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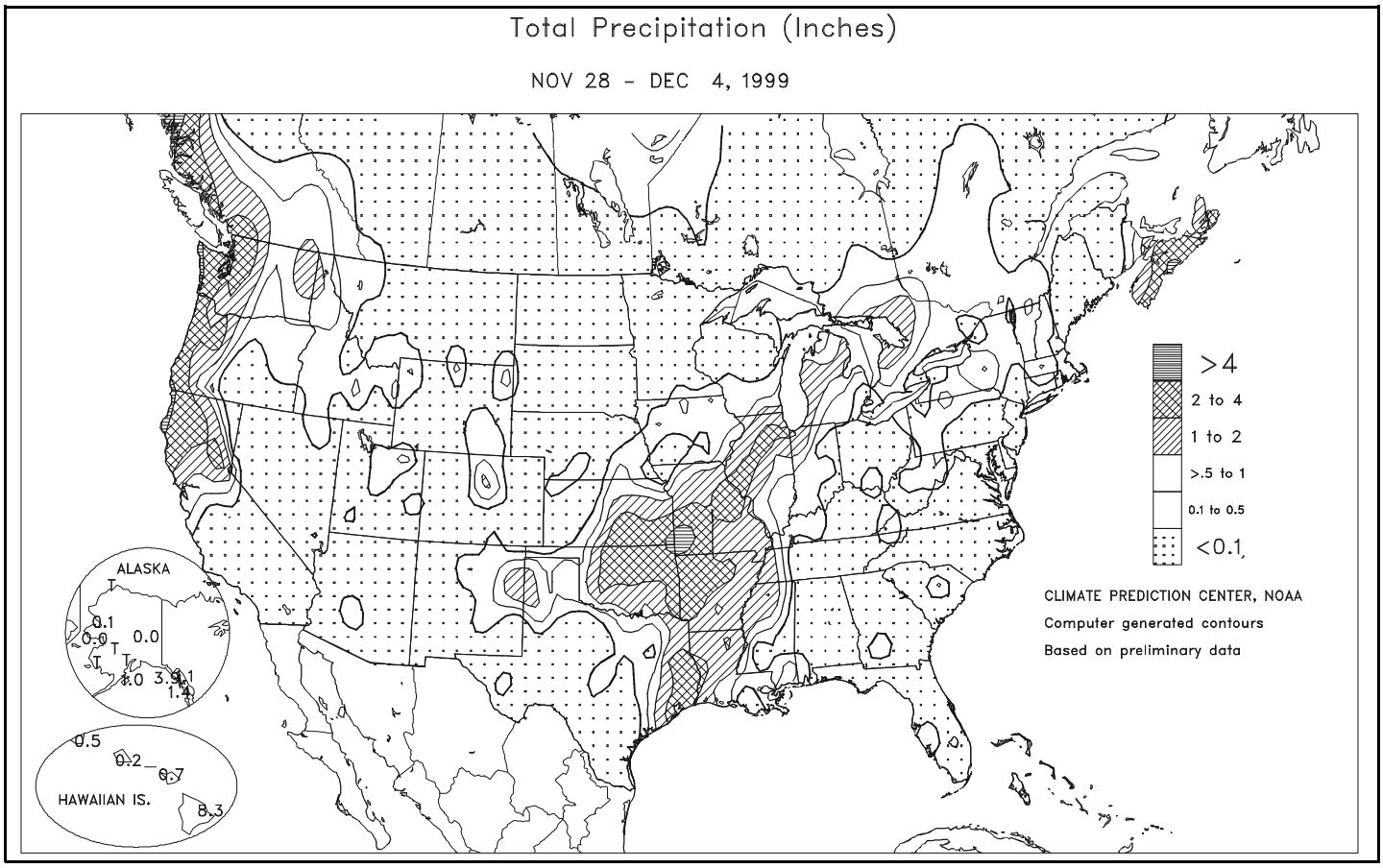
WEEKLY WEATHER AND CROP BULLETIN

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

November 28 - December 4, 1999

A late-week storm provided much-needed precipitation to winter wheat areas in parts of the **central and southern Plains**, but disrupted final cotton harvesting in the latter region. Heavy snow fell across the **central and southern Rockies**, and on the **Plains** in a swath from **northeastern New Mexico** to **northeastern Kansas**. Significant precipitation had last dampened **Texas' northern panhandle** and surrounding areas in mid-September, resulting in poor establishment for a portion of the winter wheat crop. At week's end, however, soils remained unfavorably dry south of the **Texas panhandle** and from **western Kansas northward**. Meanwhile, wet

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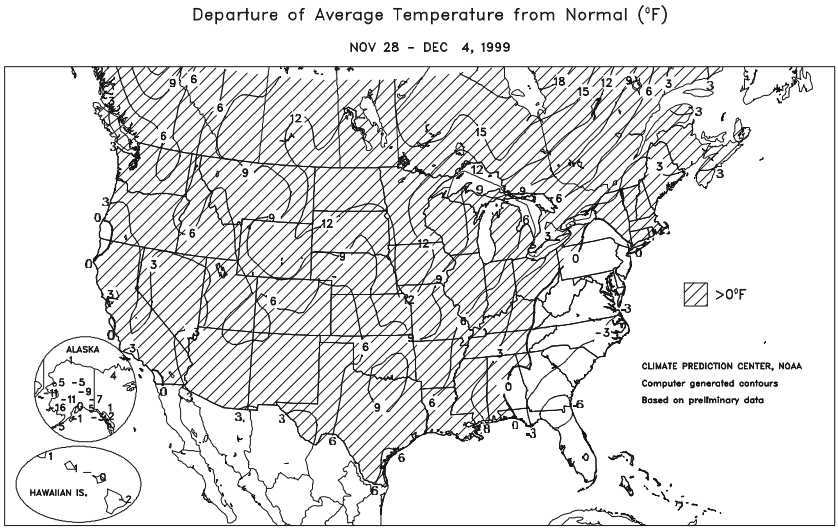
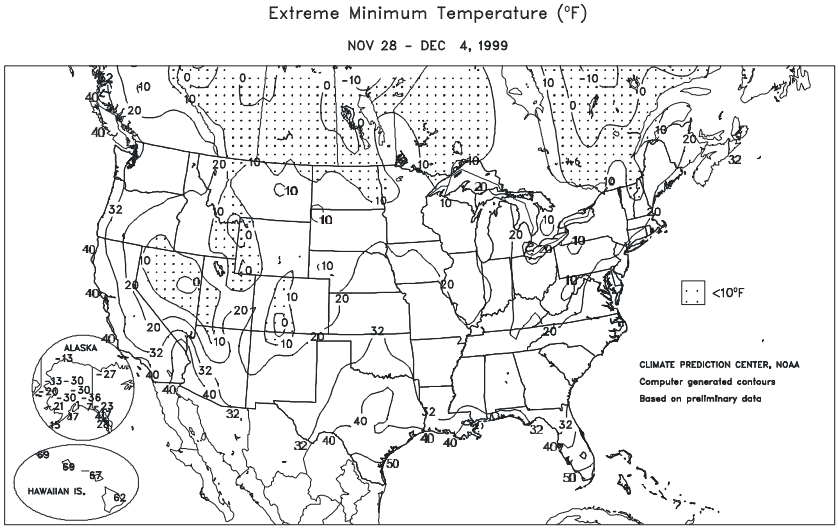
(Continued from front cover)
weather continued in the **Pacific Northwest**, especially west of the **Cascades** and **northern Sierra Nevada**. Pockets of drought lingered, however, across the **interior Northwest**. Farther east, beneficial precipitation overspread the **Midwest** and **South** at week's end, helping to recharge soil moisture and aiding fall-sown crops. Earlier in the week, a sharp but short-lived cold snap in the **East** produced a hard freeze (temperatures at or below 28°F) as far south as **northern Florida**, burning back pastures and emerging fall-sown grains and holding weekly temperatures as much as 7°F below normal. Scattered frost in **central Florida** did not adversely affect vegetables and citrus. In contrast, very warm conditions prevailed across the **Western and Central States** in advance of the late-week storm. On the **Plains**, where temperatures averaged above normal for the 6th consecutive week, departures ranged from +3 to +15°F.





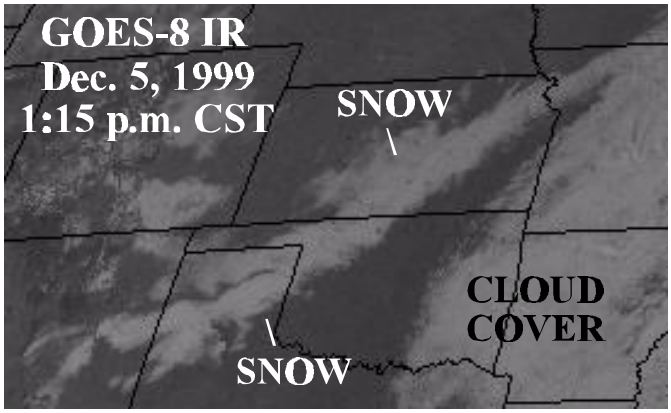
The parade of daily-record highs continued through midweek across the **Western and Central States**, boosting the Nation's November total by more than 50 to well over 800. On Monday, highs in **southern California** soared to 91°F in **Riverside** and 86°F in **Vista**. A day later, daily records included 70 °F in **Alliance, NE** and 65°F in **Wells, NV**. In contrast, the coldest air of the season spread into the **East**, where a half-dozen daily-record lows were set or tied. On Thursday, records included 20 °F in **Raleigh-Durham, NC** and 23°F in **North Myrtle Beach, SC**. In **Florida**, lows on December 2 dipped to 22 °F in **Tallahassee** and 38°F in **Lakeland**.

Mid- to late-week precipitation topped 4 inches on parts of the **Ozark Plateau**. In **southwestern Missouri**, December 1-4 rainfall reached 5.50 inches in **Joplin** and 4.04 inches in **Springfield**, bolstered by daily-record totals (3.59 and 2.81 inches, respectively) on December 4. Although **Little Rock, AR** netted 1.56 inches in early December, their year-to-date total (33.75 inches, or 74 percent of normal) remained well below normal. Similarly in **Texas**, **Houston's** weekly total of 1.52 inches boosted their year-to-date total to only 27.40 inches (63 percent of normal).

The late-week storm deposited heavy snow in the **central and southern Rockies**, then lifted northeastward across the **Plains**. In **Utah**, locally more than 1 foot of snow blanketed the **Wasatch Range**, while locally 2 feet or more buried the **southern Colorado Rockies**. On Sunday morning, December 5, snow depths in **southeastern Colorado** included 24 inches in **Rye** and 11 inches in **Walsenburg**. On the **Plains**, storm-total snowfall included 5.0 inches in **Amarillo, TX**, 6.0 inches in **Topeka, KS**, and 7.5 inches in **Wichita, KS**. Only light accumulations were noted **east of the Plains**, but locations such as **Milwaukee, WI** (a trace on December 5) and **Chicago, IL** (0.1 inch on December 5) marked their latest date of their first snowfall. In both cities, the previous record had been established on November 27, 1994.

Prior to the late-week storm system, a relatively weaker system crossed the **Central States**, sparking beneficial rainfall from the **eastern Plains** to the **Delta**. However, the system produced some severe weather, including the first December tornadoes in **Oklahoma** (at least two occurred on Thursday evening) since December 23-24, 1982.

Cold weather gripped **western and interior Alaska**, holding weekly temperatures 5 to 11°F below normal. Below-normal temperatures have prevailed in these areas during 5 of the last 6 weeks. Meanwhile in **Hawaii**, locally heavy rain soaked windward locations. On the **Big Island**, **Hilo** netted more than 8 inches during the week.



Snow Stripe: An early-December storm ended a 10-week dry spell across parts of the southern Plains. Snowfall associated with the storm was elevation-dependent on the High Plains. In the satellite image (above), the lower elevations near the Canadian River in northern Texas and northeastern New Mexico are shown to be largely snow-free as the storm shifts eastward.

National Weather Data for Selected Cities

CORRECTED Weather Data for the Week Ending December 4, 1999

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	63	37	70	27	50	1	0.02	-1.11	0.00	0.02	3	45.50	91	80	26	0	3	1	0
	HUNTSVILLE	60	35	69	24	48	1	0.05	-1.25	0.05	0.05	7	42.24	81	84	36	0	3	1	0
	MOBILE	70	43	75	33	56	0	0.37	-0.77	0.36	0.36	55	47.66	80	87	38	0	0	2	0
	MONTGOMERY	67	34	74	28	50	-3	0.00	-1.13	0.00	0.00	0	38.58	79	84	29	0	2	0	0
AK	ANCHORAGE	23	12	29	1	17	-1	0.01	-0.23	0.01	0.00	0	16.85	113	92	71	0	7	1	0
	BARROW	-2	-11	4	-13	-6	2	0.02	-0.02	0.02	0.02	100	3.72	86	77	68	0	7	1	0
	FAIRBANKS	-5	-19	3	-30	-12	-8	0.00	-0.19	0.00	0.00	0	9.80	97	82	71	0	7	0	0
	JUNEAU	35	27	39	17	31	2	1.05	0.07	0.38	0.79	139	69.01	137	97	86	0	4	6	0
	KODIAK	36	27	39	17	31	-1	1.01	-0.40	0.40	0.61	75	69.62	113	92	70	0	6	5	0
	NOME	6	-7	15	-20	-1	-11	0.00	-0.20	0.00	0.00	0	15.19	107	88	49	0	7	0	0
AZ	FLAGSTAFF	52	19	60	10	36	4	0.00	-0.52	0.00	0.00	0	16.04	77	60	17	0	7	0	0
	PHOENIX	74	48	85	38	61	4	0.00	-0.21	0.00	0.00	0	6.63	98	44	13	0	0	0	0
	TUCSON	75	43	87	25	59	4	0.00	-0.20	0.00	0.00	0	9.67	87	31	12	0	1	0	0
	YUMA	74	51	81	48	62	3	0.00	-0.08	0.00	0.00	0	4.35	157	47	21	0	0	0	0
AR	FORT SMITH	67	41	77	32	54	9	2.01	1.17	0.86	2.01	437	37.64	98	89	39	0	1	3	3
	LITTLE ROCK	65	43	73	32	54	7	1.79	0.57	1.33	1.79	263	33.98	73	86	50	0	1	3	1
CA	BAKERSFIELD	64	41	73	31	53	3	0.01	-0.14	0.01	0.01	13	5.87	114	84	39	0	1	1	0
	EUREKA	57	41	63	34	49	-1	2.89	1.38	1.33	0.40	49	36.92	114	86	68	0	0	4	2
	FRESNO	62	40	71	33	51	3	0.03	-0.30	0.03	0.03	18	6.45	69	98	50	0	0	1	0
	LOS ANGELES	66	51	70	46	59	0	0.00	-0.40	0.00	0.00	0	7.13	68	88	44	0	0	0	0
	REDDING	55	41	59	34	48	1	1.41	0.14	0.81	0.12	17	23.83	84	92	57	0	0	3	1
	SACRAMENTO	58	41	60	31	50	2	0.19	-0.41	0.16	0.02	6	11.84	77	98	59	0	1	3	0
	SAN DIEGO	67	51	74	45	59	0	0.00	-0.37	0.00	0.00	0	5.17	61	91	47	0	0	0	0
	SAN FRANCISCO	59	50	62	47	54	2	0.39	-0.29	0.18	0.15	42	15.37	91	87	61	0	0	4	0
CO	ALAMOSA	46	9	56	4	28	5	0.01	-0.09	0.01	0.01	17	7.55	105	83	27	0	7	1	0
	CO SPRINGS	49	30	62	19	39	6	0.11	0.00	0.11	0.11	183	25.13	159	79	33	0	4	1	0
	DENVER	52	27	67	12	40	6	0.19	0.01	0.17	0.19	211	20.89	141	88	34	0	5	2	0
	GRAND JUNCTION	51	28	61	24	39	5	0.06	-0.08	0.03	0.06	75	7.86	97	76	31	0	6	2	0
	PUEBLO	54	23	69	13	39	4	0.05	-0.06	0.05	0.05	83	13.85	128	79	29	0	6	1	0
CT	BRIDGEPORT	47	31	60	22	39	0	0.08	-0.78	0.08	0.08	17	38.63	100	73	41	0	5	1	0
	HARTFORD	46	28	56	19	37	2	0.03	-0.90	0.03	0.03	6	41.71	102	78	40	0	5	1	0
DC	WASHINGTON	52	34	68	26	43	-1	0.00	-0.73	0.00	0.00	0	37.74	105	64	29	0	3	0	0
DE	WILMINGTON	50	29	67	23	39	-2	0.00	-0.80	0.00	0.00	0	44.85	119	75	36	0	5	0	0
FL	DAYTONA BEACH	69	48	76	39	59	-3	0.03	-0.56	0.03	0.03	9	44.80	98	86	49	0	0	1	0
	JACKSONVILLE	66	38	76	26	52	-6	0.00	-0.55	0.00	0.00	0	40.72	83	95	39	0	2	0	0
	KEY WEST	75	66	77	61	70	-3	0.00	-0.52	0.00	0.00	0	46.40	123	81	54	0	0	0	0
	MIAMI	76	60	80	52	68	-3	0.00	-0.44	0.00	0.00	0	61.88	114	78	46	0	0	0	0
	ORLANDO	71	49	78	39	60	-5	0.00	-0.52	0.00	0.00	0	52.10	113	88	46	0	0	0	0
	PENSACOLA	68	46	74	39	57	0	0.00	-0.88	0.00	0.00	0	43.14	74	79	38	0	0	0	0
	TALLAHASSEE	68	31	76	22	50	-6	0.00	-1.07	0.00	0.00	0	47.53	78	91	25	0	4	0	0
	TAMPA	72	49	78	40	61	-3	0.00	-0.47	0.00	0.00	0	33.30	79	85	40	0	0	0	0
	WEST PALM	75	58	79	48	66	-3	0.00	-0.76	0.00	0.00	0	61.01	104	82	49	0	0	0	0
GA	ATHENS	62	34	71	25	48	-1	0.00	-0.89	0.00	0.00	0	38.86	84	79	28	0	3	0	0
	ATLANTA	61	37	69	29	49	1	0.00	-0.95	0.00	0.00	0	36.81	78	74	31	0	3	0	0
	AUGUSTA	63	28	74	21	46	-5	0.00	-0.65	0.00	0.00	0	35.72	86	96	27	0	5	0	0
	COLUMBUS	65	37	72	30	51	-1	0.00	-1.03	0.00	0.00	0	26.07	56	76	27	0	2	0	0
	MACON	64	31	74	24	48	-4	0.00	-0.83	0.00	0.00	0	34.57	85	93	31	0	4	0	0
	SAVANNAH	65	32	75	23	49	-6	0.00	-0.58	0.00	0.00	0	48.18	103	95	32	0	4	0	0
HI	HILO	77	65	79	62	71	-2	8.30	5.10	4.23	7.69	442	110.4	93	96	72	0	0	7	4
	HONOLULU	82	72	83	69	77	1	0.23	-0.57	0.12	0.21	46	9.77	52	81	60	0	0	4	0
	KAHULUI	80	69	81	67	75	1	0.65	-0.03	0.31	0.46	121	7.89	44	87	58	0	0	6	0
	LIHUE	79	72	80	69	75	1	0.51	-0.69	0.27	0.10	15	29.40	76	82	65	0	0	5	0
ID	BOISE	48	33	60	24	40	6	0.21	-0.12	0.20	0.21	117	7.90	72	84	47	0	5	2	0
	LEWISTON	48	37	51	30	42	5	0.29	0.01	0.16	0.17	106	10.71	94	90	59	0	2	3	0
	POCATELLO	44	23	62	8	33	4	0.09	-0.17	0.08	0.09	64	10.08	90	90	46	0	6	2	0
IL	CHICAGO/O'HARE	48	33	58	19	41	9	1.26	0.60	1.12	1.26	350	36.86	109	82	49	0	4	2	1
	MOLINE	49	30	61	14	40	8	0.79	0.24	0.51	0.79	255	32.22	87	86	51	0	4	2	1
	PEORIA	51	32	62	17	42	9	1.53	0.91	1.39	1.53	437	29.22	86	82	48	0	4	2	1
	ROCKFORD	46	29	57	16	38	8	0.78	0.24	0.54	0.78	260	36.62	106	89	56	0	4	2	1
	SPRINGFIELD	52	34	63	14	43	8	1.10	0.45	0.94	1.10	289	27.82	85	81	47	0	4	2	1
IN	EVANSVILLE	54	35	64	21	45	5	0.27	-0.62	0.16	0.27	54	34.46	86	84	43	0	4	2	0
	FORT WAYNE	47	32	59	21	40	6	0.09	-0.60	0.08	0.09	23	26.47	82	85	54	0	5	2	0
	INDIANAPOLIS	51	33	61	22	42	6	0.08	-0.72	0.05	0.08	17	29.91	81	92	53	0	5	2	0
	SOUTH BEND	49	35	60	26	42	8	0.31	-0.49	0.16	0.27	59	28.14	78	88	53	0	4	3	0
IA	BURLINGTON	49	31	62	17	40	7	0.70	0.20	0.63	0.70	250	34.92	102	83	49	0	4	2	1
	CEDAR RAPIDS	48	31	58	17	39	10	0.28	-0.15	0.16	0.28	117	31.97	99	89	57	0	4	2	0
	DES MOINES	51	35	59	27	43	12	0.10	-0.25	0.09	0.10	53	31.23	98	83	52	0	3	1	0
	DUBUQUE	46	30	57	18	38	10	0.31	-0.25	0.20	0.31	103	34.51	94	85	55	0	4	2	0
	SIOUX CITY	47	32	53	24	39	11	0.12	-0.07	0.09	0.10	91	30.41	121	89	63	0	3	4	0
	WATERLOO	47	32	56	17	39	12	0.13	-0.22	0.12	0.13	65	43.53	134	83	50	0	4	2	0
KS	CONCORDIA	51	35	59	26	43	9	0.44	0.22	0.34	0.44	338	25.51	91	88	58	0	2	3	0
	DODGE CITY	54	30	65	22	42	5	0.15	-0.02	0.15	0.15	167	21.21	101	95	47	0	6	1	0
	GOODLAND	51	25	69	15	38	5	0.07	-0.05	0.05	0.07	117	20.09	113	92	47	0	6	2	0
	TOPEKA	56	39	65	27	48	12	0.42	0.05	0.33	0.42	200	33.68	99	87	55	0	1	2	0

Based on 1961-90 normals

CORRECTED Weather Data for the Week Ending December 4, 1999

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	40	66	32	48	10	2.27	1.96	1.73	2.27	133	43.71	154	83	58	0	1	3	2
KY	JACKSON	52	35	64	22	44	2	0.04	-0.99	0.04	0.04	7	37.59	82	70	31	0	4	1	0
	LEXINGTON	51	33	65	18	42	1	0.02	-0.88	0.02	0.02	4	29.61	72	81	43	0	4	1	0
	LOUISVILLE	54	38	64	25	46	5	0.19	-0.70	0.13	0.19	38	35.63	86	83	44	0	3	2	0
	PADUCAH	57	38	68	21	48	6	0.26	-0.85	0.21	0.26	41	37.31	82	84	41	0	3	2	0
LA	BATON ROUGE	72	45	81	29	59	3	0.19	-0.99	0.16	0.19	28	42.46	76	91	40	0	1	2	0
	LAKE CHARLES	73	49	79	34	61	5	1.19	0.09	0.64	1.18	187	34.02	67	95	50	0	0	4	2
	NEW ORLEANS	71	50	79	40	61	4	0.06	-1.18	0.06	0.06	8	42.59	75	87	43	0	0	1	0
	SHREVEPORT	71	46	78	31	59	7	1.76	0.76	0.98	1.76	320	52.48	123	86	38	0	1	3	2
ME	CARIBOU	34	19	41	10	27	5	0.00	-0.80	0.00	0.00	0	35.74	106	88	54	0	7	0	0
	PORTLAND	42	28	49	21	35	3	0.01	-1.16	0.01	0.01	2	38.51	95	77	40	0	6	1	0
MD	BALTIMORE	51	29	68	22	40	-1	0.00	-0.78	0.00	0.00	0	41.11	109	78	32	0	5	0	0
MA	BOSTON	46	33	51	23	39	0	0.01	-0.97	0.01	0.01	2	36.38	96	65	35	0	3	1	0
	WORCESTER	42	29	50	17	35	2	0.07	-0.92	0.07	0.07	13	38.88	88	77	41	0	4	1	0
MI	ALPENA	42	29	54	15	35	6	0.88	0.37	0.77	0.85	304	19.80	73	87	55	0	4	4	1
	GRAND RAPIDS	47	33	57	22	40	8	0.49	-0.25	0.27	0.49	120	30.77	92	84	53	0	4	2	0
	HOUGHTON LAKE	41	31	51	22	36	8	0.74	0.24	0.55	0.70	250	26.74	101	89	60	0	5	3	1
	LANSING	46	31	58	19	39	7	0.17	-0.43	0.09	0.17	52	26.74	93	89	61	0	4	2	0
	MUSKEGON	47	37	55	26	42	9	0.70	-0.03	0.37	0.68	166	28.29	94	88	56	0	3	3	0
	TRAVERSE CITY	44	34	54	25	39	8	0.64	0.12	0.34	0.56	200	29.36	105	83	53	0	4	3	0
MN	DULUTH	36	23	42	15	30	10	0.00	-0.33	0.00	0.00	0	38.67	134	90	63	0	7	0	0
	INT'L FALLS	37	20	47	10	29	14	0.07	-0.13	0.05	0.07	64	28.84	122	91	66	0	6	2	0
	MINNEAPOLIS	43	29	50	21	36	11	0.00	-0.29	0.00	0.00	0	30.17	110	82	52	0	4	0	0
	ROCHESTER	42	28	48	18	35	11	0.01	-0.28	0.01	0.00	0	37.06	129	89	64	0	5	1	0
	ST. CLOUD	42	23	49	13	32	11	0.00	-0.22	0.00	0.00	0	25.86	97	89	53	0	7	0	0
MS	JACKSON	67	41	73	27	54	3	0.06	-1.23	0.04	0.06	8	40.52	81	94	41	0	2	2	0
	MERIDIAN	68	37	74	26	52	1	0.00	-1.28	0.00	0.00	0	33.96	66	92	34	0	4	0	0
	TUPELO	64	39	71	27	51	4	0.23	-1.11	0.16	0.23	29	46.54	92	82	35	0	2	2	0
MO	COLUMBIA	55	37	66	25	46	9	2.32	1.68	2.00	2.32	644	27.09	73	84	50	0	3	3	1
	KANSAS CITY	55	39	63	30	47	11	0.85	0.46	0.72	0.85	386	38.90	107	80	53	0	1	2	1
	SAINT LOUIS	55	39	66	23	47	8	0.42	-0.36	0.26	0.42	95	32.62	93	80	49	0	2	2	0
	SPRINGFIELD	60	39	68	27	49	9	4.05	3.22	2.81	4.05	862	38.85	96	84	46	0	2	3	2
MT	BILLINGS	48	28	65	18	38	9	0.00	-0.17	0.00	0.00	0	12.74	89	81	37	0	5	0	0
	BUTTE	42	17	58	1	29	8	0.01	-0.10	0.01	0.01	17	11.15	95	91	41	0	7	1	0
	GLASGOW	40	24	50	15	32	11	0.01	-0.06	0.01	0.01	20	14.38	135	94	67	0	7	1	0
	GREAT FALLS	47	28	63	21	38	10	0.00	-0.17	0.00	0.00	0	12.41	86	76	40	0	4	0	0
	KALISPELL	40	27	45	19	33	7	0.04	-0.32	0.03	0.03	14	13.09	87	94	65	0	6	2	0
	MILES CITY	42	27	49	20	34	10	0.00	-0.13	0.00	0.00	0	11.05	82	97	61	0	7	0	0
	MISSOULA	40	26	47	16	33	6	0.01	-0.21	0.01	0.00	0	11.67	94	92	60	0	6	1	0
NE	GRAND ISLAND	46	30	53	25	38	8	0.03	-0.17	0.02	0.03	27	26.09	107	94	65	0	6	2	0
	LINCOLN	50	33	57	21	42	11	0.23	-0.01	0.23	0.23	177	26.92	98	92	58	0	2	1	0
	NORFOLK	46	30	53	23	38	10	0.06	-0.13	0.06	0.06	55	24.98	102	91	63	0	5	1	0
	NORTH PLATTE	47	23	60	14	35	6	0.00	-0.13	0.00	0.00	0	19.30	102	96	48	0	7	0	0
	OMAHA	51	34	59	23	42	11	0.28	0.00	0.28	0.28	175	38.43	133	93	60	0	2	1	0
	SCOTTSBLUFF	46	23	61	11	35	5	0.00	-0.14	0.00	0.00	0	16.74	113	91	49	0	7	0	0
	VALENTINE	47	26	63	13	36	9	0.00	-0.11	0.00	0.00	0	19.28	108	88	54	0	5	0	0
NV	ELY	49	18	62	-1	34	5	0.01	-0.14	0.01	0.01	11	6.44	68	73	21	0	6	1	0
	LAS VEGAS	62	43	69	39	52	3	0.00	-0.09	0.00	0.00	0	3.73	98	39	20	0	0	0	0
	RENO	53	27	67	17	40	5	0.00	-0.22	0.00	0.00	0	4.33	65	72	26	0	6	0	0
	WINNEMUCCA	49	19	63	3	34	1	0.00	-0.22	0.00	0.00	0	5.37	72	80	34	0	7	0	0
NH	CONCORD	41	26	48	16	33	3	0.09	-0.71	0.09	0.09	20	38.81	115	82	41	0	5	1	0
NJ	NEWARK	49	33	62	23	41	0	0.10	-0.76	0.09	0.09	19	41.92	102	65	33	0	3	2	0
NM	ALBUQUERQUE	55	33	65	28	44	5	0.01	-0.09	0.01	0.01	17	8.27	98	63	26	0	3	1	0
NY	ALBANY	40	26	47	17	33	0	0.52	-0.21	0.49	0.49	120	37.69	112	89	53	0	5	2	0
	BINGHAMTON	38	24	50	13	31	-1	0.17	-0.57	0.12	0.12	29	31.15	91	87	50	0	6	2	0
	BUFFALO	42	31	55	16	36	2	0.11	-0.80	0.08	0.08	16	31.99	90	85	48	0	4	3	0
	ROCHESTER	42	28	54	14	35	1	0.51	-0.16	0.27	0.01	3	31.11	105	89	51	0	4	3	0
	SYRACUSE	38	25	51	12	32	-2	0.51	-0.31	0.22	0.12	26	29.84	82	92	65	0	5	3	0
NC	ASHEVILLE	55	29	67	22	42	-1	0.00	-0.83	0.00	0.00	0	37.88	85	80	28	0	5	0	0
	CHARLOTTE	58	31	68	20	45	-2	0.00	-0.76	0.00	0.00	0	33.15	83	79	29	0	4	0	0
	GREENSBORO	56	32	69	22	44	0	0.00	-0.72	0.00	0.00	0	40.65	102	70	28	0	3	0	0
	HATTERAS	54	43	63	35	48	-5	0.00	-1.06	0.00	0.00	0	49.19	94	75	50	0	0	0	0
	RALEIGH	57	31	72	20	44	-2	0.00	-0.71	0.00	0.00	0	48.36	125	78	30	0	4	0	0
	WILMINGTON	60	36	72	26	48	-4	0.00	-0.78	0.00	0.00	0	69.98	137	79	32	0	3	0	0
ND	BISMARCK	44	19	50	13	32	12	0.00	-0.11	0.00	0.00	0	26.28	175	95	60	0	7	0	0
	DICKINSON	45	23	56	16	34	12	0.00	-0.08	0.00	0.00	0	17.89	113	95	56	0	7	0	0
	FARGO	41	21	50	7	31	12	0.00	-0.14	0.00	0.00	0	24.95	132	87	57	0	6	0	0
	GRAND FORKS	40	20	50	5	30	13	0.00	-0.14	0.00	0.00	0	21.39	120	88	59	0	6	0	0
	JAMESTOWN	41	21	50	9	31	12	0.00	-0.11	0.00	0.00	0	22.25	135	93	60	0	6	0	0
	WILLISTON	42	20	50	6	31	12	0.15	0.04	0.15	0.15	250	14.80	113	95	61	0	7	1	0
OH	AKRON-CANTON	44	30	60	17	37	1	0.06	-0.67	0.04	0.02	5	34.01	99	87	58	0	5	2	0
	CINCINNATI	50	30	63	18	40	2	0.10	-0.69	0.07	0.10	23	29.03	75	88	46	0	5	2	0
	CLEVELAND	46	33	61	20	40	4	0.14	-0.62	0.08	0.14	33	29.12	86	81	49	0	5	2	0
	COLUMBUS	47	30	60	18	39	2	0.00	-0.74	0.00	0.00	0	24.89	70	82	43	0	5	0	0
	DAYTON	48	31	60	19	39	2	0.02	-0.71	0.01	0.01	2	27.40	80	82	46	0	5	2	0
	MANSFIELD	45	30	60	15	38	3	0.02	-0.79	0.01	0.01	2	31.53	85	83	48	0	5	2	0

Based on 1961-90 normals

CORRECTED Weather Data for the Week Ending December 4, 1999

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	47	32	60	15	39	6	0.09	-0.63	0.07	0.09	22	27.35	90	83	44	0	4	2	0
	YOUNGSTOWN	43	27	58	10	35	0	0.12	-0.61	0.06	0.09	22	39.69	114	85	47	0	5	3	0
OK	OKLAHOMA CITY	62	39	70	31	51	7	1.95	1.59	0.92	1.95	975	37.62	117	85	47	0	1	3	2
	TULSA	62	41	68	32	52	9	3.34	2.73	1.68	3.34	101	46.41	120	85	44	0	1	3	3
OR	ASTORIA	57	44	62	37	50	6	3.39	0.92	0.99	2.16	158	77.55	136	95	66	0	0	6	3
	BURNS	42	23	51	12	33	5	0.20	-0.09	0.11	0.17	106	6.90	77	91	50	0	6	3	0
	EUGENE	49	35	53	30	42	-1	0.93	-1.14	0.60	0.70	62	39.55	94	97	75	0	3	5	1
	MEDFORD	51	34	64	26	43	3	0.71	-0.09	0.41	0.42	95	16.10	101	99	57	0	2	4	0
	PENDLETON	47	34	50	30	40	3	0.56	0.16	0.30	0.39	177	8.80	83	93	68	0	3	4	0
	PORTLAND	52	40	55	33	46	4	0.59	-0.81	0.30	0.44	56	36.02	116	96	63	0	0	6	0
	SALEM	50	37	55	33	44	2	1.47	-0.13	0.89	1.14	128	42.54	128	97	72	0	0	5	1
PA	ALLENTOWN	47	27	61	20	37	0	0.03	-0.84	0.03	0.03	6	37.62	93	81	42	0	5	1	0
	ERIE	45	34	58	21	40	3	0.11	-0.81	0.09	0.10	19	36.82	96	78	47	0	4	3	0
	MIDDLETOWN	50	29	65	23	40	1	0.01	-0.79	0.01	0.01	2	35.88	95	71	33	0	5	1	0
	PHILADELPHIA	50	32	65	23	41	0	0.01	-0.79	0.01	0.01	2	45.48	118	67	36	0	4	1	0
	PITTSBURGH	45	29	61	15	37	1	0.12	-0.55	0.08	0.10	26	34.03	99	86	42	0	5	4	0
	WILKES-BARRE	41	26	54	16	34	-1	0.11	-0.55	0.08	0.08	22	34.24	101	80	42	0	5	3	0
	WILLIAMSPORT	43	27	55	19	35	-1	0.04	-0.76	0.02	0.02	5	42.91	113	86	44	0	5	2	0
RI	PROVIDENCE	47	32	57	24	39	1	0.00	-1.04	0.00	0.00	0	39.89	96	70	34	0	3	0	0
SC	BEAUFORT	63	36	72	26	49	-6	0.00	-0.63	0.00	0.00	0	47.53	98	87	34	0	2	0	0
	CHARLESTON	62	35	72	27	49	-5	0.00	-0.64	0.00	0.00	0	40.96	84	81	29	0	3	0	0
	COLUMBIA	62	31	71	22	46	-4	0.00	-0.72	0.00	0.00	0	28.57	61	91	28	0	3	0	0
	GREENVILLE	59	36	69	24	48	1	0.00	-0.89	0.00	0.00	0	33.29	70	69	27	0	3	0	0
SD	ABERDEEN	42	23	53	13	33	11	0.00	-0.11	0.00	0.00	0	22.11	122	96	61	0	6	0	0
	HURON	44	25	49	16	35	11	0.00	-0.11	0.00	0.00	0	16.69	85	92	59	0	6	0	0
	RAPID CITY	49	28	64	16	39	11	0.00	-0.11	0.00	0.00	0	18.75	116	85	44	0	6	0	0
	SIOUX FALLS	45	24	50	20	35	11	0.00	-0.20	0.00	0.00	0	21.17	91	91	58	0	6	0	0
TN	BRISTOL	52	27	62	16	39	-3	0.00	-0.74	0.00	0.00	0	33.81	90	84	32	0	5	0	0
	CHATTANOOGA	61	34	69	25	48	3	0.00	-1.17	0.00	0.00	0	45.64	93	84	30	0	2	0	0
	KNOXVILLE	55	31	66	24	43	-1	0.00	-0.99	0.00	0.00	0	47.82	111	83	35	0	4	0	0
	MEMPHIS	63	43	70	31	53	5	0.62	-0.73	0.34	0.62	81	41.42	88	74	38	0	2	2	0
	NASHVILLE	58	36	70	23	47	2	0.03	-1.04	0.03	0.03	5	38.34	89	82	43	0	3	1	0
TX	ABILENE	69	44	80	38	57	8	0.00	-0.26	0.00	0.00	0	16.42	70	79	33	0	0	0	0
	AMARILLO	58	31	68	28	45	5	0.30	0.19	0.30	0.30	500	26.36	137	92	31	0	5	1	0
	AUSTIN	76	47	83	34	61	6	0.20	-0.27	0.20	0.20	74	24.83	82	98	38	0	0	1	0
	BEAUMONT	75	52	80	41	63	6	1.17	0.06	0.61	1.17	192	33.77	64	91	52	0	0	2	2
	BROWNSVILLE	81	59	85	51	70	5	0.05	-0.24	0.04	0.01	6	22.72	89	97	52	0	0	2	0
	CORPUS CHRISTI	79	55	84	48	67	6	0.01	-0.28	0.01	0.00	0	29.03	100	97	52	0	0	1	0
	DEL RIO	77	47	86	42	62	7	0.00	-0.15	0.00	0.00	0	15.31	86	87	33	0	0	0	0
	EL PASO	65	37	73	31	51	4	0.00	-0.11	0.00	0.00	0	7.50	90	58	26	0	3	0	0
	FORT WORTH	71	51	79	43	61	10	0.31	-0.13	0.31	0.31	124	21.47	67	82	41	0	0	1	0
	GALVESTON	73	60	76	50	67	7	1.95	1.13	1.69	1.94	422	29.66	76	94	64	0	0	4	1
	HOUSTON	76	50	80	38	63	6	1.52	0.70	1.07	1.52	330	27.60	64	93	51	0	0	3	1
	LUBBOCK	62	36	69	31	49	5	0.28	0.15	0.22	0.28	350	19.41	107	80	26	0	2	2	0
	MIDLAND	67	37	76	32	52	4	0.00	-0.13	0.00	0.00	0	6.69	46	70	25	0	2	0	0
	SAN ANGELO	72	45	82	37	58	8	0.00	-0.19	0.00	0.00	0	13.39	68	78	33	0	0	0	0
	SAN ANTONIO	76	49	83	43	63	7	0.02	-0.42	0.02	0.02	9	16.22	55	95	36	0	0	1	0
	VICTORIA	79	52	83	45	65	6	0.23	-0.26	0.20	0.22	81	24.99	70	95	45	0	0	3	0
	WACO	73	49	82	39	61	9	0.16	-0.32	0.13	0.16	59	17.88	59	89	43	0	0	2	0
	WICHITA FALLS	70	42	81	35	56	9	0.35	0.05	0.33	0.35	206	29.14	105	86	48	0	0	2	0
UT	SALT LAKE CITY	48	27	63	12	38	4	0.47	0.15	0.22	0.47	247	12.29	82	90	42	0	6	3	0
VT	BURLINGTON	37	26	45	15	32	3	0.19	-0.46	0.09	0.18	50	31.61	98	86	54	0	4	3	0
VA	LYNCHBURG	55	27	71	18	41	-2	0.00	-0.73	0.00	0.00	0	37.38	98	83	32	0	5	0	0
	NORFOLK	53	38	70	30	46	-2	0.00	-0.68	0.00	0.00	0	53.73	129	67	37	0	3	0	0
	RICHMOND	55	32	72	24	43	-1	0.00	-0.72	0.00	0.00	0	46.50	115	72	29	0	4	0	0
	ROANOKE	56	33	73	24	44	2	0.00	-0.69	0.00	0.00	0	33.72	87	67	31	0	3	0	0
	WASH/DULLES	52	29	66	23	41	1	0.00	-0.76	0.00	0.00	0	40.91	109	81	30	0	5	0	0
WA	OLYMPIA	49	36	52	29	43	3	2.10	0.17	0.80	1.39	131	57.06	131	99	76	0	2	7	2
	QUILLAYUTE	52	39	61	32	46	4	5.26	1.69	1.99	3.68	183	115.3	126	98	74	0	1	7	4
	SEATTLE-TACOMA	52	39	59	34	46	4	1.12	-0.30	0.35	0.63	80	37.58	117	94	58	0	0	6	0
	SPOKANE	41	31	45	21	36	6	1.12	0.56	0.83	1.00	323	13.59	95	97	72	0	5	4	1
	YAKIMA	49	28	52	22	38	5	0.05	-0.25	0.04	0.00	0	5.78	86	94	54	0	5	2	0
WV	BECKLEY	47	28	64	17	37	-1	0.10	-0.62	0.10	0.10	24	33.88	89	80	35	0	5	1	0
	CHARLESTON	51	27	67	17	39	-2	0.04	-0.78	0.04	0.04	9	34.65	88	95	37	0	6	1	0
	ELKINS	46	20	63	8	33	-3	0.24	-0.56	0.19	0.20	43	34.57	83	94	42	0	6	4	0
	HUNTINGTON	51	31	64	18	41	0	0.16	-0.62	0.06	0.09	20	31.11	81	85	33	0	4	3	0
WI	EAU CLAIRE	43	24	52	11	34	10	0.00	-0.29	0.00	0.00	0	29.14	95	85	52	0	6	0	0
	GREEN BAY	43	27	55	13	35	9	0.29	-0.14	0.26	0.29	126	23.29	85	88	53	0	4	2	0
	LA CROSSE	45	31	50	18	38	11	0.27	-0.07	0.26	0.27	142	33.40	113	84	48	0	3	2	0
	MADISON	45	30	55	13	38	10	0.46	-0.01	0.28	0.46	170	31.46	107	84	53	0	4	2	0
	MILWAUKEE	46	33	57	21	40	10	0.43	-0.15	0.32	0.43	130	37.07	120	80	53	0	4	2	0
WY	CASPER	49	26	63	21	38	11	0.05	-0.12	0.03	0.05	56	8.90	74	78	31	0	6	2	0
	CHEYENNE	50	29	62	16	39	8	0.18	0.07	0.13	0.18	300	16.11	115	79	34	0	5	3	0
	LANDER	47	26	63	15	37	12	0.03	-0.12	0.03	0.03	38	13.63	109	83	33	0	6	1	0
	SHERIDAN	48	23	71	14	36	10	0.00	-0.17	0.00	0.00	0	12.74	92	90	40	0	7	0	0

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

November Weather and Crop Summary

Weather

A remarkably warm, dry pattern that stressed developing winter wheat in the Plains, Ohio Valley, and South began to break down toward month's end. Nevertheless, no rain fell during November in the southern Plains or the Southwest, and totals greater than one-half inch were scarce on the Plains except from eastern Nebraska southward into eastern Texas. In contrast, a month-long spell of heavy precipitation kept the Northwest wet, especially from the Cascades and northern Sierra Nevada westward to the coast. The 9-month drought persisted in the interior Northwest, however, primarily from southeastern Oregon and southern Idaho southward into the northern Great Basin. Farther east, drought stretched through a 16th month in much of the middle and lower Ohio Valley, despite beneficial late-month showers. Meanwhile, a fourth consecutive month of extremely dry weather left topsoils parched from central and eastern Texas to the Delta.

Fueled by an early- to mid-month warm spell that produced well over 800 daily-record highs and more than six dozen monthly record highs, November temperatures averaged above normal nearly nationwide. Monthly departures ranged from +4 to +12 °F on the Plains and +4 to +8°F in the Midwest. Well-above-normal temperatures were also observed elsewhere, except along the Gulf Coast, where near-normal readings prevailed.

The extended warm spell pushed temperatures into the 90's degrees F across the Desert Southwest, including a high of 97 °F at Organ Pipe Cactus National Monument on November 15. Kennebec, SD notched a high of 89°F on November 8, setting a State record for the month. Similarly, several locations in Iowa reported highs of 83°F on November 8 and 13, tying the State record. For the month as a whole, record or near-record warmth was observed in many locations:

Highest November Average Temperature (°F)

Location	Avg.	Dep.	Former Record/Year
Phoenix, AZ	68.0	+ 6.1	66.6 in 1995
Tulsa, OK	57.7	+ 7.8	57.3 in 1931
Ok. City, OK	56.8	+ 7.2	56.3 in 1965
Wichita, KS	53.3	+ 8.6	51.2 in 1913
Topeka, KS	51.3	+ 8.3	50.0 in 1913
Des Moines, IA	47.4	+ 8.4	46.6 in 1913
Omaha, NE	47.0	+ 8.0	not available
Goodland, KS	46.4	+ 7.7	46.0 in 1914
Sioux City IA	44.1	+ 7.7	43.4 in 1899
Huron, SD	42.3	+ 9.9	41.0 in 1899
Sioux Falls, SD	42.1	+ 9.1	41.6 in 1899
Minneapolis, MN	41.8	+ 8.6	41.2 in 1899
Glasgow, MT	39.9	+10.7	38.8 in 1962
Marquette, MI	37.2	+ 7.7	34.6 in 1963

Warmest November (°F) in Selected Locations Since...

Location	Avg.	Dep.	Warmest Since...
Lincoln, NE	46.6	+ 7.8	46.7 in 1899
Boise, ID	46.9	+ 7.0	47.4 in 1904
Fayetteville, AR	57.2	+ 9.2	61.4 in 1909
Ft. Smith, AR	57.3	+ 6.7	57.8 in 1913
Aberdeen, SD	38.7	+ 8.4	40.7 in 1923
Little Rock, AR	58.5	+ 6.7	58.5 in 1931
Indianapolis, IN	48.8	+ 5.8	50.7 in 1931
LaCrosse, WI	43.0	+ 7.4	43.2 in 1931
Rochester, MN	40.1	+ 7.5	40.3 in 1931
Duluth, MN	36.2	+ 7.8	36.2 in 1931
Wichita Falls, TX	59.0	+ 6.6	59.2 in 1942
Burlington, VT	42.5	+ 5.7	44.4 in 1948
Denver, CO	47.1	+ 9.5	50.9 in 1949
Sheridan, WY	42.4	+ 9.9	45.4 in 1949
Amarillo, TX	52.3	+ 6.3	52.5 in 1965
Lubbock, TX	54.4	+ 4.6	55.6 in 1966
Harrisburg, PA	49.3	+ 4.9	50.0 in 1975
Int'l Falls, MN	33.5	+ 8.6	34.9 in 1981

Little Rock, AR and Shreveport, LA received 95 percent of their possible sunshine during November. In Illinois, Chicago experienced their sunniest November on record (73 percent of the possible time), surpassing the record of 67 percent set in 1914 and 1938. Chicago's November normal is 38 percent.

On November 19, streaks without measurable precipitation ended at 41 days in Sioux City, IA and 33 days in Peoria, IL. Peoria's previous longest dry spell on record was 32 days, set in November-December 1904. Despite the rain, Peoria's monthly precipitation totaled only 0.22 inch (8 percent of normal), capping their driest September-November (3.11 inches) on record. In Nebraska, dry spells were halted on November 22 at 49 days in Lincoln--their longest since September-November 1952--and 45 days at Omaha (Valley). On the same day in Illinois, Moline's third-longest dry spell, from October 17 to November 21, ended at 36 days. Also on November 22, Green Bay, WI netted 1.50 inches, their greatest single-day rainfall since September 26, 1998. For Iowa as a whole, the last full week of November featured above-normal precipitation, ending a dry spell that had spanned 7 consecutive weeks and 12 of the previous 13 weeks. Across the southern Plains and Southwest, however, the dry spell persisted through month's end. November 30 was the 67th consecutive day without measurable precipitation in Flagstaff, AZ, their sixth longest such streak on record, and 32nd consecutive day in Amarillo, TX.

Record-Low November Precipitation (Inches)

Location	Total	Normal	Previous Record/Year
Abilene, TX	0.00	1.48	0.00 in 1949
Lubbock, TX	0.00	0.75	0.00 in 1960
Midland, TX	0.00	0.69	0.00 in 1950
Amarillo, TX	0.00	0.69	0.00 in 1989
Int'l Falls, MN	trace	1.15	trace in 1924
Fargo, ND	trace	0.73	trace in 1901
Aberdeen, SD	trace	0.59	trace in 1980

Driest November (Inches) in Selected Locations Since...

Location	Total	Normal	Driest Since...
Evansville, IN	0.51	3.73	0.25 in 1912
Del Rio, TX	trace	0.92	0.00 in 1917
Indianapolis, IN	0.69	3.23	0.12 in 1917
Williston, ND	0.01	0.45	trace in 1949
New Orleans, LA	0.28	4.42	0.21 in 1949
Little Rock, AR	0.50	5.16	0.28 in 1949
Shreveport, LA	0.52	4.45	0.37 in 1949
Ok. City, OK	0.06	1.98	0.04 in 1955
Wichita Falls, TX	trace	1.54	trace in 1965
Austin, TX	0.08	2.89	trace in 1970
San Antonio, TX	0.05	2.62	0.02 in 1988

In addition, monthly precipitation was a trace or less from southeastern California and southern Nevada eastward to the southern Rockies. Long stretches of autumn dryness in the Southwest, while rare, occur much more frequently than on the Plains. Phoenix, AZ noted no rainfall during 13 other Novembers this century, but had never before recorded no precipitation during October and November.

Farther north, heavy precipitation fell in and west of the Cascades. In western Washington, monthly rainfall reached 11.91 inches (148 percent of normal) in Olympia and 9.60 inches (165 percent) in Seattle. Astoria, OR received 15.88 inches (158 percent of normal). Dry pockets lingered, however, east of the Cascades and Sierra

Nevada.

Long-term drought remained most significant in the Ohio Valley and across the South between the Rockies and the Delta. Warm weather exacerbated the effects of drought in Texas. Austin-Bergstrom, TX had 18 days with highs at or above 80°F (including 16 in a row from November 4-19) breaking their November 1950 record of 14 days. Del Rio, TX established a record with 15 November days at or above 80°F and tied another with 28 days at or above 70°F. Del Rio's previous records had been set in 1909 (14 days) and 1927 (28 days). In San Antonio, where January-November precipitation totaled 16.06 inches (55 percent of normal), 1999 could become the driest year since only 14.31 inches fell in 1956.

Hurricane Lenny became only the fifth Atlantic Basin storm in November to achieve Category 3 or 4 status (maximum sustained winds above 110 mph) on the Saffir-Simpson Scale. While nearing and passing just south of St. Croix (U.S. Virgin Islands) on November 17, Lenny's maximum sustained winds briefly peaked near 155 mph. Lenny was also unusual for its nearly unprecedented east- to northeastward track across the Caribbean Sea. Although Lenny remained more than 100 miles south and east of Puerto Rico, locally excessive rain (10 to 16 inches) inundated the eastern highlands. Official peak wind gusts on November 17 reached 39 mph in San Juan, PR; 70 mph at King Airport on St. Thomas, VI; and 92 mph at Hamilton Airport on St. Croix. An unofficial gust to 112 mph was clocked at Maria Hill on St. Croix.

Very cold weather prevailed across interior and western Alaska, holding monthly temperatures 2 to 8°F below normal. Temperatures averaged 7.4°F below normal in Fairbanks--their coldest November since 1990--including a low of -30°F on the 30th. In addition, Fairbanks' 6.9-inch snowfall on November 20-21 was their greatest 24-hour total since 1996. In the Aleutians, Cold Bay (2.0°F below normal) registered an 11th consecutive month of below-normal temperatures. Very stormy weather persisted across southeastern Alaska, leading to Juneau's record-setting 48 consecutive days (September 29 - November 15) with measurable rain. The previous record, 32 days, had been established in 1943-44. Juneau also noted 59 consecutive days (September 29 - November 26) with at least a trace of rain, and their latest hard freeze (28°F on November 26) on record. Their former latest first hard freeze (a temperature at or below 28°F) occurred on November 14, 1952.

In Hawaii, rainfall returned to well-below-normal levels in most areas, as drought stretched past the 2-year mark. On Oahu, only 0.21 inch (7 percent of normal) fell in Honolulu, leaving their 25-month rainfall (November 1997 - November 1999) at 14.84 inches, or 32 percent of normal.

Fieldwork

Dry weather provided excellent conditions for finishing the row crop harvest, completing fall tillage, and applying fertilizer. Moisture shortages steadily increased, hindering winter wheat germination and growth, although record warmth stimulated development where adequate moisture was available. After mid-month, dry soils forced some producers in the southern Great Plains and Southeast to delay planting of winter grains. A wet weather pattern developed in the Pacific Northwest, ending drought conditions along the coast and easing dry conditions in some inland areas. In the Atlantic Coastal Plains, the harvest pace gradually accelerated, as wet weather ended and a favorably dry pattern began.

By November 14, the Nation's corn harvest was 98 percent complete, more than 1 week ahead of last year's 93-percent pace and 2 weeks ahead of the 91-percent average for this date. Early in the month, harvest slowed in the Corn Belt, as progress neared completion in most areas. The end of the harvest season approached far ahead of normal in the eastern Corn Belt, and well ahead of normal in the western Corn Belt. As of November 7, harvest progress was more than 30 percentage points ahead of normal in Michigan, and more than 20 percentage points ahead of normal in Indiana, Ohio, and Wisconsin. Harvest accelerated in Colorado, South Dakota, and Pennsylvania early in the month and remained active through mid-month, as dry weather aided progress.

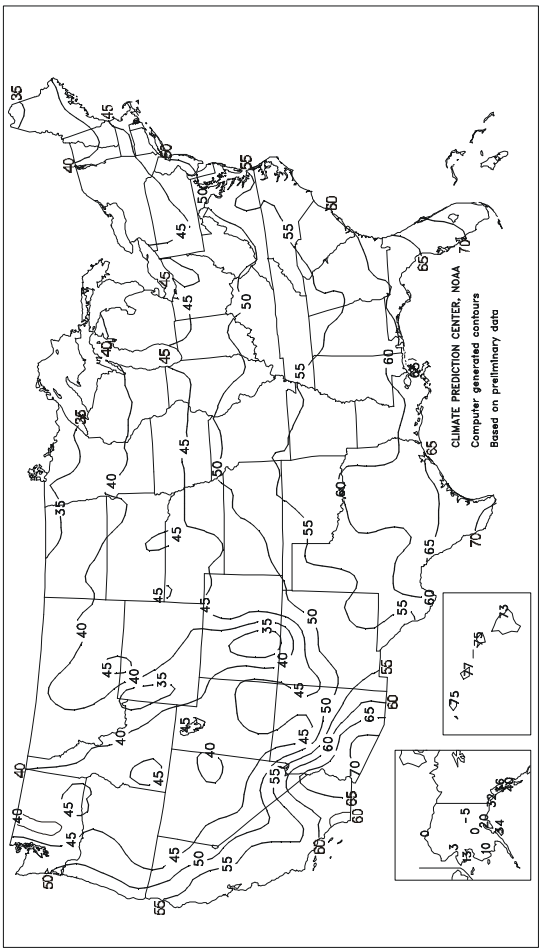
Ninety-seven percent of the soybean crop was harvested by November 14, slightly ahead of last year's 96-percent pace and more than a week ahead of the 94-percent average for this date. The harvest pace slowed dramatically in the Corn Belt, where most of the acreage was harvested by the beginning of the month. Harvest activity remained brisk in the Mississippi Delta, where warm weather quickly ripened double-cropped and other late-planted fields. On November 7, progress was well ahead of normal along the Ohio, Tennessee, and Mississippi River Valleys. In the Atlantic Coastal Plains, harvest gained momentum as a dry weather pattern emerged and soils gradually dried. The end of the harvest season approached well ahead of normal in Tennessee and Kentucky.

Nearly two-thirds of the cotton was picked when the month began, behind last year's pace, but ahead of the average for this date. In Arkansas, Missouri, and Tennessee, harvest rapidly neared completion early in the month. On November 7, progress was more than 30 percentage points ahead of normal in Oklahoma and 15 percentage points ahead of normal in California. Picking was active in the southern Great Plains, Southwest, and Southeast early in the month, but lagged well behind normal in North Carolina, New Mexico, and Arizona. Dry weather aided harvesting in New Mexico, where the pace accelerated and advanced to near normal by mid-month. As the month progressed, picking gradually accelerated in the Southeast, but progress remained far behind normal in North Carolina. In Texas, picking steadily progressed, but the harvest pace lagged behind the 5-year average. Harvest activity diminished in Oklahoma near mid-month, as the season advanced well beyond the peak. By November 28, 88 percent of the crop was harvested, compared with 90 percent last year and the normal pace of 87 percent.

Ninety-five percent of the winter wheat acreage was planted by November 14, equal to last year's pace and the 5-year average. By mid-month, planting was complete in the Corn Belt and central and northern Great Plains. Dry weather aided sowing in Arkansas, Missouri, and Oregon early in the month, while increasing moisture shortages limited planting progress in Texas, especially after mid-month. The planting pace was also slow in North Carolina, where sowing was delayed while farmers concentrated on harvesting other crops. Planting was nearly complete in the Pacific Northwest and Mississippi Delta by mid-month, but remained active in the Southeast and California after mid-month. Ninety-one percent of the acreage was emerged on November 28, 3 percentage points behind last year and the 5-year average. Soft red winter wheat rapidly emerged in the eastern Corn Belt early in the month, despite increasing moisture shortages. Emergence lagged behind normal in Oregon and Texas due to dry soils. Poor stands and slow growth limited livestock grazing in Kansas, Oklahoma, and Texas. Conditions deteriorated in Montana, Nebraska, and South Dakota due to a combination of moisture shortages and record heat. Unseasonable warmth, usually beneficial to crop growth, aided insect populations and promoted disease development in the central and southern Great Plains.

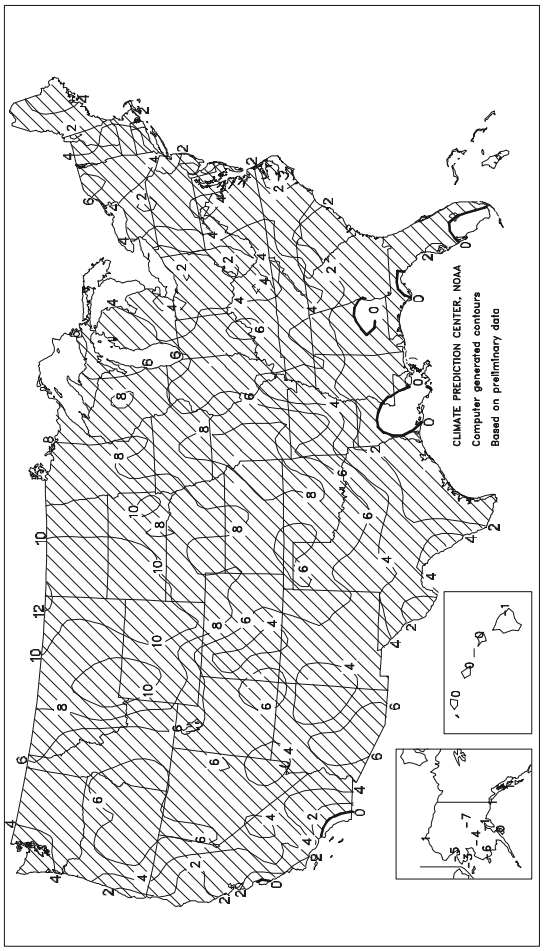
Average Temperature (°F)

NOV 1999



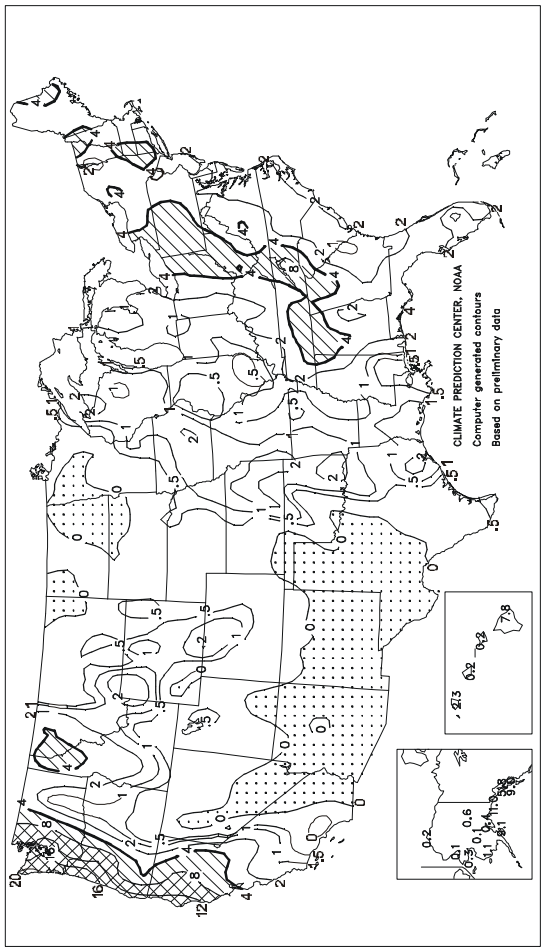
Departure of Average Temperature from Normal (°F)

NOV 1999



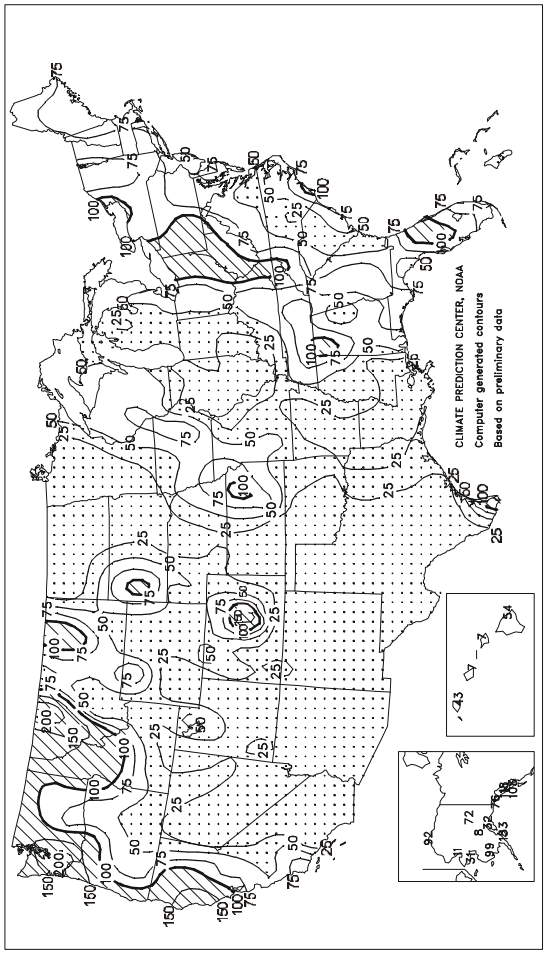
Total Precipitation (Inches)

NOV 1999



Percent Of Normal Precipitation

NOV 1999



TEMPERATURE AND PRECIPITATION SUMMARY
November 1999

STATES AND STATIONS		TEMP, °F AVERAGE	TEMP, °F DEPARTURE	PRECIP. TOTAL	PRECIP. DEPARTURE
AL	BIRMINGHAM	56	3	2.73	-1.60
	HUNTSVILLE	54	3	4.07	-0.79
	MOBILE	60	0	3.05	-1.05
	MONTGOMERY	56	-1	2.24	-1.84
AK	ANCHORAGE	20	-1	0.36	-0.75
	BARROW	0	2	0.23	-0.02
	FAIRBANKS	-5	-8	0.58	-0.22
	JUNEAU	36	4	5.77	0.86
	KODIAK	34	0	9.10	3.14
	NOME	13	-3	0.32	-0.72
AZ	FLAGSTAFF	41	4	0.00	-1.95
	PHOENIX	68	6	0.00	-0.66
	TUCSON	66	7	0.00	-0.67
	YUMA	69	5	0.00	-0.24
AR	FORT SMITH	57	6	1.45	-2.54
	LITTLE ROCK	58	6	0.50	-4.70
CA	BAKERSFIELD	57	1	0.36	-0.34
	EUREKA	55	3	7.36	0.92
	FRESNO	57	3	0.47	-0.90
	LOS ANGELES	61	-1	0.00	-1.76
	REDDING	54	2	5.53	0.32
	SACRAMENTO	55	2	1.75	-0.97
	SAN DIEGO	61	-1	0.04	-1.41
	SAN FRANCISCO	57	2	1.54	-1.32
CO	ALAMOSA	33	3	0.00	-0.43
	CO SPRINGS	45	7	1.01	0.54
	DENVER	47	8	0.47	-0.40
	GRAND JUNCTION	43	3	0.18	-0.53
	PUEBLO	45	5	0.02	-0.41
CT	BRIDGEPORT	48	2	3.06	-0.75
	HARTFORD	46	4	3.55	-0.49
DC	WASHINGTON	53	3	1.82	-1.30
DE	WILMINGTON	49	3	2.11	-1.16
FL	DAYTONA BEACH	67	1	3.12	0.28
	JACKSONVILLE	62	0	0.82	-1.37
	KEY WEST	75	-1	0.42	-2.42
	MIAMI	74	0	1.45	-1.21
	ORLANDO	68	0	2.13	-0.17
	PENSACOLA	61	0	1.52	-2.02
	TALLAHASSEE	60	0	2.22	-1.65
	TAMPA	69	2	1.78	0.01
	WEST PALM	73	1	1.57	-3.12
GA	ATHENS	56	3	2.70	-0.96
	ATLANTA	56	3	3.34	-0.52
	AUGUSTA	56	1	1.12	-1.36
	COLUMBUS	58	1	1.29	-2.27
	MACON	57	1	2.20	-0.53
	SAVANNAH	60	1	0.47	-1.72
HI	HILO	73	-1	7.74	-6.77
	HONOLULU	77	0	0.21	-2.79
	KAHULUI	75	-1	0.22	-2.37
	LIHUE	75	0	2.35	-3.10
ID	BOISE	47	7	1.00	-0.48
	LEWISTON	46	5	1.62	0.47
	POCATELLO	42	6	0.11	-1.05
IL	CHICAGO/O'HARE	45	5	0.44	-2.48
	MOLINE	46	6	0.49	-2.02
	PEORIA	47	6	0.22	-2.47
	ROCKFORD	43	5	0.71	-1.86
	SPRINGFIELD	48	5	0.25	-2.28
IN	EVANSVILLE	51	5	0.51	-3.22
	FORT WAYNE	45	4	1.00	-1.79
	INDIANAPOLIS	49	6	0.69	-2.54
	SOUTH BEND	46	5	1.32	-1.95
IA	BURLINGTON	48	7	0.19	-2.14
	CEDAR RAPIDS	44	6	1.74	-0.27
	DES MOINES	47	8	1.15	-0.64
	DUBUQUE	43	7	0.57	-2.14
	SIOUX CITY	44	8	0.67	-0.41
	WATERLOO	43	7	1.49	-0.33
KS	CONCORDIA	50	8	0.84	-0.29
	DODGE CITY	50	7	0.01	-0.82
	GOODLAND	47	8	0.14	-0.55
	TOPEKA	51	8	1.60	-0.33
	WICHITA	53	8	1.45	-0.14
KY	JACKSON	52	4	2.65	-1.55
	LEXINGTON	50	4	1.82	-1.57
	LOUISVILLE	53	6	1.56	-2.14
	PADUCAH	53	5	0.90	-3.42
LA	BATON ROUGE	59	-1	0.88	-3.43
	LAKE CHARLES	61	1	0.99	-3.27
	NEW ORLEANS	62	1	0.28	-4.14
	SHREVEPORT	59	2	0.52	-3.93

STATES AND STATIONS		TEMP, °F AVERAGE	TEMP, °F DEPARTURE	PRECIP. TOTAL	PRECIP. DEPARTURE
ME	CARIBOU	34	3	2.70	-0.85
	PORTLAND	42	3	2.25	-2.92
MD	BALTIMORE	50	3	1.95	-1.37
MA	BOSTON	48	3	2.14	-2.08
	WORCESTER	44	5	3.38	-1.11
MI	ALPENA	40	4	0.76	-1.44
	GRAND RAPIDS	43	5	0.95	-2.37
	HOUGHTON LAKE	40	5	0.40	-1.87
	LANSING	42	4	1.10	-1.53
	MUSKEGON	43	4	0.87	-2.28
	TRAVERSE CITY	42	5	0.90	-1.54
MN	DULUTH	36	8	0.70	-1.10
	INT'L FALLS	33	8	0.00	-1.15
	MINNEAPOLIS	42	9	0.77	-0.78
	ROCHESTER	40	7	1.00	-0.61
	ST. CLOUD	37	7	0.20	-1.07
MS	JACKSON	56	0	1.88	-2.93
	MERIDIAN	55	0	0.32	-4.17
	TUPELO	56	3	2.04	-2.81
MO	COLUMBIA	52	8	1.00	-1.93
	KANSAS CITY	52	9	1.63	-0.29
	SAINT LOUIS	53	7	0.72	-2.56
	SPRINGFIELD	53	7	1.97	-1.78
MT	BILLINGS	46	11	0.25	-0.59
	BUTTE	38	10	0.15	-0.38
	GLASGOW	40	11	0.36	0.08
	GREAT FALLS	44	10	0.46	-0.20
	KALISPELL	38	7	1.68	0.38
	MILES CITY	42	10	0.26	-0.28
	MISSOULA	38	6	1.11	0.30
NE	GRAND ISLAND	46	8	0.32	-0.72
	LINCOLN	47	8	0.91	-0.36
	NORFOLK	45	9	0.46	-0.55
	NORTH PLATTE	42	7	0.14	-0.52
	OMAHA	47	8	1.11	-0.38
	SCOTTSBLUFF	43	7	0.27	-0.35
	VALENTINE	43	9	0.09	-0.51
NV	ELY	40	6	0.18	-0.49
	LAS VEGAS	59	4	0.00	-0.43
	RENO	47	7	0.01	-0.86
	WINNEMUCCA	42	4	0.21	-0.73
NH	CONCORD	42	5	2.66	-1.00
NJ	NEWARK	50	3	2.90	-1.01
NM	ALBUQUERQUE	50	6	0.00	-0.43
NY	ALBANY	44	4	2.07	-1.16
	BINGHAMTON	41	3	2.92	-0.36
	BUFFALO	44	4	3.33	-0.50
	ROCHESTER	45	5	2.86	-0.06
	SYRACUSE	44	4	3.17	-0.55
NC	ASHEVILLE	51	4	3.31	-0.28
	CHARLOTTE	54	2	1.49	-1.74
	GREENSBORO	53	4	1.28	-1.69
	HATTERAS	59	2	2.16	-2.81
	RALEIGH	54	3	1.20	-1.78
	WILMINGTON	60	3	3.58	0.47
ND	BISMARCK	39	10	0.10	-0.39
	DICKINSON	41	11	0.13	-0.31
	FARGO	37	9	0.00	-0.73
	GRAND FORKS	34	8	0.00	-0.65
	JAMESTOWN	37	9	0.00	-0.50
	WILLISTON	38	11	0.01	-0.44
OH	AKRON-CANTON	44	2	3.54	0.53
	CINCINNATI	48	4	1.42	-2.04
	CLEVELAND	46	3	3.31	0.14
	COLUMBUS	47	4	1.95	-1.27
	DAYTON	47	4	1.85	-1.22
	MANSFIELD	44	2	2.26	-1.25
	TOLEDO	44	4	1.46	-1.35
	YOUNGSTOWN	44	3	3.88	0.77
OK	OKLAHOMA CITY	57	7	0.06	-1.92
	TULSA	58	8	1.32	-1.81
OR	ASTORIA	55	8	15.88	5.83
	BURNS	39	5	0.44	-0.81
	EUGENE	49	3	8.04	-0.28
	MEDFORD	50	6	1.94	-1.29
	PENDLETON	46	4	1.23	-0.35
	PORTLAND	50	4	6.83	1.49
	SALEM	49	4	7.28	1.00
PA	ALLENTOWN	46	3	2.43	-1.45
	ERIE	46	3	4.48	0.46
	MIDDLETOWN	49	5	1.66	-1.86
	PHILADELPHIA	51	5	2.31	-1.03
	PITTSBURGH	47	5	3.46	0.61

STATES AND STATIONS		TEMP, °F AVERAGE	TEMP, °F DEPARTURE	PRECIP. TOTAL	PRECIP. DEPARTURE
	WILKES-BARRE	45	4	2.32	-0.74
	WILLIAMSPORT	45	3	2.89	-0.84
RI	PROVIDENCE	47	3	2.85	-1.58
SC	BEAUFORT	60	1	1.58	-0.77
	CHARLESTON	60	2	1.70	-0.79
	COLUMBIA	56	1	0.75	-2.15
	GREENVILLE	56	4	2.67	-0.98
SD	ABERDEEN	39	9	0.00	-0.59
	HURON	42	10	0.05	-0.67
	RAPID CITY	44	9	0.68	0.12
	SIOUX FALLS	42	9	0.05	-1.04
TN	BRISTOL	49	2	3.29	0.35
	CHATTANOOGA	55	4	4.20	-0.41
	KNOXVILLE	53	4	2.40	-1.35
	MEMPHIS	57	4	2.37	-2.73
	NASHVILLE	54	4	2.99	-1.13
TX	ABILENE	60	5	0.00	-1.48
	AMARILLO	52	6	0.00	-0.69
	AUSTIN	61	0	0.08	-2.29
	BEAUMONT	62	1	1.23	-3.62
	BROWNSVILLE	69	0	2.77	1.26
	CORPUS CHRISTI	67	1	0.61	-0.98
	DEL RIO	64	4	0.00	-0.92
	EL PASO	56	4	0.00	-0.44
	FORT WORTH	63	7	0.31	-1.98
	GALVESTON	66	2	1.59	-1.78
	HOUSTON	62	1	1.53	-2.26
	LUBBOCK	54	4	0.00	-0.75
	MIDLAND	56	3	0.00	-0.69
	SAN ANGELO	59	4	0.00	-1.08
	SAN ANTONIO	63	3	0.05	-2.57
	VICTORIA	65	2	0.32	-2.13
	WACO	62	4	0.29	-2.14
	WICHITA FALLS	59	7	0.00	-1.54
UT	SALT LAKE CITY	46	5	0.70	-0.59
VT	BURLINGTON	42	5	1.86	-1.27
VA	LYNCHBURG	51	3	2.30	-0.84
	NORFOLK	55	2	1.41	-1.44
	RICHMOND	53	3	1.01	-2.16
	ROANOKE	53	6	2.10	-1.09
	WASH/DULLES	50	5	1.72	-1.58
WA	OLYMPIA	46	4	11.91	3.86
	QUILLAYUTE	46	2	21.35	6.61
	SEATTLE-TACOMA	48	3	9.60	3.77
	SPOKANE	41	6	2.04	-0.11
	YAKIMA	43	4	0.53	-0.50
	BECKLEY	47	4	2.05	-0.94
WV	CHARLESTON	49	2	4.53	0.94
	ELKINS	44	3	2.60	-0.73
	HUNTINGTON	49	3	3.49	0.19
	EAU CLAIRE	39	7	1.05	-0.47
WI	GREEN BAY	40	6	1.57	-0.59
	LA CROSSE	43	7	1.50	-0.23
	MADISON	42	7	1.21	-0.88
	MILWAUKEE	45	7	0.70	-1.81
WY	CASPER	44	11	0.36	-0.41
	CHEYENNE	44	9	0.25	-0.28
	LANDER	42	11	0.03	-0.77
	SHERIDAN	43	10	0.28	-0.55

Based on 1961-90 normals.

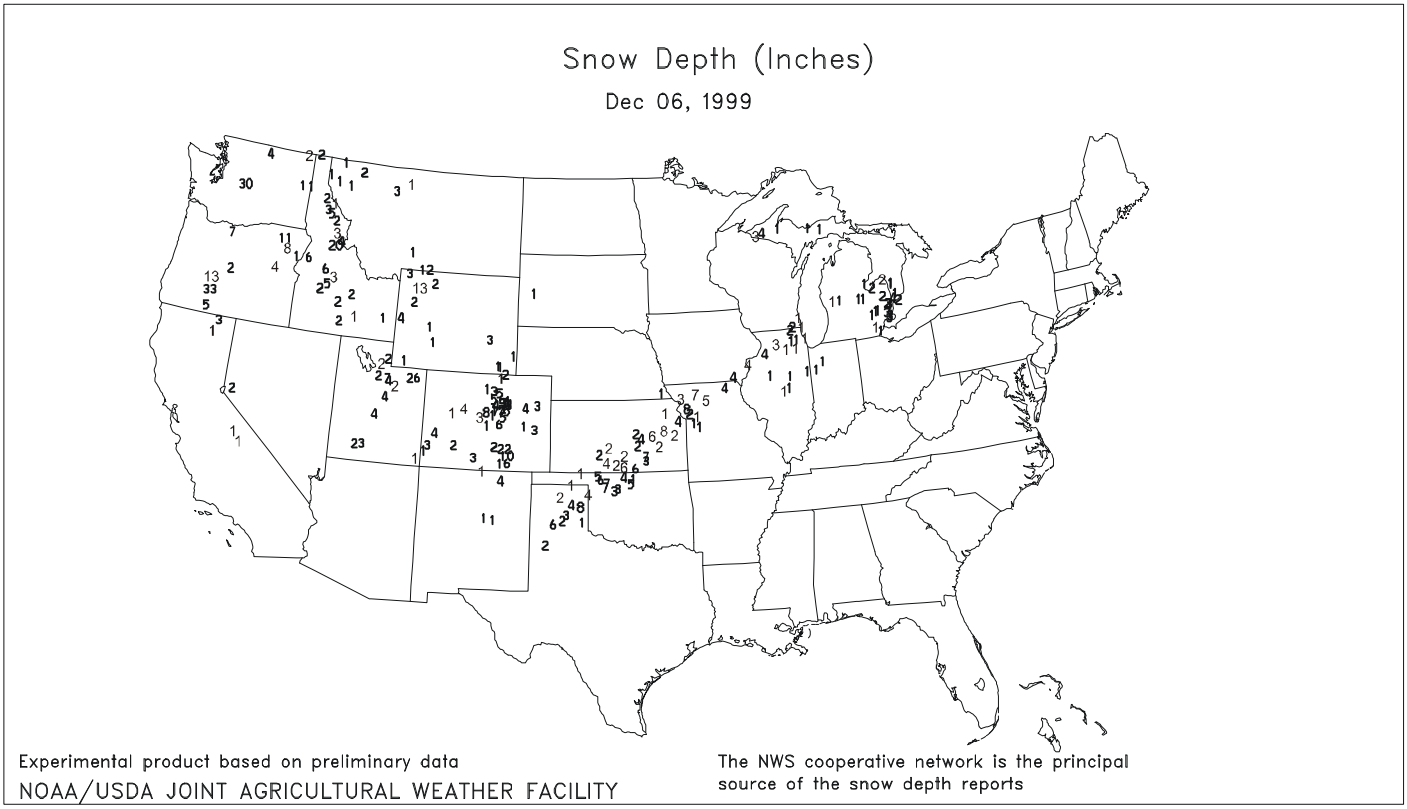
National Agricultural Summary

November 29 - December 5, 1999

HIGHLIGHTS

Wheat conditions improved in eastern Kansas and northern and eastern Oklahoma, as rain and snow boosted soil moisture supplies. The late-week rain and cold weather also benefited wheat by reducing insect populations. In other areas of the Great Plains, dry soils continued to hamper wheat development. Additionally, in Texas and western Oklahoma, dry weather and above-normal temperatures aided insect populations. In the Corn Belt, light precipitation provided much-needed moisture in parts of Illinois, Indiana, and Missouri, but wheat fields in Ohio and Michigan remained mostly dry. Harvest activity, winter wheat seeding, and fall tillage and fertilizer applications, progressed without rain delays in the Atlantic Coastal Plains. In Florida, activities included harvesting fruits and vegetables, as well as cutting and grinding old crop and planting new crop sugarcane. Dry weather also aided normal fall field activities in central and southern California. Activities included planting small grains and winter forages, harvesting sugarbeets, cotton, grain sorghum, and vegetables, and tree pruning in fruit orchards. In the Pacific Northwest, a persistent rainy pattern limited field activities along the coast from northern California to the Canada border.

(Commodity-specific information will resume during the first week of April 2000.)



International Weather and Crop Summary

November 28 - December 4, 1999

HIGHLIGHTS

FSU-WESTERN: A warming trend spread eastward over the region, improving overwintering conditions for winter grains but melting protective snow cover.

EUROPE: Unseasonably mild weather helped winter grain development in northwestern Europe, while dry weather persisted across much of southern Europe.

NORTHWESTERN AFRICA: Light showers favored emerging winter grains in Morocco, Algeria, and Tunisia.

AUSTRALIA: Drier weather favored unharvested winter grains in Queensland and northern New South Wales.

SOUTH AFRICA: Much-needed rain brought relief to the western corn belt.

SOUTHEAST ASIA: Showers maintained adequate moisture supplies for oil palm and main-season rice across Indonesia and peninsular Malaysia.

EASTERN ASIA: Seasonably dry, cool weather hardened winter wheat for dormancy across the North China Plain.

SOUTH AMERICA: In extreme southern Brazil, southern Paraguay, and northern Argentina, scattered showers and cooler weather provided some relief for developing summer crops, but more widespread rain is needed.

November 1999

MONTHLY DATA FROM SELECTED FOREIGN CITIES
CLIMATE PREDICTION CENTER-NCEP-NWS-NOAA
****** DATA NOT AVAILABLE***

COUNTRY	CITY	TEMPERATURE (C)						PRECIPITATION (MM)	
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY	OSLO	5	1	12	-8	3	4.4	35	-55
SWEDEN	STOCKHOLM	7	2	13	-10	4	1.9	0	-53
FINLAN	HELSINKI	4	1	10	-8	2	2.1	21	-51
UKINGD	GLASGOW	**	**	**	9	**	***	**	**
	EDINBURGH	10	4	14	-3	7	1.5	41	-21
	LONDON	**	**	**	9	**	***	**	**
IRELAN	DUBLIN	10	6	14	-2	8	0.9	40	-24
ICELAN	REYKJAVIK	3	1	13	-9	2	0.9	35	-37
DENMAR	COPENHAGEN	7	3	13	-4	5	-0.2	9	-39
LUXEMB	LUXEMBOURG	6	2	14	-7	4	-0.4	40	-40
SWITZE	ZURICH	4	1	15	-5	2	-1.7	104	19
	GENEVA	7	3	20	-5	5	-0.4	63	-30
FRANCE	PARIS/ORLY	9	3	18	-4	6	***	34	**
	STRASBOURG	7	2	17	-4	4	-0.6	31	-15
	BOURGES	9	3	19	-5	6	-0.8	66	8
	BORDEAUX	12	4	23	-2	8	-0.5	58	-34
	TOULOUSE	11	4	22	-1	7	-1.3	71	23
	MARSEILLE	13	6	22	-3	10	-0.9	76	18
SPAIN	VALLADOLID	9	3	20	-2	6	-1.5	9	-43
	MADRID	13	3	21	-2	8	-1.0	7	-59
	SEVILLE	19	9	25	3	14	-1.4	3	-67
PORTUG	LISBON	16	10	23	6	13	-1.0	41	-58
GERMAN	HAMBURG	8	3	14	-6	5	0.2	28	-43
	BERLIN	7	2	15	-7	4	-0.6	26	-23
	DUSSELDORF	9	4	16	-5	6	-0.2	45	-18
	LEIPZIG	6	2	16	-5	4	-0.6	65	28
	DRESDEN	5	2	14	-5	4	-0.8	50	8
	STUTTGART	6	1	19	-6	3	-0.7	72	25
	NURNBERG	6	0	16	-8	3	-0.9	53	9
AUSTRI	VIENNA	5	2	16	-10	4	-1.0	63	22
	INNSBRUCK	5	-2	18	-12	2	-1.5	134	74
CZECHR	PRAGUE	5	0	15	-7	2	-0.7	27	-4
POLAND	WARSAW	4	0	15	-8	2	-1.7	30	-12
	LODZ	4	-1	16	-8	2	-0.8	31	-8
	KATOWICE	5	0	17	-7	2	-0.1	50	9
	PRZEMYSL	5	0	16	-7	2	-1.4	72	31
HUNGAR	BUDAPEST	5	2	17	-8	4	-1.4	99	47
YUGOSL	BELGRADE	8	3	22	-3	6	-1.5	77	22
ROMANI	BUCHAREST	10	1	18	-6	5	-0.5	12	-36
BULGAR	SOFIA	9	2	19	-5	5	0.4	38	-12
ITALY	MILAN	11	4	19	-5	8	1.1	110	14
	VERONA	11	4	20	-4	7	0.8	60	-13
	VENICE	11	5	18	-2	8	0.2	46	-38
	GENOA	15	9	20	4	12	-0.8	34	-125
	ROME	16	8	24	2	12	-0.7	173	67
	NAPLES	**	**	20	3	**	***	**	**
GREECE	THESSALONIKA	15	8	23	-1	12	0.9	62	4
	LARISSA	15	7	22	-2	11	0.6	58	-3
	ATHENS	19	13	24	5	16	0.3	25	-30
TURKEY	ISTANBUL	15	10	20	1	12	0.7	149	61
	ANKARA	12	-1	19	-10	6	-0.3	23	-3
CYPRUS	LARNACA	23	13	27	4	18	0.2	27	-11
ESTONI	TALLINN	4	1	11	-10	3	1.6	28	-36
LITHUA	KAUNAS	3	-1	12	-13	1	-1.0	34	-17
BELARU	MINSK	1	-3	11	-17	-1	-1.5	46	-5
RUSSIA	KAZAN	-6	-11	7	-25	-8	-5.1	43	-1
	MOSCOW	-3	-7	10	-20	-5	-3.7	40	-16
	YEKATERINBURG	-9	-13	8	-30	-11	-5.2	24	-5
	OMSK	-6	-11	7	-33	-9	-1.6	30	3
	NOVOSIBIRSK	-5	-10	7	-30	-8	2.0	25	-3
	BARNAUL	-3	-10	11	-34	-6	0.2	47	12
	KHABAROVSK	-4	-11	8	-24	-8	0.1	18	-2
	VLADIVOSTOK	3	-3	12	-16	0	1.2	8	-23
	SARATOV	-4	-8	10	-21	-6	-4.0	13	-27
	VOLGOGRAD	-2	-8	11	-19	-5	-4.7	23	-11
	ASTRAKHAN	3	-4	13	-21	-1	-4.1	47	31
	KRASNODAR	8	0	22	-15	4	-2.4	55	-5
	ORENBURG	-5	-9	7	-26	-7	-4.0	60	21
KAZAKH	TSELINOGRAD	-5	-11	8	-30	-8	0.1	36	25
	KARAGANDA	-4	-9	6	-29	-7	-1.8	65	38

Based on Preliminary Reports

November 1999

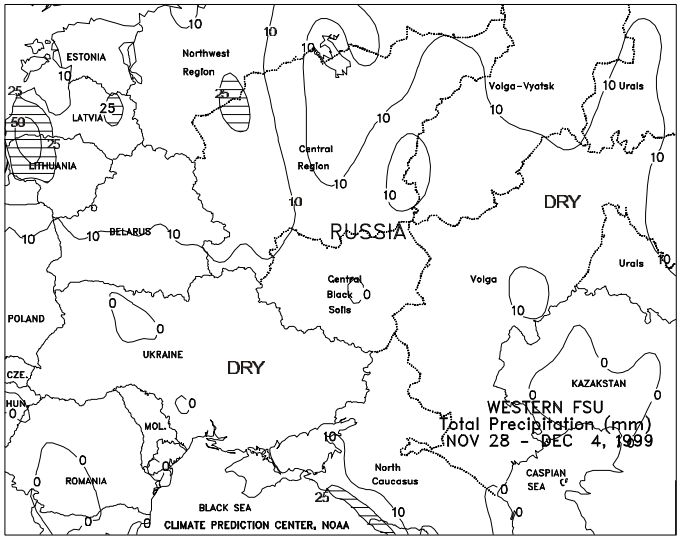
COUNTR	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
GEORGI	TBILISI	11	4	18	-3	8	-0.7	7	-24
UZBEKI	TASHKENT	11	3	21	-4	7	-0.4	85	41
TURKME	ASHKHABAD	12	6	22	-1	9	-0.7	40	19
SYRIA	DAMASCUS	22	4	28	-6	13	0.6	0	-25
ISRAEL	JERUSALEM	21	11	27	4	16	1.4	9	-55
PAKIST	KARACHI	**	21	35	15	**	***	0	-2
INDIA	AMRITSAR	27	12	31	7	19	1.3	0	-7
	NEW DELHI	29	13	34	9	21	0.3	0	-6
	AHMEDABAD	34	16	36	12	25	-0.2	0	-11
	INDORE	31	14	34	10	23	1.0	0	-21
	CALCUTTA	30	18	32	14	24	0.6	0	-16
	VERAVAL	33	21	36	19	27	1.0	0	-26
	BOMBAY	34	21	37	19	27	0.7	0	-7
	POONA	31	13	33	8	22	-0.4	0	-23
	BEGAMPET	31	17	33	13	24	0.7	0	-23
	VISHAKHAPATNAM	30	23	32	20	26	***	13	**
	MADRAS	31	23	36	20	27	0.8	128	-211
	MANGALORE	33	23	36	21	28	0.6	46	-25
N KORE	PYONGYANG	**	**	16	-8	**	***	19	-30
S KORE	SEOUL	12	4	18	-6	8	1.9	28	-8
JAPAN	SAPPORO	9	3	17	-6	6	1.5	79	-20
	NAGOYA	17	9	22	3	13	1.4	95	25
	TOKYO	18	11	24	7	14	1.8	96	6
	YOKOHAMA	17	11	24	6	14	1.9	113	8
	KYOTO	17	9	23	2	13	1.8	80	5
	OSAKA	18	11	24	5	15	1.6	61	-4
THAILA	PHETCHABUN	31	**	34	16	**	***	2	-17
	BANGKOK	32	25	35	21	28	0.9	88	36
MALAYS	KUALA LUMPUR	32	24	35	22	28	1.8	404	128
VIETNA	HANOI	25	20	30	15	23	0.9	89	46
CHINA	HARBIN	1	-8	11	-20	-4	3.3	6	-2
	HAMI	8	-5	15	-12	2	1.7	4	2
	LANCHOW	11	-1	17	-8	5	3.2	0	-5
	BEIJING	11	2	18	-4	7	2.2	10	3
	TIENTSIN	11	2	18	-6	6	0.6	23	13
	LHASA	13	-3	17	-6	5	2.1	0	-2
	KUNMING	18	9	23	6	14	2.3	43	3
	CHENGCHOW	15	5	22	-2	10	2.3	6	-20
	YEHCHANG	16	10	21	3	13	0.4	47	0
	HANKOW	17	9	25	1	13	1.8	27	-28
	CHUNGKING	17	13	23	7	15	***	80	**
	CHIHKIANG	17	10	25	2	14	1.1	42	-26
	WU HU	16	7	24	-1	12	***	39	**
	SHANGHAI	16	11	23	2	13	***	35	**
	NANCHANG	18	11	26	4	14	1.0	27	-27
	TAIPEI	23	20	28	16	21	1.2	24	-40
	CANTON	25	17	29	9	21	1.6	26	-16
	NANNING	24	15	29	10	20	0.8	75	30
	HONGKO	25	20	28	12	22	***	17	**
CANARY	LAS PALMAS	24	19	34	16	22	1.4	27	6
MOROCC	CASABLANCA	20	12	26	6	16	0.1	46	-26
	MARRAKECH	21	10	32	4	16	-0.3	20	-18
ALGERI	ALGER	19	10	26	0	14	-0.8	173	68
	BATNA	15	5	24	-6	10	0.5	34	-3
TUNISI	TUNIS	21	13	29	8	17	0.9	180	124
NIGER	NIAMEY	36	21	39	13	29	0.8	0	0
MALI	TIMBUKTU	34	19	37	15	27	0.8	0	0
	BAMAKO	33	19	35	15	26	-0.5	0	-3
MAURIT	NOUAKCHOTT	33	20	39	13	27	1.2	0	-4
SENEGA	DAKAR	29	23	32	18	26	0.4	0	0
CHAGOS	DIEGO GARCIA	29	26	32	24	28	0.8	238	27
LIBYA	TRIPOLI	23	13	31	6	18	0.8	49	3
	BENGHAZI	23	16	28	12	20	1.6	24	-11
EGYPT	CAIRO	26	15	33	10	21	1.8	0	-4
	ASWAN	30	17	37	12	24	2.0	0	0
ETHIOP	ADDIS ABABA	21	9	28	4	15	-0.4	0	-8
KENYA	NAIROBI	24	15	28	11	19	0.0	238	117
TANZAN	DAR ES SALAAM	32	20	**	**	**	***	**	**
GABON	LIBREVILLE	28	**	31	21	**	***	220	-303
TOGO	LOME	**	**	34	23	**	***	**	**
BURKIN	OUAGADOUGOU	**	**	37	19	**	***	**	**
COTE D	ABIDJAN	**	**	36	23	**	***	**	**
MOZAMB	MAPUTO	29	21	39	17	25	1.4	164	92
ZAMBIA	LUSAKA	29	**	34	16	**	***	45	-47
ZIMBAB	HARARE	28	16	33	11	22	1.0	64	-37

COUNTR	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
S AFRI	PRETORIA	30	18	35	14	24	3.0	32	-69
	JOHANNESBURG	26	13	31	9	19	1.2	54	-63
	BETHAL	25	12	32	8	19	0.8	85	-42
	DURBAN	26	20	32	16	23	1.5	57	-51
	CAPE TOWN	24	14	31	8	19	1.0	14	-2
CANADA	TORONTO	10	2	22	-7	6	2.6	74	3
	MONTREAL	9	1	20	-9	5	3.4	56	-38
	WINNIPEG	6	-5	18	-12	1	5.2	2	-19
	REGINA	7	-7	24	-19	0	4.9	4	-8
	SASKATOON	5	-7	19	-19	-1	4.6	9	-5
	LETHBRIDGE	10	-3	22	-16	3	4.5	21	5
	CALGARY	8	-5	21	-14	1	4.3	12	1
	EDMONTON	3	-5	12	-14	-1	3.2	9	-8
	VANCOUVER	10	5	14	0	8	1.7	191	21
MEXICO	GUADALAJARA	26	9	28	4	17	0.0	0	-13
	MEXICO CITY	**	**	23	3	**	***	1	-13
	ACAPULCO	32	23	34	20	27	-0.3	0	-44
BERMUD	ST. GEORGES	24	19	27	16	21	0.0	45	-74
BAHAMA	NASSAU	28	22	30	20	25	0.9	51	-4
CUBA	HAVANA	**	**	24	23	**	***	**	**
JAMAIC	KINGSTON	31	24	33	22	28	0.6	63	-18
P RICO	SAN JUAN	30	24	32	21	27	0.0	250	99
GUADEL	RAIZET	31	23	33	22	27	1.3	482	341
MARTIN	LAMENTIN	31	23	33	20	27	1.3	300	110
BARBAD	BRIDGETOWN	30	24	31	21	27	0.4	102	-30
TRINID	PORT OF SPAIN	32	24	35	22	28	2.0	183	-15
COLOMB	BOGOTA	18	10	21	6	14	0.3	97	9
VENEZU	CARACAS	**	**	34	24	**	***	**	**
F GUIA	CAYENNE	32	22	33	20	27	0.9	27	-127
BRAZIL	RECIFE	30	23	32	20	26	0.2	19	-25
	BELO HORIZONTE	25	17	31	14	21	-1.5	260	18
	FRANCA	26	17	30	12	21	2.6	113	-89
	LONDRINA	28	16	33	13	22	-0.6	79	-73
	SANTA MARIA	27	15	33	7	21	-0.5	79	-53
	PORTO ALEGRE	26	16	31	10	21	0.0	82	8
PERU	LIMA	22	17	24	15	19	0.1	0	0
BOLIVI	LA PAZ	17	2	27	-2	9	-1.0	46	-4
CHILE	SANTIAGO	26	9	30	4	18	0.6	4	-3
ARGENT	IGUAZU	30	16	37	9	23	***	88	**
	FORMOSA	30	17	41	10	23	-1.0	56	-128
	CERES	28	14	37	5	21	-1.6	94	-5
	CORDOBA	26	13	31	5	19	-1.4	257	157
	RIO CUARTO	25	14	34	6	20	-0.1	120	-1
	ROSARIO	28	14	35	6	21	0.8	34	-63
	BUENOS AIRES	26	14	35	5	20	0.8	69	-29
	SANTA ROSA	25	12	34	3	19	-0.6	159	60
	TRES ARROYOS	24	11	34	3	18	1.3	53	-23
NEW CA	NOUMEA	27	21	33	16	24	0.3	57	-17
FIJI	NAUSORI	29	22	32	20	26	1.0	335	78
SAMOA	PAGO PAGO	31	26	33	23	28	1.1	268	-8
TAHITI	PAPEETE	30	23	31	22	27	0.6	150	-11
AUSTRA	DARWIN	32	25	34	22	28	-1.0	79	-52
	BRISBANE	25	16	30	13	21	-1.9	45	-65
	PERTH	27	15	36	9	21	1.5	5	-18
	CEDUNA	22	12	38	5	17	-1.8	0	-19
	ADELAIDE	21	13	30	6	17	-1.2	0	-22
	MELBOURNE	21	10	33	5	15	-0.7	0	-49
	WAGGA	22	10	31	5	16	-2.2	0	-40
	CANBERRA	19	7	27	0	13	-2.5	0	-65
INDONE	DJAKARTA	31	25	33	23	28	0.3	7	**
PHILIP	MANILA	30	25	33	19	28	0.4	98	-19

Based on Preliminary Reports

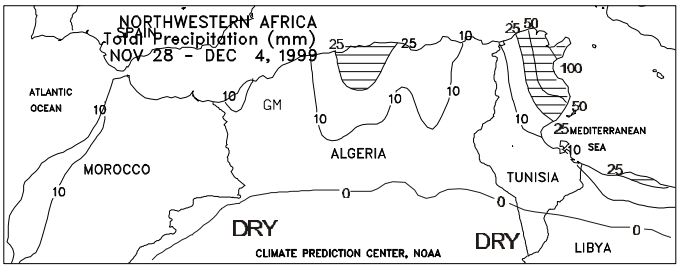
EUROPE

Unseasonably mild (temperatures 1-4 degrees C above normal) weather overspread northern Europe, spurring winter grain development in the west and reducing snow cover in the east. Occasional rain (generally 20-65 mm) helped winter grain growth across northern England, Denmark, and extreme northern Germany. Elsewhere across northern Europe, light precipitation (5-20 mm) fell across major winter grain-producing regions from southern England and northern France eastward into Poland, maintaining adequate soil moisture supplies for developing winter grains. Despite the milder weather, winter grains remained dormant from southern and eastern Germany eastward into Poland and Slovakia. Farther south, unseasonably cold weather (temperatures 1-4 degrees C below normal) helped ease winter grains further into dormancy across Hungary, Croatia, Bosnia, Serbia, much of Romania, and western Bulgaria. Elsewhere across southern Europe, unseasonably mild weather prevailed (temperatures 1-3 degrees C above normal). Dry weather stretched from southeastern Europe westward into Spain, helping winter grain planting in Italy and late corn and cotton harvesting in Spain. Although abundant October rainfall improved soil moisture conditions for winter wheat and barley planting in Spain, continued dryness since then has likely begun to slow crop planting and development. In contrast, light showers (10-30 mm) covered most of Portugal, helping germinating to emerging winter grains.



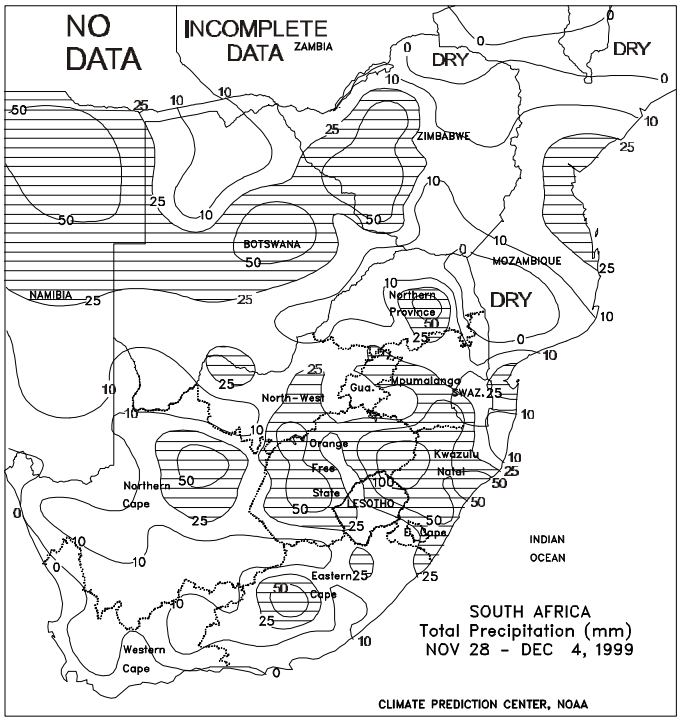
FSU-WESTERN

A warming trend spread eastward across the region, improving overwintering conditions for winter grains but melting some protective snow cover. Extreme maximum temperatures ranged from 5 to 13 degrees C in the Baltics, Belarus, Ukraine, and the North Caucasus region in Russia. The mild weather in these areas melted most of last week's deep snow cover. Elsewhere in Russia, maximum temperatures ranged from 2 to 5 degrees C, causing some snow melt. By week's end, a shallow to moderate snow cover prevailed over northern Russia. Weekly temperatures averaged 2 to 4 degrees C above normal in the Baltics, Belarus, Ukraine, and northern Russia. Most of Russia, Ukraine, and Belarus received light precipitation (generally less than 10 mm), with greatest amounts of moisture (10 - 21 mm) falling as rain in the Baltics.



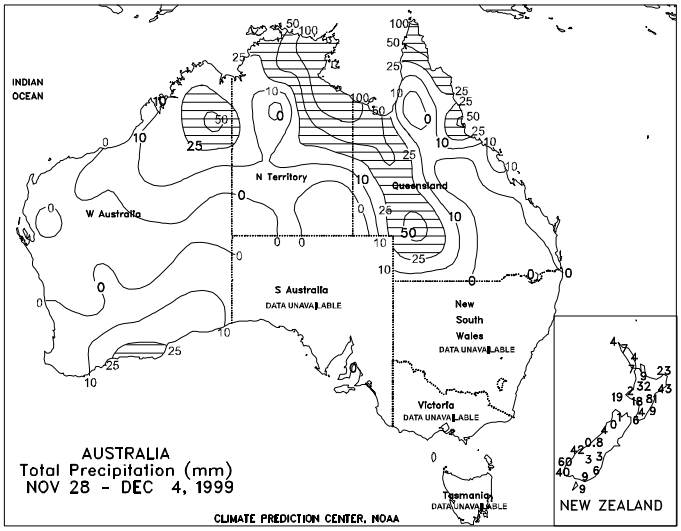
NORTHWESTERN AFRICA

Light showers dampened topsoils in Morocco, Algeria, and Tunisia, maintaining adequate moisture conditions for emerging winter grains. Precipitation amounts ranged from 4 to 10 mm in Morocco and western and central Algeria. Although moisture conditions in Morocco are adequate for early winter grain development, precipitation has trended below normal since November 20. As a result, timely rains will be needed in upcoming weeks to maintain favorable crop prospects. Elsewhere, substantial precipitation (10-25 mm or more) fell in central Algeria and northern Tunisia, benefiting newly emerging winter grains. Weekly temperatures averaged near to slightly above normal in Morocco, Algeria, and Tunisia, spurring crop emergence and early growth.



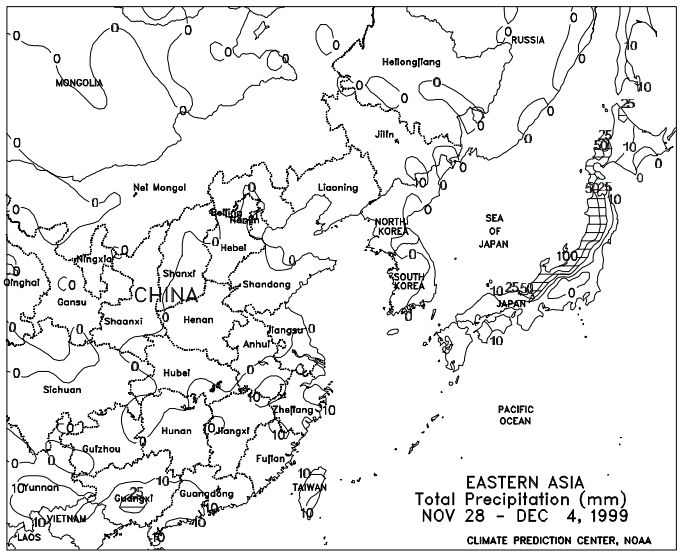
SOUTH AFRICA

Highly beneficial rainfall (10-25 mm or more) covered western sections of the corn belt (central Free State and North West). Central sections of North West received their heaviest showers of the season, likely spurring summer crop planting but slowing the area' s wheat harvests. The rain also brought temperatures down to more seasonable levels, with highs in the upper 20's degrees C on average. Beneficial rain continued in the eastern corn belt, improving topsoil moisture reserves for establishment of grains and oilseeds. The heaviest rainfall (50-100 mm or more) was concentrated along the border between Free State and KwaZulu-Natal. The wetness extended eastward toward the main coastal sugarcane areas, although the more northerly crop areas received less than 25 mm. Elsewhere, showery weather returned to Eastern Cape but dry, warm weather continued in crop areas of Western Cape. Highs reached the upper 30's degrees C in the main agricultural districts, hastening wheat harvests but raising irrigation requirements in orchards and vineyards.



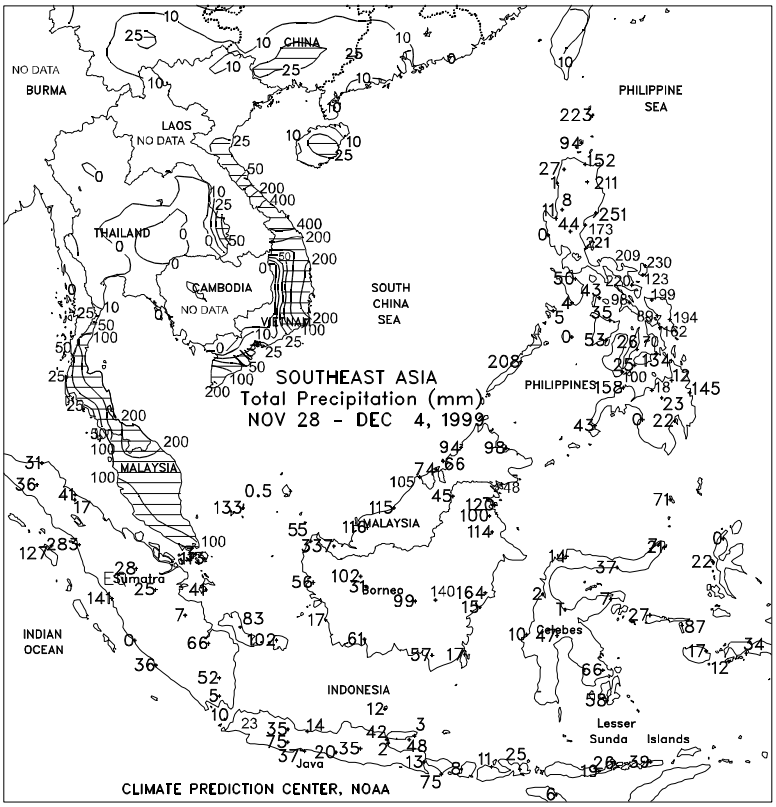
AUSTRALIA

Dry weather covered the main agricultural areas of southern Queensland and northeastern New South Wales, bringing some relief to unharvested winter grains. Although temperatures averaged 2 to 3 degrees C below normal, highs reaching the lower 30's degrees C helped alleviate excessive moisture. This week marked the first extended dry period in this region since mid-September. Farther south, late-week showers (10 mm or greater) slowed winter grain harvests in South Australia and western Victoria, but increased moisture reserves for pastures and grazing land. The rainfall extended northward into southwestern Queensland, benefiting livestock in that area as well. Prior to the rainfall, temperatures across the southeast averaged 2 to 6 degrees C above normal, with highs in the upper 30's degrees C, hastening winter grain drydown. In Western Australia, mostly light showers (2-10 mm or more) caused minor fieldwork delays at the eastern edge of the winter grain belt. In New Zealand, moderate showers (25-50 mm or more) covered central sections of North Island, but drier weather (10 mm or less) returned to other major crop areas.



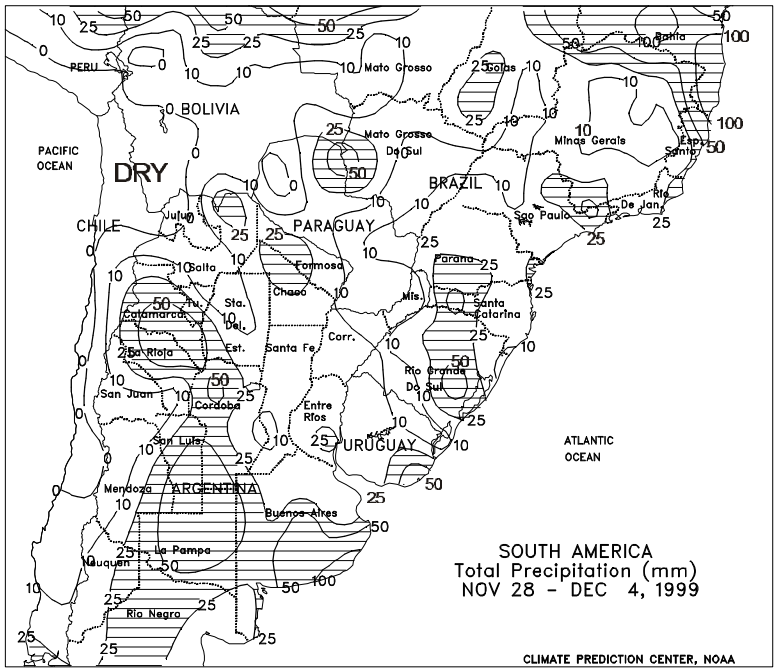
EASTERN ASIA

Across the North China Plain, seasonably dry, cool weather hardened winter wheat for dormancy. Minimum temperatures averaged -2 to -7 degrees C across the region. Mostly dry weather favored late double-crop rice harvesting across the Yangtze Valley. Moderate rain (10-30 mm) slowed rice harvesting in extreme southern China (Guangxi and Guangdong).



SOUTHEAST ASIA

In Java, Indonesia, showers (20-75 mm) maintained favorable moisture supplies for vegetative main season rice. Across Sumatra, Indonesia and peninsular Malaysia, showers (35-150 mm) maintained moisture supplies for oil palm. Seasonably dry weather favored rice harvesting across Thailand and northern Vietnam. Light showers (10-30 mm) prevailed across the Mekong Delta in southern Vietnam, causing only minor rice harvesting delays. Heavy showers (400-600 mm) caused flooding and fieldwork delays in the minor rice area of central Vietnam. A weak tropical depression (sustained winds less than 40 mph) made landfall on peninsular Thailand on December 4. Unseasonably heavy showers (100 - 220 mm) slowed fieldwork for rice and plantation crops in eastern and southern Luzon, Philippines. Elsewhere in the Philippines, seasonable showers (20-150 mm) maintained moisture supplies for second-season crops.



SOUTH AMERICA

In extreme southern Brazil and southern Paraguay, scattered showers and cooler weather provided some relief for developing corn and soybeans. In southern Brazil, light to moderate rain (10-25 mm, with isolated amounts greater than 35 mm) fell across the major soybean and coffee areas of southern Brazil. However, warm, mostly dry weather (rainfall less than 10 mm and several days of maximum temperatures above 35 degrees C) increased stress in Mato Grosso do Sul and southern Paraguay. The driest areas of southern Brazil include Mato Grosso do Sul, Parana, and Rio Grande do Sul, where rainfall has averaged 20 to 30 percent of normal during the past 4 weeks. More rain is needed in these areas to provide adequate soil moisture for summer crop development. Temperatures averaged 2 to 3 degrees C above normal across southern Brazil and southern Paraguay, with cooler weather arriving late in the week. According to reports as of December 3, Brazilian soybeans were 78 percent planted, compared with 80 percent last year. In northern Argentina, light to moderate rain (10-35 mm) brought some dryness relief, but more rain is needed. Rain (20 - 40 mm, with isolated amounts greater than 75 mm) maintained favorable soil moisture in southern Cordoba and La Pampa. Lighter rain (less than 15 mm) reduced soil moisture in southern Santa Fe and extreme northern Buenos Aires. Widespread rain (30-120 mm) fell across southern Buenos Aires, slowed winter wheat maturation and harvesting and possibly reduced quality. According to reports as of November 26, Argentine soybeans were 42 percent planted, corn was 77 percent planted, and sunflowerseed was 90 percent planted. Temperatures averaged 1 to 2 degrees C above normal across central Argentina, increasing crop water use.

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Weather Data for Selected Locations in the Delta

Weather Data for the Week Ending December 4, 1999

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

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	64	40	72	30	52	5	--	--	--	--	--	--	--	--	--	0	2	--	--
	BELZONI x	66	40	74	29	53	3	0.10	-1.23	0.10	0.10	13	--	--	--	--	0	1	1	0
	CLARKSDALE x	65	43	72	28	54	6	0.89	-0.30	0.81	0.89	131	--	--	--	--	0	1	2	1
	CLEVELAND x	66	39	72	32	53	3	1.14	0.10	0.72	1.14	190	--	--	--	--	0	2	3	1
	GREENVILLE x	65	41	72	34	53	3	1.25	-0.13	0.83	1.25	164	--	--	--	--	0	0	3	1
	GREENWOOD x	67	42	73	26	55	5	0.15	-1.08	0.15	0.15	22	--	--	--	--	0	2	1	0
	INDIANOLA 1S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	INVERNESS 5E	66	46	74	34	56	--	0.21	--	0.21	0.21	--	42.10	--	60	53	0	0	1	0
	LYON	65	41	72	28	53	--	0.82	--	0.75	0.82	--	--	--	--	--	0	2	2	1
	MOORHEAD x	68	46	75	35	57	7	0.25	-1.08	0.25	0.25	33	--	--	--	--	0	0	1	0
	ONWARD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	ROLLING FORK x	67	40	74	30	54	4	0.81	-0.51	0.62	0.81	108	--	--	--	--	0	2	3	1
	SIDON	69	47	78	35	58	--	0.14	--	0.14	0.14	--	--	--	59	54	0	0	1	0
	TUNICA x	63	40	72	32	52	5	0.27	-0.98	0.27	0.27	38	--	--	--	--	0	2	1	0
	VICKSBURG x	66	40	74	31	53	0	--	--	--	--	--	--	--	--	--	0	2	--	--
	YAZOO CITY x	67	39	74	32	53	1	0.14	-1.24	0.11	0.14	18	--	--	--	--	0	1	2	0
	STONEVILLE *	66	39	72	31	53	4	0.56	-0.89	0.33	0.56	68	47.80	100	59	47	0	1	2	0

Compiled by USDA/OCE/WAOB's Stoneville Field Office.
*** Based on 1964-93 normals.**
x Based on 1961-90 normals.

Delta Weather and Crop Summary: Widespread showers fell after midweek, with heavy rain spreading across the westernmost part of the Delta at week's end as a well-organized frontal system approached. The rain and above-normal temperatures induced greening of emerging winter wheat.

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