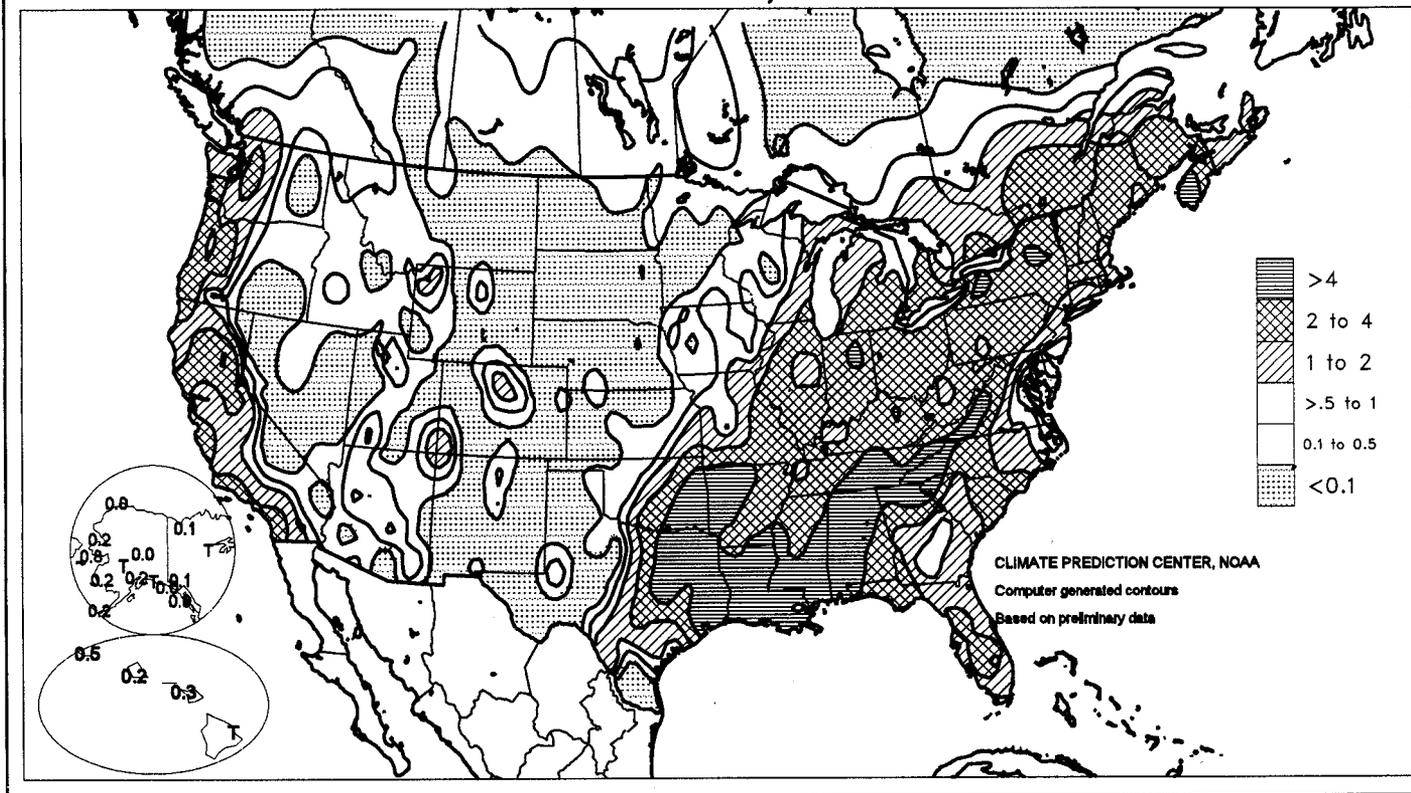


WEEKLY WEATHER AND CROP BULLETIN

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)
JAN 4 - 10, 1998



HIGHLIGHTS

January 4 - 10, 1998

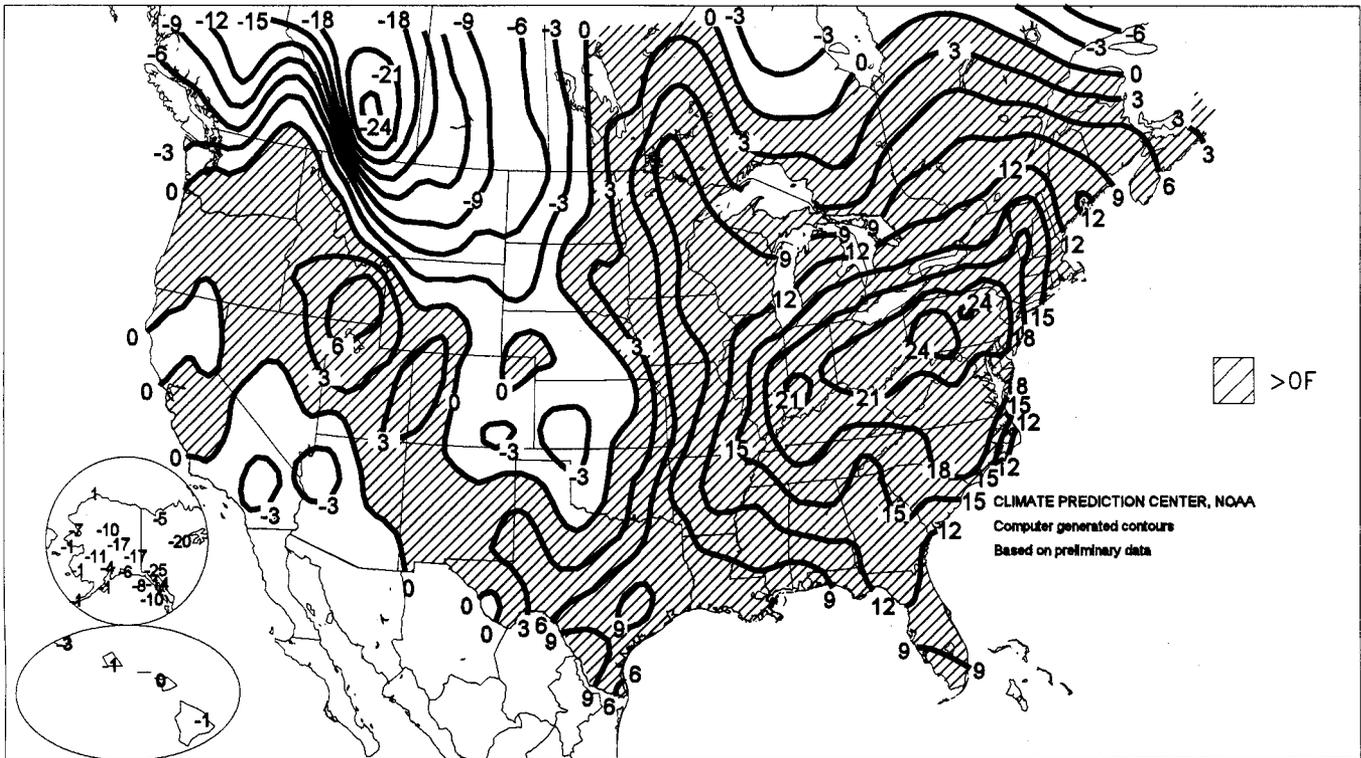
A large, slow-moving, moisture-rich storm produced an expansive area of precipitation in excess of 2 inches, from eastern Texas to western Florida, northeastward to Lower Michigan and Maine. A severe ice storm struck northern New York and northern New England, as rain fell through cold air entrenched at ground level. Snow fell on the storm's western fringe, from northeastern Texas to the Great Lakes region. Meanwhile, Arctic air tightened its grip on the northern Plains, holding weekly temperatures as much as 15°F below normal. At week's end, very cold air spread westward into the Pacific Northwest, setting the stage for snow and ice accumulations. Elsewhere in the West, rain and mountain snow arrived late in the week.

(Continued on page 3)

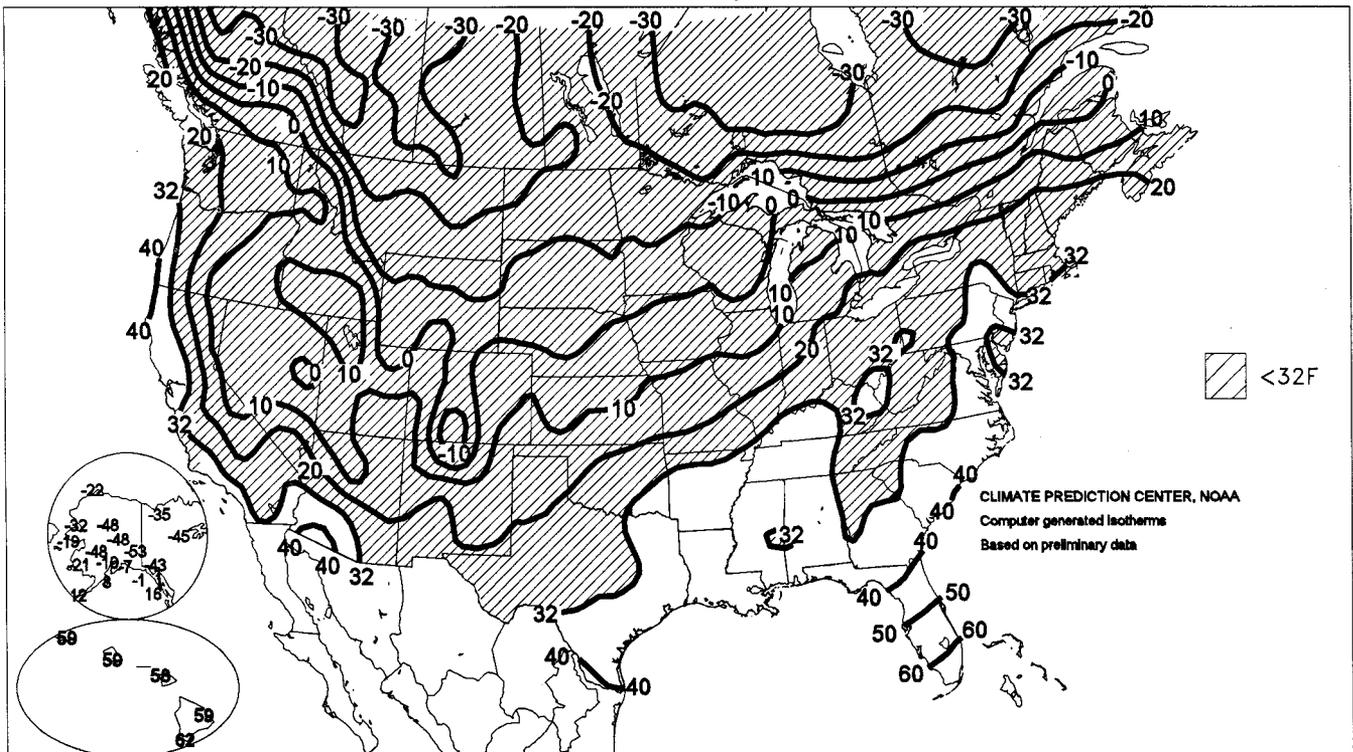
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Departure of Average Temperature from Normal (°F) JAN 4 - 10, 1998



Extreme Minimum Temperature (°F) JAN 4 - 10, 1998



(Continued from front cover)

From January 4-9, nearly six dozen daily-record highs were established in the **eastern third of the Nation**, boosting weekly temperatures 7 to 27°F above normal. On Thursday, the high in **Binghamton, NY** reached 63°F, tying their monthly record set on January 25, 1967. More impressively, low temperatures remained at their highest January levels on record in **Lansing, MI** (48°F on Monday), **Tampa, FL** (70°F on Monday), and **Philadelphia, PA** (60°F on Thursday). In **Indiana**, **Indianapolis'** temperature remained above 50°F for 3 days (January 4-6), their third such January occurrence (January 2-4, 1997, and January 6-8, 1880). On January 8 in **Virginia**, lows of 65°F at **Dulles Airport** and 59°F in **Blacksburg** were higher than high-temperature records for the date (61°F and 58°F, respectively). Highs on Thursday reached 70°F as far north as **Newark, NJ**.

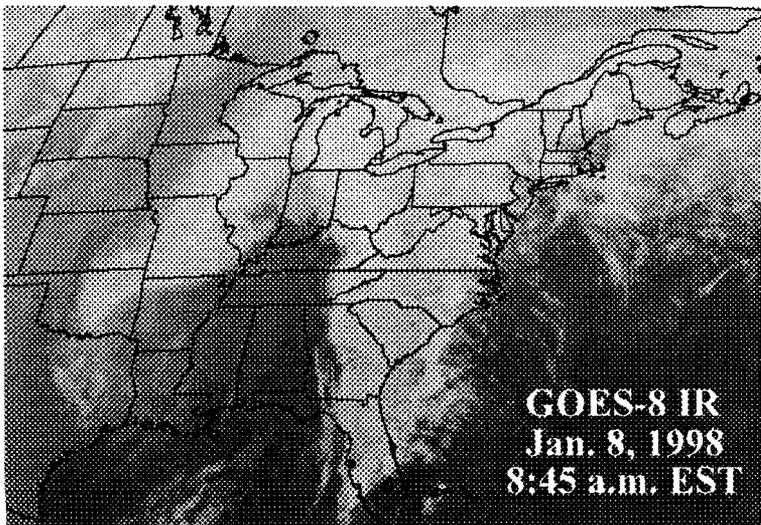
Farther north, a catastrophic ice storm struck areas from **northern New York** to **central and southern Maine**, and adjacent areas of **southeastern Canada**. In some areas, ice accumulated on parts of 6 days (January 4-9), with the heaviest rain occurring on January 7-8. Representative ice accumulations reached 2 to 3 inches in the **St. Lawrence and northern Champlain Valleys**, with similar totals observed across **northern New Hampshire and Maine**. According to media reports, as many as 350,000 American homes lost electricity. Specific storm-total precipitation in **northern Vermont** reached 6.25 inches on **Jay Peak**, 5.28 inches on **Mt. Mansfield**, and 4.20 inches in **Colchester**. In **northern New York**, **Malone** netted 4.16 inches. Locations in and near the freezing-rain zone also had to contend with flooding, as precipitation approached or exceeded January-record rates. Both **Buffalo, NY** (2.31 inches on January 7-8) and **Burlington, VT** (2.11 inches on January 8) posted 24-hour rainfall records for January. On Friday, a flow record of 11,000 cubic feet per second (cfs) was set on the **Hudson River** near **Newcomb, NY**, breaking the January 1949 record by 3,600 cfs. Records were also set along parts of **New York's Black River** (**Lake Ontario** drainage area).

Farther south, storm-total rainfall topped 4 inches in many areas from the **Arklatex region** and the **Delta** to the **central and**

southern Appalachians. Resultant flooding left 10 people dead in the **Southeast**, according to media reports. In **western North Carolina**, January 8 rainfall exceeded 13 inches in parts of **Jackson County**, and storm-total precipitation topped 15 inches in a few locations. Elsewhere, daily-record rainfall totals occurred in locations such as **Oklahoma City, OK** (2.02 inches on Sunday), **Lansing, MI** (0.99 inch on Monday), **Lufkin, TX** (5.63 inches on Tuesday), and **Huntsville, AL** (3.55 inches on Wednesday). Heavy rain returned to **central Florida** on Thursday, where daily-record totals were established in **Daytona Beach** (1.52 inches) and **Melbourne** (1.21 inches). Snowfall on the storm's western fringe boosted month-to-date totals to 12.6 inches in **Milwaukee, WI**, 4.3 inches in **Springfield, MO**, and 3.0 inches in **Tulsa, OK**.

Cold air and moisture spread into the **Northwest** at week's end. By early Sunday morning (January 11), **Spokane, WA** reported a low of 2°F, while snow depths reached 2 inches in **Wenatchee, WA** and **Pendleton, OR**. Farther south, rainfall topped 2 inches in some locations from **western Oregon** into **northern California**, and along the **central and southern California coast**. Meanwhile, cold air also spread slowly southeastward across the **North Central States**. On Saturday, the minimum of 4°F in **Des Moines, IA** was their lowest since February 15, 1997. Meanwhile in **Marquette, MI**, the low dipped to -2°F, their first sub-zero reading of the winter and latest on record (formerly January 3, 1995). In **Glasgow, MT**, where the latest first sub-zero reading on record occurred on January 2, lows averaged -9°F for the week, including -27°F on Saturday.

Near the core of the Arctic air, weekly temperatures averaged as much as 17°F below normal in **interior Alaska**. On Sunday, **Fairbanks'** high of -42°F was their lowest since January 23, 1993. A day later, **Tanacross** reported a low of -63°F. Later in the week, heavy rain belted **southern Alaska**. In **Kodiak**, 6.58 inches fell on January 9-10, including a single-day, January-record total of 4.79 inches on Friday. Wet weather also prevailed in **Puerto Rico**, where **San Juan's** January 1-10 total reached 6.99 inches, in sharp contrast to their December total of 1.02 inches, second lowest on record.



A Day of Records, Oddities, and Damage:

While snow is falling as far south as north-eastern Texas and more than 20 Eastern cities are on their way to daily-record highs, northern New England and southeastern Canada brace for their latest--and most severe--round of freezing rain. In addition, very heavy rain is pelting the eastern slopes of the Appalachians, where totals for this day will top 13 inches in parts of North Carolina's Jackson County.

National Weather Data for Selected Cities

Weather Data for the Week Ending January 10, 1998

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	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE		.50 INCH OR MORE	
																		90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	62	49	70	37	55	14	-	-	-	8.99	132	4.89	288	97	74	0	0	-	-	-	-
HUNTSVILLE	60	48	68	39	54	15	4.54	3.32	3.55	7.83	102	4.54	258	94	75	0	0	5	2	-	-
MOBILE	65	49	71	34	57	7	9.71	8.63	6.12	14.09	206	9.71	622	98	69	0	0	5	2	-	-
AK MONTGOMERY	64	48	72	31	58	10	1.63	0.57	1.04	6.14	92	1.63	107	94	68	0	1	3	2	-	-
ANCHORAGE	16	5	27	-10	10	-4	0.18	-0.01	0.18	1.98	145	0.33	118	81	64	0	7	1	0	0	0
BARROW	-7	-17	-2	-22	-12	0	0.00	-0.03	0.00	0.08	50	0.00	0	80	75	0	7	0	0	0	0
FAIRBANKS	-20	-34	8	-48	-27	-17	0.00	-0.12	0.00	2.06	203	0.00	0	76	68	0	7	0	0	0	0
JUNEAU	16	4	19	1	10	-14	-	-	-	-	-	-	-	80	54	0	7	-	-	-	-
KODIAK	32	25	38	8	29	-1	-	-	4.79	-	-	-	-	84	67	0	4	-	-	-	-
NOME	13	0	30	-19	7	-1	0.77	0.58	0.35	1.72	152	0.77	275	80	63	0	7	3	0	0	0
AZ FLAGSTAFF	37	12	43	-2	24	-4	0.93	0.45	0.46	3.12	101	1.27	184	94	54	0	7	4	0	0	0
PHOENIX	80	43	85	38	52	-1	0.35	0.18	0.35	1.19	98	0.35	146	75	33	0	0	1	0	0	0
PRESCOTT	44	25	48	19	35	-1	0.57	0.21	0.32	3.17	151	0.71	139	83	48	0	6	3	0	0	0
TUCSON	60	37	64	30	48	-2	0.12	-0.10	0.12	3.00	217	0.12	39	75	34	0	2	1	0	0	0
YUMA	84	46	68	42	55	-1	0.03	-0.05	0.02	2.82	496	0.03	25	67	35	0	0	2	0	0	0
AR FORT SMITH	52	44	63	37	48	11	2.86	2.21	1.17	7.19	194	2.68	406	98	85	0	0	5	2	-	-
LITTLE ROCK	58	47	67	37	52	13	2.78	1.95	-	6.53	113	2.78	253	94	80	0	0	5	1	-	-
CA BAKERSFIELD	53	38	62	32	48	-1	0.52	0.35	0.24	1.79	208	0.69	288	98	72	0	2	3	0	0	0
EUREKA	-	-	-	-	-	-	0.89	-	-	7.94	-	-	-	-	-	-	-	-	-	-	-
FRESNO	53	40	69	32	48	2	0.74	0.31	0.38	1.84	91	0.89	146	98	70	0	2	5	0	0	0
LOS ANGELES	61	48	63	40	55	-2	2.18	1.67	1.57	6.22	264	2.49	351	81	55	0	0	3	1	-	-
REDDING	47	38	60	30	42	-3	1.10	-0.31	0.47	5.58	74	2.28	114	98	78	0	3	5	0	0	0
SACRAM/MCCLELL	52	42	65	34	47	-	1.04	-9.99	0.68	4.28	-	1.83	-999	100	88	0	0	5	1	-	-
SAN DIEGO	63	51	65	45	57	0	1.30	0.89	0.64	2.96	135	1.61	273	84	51	0	0	3	1	-	-
SAN FRANCISCO	53	48	59	40	49	1	1.44	0.48	0.47	7.92	177	2.85	192	96	80	0	0	5	0	0	0
CO ALAMOSA	29	-4	32	-14	12	-1	0.00	-0.06	0.00	0.19	36	0.00	0	82	60	0	7	0	0	0	0
CO SPRINGS	41	15	48	10	28	0	0.00	-0.08	0.00	0.10	17	0.00	0	92	31	0	7	0	0	0	0
DENVER	37	15	47	7	28	-3	0.00	-0.11	0.00	0.59	73	0.00	0	86	48	0	7	0	0	0	0
GRAND JUNCTION	37	21	45	15	29	5	0.36	0.22	0.36	0.50	62	0.36	180	93	82	0	7	1	0	0	0
PUEBLO	39	14	50	8	28	-3	0.18	0.08	0.10	0.80	111	0.22	183	81	55	0	7	2	0	0	0
CT BRIDGEPORT	49	39	59	31	44	15	0.63	-0.12	0.48	3.98	87	0.63	58	83	57	0	1	6	0	0	0
HARTFORD	47	35	58	30	41	18	1.36	0.55	0.76	3.63	70	1.36	117	99	83	0	1	5	1	-	-
DC WASHINGTON	63	45	69	37	54	19	0.33	-0.30	0.13	2.07	51	0.33	36	83	67	0	0	4	0	0	0
DE WILMINGTON	60	43	66	32	52	21	0.66	-0.05	0.43	3.22	71	0.66	84	87	53	0	1	4	0	0	0
FL DAYTONA BEACH	75	60	81	47	67	9	1.57	0.97	1.52	9.34	273	1.57	185	99	71	0	0	3	1	-	-
JACKSONVILLE	74	57	81	41	65	13	1.27	0.57	1.09	11.02	297	1.28	129	97	64	0	0	3	1	-	-
KEY WEST	78	71	80	68	75	5	0.07	-0.40	0.06	4.49	187	0.07	11	94	78	0	0	2	0	0	0
MIAMI	81	70	84	64	75	8	0.43	-0.01	0.24	5.70	230	0.44	70	96	69	0	0	4	0	0	0
ORLANDO	77	62	84	49	69	9	1.09	0.60	0.95	13.72	481	1.09	158	97	68	0	0	5	1	-	-
TAMPA	78	64	83	51	71	11	1.80	1.19	1.31	17.17	624	1.80	271	96	67	0	0	2	1	-	-
VALPARAISO/EGLIN	67	54	72	36	60	8	0.46	-0.50	0.25	5.96	107	0.46	33	93	84	0	0	4	0	0	0
WEST PALM BEACH	80	70	83	60	75	9	0.61	0.00	0.43	5.64	188	0.61	70	92	66	0	0	3	0	0	0
GA ATHENS	64	49	70	31	57	15	1.88	0.84	1.66	7.79	140	1.88	128	95	69	0	1	4	1	-	-
ATLANTA	62	49	68	32	55	14	2.08	1.02	1.67	7.14	122	2.08	138	95	58	0	1	5	1	-	-
AUGUSTA	70	49	77	32	60	16	0.95	0.08	0.55	7.89	169	0.95	75	93	61	0	1	5	1	-	-
COLUMBUS	65	52	72	35	59	13	1.19	0.13	0.90	7.91	122	1.19	78	96	70	0	0	3	1	-	-
MACON	67	50	74	34	58	13	1.11	0.09	1.02	8.39	146	1.11	76	95	65	0	0	2	1	-	-
SAVANNAH	69	54	78	35	62	13	0.91	0.10	0.63	4.90	119	0.91	79	97	71	0	0	5	1	-	-
HI HILO	80	62	82	59	71	-1	0.02	-2.29	0.01	8.94	58	0.09	3	88	57	0	0	2	0	0	0
HONOLULU	81	63	85	58	72	-1	0.24	-0.63	0.23	0.91	18	0.47	35	88	54	0	0	2	0	0	0
KAHULUI	81	63	83	58	72	0	0.31	-0.64	0.31	1.83	40	0.33	24	91	57	0	0	1	0	0	0
LIHUE	76	61	78	59	69	-3	0.46	-0.95	0.43	5.71	80	3.12	156	86	55	0	0	3	0	0	0
ID BOISE	38	27	46	19	33	5	0.66	0.33	0.57	1.46	80	0.81	172	86	49	0	5	2	1	-	-
LEWISTON	40	30	50	22	35	2	0.24	-0.06	0.20	0.92	56	0.32	74	84	58	0	5	2	0	0	0
POCATELLO	35	23	46	16	29	7	0.39	0.14	0.33	1.13	78	0.46	131	83	67	0	7	3	0	0	0
IL CHICAGO/O'HARE	40	29	56	7	35	14	1.81	1.41	0.83	3.75	123	2.28	390	93	82	0	3	6	1	-	-
MOLINE	37	27	52	8	32	12	1.06	0.66	0.75	3.45	123	1.69	291	93	82	0	3	4	1	-	-
PEORIA	42	32	56	9	37	15	2.18	1.79	0.78	4.18	139	2.24	393	93	83	0	3	5	1	-	-
ROCKFORD	38	26	53	3	32	13	1.18	0.85	0.40	2.23	88	1.40	292	94	81	0	4	5	0	0	0
SPRINGFIELD	44	36	57	14	40	16	2.02	1.63	0.58	3.77	114	2.02	348	94	84	0	3	5	1	-	-
IN EVANSVILLE	55	44	67	31	50	19	1.67	1.04	0.83	4.04	88	1.70	185	92	78	0	1	5	1	-	-
FORT WAYNE	48	40	57	20	44	21	2.54	2.07	0.87	5.04	141	3.31	480	94	82	0	2	5	3	-	-
INDIANAPOLIS	51	41	66	21	46	20	1.82	1.25	0.76	3.20	7										

Weather Data for the Week Ending January 10, 1998

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	32 AND BELOW	TEMP. °F		PRECIP.	
																		01 INCH OR MORE	05 INCH OR MORE	01 INCH OR MORE	05 INCH OR MORE
KY WICHITA	33	26	39	14	29	0	0.60	0.31	0.50	3.17	214	0.62	179	95	82	0	7	1	1	1	1
JACKSON	60	47	70	33	54	20	1.99	1.11	1.10	4.20	74	1.99	157	90	62	0	0	5	1	1	1
LEXINGTON	57	46	66	32	52	20	2.77	2.08	1.44	5.45	109	2.77	277	92	74	0	1	5	3	3	3
LOUISVILLE	57	46	67	34	52	20	2.06	1.38	1.25	4.57	99	2.06	212	93	64	0	0	5	1	1	1
PADUCAH	55	45	68	32	50	17	1.88	1.10	0.75	4.35	75	1.90	167	93	77	0	1	4	2	2	2
LA BATON ROUGE	64	49	71	34	56	7	6.06	4.95	3.58	12.38	174	6.06	379	100	74	0	0	5	3	3	3
LAKE CHARLES	66	49	78	33	57	7	5.54	4.46	3.31	11.26	170	5.54	355	98	74	0	0	4	2	2	2
NEW ORLEANS	66	52	74	37	59	7	8.77	7.64	4.70	11.34	154	8.78	539	98	78	0	0	5	3	3	3
SHREVEPORT	59	48	70	38	54	9	3.28	2.40	2.46	9.38	175	3.28	260	95	80	0	0	5	1	1	1
ME CARIBOU	24	11	42	-3	17	8	1.99	1.40	0.77	4.81	118	2.01	231	92	77	0	7	7	2	2	2
PORTLAND	38	28	50	24	33	11	2.96	2.12	1.48	5.53	96	2.96	243	95	75	0	7	4	2	2	2
MD BALTIMORE	63	43	68	31	53	21	0.29	-0.41	0.14	2.34	63	0.29	29	93	66	0	1	3	0	0	0
MA BOSTON	47	36	57	32	41	12	1.58	0.75	0.76	3.90	75	1.58	133	95	84	0	1	5	1	1	1
WORCESTER	42	32	53	28	37	14	1.84	0.79	0.75	3.96	75	1.84	133	99	86	0	6	5	1	1	1
MI ALPENA	34	24	36	8	28	11	1.87	1.26	0.49	2.44	93	1.71	295	98	77	0	7	7	0	0	0
GRAND RAPIDS	43	32	53	15	38	15	1.99	1.52	0.78	3.47	99	2.49	361	98	86	0	5	7	1	1	1
HOUGHTON LAKE	36	26	47	8	30	13	1.37	1.00	0.49	1.77	71	1.43	265	98	83	0	5	7	0	0	0
LANSING	44	34	54	17	39	17	2.25	1.87	0.99	3.41	118	2.52	450	98	84	0	5	6	1	1	1
MARQUETTE	-	-	-	-	-	-	1.39	0.86	-	3.86	114	1.46	190	-	-	-	-	-	-	-	-
MUSKEGON	41	31	54	13	36	12	1.74	1.15	0.57	3.04	78	1.82	212	95	78	0	4	6	1	1	1
MN DULUTH	22	11	29	-11	17	10	0.16	-0.14	0.09	0.68	33	0.16	37	92	81	0	7	3	0	0	0
INT'L FALLS	18	5	25	-18	11	10	0.34	0.12	0.12	0.59	51	0.36	118	89	77	0	7	4	0	0	0
MINNEAPOLIS	27	15	36	-5	21	9	0.18	-0.04	0.15	0.49	35	0.18	59	84	69	0	7	3	0	0	0
ROCHESTER	26	17	32	-3	21	10	0.38	0.19	0.38	0.76	58	0.38	136	91	81	0	7	1	0	0	0
ST. CLOUD	23	8	31	-10	16	8	0.03	-0.14	0.02	0.26	24	0.03	12	88	73	0	7	2	0	0	0
MS JACKSON	62	47	72	32	55	11	3.46	2.22	1.78	9.23	120	3.46	193	98	74	0	1	5	3	3	3
MERIDIAN	62	46	72	30	54	9	6.66	5.45	4.26	11.38	146	6.66	383	98	71	0	1	4	2	2	2
TUPELO	58	48	69	39	53	13	3.02	1.84	1.38	6.74	86	3.02	177	95	77	0	0	6	2	2	2
MO COLUMBIA	42	31	58	14	37	9	1.19	0.83	0.42	2.97	99	1.20	226	93	79	0	2	5	0	0	0
KANSAS CITY	34	26	40	11	30	4	0.39	0.12	0.38	2.76	139	0.43	107	90	76	0	6	2	0	0	0
SAINT LOUIS	47	39	59	19	43	13	2.41	1.96	0.87	4.26	115	2.41	360	95	83	0	2	5	2	2	2
SPRINGFIELD	44	36	59	19	40	9	2.30	1.85	1.39	5.46	143	2.32	348	99	91	0	3	6	1	1	1
MT BILLINGS	26	6	43	-9	16	-6	0.06	-0.16	0.06	0.63	58	0.06	19	80	53	0	7	1	0	0	0
BUTTE	27	3	42	-20	15	-1	0.24	0.10	0.11	0.43	64	0.28	140	86	50	0	7	4	0	0	0
GLASGOW	10	-9	35	-27	0	-10	0.09	0.01	0.09	0.21	39	0.20	125	83	64	0	7	1	0	0	0
GREAT FALLS	17	-2	38	-18	7	-13	0.13	-0.09	0.11	0.63	46	0.20	65	82	59	0	7	2	0	0	0
KALISPELL	28	15	38	-4	21	1	0.13	-0.24	0.09	0.83	37	0.26	48	85	59	0	7	2	0	0	0
MILES CITY	23	1	44	-13	12	-3	0.12	-0.02	0.10	0.17	21	0.16	80	82	52	0	7	2	0	0	0
MISSOULA	30	16	40	4	23	2	0.41	0.11	0.33	1.00	63	0.67	168	85	66	0	7	2	0	0	0
NE GRAND ISLAND	26	14	32	0	20	-1	0.00	-0.11	0.00	0.41	47	0.00	0	87	71	0	7	0	0	0	0
LINCOLN	29	17	33	2	22	1	0.09	-0.05	0.06	0.82	78	0.09	45	96	73	0	7	2	0	0	0
NORFOLK	25	15	30	3	20	1	0.04	-0.08	0.04	0.41	45	0.04	22	88	67	0	7	1	0	0	0
NORTH PLATTE	35	6	53	-2	21	0	0.02	-0.06	0.02	0.22	38	0.02	17	88	52	0	7	1	0	0	0
OMAHA	29	19	33	4	24	3	0.33	0.14	-	0.82	62	0.33	110	90	72	0	7	-	-	-	-
SCOTTSBLUFF	37	11	49	0	24	0	0.08	-0.03	0.05	0.39	53	0.08	50	86	45	0	7	3	0	0	0
VALENTINE	33	4	50	-9	19	0	0.00	-0.06	0.00	0.03	7	0.00	0	83	47	0	7	0	0	0	0
NV ELY	37	12	41	-5	24	0	0.06	-0.11	0.04	0.29	29	0.06	25	81	48	0	7	2	0	0	0
LAS VEGAS	51	35	60	30	43	-1	0.19	0.08	0.10	0.26	50	0.19	119	80	32	0	4	2	0	0	0
RENO	41	24	49	12	33	1	0.06	-0.19	0.04	0.84	63	0.26	74	88	52	0	6	2	0	0	0
WINNEMUCCA	40	17	47	5	29	0	0.42	0.24	0.31	0.68	59	0.43	165	94	63	0	6	4	0	0	0
NH CONCORD	39	31	49	24	35	16	1.61	1.02	0.92	3.56	89	1.61	189	94	80	0	5	5	1	1	1
NJ NEWARK	60	43	70	37	51	20	1.49	0.71	1.15	5.66	124	1.49	133	96	64	0	0	4	1	1	1
NM ALBUQUERQUE	48	26	49	21	36	3	0.04	-0.07	0.04	1.04	160	0.04	25	82	40	0	7	1	0	0	0
NY ALBANY	44	34	54	28	39	18	1.95	1.39	0.62	3.46	93	1.99	246	95	90	0	2	6	2	2	2
BINGHAMTON	53	41	63	31	47	25	2.02	1.45	0.91	4.84	127	2.03	245	98	85	0	1	5	2	2	2
BUFFALO	46	33	61	27	40	15	3.38	2.71	2.31	6.58	142	3.62	377	98	78	0	3	7	2	2	2
ROCHESTER	48	34	65	29	41	17	3.61	3.12	1.53	6.66	194	3.81	529	98	77	0	3	7	2	2	2
SYRACUSE	47	35	59	30	41	18	2.30	1.73	1.07	6.50	162	2.39	288	95	75	0	1	6	2	2	2
NC ASHEVILLE	59	42	66	28	51	15	4.92	4.20	4.50	7.90	173	4.92	478	94	71	0	2	5	1	1	1
CHARLOTTE	67	50	72	37	59	19	1.26	0.43	0.60	5.34	115	1.26	107	91	59	0	0	3	1	1	1
GREENSBORO	63	46	68	31	55	18	2.44	1.72	0.87	4.61	105	2.44	237	93	64	0	1	3	3	3	3
HATTERAS	59	47	62	42	53	8	0.29	-0.92	0.26	5.94	95	0.29	17	97	76	0	0	3	0	0	

Weather Data for the Week Ending January 10, 1998

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	92 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
OK TOLEDO	47	37	57	20	42	19	2.10	1.85	0.65	4.35	121	2.27	344	95	81	0	1	5	3
OK YOUNGSTOWN	52	42	61	28	47	23	3.37	2.85	1.20	6.08	165	3.38	445	98	79	0	1	7	3
OK OKLAHOMA CITY	40	32	52	27	36	0	2.15	1.90	2.02	4.41	249	2.40	649	99	89	0	4	2	1
OK TULSA	41	33	50	25	37	2	2.67	2.31	1.29	6.98	260	2.68	515	98	88	0	3	6	1
OR ASTORIA	48	37	50	32	41	0	3.11	0.74	1.19	13.41	96	4.96	146	96	79	0	2	6	3
OR BURNS	35	16	39	7	25	3	0.31	0.06	0.14	1.31	87	0.41	114	96	68	0	7	4	0
OR EUGENE	45	36	49	30	40	0	0.79	-1.11	0.44	3.65	34	1.62	59	88	75	0	1	5	0
OR MEDFORD	48	34	52	27	40	3	0.56	-0.10	0.29	2.69	63	1.34	140	94	70	0	2	5	0
OR PENDLETON	40	29	50	20	35	2	0.41	0.05	0.29	1.56	73	0.51	100	82	60	0	5	2	0
OR PORTLAND	43	36	48	30	40	1	1.57	0.27	0.49	5.16	64	2.12	113	95	77	0	2	5	0
OR SALEM	43	35	47	27	39	0	1.19	-0.24	0.39	4.88	55	1.71	83	90	72	0	3	4	0
PA ALLENTOWN	58	40	67	32	49	22	1.12	0.38	0.65	3.48	77	1.12	108	92	78	0	1	4	1
PA ERIE	50	39	63	30	45	18	3.30	2.75	1.54	8.59	195	3.73	480	96	80	0	1	7	2
PA MIDDLETOWN	60	43	68	31	51	22	1.65	0.99	0.94	3.66	88	1.65	183	95	70	0	2	4	1
PA PHILADELPHIA	62	44	69	33	53	22	0.78	0.04	0.51	3.87	87	0.78	73	93	65	0	0	4	1
PA PITTSBURGH	57	44	64	31	51	24	2.72	2.12	1.34	4.02	107	2.73	314	91	66	0	1	6	2
PA SCRANTON	58	48	66	40	53	28	1.76	1.26	0.86	4.00	124	1.76	250	87	65	0	0	5	2
PA WILLIAMSPORT	52	41	61	31	45	19	0.48	-0.10	0.23	1.94	50	0.48	57	93	70	0	1	5	0
RI PROVIDENCE	49	37	61	31	43	15	1.94	1.03	0.82	4.77	84	1.94	148	98	71	0	1	4	2
SC BEAUFORT	67	53	72	37	60	11	1.03	0.18	0.54	4.96	113	1.03	86	99	76	0	0	4	1
SC CHARLESTON	70	54	75	38	62	14	1.58	0.80	1.01	6.76	159	1.58	142	96	67	0	0	4	1
SC COLUMBIA	69	50	77	32	59	15	1.67	0.69	1.16	6.08	122	1.67	119	96	69	0	1	3	1
SC GREENVILLE	63	47	69	33	55	15	2.38	1.46	2.00	6.63	121	2.38	179	96	67	0	0	4	1
SD ABERDEEN	20	6	28	-9	13	3	0.04	-0.04	0.04	0.22	42	0.04	33	87	73	0	7	1	0
SD HURON	23	10	32	-4	17	4	0.01	-0.07	0.01	0.23	40	0.01	8	85	69	0	7	1	0
SD RAPID CITY	29	5	46	-4	17	-4	0.00	-0.08	0.00	0.08	13	0.00	0	77	44	0	7	0	0
SD SIOUX FALLS	24	12	30	-4	18	5	0.03	-0.09	0.02	0.28	32	0.03	17	91	74	0	7	2	0
TN BRISTOL	61	39	69	27	50	16	1.52	0.78	1.17	3.69	83	1.52	143	96	68	0	3	3	1
TN CHATTANOOGA	61	45	69	30	53	16	3.99	2.86	2.59	7.29	107	3.99	246	94	71	0	1	4	2
TN KNOXVILLE	60	41	71	29	51	15	1.11	0.14	1.10	3.48	59	1.11	79	96	68	0	2	4	1
TN MEMPHIS	67	48	71	35	52	13	3.83	2.92	2.10	8.36	118	3.83	288	94	77	0	0	6	3
TN NASHVILLE	59	46	69	37	54	17	2.03	1.18	1.57	4.23	72	2.03	165	92	71	0	0	5	1
TX ABILENE	53	35	66	28	44	2	0.14	-0.08	0.05	3.30	248	0.14	45	94	84	0	3	5	0
TX AMARILLO	47	24	59	17	36	1	0.12	0.01	0.12	2.79	489	0.67	419	92	49	0	7	1	0
TX AUSTIN	66	50	75	35	58	9	1.53	1.17	1.31	5.84	243	1.58	304	95	62	0	0	4	1
TX BEAUMONT	66	51	77	35	59	8	3.03	1.90	2.08	9.65	151	3.03	188	98	75	0	0	4	2
TX BROWNSVILLE	76	55	80	39	65	8	0.02	-0.34	0.01	0.58	33	0.13	26	93	58	0	0	2	0
TX CORPUS CHRISTI	74	53	79	36	64	8	0.29	-0.07	0.23	0.54	31	0.34	69	92	57	0	0	3	0
TX DEL RIO	68	42	75	31	55	5	0.02	-0.09	0.02	0.61	78	0.03	19	89	43	0	1	1	0
TX EL PASO	56	34	61	26	45	3	0.04	-0.06	0.03	1.45	198	0.04	27	78	36	0	2	2	0
TX FORT WORTH	52	41	68	31	47	3	4.33	3.92	3.15	11.29	465	4.36	765	98	85	0	1	5	2
TX GALVESTON	64	53	70	43	59	6	4.17	3.39	3.00	9.45	203	4.56	404	95	83	0	0	4	2
TX HOUSTON	67	49	77	33	58	8	3.41	2.65	2.29	8.83	194	3.41	313	96	65	0	0	4	2
TX LUBBOCK	54	28	61	18	41	2	0.00	-0.08	0.00	1.75	269	0.00	0	87	37	0	5	0	0
TX MIDLAND	60	32	65	26	46	4	0.01	-0.07	0.01	1.36	197	0.01	8	88	35	0	4	1	0
TX SAN ANGELO	57	37	69	29	47	4	0.03	-0.14	0.03	1.41	140	0.03	12	90	49	0	4	1	0
TX SAN ANTONIO	66	49	72	35	57	8	1.08	0.72	0.96	4.70	234	1.14	219	89	62	0	0	3	1
TX VICTORIA	72	50	77	37	61	8	0.41	-0.08	0.39	2.19	80	0.56	81	96	60	0	0	3	0
TX WACO	59	44	72	29	52	7	5.79	5.43	3.02	15.72	663	5.91	1159	97	75	0	1	5	2
UT WICHITA FALLS	46	33	62	25	40	0	1.08	0.86	0.82	5.34	334	1.22	361	98	83	0	3	4	1
UT SALT LAKE CITY	42	22	51	13	32	5	0.39	0.13	0.37	1.15	64	0.51	134	92	82	0	6	2	0
VT BURLINGTON	39	27	45	19	33	18	2.43	1.99	2.11	4.13	135	2.48	388	96	81	0	6	6	1
VA LYNCHBURG	63	42	67	27	53	18	2.03	1.37	0.79	4.75	113	2.03	216	97	61	0	3	3	3
VA NORFOLK	68	50	75	39	59	19	0.06	-0.79	0.06	2.71	61	0.06	5	93	63	0	0	1	0
VA RICHMOND	65	47	71	32	56	20	0.85	0.11	0.78	3.21	74	0.85	80	95	65	0	1	2	1
VA ROANOKE	62	42	67	33	52	17	2.33	1.74	1.49	4.70	123	2.33	274	90	49	0	0	3	2
VA WASH/DULLES	64	44	69	29	54	23	0.45	-0.18	0.24	2.37	58	0.45	49	97	68	0	2	4	0
WA HANFORD	43	28	52	19	36	-	0.13	-0.02	0.12	0.55	44	0.24	114	81	50	0	6	2	0
WA OLYMPIA	41	31	45	22	36	-1	2.29	0.40	1.44	9.52	88	3.36	124	99	72	0	3	5	2
WA QUILLAYUTE	39	30	45	22	35	-5	1.68	-1.67	0.59	17.87	88	2.36	49	89	76	0	4	5	2
WA SEATTLE-TACOMA	40	33	45	24	37	-3	1.52	0.23	0.74	4.84	62	2.22	120	93	65	0	3	4	1
WA SPOKANE	32	21	38	7	26	0	0.14	-0.34	0.08	1.24	40	0.24	34	83	69	0	6	4	0
WA YAKIMA	38	21	47	11	30	1	0.00	-0.30	0.00	0.50	27	0.31	74	87	61	0	7	0	0
WV BECKLEY	56	41	63	25	49	19	1.03	0.35	0.77	3.23	77	1.03	106	92	70	0	2	4	1
WV CHARLESTON	62	44	69	32	53	20	1.23	0.56	0.76	2.81	66	1.24	128	89	65	0	1	4	1
WV ELKINS	59	36	68	24	47	19	1.93	1.21	0.84	4.46	98	1.93	186	96	68	0	3	4	1
WV HUNTINGTON	61	47	70	37	54	21	2.55	1.89	1.35	4.11	96	2.55	266	88	62	0	0	5	2
WI EAU CLAIRE	28	17	34	-5	22	11	0.44	0.19	0.31	0.69	48	0.44	126	92	78	0	7	5	0
WI GREEN BAY	29	21	33	-3	25	10	0.98	0.70	0.42	1.80	82	0.98	241	93	79	0	7	4	0
WI MADISON	31	22	37	1	28	10	1.18	0.90	0.58	2.43	108	1.18	288	92	81	0	7	5	1
WI MILWAUKEE	36	25	53	3	30	11	1.66	1.26	0.59	3.07	105	1.76	298	95	80	0	5	6	1
WY CASPER	28	11	43	-10	20	-2	0.02	-0.12	0.02	0.96	114	0.02	10	83	59	0	7	1	0
WY CHEYENNE	36	13	47	2	26	-1	0.07	-0.01	0.06	0.66	125	0.07	58	83	43	0	7	2	0
WY LANDER	27	9	33	0	18	-1	0.00	-0.11	0.00	1.85	257	0.00	0	90	60	0	7	0	0
WY SHERIDAN	27	5	41	-9	16	-4	0.00	-0.17	0.00	0.78	80	0.00	0	88	66	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.

National Agricultural Summary

January 5 - 11, 1998

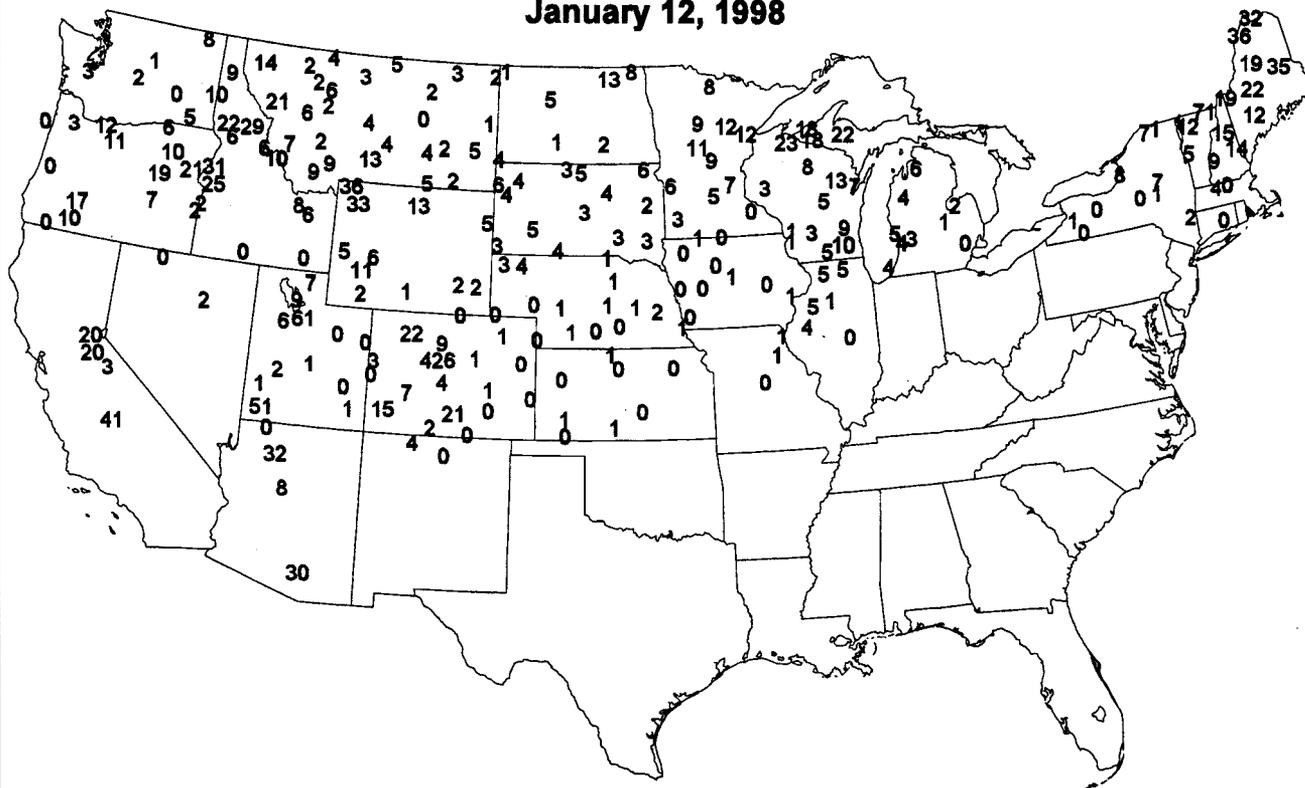
HIGHLIGHTS

Storms brought rain and snow to an area extending from Texas to the Great Lakes and eastward. A severe ice storm in New York and the New England States halted farming activities across the region and stressed livestock. Very mild temperatures reduced the effects of the storms in most other Eastern areas. Wet, muddy fields in Florida slowed vegetable fieldwork. Despite warm, wet, windy conditions, citrus harvest was active. Heavy rainfall caused localized flooding in several Southeastern States. In Texas, field activity was limited due to saturated fields. Small grain

fields in the southern High Plains received plenty of beneficial snow and rainfall, but sunshine was needed to promote growth. Cool, wet weather hindered late cotton harvest in Oklahoma. The Plains and Intermountain Region were generally dry, especially the northern Plains, which has remained dry for over 3 months. Bitterly cold air edged into Montana and North Dakota, but there was no indication of damage to the winter wheat crop. Field activities resumed in some areas of California early in the week but were halted again by rains at week's end.

Snow Depth (Inches)

January 12, 1998



Experimental product based on preliminary data
 NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

The NWS co-operative observer network is the principal source of the snow depth reports.

December Weather and Crop Summary

Weather

The Nation's weather patterns locked into a classic El Niño signature, featuring a split jet stream and an active storm track across the South. Monthly temperatures ranged from 5 to 15°F above normal across the North Central States, but as much as 3°F below normal in the Southeast. Heavy snow helped to suppress temperatures in the southern Rockies and southern Plains, where departures ranged from -2 to -9°F. December-record rainfall drenched central and northeastern Florida, while near-record totals soaked parts of Texas. Snow occasionally fell into the Deep South. Farther north, however, the northern Plains' dry spell stretched to 3 months and the Northwest's drying trend persisted for a second consecutive month. California escaped any serious effects from El Niño-related storminess, although precipitation averaged above normal across southern and central-coastal sections.

In Texas, Waco's rainfall totaled 7.98 inches on December 20, breaking their 24-hour record of 7.18 inches set on May 11-12, 1953. On December 23-24, the next storm to emerge from the Southwest dumped 11.6 inches of snow on Dodge City, KS, eclipsing their 24-hour December record (11.4 inches) that had stood since 1923. A few days later, Tampa, FL netted 4.76 inches of rain on December 26-27, shattering their 24-hour December record.

Tampa received 1 inch or more of rain on 7 days during December (normal for an entire year is 13 days) en route to a record-setting monthly total of 15.57 inches (724% of normal). With 67.71 inches for the year, Tampa had their third-wettest year behind 1959 (76.57 inches) and 1957 (70.43 inches). Miami Beach's annual rainfall of 71.01 inches represented their highest total since 71.10 inches fell in 1959. Elsewhere in Florida, a few other December rainfall records were demolished by mid-month, with few breaks from the wetness thereafter:

<u>Location</u>	<u>Total (Inches)</u>	<u>Normal</u>	<u>Former Record/Year</u>
Tampa	15.57	2.15	7.36 in 1907
Orlando	12.63	2.15	5.67 in 1940
Jacksonville	9.77	2.72	7.76 in 1885

December rainfall records were approached in the Texas cities of Waco (9.81 inches, second to an 11.76-inch total in 1913) and Dallas-Ft. Worth (6.93 inches, third behind 8.75 inches in 1991 and 6.99 inches in 1971). For the third time this decade, annual rainfall placed among the 10 highest values on record in Dallas Ft. Worth (45.02 inches, 10th all-time) and Austin, TX (47.06 inches, 8th). Victoria, TX (67.11 inches, 179% of normal) posted their wettest year on record, smashing the 1919 record of 59.57 inches. Farther east, Shreveport, LA measured

69.21 inches during 1997, second only to an 81.99-inch total in 1991.

Some areas that did not receive excessive precipitation still had to endure a lack of sunshine. St. Louis, MO recorded less than 80 hours of sunshine during the month (27% of possible). In Iowa, Des Moines' 11-day cloudy streak (December 1-11) was their longest since a 12-day stretch in December 1991 - January 1992. Albuquerque, NM had no sunshine on 4 consecutive days from December 20-23, their longest such stretch since December 1982.

The snow that fell in Albuquerque during that period boosted the monthly total to 8.8 inches, their fourth-highest on record and greatest December amount since 1959. By December 25, snow depths stood at 3 to 4 feet across parts of the Southwest. Hannagan Meadow, AZ reported 48 inches on the ground, while Cloudcroft, NM had 33 inches. With a 5-inch cover, Amarillo, TX reported its greatest December 25 snow depth since 1939. Earlier in the month, a rare Deep South snowstorm dumped 4.8 inches of snow (on December 14) on Jackson, MS and left up to 8 inches nearby.

The procession of storms northeastward from the Southwest contributed to above-normal snowfall across portions of the central Plains and Midwest. Monthly totals reached 14.9 inches in Dodge City, KS, 10.9 inches in Kansas City, MO, and 15.2 inches in Moline, IL. The storms also helped to draw cold--but not Arctic--air deep into the South. On December 13-14 and again during the last week of the month, temperatures dipped to near-freezing levels as far south as Texas' Lower Rio Grande Valley. On December 26, Alamosa, CO notched a daily-record low of -23°F.

Snow returned to much of the East on December 29-31 as a major storm moved southeastward into Tennessee before re-developing along the East Coast and turning northward. More than 2 feet buried isolated locations in the central and northern Appalachians, and 5.2 inches fell as far south as Greensboro, NC. In New York, the late-month storm and subsequent lake-effect precipitation raised monthly snowfall to 34.3 inches in Binghamton and 47.8 inches in Syracuse. Just a week earlier (December 22-23), another storm had dumped more than 20 inches on parts on New Hampshire and Massachusetts.

Farther west, however, little precipitation accompanied the unusually mild weather across the North Central States. Monthly precipitation of 0.34 inch in Houghton Lake, MI and a trace in Helena, MT were the lowest on record during December. When 0.01 inch fell in Glasgow, MT on December 27, a 34-day dry spell ended, their longest such streak since

1973. For the first time on record, Glasgow escaped December with no sub-zero temperatures, posting an average monthly temperature that was 10.9°F above normal. In North Dakota, Grand Forks' average temperature of 23.7°F tied their December record set in 1959.

In southern California, early-month storminess yielded to only sporadic showers. The month's most impressive series of storms struck the region between December 4 and 9. The heaviest rain fell in Ventura County, northwest of Los Angeles, where December 6 totals reached 9.09 inches at Matilija Canyon and 9.45 inches on Old Man Mountain. Farther north, however, monthly rainfall in Eugene, OR was only 2.23 inches, their second-lowest December value on record after a 1.24-inch total in 1976.

In Hawaii, near- to above-normal temperatures and below-normal precipitation prevailed, characteristic of El Niño-driven weather patterns. Farther north, bitterly cold air overspread western Alaska during the month. A monthly snowfall record was set in Cold Bay (30.2 inches), while December totals reached 34.2 inches (22.8 inches above normal) in Kodiak and 26.6 inches (12.7 inches above normal) in Anchorage. Nome netted 14.0 inches of snow during a storm on New Year's Eve. Farther southeast, Juneau's average temperature of 36.7°F was 9.6° above normal and their second warmest on record behind 37.0°F in 1943, but precipitation was 13.61 inches, easily surpassing their December record of 9.89 inches in 1956.

Fieldwork

A split jet stream, induced by El Niño, allowed farmers to finish fall crop harvest and tillage operations under mostly dry conditions across the Northern United States. However, the weather pattern caused continued wetness during December across the Southern States and delayed harvest and fall planting activities. At the end of the month, soil moisture supplies in the major corn- and soybean-producing States were mostly adequate. There was concern, though, about the lack of snow cover on winter grain and alfalfa fields. Grain movement in the Corn Belt was slowed by low prices. Some elevators in Nebraska continued to pile grain outside in emergency storage. Above-normal temperatures in the northern Plains benefited livestock producers after the especially harsh winter last year. Farmers in the Northern and Middle Atlantic States finished fall harvest, but hay supplies were short in several areas.

Continued rainfall and below-normal temperatures from California to Florida delayed fall crop harvest, and a few fields remained unharvested at month's end. However, the majority of the soybean, cotton, and sorghum acreage was harvested by the end of December. Snow in southeastern Colorado further hindered sorghum harvest initially delayed by a late-October

blizzard. A small amount of Kansas sorghum acreage was not yet harvested at the end of December due to above-normal precipitation. Tobacco curing in Kentucky and Ohio was hampered by slow drying conditions later in the month. Record wetness in Florida hampered citrus and vegetable harvests.

The very mild weather across the Northern United States promoted growth and development of the 1998 winter wheat crop but also melted snow cover on emerged fields. In Kansas, the crop was rated in mostly good condition at the end of December, with little wind and freeze damage occurring during the month. Statewide, snowfall and rain combined with moderate temperatures resulted in on-again, off-again snow cover. To the north of Kansas, dry weather during the last 3 months in the High Plains has left fields with no snow cover and subject to damage by wind and freezing temperatures. In the Northwest, snow cover was absent in eastern Washington, while good snow cover in northern Idaho and mild conditions in the southern part of the State benefited winter wheat. Mild temperatures accompanied by snow and rain benefited fields in the southern Plains. In the Southeast, planting and crop growth were delayed by late fall crop harvests and above-normal precipitation.

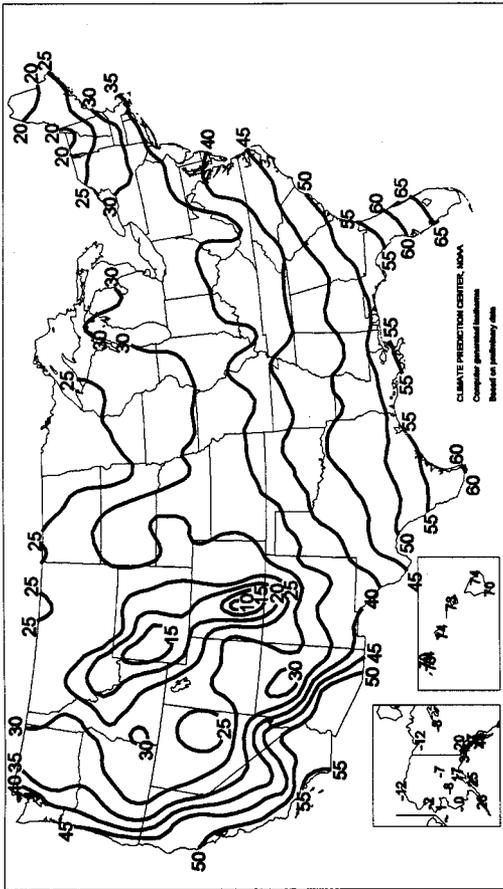
U.S. Crop Production Highlights

The following information was released by USDA's Agricultural Statistics Board on January 9, 1998. Forecasts refer to January 1.

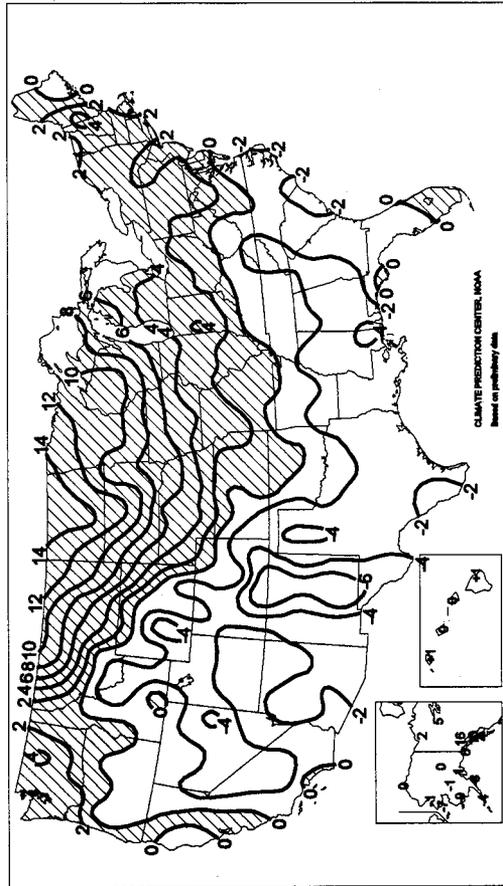
All oranges production for the 1997-98 season is forecast at a record-large 14.3 million tons, unchanged from the previous forecast in December and up 12 percent from a year ago, the previous record production year. Florida's all orange, early-season, and Valencia forecasts remained unchanged from last month and are each record-large crops. The Florida all orange production amounts to 254 million boxes (11.4 million tons), 12 percent above last season. Early and midseason varieties are expected to produce 146 million boxes (6.57 million tons), 9 percent above last year. The Valencia forecast is 108 million boxes (4.86 million tons), 17 percent above a year ago. The California all orange production forecast, at 74 million boxes (2.78 million tons), remains unchanged from the previous forecast in October and is 9 percent more than last season. The Navel orange forecast is 44 million boxes (1.65 million tons), the same as in October and up 10 percent from last year's production. The California Valencia forecast is unchanged at 30 million boxes (1.13 million tons), 7 percent more than last year.

All cotton production is forecast at 19.0 million bales, up 1 percent from December, and 34,900 bales above 1996. This is the second-largest crop on record. Yield is expected to average 686 pounds per acre, down 21 pounds from last year.

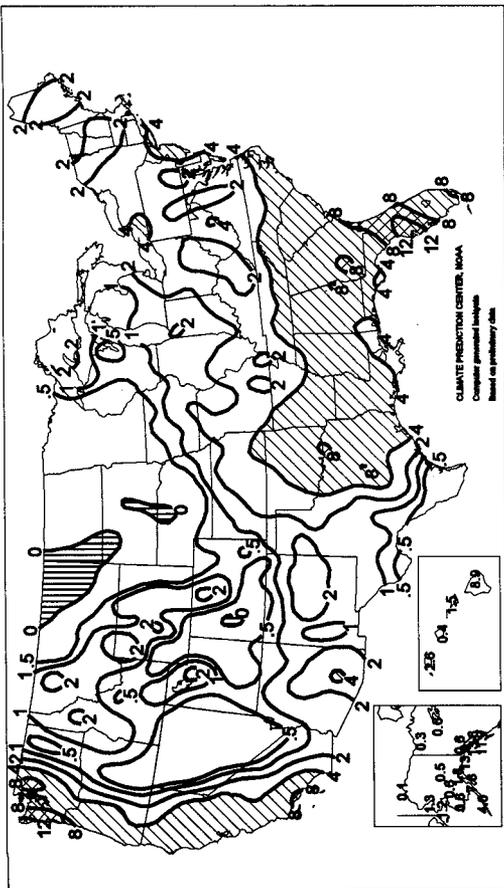
Average Temperature (°F)
December 1997



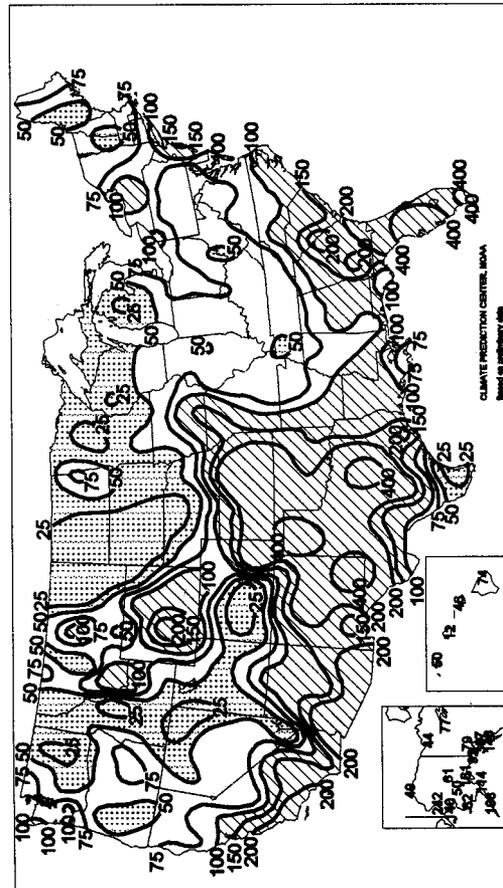
Departure of Average Temperature from Normal (°F)
December 1997



Total Precipitation (Inches)
December 1997



Percent of Normal Precipitation
December 1997



TEMPERATURE AND PRECIPITATION SUMMARY December 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	43	-2	4.10	-1.02	ME CARIBOU	16	1	2.81	-0.41	RI SCRANTON	31	1	2.25	-0.28
AL HUNTSVILLE	41	-2	3.29	-2.58	ME PORTLAND	29	3	2.57	-1.99	RI WILLIAMSPORT	33	2	1.48	-1.57
AL MOBILE	49	-4	4.37	-0.94	MD BALTIMORE	38	2	2.06	-1.36	RI PROVIDENCE	34	1	2.84	-1.54
AL MONTGOMERY	45	-4	4.51	-0.89	MA BOSTON	35	1	2.32	-1.89	SC BEAUFORT	50	-2	3.94	0.74
AK ANCHORAGE	17	1	1.80	0.88	MA WORCESTER	30	3	2.32	-1.73	SC CHARLESTON	50	-2	5.19	2.04
AK BARROW	-12	-1	0.07	-0.05	MI ALPENA	29	6	0.73	-1.30	SC COLUMBIA	45	-2	4.39	0.80
AK FAIRBANKS	-7	0	0.62	-0.33	MI GRAND RAPIDS	31	4	0.98	-1.87	SC GREENVILLE	42	-1	4.25	0.11
AK JUNEAU	37	10	13.81	9.17	MI HOUGHTON LAKE	28	5	0.34	-1.61	SD ABERDEEN	28	10	0.18	-0.23
AK KODIAK	25	-6	7.77	0.96	MI LANSING	30	4	0.89	-1.44	SD HURON	29	10	0.22	-0.25
AK NOME	1	-7	1.18	0.33	MI MARQUETTE	-	-	2.40	-0.21	SD RAPID CITY	31	6	0.08	-0.39
AZ FLAGSTAFF	27	-3	1.85	-0.56	MI MUSKEGON	31	3	1.22	-1.81	SD SIOUX FALLS	26	8	0.24	-0.46
AZ PHOENIX	53	-1	0.83	-0.16	MN DULUTH	22	10	0.40	-0.84	TN BRISTOL	36	-2	2.17	-1.22
AZ PRESCOTT	35	-2	2.48	0.87	MN INT'L FALLS	20	13	0.23	-0.61	TN CHATTANOOGA	41	0	3.30	-1.88
AZ TUCSON	49	-3	2.88	1.81	MN MINNEAPOLIS	27	9	0.31	-0.77	TN KNOXVILLE	39	-1	2.37	-2.18
AZ YUMA	55	-1	-	-	MI ROCHESTER	25	8	0.38	-0.65	TX MEMPHIS	42	-2	4.52	-1.22
AR FORT SMITH	40	0	4.50	1.47	MI ST. CLOUD	24	10	0.23	-0.80	TX NASHVILLE	40	-1	2.19	-2.43
AR LITTLE ROCK	42	0	3.76	-0.94	MS JACKSON	45	-3	5.77	-0.14	TX ABILENE	43	-3	3.18	2.13
CA BAKERSFIELD	46	-1	1.44	0.82	MS MERIDIAN	45	-3	4.71	-1.36	TX AMARILLO	33	-3	2.12	1.89
CA EUREKA	48	0	4.73	-1.31	MO TUPELO	42	-2	3.71	-2.45	TX AUSTIN	51	-1	4.28	2.38
CA FRESNO	45	-1	0.96	-0.46	MO COLUMBIA	33	2	1.78	-0.69	TX BEAUMONT	52	-3	6.82	1.81
CA LOS ANGELES	57	1	4.38	2.73	MO KANSAS CITY	33	3	2.33	0.75	TX BROWNSVILLE	60	-2	0.45	-0.80
CA REDDING	46	1	3.28	-2.22	MO SAINT LOUIS	35	1	1.85	-1.18	TX CORPUS CHRISTI	58	-2	0.15	-1.11
CA SACRAM/MCCLELL	47	-	2.45	-	MO SPRINGFIELD	35	0	3.15	-0.01	TX DEL RIO	50	-2	0.58	-0.03
CA SAN DIEGO	58	0	1.35	-0.24	MT BILLINGS	30	6	0.57	-0.21	TX EL PASO	41	-3	1.41	0.84
CA SAN FRANCISCO	51	2	5.27	2.18	MT BUTTE	17	0	0.15	-0.29	TX FORT WORTH	46	-1	6.93	5.09
CO ALAMOSA	9	-9	0.19	-0.25	MT GLASGOW	26	11	0.01	-0.37	TX GALVESTON	54	-2	4.90	1.40
CO CO SPRINGS	31	1	0.10	-0.36	MT GREAT FALLS	31	7	0.33	-0.62	TX HOUSTON	50	-3	5.42	1.97
CO DENVER	28	-3	0.50	-0.10	MT KALUSPELL	27	4	0.57	-1.18	TX LUBBOCK	37	-4	1.75	1.22
CO GRAND JUNCTION	28	0	0.14	-0.47	MT MILES CITY	29	10	0.02	-0.69	TX MIDLAND	42	-3	1.35	0.79
CO PUEBLO	30	-1	0.38	-0.04	MT MISSOULA	28	2	0.33	-0.83	TX SAN ANGELO	45	-2	1.38	0.59
CT BRIDGEPORT	35	1	3.36	-0.16	NE GRAND ISLAND	30	5	0.41	-0.30	TX SAN ANTONIO	50	-2	3.55	2.04
CT HARTFORD	31	2	2.18	-1.73	NE LINCOLN	29	4	0.73	-0.15	TX VICTORIA	52	-3	1.83	-0.41
DC WASHINGTON	41	1	1.74	-1.38	NE NORFOLK	29	6	0.37	-0.37	TX WACO	47	-2	9.81	7.95
DE WILMINGTON	38	2	2.57	-0.91	NE NORTH PLATTE	28	4	0.20	-0.27	UT WICHITA FALLS	41	-2	4.12	2.83
FL DAYTONA BEACH	59	-1	7.78	5.17	NE OMAHA	30	5	0.49	-0.53	UT SALT LAKE CITY	28	-2	0.84	-0.78
FL JACKSONVILLE	54	0	9.77	7.05	NE SCOTTSBLUFF	30	3	0.31	-0.25	VT BURLINGTON	28	3	1.86	-0.77
FL KEY WEST	71	-1	4.42	2.40	NE VALENTINE	29	7	0.03	-0.34	VA LYNCHBURG	37	-1	2.72	-0.51
FL MIAMI	89	0	5.27	3.44	NV ELY	21	-6	0.23	-0.47	VA NORFOLK	43	0	2.65	-0.58
FL ORLANDO	61	-1	12.83	10.48	NV LAS VEGAS	46	0	0.07	-0.31	VA RICHMOND	40	0	2.36	-0.80
FL TAMPA	61	-1	15.57	13.42	NV RENO	31	-1	0.58	-0.41	VA ROANOKE	38	0	2.37	-0.80
FL VALPARAISO/EGLIN	51	-1	4.27	0.05	NH WINNEMUCA	30	0	0.25	-0.63	WA WASH/DULLES	37	2	1.92	-1.30
FL WEST PALM BEACH	67	0	5.03	2.54	NH CONCORD	28	4	1.85	-1.21	WA HANFORD	35	-	0.31	-0.72
GA ATHENS	44	-2	5.91	1.82	NJ NEWARK	37	2	4.16	0.71	WA OLYMPIA	39	1	5.40	-2.71
GA ATLANTA	43	-2	5.05	0.72	NM ALBUQUERQUE	33	-2	1.00	0.50	WA QUILLAYUTE	43	3	13.55	-1.92
GA AUGUSTA	47	-1	6.94	3.54	NY ALBANY	30	3	1.48	-1.45	WA SEATTLE-TACOMA	42	1	2.63	-3.28
GA COLUMBUS	47	-2	6.72	1.75	NY BINGHAMTON	28	1	2.81	-0.19	WA SPOKANE	29	2	1.00	-1.41
GA MACON	46	-2	7.28	2.97	NY BUFFALO	32	3	2.97	-0.70	WA YAKIMA	30	0	0.19	-1.22
GA SAVANNAH	50	-1	3.99	1.03	NY ROCHESTER	31	2	2.88	0.15	WV BECKLEY	33	-1	2.20	-1.04
HI HILO	74	0	8.85	-3.19	NY SYRACUSE	31	2	4.12	0.92	WV CHARLESTON	36	-1	1.57	-1.82
HI HONOLULU	74	0	0.44	-3.38	NC ASHEVILLE	37	-3	2.98	-0.54	WV ELKINS	32	0	2.53	-0.86
HI KAHULUI	73	0	-	-	NC CHARLOTTE	43	0	4.08	0.80	WV HUNTINGTON	37	0	1.58	-1.79
HI LIHUE	74	-1	-	-	NC GREENSBORO	39	-2	2.17	-1.19	WI EAU CLAIRE	27	10	0.28	-0.84
ID BOISE	31	1	0.65	-0.71	NC HATTERAS	46	-3	5.65	1.11	WI GREEN BAY	28	8	0.61	-0.92
ID LEWISTON	35	0	0.60	-0.80	NC RALEIGH	41	-2	2.75	-0.49	WI MADISON	28	6	1.25	-0.59
ID POCATELLO	23	-2	0.88	-0.45	NC WILMINGTON	47	-1	4.84	1.21	WI MILWAUKEE	30	6	1.30	-1.03
IL CHICAGO/O'HARE	31	5	1.50	-0.97	ND BISMARCK	28	14	0.08	-0.43	WY CASPER	23	-1	0.96	0.30
IL MOLINE	29	4	1.78	-0.47	ND DICKINSON	29	12	0.03	-0.38	WY CHEYENNE	28	1	0.59	0.17
IL PEORIA	31	4	1.84	-0.50	ND FARGO	24	12	0.44	-0.20	WY LANDER	15	-6	1.85	1.27
IL ROCKFORD	28	4	0.84	-1.21	ND GRAND FORKS	24	14	0.56	-0.08	WY SHERIDAN	24	1	0.78	0.08
IL SPRINGFIELD	32	3	1.75	-0.98	ND JAMESTOWN	26	13	0.28	-0.20	PR SAN JUAN	-	-	1.02	4.46
IN EVANSVILLE	35	0	2.34	-1.33	OH WILLISTON	26	12	0.02	-0.57					
IN FORT WAYNE	31	2	1.73	-1.16	OH AKRON-CANTON	31	1	2.08	-0.87					
IN INDIANAPOLIS	33	2	1.33	-2.01	OH CINCINNATI	35	2	2.77	-0.38					
IN SOUTH BEND	31	2	2.10	-1.20	OH CLEVELAND	33	2	2.42	-0.67					
IA BURLINGTON	-	-	1.52	-0.46	OH COLUMBUS	35	3	2.13	-0.73					
IA CEDAR RAPIDS	28	5	1.18	-0.43	OH DAYTON	33	1	2.15	-0.78					
IA DES MOINES	29	4	1.38	0.04	OH MANSFIELD	31	1	2.31	-0.78					
IA DUBUQUE	27	5	1.08	-0.88	OH TOLEDO	31	3	2.07	-0.86					
IA SIOUX CITY	28	7	0.21	-0.57	OH YOUNGSTOWN	32	3	2.71	-0.22					
IA WATERLOO	27	6	0.65	-0.85	OK OKLAHOMA CITY	39	0	2.01	0.61					
KS CONCORDIA	30	1	1.75	0.91	OK TULSA	39	0	4.30	2.14					
KS DODGE CITY	31	-1	2.59	1.94	OR ASTORIA	44	1	8.45	-2.10					
KS GOODLAND	29	0	0.54	0.13	OR BURNS	25	0	0.90	-0.25					
KS TOPEKA	33	2	2.41	0.98	OR EUGENE	39	-2	2.23	-6.38					
KS WICHITA	35	2	2.65	1.45	OR MEDFORD	38	0	1.38	-1.96					
KY JACKSON	36	-1	2.21	-2.17	OR PENDLETON	35	1	1.05	-0.58					
KY LEXINGTON	35	-1	2.68	-1.30	OR PORTLAND	41	1	3.03	-3.10					
KY LOUISVILLE	37	0	3.32	-0.32	OR SALEM	40	0	3.17	-3.63					
LA PADUCAH	37	0	2.48	-2.22	PA ALLENTOWN	33	1	2.37	-1.12					
LA BATON ROUGE	50	-3	6.32	0.79	PA ERIE	34	2	4.85	1.28					
LA LAKE CHARLES	51	-2	5.72	0.87	PA MIDDLETOWN	36	2	2.01	-1.23					
LA NEW ORLEANS	53	-2	2.55	-3.20	PA PHILADELPHIA	38	3	3.09	-0.29					
LA SHREVEPORT	46	-2	6.10	2.00	PA PITTSBURGH	33	2	1.29	-1.63					

Based on 1961-90 normals.

1997 Weather Review

Highlights this year included severe winter flooding in the Pacific Northwest and northern California, a mild winter across the East, and fierce blizzards and frigid temperatures across the Northern Plains followed by catastrophic flooding along the Red River in April. Major flooding also struck the Ohio River Valley in March, and flash flooding struck the Southwest during the summer. Spring was cool and wet over central and eastern areas, but summer became drier, especially in the mid-Atlantic region and Northeast. Nevertheless, the Corn Belt once again escaped widespread drought this year. A blizzard buried the central Plains during October, and frequent storms left the southern half of the country unusually wet in November and December, as the El Niño began influencing U.S. weather patterns. In sharp contrast with the previous year, the northern Plains experienced mild, dry weather at the start of the 1997-98 winter. For the year as a whole, most of the country outside of the Pacific coast tended to be slightly cooler than normal, with precipitation generally above normal except across the northeastern quadrant of the country (table 1, figs. 1 and 2).

Table 1. Temperature/Precipitation Rankings for 1997

Based on the Period 1895-1997
1 = Driest/Coldest, 103 = Wettest/Hottest

Region	Precipitation	Temperature
Northeast	12	33
East North Central	21	47
Central	28	20
Southeast	69	34
West North Central	56	71
South	87	20
Southwest	73	77
Northwest	73	89
West	47	98
National	61	60

Winter (December 1996 - February 1997)

The winter was mild across most of the country, with average temperatures 2 to 5°F above normal. The notable exception was the northern Plains from Minnesota to Montana, where temperatures averaged 2 to 5°F below normal and a parade of storms brought heavy snows and high winds. Winter precipitation totaled twice the norm over parts of the Dakotas. Precipitation was also more than twice normal over large parts of the Northwest, where a 12-week wet spell culminated in record December precipitation and major flooding. Major river flooding spread across California's Central Valley at the start of the year. Nevada and Idaho were also hard hit by flooding.

Though Florida experienced a mild winter, a freeze on January 19 damaged vegetables but left the citrus crop mostly unscathed.

Spring (March - May)

Spring was cool over the eastern two-thirds of the country and warm across the West. Two major flooding episodes dominated the weather news, with heavy rains causing floods in the Ohio River Valley during early March and melting snows causing record floods in the northern Plains during April. Kentucky bore the brunt of the Ohio Valley flood damage, as Louisville recorded 13.04 inches of rain from February 28 to March 3, including a 24-hour total of 10.48 inches on March 1, setting a new State record. The April flooding of the Red River brought catastrophic damage to eastern North Dakota, where water overran nearly the entire city of Grand Forks. Flooding also hit the James, Minnesota, and upper Mississippi River basins. Along with the winter and spring blizzards, the floods resulted in large numbers of livestock deaths, especially in North Dakota.

Spring began and ended with severe tornado outbreaks. In Arkansas, 26 people died on March 1, and 27 died from a single twister in Jarrell, TX on May 27. April also saw a pair of major winter storms strike New England.

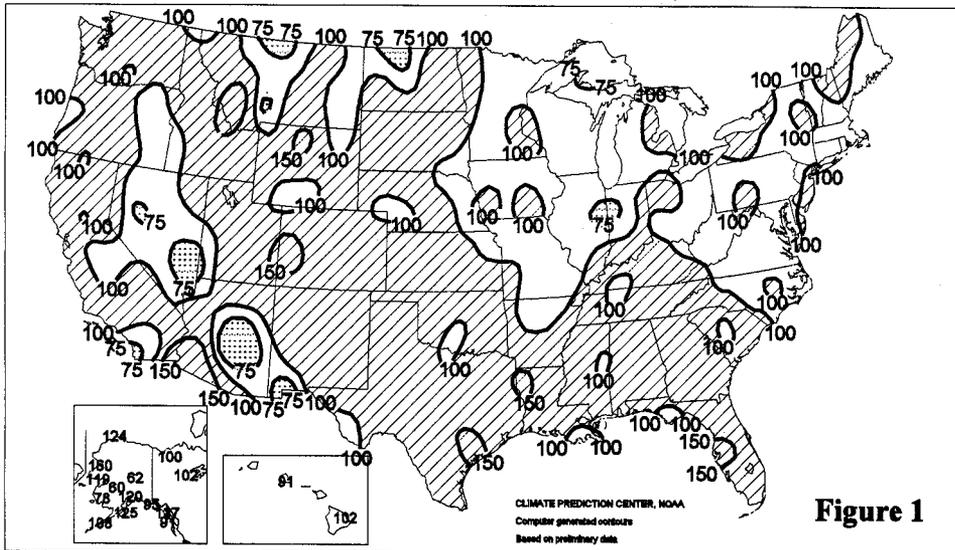
Plentiful precipitation benefited most winter wheat areas this spring, though a severe freeze damaged some wheat on April 11-13 on the central and southern Plains. Ironically, topsoil moisture was unfavorably low across North Dakota by spring's end, little more than 1 month after the Red River flood.

Summer (June - August)

A 10-week spell of cool, wet weather in the Central and Eastern States finally ended around mid-June. Hot, dry weather in July concerned central Corn Belt farmers, but August rains revived crops. June-August rainfall totals were above normal over most of the country, major exceptions being parts of Illinois, Indiana, and Iowa, where rainfall was less than 75 percent of normal, and the Eastern Seaboard. Drought, aggravated by spells of heat, hurt crops in the mid-Atlantic region as well as parts of the Southeast and Northeast. Rains from Hurricane Danny, the only tropical system to strike the Gulf or Atlantic coasts this year, soaked the Southeast during mid-July, relieving dryness but causing some flood damage. Danny's rains in conjunction with a cold front relieved drought in parts of the mid-Atlantic region. Heavy rains in mid-August further relieved dryness, but the moisture followed a heat wave that caused mid-Atlantic temperatures to rise into the upper 90's and lower 100's on August 16-17.

A persistent flow of tropical moisture governed weather patterns over the Southwest and High Plains from late July through summer's end. Frequent bouts of locally heavy rains caused flash floods in the Southwest, including deadly episodes in Fort Collins, CO on July 28, Douglas, AZ on August 5, and Page, AZ on August 12.

Percent of Normal Precipitation
Annual 1997



records from October 25 to 28.

The weather became drier after the storm in the central Plains, but storminess prevailed across the Southern Tier of States and over the Northeast in November. In Maine, Portland's snow total of 20.5 inches was its highest November tally since 1921. November precipitation was 200 to 400 percent of normal in much of California.

December

December's weather pattern featured a typical El Niño configuration, with a northern-branch jet stream confining cold air to the north and a vigorous southern jet maintaining cool and wet weather across the Southern States. Monthly temperatures were 5 to 15°F above normal across the North Central States and as much as 3°F below normal in the Southeast. Heavy snows fell across the southern Rockies and southern Plains, and record rains pelted Florida. Up to 11 inches of rain caused floods in central Florida on December 9 to 15, and more rains fell before year's end. Tampa's monthly total of 15.57 inches smashed its previous record for December by more than 8 inches.

Precipitation was light across the northern Plains. In Glasgow, MT, no measurable rain or snow fell from November 22 to December 26, the longest such dry spell since 1973.

Opposite conditions prevailed farther south. By Christmas Day, snow was 3 to 4 feet deep across parts of Arizona and New Mexico. Earlier in the month, on the 14th, a rare snowstorm struck the Deep South, leaving up to 8 inches of snow on Mississippi.

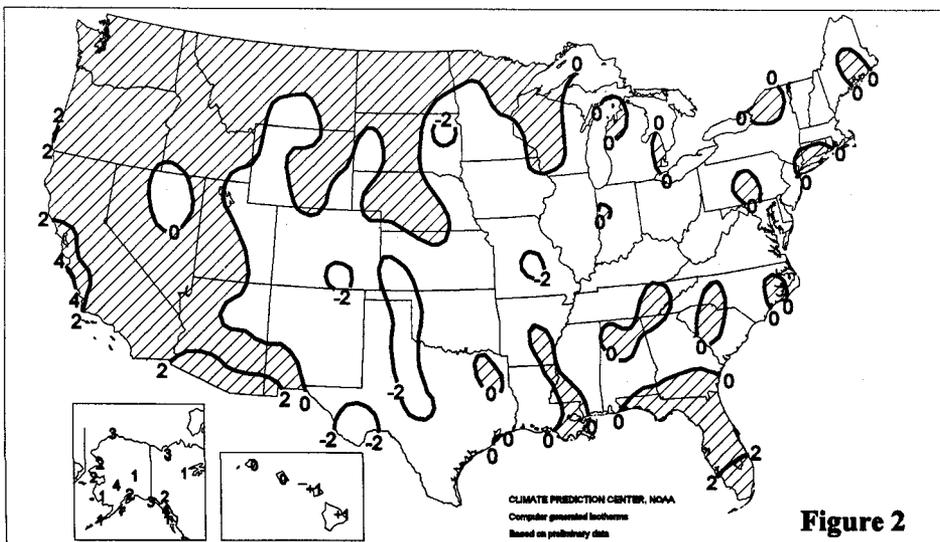
In Alaska, a warm, dry spring and summer in the interior led to an active fire season, with wildfires consuming 1.9 million acres of forest and tundra during the year. Fairbanks recorded its driest spring on record, measuring 0.14 inches of precipitation from March through May. Fairbanks also noted its fourth warmest summer ever.

Autumn (September - November)

A Pacific hurricane, Nora, struck the Southwest on September 25 after diminishing to tropical storm strength. She brought heavy rains to California and Arizona, including more rainfall (3.83 inches) in Yuma, AZ than is normally collected during an entire year. In mid-October, the weather pattern changed from dry and warm to wet and cool for the Eastern Seaboard and Gulf Coast. Even before the change, very heavy rains led to flooding across southeastern Texas during October 6-13, helping to boost autumn totals to more than 20 inches in several spots along the coast.

A massive winter storm struck the central Plains from October 24 to 26, snarling traffic, lodging unharvested summer crops, and severely affecting livestock. The blizzard that pounded Colorado left 22 inches of snow in Denver and drifts several feet high across the Colorado plains. The cold wave accompanying the storm broke more than 100 daily low-temperature

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



PRECIPITATION SUMMARY Annual 1997

STATES AND STATIONS		PRECIPITATION				STATES AND STATIONS		PRECIPITATION				STATES AND STATIONS		PRECIPITATION			
		TOTAL	NORMAL	DEPARTURE	% NORMAL			TOTAL	NORMAL	DEPARTURE	% NORMAL			TOTAL	NORMAL	DEPARTURE	% NORMAL
AL	BIRMINGHAM	54.86	54.58	0.28	101%	LA	BATON ROUGE	68.27	80.89	7.38	112%	OK	YOUNGSTOWN	33.67	37.32	-3.65	90.22
	HUNTSVILLE	57.48	57.18	0.30	101%		LAKE CHARLES	65.70	54.84	10.86	120%		OKLAHOMA CITY	27.02	33.30	-6.28	81%
	MOBILE	80.14	63.96	16.18	125%		NEW ORLEANS	51.65	61.88	-10.23	83%		TULSA	41.27	40.59	0.68	102%
	MONTGOMERY	50.18	53.43	-3.25	94%		SHREVEPORT	69.21	48.11	23.10	150%	OR	ASTORIA	85.81	66.40	19.41	129%
AK	FAIRBANKS	6.74	10.87	-4.13	62%	ME	CARIBOU	35.37	38.60	-1.23	97%		BURNS	9.90	9.96	-0.06	99%
	JUNEAU	74.66	54.31	20.35	137%		PORTLAND	37.81	44.34	-6.73	85%		EUGENE	38.66	49.37	-11.71	78%
	KODIAK	84.20	67.58	16.62	125%	MD	BALTIMORE	38.34	40.75	-2.41	94%		MEDFORD	17.93	18.86	-0.93	95%
	MCGRATH	10.20	17.04	-6.84	60%		SALISBURY	43.96	44.57	-0.61	99%		PENDLETON	11.66	12.02	-0.36	97%
AZ	WFO BELLEMONT	19.70	N/A	N/A	N/A	MA	BOSTON	32.08	41.51	-9.43	77%		PORTLAND	43.95	36.30	7.65	121%
	FLAGSTAFF	16.40	22.80	-6.40	72%		WORCESTER	36.23	47.51	-11.28	76%	PA	SALEM	45.77	39.18	6.61	117%
	PHOENIX	4.67	7.66	-2.99	61%	MI	ALPENA	31.48	28.83	2.65	109%		ALLENTOWN	38.54	43.52	-4.98	89%
	TUCSON	10.58	12.00	-1.44	88%		WFO GAYLORD	29.47	N/A	N/A	N/A		ERIE	40.94	41.53	-0.59	99%
AR	FORT SMITH	40.90	40.90	0.00	100%		GRAND RAPIDS	29.61	36.04	-6.43	82%		HARRISBURG	32.32	40.50	-8.18	80%
	LITTLE ROCK	59.21	49.25	9.96	120%		HOUGHTON LAKE	25.61	28.25	-2.64	91%		PHILADELPHIA	32.62	41.48	-8.86	78%
CA	BAKERSFIELD	5.85	5.72	0.13	102%		LANSING	26.71	30.62	-3.91	87%		PITTSBURGH	34.57	36.65	-2.28	94%
	BLUE CANYON	66.10	62.67	3.43	105%		MARQUETTE	32.90	35.30	-2.40	93%		SCRANTON	28.84	36.18	-7.34	80%
	BLYTHE	7.28	3.52	3.76	207%		MUSKEGON	26.43	32.57	-6.14	81%		WILLIAMSPORT	29.63	40.72	-11.09	73%
	FRESNO	7.82	10.80	-2.98	72%		SAULT STE. MARIE	27.91	34.23	-6.32	82%	RI	PROVIDENCE	40.11	45.51	-5.40	88%
	LA CIVIC CENTER	10.67	14.77	-4.10	72%		WFO WHITE LAKE	34.81	N/A	N/A	N/A	SC	CHARLESTON	61.57	51.53	10.04	119%
	LOS ANGELES	11.80	12.76	-0.96	92%	MN	DULUTH	23.92	30.00	-6.08	80%		CHARLESTON	53.09	N/A	N/A	N/A
	RED BLUFF	20.07	22.29	-2.22	90%		INT'L FALLS	18.92	24.36	-5.44	78%		COLUMBIA	47.63	49.91	-2.28	95%
	WFO SACRAMENTO	24.33	17.52	6.81	139%		MINNEAPOLIS	34.45	28.32	6.13	122%		FLORENCE	48.72	43.84	4.88	111%
	SAN DIEGO	7.00	9.90	-2.90	71%		ROCHESTER	29.85	29.86	-0.01	100%		GREENVILLE	50.06	51.27	-1.21	98%
	SAN FRANCISCO	21.48	19.70	1.78	109%	MS	ST. CLOUD	24.59	27.43	-2.84	90%	SD	ABERDEEN	19.38	18.55	0.83	104%
	S.F. (DOWNTOWN)	20.71	20.52	0.19	101%		JACKSON	68.94	55.37	13.57	106%		HURON	24.77	20.08	4.69	123%
	ALAMOSA	7.71	7.57	0.14	102%		MERIDIAN	55.03	56.71	-1.68	97%		WFO RAPID CITY	22.55	N/A	N/A	N/A
	BURLINGTON	15.48	15.29	0.19	101%		TUPELO	63.79	55.87	7.92	114%		RAPID CITY	20.72	16.64	4.08	125%
	CO. SPRINGS	23.12	16.24	6.88	142%	MO	COLUMBIA	37.16	39.05	-1.89	95%	TN	SILOUX FALLS	20.26	23.86	-3.60	85%
	DENVER	19.59	16.11	3.48	122%		JOPLIN	44.20	43.23	0.97	102%		BRISTOL	41.83	40.72	1.11	102%
	GRAND JUNCTION	13.22	8.84	4.38	153%		KANSAS CITY	33.07	37.82	-4.55	88%		CHATTANOOGA	56.29	53.48	2.83	105%
	PUEBLO	14.36	11.19	3.16	128%		ST. JOSEPH	33.47	36.89	-2.22	94%		KNOXVILLE	50.15	47.14	3.01	106%
CT	BRIDGEPORT	36.96	41.86	-4.70	88%		ST. LOUIS	31.23	37.51	-6.28	83%	TX	MEMPHIS	72.24	52.10	20.14	139%
	HARTFORD	38.84	44.14	-5.30	88%	MT	SPRINGFIELD	38.48	43.04	-4.56	89%		NASHVILLE	54.91	47.30	7.61	118%
	WILMINGTON	28.04	40.84	-12.80	69%		WFO BILLINGS	15.58	N/A	N/A	N/A		ABILENE	27.08	24.40	2.68	111%
DE	WASHINGTON	33.82	38.63	-4.81	88%		BUTTE	19.94	12.10	7.84	165%		AMARILLO	24.95	19.66	5.39	128%
DC	DAYTONA BEACH	54.70	47.89	6.81	114%		GLASGOW	11.72	10.96	0.76	107%		AUSTIN	47.06	31.88	15.18	148%
	FT. LAUDERDALE	75.89	60.84	15.05	126%		GREAT FALLS	14.85	15.21	-0.36	96%		BEAUMONT	52.43	57.18	-4.75	92%
	FT. MYERS	60.17	63.37	6.80	113%		HELENA	13.92	11.80	2.32	120%		BROWNSVILLE	38.19	26.61	11.58	136%
	JACKSONVILLE	57.27	51.32	5.95	112%		KALISPELL	17.56	16.51	1.05	106%		COLLEGE STATION	42.13	39.08	3.05	108%
	KEY WEST	39.89	39.59	0.30	101%		MILES CITY	9.90	14.07	-4.17	70%		CORPUS CHRISTI	36.11	30.08	6.02	120%
	MELBOURNE	64.82	45.49	19.33	142%		MISSOULA	14.75	13.46	1.29	110%		DALLAS-FT. WORTH	45.02	33.70	11.32	134%
	MIAMI	70.82	55.91	14.71	128%	NE	GRAND ISLAND	29.11	24.90	4.21	117%		DEL RIO	23.12	18.24	4.88	127%
	MIAMI BEACH	71.01	45.36	25.65	167%		WFO HASTINGS	26.55	27.80	-1.25	96%		EL PASO	9.84	8.81	1.03	109%
	ORLANDO	64.51	48.11	16.40	134%		KEARNEY	22.91	24.79	-1.88	92%		GALVESTON	59.09	42.28	16.81	140%
	PENSACOLA	80.47	62.23	18.24	129%		LINCOLN	25.07	28.26	-3.19	89%		HOUSTON	60.24	46.07	14.17	131%
	TALLAHASSEE	65.14	65.71	-0.57	99%		NORFOLK	20.18	25.15	-4.97	80%		LUBBOCK	22.67	18.65	4.02	122%
	TAMPA	67.71	43.92	23.79	154%		NORTH PLATTE	17.61	19.30	-1.69	91%		MIDLAND	17.12	14.96	2.16	114%
	W. PALM BEACH	62.14	60.75	1.39	102%		WFO OMAHA	30.41	29.86	0.55	102%		SAN ANGELO	23.38	20.45	2.93	114%
GA	ATHENS	58.80	49.74	7.06	114%		OMAHA (EPPELY)	30.21	N/A	N/A	N/A		SAN ANTONIO	33.95	30.96	2.97	110%
	ATLANTA	51.69	50.77	0.91	102%		SCOTTSBLUFF	20.39	15.27	5.12	134%		VICTORIA	67.11	37.41	29.70	179%
	AUGUSTA	60.36	44.86	5.70	113%		VALENTINE	22.00	18.23	3.77	121%		WACO	43.52	31.98	11.56	136%
	COLUMBUS	51.59	51.00	0.59	101%	NV	ELKO	9.85	9.93	-0.08	99%		WICHITA FALLS	23.79	28.90	-5.11	82%
	MACON	45.64	44.63	1.01	102%		ELY	9.17	10.13	-0.96	91%	UT	SALT LAKE CITY	16.93	18.18	0.75	105%
	SAVANNAH	55.84	49.22	6.62	113%		LAS VEGAS	3.84	4.13	-0.29	93%	VA	BURLINGTON	30.62	34.47	-3.85	89%
HI	HILO	132.33	129.19	3.14	102%		RENO	7.75	7.53	0.22	103%		BLACKSBURG	33.78	40.52	-6.74	83%
	HONOLULU	20.06	22.02	-1.96	91%		WINNEMUCCA	7.90	8.23	-0.33	96%		DULLES AIRPORT	35.74	40.24	-4.50	89%
ID	BOISE	11.08	12.11	-1.03	91%	NH	CONCORD	34.38	36.37	-1.99	95%		LYNCHBURG	36.21	40.88	-4.67	89%
	LEWISTON	15.06	12.43	2.63	121%	NJ	NEWARK	42.32	43.97	-1.65	96%		NORFOLK	37.41	44.64	-7.23	84%
	POCATELLO	13.22	12.14	1.08	109%	NM	ALBUQUERQUE	12.36	8.88	3.48	139%		RICHMOND	34.15	43.16	-9.01	79%
IL	CHICAGO	31.73	35.82	-4.09	89%	NY	ALBANY	34.10	36.17	-2.07	94%	WA	ROANOKE	31.95	41.13	-9.18	78%
	MOLINE	34.82	39.08	-4.16	89%		BINGHAMTON	31.47	36.99	-5.52	85%		HANFORD	6.39	6.26	0.13	102%
	PEORIA	32.11	36.25	-4.14	89%		BUFFALO	41.17	38.58	2.59	107%		OLYMPIA	64.97	60.59	4.38	128%
	ROCKFORD	28.04	36.28	-8.24	77%		CENTRAL PARK	43.93	47.25	-3.32	93%		QUILLAYUTE	131.26	105.19	26.07	125%
	SPRINGFIELD	30.14	35.25	-5.11	86%		ROCHESTER	34.85	31.96	2.89	109%		WFO SAND POINT	46.14	N/A	N/A	N/A
IN	EVANSVILLE	47.57	43.14	4.43	110%		SYRACUSE	32.62	38.93	-6.31	84%		SEATTLE	44.80	37.19	7.41	120%
	FT. WAYNE	40.82	34.75	6.17	118%	NC	ASHEVILLE	48.38	47.59	1.79	104%		WFO SPOKANE	16.17	N/A	N/A	N/A
	INDIANAPOLIS	33.05	39.94	-6.89	83%		CHARLOTTE	48.74	43.09	5.65	113%		SPOKANE	17.48	18.48	-1.00	106%
	SOUTH BEND	33.44	39.14	-5.70	86%		GREENSBORO	38.80	42.82	-3.82	91%		STAMPEDE PASS	99.97	N/A	N/A	116%
	BURLINGTON	32.52	36.06	-3.54	90%		HATTERAS	52.78	56.09	-3.31	94%		YAKIMA	6.88	7.97	-1.09	86%
	CEDAR RAPIDS	26.06	33.72	-7.66	77%		RALEIGH-DURHAM	40.81	41.43								

Crop Progress 1997

After a cool, wet spring across most of the United States, generally favorable growing conditions prevailed during the 1997 growing season. Corn planting progressed rapidly and finished well ahead of the normal pace despite below-normal temperatures. As farmers finished planting corn, they immediately turned to planting soybeans, which also progressed ahead of normal. However, 10 consecutive weeks of below-normal temperatures slowed crop emergence and development, requiring some replanting.

Rain and snow in early April compounded flooding problems from record snowfall in the Red River Valley of Minnesota and North Dakota, and the James River Valley in South Dakota. Saturated soils delayed the start of spring planting and kept farmers out of fields until mid-May. Dry soils in the rest of the northern Plains stressed both winter wheat and newly emerged spring planted grains. North Dakota soils were the driest in early June since 1988.

Winter wheat broke dormancy in mostly good to excellent condition. Reminiscent of 1996, below-freezing temperatures during April concerned growers in the southern Plains. Cool soils and wet weather prevented farmers in the lower Mississippi, Tennessee, and Ohio Valleys from planting spring crops. Farmers in the Southeast were also kept out of fields by cool, wet weather. Unlike the rest of the United States, States in the Southwest recorded above-normal temperatures during much of the spring.

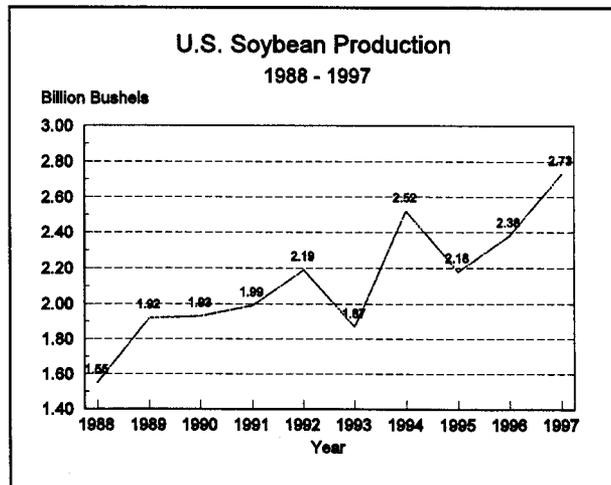
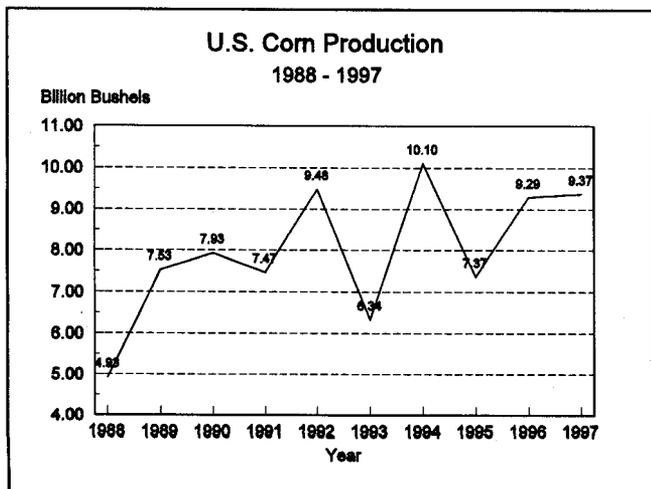
After the extended spring-like weather in the East, July brought sunshine and warmth, promoting rapid crop growth throughout the Corn Belt. After a slow start in June, winter wheat harvest progressed rapidly, and growers in the southern Plains and Southeast finished harvest slightly ahead of average. Winter wheat harvest in the Northwest started late because of a wet spring, but once combines entered fields,

harvest progressed rapidly. Timely showers along the Northern Tier States provided enough moisture for small grain development to catch up after late planting. Cotton fields developed ahead of normal in the western cotton-producing States, but Southeastern fields progressed behind the normal pace due to continued wet weather.

As August began, crop conditions declined in the Corn Belt, with scattered showers providing limited or no relief from persistent dryness in an area extending from Missouri northeastward to New York. However, below-normal temperatures in the area moderated the stress somewhat and reduced evaporation rates. Mid-month rainfall provided some relief from drought conditions in the mid-Atlantic States, but came too late to save some crops. Soils in the Southeast and Texas turned dry during the month. Rice harvest progressed well ahead of the average, but behind normal elsewhere. Very warm, dry weather allowed spring grain harvest to finish ahead of the average pace in the northern Plains.

Widespread rains brought moisture and above-normal temperatures provided much-needed heat in the western Corn Belt and Plains in late August. This provided favorable weather for crop maturation in September. Corn and soybean progress in the eastern Corn Belt slowed to the average pace with continued cool, wet weather. Planting of the 1998 winter wheat crop started slowly, but gained momentum in early October as very warm, dry weather allowed farmers into fields.

Very warm, dry weather in the eastern United States provided excellent harvest conditions the first half of October. In the Corn Belt, soybean growers harvested their crop at a near-record pace. As soybean harvest finished, farmers immediately turned to harvesting corn. Sorghum harvest also progressed ahead of the normal pace. However, an early-season



snowstorm halted fieldwork from Colorado through the western Corn Belt. Harvest of fall crops proceeded under favorable conditions in the northern Plains.

Unseasonably hot weather in the Southwest helped cotton fields dry out after Tropical Storm Nora. Much-needed heat spurred the Texas cotton crop progress early in October, but heavy rains and flooding caused lint loss and damage to quality. Cotton harvest was delayed in the Southeast by 7 weeks of wet weather. Peanut harvest was virtually complete by mid-November despite continued rainfall across the Southeast.

Cool, wet weather and grain storage shortages hampered harvest efforts during November. Both corn and soybean harvests slowed as precipitation in the Great Lakes region kept grain moisture levels high and continued wet weather in

the Southeast kept farmers out of soybean fields. Wet soils prevented planting of some winter wheat fields in the central Plains. However, most fields were planted by mid-November. In December, a split jet stream, caused by El Niño, allowed farmers to finish fall crop harvest and tillage operations in the northern United States. The majority of the soybean, cotton, and sorghum acreages were harvested by the end of the year. However, the weather pattern caused continued wetness across Southern States and delayed fall harvest and planting activities through the end of December.

The very mild weather across the northern United States promoted growth and development of the 1998 winter wheat crop during December. In Kansas, the crop was in mostly good condition with little or no freeze damage. To the north of Kansas, dry weather in the High Plains during the last 3 months of the year left fields with no snow cover and subject to damage by wind and freezing temperatures.

Crop Production Highlights 1997

Corn for grain production was estimated at 9.37 billion bushels, up less than 1 percent from the 1996 crop and virtually unchanged from the November 1 forecast. The 1997 production level ranks third behind 1994 and 1992, respectively. The U.S. yield of 127.0 bushels per acre was virtually the same as the 127.1 bushel yield of a year earlier. In December, a split jet stream, caused by El Niño, allowed farmers to finish fall crop harvest and tillage operations in the northern United States. The majority of the soybean, cotton, and sorghum acreages were harvested by the end of the year. However, the weather pattern caused continued wetness across Southern States and delayed fall harvest and planting activities through the end of December.

Sorghum grain production in 1997 was estimated at 653 million bushels, down 19 percent from 1996. Area harvested for grain was estimated at 9.3 million acres, down 23 percent from 1996. Grain yields, at 69.5 bushels per acre, were 2.0 bushels above the 1996 average yield.

Hay production for 1997 was estimated at 152 million tons, down slightly from the October 1 forecast and 2 percent above the revised 1996 total. Acreage harvested, at 60.8 million acres, is essentially unchanged from the October forecast and less than 1 percent below 1996. The average yield, at 2.50 tons per acre, was unchanged from October 1 and 2 percent above the previous year.

Rice production totaled 179 million cwt during 1997, 4 percent above the 1996 total. Average yield of all U.S. rice was 5,896 pounds per acre, 225 pounds below 1996's record yield but the third largest yield on record. Acreage for harvest increased from a year ago in all the major rice states except Texas, where acreage dropped 13 percent from a year ago.

Soybean production in 1997 totaled 2.73 billion bushels, down slightly from the November 1 forecast but up 14 percent from 1996. The 1997 production is the highest on record. The last record production was set in 1994 at 2.52 billion bushels. The average yield per acre in 1997 is estimated at 39.0 bushels, 0.2 bushels below the November 1 forecast and 1.4 bushels above the 1996 yield. This is the second highest yield on record behind the 1994 yield of 41.4 bushels per acre.

Cotton production is forecast at 19.0 million bales, up 1 percent from December, and 34,900 bales above 1996. This is the second largest crop on record. Yield is expected to average 686 pounds per acre, down 21 pounds from last year. Georgia's production was lowered 80,000 bales from last month, as heavy rainfall during the harvest season decreased yields from earlier expectations. Production was increased 90,000 bales in Arkansas and 80,000 bales in North Carolina, as the adverse weather early in the season didn't reduce yields as much as growers anticipated. Record yields are expected in Arkansas, Kansas, Mississippi, and Oklahoma.

International Weather and Crop Summary

January 4 - 10, 1998

HIGHLIGHTS

FSU-WESTERN: Unseasonably mild weather favored winter grains but diminished protective snow cover in the west and south.

EUROPE: Widespread precipitation and mild weather continued over winter grains in northern Europe, while welcomed dryness eased excessive moisture conditions in the Iberian peninsula, favoring fieldwork.

NORTHWESTERN AFRICA: Mostly dry weather prevailed over winter grain areas in Morocco, Algeria, and Tunisia, favoring late-season planting.

SOUTH ASIA: Seasonable warmth and dryness aided summer crop drying and winter grain development from central India to Pakistan.

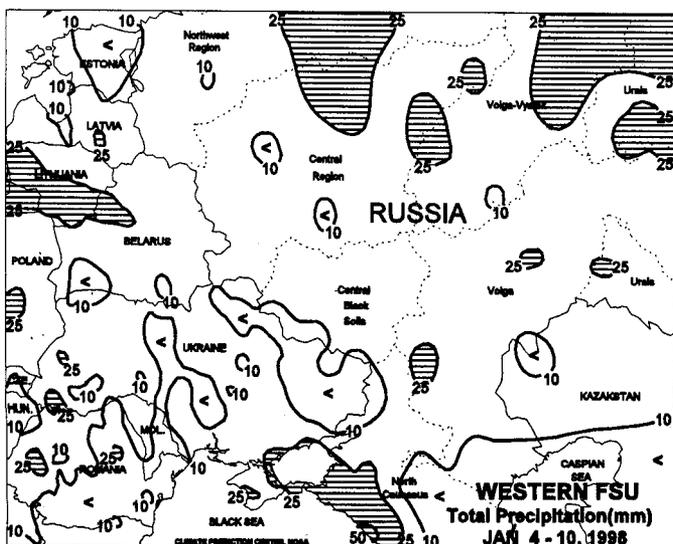
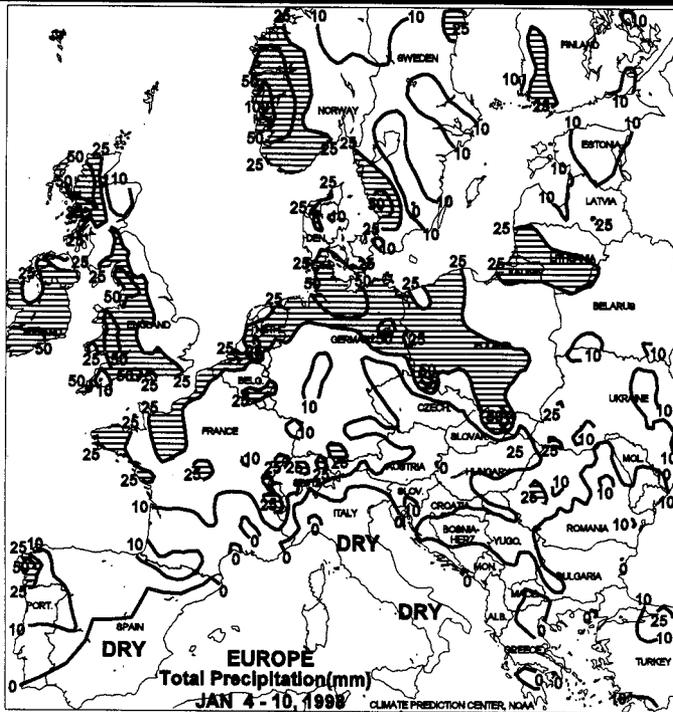
SOUTH AFRICA: Scattered showers continued across the corn belt.

SOUTHEAST ASIA: Widespread showers returned to southern Sumatra and Java, while drought continued across the northern and western Philippines.

CHINA: Winter wheat remained dormant across the North China Plain.

SOUTH AMERICA: In central Argentina, cool weather along with abundant soil moisture favored summer crops, but warm, dry weather reduced soil moisture in Mato Grosso do Sul, Brazil.

AUSTRALIA: Showers returned to primary summer crop areas.



EUROPE

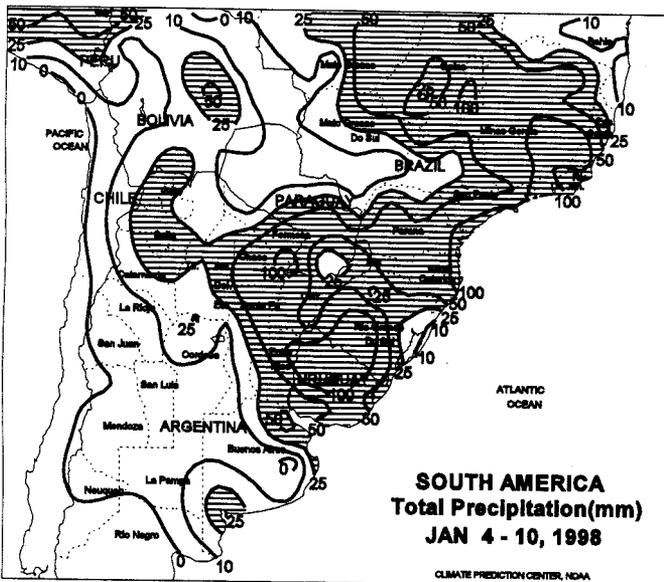
A strong westerly flow of maritime air continued to spread across the region. Stormy weather and widespread precipitation prevailed over winter grain areas in most of northern Europe. Widespread light to moderate precipitation (10-50 mm, with local amounts in excess of 50 mm), mainly rain, spread from the United Kingdom and northern France, eastward through the Benelux countries and Germany, into Poland. Farther south, welcomed dryness prevailed over Portugal and Spain. The dry weather followed a prolonged period of excessive rains, especially in Portugal and southern Spain, improving conditions for fieldwork. Dry weather also occurred in Italy and Greece. Weekly temperatures averaged 4 to 9 degrees C above normal in northern Europe and 3 to 6 degrees C above normal in the south. As a result of the mild weather conditions, winter grain areas over most of Europe continued to lack a protective snow cover.

FSU-WESTERN

A weather pattern similar to last week's prevailed over the region, as a strong westerly flow of air from Europe continued to usher in unseasonably mild weather to most winter grain areas. Weekly temperatures averaged 3 to 8 degrees C above normal over most of the region. Temperatures rose above freezing over most areas, with the warmest weather (extreme maximum temperatures ranging from 5-11 degrees C) occurring in the western half of Ukraine, western Belarus, and southern areas in the North Caucasus region in Russia. Winter wheat in these areas remained snow-free during the week. Elsewhere, extreme maximum temperatures in the Baltics, Belarus, northern Russia, and northern Ukraine ranged from 1 to 4 degrees C, causing some melting of protective snow cover. Widespread precipitation (10-25 mm, with local amounts in excess of 25 mm) fell over most winter grain areas throughout the region, falling mostly in the form of rain in the west and south. By week's end, cooler weather and light snow spread southward into eastern Ukraine and the North Caucasus region in Russia, providing some protective snow cover.

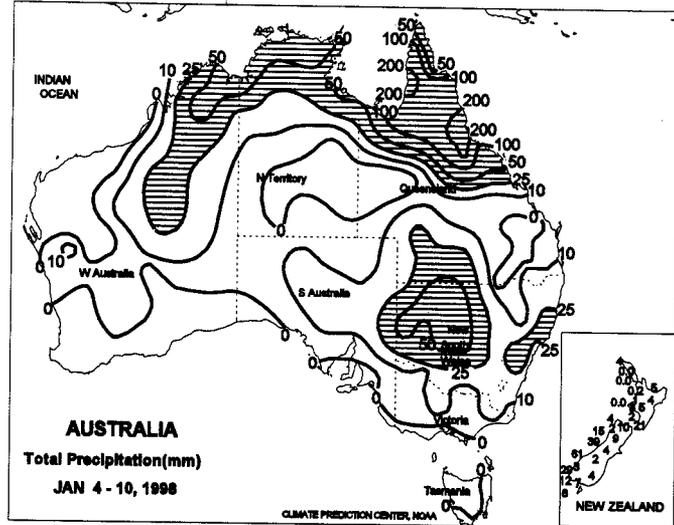
SOUTH AMERICA

In southern Brazil, widespread showers (20-70 mm) continued to favor vegetative soybeans in Parana and Rio Grande do Sul. Light showers (less than 15 mm) and warm weather reduced soil moisture in Mato Grosso do Sul. Farther north in southern Mato Grosso and Goias, moderate showers (30-70 mm, with isolated amounts greater than 100 mm) aided vegetative soybeans. Temperatures averaged 2 to 3 degrees C above normal from northern Parana northward in southern Brazil. In central Argentina, ideal conditions, cool weather along with abundant soil moisture, favored vegetative soybeans and early reproductive corn. Temperatures averaged 2 to 3 degrees C below normal, with highs reaching only the upper 20's degrees C on most days. Rainfall was light (2-15 mm, with isolated amounts greater than 50 mm), but above-normal rainfall the past 4 weeks has boosted soil moisture to abundant levels. Light to moderate rain (10-40 mm) slowed wheat harvesting in southern Buenos Aires. Widespread showers (30-100 mm) covered cotton and soybean areas of northern Argentina and southern Paraguay.



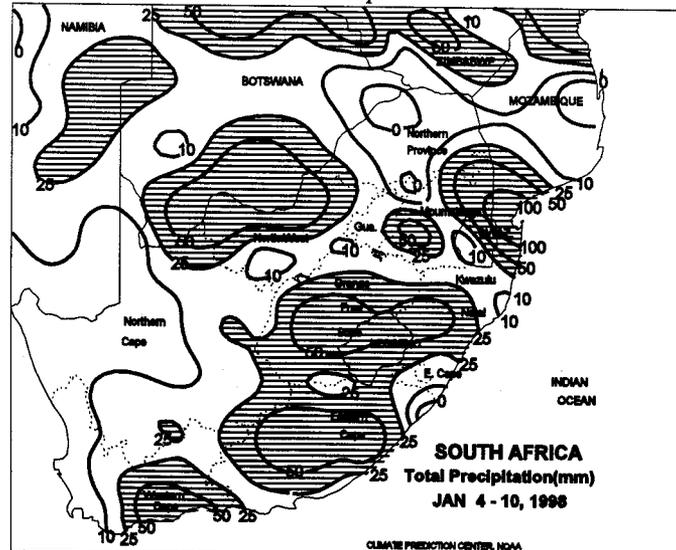
AUSTRALIA

Moderate showers (10-25 mm or more) returned to the primary summer crop region of New South Wales and Queensland's western crop areas. The rain, which began late in the period, had not reached sorghum and cotton areas in eastern Queensland by week's end. Dryness also continued in southern sugarcane areas, but heavy showers (50-100 mm or more) continued at the northern edges of the sugarcane region, due to the persistence of widespread, tropical showers. Temperatures were generally seasonable throughout the east, with highs in the mid 30's C on most farmland. Oppressive heat (highs above 40 C), however, returned to the western grazing lands. In New Zealand, rainfall averaged less than 10 mm in primary agricultural areas.



SOUTH AFRICA

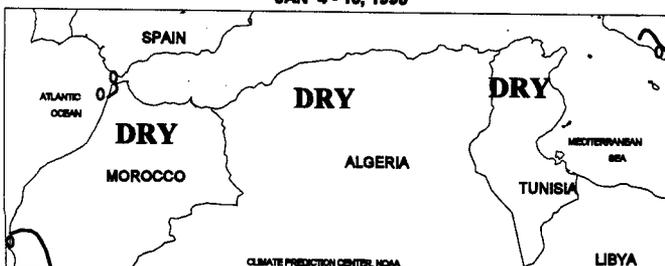
Scattered showers continued across the corn belt following last week's beneficial, soaking rain. Many locations received an additional 25 to 50 mm or more of rainfall, further increasing moisture reserves for vegetative to reproductive crops. Temperatures remained at more favorable levels (highs ranging from the mid 20's C in eastern corn areas to the low 30's C in the west), also aiding crop development. South Africa's corn typically advances through reproduction from mid-January to mid-February, making the next few weeks important for determining yield potential. However, late plantings as a result of the recent rainfall would stretch the window for critical development well into March. Elsewhere, light to moderate showers (10-25 mm or more) fell in coastal crop areas from the sugarcane fields of Kwazulu-Natal southwestward to Western Cape.



NORTHWESTERN AFRICA

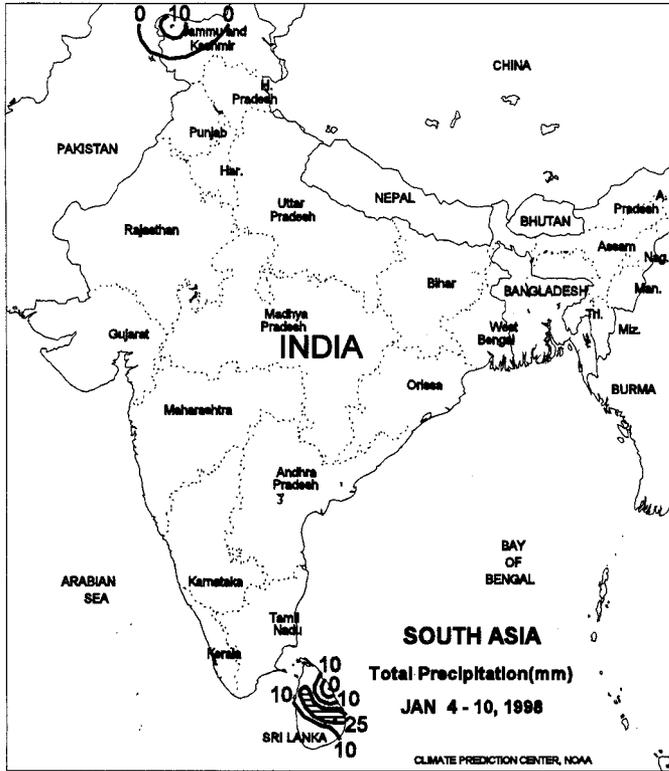
Unseasonably warm, dry weather prevailed over winter grain areas in Morocco, Algeria, and Tunisia. The dryness in these areas favored late planting activities. Winter grains were mostly in the vegetative stage over the region, and moisture reserves were adequate for normal crop development in most areas. However, a drying trend since December has reduced moisture for winter grains in western and central Algeria, and rain is needed soon to prevent a decline in crop conditions. Weekly temperatures averaged 2 to 4 degrees C above normal in Morocco, Algeria, and Tunisia, spurring rapid vegetative growth.

NORTHWEST AFRICA Total Precipitation (mm) JAN 4 - 10, 1998



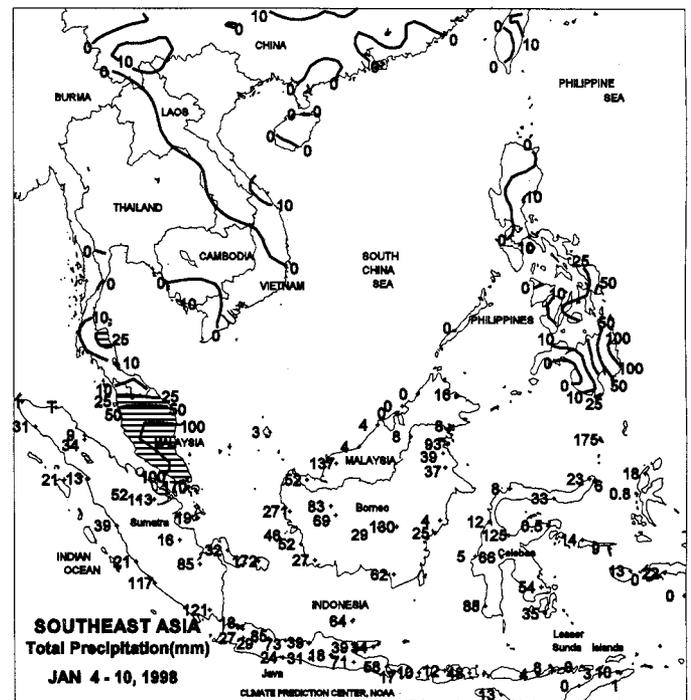
SOUTH ASIA

Seasonable dryness continued across the region. Unlike recent weeks, however, near- to above-normal temperatures across a broad area from central India to Pakistan benefited maturing summer crops along with developing winter grains and oilseeds. Unfortunately, unseasonable coolness shifted to the east (eastern Uttar Pradesh to Bangladesh), slowing growth of winter wheat and secondary rice.



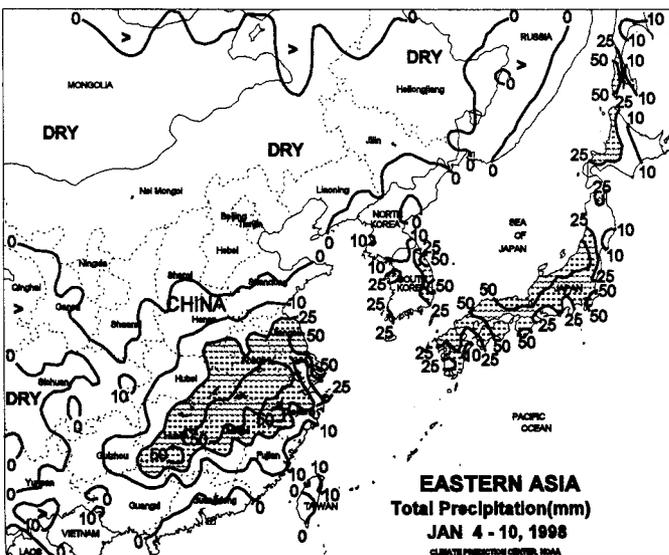
SOUTHEAST ASIA

Widespread showers (20-75 mm, isolated amounts greater than 100 mm) returned to southern Sumatra and Java, aiding main-season rice. Little or no rainfall continued to worsen drought across the northern and western Philippines, stressing second-season crops. Heavy showers (50-100 mm) continued across peninsular Malaysia, causing additional flooding and hampering oil palm fieldwork.



EASTERN ASIA

Winter wheat remained dormant across the North China Plain despite temperatures continuing to average 3 to 4 C degrees C above normal. Widespread rainfall (10-70 mm) continued to benefit winter grains and oilseeds across the Yangtze Valley and interior southern China. Some of this moisture (5-20 mm) reached into the southern North China Plain (southern Henan and northern Anhui and Jiangsu), boosting moisture supplies for wheat growth next spring.



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Selected 1997 Precipitation Highlights

<i>Record Highest Annual Precipitation (Inches)</i>		
<u>Location</u>	<u>Total</u>	<u>Previous/Year</u>
Victoria, TX	67.11	59.57 in 1919

<i>Second-Highest Annual Precipitation (Inches)</i>		
<u>Location</u>	<u>Total</u>	<u>Record/Year</u>
Shreveport, LA	69.21	81.99 in 1991

Notes for annual precipitation table on page 14: Over the past few years, implementation of ASOS (automated surface observing systems) across the Nation has resulted in several problems related to precipitation measurement. ASOS was designed to conform to aviation interests, which regard measured precipitation as one of the least important parameters. ASOS' tipping-bucket technology is most prone to error during frozen and freezing precipitation events (snow, sleet, and freezing rain), and simply does not provide accurate water equivalents. Other problems include, but are not limited to, "false tipping" (often 0.01 inches) after a heavy dew; "debris clogging," such as leaves and spider webs, at unmanned sites; and "splash-out" during very heavy rainfall events. Even sites that receive little frozen precipitation have noted serious problems. For example, a recent report from Eugene, OR indicated that the official water-year (October 1, 1996, to September 30, 1997) precipitation was 79.50 inches, while ASOS recorded 59.28 inches during the same period.

National Weather Service Forecast Offices (WFO's) have taken a variety of measures to account for some of these problems. Some, like the WFO in White Lake, MI, no longer publicly release unedited precipitation data from the first-order sites (Detroit's Metro Airport and Flint's Bishop Airport), but transmit quality-controlled data from the WFO site. However, since the White Lake site is new, no normals exist. Other sites, like WFO Gray, ME, have volunteer observers taking official precipitation measurements near the Portland International Jetport site, thus ensuring climate continuity.

As of December 31, 1997, there were 467 commissioned ASOS sites (248 National Weather Service [NWS] sites and 219 Federal Aviation Administration-sponsored sites). The current plan is that at the end of NWS modernization early next century, about 120 ASOS sites will be staffed by NWS employees, and approximately 45 of those will be located at sites with long-term normals. The annual precipitation table (page 14) is comprised mostly of data from ASOS sites. Data are preliminary, but some have been augmented by human observers. Use this data with caution, and contact the National Climatic Data Center (704-271-4800) for final data.

For the future, we are examining several alternatives to solve these problems. The first is that the NWS is exploring possible developments in the ASOS design. The second is the possible increased use of cooperative observing stations in the climatological data base. As these developments occur, we will keep our subscribers apprised of modifications in the data base.

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