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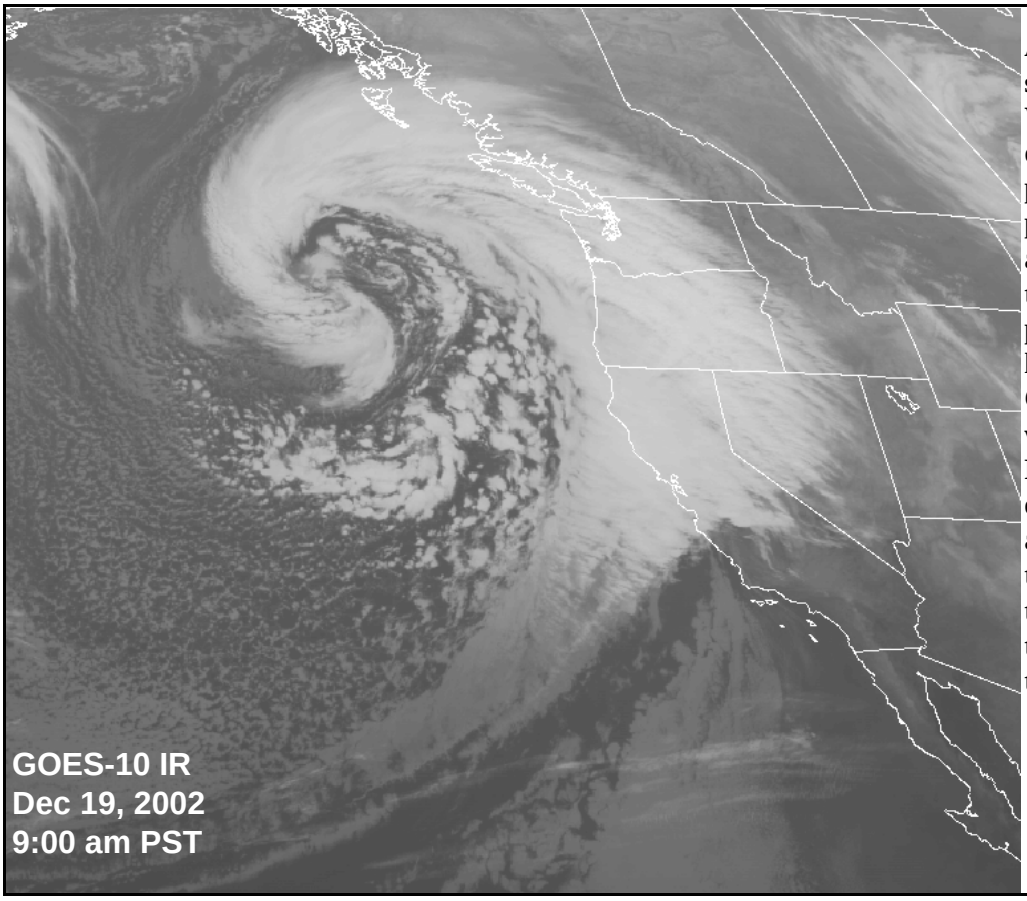
WEEKLY WEATHER AND CROP BULLETIN

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



Another in a series of Pacific storm systems approaches the West Coast Thursday morning, dropping light to moderate precipitation on western portions of Washington, Oregon, and California. Unfortunately, the majority of the system's precipitation fell on coastal locations and the southern Cascades and Sierra Nevadas, with much lower totals in the Rockies. This storm would eventually track southeastward across the Southwest and into the Southern Plains on Dec. 23, triggering severe weather across the South and wintry weather in the south-central Great Plains.

HIGHLIGHTS

December 15 - 21, 2002

Highlights provided by USDA/WAOB

Stormy weather continued for much of the week in the **West Coast States**, boosting mountain snow packs and further improving soil moisture reserves for pastures and winter grains. Less significant storminess was observed east of the **Cascades** and **Sierra Nevada**, where drought-stressed rangelands and reduced irrigation reserves remained symptoms of long-term precipitation deficits. Meanwhile, mostly dry weather prevailed on the **Plains**, accompanied by a gradual return to cold weather across **northern portions of the region**. Although some snow fell in the **Dakotas**, a patchy snow cover offered little protection for the **northern High Plains'** winter wheat,

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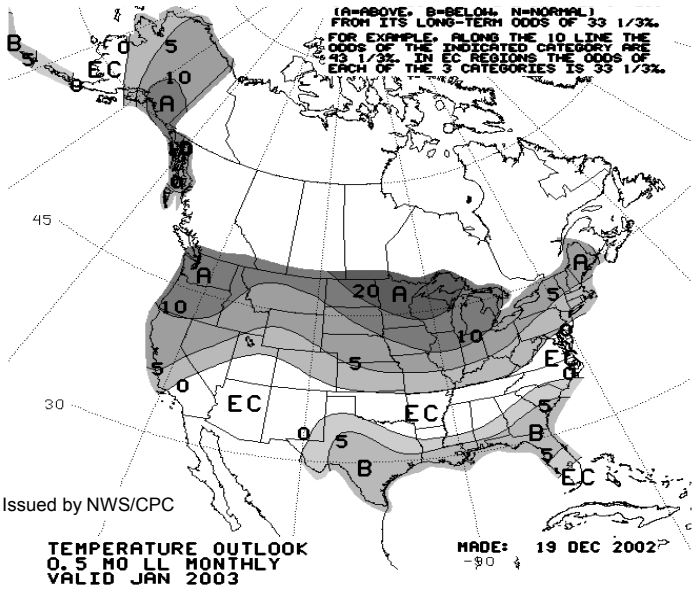
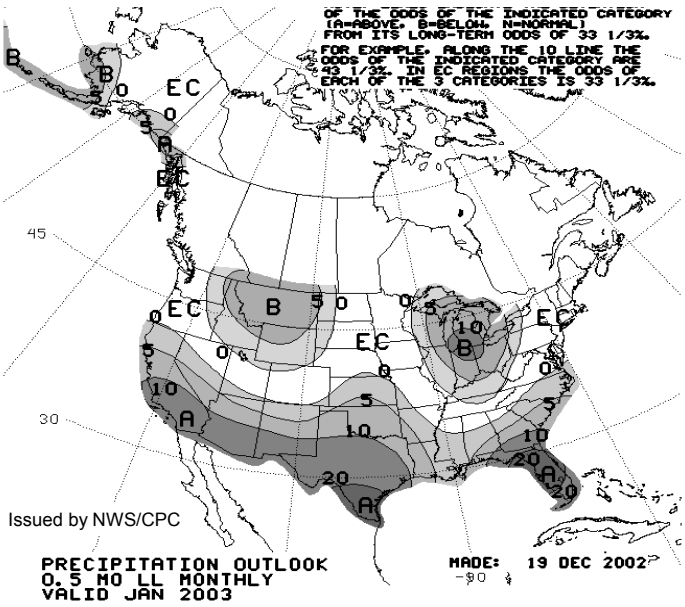
Monthly Temperature & Precipitation Outlook

Temperature Outlook: January 2003



Above-normal temperatures (A) are forecast across the northern half of the United States, including most of Alaska. Meanwhile, below-normal temperatures (B) will be confined to the Gulf Coast and Southeastern States. For the rest of the Nation, there is and equal chance (EC) for above- or below-normal temperatures.

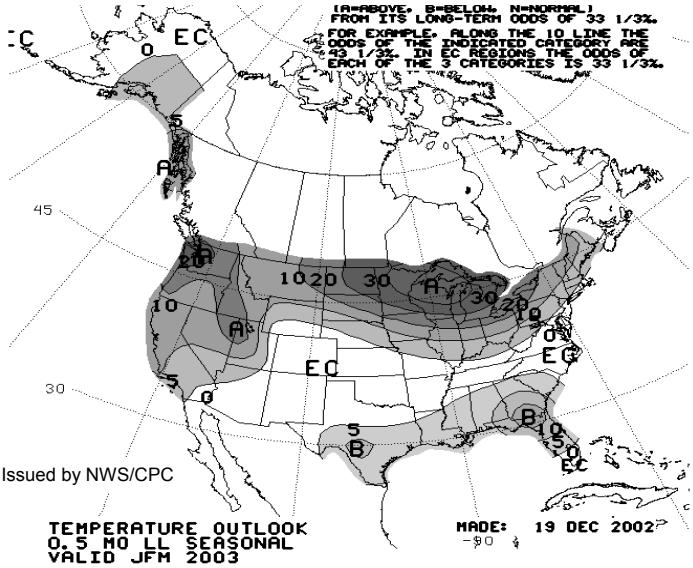
Precipitation Outlook: January 2003



Below-normal precipitation (B) is expected across northern portions of the Rockies and High Plains as well as the Great Lakes region. Above-normal precipitation (A) is anticipated across the southern half of the Nation. Elsewhere, there is an equal chance (EC) for above- or below-normal precipitation.

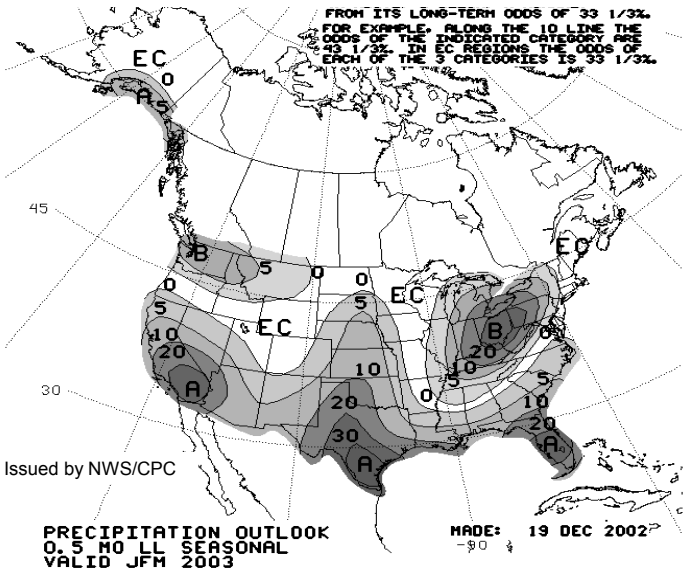
Seasonal Temperature & Precipitation Outlook

Temperature Outlook: January - March 2003



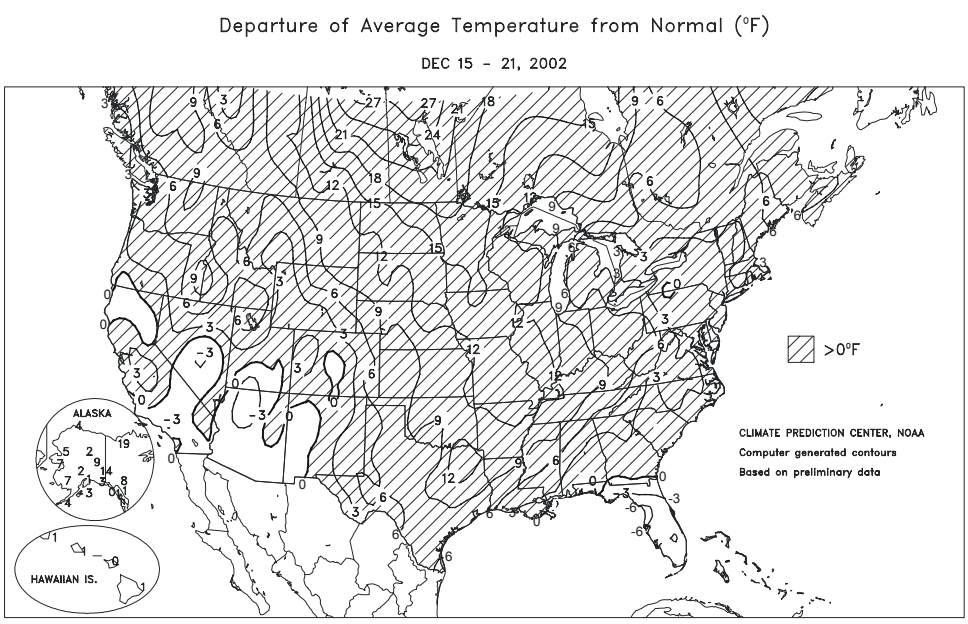
Above-normal (A) temperatures are forecast to persist across the northern half of the Nation, with the greatest probability for anomalous warmth in the upper Midwest. In addition, warmer-than-normal conditions are anticipated will expand across the Great Basin and Pacific Coast States. Below-normal temperatures (B) will remain confined to the Gulf Coast and Southeastern States. For the rest of the United States, there is and equal chance (EC) for above- or below-normal temperatures.

Precipitation Outlook: January - March 2003



Below-normal precipitation (B) is expected across the Great Lakes, Ohio Valley, and Northeast. In addition, drier-than-normal conditions will linger in the Pacific Northwest. Meanwhile, above -normal precipitation (A) will persist across the Southwest, southern Plains, and Southeast, with wet conditions spreading north into the central and northern Plains. Elsewhere, there is an equal chance (EC) for above- or below-normal precipitation.

(Continued from front cover)



which was exposed to temperatures as low as 0ºF. Despite the late-week chill, the **Plains'** weekly temperatures averaged generally 5 to 15ºF above normal. Mild weather (6 to 18ºF above normal) also prevailed in the **Corn Belt**. Widespread rainfall slowed off-season fieldwork from the **middle Mississippi Valley eastward to the lower Great Lakes region**, but the lack of a substantial snow cover and above-normal temperatures provided mostly favorable conditions for **upper Midwestern** livestock. Farther south, another moisture-laden storm system soaked the **Delta**, where some locations received rainfall totaling 4 inches or more. In addition, locally strong to severe thunderstorms were reported from December 17-19 in areas from the **Ozark Plateau to the central Gulf Coast States**. At week's end, many fields from the **western Gulf Coast region to the Atlantic Coast** remained muddy due to persistent rainfall that has significantly curtailed autumn fieldwork.

Warm weather resulted in more than 50 daily-record highs across the **Plains** and **upper Midwest** from December 15-18, but was followed by near- to below-normal temperatures by week's end. On December 15, high soared to daily-record levels in locations such as **Topeka, KS** (70ºF), **Grand Island, NE** (67ºF), and **Atlantic, IA** (64ºF). Two days later, record highs in **Texas** included 79ºF in **Wichita Falls** and 78ºF in **Midland**. In **Missouri**, **Joplin** posted consecutive record highs (68 and 69ºF) on December 17-18. Toward week's end, warmth briefly spread into the **East**, where **Raleigh-Durham, NC** (67ºF), and **Providence, RI** (60ºF), collected daily-record highs.

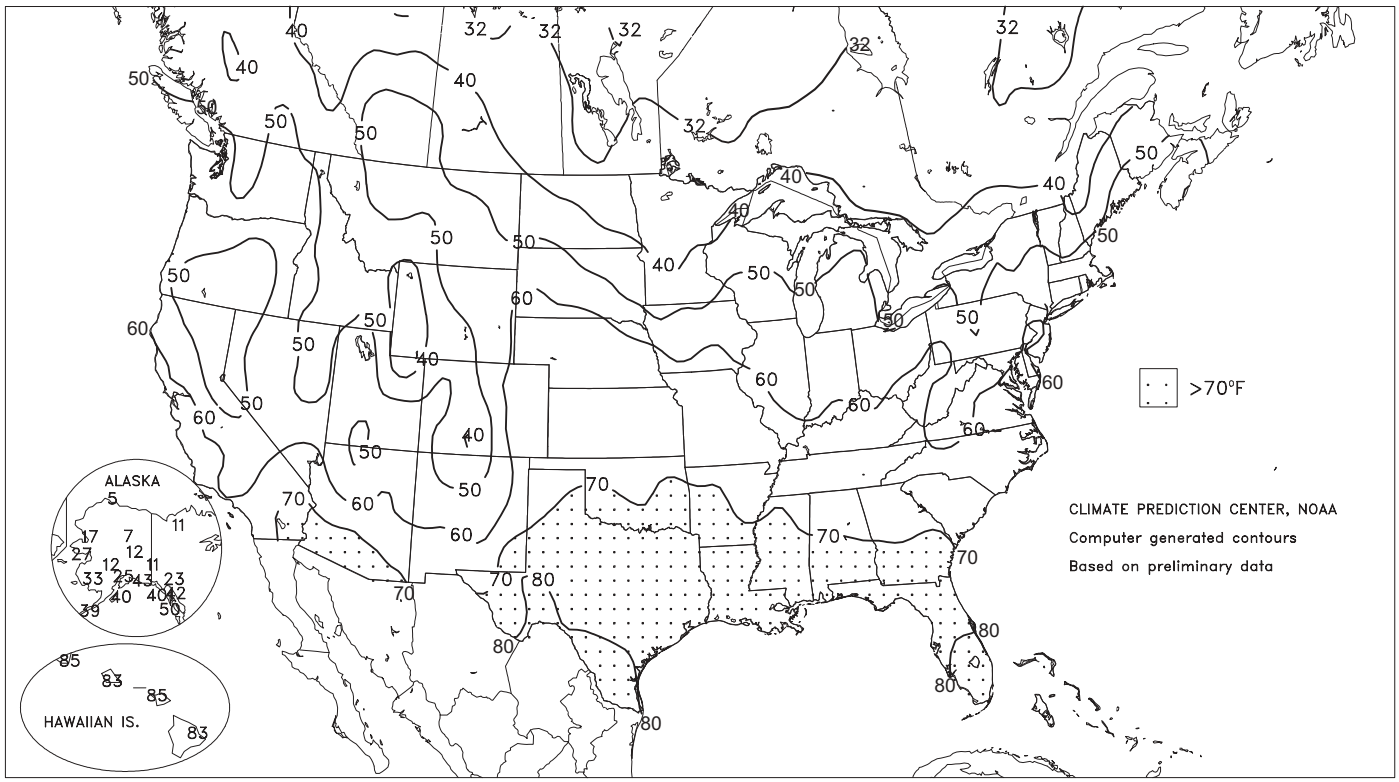
Heavy rain accompanied the surge of warmth across the **South**, **Midwest**, and **East** from December 18-20, resulting in many daily-record rainfall totals. On December 18, records included 2.44 inches in **Longview, TX**, and 2.02 inches in **Peoria, IL. Peoria's** storm-total rainfall, 2.04 inches on December 17-18, followed their driest September-November period on record (2.92 inches, or 34 percent of normal) and surpassed their 1.55-inch total during the preceding 73 days (October 5 - December 16). On December 19, totals of 3.90 inches in **Jackson, TN**, and 2.44 inches in **Louisville, KY**, exceeded daily records from 1957. A day later, record totals in the **East** included 1.40 inches in **Bangor, ME**, and 1.35 inches in **Bridgeport, CT.** The storm was an unusually warm system for December, with only a brief period of freezing rain on its northern fringe and snow confined mostly to the **upper Midwest**. Weekly snowfall in **North Dakota** totaled 6.0 inches in **Fargo** and 4.2 inches in **Bismarck**. Farther south, approximately 20 tornadoes struck a 5-State area from December 17-19, according to preliminary information from the Storm Prediction Center. On the first 2 days of the severe weather event, tornado fatalities in **Missouri** (two) and **Arkansas** (one) represented the Nation's worst December outbreak since 12 people perished in **Alabama** on December 16, 2000.

Meanwhile, dry weather persisted across most of the **Plains**. December 21 marked the 37th consecutive day without measurable precipitation in **Kansas City, MO**, tying their second-longest such streak on record (December 11, 1955 - January 16, 1956). **Kansas City's** longest dry spell on record was 40 days from December 17, 1922 - January 25, 1923. Meanwhile in **Colorado**, **Denver's** year-to-date precipitation remained at 7.48 inches, just shy of their lowest annual total on record (7.51 inches in 1954). Farther west, **Yuma, AZ**, received 0.03 inch on December 20, their first measurable rainfall since December 4, 2001. Season-to-date rainfall (since July 1) climbed to 5.58 inches in downtown **Los Angeles, CA**, surpassing their record-low annual total of 4.42 inches (29 percent of normal) during the season ending June 30, 2002. Elsewhere in **California**, **San Francisco** (airport) noted daily-record rainfalls on 3 of 4 days (2.47 inches on December 13, 0.88 inch on December 14, and 2.10 inches on December 16). During a 120-hour period ending on December 18, rainfall topped 20 inches at a few locations in **California's Shasta Mountains**, including **Clear Creek** (21.04 inches) and **Brandy Creek** (20.76 inches). **Sierra Nevada** snowfall during the same 5-day period reached or exceeded 100 inches at **Kirkwood** and several other sites. Farther east, 48-hour (December 16-18) snowfall in **Utah** included 31 inches in **Alta** and 4 inches in **Cedar City**. **Flagstaff, AZ**, noted a daily-record amount of 7.2 inches on December 18 en route to a storm-total snowfall of 11.8 inches. Cooler weather overspread the **West** as the storminess departed. In **Utah** on December 19, **Bryce Canyon National Park** posted a daily-record low of -9ºF.

Generally light showers were observed on **Hawaii**. Some of the higher weekly totals on the **Big Island** included 2.02 inches in **Pahoa** and 1.58 inches in **Piihonua**, while 1.08 inches fell in **Hanalei, Kauai**. Meanwhile, **Alaskan** temperatures were above normal for the thirteenth consecutive week, but were markedly lower than earlier in the month. Weekly readings were as much as 7ºF above normal in **western parts of the State**. On December 20, the low of -11ºF in **Fairbanks, AK**, represented their latest first reading of -10ºF or lower, breaking their 1979 record by 13 days. Through December 21, season-to-date snowfall in **Alaska** totaled 3.1 inches in **Yakutat**, compared with 88.3 inches by this time last year, while **Juneau** netted just 0.7 inch. **Juneau's** normal July 1 - December 21 snowfall is 26.6 inches.

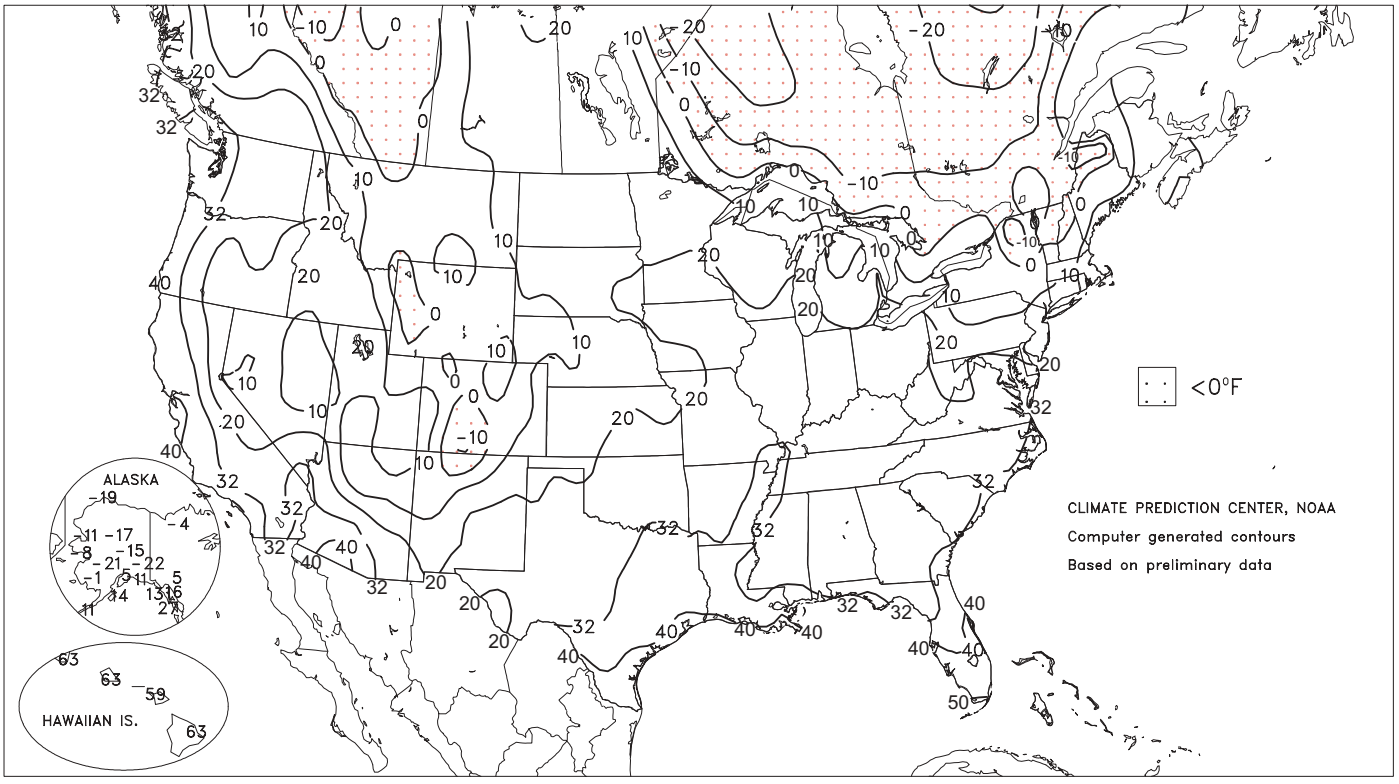
Extreme Maximum Temperature (°F)

DEC 15 - 21, 2002



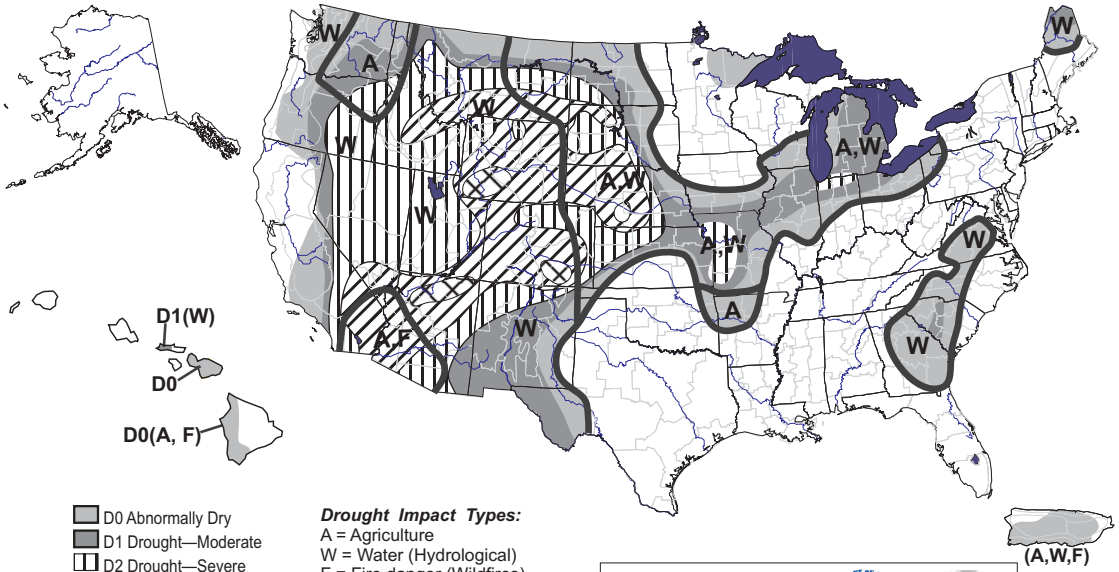
Extreme Minimum Temperature (°F)

DEC 15 - 21, 2002



U.S. Drought Monitor

December 17, 2002
Valid 7 a.m. EST



D0 Abnormally Dry
D1 Drought—Moderate
D2 Drought—Severe
D3 Drought—Extreme
D4 Drought—Exceptional

Drought Impact Types:
A = Agriculture
W = Water (Hydrological)
F = Fire danger (Wildfires)
Delineates dominant impacts
(No type = All 3 impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

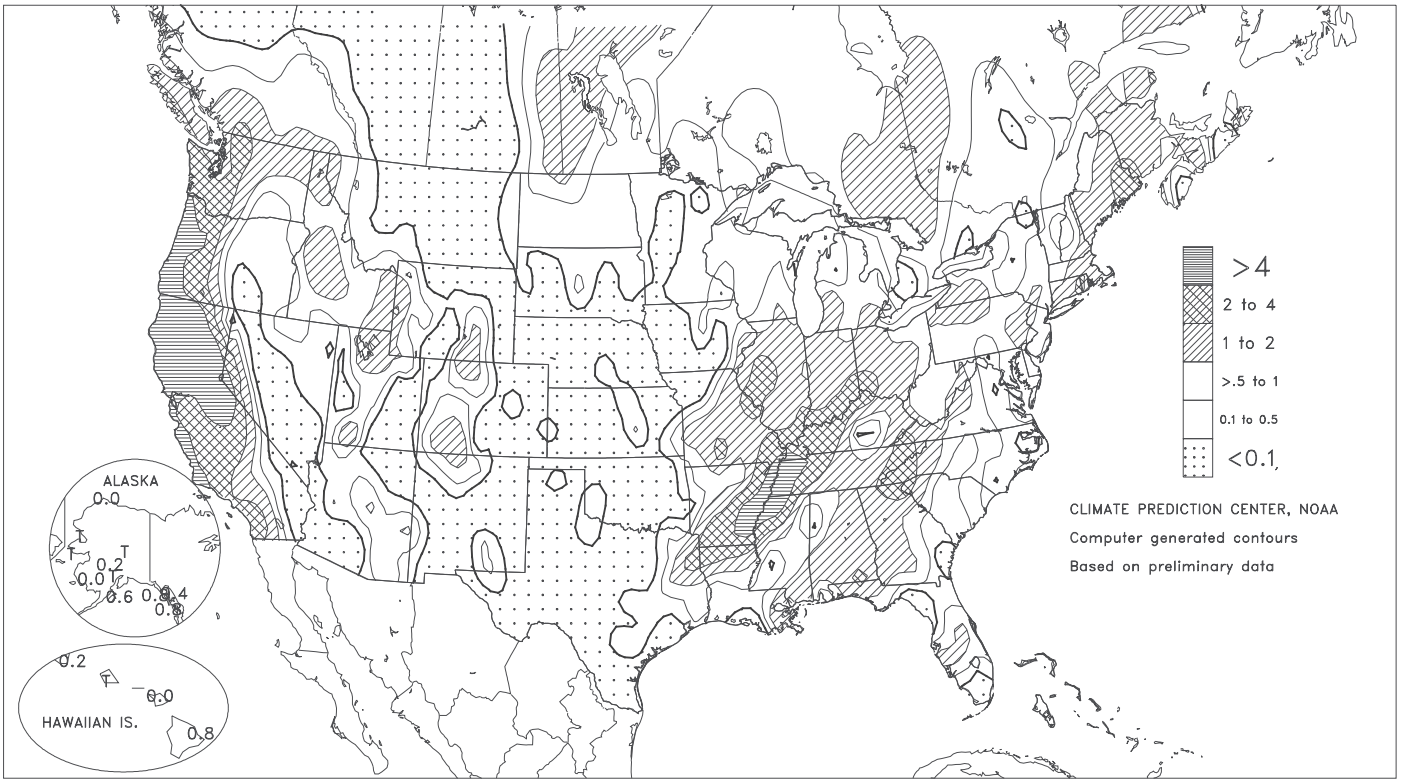
http://drought.unl.edu/dm

Released Thursday, December 19, 2002

Author: *Douglas Le Comte, CPC/NWS/NOAA*

Total Precipitation (Inches)

DEC 15 - 21, 2002



Weather Data for Mississippi and the Missouri Bootheel

Weather Data for the Week Ending December 21, 2002

Data provided by the Mississippi State Delta Research and Extension Center (DREC), the Southern Regional Climate Center (SRCC), and the University of Missouri.

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							4-INCH SOIL TEMP, °F		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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
MS	BATESVILLE [x]	62	46	69	33	54	12	4.15	2.82	2.25	6.48	158	68.91	127	-	-	0	0	2	2
	BELZONI [x]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CLARKSDALE [x]	62	42	68	34	52	9	3.00	1.81	3.00	5.79	156	69.36	132	-	-	0	0	1	1
	CLEVELAND [x]	64	45	70	35	54	9	1.75	0.63	1.35	4.04	115	58.57	109	-	-	0	0	2	1
	GREENVILLE [x]	65	46	71	34	55	11	0.73	-0.42	0.73	3.56	99	53.87	103	-	-	0	0	1	1
	GREENWOOD [x]	66	44	72	30	55	8	0.64	-0.59	0.64	3.50	97	51.35	98	-	-	0	2	1	1
	INDIANOLA 1S	64	45	70	34	54	-	0.81	-	0.76	3.50	-	51.61	-	54	49	0	0	2	1
	INVERNESS 5E	65	46	71	37	56	-	0.70	-	0.58	3.78	-	48.16	-	56	50	0	0	2	1
	LYON	64	45	69	34	55	-	4.35	-	4.34	6.30	-	55.12	-	54	47	0	0	2	1
	MACON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MOORHEAD [x]	65	46	71	37	56	10	-	-	-	-	-	-	-	-	-	0	0	0	0
	ONWARD	66	46	73	36	56	-	0.63	-	0.48	3.48	-	48.89	-	56	51	0	0	2	0
	PERTHSHIRE	64	44	69	33	54	-	6.46	-	6.43	8.55	-	-	-	55	46	0	0	3	1
	ROLLING FORK [x]	67	46	73	36	56	11	0.73	-0.53	0.52	2.89	77	41.94	78	-	-	0	0	2	1
	SCOTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SIDON	65	46	71	35	56	-	0.37	-	0.19	2.74	-	54.55	-	57	48	0	0	4	0
	STARKVILLE	64	42	71	28	53	-	0.46	-	0.46	3.06	-	-	-	55	46	0	2	1	0
	TUNICA [x]	62	44	67	34	53	10	3.35	2.10	3.35	4.38	113	65.33	124	-	-	0	0	1	1
	TUNICA 1W	61	44	67	34	52	-	2.66	-	1.65	4.67	-	55.31	-	51	46	0	0	5	2
	VANCE	63	44	69	33	53	-	2.92	-	2.90	5.54	-	62.41	-	52	49	0	0	2	1
	VERONA	63	41	71	28	52	-	0.48	-	0.48	3.74	-	58.08	-	54	45	0	2	1	0
	VICKSBURG [x]	66	46	72	35	56	7	1.04	-0.22	0.83	4.35	115	55.93	100	-	-	0	0	2	1
	YAZOO CITY [x]	68	44	72	32	56	9	0.90	-0.51	0.85	3.09	74	60.44	105	-	-	0	2	2	1
	STONEVILLE [x]	65	45	72	35	55	11	0.77	-0.42	0.72	3.55	96	59.69	116	58	48	0	0	2	1
MO	DELTA	56	39	62	30	48	13	2.23	1.19	1.64	3.05	97	53.48	106	48	41	0	3	4	2
	STEELE	59	43	65	33	51	13	4.02	2.98	3.28	5.86	160	49.53	96	51	45	0	0	2	2
	GLENNONVILLE	57	42	64	32	50	12	1.88	1.18	1.3	3.31	133	39.69	89	50	43	0	1	3	2
	PORTAGEVILLE LF	59	44	65	35	51	14	2.85	1.97	2.17	4.31	135	43.68	88	53	45	0	0	4	2
	CLARKTON	58	40	65	30	50	12	2.13	1.43	1.59	3.75	151	49.99	113	49	42	0	2	3	2
	CARDWELL	59	41	64	30	51	13	2.88	1.97	2.54	4.59	146	44.26	87	52	45	0	2	2	1
	CHARLESTON	57	40	65	32	50	16	2.52	1.77	1.86	3.83	125	46.82	98	50	43	0	1	4	2
	PORTAGEVILLE DC	58	43	65	34	51	14	2.88	2.00	2.31	4.52	142	41.80	84	-	-	0	0	3	2

Compiled by USDA/OCE/WAOB's Stoneville Field Office.
[x] Based on 1971-2000 normals.
- Sufficient data not available.

Weather and Crop Summary: There was no additional fieldwork as autumn drew to a close. Another storm system halted non-tillage work, and some emerging wheat experienced minimal damage due to flooding.

Selected Western Precipitation Totals (Inches), Dec. 1-23 and Year-to-Date

Location	Dec. 1-23	Normal	Jan. 1 - Dec. 23	Normal
Eureka, CA	11.41	4.75	33.93	36.50
San Francisco (Airport), CA	8.91	2.03	17.53	19.25
Olympia, WA	5.52	5.97	39.39	48.87
Los Angeles (Downtown), CA	3.17	1.30	7.14	14.53
Reno, NV	1.79	0.64	6.69	7.24
San Diego, CA	1.75	0.90	4.00	10.36
Burns, OR	0.79	0.98	4.76	10.25
Flagstaff, AZ	0.61	1.41	12.81	22.49
Boise, ID	0.60	1.04	5.53	11.85
Palm Springs, CA	0.40	0.39	0.76	5.01
Albuquerque, NM	0.36	0.38	6.39	9.36
Pueblo, CO	0.34	0.31	3.94	12.31
Phoenix, AZ	0.16	0.68	2.82	8.05
Colorado Springs, CO	0.11	0.34	7.84	17.32
Ely, NV	0.11	0.34	4.49	9.81
Las Vegas, NV	0.07	0.24	1.44	4.33
Denver, CO	0.05	0.47	7.48	15.65
Laramie, WY	trace	0.38	5.71	11.29

National Weather Data for Selected Cities

Weather Data for the Week Ending December 21, 2002

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	61	39	67	26	50	5	0.91	-0.04	0.90	4.30	147	61.48	117	90	44	0	2	2	1
	HUNTSVILLE	59	38	64	26	49	7	0.39	-0.83	0.39	4.27	113	48.81	88	87	59	0	3	1	0
	MOBILE	66	41	73	30	54	2	0.86	-0.10	0.86	3.38	108	66.92	103	93	67	0	1	1	1
	MONTGOMERY	64	36	72	24	50	2	0.84	-0.23	0.84	2.12	62	34.90	66	100	54	0	3	1	1
AK	ANCHORAGE	23	14	25	5	19	2	0.01	-0.22	0.01	0.82	117	16.39	104	87	70	0	7	1	0
	BARROW	-3	-13	5	-19	-8	3	0.00	0.00	0.00	0.05	500	4.59	114	83	80	0	7	0	0
	FAIRBANKS	8	-2	12	-15	3	9	0.01	-0.16	0.01	0.03	7	13.01	129	85	81	0	7	1	0
	JUNEAU	34	25	42	16	29	0	0.44	-0.80	0.22	3.26	90	59.74	106	95	91	0	7	3	0
	KODIAK	34	22	40	14	28	-2	0.63	-1.11	0.36	5.47	110	89.43	123	73	60	0	7	2	0
	NOME	22	8	27	-8	15	7	0.01	-0.20	0.01	0.97	143	13.89	86	84	77	0	7	1	0
AZ	FLAGSTAFF	36	14	50	-3	25	-5	0.46	0.07	0.29	0.48	41	12.68	57	91	47	0	7	4	0
	PHOENIX	63	46	71	39	55	1	0.04	-0.15	0.03	0.05	9	2.72	34	59	43	0	0	2	0
	TUCSON	63	38	73	31	50	-1	0.35	0.11	0.23	0.49	79	7.71	66	72	41	0	2	2	0
	YUMA	65	46	74	38	55	-2	0.04	-0.05	0.03	0.04	18	0.33	12	73	49	0	0	1	0
AR	FORT SMITH	64	37	73	28	51	11	0.16	-0.54	0.14	2.84	115	41.32	96	89	48	0	3	2	0
	LITTLE ROCK	64	41	72	29	52	9	1.02	0.02	0.94	4.77	142	44.02	89	96	55	0	1	2	1
CA	BAKERSFIELD	59	43	64	33	51	4	1.29	1.13	0.59	1.29	300	4.18	68	88	69	0	0	4	1
	FRESNO	56	42	60	35	49	4	1.65	1.36	0.93	1.84	233	6.34	59	88	74	0	0	5	1
	LOS ANGELES	61	50	64	43	55	-2	1.72	1.33	1.00	1.73	162	5.16	42	88	69	0	0	5	1
	REDDING	50	39	53	33	45	0	4.38	3.35	1.47	10.16	348	23.57	74	95	85	0	0	6	3
	SACRAMENTO	55	45	60	36	50	5	2.83	2.31	1.09	4.89	322	15.68	92	94	66	0	0	6	3
	SAN DIEGO	61	52	66	44	56	-1	1.75	1.47	0.82	1.75	236	3.99	39	78	61	0	0	5	1
	SAN FRANCISCO	56	47	61	42	52	3	5.03	4.40	2.39	8.96	501	17.87	94	92	82	0	0	7	3
	STOCKTON	55	43	60	35	49	4	2.38	2.00	1.38	3.74	331	10.93	83	94	82	0	0	6	2
CO	ALAMOSA	36	3	44	-6	19	3	0.00	-0.06	0.00	0.24	133	4.44	63	85	55	0	7	0	0
	CO SPRINGS	43	18	59	9	31	2	0.05	-0.03	0.05	0.05	23	7.57	44	73	27	0	7	1	0
	DENVER INTL	45	18	60	6	32	3	0.05	-0.01	0.05	0.05	29	7.20	53	73	30	0	7	1	0
	GRAND JUNCTION	42	25	52	18	34	6	0.03	-0.08	0.02	0.12	41	7.79	89	84	61	0	7	2	0
	PUEBLO	48	16	66	4	32	2	0.05	-0.03	0.04	0.23	105	3.83	31	76	49	0	7	2	0
CT	BRIDGEPORT	43	29	57	18	36	2	1.68	0.92	1.34	3.28	144	42.57	99	78	54	0	4	3	1
	HARTFORD	43	25	58	14	34	4	1.10	0.33	0.95	2.76	116	40.67	90	84	54	0	5	2	1
DC	WASHINGTON	49	32	61	27	41	2	1.00	0.33	0.97	3.53	177	33.40	87	78	46	0	4	2	1
DE	WILMINGTON	46	29	59	19	38	2	0.73	-0.01	0.73	3.11	138	38.41	92	80	42	0	4	1	1
FL	DAYTONA BEACH	67	44	79	38	56	-4	0.16	-0.43	0.16	5.20	297	55.55	115	97	47	0	0	1	0
	JACKSONVILLE	66	41	76	34	53	-1	0.16	-0.41	0.15	2.84	170	52.18	102	97	51	0	0	2	0
	KEY WEST	73	62	79	54	67	-5	0.01	-0.46	0.01	3.94	290	41.37	108	83	62	0	0	1	0
	MIAMI	76	57	84	50	67	-3	0.00	-0.47	0.00	2.91	193	62.80	109	88	55	0	0	0	0
	ORLANDO	68	47	79	41	58	-4	0.44	-0.06	0.44	6.41	414	61.43	129	93	49	0	0	1	0
	PENSACOLA	65	42	72	32	53	-1	0.60	-0.24	0.60	1.94	76	60.89	97	94	61	0	1	1	1
	TALLAHASSEE	67	34	73	28	51	-2	0.68	-0.21	0.65	2.46	96	51.93	84	95	46	0	3	2	1
	TAMPA	67	49	77	41	58	-5	0.51	0.00	0.51	9.57	617	56.55	128	96	50	0	0	1	1
	WEST PALM BEACH	73	52	81	42	63	-5	0.37	-0.23	0.31	2.53	114	60.53	100	90	69	0	0	3	0
GA	ATHENS	58	38	64	31	48	4	0.71	-0.10	0.59	3.14	131	44.08	95	81	55	0	1	2	1
	ATLANTA	57	38	63	31	48	3	0.60	-0.20	0.56	2.85	113	45.31	93	86	61	0	1	2	1
	AUGUSTA	61	34	68	23	48	2	0.39	-0.32	0.31	2.58	135	39.20	90	88	49	0	3	2	0
	COLUMBUS	63	37	72	29	50	2	0.67	-0.29	0.67	2.42	83	42.07	89	98	44	0	3	1	1
	MACON	63	36	68	28	49	2	1.18	0.31	1.08	3.04	121	38.98	89	91	47	0	3	3	1
	SAVANNAH	64	41	72	30	52	1	0.26	-0.37	0.26	2.13	126	45.07	93	99	68	0	1	1	0
HI	HILO	81	66	83	63	73	1	0.79	-1.35	0.47	8.01	105	131.43	106	85	69	0	0	5	0
	HONOLULU	82	68	83	63	75	0	0.02	-0.63	0.02	0.02	1	12.21	71	79	69	0	0	1	0
	KAHULUI	83	63	85	59	73	0	0.00	-0.69	0.00	0.34	18	14.89	84	86	74	0	0	0	0
	LIHUE	81	68	85	63	74	1	0.20	-0.86	0.11	0.61	19	31.49	83	86	76	0	0	3	0
ID	BOISE	45	33	57	25	39	9	0.19	-0.09	0.09	0.56	62	5.50	47	79	56	0	3	5	0
	LEWISTON	47	33	63	24	40	7	0.08	-0.14	0.06	0.44	65	9.91	80	83	70	0	5	3	0
	POCATELLO	36	25	53	11	30	5	0.25	0.03	0.13	0.27	39	7.15	59	88	70	0	6	5	0
IL	CHICAGO/O'HARE	42	31	55	28	37	10	0.96	0.44	0.87	1.18	69	33.77	95	82	71	0	5	3	1
	MOLINE	44	31	59	26	37	11	0.69	0.21	0.69	0.69	45	32.89	88	77	64	0	5	1	1
	PEORIA	47	33	59	27	40	13	2.04	1.53	2.03	2.04	117	33.69	95	90	65	0	5	2	1
	ROCKFORD	41	29	54	24	35	11	0.63	0.20	0.63	0.68	46	32.61	91	81	66	0	5	1	1
	SPRINGFIELD	51	35	59	28	43	13	1.39	0.84	1.39	1.39	78	39.90	115	86	68	0	3	1	1
IN	EVANSVILLE	53	37	62	28	45	10	1.99	1.24	0.97	3.47	137	46.38	107	93	72	0	3	4	2
	FORT WAYNE	41	28	51	23	35	7	0.66	0.06	0.31	0.73	38	32.29	90	91	72	0	6	4	0
	INDIANAPOLIS	48	33	59	28	41	10	1.14	0.49	0.61	1.41	66	38.11	95	93	64	0	5	4	1
	SOUTH BEND	41	28	54	19	35	7	1.15	0.48	0.82	1.21	56	28.05	72	89	72	0	5	3	1
IA	BURLINGTON	47	31	60	24	39	12	0.79	0.35	0.58	0.79	52	37.10	99	90	58	0	4	2	1
	CEDAR RAPIDS	42	28	57	19	35	12	0.27	-0.03	0.17	0.27	25	36.59	111	89	57	0	6	2	0
	DES MOINES	43	29	59	18	36	12	0.01	-0.26	0.01	0.01	1	25.47	74	85	62	0	6	1	0
	DUBUQUE	38	27	52	20	33	11	0.67	0.33	0.61	0.71	59	41.58	119	83	73	0	6	3	1
	SIOUX CITY	42	27	56	16	34	13	0.00	-0.11	0.00	0.11	26	25.49	99	82	64	0	5	0	0
	WATERLOO	42	29	57	25	36	15	0.12	-0.09	0.08	0.12	15	30.78	94	83	69	0	6	2	0
KS	CONCORDIA	53	28	70	19	40	10	0.11	-0.06	0.11	0.11	20	18.26	65	78	54	0	7	1	0
	DODGE CITY	54	26	65	18	40	8	0.00	-0.17	0.00	0.08	16	14.02	64	72	27	0	7	0	0
	GOODLAND	51	22	68	16	36	7	0.00	-0.07	0.00	0.00	0	9.85	50	71	31	0	7	0	0
	TOPEKA	57	28	70	18	43	12	0.00	-0.29	0.00	0.01	1	27.83	79	83	51	0	5	0	0

Based on 1971-2000 normals **-999 Not Available**

Weather Data for the Week Ending December 21, 2002

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	56	32	62	26	44	11	0.00	-0.28	0.00	0.96	105	33.19	111	88	58	0	4	0	0
KY	JACKSON	54	38	64	31	46	8	0.78	-0.16	0.70	3.51	118	51.82	108	88	49	0	1	3	1
	LEXINGTON	51	37	59	30	44	8	1.68	0.78	1.48	3.14	115	48.40	109	86	63	0	1	2	1
	LOUISVILLE	54	39	63	28	46	9	2.69	1.89	2.13	4.12	162	50.36	116	93	63	0	1	3	1
	PADUCAH	58	41	66	33	49	13	2.87	1.92	1.79	4.67	148	51.49	107	93	57	0	0	4	2
LA	BATON ROUGE	70	43	77	31	57	5	0.17	-0.99	0.17	3.69	106	56.54	92	95	47	0	1	1	0
	LAKE CHARLES	71	49	75	37	60	7	0.21	-0.78	0.17	8.70	290	84.75	152	97	63	0	0	4	0
	NEW ORLEANS	69	46	76	36	58	3	0.50	-0.59	0.50	1.87	54	59.59	95	96	58	0	0	1	1
	SHREVEPORT	70	47	76	33	58	10	1.05	0.05	1.03	4.32	141	39.03	78	90	49	0	0	2	1
ME	CARIBOU	29	13	42	-4	21	6	1.37	0.65	1.16	2.14	101	36.61	101	88	68	0	7	3	1
	PORTLAND	41	24	52	14	32	5	1.12	0.19	1.12	2.54	89	42.24	95	77	45	0	7	1	1
MD	BALTIMORE	47	29	58	20	38	2	0.49	-0.25	0.44	3.65	167	38.00	93	77	53	0	4	2	0
MA	BOSTON	44	29	61	21	37	3	1.23	0.40	1.11	4.10	164	40.09	97	81	47	0	4	2	1
	WORCESTER	39	25	56	14	32	4	1.42	0.59	1.26	3.61	144	44.07	92	86	47	0	5	2	1
MI	ALPENA	36	22	55	4	29	6	0.50	0.11	0.21	0.52	44	24.85	90	92	72	0	6	3	0
	GRAND RAPIDS	39	27	51	16	33	6	0.70	0.14	0.55	0.73	38	28.23	78	94	75	0	6	4	1
	HOUGHTON LAKE	35	20	49	6	27	4	0.29	-0.08	0.16	0.35	30	21.96	79	92	76	0	7	3	0
	LANSING	39	26	51	17	33	7	0.58	0.13	0.26	0.65	42	21.85	71	87	76	0	5	4	0
	MUSKEGON	40	28	53	17	34	6	0.71	0.15	0.64	0.73	40	26.15	82	83	69	0	5	3	1
	TRAVERSE CITY	37	24	50	11	31	5	0.23	-0.35	0.20	0.41	24	28.21	87	91	65	0	6	2	0
MN	DULUTH	30	22	36	18	26	13	0.18	0.03	0.16	0.18	27	30.61	100	89	84	0	7	2	0
	INT'L FALLS	30	21	34	13	26	19	0.26	0.13	0.20	0.26	57	23.26	98	88	73	0	7	2	0
	MINNEAPOLIS	36	27	46	21	31	13	0.19	0.00	0.07	0.21	31	38.51	132	82	71	0	6	4	0
	ROCHESTER	34	26	49	21	30	14	0.45	0.26	0.37	0.48	67	32.66	105	87	76	0	6	2	0
	ST. CLOUD	32	24	38	19	28	14	0.11	-0.03	0.06	0.11	24	33.23	124	88	69	0	7	3	0
MS	JACKSON	67	42	71	29	54	7	0.40	-0.78	0.40	2.44	68	64.61	119	92	48	0	2	1	0
	MERIDIAN	66	38	72	27	52	4	0.49	-0.67	0.48	4.16	117	55.13	97	95	56	0	3	2	0
	TUPELO	63	40	70	28	51	8	0.42	-0.96	0.36	3.80	91	62.84	117	91	64	0	2	2	0
MO	COLUMBIA	54	34	64	23	44	13	1.88	1.37	1.55	1.91	106	42.49	107	86	51	0	3	3	1
	KANSAS CITY	56	33	68	22	44	13	0.00	-0.33	0.00	0.00	0	24.79	66	84	44	0	4	0	0
	SAINT LOUIS	56	38	63	31	47	14	1.20	0.61	1.18	1.40	68	40.35	106	83	64	0	2	3	1
	SPRINGFIELD	59	36	67	24	48	13	0.20	-0.45	0.20	1.32	55	35.50	80	82	57	0	3	1	0
MT	BILLINGS	40	25	53	14	33	7	0.00	-0.14	0.00	0.26	68	9.30	64	66	40	0	6	0	0
	BUTTE	31	12	46	2	21	4	0.06	-0.05	0.06	0.06	18	10.79	86	86	51	0	7	1	0
	GLASGOW	37	20	49	11	28	13	0.00	-0.08	0.00	0.01	5	12.26	111	87	70	0	7	0	0
	GREAT FALLS	39	20	50	2	29	5	0.00	-0.14	0.00	0.22	59	14.98	103	76	38	0	5	0	0
	HAVRE	41	17	56	-2	29	10	0.00	-0.11	0.00	0.00	0	13.68	122	77	58	0	6	0	0
	KALISPELL	37	23	45	18	30	7	0.04	-0.32	0.02	0.30	27	11.51	69	85	73	0	7	3	0
	MISSOULA	37	22	52	15	30	7	0.13	-0.12	0.09	0.22	30	9.86	74	93	74	0	7	3	0
NE	GRAND ISLAND	49	26	67	15	38	13	0.00	-0.11	0.00	0.01	2	17.10	67	75	51	0	6	0	0
	LINCOLN	50	25	64	13	38	12	0.00	-0.16	0.00	0.01	2	26.32	94	85	51	0	7	0	0
	NORFOLK	47	28	64	15	38	15	0.03	-0.08	0.03	0.04	9	19.47	74	73	59	0	4	1	0
	NORTH PLATTE	48	16	66	4	32	7	0.00	-0.08	0.00	0.00	0	11.09	57	84	33	0	7	0	0
	OMAHA	47	28	61	19	37	12	0.00	-0.17	0.00	0.00	0	26.01	87	87	58	0	6	0	0
	SCOTTSBLUFF	46	17	62	9	32	7	0.00	-0.11	0.00	0.00	0	7.17	44	72	43	0	7	0	0
	VALENTINE	45	24	65	9	35	12	0.00	-0.06	0.00	0.04	19	11.15	57	81	44	0	6	0	0
NV	ELY	36	11	46	-2	23	-2	0.10	0.00	0.05	0.10	38	4.50	46	84	66	0	7	4	0
	LAS VEGAS	53	41	62	32	47	1	0.07	-0.01	0.03	0.07	32	1.44	33	69	44	0	1	3	0
	RENO	44	27	50	20	35	2	0.46	0.27	0.31	0.81	140	5.71	80	86	62	0	6	6	0
	WINNEMUCCA	42	27	50	14	34	5	0.25	0.08	0.18	0.28	56	5.84	73	83	62	0	5	3	0
NH	CONCORD	38	18	43	6	28	3	0.60	-0.03	0.52	2.16	109	38.33	105	90	49	0	7	3	1
NJ	NEWARK	45	30	61	19	37	2	0.52	-0.24	0.48	2.83	119	42.48	94	71	48	0	4	2	0
NM	ALBUQUERQUE	46	27	54	19	36	1	0.00	-0.10	0.00	0.36	133	6.39	69	68	32	0	6	0	0
NY	ALBANY	36	20	51	5	28	1	0.25	-0.32	0.19	1.55	86	38.20	103	94	62	0	5	2	0
	BINGHAMTON	35	20	49	5	28	2	0.39	-0.26	0.28	1.86	88	41.19	109	88	67	0	7	5	0
	BUFFALO	38	24	50	10	31	2	1.22	0.39	0.31	3.78	144	39.13	99	92	72	0	5	5	0
	ROCHESTER	38	23	51	6	31	2	0.89	0.30	0.29	2.45	131	32.93	99	88	71	0	6	5	0
	SYRACUSE	39	24	55	7	31	3	0.23	-0.42	0.16	1.95	88	39.32	100	85	64	0	4	3	0
NC	ASHEVILLE	51	32	60	25	42	4	1.22	0.50	1.05	4.26	191	40.99	89	90	57	0	3	2	1
	CHARLOTTE	55	33	65	23	44	0	0.37	-0.32	0.33	2.24	111	37.67	89	83	40	0	2	2	0
	GREENSBORO	54	34	62	28	44	4	0.80	0.14	0.55	3.49	175	38.39	91	77	43	0	2	3	1
	HATTERAS	54	45	64	40	50	1	0.20	-0.80	0.20	2.32	81	54.58	97	78	59	0	0	1	0
	RALEIGH	56	33	67	27	45	3	0.65	-0.01	0.46	3.97	206	45.61	109	85	48	0	4	2	0
	WILMINGTON	61	38	70	33	49	1	0.39	-0.43	0.23	1.78	72	45.57	82	94	47	0	0	2	0
ND	BISMARCK	33	26	48	20	29	14	0.22	0.14	0.10	0.22	85	11.07	66	88	79	0	7	4	0
	DICKINSON	32	24	49	14	28	10	0.35	0.29	0.18	0.35	175	11.57	71	92	71	0	7	3	0
	FARGO	31	22	38	9	27	15	0.26	0.15	0.20	0.26	79	23.33	111	91	75	0	7	4	0
	GRAND FORKS	30	24	37	12	27	17	0.22	0.11	0.19	0.22	67	19.99	103	90	72	0	7	4	0
	JAMESTOWN	30	22	38	13	26	13	0.24	0.16	0.15	0.24	96	13.88	76	97	82	0	7	4	0
	WILLISTON	31	22	44	17	26	14	0.41	0.30	0.21	0.49	140	14.68	105	96	83	0	7	4	0
OH	AKRON-CANTON	42	29	55	19	35	5	0.85	0.20	0.48	1.63	79	39.41	105	92	71	0	6	6	0
	CINCINNATI	48	35	56	30	41	7	2.37	1.65	2.06	3.38	152	44.22	106	85	64	0	3	2	1
	CLEVELAND	44	32	54	25	38	8	0.77	0.10	0.52	1.95	88	34.62	92	91	63	0	5	5	1
	COLUMBUS	46	33	55	24	39	6	0.93	0.31	0.84	1.93	95	39.41	105	83	64	0	3	3	1
	DAYTON	43	31	54	26	37	6	1.27	0.60	1.12	1.88	89	37.83	98	91	64	0	4	4	1
	MANSFIELD	42	28	50	17	35	6	0.74	0.04	0.64	1.35	59	33.54	79	94	66	0	6	4	1

Based on 1971-2000 normals **-999 Not Available**

Weather Data for the Week Ending December 21, 2002

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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	42	30	53	22	36	8	1.09	0.52	0.54	1.35	73	27.99	86	82	61	0	5	4	1
	YOUNGSTOWN	43	29	56	21	36	6	0.86	0.23	0.48	1.72	82	39.53	106	89	65	0	6	4	0
OK	OKLAHOMA CITY	59	34	68	25	46	7	0.00	-0.41	0.00	0.54	44	32.87	93	83	37	0	3	0	0
	TULSA	63	38	70	30	51	12	0.00	-0.50	0.00	1.85	105	30.42	73	83	53	0	2	0	0
OR	ASTORIA	48	41	53	38	45	3	3.21	0.93	0.94	8.70	121	52.15	82	92	82	0	0	7	3
	BURNS	37	22	48	14	30	5	0.15	-0.13	0.08	0.75	90	4.73	47	89	72	0	7	3	0
	EUGENE	50	38	53	34	44	5	3.51	1.71	1.41	6.52	113	31.92	66	94	83	0	0	6	2
	MEDFORD	48	36	54	34	42	4	1.36	0.74	0.97	2.72	135	13.55	78	92	62	0	0	5	1
	PENDLETON	49	35	58	31	42	9	0.13	-0.17	0.12	0.80	82	8.39	68	70	55	0	3	2	0
	PORTLAND	48	40	52	38	44	4	1.97	0.72	0.88	4.62	117	27.85	79	93	78	0	0	7	1
	SALEM	49	39	54	33	44	4	3.83	2.42	1.10	7.22	160	34.09	90	96	85	0	0	6	3
PA	ALLENTOWN	43	24	59	12	33	2	0.79	0.07	0.77	2.88	127	39.51	90	80	59	0	5	2	1
	ERIE	41	28	56	15	35	3	0.52	-0.30	0.34	1.22	46	45.11	108	83	63	0	5	5	0
	MIDDLETOWN	44	27	55	15	35	2	0.65	-0.05	0.65	3.59	159	39.79	101	88	51	0	4	1	1
	PHILADELPHIA	46	29	59	21	38	1	0.63	-0.09	0.62	2.97	136	38.23	93	69	50	0	4	2	1
	PITTSBURGH	46	30	61	20	38	6	0.54	-0.07	0.37	1.86	95	31.64	86	89	54	0	4	4	0
	WILKES-BARRE	41	25	56	9	33	2	0.60	0.06	0.59	2.60	146	39.39	107	85	54	0	4	2	1
	WILLIAMSPORT	41	24	54	11	32	2	0.34	-0.27	0.29	2.56	124	42.19	104	89	64	0	5	3	0
RI	PROVIDENCE	44	27	60	16	36	3	1.63	0.72	1.31	4.12	149	41.57	92	79	58	0	4	2	1
SC	BEAUFORT	62	42	66	31	52	2	0.24	-0.45	0.20	1.62	85	52.03	107	93	54	0	1	2	0
	CHARLESTON	63	41	68	31	52	2	0.73	0.01	0.40	2.75	136	57.25	114	93	52	0	1	3	0
	COLUMBIA	60	38	67	28	49	3	0.51	-0.24	0.47	2.61	126	45.61	97	74	45	0	2	3	0
	GREENVILLE	55	37	65	27	46	3	0.92	0.07	0.54	4.54	182	45.91	94	86	44	0	1	2	1
SD	ABERDEEN	35	26	48	19	30	15	0.27	0.20	0.21	0.28	147	15.31	76	91	76	0	7	3	0
	HURON	37	27	52	19	32	14	0.20	0.14	0.12	0.28	133	14.45	70	93	70	0	7	4	0
	RAPID CITY	46	24	62	11	35	11	0.01	-0.07	0.01	0.04	19	10.46	64	70	34	0	7	1	0
	SIOUX FALLS	37	27	51	21	32	14	0.11	0.03	0.10	0.15	44	24.05	98	89	73	0	6	2	0
TN	BRISTOL	54	32	65	27	43	7	0.70	-0.04	0.50	3.01	132	38.95	97	90	52	0	4	2	1
	CHATTANOOGA	58	36	63	26	47	5	1.48	0.46	1.47	4.94	153	48.98	93	87	54	0	3	2	1
	KNOXVILLE	58	36	67	30	47	7	0.99	0.00	0.99	4.09	136	56.92	122	89	52	0	2	1	1
	MEMPHIS	62	45	70	34	54	11	3.63	2.39	1.98	6.06	149	71.23	134	85	57	0	0	3	2
	NASHVILLE	59	39	63	26	49	9	1.19	0.20	0.99	3.30	105	54.17	116	90	55	0	1	3	1
TX	ABILENE	65	41	76	32	53	8	0.01	-0.29	0.01	1.25	154	27.90	120	60	42	0	1	1	0
	AMARILLO	55	29	67	21	42	6	0.01	-0.12	0.01	0.30	91	17.46	90	66	28	0	5	1	0
	AUSTIN	71	42	78	28	57	5	0.00	-0.55	0.00	3.41	209	37.29	114	81	56	0	2	0	0
	BEAUMONT	70	51	74	39	61	7	0.45	-0.72	0.45	7.23	211	62.80	108	99	59	0	0	1	0
	BROWNSVILLE	77	56	80	42	67	6	0.02	-0.20	0.02	1.09	147	28.23	104	92	61	0	0	1	0
	CORPUS CHRISTI	74	54	80	41	64	6	0.00	-0.39	0.00	2.56	227	30.75	97	86	63	0	0	0	0
	DEL RIO	72	40	78	30	56	4	0.00	-0.16	0.00	0.27	55	17.73	99	82	49	0	1	0	0
	EL PASO	57	36	69	25	46	1	0.12	-0.05	0.12	1.03	215	6.85	75	70	27	0	1	1	0
	FORT WORTH	67	45	73	34	56	10	0.00	-0.59	0.00	1.98	116	42.28	125	83	40	0	0	0	0
	GALVESTON	69	56	71	48	62	4	0.05	-0.70	0.05	2.64	114	63.22	148	96	65	0	0	1	0
	HOUSTON	73	52	78	42	63	10	0.08	-0.72	0.08	4.37	178	58.49	125	91	57	0	0	1	0
	LUBBOCK	62	33	73	22	48	9	0.00	-0.14	0.00	1.39	339	19.11	104	72	31	0	4	0	0
	MIDLAND	64	35	78	26	49	5	0.00	-0.14	0.00	1.05	256	9.34	64	67	37	0	4	0	0
	SAN ANGELO	67	39	78	26	53	7	0.00	-0.21	0.00	0.87	143	13.89	68	77	37	0	2	0	0
	SAN ANTONIO	72	49	78	35	60	8	0.00	-0.44	0.00	1.98	150	45.74	142	92	50	0	0	0	0
	VICTORIA	75	51	80	38	63	8	0.03	-0.52	0.02	0.59	36	37.23	95	94	56	0	0	2	0
	WACO	70	46	76	34	58	10	0.01	-0.62	0.01	3.84	203	33.14	102	78	58	0	0	1	0
	WICHITA FALLS	64	37	79	27	51	9	0.00	-0.39	0.00	1.24	110	27.99	99	74	39	0	2	0	0
UT	SALT LAKE CITY	42	28	54	23	35	5	0.26	0.01	0.13	0.26	34	10.01	62	90	49	0	6	4	0
VT	BURLINGTON	35	19	48	5	27	3	0.26	-0.19	0.22	0.87	57	36.61	104	89	55	0	7	3	0
VA	LYNCHBURG	49	31	58	23	40	3	0.63	-0.07	0.60	2.93	138	35.96	85	79	41	0	4	3	1
	NORFOLK	54	38	67	33	46	2	0.36	-0.31	0.36	3.14	165	49.87	112	82	52	0	0	1	0
	RICHMOND	53	34	63	28	44	4	0.21	-0.48	0.18	2.31	117	36.66	86	81	51	0	4	2	0
	ROANOKE	48	35	54	27	41	3	0.55	-0.06	0.46	1.66	87	31.99	77	66	47	0	2	2	0
	WASH/DULLES	47	31	54	25	39	4	0.43	-0.23	0.43	1.91	93	36.44	89	69	46	0	5	1	0
WA	OLYMPIA	46	37	50	29	41	3	1.81	0.09	0.62	5.60	103	39.98	83	97	82	0	1	6	1
	QUILLAYUTE	47	38	51	33	43	3	2.73	-0.48	0.90	8.52	85	84.63	87	92	82	0	0	6	3
	SEATTLE-TACOMA	48	41	53	37	44	4	1.75	0.53	0.85	4.95	127	31.04	88	86	70	0	0	5	2
	SPOKANE	40	30	53	25	35	8	0.81	0.33	0.68	1.92	124	12.49	78	91	71	0	5	4	1
	YAKIMA	44	31	52	23	37	9	0.76	0.46	0.37	2.23	245	6.58	84	91	82	0	4	4	0
WV	BECKLEY	45	31	57	27	38	4	0.74	0.07	0.38	2.40	117	40.51	100	81	61	0	6	3	0
	CHARLESTON	52	37	65	29	45	8	0.43	-0.27	0.19	2.38	104	44.19	103	81	48	0	2	3	0
	ELKINS	47	29	60	16	38	6	0.49	-0.25	0.26	1.63	70	50.35	112	88	47	0	4	3	0
	HUNTINGTON	52	37	64	30	44	8	1.02	0.28	0.54	2.75	121	45.98	112	84	49	0	2	3	1
WI	EAU CLAIRE	36	25	50	18	30	13	0.53	0.34	0.49	0.53	75	39.46	124	85	65	0	6	3	0
	GREEN BAY	38	26	49	18	32	12	0.52	0.24	0.49	0.52	53	27.75	96	86	70	0	5	3	0
	LA CROSSE	39	28	53	21	34	13	0.26	0.03	0.23	0.29	33	30.57	96	87	62	0	6	3	0
	MADISON	39	28	53	18	33	11	0.58	0.24	0.58	0.61	51	26.13	80	80	64	0	5	1	1
	MILWAUKEE	41	30	53	26	36	11	0.50	0.03	0.48	0.56	36	26.50	78	81	68	0	5	2	0
WY	CASPER	36	18	51	7	27	4	0.19	0.08	0.16	0.19	49	6.97	54	79	60	0	7	2	0
	CHEYENNE	39	22	56	13	30	3	0.00	-0.08	0.00	0.01	4	9.77	64	63	49	0	7	0	0
	LANDER	33	14	48	2	24	3	0.21	0.10	0.18	0.21	54	8.10	61	80	66	0	7	2	0
	SHERIDAN	41	22	58	12	32	10	0.00	-0.14	0.00	0.18	44	11.59	80	71	49	0	6	0	0

Based on 1971-2000 normals **-999 Not Available**

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

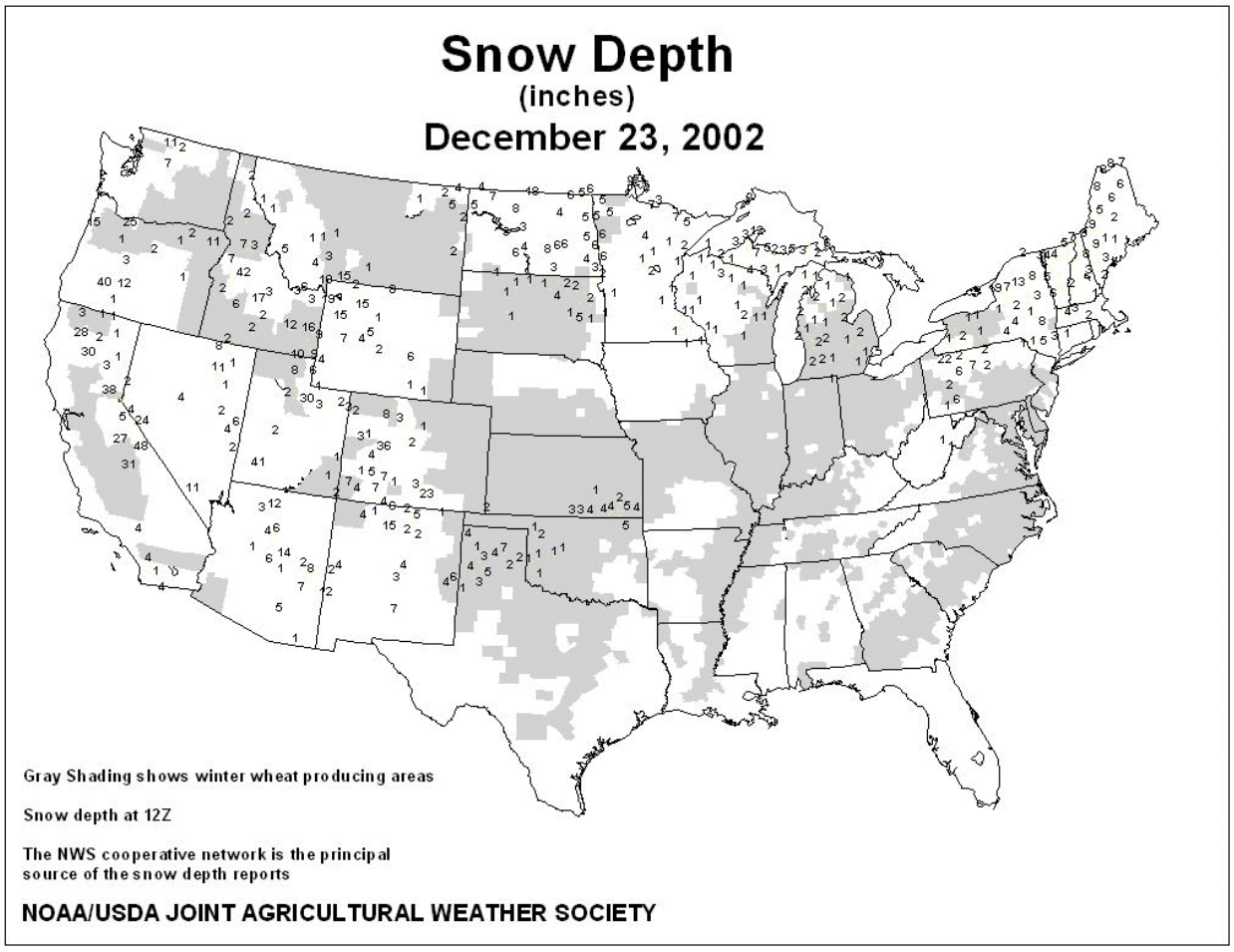
National Agricultural Summary

December 16 - 22, 2002

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Above-normal temperatures supported development of winter grains, although many winter wheat fields in the central and northern High Plains and lower Great Lakes region were dormant. In the central Great Plains and Ohio River Valley, many fields were green and root development remained active, but vegetative growth was virtually undetectable. In the southern Great Plains, lower Mississippi Valley, and Southeast, favorably warm weather stimulated winter grain and forage growth most of the week. Favorably drier weather benefited development of winter crops in the southern Great Plains and along the Atlantic Coastal Plain, but interior areas of the Mississippi Delta and Southeast were unfavorably wet. In Florida's citrus belt, some groves along both coasts had standing water in ditches with no drainage available. In the Pacific Northwest, a stormy weather pattern persisted along the coast, producing heavy coastal rain and mountain snowfall that boosted irrigation water reserves. In the interior Pacific Northwest, precipitation was spotty and uneven and subsoils remained unfavorably dry. In California, wet weather interrupted field and orchard work in the valleys and heavy snow boosted irrigation reserves in the mountains. Some low-lying fields had standing water, but forages and emerged small grains produced vigorous growth and recently planted crops quickly emerged. Strong winds damaged some fruit and nut trees, and in the southern valleys, below-normal temperatures hindered development of some vegetable crops.



December 12 ENSO Update

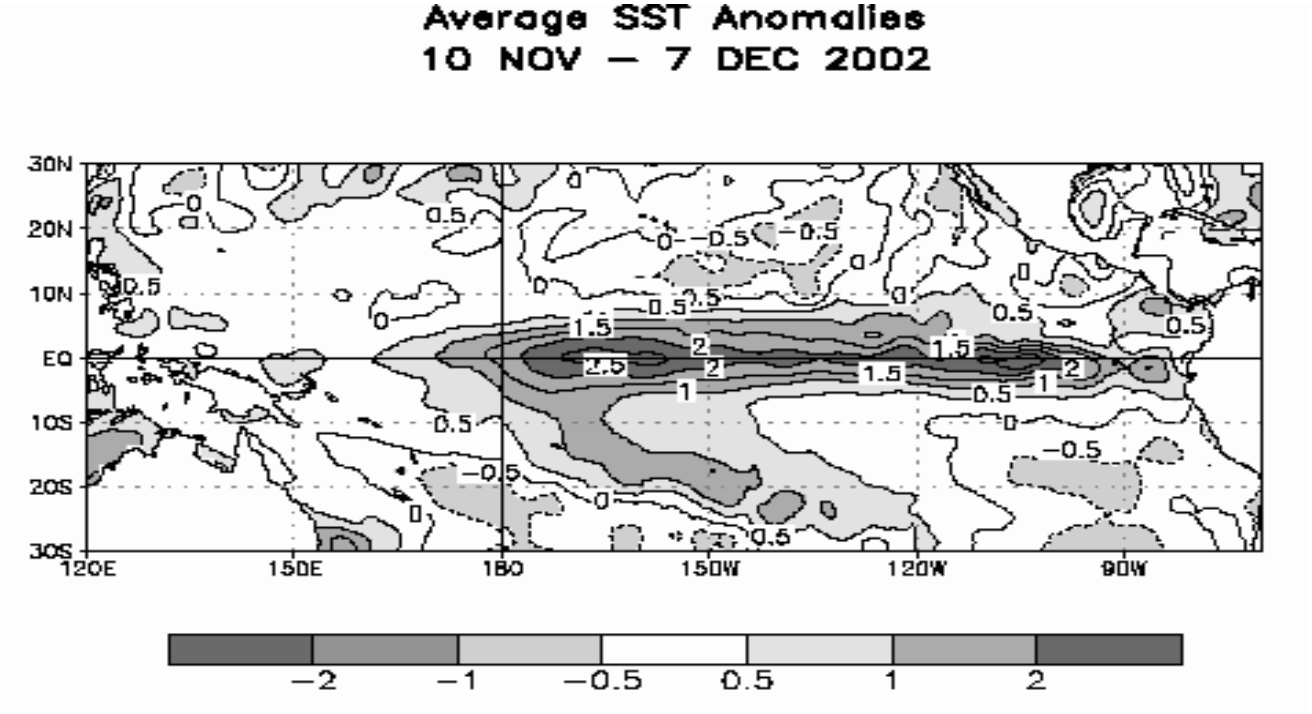


Figure 1. Sea surface temperature (SST) anomalies during November 2002. Departures from average are computed based on the 1971-2000 base period means. Units are °C.

Sea surface temperature (SST) anomalies (departures from average) increased in all of the Niño regions in November, as warm (El Niño) episode conditions continued. Equatorial SST anomalies were greater than +1°C throughout most of the Pacific between 170°E and the South American coast, and exceeded +2°C between 180°W and 100°W (Fig. 1). Positive subsurface temperature departures and a deeper-than-average oceanic thermocline prevailed throughout the equatorial Pacific east of 180°W.

Atmospheric indicators of El Niño include consistently negative values of the equatorial and Tahiti-Darwin Southern Oscillation Indices (EQSOI and SOI) since March 2002, and weaker-than-average low-level easterly winds since May 2002 throughout the equatorial Pacific. The values of the EQSOI, 850-hPa zonal wind index, and the Niño 3. 4 index are considerably less in magnitude than those observed during the 1997-98 El Niño.

Recent El Niño-related impacts include: 1) above-average precipitation over the tropical Pacific, especially in the vicinity of the date line (180°W) since August 2002, 2) drier-than-average conditions over many sections of Indonesia, India, Mexico, Central America and northern South America, 3) drier-than-average conditions over the U. S. Pacific Northwest, and wetter-than-average conditions over the U. S. Gulf Coast.

Based on the recent evolution of conditions in the tropical Pacific and on coupled model and statistical model forecasts, basin-wide warm (El Niño) episode conditions are expected to continue through May 2003. Expected global conditions include: 1) drier-than-average over Indonesia and eastern Australia continuing during the next several months, 2) wetter-than-average over southeastern South America (Uruguay, northeastern Argentina, and southern Brazil) through the end of 2002, 3) drier-than-average over southeastern Africa during December 2002-March 2003, 4) drier-than-average over Northeast Brazil and northern South America during December 2002-April 2003, and 5) wetter-than-average conditions over coastal sections of Ecuador and northern Peru during January-April 2003. Over the United States and Canada, during winter 2002-2003, expected conditions include: 1) drier-than-average in the Ohio Valley states and northern U. S. Rockies, 2) wetter-than-average along much of the southern tier of the U. S. , and 3) warmer-than-average in the northern tier states, southern and southeastern Alaska, and western and central Canada.

This discussion is a team effort of NOAA and its funded institutions. Updates of SST, 850-hPa wind, OLR and the equatorial subsurface temperature structure are available on the Climate Prediction Center web page at http://www.cpc.ncep.noaa.gov (Weekly Update). Forecasts for the evolution of El Niño/La Niña are updated monthly in CPC's Climate Diagnostics Bulletin Forecast Forum.

International Weather and Crop Summary

December 15 - 21, 2002

International Weather and Crop Highlights and Summaries provided by USDA/WAOB

HIGHLIGHTS

EUROPE: Across eastern Europe, milder weather and increased snowcover reduced the threat of winterkill for winter crops, while in the west, mild, wet weather favored winter crop establishment.

NORTHWESTERN AFRICA: Across the region, light to moderate rain maintained favorable soil moisture for germinating to vegetative winter grains.

SOUTH AFRICA: Widespread rainfall in the corn belt further improved moisture supplies for vegetative summer crops.

MIDDLE EAST: Widespread precipitation boosted irrigation supplies, and snowcover protected winter grains from very cold weather in Turkey and northern Iran.

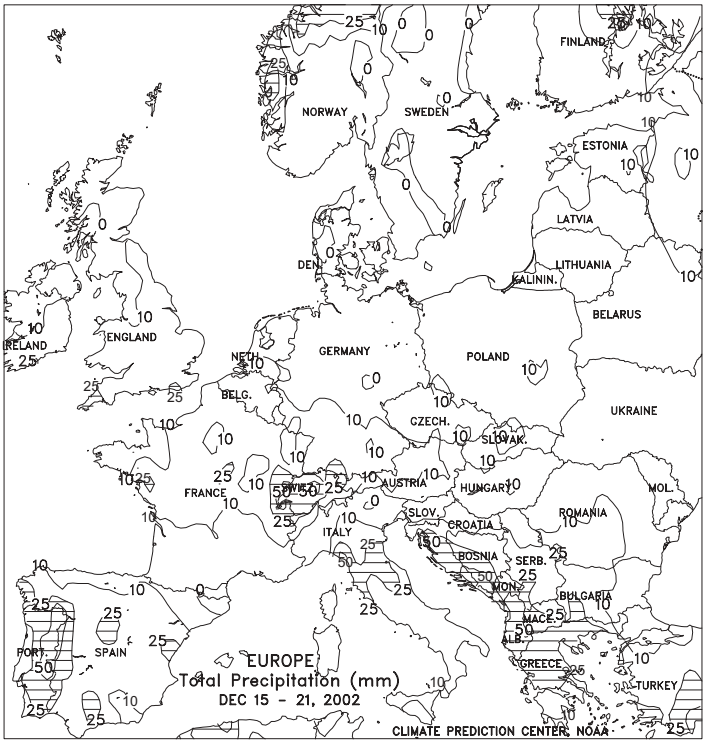
FSU-WESTERN: Bitterly cold weather persisted over the region, creating the potential for some freeze damage to winter grains in areas that lacked a protective snow cover.

EASTERN ASIA: Unseasonable rainfall moistened topsoils for semi-dormant crops in the southern winter wheat areas and increased irrigation reserves in the Yangtze Valley.

SOUTHEAST ASIA: Showers favored vegetative rice throughout the region.

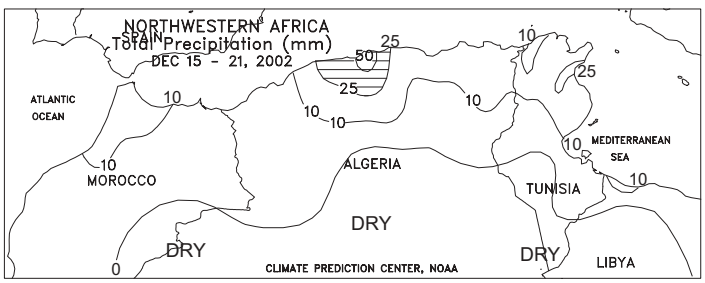
AUSTRALIA: Isolated showers in eastern Australia provided little relief for drought-stressed summer crops.

SOUTH AMERICA: Heavy rain hampered fieldwork in primary growing areas of Argentina and southern Brazil as beneficial showers continued in Brazil's northern growing areas.



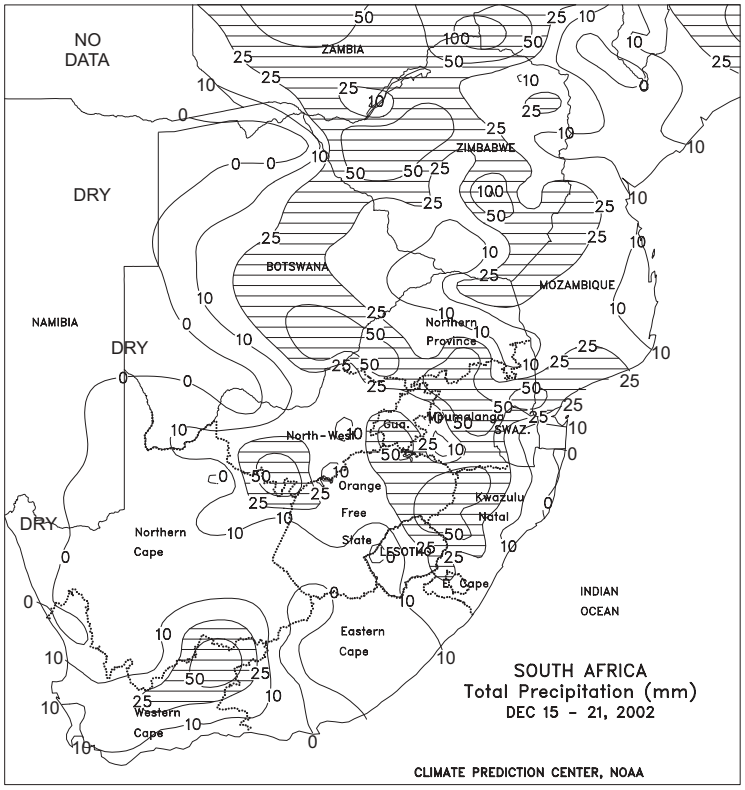
EUROPE

Across north-central, eastern, and southeastern Europe, somewhat milder weather and increased snowcover eased the threat of winterkill for winter crops. Light snow (less than 10 mm water equivalent) fell across eastern Europe, while heavier snow (5-20 mm water equivalent) increased snowcover in Romania, Bulgaria, and the Balkans. In portions of Slovakia and Romania, minimum temperatures fell below -15 degrees C at week's end, but snowcover protected winter crops from potential winterkill. Germany lacks a widespread snowcover, and is therefore vulnerable to potential winterkill from future cold air outbreaks. Along the Adriatic coast and Greece, moderate to heavy rain (10-50 mm; snow in the higher elevations) boosted irrigation supplies. In northern Italy, mostly dry weather allowed some replanting to occur, but seasonably low temperatures (average temperatures less than 5 degrees C) slowed germination and prompted earlier planted winter grains to begin entering dormancy. In central and southern Italy, rain (10-25 mm) increased moisture supplies for upcoming winter grain planting. Elsewhere in Europe, rain maintained adequate moisture supplies for winter grain establishment across northwestern Europe (5-15 mm) and the Iberian Peninsula (10-50 mm). Winter grains and oilseeds remained dormant from the Low Countries and extreme eastern France eastward into eastern Europe and southward into the Lower Danube River Valley. Across this region, temperatures averaged 2 to 4 degrees C below normal. Mild weather (temperatures 1-3 degrees C above normal) favored winter crop growth across most of France, the Iberian Peninsula, and central and southern Italy.



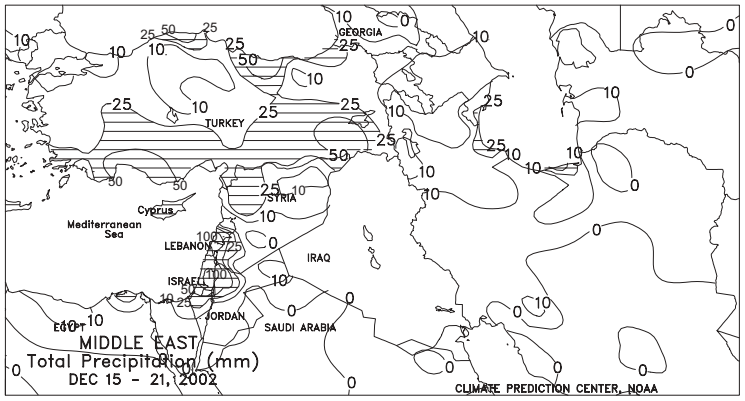
NORTHWESTERN AFRICA

Across the region, light to moderate rain (5-30 mm) maintained favorable soil moisture levels for germinating to vegetative winter grains. The heaviest rain (20-50 mm) fell across north-central Algeria, while the lightest rain (less than 5 mm) fell across western Algeria. Temperatures averaged 2 to 4 degrees C above-normal, increasing crop moisture demands.



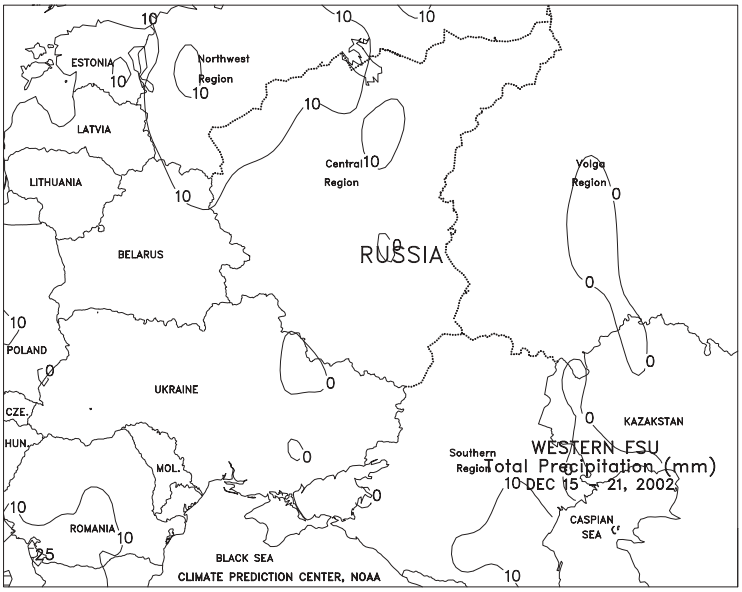
SOUTH AFRICA

Widespread rain (10-55 mm) fell across the corn belt for the third consecutive week, further improving moisture supplies for vegetative summer crops. The recent rainfall has been very beneficial, improving summer crop prospects following a relatively dry start to the growing season. Temperatures in the corn belt were generally seasonable, favoring early summer crop development. Farther south, late-week showers (10-25 mm) hampered late winter wheat harvesting in Western Cape.



MIDDLE EAST

In Turkey and northern Iran, widespread light to moderate precipitation (10-50 mm water equivalent) covered most areas, boosting irrigation supplies. The precipitation fell mostly as snow across central and eastern Turkey and northern Iran. In these areas, winter grains remained dormant and the snow cover protected crops from very cold weather (minimum temperatures reaching -10 to -17 degrees C; average temperatures 1-5 degrees C below-normal). Along the southwestern coast of Turkey, widespread rain (10-60 mm) favored vegetative winter grains. Widespread rain (50-150 mm) continued to boost moisture supplies for winter grains from coastal Syria to Israel. Based upon reports from bordering areas of Turkey and Iran, light to moderate precipitation (snow in the higher elevations) likely fell in northern Iraq. Across the Middle East and the rest of Iran, temperatures averaged near to below normal.

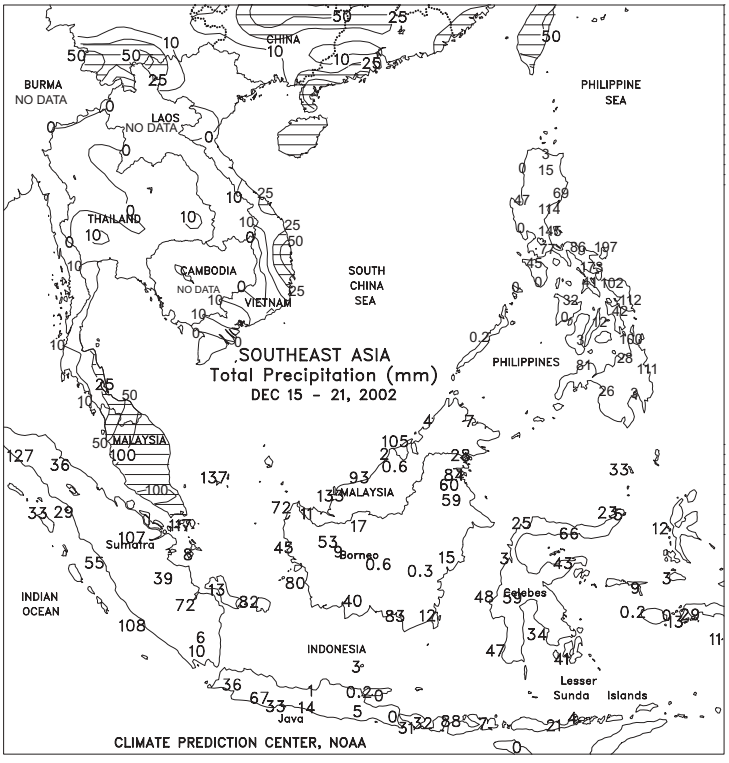


FSU-WESTERN

Bitterly cold air remained well entrenched over the region during the week, stressing winter grains. Lowest temperatures were observed early in the week, with minimum temperatures reaching -15 degrees C as far south as the Black Sea Coast. Weekly temperatures averaged more than 7 degrees C below normal in Belarus, most of Ukraine, and the southern Region in Russia. Snow cover in most of the major winter wheat producing areas was thin or patchy, leaving crops vulnerable to potential freeze damage, especially in eastern Ukraine and parts of the Southern Region in Russia, where temperatures fell to -20 degrees C or lower for two or more days. The full extent of any damage to winter grains will not be apparent until crops begin breaking dormancy in the spring. Temperatures moderated somewhat during the middle of the week, with light snow (1-10 mm liquid equivalent) providing a thin, but fresh snow cover across Ukraine and the Southern Region in Russia.

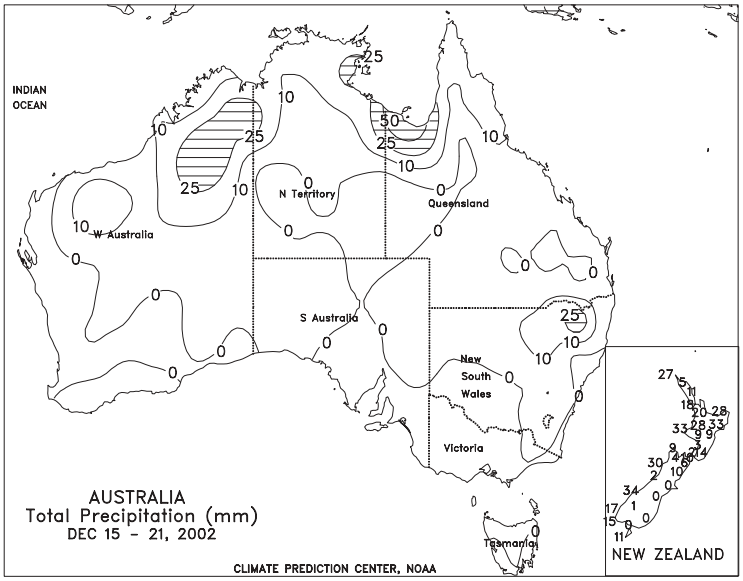
EASTERN ASIA

Unseasonably mild, showery weather dominated most of the region. On the North China Plain, moderate showers (10-25 mm or more) and above-normal temperatures (averaging 2 to 5 degrees C above normal) favored overwintering wheat in southern growing areas (Henan to southern Jiangsu). In northern and western winter wheat areas, light showers (less than 10 mm) accompanied the warmer-than-normal weather. In addition, temperatures averaging above 5 degrees C led to reductions in the winter hardiness of wheat in all but the northernmost growing areas. Farther south, heavy showers (50-100 mm or more) increased irrigation reserves in the middle and lower Yangtze Valley, with lighter showers (less than 25 mm) falling in most sugarcane areas along the southern coast, causing minor fieldwork delays. Elsewhere, moderate rain (10 mm or more) boosted moisture reserves in southern Manchuria and along the Korean Peninsula, with heavier rain (10-50 mm or more) covering most of Japan.



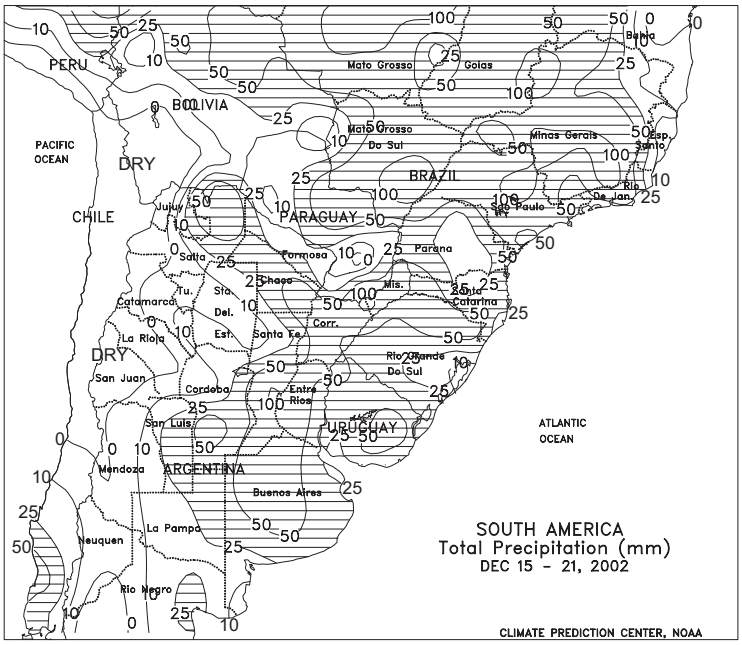
SOUTHEAST ASIA

Moderate to heavy showers (10-50 mm) fell in western Java, Indonesia, boosting moisture supplies for vegetative main-season rice. Showers in eastern growing areas were lighter, reducing moisture supplies. Seasonably heavy showers (25-100 mm) fell along the eastern coast of the Philippines, while irrigation supplies remained adequate for second-season rice nearing reproduction. Light showers (1-25 mm) added to irrigation supplies for vegetative winter-spring rice in Vietnam. Seasonably dry weather prevailed throughout Thailand. Temperatures throughout the region were 1 to 5 degrees above normal, increasing crop irrigation requirements.



AUSTRALIA

In southern Queensland and northern New South Wales, isolated showers (10-30 mm) brought little drought relief to dryland cotton and sorghum and did little to slow decreasing reservoir levels for irrigated summer crops. Farther south, hot, mostly dry (less than 5 mm) weather maintained large evaporation rates in southern New South Wales, northern Victoria, and South Australia. Although the dry weather allowed winter grain harvesting to continue unimpeded, rain is desperately needed throughout much of eastern and southern Australia to recharge moisture supplies depleted by the persistent and severe drought. Similarly, hot, dry weather continued in Western Australia, aiding winter wheat harvesting. More rain is needed in this state as well to improve moisture supplies strained by continued drier-than-normal weather. Temperatures in major growing-producing areas averaged 1 to 4 degrees C above normal. In New Zealand, light to moderate showers (3-25 mm) fell in small grain and pasture areas of North Island and neighboring areas of South Island, but dry weather dominated agricultural districts in east-central and southern South Island.



SOUTH AMERICA

In Argentina, locally heavy rain (50 mm or more) returned to central and eastern growing areas (southern Santa Fe and Entre Rios to southern Buenos Aires) following a brief respite from unseasonable wetness. The moisture likely caused additional delays in seasonal fieldwork, including winter wheat harvesting in Buenos Aires that had experienced previous delays. Light to moderate rain (10-25 mm or more) maintained generally favorable crop prospects in Argentina's western and northern growing areas (San Luis and Cordoba to Chaco and Formosa), although summer warmth (highs from the lower to middle 30s degrees C) maintained high crop moisture demands. According to Argentina's Agricultural Secretariat, winter wheat was 50 percent harvested as of December 20. In addition, corn, soybeans, and sunflowers were 90, 86, and 99 percent planted, respectively, as of December 20. In southern Brazil (Rio Grande do Sul to western Parana), as with neighboring sections of Argentina and Uruguay, moderate to heavy showers (25-50 mm or more) ended a period of favorable dryness and renewed concerns for excessive wetness and potential disease outbreaks. Farther north, warm, showery weather (temperatures averaging 1-3 degrees C above normal, with rainfall totaling 25-50 mm or more) continued in Brazil's northern growing areas (Mato Grosso to Minas Gerais), with sunny skies favoring crop development at week's end.

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Correspondence to the meteorologists should be directed to: ***Weekly Weather and Crop Bulletin*, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington, DC 20250.** Internet URL: **http://www.usda.gov/oce/waob/jawf**; E-mail address: ***jawfweb@oce.usda.gov***

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Managing Editor . . . . . ***David Miskus*** (202) 720-7919
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