Australia, Victoria, southwestern New South Wales, and Western Australia. In New Zealand, seasonably dry, warm weather continued across the main pasture areas.



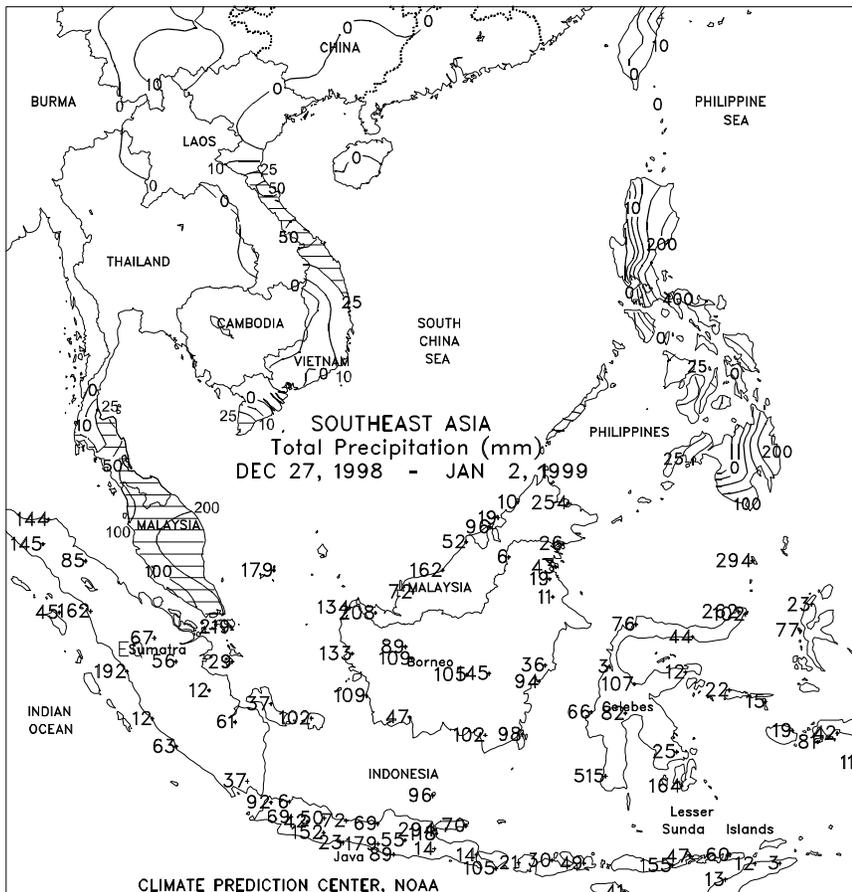
SOUTH AMERICA

Light to moderate rain (10-30 mm, with isolated amounts greater than 40 mm) covered the main summer crop areas of central Argentina, aiding reproductive corn and vegetative soybeans. Lighter amounts (less than 10 mm) in southern Buenos Aires aided winter wheat maturation and harvesting. Temperatures averaged near normal across the region. In northern Argentina, heavy showers (50-125 mm) boosted moisture supplies for vegetative cotton, but possibly caused local flooding. In southern Brazil, light rain (5-15 mm) kept topsoils moist for soybeans and corn across Rio Grande do Sul and Parana. More rain is needed, however, to keep pace with increasing crop water demands. Elsewhere in southern Brazil, moderate widespread showers (30-100 mm) maintained favorable soil moisture for summer crop development. Temperatures averaged near to slightly above normal across southern Brazil. Widespread rain (20-70 mm) and cool weather (2-4 degrees C below normal) favored soybean development. Warmer weather is needed for more favorable cotton development.



EASTERN ASIA

Winter wheat remained dormant across the North China Plain, despite temperatures averaging 2 to 4 degrees C above normal. Light precipitation (5-20 mm) provided some moisture for vegetative winter grains and oilseeds across the Yangtze Valley and the southern North China Plain.



SOUTHEAST ASIA

In the Philippines, extremely heavy showers (200-500 mm) caused flooding and possible crop damage across the east-central islands and southern Luzon. Elsewhere, showers (20-80 mm) provided moisture for vegetative second-crop grains. Seasonably dry weather prevailed across Thailand and southern Vietnam, aiding late rice harvesting and early second-crop rice transplanting. Heavy showers (100-300 mm) increased moisture supplies for oil palm across peninsular Malaysia, but caused flooding and disrupted fieldwork. In Java, widespread showers (40-150 mm) continued to maintain moisture supplies for main-season rice planting.

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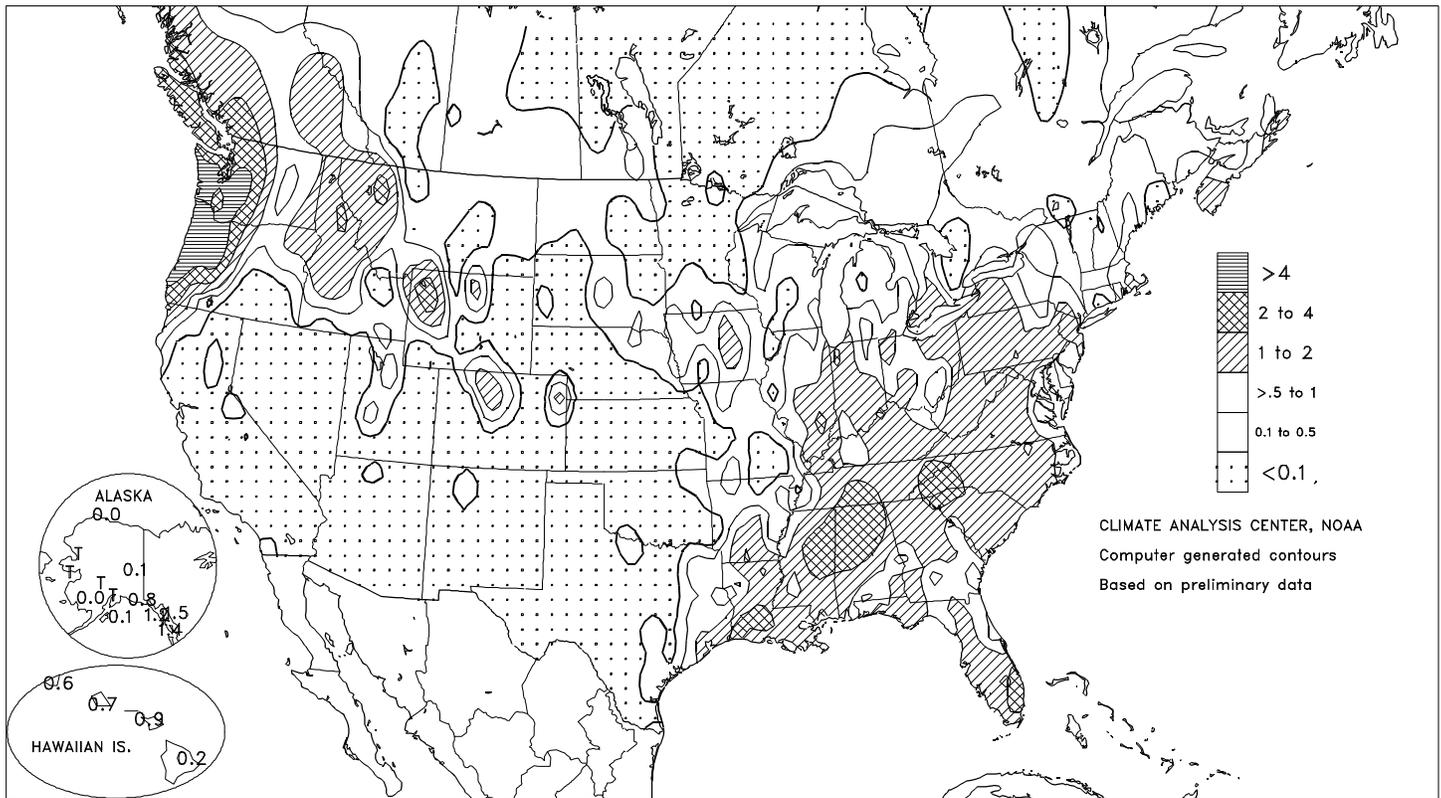
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Total Precipitation (Inches)

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