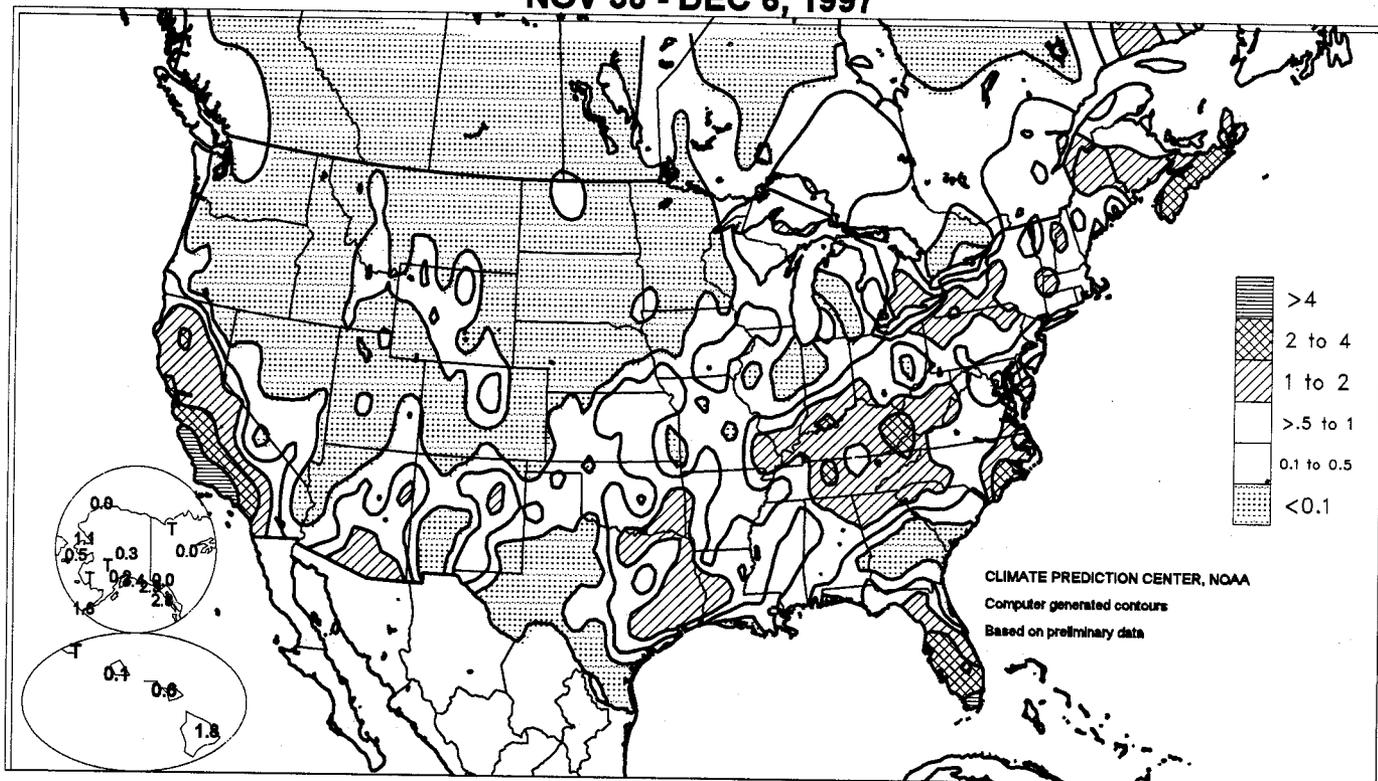


WEEKLY WEATHER AND CROP BULLETIN

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

Total Precipitation (Inches)
NOV 30 - DEC 6, 1997



HIGHLIGHTS

November 30 - December 6, 1997

Steered by the southern branch of a split jet stream, storms continued to track into **California** before heading across the **Southern and Eastern States**. Spells of wet weather reached 4 weeks in **California** and 8 weeks in parts of the **Southeast**. In contrast, dryness continued to develop on the **northern Plains**, where little precipitation has fallen since early October. After a brief absence, cold weather returned to many areas **east of the Rockies** late in the week. Weekly departures ranged from -12°F in **southern Colorado** to +10°F in **northern Minnesota**. Abundant snow showers accompanied the renewed chill across the **Midwestern and Great Lakes States**.

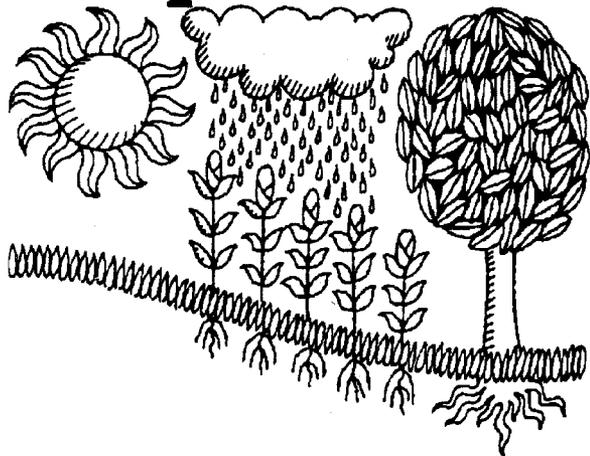
(Continued on back cover)

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125 Years of Weather and Crop Reporting

Weather & Crop Service



1872

1997

U.S. Department of Commerce
U.S. Department of Agriculture

U.S. crop weather reporting began 125 years ago, on November 18, 1872, with the Signal Corps' publication of the two-page *Weekly Weather Chronicle*. The publication has continued through myriad changes in name, organization, and physical makeup (see table below), becoming the *Weekly Weather and Crop Bulletin* in 1924. Until the 1970's, its primary purpose was to report the current crop and weather conditions across the Nation, at which time the *Bulletin's* scope expanded to encompass important agricultural areas of the world.

The publication began under the jurisdiction of the War Department (Weather Service of the Signal Corps), moving to the Department of Agriculture in 1891. When the Weather Bureau (now the National Weather Service) was transferred to the Commerce Department in 1940, the *Bulletin* became an interagency effort. The effort was formally recognized in 1958, fostering cooperation between the Agriculture and Commerce Departments that has resulted in a product that neither agency could produce alone. The *Bulletin* (ISSN 0043-1974) is issued under the general authority of the Act of January 12, 1895 (44-USC 213), 53rd Congress, 3rd Session.

The *Bulletin's* "modern era" began in 1978 with the creation of the Joint Agricultural Weather Facility (JAWF), comprised of employees from the National Weather Service's Climate Analysis Center (NWS/CAC) and the Department of Agriculture's World Agricultural Outlook Board (USDA/WAOB). Under a NWS reorganization, CAC became the Climate Prediction Center (CPC) in October 1995. JAWF and USDA's National Agricultural Statistics Service (NASS) have continued this cooperative effort for nearly 20 years.

--Brad Rippey

<u>Title</u>	<u>Dates</u>	<u>Bureau or Office</u>	<u>Department</u>	<u>Remarks</u>
<i>Weekly Weather Chronicle</i>	November 1872- April 1881	Signal Corps	War	The <i>Chronicle</i> was a two-page release containing a general weather summary. A paragraph on rivers was included, beginning in 1873.
<i>Special Bulletin</i>	June 1884- April 1887	Signal Corps	War	The <i>Bulletin</i> consisted of a single page, issued monthly.
<i>Weather Crop Bulletin</i>	May 1887- June 1891	Signal Corps	War	The <i>Bulletin</i> was issued weekly during the growing season (May to Sept.) and monthly during the other months. It consisted of weather and crop information.
<i>Weather Crop Bulletin</i>	July 1891- January 1896	Weather Bureau	Agriculture	The Weather Service of the Signal Corps was transferred from the War Department to the Department of Agriculture on Jul. 1, 1891, thus creating the Weather Bureau. The <i>Bulletin</i> was issued weekly from Apr. to Sept., and monthly from Oct. to Mar. Maps and tabulations of temperature and precipitation were published, along with a "General Summary" and "State Summaries." Other than name variations, little change occurred until Jan. 1922.
<i>Climate and Crop Bulletin</i>	February 1896- August 1904	Weather Bureau	Agriculture	Title change.
<i>Weather Crop Bulletin</i>	August 1904- January 1906	Weather Bureau	Agriculture	Title change.
<i>National Weather Bulletin</i>	February 1906- June 1914	Weather Bureau	Agriculture	Title change.

<i>National Weather and Crop Bulletin</i>	July 1914- December 1921	Weather Bureau	Agriculture	Title change. The <i>Snow and Ice Bulletin</i> , which had been issued separately since 1894, was added during the winter from Dec. 1919 to Dec. 1921. Years later, issues from 1914 were established as Volume 1. A bound volume containing issues from Jul.-Dec. 1914 is the oldest in our office's archive. The <i>Bulletin</i> converted to an all-weekly format during the winter months in 1919-20.
<i>Weather, Crops, and Markets</i>	January 1922- December 1923	Weather Bureau	Agriculture	The publication was reduced in content and consolidated with <i>Crops and Markets</i> .
<i>Weekly Weather and Crop Bulletin</i>	January 1924- June 1940	Weather Bureau	Agriculture	Due to demand for more detailed weather and crop information, the publications were again separated. The <i>Bulletin</i> went through its final name change and acquired much of its present content, consisting of four pages.
<i>Weekly Weather and Crop Bulletin</i>	July 1940- July 1965	Weather Bureau	Commerce	The Weather Bureau was transferred from the Department of Agriculture to the Commerce Department on Jul. 1, 1940. The <i>Bulletin's</i> format changed little until Oct. 18, 1954, when it was expanded to eight pages. The policy governing the <i>Bulletin's</i> production, unwritten since 1940, was formalized in 1958.
<i>Weekly Weather and Crop Bulletin</i>	July 1965- May 1969	Environmental Data Service	Commerce	On Jul. 13, 1965, the Environmental Science Services Administration (ESSA) was created as an agency within the Department of Commerce. The Environmental Data Service was established in ESSA.
<i>Weekly Weather and Crop Bulletin</i>	May 1969- October 1970	Environmental Data Service	Commerce	The <i>Bulletin</i> was expanded to 12 or 16 pages to accommodate additional maps and articles.
<i>Weekly Weather and Crop Bulletin</i>	October 1970- May 1979	Environmental Data Service	Commerce	On Oct. 3, 1970, the National Oceanic and Atmospheric Administration (NOAA) was created as an agency within the Department of Commerce. ESSA went out of existence, but its components, including the Environmental Data Service, were moved into NOAA. Under this reorganization, the Weather Bureau became the National Weather Service (NWS).
<i>Weekly Weather and Crop Bulletin</i>	May 1979- October 1995	Climate Analysis Center	Commerce	The Climate Analysis Center (CAC) was established within the National Weather Service's National Meteorological Center in May 1979. The Joint Agricultural Weather Facility (JAWF), comprised of CAC and USDA/World Agricultural Outlook Board employees, had been created a few months earlier.
<i>Weekly Weather and Crop Bulletin</i>	October 1995- present	Climate Prediction Center	Commerce	Under a NWS reorganization in 1995, CAC was renamed the Climate Prediction Center (CPC).

Acknowledgments:

Dye, Lucius W., "Weekly Weather and Crop Bulletin Centennial," *Weekly Weather and Crop Bulletin*, Vol. 59, No. 22 (May 29, 1972): 11.

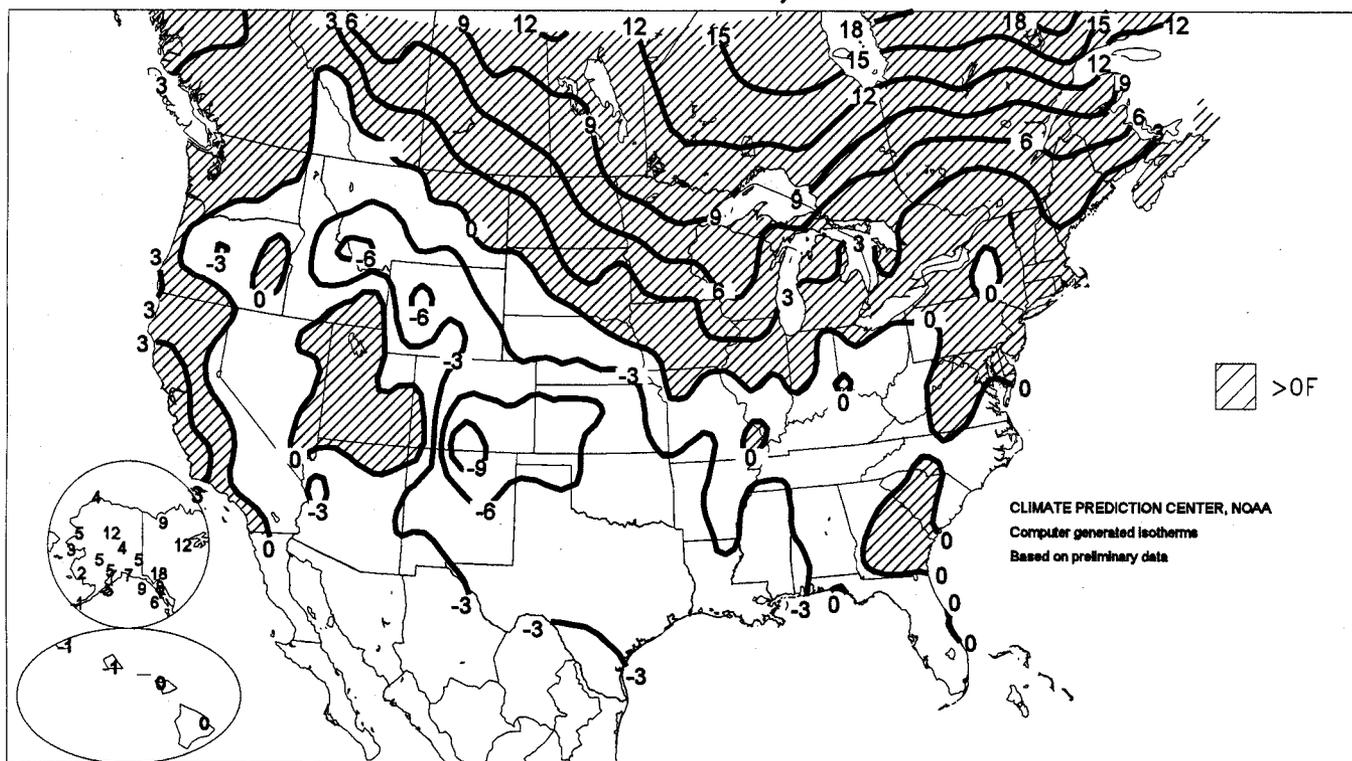
Dye, Lucius W., "100 Years of the Weekly Weather and Crop Bulletin," *Weekly Weather and Crop Bulletin*, Vol. 59, No. 30 (July 24, 1972): 14.

Heddinghaus, Thomas R. and Le Comte, Douglas M., "A Century of Monitoring Weather and Crops: The Weekly Weather and Crop Bulletin," *Bulletin of the American Meteorological Society*, vol. 73 (February 1992): 180-186.

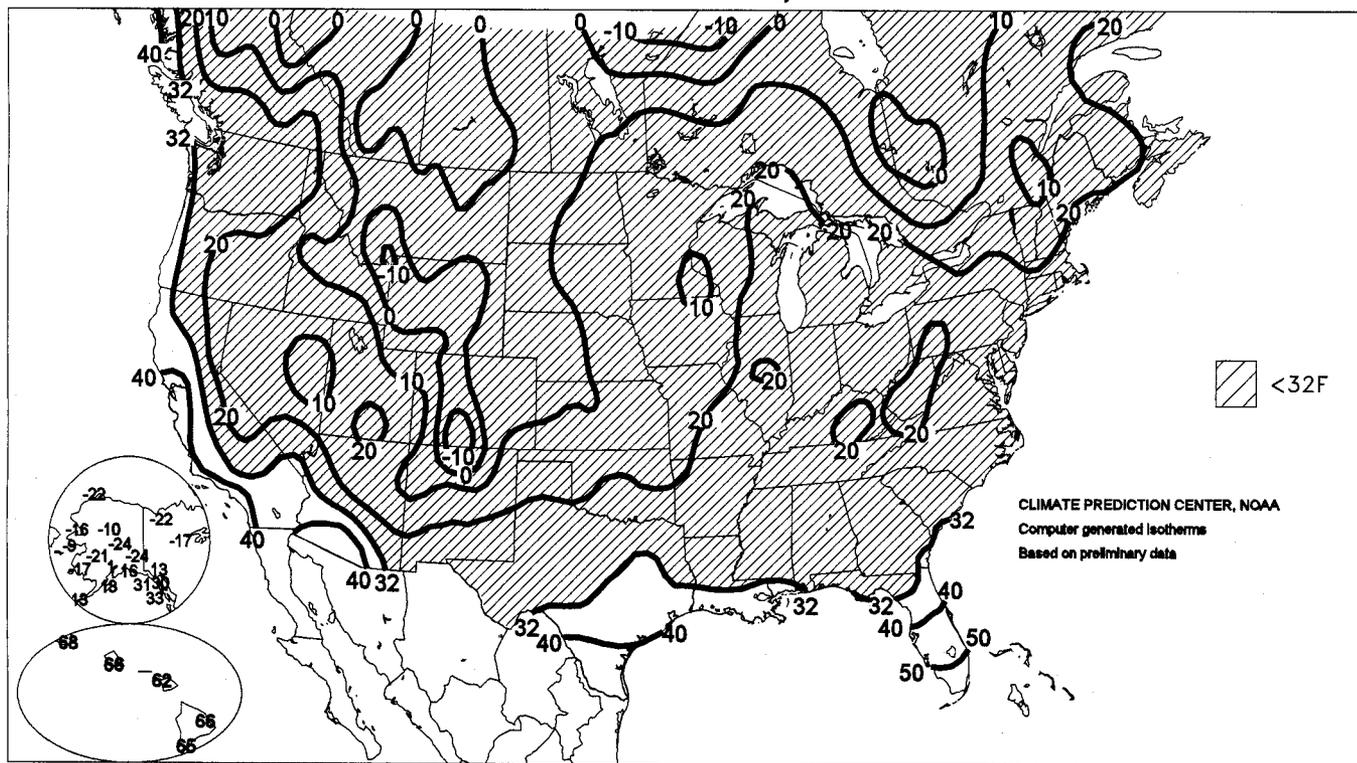
Hughes, Patrick E., "A Century of Cooperation," *Weekly Weather and Crop Bulletin: Special Centennial Edition*, September 1972: 2-4.

Motha, Raymond P. and Heddinghaus, Thomas R., "The Joint Agricultural Weather Facility's Operational Assessment Program," *Bulletin of the American Meteorological Society*, vol. 67 (September 1986): 1114-1122.

Departure of Average Temperature from Normal (°F) NOV 30 - DEC 6, 1997



Extreme Minimum Temperature (°F) NOV 30 - DEC 6, 1997



National Weather Data for Selected Cities

Weather Data for the Week Ending December 6, 1997

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7511)

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	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	TEMP, °F		PRECIP.	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	53	39	65	26	46	-2	0.55	-0.57	0.49	0.49	51	51.24	102	83	66	0	2	2	0
HUNTSVILLE	50	36	65	24	43	-3	0.87	-0.43	0.55	0.55	49	54.74	104	87	67	0	3	2	1
MOBILE	60	43	67	30	52	-4	0.92	-0.23	0.91	0.92	93	76.89	129	96	65	0	1	2	1
MONTGOMERY	57	39	67	28	48	-4	0.19	-0.95	0.19	0.19	19	46.86	93	96	66	0	2	1	0
AK ANCHORAGE	30	15	38	1	22	5	0.15	-0.09	0.14	0.15	71	17.59	117	93	79	0	7	2	0
BARROW	0	-9	11	-22	-4	4	0.00	-0.03	0.00	0.00	0	5.47	129	82	79	0	7	0	0
FAIRBANKS	13	-12	28	-24	0	4	0.29	0.10	0.29	0.29	171	5.80	57	88	79	0	7	1	0
JUNEAU	42	32	48	30	37	8	-	-	-	-	-	-	97	89	0	6	-	-	
KODIAK	34	20	42	13	27	-5	1.20	-0.23	0.91	1.20	98	58.33	94	88	73	0	7	3	1
NOME	17	7	31	-9	12	2	0.46	0.26	0.23	0.46	271	17.27	121	77	67	0	7	3	0
AZ FLAGSTAFF	44	16	48	8	30	-2	0.12	-0.41	0.12	0.12	27	14.77	71	83	45	0	7	1	0
PHOENIX	64	48	71	44	56	0	1.12	0.90	1.00	1.12	589	4.96	72	68	36	0	0	4	1
PRESCOTT	51	25	55	19	38	-1	0.31	-0.05	0.31	0.31	100	14.43	79	69	40	0	7	1	0
TUCSON	63	42	72	38	52	-2	1.16	0.94	0.61	1.16	611	8.83	79	74	35	0	0	3	1
YUMA	67	48	70	44	58	-1	0.12	0.04	0.12	0.12	171	5.22	188	64	34	0	0	1	0
AR FORT SMITH	48	37	53	23	43	-1	0.68	-0.13	0.67	0.68	99	37.08	96	88	62	0	2	2	1
LITTLE ROCK	52	38	58	28	45	-1	0.48	-0.72	0.48	0.48	46	55.94	123	77	53	0	2	1	0
CA BAKERSFIELD	62	47	69	42	55	5	1.27	1.13	0.51	0.86	717	5.71	110	77	47	0	0	3	1
EUREKA	60	42	67	34	51	2	0.04	-1.41	0.02	0.04	3	32.35	99	83	67	0	0	3	0
FRESNO	58	45	64	39	52	4	0.81	0.50	0.30	0.51	196	7.40	79	86	60	0	0	4	0
LOS ANGELES	66	52	72	48	59	1	4.65	4.28	2.22	4.07	1313	12.03	113	88	54	0	0	3	3
REDDING	56	42	62	32	49	2	1.08	-0.15	0.43	0.72	89	32.70	114	87	64	0	1	5	0
SACRAM/MCCLELL	58	44	63	37	51	-	0.25	-	0.19	0.08	-	13.05	-	94	73	0	0	4	0
SAN DIEGO	68	54	74	50	61	2	0.71	0.35	0.56	0.56	181	5.94	69	76	49	0	0	2	1
SAN FRANCISCO	59	51	61	44	55	4	1.14	0.49	0.33	0.86	159	17.33	101	94	78	0	0	6	0
CO ALAMOSA	23	-3	32	-16	10	-12	0.06	-0.05	0.03	0.06	67	7.58	108	89	72	0	7	2	0
CO SPRINGS	38	18	45	12	28	-4	0.00	-0.11	0.00	0.00	0	23.02	146	83	55	0	7	0	0
DENVER	35	19	44	12	27	-6	0.07	-0.10	0.08	0.07	60	20.33	136	82	58	0	7	2	0
GRAND JUNCTION	42	24	47	17	33	0	0.00	-0.14	0.00	0.00	0	13.08	180	84	47	0	7	0	0
PUEBLO	36	19	43	13	28	-6	0.04	-0.07	0.02	0.04	44	14.00	129	89	62	0	7	2	0
CT BRIDGEPORT	44	32	50	26	38	-1	0.40	-0.43	0.15	0.29	41	33.88	87	86	58	0	5	5	0
HARTFORD	42	28	50	22	35	1	0.54	-0.38	0.43	0.11	14	36.77	90	91	59	0	6	3	0
DC WASHINGTON	50	37	61	30	44	1	0.23	-0.49	0.15	0.08	13	32.15	88	83	49	0	3	3	0
DE WILMINGTON	47	35	54	29	41	1	0.29	-0.51	0.20	0.28	38	-	-	80	53	0	3	3	0
FL DAYTONA BEACH	70	53	78	35	61	-1	0.18	-0.40	0.11	0.13	26	47.04	103	87	58	0	0	3	0
JACKSONVILLE	67	47	77	32	57	0	0.22	-0.33	0.12	0.20	43	47.82	97	94	64	0	1	3	0
KEY WEST	76	68	84	61	72	-1	3.54	3.04	2.99	3.01	717	37.83	100	87	71	0	0	3	2
MIAMI	77	63	86	53	70	-1	2.85	2.41	2.29	2.30	622	67.46	124	94	60	0	0	3	2
ORLANDO	71	55	80	42	63	-1	1.82	1.32	1.61	1.84	381	53.54	116	88	57	0	0	3	1
TAMPA	69	55	76	44	62	-2	2.31	1.84	2.04	2.04	510	54.18	129	90	68	0	0	2	1
VALPARAISO/EGLIN	66	45	72	30	55	1	0.00	-0.88	0.00	0.00	0	60.27	103	91	55	0	1	0	0
WEST PALM BEACH	75	60	80	48	67	-2	1.96	1.28	1.13	1.15	198	57.35	98	92	55	0	0	4	2
GA ATHENS	57	39	66	27	48	-1	0.65	-0.24	0.53	0.82	82	49.43	107	91	64	0	2	3	1
ATLANTA	56	38	67	26	47	-1	0.57	-0.37	0.55	0.55	69	47.37	100	95	66	0	2	2	1
AUGUSTA	64	40	71	30	52	2	0.21	-0.46	0.16	0.05	9	45.07	108	88	55	0	1	2	0
COLUMBUS	61	42	70	31	52	0	0.49	-0.58	0.49	0.49	54	44.76	95	90	58	0	1	1	0
MACON	63	40	72	29	51	0	0.06	-0.79	0.03	0.06	8	38.00	93	92	58	0	2	2	0
SAVANNAH	63	45	70	31	54	0	0.06	-0.53	0.05	0.05	10	51.94	111	98	67	0	1	2	0
HI HILO	79	67	81	65	73	0	1.76	-1.31	1.02	1.31	51	125.29	105	82	61	0	0	7	1
HONOLULU	80	69	82	66	75	-1	0.14	-0.67	0.08	0.13	19	19.75	104	71	54	0	0	3	0
KAHULUI	79	69	81	62	74	0	0.60	-0.07	0.39	0.60	105	-	-	78	61	0	0	3	0
LIHUE	76	69	79	66	73	-1	0.04	-1.12	0.03	0.04	4	-	-	77	61	0	0	2	0
ID BOISE	40	24	47	20	32	-1	0.00	-0.32	0.00	0.00	0	10.41	95	86	60	0	7	0	0
LEWISTON	38	29	47	25	34	-3	0.08	-0.20	0.08	0.00	0	14.95	130	89	76	0	4	1	0
POCATELLO	36	19	44	12	27	-1	0.05	-0.20	0.05	0.05	24	12.61	112	92	74	0	7	1	0
IL CHICAGO/O'HARE	37	31	46	23	34	3	0.24	-0.40	0.14	0.23	43	30.46	90	88	73	0	3	3	0
MOLINE	36	30	45	21	33	2	0.35	-0.20	0.31	0.32	68	33.49	90	91	79	0	4	3	0
PEORIA	38	30	53	22	34	2	0.38	-0.23	0.22	0.16	31	30.78	90	87	73	0	3	2	0
ROCKFORD	35	29	44	22	32	3	0.37	-0.16	0.33	0.33	73	26.56	77	91	77	0	5	2	0
SPRINGFIELD	40	30	58	19	35	0	1.30	0.64	1.08	0.22	39	28.81	86	91	78	0	4	3	1
IN EVANSVILLE	44	31	58	21	37	-2	1.98	1.09	1.63	0.35	46	45.58	113	91	74	0	4	4	1
FORT WAYNE	38	27	47	21	33	-1	0.16	-0.53	0.14	0.14	24	39.33	121	89	76	0	6	2	0
INDIANAPOLIS	40	29	55	20	35	-1	0.78	-0.04	0.50	0.26	38	31.98	86	89	72	0	5	4	1
SOUTH BEND	38	30	48	22	34	0	0.35	-0.45	0.25	0.35	51	31.68	87	83	78	0	4	4	0
IA BURLINGTON	-	-	-	-	-	-	0.16	-0.33	-	0.14	33	31.14	90	-	-	-	-	-	-
CEDAR RAPIDS	-	-	-	-	-	-	0.53	0.11	-	0.52	144	25.42	78	-	-	-	-	-	-
DES MOINES	33	26	41	14	29	0	0.33	-0.01	0.24	0.33	114	31.22	97	92	81	0	5	3	0
DUBUQUE	33	27	41	18	30	3	0.51												

Weather Data for the Week Ending December 6, 1997

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	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	92 AND BELOW	TEMP. °F		PRECIP.	
																		01 INCH OR MORE	50 INCH OR MORE	01 INCH OR MORE	50 INCH OR MORE
KY WICHITA	41	27	62	20	34	-3	0.60	0.28	0.51	0.59	227	34.97	123	89	59	0	5	3	1		
KY JACKSON	46	34	59	19	40	-2	1.40	0.38	0.87	0.53	61	47.07	102	86	67	0	3	6	1		
KY LEXINGTON	44	32	59	19	38	-1	1.57	0.86	1.36	0.21	27	56.67	137	90	71	0	3	4	1		
KY LOUISVILLE	45	33	58	22	39	-2	1.49	0.81	1.20	0.29	39	53.91	130	89	72	0	3	3	1		
KY PADUCAH	45	32	59	24	38	-3	0.90	-0.21	0.50	0.40	43	48.63	107	83	65	0	4	3	1		
LA BATON ROUGE	60	41	69	30	51	-5	0.13	-1.07	0.13	0.13	12	62.31	110	90	56	0	1	1	0		
LA LAKE CHARLES	63	44	70	35	53	-3	0.73	-0.38	0.73	0.73	77	60.71	120	85	51	0	0	1	1		
LA NEW ORLEANS	63	47	76	38	55	-2	0.26	-1.00	0.26	0.26	24	49.35	86	87	60	0	0	1	0		
LA SHREVEPORT	55	41	59	30	48	-3	0.57	-0.41	0.55	0.57	69	63.68	149	81	53	0	1	2	1		
ME CARIBOU	31	23	36	19	27	6	0.97	0.18	0.59	0.97	145	33.27	98	89	78	0	7	4	1		
ME PORTLAND	40	27	48	19	34	3	0.69	-0.44	0.33	0.36	38	35.20	86	83	54	0	6	3	0		
MD BALTIMORE	50	35	61	28	43	2	0.23	-0.55	0.14	0.16	20	36.45	96	86	51	0	3	4	0		
MA BOSTON	44	32	50	28	38	0	0.79	-0.16	0.37	0.49	60	30.25	79	85	58	0	5	4	0		
MA WORCESTER	39	28	44	24	33	2	0.91	-0.06	0.80	0.31	38	34.22	77	88	60	0	6	2	1		
MI ALPENA	35	27	40	19	31	3	0.34	-0.15	0.15	0.34	81	28.69	105	95	77	0	6	4	0		
MI GRAND RAPIDS	37	30	43	27	34	2	0.28	-0.46	0.10	0.18	30	28.80	85	92	78	0	6	4	0		
MI HOUGHTON LAKE	33	29	38	25	31	4	0.20	-0.28	0.06	0.20	49	25.94	97	93	81	0	6	4	0		
MI LANSING	37	29	42	23	33	2	0.10	-0.49	0.04	0.09	18	25.91	90	92	77	0	6	5	0		
MI MARQUETTE	-	-	-	-	-	-	1.78	1.15	-	1.75	324	32.25	97	-	-	-	-	-	-		
MI MUSKEGON	37	32	42	28	34	2	0.48	-0.26	0.16	0.34	56	25.56	85	89	74	0	6	5	0		
MN DULUTH	29	22	33	13	26	7	0.05	-0.26	0.05	0.05	19	23.57	81	91	78	0	7	1	0		
MN INT'L FALLS	29	22	35	18	26	12	0.09	-0.11	0.06	0.09	53	18.80	79	91	81	0	7	3	0		
MN MINNEAPOLIS	33	24	38	18	29	5	0.11	-0.17	0.05	0.11	46	34.25	125	95	72	0	5	3	0		
MN ROCHESTER	30	19	35	-13	24	2	0.10	-0.18	0.10	0.10	42	29.34	102	89	79	0	7	1	0		
MN ST. CLOUD	30	22	33	14	26	7	0.07	-0.15	0.07	0.07	37	24.43	91	87	74	0	7	1	0		
MS JACKSON	54	41	62	28	47	-3	0.30	-1.00	0.30	0.30	27	53.21	105	96	67	0	2	1	0		
MS MERIDIAN	56	40	63	25	48	-3	0.43	-0.88	0.43	0.43	38	50.95	98	94	64	0	2	1	0		
MS TUPELO	50	37	60	24	44	-3	0.33	-1.03	0.31	0.32	27	60.44	119	92	67	0	2	3	0		
MO COLUMBIA	40	30	54	21	35	-1	0.46	-0.17	0.23	0.24	44	36.60	96	87	74	0	4	3	0		
MO KANSAS CITY	40	29	51	20	34	-1	0.64	0.25	0.30	0.47	142	31.18	86	86	67	0	4	3	0		
MO SAINT LOUIS	42	31	59	22	37	-2	0.39	-0.38	0.24	0.34	52	29.80	85	87	70	0	3	3	0		
MO SPRINGFIELD	42	29	50	20	36	-3	0.48	-0.34	0.31	0.45	64	35.78	88	91	70	0	4	3	0		
MT BILLINGS	33	19	48	9	26	-3	0.13	-0.04	0.13	0.13	93	15.13	104	88	69	0	7	1	0		
MT BUTTE	27	2	38	-9	15	-6	0.12	0.01	0.10	0.02	22	19.87	169	88	66	0	7	2	0		
MT GLASGOW	30	15	40	3	23	3	0.00	-0.08	0.00	0.00	0	11.71	110	85	69	0	7	0	0		
MT GREAT FALLS	37	18	50	3	28	0	0.01	-0.16	0.01	0.01	7	13.96	96	74	49	0	6	1	0		
MT KALISPELL	34	22	42	18	28	3	0.00	-0.37	0.00	0.00	0	16.99	113	84	65	0	7	0	0		
MT MILES CITY	37	15	47	4	26	3	0.00	-0.13	0.00	0.00	0	10.44	77	84	51	0	7	0	0		
MT MISSOULA	31	19	37	15	25	-1	0.07	-0.18	0.07	0.00	0	14.41	115	89	74	0	7	1	0		
NE GRAND ISLAND	38	21	48	13	29	-1	0.01	-0.19	0.01	0.01	6	28.71	118	84	56	0	7	1	0		
NE LINCOLN	36	21	46	18	28	-2	0.15	-0.08	0.14	0.14	70	24.48	89	91	74	0	7	2	0		
NE NORFOLK	34	20	45	13	27	0	0.00	-0.19	0.00	0.00	0	19.80	81	88	66	0	7	0	0		
NE NORTH PLATTE	38	14	50	3	26	-2	0.05	-0.07	0.04	0.05	50	17.48	92	85	43	0	7	2	0		
NE OMAHA	34	26	44	18	29	-1	0.28	0.01	0.13	0.28	117	30.20	104	92	77	0	6	4	0		
NE SCOTTSBLUFF	40	16	52	8	28	-1	0.00	-0.14	0.00	0.00	0	20.02	135	81	44	0	7	0	0		
NE VALENTINE	37	13	48	4	25	-1	0.03	-0.08	0.03	0.03	33	22.08	123	80	45	0	7	1	0		
NV ELY	37	12	42	1	25	-3	0.00	-0.16	0.00	0.00	0	8.94	93	82	59	0	7	0	0		
NV LAS VEGAS	57	40	64	35	49	0	0.05	-0.04	0.05	0.05	71	3.78	100	55	28	0	0	1	0		
NV RENO	43	25	49	17	34	-1	0.33	0.11	0.17	0.33	174	7.50	112	81	56	0	7	3	0		
NV WINNEMUCCA	44	20	49	12	32	0	0.07	-0.15	0.07	0.07	37	7.71	102	83	47	0	7	1	0		
NH CONCORD	39	24	46	15	32	3	0.75	-0.03	0.51	0.24	36	32.26	95	85	56	0	7	3	1		
NJ NEWARK	47	34	52	28	40	0	0.27	-0.56	0.13	0.17	24	38.33	93	90	60	0	2	3	0		
NM ALBUQUERQUE	46	28	53	22	37	-1	0.34	0.23	0.23	0.34	378	11.76	140	75	42	0	6	2	0		
NY ALBANY	37	28	43	22	33	1	0.73	0.01	0.56	0.17	28	32.66	96	89	70	0	7	3	1		
NY BINGHAMTON	35	26	44	21	30	-1	0.81	0.09	0.40	0.41	67	29.07	84	91	76	0	7	6	0		
NY BUFFALO	40	29	47	23	34	1	0.73	-0.16	0.36	0.37	49	38.57	108	92	66	0	5	5	0		
NY ROCHESTER	39	28	46	21	33	0	0.81	0.14	0.26	0.56	96	32.51	109	91	68	0	7	6	0		
NY SYRACUSE	38	30	45	24	34	1	0.87	0.07	0.42	0.46	86	28.92	79	93	72	0	5	6	0		
NC ASHEVILLE	48	33	59	21	41	-2	0.69	-0.14	0.35	0.48	68	46.88	105	94	69	0	3	4	0		
NC CHARLOTTE	55	39	62	27	47	1	0.85	0.09	0.49	0.38	55	45.03	112	90	58	0	2	3	0		
NC GREENSBORO	52	33	60	23	43	-1	0.81	0.07	0.59	0.22	35	37.50	94	85	54	0	4	5	1		
NC HATTERAS	56	45	64	37	51	-1	2.07	1.04	1.79	0.28	32	49.41	94	81	67	0	0	4	1		
NC RALEIGH	55	35	63	24	45	-1	0.64	-0.07	0.48	0.16	26	38.24	99	87	53	0	4	4	0		
NC WILMINGTON	60	40	70	29	50	-2	2.74	1.96	2.26	0.53	79	44.09	86	92	58	0	2	4	1		
ND BISMARCK	29	18	37	11	23	4	0.05	-0.06	0.04	0.05	56	14.86	99	91	77	0	7	2	0		
ND DICKINSON	33	12	43	1	22	1	0.00	-0.08	0.00	0.00	0	16.04	102	86	64	0	7	0	0		
ND FARGO	28	22	32	18	25	8	0.02	-0.12	0.02	0.02	17	26.63	140	87	76	0	7	1	0		
ND GRAND FORKS	27	22	30	18	24	8	-	-	-	-	-	-	-	84	69	0	7	-	-		
ND JAMESTOWN	27	19	31	12	23	5	0.17	0.06	0.09	0.17	189	20.54	124	93	80	0	7	3	0		
ND WILLISTON	29	12	39	5	20	3	0.00	-0.11	0.00	0.00	0	11.75	89	91	76	0	7	0	0		
OH AKRON-CANTON	40	28	52	20	34	-1	0.51	-0.21	0.23	0.39	64	30.80	89	86	73	0	6	5	0		
OH CINCINNATI	44	33	57	21	39	1	1.28	0.51	0.95	0.33	51	37.69	97	87	72	0	3	5	1		
OH CLEVELAND	41	30	51	23	36	0	0.53	-0.22	0.23	0.52	81	33.45	98	87	71	0	5	5	0		
OH COLUMBUS	43	31	56	21	37	1	0.69	-0.03	0.41	0.28	46	35.86	100	88	76	0	4	2	0		
OH DAYTON	41	29	55	20	35	-1	1.19	0.47	0.85	0.34	56	29.43	86	89	78	0	5	3	1		
OH MANSFIELD	39	28	51	19	33	-1	0.70	-0.08	0.32	0.40	60	37.41	100	86	70	0	6	4	0		

Based on 1961-90 normals

Weather Data for the Week Ending December 6, 1997

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	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	AVERAGE MINIMUM	90 AND ABOVE	92 AND BELOW	TEMP, °F		PRECIP.	
																		.01 INCH OR MORE	.50 INCH OR MORE		
OK TOLEDO	38	28	46	23	33	1	0.37	-0.35	0.35	0.36	59	37.17	121	90	78	0	6	3	0	0	
OK YOUNGSTOWN	41	27	52	21	34	0	0.48	-0.24	0.27	0.45	74	31.41	90	87	73	0	6	4	0	0	
OK OKLAHOMA CITY	46	33	52	21	40	-3	0.16	-0.20	0.16	0.16	63	26.17	78	89	56	0	4	1	0	0	
OR TULSA	46	33	52	20	40	-3	0.45	-0.13	0.41	0.45	92	37.67	97	86	55	0	3	2	0	0	
OR ASTORIA	53	39	55	37	46	2	0.36	-2.06	0.36	0.00	0	77.37	134	79	63	0	0	1	0	0	
OR BURNS	39	18	41	14	29	1	0.05	-0.23	0.03	0.02	8	9.02	100	90	59	0	7	3	0	0	
OR EUGENE	44	32	50	30	38	-4	0.00	-2.01	0.00	0.00	0	36.44	86	88	74	0	4	0	0	0	
OR MEDFORD	50	34	62	28	42	2	0.11	-0.67	0.08	0.08	12	16.65	103	91	70	0	3	2	0	0	
OR PENDLETON	37	30	51	27	34	-3	0.04	-0.35	0.04	0.00	0	10.61	98	92	79	0	5	1	0	0	
OR PORTLAND	49	38	51	33	43	1	0.03	-1.36	0.03	0.00	0	40.89	130	77	63	0	0	1	0	0	
OR SALEM	48	32	50	27	40	-2	0.01	-1.56	0.01	0.00	0	42.17	125	88	60	0	4	1	0	0	
PA ALLENTOWN	44	30	50	20	37	1	0.38	-0.46	0.23	0.15	21	36.31	89	91	81	0	5	4	0	0	
PA ERIE	43	30	53	24	37	1	1.54	0.63	0.71	1.33	173	38.42	99	89	69	0	4	5	1	0	
PA MIDDLETOWN	46	34	52	30	40	3	0.43	-0.35	0.43	0.01	1	30.32	80	78	53	0	3	1	0	0	
PA PHILADELPHIA	48	35	54	30	42	2	0.21	-0.57	0.16	0.17	26	29.57	78	77	51	0	3	3	0	0	
PA PITTSBURGH	41	28	53	20	35	-1	0.37	-0.30	0.15	0.22	39	33.48	97	86	69	0	5	5	0	0	
PA SCRANTON	39	30	46	24	34	0	0.89	0.26	0.60	0.29	54	26.80	75	92	69	0	5	4	1	0	
PA WILLIAMSPORT	41	31	45	24	36	1	0.57	-0.20	0.47	0.10	15	28.26	74	86	64	0	5	4	0	0	
RI PROVIDENCE	44	30	49	27	37	0	0.54	-0.49	0.25	0.38	45	37.65	90	94	84	0	6	4	0	0	
SC BEAUFORT	64	45	70	34	54	0	0.01	-0.63	0.01	0.01	2	39.81	82	92	80	0	0	1	0	0	
SC CHARLESTON	63	42	70	31	53	-1	0.17	-0.48	0.13	0.04	7	57.43	117	95	84	0	1	2	0	0	
SC COLUMBIA	61	39	69	27	50	0	0.58	-0.14	0.58	0.02	3	43.28	92	91	58	0	1	3	1	0	
SC GREENVILLE	54	37	63	24	46	-1	0.68	-0.22	0.58	0.61	78	46.42	97	92	62	0	3	3	1	0	
SD ABERDEEN	29	19	33	9	24	4	0.17	0.06	0.08	0.17	189	19.37	106	91	80	0	7	3	0	0	
SD HURON	32	21	41	14	26	3	0.08	-0.03	0.08	0.08	89	24.57	125	86	72	0	7	1	0	0	
SD RAPID CITY	38	15	51	4	27	-1	0.00	-0.11	0.00	0.00	0	20.64	127	77	43	0	7	0	0	0	
SD SIOUX FALLS	31	21	42	13	26	2	0.09	-0.10	0.07	0.09	53	20.11	96	90	75	0	7	2	0	0	
TN BRISTOL	49	32	65	22	41	-1	1.24	0.50	0.54	0.70	109	40.09	106	86	65	0	4	5	2	0	
TN CHATTANOOGA	53	38	68	26	45	1	0.85	-0.51	0.49	0.49	49	53.48	108	89	68	0	1	2	0	0	
TN KNOXVILLE	48	35	58	25	42	-2	0.55	-0.45	0.28	0.33	39	49.96	115	92	70	0	2	5	0	0	
TN MEMPHIS	49	36	60	24	43	-4	0.49	-0.87	0.47	0.47	40	67.06	141	87	69	0	2	2	0	0	
TN NASHVILLE	50	36	67	23	43	-1	4.50	3.43	4.19	0.31	34	52.26	120	88	71	0	2	3	1	0	
TX ABILENE	51	34	61	28	43	-6	0.47	0.22	0.47	0.47	224	24.39	103	82	50	0	4	1	0	0	
TX AMARILLO	44	27	53	19	36	-4	0.35	0.24	0.35	0.35	389	23.18	121	83	48	0	7	1	0	0	
TX AUSTIN	59	43	68	36	51	-4	0.02	-0.44	0.02	0.02	5	42.82	141	82	54	0	0	1	0	0	
TX BEAUMONT	62	43	68	35	52	-5	0.77	-0.32	0.77	0.77	84	46.58	87	82	61	0	0	1	1	0	
TX BROWNSVILLE	73	54	78	46	63	-1	0.00	-0.28	0.00	0.00	0	35.74	140	91	55	0	0	0	0	0	
TX CORPUS CHRISTI	68	49	74	42	59	-2	0.00	-0.28	0.00	0.00	0	35.96	124	83	49	0	0	0	0	0	
TX DEL RIO	63	43	71	34	53	-2	0.05	-0.10	0.04	0.06	38	22.59	127	81	42	0	0	2	0	0	
TX EL PASO	56	35	63	27	46	-1	0.28	0.16	0.14	0.28	255	8.62	101	74	39	0	3	2	0	0	
TX FORT WORTH	52	40	60	30	46	-4	0.98	0.54	0.98	0.98	258	39.00	121	80	53	0	1	1	1	0	
TX GALVESTON	61	49	68	42	55	-4	0.00	-0.81	0.00	0.00	0	55.61	141	83	62	0	0	0	0	0	
TX HOUSTON	60	40	68	32	50	-6	1.14	0.34	1.14	1.14	165	55.46	128	95	61	0	1	1	1	0	
TX LUBBOCK	49	28	59	21	39	-5	0.17	0.04	0.17	0.17	142	21.09	116	81	49	0	5	1	0	0	
TX MIDLAND	58	31	64	26	44	-3	0.03	-0.10	0.03	0.03	25	15.80	109	78	40	0	4	1	0	0	
TX SAN ANGELO	56	34	65	28	45	-4	0.11	-0.08	0.11	0.11	65	22.11	111	83	48	0	3	1	0	0	
TX SAN ANTONIO	63	42	71	36	52	-3	0.14	-0.27	0.13	0.14	41	30.54	102	78	43	0	0	2	0	0	
TX VICTORIA	63	43	69	37	53	-5	0.15	-0.32	0.12	0.15	37	65.61	183	91	55	0	0	2	0	0	
TX WACO	55	39	61	31	47	-5	0.84	0.18	0.64	0.64	164	34.20	112	86	58	0	3	1	1	0	
TX WICHITA FALLS	49	35	57	23	42	-4	0.87	0.37	0.67	0.67	239	20.34	73	87	59	0	4	1	1	0	
UT SALT LAKE CITY	44	27	48	22	35	2	0.04	-0.29	0.04	0.04	14	16.33	108	90	68	0	6	1	0	0	
VT BURLINGTON	34	24	38	16	29	1	0.54	-0.09	0.18	0.36	68	29.29	90	91	71	0	7	6	0	0	
VA LYNCHBURG	50	31	60	26	41	-1	0.88	0.14	0.66	0.82	97	33.45	87	91	58	0	5	4	1	0	
VA NORFOLK	53	40	63	31	47	-1	1.18	0.50	0.94	0.24	41	35.00	83	90	61	0	2	3	1	0	
VA RICHMOND	52	35	62	27	43	0	0.67	-0.05	0.39	0.28	46	32.06	79	85	49	0	3	4	0	0	
VA ROANOKE	50	34	58	25	42	0	0.38	-0.31	0.18	0.20	34	33.44	86	86	58	0	4	4	0	0	
VA WASH/DULLES	48	33	58	23	41	1	0.29	-0.46	0.13	0.16	25	33.98	90	81	51	0	4	4	0	0	
WA HANFORD	39	27	55	22	33	-	0.00	-0.23	0.00	0.00	0	6.08	112	95	77	0	6	0	0	0	
WA OLYMPIA	46	29	52	25	38	-1	0.27	-1.60	0.27	0.00	0	59.87	136	90	84	0	5	1	0	0	
WA QUILLAYUTE	52	35	58	28	43	2	0.74	-2.80	0.68	0.06	2	116.40	125	91	71	0	2	3	1	0	
WA SEATTLE-TACOMA	50	37	55	31	44	2	0.04	-1.35	0.04	0.00	0	41.97	129	76	54	0	1	1	0	0	
WA SPOKANE	38	25	44	20	32	2	0.01	-0.55	0.01	0.00	0	16.44	113	89	71	0	6	1	0	0	
WA YAKIMA	38	25	48	20	31	-1	0.00	-0.28	0.00	0.00	0	6.69	98	94	82	0	7	0	0	0	
WV BECKLEY	44	30	57	16	37	0	1.37	0.65	1.06	0.31	50	35.89	93	92	71	0	4	6	1	0	
WV CHARLESTON	48	32	64	21	40	-1	1.19														

November Weather and Crop Summary

Weather

The Nation's weather patterns became more strongly influenced by the very strong warm-phase (El Niño) episode. Manifestations of El Niño's influence included wet spells across the Southeast (7 weeks) and in California (3 weeks), and dry weather on the northern Plains (7 weeks). Late in the month, significant precipitation returned to the central Plains for the first time since the late-October blizzard.

East of the Rockies, a cold regime that had taken hold in mid-October finally broke down toward the end of November. Despite the late-month warmup, November temperatures averaged as much as 6°F below normal in the upper Midwest and at least 4°F below normal from central Texas to the central Appalachians. In contrast, monthly departures reached +4°F in the West Coast States.

On November 1 in southern California, monthly high-temperature records were established in Burbank (99°F), Oxnard (98°F), and Lompoc (98°F). At the Oxnard Airport, a high of 104°F tied their all-time record, set on September 22, 1939. A day later, the November record of 94°F was tied at Organ Pipe Cactus National Monument, AZ. In all, about three dozen daily-record highs were tabulated across the Southwest on November 1-3.

Despite the nearly constant chill in the eastern two-thirds of the Nation, only about four dozen daily-record lows were reported. Most of those occurred from November 15-18, during the month's sharpest cold outbreak. On the 16th, Brookings, SD noted -12°F. A day later, lows dipped to 8°F in Gilbert, AR and 20°F in Tupelo, MS. During the cold snap, temperatures dipped to freezing or below as far south as southern Louisiana and Florida's Panhandle.

In Rochester, MN, temperatures averaged below normal on 38 of the 43 days from October 13 to November 24, including 23 in a row from November 2-24. Similarly, a 19-day streak of subnormal temperatures ended on November 21 in Atlanta, GA, where below-normal temperatures had prevailed on 35 of the previous 38 days (October 14 to November 20).

A series of coastal storms battered the Northeast during the month, raking the region with high winds and delivering heavy snowfall at times. An early-November storm produced wind gusts to 69 mph in Portland, ME and 53 mph in Portsmouth, NH. (The same system also delivered wind gusts in excess of 50 mph to the Midwest, including a gust to 59 mph in

Sioux City, IA on November 2.) Pittsburgh, PA netted a single-day, November-record rainfall (1.86 inches) on the 7th, during a storm that dumped more than 7 inches on parts of western Pennsylvania. On November 14, snowfall totaled 10.6 inches in Rochester, NY, their earliest 8-inch snowstorm since 1953. Another storm struck the region on Thanksgiving Day (November 27), buffeting Milton, MA with wind gusts to 71 mph. By month's end, snowfall of 20.5 inches in Portland, ME was their highest November total since 26.7 inches fell in 1921. In Albany, NY, precipitation was 5.91 inches (including 11.8 inches of snow), their highest November total since 1927.

Storminess that had affected the Northwest earlier in the autumn generally shifted southward into California during November. Nevertheless, a powerful storm lashed the Pacific Northwest on November 18-19. Late on the 18th, while still well offshore, the storm had a central pressure of 28.76 inches (974 millibars). Peak wind gusts near the coast reached 89 mph in Florence, OR and 81 mph on Cooskie Mountain, CA, south of Eureka. Monthly precipitation ranged from 200 to 400 percent of normal in much of northern and central California. In downtown San Francisco, the monthly rainfall of 6.97 inches was 268 percent of normal, their 10th highest November total in the past 149 years. Monthly rainfall also topped 200 percent of normal across parts of the Southeast.

In Alaska, monthly temperatures averaged 0 to 12°F above normal despite a late-month cool-down. Very wet weather prevailed in the west. In McGrath, a high of 49°F on November 9 tied their monthly record. Highs of 55°F in Juneau and 49°F in Fairbanks (both on the 10th) were their respective second highest November readings on record. Fairbanks' average temperature of 10.8°F was their highest in November since 1981. Kodiak netted a single-day, November-record rainfall (2.87 inches) on the 8th. Nome's monthly precipitation of 3.33 inches was their third-highest November total on record. In Barrow, however, a record-setting, 68-day streak with a trace or more of precipitation ended on November 3.

Fieldwork

Cool, wet weather hampered fall harvest efforts during November. Both corn and soybean harvests slowed as precipitation in the Great Lakes region kept grain moisture levels high and 7 weeks of continued wet weather in the Southeast kept farmers out of soybean fields. In the western Corn Belt, harvest finished under mostly favorable conditions after an early-month snowstorm. Grain storage shortages delayed corn harvest in some areas. Storms, bringing snow to

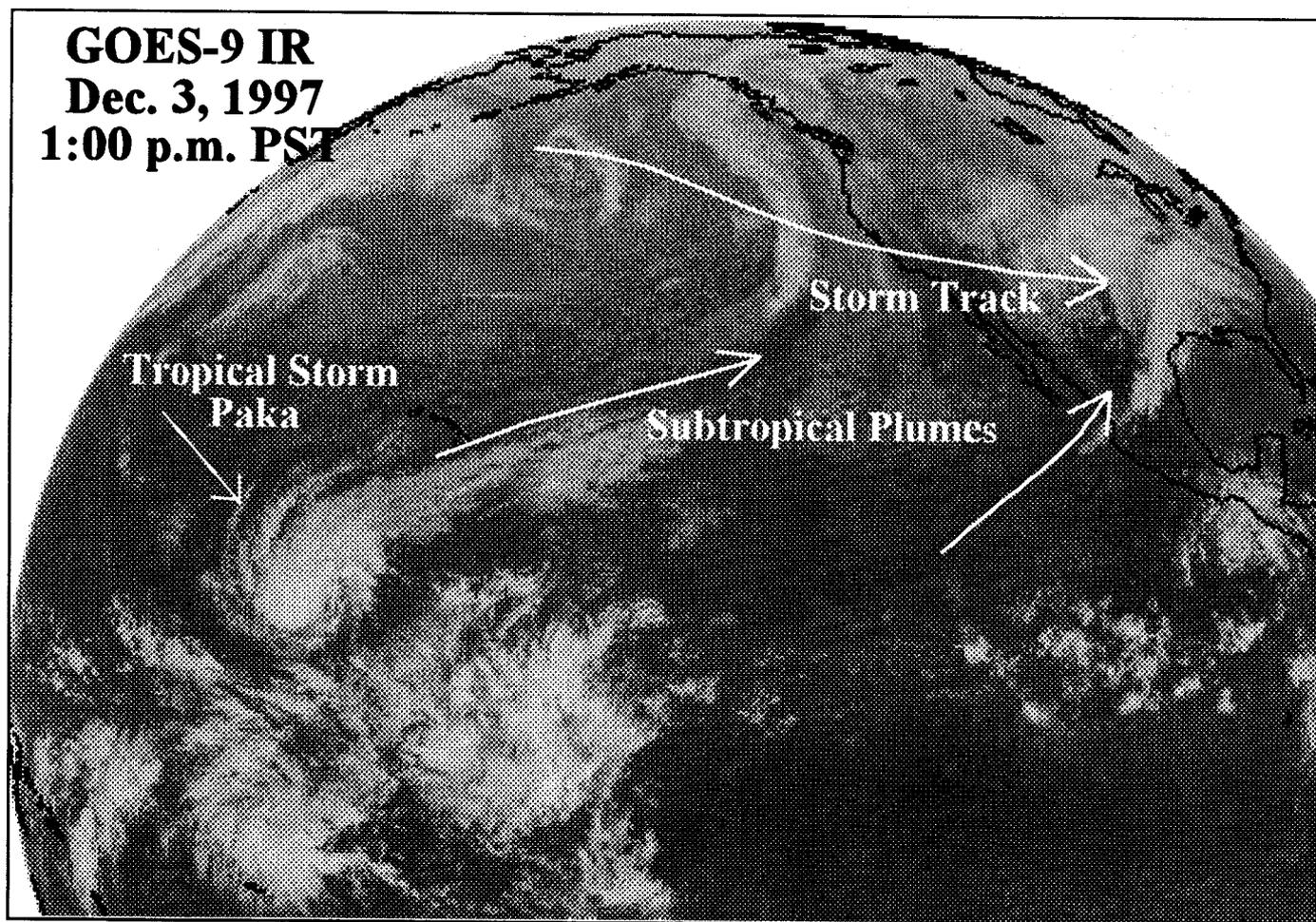
New England and rain to the Mid-Atlantic States, hindered harvest operations.

Cotton harvest was delayed in the Southeast by 7 weeks of wet weather. Mid-month wet weather problems caused numerous harvest delays in Texas. Farmers in several major cotton-producing States harvested their crops between storms, but the quality of late fields suffered from the moisture. California cotton harvest was mostly complete early in November before rains caused wet conditions for the last 3 weeks of the month. Peanut harvest was virtually complete by mid-November despite continued rainfall across the Southeast.

Early in November, central Plains' farmers made limited progress harvesting their sorghum crop due to melting snow and drifts from a major late-October snowstorm. Farmers made some progress as fields dried or froze, except in Colorado, where a second snowstorm blanketed the State and delayed har-

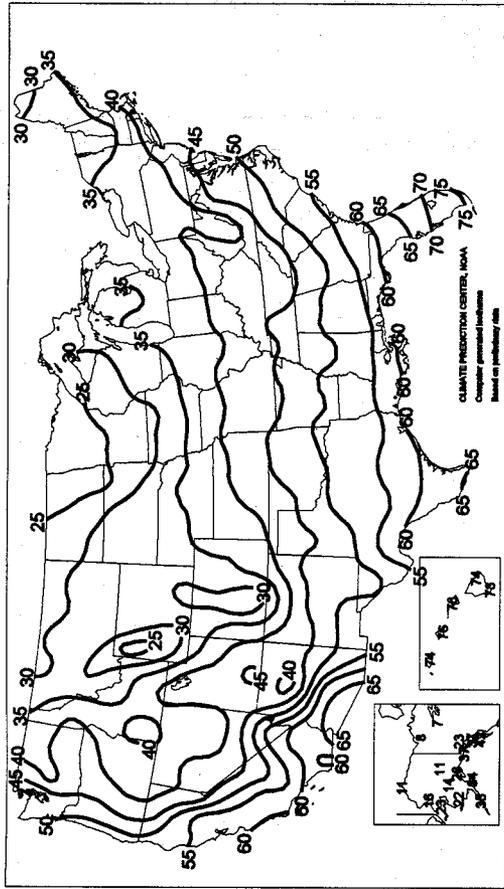
vest even more. Wet conditions and lack of storage space hindered harvest later in the month. Mid-month snow in Minnesota and North Dakota halted most fieldwork for the winter.

November began with wet soils preventing planting of some winter wheat fields in the central Plains. However, most fields were planted by mid-month. Planting activity increased in California and the Southeast as farmers seeded winter wheat following fall crop harvest and when the weather allowed. Dry, cool weather during the middle of November restricted wheat growth in the central and southern Plains until widespread moisture fell in the area at month's end. The late-month precipitation also benefited newly emerged fields in the Northwest, Corn Belt, and Southeast. In the northern Plains, farmers were concerned about the lack of snow cover going into winter. The winter wheat crop was rated in mostly good condition as of November 30, 1997.

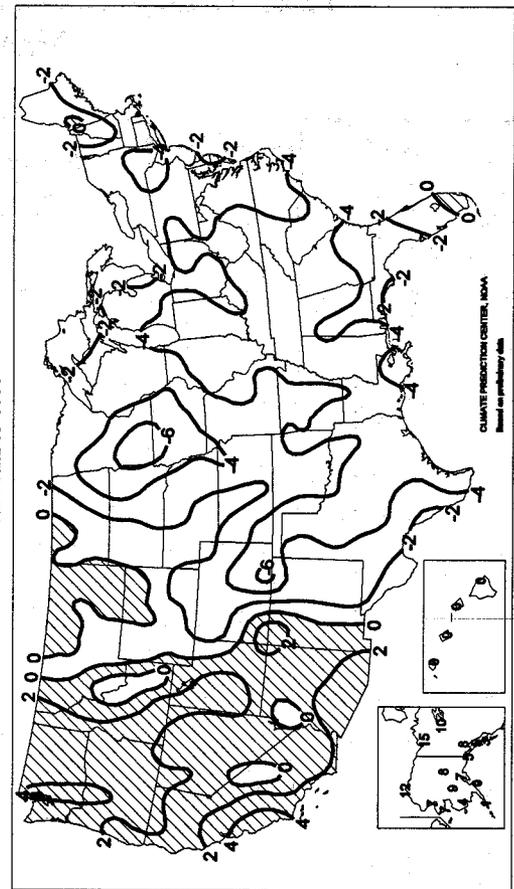


A weather pattern that evolved during November persisted into early December. Characteristics included plumes of subtropical moisture and a split-flow jet stream, with storms moving actively through the southern branch. The moisture, partly attributable to El Niño due to unusually high sea-surface temperatures in the central and eastern equatorial Pacific Ocean, helped to enhance rainfall during November across California and parts of the Southeast. The warm water also aided the development of a rare December tropical storm (Paka) in the central Pacific, shown here about 1,100 miles southwest of the Hawaiian Islands.

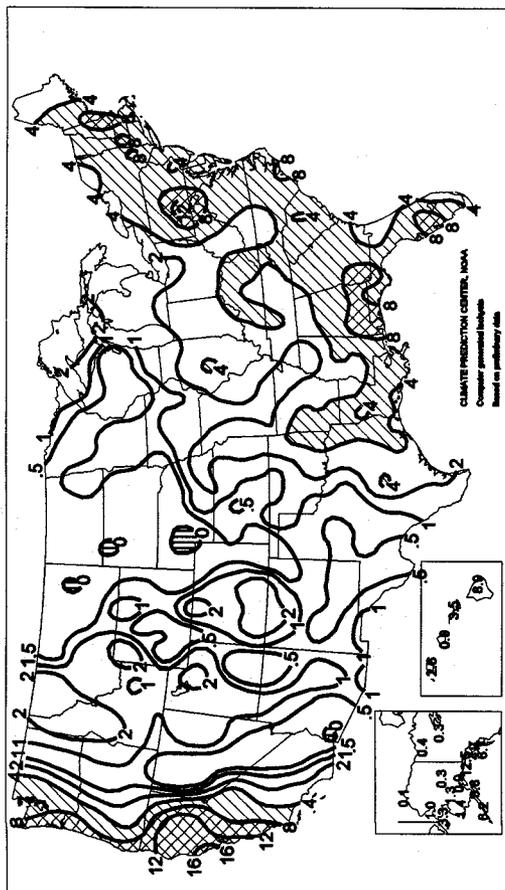
Average Temperature (°F)
November 1997



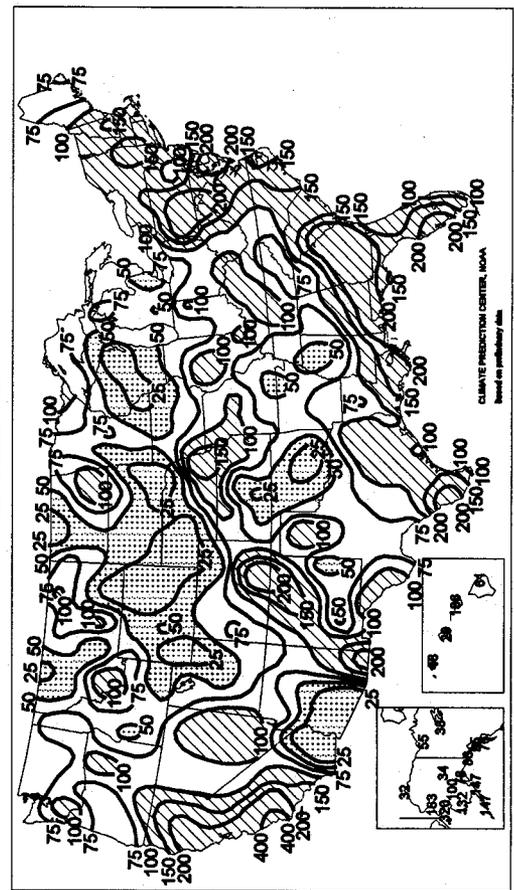
Departure of Average Temperature from Normal (°F)
November 1997



Total Precipitation (inches)
November 1997



Percent of Normal Precipitation
November 1997



TEMPERATURE AND PRECIPITATION SUMMARY

November 1997

STATES AND STATIONS	TEMP. °F		PRECIP.		STATES AND STATIONS	TEMP. °F		PRECIP.		STATES AND STATIONS	TEMP. °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	50	-3	3.70	-0.83	ME CARIBOU	29	-2	2.08	-1.47	RI SCRANTON	37	-4	3.48	0.43
AL HUNTSVILLE	47	-6	1.96	-2.90	ME PORTLAND	36	-3	5.22	0.04	RI WILLIAMSPORT	37	-4	5.09	1.36
AL MOBILE	56	-6	8.68	4.58	MD BALTIMORE	44	-3	5.79	2.47	RI PROVIDENCE	41	-3	8.08	1.63
AL MONTGOMERY	52	-5	7.54	3.48	MA BOSTON	42	-4	5.86	1.64	SC BEAUFORT	56	-4	3.13	0.77
AK ANCHORAGE	28	7	0.87	-0.24	MA WORCESTER	36	-3	5.50	1.01	SC CHARLESTON	66	-3	3.27	0.79
AK BARROW	11	13	0.08	-0.18	MI ALPENA	33	-3	1.31	-0.89	SC COLUMBIA	60	-4	4.75	1.85
AK FAIRBANKS	11	8	0.27	-0.56	MI GRAND RAPIDS	38	-2	1.49	-0.83	SC GREENVILLE	47	-6	3.70	0.05
AK JUNEAU	37	5	4.67	-0.24	MI HOUGHTON LAKE	32	-3	1.40	-0.87	SD ABERDEEN	25	-6	0.46	-0.13
AK KODIAK	34	0	8.77	2.81	MI LANSING	35	-3	1.39	-1.24	SD HURON	29	-3	0.19	-0.53
AK NOME	23	7	3.33	2.29	MI MARQUETTE	27	-3	3.48	0.59	SD RAPID CITY	33	-1	0.19	-0.37
AZ FLAGSTAFF	38	1	0.80	-1.15	MI MUSKEGON	36	-3	2.44	-0.71	TN SIOUX FALLS	28	-6	0.35	-0.74
AZ PHOENIX	64	2	0.06	-0.80	MI DULUTH	24	-3	1.03	-0.77	TN BRISTOL	42	-6	1.71	-1.23
AZ PRESCOTT	47	3	0.45	-1.09	MI INT'L FALLS	23	-2	0.99	-0.18	TN CHATTANOOGA	46	-6	1.97	-2.64
AZ TUCSON	61	2	0.49	-0.18	MI MINNEAPOLIS	28	-6	0.89	-0.86	TN KNOXVILLE	44	-5	2.78	-0.97
AR YUMA	87	3	0.00	-0.26	MI ROCHESTER	27	-6	0.23	-1.38	TX MEMPHIS	46	-4	1.75	-3.35
AR FORT SMITH	48	-2	2.39	-1.80	MS ST. CLOUD	26	-4	0.88	-0.29	TX NASHVILLE	45	-4	6.59	2.47
CA LITTLE ROCK	50	-2	3.87	-1.49	MS JACKSON	51	-5	3.53	-1.28	TX ABILENE	51	-4	1.00	-0.48
CA BAKERSFIELD	57	1	1.21	0.52	MS MERIDIAN	50	-5	3.04	-1.46	TX AMARILLO	43	-3	1.17	0.48
CA EUREKA	53	2	7.39	0.95	MS TUPELO	48	-6	2.12	-2.72	TX AUSTIN	57	-4	2.91	0.54
CA FRESNO	57	4	2.68	1.30	MO COLUMBIA	40	-4	3.36	0.42	TX BEAUMONT	58	-4	2.85	-2.00
CA LOS ANGELES	63	2	2.06	0.29	MO KANSAS CITY	41	-2	1.95	0.03	TX BROWNSVILLE	66	-3	0.87	-0.84
CA REDDING	53	1	9.09	3.88	MO SAINT LOUIS	42	-4	2.36	-0.92	TX CORPUS CHRISTI	62	-4	1.88	0.29
CA SACRAM/MCCLELL	57	-	3.08	-	MO SPRINGFIELD	43	-3	1.78	-1.97	TX DEL RIO	58	-2	0.78	-0.14
CA SAN DIEGO	64	2	1.17	-0.27	MT BILLINGS	36	1	0.94	0.09	TX EL PASO	52	0	0.79	0.35
CA SAN FRANCISCO	58	3	6.35	3.49	MT BUTTE	29	1	0.63	0.10	TX FORT WORTH	52	-4	1.01	-1.28
CO ALAMOSA	28	-2	0.54	0.13	MT GLASGOW	29	0	0.26	-0.02	TX GALVESTON	60	-4	5.38	2.01
CO CO SPRINGS	34	-4	0.22	-0.26	MT GREAT FALLS	35	1	0.33	-0.33	TX HOUSTON	56	-5	3.38	-0.41
CO DENVER	35	-3	0.81	-0.28	MT KALISPELL	32	1	0.42	-0.88	TX LUBBOCK	45	-4	0.80	-0.15
CO GRAND JUNCTION	38	-2	0.82	-0.09	MT MILES CITY	35	3	0.13	-0.41	TX MIDLAND	50	-2	0.44	-0.25
CO PUEBLO	35	-5	1.53	1.10	MT MISSOULA	34	2	0.38	-0.45	TX SAN ANGELO	51	-4	0.78	-0.32
CT BRIDGEPORT	42	-3	3.89	0.08	NE GRAND ISLAND	36	-1	0.70	-0.34	TX SAN ANTONIO	57	-3	1.78	-0.84
CT HARTFORD	39	-3	5.87	1.83	NE LINCOLN	36	-3	2.56	1.28	TX VICTORIA	58	-6	2.57	0.12
DC WASHINGTON	48	-4	4.80	1.48	NE NORFOLK	33	-3	0.12	-0.89	TX WACO	53	-5	2.53	0.10
DE WILMINGTON	44	-2	3.24	-0.03	NE NORTH PLATTE	34	-1	0.04	-0.62	UT WICHITA FALLS	49	-3	0.94	-0.60
FL DAYTONA BEACH	84	-2	3.03	0.19	NE OMAHA	35	-4	1.97	0.48	VT SALT LAKE CITY	42	1	0.87	-0.42
FL JACKSONVILLE	59	-2	2.41	0.22	NE SCOTTSBLUFF	34	-2	0.11	-0.49	VA BURLINGTON	36	-2	4.18	1.03
FL KEY WEST	76	0	2.15	-0.69	NE VALENTINE	32	-2	0.27	-0.33	VA LYNCHBURG	43	-6	4.29	1.15
FL MIAMI	74	0	2.73	0.08	NV ELY	35	1	0.90	0.23	VA NORFOLK	50	-2	4.94	2.09
FL ORLANDO	66	-2	3.15	0.86	NV LAS VEGAS	58	1	0.23	-0.20	VA RICHMOND	68	-3	5.33	2.16
FL TAMPA	67	-1	3.41	1.84	NV RENO	42	2	0.86	-0.01	VA ROANOKE	44	-4	2.85	-0.54
FL VALPARAISO/EGLIN	58	-1	6.15	2.97	NH WINNEMUCA	39	2	0.78	-0.16	VA WASH/DULLES	44	-1	5.48	2.18
FL WEST PALM BEACH	72	-1	3.98	-0.71	NH CONCORD	36	-1	5.84	1.98	WA HANFORD	43	-	1.01	0.10
GA ATHENS	48	-6	3.52	-0.14	NM ALBUQUERQUE	44	-4	4.54	0.63	WA OLYMPIA	45	3	6.10	-1.96
GA ATLANTA	48	-6	3.34	-0.52	NY ALBANY	37	-3	5.91	2.68	WA QUILLAYUTE	48	4	8.45	-6.29
GA AUGUSTA	51	-4	5.02	2.54	NY BINGHAMTON	34	-4	4.84	1.56	WA SEATTLE-TACOMA	48	3	3.94	-1.89
GA COLUMBUS	53	-4	4.26	0.70	NY BUFFALO	38	-3	4.32	0.49	WA SPOKANE	39	4	1.99	-0.16
GA MACON	51	-6	7.83	4.80	NY ROCHESTER	37	-3	3.57	0.85	WV YAKIMA	40	1	1.13	0.10
GA SAVANNAH	55	-4	5.04	2.85	NY SYRACUSE	37	-3	4.28	0.58	WV BECKLEY	38	-6	2.99	0.01
HI HILO	74	0	8.85	-5.65	NC ASHEVILLE	42	-6	1.80	-1.99	WV CHARLESTON	42	-6	2.96	-0.62
HI HONOLULU	78	-1	0.88	-2.12	NC CHARLOTTE	49	-3	3.70	0.47	WV ELKINS	37	-4	4.88	1.56
HI KAHULUI	78	0	3.52	0.94	NC GREENSBORO	45	-4	2.85	-0.32	WV HUNTINGTON	42	-4	3.37	0.07
HI LIHUE	74	-1	2.59	-2.87	NC HATTERAS	54	-3	5.89	0.91	WI EAU CLAIRE	30	-3	0.42	-1.10
ID BOISE	43	3	0.68	-0.80	NC RALEIGH	47	-4	4.05	1.07	WI GREEN BAY	32	-2	0.30	-1.86
ID LEWISTON	43	2	1.12	-0.03	NC WILMINGTON	53	-4	5.25	2.14	WI MADISON	33	-2	1.25	-0.84
ID POCATELLO	35	0	0.37	-0.79	ND BISMARCK	27	-1	0.31	-0.18	WI MILWAUKEE	35	-3	1.11	-1.40
IL CHICAGO/O'HARE	36	-4	1.46	-1.46	ND DICKINSON	30	0	0.20	-0.24	WY CASPER	32	-1	0.08	-0.69
IL MOLINE	37	-3	1.40	-1.19	ND FARGO	23	-5	0.85	0.12	WY CHEYENNE	31	-4	0.20	-0.33
IL PEORIA	38	-3	2.85	0.18	ND GRAND FORKS	23	-4	0.50	-0.17	WY LANDER	31	0	0.60	-0.20
IL ROCKFORD	35	-4	1.22	-1.35	ND JAMESTOWN	25	-3	0.73	0.23	WY SHERIDAN	33	0	0.18	-0.67
IL SPRINGFIELD	39	-4	4.55	2.02	OH WILLISTON	26	-1	0.40	-0.07	PR SAN JUAN	-	-	6.82	1.23
IN EVANSVILLE	42	-5	4.17	0.44	OH AKRON-CANTON	37	-6	2.37	-0.84					
IN FORT WAYNE	36	-6	2.82	0.03	OH CINCINNATI	41	-3	2.97	-0.49					
IN INDIANAPOLIS	39	-4	1.94	-1.29	OH CLEVELAND	39	-4	2.58	-0.69					
IN SOUTH BEND	38	-6	2.45	-0.82	OH COLUMBUS	40	-3	2.92	-0.30					
IA BURLINGTON	-	-	2.39	-0.02	OH DAYTON	37	-4	2.40	-0.87					
IA CEDAR RAPIDS	-	-	0.81	-1.48	OH MANSFIELD	39	-6	1.84	-1.67					
IA DES MOINES	34	-5	1.32	-0.47	OH TOLEDO	36	-4	2.16	-0.65					
IA DUBUQUE	32	-4	0.95	-1.85	OH YOUNGSTOWN	38	-4	3.42	0.31					
IA SOUX CITY	32	-4	0.26	-0.82	OK OKLAHOMA CITY	47	-3	0.28	-1.70					
IA WATERLOO	31	-6	1.21	-0.81	OR TULSA	46	-4	1.62	-1.51					
KS CONCORDIA	39	-3	0.72	-0.41	OR ASTORIA	50	3	7.85	-2.39					
KS DODGE CITY	40	-3	0.36	-0.46	OR BURNS	36	3	1.09	-0.18					
KS GOODLAND	36	-3	0.64	-0.05	OR EUGENE	47	1	4.29	-4.03					
KS TOPEKA	40	-3	2.14	0.21	OR MEDFORD	47	3	2.10	-1.13					
KS WICHITA	42	-2	1.30	-0.29	OR PENDLETON	43	1	1.84	0.08					
KY JACKSON	43	-6	4.04	-0.16	OR PORTLAND	50	4	4.02	-1.32					
KY LEXINGTON	41	-6	4.08	0.67	OR SALEM	48	3	4.41	-1.87					
KY LOUISVILLE	42	-6	4.34	0.64	PA ALLENTOWN	38	-4	2.71	-1.17					
KY PADUCAH	43	-6	2.33	-1.99	PA ERIE	40	-4	3.36	-0.66					
LA BATON ROUGE	58	-4	6.06	1.75	PA MIDDLETOWN	42	-3	3.87	0.45					
LA LAKE CHARLES	57	-3	4.52	0.26	PA PHILADELPHIA	44	-2	3.49	0.15					
LA NEW ORLEANS	59	-3	8.09	3.67	PA PITTSBURGH	39	-3	5.89	3.14					
LA SHREVEPORT	52	-6	3.45	-1.00										

Based on 1961-90 normals.

Autumn Weather Review

Highlights

Autumn precipitation averaged below normal on the northern High Plains and in most areas from central Texas to the Great Lakes States. The season ended on a wet note across California and the Southeast, a likely manifestation of very strong warm-phase (El Niño) conditions. A pair of strong storms in mid- to late-October, including a central Plains blizzard, boosted seasonal totals well above normal from Colorado to the upper Midwest. Autumn temperatures averaged up to 3°F above normal in the Northwest, but as much as 3°F below normal in the eastern third of the Nation.

September

Major crop areas of the Midwest escaped the month without a significant freeze, although frost dotted the northwestern Corn Belt on September 21. The central Plains received beneficial moisture for winter wheat planting and establishment, even though temperatures averaged 1 to 3°F above normal. Dry weather prevailed on the northern Plains, however, where monthly departures ranged from +2 to +6°F. Temperatures averaged as much as 3°F below normal in the eastern Great Lakes region.

On September 25, Tropical Storm Nora's strike near Yuma, AZ represented the first such occurrence since Kathleen's arrival on September 10, 1976. Nora became only the fourth tropical-storm-force system on record to reach the Southwestern U.S. Farther east, the second half of the month featured several episodes of heavy rain, especially in coastal Texas and west-central Florida.

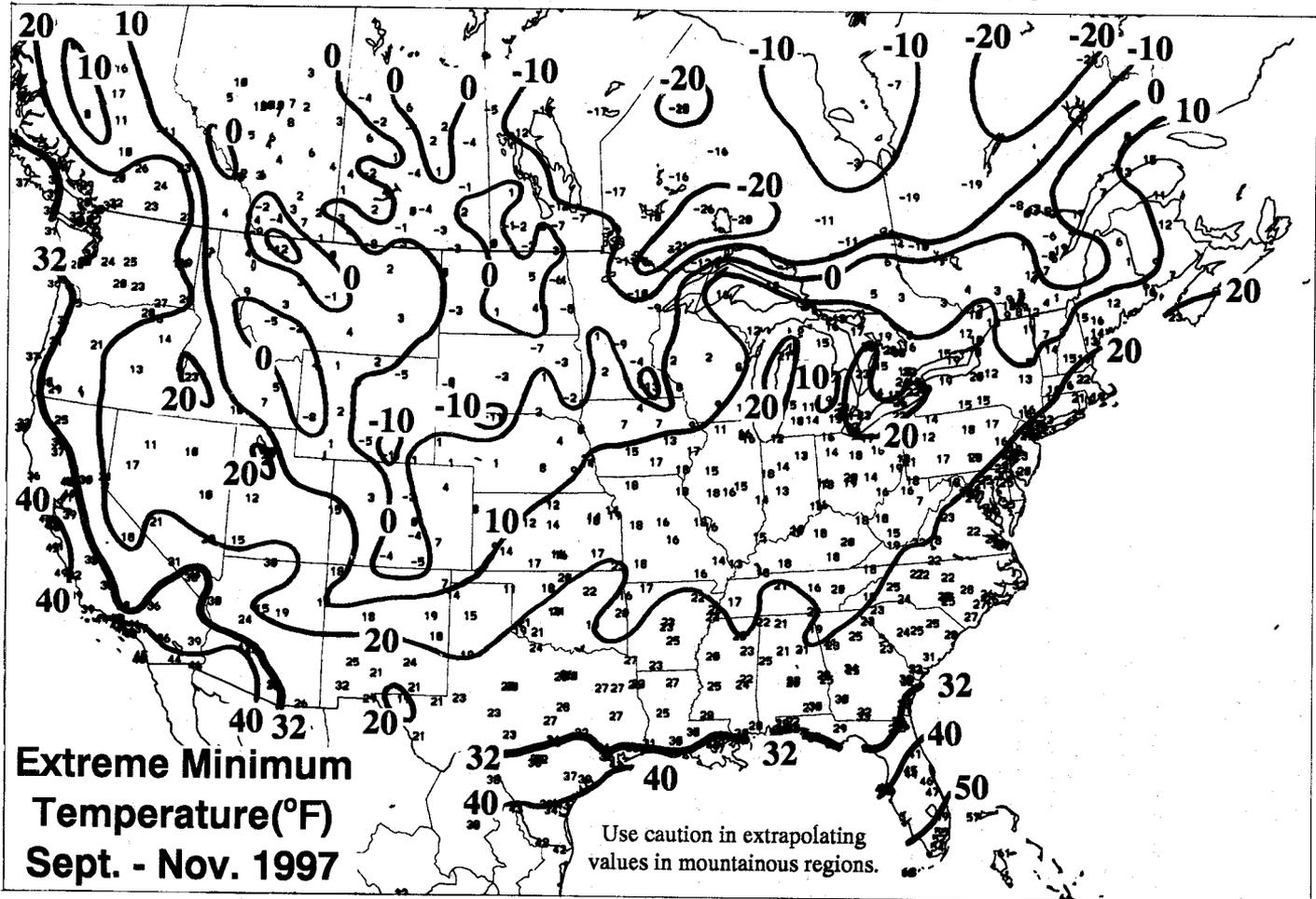
October

Because of a mid-month switch from warm to cold weather, monthly temperatures averaged within 2°F of normal over most of the Nation. On the Plains, a dozen locations noted monthly record warmth from October 1-3. Later in the month, however, a central Plains blizzard left more than 100 daily-record lows in its wake from October 25-28. During the transitional period, flooding struck southeastern Texas from October 6-13.

Wet weather was also observed in the Pacific Northwest, but precipitation was scarce (30 to 60 percent of normal) from the interior Mid-Atlantic region to New England.

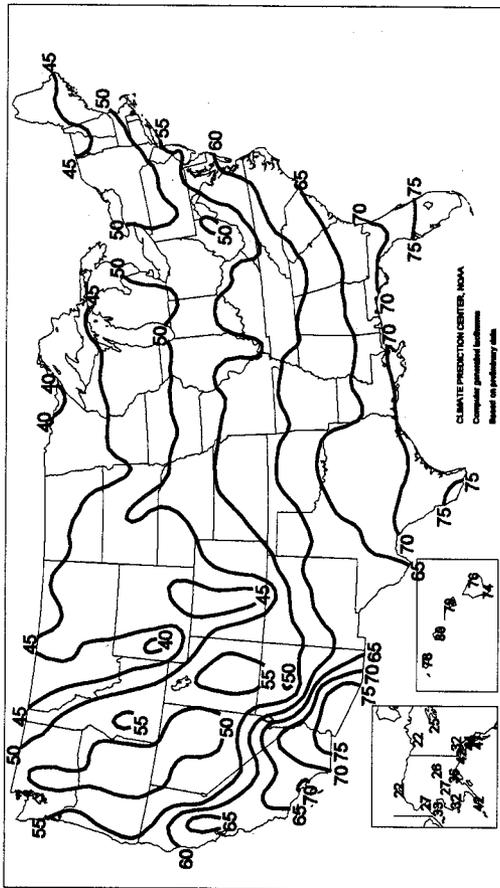
November

A complete summary begins on page 8.

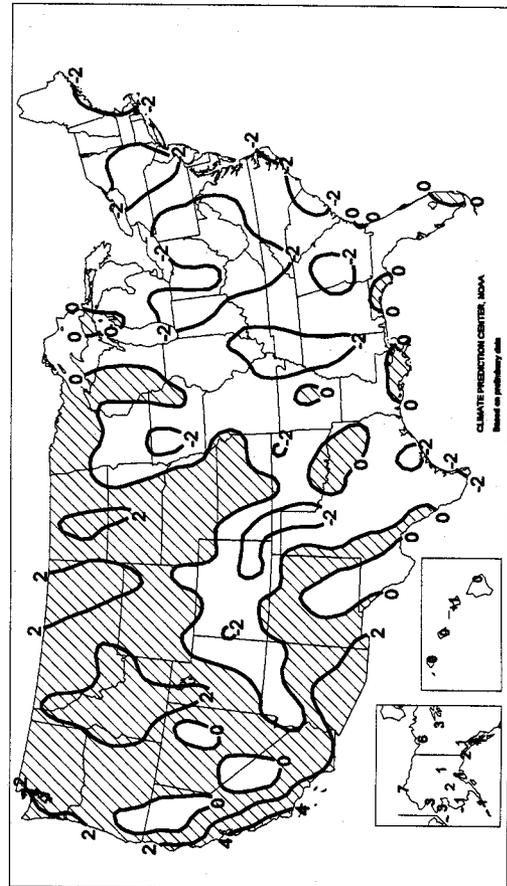


October was a "swing" month, as a flurry of monthly record highs (e.g. 93°F in Rochester, MN on October 3) gave way to a central High Plains blizzard. On October 27, monthly record lows were set in the blizzard's wake at Hill City, KS (3°F), Hastings, NE (4°F), and Kearney, NE (6°F). Although cold air arrived nearly a month earlier than in 1996, this year's chill lacked the sheer magnitude of last November's Arctic blasts. And when 1997's autumn cold snap lost its punch after 6 weeks, it allowed for this comparison: Glasgow, MT recorded a low of -17°F on November 24, 1996, but a high of 49°F exactly 1 year later.

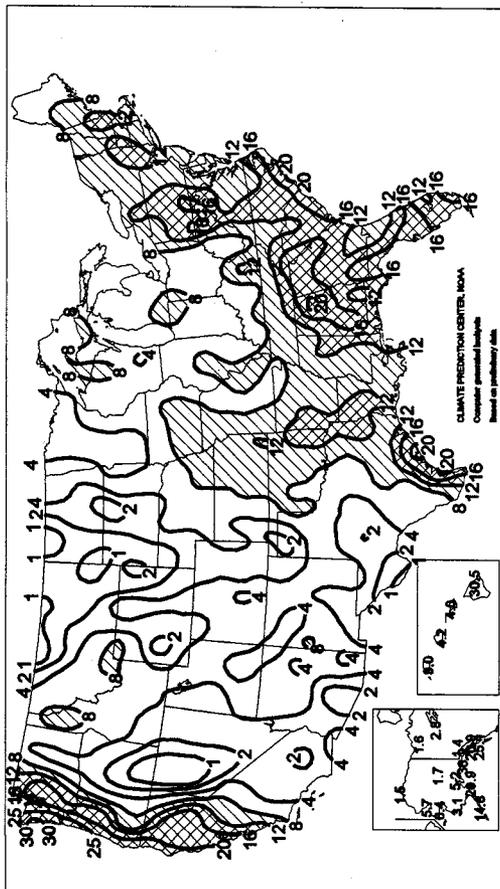
Autumn Average Temperature (°F)
SEP - NOV 1997



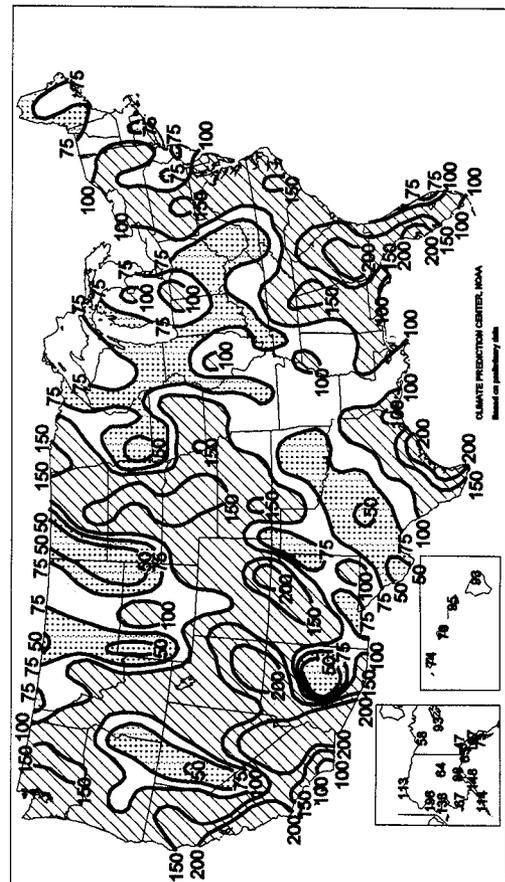
Autumn Departure from Normal Average Temperature (°F)
SEP - NOV 1997



Autumn Total Precipitation (inches)
SEP - NOV 1997



Autumn Percent of Normal Precipitation
SEP - NOV 1997



International Weather and Crop Summary

November 30 - December 6, 1997

HIGHLIGHTS

FSU-WESTERN: Widespread precipitation covered dormant winter grains.

EUROPE: Drier weather eased excessive moisture conditions in Portugal, while persistent showers slowed winter grain planting in Spain and Italy.

NORTHWESTERN AFRICA: Showers continued in Morocco, Algeria, and Tunisia, slowing winter grain planting but providing favorable moisture for emergence and early establishment.

AUSTRALIA: Hot, dry weather stressed upland agriculture in primary summer crop areas of eastern Australia.

SOUTH ASIA: Persistent rain kept maturing summer crops unfavorably wet.

SOUTH AFRICA: Crop prospects were generally good in the eastern corn belt, but chronic dry weather in the west heightened concern for late plantings.

SOUTHEAST ASIA: Showers eased drought for main-season rice in Java and second-season rice in the eastern Philippines.

EASTERN ASIA: Cold weather prompted winter wheat to enter dormancy in the North China Plain as rain increased moisture supplies.

SOUTH AMERICA: Light to moderate rain provided adequate moisture for summer crop planting, but slowed winter wheat harvesting in central Argentina.

November 1997

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

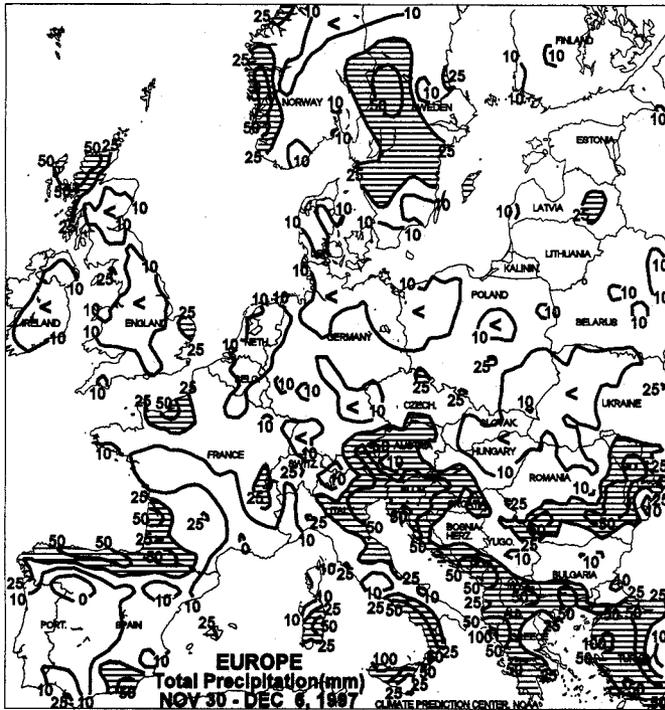
COUNTRY CITY	TEMPERATURE (C)						PRECIPITATION (MM)	
	AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY OSLO	1	-2	12	-11	0	1.0	69	-21
SWEDEN STOCKHOLM	4	0	11	-9	2	-0.4	42	-11
FINLAND HELSINKI	2	-2	9	-13	0	-0.2	51	-21
UKINGDO GLASGOW	11	6	16	-1	8	1.8	72	-41
EDINBURGH	11	6	17	-1	9	3.1	62	-1
BIRMINGHAM	**	**	**	0	**	**	**	**
LONDON	12	6	16	-4	9	2.2	134	58
IRELAND DUBLIN	11	6	16	-1	9	1.5	90	26
ICELAND REYKJAVIK	5	3	9	-4	4	2.7	88	15
DENMARK COPENHAGEN	6	3	11	-4	4	-1.0	39	-9
LUXEMBO LUXEMBOURG	8	3	12	-3	5	1.2	86	7
SWITZERL ZURICH	7	3	18	-2	5	1.0	31	-54
GENEVA	9	3	14	-3	6	1.2	92	-1
FRANCE PARIS/ORLY	11	7	15	-4	9	**	72	**
STRASBOURG	8	2	15	-5	5	0.0	57	11
BOURGES	12	6	18	-2	9	2.6	92	34
BORDEAUX	15	8	20	-1	11	2.8	252	159
TOULOUSE	15	7	21	-1	11	2.0	43	-5
MARSEILLE	16	9	21	2	13	2.2	50	-8
SPAIN VALLADOLID	12	6	18	1	9	1.6	157	105
MADRID	14	7	19	0	10	1.0	166	100
SEVILLE	20	12	24	7	16	1.0	233	163
PORTUGA LISBON	18	13	22	9	16	1.4	344	245
GERMANY HAMBURG	6	2	15	-4	4	-0.9	42	-30
DUSSELDORF	9	4	14	-4	7	0.6	39	-24
LEIPZIG	6	2	17	-5	4	-0.5	16	-21
DRESDEN	6	2	18	-5	4	-0.2	34	-8
STUTTGART	8	1	13	-5	5	0.4	20	-27
NURNBERG	8	1	14	-7	4	0.5	24	-20
AUSTRIA VIENNA	8	2	20	-6	5	0.5	62	20
INNSBRUCK	10	1	20	-4	6	2.3	52	-8
CZECHRE PRAGUE	5	0	15	-6	3	-0.4	26	-5
POLAND WARSAW	5	1	16	-7	3	-0.4	37	-4
LODZ	5	1	17	-7	3	0.4	67	28
KATOWICE	7	1	20	-5	4	1.5	68	27
PRZEMYSL	6	1	21	-7	3	-0.3	60	20
HUNGARY BUDAPEST	9	3	19	-7	6	1.0	32	-20
YUGOSLA BELGRADE	11	5	23	-3	8	1.2	31	-24
ROMANIA BUCHAREST	10	2	22	-6	6	0.1	55	8
BULGARIA SOFIA	9	3	20	-4	6	1.1	42	-8
ITALY MILAN	13	6	19	1	10	2.8	105	9
VERONA	12	5	18	-2	9	2.1	84	11
VENICE	13	6	18	-2	9	1.8	77	-8
GENOA	15	11	19	4	13	0.4	193	33
ROME	18	10	22	2	14	1.1	46	-61
NAPLES	18	10	23	4	14	2.3	102	-51
GREECE THESSALONIKA	14	9	21	3	11	0.5	19	-39
LARISSA	14	8	20	0	11	0.2	19	-41
ATHENS	18	13	20	8	15	-0.2	77	22
TURKEY ISTANBUL	15	10	21	6	12	0.8	38	-50
ANKARA	12	-1	18	-7	6	-0.2	36	11
CYPRUS LARNACA	23	13	26	11	18	0.5	55	17
ESTONIA TALLINN	2	-1	9	-7	1	-0.1	50	-15
LITHUANI KAUNAS	4	1	16	-6	2	-0.1	66	14
BELARUS MINSK	3	0	12	-10	2	0.8	55	4
RUSSIA KAZAN	-4	-8	5	-23	-6	-2.6	72	28
MOSCOW	1	-2	9	-12	-1	0.4	63	8
YEKATERINBURG	-5	-10	7	-25	-7	-1.6	68	39
OMSK	-6	-12	9	-31	-9	-1.9	69	42
NOVOSIBIRSK	-8	-13	10	-35	-11	-1.1	25	-3
BARNAUL	-7	-14	15	-36	-10	-3.6	21	-14
KHABAROVSK	1	-9	9	-19	-4	3.9	10	-11
VLADIVOSTOK	4	-2	13	-12	1	1.9	29	-1
SARATOV	0	-4	14	-14	-2	-0.2	35	-5
VOLGOGRAD	3	-5	16	-60	-1	-1.0	14	-20
ASTRAKHAN	7	-1	17	-9	3	-0.1	6	-10
KRASNODAR	10	2	19	-4	6	-0.3	55	-6
ORENBURG	-2	-8	8	-24	-5	-2.3	66	28
KAZAKHS TSELINOGRAD	-5	-11	10	-33	-8	-2.0	44	22
KARAGANDA	-4	-12	17	-33	-8	-3.0	57	30

Based on Preliminary Reports

November 1997

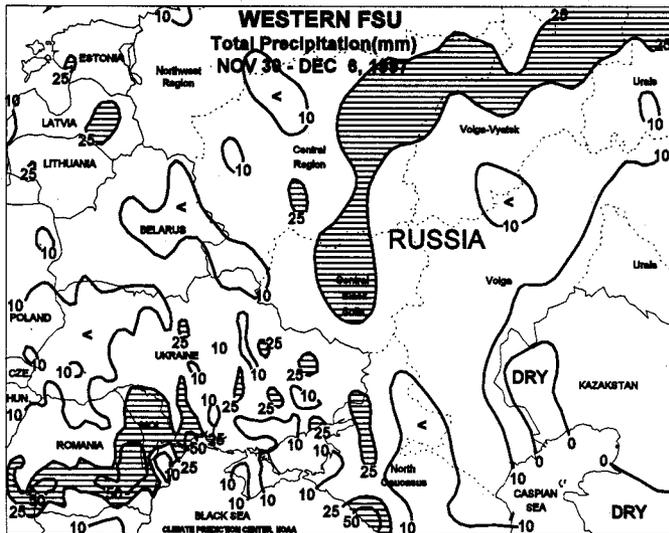
COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)		COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)			
	AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL		DPART F/NRM	AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
GEORGIA TBILISI	14	3	24	-2	9	0.4	2	-30	S AFRICA PRETORIA	28	16	36	9	22	1.3	168	67
UZBEKIST TASHKENT	12	2	26	-9	7	-1.3	38	-7	JOHANNESBURG	25	12	31	3	18	0.1	104	-14
TURKMENI ASHKHABAD	13	3	27	-6	8	-1.6	48	28	BETHAL	24	11	31	2	18	-0.4	206	79
SYRIA DAMASCUS	20	7	23	1	13	0.8	26	1	DURBAN	23	18	30	12	21	-0.7	278	169
ISRAEL JERUSALEM	20	11	23	7	15	0.2	50	-13	CAPE TOWN	23	12	32	0	18	-0.3	46	30
PAKISTAN KARACHI	30	18	35	12	24	0.0	2	-1	CANADA TORONTO	6	-1	13	-9	3	-0.7	48	-23
INDIA AMRITSAR	24	9	30	6	16	-1.6	31	24	MONTREAL	4	-3	18	-11	1	-0.8	72	-21
NEW DELHI	25	13	28	7	19	-1.5	21	15	WINNIPEG	-2	-9	6	-22	-6	-1.0	10	-12
AHMEDABAD	32	19	35	14	25	0.5	0	-11	REGINA	2	-10	13	-20	-4	1.0	3	-9
INDORE	30	18	33	15	24	2.3	29	8	SASKATOON	1	-9	11	-18	-4	2.0	2	-12
CALCUTTA	31	20	33	16	25	1.8	10	-6	LETHBRIDGE	5	-8	20	-20	-1	0.0	4	-12
VERAVAL	33	21	37	17	27	0.8	0	-26	CALGARY	5	-8	16	-14	-1	1.7	0	-12
BOMBAY	33	23	37	20	28	1.8	61	54	EDMONTON	3	-5	14	-12	-1	2.9	3	-14
POONA	31	19	32	16	25	2.4	217	194	VANCOUVER	11	4	15	-2	7	1.4	99	-71
BEGAMPET	30	21	32	17	25	2.4	32	9	MEXICO GUADALAJARA	**	**	25	5	**	**	**	**
VISHAKHAPATNAM	30	24	32	22	27	**	147	**	MEXICO CITY	22	12	27	8	17	3.2	4	-10
MADRAS	29	24	31	22	27	0.5	798	459	ACAPULCO	**	**	**	32	**	**	**	**
MANGALORE	33	24	36	22	29	1.3	24	-47	BERMUDA ST. GEORGES	24	20	28	15	22	0.6	106	-13
HONGKO KINGS PEAK	26	21	30	14	23	**	8	**	BAHAMAS NASSAU	28	22	33	18	25	1.6	29	-26
N KOREA PYONGYANG	**	**	6	-8	**	**	**	**	JAMAICA KINGSTON	32	26	34	24	29	2.3	40	-41
S KOREA SEOUL	14	5	20	-3	9	3.0	103	67	P RICO SAN JUAN	30	24	33	23	27	0.5	173	31
JAPAN SAPPORO	11	4	17	0	8	3.2	121	22	GUADELO RAIZET	32	23	33	21	27	1.7	90	-51
NAGOYA	18	9	22	3	13	1.7	232	162	MARTINIQ LAMENTIN	31	24	33	22	28	2.0	208	18
TOKYO	18	11	24	7	14	1.8	94	4	BARBADO BRIDGETOWN	30	25	31	23	27	0.5	111	-21
YOKOHAMA	17	11	24	7	14	2.1	94	-10	TRINIDAD PORT OF SPAIN	32	24	33	22	28	1.6	321	123
KYOTO	18	9	23	4	14	2.3	112	37	COLOMBI BOGOTA	**	**	22	1	**	**	76	-12
OSAKA	18	11	22	6	15	1.8	107	42	VENEZUE CARACAS	31	24	32	23	28	0.9	12	-40
THAILAND PHETCHABUN	33	21	36	18	27	1.6	0	-19	F GUIANA CAYENNE	32	23	33	21	28	1.4	47	-107
BANGKOK	33	25	36	23	29	2.1	32	-20	BRAZIL FORTALEZA	**	**	**	26	**	**	**	**
MALAYSIA KUALA LUMPUR	33	24	34	23	28	2.2	457	181	RECIFE	30	23	32	20	27	0.3	42	-2
VIETNAM HANOI	28	21	35	17	25	2.9	17	-26	BELO HORIZONTE	30	21	35	18	25	2.4	139	-103
CHINA HARBIN	3	-7	14	-16	-2	5.1	1	-7	CAMPO GRANDE	**	**	**	21	**	**	**	**
HAMI	5	-8	18	-16	-2	-1.5	1	0	FRANCA	28	20	33	18	**	**	214	13
LANCHOW	10	-2	17	-11	4	1.9	1	-4	RIO DE JANEIRO	**	**	**	25	**	**	**	**
BEIJING	10	2	18	-6	6	1.3	2	-4	LONDRINA	**	20	37	16	**	**	325	174
TIENTSIN	10	2	19	-7	6	0.4	16	8	SANTA MARIA	26	18	31	12	22	0.4	148	16
LHASA	11	-3	15	-7	4	0.6	1	0	PORTO ALEGRE	26	18	32	13	22	0.8	66	-9
KUNMING	19	9	22	5	14	2.3	6	-34	PERU LIMA	25	20	27	19	23	3.5	0	0
CHENGCHOW	12	3	21	-3	8	-0.1	39	13	BOLIVIA LA PAZ	16	3	20	-2	10	-0.5	73	23
YEHCHANG	15	9	24	2	12	-0.2	85	39	CHILE SANTIAGO	25	10	35	4	17	0.4	5	-3
HANKOW	16	8	24	0	12	1.0	81	26	ARGENTINI IGUAZU	29	19	36	14	24	**	349	**
CHUNGKING	16	11	23	6	14	**	29	**	FORMOSA	30	22	37	15	26	1.6	360	177
CHIHKIANG	16	9	27	4	13	0.2	47	-22	CERES	28	17	38	9	23	0.1	43	-58
WU HU	15	8	27	0	11	**	148	**	CORDOBA	26	15	37	7	20	-0.6	113	12
SHANGHAI	17	11	25	1	14	**	93	**	RIO CUARTO	25	15	33	9	20	0.1	128	4
NANCHANG	17	10	26	2	13	0.0	269	215	ROSARIO	26	18	35	7	21	0.7	169	71
TAIPEI	25	19	29	8	22	2.1	40	-24	BUENOS AIRES	24	14	30	6	19	0.2	135	37
CANTON	26	17	30	9	21	1.8	9	-33	SANTA ROSA	24	12	31	6	18	-1.0	51	-48
NANNING	25	17	33	12	21	2.4	7	-38	TRES ARROYOS	22	11	28	4	16	-0.2	164	89
CANARY I LAS PALMAS	26	20	36	17	23	2.9	9	-13	NEW NOUMEA	29	21	34	18	25	1.5	3	-71
MOROCC CASABLANCA	22	15	31	10	18	2.2	106	32	FIJI NAUSORI	28	23	31	18	25	0.5	43	-214
MARRAKECH	23	12	32	7	17	1.1	20	-21	SAMOA PAGO PAGO	**	**	32	23	**	**	128	-148
ALGERIA ALGER	21	12	29	3	16	1.5	128	23	TAHITI PAPEETE	30	24	31	22	27	0.9	117	-43
BATNA	16	7	23	-1	11	1.6	42	6	AUSTRALI DARWIN	32	25	34	21	29	-0.6	178	47
TUNISIA TUNIS	21	13	26	9	17	0.9	75	19	BRISBANE	26	19	31	15	22	-0.3	167	58
NIGER NIAMEY	38	22	41	18	30	2.4	0	0	PERTH	25	12	37	7	19	-0.7	7	-18
MALI TIMBUKTU	35	20	40	14	28	1.8	0	0	CEDUNA	26	13	44	7	19	0.2	31	12
BAMAKO	35	20	37	17	28	0.8	0	-3	ADELAIDE	24	14	41	9	19	0.9	11	-12
MAURITAN NOUAKHOTT	36	21	41	16	28	2.7	0	-4	MELBOURNE	21	10	38	5	15	-0.8	47	-2
SENEGAL DAKAR	31	25	37	23	28	2.5	0	0	WAGGA	28	13	40	7	21	2.3	2	-39
CHAGOS DIEGO GARCIA	**	**	34	24	**	**	18	-193	CANBERRA	26	10	37	2	18	2.2	13	-52
LIBYA TRIPOLI	24	12	34	7	18	0.3	7	-39	INDONESIA DJAKARTA	34	25	37	20	29	2.0	49	**
BENGHAZI	22	15	29	11	19	0.9	37	2	PHILIPPI MANILA	32	**	34	25	**	**	64	-54
EGYPT CAIRO	25	16	29	13	20	1.4	0	-4									
ASWAN	30	18	35	11	23	1.2	0	0									
ETHIOPIA ADDIS ABABA	22	10	25	6	16	0.5	26	18									
KENYA NAIROBI	23	16	26	10	20	0.2	300	179									
TANZANIA DAR ES SALAAM	31	23	32	20	27	0.6	150	34									
GABON LIBREVILLE	**	**	31	20	**	**	**	**									
TOGO LOME	32	25	34	22	29	1.3	9	-14									
BURKINA OUAGADOUGOU	37	22	39	19	30	1.9	0	-2									
COTE D'I ABIDJAN	32	26	33	22	29	1.4	78	-64									
MOZAMBI MAPUTO	28	**	41	0	**	**	145	73									
ZAMBIA LUSAKA	**	**	34	17	**	**	**	**									
ZIMBABW HARARE	27	17	33	12	22	1.5	111	10									

Based on Preliminary Reports



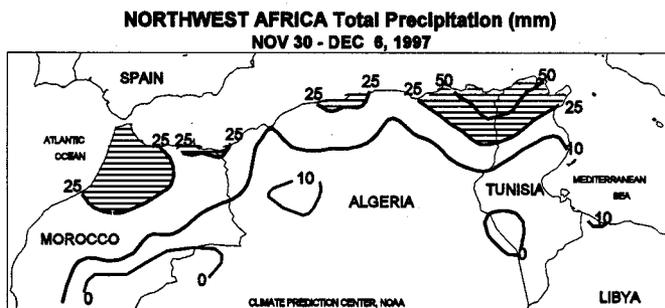
EUROPE

Widespread precipitation (5-25 mm), mainly in the form of rain, continued to favor winter grains in England, France, and Germany. Weekly temperatures in these areas averaged 1 to 3 degrees C below normal. Winter grains in Germany continued to enter dormancy, while crops in England and France were cold hardening. Farther south, precipitation diminished in Portugal, helping to ease excessive moisture conditions brought on by heavy rains in November. Showers continued in Spain and peninsular Italy, slowing winter grain planting. In eastern Europe, seasonable temperatures and light precipitation (4-25 mm) favored dormant winter grains in Poland, the Czech Republic, and Slovakia. Farther south, unseasonably mild weather accompanied widespread precipitation (10-25 mm) in Yugoslavia and Bulgaria, allowing further establishment in late-planted winter grains. Weekly temperatures in southeastern Europe ranged from 2 to 5 degrees C above normal.



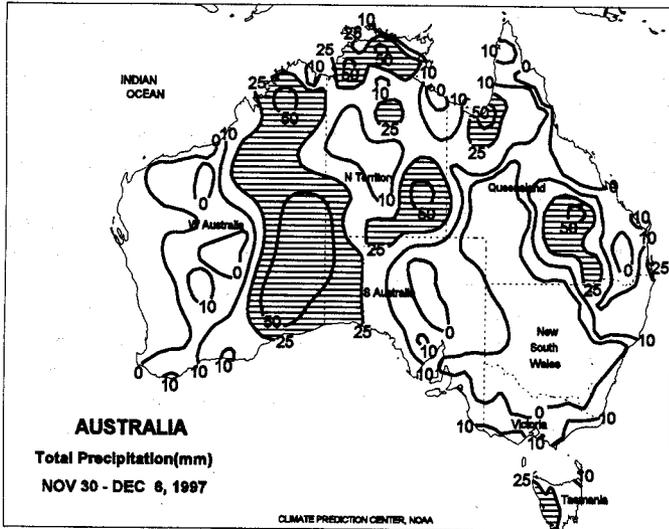
FSU-WESTERN

Widespread precipitation covered dormant winter grains in Russia, Ukraine, Belarus, and the Baltics. A midweek storm system brought rain (10-32 mm) to most of Ukraine and the North Caucasus region in Russia. Light to moderate snow (5-25 mm liquid equivalent) fell over winter grain areas in northern Russia, western Ukraine, Belarus, and the Baltics, increasing snow cover. Weekly temperatures averaged near normal in Ukraine and the North Caucasus region in Russia and 3 to 7 degrees C below normal in northern Russia. Although extreme cold during the week (minimum temperatures less than -15 degrees C) occurred as far south as the middle Volga Valley, an adequate snow cover provided protection from potential winterkill.



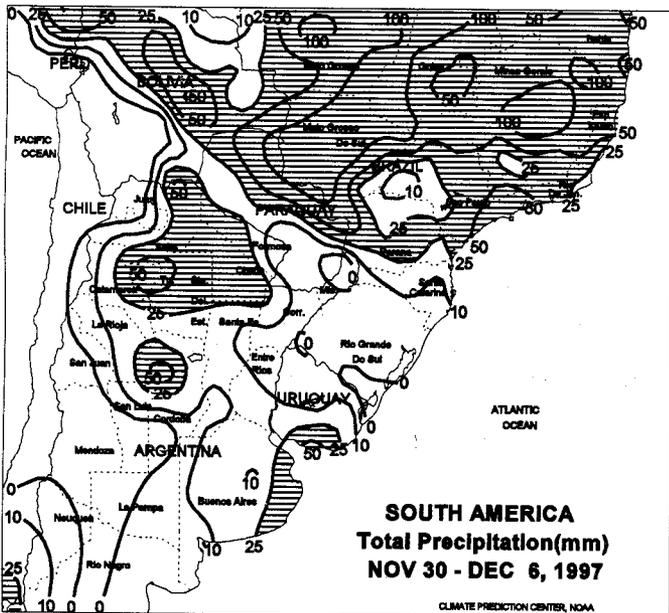
NORTHWESTERN AFRICA

Winter grain planting was likely well underway in most areas. Light to moderate showers (10-42 mm) fell over Morocco, providing sufficient moisture for winter grain planting. Farther east, although widespread showers (10-50 mm, with local amounts in excess of 50 mm) in Algeria and Tunisia continued to provide abundant moisture for emerging winter grains, the wet weather may have caused some interruptions in planting.



AUSTRALIA

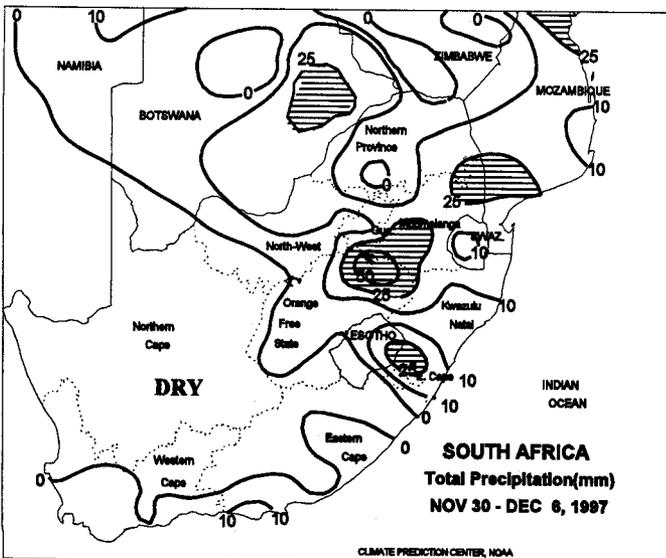
Warm, dry weather continued for much of the week across eastern Australia. The highest temperatures (3-6 degrees C above normal, highs from 38 to 41 degrees C) were centered over Queensland, stressing non-irrigated summer crops such as sorghum and upland cotton. The heat was also unfavorable for pastures and rangeland. By week's end, scattered showers (10-25 mm or more) were bringing some relief from Queensland's western summer crop zones southeastward to Darling Downs. Farther south, temperatures averaged slightly above normal in the southeastern winter grain belt, maintaining favorable conditions for dry down and harvesting. Warm, dry weather also aided winter grain harvests in Western Australia. In New Zealand, mostly dry weather continued over agricultural areas along the east coast of South Island, but scattered showers (10-25 mm or more) elsewhere boosted moisture reserves for pastures.



SOUTH AMERICA

In southern Brazil, mostly dry weather (less than 5 mm) spurred soybean planting across Rio Grande do Sul and southern Parana. Elsewhere, heavier showers (25-75 mm, with isolated amounts greater than 125 mm) increased topsoil moisture for germinating soybeans. In Argentina, light to moderate rain (5-25 mm) maintained favorable topsoil moisture for summer crop planting and germination. Only in eastern La Pampa has rainfall been slightly below normal the past few weeks. The rain is slowing winter wheat harvesting, but has not been enough to significantly lower quality. According to reports as of November 28, corn in Argentina was 78 percent planted, soybeans 46 percent, sunflower 85 percent, sorghum 65 percent, and cotton 44 percent. Planting progress for all crops was at or slightly ahead of last year's pace. Winter wheat harvesting was 13 percent complete. Temperatures averaged near to slightly below normal across central Argentina and slightly above normal in southern Brazil.

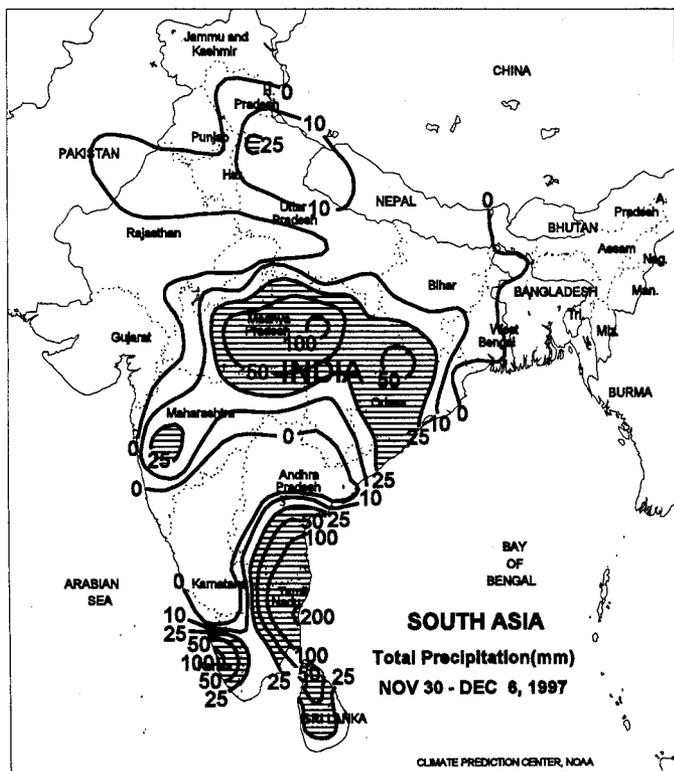
SOUTH AFRICA



Dry, somewhat cooler-than-normal weather continued to dominate the corn belt, although showers (10-25 mm or more) returned to northeastern crop areas late in the week. In the east, conditions are generally favorable for vegetative corn following last week's beneficial rain. In contrast, most western corn areas (including large portions of Northwest and Orange Free State) have gone nearly 2 months without significant rainfall, and some southernmost crop areas still await planting rains. Crops planted past early December face an increased risk of encountering summer heat stress. About 1 month remains in the optimal corn planting period. Elsewhere, drier weather returned to crop areas from Eastern Cape to Kwazulu-Natal, bringing some relief to sugarcane and other crops hit hard by last week's inundating rain.

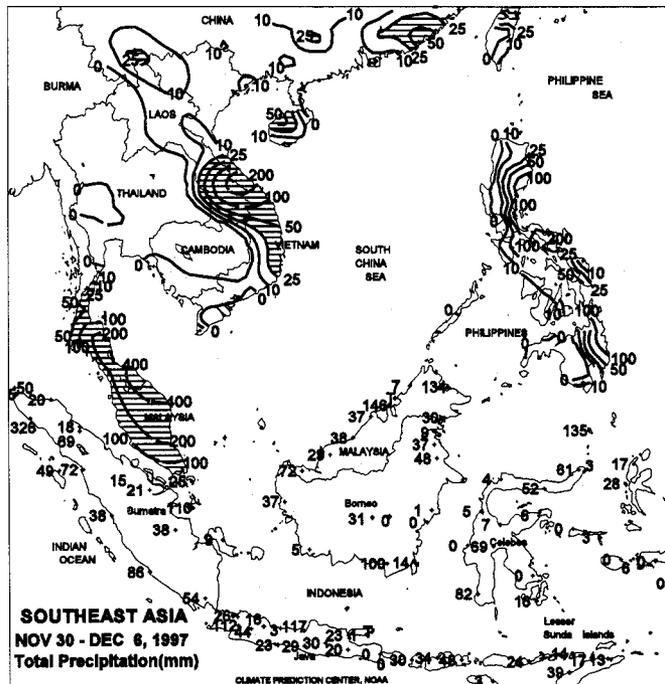
SOUTH ASIA

Showers (10-50 mm or more) persisted across central India, impeding fieldwork and keeping maturing summer crops unfavorably wet. Unlike last week, the rain was confined to a narrow band centered over Maharashtra and Madhya Pradesh, including important soybean, sugarcane, cotton, and coarse grain areas. Drier weather throughout the north favored maturing cotton and rice and promoted winter grain and oilseed planting, though spotty showers (5-13 mm) lingered across the area. Dryness continued over primary eastern rice areas, but in southern India, heavy rain (100-200 mm or more) persisted over important rice areas of the southeastern coast (Tamil Nadu and southern Andhra Pradesh). Some flooding was likely, possibly necessitating local replanting or paddy repair.



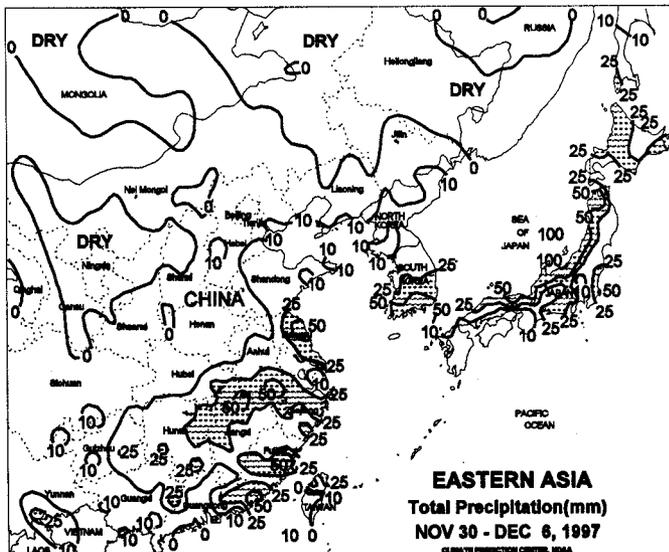
SOUTHEAST ASIA

Moderate showers (15-50 mm, with isolated amounts greater than 75 mm) covered Java and southern Sumatra, easing drought for coffee and main-season rice. With the recent arrival of the rainy season, rice transplanting should be underway across the region. In the Philippines, moderate to heavy showers (50-150 mm) brought drought relief to the eastern half of the country, but below-normal rainfall continued across Luzon and west-central islands. Torrential showers (200-450 mm) caused flooding in the oil palm areas of eastern peninsular Malaysia and Thailand. Mostly dry weather favored rice harvesting in Thailand and the major rice areas of Vietnam.



EASTERN ASIA

Late-week rain (5-15 mm) continued to increase moisture supplies for winter grains across the North China Plain. Seasonably cold weather prompted winter wheat to begin entering dormancy in the northern wheat areas (Hebei, Shandong, and northern Henan). Minimum temperatures ranged from -7 to 0 degrees C throughout the region. Widespread rain (10-50 mm) covered the lower Yangtze Valley, maintaining adequate moisture supplies for winter grains and oilseeds.



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(Continued from front cover)

In northern New England, a snowy November yielded to an early-December snow storm. In Vermont, 48-hour totals (November 30 - December 2) reached 13.1 inches in Canaan and 10.0 inches in Waitsfield. Farther south, Wilmington, NC netted a daily-record rainfall (2.26 inches) on Sunday. In the storm's wake on Tuesday, wind gusts were clocked to 44 mph in Brunswick, ME and 49 mph in Concord, NH. Another storm arrived in New England toward week's end, delivering 9.1 inches of snow to Caribou, ME on Saturday. Meanwhile, lake-enhanced snowfall boosted December 1-6 totals to 23.6 inches in Marquette, MI, 15.7 inches in Erie, PA, and 5.9 inches in South Bend, IN. By Saturday evening, storm totals downwind of Lake Erie reached 35.6 inches in Franklin Center, PA and 18.0 inches in Conneaut, OH.

Rain spread onto the southern Plains on Tuesday, reaching the Southeast a day later. Heavy rain persisted across Peninsular

Florida into December 4. Meanwhile, snow fell from the southern Rockies to the Midwest. In southern Colorado, 24-hour snowfall totaled 17 inches at Wolf Creek Pass on December 2-3. On Thursday, daily-record rainfalls in Florida included 2.99 inches in Key West and 1.61 inches in Orlando. Elsewhere across the Southeast, weekly rainfall topped 1 inch in locations such as Jackson, KY, Bristol, TN, and Norfolk, VA.

Storms struck California early in the week and again at week's end. The latter system produced torrential rainfall in coastal southern California, causing localized flooding. In Goleta, near Santa Barbara, 48-hour rainfall on December 4-6 totaled 5.02 inches. Twenty-four hour totals on December 5-6 reached 6.00 inches in Newport Beach and 6.81 inches in Laguna Beach. Farther east, weekly rainfall of 0.95 inches in Tucson accounted for 11 percent of the year-to-date total and 8 percent of their normal annual precipitation.

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