

# 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

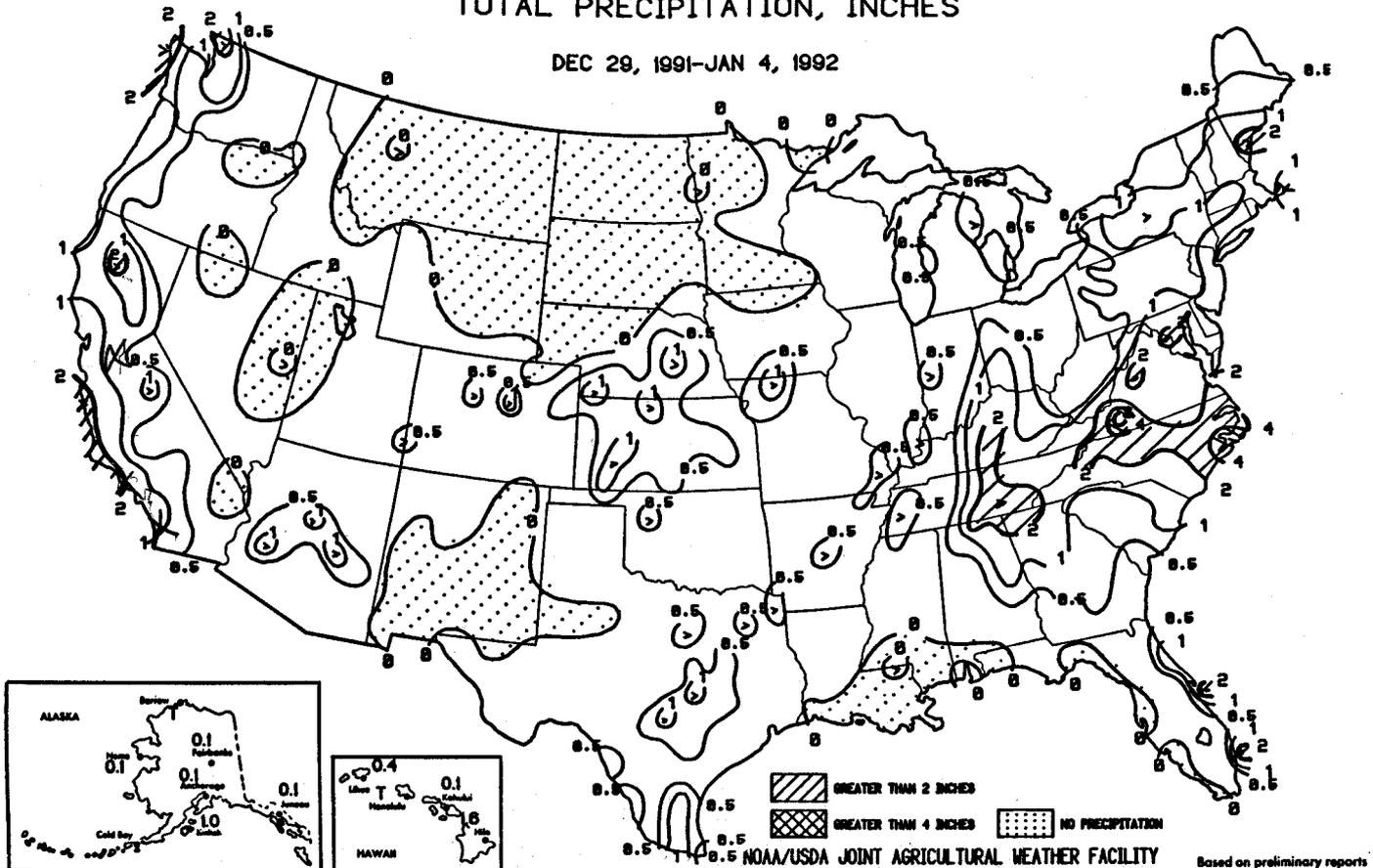
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## TOTAL PRECIPITATION, INCHES

DEC 29, 1991-JAN 4, 1992



## HIGHLIGHTS

Dec. 29, 1991 - Jan. 4, 1992

Storms lashed the east and west coasts of the United States to start and end the week, and midweek rain and snow covered the central Plains. Arctic air was noticeably absent for the fourth week in a row as temperatures averaged up to 26° F above normal in the upper Mississippi Valley. As the week began, heavy rain fell along the central California coast and snow blanketed the Sierra Nevada Mountains, while rain soaked the coastal Northeast and freezing rain glazed interior sections. The western storm took aim on the southern Rockies and central Plains by New Year's Eve. Snowfall totals included 5 inches in Flagstaff, AZ, 9 inches in Imperial, NE, and 8 inches in Goodland, KS. Farther east, cold rain dampened the east-central Plains. Fog shrouded the North Central States for much of the week as relatively mild air flowed across cold ground. In southeastern Texas, flooding continued along the Brazos and Trinity Rivers, though heavy rains ended before Christmas. By Thursday, a major east coast storm began to form east of Florida. The mid-Atlantic coastline bore

the brunt of the storm's 70 mph wind gusts and towering waves. Inland, rainfall reached 5.41 inches in Henderson, NC. At week's end, renewed storminess reached the west coast, promising to deliver beneficial moisture to reservoirs in northern California.

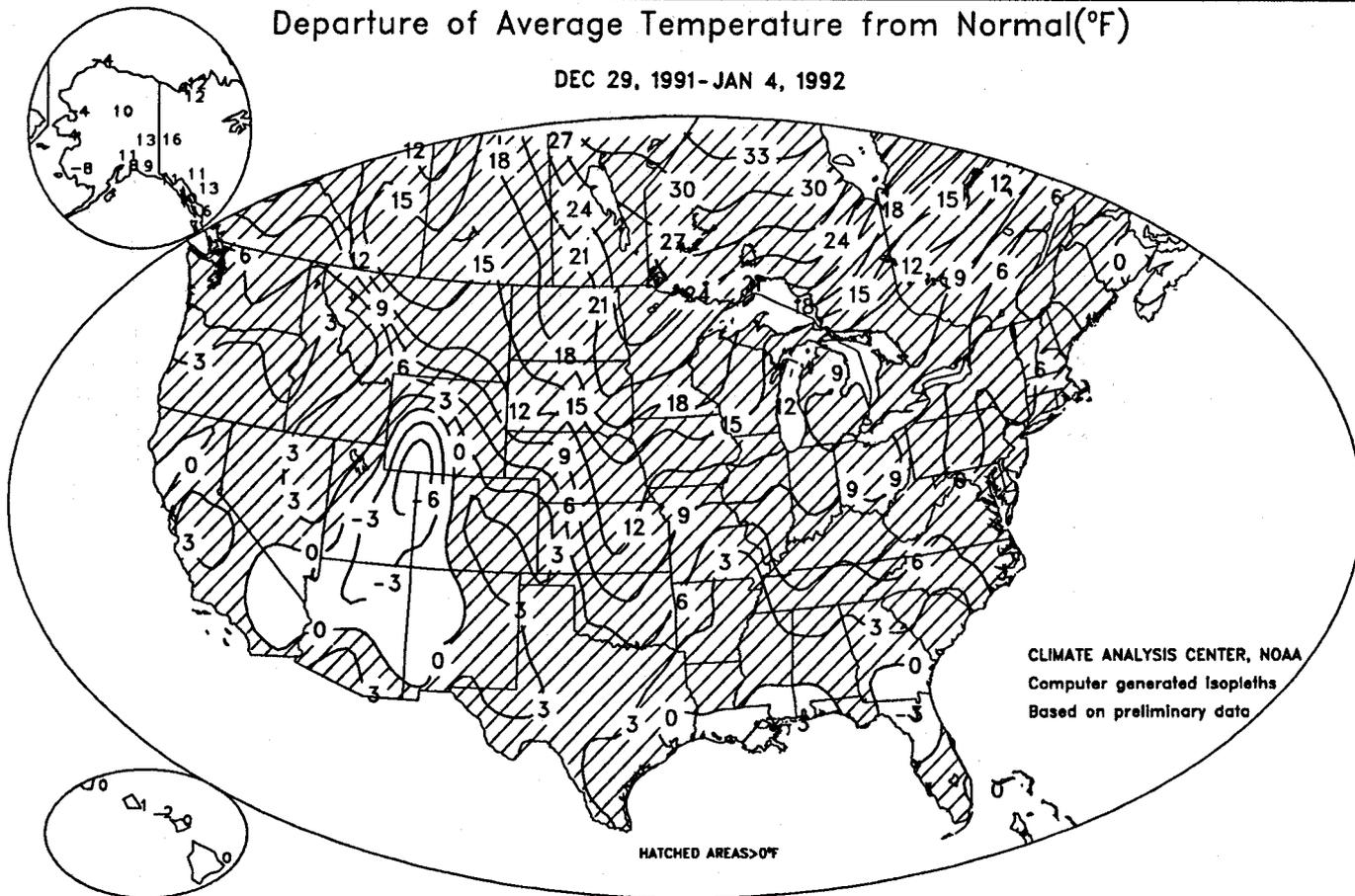
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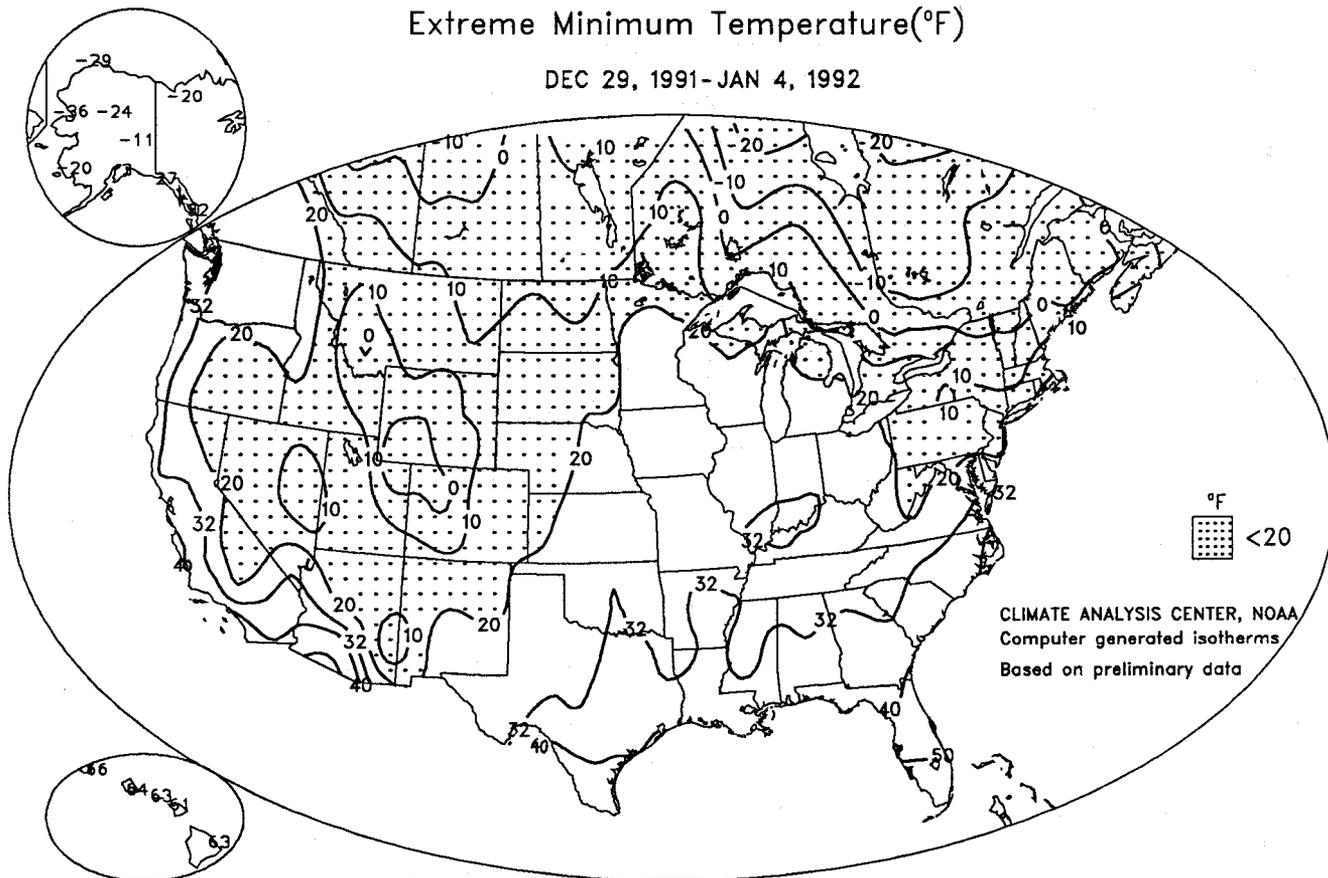
Departure of Average Temperature from Normal(°F)

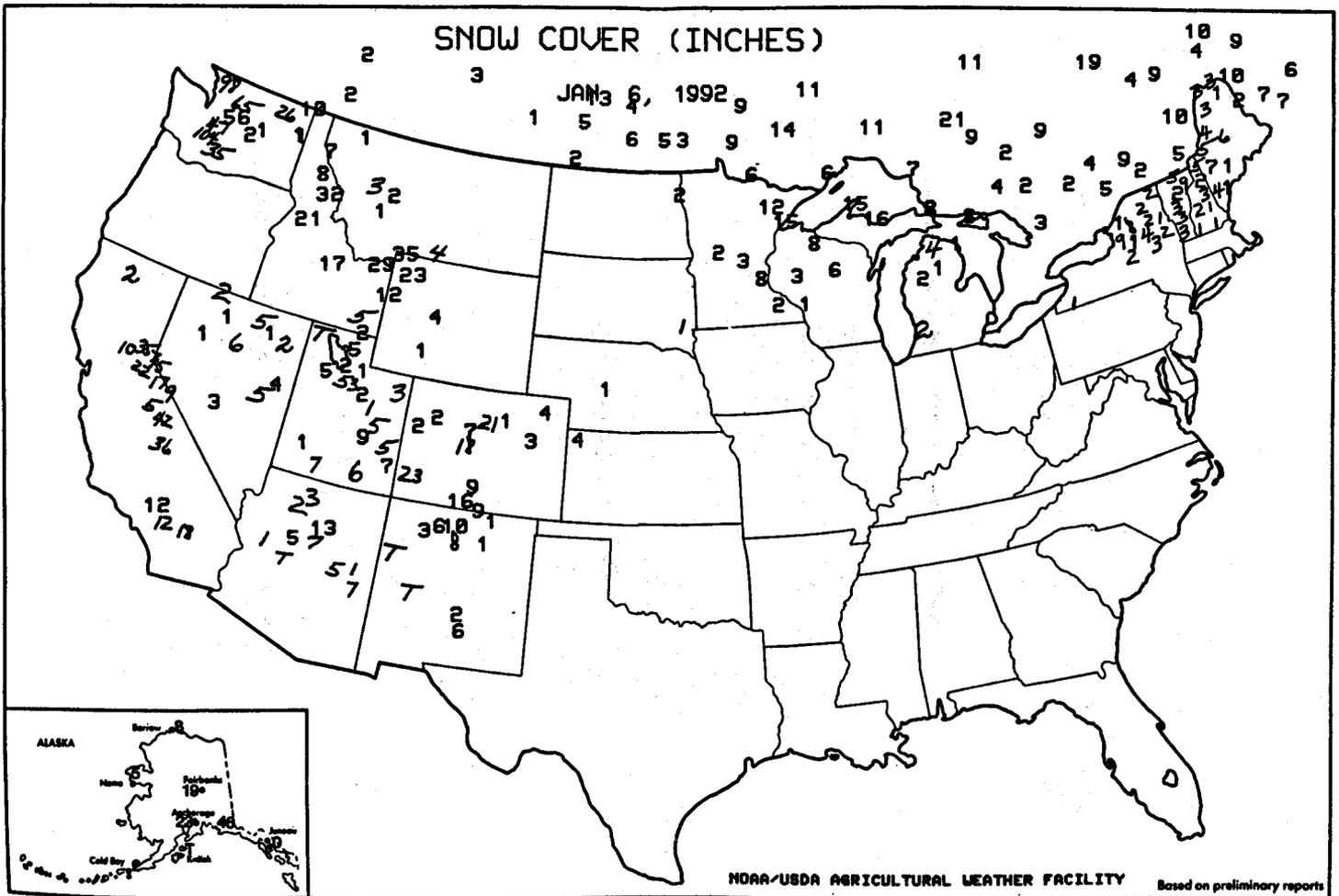
DEC 29, 1991-JAN 4, 1992



Extreme Minimum Temperature(°F)

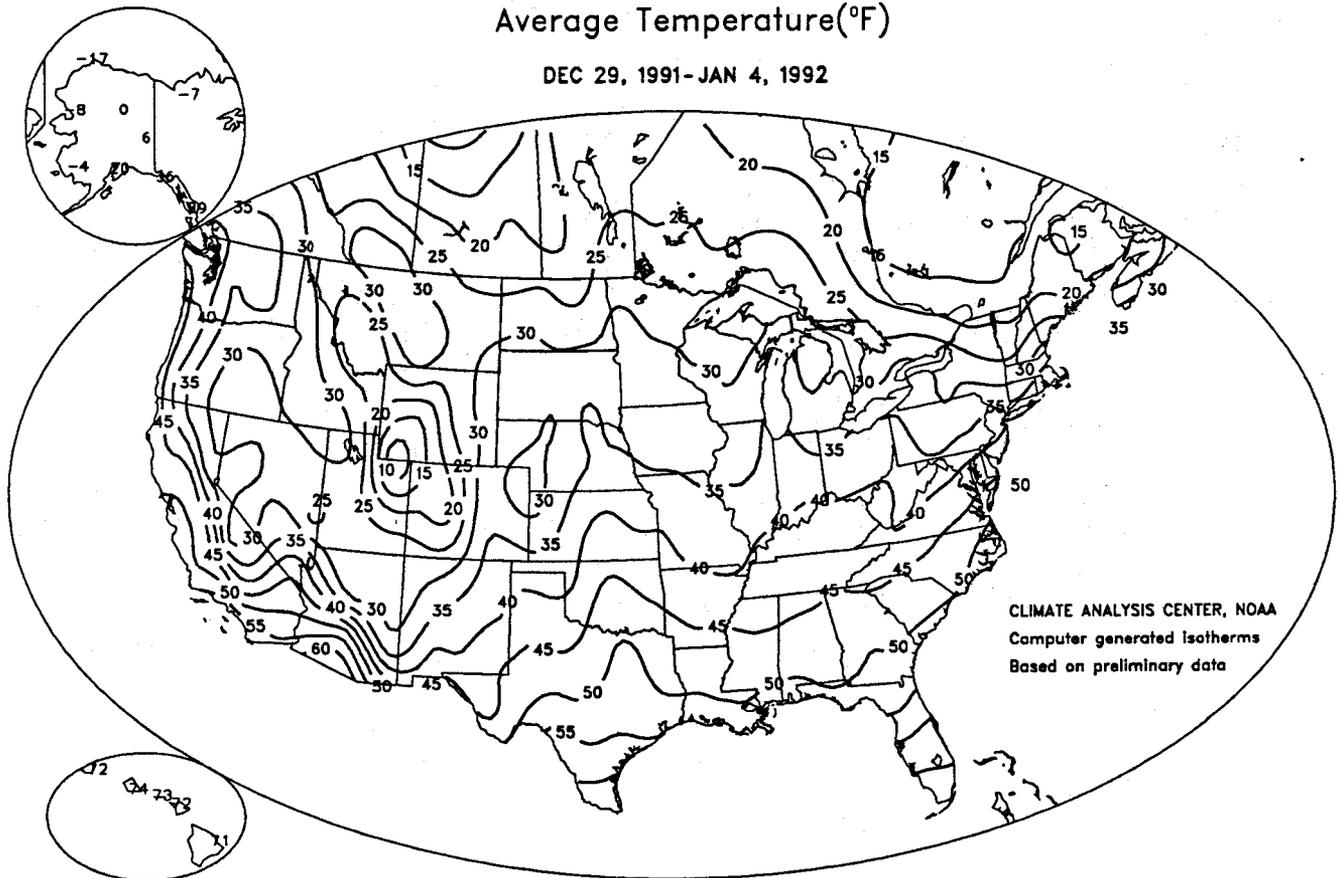
DEC 29, 1991-JAN 4, 1992





### Average Temperature (°F)

DEC 29, 1991-JAN 4, 1992



# National Weather Data for Selected Cities

Weather Data for the Week Ending January 4, 1992

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	.50 INCH OR MORE	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	52	40	58	30	46	3	.3	.9	.3	3.9	70	.3	39	92	67	0	1	1	0	0	
MOBILE	58	41	63	35	49	3	.4	.9	.4	3.1	51	.4	0	97	58	0	0	0	0	0	
MONTGOMERY	54	41	60	31	48	3	.4	.9	.4	1.1	70	.4	0	94	64	0	1	1	1	0	
AK ANCHORAGE	25	16	28	7	20	1	.1	.6	.4	5.9	160	.1	55	97	84	0	7	7	0	0	
BARRON	0	-24	-2	-30	-18	1	.1	.4	.4	1.9	18	.1	0	79	66	0	7	7	0	0	
FAIRBANKS	0	-13	8	-21	-7	6	.1	.0	.1	1.1	140	.1	138	85	74	0	7	7	0	0	
JUNEAU	39	33	44	28	36	13	1.0	.9	.9	9.1	178	.1	20	95	78	0	3	2	2	1	
KODIAK	35	26	39	17	31	1	1.0	.3	.6	5.9	95	.1	16	92	68	0	6	7	1	1	
NOME	11	-10	22	-23	0	4	.1	.1	.5	72	44	.1	44	88	65	0	7	7	0	0	
AZ PHOENIX	64	47	66	42	56	4	.4	.3	.3	2.0	218	.4	380	79	40	0	7	7	0	0	
FRESNCO	44	25	47	17	34	3	.6	.4	.4	2.2	172	.4	293	93	57	0	0	0	0	0	
TUCSON	62	42	66	34	52	2	.2	.2	1.6	157	.2	173	85	36	0	0	0	1	1	0	
YUMA	64	50	67	45	57	2	.2	.1	.7	200	.2	320	66	35	0	0	1	1	1	0	
AR FORT SMITH	51	36	57	29	43	5	.2	.2	4.6	149	.2	65	97	70	0	0	0	0	0	0	
LITTLE ROCK	49	39	57	37	44	4	.5	.4	4.3	92	.5	96	86	68	0	0	0	0	0	0	
CA BAKERSFIELD	57	42	64	34	49	2	.2	.0	.1	4	52	.1	55	94	57	0	0	0	0	0	
EUREKA	58	43	62	40	50	3	1.0	.5	.9	3.3	46	.9	103	85	60	0	1	1	1	0	
FRESNO	56	40	60	32	48	4	.8	.4	.7	1.3	70	.1	28	94	64	0	1	2	3	0	
LOS ANGELES	66	50	73	47	58	2	1.0	.4	3.3	169	.4	124	81	43	0	0	3	3	0	0	
REDDING	53	35	60	28	44	2	2.8	.9	1.6	6.2	77	1.2	106	99	67	0	3	2	2	0	
SACRAMENTO	57	41	59	33	49	5	.6	.6	1.6	47	.6	6	99	62	0	0	1	1	0	0	
SAN DIEGO	66	49	75	44	58	1	.7	.3	1.8	116	.1	54	84	45	0	0	2	4	1	1	
SAN FRANCISCO	57	45	60	40	51	3	1.4	.4	1.0	3.1	75	.4	64	94	66	0	0	2	1	0	
CO DENVER	44	20	53	17	32	2	1.3	.2	.1	.3	56	.1	233	80	35	0	7	2	0	0	
GRAND JUNCTION	29	14	37	6	22	4	.2	.1	.1	.6	95	.1	100	95	71	0	7	2	0	0	
PUEBLO	49	20	59	14	35	4	.2	.1	.5	162	.0	0	88	35	0	7	1	0	0	0	
CT BRIDGEPORT	43	30	48	20	36	6	1.4	.6	.8	4.7	114	.5	104	87	56	0	4	3	1	0	
HARTFORD	41	23	47	11	32	6	1.0	.1	.4	3.4	72	.4	84	95	58	0	5	3	3	0	
DC WASHINGTON	48	37	55	28	42	6	2.5	1.8	1.8	7.0	198	1.9	503	92	66	0	2	4	2	0	
FL APALACHICOLA	60	46	64	38	53	0	.0	.8	.8	1.5	38	.2	2	92	62	0	0	1	0	0	
DAYTONA BEACH	65	52	71	45	59	0	1.6	1.1	1.0	2.8	113	1.3	461	96	67	0	0	3	1	0	
JACKSONVILLE	60	46	70	39	53	-1	.4	.2	.3	.9	33	.4	100	97	70	0	0	4	0	0	
KEY WEST	74	66	78	64	70	0	.0	.4	.0	.7	37	.0	0	88	64	0	0	0	0	0	
MIAMI	74	60	78	56	67	0	.2	.3	.1	.3	16	.2	60	95	59	0	0	2	0	0	
ORLANDO	68	53	73	49	61	0	.1	.3	.1	.3	16	.1	40	96	62	0	0	2	0	0	
TALLAHASSEE	60	44	63	35	52	0	.0	.1	1.6	31	.0	0	95	60	0	0	0	0	0	0	
TAMPA	68	52	75	46	60	0	.0	.5	.0	.7	28	.0	0	96	62	0	0	0	0	0	
WEST PALM BEACH	73	57	77	53	65	-1	.6	.1	.6	2.0	77	.6	188	96	59	0	0	2	1	0	
GA ATLANTA	51	40	59	36	46	4	1.0	.1	.9	3.7	76	1.0	160	94	69	0	0	2	1	0	
AUGUSTA	59	38	63	30	48	3	.7	.1	.5	3.2	88	.7	143	97	57	0	2	2	0	0	
MACON	57	41	67	32	49	2	.8	.2	.5	4.4	96	.8	144	99	61	0	1	2	1	0	
SAVANNAH	59	44	63	39	52	3	.2	.5	.2	1.9	61	.2	44	95	62	0	0	2	0	0	
HI HILO	78	65	81	63	71	0	1.6	.8	.7	15.8	112	.8	61	93	60	0	0	4	1	0	
HONOLULU	81	68	82	65	75	2	.2	.9	.7	1.2	31	.0	78	51	0	0	0	0	0	0	
KAHULUI	80	66	83	61	73	1	.1	.7	.1	.8	26	.1	18	89	54	0	0	2	0	0	
LIHUE	77	68	78	66	72	0	.4	.2	1.0	7.3	117	.3	31	88	66	0	0	5	0	0	
ID BOISE	39	26	44	20	32	3	.3	.3	.4	.4	24	.0	5	95	67	0	7	2	0	0	
LEWISTON	44	31	48	28	37	5	.3	.3	.4	.4	27	.0	0	88	55	0	6	0	0	0	
POCATELLO	37	17	43	8	27	3	.3	.3	.2	.2	21	.0	0	92	56	0	7	1	0	0	
IL CHICAGO	38	32	43	30	35	13	.3	.3	.5	.7	66	.3	8	96	83	0	5	1	0	0	
MOLINE	37	31	42	26	34	13	.3	.3	.2	2.2	100	.3	125	97	84	0	4	1	0	0	
PEORIA	37	32	42	30	35	12	.2	.2	.1	2.3	100	.2	79	96	82	0	5	2	0	0	
QUINCY	38	31	44	30	34	10	.1	.2	.1	2.1	109	.1	63	99	87	0	5	1	0	0	
ROCKFORD	35	29	38	20	32	12	.3	.3	.3	2.1	100	.3	133	95	82	0	5	1	0	0	
SPRINGFIELD	39	32	45	29	35	9	.3	.4	.4	1.4	60	.3	13	98	81	0	6	1	0	0	
IN EVANSVILLE	43	36	50	34	40	8	.1	.6	.1	3.8	99	.1	22	94	79	0	0	1	0	0	
FORT WAYNE	37	32	45	28	35	9	.2	.3	.1	2.2	81	.2	55	95	82	0	4	3	0	0	
INDIANAPOLIS	41	34	47	30	37	10	.1	.5	.1	1.6	47	.1	31	96	79	0	3	2	0	0	
SOUTH BEND	38	32	45	29	35	10	.2	.5	.2	1.8	56	.2	43	94	81	0	3	1	0	0	
IA DES MOINES	35	30	38	24	33	12	.2	.0	.1	2.3	200	.1	92	99	88	0	6	3	0	0	
SIOUX CITY	37	30	44	23	33	15	.1	.0	.1	1.0	121	.1	150	99	85	0	5	1	0	0	
WATERLOO	34	30	37	26	32	16	.1	.1	.0	1.6	126	.1	36	99	89	0	6	2	0	0	
KS CONCORDIA	44	33	50	27	39	12	.5	.3	.3	1.8	226	.1	138	98	78	0	4	4	1	0	
DODGE CITY	43	31	53	26	37	7	.8	.7	.8	2.1	368	.0	0	97	69	0	3	1	1	0	
GOODLAND	36	20	47	14	28	0	.4	.3	.4	1.2	277	.0	80	94	67	0	7	2	0	0	
TOPEKA	44	33	50	26	38	11	.3	.1	.2	2.6	184	.1	92	98	75	0	4	3	0	0	
WICHITA	48	36	54	28	42	11	.4	.2	.4	2.1	200	.1	78	98	72	0	1	2	0	0	
KY BOWLING GREEN	46	36	52	28	41	6	.7	.3	.6	7.8	152	.7	118	98	78	0	1	3	1	0	
LEXINGTON	46	35	51	30	40	8	1.9	1.0	1.3	9.0	212	1.8	367	98	82	0	2	4	2	1	
LOUISVILLE	47	38	54	33	42	9	1.2	.4	.8	6.3	160	1.0	236	94	74	0	0	0	0	0	
LA ALEXANDRIA	59	39	64	34	49	1	.1	-1.0	.1	7.1	130	.1	15	94	50	0	0	1	0	0	
BATON ROUGE	61	41	67	35	51	0	.0	-1.1	.0	2.4	42	.0	0	93	53	0	0	0	0	0	
LAKE CHARLES	62	40	68	38	51	0	.0	-1.1	.0	2.2	38	.0	0	99	53	0	0	0	0	0	
NEW ORLEANS	58	41	63	38	50	-3	.0	-1.2	.0	2.6	45	.0	0	94	62	0	0	0	0	0	

Based on 1951-80 normals.

Weather Data for the Week Ending January 4, 1992

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	MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE		.50 INCH OR MORE
													TEMP. °F								PRECIP.		
SHREVEPORT	59	36	68	31	48	1	.3	-.6	.2	7.8	176	.3	56	97	49	0	1	2	0	0			
ME CARIBOU	25	2	31	-8	13	2	T	-.6	T	2.1	61	T	6	87	57	0	7	7	0	0			
PORTLAND	37	17	40	8	27	2	2.1	1.1	1.2	4.9	97	.5	154	92	47	0	7	7	0	0			
MD BALTIMORE	46	34	54	22	40	6	1.2	.4	1.0	4.6	120	1.1	233	85	61	0	3	3	2	1			
SALISBURY	52	37	60	27	45	9	2.1	1.3	1.0	5.3	128	1.1	241	85	71	0	3	3	2	2			
MA BOSTON	44	29	49	21	37	6	1.9	1.0	1.3	3.9	77	1.3	241	85	71	0	3	3	2	2			
CHATHAM	45	34	51	27	39	7	.7	-.4	.4	3.6	64	.4	68	90	70	0	3	3	2	2			
MI ALPENA	33	24	38	11	29	8	.9	.4	.8	2.3	105	.9	354	95	77	0	4	4	3	3			
DETROIT	37	31	45	25	34	9	.5	.0	.3	2.1	74	.1	50	90	74	0	5	5	4	4			
FLINT	35	29	41	24	32	9	.5	.1	.3	2.3	105	.2	73	92	74	0	5	5	4	4			
GRAND RAPIDS	34	28	40	25	31	7	.3	-.2	.1	2.8	99	.2	70	94	72	0	6	6	5	5			
HOUGHTON LAKE	32	26	36	21	29	10	.5	.1	.5	2.3	107	.5	223	93	77	0	6	6	5	5			
LANSING	34	28	40	24	31	9	.4	.0	.2	2.5	90	.3	123	94	79	0	5	5	4	4			
MARQUETTE	33	24	37	15	28	14	.2	-.3	.1	1.7	61	.2	57	97	86	0	5	5	2	2			
MUSKEGON	35	30	39	27	32	8	T	-.6	T	1.8	62	T	0	94	79	0	5	5	2	2			
SAULT ST. MARIE	31	24	36	10	27	12	.4	-.1	.3	2.9	102	.4	129	95	80	0	5	5	2	2			
MN ALEXANDRIA	32	29	34	27	31	23	T	-.2	T	.6	70	T	0	100	92	0	7	7	0	0			
DULUTH	30	26	38	23	28	20	.1	-.2	.0	.7	46	.1	31	96	86	0	7	7	2	2			
INT'L FALLS	31	25	35	17	28	26	T	-.2	T	1.0	93	T	15	96	82	0	7	7	2	2			
MINNEAPOLIS	34	30	37	28	32	19	T	-.2	T	1.1	109	T	0	95	81	0	6	6	0	0			
ROCHESTER	32	28	34	27	30	18	T	-.2	T	1.5	147	T	0	99	86	0	7	7	1	1			
MS GREENWOOD	55	36	61	32	46	2	.2	-.1	.2	8.6	140	.2	27	97	60	0	1	1	0	0			
JACKSON	56	35	61	29	46	0	T	-.2	T	5.3	88	T	4	98	58	0	3	3	1	1			
MERIDIAN	56	38	61	33	47	1	.1	-.2	.1	7.0	109	.1	17	96	57	0	0	0	0	0			
MO CAPE GIRARDEAU	44	37	47	34	41	—	.8	.0	.7	5.8	140	.8	188	95	73	0	0	2	2	1	1		
COLUMBIA	42	31	50	27	37	7	.1	-.4	.1	2.8	125	.1	29	97	79	0	5	5	2	2			
KANSAS CITY	42	32	50	29	37	8	.6	-.2	.5	2.6	160	.5	306	98	78	0	4	4	3	3			
SAINT LOUIS	40	34	48	32	37	7	T	-.4	T	2.1	87	T	8	95	81	0	1	2	2	0			
SPRINGFIELD	46	33	55	28	40	8	.2	-.3	.1	3.6	127	.2	62	98	74	0	2	2	0	0			
MT BILLINGS	44	25	52	20	35	12	.0	-.2	.0	.3	35	.0	0	61	31	0	6	6	0	0			
GLASGOW	33	14	44	6	24	13	.0	-.1	.0	.2	41	.0	0	92	63	0	7	7	0	0			
GREAT FALLS	46	28	50	23	37	16	.0	-.2	.0	.1	9	.0	0	59	30	0	7	7	0	0			
HAVRE	43	14	52	5	28	15	.0	-.1	.0	T	5	.0	0	82	40	0	7	7	0	0			
HELENA	30	6	42	-2	18	-2	T	-.2	T	.8	113	T	0	92	64	0	7	7	0	0			
KALISPELL	31	23	35	14	27	6	.1	-.3	.1	.7	40	.1	27	95	74	0	7	7	1	1			
MILES CITY	43	17	49	10	30	14	.0	-.1	.0	.1	10	.0	0	83	40	0	7	7	0	0			
MISSOULA	29	13	35	9	21	-1	T	-.3	T	1.0	69	T	0	93	73	0	7	7	0	0			
NE GRAND ISLAND	41	31	50	25	36	14	1.1	1.0	.6	2.7	368	.5	900	97	75	0	3	3	2	2			
LINCOLN	42	31	50	24	36	15	.5	.4	.3	2.3	321	.3	412	99	78	0	4	4	2	2			
NORFOLK	39	28	50	21	34	15	.3	-.2	.3	1.1	157	.3	417	99	77	0	5	5	2	2			
NORTH PLATTE	40	22	50	13	31	8	.3	-.2	.2	.8	180	.1	280	99	65	0	7	7	2	2			
OMAHA	38	32	42	29	35	13	.4	-.2	.3	2.2	263	.3	378	98	83	0	6	6	2	2			
SCOTTSBLUFF	45	17	52	10	31	6	.0	-.1	.0	T	4	.0	0	80	33	0	7	7	0	0			
VALENTINE	45	14	55	9	30	10	.0	-.1	.0	T	0	.0	0	92	44	0	7	7	0	0			
NV BLY	41	16	49	3	29	4	T	-.2	T	.3	34	T	11	84	43	0	7	7	1	1			
LAS VEGAS	51	36	54	32	44	0	.2	.1	.1	.3	77	T	50	87	45	0	1	2	0	0			
RENO	40	27	51	22	34	2	.1	-.2	.1	.2	11	T	0	95	62	0	7	7	1	1			
WINNEMUCCA	36	25	46	20	30	1	T	-.2	T	.6	66	T	0	95	79	0	7	7	0	0			
NH CONCORD	40	16	44	6	28	7	1.4	.7	1.0	3.8	100	.2	54	95	51	0	6	6	3	3			
NJ ATLANTIC CITY	50	30	58	16	40	6	1.3	.5	1.0	4.1	100	.3	65	97	68	0	4	2	1	1			
NM ALBUQUERQUE	43	25	50	18	34	0	.1	.0	.1	1.5	271	.0	0	86	45	0	7	7	2	2			
CLOVIS	52	28	57	22	40	3	.1	.0	.1	2.9	443	.0	0	92	38	0	5	1	0	0			
ROSWELL	55	29	60	22	42	3	.0	-.1	.0	2.6	641	.0	0	84	38	0	6	0	0	0			
NY ALBANY	36	16	45	5	26	3	1.1	.5	.6	3.3	99	.4	109	96	59	0	7	3	1	1			
BINGHAMTON	38	24	47	12	31	9	1.1	.5	.7	3.1	96	.4	103	96	59	0	4	4	1	1			
BUFFALO	41	25	51	15	33	8	.8	.1	.8	3.8	100	T	5	97	65	0	6	2	1	1			
NEW YORK	44	35	49	25	40	7	1.2	.5	.8	3.8	93	.3	70	87	50	0	3	3	1	1			
ROCHESTER	39	23	51	14	31	6	1.1	.6	1.1	3.0	103	.1	26	98	66	0	6	2	1	1			
SYRACUSE	37	22	44	12	30	5	1.4	.8	.9	3.6	103	.5	147	94	64	0	5	3	2	2			
NC ASHEVILLE	49	35	55	22	42	5	1.1	.4	.9	5.9	166	1.1	266	95	67	0	3	3	1	1			
CHARLOTTE	52	38	65	32	45	4	1.8	1.0	1.6	4.8	124	1.8	373	91	63	0	1	4	1	1			
GREENSBORO	51	38	59	31	44	7	2.5	1.7	1.8	5.3	138	2.5	533	89	60	0	2	3	2	2			
HATTERAS	60	50	70	47	55	9	3.3	2.2	2.0	6.7	133	2.3	363	93	66	0	0	0	0	0			
NEW BERN	59	45	67	39	52	7	4.9	4.0	3.8	7.2	171	4.4	876	95	67	0	0	0	0	0			
RALEIGH	53	40	57	34	47	7	2.9	2.1	1.8	5.4	152	2.8	627	93	67	0	0	0	0	0			
WILMINGTON	59	42	67	38	51	4	2.0	1.2	1.5	4.0	103	1.9	394	95	66	0	0	0	0	0			
ND BISMARCK	37	19	45	14	28	19	T	-.1	T	.2	29	.0	0	96	65	0	7	7	1	1			
FARGO	34	28	37	20	31	25	T	-.1	T	.4	54	.0	0	98	83	0	7	7	0	0			
GRAND FORKS	34	26	37	15	30	26	T	-.2	T	.3	45	.0	0	98	85	0	7	7	0	0			
WILLISTON	35	16	41	9	25	16	T	-.1	T	.2	32	.0	0	92	57	0	5	1	0	0			
OH AKRON-CANTON	42	31	53	24	37	10	.2	-.4	.2	3.3	111	T	0	93	71	0	5	1	0	0			
CINCINNATI	42	35	48	33	39	8	1.6	.9	1.1	6.4	188	1.3	315	98	84	0	0	0	3	1			
CLEVELAND	42	33	56	26	38	10	.3	-.3	.2	2.3	75	.1	18	92	71	0	3	3	0	0			
COLUMBUS	43	34	55	30	39	10	.1	-.5	.1	3.8	130	T	11	89	70	0	2	3	3	0			

Based on 1951-80 normals.

Weather Data for the Week Ending January 4, 1992

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
DAYTON	40	33	47	31	37	8	1.3	.8	.5	4.5	161	.9	251	97	82	0	4	3	1
TOLEDO	38	31	46	26	35	10	.3	-.3	.2	1.7	59	.2	66	94	72	0	5	3	0
YOUNGSTOWN	42	27	54	15	34	9	.3	-.6	.2	2.5	82	.2	0	95	70	0	4	1	0
OK OKLAHOMA CITY	53	37	61	32	45	8	.1	-.2	.1	5.4	416	.0	0	97	62	0	1	1	0
TULSA	51	38	61	32	45	8	.3	.0	.3	4.6	230	.0	0	94	67	0	1	1	0
OR ASTORIA	51	40	53	37	45	4	1.7	-.9	.7	8.3	63	1.7	112	94	71	0	0	6	1
BURNS	35	18	39	10	27	1	.1	-.4	.2	.2	9	.9	97	70	0	7	1	0	
MEDFORD	45	30	51	22	38	1	.3	-.5	.3	1.4	35	.3	66	100	74	0	5	3	0
PENDLETON	40	30	50	28	35	2	.1	-.4	.2	.7	36	.0	0	92	70	0	7	0	0
PORTLAND	49	37	51	29	43	4	.9	-.6	.3	5.2	72	.9	105	96	63	0	1	5	0
SALEM	47	39	52	36	43	4	1.1	-.6	.4	4.8	60	1.1	108	94	72	0	0	4	0
PA ALLENTOWN	43	29	50	15	36	8	.8	-.0	.6	3.7	88	.2	35	93	54	0	4	3	1
ERIE	43	29	53	20	36	9	.3	-.3	.3	3.2	89	.1	17	90	62	0	3	2	0
HARRISBURG	42	31	48	15	37	6	1.2	-.5	1.2	4.0	111	1.2	292	80	49	0	3	1	1
PHILADELPHIA	48	34	56	22	41	9	.7	.0	.5	4.0	104	.2	37	90	57	0	3	3	1
PITTSBURGH	46	29	55	18	37	9	.1	-.5	.1	3.7	125	.0	0	92	63	0	4	2	0
SCRANTON	40	25	48	13	32	6	.5	-.1	.3	2.8	101	.1	33	96	65	0	4	3	0
RI PROVIDENCE	47	28	53	19	38	8	1.9	1.0	1.3	4.5	90	1.3	244	88	42	0	5	2	2
SC CHARLESTON	59	43	62	39	51	3	1.0	.2	.6	2.6	73	1.0	223	95	63	0	0	2	1
COLUMBIA	56	38	60	33	47	2	.6	-.3	.6	3.2	80	.6	109	94	61	0	0	2	1
FLORENCE	56	41	60	37	48	3	1.1	-.3	.8	2.9	83	.8	186	93	62	0	0	2	1
GREENVILLE	55	40	63	31	47	6	.6	-.3	.5	3.5	77	.6	115	91	56	0	1	3	1
SD ABERDEEN	39	24	46	11	32	22	.6	-.1	.1	.1	24	.0	0	98	70	0	6	0	0
HURON	41	28	48	17	34	21	.0	-.1	.0	.1	15	.0	0	94	67	0	4	0	0
RAPID CITY	48	21	58	16	35	12	.0	-.1	.0	.0	8	.0	0	72	32	0	7	0	0
SIoux FALLS	36	29	45	20	32	18	.1	-.1	.1	.2	27	.2	17	100	89	0	7	1	0
TN CHATTANOOGA	50	39	54	28	45	6	2.3	1.1	1.7	10.3	176	2.3	328	94	69	0	2	3	2
KNOXVILLE	51	38	62	26	45	6	1.9	.8	1.6	12.1	233	1.9	307	98	66	0	2	3	1
MEMPHIS	48	37	59	32	43	2	.4	-.7	.4	7.5	138	.4	69	94	60	0	1	1	0
NASHVILLE	48	39	54	33	43	5	.9	-.2	.8	8.2	157	.9	146	97	77	0	0	3	1
TX ABILENE	57	37	62	32	47	3	.1	-.1	.1	6.3	640	.1	50	90	54	0	1	1	0
AMARILLO	54	28	61	24	41	5	.1	.0	.1	2.2	407	.0	0	88	35	0	6	1	0
AUSTIN	63	43	71	35	53	4	.9	-.6	.7	15.1	674	.9	465	95	53	0	0	2	1
BEAUMONT	62	41	67	36	52	-1	.2	-.0	.1	11.6	212	.2	5	99	51	0	0	1	0
BROWNSVILLE	69	56	74	42	63	2	.2	.0	.1	1.3	102	.1	79	96	69	0	0	3	0
CORPUS CHRISTI	66	51	69	43	58	2	.4	-.1	.4	9.8	696	.1	11	97	67	0	0	5	0
DEL RIO	63	47	68	39	55	4	.2	-.1	.1	3.1	515	.1	133	79	54	0	0	2	0
EL PASO	58	36	67	29	47	3	.4	-.0	.3	3.3	807	.3	40	82	36	0	2	1	0
FORT WORTH	61	40	69	35	50	6	.1	-.0	.1	9.1	466	.3	150	95	54	0	0	2	0
GALVESTON	60	49	64	44	55	0	.1	-.7	.1	2.4	61	.1	21	90	65	0	0	1	0
HOUSTON	64	40	69	36	52	-1	.1	-.7	.1	9.5	223	.1	26	96	47	0	0	2	0
LUBBOCK	57	31	62	25	44	5	.1	.0	.1	2.3	561	.1	120	95	38	0	4	1	0
MIDLAND	60	33	65	25	47	3	.2	-.1	.2	2.4	498	.2	320	93	37	0	3	1	0
SAN ANGELO	63	37	68	32	50	4	.4	-.1	.1	4.0	571	.2	25	97	52	0	2	1	0
SAN ANTONIO	67	46	69	34	53	2	.9	-.6	.4	14.8	972	.8	482	96	56	0	0	4	0
VICTORIA	67	46	72	38	56	3	.2	-.2	.2	6.5	270	.2	88	94	52	0	0	1	0
WACO	62	41	70	34	52	5	.2	-.2	.2	8.7	410	.2	100	97	53	0	0	2	0
WICHITA FALLS	56	34	61	30	45	4	.1	-.2	.1	7.0	531	.1	15	95	57	0	2	2	0
UT CEDAR CITY	38	24	40	16	31	2	.1	-.1	.0	.4	58	.1	75	97	64	0	7	2	0
SALT LAKE CITY	34	23	38	17	29	0	.2	-.1	.2	.6	38	.2	100	92	74	0	7	5	0
VT BURLINGTON	35	12	43	3	24	5	.6	-.1	.4	1.7	65	.4	146	95	58	0	7	2	0
VA NORFOLK	53	44	63	38	49	8	3.9	3.1	2.8	5.6	156	3.2	683	97	80	0	0	4	2
RICHMOND	50	40	57	29	45	8	1.7	1.0	.8	5.4	141	.9	200	93	71	0	1	4	2
ROANOKE	50	34	60	18	42	6	1.9	1.2	1.8	5.5	167	1.8	511	88	57	0	2	4	1
WA QUILLAYUTE	49	38	53	32	43	4	3.7	.0	1.4	14.2	73	3.5	170	99	73	0	1	7	4
SEATTLE-TACOMA	49	39	51	37	44	5	1.3	-.1	.4	4.5	63	1.2	147	94	61	0	0	5	0
SPOKANE	36	28	40	25	32	6	.4	-.2	.2	1.7	58	.4	120	98	81	0	7	3	0
YAKIMA	42	31	47	27	36	8	.4	-.3	.3	.3	20	.3	5	99	76	0	4	2	0
WV BECKLEY	44	34	53	24	39	8	.3	-.5	.2	6.5	183	.1	23	91	74	0	3	4	0
CHARLESTON	51	35	61	26	43	9	.1	-.7	.1	5.9	159	.2	2	91	63	0	3	3	0
HUNTINGTON	48	34	52	24	41	7	.4	-.4	.2	5.7	159	.3	72	97	69	0	3	4	0
PARKERSBURG	48	31	56	24	40	7	.2	-.4	.1	5.2	169	.1	26	99	72	0	3	2	0
WI GREEN BAY	34	29	37	24	32	16	.1	-.2	.1	1.5	96	.1	47	97	81	0	6	2	0
LACROSSE	35	31	39	27	33	17	.2	-.2	.1	1.7	138	.2	0	92	77	0	6	0	0
MADISON	34	29	37	25	32	14	.1	-.2	.1	1.8	105	.1	31	94	81	0	6	1	0
MILWAUKEE	36	32	42	29	34	14	.1	-.3	.1	2.1	91	.1	46	92	76	0	4	1	0
WAUSAU	34	25	39	20	30	17	.1	-.1	.1	1.5	108	.1	85	99	80	0	7	2	0
WY CASPER	37	20	43	14	29	5	.2	-.1	.1	.3	62	.2	0	72	38	0	7	0	0
CHEYENNE	41	22	47	15	32	4	.1	.0	.1	.1	34	.2	20	69	33	0	7	2	0
LANDER	25	3	35	0	14	-6	.0	-.1	.0	.3	49	.0	0	90	57	0	7	0	0
SHERIDAN	40	17	45	12	28	7	.0	-.2	.0	.6	66	.0	0	80	47	0	7	0	0

Based on 1951-80 normals.

## HEATING DEGREE DAYS (Base 65° F) December 29, 1991 - January 4, 1992

(Cumulative totals and departures from normal are for the period July 1, 1991 - January 4, 1992)

STATES AND STATIONS	WEEKLY		CUMULATIVE		STATES AND STATIONS	WEEKLY		CUMULATIVE		STATES AND STATIONS	WEEKLY		CUMULATIVE				
	TOTAL	DEPARTURE	TOTAL	DEPARTURE		TOTAL	DEPARTURE	TOTAL	DEPARTURE		TOTAL	DEPARTURE	TOTAL	DEPARTURE			
AL BIRMINGHAM	132	-20	1122	-98	142	NEW ORLEANS	106	15	656	51	175	CINCINNATI	183	-61	1986	-138	161
MOBILE	109	9	777	69	231	SHREVEPORT	119	-12	936	-14	-15	DAYTON	198	-62	2206	-71	153
MONTGOMERY	119	-7	959	-5	199	ME CARIBOU	360	-17	3874	-114	206	TOLEDO	211	-74	2388	-239	63
AK ANCHORAGE	311	-60	4635	-396	-614	PORTLAND	263	-37	2771	-206	339	YOUNGSTOWN	213	-64	2397	-200	170
BARRON	576	23	9125	161	276	MD BALTIMORE	175	-46	1783	-80	235	OK OKLAHOMA CITY	137	-62	1501	-37	07
FAIRBANKS	497	-54	6450	-281	-222	SALISBURY	141	-63	1586	-136	138	TULSA	142	-62	1435	-102	20
JUNEAU	200	-95	3746	-380	-429	MA BOSTON	198	-45	1996	-124	283	OR ASTORIA	136	-30	2088	-114	-69
KODIAK	238	-2	3796	-208	-123	CHATHAM	178	-53	1922	-246	147	BURNS	267	-6	2936	-78	-558
NOME	450	26	5801	-529	-103	MI ALPENA	253	-67	3194	-127	107	MEDFORD	191	-9	1713	-342	-452
AZ FLAGSTAFF	271	12	2692	-299	-289	DETROIT	218	-64	2399	-209	104	FENDLETON	206	-16	2143	-143	-231
PHOENIX	65	-26	405	-187	-38	FLINT	231	-66	2705	-69	89	PORTLAND	155	-27	1607	-358	-282
PRESCOTT	213	10	1793	-187	-153	GRAND RAPIDS	236	-55	2732	-4	173	SALEM	152	-30	1733	-347	-319
TUCSON	86	-13	614	-79	10	HOUGHTON LAKE	250	-74	3177	-151	46	PA ALLENTOWN	202	-57	2098	-222	89
WINSLOW	254	16	2198	116	-164	LANSING	235	-59	2799	35	160	ERIE	199	-73	2186	-379	153
YUMA	56	-14	275	-141	-114	MARQUETTE	257	-104	3978	82	68	HARRISBURG	198	-47	1968	-165	117
AR FORT SMITH	151	-37	1372	-86	-52	MUSKEGON	227	-56	2648	-44	117	PHILADELPHIA	165	-66	1663	-266	150
LITTLE ROCK	144	-28	1243	-88	01	SAULT ST MARIE	260	-89	3554	-157	-14	PITTSBURGH	192	-67	2166	-232	156
CA BAKERSFIELD	108	-18	915	4	-159	MN ALEXANDRIA	238	-165	3757	13	134	SCRANTON	227	-45	2353	-186	180
EUREKA	102	-24	1843	-257	-72	DULUTH	255	-144	4213	127	184	RI PROVIDENCE	191	-61	1978	-294	134
FRESNO	117	-30	971	-168	-201	INT'L FALLS	259	-184	4385	-71	46	SC CHARLESTON	98	-24	736	-141	177
LOS ANGELES	46	-17	313	-229	-36	MINNEAPOLIS	227	-137	3472	214	269	COLUMBIA	123	-17	1039	-70	160
REDDING	139	-1	1001	-91	-206	ROCHESTER	246	-121	3614	243	267	FLORENCE	116	-24	949	-104	183
SACRAMENTO	111	-36	976	-155	-223	SAINT CLOUD	238	-154	3799	105	129	GREENVILLE	123	-44	1255	-103	157
SAN DIEGO	43	-20	282	-152	-103	MS GREENWOOD	135	-12	1035	-126	51	SD ABERDEEN	234	-150	3404	-129	-113
SAN FRANCISCO	98	-21	959	-334	-77	JACKSON	134	1	956	-47	64	HURON	213	-151	3224	-111	-134
STOCKTON	125	-22	1001	-115	-187	MERIDIAN	124	-9	962	-99	147	RAPID CITY	212	-88	2902	-99	-134
CO DENVER	230	-14	2574	92	141	MO CAPE GIRARDEAU	170	-58	1688	-136	10	STIOUX FALLS	226	-131	3273	26	-38
GRAND JUNCTION	303	23	2525	74	-184	COLUMBIA	197	-58	2106	-3	107	TN CHATTANOOGA	139	-43	1375	-142	182
PUEBLO	212	-33	2516	199	138	KANSAS CITY	194	-71	2213	78	151	KNOXVILLE	143	-41	1494	-54	173
CT BRIDGEPORT	199	-41	1880	-132	167	SAINT LOUIS	195	-50	1833	-174	75	MEMPHIS	153	-20	1232	-102	77
HARTFORD	232	-41	2256	-216	231	SPRINGFIELD	174	-54	1834	-73	45	NASHVILLE	150	-40	1452	-108	138
DE WILMINGTON	171	-59	1730	-217	93	MT BILLINGS	211	-89	2800	-188	-137	TX ABILENE	126	-23	1220	100	65
DC WASHINGTON	158	-45	1477	-148	161	GLASGOW	288	-94	3417	-290	-319	AMARILLO	168	-36	1934	158	113
FL APALACHICOLA	80	-4	553	7	213	GREAT FALLS	197	-116	2955	-269	-339	AUSTIN	82	-30	694	-34	03
DAYTONA BEACH	44	-12	247	-77	104	HAVRE	254	-111	3352	-305	-269	BEAUMONT	92	1	609	4	18
FORT MYERS	8	-20	71	-77	39	HELENA	328	6	3395	-124	75	BROWNSVILLE	19	-24	265	35	-15
JACKSONVILLE	83	-4	536	-36	193	KALISPELL	263	-51	3464	-242	-163	CORPUS CHRISTI	44	-19	377	-6	-16
KEY WEST	0	-7	0	-27	-3	MILES CITY	245	-99	3029	-281	-206	DEL RIO	69	-30	624	-51	26
MIAMI	2	-12	10	-44	06	MISSOULA	306	2	3221	-236	-200	EL PASO	126	-28	1168	-63	31
ORLANDO	33	-9	176	-54	84	NE GRAND ISLAND	203	-100	2640	-56	49	FORT WORTH	101	-35	996	52	-57
TALLAHASSEE	89	-9	677	-9	226	LINCOLN	200	-108	2560	-51	103	GALVESTON	70	-6	460	-1	31
TAMPA	36	-13	207	-59	116	NORFOLK	217	-107	2874	-32	35	HOUSTON	90	-1	653	15	-7
WEST PALM BEACH	9	-5	41	-33	28	NORTH PLATTE	238	-62	2750	-167	-126	LUBBOCK	147	-34	1581	83	164
GA ATLANTA	133	-28	1088	-172	134	OMAHA	210	-93	2671	144	74	MIDLAND ODESSA	127	-20	1338	177	180
AUGUSTA	116	-24	1014	-72	164	SCOTTSBLUFF	236	-47	2766	-68	-122	SAN ANGELO	106	-28	1111	106	24
MACON	109	-17	916	-46	118	VALENTINE	245	-72	3033	-13	-87	SAN ANTONIO	81	-19	653	-23	-42
SAVANNAH	92	-20	674	-132	141	NV ELY	253	-34	3033	-195	-196	VICTORIA	58	-19	494	-11	-33
ID BOISE	226	-22	2425	-64	-419	LAS VEGAS	147	-2	1010	-93	-146	WACO	92	-37	864	-3	-49
LEWISTON	191	-38	2157	-214	79	RENO	219	-19	2043	-566	-419	WICHITA FALLS	141	-29	1269	0	-43
POCATELLO	263	-25	3003	-11	-153	WINNEMUCCA	242	-11	2492	-285	-552	UT BLANDING	268	2	2320	-250	-251
IL CHICAGO	207	-89	2595	60	124	NH CONCORD	258	-53	2829	-207	240	CEDAR CITY	239	-13	2437	-52	-314
MOLINE	216	-92	2609	5	25	NJ ATLANTIC CITY	174	-52	1837	-105	131	SALT LAKE CITY	254	-5	2380	-77	-238
PEORIA	209	-86	2482	-28	27	NM ALBUQUERQUE	216	-1	1827	-92	-98	VT BURLINGTON	288	-40	2967	-192	261
QUINCY	213	-68	2355	31	107	CLOVIS	174	-22	1903	170	279	VA LYNCHBURG	155	-49	1599	-176	111
ROCKFORD	231	-87	2791	-8	29	ROSWELL	160	-8	1569	146	291	NORFOLK	113	-56	1154	-158	192
SPRINGFIELD	207	-66	2246	-16	30	NY ALBANY	274	-25	2597	-160	235	RICHMOND	141	-55	1393	-225	158
IN EVANSVILLE	175	-58	1844	-96	97	BINGHAMTON	235	-63	2627	-282	-10	ROANOKE	159	-44	1584	-208	197
FORT WAYNE	211	-72	2399	-116	113	BUFFALO	223	-58	2470	-150	166	WA COLVILLE	239	-44	2929	-259	-270
INDIANAPOLIS	191	-72	2110	-169	23	NEW YORK	175	-51	1576	-265	168	QUILLAYUTE	149	-32	2310	-269	-142
SOUTH BEND	208	-75	2468	-41	155	ROCHESTER	238	-41	2563	-28	167	SEATTLE-TACOMA	145	-36	1763	-421	-313
IA DES MOINES	225	-89	2748	120	120	SYRACUSE	245	-41	2510	-118	137	SPOKANE	229	-44	2735	-269	-307
DUBUQUE	241	-94	3047	64	84	NC ASHEVILLE	160	-36	1650	-159	200	YAKIMA	198	-59	2398	-284	-363
SIoux CITY	221	-110	2972	129	96	CAPE HATTERAS	68	-65	728	-210	77	WV BECKLEY	180	-59	2491	168	642
WATERLOO	229	-116	3102	29	59	CHARLOTTE	139	-29	1133	-262	146	CHARLESTON	154	-65	1720	-221	209
KS CONCORDIA	184	-88	2284	8	67	GREENSBORO	143	-46	1408	-197	169	HUNTINGTON	165	-54	1761	-173	178
DODGE CITY	191	-52	2176	97	62	NEW BERN	92	-61	946	-202	115	PARKERSBURG	176	-53	1953	-55	221
GOODLAND	258	-5	2484	-59	12	RALEIGH-DURHAM	127	-48	1277	-182	193	WI GREEN BAY	232	-114	3213	-44	125
TOPEKA	186	-79	2125	-69	55	WILMINGTON	99	-34	925	-61	223	LA CROSSE	226	-119	3223	173	288
WICHITA	162	-79	1960	-7	-3	ND BISMARCK	257	-136	3613	-158	-212	MADISON	230	-105	3041	-65	99
KY BOWLING GREEN	165	-46	1661	-126	131	FARGO	233	-178	3784	-51	103	MILWAUKEE	213	-100	2651	-200	123
LEXINGTON	169	-57	1819	-136	117	GRAND FORKS	244	-181	3988	-95	44	WAUSAU	247	-119	3622	130	225
LOUISVILLE	158	-62	1632	-207	89	WILLISTON	276	-120	3646	-233	-213	WY CASPER	254	-43	3090	-98	-133
LA ALEXANDRIA	109	-3	805	-10	-8	OH AKRON-CANTON	197	-73	2347	-115	156	CHEYENNE	233	-35	2972	-35	-84
BATON ROUGE	95	-3	684	-17	74	CLEVELAND	191	-74	2202	-198	58	LANDER	351	36	3434	66	76
LAKE CHARLES	94	0	655	3	26	COLUMBUS	180	-76	2100	-192	125	SHERIDAN	255	-57	3176	-125	-63

Based on 1951-80 normals.

# December Weather and Crop Summary

## Weather

During the past two Decembers, severe freezes highlighted monthly weather stories. In 1989, Texas and Florida suffered. In 1990, California absorbed an arctic blow. But in December 1991, arctic outbreaks were non-existent. Instead, severe flooding battered eastern Texas, and late-month rains quelled drought concerns in California.

Cold air covered the eastern Canadian Border States until the 5th, then receded into Canada, not to return for the duration of the month. Especially mild conditions prevailed in the northern Plains, where temperatures averaged up to 9° F above normal, leaving winter wheat fields free of protective snow cover. Only northern Maine (clipped by cold airmasses) and mountain valleys in the central Rockies (chilled by nighttime radiational cooling) had temperatures more than 2° F below normal for December.

Two storms during the first 10 days of the month (December 1-3 and 8-9) dropped heavy rain from eastern Texas to the mid-Atlantic region. Widespread minor flooding occurred from eastern Texas to the Tennessee Valley. After the 10th, storms aimed their fury farther west. As a result, monthly precipitation exceeded twice the normal values from the Southwest to the central and southern Plains.

The event of the month was an inundating 6-day rainfall in the southern Plains. East-central Texas (from Dallas to San Antonio) endured more than 6 inches of rain. The runoff caused massive flooding along the Trinity, Brazos, Colorado, and Guadalupe Rivers, all of which drain south-eastward toward the Gulf of Mexico, and their tributaries. Monthly rainfall records fell in several cities, including:

City	1991	Previous Record	
	Inches	Inches	Year
Carlsbad, NM	3.60	3.22	1914
Roswell, NM	2.67	2.66	1943
Austin, TX	14.16	5.91	1944
Corpus Christi, TX	9.80	8.13	1937
San Antonio, TX	13.96	7.11	1986
Wichita Falls, TX	6.93	6.12	1911

In addition, Austin achieved its all-time wettest year (52.21 inches), topping the 51.30-inch total set in 1957.

A second, weaker storm aggravated flooding in southeastern Texas between the 25th and 27th. The storm strengthened as it moved eastward, dropping beneficial moisture on the Southeast, drier than normal since late August. However, Florida remained unusually dry for the third month in a row. Elsewhere, the Pacific Northwest and the northern Plains had generally less than half of the normal precipitation, as storms primarily passed to the south.

At month's end, two storms crossed California, providing much-needed moisture to the State, especially in the south. Until the 27th, this year's rainy season (most of the State's rain falls between October and April) had closely matched last year's near-record autumn and early winter dryness.

## Fieldwork

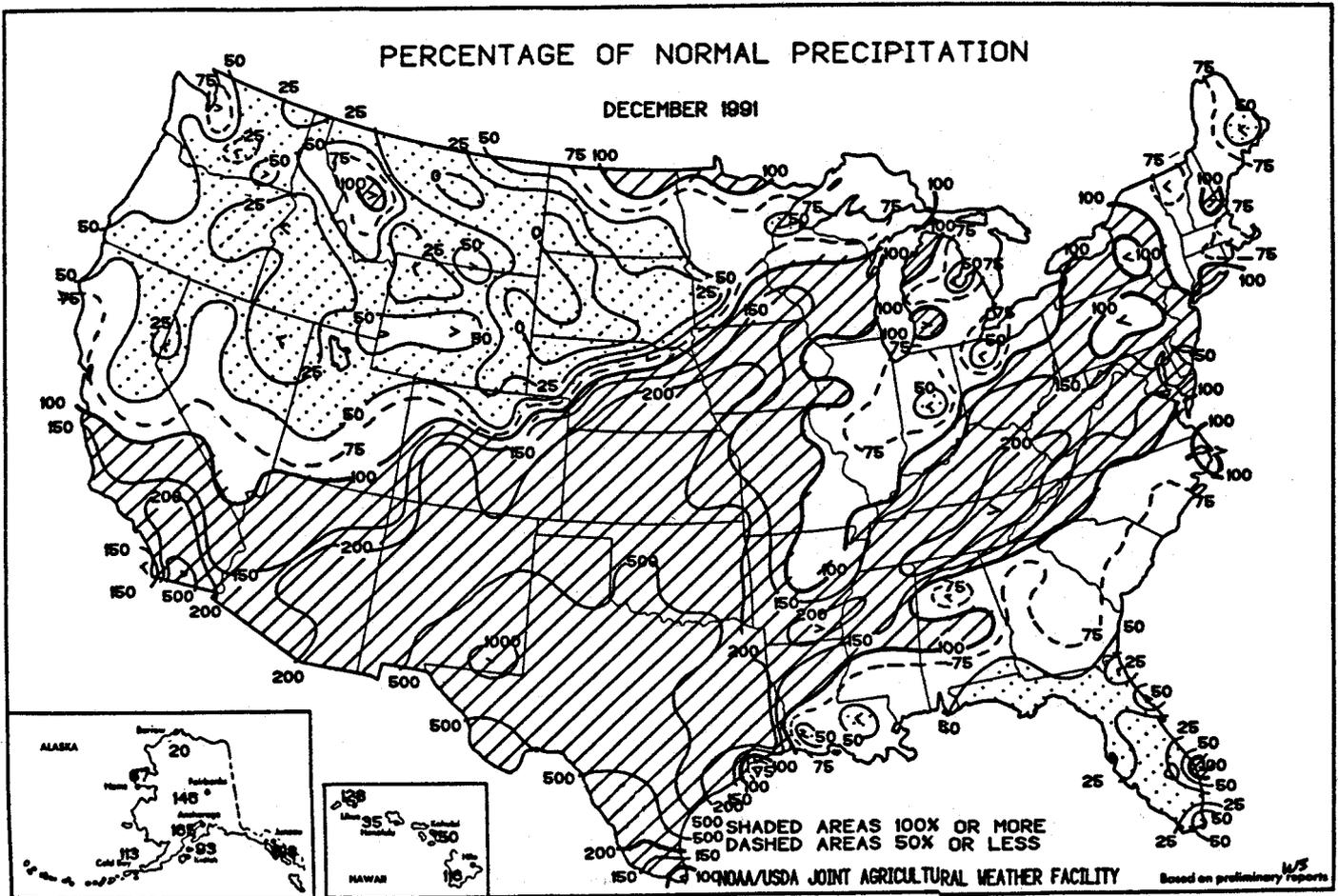
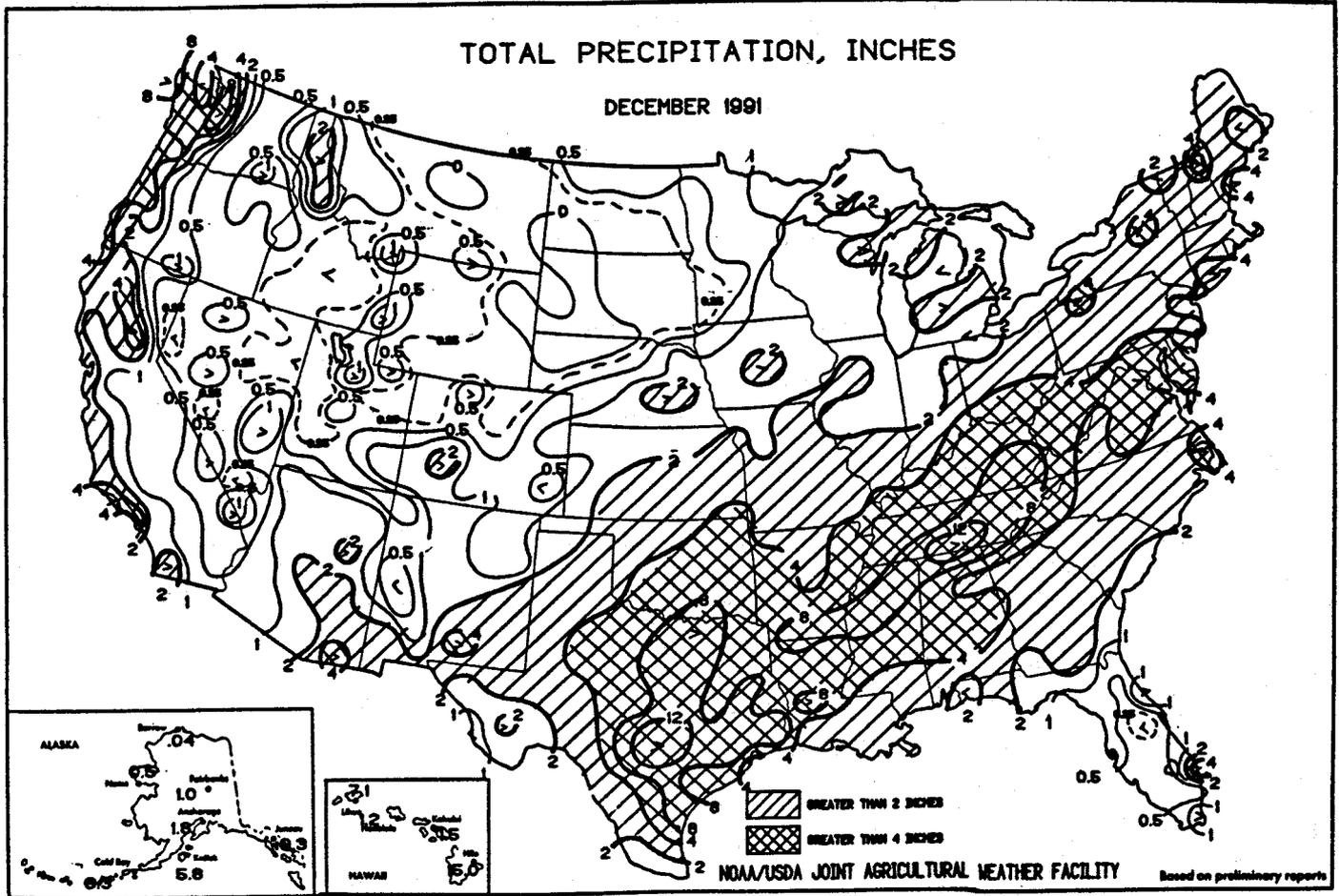
The passage of several storm fronts during December replenished supplies of soil moisture in most parts of the Nation, but delayed the completion of late-season activities. **Small grain** seeding was continuing in the Southeast, southern Great Plains, Delta, and Southwest entering December. Fieldwork was suspended by rains in Texas and Oklahoma during much of the month, while seeding was completed in the Southeast and advanced to the latter stages in the Southwest. Well-above-normal temperatures prevailed during the month, melting much of the snow cover in the North Central and Rocky Mountain States. Fall-seeded grains were left vulnerable to freeze, but grains were favored by the mild temperatures of the month. At the end of the month, winter wheat condition remained mainly fair to good.

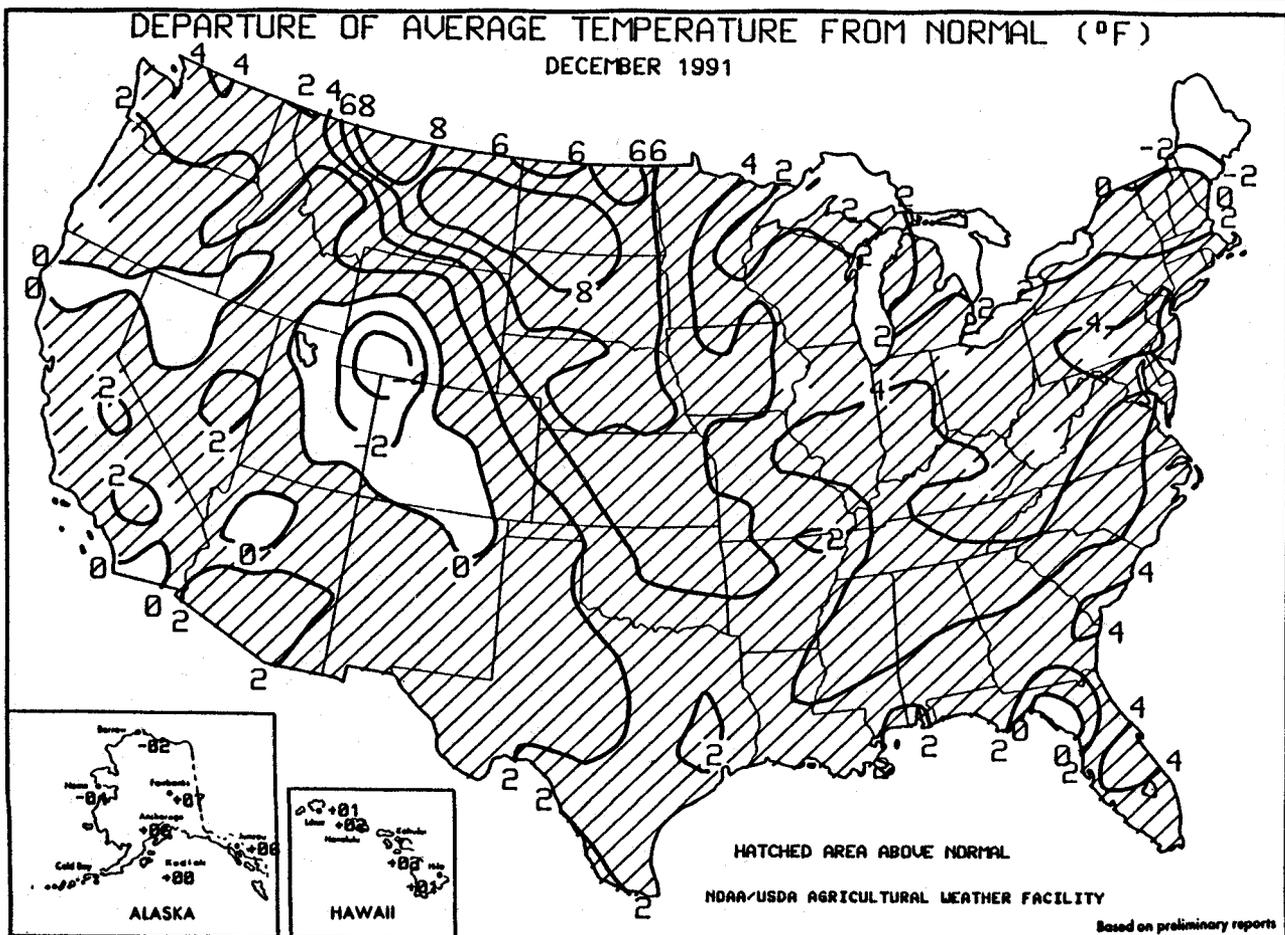
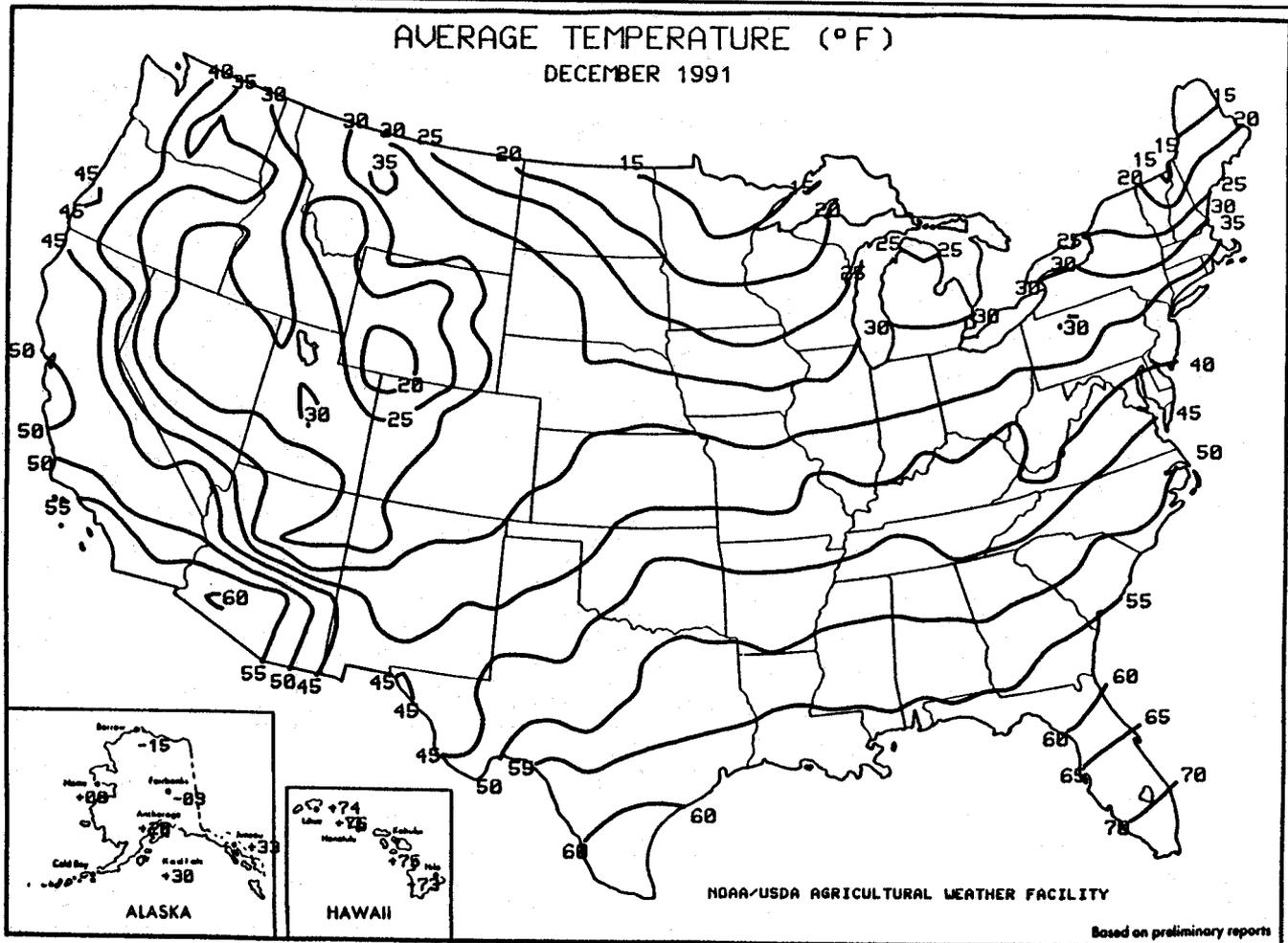
Late-season row crop harvests were also in the latter stages entering December. **Corn** harvest was slowed by snow and mud in Iowa during early December, while weather conditions permitted the harvest of late fields in New York and the Pacific Northwest. Efforts to harvest remaining corn in Iowa were persistently hampered by storms during the month, and it was feared that some fields might remain unharvested until spring. By the end of the month, however, weather conditions improved and harvest was virtually completed.

**Soybean** harvest was very near completion in the Atlantic and Gulf Coast States in early December and predominately dry weather along the Atlantic Coast allowed the completion of harvest before the Holidays. Rains, meanwhile, delayed the completion of harvest in Texas and the Delta. By the end of the month, a few fields along Texas' Upper Coast and High Plains remained unharvested.

Early in December, **cotton** harvest was progressing rapidly, as mostly dry weather prevailed from California through western Oklahoma. Harvest was also active, though well along, in the Southeast. Rain showers halted activities during the second week of the month in Texas and Oklahoma, and frequent rains through the end of the month hampered efforts to complete picking. Harvest was completed under more favorable conditions in the Southeast and Southwest, and stalk shredding and plowing for the control of boll worm was completed. Some Texas and Oklahoma fields remained too wet for harvest at the end of the month, and excess moisture was lowering yields and quality in unharvested fields.

**Sorghum** harvest was completed during the first half of the month, as progress advanced rapidly in New Mexico and the Texas High Plains.





# TEMPERATURE AND PRECIPITATION SUMMARY

## December 1991

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	49	4	3.6	-1.3	LA ALEXANDRIA	55	4	7.0	2.1	TOLEDO	33	4	1.5	-1.1
AL HUNTSVILLE	47	4	12.0	6.6	LA BATON ROUGE	57	4	2.4	-2.6	TOLEDO YOUNGSTOWN	33	3	2.5	-0.2
AL MOBILE	55	1	3.1	-2.3	LA LAKE CHARLES	57	3	2.2	-2.9	OK OKLAHOMA CITY	44	4	5.9	4.7
AL MONTGOMERY	51	2	5.5	0.8	LA NEW ORLEANS	58	3	2.6	-2.6	OK TULSA	45	5	4.6	2.8
AK ANCHORAGE	20	7	1.8	0.8	LA SHREVEPORT	51	2	7.5	3.6	OR ASTORIA	44	1	6.6	-5.0
AK BARROW	-15	-2	T	-0.1	ME CARIBOU	13	-3	2.1	-1.0	OR BURNS	29	2	0.3	-1.3
AK FAIRBANKS	-3	7	1.0	0.3	ME PORTLAND	26	0	4.1	-0.4	OR MEDFORD	38	1	1.1	-2.4
AK JUNEAU	34	5	9.3	4.6	MD BALTIMORE	39	2	4.1	0.7	OR FENDLETON	37	1	0.7	-1.0
AK KODIAK	31	0	5.8	0.3	MD SALLISBURY	41	3	4.2	0.5	OR PORTLAND	43	2	4.3	-2.1
AK NOME	0	-4	0.5	-0.2	MA BOSTON	36	2	2.6	-1.9	OR SALEM	42	1	3.7	-3.4
AZ FLAGSTAFF	30	0	2.7	0.4	MA CHATHAM	37	2	3.0	-1.9	PA ALLENTOWN	36	4	3.5	-0.2
AZ PHOENIX	57	4	1.6	0.8	MI ALPENA	25	1	1.4	-0.5	PA ERIE	35	3	3.2	-0.1
AZ PRESCOTT	37	-2	1.7	0.6	MI DETROIT	32	3	1.9	-0.6	PA HARRISBURG	37	4	3.5	0.3
AZ TUCSON	54	2	1.4	0.5	MI FLINT	29	2	2.2	0.2	PA PHILADELPHIA	40	4	3.9	0.4
AZ WINSLOW	31	-2	1.3	0.7	MI GRAND RAPIDS	29	2	2.6	0.1	PA PITTSBURGH	35	3	3.7	1.1
AR YUMA	58	2	0.6	0.2	MI HOUGHTON LAKE	25	2	1.8	-0.1	PA SCRANTON	33	3	2.7	0.2
AR FORT SMITH	45	4	4.4	1.6	MI LANSING	29	2	2.1	-0.3	PA WILLIAMSPORT	34	3	3.2	-0.0
AR LITTLE ROCK	47	3	3.8	-0.4	MI MARQUETTE	20	2	1.5	-0.9	RI PROVIDENCE	36	4	3.2	-1.3
CA BAKERSFIELD	48	0	1.0	0.3	MI MUSKEGON	31	2	1.8	-0.8	SC CHARLESTON	54	4	1.6	-1.5
CA BISHOP	39	0	0.6	-0.4	MI SAULT ST. MARIE	21	2	2.5	0.0	SC COLUMBIA	50	3	2.6	-0.9
CA EUREKA	48	0	2.4	-3.8	MN ALEXANDRIA	18	4	0.6	-0.2	SC FLORENCE	51	4	2.0	-1.0
CA FRESNO	47	2	1.2	-0.4	MN DULUTH	16	2	0.6	-0.7	SD GREENVILLE	47	4	2.9	-1.1
CA LOS ANGELES	59	2	2.9	1.3	MN INT'L FALLS	13	5	0.9	0.0	SD ABERDEEN	24	8	0.1	-0.3
CA REDDING	46	-1	5.1	-1.9	MN MINNEAPOLIS	21	2	1.0	0.2	SD HURON	26	7	0.1	-0.4
CA SACRAMENTO	46	1	1.6	-1.3	MN ROCHESTER	22	4	1.5	0.6	SD RAPID CITY	33	7	T	-0.4
CA SAN DIEGO	57	0	1.7	0.4	MN ST. CLOUD	17	2	0.5	-0.4	SD SIOUX FALLS	26	6	0.2	-0.5
CA SAN FRANCISCO	51	2	2.7	-0.8	MS GREENWOOD	50	4	8.4	3.0	TN BRISTOL	41	3	6.7	3.2
CA STOCKTON	46	0	0.8	-1.6	MS JACKSON	52	4	5.3	-0.1	TN CHATTANOOGA	45	3	8.0	2.9
CO ALAMOSA	5	-13	1.0	0.6	MS MERIDIAN	52	4	6.8	1.2	TN KNOXVILLE	44	2	10.2	5.7
CO CO. SPRINGS	31	0	0.5	0.2	MS TUPELO	48	4	10.9	5.3	TN MEMPHIS	47	3	7.1	2.3
CO DENVER	33	1	0.2	-0.3	MO CAFE GIRARDEAU	--	--	5.0	1.3	TN NASHVILLE	44	4	7.3	2.7
CO GRAND JUNCTION	26	-2	0.5	0.0	MO COLUMBIA	37	4	2.7	0.7	TX ABILENE	47	0	6.3	5.4
CO PUEBLO	32	-1	0.5	0.2	MO KANSAS CITY	36	3	2.1	0.6	TX AMARILLO	39	1	2.2	1.8
CT BRIDGEPORT	37	3	4.3	0.5	MO SAINT LOUIS	39	5	2.1	-0.1	TX AUSTIN	55	2	14.2	12.1
CT HARTFORD	33	3	3.0	-1.2	MO SPRINGFIELD	40	4	3.4	0.8	TX BEAUMONT	57	3	11.6	6.9
DC WASHINGTON	42	3	5.1	1.9	MT BILLINGS	34	7	0.3	-0.5	TX BROWNSVILLE	64	2	1.2	0.0
FL APALACHICOLA	57	2	1.5	-2.0	MT GLASGOW	25	8	0.2	-0.2	TX CORPUS CHRISTI	62	3	9.8	8.6
FL DAYTONA BEACH	64	3	1.5	-0.7	MT GREAT FALLS	35	9	0.1	-0.7	TX DEL RIO	55	3	3.1	2.5
FL FT. MYERS	69	4	0.3	-1.3	MT HAVRE	28	8	T	-0.5	TX EL PASO	46	2	3.3	2.9
FL JACKSONVILLE	58	2	0.6	-1.9	MT HELENA	23	-1	0.8	0.2	TX FORT WORTH	50	3	8.8	7.0
FL KEY WEST	73	2	0.7	-1.0	MT KALISPELL	29	5	0.6	-0.9	TX GALVESTON	59	2	2.4	-1.2
FL MIAMI	72	3	0.2	-1.6	MT MILES CITY	31	9	0.1	-0.5	TX HOUSTON	56	1	9.3	5.6
FL ORLANDO	65	4	0.2	-1.7	MT MISSOULA	27	2	1.0	-0.2	TX LAREDO	59	2	2.8	1.9
FL TALLAHASSEE	56	2	1.6	-3.0	NE GRAND ISLAND	33	6	2.1	1.5	TX LUBBOCK	43	2	2.2	1.8
FL TAMPA	65	3	0.7	-1.4	NE LINCOLN	34	7	2.0	1.4	TX MIDLAND	46	0	2.2	1.8
FL WEST PALM BEACH	70	3	4.4	2.1	NE NORFOLK	31	7	0.8	0.2	TX SAN ANGELO	49	1	4.0	3.4
GA ATHENS	49	4	3.2	-0.9	NE NORTH PLATTE	33	7	0.7	0.3	TX SAN ANTONIO	56	2	14.0	12.6
GA ATLANTA	49	4	2.7	-1.5	NE OMAHA	32	5	1.9	1.1	TX VICTORIA	59	3	6.3	4.2
GA AUGUSTA	50	3	2.5	-0.6	NE SCOTTSBLUFF	32	4	T	-0.5	TX WACO	52	3	8.4	6.6
GA MACON	52	3	3.6	-0.4	NE VALTEINE	30	5	T	-0.3	TX WICHITA FALLS	47	3	6.9	5.7
GA SAVANNAH	56	5	1.8	-1.0	NV ELKO	27	1	T	-1.0	UT BLANDING	--	--	1.4	0.1
HI HILO	73	1	15.0	2.2	NV ELY	28	3	0.3	-0.5	UT CEDAR CITY	32	1	0.4	-0.3
HI HONOLULU	76	2	1.2	-2.2	NV LAS VEGAS	47	2	0.2	-0.1	UT SALT LAKE CITY	30	0	0.4	-1.0
HI KAHULUI	75	2	1.5	-1.4	NV RENO	34	1	0.2	-1.0	VT BURLINGTON	24	1	1.4	-1.1
HI LIHUE	74	1	7.0	1.6	NV WINNEMUCCA	29	-1	0.6	-0.2	VA LYNCHBURG	42	4	5.5	2.3
ID BOISE	32	0	0.4	-1.0	NH CONCORD	25	1	3.6	0.2	VA NORFOLK	48	3	2.4	-0.7
ID LEWISTON	38	3	0.4	-0.9	NH ATLANTIC CITY	39	2	3.8	0.2	VA RICHMOND	44	4	4.5	1.2
ID POCATELLO	26	0	0.2	-0.7	NM ALBUQUERQUE	37	2	1.5	1.0	VA ROANOKE	42	4	3.8	0.9
IL CAIRO	--	--	4.7	0.5	NM CLOVIS	39	0	2.9	2.3	VA WALLA WALLA	33	4	0.5	-2.0
IL CHICAGO	30	3	1.7	-0.6	NM ROSWELL	42	1	2.7	2.4	VA QUILLAYUTE	44	3	10.7	-6.8
IL MOLINE	31	4	1.9	0.0	NY ALBANY	29	2	2.9	-0.1	VA SEATTLE-TACOMA	44	3	3.3	-3.0
IL PEORIA	32	4	2.1	0.0	NY BINGHAMTON	30	4	2.7	-0.1	VA SPOKANE	33	4	1.2	-1.2
IL QUINCY	34	4	2.0	0.2	NY BUFFALO	31	2	3.8	0.4	VA WALLA WALLA	--	--	1.8	-0.4
IL ROCKFORD	28	3	1.8	-0.1	NY NEW YORK	40	4	3.5	-0.2	WV YAKIMA	35	3	0.3	-1.0
IL SPRINGFIELD	35	4	1.4	-0.7	NY ROCHESTER	31	2	2.9	0.3	WV BECKLEY	39	5	6.4	3.3
IN EVANSVILLE	39	4	3.7	0.3	NY SYRACUSE	31	2	3.1	-0.1	WV CHARLESTON	41	4	5.9	2.6
IN FORT WAYNE	33	4	2.1	-0.4	NC ASHEVILLE	43	3	4.9	1.7	WV ELKINS	36	4	6.1	2.8
IN INDIANAPOLIS	36	4	1.4	-1.5	NC CHARLOTTE	48	5	3.0	-0.4	WV HUNTINGTON	40	3	5.4	2.2
IN SOUTH BEND	32	3	1.7	-1.3	NC GREENSBORO	45	4	2.8	-0.6	WV PARKERSBURG	38	3	5.1	2.4
IA DES MOINES	31	5	2.2	1.2	NC HATTERAS	53	4	4.5	0.0	WI GREEN BAY	24	3	1.4	0.0
IA DUBUQUE	26	3	1.6	-0.3	NC NEW BERN	50	3	2.8	-0.9	WI LA CROSSE	24	2	1.7	0.6
IA SIOUX CITY	29	5	0.9	0.1	NC RALEIGH	47	5	2.6	-0.5	WI MADISON	26	3	1.7	0.2
IA WATERLOO	26	4	1.5	0.4	NC WILMINGTON	51	3	2.2	-1.3	WI MILWAUKEE	30	4	1.9	-0.1
KS CONCORDIA	37	5	1.6	1.0	ND BISMARCK	25	9	0.2	-0.3	WI WAUSAU	21	2	1.4	0.1
KS DODGE CITY	37	3	2.1	1.6	ND FARGO	19	6	0.4	-0.2	WI CASPER	28	2	0.3	-0.2
KS GOODLAND	34	3	1.2	0.8	ND GRAND FORKS	17	6	0.3	-0.3	WI CHEYENNE	32	2	0.1	-0.2
KS TOPEKA	37	5	2.4	1.2	ND WILLISTON	23	8	0.2	-0.4	WI LANDER	21	-2	0.3	-0.2
KS WICHITA	39	5	2.1	1.1	OH AKRON-CANTON	33	3	3.3	0.7	WI SHERIDAN	28	3	0.6	-0.1
KY BOWLING GREEN	41	3	7.1	2.6	OH CINCINNATI	37	3	5.1	2.1	PR SAN JUAN	77	-1	2.7	-1.7
KY JACKSON	42	8	9.4	5.9	OH CLEVELAND	35	3	2.3	-0.5					
KY LEXINGTON	40	4	7.2	3.4	OH COLUMBUS	36	4	3.8	1.2					
KY LOUISVILLE	41	4	5.2	1.8	OH DAYTON	35	3	3.6	1.2					
KY PADUCAH	42	4	3.8	-0.3	OH MANSFIELD	33	3	2.8	0.4					

Based on 1951-80 normals.

## HEATING DEGREE DAYS (Base 65° F) December 1991

STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL
AL BIRMINGHAM	491	-110	NEW ORLEANS	262	-74	CINCINNATI	853	-114
MOBILE	342	-40	SHREVEPORT	422	-83	DAYTON	935	-94
MONTGOMERY	447	-52	ME CARIBOU	1595	67	TOLEDO	986	-158
AK ANCHORAGE	1373	-214	PORTLAND	1191	-24	YOUNGSTOWN	999	-105
BARROW	2513	98	MD BALTIMORE	809	-75	OK OKLAHOMA CITY	642	-136
FAIRBANKS	2105	-223	SALISBURY	724	-88	TULSA	628	-153
JUNEAU	966	-218	MA BOSTON	894	-76	OR ASTORIA	631	-48
KODIAK	1061	-36	CHATHAM	856	-65	BURNS	1116	-47
NOME	2014	135	MI ALPENA	1233	-54	MEDFORD	820	-26
AZ FLAGSTAFF	1057	-34	DETROIT	1013	-119	PENDLETON	865	-34
PHOENIX	233	-135	FLINT	1098	-74	PORTLAND	685	-62
PRESCOTT	854	-8	GRAND RAPIDS	1098	-71	SALEM	717	-36
TUCSON	325	-78	HOUGHTON LAKE	1218	-87	PA ALLENTOWN	902	-137
WINSLOW	1052	51	LANSING	1114	-64	ERIE	934	-151
YUMA	223	-53	MARQUETTE	1394	-66	HARRISBURG	877	-103
AR FORT SMITH	603	-135	MUSKEGON	1061	-77	PHILADELPHIA	778	-137
LITTLE ROCK	557	-119	SAULT ST MARIE	1341	-63	PITTSBURGH	913	-129
CA BAKERSFIELD	514	-7	MN ALEXANDRIA	1440	-135	SCRANTON	989	-105
EUREKA	511	-7	DULUTH	1515	-72	RI PROVIDENCE	884	-130
FRESNO	551	-60	INT'L FALLS	1610	-151	SC CHARLESTON	349	-122
LOS ANGELES	190	-65	MINNEAPOLIS	1354	-66	COLUMBIA	477	-90
REDDING	579	-5	ROCHESTER	1342	-100	FLORENCE	448	-104
SACRAMENTO	571	-30	SAINT CLOUD	1472	-72	GREENVILLE	547	-123
SAN DIEGO	231	-9	MS GREENWOOD	446	-134	SD ABERDEEN	1264	-240
SAN FRANCISCO	434	-56	JACKSON	403	-110	HURON	1192	-234
STOCKTON	584	-21	MERIDIAN	411	-116	RAPID CITY	997	-209
CO DENVER	982	-22	MO CAPE GIRARDEAU	735	-154	SIOUX FALLS	1200	-204
GRAND JUNCTION	1193	55	COLUMBIA	861	-134	TN CHATTANOOGA	610	-119
PUEBLO	1014	16	KANSAS CITY	888	-138	KNOXVILLE	660	-81
CT BRIDGEPORT	871	-84	SAINT LOUIS	796	-159	MEMPHIS	556	-117
HARTFORD	990	-123	SPRINGFIELD	762	-131	NASHVILLE	628	-119
DE WILMINGTON	785	-130	MT BILLINGS	951	-224	TX ABILENE	562	-15
DC WASHINGTON	696	-113	GLASGOW	1237	-254	AMARILLO	798	-30
FL APALACHICOLA	258	-62	GREAT FALLS	925	-293	AUSTIN	332	-74
DAYTONA BEACH	114	-95	HAVRE	1148	-284	BEAUMONT	265	-62
FORT MYERS	32	-75	HELENA	1297	10	BROWNSVILLE	134	-16
JACKSONVILLE	261	-71	KALISPELL	1096	-169	CORPUS CHRISTI	172	-48
KEY WEST	0	-23	MILES CITY	1049	-300	DEL RIO	294	-94
MIAMI	0	-42	MISSOULA	1187	-56	EL PASO	576	-63
ORLANDO	76	-81	NE GRAND ISLAND	977	-210	FORT WORTH	456	-56
TALLAHASSEE	299	-84	LINCOLN	964	-226	GALVESTON	199	-68
TAMPA	98	-75	NORFOLK	1048	-226	HOUSTON	303	-46
WEST PALM BEACH	10	-47	NORTH PLATTE	971	-241	LUBBOCK	671	-58
GA ATLANTA	499	-137	OMAHA	1006	-166	MIDLAND ODESSA	587	-2
AUGUSTA	461	-100	SCOTTSBLUFF	1018	-135	SAN ANGELO	482	-45
MACON	429	-76	VALENTINE	1088	-183	SAN ANTONIO	306	-72
SAVANNAH	315	-129	NV ELY	1126	-83	VICTORIA	239	-52
ID BOISE	1026	3	LAS VEGAS	552	-56	WACO	401	-80
LEWISTON	842	-91	RENO	965	-43	WICHITA FALLS	558	-96
POCATELLO	1188	-2	WINNEMUCCA	1104	31	UT BLANDING	1078	-23
IL CHICAGO	1067	-89	NH CONCORD	1216	-40	CEDAR CITY	1040	-11
MOLINE	1049	-148	NJ ATLANTIC CITY	803	-102	SALT LAKE CITY	1078	2
PEORIA	1017	-136	NM ALBUQUERQUE	851	-60	VT BURLINGTON	1266	-48
QUINCY	962	-126	CLOVIS	798	1	VA LYNCHBURG	697	-131
ROCKFORD	1134	-112	ROSWELL	719	21	NORFOLK	542	-125
SPRINGFIELD	932	-131	NY ALBANY	1111	-83	RICHMOND	637	-141
IN EVANSVILLE	791	-120	BINGHAMTON	1071	-132	ROANOKE	695	-133
FORT WAYNE	985	-131	BUFFALO	1037	-85	WA COLVILLE	1059	-104
INDIANAPOLIS	902	-137	NEW YORK	758	-135	QUILLAYUTE	657	-93
SOUTH BEND	1012	-101	ROCHESTER	1057	-59	SEATTLE-TACOMA	654	-90
IA DES MOINES	1058	-160	SYRACUSE	1056	-82	SPOKANE	992	-124
DUBUQUE	1191	-120	NC ASHEVILLE	663	-134	YAKIMA	926	-113
SIOUX CITY	1115	-178	CAPE HATTERAS	394	-116	WV BECKLEY	812	-158
WATERLOO	1192	-152	CHARLOTTE	525	-169	CHARLESTON	729	-142
KS CONCORDIA	877	-183	GREENSBORO	619	-150	HUNTINGTON	756	-115
DODGE CITY	851	-119	NC NEW BERN	482	-116	PARKERSBURG	822	-89
GOODLAND	964	-112	RALEIGH-DURHAM	562	-151	WI GREEN BAY	1248	-122
TOPEKA	849	-180	WILMINGTON	447	-74	LA CROSSE	1275	-74
WICHITA	793	-156	ND BISMARCK	1231	-307	MADISON	1195	-126
KY BOWLING GREEN	719	-115	FARGO	1425	-196	MILWAUKEE	1091	-146
LEXINGTON	765	-131	GRAND FORKS	1468	-203	WAUSAU	1366	-82
LOUISVILLE	725	-137	WILLISTON	1289	-264	WY CASPER	1140	-78
LA ALEXANDRIA	326	-116	OH AKRON-CANTON	978	-98	CHEYENNE	1031	-76
BATON ROUGE	273	-107	CLEVELAND	930	-121	LANDER	1036	65
LAKE CHARLES	275	-76	COLUMBUS	878	-142	SHERIDAN	1124	-128

Based on 1951-80 normals.

# December Weather in Historical Perspective

For the Nation as a whole, December 1991 was warmer and wetter than normal. Aareally averaged data indicate that this month was the 14th warmest (84th coldest) and 27th wettest (71st driest) December since 1895 (table 1). After two harsh Decembers, this month was a welcomed reprieve and, in fact, was the warmest December since 1982 (fig. 1). The weighted mean precipitation index, which takes local normal climatology into account, ranked this month as the 43rd wettest December on record (fig. 2).

Temperatures were near to above normal in all regions (table 1). The West North Central (9th warmest December) and South regions (15th warmest) had the most anomalous warmth. In contrast, precipitation rankings were highly variable, ranging from a 10th driest December in

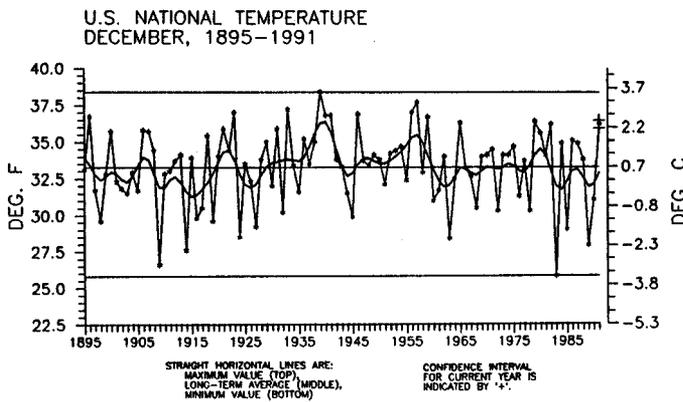
the Northwest and 11th driest in the West North Central regions, to 3rd wettest in the South and 15th wettest in the Southwest regions.

Texas was inundated with 6 days of intense rains after mid-month en route to its wettest December on record (fig. 3). Prior to 1991, the Decembers of 1923, 1913, 1911, and 1969 stood as the four wettest for Texas, in descending order. Farther north, central Plains (Hard Red Winter Wheat Belt) precipitation continued to increase in December, ending concerns of spring moisture shortages (fig. 4). In California, late-month precipitation was insufficient to surmount autumn and early-winter moisture deficits, but represented an improvement over last year's severely dry conditions (fig. 5).

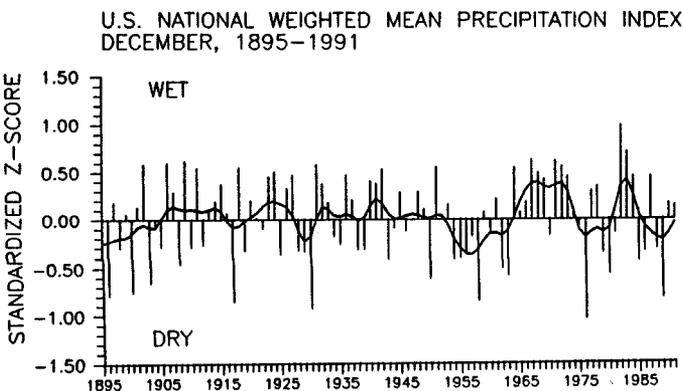
**TABLE 1. TEMPERATURE AND PRECIPITATION RANKINGS FOR DEC 1991, BASED ON THE PERIOD 1895-1991. 1 = DRIEST/COLDEST, 97 = WETTEST/HOTTEST.**

REGION	PRECIPITATION	TEMPERATURE
NORTHEAST	51	59
EAST NORTH CENTRAL	60	73
CENTRAL	77	81
SOUTHEAST	34	78
WEST NORTH CENTRAL	11	89
SOUTH	95	83
SOUTHWEST	83	51
NORTHWEST	10	81
WEST	32	54
NATIONAL	71	84

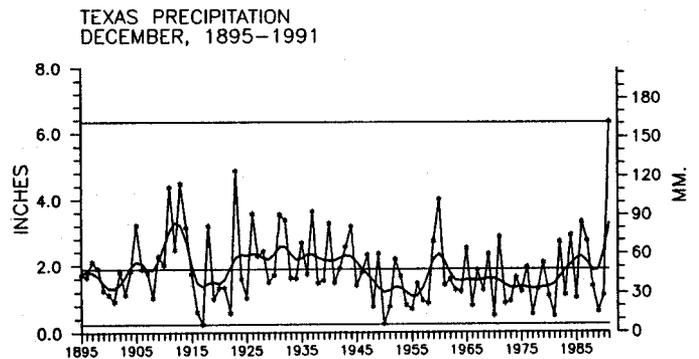
**Figure 1**



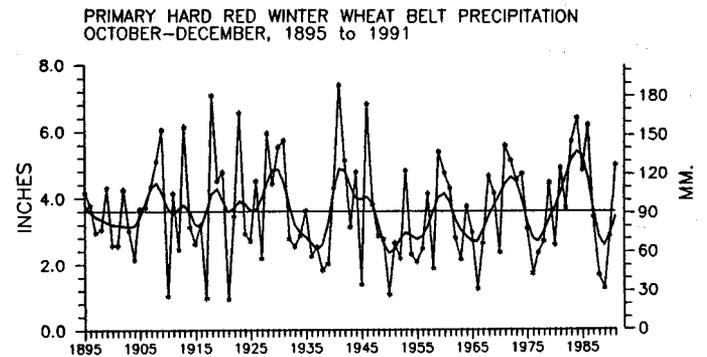
**Figure 2**



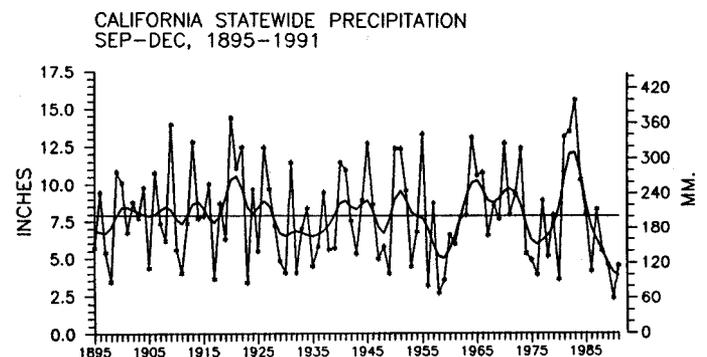
**Figure 3**



**Figure 4**



**Figure 5**



**National Agricultural Summary**

December 30, 1991 - January 5, 1992

**HIGHLIGHTS:** Temperatures continued to average above normal in the Midwest, where snow cover remains limited. The west coast benefited from additional rain, as did the Mid-Atlantic region. Light rains in the central and southern Great Plains kept fields too wet for work.

**SMALL GRAINS:** Winter grain seeding continued in Arizona and California, while rains improved emergence and growth of grains on earlier seeded acreage. Rain benefited growing conditions for small grains in the Southeast, and snowfall on Colorado's eastern plains improved soil moisture supplies for winter wheat. Snow cover remained inadequate for protection of fall seeded grains in the northern Great Plains and Rocky Mountains, but mild temperatures have kept the crops in fair to good condition.

**CORN:** Harvest continued in Iowa where less than 1 percent of the corn acreage remained unharvested, and that which remained was in good condition.

**COTTON:** Rain and wet fields prevented the completion of cotton harvest in Texas, with harvest 94 percent complete. Yields and quality of cotton left in fields in the Texas Blacklands and Plains declined due to the wet weather. Oklahoma's remaining cotton fields were also too wet for the completion of harvest. Stalk shredding and plowing were slowed by rains in Arizona, but were essentially completed in California, where herbicide application and pre-irrigation for the 1992 crop progressed.

**OTHER FIELD CROPS:** Alfalfa harvest was completed in western and eastern Arizona. Sugarcane harvest and planting activity continued in Florida. Peanut and sugarbeet

harvests were again delayed by wet conditions in Texas, and some acreage may be abandoned.

**FRUIT AND NUTS:** Peach tree pruning was underway in the Southeast. Lemons, grapefruits, oranges, and tangerines were being picked in Arizona. California's desert valley citrus harvest was ongoing, with lemons, grapefruit, tangelos, tangors, and tangerines being picked. Navel orange harvest continued in California's desert and central valleys. Fruit tree pruning was active on Colorado's west slope. Citrus harvest slowed over the New Year's holiday in Florida, but temple and tangerine harvests were increasing. Texas' citrus harvests continued as weather conditions permitted. Pruning continued in the orchard areas of the Pacific Northwest. Banana harvesting was active in Hawaii.

**VEGETABLES:** Arizona's lettuce harvest continued. Broccoli, carrot cauliflower, and celery harvests continued in California. Lettuce packing was active in California's desert area. Planting of spring vegetable crops was underway in Florida, while harvesting of tomatoes, peppers, cabbage, celery, cucumbers, and squash continued.

**PASTURES AND LIVESTOCK:** Wet, muddy conditions hampered livestock care in the central Great Plains and Mississippi Valley. Hay and roughage supplies remain adequate in most regions, although some shortages have been noted in the Ohio Valley. Calving and lambing were underway in the West.

## State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service.

**ALABAMA:** Rainfall 1.00 to 2.00 in. northeast, east central; under 0.50 in. elsewhere. Temperatures 3 to 5° above normal north; 1 to 3° below normal south.

Wet conditions limited fieldwork north. Small grains mostly good. Peach chill hours well above average. Primary activities: Ginning cotton; planting, pruning peach trees; grading sweet potatoes; harvesting collards, other greens; feeding, managing cattle; general care of livestock, poultry, catfish.

**ARIZONA:** Cloudy, rainy statewide, except far southeast, 29th, 30th. Mostly sunny statewide, except for northeast 31st, 1st. Cloudy statewide, 2nd. Scattered showers statewide 3rd, 4th. Temperatures 3° below to 4° above normal. Extremes 8°; 61° higher elevations, 26°; 68° deserts.

Cotton stalk shredding, plow down slowed by rains; light to moderate statewide. Alfalfa harvest, light, completed western and eastern Arizona, condition good; sheeping off, light, moderate west. Small grains seeded 85%, 93% 1990, 85% avg.; small grains established, 70%, 74% 1990, 63% avg. Lemons, grapefruit, oranges, tangerines, mixed vegetables, lettuce harvested central, west. Pecans harvested, central. Pasture, range conditions 76%. Cattle, calves fair to good; stockwater short to adequate, soil moisture adequate, range, pasture feed supplies were rated as below average to average, statewide. Range conditions: north poor to fair; central good; southeast mostly good.

**ARKANSAS:** Temperatures a little above normal with light rain statewide middle of week. Extremes 23°; 64°. Rainfall none to 0.57 in.

All farming activities are normal for this time of year. The delta region was still too wet to cultivate. No fertilizer had been applied to the wheat crop, however, was in good condition. Livestock in good condition. Some fescue pasture growth reported.

**CALIFORNIA:** A low pressure trough moved through the State over the weekend producing rainfall for most stations. A cut-off low pressure system developed off the south coast, slowly moved inland combining with a low pressure trough coming out of the Gulf of Alaska for more rain over most of the State late in the week. Temperatures were about average.

Light rains slowed field activities most areas. Rice stubble burning continued as regulations allowed. Cotton plow down, pink boll worm control essentially complete. Herbicide application, pre irrigation 1992 crop progressed. Small grains, winter forages seeded. Emergence, growth improved; recent rains. Weed control applications ongoing. New alfalfa seeded some areas. Established fields green chopped, sprayed weed control. New crop sugarbeets good growth. General activities included ripping, leveling, furrowing. Orchard pruning, dormant spraying, weed control, other cultural practices active. Pruning, fertilizing, tying vines, treatment mealybugs continued, some vineyards. Harvest Deglet Noor dates progressed Riverside County. Desert valley

avocados picked; some wind related fruit droppage. Desert valley citrus harvest ongoing, lemons, grapefruit, tangelos, tangors, tangerines. Navel orange harvest continued desert, central valleys. Broccoli moderate, good quality Salinas Watsonville. Packing continued Huron district, Patterson Newman area, Coachella Valley good quality. Carrot harvest active Coachella Valley good quality. Cauliflower supplies continued Huron district, Patterson Newman area; harvest completed Salinas Watsonville. Celery harvest started Coachella Valley, supplies moderate Santa Maria good quality. Lettuce packing active desert area good quality. Planting continued Westside area, harvest finished Santa Maria. Fall potato movement Tulelake Butte Valley moderate. Other vegetables harvested: Cabbage, spinach, green onions, various oriental vegetables. Range conditions continued poor to fair. Recent rains made for some improvement. Supplemental feeding continued. Water supplies short. Calving, lambing continued.

**COLORADO:** An upper level weather system dropped snow over the southwest on the 30th, over the northeast plains on the 31st, 1st. Wray received nearly a foot of snow with 0.98 in. of moisture content. Temperatures 1 to 5° above normal for most of the river basins. The exceptions were the Colorado River basin, at 3 to 5° below normal, Rio Grande River basin 20° below normal.

Snowfall on the eastern plains improved soil moisture supplies in the winter wheat growing regions. No adverse weather for the feeding, care of livestock. On the west slope, fruit tree pruning is active.

**FLORIDA:** Cool over State. Temperature 2 to 4° below normal, Panhandle, 1 to 3° below normal elsewhere. Highs; 60° Panhandle, upper 60s Big Bend, low 70s elsewhere. Lows; middle 30s Panhandle, Big Bend, low 40s elsewhere. Rain; 0.25 in. north, 1.00 or more at isolated Peninsula locations, trace many other locations.

Soil moisture Panhandle, southern Peninsula short to adequate; northern, central Peninsula moisture mostly short. Sugarcane harvest, planting active. Light rain most citrus areas, east coast received most. Trees, fruit good condition. Harvest slowed by New Year holiday. Grapefruit for export active. Temple, Honey tangerine harvest increasing. Caretakers hedging harvested groves. Mild days, cool nights over major vegetable producing areas. Rainfall again limited. Planting spring crops underway. Harvest active most crops following holidays. Volume leaders: Tomatoes, peppers, cabbage, celery, cucumbers, squash. Also available: Snap beans, carrots, sweet corn, eggplant, escarole, endive, lettuce, radishes. First Hastings potatoes planted. State's pastures poor to good. Pasture 25% poor, 65% fair, 10% good. Moisture levels short to adequate. States cattle herds poor to good.

**GEORGIA:** Temperatures 5 to 8° above normal north, to near normal extreme south. Warmest low to mid 60s, except mid to upper 50s northwest to west central. Coldest 30s, varied from mid 20s

northeast mountains to low 40s southeast. North received 1.00 in. rain during week, 2.00 to 4.00 in. northwest, 1.00 in. central, 0.50 in. or less south. Rain fell on 1 to 3 days.

Soil moisture adequate statewide. Rain latter part of week improved growing conditions of small grains, winter grazing. Harvest of pecans, soybeans virtually complete. Onion planting virtually complete, condition good. Tobacco plants good, bed preparation active. Some land preparation activities, including mowing stalks, disking land.

**HAWAII:** Hawaii ushered in the New Year with brisk winds, cool temperatures. Sunny periods with intermittent wind, showers occurred in crop growing areas across the islands, fair for crop development. Crops were recovering from past weeks gusty winds, heavier rainfall. Rainfall none to 1.10 in.

Days suitable for fieldwork 7.0. Banana harvesting active. Tomato plantings continued maturing, increasing supplies on Hawaii island. Fruit cracking is expected from wet fields in Maui. Adverse weather affected cucumber plantings on Hawaii island. Papaya production increasing.

**IDAHO:** Temperatures above normal across State. Scattered precipitation fell across Idaho, with Sandpoint in the north receiving the most with 0.64 in.

Soil moisture varied across State. Short in south central; rest of State adequate. Activities: Marketing potato, grain crops, attending meetings, repairing equipment. Hay, roughage supplies adequate. Calving continued, hay was being fed. Livestock reported in good to excellent condition.

**ILLINOIS:** Temperatures 6 to 14° above normal. Highs mid 30s to mid 40s. Lows from the lower to mid 30s. Precipitation remained very light, falling mostly in the south, southeast, with amounts around 0.40 to 0.75 in. Soil at 4.00 in. depth remained generally unfrozen except in the extreme north.

**INDIANA:** Temperatures 1 to 7° above normal. Highs upper 30s to mid 40s. Lows, low to mid 30s. Mild week, drier than normal. Precipitation varied, none to 1.00 in.

Wet soils limited field activities, most areas. Spreading fertilizer, lime some fields. Other activities: hauling manure, selling corn and soybeans, soil testing, machinery repair, fixing fence, building maintenance, attending meetings, purchasing supplies, tax preparation. Winter wheat mostly fair. Hay supplies tight, some areas. Livestock mostly good.

**IOWA:** A very cloudy, foggy week. Temperatures 12 to 19° above normal. Extremes 22° Spencer, Creston 4th; 45° Burlington 26th. Precipitation 0.01 in. northeast third to 1.07 in. south central. Rainfall 0.21 in.; weekly normal 0.22 in.

New year brought increased movement of grain, livestock to market. Less than 1% of corn remains in the field. Stand of corn left in field is mostly good. Mild temperatures favorable to livestock. Muddy feedlots remain a problem.

**KANSAS:** Temperatures 4° above normal northwest; 8 to 12° above normal elsewhere. Precipitation covered most of State; 0.33 in. east central to 0.07 in. north central.

Topsoil moisture generally adequate to surplus; subsurface moisture generally adequate. Wheat making slow growth under mild temperatures, adequate surface moisture. Some secondary root development noted. Feeding, tending livestock hampered by muddy surface conditions.

**KENTUCKY:** Temperature 40°. Precipitation 1.00 in. central, heaviest in Bluegrass region.

Ample soil moisture. Field activity minimal. Livestock satisfactory. Burley market resumed activity.

**LOUISIANA:** Temperatures 3° below to 3° above normal. Extremes 26°; 70°. Rainfall none most areas to 1.87 in. northwest.

Main activities: May farmers busy working on ASCS programs, taxes, financial arrangements for 1992 crop. Fallow bed chemical applications being made on cotton ground. Top dressing winter pastures, wheat, crawfishing, farm equipment maintenance, repair, livestock care, feeding.

**MARYLAND & DELAWARE:** **MARYLAND:** Precipitation 0.92 in. Temperature 39.4°, normal 33.3°. Extremes 9°; 62°.

Activities: Preparing fields for spring planting; gleaned fields; liming, fertilizer applications; marketing, caring for livestock.

**DELAWARE:** Precipitation 0.92 in. Temperature 40.3°, normal 34.5°. Extremes 20°; 58°.

Activities: Cleaning, storing equipment; cleaning seed for next year; marketing, caring for livestock.

**MICHIGAN:** Temperatures 7 to 13° above normal. Extremes 11°; 46°. Precipitation none to 0.85 in. across the State. Mostly cloudy skies, moderate temperatures prevailed last week. Some precipitation fell as snow, mostly as freezing rain, drizzle during the middle of the week.

Feed supplies remain plentiful, livestock good. Major activities: Spreading lime, manure; pruning; cleaning, fixing barns; celebrating the New Year.

**MINNESOTA:** Temperatures 18 to 26° above normal for the State. Extremes 14°; 46°. Precipitation 0.07 to 0.21 in. below normal for the State. Precipitation none to 0.07 in. Greatest weekly total 0.10 inches at Aitkin. Snowfall averaged zero to 1 in. for the State. Snow depth at weekend 7 to 14 in. for the northeast, north central, east central, 3 in. or less elsewhere.

**MISSISSIPPI:** Weather data not available.

Days suitable for fieldwork 3.2, 0.6 1990, 1.4 avg. Soil moisture 25% short, 50% adequate, 25% surplus. Hay supply, 50% adequate, 50% surplus. Feed grain 100% adequate. Pecans 97% harvested, 100% 1990, 100% avg. Wheat 50% fair, 25% good, 25% excellent. Livestock 100% good. Activities: Tending to cattle.

**MISSOURI:** Temperatures 7 to 10° above normal except southeast 3 to 5° above normal. Precipitation mostly less than 0.50 in., a few counties up to 1.00 in. or more, largest amounts west.

Topsoil 5% short, 43% adequate, 54% surplus. Subsoil 20% short, 63% adequate, 17% surplus. Wheat 1% very poor, 15% poor, 67% fair, 17% good. Hay supply 7% very short, 17% short, 69% adequate, 7% surplus. Livestock water supply 1% critically short, 9% short, 90% adequate. Livestock 37% fair, 60% good, 3% excellent. Livestock adversely affected by damp, muddy conditions, care, feeding also more difficult.

**MONTANA:** Warm, dry weather continues. Temperatures 4° above normal west, 10° above normal east. Dry all locations except southwest and west received very light precipitation.

Winter wheat remains mainly fair to good. Snowcover protection poor. Grazing open most livestock receiving some supplemental feed.

**NEBRASKA:** Temperatures 8° above normal in the west, up to 15° above normal in the east. Light amounts of precipitation occurred in the western half while the eastern half averaged 0.50 in.

**NEVADA:** Temperatures slightly above normal. Extremes 3°; 52°. Some precipitation across whole State, trace to 1.02 in. extreme south.

Mild weather generally favorable all livestock activities. Activities: Caring, feeding of livestock, general maintenance.

**NEW ENGLAND:** Precipitation 0.05 to 2.55 in. north; 0.65 to 1.95 in. south. Temperatures mid teens to high 20s north, high 20s to high 30s south. Extreme maximum temperatures mid 30s north to mid 50s south; extreme minimum temperatures -12° north to low 20s south.

Major farm activities: Tending livestock, cutting firewood, making general repairs.

**NEW JERSEY:** Temperatures much above normal, averaged 35° north, 38° south, 41° coastal. Extremes 9°; 60°. Precipitation below normal; 0.43 in. north, 0.59 in. south, 0.47 in. coastal. Heaviest 24 hour total 0.76 in. on 3rd, 4th.

Farmers caring for livestock, tending to other normal winter chores.

**NEW MEXICO:** Temperatures slightly below normal in the higher elevations, a little above normal in the eastern plains. Extremes -9°; 64°. Precipitation very light, spotty in the south, not much more substantial in the north. Only a few locations in the north received over 0.25 in. of precipitation.

**NEW YORK:** Temperatures 3 to 10° above normal. Readings 20s to lower 30s. Precipitation above normal, 0.50 to 1.50 in. except for a few isolated higher amounts 1.75 to 2.25 in.

Major farm activities included caring for livestock, general maintenance, attending meetings, preparing for maple sugaring.

**NORTH CAROLINA:** Temperatures above normal. Coast 9° above; Piedmont 4 to 6° above; Mountains 3° above. Precipitation above normal. Mixture of snow, rain in the Mountains. Storm, gale warnings along the Coast. Rainfall 0.90 to 4.99.

Days suitable for fieldwork 3.4. Soil moisture 10% short, 83% adequate, 7% surplus. Crop condition: Wheat 27% fair, 73% good; oats 28% fair, 72% good; barley 30% fair, 70% good; rye 33% fair, 67% good; Pasture 2% very poor, 12% poor, 47% fair, 39% good. Hay, roughage supplies 2% short, 91% adequate, 7% surplus. Feed grain supplies 4% short, 93% adequate, 3% surplus. Livestock feed from pastures 36%. Activities: Tending livestock; cutting wood; preparing tobacco plant beds; pruning fruit trees; land preparation; equipment repair; general farm maintenance.

**NORTH DAKOTA:** Temperatures 14 to 20° above normal. Extremes 4° north central; 50° southwest. Precipitation none over most of State to 0.01 in. southwest and east central.

Snow depth 1.4 in. Snow cover sufficient to protect: 26% winter wheat, 31% rye, 27% alfalfa. Winter wheat seedings none very poor, 9% poor, 58% fair, 29% good, 4% excellent. Rye seedings none very poor, 8% poor, 54% fair, 36% good, 2% excellent. Hay, forage supplies 84% adequate, 16% plentiful. Pastures open for grazing 52%.

**OHIO:** Unseasonably mild conditions prevailed during the period while precipitation was limited in coverage, intensity. The only area of the state to receive above normal moisture was the southwest. Highs averaged in the upper 30s to upper 40s while lows ranged from near 30° to the middle 30s. Average temperatures mid 30s to near 40°, 8 to 11° above normal. The warm conditions held soil temperatures above freezing. generally less than 0.20 in. of moisture fell during the period with totals of as much as 1.00 in. limited to southwestern areas. With the exception of the latter area weekly precipitation was 0.30 to 0.50 in. below normal.

**OKLAHOMA:** Temperatures 3° above normal Panhandle to 10° above normal northeast. Precipitation 0.03 in. central to 0.41 in. Panhandle.

Wheat 43% grazed good. Wheat growth is good. Fields remained too wet to harvest cotton. Cattle good; marketings average.

**OREGON:** Temperatures above normal statewide. Precipitation abundant west; coast 1.50 to 3.25 in., Willamette Valley near 1.00 in. Eastern areas generally light.

Soil moisture mostly adequate. Winter wheat fair to good. Hazelnut, cranberry, grape pruning continued. Livestock good to excellent; supplementary feeding continued. Range, pasture, fair to excellent across most of State.

**PENNSYLVANIA:** Temperature 34°, 5° above normal. Extremes 8°; 56°. Precipitation 0.44 in., 0.25 in. below normal.

Activities: Repairing fence; hauling manure; maintaining machinery; caring for livestock.

**PUERTO RICO:** No Data Available.

**SOUTH CAROLINA:** Temperatures 3 to 6° above normal. Rainfall 1.65 in. mountains to none along coast.

Farm activities: Small grain seedings virtually complete; pastures average; livestock condition good.

**SOUTH DAKOTA:** Temperatures 10 to 20° above normal statewide. Extremes -3°; 58°. Light precipitation southeast. Amounts under 0.18 in. Most of east covered by fog the entire week. Snow cover spotty in Black Hills, trace in east, none elsewhere.

**TENNESSEE:** Weak weather system provided warmer than normal weather Statewide during week. Strong low pressure system off Atlantic Coast brought wetter than normal weather east latter half of week. Drier than normal west. Temperatures averaged 3 to 8° above normal. Extensive cloud coverage kept overnight low temperatures well above normal, daytime highs normal. Extremes 25°; 62°. Precipitation above normal east, below normal west. Rainfall 0.50 in. west to near 2.00 in. Plateau. Most rain fell 2nd, 3rd. Snow fell in higher elevations of mountains.

Topsoil moisture mostly adequate. Winter wheat good. Caring for livestock, general farm chores primary activities.

**TEXAS:** Series of weather disturbances marched past Texas last week. Rain amounts under one inch, but a few significant amounts recorded New Year's Eve in Lower Rio Grande Valley. Slow moving front concentrated rain amounts from Southwest Texas through North Central, Northeast Texas late in week. Excessive rainfall isolated, flooding problems along major rivers in south central, southeast Texas not aggravated by additional rain. Temperatures near or above normal for this time of year. South Texas, except Upper Coast, Edwards Plateau, showed above normal rainfall. Rest of State received rainfall, not exceeding normal readings. All areas of State at or above normal temperatures.

**Crops:** Rain, wet fields prevented cotton harvest from winding down. Blacklands, yields, qualities declined in cotton left in fields, modules. Producers on Plains made limited harvest progress. Cotton harvested 94% 1991, 100% 1990, 93% avg. Most small grain fields benefited from recent rains; sunshine and warm weather needed over next few weeks to help conditions. Wet fields delayed grazing activities, plant growth excellent. Some fields show signs of stress, Blacklands, some yellowing caused by excessive moisture. Some rust, mold damage on oats in South Texas. Statewide wheat condition 82% of normal compared with 64% 1989. Final peanut harvest delayed another week by wet conditions; however, little production left in fields. Sugarbeet harvest delayed by wet conditions. Some fields on High Plains deteriorated, will not be harvested.

**Commercial Vegetables:** Rio Grande Valley, onions making good progress with recent showers. Citrus harvest continued. East Texas, wet weather limited field activity. Some winter greens harvested. Trans Pecos, cold, damp conditions temporarily halted land preparation. Pecan harvest slow in growing regions. Quality ranged good to poor, disease problems major factor.

**Range and Livestock:** Ranges, pastures benefited from recent rains. Heavily flooded areas, pasture condition unknown. Showers should ensure good winter forage development in dry areas. Supplemental feeding continued from wet, muddy pastures. Tank water supply abundant.

**UTAH:** Maximum temperatures 7° below normal, minimums 2° above normal. Precipitation was moderate in a diagonal southwest to northeast path. Elsewhere light amounts.

Major farm activities: care and feeding of livestock, maintenance equipment, buildings, year end tax reports, financial planning.

**VIRGINIA:** Temperatures 4° above normal. Precipitation averaged above normal ranging from 0.75 in to 3.00 in.

Days suitable for fieldwork 3.2. Topsoil moisture 1% short, 77% adequate, 22% surplus. Winter grains grazing crops 4% very poor, 17% poor, 48% fair, 31% good. Forage from winter grains, pastures dairy cattle 21%, beef cattle 33% and sheep 34%. Major activities: Fertilizing, liming, calving, lambing, preparing dark, burley tobacco for market, equipment repair.

**WASHINGTON:** Temperatures 2 to 10° above normal, west; normal to 8° above normal, east. Precipitation 0.24 to 1.46 in. west; none to 0.32 in. east.

Days suitable for fieldwork 4. Soil moisture 36% short, 63% adequate, 1% surplus. Hay, other roughage 23% short, 60% adequate, 17% surplus. Range, pasture 21% poor, 12% fair, 42% good, 25% excellent. Winter wheat 7% fair, 93% good. Above normal seasonal temperatures dominated the state. Moist air in the dryland wheat producing areas created excellent conditions. Whitman county reported 0.30 to 0.50 in. of rain that came evenly, went into the ground with little or no erosion. More moisture is needed in most areas to replenish the deep moisture. Pruning continued in all orchard areas. Livestock continued on winter feeding programs.

**WEST VIRGINIA:** Temperature 39°. Extremes 12°; 61°. Precipitation 0.35 in.

Days suitable for fieldwork 3.3. Soil moisture, 15% short, 69% adequate, 16% surplus. Wheat, 70% fair, 30% good. Barley, 85% fair, 15% good. Hay feed supplies, 84% adequate, 16% surplus. Other feed supplies, 21% short, 76% adequate, 3% surplus. Cattle, good. Sheep, good. Farm activities: General maintenance, fencing, marketing livestock, stripping tobacco, harvesting soybeans.

**WISCONSIN:** Temperature 31°. Extremes 11°; 46°. Clouds, light winds, lack of substantial snow cover resulted in temperatures averaging around 15° above normal. Much of northern areas received 1 to 3 in. of snow on the 2nd.

**WYOMING:** Temperatures mostly above normal. Mostly below normal precipitation statewide.

1991 Winter wheat fair to good. Additional moisture, snowcover needed. Livestock mostly good, supplemental feeding continuing. Mild weather has reduced stress. Preparations for calving, lambing continuing.

**International Weather and Crop Summary**  
**HIGHLIGHTS**

**December 29, 1991 - January 4, 1992**

WESTERN USSR ... A warming trend melts protective snow cover in western and southern winter grain areas.

EUROPE ... Dry weather prevails, with unseasonably cold weather in Spain and in the southeast.

EASTERN ASIA ... Winter wheat enters dormancy across the North China Plain. Moderate to heavy rain increases reservoir levels in southern China.

SOUTHEAST ASIA ... Unseasonably wet weather continues in Thailand. Inundating rains pound western Malaysia.

SOUTH ASIA ... Showers benefit India's southern rice areas. Dry, but cooler weather returns to northern winter crop areas.

SOUTH AMERICA ... Continued heavy rains delay winter wheat harvesting and summer crop planting in Argentina. Beneficial rains in Brazil favor developing summer crops.

AUSTRALIA ... Early-week rains aid eastern summer crops, but conditions turned dry and hot, stressing pastures and some germinating summer crops.

NORTHWESTERN AFRICA ... Continued dry weather in Morocco and parts of Algeria stresses winter grains in the early vegetative stages.

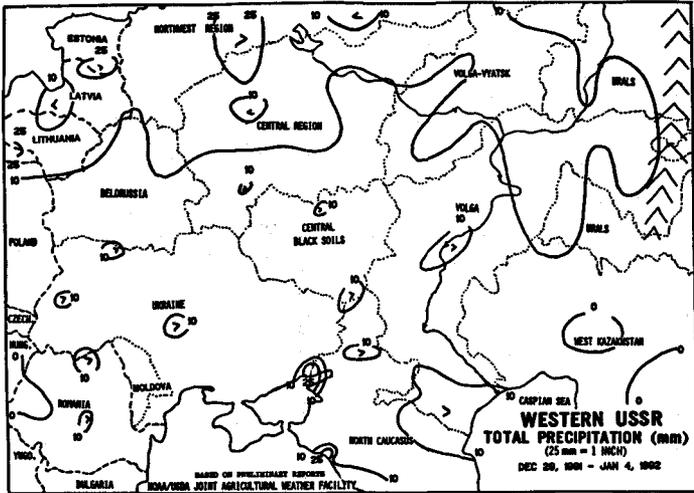
SOUTH AFRICA ... Dry, warm weather reduces moisture for vegetative corn.

**December 1991**  
**MONTHLY DATA FROM SELECTED FOREIGN CITIES**  
**CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA**  
**\*\*\* = DATA NOT AVAILABLE**

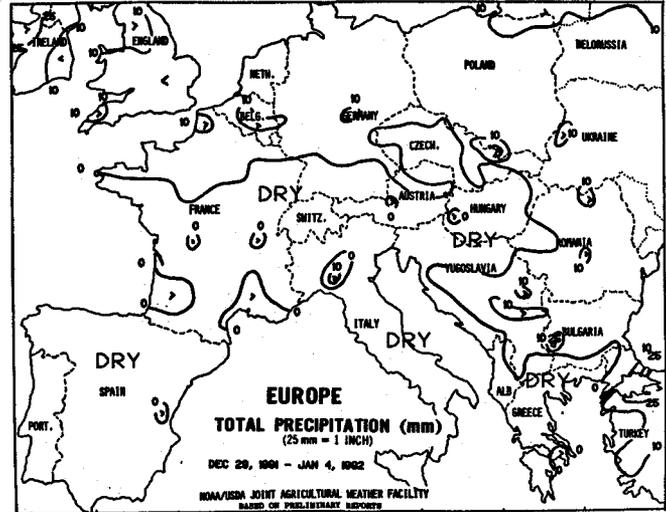
COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG	AVG	HI	LO	DPART	AVG	F/NRM	TOTAL
		MAX	MIN	MAX	MIN	AVG	F/NRM		
NORWAY	OSLO	1	-5	11	-13	-2	2.9	32	-36
SWEDEN	STOCKHOLM	2	-2	8	-8	0	0.8	61	14
FINLAND	HELSINKI	1	-3	5	-14	-1	2.0	49	-7
U KING	GLASGOW	7	3	13	-7	5	0.0	113	-5
	EDINBURGH	7	2	13	-9	4	0.2	50	-9
	BIRMINGHAM	6	2	14	-11	4	-0.3	13	-52
	LONDON	7	0	14	-36	4	-0.3	20	-57
IRELAND	DUBLIN	9	6	14	0	7	1.4	36	-43
ICELAND	REYKJAVIK	3	-1	9	-11	1	1.2	153	77
DENMRK	COPENHAGEN	5	1	9	-6	3	0.3	31	-18
LUXEMB	LUXEMBOURG	3	0	11	-7	2	0.3	55	-21
SWITZL	ZURICH	1	-2	10	-7	0	-0.7	55	-20
	GENEVA	3	0	11	-4	2	-0.3	79	-1
FRANCE	PARIS	6	1	13	-7	4	-0.4	51	0
	STRASBOURG	3	-1	13	-10	1	-0.8	30	-3
	BOURGES	6	1	12	-5	3	-0.7	25	-36
	BORDEAUX	9	2	14	-3	6	-0.3	37	-67
	TOULOUSE	10	2	14	-4	6	0.0	22	-36
	MARSEILLE	12	3	16	-3	7	0.1	1	-62
SPAIN	VALLADOLID	9	1	13	-5	5	0.9	14	-27
	MADRID	11	1	18	-4	6	0.6	16	-30
GERMNY	LEIPZIG	3	-1	12	-11	1	-0.2	45	8
	DRESDEN	3	-2	11	-13	1	0.2	59	22
	HAMBURG	4	0	12	-7	2	0.4	101	30
	BERLIN	4	0	12	-10	2	0.2	41	-8
	DUSSELDORF	6	2	13	-6	4	0.7	72	14
	STUTTGART	2	-3	11	-12	0	-0.8	45	-2
	NURNBERG	2	-3	11	-13	0	-0.8	41	-9
	MUNICH	1	-5	11	-17	-2	-1.8	55	3
AUSTRI	VIENNA	2	-3	12	-14	-1	-1.2	50	13
	INNBRUCK	2	-6	5	-13	-2	-1.0	178	127
CZECH	PRAGUE	1	-4	9	-16	-2	-1.1	31	6
POLAND	WARSAW	0	-4	7	-16	-2	-1.1	40	7
	LODZ	0	-4	7	-19	-2	-0.8	46	4
	KATOWICE	0	-5	6	-18	-2	-1.1	54	10
	PRZEMYSL	-1	-4	4	-19	-3	-2.2	22	-18
HUNGAR	BUDAPEST	2	-4	7	-9	-1	-1.9	21	-20
YUGOSL	SARAJEVO	0	-6	12	-15	-3	-2.9	47	-57
ROMANI	BUCHAREST	0	-7	6	-15	-4	-4.0	45	-2
BULGAR	SOFIA	0	-5	6	-13	-2	-2.5	21	-41
ITALY	MILAN	6	-3	18	-7	2	-0.5	1	-65
	VERONA	6	-4	10	-8	1	-0.6	2	-49
	VENICE	7	-2	12	-5	2	-1.3	2	-64
	GENOA	13	6	18	1	9	0.0	2	-106
	ROME	12	2	16	-3	7	-2.2	3	-83
	NAPLES	12	3	19	-1	7	-1.7	4	-115
GREECE	THESSALONIKA	8	0	14	-7	4	-3.4	3	-52
	LARISSA	8	-2	12	-9	3	-3.9	1	-55
	ATHENS	10	5	16	0	8	-4.6	121	53
TURKEY	ISTANBUL	6	3	14	-4	5	-3.4	84	-8
	ANKARA	1	-5	7	-12	-2	-3.6	71	42
CYPRUS	LARNACA	16	8	19	4	12	-1.9	367	264
USSR	TALLINN	2	-2	7	-10	0	2.2	42	-6
	LENINGRAD	0	-3	6	-12	-2	2.8	28	-15
	KAUNAS	1	-3	7	-19	-2	0.9	42	-2
	MINSK	-1	-4	5	-17	-3	0.9	23	-19
	KAZAN	-9	-13	1	-24	-11	-1.7	49	15
	MOSCOW	-2	-6	3	-19	-4	2.2	47	4
	SVERDLOVSK	-11	-18	1	-28	-15	-3.3	23	2
	OMSK	-14	-21	0	-34	-18	-2.7	37	21
	KUSTANAY	-13	-19	-1	-28	-16	-3.0	22	5
	KRASNOYARSK	-13	-18	-2	-37	-15	-0.9	26	2
	NOVOSIBIRSK	-14	-19	1	-36	-16	-0.2	39	16
	BARNAUL	-12	-18	2	-29	-15	-0.5	28	-5
	KHABAROVSK	-15	-22	-5	-30	-19	-0.7	16	-3
	VLADIVOSTOK	-6	-12	5	-20	-9	0.5	1	-16
	KIEV	-2	-4	4	-16	-3	-1.0	18	-27
	LVOV	-1	-6	9	-22	-4	-1.9	44	-10
	KIROVOGRAD	-1	-5	5	-16	-3	-0.9	15	-22
	ODESSA	1	-3	7	-18	-1	-2.2	25	-20

Based on Preliminary Reports



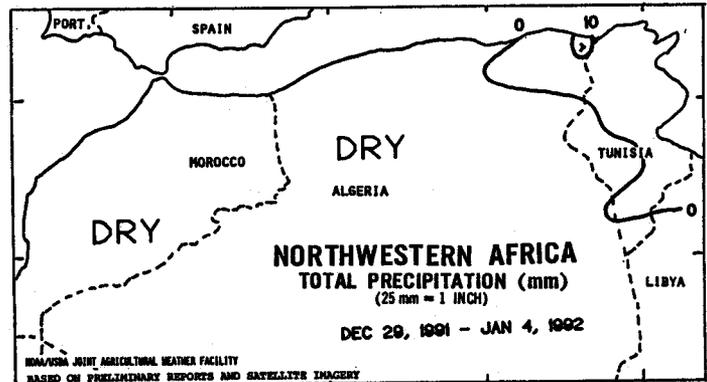


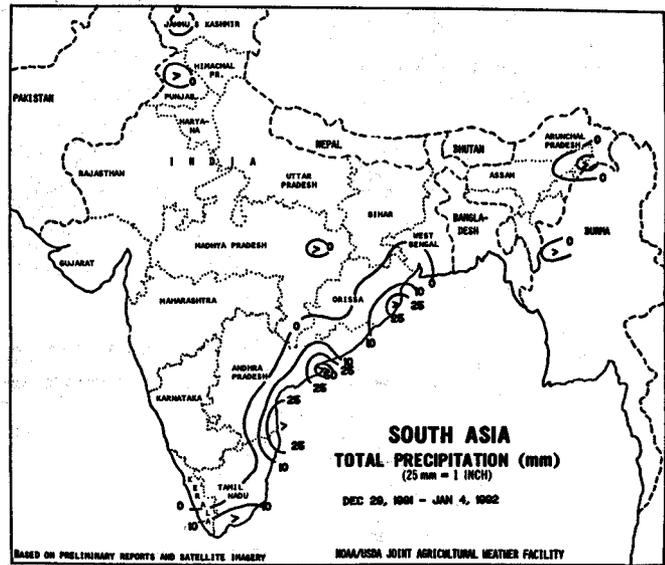
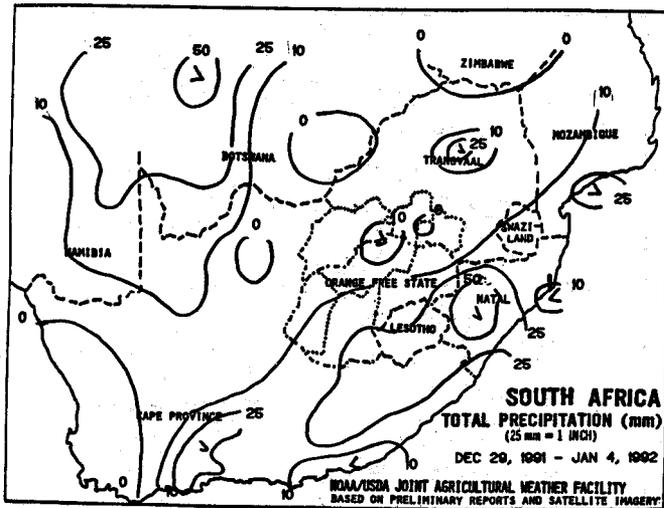
**WESTERN USSR** ... A warming trend spread eastward during the week, providing favorable overwintering conditions for dormant winter grains. Early-week snow changed to light rain and drizzle in Belorussia, Ukraine, North Caucasus, Central Region, and Black Soils Region. While precipitation during the week was continuous, total amounts were light (generally 10mm or less). Extreme minimum temperatures, ranging from -10 to -25 degrees Celsius (C) early in the week, rose to readings ranging from 4 to -5 by week's end. Most winter grain areas in the west and south lost protective snow cover. A persistent snow cover usually reaches as far south as the Black Sea Coast. Weekly average temperatures were 3-6 degrees C above normal in the west and 2-4 degrees C below normal in the east.



**EUROPE** ... Precipitation diminished throughout Europe, with weekly amounts averaging 12mm or less and only isolated heavier totals scattered over the southeast. Dry weather prevailed across the Mediterranean region, favoring any winter fieldwork in the south. Moisture is adequate for dormant winter grains in the north, with above-average weekly temperatures helping overwintering conditions. Below-average weekly temperatures occurred in both southwestern and southeastern portions. Minimum temperatures ranged from -10 to -20 degrees C in the Balkans, and fell below freezing (-1 to -4 degrees C) in all but coastal stations of southern Spain raising some concern for tender crops.

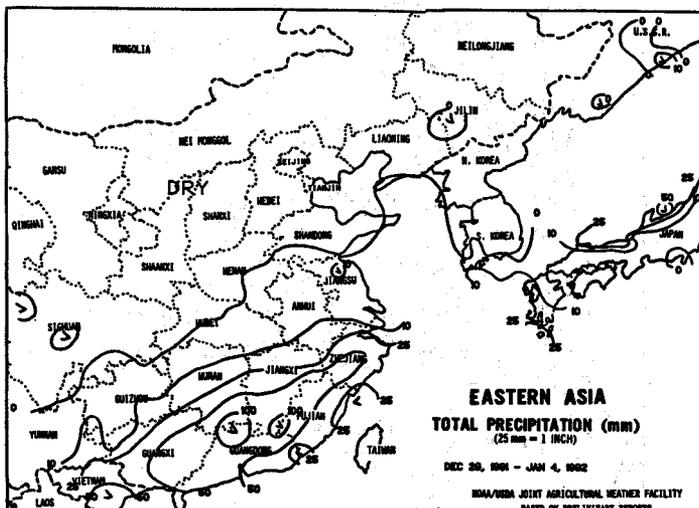
**NORTHWESTERN AFRICA** ... Winter grains were in the early growth stages over most of the region. Light, spotty showers (1-10mm) fell over winter grains in northern Tunisia and northeastern Algeria, while dry weather covered Morocco, central Algeria, and western Algeria. Continued dry weather over Morocco and most of central and western Algeria for the past 6 weeks has depleted moisture reserves, creating unfavorable conditions for winter grains. Widespread, significant rain is needed in these areas to halt deteriorating crop conditions.



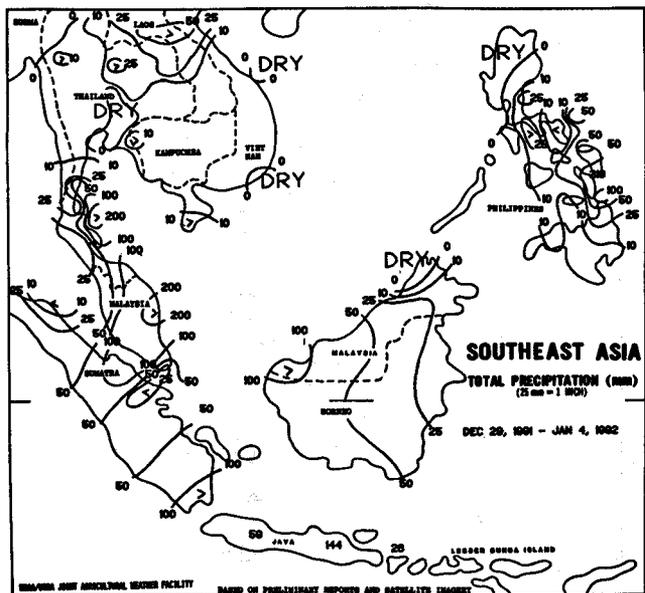


**SOUTH AFRICA** ... Drier- and periodically warmer-than-normal weather dominated most primary corn regions, reducing moisture for crops approaching reproduction. Despite highly beneficial pre-planting moisture, the drying trend since November has limited available moisture for vegetative corn, especially in western areas. Rain will be needed to advance crops through reproduction. In contrast, beneficial showers (10-94mm) returned to primary crop areas of Natal and eastern Cape Province, although amounts continue to be below normal in portions of the sugarcane regions.

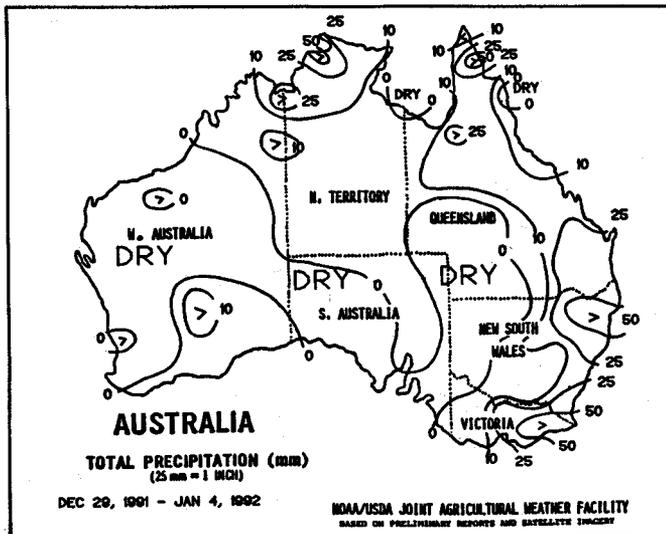
**SOUTH ASIA** ... Seasonably drier weather returned to winter grain and oilseed areas of northern Pakistan and India following last week's soaking rains. Local freezing temperatures, however, possibly burned back vegetative growth of winter wheat in northern India. Further south, showers (10-62mm) returned to coastal rice areas from Kerala to Orissa, helping irrigation for the dry season crop.



**EASTERN ASIA** ... Several weeks of seasonably low temperatures prompted North China Plain winter wheat to enter dormancy. Last week's precipitation was beneficial for establishment, but was probably too late to benefit most of the winter wheat. Spring rains will be very important in determining final yields. Widespread moderate rain (28-60mm) covered areas south of the Yangtze Valley, with heavy rains (70-164mm) across eastern Guangxi to western Fujian, benefiting reservoir levels. Weekly temperatures averaged near normal across the North China Plain and 3-6 degrees C below normal throughout central and southern China.

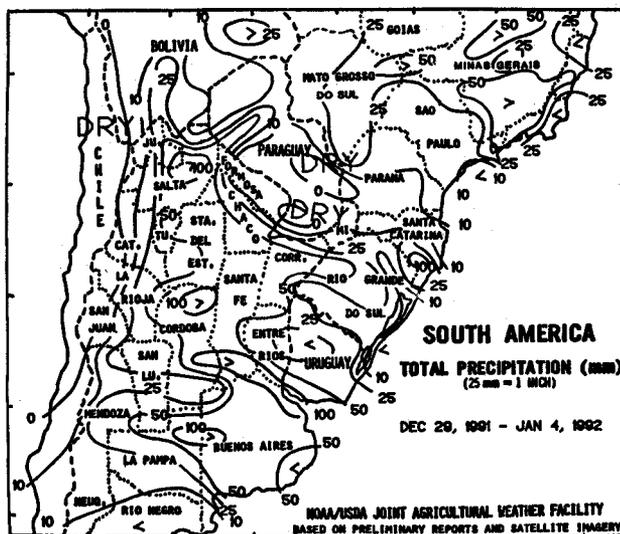


**SOUTHEAST ASIA** ... Widespread showers covered primary crop areas of Malaysia and Indonesia, with inundating rains (135-267mm) covering a large area of peninsular Thailand and western Malaysia. Further north, unseasonable wetness (5-63mm) lingered over northeastern Thailand, boosting reservoirs for dry season crops but likely affecting main season rice harvests and grain quality. In the Philippines, moderate to heavy showers (25-216mm) covered the eastern Visayans and northeastern Mindanao, causing some local flooding. Elsewhere, rainfall was typically less than 25mm, including recently wet areas of southeastern Luzon.



**AUSTRALIA** ... Early-week moderate showers (29-58mm) aided germinating summer crops across eastern Australia. However, dry and hot conditions later in the week, with maximum temperatures of 40-44 degrees C, stressed summer crops and pastures in southwestern and south-central Queensland. Interior Queensland needs rainfall for adequate pasture growth. Dry weather returned to Western Australia, helping to finish winter wheat harvesting. Weekly temperatures averaged 2-4 degrees C above normal across the eastern summer crop regions.

**SOUTH AMERICA** ... Continued moderate rain (30-96mm) covered Argentina, hampering cotton and soybean planting and significantly delaying winter wheat harvest. Scattered heavy rain (101-165mm) fell across southern Santa Fe and northern Buenos Aires, lodging winter wheat. Corn fields that have been washed out will likely be replanted with soybeans. However, the optimal time for planting soybeans has passed. Across southern Brazil, light to moderate rain (19-51mm) fell in Rio Grande do Sul, causing additional flooding from previous heavy rains. Further north, only light rains (3-23mm) fell in Parana and Sao Paulo, where moisture levels are adequate, but more would be beneficial. Moderate rain (30-74mm) spread over Mato Grosso do Sul, Goias, and Minas Gerais, favoring developing corn and soybeans. Weekly temperatures averaging 1-3 degrees C below normal across Argentina and 1-3 degrees C above normal in southern Brazil.



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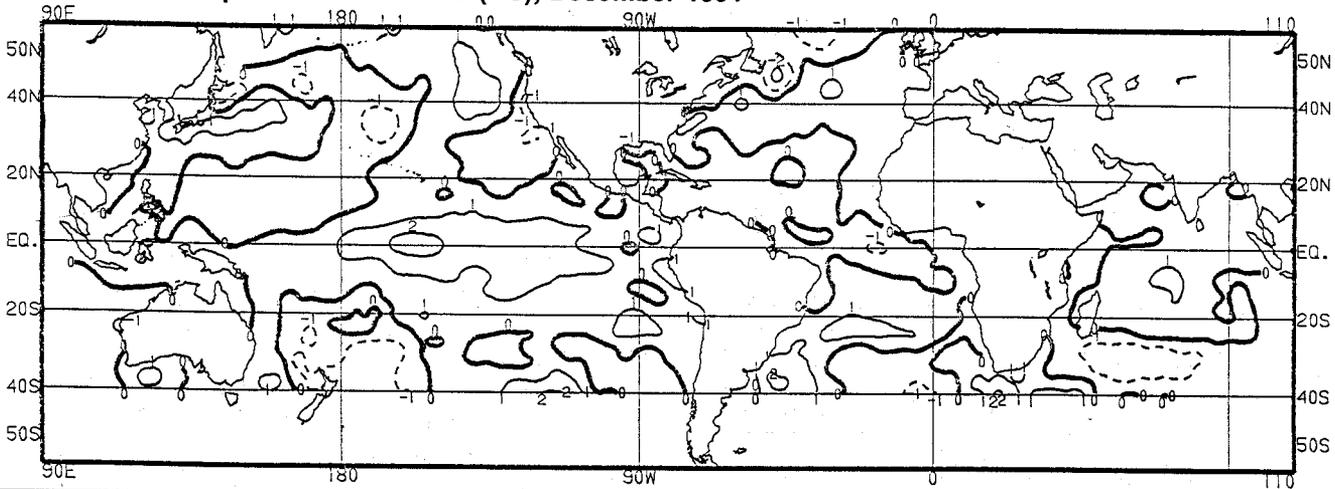
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**December Update: El Niño Intensifies**

Water temperatures warmed in the eastern tropical Pacific in December, signifying that the El Niño event is intensifying. For the first time in 1991, a significant area of positive water temperature anomaly of 2° C appeared on the monthly sea surface temperature map. Additionally, anomalous warm temperatures have appeared off the coast of Peru. The El Niño episode, which is considered to be of moderate intensity, is also characterized by anomalous surface pressure patterns across the Pacific basin. The preliminary Southern Oscillation Index (SOI) for December is -2.1, the greatest negative number this year. This signifies that pressures were low in the Tahiti area of the Pacific Ocean relative to the Darwin area of Australia. Indeed, preliminary satellite data suggest that a large area of the western tropical Pacific was drier than normal, including the Philippines, eastern Indonesia, and northern Australia. Other global anomalies which showed up in December are typical of El Niño episodes, including heavy rains in northern Argentina and the western Gulf of Mexico, and dryness in southeastern Africa. The recent onset of drought in Zimbabwe and the heavy rains in Texas are typical of weather anomalies that occur during an El Niño.

**Sea Surface Temperature Anomalies (° C), December 1991**



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