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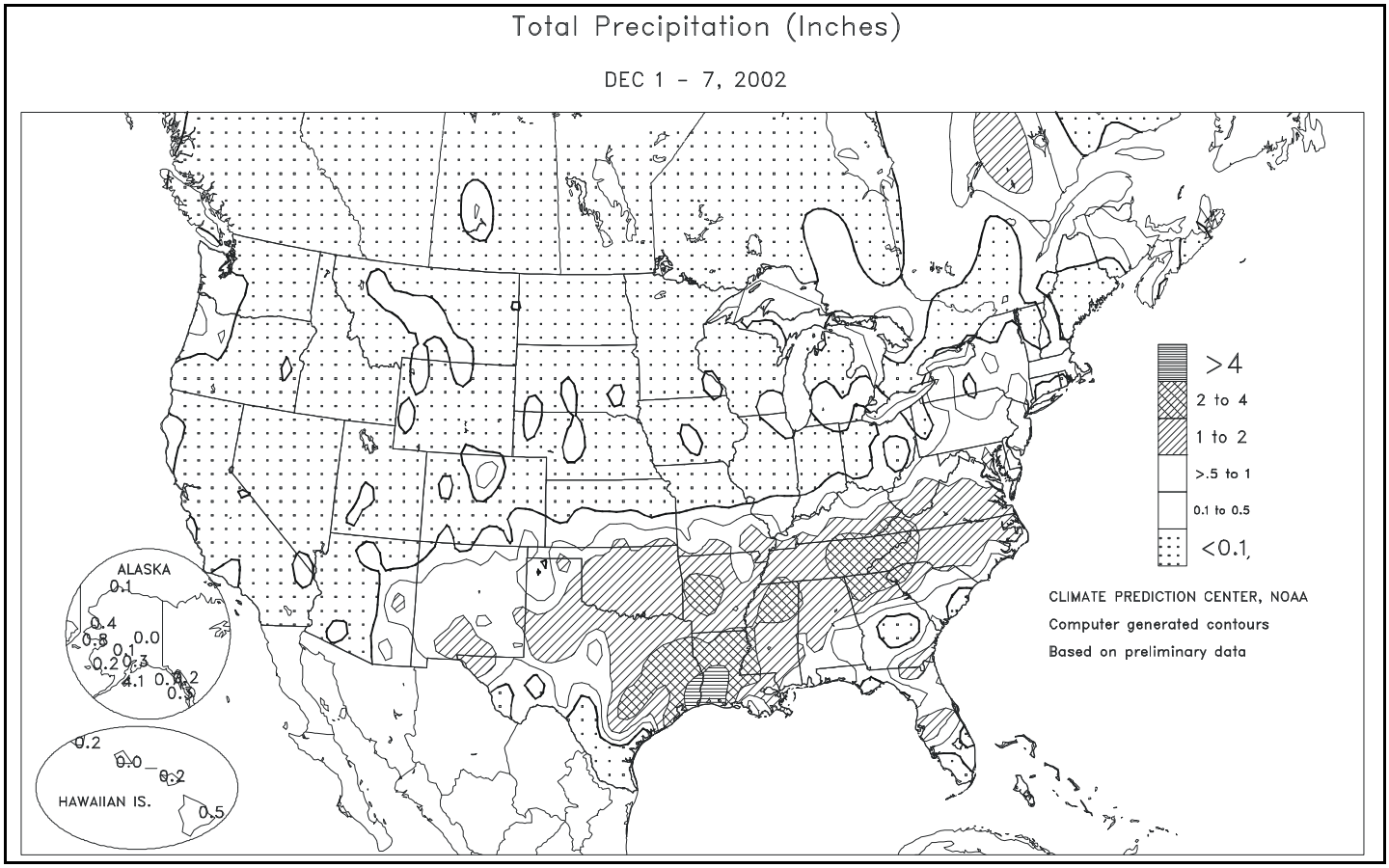
WEEKLY WEATHER AND CROP BULLETIN

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 1 - 7, 2002

Highlights provided by USDA/WAOB

The return of an El Niño-enhanced storm track brought significant snowfall from the **southern Rockies and southern High Plains to the Mid-Atlantic States and southern New England**. The storm system, which had quietly lingered over the **Southwest** for several days before crossing the **South** and **East** from December 3-5, also produced damaging ice accumulations and electrical disruptions in the **southern Mid-Atlantic region**. Following more than 2 weeks of favorably dry weather across the **South**, rain, ice, and snow sharply curtailed fieldwork, including winter wheat planting and final summer crop harvesting. Cold weather overspread the

(Continued on page 3)

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Weather Data for Mississippi and the Missouri Bootheel

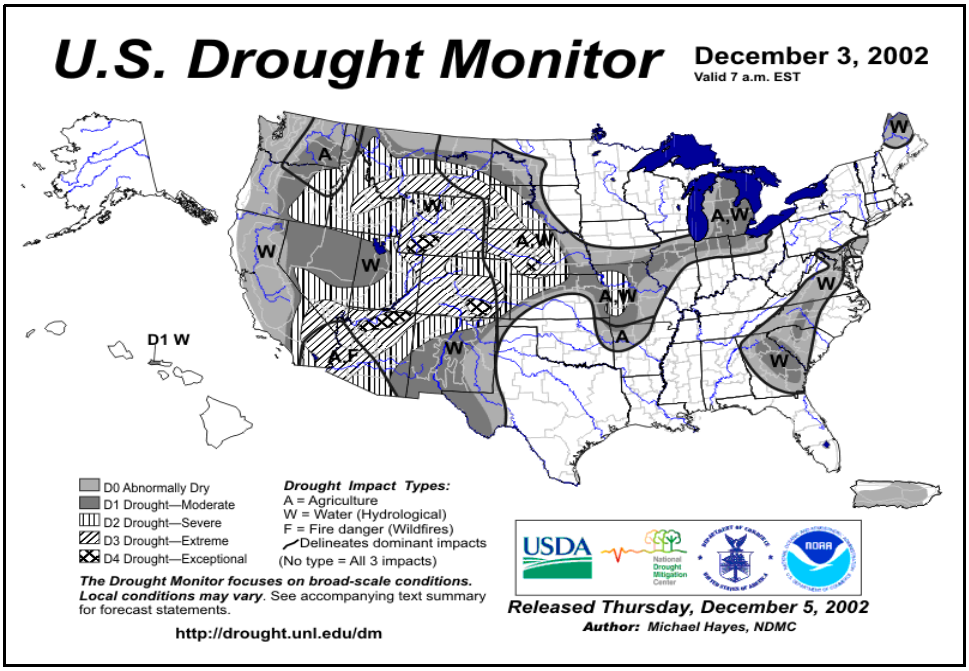
Weather Data for the Week Ending December 7, 2002

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]	46	29	60	20	37	-8	1.45	0.05	1.10	1.45	-	63.88	124	-	-	0	5	2	1
	BELZONI [x]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CLARKSDALE [x]	48	30	60	27	39	-8	1.10	-0.20	1.10	1.10	-	64.67	129	-	-	0	5	1	1
	CLEVELAND [x]	49	31	64	26	40	-9	1.26	0.04	1.15	1.26	-	55.79	109	-	-	0	5	2	1
	GREENVILLE [x]	50	30	65	25	40	-8	1.62	0.35	1.62	1.62	-	51.93	103	-	-	0	6	1	1
	GREENWOOD [x]	51	30	63	22	40	-9	1.88	0.69	1.87	1.88	-	49.73	99	-	-	0	5	2	1
	INDIANOLA 1S	49	31	63	27	40	-	1.66	-	1.65	1.66	-	49.77	-	48	44	0	4	2	1
	INVERNESS 5E	50	33	64	27	42	-	2.06	-	2.06	2.06	-	46.44	-	50	43	0	3	1	1
	LYON	47	30	60	27	38	-	1.25	-	1.22	1.25	-	50.07	-	47	40	0	4	4	1
	MACON	53	33	66	24	43	-	1.12	-	1.11	1.12	-	44.55	-	51	45	0	5	2	1
	MOORHEAD [x]	49	33	63	27	41	-8	0.94	-0.41	0.94	0.94	-	35.65	69	-	-	0	4	1	1
	ONWARD	52	33	66	26	42	-	1.61	-	1.58	1.61	-	47.02	-	53	47	0	5	3	1
	PERTHSHIRE	47	30	63	25	38	-	1.21	-	1.21	1.21	-	-	-	47	39	0	5	1	1
	ROLLING FORK [x]	53	34	68	26	43	-6	0.75	-0.50	0.62	0.75	-	39.80	77	-	-	0	4	2	1
	SCOTT	48	32	65	26	40	-	1.44	-	1.42	1.44	-	-	-	-	-	0	4	3	1
	SIDON	52	33	64	28	42	-	1.56	-	0.68	1.56	-	53.37	-	51	42	0	4	3	2
	STARKVILLE	52	31	66	23	42	-	1.21	-	1.21	1.21	-	-	-	51	41	0	5	1	1
	TUNICA [x]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TUNICA 1W	45	29	57	25	37	-	1.28	-	1.10	1.28	-	51.92	-	43	40	0	5	6	1
	VANCE	46	29	58	26	37	-	1.67	-	1.67	1.67	-	58.54	-	46	44	0	5	1	1
	VERONA	50	29	57	22	39	-	2.32	-	2.32	2.32	-	56.66	-	50	41	0	5	1	1
	VICKSBURG [x]	56	35	68	26	46	-7	2.10	0.84	1.98	2.10	-	53.68	100	-	-	0	2	2	1
	YAZOO CITY [x]	55	34	68	25	44	-6	1.54	0.20	1.52	1.54	-	58.89	107	-	-	0	3	2	1
	STONEVILLE [x]	51	32	65	26	42	-6	1.68	0.42	1.03	1.68	-	57.82	118	51	42	0	4	2	2
MO	DELTA	37	16	55	-1	27	-14	0.10	-1.08	0.05	0.10	8	50.53	104	37	35	0	7	3	0
	STEELE	42	28	56	22	34	-9	1.13	-0.12	0.93	1.13	90	44.80	91	42	37	0	6	4	1
	GLENNONVILLE	42	25	56	18	32	-10	0.69	-0.44	0.33	0.69	61	37.07	86	40	36	0	6	4	0
	PORTAGEVILLE LF	41	28	54	21	34	-9	0.68	-0.50	0.62	0.68	58	40.05	84	44	36	0	6	4	1
	CLARKTON	41	24	55	16	32	-10	0.92	-0.21	0.44	0.92	81	47.16	110	41	36	0	7	3	0
	CARDWELL	42	26	56	22	34	-9	0.91	-0.15	0.32	0.91	86	40.58	83	45	38	0	7	5	0
	CHARLESTON	39	23	52	13	31	-8	0.64	-0.43	0.29	0.64	60	43.63	95	41	36	0	6	4	0
	PORTAGEVILLE DC	41	26	55	20	33	-10	0.75	-0.43	0.49	0.75	64	38.03	80	56	49	0	6	4	0

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

Weather and Crop Summary: Poor drying conditions and midweek precipitation caused additional fieldwork delays at the end of the harvest season. Fall tillage and wheat planting were also delayed. Although the Delta had its first hard freeze for the season, there was little benefit to the farming community.

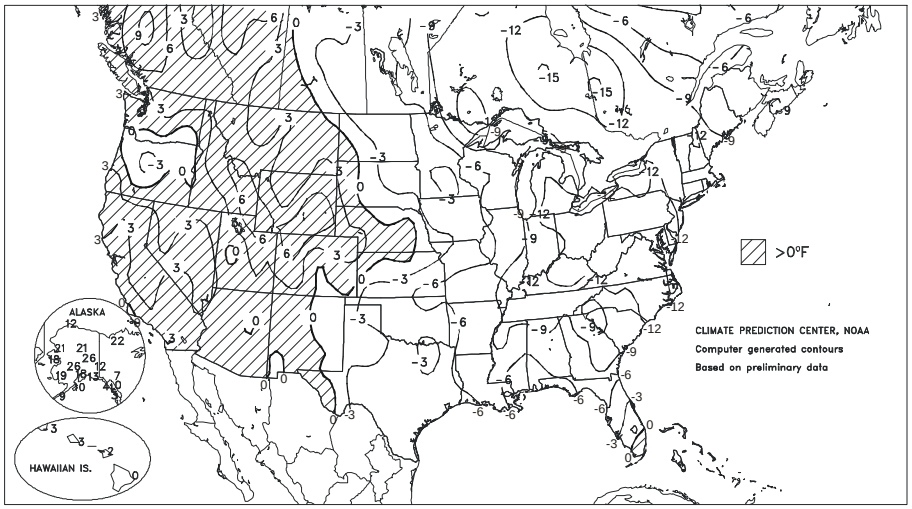


(Continued from front cover)

South in the storm's wake, slowing the development of pastures and winter grains. **Louisiana's** sugarcane area experienced frosts and light freezes on December 6 and 7, but temperatures were not low enough to cause significant harm to the unharvested portion (approximately one-third) of the crop. Farther north, **Midwestern** weekly temperatures averaged as much as 14°F below normal, maintaining stress on livestock. Although sub-zero readings were reported across much of **Lower Michigan**, a substantial snow cover helped to insulate the winter wheat crop. Meanwhile on the **Plains**, temperatures remained below normal in **southern areas** and averaged slightly above normal across the **northwestern half of the region**. On the **southern Plains**, rain and snow aided pastures and winter grains, but left fields and feedlots muddy. In contrast, only a patchy snow cover existed on the **northern and central High Plains**, leaving much of the winter wheat crop exposed to potential weather extremes. In the **West**, another week of mild, mostly dry weather favored fieldwork, but maintained concerns about the region's variety of drought-related effects, including reduced irrigation supplies, stressed rangelands, and a poorly established **Northwestern** winter wheat crop.

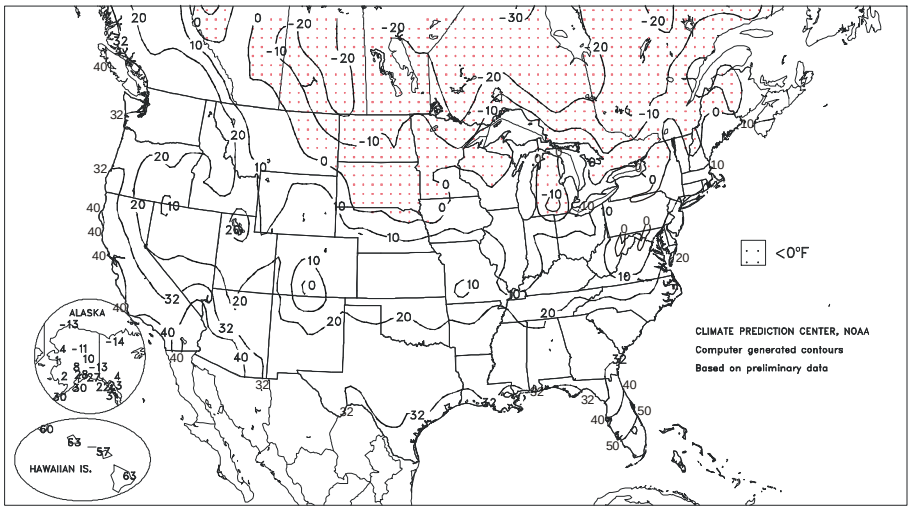
Departure of Average Temperature from Normal (°F)

DEC 1 - 7, 2002



Extreme Minimum Temperature (°F)

DEC 1 - 7, 2002



The December 3-5 storm produced a stripe of 4- to 10-inch snowfalls from the **Texas Panhandle to the northern Mid-Atlantic region**. Specific totals included 7.4 inches in **Baltimore, MD**, 5.4 inches in **Paducah, KY**, and 4.4 inches in **Amarillo, TX.** A few higher totals included 9.0 inches in **Blacksburg, VA**, and 7.6 inches in **Springfield, MO. Washington, DC** (6.1 inches on December 5), had their greatest daily snowfall since 9.3 inches fell on January 25, 2000, while **Pittsburgh, PA** (4.8 inches on December 5), had their highest total since 5.2 inches fell on January 20, 2001. **Philadelphia, PA**, which received 7.0 inches on December 5, has experienced only three storms of equal or greater magnitude prior to the middle of December (14.6 inches on December 11-12, 1960; 8.8 inches on November 6-7, 1953; and 7.0 inches on December 3-4, 195 7). In **North Carolina**, snowfall totaled 2.3 inches in **Raleigh-Durham** and a trace in **Charlotte**, but the stations' storm-total liquid equivalents, which included a substantial amount of freezing rain, reached 1.88 and 1.15 inches, respectively. As the storm approached the **Northeast**, lake-effect snow squalls diminished. Nevertheless, **Buffalo, NY**, received 16.0 inches of snow on December 1-2, while totals elsewhere in **Erie County** approached 2 feet. Farther south, 6.19 inches of rain pelted **Lake Charles, LA**, on December 3. As a result, 2002 became **Lake Charles'** wettest year on record (82.71 inches, or 154 percent of normal, through December 7), eclipsing their 1919 record of 79.88 inches. Several daily-rainfall records were set during the storm's passage, including 1.22 inches in **Lubbock, TX**, on December 3, and 1.48 inches in **Little Rock, AR**, the following day.

In the **Northwest**, a brief burst of snow at midweek locally boosted topsoil moisture reserves. On December 4, **Yakima, WA**, netted 2.9 inches of snow, a record for the date. However, little precipitation fell elsewhere in the **West**. Farther east, bitterly cold weather settled across the **lower Great Lakes region**, producing daily-record lows on December 3 in **Michigan** locations such as **Lansing** (-18°F) and **Flint** (-8°F). Two days later, frigid conditions spread into areas as far west as the **northern Plains**, where daily record lows in **South Dakota** included -16°F in **Kennebec** and -7°F in **Yankton**. The cold weather reached the snow-covered **Mid-Atlantic region** on December 7, producing daily records in locations such as **Elkins, WV** (-2°F), and **Blacksburg, VA** (-1°F). In **Blacksburg**, the temperature last fell below 0°F nearly 7 years ago, in February 1996. For many other sites from the **lower Great Lakes States into the Mid-Atlantic region**, the late-week chill resulted in the lowest temperatures in nearly 2 years, since the winter of 2000-01. For example, **Lansing** last experienced a low of -18°F on December 28, 2000, while **Washington, DC** (18°F on December 7), previously had a lower reading (16°F) on December 26, 2000.

Remarkably mild weather continued in **Alaska**, marking an eleventh consecutive week of above-normal temperatures in most locations. Weekly temperatures averaged more than 20°F above normal in much of **interior Alaska**, aided by frequent daily-record warmth. In **southwestern Alaska**, **King Salmon** experienced record-tying or -breaking warmth on the first 7 days of the month, with high temperatures ranging from 43°F on December 4 and 7 to 49°F on December 5. On December 4, the daily-record maximum of 34°F in **Kotzebue, AK**, easily exceeded highs of 25°F in **Amarillo, TX**, and 28°F in **Ponca City, OK**. Some precipitation fell across the **southwestern half of Alaska**, but significant totals were confined to a few southern locations. **Kodiak, AK**, netted 4.12 inches during the first week of December, including a daily-record total of 1.80 inches on December 2. Meanwhile, periodic showers affected Hawaii, with the most significant showers falling toward week's end. On **Kauai**, **Kokee** netted 1.76 inches in a 48-hour period from December 5-7. Farther east, the **Big Island** town of **Honokaa** received 1.27 inches in 24 hours on December 3-4, and 1.47 inches in 48 hours from December 6-8. **Hawaiian** weekly temperatures averaged as much as 3°F below normal, aided by several daily-record lows. **Kahului, Maui**, registered records on December 1 (58°F) and 6 (57°F).

National Weather Data for Selected Cities

Weather Data for the Week Ending December 7, 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	51	30	63	21	41	-7	1.28	0.26	1.05	***	***	58.46	116	84	40	0	4	2	1
	HUNTSVILLE	46	27	56	19	36	-10	1.23	-0.07	1.12	***	***	45.77	86	88	64	0	6	3	1
	MOBILE	61	37	75	27	49	-5	0.76	-0.39	0.38	***	***	64.30	102	87	52	0	3	2	0
	MONTGOMERY	56	32	66	21	44	-7	0.17	-1.04	0.09	***	***	32.96	65	97	49	0	4	2	0
AK	ANCHORAGE	41	31	47	28	36	18	0.35	0.13	0.24	***	***	15.93	105	94	82	0	5	2	0
	BARROW	9	-2	21	-13	4	12	0.05	0.05	0.02	***	***	4.59	114	89	83	0	7	3	0
	FAIRBANKS	28	17	33	10	22	26	0.00	-0.14	0.00	***	***	12.99	134	92	89	0	7	0	0
	JUNEAU	34	27	43	23	31	1	0.19	-0.98	0.19	***	***	56.67	105	96	89	0	7	1	0
	KODIAK	44	38	47	30	41	9	4.06	2.48	2.07	***	***	88.02	127	97	91	0	1	6	2
	NOME	34	25	40	1	29	18	0.76	0.51	0.32	***	***	13.66	86	90	81	0	5	5	0
AZ	FLAGSTAFF	45	22	48	18	34	2	0.02	-0.38	0.02	***	***	12.22	57	95	49	0	7	1	0
	PHOENIX	68	50	73	48	59	3	0.01	-0.16	0.01	***	***	2.67	35	77	53	0	0	1	0
	TUCSON	66	44	71	39	55	2	0.14	-0.04	0.13	***	***	7.35	65	86	60	0	0	2	0
	YUMA	71	50	73	47	61	2	0.00	-0.05	0.00	***	***	0.29	11	67	54	0	0	0	0
AR	FORT SMITH	51	27	66	21	39	-5	1.43	0.47	0.88	***	***	39.90	96	92	51	0	5	3	2
	LITTLE ROCK	48	29	63	23	38	-8	2.00	0.76	1.55	***	***	41.25	87	89	49	0	5	3	1
CA	BAKERSFIELD	64	44	67	39	54	5	0.00	-0.14	0.00	***	***	2.89	49	81	67	0	0	0	0
	FRESNO	63	42	65	40	53	6	0.00	-0.25	0.00	***	***	4.49	44	92	72	0	0	0	0
	LOS ANGELES	67	51	76	49	59	0	0.01	-0.32	0.01	***	***	3.46	30	89	62	0	0	1	0
	REDDING	62	36	66	31	49	3	0.01	-0.93	0.01	***	***	13.42	45	93	80	0	2	1	0
	SACRAMENTO	63	39	65	37	51	3	0.00	-0.50	0.00	***	***	10.79	68	10	51	0	0	0	0
	SAN DIEGO	67	51	75	49	59	1	0.00	-0.22	0.00	***	***	2.25	23	87	60	0	0	0	0
	SAN FRANCISCO	60	47	62	45	53	2	0.07	-0.51	0.06	***	***	8.98	50	91	81	0	0	2	0
	STOCKTON	62	36	64	34	49	2	0.01	-0.38	0.01	***	***	7.20	58	98	89	0	0	1	0
CO	ALAMOSA	32	13	48	3	22	1	0.24	0.17	0.24	***	***	4.44	64	88	69	0	7	1	0
	CO SPRINGS	44	23	54	15	34	3	0.00	-0.06	0.00	***	***	7.52	44	87	44	0	6	0	0
	DENVER INTL	46	25	58	20	36	5	0.00	-0.06	0.00	***	***	7.15	53	82	47	0	6	0	0
	GRAND JUNCTION	47	26	50	22	37	6	0.09	-0.01	0.09	***	***	7.75	91	86	66	0	7	1	0
	PUEBLO	48	23	62	15	35	3	0.18	0.10	0.17	***	***	3.78	31	78	62	0	6	2	0
CT	BRIDGEPORT	35	21	41	16	28	-11	0.14	-0.63	0.14	***	***	39.43	95	71	48	0	7	1	0
	HARTFORD	32	15	38	8	24	-11	0.18	-0.64	0.18	***	***	38.07	88	74	54	0	7	1	0
DC	WASHINGTON	37	23	49	18	30	-13	0.59	-0.07	0.59	***	***	30.47	82	84	53	0	7	1	1
DE	WILMINGTON	36	19	44	10	27	-13	0.38	-0.38	0.37	***	***	35.68	89	78	45	0	7	2	0
FL	DAYTONA BEACH	70	47	82	40	58	-5	0.42	-0.17	0.28	***	***	50.77	108	94	52	0	0	2	0
	JACKSONVILLE	63	40	75	34	51	-6	0.81	0.26	0.70	***	***	50.14	100	95	57	0	0	2	1
	KEY WEST	79	67	83	59	73	0	0.01	-0.43	0.01	***	***	37.46	101	94	74	0	0	1	0
	MIAMI	81	66	85	58	74	3	0.07	-0.47	0.04	***	***	59.96	105	94	68	0	0	2	0
	ORLANDO	72	49	82	42	61	-4	1.18	0.64	1.02	***	***	56.20	121	94	57	0	0	3	1
	PENSACOLA	63	39	71	31	51	-5	0.46	-0.42	0.46	***	***	59.41	97	89	53	0	2	1	0
	TALLAHASSEE	62	35	73	29	49	-7	0.84	0.00	0.84	***	***	50.31	84	94	51	0	5	1	1
	TAMPA	72	49	80	43	61	-4	0.74	0.22	0.55	***	***	47.71	111	91	60	0	0	3	1
	WEST PALM	77	63	84	56	70	0	0.47	-0.44	0.35	***	***	58.45	99	94	74	0	0	5	0
GA	ATHENS	51	28	62	23	39	-8	0.53	-0.27	0.50	***	***	41.47	92	83	53	0	6	2	1
	ATLANTA	50	30	61	25	40	-8	0.47	-0.42	0.37	***	***	42.93	91	77	50	0	6	2	0
	AUGUSTA	52	28	65	23	40	-9	0.29	-0.28	0.29	***	***	36.92	88	94	49	0	5	1	0
	COLUMBUS	55	32	66	27	44	-7	0.36	-0.64	0.36	***	***	40.01	89	88	40	0	4	1	0
	MACON	54	29	65	23	41	-9	0.19	-0.64	0.19	***	***	36.12	86	90	42	0	5	1	0
	SAVANNAH	55	33	67	29	44	-10	0.35	-0.16	0.35	***	***	43.31	92	97	54	0	4	1	0
HI	HILO	80	66	83	63	73	0	0.50	-2.50	0.22	***	***	123.9	104	93	76	0	0	4	0
	HONOLULU	81	66	84	63	73	-3	0.00	-0.58	0.00	***	***	12.19	76	84	68	0	0	0	0
	KAHULUI	81	65	84	57	73	-1	0.21	-0.38	0.21	***	***	14.76	90	80	71	0	0	1	0
	LIHUE	77	64	79	60	71	-3	0.17	-0.88	0.09	***	***	31.03	87	84	75	0	0	3	0
ID	BOISE	42	27	47	25	35	2	0.00	-0.33	0.00	***	***	4.94	44	91	78	0	7	0	0
	LEWISTON	36	33	42	29	34	-1	0.00	-0.24	0.00	***	***	9.47	80	92	88	0	4	0	0
	POCATELLO	43	22	47	19	33	5	0.00	-0.24	0.00	***	***	6.89	59	91	80	0	7	0	0
IL	CHICAGO/O'HARE	31	16	41	9	24	-8	0.22	-0.40	0.19	***	***	32.83	95	83	64	0	7	2	0
	MOLINE	36	14	45	8	25	-6	0.00	-0.54	0.00	***	***	32.20	89	78	50	0	7	0	0
	PEORIA	37	16	47	10	27	-5	0.00	-0.65	0.00	***	***	31.63	92	80	45	0	7	0	0
	ROCKFORD	31	11	40	3	21	-8	0.05	-0.50	0.05	***	***	31.98	91	80	58	0	7	1	0
	SPRINGFIELD	39	17	51	9	28	-6	0.00	-0.64	0.00	***	***	38.51	114	80	44	0	7	0	0
IN	EVANSVILLE	36	22	54	10	29	-10	0.33	-0.61	0.30	***	***	43.24	104	84	55	0	6	2	0
	FORT WAYNE	30	14	40	5	22	-11	0.02	-0.66	0.02	***	***	31.57	92	83	53	0	7	1	0
	INDIANAPOLIS	34	18	48	12	26	-10	0.00	-0.77	0.00	***	***	36.71	95	85	47	0	7	0	0
	SOUTH BEND	30	11	40	-1	21	-12	0.06	-0.71	0.06	***	***	26.88	72	82	60	0	7	1	0
IA	BURLINGTON	37	17	47	10	27	-5	0.00	-0.56	0.00	***	***	36.31	100	82	39	0	7	0	0
	CEDAR RAPIDS	35	10	49	5	22	-6	0.00	-0.41	0.00	***	***	36.32	112	88	45	0	7	0	0
	DES MOINES	38	15	52	11	27	-2	0.00	-0.35	0.00	***	***	25.45	75	75	57	0	7	0	0
	DUBUQUE	31	9	45	2	20	-7	0.04	-0.42	0.04	***	***	40.91	119	78	62	0	7	1	0
	SIOUX CITY	37	11	56	-1	24	-2	0.02	-0.16	0.02	***	***	25.38	99	78	62	0	7	1	0
	WATERLOO	37	10	51	5	23	-3	0.00	-0.32	0.00	***	***	30.66	95	83	60	0	7	0	0
KS	CONCORDIA	45	23	57	19	34	1	0.00	-0.22	0.00	***	***	18.15	65	75	53	0	7	0	0
	DODGE CITY	42	22	60	15	32	-4	0.08	-0.09	0.05	***	***	14.04	65	88	55	0	7	2	0
	GOODLAND	48	21	60	15	34	2	0.00	-0.08	0.00	***	***	9.83	51	79	43	0	7	0	0
	TOPEKA	45	21	56	16	33	-2	0.00	-0.39	0.00	***	***	27.81	80	77	60	0	7	0	0

Based on 1971-2000 normals ****NOTE: SEASON TO DAT E TOTALS UNAVAILABLE. REFER TO WEEKLY AMOUNTS**** *** Not Available

Weather Data for the Week Ending December 7, 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
	WICHITA	39	22	60	13	31	-6	0.63	0.30	0.49	***	***	32.85	112	90	63	0	7	2	0
KY	JACKSON	34	22	45	19	28	-14	0.86	-0.18	0.57	***	***	49.17	107	86	55	0	7	2	1
	LEXINGTON	32	18	45	12	25	-15	0.37	-0.54	0.20	***	***	45.61	107	80	60	0	7	2	0
	LOUISVILLE	36	22	50	15	29	-12	0.46	-0.43	0.36	***	***	46.70	112	90	56	0	7	2	0
	PADUCAH	38	22	54	10	30	-10	0.73	-0.41	0.69	***	***	47.55	103	89	51	0	7	2	1
LA	BATON ROUGE	59	37	73	29	48	-6	2.82	1.66	1.58	***	***	55.67	94	95	55	0	2	2	2
	LAKE CHARLES	60	42	72	34	51	-4	7.06	6.03	6.24	***	***	83.09	155	95	66	0	0	3	2
	NEW ORLEANS	62	43	77	34	53	-4	0.55	-0.69	0.31	***	***	58.25	97	89	72	0	0	2	0
	SHREVEPORT	53	34	70	27	44	-7	1.60	0.55	0.90	***	***	36.30	76	92	62	0	3	2	2
ME	CARIBOU	21	3	32	-6	12	-9	0.36	-0.34	0.35	***	***	34.83	100	90	68	0	7	2	0
	PORTLAND	31	13	36	10	22	-10	0.02	-0.97	0.02	***	***	39.72	93	80	48	0	7	1	0
MD	BALTIMORE	37	18	47	6	27	-13	0.96	0.23	0.96	***	***	35.31	90	76	47	0	7	1	1
MA	BOSTON	34	22	40	16	28	-11	0.09	-0.76	0.07	***	***	36.07	91	76	44	0	7	2	0
	WORCESTER	29	15	34	9	22	-11	0.21	-0.64	0.13	***	***	40.67	88	89	47	0	7	3	0
MI	ALPENA	26	11	34	-1	18	-10	0.02	-0.39	0.01	***	***	24.35	90	88	64	0	7	2	0
	GRAND RAPIDS	27	14	36	-1	21	-10	0.03	-0.70	0.03	***	***	27.53	78	89	67	0	7	1	0
	HOUGHTON LAKE	24	7	34	-7	15	-13	0.06	-0.36	0.06	***	***	21.67	80	87	71	0	7	1	0
	LANSING	28	7	37	-18	17	-14	0.07	-0.51	0.07	***	***	21.27	71	86	67	0	7	1	0
	MUSKEGON	32	18	38	4	25	-7	0.02	-0.64	0.02	***	***	25.42	82	82	61	0	6	1	0
	TRAVERSE CITY	28	15	37	4	21	-9	0.18	-0.40	0.15	***	***	27.98	89	88	60	0	7	3	0
MN	DULUTH	18	1	26	-10	10	-9	0.00	-0.30	0.00	***	***	30.41	100	83	60	0	7	0	0
	INT'L FALLS	15	-7	26	-18	4	-10	0.00	-0.19	0.00	***	***	22.98	98	83	57	0	7	0	0
	MINNEAPOLIS	29	10	39	3	20	-3	0.02	-0.25	0.02	***	***	38.33	134	83	59	0	7	1	0
	ROCHESTER	29	6	40	-2	18	-4	0.01	-0.29	0.01	***	***	32.19	105	84	66	0	7	1	0
	ST. CLOUD	27	7	36	-1	17	-2	0.00	-0.18	0.00	***	***	33.12	124	86	57	0	7	0	0
MS	JACKSON	55	32	68	23	44	-6	1.16	-0.05	1.12	***	***	63.34	122	92	50	0	5	2	1
	MERIDIAN	58	33	68	23	45	-6	1.56	0.34	1.53	***	***	52.54	96	97	58	0	4	3	1
	TUPELO	49	28	55	21	39	-7	2.45	1.07	2.43	***	***	61.49	120	91	61	0	5	2	1
MO	COLUMBIA	40	19	56	13	30	-6	0.03	-0.66	0.03	***	***	40.62	106	87	54	0	7	1	0
	KANSAS CITY	43	21	54	16	32	-3	0.00	-0.44	0.00	***	***	24.79	67	76	44	0	7	0	0
	SAINT LOUIS	41	23	56	17	32	-6	0.17	-0.61	0.17	***	***	39.12	107	73	48	0	7	1	0
	SPRINGFIELD	40	18	62	2	29	-10	0.76	-0.18	0.50	***	***	34.95	82	89	65	0	6	2	1
MT	BILLINGS	37	22	57	11	30	2	0.26	0.14	0.13	***	***	9.30	65	85	65	0	6	3	0
	BUTTE	37	16	41	4	26	6	0.00	-0.11	0.00	***	***	10.73	87	92	61	0	7	0	0
	GLASGOW	34	10	48	-5	22	3	0.01	-0.05	0.01	***	***	12.25	112	86	71	0	7	1	0
	GREAT FALLS	38	18	58	7	28	2	0.22	0.11	0.13	***	***	14.97	104	90	64	0	6	3	0
	HAVRE	37	16	54	7	26	4	0.00	-0.08	0.00	***	***	13.68	124	85	74	0	7	0	0
	KALISPELL	32	28	34	27	30	5	0.06	-0.32	0.06	***	***	11.27	71	92	79	0	7	1	0
	MISSOULA	32	26	37	24	29	4	0.00	-0.24	0.00	***	***	9.63	75	96	91	0	7	0	0
NE	GRAND ISLAND	42	19	61	10	31	2	0.01	-0.19	0.01	***	***	17.11	67	76	56	0	7	1	0
	LINCOLN	42	18	59	13	30	0	0.01	-0.23	0.01	***	***	26.32	95	79	58	0	7	1	0
	NORFOLK	41	14	61	-2	27	0	0.01	-0.19	0.01	***	***	19.44	74	75	61	0	7	1	0
	NORTH PLATTE	43	17	59	11	30	2	0.00	-0.08	0.00	***	***	11.07	57	93	51	0	7	0	0
	OMAHA	41	17	57	9	29	0	0.00	-0.28	0.00	***	***	26.01	88	80	58	0	7	0	0
	SCOTTSBLUFF	48	20	60	13	34	6	0.00	-0.14	0.00	***	***	7.17	45	86	57	0	7	0	0
	VALENTINE	39	13	61	-3	26	0	0.04	-0.05	0.02	***	***	11.15	58	89	80	0	7	3	0
NV	ELY	47	16	50	12	31	3	0.00	-0.08	0.00	***	***	4.40	46	84	58	0	7	0	0
	LAS VEGAS	62	43	63	40	52	3	0.00	-0.06	0.00	***	***	1.37	33	73	50	0	0	0	0
	RENO	54	26	58	23	40	5	0.00	-0.19	0.00	***	***	4.91	72	76	59	0	7	0	0
	WINNEMUCCA	51	16	55	12	34	2	0.00	-0.17	0.00	***	***	5.54	72	89	61	0	7	0	0
NH	CONCORD	30	8	35	-1	19	-11	0.17	-0.53	0.17	***	***	36.32	103	83	53	0	7	1	0
NJ	NEWARK	36	22	41	18	29	-11	0.40	-0.43	0.40	***	***	40.05	92	68	41	0	7	1	0
NM	ALBUQUERQUE	48	33	57	29	40	2	0.36	0.28	0.36	***	***	6.41	71	80	53	0	3	1	0
NY	ALBANY	31	15	37	8	23	-9	0.10	-0.55	0.09	***	***	36.76	102	82	53	0	7	2	0
	BINGHAMTON	24	12	32	4	18	-13	0.21	-0.55	0.19	***	***	39.53	109	88	64	0	7	3	0
	BUFFALO	28	14	36	3	21	-12	1.80	0.88	0.93	***	***	37.14	99	87	60	0	7	3	2
	ROCHESTER	29	16	37	8	23	-10	0.78	0.12	0.44	***	***	31.26	98	81	59	0	7	5	0
	SYRACUSE	29	14	37	0	22	-11	0.30	-0.52	0.11	***	***	37.68	100	86	67	0	7	4	0
NC	ASHEVILLE	45	25	54	18	35	-7	1.25	0.47	1.03	***	***	37.99	86	88	58	0	6	2	1
	CHARLOTTE	45	27	57	22	36	-11	0.30	-0.37	0.29	***	***	35.74	87	89	51	0	7	2	0
	GREENSBORO	40	24	53	18	32	-12	1.42	0.75	0.81	***	***	36.31	89	85	52	0	7	2	2
	HATTERAS	50	35	64	28	43	-10	1.26	0.33	1.02	***	***	53.53	99	76	47	0	2	2	1
	RALEIGH	42	24	52	19	33	-13	1.88	1.24	0.98	***	***	43.54	107	85	52	0	7	2	2
	WILMINGTON	49	28	57	24	39	-13	0.11	-0.72	0.11	***	***	43.90	81	94	47	0	6	1	0
ND	BISMARCK	30	8	48	-2	19	0	0.00	-0.09	0.00	***	***	10.85	66	78	59	0	7	0	0
	DICKINSON	33	11	56	-6	22	1	0.00	-0.08	0.00	***	***	11.22	70	92	56	0	7	0	0
	FARGO	21	4	34	-12	13	-4	0.00	-0.11	0.00	***	***	23.07	111	83	65	0	7	0	0
	GRAND FORKS	19	2	32	-8	10	-6	0.00	-0.11	0.00	***	***	19.77	103	88	57	0	7	0	0
	JAMESTOWN	21	3	36	-12	12	-6	0.00	-0.08	0.00	***	***	13.64	75	89	63	0	7	0	0
	WILLISTON	28	4	52	-18	16	-1	0.08	-0.05	0.04	***	***	14.26	104	91	82	0	7	2	0
OH	AKRON-CANTON	28	14	35	8	21	-14	0.26	-0.47	0.12	***	***	38.02	105	78	66	0	7	4	0
	CINCINNATI	33	20	47	17	27	-11	0.28	-0.48	0.22	***	***	41.13	103	81	53	0	7	2	0
	CLEVELAND	29	17	34	3	23	-12	0.52	-0.28	0.39	***	***	33.19	91	84	58	0	7	2	0
	COLUMBUS	30	19	41	16	25	-12	0.09	-0.64	0.08	***	***	37.57	103	81	60	0	7	2	0
	DAYTON	30	17	43	11	23	-12	0.01	-0.73	0.01	***	***	35.96	97	84	52	0	7	1	0
	MANSFIELD	28	14	35	6	21	-12	0.05	-0.78	0.04	***	***	32.24	79	93	62	0	7	2	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending December 7, 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	28	14	38	2	21	-12	0.10	-0.56	0.05	***	***	26.74	86	81	59	0	7	2	0
	YOUNGSTOWN	27	15	33	7	21	-13	0.23	-0.53	0.16	***	***	38.03	106	80	61	0	7	3	0
OK	OKLAHOMA CITY	49	28	68	20	38	-4	0.43	0.02	0.37	***	***	32.77	95	89	52	0	6	2	0
	TULSA	50	29	71	18	39	-4	1.43	0.76	1.11	***	***	30.00	74	89	68	0	4	2	1
OR	ASTORIA	51	38	56	31	45	1	0.22	-2.30	0.11	***	***	43.66	74	92	81	0	1	4	0
	BURNS	44	13	48	9	29	2	0.02	-0.26	0.02	***	***	4.00	42	92	82	0	7	1	0
	EUGENE	45	35	50	32	40	-1	0.26	-1.80	0.21	***	***	25.66	57	88	81	0	2	2	0
	MEDFORD	42	32	53	30	37	-2	0.02	-0.70	0.01	***	***	10.84	67	10	94	0	4	2	0
	PENDLETON	33	30	37	29	32	-4	0.02	-0.33	0.01	***	***	7.61	65	97	93	0	7	2	0
	PORTLAND	47	36	51	29	41	-1	0.06	-1.33	0.06	***	***	23.29	71	91	76	0	2	1	0
	SALEM	47	32	52	27	39	-2	0.28	-1.31	0.24	***	***	27.15	77	98	87	0	5	2	0
PA	ALLENTOWN	32	15	36	5	23	-13	0.31	-0.49	0.31	***	***	36.96	87	77	54	0	7	1	0
	ERIE	28	20	34	15	24	-12	0.08	-0.85	0.07	***	***	43.97	110	81	67	0	7	2	0
	MIDDLETOWN	33	18	39	9	26	-11	0.64	-0.17	0.63	***	***	36.84	97	83	46	0	7	2	1
	PHILADELPHIA	37	22	44	16	29	-12	0.44	-0.30	0.44	***	***	35.70	90	68	50	0	7	1	0
	PITTSBURGH	29	16	36	7	23	-13	0.29	-0.41	0.29	***	***	30.06	84	85	58	0	7	1	0
	WILKES-BARRE	28	16	34	5	22	-13	0.26	-0.39	0.26	***	***	37.06	104	83	51	0	7	1	0
	WILLIAMSPORT	30	14	35	5	22	-12	0.41	-0.35	0.41	***	***	40.04	102	79	60	0	7	1	0
RI	PROVIDENCE	34	19	39	12	27	-10	0.29	-0.66	0.11	***	***	37.74	87	78	48	0	7	4	0
SC	BEAUFORT	54	35	64	30	44	-9	0.00	-0.58	0.00	***	***	50.41	107	93	48	0	3	0	0
	CHARLESTON	54	32	63	28	43	-10	0.07	-0.56	0.07	***	***	54.58	112	90	46	0	4	1	0
	COLUMBIA	51	29	61	24	40	-9	0.43	-0.21	0.32	***	***	43.42	95	87	55	0	5	2	0
	GREENVILLE	48	30	59	24	39	-7	1.71	0.88	0.90	***	***	43.09	91	91	56	0	5	2	2
SD	ABERDEEN	30	3	45	-8	16	-4	0.01	-0.05	0.01	***	***	15.04	76	83	65	0	7	1	0
	HURON	31	7	52	-7	19	-4	0.08	-0.01	0.08	***	***	14.27	69	89	58	0	7	1	0
	RAPID CITY	40	15	63	1	28	1	0.03	-0.03	0.01	***	***	10.45	64	86	57	0	7	3	0
	SIOUX FALLS	32	8	48	-3	20	-2	0.04	-0.11	0.04	***	***	23.95	98	82	66	0	7	1	0
TN	BRISTOL	40	24	48	17	32	-8	1.20	0.42	0.76	***	***	37.14	96	91	53	0	7	3	1
	CHATTANOOGA	47	27	56	21	37	-8	1.35	0.22	1.16	***	***	45.38	89	91	53	0	6	3	1
	KNOXVILLE	43	27	53	21	35	-9	1.57	0.55	1.12	***	***	54.39	122	87	53	0	4	3	1
	MEMPHIS	45	30	56	25	37	-9	1.43	-0.03	1.31	***	***	66.60	132	82	54	0	5	3	1
	NASHVILLE	41	25	47	20	33	-10	0.47	-0.63	0.39	***	***	51.35	115	90	56	0	7	3	0
TX	ABILENE	54	34	73	25	44	-3	0.55	0.31	0.55	***	***	27.18	120	84	65	0	3	1	1
	AMARILLO	45	26	61	19	35	-4	0.29	0.21	0.29	***	***	17.45	91	87	60	0	6	1	0
	AUSTIN	61	37	74	28	49	-5	0.82	0.30	0.46	***	***	34.71	109	82	65	0	3	2	0
	BEAUMONT	61	43	74	33	52	-4	5.23	4.10	3.54	***	***	60.80	109	97	69	0	0	3	2
	BROWNSVILLE	71	51	82	39	61	-2	0.05	-0.23	0.03	***	***	27.17	102	92	73	0	0	2	0
	CORPUS CHRISTI	66	46	80	34	56	-4	0.00	-0.36	0.00	***	***	28.19	91	90	69	0	0	0	0
	DEL RIO	59	41	70	31	50	-4	0.17	0.00	0.12	***	***	17.63	100	86	61	0	1	2	0
	EL PASO	58	38	67	32	48	1	0.65	0.50	0.35	***	***	6.47	73	94	55	0	1	2	0
	FORT WORTH	55	35	72	25	45	-4	0.64	0.11	0.64	***	***	40.95	125	90	53	0	3	1	1
	GALVESTON	62	49	72	42	56	-4	0.77	-0.04	0.72	***	***	61.36	149	93	70	0	0	2	1
	HOUSTON	62	42	72	33	52	-4	0.89	0.04	0.51	***	***	55.00	122	96	73	0	0	2	1
	LUBBOCK	51	32	66	27	42	0	1.22	1.08	1.22	***	***	18.93	104	88	72	0	4	1	1
	MIDLAND	52	33	69	29	43	-4	0.90	0.77	0.85	***	***	9.20	64	88	71	0	3	2	1
	SAN ANGELO	54	35	71	30	45	-3	0.65	0.46	0.59	***	***	13.67	68	84	59	0	1	1	1
	SAN ANTONIO	62	42	75	31	52	-2	0.33	-0.11	0.24	***	***	44.09	140	93	57	0	1	2	0
	VICTORIA	64	43	79	31	54	-3	0.10	-0.45	0.10	***	***	36.75	96	95	68	0	1	1	0
	WACO	57	38	74	29	47	-4	1.49	0.86	1.47	***	***	30.80	99	85	67	0	1	2	1
	WICHITA FALLS	53	32	68	25	42	-3	0.66	0.30	0.66	***	***	27.41	100	84	59	0	4	1	1
UT	SALT LAKE CITY	47	28	50	25	37	4	0.00	-0.28	0.00	***	***	9.76	63	95	59	0	7	0	0
VT	BURLINGTON	27	13	35	5	20	-9	0.03	-0.54	0.02	***	***	35.77	104	80	54	0	7	2	0
VA	LYNCHBURG	38	17	49	8	28	-13	1.13	0.41	0.60	***	***	34.16	84	77	43	0	7	2	2
	NORFOLK	44	29	49	23	36	-11	1.75	1.14	1.50	***	***	48.48	112	83	49	0	7	2	1
	RICHMOND	40	22	51	17	31	-13	0.85	0.21	0.64	***	***	35.18	85	84	59	0	7	2	1
	ROANOKE	39	23	48	17	31	-11	0.44	-0.23	0.36	***	***	30.77	76	70	45	0	7	3	0
	WASH/DULLES	36	15	49	1	26	-13	0.57	-0.13	0.57	***	***	35.10	89	75	47	0	7	1	1
WA	OLYMPIA	45	34	49	28	40	1	0.31	-1.62	0.19	***	***	34.68	77	10	95	0	2	3	0
	QUILLAYUTE	50	37	55	31	43	2	0.37	-3.10	0.32	***	***	76.48	84	99	89	0	2	6	0
	SEATTLE-TACOMA	48	37	53	34	43	1	0.13	-1.25	0.13	***	***	26.22	80	96	80	0	0	1	0
	SPOKANE	33	30	36	26	32	3	0.00	-0.55	0.00	***	***	10.57	71	98	92	0	6	0	0
	YAKIMA	36	31	40	27	33	2	0.23	-0.07	0.23	***	***	4.57	64	94	88	0	5	1	0
WV	BECKLEY	31	16	40	11	24	-14	0.77	0.08	0.47	***	***	38.87	99	83	65	0	7	2	0
	CHARLESTON	36	22	48	14	29	-12	0.55	-0.27	0.29	***	***	42.35	102	87	55	0	7	3	0
	ELKINS	33	10	43	-2	22	-14	0.41	-0.40	0.32	***	***	49.13	113	89	48	0	7	3	0
	HUNTINGTON	35	22	48	16	29	-11	0.48	-0.29	0.31	***	***	43.72	110	83	51	0	7	2	0
WI	EAU CLAIRE	27	9	35	1	18	-4	0.00	-0.29	0.00	***	***	38.93	124	85	48	0	7	0	0
	GREEN BAY	26	11	33	3	18	-8	0.00	-0.39	0.00	***	***	27.24	97	81	51	0	7	0	0
	LA CROSSE	31	12	40	3	21	-6	0.03	-0.32	0.03	***	***	30.31	96	85	49	0	7	1	0
	MADISON	30	10	37	5	20	-7	0.03	-0.42	0.03	***	***	25.53	80	85	58	0	7	1	0
	MILWAUKEE	30	16	38	10	23	-8	0.06	-0.51	0.06	***	***	26.02	78	78	55	0	7	1	0
WY	CASPER	43	24	49	18	34	8	0.00	-0.14	0.00	***	***	6.80	54	87	65	0	7	0	0
	CHEYENNE	43	25	52	22	34	5	0.01	-0.10	0.01	***	***	9.76	65	80	55	0	7	1	0
	LANDER	29	17	34	9	23	0	0.00	-0.15	0.00	***	***	7.90	61	96	91	0	7	0	0
	SHERIDAN	39	16	59	7	27	3	0.18	0.04	0.14	***	***	11.59	82	89	72	0	6	3	0

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

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

November Weather and Crop Summary

Weather

Weather summary provided by USDA/WAOB

Little precipitation fell across the Central and North-Central United States during November, while below-normal totals were observed in the Northwest. In California, the Great Basin, and parts of the Southwest, the majority of the month's precipitation fell during the passage of a single storm system from November 7-9. A similar pattern was noted in the western Gulf Coast region, where little rain fell after November 4. Consistent November precipitation was confined to the East, where monthly totals were generally near to above normal. Despite diminished storminess (compared to October) across the South, an extended Pacific jet stream remained apparent in areas stretching from the vicinity of the International Date Line (180°W) to the southern tier of the United States. The Pacific jet stream, enhanced by a moderately strong El Niño, contributed moisture to several storm systems, primarily across the eastern one-third of the country.

In the Delta, a 3-week spell of mostly dry weather allowed for a gradual resumption of fieldwork (winter wheat planting and final summer crop harvesting), following a final, early-November round of downpours and lowland flooding. Although wet weather continued to hamper fieldwork in the Southeastern and Mid-Atlantic States, rain further eased long-term drought. Farther north, cold weather slowed or halted winter wheat development from the middle Mississippi Valley to the lower Great Lakes region. Elsewhere in the Midwest, cool, dry weather aided final summer crop harvesting but increased stress on livestock. Farther west, drought-reduced soil moisture reserves hindered winter wheat establishment across the northern and central High Plains and the Northwest, leaving a portion of the crop vulnerable to potential winter weather extremes, such as high winds and low temperatures. In contrast, occasional showers on the southern Plains aided pastures and winter grains but slowed summer crop harvesting. Despite November 7-9 precipitation, the West continued to experience a variety of drought-related problems, including below-normal irrigation reserves and severely stressed rangelands.

Temperature patterns were governed by an amplified polar jet stream, which beginning in early October arched northward into Alaska and dipped southward into the continental United States. The jet stream's southward push drove cold air across most of the Lower 48 by the end of October. A slight eastward shift in the jet-stream configuration brought a return of mild weather to the West and northern High Plains during November, but the Midwest, South, and East continued to experience below-normal temperatures. Monthly readings ranged from 6°F below normal in parts of Florida to as much as 8°F above normal on the Montana High Plains.

The season's first major storm system crossed the West from November 7-9, triggering widespread precipitation. Downtown Los Angeles, CA, received more rain (2.31 inches) from November 7-9 than during the year-to-date through November 6 (1.61 inches). Nevertheless, Los Angeles' January-November rainfall, 3.97 inches, was only 30 percent (%) of normal and still below their lowest calendar-year total on record (4.08 inches in 1953). Several other Western cities, including Pueblo, CO, and Boise, ID, ended November with the likelihood of setting annual records for dryness. Pueblo's January-November sum, 3.60 inches (30% of normal), was more than 2 inches below their 1934 record of 5.78 inches, while Boise's 11-month total of 4.93 inches (46% of normal) was well below the 1966 standard of 6.64 inches. In addition, the November 7-9 storm focused much of its energy on California and the Southwest, leaving the Northwest with minimal drought relief. For example, Portland, OR, followed their fourth-driest October (0.63 inch, or 22% of normal) with their fifth-driest November (1.89 inches, or 34%).

The Western storm contributed to high winds, including a gust to 58 mph in Redding, CA, on November 7. Two days later, gusts in Arizona were clocked to 65 mph in Payson and 55 mph in Window Rock. The storm also temporarily reduced the threat of wildfire activity across southern California, which experienced sporadic, wind-driven fires during November. Days later, however, hot, breezy weather returned to southern California, where daily-record highs included 95°F (on November 20) in Santa Ana and 97°F (on November 21) in Riverside. The Nation's year-to-date wildfire acreage topped 7.1 million acres by the end of November, behind only 2000 (8.4 million acres) and 1988 (7.4 million acres) in the last 40 years.

The most significant severe weather outbreak of the year struck areas from the central Gulf Coast to the lower Great Lakes region on November 10, more than doubling (from 12 to 25) the number of killer tornadoes and increasing the number of 2002 tornado-related fatalities from 17 to 52. According to preliminary reports from the Storm Prediction Center, the majority of destruction was noted in parts of Tennessee (17 deaths), Alabama (11 deaths), and Ohio (5 deaths). The last time more people perished during a single tornado outbreak was May 3, 1999, when there were 46 fatalities in Oklahoma and Kansas. One of the worst storms during the November 10 outbreak, the Saragossa Tornado, cut a 72.6-mile swath across four Alabama counties from near Fayette to just south-southeast of Holly Pond in a 1-hour, 37-minute span, peaking as an F3 (winds estimated from 158 to 206 mph) near Saragossa, with a maximum width of five-eighths of a mile. The preliminary count of 115 tornadoes was the Nation's highest November total since 146 tornadoes were documented in 1992, while the number of fatalities (37, including two on November 5) was the highest November total in the last half-century.

Precipitation was scarce in the Central and North-Central United States. As a result, records for November dryness were set or tied in locations such as Winner, SD (a trace; previously, 0.02 inch in 1962), and Miles City, MT (0.02 inch; tied 1949 and 1953). In Minnesota, totals of 0.09 inch in Minneapolis and 0.12 inch in Rochester were the lowest November amounts since 1967 and 1976, respectively. On the central Plains, Concordia, KS (0.03 inch, or 2% of normal), had their driest November since 1989, while Denver, CO (0.24 inch, or 24%), noted below-normal monthly precipitation for the 16th consecutive month. By month's end, measurable precipitation had last been observed on October 29 in locations such as Faith and Mobridge, SD. In Illinois, Peoria's September-November precipation (2.92 inches, or 34% of normal) was the lowest on record, edging their 1999 standard of 3.11 inches. In contrast, Jackson, MS, collected 20.97 inches (179% of normal) during the autumn months,

second only to a 22.31-inch total in September-November 1906. Meanwhile, Atlanta, GA, received above-normal rainfall for the third consecutive month, measuring an autumn total of 17.68 inches (156% of normal). As a result, Atlanta's 47-month (January 1, 1999 - November 30, 2002) precipitation climbed to 155.38 inches, leaving the city 2.01 inches shy of its lowest 4-year total on record (157.39 inches from 1893-96).

In the Northeast, some early-season snow accompanied the overall wet weather. Windsor Locks, CT, received 11.0 inches (including 9.0 inches on November 27), second only to a 15.6-inch total in 1938. Albany, NY, garnered 12.0 inches, their snowiest November since a record-setting 24.6 inches fell in 1972. Farther south, cool weather eventually reached Florida, following an early-month heat wave. On November 6, highs reached monthly record levels in Miami (91°F) and Miami Beach, FL (92°F). By November 29, however, the season's first freeze (31°F) arrived in Jacksonville, FL, more than 1 week ahead of their December 8 average. In contrast, warmth began to overspread the High Plains by month's end, resulting in Thanksgiving Day (November 28) record highs in locations such as Rapid City, SD (68°F), Miles City, MT (64°F), and Bismarck, ND (62°F).

Locally heavy showers fell across the western Hawaiian islands at midmonth, followed by another round of scattered showers toward month's end. Otherwise, little precipitation fell across Hawaii during November. Hilo, on the Big Island, netted only 2.86 inches (18% of normal), marking their driest month since 2.28 inches fell in January 2001 and lowest November total since a November record-low sum of 1.01 inches in 1989. During the heaviest spell of rain, a 96-hour period from November 13-17, totals on Kauai reached 6.00 inches in Wainiha and 7.19 inches in Kokee. Wainiha netted another 3.02 inches in 24 hours on November 28-29.

Monthly temperatures averaged 6 to 16°F above normal across much of Alaska, while significant precipitation was confined to the southern part of the State. For Alaskan locations such as Anchorage (35.0°F, or 13.2°F above normal) and Nome (26.1°F, or 9.2°F above normal), November temperatures were the highest on record. The stations' previous records had been set in 1979 (33.5°F) and 1952 (25.1°F), respectively. Although monthly temperatures averaged 19.2°F (16.9°F above normal) in Fairbanks, November 1979 (20.0°F) remained their warmest on record. However, only 0.05 inch of precipitation (1.6 inches of snow) fell in Fairbanks, 7% of their November normal. In contrast, Kodiak, AK, measured a November-record total of 15.92 inches (240% of normal), supplanting their 1983 record of 15.36 inches. Farther east, Pelican, AK, netted a monthly total of 20.47 inches, including 10.00 inches on November 26-27. Elsewhere in southeastern Alaska, Juneau completed autumn without any snow for the first time on record. Juneau's previous latest first snowfall occurred on November 20, 1980.

Fieldwork

Fieldwork summary provided by USDA/NASS

Row crop harvest continued with only brief rain delays in the Corn Belt but remained slow across most of the South due to persistent rain. Above-normal temperatures stimulated germination and growth of winter wheat on the central and northern Great Plains most of the month, although moisture shortages limited development in many areas. Meanwhile, mild temperatures and adequate topsoil moisture aided winter wheat development in the Corn Belt and southern Great Plains. In the West, one strong storm delivered much-needed precipitation along the Pacific Coast, but total precipitation for November remained far below normal in the interior Pacific Northwest. In the Southwest, above-normal temperatures promoted development of fruit and vegetable crops, winter grains, and forages. In the Florida Panhandle, late-month frost and unseasonably cold weather halted growth of forages, but citrus groves in the Peninsula remained in good condition.

Favorably dry weather supported the corn harvest during most of the month, although nearly all areas of the Corn Belt experienced at least brief delays due to rain or snow at the beginning of the month. Also, parts of the eastern Corn Belt experienced additional rain delays near midmonth. Despite favorably dry weather, harvest progressed behind normal across most of the northwestern Corn Belt and adjacent parts of the Great Plains. Early-month harvest progress lagged most in Minnesota, South Dakota, and Wisconsin. Meanwhile, harvest was nearly complete along the southern boundary of the Corn Belt. After midmonth, harvest remained active across the upper Mississippi Valley and adjacent areas of the Great Plains but was virtually complete across the central and eastern Corn Belt by November 24. Meanwhile, high grain moisture content hampered progress on the central High Plains. Nationally, harvest was 97 percent (%) complete on November 24, compared with the 5-year average of 98%.

Soybean harvest approached completion across most of the Corn Belt with few delays during November, although the eastern Corn Belt experienced occasional, brief rain delays. Early-month progress remained active in the upper Mississippi Valley, but by midmonth, harvest activity in the Corn Belt was mostly concentrated along the lower Ohio River Valley and along the western boundary, adjacent to the central Great Plains. In the lower Mississippi Valley, heavy rain delayed harvest through the first half of the month, and progress ranged from 2 to 4 weeks behind normal on November 10. Harvest accelerated in the Mississippi Delta after midmonth, but progress remained behind normal in most areas, especially in Louisiana. Along the Atlantic Coastal Plain, harvest lagged far behind normal. On November 24, harvest was 97% complete, slightly less than the 5-year average of 98%.

Winter wheat seeding was complete in most areas at the beginning of November, but rain hindered progress in many areas where sowing remained unfinished. Favorably dry weather supported a rapid acceleration of the planting pace in the interior Mississippi Delta near midmonth and along the Atlantic Coastal Plain after midmonth. However, seeding remained behind normal in both regions. Seeding continued with few delays in California and was active in Oregon despite unfavorably dry soils. Nationally, 96% of the acreage was planted on November 24, slightly less than the 5-year average of 97%. Above-normal temperatures stimulated emergence and growth on the central and northern Great Plains and Pacific Northwest most of the month. However, moisture shortages limited the crop's response to the favorable warmth in many areas, especially on the High

Plains. In the eastern Corn Belt, below-normal temperatures slightly hampered vegetative growth, but topsoil moisture supplies were nearly ideal. After midmonth, light precipitation promoted germination of late-planted fields in the Pacific Northwest, and topsoil moisture was adequate to support germination in the lower Mississippi Valley. Ninety-one percent of the Nation's winter wheat was emerged by November 24, slightly more than the 90-percent average for this date.

Heavy rainfall frequently halted cotton harvest in many areas of the South during November, especially through the first half of the month. The longest and most frequent interruptions were along the Gulf Coast and adjacent interior areas of the southern Great Plains and Mississippi Delta. In the interior Southeast, rain delays were frequent but slightly shorter in duration in most areas. Along the Atlantic Coastal Plain, rain delays were shorter and less frequent, although precipitation was above normal across much of this region as well. By November 17, harvest was more than 2 weeks behind the 5-year average. However, significantly drier weather prevailed in most areas after midmonth, and picking rapidly accelerated. In the Southwest, picking neared completion well ahead of normal. On November 24, harvest was 77% complete, but remained well behind the 5-year average of 87%.

Widespread precipitation limited sorghum harvest at the beginning of the month, especially on the southern Great Plains, where late crop ripening and muddy fields contributed to slow progress until midmonth. Early-month harvest was more active in the central and northern Great Plains, but progress lagged as much as 2 weeks behind normal in Kansas. Mostly dry weather supported an active harvest pace in the central and southern Great Plains after midmonth. Elsewhere, harvest neared completion in the Corn Belt and northern Great Plains. By November 24, harvest was 90% complete, about a week behind the 96-percent average for this date.

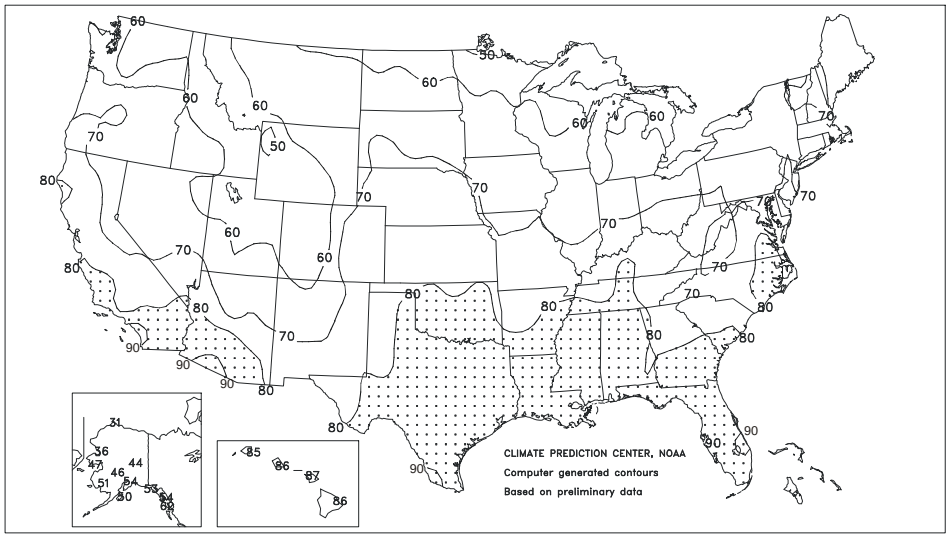
The peanut harvest fell well behind last year's pace and the 5-year average due to early-month rain that sharply curtailed digging along the eastern Gulf Coast and southern Great Plains. Harvest fell nearly 2 weeks behind normal in Texas and approached completion slightly later than normal along the eastern Gulf Coast. Harvest rapidly accelerated in the southern Great Plains near midmonth, but wet weather hindered progress in the Southeast until after midmonth. By November 24, harvest was 95% complete, slightly behind the 5-year average of 96%.

By November 10, the sugar beet harvest was 98% complete in the four major sugar beet-producing States, matching last year and the average for this date. Very dry weather supported a rapid early-month harvest pace in Michigan, and harvest rapidly approached completion in Idaho despite rain delays. Temperatures were cold enough to maintain the quality and sucrose content of piled beets most of the month, although afternoon temperatures were occasionally unfavorably warm, especially in the Red River Valley and northern High Plains.

The sunflower harvest remained active in the central and northern Great Plains during most of the month, as mostly dry weather aided harvest in the four major sunflower-producing States. However, progress lagged behind normal in most areas throughout the month, and on November 24, harvest was 94% complete, compared with the 5-year average of 95%.

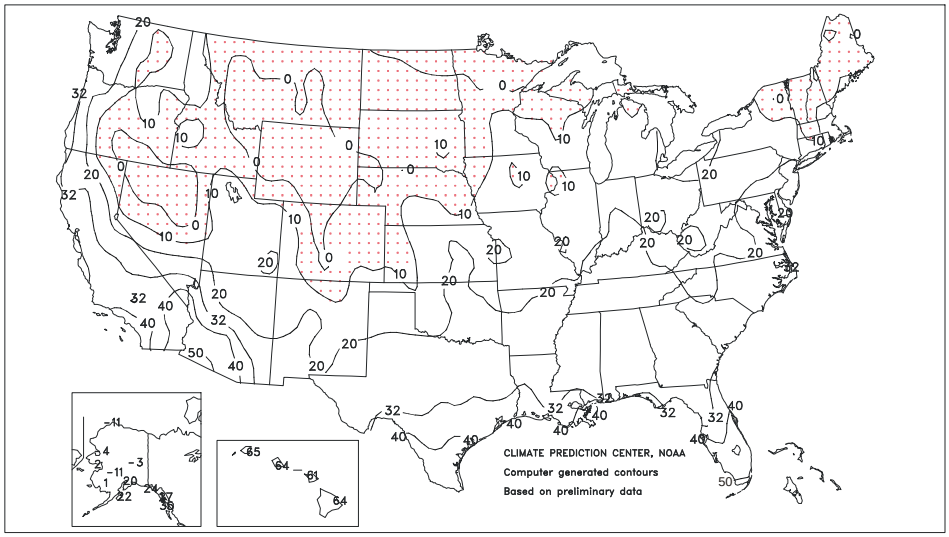
Extreme Maximum Temperature (°F)

November 2002



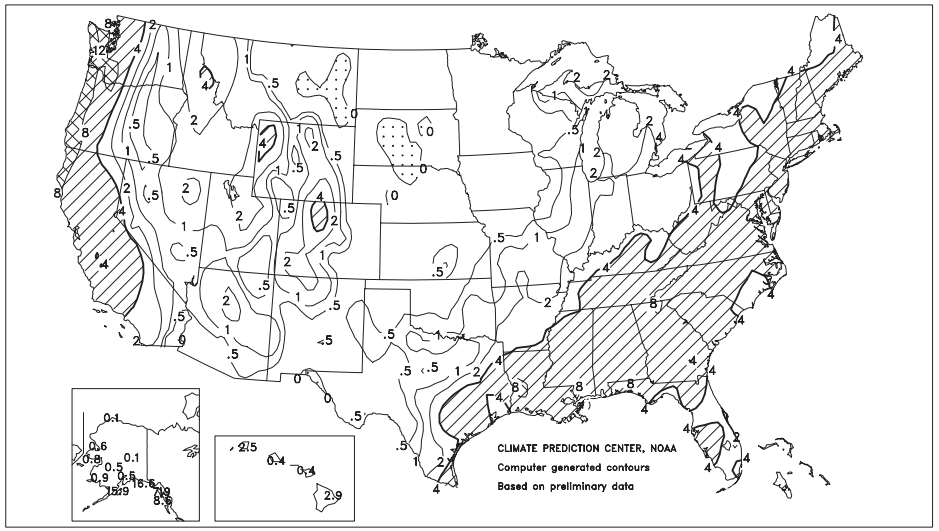
Extreme Minimum Temperature (°F)

November 2002



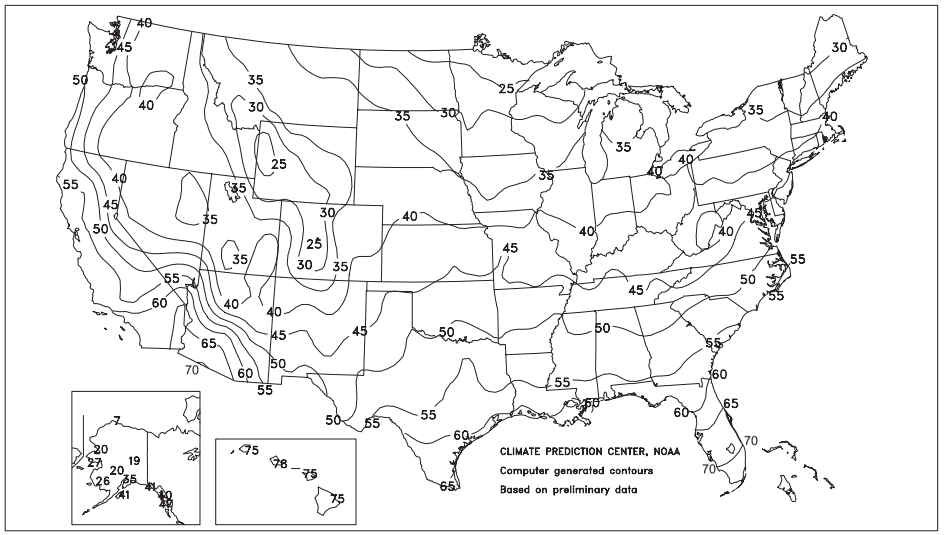
Total Precipitation (Inches)

November 2002



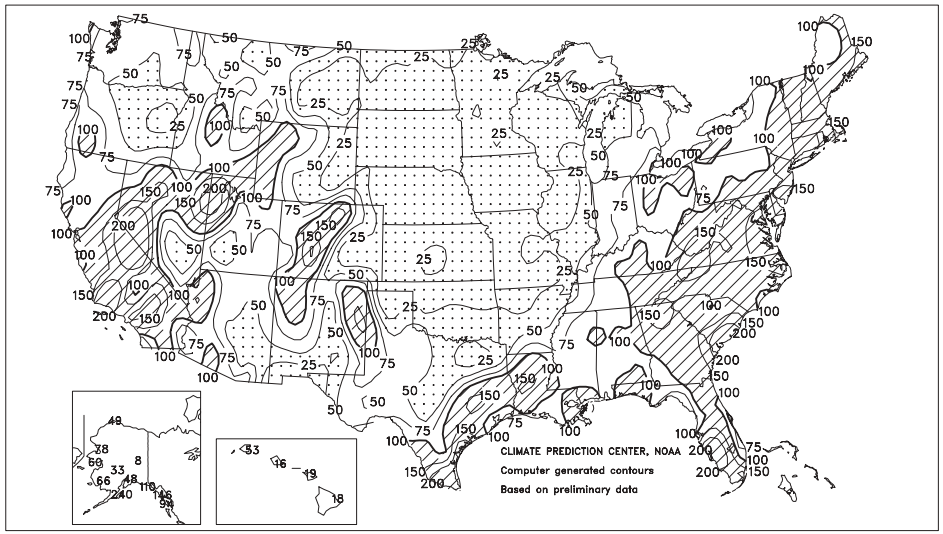
Average Temperature (°F)

November 2002



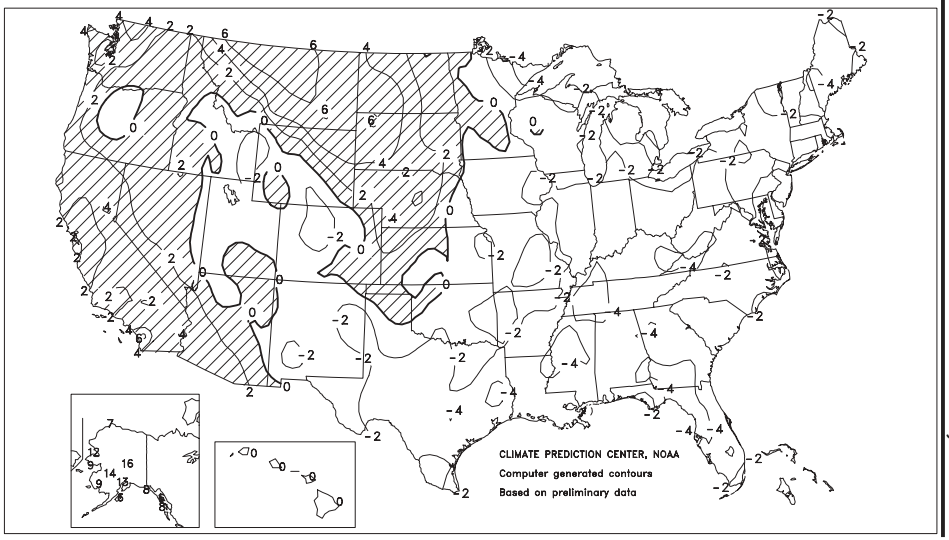
Percent Of Normal Precipitation

November 2002



Departure of Average Temperature from Normal (°F)

November 2002



TEMPERATURE AND PRECIPITATION SUMMARY
November 2002

STATES AND STATIONS		TEMP, °F		PRECIP.		STATES AND STATIONS		TEMP, °F		PRECIP.		STATES AND STATIONS		TEMP, °F		PRECIP.	
		AVERAGE	DEPARTURE	TOTAL	DEPARTURE			AVERAGE	DEPARTURE	TOTAL	DEPARTURE			AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL	BIRMINGHAM	51	-2	4.65	0.02		LEXINGTON	42	-4	4.99	1.55		COLUMBUS	41	-3	3.00	-0.19
	HUNTSVILLE	48	-3	3.95	-1.27		LONDON-CORBIN	43	-4	3.20	-0.70		DAYTON	40	-2	3.07	-0.23
	MOBILE	56	-3	4.92	-0.49		LOUISVILLE	45	-3	2.40	-1.40		MANSFIELD	38	-2	2.88	-0.88
	MONTGOMERY	53	-3	2.88	-1.65		PADUCAH	45	-2	2.61	-1.92		TOLEDO	40	0	2.60	-0.18
AK	ANCHORAGE	35	13	0.52	-0.57	LA	BATON ROUGE	57	-2	3.76	-1.00		YOUNGSTOWN	40	-1	3.17	0.10
	BARROW	7	8	0.08	-0.08		LAKE CHARLES	59	-1	5.65	1.04	OK	OKLAHOMA CITY	47	-2	0.75	-1.36
	COLD BAY	39	4	5.44	0.65		NEW ORLEANS	60	-1	5.10	0.01		TULSA	49	-1	0.48	-2.99
	FAIRBANKS	19	17	0.05	-0.63		SHREVEPORT	53	-3	3.53	-1.15	OR	ASTORIA	49	2	5.74	-4.76
	JUNEAU	40	7	7.95	2.52	ME	BANGOR	34	-3	4.64	0.95		BURNS	35	2	0.27	-0.84
	KING SALMON	35	12	1.33	-0.21		CARIBOU	28	-3	3.43	0.31		EUGENE	46	1	4.72	-3.72
	KODIAK	41	7	15.92	9.29		PORTLAND	37	-1	5.08	0.36		MEDFORD	46	2	3.42	0.49
	NOME	27	10	0.77	-0.51	MD	BALTIMORE	44	-2	3.78	0.66		PENDLETON	41	0	0.55	-1.08
AZ	FLAGSTAFF	38	1	1.48	-0.38	MA	BOSTON	43	-2	5.03	1.05		PORTLAND	48	2	1.89	-3.72
	PHOENIX	67	5	0.42	-0.31		WORCESTER	37	-3	4.39	0.05		SALEM	47	2	3.83	-2.56
	TUCSON	61	2	0.23	-0.44	MI	ALPENA	33	-2	1.32	-0.76	PA	ALLENTOWN	41	-1	3.32	-0.38
AR	FORT SMITH	49	-2	1.21	-3.59		DETROIT	39	-2	2.72	0.06		ERIE	41	-2	4.90	0.94
	LITTLE ROCK	50	-2	1.93	-3.80		FLINT	37	-1	1.38	-1.27		MIDDLETOWN	43	-1	3.77	0.25
CA	BAKERSFIELD	57	2	1.30	0.71		GRAND RAPIDS	36	-2	2.40	-0.95		PHILADELPHIA	46	-1	4.61	1.45
	EUREKA	51	0	2.66	-3.12		HOUGHTON LAKE	32	-3	0.97	-1.17		PITTSBURGH	40	-2	2.00	-1.02
	FRESNO	56	3	1.76	0.66		LANSING	36	-2	1.43	-1.23		WILKES-BARRE	40	-2	2.65	-0.47
	LOS ANGELES	64	2	1.63	0.50		MUSKEGON	38	-1	1.16	-2.07		WILLIAMSPORT	40	-1	3.29	-0.33
	REDDING	54	3	2.44	-1.59		TRAVERSE CITY	35	-2	0.83	-1.84	PR	SAN JUAN	81	1	2.65	-3.52
	SACRAMENTO	55	2	2.40	0.21	MN	DULUTH	26	-2	0.34	-1.78	RI	PROVIDENCE	43	-1	5.59	1.19
	SAN DIEGO	64	2	0.32	-0.75		INT'L FALLS	23	-1	0.22	-1.14	SC	CHARLESTON	56	-2	5.68	3.02
	SAN FRANCISCO	58	3	2.95	0.46		MINNEAPOLIS	33	0	0.09	-1.85		COLUMBIA	52	-3	2.78	-0.10
	STOCKTON	54	1	2.56	0.79		ROCHESTER	31	0	0.12	-1.89		FLORENCE	52	-3	2.77	0.18
CO	ALAMOSA	30	2	0.06	-0.42		ST. CLOUD	30	1	0.15	-1.39		GREENVILLE	49	-2	4.42	0.63
	CO SPRINGS	37	1	0.09	-0.43	MS	JACKSON	52	-3	4.18	-0.86		MYRTLE BEACH	54	-3	4.10	1.13
	DENVER	38	1	0.24	-0.36		MERIDIAN	53	-3	3.36	-1.59	SD	ABERDEEN	31	2	0.09	-0.66
	GRAND JUNCTION	38	0	0.81	0.10		TUPELO	49	-2	4.15	-0.86		HURON	33	2	0.05	-0.84
	PUEBLO	40	2	0.02	-0.56	MO	COLUMBIA	41	-2	0.92	-2.55		RAPID CITY	37	4	0.04	-0.57
CT	BRIDGEPORT	43	-2	4.13	0.48		JOPLIN	46	-1	0.56	-3.50		SIOUX FALLS	33	2	0.09	-1.27
	HARTFORD	40	-2	4.99	0.93		KANSAS CITY	42	-1	0.32	-1.98	TN	BRISTOL	44	-2	4.96	1.88
DC	WASHINGTON	47	-2	4.34	1.31		SPRINGFIELD	44	-2	0.96	-3.50		CHATTANOOGA	48	-2	5.77	0.89
DE	WILMINGTON	44	-2	4.48	1.29		ST JOSEPH	40	-2	0.35	-1.81		JACKSON	46	-4	2.88	-2.19
FL	DAYTONA BEACH	64	-3	1.85	-1.18		ST LOUIS	44	-1	1.14	-2.57		KNOXVILLE	46	-3	4.59	0.61
	FT LAUDERDALE	73	-1	3.69	-0.88	MT	BILLINGS	39	5	0.04	-0.71		MEMPHIS	49	-3	3.40	-2.36
	FT MYERS	69	-3	5.67	3.96		BUTTE	27	0	0.26	-0.34		NASHVILLE	46	-3	2.92	-1.53
	JACKSONVILLE	59	-3	2.67	0.33		GLASGOW	34	6	0.15	-0.24	TX	ABILENE	51	-3	0.93	-0.37
	KEY WEST	75	-1	1.00	-1.64		GREAT FALLS	39	7	0.27	-0.32		AMARILLO	44	-1	0.04	-0.64
	MELBOURNE	66	-3	1.94	-1.18		HELENA	35	4	0.50	0.02		AUSTIN	55	-5	3.04	0.36
	MIAMI	74	0	3.74	0.31		KALISPELL	34	3	0.73	-0.72		BEAUMONT	59	-2	2.95	-1.80
	ORLANDO	65	-4	2.32	0.00		MILES CITY	37	5	0.02	-0.50		BROWNSVILLE	66	-2	4.27	2.52
	PENSACOLA	58	-3	3.99	-0.47		MISSOULA	33	1	0.30	-0.66		COLLEGE STATION	57	-3	6.01	2.83
	ST PETERSBURG	67	-3	1.88	-0.16	NE	GRAND ISLAND	39	3	0.09	-1.32		CORPUS CHRISTI	62	-3	2.21	0.47
	TALLAHASSEE	57	-3	3.50	-0.36		HASTINGS	39	2	0.18	-1.28		DALLAS/FT WORTH	54	-1	0.52	-2.05
	TAMPA	66	-3	1.76	0.14		LINCOLN	38	0	0.24	-1.34		DEL RIO	58	-2	0.74	-0.22
	WEST PALM BEACH	71	-2	3.17	-2.38		MCCOOK	40	2	0.21	-0.88		EL PASO	52	-1	0.00	-0.42
GA	ATHENS	49	-4	4.83	1.12		NORFOLK	36	1	0.19	-1.25		GALVESTON	63	-2	2.93	-0.71
	ATLANTA	51	-2	5.35	1.25		NORTH PLATTE	37	2	0.10	-0.66		HOUSTON	59	-2	4.20	0.01
	AUGUSTA	52	-2	4.02	1.34		OMAHA/EPPLEY	38	0	0.13	-1.69		LUBBOCK	47	-1	0.38	-0.33
	COLUMBUS	53	-4	3.74	-0.23		SCOTTSBLUFF	37	3	0.23	-0.57		MIDLAND	50	-2	0.48	-0.17
	MACON	52	-3	4.28	1.06		VALENTINE	36	3	0.04	-0.68		SAN ANGELO	51	-3	0.52	-0.58
	SAVANNAH	56	-3	4.62	2.22	NV	ELKO	36	1	1.21	0.16		SAN ANTONIO	58	-2	2.08	-0.50
HI	HILO	75	1	2.86	-12.7		ELY	34	1	0.67	0.04		VICTORIA	60	-3	3.83	1.19
	HONOLULU	78	0	0.36	-1.90		LAS VEGAS	57	2	0.12	-0.19		WACO	55	-2	1.35	-1.26
	KAHULUI	75	-1	0.42	-1.75		RENO	43	2	1.08	0.28		WICHITA FALLS	51	-1	0.67	-1.01
	LIHUE	75	-1	2.50	-2.20		WINNEMUCCA	37	0	1.28	0.48	UT	SALT LAKE CITY	38	-2	0.64	-0.76
ID	BOISE	41	1	0.87	-0.51	NH	CONCORD	35	-3	5.26	1.69	VT	BURLINGTON	36	-1	3.15	0.09
	LEWISTON	42	2	0.64	-0.57	NJ	ATLANTIC CITY	44	-2	5.96	2.70	VA	LYNCHBURG	45	-2	5.40	2.22
	POCATELLO	33	-2	0.88	-0.25		NEWARK	45	-1	4.48	0.60		NORFOLK	51	-1	4.92	1.94
IL	CHICAGO/O'HARE	38	-1	1.04	-1.97	NM	ALBUQUERQUE	45	1	0.49	-0.13		RICHMOND	48	-1	4.28	1.22
	MOLINE	38	-1	0.27	-2.46	NY	ALBANY	38	-1	4.86	1.58		ROANOKE	46	-1	4.26	1.05
	PEORIA	38	-2	0.69	-2.30		BINGHAMTON	35	-3	3.22	-0.10		WASH/DULLES	44	-1	4.14	0.83
	ROCKFORD	36	-1	0.46	-2.17		BUFFALO	39	-1	3.57	-0.35	WA	OLYMPIA	45	3	3.97	-4.16
	SPRINGFIELD	40	-2	0.51	-2.36		ROCHESTER	40	0	3.11	0.27		QUILLAYUTE	48	4	14.57	-0.25
IN	EVANSVILLE	43	-3	2.40	-1.78		SYRACUSE	41	1	3.55	-0.22		SEATTLE-TACOMA	47	2	3.71	-2.19
	FORT WAYNE	38	-3	2.27	-0.71	NC	ASHEVILLE	45	-1	4.23	0.41		SPOKANE	37	2	1.65	-0.59
	INDIANAPOLIS	40	-3	2.89	-0.72		CHARLOTTE	48	-4	4.38	1.02		YAKIMA	38	1	0.46	-0.59
	SOUTH BEND	38	-2	1.91	-1.48		GREENSBORO	48	-1	4.36	1.40	WV	BECKLEY	40	-3	4.51	1.63
IA	BURLINGTON	38	-3	0.26	-2.46		HATTERAS	55	-3	5.01	0.08		CHARLESTON	44	-2	4.12	0.46
	CEDAR RAPIDS	35	-2	0.13	-2.11		RALEIGH	49	-2	3.56	0.59		ELKINS	39	-2	5.11	1.69
	DES MOINES	36	-2	0.23	-1.87		WILMINGTON	53	-3	3.08	-0.18		HUNTINGTON	44	-2	3.16	-0.16
	DUBUQUE	34	-2	0.17	-2.32	ND	BISMARCK	33	5	0.12	-0.58	WI	EAU CLAIRE	31	-1	0.07	-1.85
	SIOUX CITY	35	0	0.22	-1.18		DICKINSON	34	5	0.11	-0.48		GREEN BAY	34	0	0.44	-1.83
	WATERLOO	35	0	0.20	-1.90		FARGO	28	1	0.15	-0.91		LA CROSSE	35	0	0.55	-1.55
KS	CONCORDIA	42	1	0.03	-1.42		GRAND FORKS	26	0	0.21	-0.78		MADISON	34	-1	1.01	-1.30
	DODGE CITY	42	0	0.02	-0.99		JAMESTOWN	29	2	0.10	-0.61		MILWAUKEE	38	0	0.88	-1.82
	GOODLAND	41	4	0.06	-0.76		MINOT	30	3	0.07	-0.79		WAUSAU	31	-1	0.22	-1.98
	HILL CITY	41	1	0.18	-0.56		WILLISTON	29	3	0.26	-0.39	WY	CASPER	33	1	0.25	-0.57
	TOPEKA	42	-1	0.27	-2.04	OH	AKRON-CANTON	39	-2	4.35	1.31		CHEYENNE	35	2	0.46	-0.18
	WICHITA	44	0	0.18	-1.64		CINCINNATI	41	-4	2.29	-1.17		LANDER	29	-1	0.48	-0.51
KY	JACKSON	44	-4	3.61	-0.59		CLEVELAND	41	-1	3.65	0.27		SHERIDAN	37	6	0.71	-0.09

Based on 1971-2000 normals.

***** Not Available**.

Autumn Weather Review

Review provided by USDA/WAOB

Highlights: Autumn wetness significantly eased drought in the East but caused serious fieldwork disruptions across the South. September and early-October wetness was partly due to a large number of tropical systems in the Atlantic Basin, followed by a series of Southern storm systems associated with the evolution of warm-phase (El Niño) conditions in the central and eastern equatorial Pacific Ocean. Meanwhile, the upper Midwest recovered from early-autumn wetness, allowing summer crop harvesting to approach completion in November. The remainder of the Corn Belt experienced drier-than-normal autumn weather. Farther west, drought-reduced soil moisture reserves and frequently cool weather hindered winter wheat establishment across the northern and central High Plains and the Northwest, leaving the crop susceptible to potential winter weather extremes, such as high winds and low temperatures. In contrast, occasional showers on the southern Plains aided pastures and winter grains, but slowed summer crop harvesting. The West continued to experience a variety of drought-related problems, including limited irrigation reserves and severely stressed rangelands. A single major storm system crossed the West during the autumn, sparking beneficial precipitation from November 7-9.

Warm conditions during September were abruptly replaced by a very cold regime before the middle of October. Cold weather encompassed much of the Nation by the end of October, setting dozens of monthly record lows on the last 2 days of the month. Although mild weather eventually returned to the West, the Midwest, South, and East continued to experience below-normal temperatures through the end of autumn. Seasonal temperatures averaged near to below normal nationwide, ranging from 4°F below normal at a few locations in the northern and central Rockies to as much as 2°F above normal in California's Central Valley and the Southeast.

September: Tropical Storms Hanna and Isidore contributed to overall wet weather across the South and East, easing long-term drought but adversely affecting some unharvested summer crops. The latter storm lodged some sugarcane in southern Louisiana and unharvested rice in the Delta. Isidore also soaked and buffeted unharvested cotton in the Delta with wind gusts of 30 to 50 mph, causing some discoloration of fiber and droppage of bolls. Farther north, Midwestern corn and soybean harvests progressed with few interruptions for much of September. Toward month's end, the remnants of Isidore boosted soil moisture reserves for winter wheat emergence in the drought-affected eastern Corn Belt, while cool, wet weather slowed fieldwork in the upper Midwest. On the Plains, widespread showers caused minor fieldwork delays but provided much-needed moisture for winter wheat development. In the West, September precipitation eased long-term drought across the eastern half of the region. Dry weather farther west favored fieldwork but left newly planted Northwestern winter wheat fields in need of moisture.

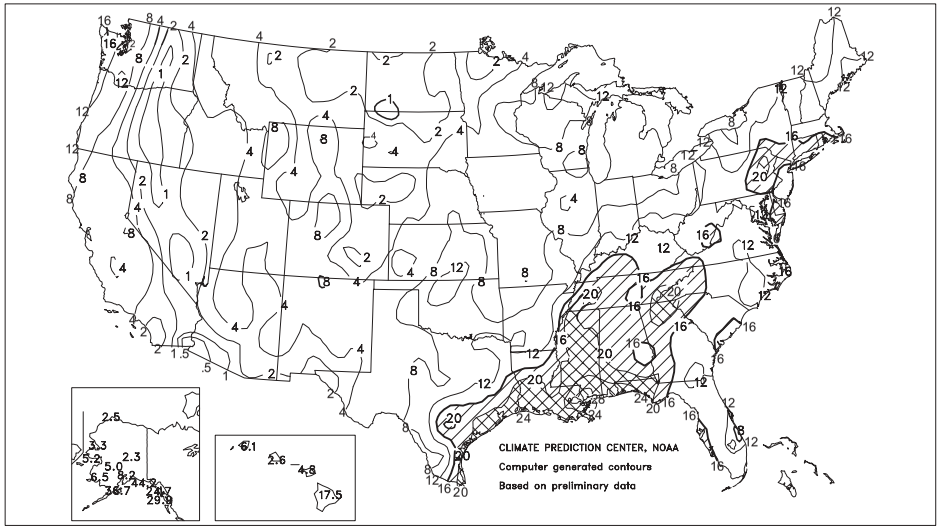
Monthly temperatures averaged generally 2 to 6°F above normal from the Midwest into the Northeast and up to 4°F above normal across the South. Readings averaged within 2°F of normal across the western half of the United States. From September 22-24, the season's first widespread freezes arrived on average a few days ahead of schedule across the northern Plains and upper Midwest, although summer crops were mature or nearly so in the affected areas.

October: Wet weather hampered fieldwork across the South and East, but further eased long-term drought in the latter region. Hurricane Lili made landfall along the Louisiana coast on October 3, moving ashore as a windier but drier system than Tropical Storm Isidore the week before. A series of storm systems followed the tropical weather, contributing to lowland flooding in the western Gulf Coast region and significant soybean and cotton harvest delays in the Delta. From Georgia to the Mid-Atlantic States, above-normal precipitation improved groundwater supplies, but a gradual drying trend prevailed across Florida's peninsula. Meanwhile, rain and snow slowed corn and soybean harvesting in the upper Midwest, but showers replenished soil moisture reserves in the Ohio Valley. A small portion of the Midwestern winter wheat area, including northern portions of Indiana and Ohio and much of lower Michigan, remained unfavorably dry by month's end. Early-season cold outbreaks halted winter wheat emergence and development across the northern and central High Plains, where a patchy snow cover provided wheat with some protection from late-month temperatures that ranged from -10 to 10°F. The combination of extremely cold weather and limited soil moisture raised concerns about the establishment and winter hardiness of the northwestern half of the Plains' wheat crop. In contrast, widespread precipitation soaked the southeastern half of the Plains, aiding pastures and winter grains but slowing fieldwork, including cotton, peanut, and sorghum harvesting. Farther west, cold, dry weather hampered the emergence and development of Northwestern winter wheat. Elsewhere in the West, cool, mostly dry weather favored autumn fieldwork, although the region continued to suffer from below-normal irrigation reserves and drought-stressed rangelands. Monthly temperatures averaged more than 10°F below normal in parts of eastern Montana and the Dakotas but were as much as 5°F above normal in the Southeast.

November: *The monthly summary begins on page 7.*

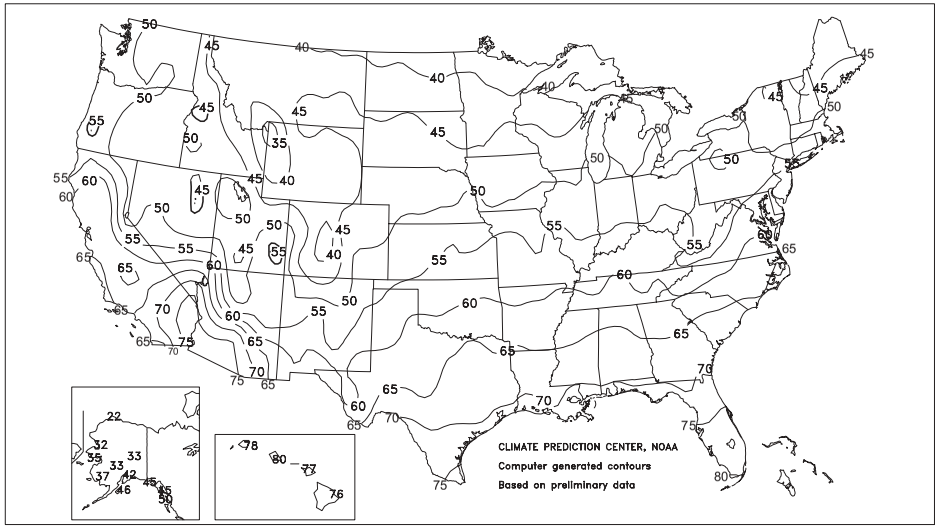
Total Precipitation (Inches)

SEP - NOV 2002



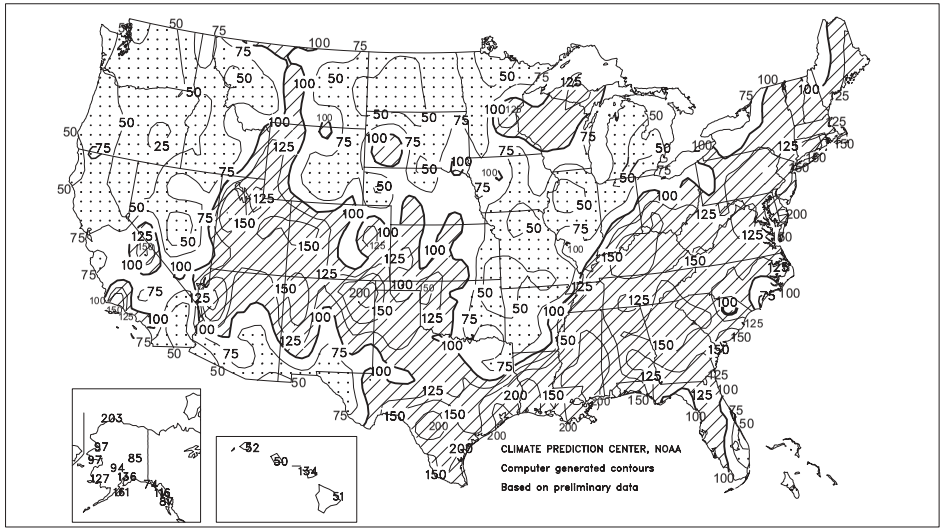
Average Temperature (°F)

SEP - NOV 2002



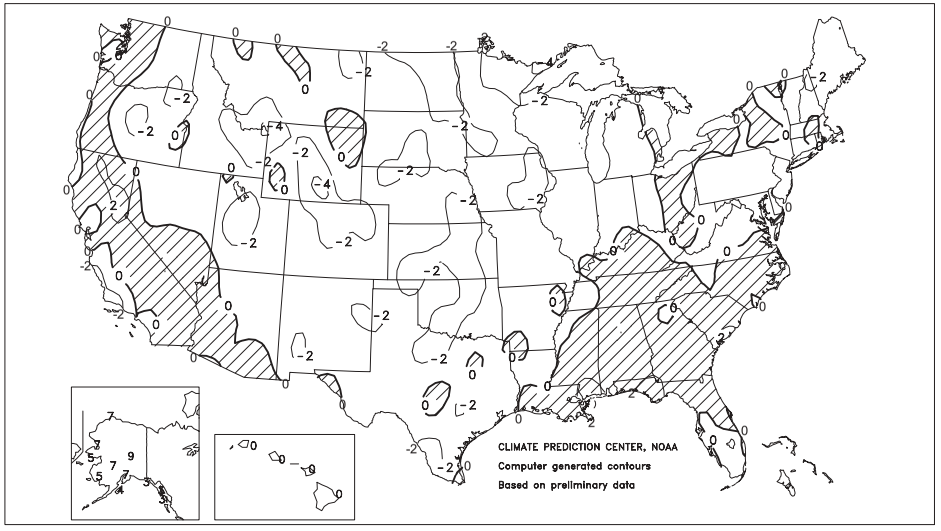
Percent Of Normal Precipitation

SEP - NOV 2002



Departure of Average Temperature from Normal (°F)

SEP - NOV 2002



TEMPERATURE AND PRECIPITATION SUMMARY
Autumn 2002

STATES AND STATIONS		TEMP, °F		PRECIP.		STATES AND STATIONS		TEMP, °F		PRECIP.		STATES AND STATIONS		TEMP, °F		PRECIP.	
		AVERAGE	DEPARTURE	TOTAL	DEPARTURE			AVERAGE	DEPARTURE	TOTAL	DEPARTURE			AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL	BIRMINGHAM	65	2	20.05	8.14		LEXINGTON	57	0	16.98	7.73		COLUMBUS	55	0	10.04	1.62
	HUNTSVILLE	63	1	13.42	0.37		LONDON-CORBIN	57	0	13.51	3.44		DAYTON	53	-1	11.36	2.69
	MOBILE	69	1	26.21	11.54		LOUISVILLE	59	0	14.86	5.22		MANSFIELD	51	0	7.28	-2.60
	MONTGOMERY	67	1	9.28	-2.05		PADUCAH	58	0	12.35	0.81		TOLEDO	53	1	6.59	-1.38
AK	ANCHORAGE	42	7	8.21	2.17	LA	BATON ROUGE	69	1	19.26	5.85		YOUNGSTOWN	51	0	7.90	-1.52
	BARROW	22	7	2.51	1.27		LAKE CHARLES	70	1	31.63	17.13	OK	OKLAHOMA CITY	59	-2	8.33	-1.40
	COLD BAY	44	3	17.41	3.57		NEW ORLEANS	72	2	29.41	15.72		TULSA	61	-1	5.05	-7.23
	FAIRBANKS	33	10	2.30	-0.42		SHREVEPORT	66	-1	11.46	-0.88	OR	ASTORIA	53	0	7.79	-10.9
	JUNEAU	45	3	24.74	3.47	ME	BANGOR	46	-2	12.02	1.46		BURNS	44	0	0.37	-1.96
	KING SALMON	42	7	8.59	2.15		CARIBOU	42	0	10.35	0.97		EUGENE	53	0	5.99	-7.34
	KODIAK	46	5	36.74	13.91		PORTLAND	49	1	12.83	0.34		MEDFORD	55	0	4.12	-0.90
	NOME	35	6	5.19	-0.18	MD	BALTIMORE	56	0	12.96	2.70		PENDLETON	51	-1	1.50	-1.75
AZ	FLAGSTAFF	47	0	7.38	1.47	MA	BOSTON	54	-1	11.90	0.66		PORTLAND	55	0	4.06	-6.08
	PHOENIX	77	3	1.29	-0.98		WORCESTER	50	0	12.76	-0.52		SALEM	54	1	5.30	-5.55
	TUCSON	71	1	2.43	-0.90	MI	ALPENA	46	0	4.77	-2.44	PA	ALLENTOWN	53	1	14.21	2.81
AR	FORT SMITH	62	0	4.36	-7.99		DETROIT	53	1	5.86	-2.30		ERIE	53	0	17.04	4.43
	LITTLE ROCK	62	-1	10.06	-3.63		FLINT	50	1	2.94	-5.81		MIDDLETOWN	55	0	13.82	3.86
CA	BAKERSFIELD	67	1	1.30	0.26		GRAND RAPIDS	49	-1	5.41	-5.02		PHILADELPHIA	58	0	14.18	4.39
	EUREKA	51	-3	2.90	-6.10		HOUGHTON LAKE	45	-1	4.74	-2.77		PITTSBURGH	53	0	8.23	-0.25
	FRESNO	66	2	1.76	-0.25		LANSING	49	0	3.29	-5.14		WILKES-BARRE	51	-1	13.48	3.48
	LOS ANGELES	65	-1	1.77	0.02		MUSKEGON	50	0	5.01	-4.54		WILLIAMSPORT	52	0	15.20	4.41
	REDDING	64	1	2.55	-4.14		TRAVERSE CITY	48	-1	4.08	-5.11	PR	SAN JUAN	82	1	14.91	-1.92
	SACRAMENTO	63	0	2.42	-1.02	MN	DULUTH	40	-2	7.37	-1.34	RI	PROVIDENCE	54	0	14.33	2.54
	SAN DIEGO	66	-1	0.67	-1.05		INT'L FALLS	38	-2	2.51	-3.86	SC	CHARLESTON	68	1	19.04	7.31
	SAN FRANCISCO	61	1	2.95	-0.78		MINNEAPOLIS	47	0	8.21	1.47		COLUMBIA	65	1	14.93	5.22
	STOCKTON	63	-1	2.56	-0.36		ROCHESTER	45	-1	5.69	-1.64		FLORENCE	65	0	8.27	-0.93
CO	ALAMOSA	43	1	2.01	-0.03		ST. CLOUD	43	-1	10.41	3.70		GREENVILLE	62	1	16.28	4.65
	CO SPRINGS	48	0	2.73	0.12	MS	JACKSON	66	1	20.98	9.29		MYRTLE BEACH	67	2	11.89	0.11
	DENVER	48	-1	1.31	-1.20		MERIDIAN	67	1	24.51	12.64	SD	ABERDEEN	43	-2	2.19	-2.00
	GRAND JUNCTION	51	-1	4.62	2.00		TUPELO	64	2	21.08	9.34		HURON	46	-1	2.70	-1.58
	PUEBLO	52	0	1.11	-0.95	MO	COLUMBIA	54	-1	6.86	-3.21		RAPID CITY	46	-1	3.24	0.16
CT	BRIDGEPORT	55	0	14.88	4.11		JOPLIN	59	0	4.51	-8.71		SIOUX FALLS	46	-1	5.33	-0.54
	HARTFORD	52	0	12.58	0.45		KANSAS CITY	55	-1	5.14	-5.13	TN	BRISTOL	58	2	11.51	3.05
DC	WASHINGTON	59	0	11.44	1.40		SPRINGFIELD	57	-1	4.82	-7.94		CHATTANOOGA	63	2	15.32	2.87
DE	WILMINGTON	56	0	14.05	3.77		ST JOSEPH	54	-2	4.71	-4.64		JACKSON	60	-1	22.58	10.43
FL	DAYTONA BEACH	74	0	8.65	-5.47		ST LOUIS	57	-1	8.36	-1.07		KNOXVILLE	61	1	15.35	5.68
	FT LAUDERDALE	79	1	12.02	-7.25	MT	BILLINGS	47	0	2.39	-0.96		MEMPHIS	63	-1	24.03	11.65
	FT MYERS	77	0	13.61	1.45		BUTTE	38	-2	1.52	-0.96		NASHVILLE	61	1	13.72	2.81
	JACKSONVILLE	71	1	14.56	0.46		GLASGOW	43	0	1.43	-0.65	TX	ABILENE	62	-3	7.35	0.24
	KEY WEST	80	0	12.21	-0.22		GREAT FALLS	44	0	2.43	-0.32		AMARILLO	55	-3	5.03	0.97
	MELBOURNE	75	0	8.70	-6.38		HELENA	45	1	1.88	-0.31		AUSTIN	67	-3	15.38	5.82
	MIAMI	80	1	10.93	-7.07		KALISPELL	42	0	2.04	-1.57		BEAUMONT	70	0	22.74	7.22
	ORLANDO	75	0	12.04	1.23		MILES CITY	46	-1	2.02	-0.82		BROWNSVILLE	76	1	18.62	7.78
	PENSACOLA	71	1	23.50	9.16		MISSOULA	44	0	1.04	-1.83		COLLEGE STATION	69	-1	16.57	5.26
	ST PETERSBURG	76	0	12.53	0.26	NE	GRAND ISLAND	50	-1	5.13	-0.22		CORPUS CHRISTI	73	0	18.08	7.37
	TALLAHASSEE	70	1	15.34	3.22		HASTINGS	50	-2	5.70	-0.17		DALLAS/FT WORTH	66	-1	8.34	-0.76
	TAMPA	76	0	11.29	0.84		LINCOLN	51	-2	6.42	-0.02		DEL RIO	70	0	9.46	4.44
	WEST PALM BEACH	78	0	8.43	-10.6		MCCOOK	52	0	3.91	0.17		EL PASO	64	0	1.57	-1.27
GA	ATHENS	63	1	15.62	4.91		NORFOLK	49	-1	4.00	-1.41		GALVESTON	73	-1	26.12	13.23
	ATLANTA	64	1	17.69	6.39		NORTH PLATTE	48	-1	3.62	0.30		HOUSTON	70	0	26.88	13.86
	AUGUSTA	65	1	13.72	4.25		OMAHA/EPPLEY	51	-1	4.21	-2.99		LUBBOCK	59	-1	7.02	2.04
	COLUMBUS	67	1	11.35	1.98		SCOTTSBLUFF	47	0	1.41	-1.62		MIDLAND	63	-1	4.07	-0.66
	MACON	66	2	12.40	3.55		VALENTINE	46	-2	1.76	-1.79		SAN ANGELO	64	-1	6.22	-0.40
	SAVANNAH	69	2	13.88	3.28	NV	ELKO	46	-1	2.36	-0.08		SAN ANTONIO	69	-1	16.74	7.30
HI	HILO	76	1	17.52	-16.8		ELY	44	-1	2.00	-0.57		VICTORIA	71	-1	16.31	4.41
	HONOLULU	80	0	2.57	-2.61		LAS VEGAS	69	1	0.75	-0.11		WACO	67	-1	13.36	4.20
	KAHULUI	77	-1	4.84	1.23		RENO	54	2	1.20	-0.47		WICHITA FALLS	62	-2	7.68	-0.30
	LIHUE	78	0	6.08	-5.56		WINNEMUCCA	47	-2	1.65	-0.34	UT	SALT LAKE CITY	51	-1	2.47	-1.83
ID	BOISE	52	0	1.57	-1.33	NH	CONCORD	48	0	11.96	1.77	VT	BURLINGTON	49	1	12.70	2.69
	LEWISTON	51	-1	1.81	-1.16	NJ	ATLANTIC CITY	56	0	15.64	6.38	VA	LYNCHBURG	57	0	12.60	2.15
	POCATELLO	45	-2	2.38	-0.61		NEWARK	57	0	14.93	3.87		NORFOLK	63	1	18.16	7.65
IL	CHICAGO/O'HARE	52	0	4.37	-4.62	NM	ALBUQUERQUE	57	0	2.56	-0.13		RICHMOND	60	1	13.25	2.61
	MOLINE	52	0	3.30	-5.39	NY	ALBANY	50	0	12.30	2.50		ROANOKE	58	1	12.48	2.27
	PEORIA	53	0	3.00	-5.87		BINGHAMTON	48	0	11.84	1.91		WASH/DULLES	56	0	12.06	1.56
	ROCKFORD	50	0	5.17	-3.50		BUFFALO	52	1	9.34	-1.61	WA	OLYMPIA	50	0	5.20	-9.15
	SPRINGFIELD	53	-2	4.89	-3.43		ROCHESTER	53	3	7.81	-1.08		QUILLAYUTE	51	1	19.50	-9.28
IN	EVANSVILLE	58	1	11.42	1.47		SYRACUSE	52	2	11.11	-0.01		SEATTLE-TACOMA	53	0	4.79	-5.93
	FORT WAYNE	52	0	6.39	-2.03	NC	ASHEVILLE	58	2	12.85	2.14		SPOKANE	46	-1	2.39	-1.67
	INDIANAPOLIS	55	0	9.23	-0.02		CHARLOTTE	61	-1	13.35	2.50		YAKIMA	48	-1	0.65	-1.32
	SOUTH BEND	52	0	4.52	-5.93		GREENSBORO	60	1	14.30	3.78	WV	BECKLEY	53	0	12.07	3.32
IA	BURLINGTON	52	-2	4.63	-4.60		HATTERAS	67	1	17.26	1.34		CHARLESTON	57	1	13.48	3.70
	CEDAR RAPIDS	49	-2	8.26	0.54		RALEIGH	61	0	16.41	6.00		ELKINS	52	1	13.37	3.27
	DES MOINES	50	-2	4.48	-3.39		WILMINGTON	66	1	9.37	-3.89		HUNTINGTON	57	1	12.62	3.77
	DUBUQUE	48	-1	7.21	-1.34	ND	BISMARCK	43	-1	1.37	-2.22	WI	EAU CLAIRE	46	0	11.01	3.11
	SIOUX CITY	48	-2	4.37	-1.44		DICKINSON	42	-2	1.27	-2.28		GREEN BAY	47	0	6.37	-1.18
	WATERLOO	49	0	4.16	-3.38		FARGO	42	-1	3.32	-1.89		LA CROSSE	48	-2	7.58	-0.08
KS	CONCORDIA	54	-1	6.43	0.64		GRAND FORKS	40	-2	2.09	-2.56		MADISON	48	0	5.85	-1.72
	DODGE CITY	54	-2	3.06	-1.10		JAMESTOWN	41	-2	2.56	-1.29		MILWAUKEE	51	0	5.33	-3.16
	GOODLAND	51	0	2.80	-0.19		MINOT	41	-2	1.19	-2.73		WAUSAU	44	-2	9.29	0.38
	HILL CITY	52	-2	4.22	-0.03		WILLISTON	39	-3	1.85	-1.02	WY	CASPER	43	-2	1.89	-1.05
	TOPEKA	55	-1	7.32	-1.69	OH	AKRON-CANTON	52	0	10.71	1.71		CHEYENNE	44	-1	3.29	0.47
	WICHITA	57	-1	9.28	2.05		CINCINNATI	55	-1	11.67	2.43		LANDER	43	-2	2.57	-0.93
KY	JACKSON	57	-1	13.48	2.33		CLEVELAND	54	2	8.67	-1.21		SHERIDAN	44	0	3.67	0.08

Based on 1971-2000 normals.

***** Not Available**.

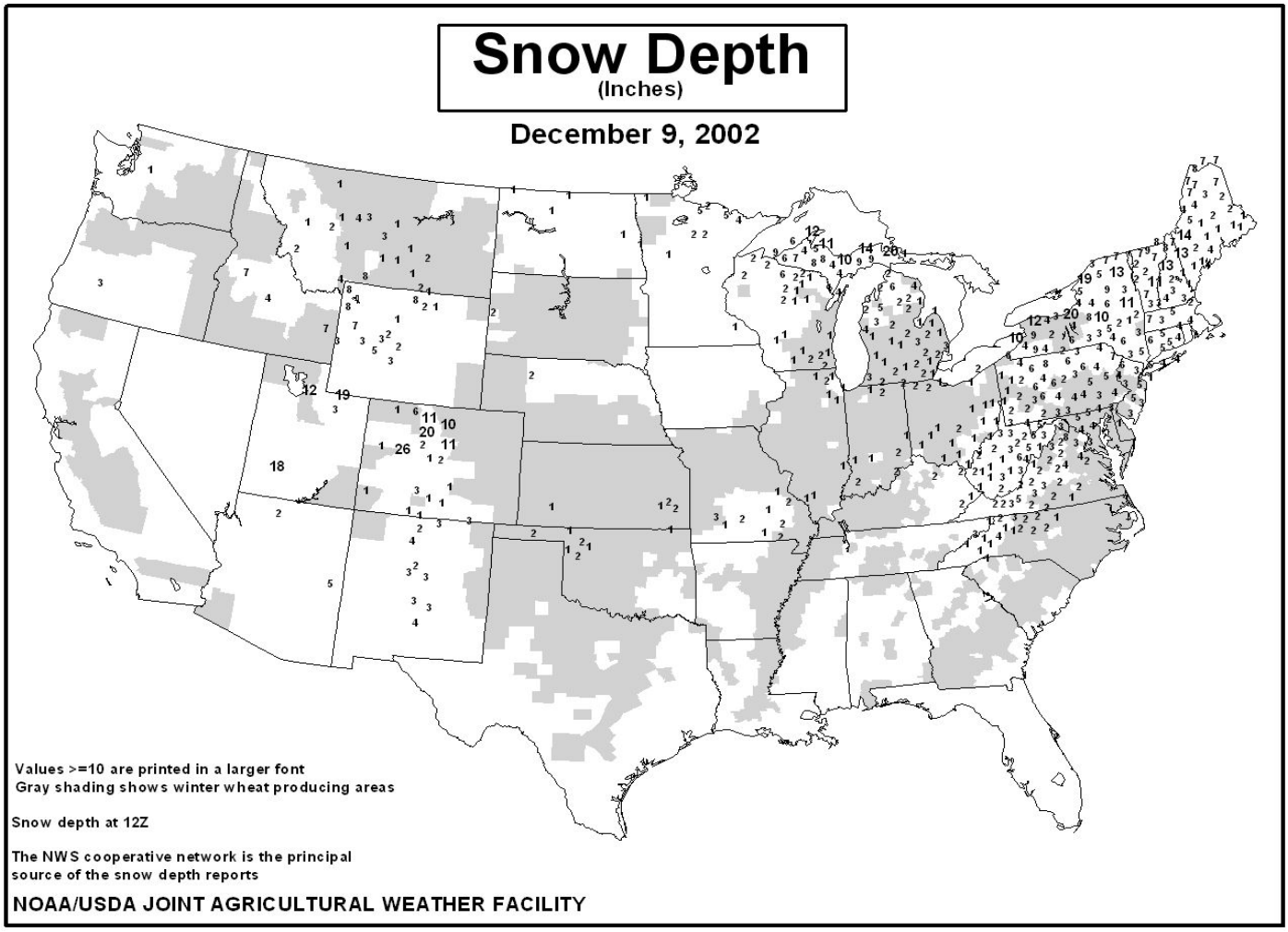
National Agricultural Summary

December 2 - 8, 2002

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

A mixture of wintery precipitation limited fieldwork and further delayed cotton harvest in the southern Great Plains and lower Mississippi Valley. In the Southeast, rain and freezing rain were widespread, but harvest and fieldwork delays were mostly brief. Cold, dry weather prevailed in the Corn Belt and adjacent parts of the Great Plains, supporting fall tillage where soils were not frozen. Afternoon temperatures were warm enough to support vegetative growth and root development of winter wheat in parts of the Great Plains and Corn Belt, but above-ground growth was mostly undetectable in many areas. In Texas, vegetative growth was limited due to below-normal temperatures. In the Southwest, above-normal temperatures promoted development of fruit and vegetable crops, winter grains, and forages, and dry weather supported orchard activities and fieldwork. Light precipitation provided beneficial moisture along coastal areas of the Pacific Northwest, but interior areas received virtually no drought relief. In Florida, frost and abnormally cold weather limited growth of forage crops in the Panhandle, but citrus trees and fruit in the Peninsula were not damaged.



International Weather and Crop Summary

December 1 - 7, 2002

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

HIGHLIGHTS

EUROPE: In southeastern and southern Europe, widespread rain boosted moisture supplies for winter grains, while colder weather prompted winter grains to enter dormancy in the northeast.

NORTHWESTERN AFRICA: In Morocco, drier weather favored winter grain planting, but heavy rain hampered planting across northeastern Algeria and northern Tunisia.

SOUTH AFRICA: Following several weeks of mostly dry weather, widespread rain covered the corn belt, favoring early summer crop growth and establishment.

MIDDLE EAST: Across western Turkey, heavy rain hampered cotton harvesting, but elsewhere in Turkey, the Middle East, and Iran, more rain was needed for winter grain development.

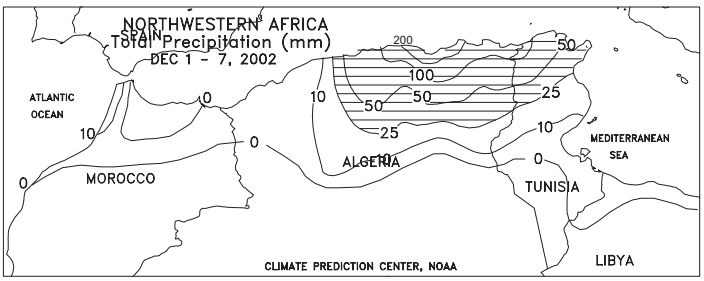
FSU-WESTERN: Bitter cold prevailed over the region early in the week, threatening winter grains in areas that lacked protective snow cover.

EASTERN ASIA: Showers benefited vegetative winter wheat in southern sections of the North China Plain.

SOUTHEAST ASIA: Showers increased moisture supplies for main-season rice throughout Java, Indonesia.

AUSTRALIA: Rainfall remained sparse in major crop-producing areas, stressing dryland summer crops, but allowing winter grain harvesting to advance without delay.

SOUTH AMERICA: Unfavorable heat and dryness returned to Brazil's northern summer crop areas, while excessive wetness persisted in the south.

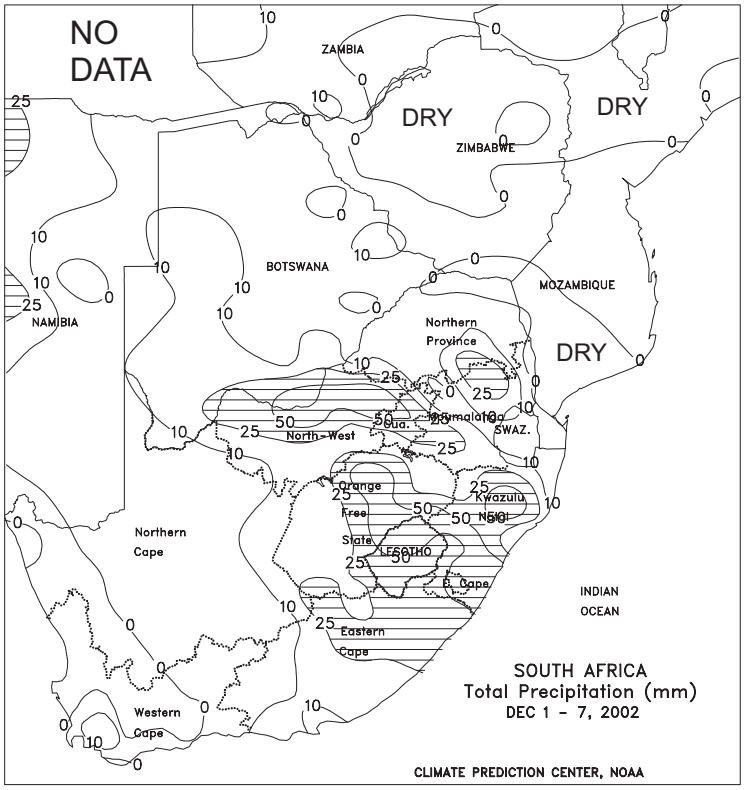


EUROPE

Across England and northern France, moderate rain (10-30 mm) maintained adequate to abundant soil moisture for vegetative winter wheat. Across Germany and Poland, drier weather (less than 10 mm; light snow by the end of week) favored winter grain establishment by easing excessive wetness and reducing disease potentials. Cold weather (temperatures 2-5 degrees C below normal) prevailed in Poland, with minimum temperatures reaching from -13 to -7 degrees C, prompting winter crops to enter dormancy. Light snow protected the dormant winter crops. The colder weather also increased winter hardiness in Germany, the Czech Republic, and Slovakia. In southeast Europe and the Balkans, a stationary storm over the eastern Mediterranean helped to produce widespread rainfall (15-100 mm or more), boosting moisture supplies for winter grains. By the end of the week, colder weather produced light snow across Romania and Bulgaria and increased winter hardiness for winter crops. The rains, however, slowed late cotton harvesting in Greece. This same storm also produced widespread rainfall (20-100 mm) across central and southern Italy, especially along the Adriatic Coast, boosting long-term moisture supplies but causing local flooding. In northern Italy, much-needed drier weather (10-30 mm) helped to ease excessive wetness and flooding. Moderate to heavy rain (25-125 mm) fell across southwestern France and northern Spain, increasing moisture supplies. Elsewhere across the Iberian peninsula, mostly dry weather favored fieldwork after several weeks of widespread beneficial rainfall. Across Europe, mild weather gave way to colder air moving westward from Russia by the end of week. Overall, temperatures averaged 1 to 4 degrees C above normal across northwestern, central, and southeastern Europe and near normal across the Iberian Peninsula.

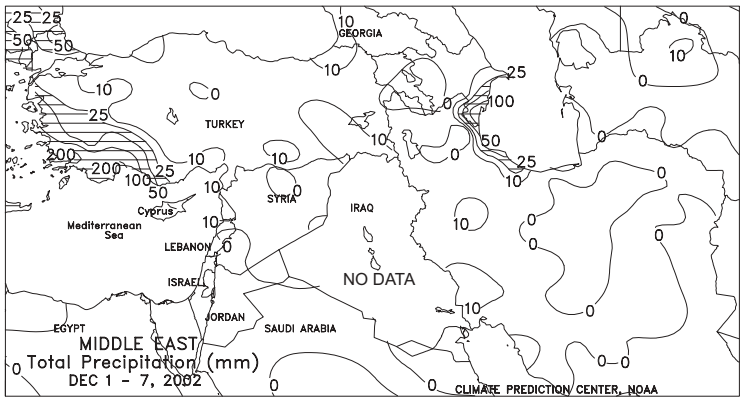
NORTHWESTERN AFRICA

In northeastern Algeria and northern Tunisia, widespread heavy rain (50-150 mm or more) hampered winter grain planting. The heaviest rain (150-300 mm or more) fell along the coastal areas, causing flooding. Typically, the planting season starts in mid-November and lasts until mid-December. Therefore, if drier weather develops, there will be time for planting or replanting to resume. Temperatures averaged near normal across the region.



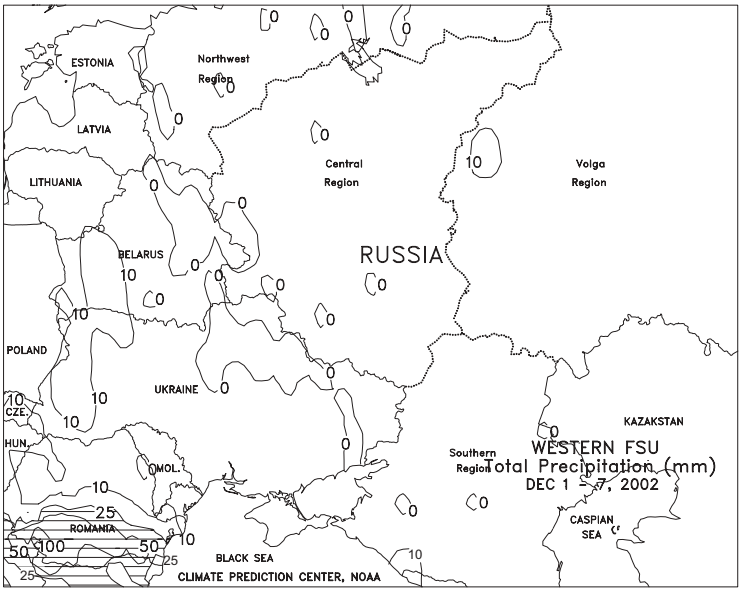
SOUTH AFRICA

After several weeks of dry weather, widespread rain (10-55 mm or more) covered the corn belt, favoring early summer crop growth and establishment. Although the rainfall interrupted fieldwork, the boost in topsoil moisture helped condition soils for additional summer crop planting. In the corn belt, temperatures averaged about 1 to 2 degrees C below normal with maximum temperatures in the lower 30s degrees C, helping to limit evaporative losses from previously dry topsoils. In Western Cape, hot, mostly dry weather spurred winter wheat harvesting.



MIDDLE EAST

Across southwestern Turkey, moderate to heavy rain (25-150 mm) hampered cotton harvesting but boosted moisture supplies for winter grain development. The heaviest rain (100-170 mm) fell along the coast, causing local flooding. Rain (10-25 mm) boosted moisture supplies across southeastern Turkey. Elsewhere in Turkey, mostly dry weather (less than 10 mm) reduced moisture supplies for rainfed winter grain establishment. Dry weather returned to the Middle East, where rain was also needed to increase moisture supplies. Despite last week's rainfall, most areas in the region have received below-normal rainfall for the season. Precipitation data from border areas of Turkey and Iran suggested that light rain fell in northern Iraq. In Iran, mostly dry weather (less than 10 mm) also reduced moisture supplies for winter grains. Only areas near the Caspian Sea received seasonally significant rainfall (10-50 mm or more). Cool weather (2-4 degrees C below normal) increased winter hardiness for Iranian winter grains. Temperatures averaged 1 to 3 degrees C above normal across Turkey and the Middle East, where temperatures were still warm enough for development, except in the mountain valleys of central and western Turkey.

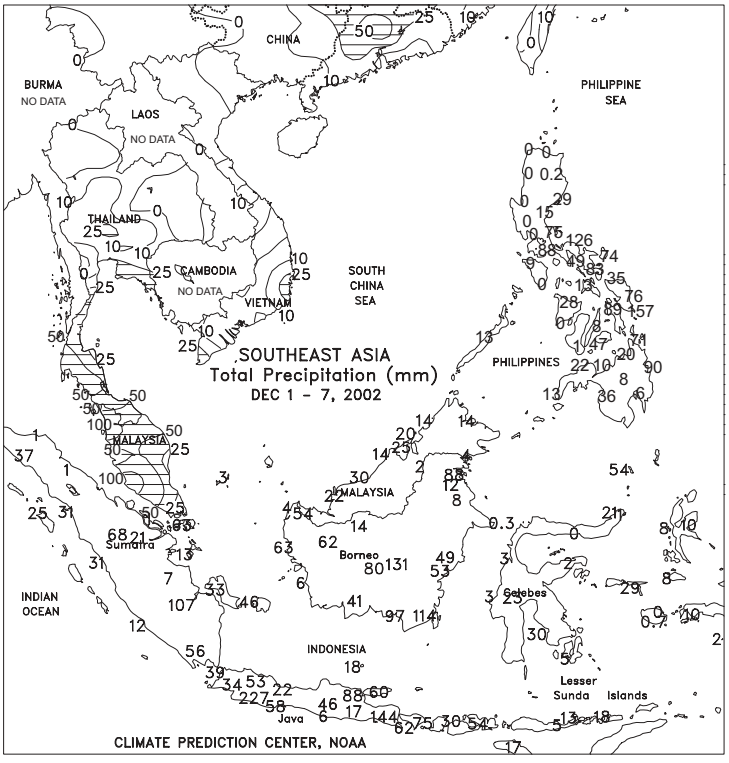


FSU-WESTERN

Unseasonably cold weather continued to prevail over winter grain areas. The lowest temperatures were observed from December 1-2. Minimum temperatures ranged from -27 to -20 degrees C in central and northern Russia, falling at or below the threshold for potential winterkill in areas without snow cover. Snow cover was reportedly thin or patchy in some areas, creating the potential for local crop damage. Farther south, temperatures ranged from -19 to -15 degrees C in major winter wheat-producing areas of eastern Ukraine and the Southern Region in Russia. Although these areas were snow-free, temperatures did not fall low enough for a sufficient duration to create the potential for significant damage. Temperatures in western and southern Ukraine ranged from -15 to -9 degrees C. Generally dry weather prevailed throughout most of the region, providing little if any additional snow cover. A brief moderation in temperatures occurred during the middle of the week, before another arctic air mass originating from Siberia moved westward into northeastern Russia at week's end. Weekly temperatures averaged 3 to 6 degrees C below normal in the Baltics, Belarus, Ukraine, and southern Russia, and 5 to 10 degrees C below normal in northern Russia. This past week's bitterly cold weather induced winter grains into dormancy as far south as the Black Sea Coast.

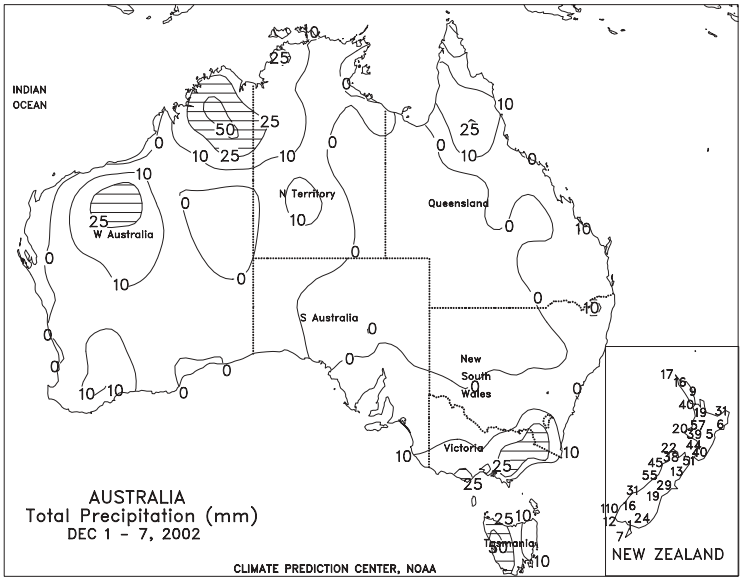
EASTERN ASIA

Unseasonable showers (10-25 mm or more, locally exceeding 50 mm) overspread central and southern China. The rain reached as far north as southern portions of the North China Plain (southern Shandong, southern Henan, Anhui, and Jiangsu), benefiting winter wheat not yet in dormancy. In southern China and the lower Yangtze River Valley, the rainfall increased long-term moisture reserves, but likely came too late to affect summer crop harvesting, except for sugarcane along the southern coast. Elsewhere, mostly dry, warmer-than-normal weather (temperatures averaging 1-3 degrees C or more above normal) dominated winter wheat areas from the Sichuan Basin northeastward to Beijing, but temperatures were low enough (averaging about 5 degrees C or less) to keep crops in a dormant to semi-dormant state. Light to moderate showers (10-25 mm or more) fell in South Korea and southern Japan, but drier weather finally brought some relief to recently wet crop areas in northern Japan.



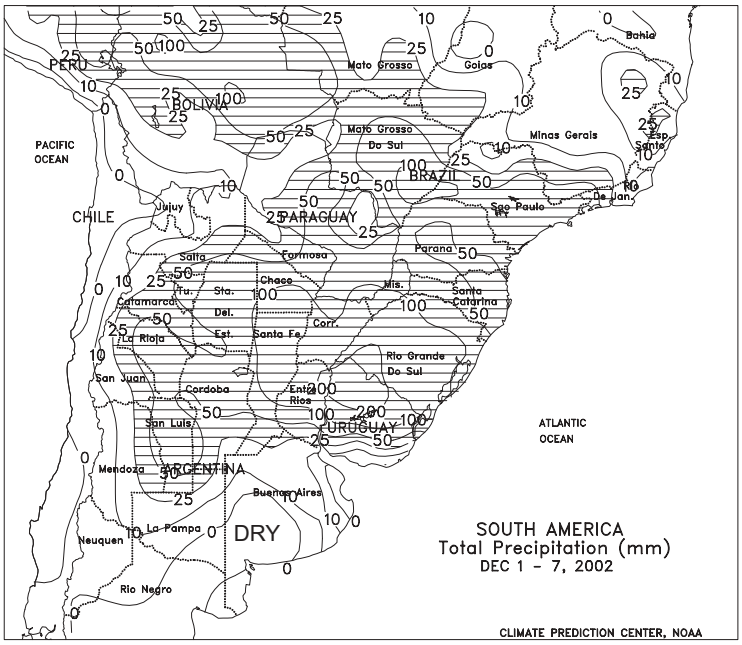
SOUTHEAST ASIA

Showers (25-50 mm) continued to increase moisture supplies for vegetative main-season rice in Java, Indonesia. Mostly dry weather prevailed in the western half of the Philippines, while locally heavy showers (50-100 mm) fell in eastern areas. Warm, dry weather favored maturing 10th month rice in southern Vietnam and preparations for second-season rice planting in Thailand.



AUSTRALIA

Hot, mostly dry (2-6 mm) weather continued to grip southern Queensland and northern New South Wales, stressing dryland cotton and sorghum and further reducing reservoir levels for irrigated summer crops. Similarly, hot, mostly dry (2-5 mm) weather prevailed across southern New South Wales, northern Victoria, and South Australia, allowing winter grain harvesting to continue without delay. In Western Australia, scattered showers (3-9 mm or more) improved local moisture supplies, but only briefly delayed winter wheat and barley harvesting. Temperatures in Western Australia, South Australia, Victoria, and southern New South Wales averaged about 1 to 2 degrees C below normal. In contrast, temperatures averaged about 1 to 3 degrees C above normal in northern New South Wales and southern Queensland, with high temperatures in the upper 30s to lower 40s degrees C. In New Zealand, widespread rain maintained moisture supplies in major agricultural areas.



SOUTH AMERICA

Drier and warmer-than-normal weather (temperatures averaging 3-5 degrees C above normal) persisted across Brazil's northern growing areas (Bahia, eastern Mato Grosso, Goias, and Minas Gerais), further reducing moisture for summer crop germination and establishment. By week's end, highs in the upper 30s degrees C extended as far south as Sao Paulo, stressing vegetative corn and soybeans, as well as coffee and citrus. Although not every location has experienced stressful growing conditions, the states affected by this season's bouts with warmth and dryness have accounted for roughly half of the nation's corn and soybean production in recent years. Elsewhere, showers (10-50 mm or more) continued from western Mato Grosso southward to Rio Grande do Sul, maintaining adequate to excessive moisture reserves for crop establishment. However, warmer-than-normal weather (temperatures averaging 1-3 degrees C above normal, with highs in the lower to middle 30s degrees C) maintained high moisture demands. Reports from the Brazilian government indicated that young soybean plants in Parana (Brazil's second largest producer) have already experienced damage from a disease outbreak induced by this season's chronic wetness. In addition, winter wheat harvesting likely progressed slowly in Rio Grande do Sul. According to independent analyst Safras e Mercado, soybeans were 90 percent planted as of December 6, compared with the 5-year average of 88 percent. Other independent sources from within Brazil indicated that corn planting was nearing completion. In Argentina, wet weather continued to dominate the main summer crop-producing areas. The heaviest rain (100 mm or more) was concentrated from eastern Santa Fe to Uruguay, likely causing local flooding and disrupting fieldwork. More moderate showers (10-50 mm) covered the northern cotton areas (Chaco and Formosa) and the western summer grain and soybean areas (Cordoba and San Luis). In contrast, mostly dry weather continued over La Pampa and Buenos Aires, including previously flooded southern wheat areas, helping to alleviate excessive moisture conditions that hinder seasonal fieldwork. According to Argentina's Agricultural Secretariat, winter wheat was 27 percent harvested as of December 6. In addition, corn, soybeans, and sunflowers were 82, 64, and 94 percent planted, respectively, as of December 6.

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