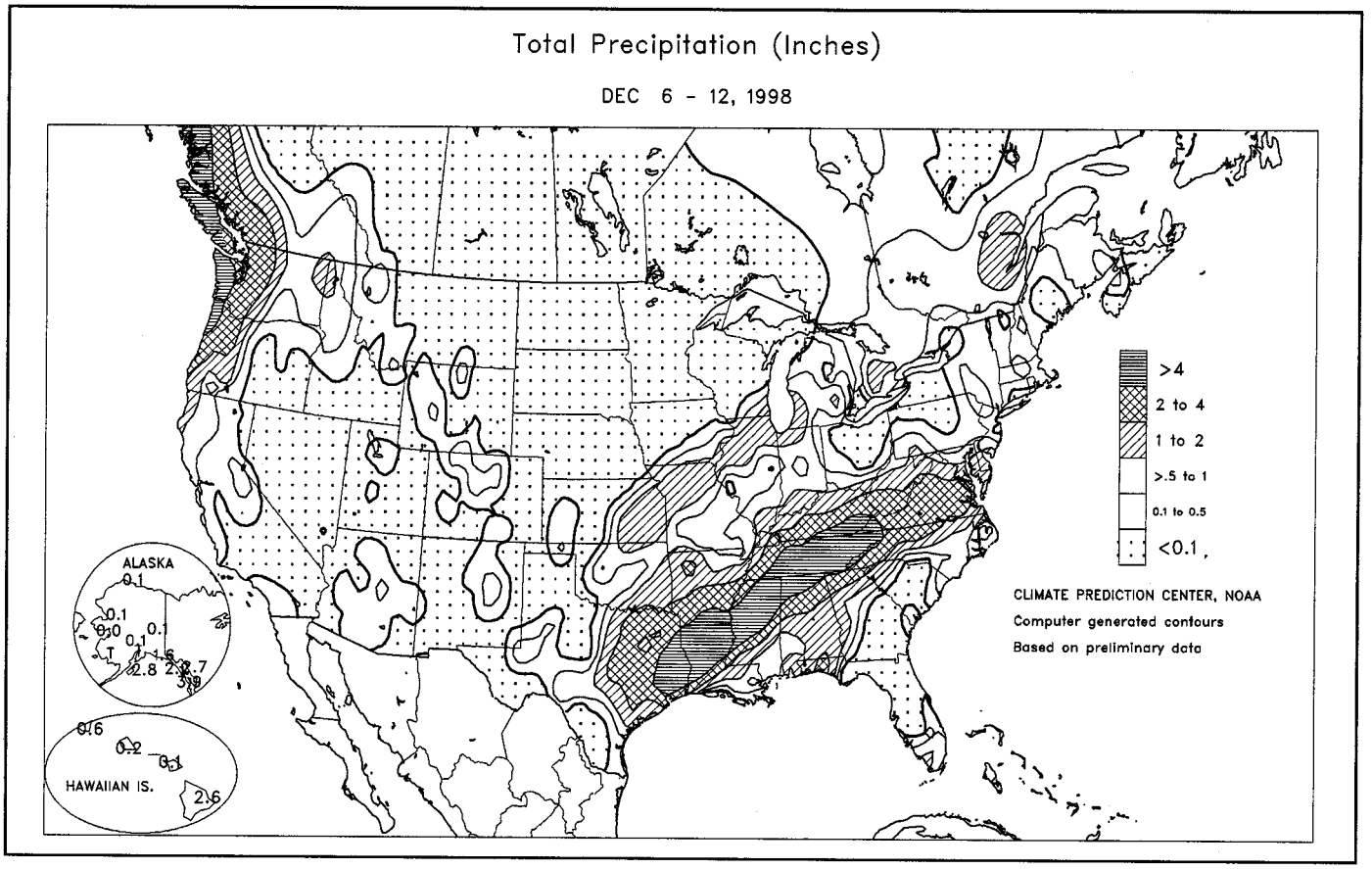
Volume 85, No. 50 December 15, 1998

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 6 - 12, 1998

Cooler air overspread the Nation in the wake of early December's record warmth, helping to cold-harden winter wheat. Unusually mild weather quickly returned, however, to the **North Central States**, resulting in weekly temperature departures of +5 to +15°F. In contrast, temperatures generally ranged from 3 to 7°F below normal from **California** to the **southern High Plains**. Rare snowfall was reported early in the week across the **Desert Southwest**, and record snow blanketed the **southernmost Plains** on Friday. The cool, unsettled weather across the **Southwest** continued to slow late cotton harvesting. Farther east, two rain events unfolded from the **southern Ohio Valley** and the

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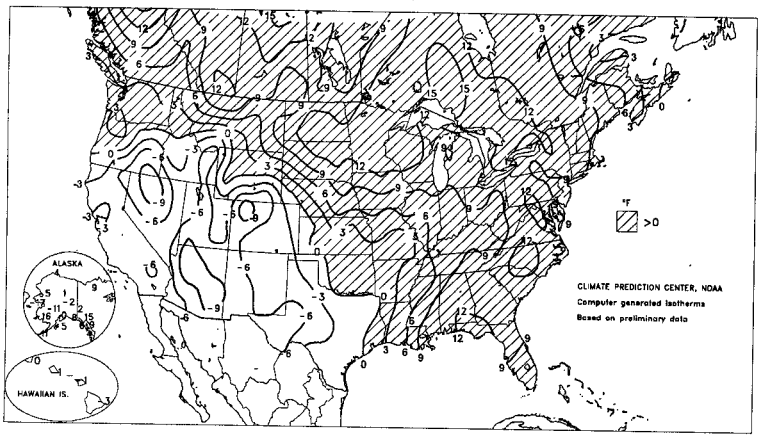
Delta to the **Mid-Atlantic region**, easing long-term drought and improving soil moisture for fall-sown crops. Significant rain, locally heavy, also fell in areas from **eastern Kansas** to **eastern Texas**. Showery weather continued in the **Northwest**, further improving soil moisture in major winter wheat areas but maintaining wet conditions **west of the Cascades**.

In the **East**, approximately 180 additional daily-record highs and 30 monthly records were set or tied from December 6-8. Totals since November 22 climbed to more than 700 daily records and at least 78 monthly records. On Sunday, **Chattanooga, TN** notched their sixth consecutive daily-record high (71, 74, 75, 76, 77, and 77°F). A day later, **Bridgeport, CT** registered 76°F. Prior to this year, **Bridgeport's** December-record high had been 65°F on December 11, 1971. Monthly records were also shattered on December 7 by at least 5°F in **Providence, RI** (77°F) and **Concord, NH** (73°F). Highs on Monday topped 70°F as far north as **Portland, ME** (71°F). On Tuesday, a final flurry of records resulted in December record-tying highs in **Wilmington, NC** (82°F) and **Myrtle Beach, SC** (81°F).

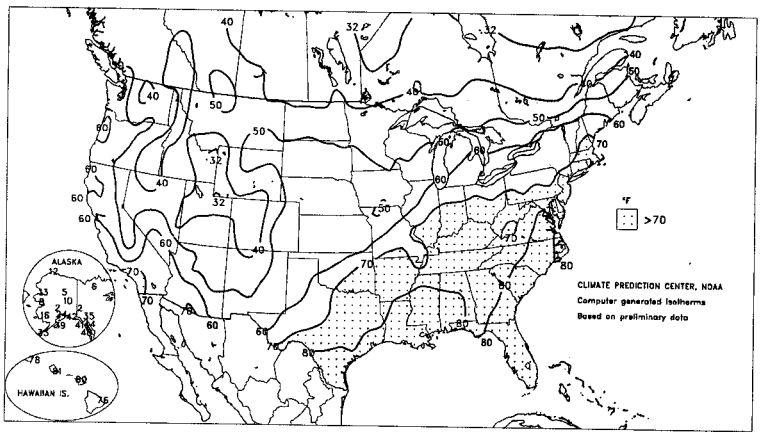
Departure of Average Temperature from Normal (°F)

DEC 6 - 12, 1998



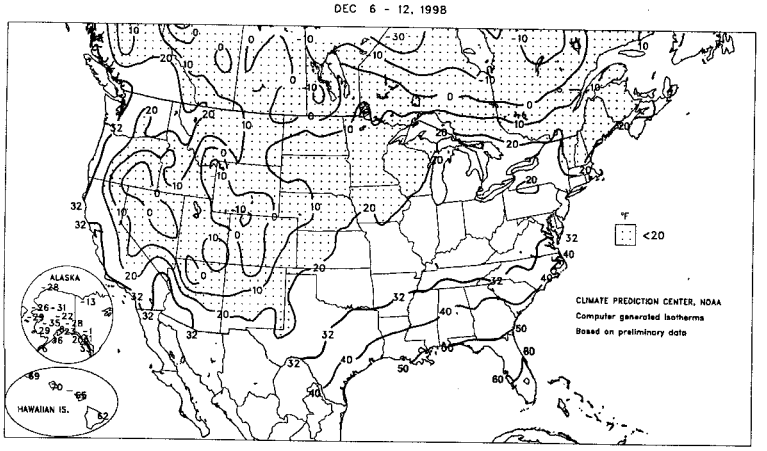
Extreme Maximum Temperature (°F)

DEC 6 - 12, 1998



Extreme Minimum Temperature (°F)

DEC 6 - 12, 1998



During the early-week period, nearly a dozen daily-record lows were observed in **California**. On December 6-7, **Redding** noted consecutive records (25 and 27°F). On the latter date, **Bakersfield** registered 28°F, a daily record. Across the **Southwest**, temperatures dipped as low as 34°F (on Monday) in **Phoenix, AZ** and 32°F (on Wednesday) in **Imperial, CA**. The season's first hard freeze arrived on the **southernmost Plains** on Tuesday, helping to defoliate unharvested cotton. On Wednesday, brief "Santa Ana" conditions across southern California produced wind gusts to 69 mph in Ontario. Farther north and east, temperatures remained above normal despite the cool-down. Through December 12 in **Wisconsin, Madison's** month-to-date temperatures averaged 17°F above normal, and **LaCrosse's** streak of above-normal temperatures reached 21 days. **Oklahoma City, OK** received their first autumn freeze on December 8, breaking a record that had stood since November 30, 1934. Through week's end, autumn freezes had not yet occurred in locations such as **New York's Central Park** (breaking a December 11, 1948, record), **Little Rock, AR** (formerly December 11, 1994), and **Atlanta, GA** (also December 11, 1994).

On Sunday, 1.0 inch of snow whitened **Las Vegas, NV**, while a trace fell in **Phoenix**. The only other time at least an inch accumulated in **Las Vegas** during December was on the 15th in 1967, when 2 inches fell. Snow was last observed in **Phoenix** on February 4, 1994. Later in the week, 9.8 inches buried **Midland, TX** on Friday, breaking their snowfall records for any 24-hour period (6.8 inches on January 23-24, 1974), single storm (7.0 inches), and month (9.0 inches in January 1985). In contrast, season-to-date snowfall (through December 12) in **New York** was the lowest on record in **Rochester** (0.1 inch) and **Buffalo** (0.2 inch). The season's first accumulation (0.2 inch) occurred in **Syracuse, NY** on December 11, breaking their record for latest measurable snowfall, set on December 1, 1966. Records for the latest first trace of snow have already been established at locations such as **Indianapolis, IN** (December 7, 1994), **Detroit, MI** (November 30, 1918 and 1963), **Cincinnati, OH** (December 9, 1994), and **Dayton, OH** (December 10, 1994). On **Lake Erie** at **Buffalo**, the water temperature stood at 49°F on December 9, 8°F above normal and the highest on record for the date. Just last winter, the lake failed to freeze over for only the third time on record.

Rain twice spread eastward across the **Southeastern States**, totaling 2 to 6 inches (with locally higher amounts in the **lower Mississippi Valley**), significantly improving soil moisture from the **Delta** to the **southern Middle Atlantic States**. December 1-13 rainfall rose to 5.53 inches (271 percent of normal) in **Nashville, TN**, 4.64 inches (377 percent) in **College Station, TX**, 4.00 inches (221 percent) in **Shreveport, LA**, and 3.45 inches (256 percent) in **Richmond, VA**. In **Nashville**, the December total surpassed their rainfall (4.28 inches) during the entire meteorological autumn (September-November).

National Weather Data for Selected Cities

Weather Data for the Week Ending December 12, 1998

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

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	66	52	78	39	59	12	1.98	0.84	0.76	1.98	102	62.46	121	92	60	0	0	5	2
	HUNTSVILLE	61	47	77	36	54	10	3.19	1.86	1.57	3.19	141	41.83	78	98	70	0	0	6	2
	MOBILE	74	56	81	46	65	11	0.90	-0.30	0.76	1.19	59	85.48	141	97	67	0	0	4	1
	MONTGOMERY	71	53	82	44	62	11	0.42	-0.75	0.17	0.47	24	46.87	93	96	57	0	0	4	0
AK	ANCHORAGE	20	13	24	8	17	0	0.01	-0.24	0.00	0.79	184	11.13	73	93	70	0	7	1	0
	BARROW	3	-16	12	-28	-7	4	0.14	0.11	0.05	0.19	380	4.68	110	79	64	0	7	5	0
	FAIRBANKS	-1	-14	10	-22	-7	-2	0.08	-0.11	0.03	0.30	91	10.42	100	86	73	0	7	4	0
	JUNEAU	40	34	44	31	37	9	2.73	1.74	1.13	3.48	205	62.32	120	97	75	0	1	7	2
	KODIAK	30	22	39	16	26	-5	2.84	1.36	2.66	3.08	123	104.79	166	81	57	0	7	3	1
	NOME	-3	-14	8	-29	-9	-17	0.00	-0.19	0.00	0.23	70	23.54	163	80	67	0	7	0	0
AZ	FLAGSTAFF	32	7	50	-9	20	-11	0.07	-0.48	0.05	0.52	56	27.48	129	87	43	0	7	2	0
	PHOENIX	59	38	68	34	49	-7	0.24	0.02	0.24	0.44	116	10.28	145	76	27	0	0	1	0
	TUCSON	55	31	65	28	43	-9	0.20	-0.04	0.20	0.49	126	13.65	120	85	31	0	5	1	0
	YUMA	61	43	66	38	52	-5	0.06	-0.04	0.03	0.11	69	4.57	159	50	23	0	0	1	0
AR	FORT SMITH	53	39	75	27	46	4	1.72	0.97	1.28	2.40	180	44.07	112	90	54	0	1	4	1
	LITTLE ROCK	54	43	77	31	48	4	2.16	1.00	0.82	2.16	108	39.78	83	94	57	0	1	5	2
CA	BAKERSFIELD	53	32	57	28	43	-6	0.12	-0.02	0.12	0.56	233	13.23	249	93	49	0	3	1	0
	EUREKA	54	39	62	32	47	-2	0.56	-0.83	0.24	3.88	161	62.17	183	92	64	0	1	5	0
	FRESNO	52	34	55	31	43	-3	0.13	-0.17	0.12	0.55	106	17.19	178	99	57	0	3	2	0
	LOS ANGELES	64	43	77	37	54	-4	0.39	0.03	0.39	0.81	133	25.86	236	65	19	0	0	1	0
	REDDING	51	33	63	25	42	-4	0.30	-0.92	0.14	1.53	74	60.60	203	92	49	0	3	3	0
	SACRAMENTO	51	34	56	27	43	-4	0.05	-0.47	0.04	0.50	55	28.65	180	98	65	0	2	2	0
	SAN DIEGO	63	44	69	41	53	-5	0.09	-0.27	0.09	0.66	108	15.75	176	71	23	0	0	1	0
	SAN FRANCISCO	53	41	55	38	47	-3	0.00	-0.65	0.00	0.69	63	32.39	184	91	61	0	0	0	0
CO	ALAMOSA	33	2	42	-3	17	-2	0.00	-0.11	0.00	0.00	0	6.84	94	86	27	0	7	0	0
	CO SPRINGS	35	14	50	8	25	-6	0.13	0.02	0.06	0.15	79	16.22	101	84	31	0	7	2	0
	DENVER	39	16	49	13	27	-5	0.05	-0.11	0.05	0.05	18	15.98	106	83	36	0	7	1	0
	GRAND JUNCTION	35	15	45	11	25	-6	0.00	-0.14	0.00	0.02	8	8.86	107	86	41	0	7	0	0
	PUEBLO	43	14	58	4	28	-4	0.08	-0.03	0.05	0.08	42	11.51	105	92	31	0	7	2	0
CT	BRIDGEPORT	52	35	73	27	44	7	0.19	-0.62	0.18	0.25	18	41.19	104	92	50	0	3	2	0
	HARTFORD	52	34	74	23	43	11	0.17	-0.74	0.17	0.23	15	44.75	107	89	45	0	4	1	0
DC	WASHINGTON	59	44	78	35	51	10	1.01	0.29	0.74	1.01	82	35.19	96	87	52	0	0	4	1
DE	WILMINGTON	55	38	72	28	47	9	0.42	-0.38	0.34	0.42	31	35.94	93	95	54	0	4	4	0
FL	DAYTONA BEACH	80	63	82	59	71	10	0.01	-0.57	0.01	0.37	37	39.54	85	95	58	0	0	1	0
	JACKSONVILLE	74	57	80	51	66	9	0.04	-0.54	0.04	0.06	6	56.49	114	97	64	0	0	1	0
	KEY WEST	80	74	81	73	77	5	0.36	-0.11	0.20	0.38	46	36.73	96	90	71	0	0	2	0
	MIAMI	81	72	82	69	76	6	0.34	-0.07	0.16	0.67	92	68.97	126	84	60	0	0	4	0
	ORLANDO	81	62	83	57	71	8	0.00	-0.50	0.00	0.01	1	44.11	94	99	55	0	0	0	0
	PENSACOLA	73	59	80	51	66	12	1.35	0.41	1.01	1.41	89	65.42	110	94	65	0	0	4	1
	TALLAHASSEE	75	58	80	51	67	12	0.04	-1.08	0.02	0.07	4	57.29	92	94	55	0	0	3	0
	TAMPA	82	65	83	62	73	10	0.00	-0.49	0.00	0.00	0	54.24	127	99	59	0	0	0	0
	WEST PALM BEACH	80	70	81	63	75	7	0.50	-0.10	0.24	1.37	126	64.96	109	84	60	0	0	4	0
GA	ATHENS	63	49	77	40	56	10	0.55	-0.34	0.28	0.55	36	49.04	104	95	55	0	0	3	0
	ATLANTA	63	50	73	42	56	10	0.58	-0.38	0.33	0.58	36	44.81	93	93	55	0	0	4	0
	AUGUSTA	71	48	81	37	59	11	0.07	-0.65	0.03	0.07	6	46.35	109	88	37	0	0	3	0
	COLUMBUS	67	55	76	47	61	11	1.13	0.02	0.85	1.13	61	32.74	68	93	59	0	0	3	1
	MACON	68	51	77	43	60	10	0.61	-0.32	0.49	0.61	40	42.43	101	93	53	0	0	4	0
	SAVANNAH	72	52	81	41	62	9	0.25	-0.37	0.25	0.25	24	47.41	100	98	50	0	0	1	0
HI	HILO	75	64	76	62	69	-3	2.59	-0.30	0.76	6.93	137	105.23	86	100	80	0	0	7	2
	HONOLULU	80	71	81	70	76	1	0.19	-0.65	0.06	0.37	26	4.00	20	83	60	0	0	5	0
	KAHULUI	79	67	80	65	73	-1	0.11	-0.58	0.09	0.28	24	5.86	31	87	61	0	0	3	0
	LIHUE	76	70	78	69	73	0	0.60	-0.53	0.27	1.15	59	25.33	63	90	73	0	0	6	0
ID	BOISE	37	24	45	17	30	-1	0.09	-0.21	0.05	0.50	94	15.56	138	90	55	0	7	2	0
	LEWISTON	41	32	45	24	36	1	0.24	-0.04	0.09	0.30	64	17.07	145	88	53	0	4	4	0
	POCATELLO	27	14	32	5	20	-6	0.08	-0.17	0.01	0.41	95	13.17	115	91	66	0	7	3	0
IL	CHICAGO/O'HARE	48	31	62	27	39	10	1.10	0.50	1.10	1.10	104	37.44	109	92	53	0	5	1	1
	MOLINE	47	26	55	22	36	8	0.83	0.30	0.83	0.83	90	47.90	127	93	58	0	6	1	1
	PEORIA	46	28	55	22	37	7	1.31	0.72	1.31	1.35	132	42.06	121	95	56	0	6	1	1
	ROCKFORD	45	25	57	21	35	9	0.84	0.34	0.83	0.84	95	39.87	114	96	60	0	6	2	1
	SPRINGFIELD	47	27	65	20	37	5	0.24	-0.42	0.24	0.24	21	44.51	132	93	58	0	5	1	0
IN	EVANSVILLE	52	36	73	25	44	7	0.39	-0.48	0.33	0.55	37	40.74	99	96	60	0	4	3	0
	FORT WAYNE	49	31	69	22	40	9	0.35	-0.34	0.34	0.37	31	37.69	114	94	53	0	5	2	0
	INDIANAPOLIS	51	32	72	23	42	8	0.31	-0.49	0.31	0.31	23	48.68	128	91	52	0	5	1	0
	SOUTH BEND	47	30	64	24	39	8	1.41	0.63	1.40	1.43	106	34.64	93	96	57	0	5	2	1
IA	BURLINGTON	48	30	56	23	39	10	1.37	0.89	1.37	1.38	166	52.19	149	86	54	0	6	1	1
	CEDAR RAPIDS	42	21	48	15	32	7	0.02	-0.37	0.02	0.02	3	45.26	138	95	64	0	7	1	0
	DES MOINES	45	25	50	19	35	8	0.04	-0.28	0.04	0.07	12	39.61	123	90	48	0	7	1	0
	DUBUQUE	42	24	54	18	33	9	0.10	-0.38	0.04	0.12	14	43.30	116	93	64	0	7	3	0
	SIOUX CITY	47	18	53	14	32	9	0.00	-0.19	0.00	0.03	9	30.96	122	86	37	0	7	0	0
	WATERLOO	46	23	51	18	34	11	0.00	-0.32	0.00	0.01	2	44.55	135	84	42	0	7	0	0
KS	CONCORDIA	47	26	53	24	36	5	0.09	-0.11	0.09	0.10	29	33.17	117	88	42	0	7	1	0
	DODGE CITY	46	24	55	22	35	1	0.18	0.01	0.18	0.18	64	21.66	103	89	46	0	7	1	0
	GOODLAND	44	17	58	12	30	0	0.00	-0.10	0.00	0.00	0	18.20	102	85	24	0	7	0	0
	TOPEKA	48	26	52	23	37	5	1.18	0.83	1.18	1.19	195	42.14	123	92	46	0	6	1	1

Based on 1961-90 normals

Weather Data for the Week Ending December 12, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	47	28	52	25	37	3	0.64	0.34	0.64	0.80	157	34.41	120	92	52	0	6	1	1
KY	JACKSON	54	41	73	32	48	8	2.11	1.09	1.12	2.55	146	50.78	108	93	57	0	1	3	2
	LEXINGTON	53	38	71	26	46	8	0.98	0.04	0.50	1.46	92	47.87	114	98	59	0	3	3	1
	LOUISVILLE	55	41	72	31	48	9	0.58	-0.27	0.28	0.72	49	45.56	108	94	53	0	3	3	0
	PADUCAH	54	38	72	25	46	7	0.84	-0.26	0.59	1.60	85	53.86	116	93	59	0	4	5	1
LA	BATON ROUGE	69	54	83	43	61	7	0.67	-0.58	0.36	0.76	36	53.68	93	97	70	0	0	4	0
	LAKE CHARLES	64	53	81	46	59	4	2.09	0.96	0.99	2.10	109	55.07	107	98	76	0	0	6	2
	NEW ORLEANS	73	58	82	48	66	10	0.77	-0.53	0.47	0.94	43	77.72	133	93	71	0	0	3	0
	SHREVEPORT	56	45	81	38	51	1	3.97	3.03	1.47	4.10	252	48.47	111	96	62	0	0	7	3
ME	CARIBOU	33	16	45	4	25	7	0.59	-0.17	0.40	0.72	55	34.97	101	93	59	0	7	3	0
	PORTLAND	46	27	70	17	36	8	0.22	-0.87	0.19	0.26	14	53.72	129	95	50	0	5	4	0
MD	BALTIMORE	58	39	77	27	49	10	0.50	-0.27	0.43	0.55	42	33.67	87	90	47	0	4	4	0
MA	BOSTON	51	37	75	30	44	8	0.40	-0.53	0.40	0.43	27	52.28	134	90	58	0	1	1	0
	WORCESTER	48	33	70	22	40	11	0.48	-0.46	0.48	0.52	32	45.64	101	89	49	0	4	1	0
MI	ALPENA	43	28	57	25	36	10	0.74	0.27	0.71	0.80	98	32.46	118	91	58	0	6	3	1
	GRAND RAPIDS	46	31	60	26	38	9	0.87	0.18	0.83	0.92	77	31.97	93	91	57	0	6	2	1
	HOUGHTON LAKE	42	28	55	24	35	10	0.72	0.26	0.68	0.80	99	24.15	89	93	65	0	6	2	1
	LANSING	47	29	65	23	38	9	0.94	0.37	0.94	0.97	99	28.34	97	93	54	0	6	1	1
	MARQUETTE	40	23	48	15	32	12	0.01	-0.60	0.01	0.05	5	37.85	112	84	46	0	7	1	0
	MUSKEGON	46	33	56	27	39	9	0.92	0.21	0.83	1.13	93	28.11	91	86	60	0	2	2	1
MN	DULUTH	38	22	48	18	30	14	0.00	-0.29	0.00	0.57	112	32.68	112	90	52	0	7	0	0
	INT'L FALLS	31	11	40	3	21	11	0.05	-0.14	0.00	0.10	30	22.28	93	94	68	0	7	2	0
	MINNEAPOLIS	41	21	47	18	31	11	0.00	-0.26	0.00	0.24	53	32.89	119	89	49	0	7	0	0
	ROCHESTER	42	22	48	18	32	12	0.00	-0.25	0.00	0.00	0	31.90	110	92	51	0	7	0	0
	ST. CLOUD	41	18	48	14	30	13	0.00	-0.19	0.00	0.76	217	24.77	92	92	53	0	7	0	0
MS	JACKSON	64	50	81	40	57	8	3.44	2.11	1.95	3.45	153	48.77	94	95	71	0	0	5	2
	MERIDIAN	69	52	84	40	60	11	1.60	0.23	0.67	1.62	70	51.90	98	95	62	0	0	4	1
	TUPELO	57	44	79	33	51	6	4.83	3.43	2.44	4.86	204	48.24	93	97	71	0	0	6	3
MO	COLUMBIA	47	28	63	24	38	4	0.37	-0.24	0.37	0.41	39	44.16	117	94	49	0	5	1	0
	KANSAS CITY	46	27	51	22	37	4	0.82	0.44	0.76	0.83	128	49.16	134	93	54	0	6	2	1
	SAINT LOUIS	48	31	72	24	39	3	0.28	-0.46	0.28	0.30	23	43.09	120	91	54	0	5	1	0
	SPRINGFIELD	48	29	70	22	39	1	0.39	-0.39	0.38	0.58	43	47.69	116	96	56	0	4	2	0
MT	BILLINGS	35	21	49	9	28	1	0.00	-0.17	0.00	0.51	182	14.21	97	80	52	0	6	0	0
	BUTTE	29	5	44	-7	17	-1	0.04	-0.05	0.01	0.93	547	15.04	127	89	59	0	7	2	0
	GLASGOW	34	16	42	7	25	8	0.00	-0.08	0.00	0.20	143	14.43	135	89	64	0	7	0	0
	GREAT FALLS	41	26	51	17	34	8	0.00	-0.19	0.00	0.00	0	16.42	112	68	38	0	5	0	0
	KALISPELL	36	26	44	22	31	8	0.19	-0.20	0.05	0.38	58	19.41	126	85	59	0	6	4	0
	MILES CITY	43	20	54	12	32	11	0.00	-0.14	0.00	0.06	25	13.50	99	81	39	0	7	0	0
	MISSOULA	35	24	44	18	30	5	0.02	-0.23	0.01	0.47	115	21.00	165	93	60	0	7	2	0
NE	GRAND ISLAND	47	21	56	18	34	7	0.00	-0.18	0.00	0.01	3	25.90	106	84	33	0	7	0	0
	LINCOLN	48	20	55	19	34	7	0.00	-0.22	0.00	0.03	8	34.06	123	89	36	0	7	0	0
	NORFOLK	48	20	57	16	34	9	0.00	-0.18	0.00	0.02	6	35.05	142	84	33	0	7	0	0
	NORTH PLATTE	46	12	55	7	29	3	0.00	-0.11	0.00	0.00	0	22.43	118	89	28	0	7	0	0
	OMAHA	47	23	52	20	35	7	0.00	-0.25	0.00	0.02	5	39.53	135	91	40	0	7	0	0
	SCOTTSBLUFF	42	11	52	4	26	-1	0.10	-0.04	0.10	0.10	42	16.49	111	82	29	0	7	1	0
	VALENTINE	47	15	56	8	31	7	0.00	-0.08	0.00	0.00	0	24.07	134	82	26	0	7	0	0
NV	ELY	36	7	51	-6	21	-5	0.05	-0.12	0.03	0.32	114	12.23	125	85	35	0	7	1	0
	LAS VEGAS	52	34	60	30	43	-4	0.04	-0.04	0.04	0.04	29	6.96	180	47	16	0	3	1	0
	RENO	40	20	51	15	30	-3	0.00	-0.22	0.00	0.06	16	12.04	175	85	40	0	7	0	0
	WINNEMUCCA	30	6	36	-2	18	-13	0.02	-0.18	0.02	0.19	53	15.31	198	93	68	0	7	1	0
NH	CONCORD	47	25	73	17	36	10	0.22	-0.53	0.22	0.32	24	34.94	101	95	47	0	5	1	0
NJ	NEWARK	55	39	76	29	47	9	0.22	-0.58	0.21	0.24	17	42.67	102	91	47	0	2	2	0
NM	ALBUQUERQUE	39	22	47	11	31	-6	0.23	0.12	0.21	0.23	121	9.85	116	84	35	0	7	2	0
NY	ALBANY	47	30	63	20	39	10	0.25	-0.44	0.25	0.37	31	38.30	111	91	54	0	5	1	0
	BINGHAMTON	46	32	63	27	39	11	0.20	-0.51	0.20	0.41	34	37.91	108	93	58	0	5	1	0
	BUFFALO	50	35	69	27	43	11	0.01	-0.86	0.01	0.10	7	33.38	92	90	62	0	4	1	0
	ROCHESTER	51	31	69	26	41	10	0.08	-0.57	0.08	0.26	23	40.61	134	90	55	0	6	1	0
	SYRACUSE	51	33	70	28	42	12	0.29	-0.47	0.16	0.46	35	35.91	97	92	53	0	4	2	0
NC	ASHEVILLE	61	42	75	27	51	10	1.13	0.33	0.71	1.20	86	45.96	101	95	48	0	2	5	1
	CHARLOTTE	66	48	78	35	57	13	0.12	-0.65	0.11	0.12	9	37.89	93	92	46	0	0	2	0
	GREENSBORO	63	46	78	32	55	13	1.78	1.03	0.83	1.85	145	44.82	110	95	51	0	1	5	2
	HATTERAS	66	57	73	49	62	11	0.04	-0.96	0.04	0.05	3	58.07	109	87	67	0	0	1	0
	RALEIGH	66	46	80	28	56	12	0.19	-0.53	0.13	0.20	16	49.39	125	95	49	0	1	3	0
	WILMINGTON	70	51	82	40	60	10	0.11	-0.69	0.03	0.12	9	59.77	115	87	52	0	0	2	0
ND	BISMARCK	43	18	49	13	30	14	0.08	-0.03	0.00	0.09	47	23.56	155	89	49	0	7	1	0
	DICKINSON	43	23	47	19	33	14	0.00	-0.08	0.00	0.00	0	24.62	155	81	43	0	7	0	0
	FARGO	38	18	46	14	28	14	0.00	-0.14	0.00	0.00	0	31.54	165	90	62	0	7	0	0
	GRAND FORKS	30	12	39	6	21	8	0.00	-0.14	0.00	0.01	4	23.56	131	94	75	0	7	0	0
	JAMESTOWN	40	20	45	13	30	15	0.00	-0.11	0.00	0.00	0	21.65	130	85	50	0	7	0	0
	WILLISTON	36	13	43	4	24	9	0.00	-0.13	0.00	0.23	110	17.31	130	90	60	0	7	0	0
OH	AKRON-CANTON	49	32	67	24	41	8	0.09	-0.61	0.08	0.11	9	38.24	109	97	63	0	5	2	0
	CINCINNATI	53	36	72	23	44	9	0.70	-0.04	0.66	0.78	60	48.33	123	97	55	0	4	2	1
	CLEVELAND	51	35	69	27	43	10	0.19	-0.55	0.17	0.19	15	31.09	89	89	56	0	5	2	0
	COLUMBUS	52	37	72	27	44	10	0.39	-0.29	0.37	0.40	34	34.72	95	96	61	0	3	2	0
	DAYTON	50	35	71	24	42	8	0.29	-0.40	0.23	0.31	26	37.41	107	92	56	0	4	2	0
	MANSFIELD	49	33	67	24	41	9	0.16	-0.59	0.16	0.16	12	36.09	96	94	57	0	5	1	0

Based on 1961-90 normals

Weather Data for the Week Ending December 12, 1998

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	49	32	69	24	41	11	0.08	-0.62	0.07	0.08	7	32.01	102	89	51	0	5	2	0
	YOUNGSTOWN	50	32	68	22	41	9	0.13	-0.56	0.12	0.14	12	35.35	99	92	51	0	5	2	0
OK	OKLAHOMA CITY	52	35	67	29	44	3	0.34	0.00	0.34	1.55	263	35.26	108	83	50	0	2	1	0
	TULSA	52	32	70	26	42	1	0.25	-0.29	0.16	1.12	118	46.08	117	92	49	0	5	2	0
OR	ASTORIA	49	41	57	35	45	2	3.68	1.28	1.33	8.11	197	80.72	135	97	57	0	0	7	3
	BURNS	29	7	37	-7	18	-8	0.20	-0.08	0.12	0.64	136	15.80	170	96	69	0	7	3	0
	EUGENE	49	38	63	29	44	2	1.93	-0.04	0.72	3.85	114	45.71	104	96	73	0	1	6	2
	MEDFORD	46	34	59	30	40	1	0.16	-0.61	0.08	0.75	57	28.24	168	99	70	0	3	3	0
	PENDLETON	46	35	56	28	41	5	0.38	0.01	0.25	0.78	120	13.84	125	86	57	0	3	3	0
	PORTLAND	48	40	57	33	44	3	1.76	0.36	0.56	3.01	126	42.35	130	95	71	0	0	6	1
	SALEM	48	39	60	28	44	3	2.14	0.57	0.62	3.90	145	46.16	132	97	78	0	1	6	2
PA	ALLENTOWN	53	32	71	24	43	9	0.33	-0.48	0.31	0.34	24	39.41	95	94	50	0	4	2	0
	ERIE	51	37	69	32	44	11	0.03	-0.84	0.03	0.36	24	30.39	77	83	57	0	2	1	0
	MIDDLETOWN	55	38	72	29	46	11	0.16	-0.60	0.10	0.16	12	45.80	119	84	47	0	3	2	0
	PHILADELPHIA	55	39	71	29	47	9	0.34	-0.43	0.29	0.35	27	31.19	79	87	46	0	2	3	0
	PITTSBURGH	50	35	70	24	43	9	0.13	-0.53	0.12	0.16	14	32.56	93	92	57	0	4	2	0
	WILKES-BARRE	49	32	66	22	40	8	0.14	-0.46	0.14	0.27	26	34.16	98	92	57	0	4	1	0
	WILLIAMSPORT	51	33	69	22	42	9	0.04	-0.68	0.04	0.19	15	39.43	101	91	55	0	4	1	0
RI	PROVIDENCE	53	34	75	23	43	9	0.20	-0.82	0.20	0.22	13	51.55	120	95	53	0	4	1	0
SC	BEAUFORT	73	54	81	41	64	11	0.11	-0.57	0.10	0.11	10	47.61	96	92	49	0	0	1	0
	CHARLESTON	73	52	81	41	63	10	0.40	-0.28	0.39	0.44	39	63.96	129	94	47	0	0	2	0
	COLUMBIA	69	50	80	39	60	11	0.02	-0.74	0.01	0.02	2	44.22	93	89	39	0	0	2	0
	GREENVILLE	64	49	75	36	56	11	0.50	-0.43	0.41	0.50	32	48.24	99	94	46	0	0	4	0
SD	ABERDEEN	45	17	53	14	31	13	0.04	-0.06	0.00	0.06	33	28.39	155	92	41	0	7	1	0
	HURON	46	21	54	16	33	13	0.00	-0.11	0.00	0.05	26	25.03	126	89	39	0	7	0	0
	RAPID CITY	46	16	56	12	31	5	0.00	-0.11	0.00	0.02	11	21.06	129	76	29	0	7	0	0
	SIOUX FALLS	43	17	50	15	30	9	0.00	-0.17	0.00	0.06	19	30.96	132	92	44	0	7	0	0
TN	BRISTOL	57	40	72	27	49	9	2.23	1.47	1.23	2.35	181	40.96	106	95	59	0	2	4	2
	CHATTANOOGA	61	47	76	33	54	11	2.80	1.63	1.18	2.81	141	50.58	101	95	61	0	0	5	3
	KNOXVILLE	59	44	74	30	52	10	3.26	2.24	1.65	3.43	198	51.40	116	96	58	0	1	5	2
	MEMPHIS	55	43	76	32	49	4	2.79	1.43	0.93	3.18	136	51.79	106	99	75	0	1	6	3
	NASHVILLE	55	42	76	29	48	6	4.53	3.46	1.93	5.47	297	49.67	111	95	60	0	1	6	3
TX	ABILENE	51	35	68	29	43	-4	0.72	0.47	0.52	1.32	307	13.82	58	93	42	0	3	3	1
	AMARILLO	45	26	53	22	35	-3	0.09	-0.02	0.05	0.43	226	17.17	89	90	46	0	7	2	0
	AUSTIN	57	47	78	42	52	-1	1.29	0.85	0.77	1.44	187	38.98	127	88	57	0	0	3	2
	BEAUMONT	63	53	81	45	58	2	2.28	1.21	1.54	2.30	125	57.26	106	97	74	0	0	5	2
	BROWNSVILLE	68	57	85	44	63	0	0.34	0.06	0.09	0.36	77	20.00	77	94	59	0	0	3	0
	CORPUS CHRISTI	65	53	84	44	59	-1	0.37	0.09	0.26	0.40	85	30.30	103	95	67	0	0	3	0
	DEL RIO	60	42	76	34	51	-2	0.36	0.22	0.21	0.38	152	29.19	163	90	43	0	0	4	0
	EL PASO	48	32	53	23	40	-6	0.01	-0.13	0.01	0.27	123	6.71	78	77	38	0	4	1	0
	FORT WORTH	54	42	75	34	48	-1	2.31	1.89	1.13	3.84	519	33.65	103	91	46	0	0	6	1
	GALVESTON	63	54	79	46	58	1	3.15	2.35	2.45	3.23	236	51.51	128	96	71	0	0	5	1
	HOUSTON	62	49	84	40	56	1	3.79	3.00	2.28	3.88	285	54.66	124	96	66	0	0	4	2
	LUBBOCK	49	28	68	23	39	-3	0.00	-0.14	0.00	0.27	112	13.08	71	88	36	0	6	0	0
	MIDLAND	49	28	63	19	38	-7	0.56	0.42	0.51	0.58	242	5.15	35	93	41	0	5	2	1
	SAN ANGELO	54	33	68	26	43	-4	0.44	0.25	0.31	0.44	133	12.94	65	96	49	0	3	3	0
	SAN ANTONIO	58	46	78	38	52	-2	0.33	-0.03	0.26	0.38	58	42.09	140	86	61	0	0	3	0
	VICTORIA	62	50	80	42	56	-1	2.95	2.48	2.02	3.32	415	46.09	127	99	77	0	0	5	2
	WACO	55	41	76	33	48	-2	2.94	2.50	2.58	3.40	442	34.40	111	95	62	0	0	4	1
	WICHITA FALLS	53	36	70	29	44	0	0.80	0.50	0.41	1.88	362	22.98	82	87	51	0	2	3	0
UT	SALT LAKE CITY	32	17	37	11	25	-7	0.25	-0.08	0.21	0.95	167	23.48	152	91	55	0	7	3	0
VT	BURLINGTON	46	26	64	21	36	11	0.13	-0.46	0.08	0.28	27	50.33	152	90	56	0	6	4	0
VA	LYNCHBURG	61	40	78	27	51	11	1.68	0.94	0.76	1.75	137	46.11	118	96	49	0	2	4	2
	NORFOLK	64	51	79	41	58	12	0.97	0.27	0.82	0.97	82	50.40	118	92	55	0	0	3	1
	RICHMOND	63	44	81	33	54	12	1.70	0.96	0.80	1.70	136	43.44	106	90	45	0	0	3	2
	ROANOKE	59	44	77	29	52	12	1.12	0.43	0.76	1.16	98	43.87	112	84	44	0	1	3	1
	WASH/DULLES	59	37	79	25	48	10	0.79	0.05	0.64	0.79	62	36.69	96	93	51	0	4	4	1
WA	HANFORD	39	27	49	24	33	--	0.14	--	0.08	0.16	--	6.17	--	96	72	0	7	2	0
	OLYMPIA	46	38	56	32	42	3	3.46	1.61	1.16	5.73	181	51.09	112	100	87	0	1	7	3
	QUILLAYUTE	48	39	53	33	43	2	7.39	3.86	2.83	12.16	201	95.10	99	99	85	0	0	7	4
	SEATTLE-TACOMA	47	40	57	36	43	2	2.33	0.98	0.91	3.36	144	38.36	114	97	79	0	0	7	2
	SPOKANE	35	27	44	22	31	2	0.66	0.11	0.37	1.74	185	16.21	108	96	74	0	5	6	0
	YAKIMA	39	24	46	16	32	1	0.11	-0.20	0.06	0.32	60	8.34	117	99	73	0	6	2	0
WV	BECKLEY	51	37	67	26	44	8	2.30	1.56	1.39	2.46	195	46.74	120	99	59	0	4	4	2
	CHARLESTON	54	39	74	27	47	8	1.39	0.59	0.79	1.51	110	46.68	115	97	58	0	4	3	1
	ELKINS	52	32	70	20	42	8	0.79	-0.01	0.40	0.90	66	45.00	105	93	55	0	4	3	0
	HUNTINGTON	54	40	74	27	47	8	1.59	0.82	1.05	1.68	127	42.63	108	96	47	0	3	3	1
WI	EAU CLAIRE	42	20	49	15	31	12	0.00	-0.25	0.00	0.00	0	28.95	93	90	51	0	7	0	0
	GREEN BAY	44	24	52	21	34	11	0.01	-0.36	0.01	0.06	9	28.53	102	87	56	0	7	1	0
	MADISON	45	25	56	18	35	11	0.22	-0.22	0.22	0.22	28	39.87	134	89	59	0	7	1	0
	MILWAUKEE	45	30	56	27	38	11	0.71	0.16	0.71	0.75	78	34.50	109	87	49	0	6	1	1
WY	CASPER	35	16	47	7	25	0	0.02	-0.15	0.02	0.02	7	14.43	119	69	34	0	7	1	0
	CHEYENNE	33	12	41	-1	23	-6	0.13	0.02	0.13	0.15	79	10.51	74	69	37	0	7	1	0
	LANDER	34	11	48	3	23	0	0.07	-0.07	0.07	0.12	50	17.17	135	75	38	0	7	1	0
	SHERIDAN	42	12	55	3	27	3	0.00	-0.17	0.00	0.06	21	17.30	123	85	38	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.

Autumn Weather Review

Highlights: Frequent, locally heavy rainfall eliminated moisture concerns across most of the Plains, but caused flooding in portions of Kansas, Oklahoma, and eastern Texas. Long-term drought persisted, however, in portions of the southern High Plains. In the Northwest, mid- to late-November precipitation improved soil moisture in major winter wheat areas but left soils saturated west of the Cascades. In contrast, drought intensified from portions of the Ohio Valley to the Mid-Atlantic region, where 5-month rainfall deficits topped 10 inches in some locations. During November, dryness, exacerbated by unusual warmth, spread into the Southeast. Tropical activity during the autumn included Hurricane Earl, which made landfall in western Florida on September 3; Tropical Storm Frances, which soaked areas from the western and central Gulf Coast northward from September 10-13; Hurricane Georges, which skirted the Florida Keys on September 25, 3 days before slamming into the Mississippi coast; and Tropical Storm Mitch, which crossed southern Florida on November 5.

Temperatures were consistently above normal from the Rockies to the Appalachians, resulting in autumn departures of +2 to +5°F. Near- to below-normal temperatures prevailed in California and the Great Basin, particularly during October, producing departures of -4 to +1°F. Near-normal readings were also observed in the Northeast.

September: Warm, dry weather in the Corn Belt rapidly pushed corn and soybeans to maturity and allowed harvesting to proceed at an ahead-of-normal pace. Mostly dry weather also prevailed on the Plains, especially in western areas, slowing winter wheat planting as growers awaited rain. Drought stretched into a seventh month on the southern Plains and through a third month in parts of the Ohio Valley and Mid-Atlantic States.

Above-normal temperatures prevailed nearly nationwide, producing well over 400 daily-record highs and more than a dozen monthly record highs. Along the West Coast and in the Southwest, a late-month cool-down held monthly departures below +5°F. Near-normal readings prevailed in California. Farther north and east, however, temperatures ranged from 4 to 9°F above normal across the interior Northwest and throughout the Plains. Corn Belt temperatures were 2 to 7°F above normal.

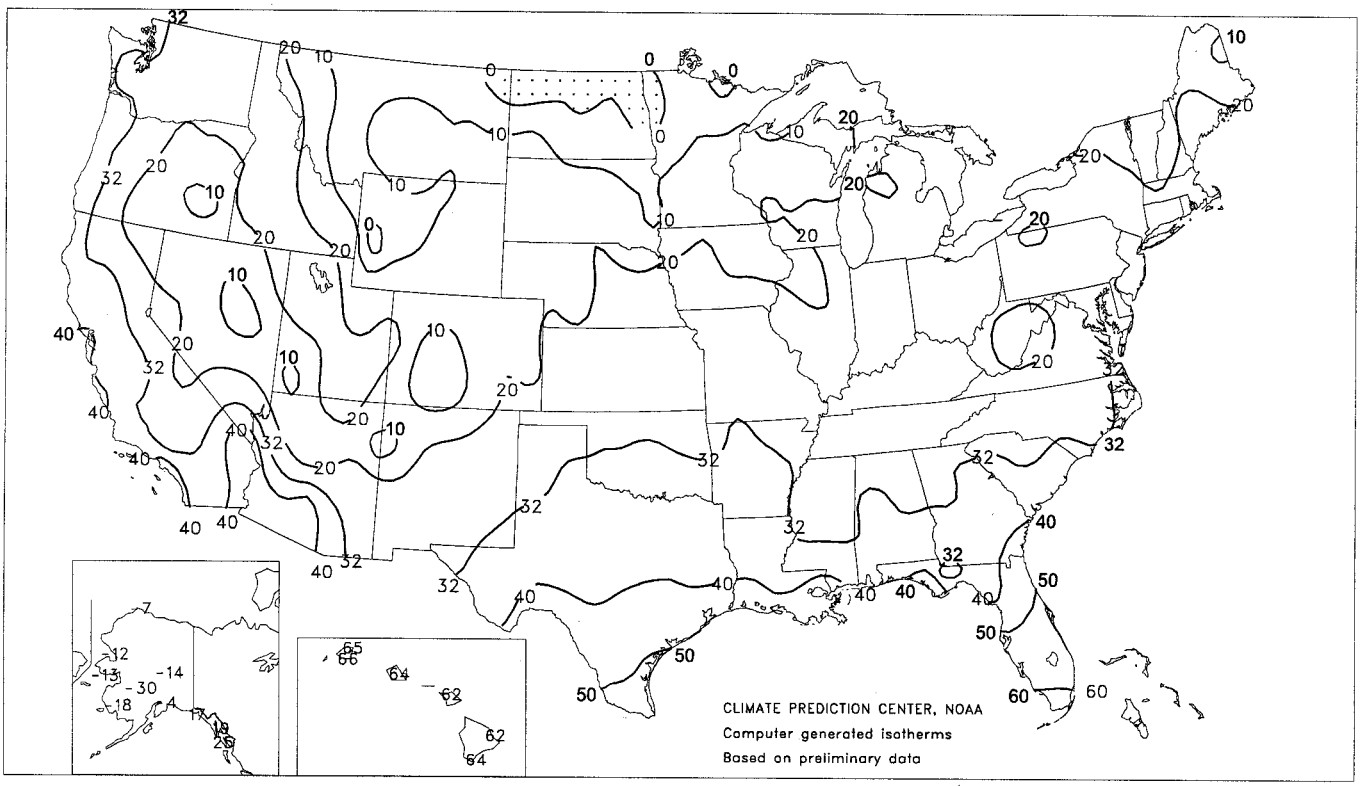
October: A very wet pattern unfolded across the Plains, eliminating topsoil moisture deficits, but slowing cotton harvesting and causing some mid- to late-month flooding. Torrential rain struck southeastern Texas from October 17-19, submerging low-lying areas, stranding or washing away livestock, and damaging fences and farm buildings. At month's end, heavy rain in parts of Oklahoma and Kansas left standing water and caused wash-outs in low-lying winter wheat fields.

Warm weather (up to 3°F above normal) accompanied the Plains' rainfall, however, fostering winter wheat establishment in most areas. Corn Belt harvesting advanced at an ahead-of-normal pace despite above-normal rainfall, as warm weather kept soils from becoming too wet. In the Southeast, where readings ranged from 2 to 5°F above normal, dry weather reduced topsoil moisture, but promoted summer-crop harvesting and winter wheat planting. Unfavorably dry weather also developed in the Pacific Northwest. In contrast, unusually cool, showery conditions affected the remainder of the West. Monthly temperatures ranged from 2 to 5°F below normal in California and the Great Basin.

November: *A complete summary appeared in last week's Bulletin.*

Autumn Extreme Minimum Temperature (°F)

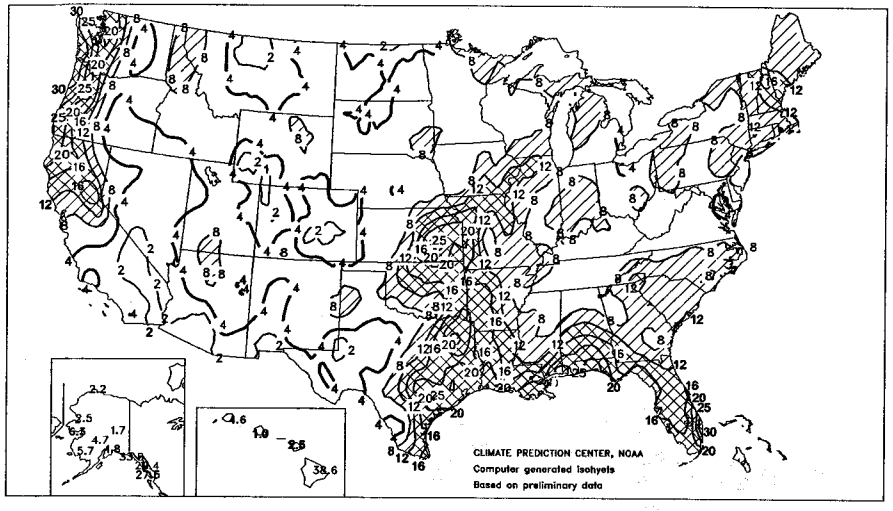
SEP - NOV 1998



Although an early-November cold snap in the East produced sub-freezing temperatures as far south as Tallahassee, FL (31°F on November 7), portions of the South Central States had no freeze through November. In Oklahoma, Oklahoma City's first freeze on December 8 broke a record that had stood since November 30, 1934. Similarly in Texas, Midland's first freeze (32°F on December 7) erased a 1954 standard. Farther north, infrequent sub-zero cold was confined to a few areas from northern Montana eastward into the Red River Valley. Grand Forks, ND noted -9°F on November 20.

Autumn Total Precipitation (Inches)

SEP - NOV 1998



Autumn Average Temperature (°F)

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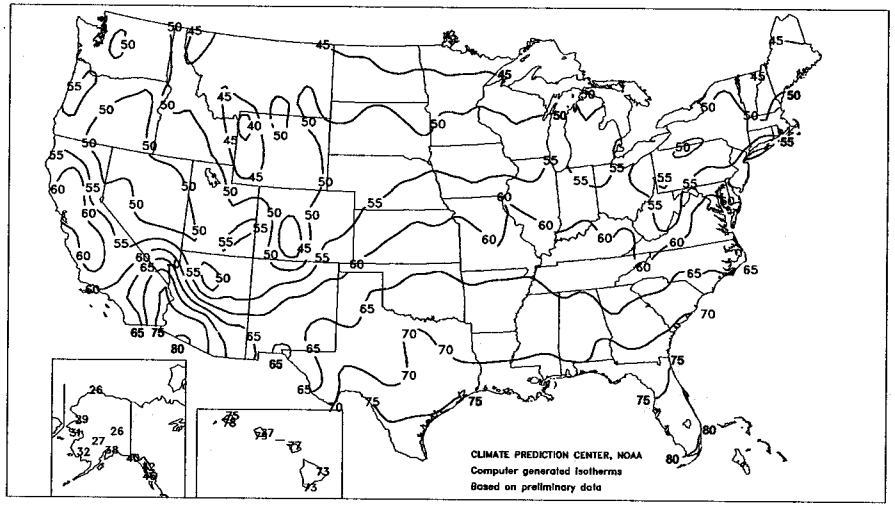
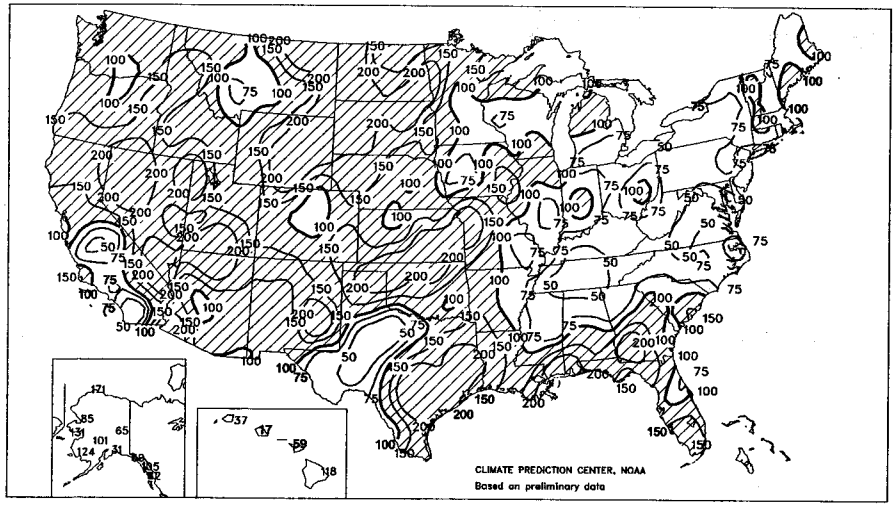


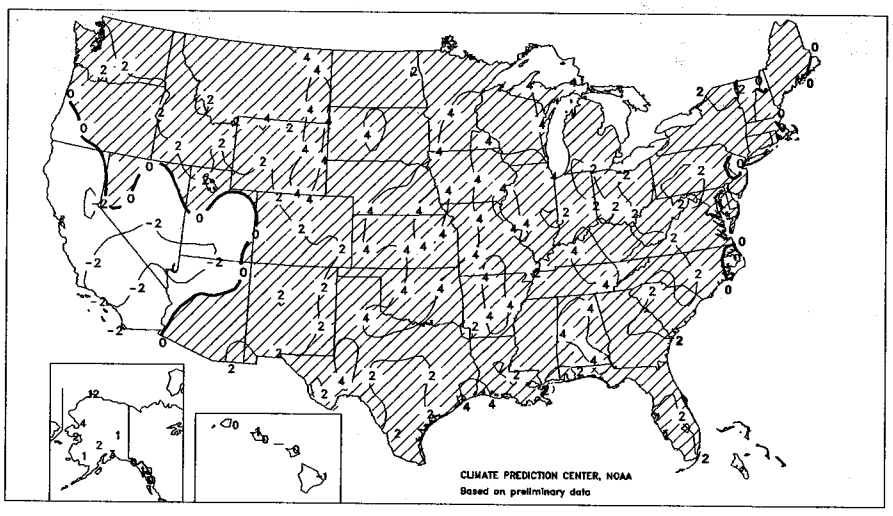
Autumn Percent of Normal Precipitation

SEP - NOV 1998



Autumn Departure from Normal Average Temperature (°F)

SEP - NOV 1998



National Agricultural Summary

December 7 - 13, 1998

HIGHLIGHTS

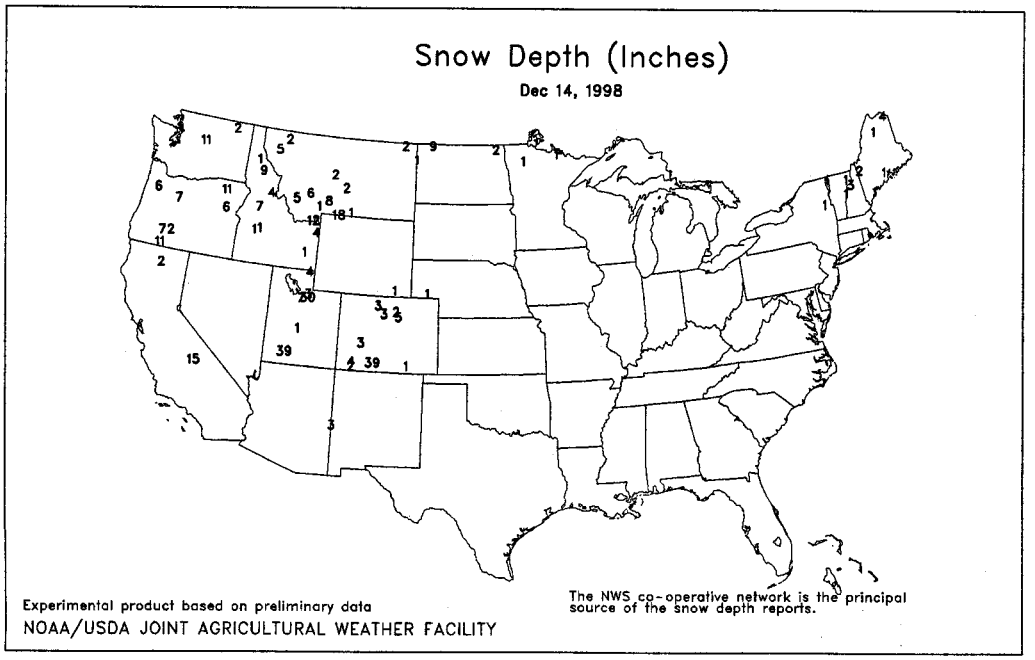
Winter wheat growth ended in the Great Plains and Corn Belt as temperatures fell to more seasonable levels. Across the northern Plains and upper Mississippi Valley, winter kill was not an immediate threat, as temperatures remained well above normal. Seeding of small grains and winter forages continued in California, but were hampered by wet soils in many areas. Cool, cloudy weather slowed growth of emerging crops in the San Joaquin Valley, while wheat fields in the Sacramento Valley were growing well with additional moisture. Poor drying conditions hampered cotton harvesting in the Central Valley, and the lint quality was declining in unharvested fields. Vegetable harvest activity was slowed by frost, but fruit and nut harvest was active. Cold overnight temperatures did little or no damage to fruit crops. In Texas, small grain growth was slowed in the Plains by freezing temperatures and snow. Cotton growth ended following the hard freeze and final harvest, temporarily halted by snow, resumed late in the week. Grain sorghum and peanut harvests were nearly complete by the end of the week in the Plains. In the South Central region of Texas, the final peanut harvest was hampered by wet fields. Hot, dry weather continued to delay small grain emergence in the Southeast, where soil moisture increasingly became short. However, the dry weather allowed vegetable planting and harvesting activities to proceed on schedule in Florida. Picking quality and color were good, and growth of recently planted vegetable crops was normal.

U.S. Crop Production Highlights

The following information was released by USDA's Agricultural Statistics Board on December 11, 1998. Forecasts refer to December 1.

All cotton production is forecast at 13.5 million bales, up 2 percent (%) from last month, but down 28% from 1997. Yield is expected to average 621 pounds per harvested acre, up 9 pounds from last month, but down 59 pounds from last year. Texas production was increased 300,000 bales from November's forecast, but California's output was reduced 100,000 bales.

All orange production forecast for 1998-99 remains at 11.0 million tons, down 21% from last year's record-large crop of 13.9 million tons. Florida's all orange forecast is 190 million boxes (8.55 million tons), 22% less than the record-large 244 million boxes produced last season. Early and midseason varieties in Florida are forecast at 112 million boxes (5.04 million tons), 20% lower than last season. Florida's Valencia forecast of 78 million boxes (3.51 million tons) is 25% below last season's 104 million boxes. California's all orange production forecast of 62 million boxes (2.33 million tons) is carried forward from October and is 16% less than last season. The Navel orange forecast is 34 million boxes (1.28 million tons), down 23% from last year, and the Valencia forecast is 28 million boxes (1.05 million tons), 7% less than a year ago.



International Weather and Crop Summary

December 6 - 12, 1998

HIGHLIGHTS

FSU-WESTERN: Stormy weather further increased protective snow cover.

EUROPE: Cold weather kept winter grains dormant in most areas. In central and southern Spain, prolonged dryness limited moisture for winter grain development.

NORTHWESTERN AFRICA: Dry weather returned to winter grain areas in Morocco, helping planting activities. Additional rain is needed to ensure uniform crop emergence and establishment.

AUSTRALIA: Winter grain harvest advanced in the southeast.

SOUTH ASIA: Summer crop harvesting and winter planting made good progress in most areas.

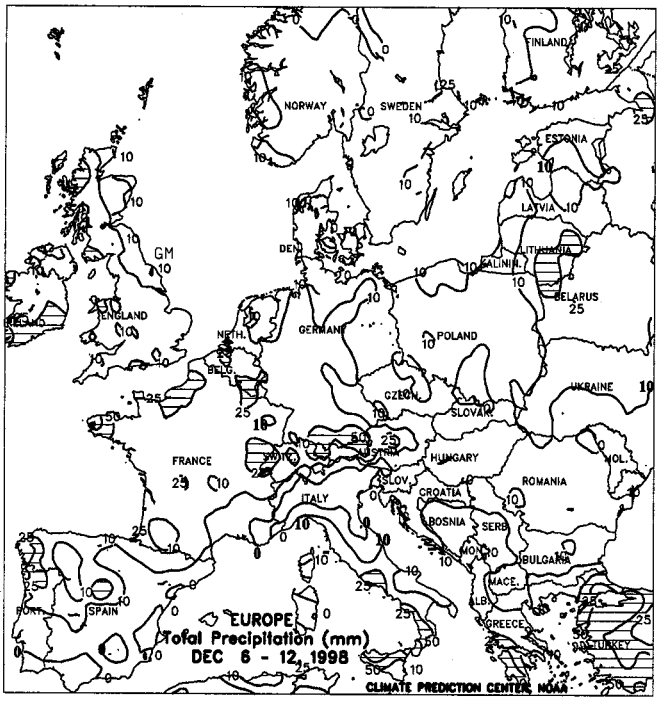
SOUTH AFRICA: Scattered showers and seasonable warmth maintained favorable prospects for corn and other summer crops.

SOUTHEAST ASIA: Typhoon Faith struck the central Philippines, causing flooding and slowing sugarcane and main-season rice harvesting, but increasing moisture supplies for second-season grains.

EASTERN ASIA: Winter wheat entered dormancy across the North China Plain.

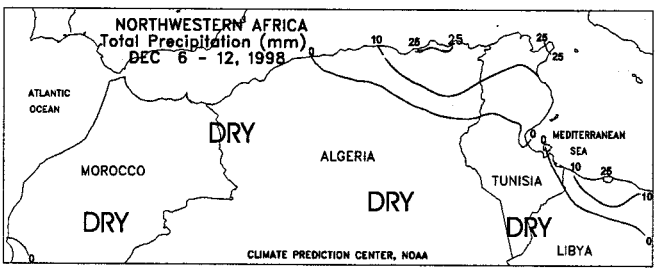
SOUTH AMERICA: Timely rain benefited soybean planting and germination in Rio Grande do Sul, Brazil, and central Argentina.

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



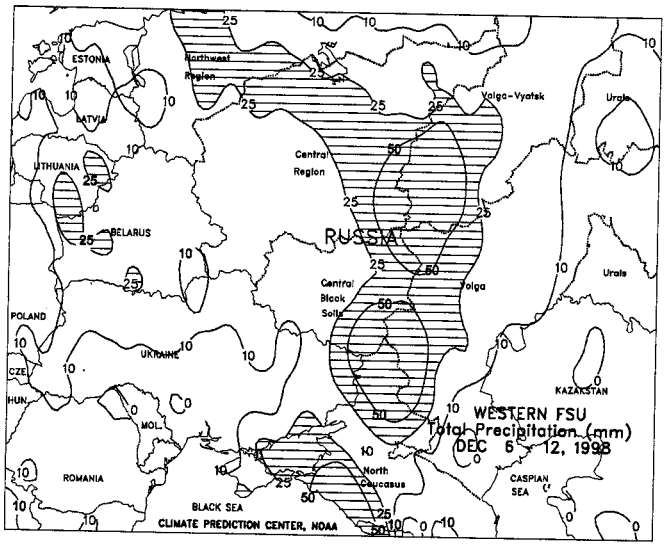
EUROPE

Unseasonably cold weather continued to prevail across most of Europe, keeping winter grains dormant. The exceptions were in parts of western Europe (southern England, western France, and northern Spain), where a warming trend (weekly temperatures averaging 1 to 3 degrees C above normal) developed during the week. Farther east, weekly temperatures averaged 2 to 6 degrees C below normal in central Europe and 6 to 9 degrees C below normal in the east. Cool, showery weather extended from England southward through France, hampering late-season fieldwork. Light snow (2-12 mm, liquid equivalent) fell over central and eastern Europe, increasing snow cover. Lowest temperatures during the week (-12 to -22 degrees C) were observed in Poland, eastern Germany, the Czech Republic, Slovakia, Hungary, Romania, and eastern Serbia. Snow cover was sufficient in these areas to protect winter crops from widespread winterkill. In southern Europe, persistent dryness in central and southern Spain limited moisture for winter grain development. Widespread showers (10-25 mm or more) fell in southern Italy and Greece, maintaining abundant moisture conditions for the early development of winter grains.



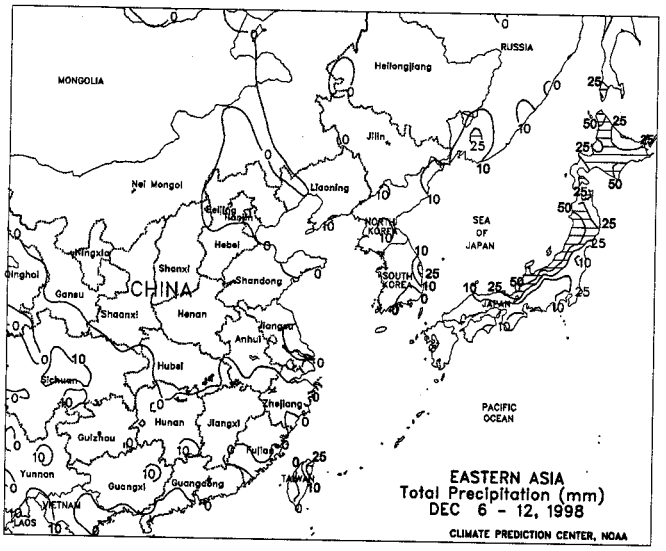
NORTHWESTERN AFRICA

Dry weather returned to winter grain areas in Morocco, favoring rapid winter grain planting. Although rainfall the previous week improved planting prospects for winter grains, additional rain is needed to ensure uniform crop emergence and sufficient establishment. Farther east, light to moderate showers (7-17 mm) in northeastern Algeria and northern Tunisia maintained adequate moisture for newly emerging winter grains. Unseasonably cold weather (weekly temperatures averaging 1 to 3 degrees C below normal) prevailed across Morocco, Algeria, and Tunisia, slowing crop emergence and early growth.



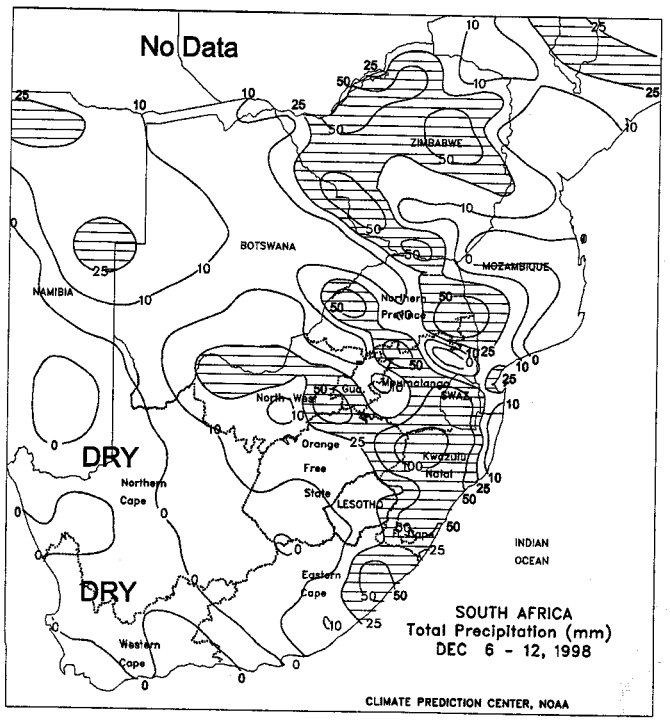
FSU-WESTERN

Stormy weather prevailed over most of the region. Widespread snow (10-25 mm or more, liquid equivalent) fell from the Baltics, Belarus, and northern Ukraine, eastward across most of Russia. Strong winds were observed in some areas, causing considerable drifting of snow. The heaviest snowfall (25-64 mm, liquid equivalent) maintained a deep snow cover in the eastern portion of the Central Region, southern Volga Vyatsk, and central Volga Valley. In southern Russia, moderate to heavy rain (25-50 mm or more) improved soil moisture levels in the North Caucasus, extreme southern tip of Central Black Soils Region, and lower Volga Valley. The precipitation in these areas changed to snow at week's end, with a protective snow cover extending as far south as the Black Sea Coast. Lowest temperatures (extreme minimum temperatures ranging from -10 to -21 degrees C) during the week were observed in northern Russia, the Baltics, Belarus, and most of Ukraine.



EASTERN ASIA

Seasonably cold, dry weather prompted winter wheat to enter dormancy across the North China Plain. Light rain (less than 5 mm) fell across the Yangtze Valley, where winter grain and oilseed planting continues. Minimum temperatures ranged from 2 to -3 degrees C across the Yangtze Valley, burning back vegetative winter grains.

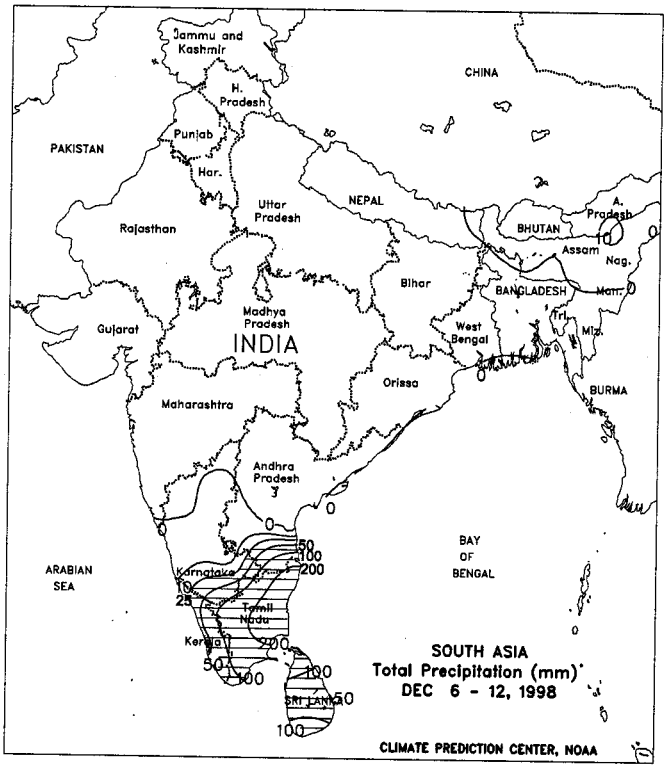


SOUTH AFRICA

Scattered showers (10-25 mm or more, locally exceeding 50 mm) continued throughout the corn belt. High temperatures ranged from 25 to 30 degrees C, benefiting vegetative summer crop growth. Planting should be winding down throughout the region, with most areas experiencing adequate to abundant moisture reserves for crop establishment and vegetative development. Corn and other summer crops planted in October (mainly in eastern sections of the corn belt) will be in or near reproductive phases of development by the end of the month. Along the coast, near- to above-normal rainfall (25-50 mm or more) continued in sugarcane areas of KwaZulu-Natal and portions of Eastern Cape. In Western Cape, mostly dry weather was favorable for the final wheat harvest.

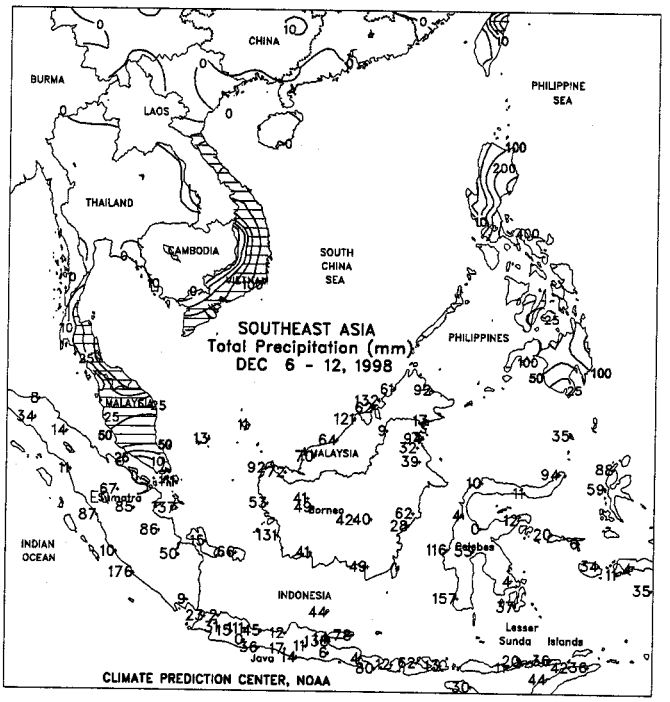
SOUTH ASIA

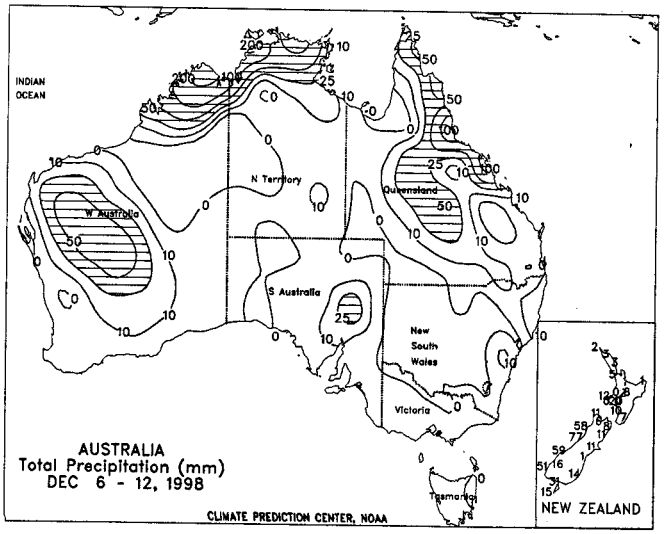
Warm, dry weather continued to dominate the region, favoring summer grain, oilseed, and cotton harvests and promoting winter grain and oilseed plantings. The exception was India's southern tip, where very heavy rainfall (100-200 mm) likely flooded some rice areas. *(This is the final weekly summary of the season. Coverage will continue on a monthly basis until June 1999.)*



SOUTHEAST ASIA

Typhoon Faith barreled through the central Philippines on December 10, with sustained winds of 65 knots (75 mph). The storm helped to produce heavy showers (100-400 mm) across most of the islands, causing flooding, slowing sugarcane and main-season rice harvesting, but increasing moisture supplies for second-season grains. Faith then entered the South China Sea and approached the south-central coast of Vietnam by week's end, producing heavy rain (100-200 mm) along the coast and causing minor crop damage. Faith made landfall in central Vietnam on December 14, with sustained winds of 35 knots (40 mph). Seasonably dry weather favored main-season rice harvesting in Thailand. Showers (10-40 mm, with isolated amounts greater than 75 mm) maintained moisture supplies for rice and corn in Java. Showers (40-90 mm) increased moisture supplies for oil palm across peninsular Malaysia.





AUSTRALIA

Dry, much warmer-than-normal weather (temperatures 3-4 degrees C above normal) maintained favorable conditions for wheat and barley harvesting across the southeast. To the north, however, showers (5-25 mm or more) returned to the Darling Downs and western agricultural districts in southern Queensland late in the week. Fortunately, seasonably warm, dry weather aided cotton and sorghum development prior to the rainfall. Heavy tropical showers (50-100 mm or more) over Queensland's northern sugarcane areas hampered planting and harvesting activities. Elsewhere, scattered showers (5-28 mm) caused minor disruptions in Western Australia's winter grain harvest, generally in the northern and eastern growing areas. In New Zealand, showers were mostly light (25 mm or less) in the main crop and pasture areas.

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National Oceanic and Atmospheric Administration
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Managing Editor ..... ***David Miskus***
Meteorologists ..... ***Jeff Savadel***
..... ***Brian Morris and Clinton Wallace***
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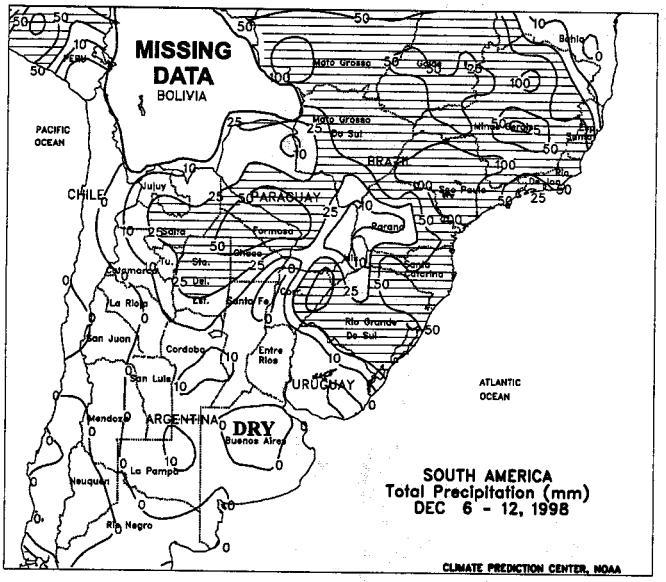

SOUTH AMERICA

In central Argentina, timely rain (10-40 mm, with isolated amounts greater than 100 mm) fell across northern Buenos Aires, southern Cordoba, and southern Santa Fe on December 13 (too late to appear on the current rainfall maps). This rain boosted soil moisture that had become limited due to 2 to 3 weeks of drier-than-normal weather. However, widespread rainfall is still needed across the region to ensure favorable summer crop prospects. Dry weather continued to stress filling wheat across southern Buenos Aires. Widespread rain (20-60 mm) increased soil moisture for cotton development in northern Argentina. According to reports as of December 4, corn was 81 percent planted versus 84 percent last year, sunseed was 93 percent planted versus 91 percent last year, and soybeans were 65 percent planted versus 65 percent last year. Wheat harvesting was 27 percent complete. In southern Brazil, rain (20-40 mm) brought relief to stressed soybeans and corn in Rio Grande do Sul. Farther north, widespread showers (10-75 mm) maintained favorable soil moisture for summer crop development. Heavier showers (100-170 mm) possibly caused flooding in Sao Paulo. In southern Paraguay, scattered rain (5-18 mm) brought limited relief to dry topsoils.

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