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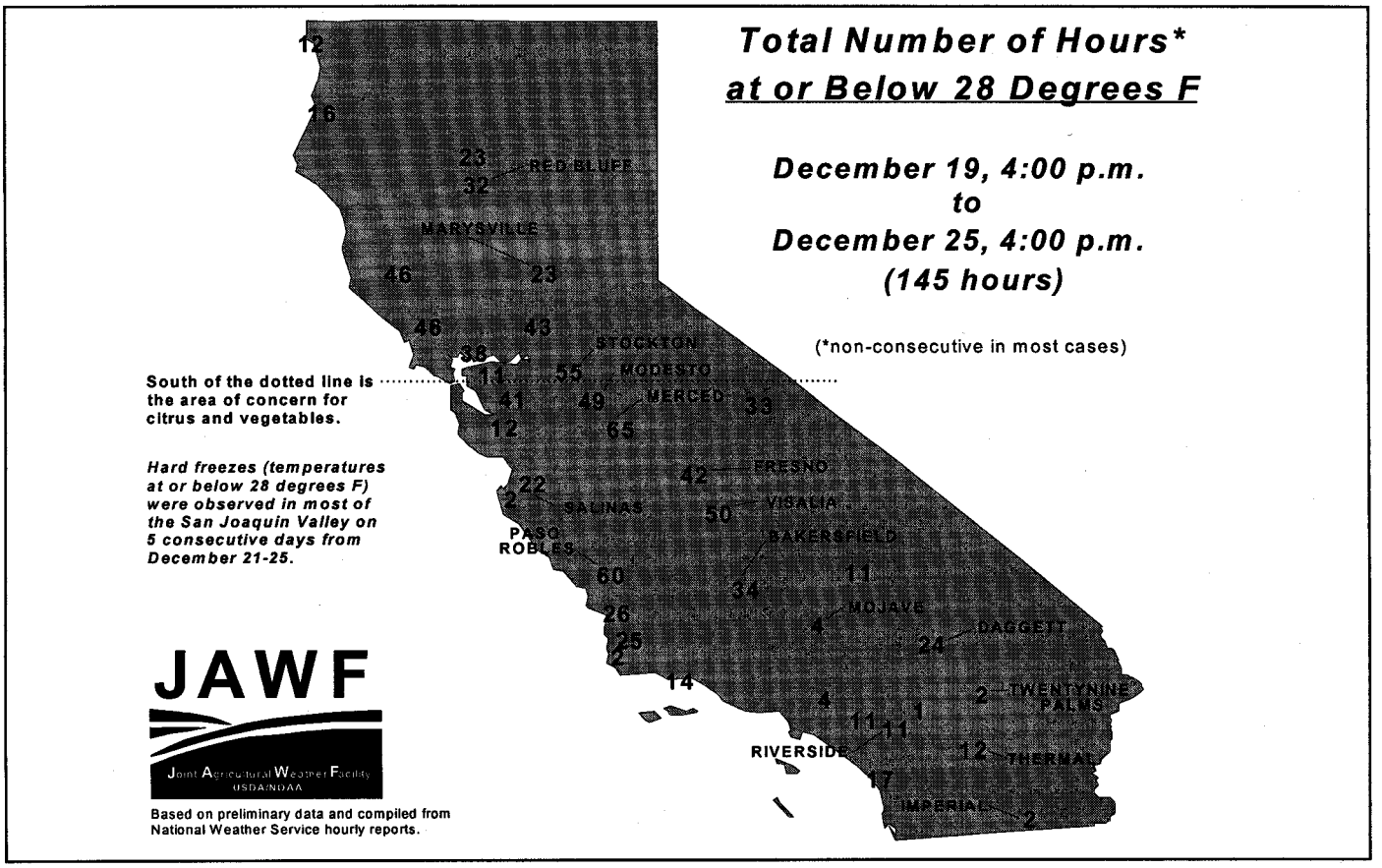
WEEKLY WEATHER AND CROP BULLETIN

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

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



HIGHLIGHTS

December 20 - 26, 1998

Freezes struck **California's San Joaquin Valley** from December 21-25, the most sustained period of cold weather there since December 1990, damaging citrus and vegetables. Less significant freeze effects were observed in citrus and winter vegetable areas of **southern California**. Meanwhile, bitterly cold weather overspread winter wheat areas of the **Ohio Valley, Plains,** and **Northwest**. Much of the **Northwest's** soft white winter wheat was exposed to near- to slightly below-zero (degrees F) temperatures on five consecutive mornings (December 20-24), raising concerns about potential damage, especially to the portion of the crop that entered dormancy poorly established. Although cold weather burned back unprotected winter wheat in the **Ohio Valley** and portions of the **Plains**, snow cover insulated wheat from the most severe cold (-10 to -30°F) in areas from **Montana** southward to the **central High Plains**. Weekly temperatures ranged from 5 to 23°F below normal across the **western two-thirds of the Nation**. Near-normal readings prevailed in the **East**, except in **Florida**, where departures

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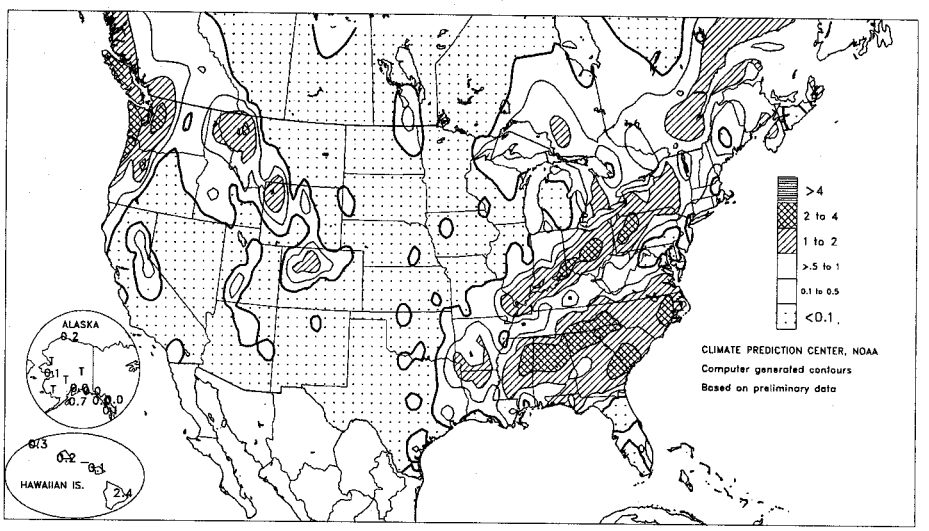
reached +10°F. During the mid- to late-week period, freezing rain and sleet overspread areas from **central Texas** to the **Mid-Atlantic region**, causing power outages and disrupting transportation, while stormy but milder weather arrived in the **Northwest**. The week's only other significant precipitation occurred in the **Ohio Valley**, where locally heavy rain preceded the early-week arrival of Arctic air.

The Arctic outbreak resulted in less than 50 daily-record lows, in part due to similarly timed cold snaps in 1990, 1983, 1968, and earlier. Nevertheless, the **San Joaquin Valley** endured damaging cold, including an all-time record-tying low of 19°F in **Bakersfield** on December 23. Temperatures in **Bakersfield** had previously dipped to 19°F on seven occasions, all during the freezes of December 1929-January 1930, January 1937, and December 1990. In addition, **Bakersfield's** high of 34°F on Tuesday was their lowest on record, eclipsing a mark that had been established on December 11, 1932. Rare snowfall preceded the arrival of the coldest air across the valley, the most significant such event there since December 20, 1968. Farther north, **Eureka, CA** reported four daily-record lows from December 20-24, including a minimum (23°F on Monday) that was within 2°F of their monthly record set in 1972. In **Nevada, Reno** (-3°F on Wednesday) noted their lowest December temperature since 1990. Similarly, **Boise, ID** (-2°F on Monday) endured their lowest reading since November 24, 1993.

Meanwhile, snowfall gradually ended across the **Intermountain West**, but not before 6.3 inches blanketed **Grand Junction, CO** on Sunday. The last day more snow fell in **Grand Junction** was February 4, 1989. Two days later, **Grand Junction's** minimum of -12°F was their lowest reading since December 24, 1990. In **western Montana**, lows on Monday plummeted to -39°F in **Butte**, -43°F in **Wisdom**, and -45°F in **West Yellowstone**. Farther east, **Wichita, KS** (0°F on Tuesday) logged their lowest reading since January 28, 1997. Elsewhere in **Kansas**, temperatures remained below freezing for 152 consecutive hours (December 19-25) in **Topeka**, far short of their record of 553 hours in 1983-84. On Monday, **Minneapolis, MN** registered their first sub-zero temperature in 334 days, just short of their all-time record (337 days) set in 1954-55. The cold outbreak delivered the latest first freeze on record to locations such as **Little Rock, AR** (26°F on December 21, breaking their 1994 record by 10 days) and **New York's**

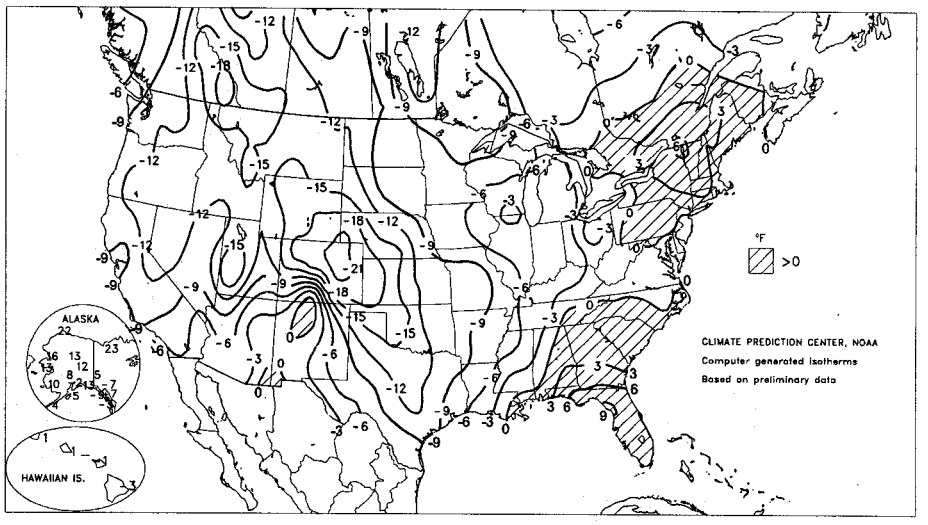
Total Precipitation (Inches)

DEC 20 - 26, 1998



Departure of Average Temperature from Normal (°F)

DEC 20 - 26, 1998



Central Park (22°F on December 22, bettering their 1948 standard by 11 days). In **Texas, Dallas-Ft. Worth's** first freeze (22°F on December 21) was their fourth-latest on record, and latest since December 25, 1965. Although **Deep South Texas** was spared from a freeze, temperatures on December 26 dipped to 20°F in **Hondo** and 25°F in **Del Rio**.

Preceding the Arctic blast, more than two dozen locations in the **Southeast** notched daily-record highs. On Monday, both **Savannah, GA** and **Mobile, AL** reported 79°F. A day later, **Wilmington, NC** logged 80°F, while **Huntington, WV** recorded 68°F. Warmth continued through week's end in **Peninsular Florida**, where **Miami Beach** collected a trio of daily-record highs (83°F on December 24, 25, and 26). Farther north, however, freezing rain glazed areas from **central Texas** to **Virginia** and the **Carolinas**, including areas as far south as the northern portions of **Louisiana, Mississippi**, and **Alabama**. Greater than 1-inch ice accumulations were received in some areas from **northern Mississippi** and **Tennessee** to **southeastern Virginia**. Sleet was also reported across the **South**, with some snow along the **East Coast**. Earlier in the week, as much as 1 to 3 inches of rain pelted the **Ohio Valley** before briefly changing to snow. Toward week's end, snowfall in the interior **Northwest** boosted monthly totals to 10.6 inches in **Spokane, WA** and 8.8 inches in **Boise**, too late to protect soft white winter wheat from the bitter cold of December 20-24.

On Tuesday, the same day that **Bakersfield's** high reached only 34°F, **Barrow, AK**, at 71.3°N Latitude, notched a daily-record high of 32°F. **Barrow's** weekly temperatures averaged 22°F above normal, part of a mild pattern that dominated all of **Alaska** except southeastern areas. In contrast, cooler-than-normal weather prevailed in **Hawaii**, resulting in a daily record-tying low (60°F on Saturday) in **Hilo**.

National Weather Data for Selected Cities

Weather Data for the Week Ending December 26, 1998

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

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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
AL	BIRMINGHAM	51	37	68	29	44	1	3.01	1.82	1.41	5.47	128	65.95	123	97	68	0	5	6	2
	HUNTSVILLE	48	33	70	25	41	-1	2.28	0.95	1.39	5.82	118	44.46	79	100	78	0	5	4	2
	MOBILE	58	44	79	35	51	-1	0.39	-0.82	0.27	1.68	38	85.97	136	99	73	0	0	5	0
	MONTGOMERY	57	42	74	32	50	1	1.43	0.24	0.85	2.00	46	48.41	92	96	71	0	1	4	2
AK	ANCHORAGE	20	7	24	-1	13	-2	0.00	-0.25	0.00	0.79	86	11.13	71	94	75	0	7	0	0
	BARROW	18	2	32	-9	10	22	0.16	0.13	0.05	0.47	470	4.95	115	89	71	0	7	4	0
	FAIRBANKS	12	-4	26	-15	4	12	0.03	-0.16	0.02	0.47	66	10.60	98	88	69	0	7	2	0
	JUNEAU	25	14	32	8	20	-7	0.00	-1.01	0.00	3.95	107	62.79	117	94	71	0	7	0	0
	KODIAK	38	33	40	26	36	5	0.74	-0.86	0.30	4.64	82	106.35	160	96	74	0	1	5	0
	NOME	27	12	35	-2	20	13	0.11	-0.08	0.07	0.86	119	24.18	163	88	66	0	7	2	0
AZ	FLAGSTAFF	39	16	52	7	28	-1	0.07	-0.48	0.07	0.59	29	27.54	123	85	36	0	7	1	0
	PHOENIX	59	39	64	32	49	-4	0.00	-0.22	0.00	0.88	107	10.72	143	73	25	0	1	0	0
	TUCSON	61	32	69	26	47	-4	0.00	-0.25	0.00	0.58	65	13.74	116	63	21	0	4	0	0
	YUMA	61	42	69	36	52	-4	0.00	-0.11	0.00	0.17	45	4.64	150	41	19	0	0	0	0
AR	FORT SMITH	39	23	49	16	31	-8	0.46	-0.15	0.22	3.25	124	44.92	111	89	53	0	6	3	0
	LITTLE ROCK	42	25	72	20	33	-8	0.72	-0.31	0.57	3.80	92	41.42	83	88	51	0	6	3	1
CA	BAKERSFIELD	43	24	51	19	34	-13	0.10	-0.04	0.10	0.67	131	13.34	239	95	56	0	7	1	0
	EUREKA	47	31	53	23	39	-9	0.10	-1.23	0.05	5.23	103	63.52	174	88	60	0	5	3	0
	FRESNO	41	25	48	21	33	-11	0.09	-0.24	0.09	0.74	64	17.37	169	93	57	0	7	1	0
	LOS ANGELES	60	41	71	37	50	-6	0.03	-0.36	0.01	0.88	65	25.93	221	72	25	0	0	1	0
	REDDING	46	28	61	21	37	-7	0.00	-1.26	0.00	2.13	47	61.20	189	66	29	0	6	0	0
	SACRAMENTO	45	25	51	20	35	-9	0.00	-0.59	0.00	0.59	29	28.74	169	92	38	0	6	0	0
	SAN DIEGO	59	44	65	39	51	-5	0.00	-0.36	0.00	0.69	52	15.78	163	75	36	0	0	0	0
	SAN FRANCISCO	46	34	50	31	40	-8	0.17	-0.57	0.17	1.13	45	32.82	172	81	43	0	3	1	0
CO	ALAMOSA	34	2	43	-8	18	2	0.04	-0.06	0.01	0.04	10	6.88	92	80	31	0	7	1	0
	CO SPRINGS	21	-2	51	-10	10	-19	0.10	-0.01	0.05	0.27	66	16.34	101	79	44	0	7	2	0
	DENVER	20	-3	47	-19	8	-21	0.23	0.09	0.12	0.34	61	16.26	106	81	52	0	7	2	0
	GRAND JUNCTION	20	-1	36	-12	9	-17	0.27	0.13	0.25	0.29	57	9.13	107	89	59	0	7	2	0
	PUEBLO	22	-8	50	-17	7	-23	0.16	0.08	0.12	0.28	76	11.72	105	90	57	0	7	2	0
CT	BRIDGEPORT	40	26	56	17	33	1	0.19	-0.58	0.09	0.64	22	41.57	101	89	44	0	5	3	0
	HARTFORD	39	23	56	14	31	4	0.25	-0.61	0.24	0.54	16	45.06	103	80	42	0	5	2	0
DC	WASHINGTON	44	29	67	20	37	-1	0.18	-0.51	0.16	1.66	63	35.85	94	79	37	0	5	2	0
DE	WILMINGTON	42	26	64	14	34	0	0.30	-0.48	0.17	0.86	29	36.38	90	90	54	0	5	3	0
FL	DAYTONA BEACH	76	61	83	50	68	9	0.04	-0.54	0.03	0.95	44	40.12	85	98	68	0	0	2	0
	JACKSONVILLE	68	52	79	39	60	6	0.24	-0.41	0.22	0.33	15	56.76	112	99	75	0	0	3	0
	KEY WEST	80	72	81	71	76	6	0.01	-0.43	0.01	1.23	72	37.58	96	94	73	0	0	1	0
	MIAMI	81	70	82	68	76	7	0.03	-0.38	0.02	0.86	55	69.17	124	90	62	0	0	2	0
	ORLANDO	78	60	83	53	69	8	0.07	-0.40	0.01	0.67	37	44.77	94	99	63	0	0	2	0
	PENSACOLA	61	48	75	40	55	2	1.37	0.37	0.60	3.85	108	67.87	110	99	78	0	0	7	1
	TALLAHASSEE	67	49	78	43	58	6	1.25	0.09	0.54	1.60	38	58.83	91	98	74	0	0	4	1
	TAMPA	78	63	83	54	70	9	0.20	-0.30	0.13	0.59	33	54.84	126	100	72	0	0	2	0
	WEST PALM BEACH	80	67	82	62	74	7	0.74	0.24	0.35	2.23	105	65.83	109	94	65	0	0	4	0
GA	ATHENS	53	39	74	31	46	3	1.19	0.24	0.77	1.87	55	50.35	103	98	68	0	1	5	1
	ATLANTA	52	39	73	32	45	2	1.12	0.12	0.56	1.92	53	46.16	92	98	70	0	1	6	1
	AUGUSTA	57	41	78	29	49	3	0.96	0.15	0.50	1.44	52	47.72	108	96	57	0	1	6	1
	COLUMBUS	56	44	75	33	50	3	0.25	-0.91	0.09	1.48	36	33.07	66	89	49	0	0	5	0
	MACON	56	41	77	30	48	1	1.00	-0.03	0.46	1.73	49	43.54	99	97	67	0	1	6	0
	SAVANNAH	59	45	77	35	52	2	1.64	0.93	1.09	2.35	97	49.51	102	99	71	0	0	5	1
HI	HILO	75	63	78	60	69	-3	2.43	-0.12	1.22	10.16	99	108.46	85	99	77	0	0	7	1
	HONOLULU	81	69	83	64	75	1	0.15	-0.73	0.11	0.52	16	4.15	19	85	55	0	0	2	0
	KAHULUI	80	63	82	58	72	-1	0.06	-0.72	0.06	0.40	15	5.98	29	88	55	0	0	1	0
	LIHUE	77	70	78	66	74	1	0.28	-0.90	0.24	1.76	41	25.94	62	88	70	0	0	3	0
ID	BOISE	24	10	41	-2	17	-12	0.71	0.41	0.63	1.21	107	16.27	137	83	50	0	7	3	1
	LEWISTON	28	16	51	2	22	-11	0.03	-0.25	0.03	0.36	35	17.13	139	74	43	0	5	1	0
	POCATELLO	16	-1	37	-15	7	-16	0.06	-0.19	0.04	0.53	58	13.29	111	83	60	0	7	2	0
IL	CHICAGO/O'HARE	29	14	36	5	21	-3	0.11	-0.40	0.01	1.21	57	37.55	106	80	46	0	7	3	0
	MOLINE	27	11	33	3	19	-4	0.04	-0.44	0.01	0.90	47	47.97	124	82	50	0	7	2	0
	PEORIA	28	13	34	5	20	-4	0.08	-0.44	0.05	1.65	79	42.36	118	85	52	0	7	2	0
	ROCKFORD	26	10	33	2	18	-4	0.03	-0.40	0.00	0.87	49	39.90	111	84	47	0	7	1	0
	SPRINGFIELD	28	14	35	6	21	-6	0.11	-0.48	0.08	0.63	27	44.91	129	85	56	0	7	2	0
IN	EVANSVILLE	40	20	62	12	30	-4	2.19	1.39	2.16	3.00	96	43.20	101	86	55	0	6	2	1
	FORT WAYNE	30	15	42	7	23	-3	0.41	-0.22	0.41	1.00	40	38.32	112	87	55	0	7	1	0
	INDIANAPOLIS	32	16	47	7	24	-4	0.68	-0.05	0.68	1.14	40	49.51	126	86	57	0	6	1	1
	SOUTH BEND	28	14	36	5	21	-6	0.28	-0.44	0.14	2.01	71	35.23	91	86	58	0	7	4	0
IA	BURLINGTON	29	13	36	6	21	-3	0.01	-0.41	0.01	1.39	81	52.20	146	76	47	0	7	1	0
	CEDAR RAPIDS	24	6	33	-1	15	-5	0.00	-0.33	0.00	0.02	1	45.26	135	81	47	0	7	0	0
	DES MOINES	23	7	33	-1	15	-7	0.05	-0.23	0.00	0.12	11	39.66	121	82	46	0	7	2	0
	DUBUQUE	23	8	30	-1	15	-4	0.02	-0.38	0.02	0.14	8	43.33	114	83	51	0	7	1	0
	SIOUX CITY	22	1	41	-7	12	-8	0.09	-0.08	0.00	0.12	18	31.04	121	82	44	0	7	2	0
	WATERLOO	21	6	31	-2	14	-4	0.07	-0.19	0.01	0.12	11	44.66	133	79	49	0	7	3	0
KS	CONCORDIA	28	6	53	-6	17	-11	0.06	-0.11	0.02	0.16	22	33.23	116	85	45	0	7	2	0
	DODGE CITY	25	3	55	-7	14	-16	0.10	-0.04	0.10	0.28	50	21.76	102	88	55	0	7	1	0
	GOODLAND	21	-1	50	-13	10	-18	0.05	-0.03	0.02	0.06	17	18.27	101	82	57	0	7	2	0
	TOPEKA	29	10	48	1	20	-9	0.05	-0.25	0.01	1.24	101	42.19	120	83	47	0	7	2	0

Based on 1961-90 normals

Weather Data for the Week Ending December 26, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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
	WICHITA	27	11	46	0	19	-12	0.05	-0.20	0.03	1.10	106	34.71	119	84	52	0	7	1	0
KY	JACKSON	41	26	68	14	34	-2	0.89	-0.08	0.35	4.60	124	52.83	108	92	49	0	5	3	0
	LEXINGTON	39	22	65	12	31	-3	0.73	-0.16	0.61	3.03	89	49.44	112	88	48	0	5	3	1
	LOUISVILLE	40	23	65	15	32	-3	1.31	0.52	1.29	2.65	85	47.50	108	86	51	0	6	2	1
	PADUCAH	39	20	61	11	30	-6	0.93	-0.09	0.87	2.73	68	54.99	113	93	59	0	6	3	1
LA	BATON ROUGE	57	42	78	33	49	-2	0.78	-0.49	0.35	1.89	41	54.81	91	98	70	0	0	4	0
	LAKE CHARLES	56	41	78	30	48	-4	0.36	-0.80	0.17	2.49	59	55.46	103	97	69	0	2	3	0
	NEW ORLEANS	59	47	79	39	53	0	0.70	-0.61	0.39	1.64	34	78.42	129	97	72	0	0	3	0
	SHREVEPORT	45	30	74	22	38	-9	1.27	0.36	0.72	6.19	179	50.57	111	96	69	0	5	5	1
ME	CARIBOU	25	5	43	-2	15	3	0.24	-0.46	0.13	1.24	45	35.49	98	87	54	0	7	2	0
	PORTLAND	35	17	54	11	26	2	0.39	-0.58	0.31	1.10	28	54.56	125	78	39	0	7	2	0
MD	BALTIMORE	42	25	64	9	33	-1	0.37	-0.39	0.24	1.27	44	34.39	85	87	45	0	5	3	0
MA	BOSTON	40	26	59	17	33	2	0.24	-0.64	0.21	0.92	27	52.77	129	86	47	0	5	3	0
	WORCESTER	37	21	56	13	29	4	0.32	-0.57	0.31	1.09	32	46.21	98	75	45	0	6	1	0
MI	ALPENA	25	10	31	3	17	-4	0.20	-0.24	0.09	1.30	76	32.95	116	88	59	0	7	5	0
	GRAND RAPIDS	26	15	34	7	21	-4	0.13	-0.47	0.07	1.07	44	32.12	90	86	59	0	7	3	0
	HOUGHTON LAKE	24	9	30	3	17	-4	0.13	-0.29	0.04	1.08	65	24.43	87	89	64	0	7	5	0
	LANSING	27	12	35	2	19	-5	0.27	-0.22	0.19	1.28	64	28.65	95	88	57	0	7	3	0
	MARQUETTE	13	0	19	-7	7	-8	0.14	-0.44	0.09	1.23	56	27.97	80	82	53	0	7	2	0
	MUSKEGON	29	18	36	8	24	-3	0.09	-0.58	0.04	1.29	50	28.28	88	74	55	0	7	2	0
MN	DULUTH	9	-7	15	-18	1	-9	0.05	-0.23	0.01	0.79	75	32.89	110	82	56	0	7	2	0
	INT'L FALLS	2	-18	7	-24	-8	-12	0.08	-0.11	0.01	0.36	50	22.54	93	81	61	0	7	3	0
	MINNEAPOLIS	15	0	22	-7	8	-8	0.09	-0.13	0.02	0.40	43	33.04	117	78	53	0	7	2	0
	ROCHESTER	21	-5	35	-14	8	-7	0.03	-0.18	0.02	0.07	8	31.97	108	80	51	0	7	2	0
	ST. CLOUD	12	-5	20	-14	3	-8	0.14	-0.03	0.05	0.96	135	24.96	91	82	57	0	7	3	0
MS	JACKSON	52	38	76	28	45	-1	1.52	0.17	0.83	5.49	111	50.81	93	98	69	0	5	3	1
	MERIDIAN	51	37	74	27	44	-3	1.32	-0.07	0.72	3.25	64	53.54	96	97	76	0	5	4	1
	TUPELO	43	31	73	21	37	-5	1.69	0.30	1.09	6.99	134	50.37	92	97	75	0	5	4	1
MO	COLUMBIA	28	13	38	3	20	-9	0.06	-0.45	0.03	1.17	55	44.93	116	89	59	0	7	2	0
	KANSAS CITY	27	10	41	0	18	-10	0.06	-0.28	0.00	0.89	66	49.21	132	87	55	0	7	1	0
	SAINT LOUIS	31	17	38	7	24	-8	0.22	-0.42	0.12	0.75	29	43.54	117	85	54	0	7	2	0
	SPRINGFIELD	32	14	45	4	23	-10	0.09	-0.57	0.07	1.41	51	48.52	114	92	60	0	7	2	0
MT	BILLINGS	18	1	47	-14	10	-14	0.00	-0.19	0.00	0.56	88	14.25	95	86	50	0	7	0	0
	BUTTE	11	-11	36	-39	0	-16	0.04	-0.07	0.01	1.25	321	15.35	127	79	56	0	7	3	0
	GLASGOW	8	-8	19	-16	0	-13	0.11	0.03	0.06	0.39	126	14.62	135	84	58	0	7	4	0
	GREAT FALLS	16	-5	39	-26	6	-16	0.11	-0.08	0.11	0.22	32	16.64	111	84	55	0	7	1	0
	KALISPELL	15	2	37	-14	8	-13	1.16	0.75	0.41	1.65	115	20.69	128	84	55	0	7	5	0
	MILES CITY	18	-7	41	-16	6	-12	0.15	0.01	0.12	0.25	49	13.69	98	87	54	0	7	3	0
	MISSOULA	15	0	37	-24	8	-14	0.41	0.13	0.21	1.26	131	21.78	164	83	61	0	7	5	0
NE	GRAND ISLAND	23	0	47	-14	11	-12	0.05	-0.09	0.01	0.06	10	25.95	105	80	52	0	7	1	0
	LINCOLN	25	3	45	-8	14	-9	0.11	-0.07	0.07	0.14	18	34.17	121	84	42	0	7	2	0
	NORFOLK	22	1	44	-9	12	-9	0.04	-0.12	0.02	0.06	9	35.09	140	81	49	0	7	1	0
	NORTH PLATTE	23	-6	52	-21	8	-14	0.05	-0.05	0.00	0.06	15	22.49	117	86	48	0	7	1	0
	OMAHA	24	5	41	-3	15	-8	0.08	-0.13	0.04	0.10	11	39.60	133	78	42	0	7	3	0
	SCOTTSBLUFF	16	-11	45	-27	3	-22	0.18	0.06	0.14	1.20	240	17.59	116	83	57	0	7	2	0
	VALENTINE	23	-7	52	-20	8	-12	0.06	-0.02	0.01	0.06	18	24.14	133	86	50	0	7	1	0
NV	ELY	28	-4	47	-19	12	-12	0.02	-0.15	0.02	0.40	66	12.31	122	82	40	0	7	1	0
	LAS VEGAS	49	29	56	20	39	-6	0.00	-0.08	0.00	0.04	13	6.96	173	43	16	0	5	0	0
	RENO	29	8	52	-3	18	-13	0.00	-0.22	0.00	0.10	12	12.08	165	88	50	0	7	0	0
	WINNEMUCCA	26	2	49	-14	14	-15	0.03	-0.16	0.00	0.22	29	15.35	189	83	49	0	7	1	0
NH	CONCORD	34	14	51	6	24	2	0.31	-0.37	0.27	0.78	29	35.41	98	88	42	0	7	2	0
NJ	NEWARK	42	28	65	19	35	1	0.18	-0.58	0.09	0.44	15	42.87	99	75	41	0	5	3	0
NM	ALBUQUERQUE	45	23	61	16	34	0	0.00	-0.11	0.00	0.23	56	9.85	113	59	23	0	6	0	0
NY	ALBANY	37	19	52	12	28	4	0.37	-0.26	0.21	0.87	35	38.80	108	93	61	0	7	2	0
	BINGHAMTON	34	17	51	5	26	1	0.99	0.34	0.53	1.54	60	39.05	107	86	53	0	6	3	1
	BUFFALO	31	19	49	9	25	-2	1.03	0.23	0.62	1.41	45	34.69	91	93	59	0	6	5	1
	ROCHESTER	33	18	53	8	26	-1	0.49	-0.10	0.28	1.34	58	41.70	132	90	56	0	6	6	0
	SYRACUSE	37	19	53	9	28	2	0.74	0.06	0.39	1.57	57	37.03	96	85	50	0	5	3	0
NC	ASHEVILLE	47	33	65	27	40	2	1.10	0.32	0.52	3.21	108	47.97	102	99	71	0	5	6	1
	CHARLOTTE	49	35	70	25	42	1	1.92	1.12	1.27	3.13	108	40.91	96	95	60	0	3	4	1
	GREENSBORO	45	32	65	23	38	0	1.29	0.52	0.77	5.35	190	48.31	115	98	68	0	5	4	2
	HATTERAS	54	44	65	38	49	2	1.84	0.80	0.75	4.39	116	62.42	113	98	69	0	0	5	2
	RALEIGH	47	34	67	24	40	-1	1.57	0.83	0.99	3.47	129	52.65	129	99	68	0	4	3	2
	WILMINGTON	54	40	78	29	47	0	1.95	1.11	1.26	3.72	123	63.37	118	94	71	0	1	3	1
ND	BISMARCK	14	-6	32	-10	4	-8	0.06	-0.05	0.04	0.19	46	23.67	154	78	59	0	7	2	0
	DICKINSON	14	-7	36	-15	3	-12	0.09	0.01	0.02	0.10	32	24.72	154	84	61	0	7	4	0
	FARGO	10	-6	19	-13	2	-7	0.07	-0.08	0.00	0.08	15	31.61	163	79	60	0	7	3	0
	GRAND FORKS	6	-8	12	-12	-1	-8	0.13	-0.02	0.09	0.31	60	23.86	131	80	63	0	7	2	0
	JAMESTOWN	10	-5	21	-9	3	-8	0.11	0.00	0.03	0.18	44	21.83	130	81	62	0	7	3	0
	WILLISTON	8	-11	19	-18	-2	-13	0.13	-0.01	0.06	0.40	82	17.49	129	82	60	0	7	4	0
OH	AKRON-CANTON	33	17	55	7	26	-3	1.49	0.85	1.37	2.06	82	40.19	111	90	65	0	5	3	1
	CINCINNATI	37	19	60	8	28	-3	2.49	1.81	2.47	3.59	133	51.14	125	89	58	0	6	2	1
	CLEVELAND	33	19	52	7	26	-2	0.99	0.32	0.93	1.87	71	32.77	91	85	58	0	6	3	1
	COLUMBUS	36	21	59	11	29	-1	2.57	1.96	2.56	3.20	131	37.51	99	86	60	0	5	2	1
	DAYTON	34	18	55	9	26	-3	1.59	0.96	1.55	2.00	80	39.10	108	85	56	0	6	2	1
	MANSFIELD	32	16	54	5	24	-4	0.79	0.15	0.66	1.12	42	37.05	94	90	63	0	6	3	1

Based on 1961-90 normals

Weather Data for the Week Ending December 26, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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
	TOLEDO	31	16	44	8	24	-2	0.46	-0.17	0.43	0.60	24	32.53	100	83	54	0	7	3	0
	YOUNGSTOWN	33	19	54	8	26	-1	1.32	0.69	1.19	1.99	79	37.20	101	87	58	0	5	3	1
OK	OKLAHOMA CITY	34	18	50	10	26	-12	0.01	-0.29	0.00	1.65	138	35.36	107	88	50	0	7	1	0
	TULSA	33	18	47	9	26	-11	0.12	-0.32	0.06	1.76	94	46.72	116	86	54	0	7	2	0
OR	ASTORIA	38	27	52	16	33	-9	3.17	0.80	1.61	12.19	137	84.79	131	89	57	0	5	6	2
	BURNS	22	3	41	-13	12	-12	0.16	-0.09	0.16	0.89	91	16.06	164	86	51	0	7	1	0
	EUGENE	36	22	51	10	29	-12	0.41	-1.51	0.31	4.43	61	46.30	96	87	59	0	5	3	0
	MEDFORD	31	16	46	6	24	-14	0.16	-0.57	0.08	1.11	40	28.60	156	92	54	0	6	3	0
	PENDLETON	30	14	53	2	22	-11	0.18	-0.18	0.12	0.94	69	14.00	118	83	50	0	5	2	0
	PORTLAND	36	24	53	11	30	-10	0.59	-0.79	0.38	3.91	76	43.24	122	84	49	0	5	3	0
	SALEM	35	23	52	12	29	-10	0.71	-0.81	0.53	4.72	82	46.99	123	84	51	0	5	3	1
PA	ALLENTOWN	40	23	61	14	31	2	0.06	-0.70	0.05	0.43	15	39.50	92	87	50	0	5	2	0
	ERIE	34	23	54	13	28	-1	0.98	0.22	0.84	2.25	73	32.29	79	85	53	0	5	5	1
	MIDDLETOWN	43	25	63	15	34	2	0.06	-0.65	0.04	0.24	9	45.88	115	79	46	0	5	2	0
	PHILADELPHIA	42	28	64	20	35	1	0.19	-0.57	0.11	0.67	24	31.52	77	84	48	0	5	3	0
	PITTSBURGH	37	20	60	9	28	-1	1.34	0.69	1.10	1.77	72	34.17	94	82	51	0	5	3	1
	WILKES-BARRE	38	21	57	9	30	2	0.42	-0.12	0.21	0.72	33	34.61	97	83	46	0	5	3	0
	WILLIAMSPORT	38	22	56	11	30	1	0.55	-0.10	0.28	0.86	33	40.10	99	88	48	0	5	3	0
RI	PROVIDENCE	40	24	59	14	32	1	0.24	-0.73	0.16	0.54	15	51.87	116	83	48	0	5	3	0
SC	BEAUFORT	59	45	78	35	52	1	1.80	1.04	1.21	2.34	89	49.85	98	97	70	0	0	4	1
	CHARLESTON	58	44	78	31	51	1	2.33	1.59	1.56	4.29	165	67.80	133	97	69	0	1	3	2
	COLUMBIA	55	40	75	27	47	2	1.02	0.16	0.58	2.47	84	46.66	95	96	59	0	1	6	1
	GREENVILLE	50	37	67	30	43	2	1.82	0.86	1.27	4.04	117	51.79	102	98	65	0	4	6	1
SD	ABERDEEN	18	-4	32	-9	7	-8	0.07	-0.01	0.00	0.24	71	28.57	155	81	54	0	7	3	0
	HURON	22	-2	37	-8	10	-8	0.00	-0.11	0.00	0.05	12	25.03	125	81	54	0	7	0	0
	RAPID CITY	21	-6	49	-22	8	-15	0.07	-0.04	0.00	0.13	32	21.17	128	84	49	0	7	2	0
	SIOUX FALLS	17	-3	32	-11	7	-9	0.08	-0.06	0.04	0.14	23	31.04	131	82	59	0	7	2	0
TN	BRISTOL	46	27	64	19	37	0	1.24	0.47	0.50	5.14	181	43.75	109	98	66	0	5	4	1
	CHATTANOOGA	48	35	68	28	42	2	2.25	1.08	1.14	5.92	136	53.69	102	95	68	0	5	4	2
	KNOXVILLE	46	32	67	23	39	0	1.14	0.09	0.52	5.17	135	53.13	115	98	72	0	5	3	1
	MEMPHIS	43	27	69	20	35	-7	0.47	-0.78	0.24	3.95	80	52.56	102	95	59	0	6	4	0
	NASHVILLE	42	27	69	19	35	-4	0.57	-0.45	0.37	6.41	164	50.61	109	95	59	0	5	3	0
TX	ABILENE	43	21	65	13	32	-12	0.00	-0.22	0.00	1.39	160	13.89	57	92	57	0	6	0	0
	AMARILLO	35	9	60	0	22	-13	0.08	0.00	0.02	0.51	146	17.26	89	90	53	0	7	2	0
	AUSTIN	48	31	77	25	40	-11	0.09	-0.32	0.07	1.58	98	39.12	124	94	61	0	6	2	0
	BEAUMONT	54	40	78	28	47	-6	0.13	-0.95	0.01	2.46	62	57.43	102	97	69	0	1	5	0
	BROWNSVILLE	61	45	83	34	53	-8	0.11	-0.18	0.06	0.48	46	20.13	76	96	73	0	0	3	0
	CORPUS CHRISTI	57	42	79	31	50	-7	0.36	0.07	0.34	0.78	75	30.69	103	97	77	0	2	3	0
	DEL RIO	52	34	68	25	43	-8	0.01	-0.13	0.01	0.39	75	29.20	161	90	47	0	5	1	0
	EL PASO	55	29	67	21	42	-1	0.00	-0.14	0.00	0.37	74	6.80	77	70	32	0	5	0	0
	FORT WORTH	41	25	55	19	33	-12	0.12	-0.29	0.01	4.62	296	34.43	103	94	65	0	6	2	0
	GALVESTON	54	45	74	34	49	-5	0.10	-0.70	0.05	3.34	112	51.36	123	97	77	0	0	4	0
	HOUSTON	53	37	78	27	45	-7	0.05	-0.72	0.04	4.01	138	54.79	120	93	68	0	2	2	0
	LUBBOCK	43	16	67	7	30	-10	0.03	-0.08	0.00	0.30	65	13.11	71	83	42	0	7	1	0
	MIDLAND	49	22	68	13	35	-8	0.02	-0.10	0.01	0.62	127	5.19	35	87	36	0	6	2	0
	SAN ANGELO	49	24	72	18	36	-8	0.01	-0.16	0.01	0.49	74	13.00	64	93	50	0	6	1	0
	SAN ANTONIO	49	31	77	23	40	-11	0.10	-0.20	0.01	0.50	39	42.22	137	91	60	0	5	2	0
	VICTORIA	51	35	76	27	43	-11	0.21	-0.25	0.11	3.63	211	46.40	125	98	76	0	4	4	0
	WACO	43	29	67	23	36	-11	0.04	-0.35	0.01	4.12	261	35.12	111	97	71	0	6	3	0
	WICHITA FALLS	38	20	58	13	29	-12	0.35	0.07	0.02	2.32	213	23.42	82	89	47	0	6	3	0
UT	SALT LAKE CITY	24	8	38	1	17	-11	0.00	-0.31	0.00	0.97	81	23.50	146	83	49	0	7	0	0
VT	BURLINGTON	36	18	51	6	27	7	0.08	-0.43	0.02	0.52	25	50.57	148	74	45	0	7	3	0
VA	LYNCHBURG	43	26	62	19	35	-2	0.75	0.03	0.49	3.16	115	47.52	118	98	63	0	5	3	0
	NORFOLK	49	37	69	30	43	1	1.34	0.58	0.79	4.70	176	54.12	123	97	66	0	4	3	2
	RICHMOND	45	28	66	20	37	-2	1.73	0.99	1.20	5.36	196	47.12	111	95	59	0	5	3	1
	ROANOKE	46	28	62	17	37	0	0.43	-0.23	0.35	2.18	87	44.89	110	91	52	0	5	2	0
	WASH/DULLES	44	24	65	10	34	0	0.25	-0.46	0.19	1.44	53	37.34	94	90	45	0	5	3	0
WA	HANFORD	24	13	48	-1	19	--	0.08	--	0.08	0.27	--	6.28	--	71	46	0	6	1	0
	OLYMPIA	33	18	49	-1	26	-12	1.99	0.17	1.27	8.48	125	53.83	109	97	66	0	5	5	1
	QUILLAYUTE	38	27	48	12	32	-7	2.99	-0.48	1.25	19.56	150	102.50	100	89	66	0	4	6	2
	SEATTLE-TACOMA	34	25	48	15	30	-10	1.61	0.29	1.01	6.27	126	41.29	114	91	52	0	5	5	1
	SPOKANE	21	9	37	-4	15	-12	0.72	0.18	0.52	2.74	134	17.21	107	80	57	0	7	2	1
	YAKIMA	23	7	48	-3	16	-13	0.08	-0.25	0.04	0.53	45	8.54	110	87	48	0	7	3	0
WV	BECKLEY	41	20	63	5	31	-1	0.61	-0.12	0.43	3.94	144	48.22	119	100	65	0	5	3	0
	CHARLESTON	46	23	68	9	35	-1	0.61	-0.13	0.52	2.83	99	48.01	114	93	48	0	5	3	1
	ELKINS	41	15	65	2	28	-2	0.34	-0.44	0.31	1.56	53	45.66	103	94	49	0	6	2	0
	HUNTINGTON	42	23	68	12	32	-3	0.48	-0.26	0.24	2.87	101	43.82	107	93	46	0	5	4	0
WI	EAU CLAIRE	15	0	24	-8	8	-6	0.19	-0.05	0.09	0.30	32	29.25	93	87	57	0	7	3	0
	GREEN BAY	22	6	30	-4	14	-4	0.13	-0.18	0.09	0.19	14	28.66	100	78	54	0	7	2	0
	MADISON	25	12	31	1	18	-1	0.04	-0.35	0.04	0.26	16	39.91	130	75	45	0	7	1	0
	MILWAUKEE	26	12	34	2	19	-3	0.04	-0.46	0.04	0.81	41	34.56	106	77	45	0	7	1	0
WY	CASPER	14	-8	39	-25	3	-19	0.06	-0.08	0.00	0.26	46	14.67	118	76	53	0	7	3	0
	CHEYENNE	16	-1	39	-14	8	-19	0.13	0.05	0.13	0.46	131	10.82	76	80	56	0	7	1	0
	LANDER	13	-9	42	-27	2	-17	0.00	-0.11	0.00	0.24	49	17.30	134	78	52	0	7	0	0
	SHERIDAN	20	-6	46	-26	7	-14	0.00	-0.17	0.00	0.12	20	17.36	120	83	50	0	7	0	0

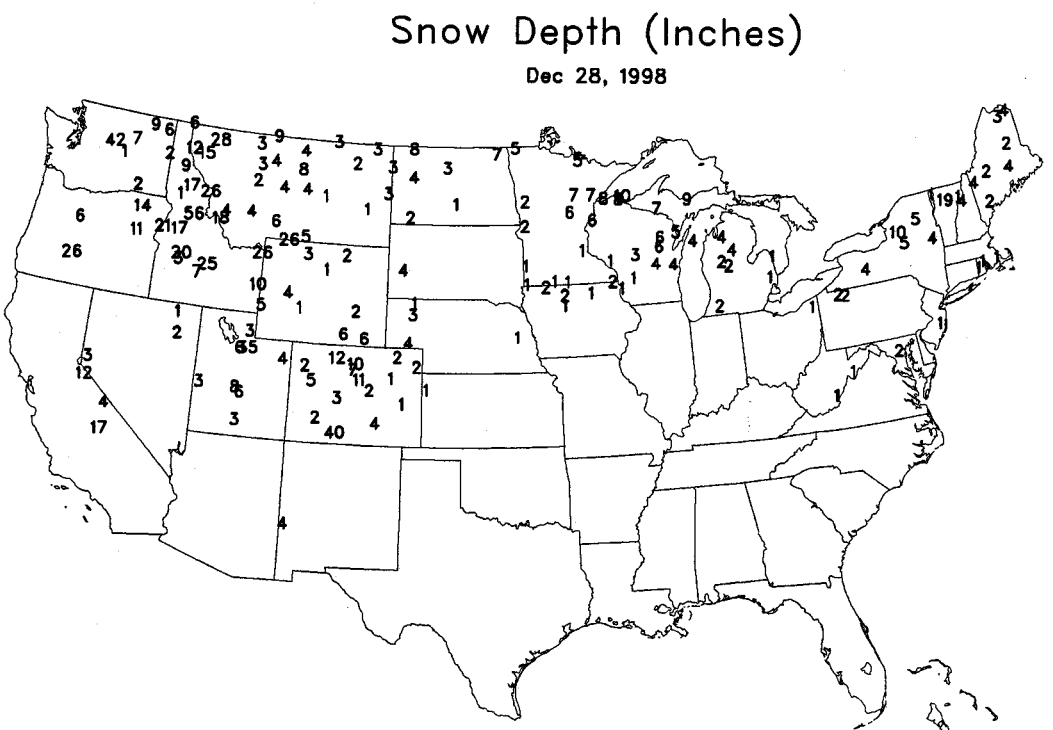
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

December 21 - 27, 1998

HIGHLIGHTS

The coldest air of the year pushed southward out of western Canada into the western and central United States. Winter wheat fields in the Northwest and eastern Montana had little or no snow cover to protect plants from the bitterly cold and windy weather. Several nights of sub-freezing temperatures damaged citrus crops in the Sacramento and San Joaquin Valleys, but southern California citrus escaped major damage. The lemon crop was especially hard hit. Freeze damage to California's vegetable crops was not as severe, but the full extent of losses was still unknown. The cold weather also halted winter vegetable harvest activities. A stormy pattern resumed along the Pacific Northwest coast. Snow early in the week, followed by late-week mild and rainy weather, raised streams to their banks in some areas. The Great Plains and the Corn Belt remained dry. In Texas, mild temperatures aided winter wheat growth, and most fields were providing good forage for grazing. Dry conditions continued to assist harvest efforts as cotton, sorghum, peanuts, and soybeans were virtually complete. Precipitation in the Southeast provided beneficial moisture for winter crops, but freezing rain downed power lines from the central Mississippi Delta to the middle Atlantic States. In Florida, rains eased dryness in the Panhandle, but the remainder of the State remained dry. Vegetable and citrus growers increased irrigation and harvesting continued until late week when many took a break to observe the holiday. Most citrus groves were in good condition, but some were stressed by excessive dryness.



Experimental product based on preliminary data

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

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

International Weather and Crop Summary

December 20 - 26, 1998

HIGHLIGHTS

FSU-WESTERN: Cold weather returned to the region, but most winter wheat areas had an adequate layer of protective snow cover.

EUROPE: Stormy weather hit the northwest while bitterly cold air enveloped the east.

NORTHWESTERN AFRICA: Unfavorably dry topsoils hampered winter grain emergence and establishment in Morocco.

AUSTRALIA: Locally heavy rain in Queensland's cotton and sorghum areas kept soils unseasonably wet.

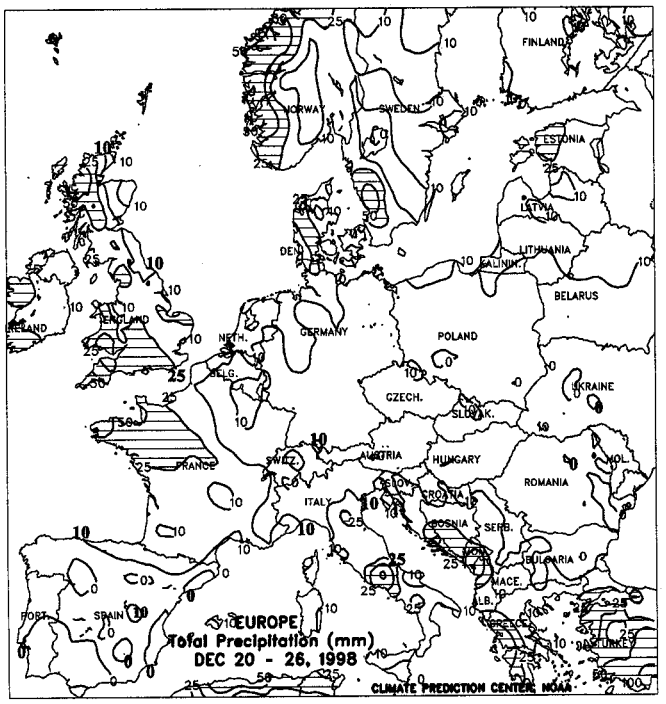
SOUTH AFRICA: Warmer, drier weather favored growth of corn and other summer crops.

SOUTHEAST ASIA: Drier weather aids rice harvesting in the Philippines and Indochina.

EASTERN ASIA: Winter wheat remained dormant despite mild weather.

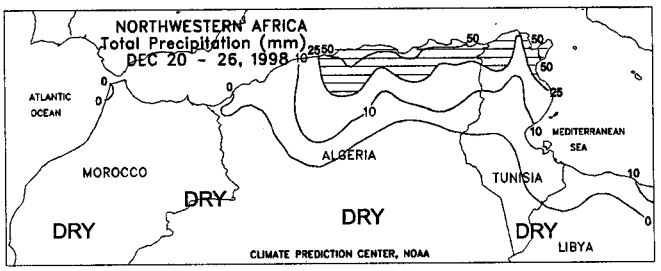
SOUTH AMERICA: Showers continued to benefit summer crops across the region, but more rain is still needed in Argentina's Buenos Aires province.

CENTRAL AMERICA: Dry weather continued to aid flood recovery efforts in Honduras.



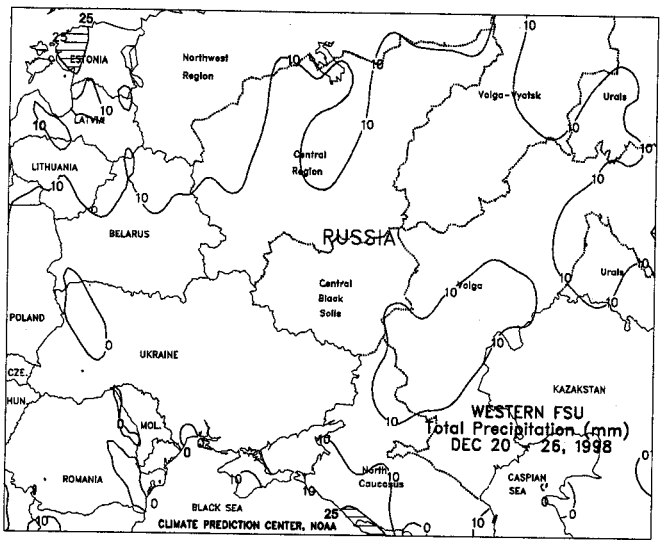
EUROPE

Moderate to heavy rain (10-25 mm or more, locally exceeding 50 mm) pushed slowly across northwestern Europe. Heaviest amounts were reported in England and France. Lighter amounts of precipitation (5-30 mm) were recorded across the Benelux Countries and northern Germany. However, moisture failed to reach parched winter grain areas of Spain, which need moisture for crop germination and establishment. Elsewhere, light to moderate showers (10-25 mm or more) swept across southern Europe from Italy through the Balkans to Greece. Cold weather returned to the east, with bitter cold (-20 degrees C or lower) concentrated over Romania. However, winter grains were protected by a moderate to deep snow cover.



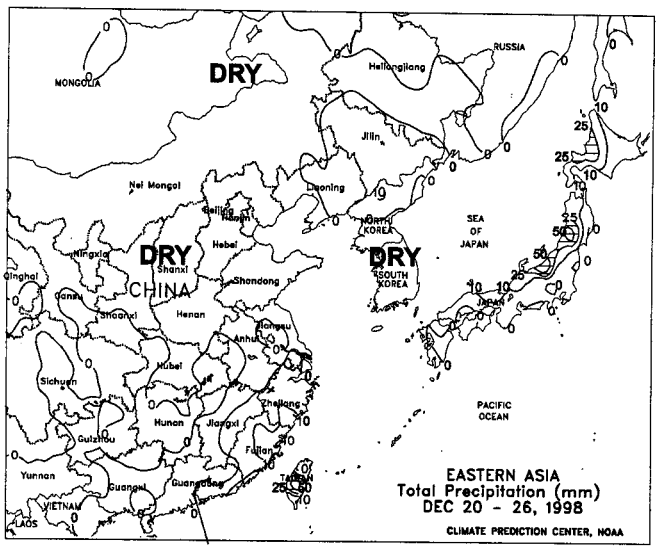
NORTHWESTERN AFRICA

Dry weather continued across Morocco, hampering winter grain emergence and early establishment. During the past 4 weeks, rainfall has averaged less than 33 percent of normal across the winter grain areas of Morocco. Timely rains will be needed during the remainder of the growing season to prevent serious declines in yield prospects. Farther east, widespread rain maintained adequate topsoil moisture for winter grain planting from the coast of central Algeria to northern Tunisia. Temperatures averaged near normal across Morocco and slightly below normal across northeastern Algeria and portions of northern Tunisia.



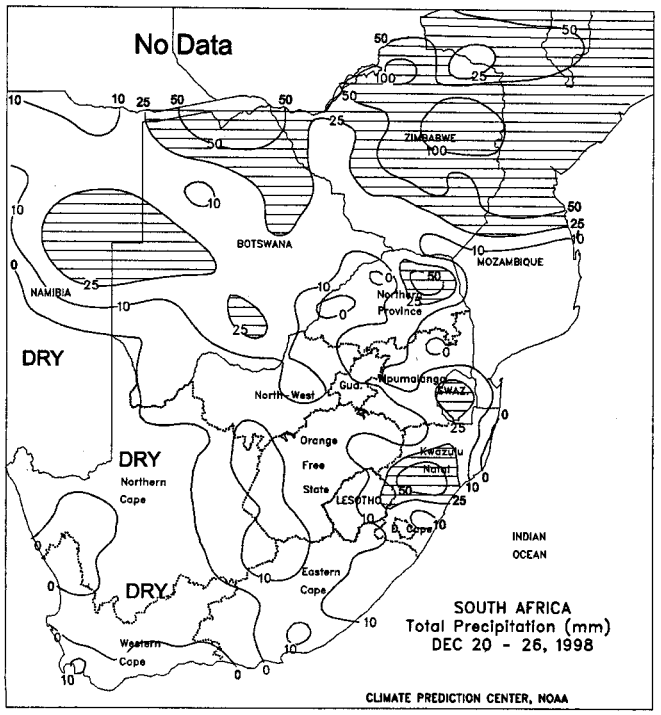
FSU-WESTERN

Arctic air returned to winter wheat areas of the former Soviet Union. Temperatures fell below -20 degrees C in central sections of Ukraine, but winter wheat was insulated by a layer of protective snow cover. Winter wheat areas in Russia also received adequate protection from the cold. Generally light snow (10 mm liquid equivalent or less, most areas) in Russia and Ukraine prior to the cold snap helped to protect crops. In the Baltics, mild, showery weather from a late-week storm moved slowly through Estonia, Latvia, and Lithuania. While increasing moisture reserves for future winter grain development, the rainfall eroded the protective layer of snow.



EASTERN ASIA

Across the North China Plain, winter wheat remained dormant despite temperatures averaging 3 to 5 degrees C above normal. Throughout China, only extreme southeastern areas (Fujian and Zhejiang) received any significant precipitation (5-15 mm).

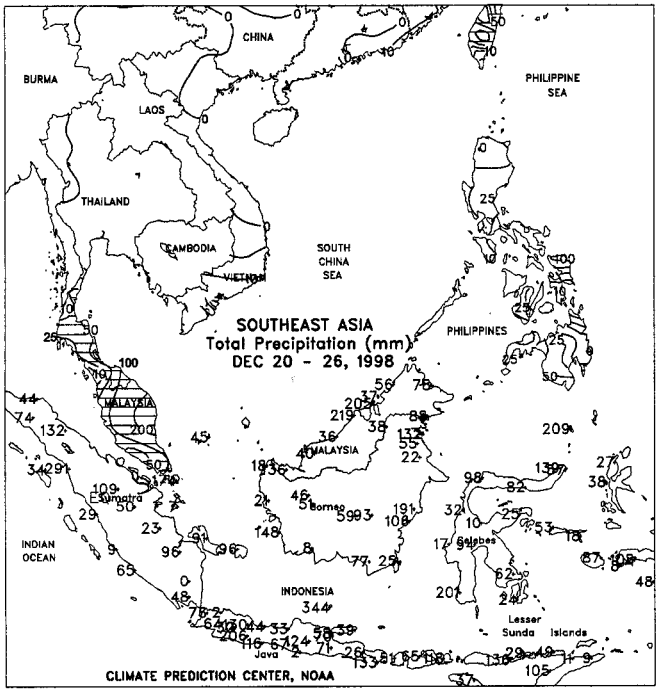


SOUTH AFRICA

Drier weather returned to the corn belt, with just a few locations reporting rainfall in excess of 25 mm. Rain continued to be light (15mm or less) along coastal sugarcane areas of KwaZulu-Natal, but moderate showers (25-50 mm or more) farther inland reached irrigated sugarcane areas surrounding Swaziland. High temperatures throughout the main summer crop areas ranged from 29 to 33 degrees C. In Western Cape, dry, seasonably warm weather brought some relief to excessively wet fields.

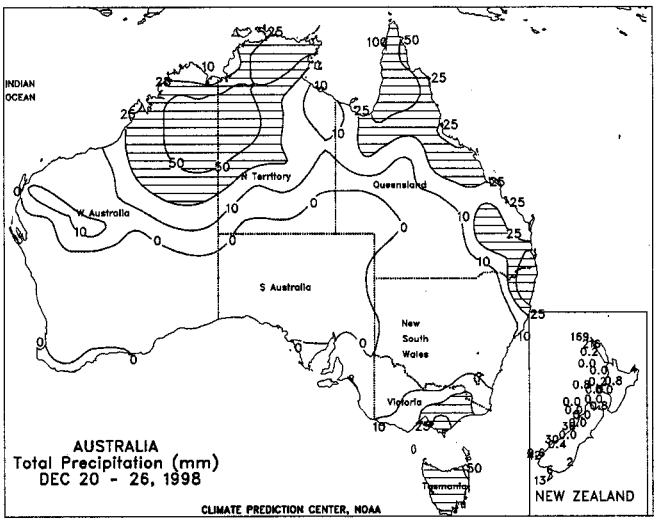
SOUTHEAST ASIA

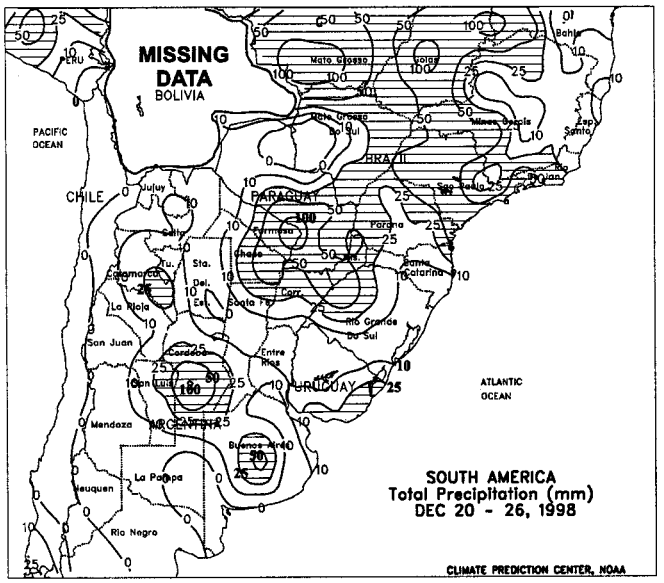
Showers (10-60 mm) lessened across the Philippines, easing wetness, but still providing some moisture for second-crop grains. Seasonably dry weather prevailed across Indochina, aiding late rice harvesting and early second-crop rice transplanting. In Java, widespread showers (50-130 mm) maintained moisture supplies for main-season rice planting. Moderate to heavy showers (60-200 mm) increased moisture supplies for oil palm across peninsular Malaysia, but caused some local flooding.



AUSTRALIA

Locally heavy showers (25-50 mm or more) continued in the northern half of Queensland's cotton and sorghum region. Heavy rain (50-100 mm) was also recorded in coastal sugarcane areas, including crop areas as far south as northern New South Wales. Although summer crops are well watered, sunnier skies are needed for proper growth and development. Farther south, conditions were mostly favorable for wheat and barley harvests, although moderate showers (10-25 mm or more) slowed fieldwork in the eastern growing areas of Victoria. Temperatures averaged near to slightly above normal throughout the east, with highs exceeding 40 degrees C in the western rangeland of southern Queensland. Mostly dry, seasonably warm weather in Western Australia aided winter grain harvesting. In New Zealand, a tropical cyclone brought very heavy rain (100 mm or greater) to the northern tip of North Island (north of Auckland). Seasonably warm, dry weather dominated the main pasture areas.





SOUTH AMERICA

In central Argentina, widespread rain (20-50 mm, with isolated amounts greater than 100 mm) covered southern Cordoba and southern Santa Fe, aiding reproductive corn and vegetative soybeans. Lighter amounts (less than 10 mm) prevailed across Buenos Aires, with only isolated showers (30-50 mm) reported in the central portion of the province. Despite last week's timely rainfall, continued near to above normal rainfall is still needed throughout the province to ensure normal summer crop yields. The mostly dry weather in southern Buenos Aires aided winter wheat maturation and harvesting. According to reports as of December 18, corn was 91 percent planted versus 96 percent last year and sunseed was 98 percent planted. Wheat harvesting was 57 percent complete. In southern Brazil, rain (15-50 mm) continued to benefit soybeans and corn in Rio Grande do Sul and Parana. Elsewhere, widespread showers (20-100 mm) maintained favorable soil moisture for summer crop development. Heavy showers (80-150 mm) possibly caused flooding in southern Mato Grosso. In southern Paraguay, showers (15-60 mm, with isolated amounts greater than 75 mm) eased dryness for soybeans and cotton.

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Extreme Minimum Temperature (°F)

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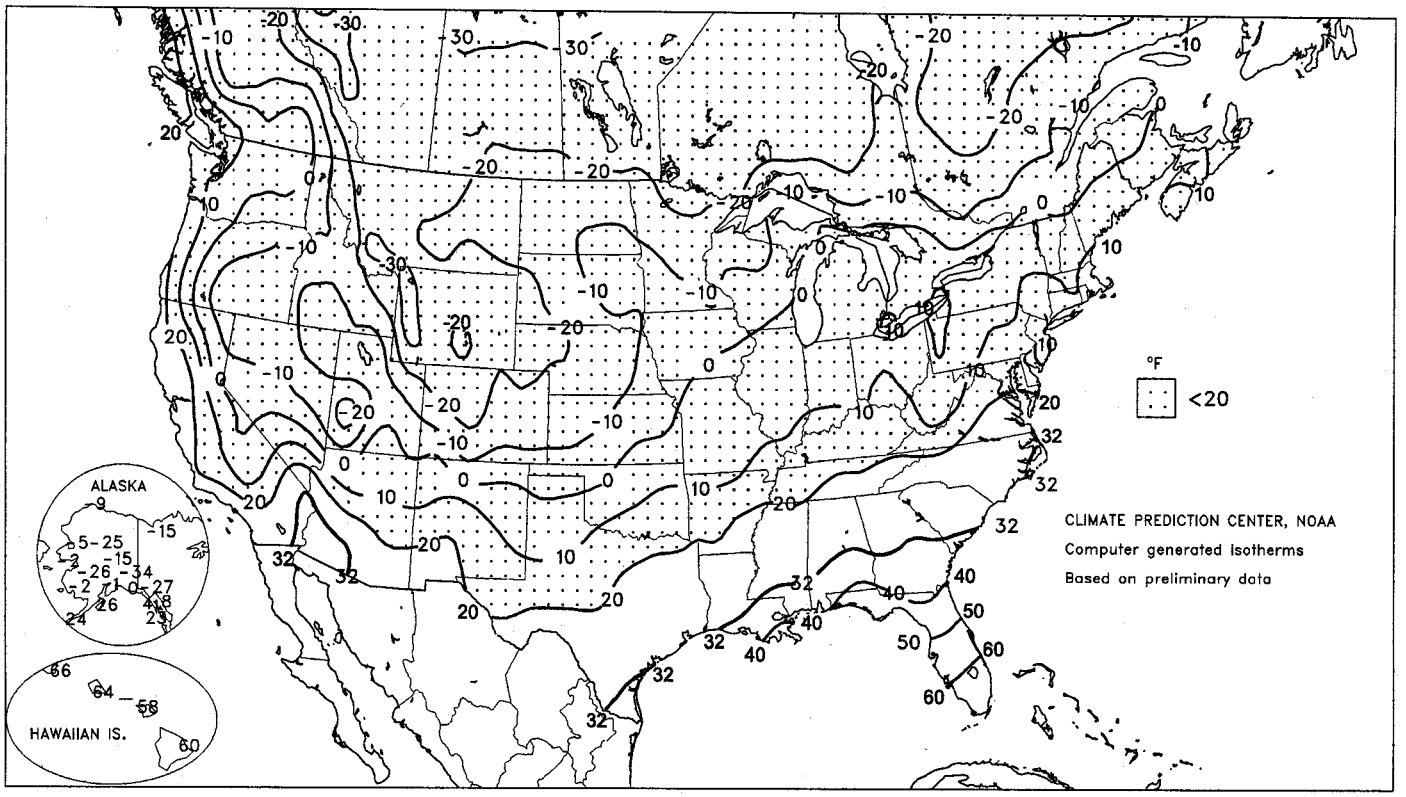

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