

# 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

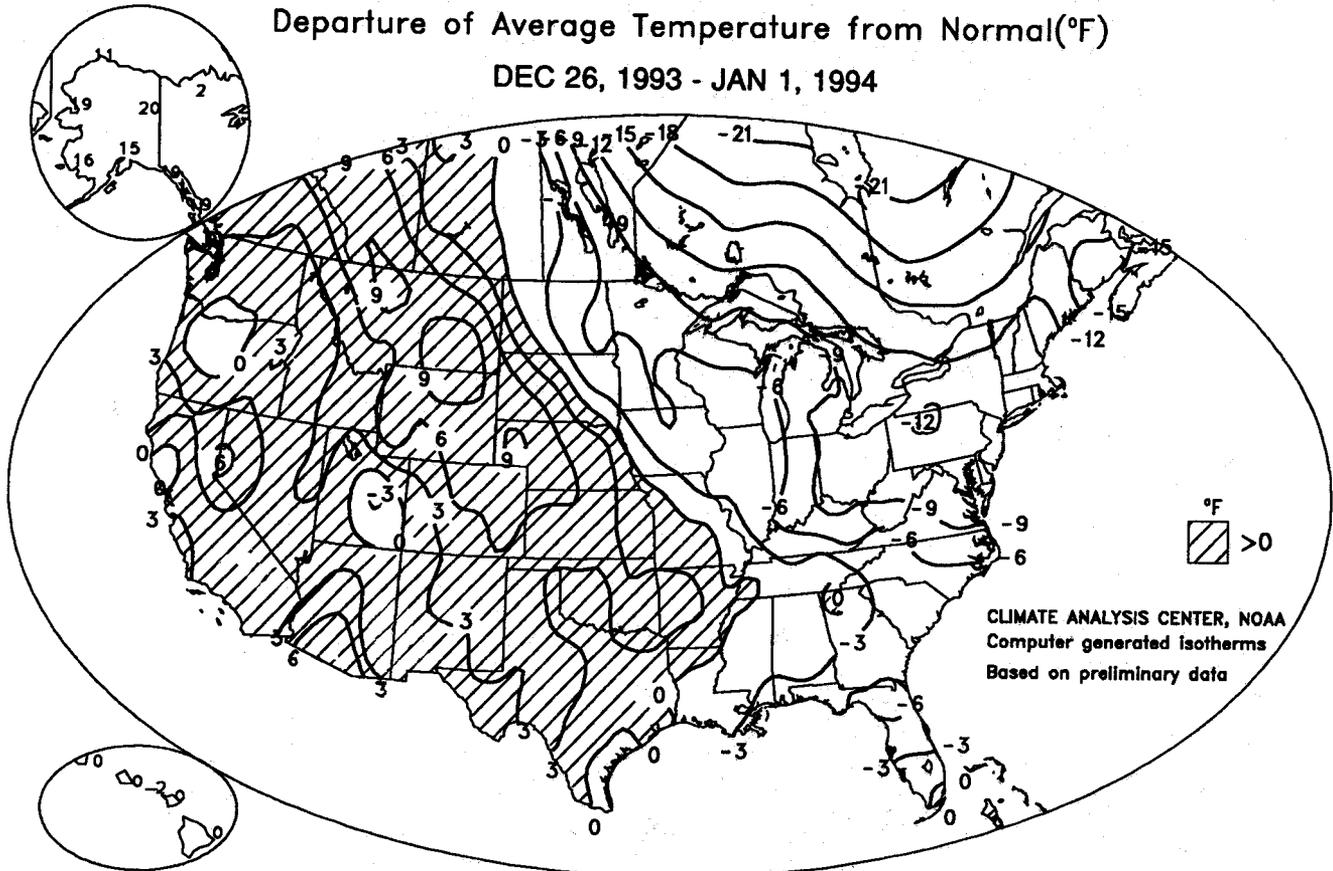
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Washington, D.C.

January 4, 1994

Departure of Average Temperature from Normal(°F)

DEC 26, 1993 - JAN 1, 1994



## HIGHLIGHTS

December 26, 1993 - January 1, 1994

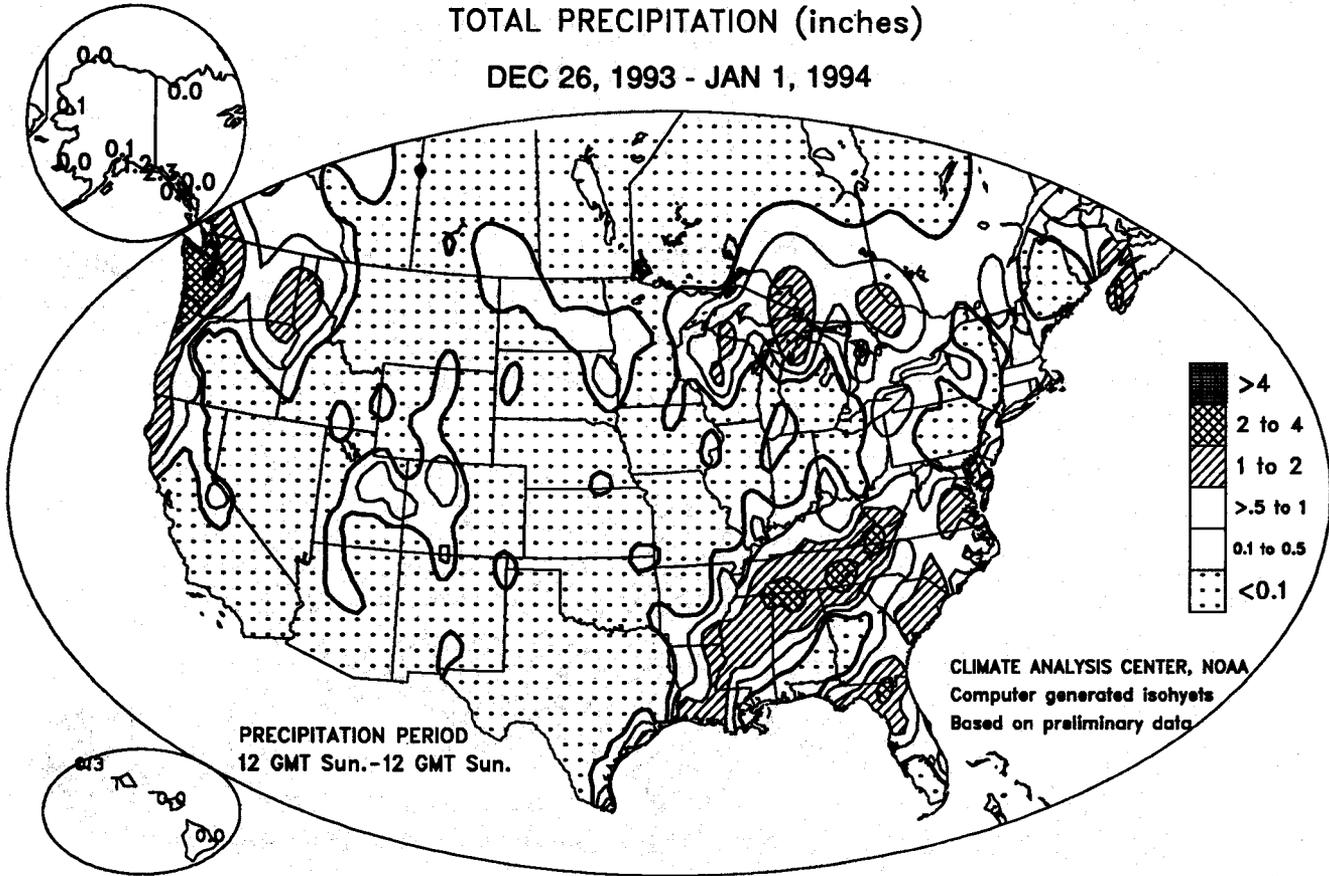
Bitterly cold airmasses repeatedly swept into the Nation's northeastern quadrant, holding temperatures well below normal. Farther west, warm weather prevailed throughout the High Plains, while precipitation pushed into the Pacific Northwest for the first time in 3 weeks. Early in the week, snow squalls raged across the Great Lakes snowbelts as temperatures plummeted, with local accumulations exceeding 1 foot. Lows on Sunday included -50°F in Tower, MN, and -31°F in Sault Sainte Marie, MI (a December record and the lowest reading since January 21, 1984). Frigid weather expanded its domain as the week progressed, producing daily record lows such as -30°F in Bismarck, ND on Monday, -21°F in Mason City, IA on Tuesday, and -15°F in Burlington, VT on Wednesday. Meanwhile, moisture aloft overspread cold air at the surface, resulting in ice and snow from the Middle

(Continued to back cover)

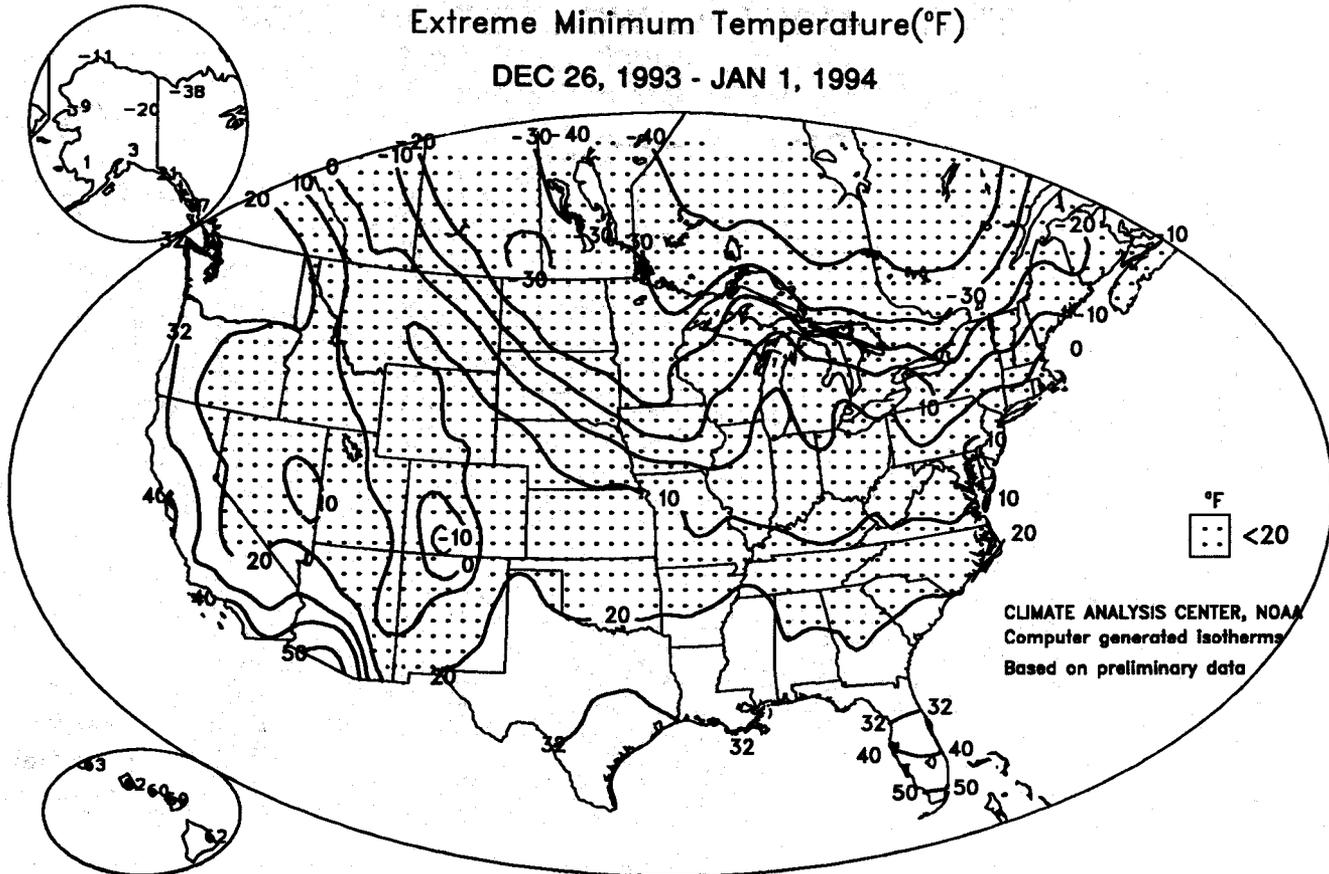
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TOTAL PRECIPITATION (inches)  
DEC 26, 1993 - JAN 1, 1994



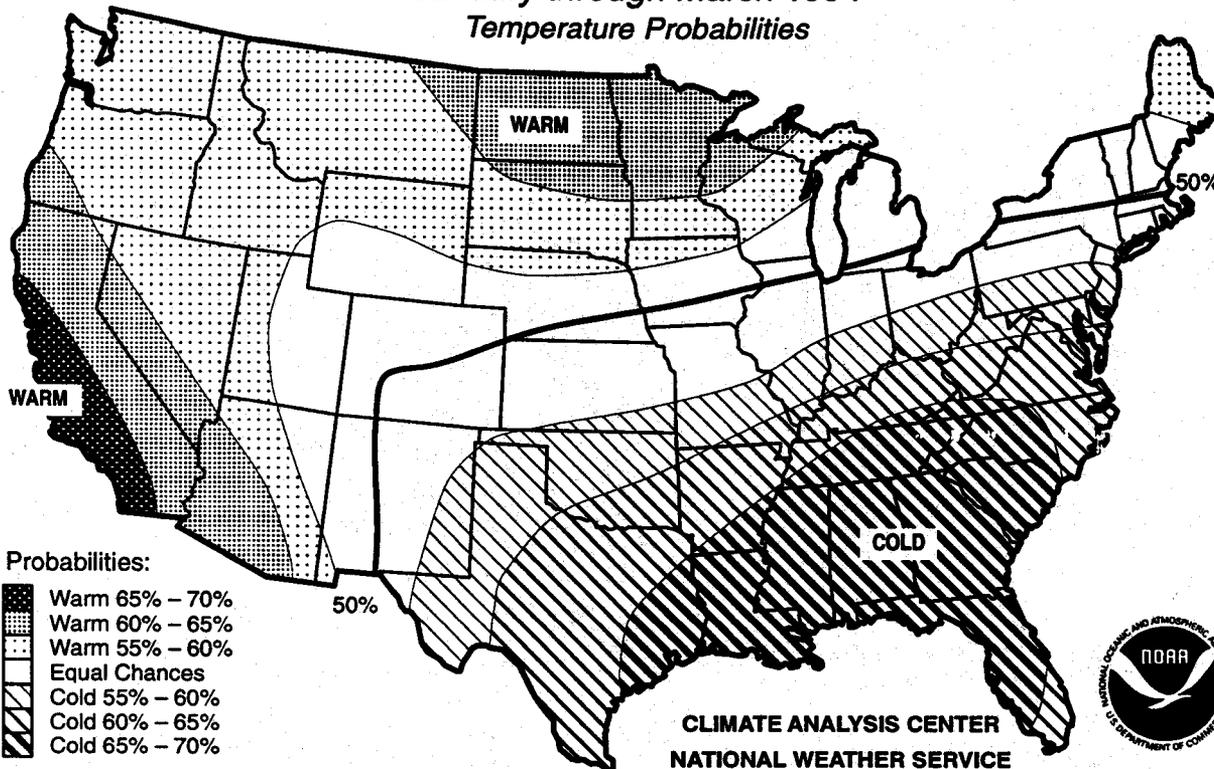
Extreme Minimum Temperature(°F)  
DEC 26, 1993 - JAN 1, 1994



### THREE-MONTHLY WEATHER OUTLOOK

January through March 1994

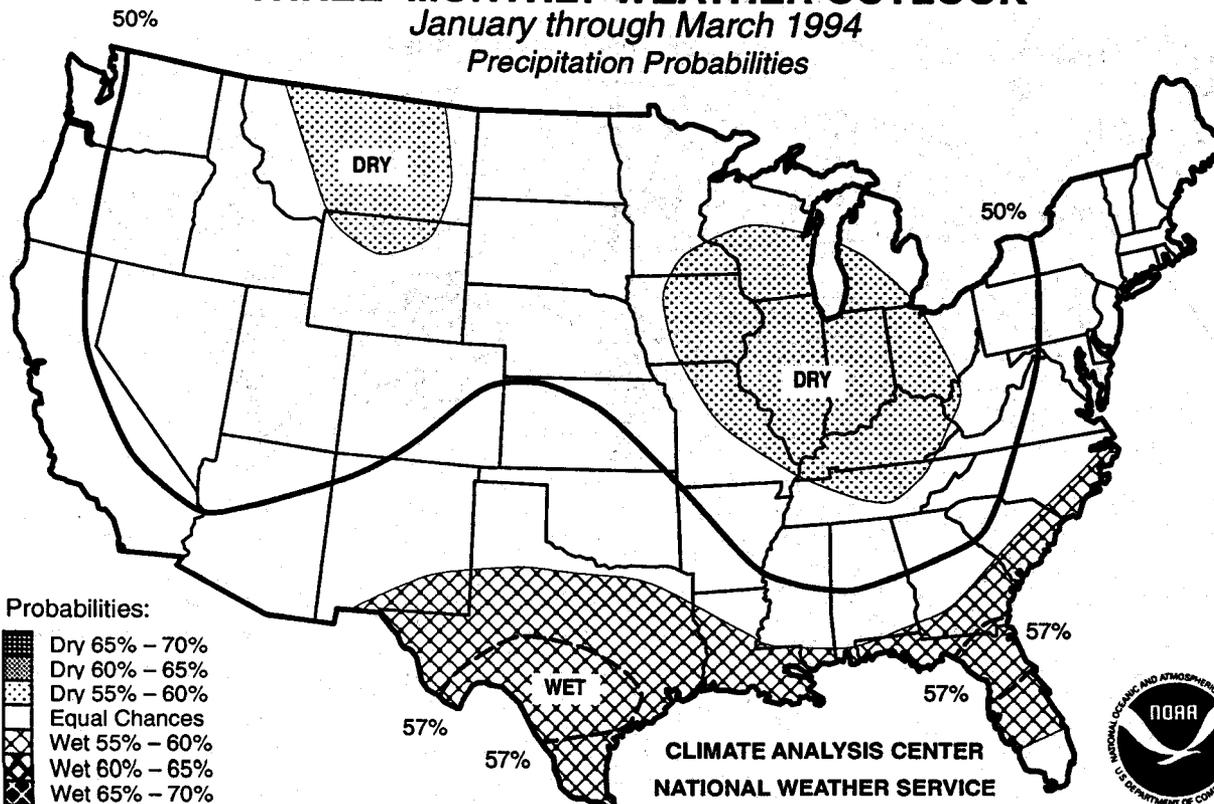
Temperature Probabilities



### THREE-MONTHLY WEATHER OUTLOOK

January through March 1994

Precipitation Probabilities





# National Weather Data for Selected Cities

Weather Data for the Week Ending January 1, 1994

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	54	30	64	17	42	-1	.7	.5	.4	4.3	81	.3	159	82	45	0	5	2	2	0		
MOBILE	60	35	72	25	48	-3	.1	.1	.1	3.8	69	.1	50	87	36	0	3	2	2	0		
MONTGOMERY	58	29	73	20	43	-2	.3	.9	.2	4.8	89	.1	41	88	41	0	5	3	0	0		
AK ANCHORAGE	32	21	44	11	26	11	.0	.0	.0	.3	27	.0	0	90	79	0	7	0	0	0		
BARROW	3	-5	10	-11	-1	12	.0	.0	.0	.1	92	.0	0	82	79	0	7	0	0	0		
FAIRBANKS	17	-3	21	-10	7	16	.0	.0	.0	.4	51	.0	0	85	74	0	7	0	0	0		
JUNEAU	39	30	44	26	34	9	.4	.6	.0	6.1	133	.2	100	97	82	0	6	3	0	0		
KODIAK	42	34	43	29	38	8	4.7	3.0	1.5	11.6	165	.8	338	96	83	0	2	7	5	0		
WCMK	31	19	40	-11	25	18	.0	.0	.0	1.9	215	.0	0	88	71	0	6	1	0	0		
AZ PHOENIX	70	50	73	46	60	7	.0	.0	.0	.2	2	.0	0	55	29	0	0	0	0	0		
PRESCOTT	54	26	57	20	40	5	.0	.0	.0	.5	28	.0	0	76	30	0	6	0	0	0		
TUCSON	70	45	72	41	58	7	.0	.0	.0	.1	13	.0	0	63	30	0	0	0	0	0		
YUMA	71	49	73	46	60	5	.0	.0	.0	.1	0	.0	0	50	21	0	0	0	0	0		
AR FORT SMITH	57	28	69	17	42	5	.0	.0	.0	2.9	92	.0	0	80	33	0	6	0	0	0		
LITTLE ROCK	54	32	65	21	43	3	.2	.2	.2	4.4	91	.0	0	69	45	0	5	2	0	0		
CA BAKERSFIELD	55	36	63	33	46	-1	.0	.0	.0	.6	95	.0	0	88	34	0	0	0	0	0		
BERKELEY	60	44	64	38	52	4	.6	.8	.3	7.5	120	.3	170	84	47	0	0	3	0	0		
FRESNO	54	38	59	34	46	2	.0	.0	.0	1.0	70	.0	0	97	34	0	0	0	0	0		
LOS ANGELES	70	50	76	46	60	4	.0	.0	.0	1.0	56	.0	0	76	30	0	0	1	0	0		
REDDING	55	34	64	30	44	0	.3	-1.0	-1.3	3.5	61	.3	145	97	60	0	3	1	0	0		
SACRAMENTO	51	37	58	33	44	0	.1	.6	.1	1.7	65	.0	0	100	76	0	0	1	0	0		
SAN DIEGO	68	47	72	44	58	1	.0	.0	.0	.8	47	.0	0	74	38	0	0	0	0	0		
SAN FRANCISCO	55	44	60	40	50	1	.1	.7	.1	2.2	68	.0	0	91	36	0	0	1	0	0		
CO DENVER	50	24	58	19	37	7	.0	.0	.0	.4	63	.0	0	75	32	0	7	0	0	0		
GRAND JUNCTION	33	17	37	10	25	-3	.3	.3	.3	.6	81	.0	0	95	64	0	7	2	0	0		
PUEBLO	52	17	66	9	35	5	.0	.0	.0	.0	0	.0	0	83	34	0	7	0	0	0		
CT BRIDGEPORT	28	15	43	9	21	-10	.2	.6	.2	4.6	126	.0	9	67	39	0	7	4	0	0		
HARTFORD	25	7	39	1	16	-10	.3	.6	.2	4.2	103	.0	0	80	38	0	7	2	0	0		
DC WASHINGTON	31	20	41	15	25	-11	.3	.3	.2	4.5	139	.1	78	79	45	0	7	3	0	0		
FL APALACHICOLA	61	36	73	26	49	-5	1.0	.0	1.0	3.8	89	.0	769	84	45	0	3	1	1	0		
DAYTONA BEACH	66	41	74	30	53	-5	.1	.5	.1	1.9	72	.1	112	97	54	0	1	1	0	0		
JACKSONVILLE	63	36	72	28	49	-7	.9	.2	.9	2.8	94	.9	989	84	45	0	2	1	1	0		
KEY WEST	73	64	79	58	69	-2	.4	.1	.4	2.6	123	.4	583	87	70	0	0	1	1	0		
MIAMI	77	60	83	48	69	1	.2	.2	.2	.7	36	.2	317	89	54	0	0	1	0	0		
ORLANDO	70	43	78	35	57	-4	1.0	.5	.2	.8	36	.0	43	92	48	0	0	1	0	0		
TALLAHASSEE	62	29	72	20	45	-6	1.0	.2	1.0	4.0	77	1.0	667	89	39	0	6	1	1	0		
TAMPA	69	47	76	39	58	-3	.1	.4	.1	1.4	62	.1	150	85	43	0	0	1	0	0		
WEST PALM BEACH	75	57	82	44	66	-1	.1	.5	.1	.8	35	.0	0	90	59	0	0	0	0	0		
GA ATLANTA	55	31	65	21	43	1	.0	.9	.1	2.6	57	.0	13	78	34	0	4	3	0	0		
AUGUSTA	55	27	68	18	41	-4	.5	.4	.4	3.1	88	.4	342	86	34	0	5	2	0	0		
MACON	56	28	66	18	42	-4	.1	-1.0	.1	2.9	65	.1	40	88	35	0	5	1	0	0		
SAVANNAH	61	34	70	25	47	-2	.9	.2	.9	3.1	101	.9	855	81	40	0	3	1	1	0		
HI HILO	80	64	83	62	72	0	.0	.0	.0	16.1	130	.0	0	83	56	0	0	0	0	0		
HONOLULU	82	65	84	62	73	0	.0	.0	.0	.3	7	.0	0	84	60	0	0	1	0	0		
KAHULUI	84	61	85	59	72	0	.0	.0	.0	.6	16	.0	0	82	46	0	0	0	0	0		
LIHUE	80	65	83	63	73	0	.3	.9	.2	2.9	54	.1	55	86	60	0	0	3	0	0		
ID BOISE	38	21	43	15	30	2	.2	.2	.2	1.2	85	.2	420	88	54	0	6	2	0	0		
LEWISTON	37	29	45	26	33	0	.7	.4	.4	1.2	98	.4	>1000	87	63	0	6	2	0	0		
POCATELLO	34	17	43	7	26	3	.1	.1	.1	.7	60	.0	75	93	68	0	7	2	0	0		
IL CHICAGO	26	12	41	3	19	-3	.0	.4	.0	1.0	40	.0	17	79	51	0	7	3	0	0		
MOLINE	26	9	41	-2	18	-4	.1	.3	.1	1.1	49	.0	0	77	53	0	7	2	0	0		
PRORIA	29	12	48	0	20	-3	.1	.4	.0	1.2	48	.0	0	78	55	0	6	2	0	0		
QUINCY	29	14	45	4	22	-4	.0	.4	.0	.9	37	.0	0	79	54	0	7	0	0	0		
ROCKFORD	24	9	38	-3	17	-3	.0	.4	.0	1.2	59	.0	0	86	54	0	7	1	0	0		
SPRINGFIELD	30	15	48	2	23	-3	.0	.5	.0	1.1	38	.0	0	82	52	0	6	1	0	0		
IN EVANSVILLE	35	20	43	9	27	-6	.2	.6	.2	2.7	69	.0	0	84	64	0	6	2	0	0		
FORT WAYNE	27	11	42	1	19	-6	.1	.5	.1	1.6	52	.1	86	83	65	0	7	4	0	0		
INDIANAPOLIS	28	14	45	3	21	-6	.1	.6	.1	2.2	64	.0	0	78	56	0	6	2	0	0		
SOUTH BEND	25	13	42	4	19	-6	.3	.4	.1	1.6	46	.1	56	83	62	0	7	5	0	0		
IA DES MOINES	28	7	49	-3	17	-3	.0	.3	.0	.9	61	.0	0	81	54	0	7	0	0	0		
SIoux CITY	29	7	42	-2	18	-1	.1	.1	.0	.6	70	.0	150	82	57	0	7	3	0	0		
WATERLOO	24	2	39	-17	13	-3	.1	.2	.1	.8	57	.0	0	86	62	0	7	2	0	0		
KS CONCORDIA	40	22	55	11	31	5	.0	.0	.0	1.1	128	.0	0	78	56	0	6	0	0	0		
DODGE CITY	47	22	61	14	35	5	.0	.0	.0	1.0	154	.0	0	80	44	0	7	0	0	0		
GOODLAND	48	20	59	12	34	6	.0	.1	.0	.2	2	.0	0	81	42	0	7	0	0	0		
TOPEKA	40	18	55	13	29	1	.0	.3	.0	.9	62	.0	0	84	48	0	7	0	0	0		
WICHITA	47	21	59	15	34	3	.0	.0	.0	.4	26	.0	0	80	45	0	7	0	0	0		
KY BOWLING GREEN	40	21	55	11	30	-4	.7	.4	.5	6.4	124	.1	100	90	61	0	7	2	1	0		
LEXINGTON	31	16	42	4	24	-9	.4	.4	.3	3.3	81	.0	18	87	63	0	7	4	0	0		
LOUISVILLE	34	18	43	7	26	-8	.4	.3	.3	2.6	70	.0	80	92	76	0	7	4	0	0		
LA BATON ROUGE	60	36	71	26	48	-3	.5	.7	.3	3.5	62	.3	147	95	50	0	3	2	0	0		
LAKE CHARLES	62	39	74	29	50	-1	.5	.6	.4	2.6	50	.1	62	91	55	0	2	3	0	0		
NEW ORLEANS	63	38	73	27	51	-2	.2	-1.1	.1	3.0	50	.1	47	92	45	0	2	2	0	0		
SHREVEPORT	59	33	72	25	46	1	.2	-.9	.2	1.7	34	.2	147	91	41	0	4	1	0	0		

Based on 1961-90 normals.

Weather Data for the Week Ending January 1, 1994

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							.50 INCH OR MORE
ME CARIBOU	5	-11	28	-22	-3	-13	.2	-.5	.1	4.1	122	.1	67	74	54	0	7	4	0	
PORTLAND	23	4	39	-2	14	-9	.4	-.6	.2	5.4	115	.0	0	74	37	0	7	3	0	
MO BALTIMORE	30	17	40	9	23	-10	.4	-.4	.2	4.6	131	.1	110	75	47	0	7	3	0	
SALISBURY	32	16	44	2	24	-12	1.0	.2	.4	5.1	134	.4	308	91	50	0	7	3	0	
MA BOSTON	30	12	47	7	21	-9	.5	-.4	.4	6.6	160	.0	0	71	38	0	7	2	0	
CRATHAM	30	15	41	8	23	-10	.6	-.3	.4	7.7	166	.8	8	83	42	0	7	4	0	
MI ALPENA	20	5	33	-9	13	-7	.3	-.2	.3	.7	32	.3	417	86	62	0	7	1	0	
DETROIT	24	11	40	3	17	-7	.1	-.5	.0	.8	28	.7	57	76	59	0	7	2	0	
FLINT	21	5	38	-6	13	-10	.4	-.4	.1	.5	24	.4	33	89	66	0	7	2	0	
GRAND RAPIDS	23	5	40	-6	14	-10	.2	-.3	.1	1.6	55	.1	200	90	65	0	7	2	0	
HOUGHTON LAKE	20	7	35	-3	13	-6	.3	-.1	.1	.9	43	.1	200	89	67	0	7	4	0	
LANSING	22	5	39	-7	13	-9	.1	-.3	.1	.8	36	.1	100	90	62	0	7	2	0	
MARQUETTE	13	-3	26	-17	5	-9	.6	.0	.3	1.6	61	.3	400	82	41	0	7	4	0	
MUSKEGON	24	13	39	3	18	-7	.3	-.3	.1	1.2	39	.1	144	90	66	0	7	5	0	
SAULT ST. MARIE	16	-8	30	-31	4	-11	1.2	.5	.4	2.9	99	.4	422	87	64	0	7	7	0	
MN ALEXANDRIA	14	-8	28	-23	3	-5	.2	.0	.1	.7	95	.0	0	89	63	0	7	4	0	
DULUTH	11	-9	27	-25	1	-7	.3	.0	.3	1.3	99	.25	25	80	40	0	7	3	0	
INT'L FALLS	6	-17	23	-34	-6	-8	.1	-.1	.1	.4	50	.0	0	79	61	0	7	3	0	
MINNEAPOLIS	21	-1	33	-15	10	-4	.4	-.2	.4	.6	50	.0	0	76	55	0	7	1	0	
ROCHESTER	19	-1	36	-16	9	-4	.1	-.1	.1	.7	70	.0	0	87	62	0	7	2	0	
MS GREENWOOD	55	30	70	21	43	-1	.7	-.6	.3	3.3	55	.3	188	94	53	0	4	3	0	
JACKSON	54	30	69	20	42	-2	1.0	-.4	.6	3.4	53	.6	289	92	45	0	4	2	1	
MERIDIAN	58	32	74	21	45	-1	.6	-.7	.4	3.7	59	.4	239	91	43	0	4	3	0	
MO CAPE GIRARDEAU	40	23	51	13	32	-1	.3	-.6	.3	2.8	61	.0	0	85	55	0	6	2	0	
COLUMBIA	37	16	54	8	26	-1	.4	-.5	.4	1.5	56	.0	0	82	48	0	7	0	0	
KANSAS CITY	38	18	55	10	28	-1	.3	-.3	.3	1.1	69	.0	0	78	47	0	7	7	0	
SAINT LOUIS	36	21	50	12	29	-2	.1	-.5	.1	1.5	50	.1	86	72	47	0	6	1	0	
SPRINGFIELD	45	21	61	9	33	2	.5	-.5	.1	1.6	59	.0	0	76	43	0	7	0	0	
MT BILLINGS	42	25	48	13	33	10	.4	-.2	.2	.2	26	.33	33	70	43	0	5	2	0	
GLASGOW	26	8	35	-6	17	5	.2	-.1	.1	.2	58	.1	900	87	75	0	7	3	0	
GREAT FALLS	43	23	47	12	33	12	.2	-.2	.2	.3	34	.0	0	67	53	0	6	1	0	
HAVRE	36	13	43	3	24	10	.4	-.1	.1	.2	0	.0	0	87	66	0	7	0	0	
HELENA	39	20	44	11	29	10	.4	-.1	.1	.1	21	.0	0	89	65	0	7	0	0	
KALISPELL	30	20	37	14	25	5	1.1	-.7	.5	1.9	106	.3	500	95	85	0	7	4	0	
MILES CITY	39	17	44	7	28	12	.1	-.9	.1	.2	27	.1	400	92	59	0	7	2	0	
MISSOULA	33	16	41	9	25	3	.1	-.1	.1	.5	38	.0	125	83	78	0	7	2	0	
NE GRAND ISLAND	38	18	52	8	28	6	.4	-.1	.1	.4	58	.0	0	82	52	0	7	0	0	
LINCOLN	35	13	49	6	24	2	.2	-.2	.2	.4	46	.0	0	88	53	0	7	0	0	
NORFOLK	35	12	48	4	24	4	.4	-.1	.1	.4	57	.0	0	80	55	0	7	0	0	
NORTH PLATTE	44	19	55	14	32	10	.4	-.1	.1	.4	57	.0	0	80	55	0	7	0	0	
OMAHA	31	12	47	0	22	1	.4	-.2	.2	.4	46	.0	0	90	47	0	7	2	0	
SCOTTSDUFF	43	21	50	16	32	8	.1	-.0	.0	.4	40	.0	0	78	55	0	7	0	0	
VALENTINE	40	17	48	3	28	6	.1	-.0	.0	.6	98	.0	0	87	46	0	7	1	0	
NV KLY	44	12	48	6	28	6	.1	-.1	.1	.5	94	.0	0	88	53	0	7	2	0	
LAS VEGAS	58	35	61	31	47	2	.2	-.1	.1	.2	20	.0	0	82	43	0	7	1	0	
RENO	46	30	59	24	38	7	.2	-.1	.1	.2	55	.0	0	55	24	0	1	0	0	
WINNEVOCCA	41	22	49	14	32	3	.4	-.1	.1	.3	16	.0	0	83	39	0	5	2	0	
NR CONCORD	23	-2	37	-8	11	-10	.2	-.4	.2	.3	103	.0	0	93	59	0	7	2	0	
NJ ATLANTIC CITY	30	14	42	5	22	-11	.4	-.3	.3	4.5	131	.3	264	83	42	0	7	4	0	
NM ALBUQUERQUE	52	24	55	16	38	4	.0	-.1	.0	.5	6	.0	0	69	31	0	7	0	0	
CLOVIS	55	27	67	24	41	5	.0	-.1	.0	.5	86	.0	0	63	27	0	5	0	0	
ROSWELL	58	28	63	18	43	4	.4	-.1	.1	.1	23	.0	0	75	33	0	4	0	0	
NY ALBANY	23	4	38	-2	14	-9	.1	-.5	.1	3.1	102	.0	0	80	44	0	7	3	0	
BINGHAMTON	18	3	36	-9	11	-12	.1	-.5	.1	3.3	107	.0	0	80	56	0	7	3	0	
BUFFALO	25	7	44	-9	16	-10	.7	-.1	.4	3.8	100	.2	180	82	53	0	7	4	0	
NEW YORK	30	19	43	11	24	-9	.3	-.4	.3	4.4	126	.0	0	68	40	0	7	2	0	
ROCHESTER	24	8	45	-2	16	-10	.1	-.5	.0	1.6	58	.0	0	43	84	56	0	7	4	0
SYRACUSE	23	4	43	-10	13	-11	.4	-.3	.2	3.2	98	.0	0	86	56	0	7	3	0	
NC ASHEVILLE	47	20	59	13	34	-4	.2	-.8	.2	3.6	79	.8	8	83	40	0	7	3	0	
CHARLOTTE	48	28	61	19	38	-3	.3	-.5	.2	3.4	95	.1	75	75	40	0	5	3	0	
GREENSBORO	40	21	59	14	31	-7	.5	-.3	.3	3.5	101	.2	200	85	52	0	7	3	0	
HAYTERAS	50	33	65	26	41	-5	.1	-1.0	.1	4.1	88	.0	0	82	42	0	3	1	0	
NEW BERG	49	27	62	17	38	-6	.3	-.6	.2	1.7	45	.1	85	91	40	0	4	2	0	
RALEIGH	42	23	57	14	32	-8	.9	-.1	.9	4.6	136	.9	773	84	53	0	7	2	1	
WILMINGTON	54	30	66	20	42	-3	.3	-.7	.2	2.9	68	.2	147	91	43	0	4	2	0	
ND BISMARCK	18	-6	32	-30	6	-4	.2	-.0	.1	.9	170	.0	0	94	70	0	7	4	0	
FARGO	13	-8	31	-23	2	-5	.3	-.2	.2	1.0	156	.0	0	80	67	0	7	5	0	
GRAND FORKS	9	-11	27	-23	-1	-7	.4	-.2	.2	.5	67	.0	0	85	65	0	7	1	0	
WILLISTON	22	1	32	-21	11	2	.3	-.1	.2	.5	79	.1	500	90	72	0	7	2	0	
OH AKRON-CANTON	21	9	37	3	15	-12	.1	-.5	.1	2.8	93	.1	88	85	59	0	7	3	0	
CINCINNATI	27	12	37	2	20	-10	.1	-.5	.1	2.6	79	.0	33	86	59	0	7	3	0	
CLEVELAND	23	9	39	-1	16	-11	.1	-.5	.1	2.3	72	.1	88	82	55	0	7	3	0	
COLUMBUS	25	11	38	4	18	-8	.1	-.4	.1	2.3	74	.1	171	86	60	0	7	2	0	
DAYTON	24	10	39	2	17	-11	.1	-.5	.1	2.8	92	.0	0	84	63	0	7	2	0	

Based on 1961-90 normals.

Weather Data for the Week Ending January 1, 1994

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
														OR MORE						OR MORE	OR MORE	OR MORE
TOLEDO	23	7	39	-2	15	→	T	-1.5	T	1.3	42	T	29	85	66	0	0	7	7	2	0	
YOUNGSTOWN	22	7	40	-2	14	-11	.2	-1.4	T	2.6	87	.1	82	85	57	0	0	7	7	3	0	
OK OKLAHOMA CITY	52	26	63	17	39	2	.0	-1.3	.0	1.3	88	.0	0	73	37	0	0	6	6	0	0	
TULSA	51	27	64	16	39	3	.0	-1.4	.0	1.8	80	.0	0	76	36	0	0	6	6	0	0	
OR ASTORIA	48	38	52	30	43	1	2.4	.0	.9	10.2	93	.6	174	94	73	0	0	1	1	4	3	
BURNS	37	17	44	12	27	4	.1	-1.2	-1	.9	75	.1	125	90	61	0	0	7	7	1	0	
MEDFORD	49	30	52	22	40	3	.2	-1.5	-1	2.5	73	.1	50	95	51	0	0	5	5	2	0	
PENDLETON	34	28	47	24	31	-2	1.0	.6	.8	1.7	103	.8	>1000	93	64	0	0	6	6	3	1	
PORTLAND	46	33	57	25	40	0	1.3	-1.1	.9	5.9	93	.9	453	90	43	0	0	4	4	3	1	
SALEM	46	33	60	27	40	1	1.4	-1.1	1.0	7.8	111	1.0	467	93	58	0	0	5	5	3	1	
PA ALLENTOWN	26	12	41	9	19	-5	.1	-1.7	-1	5.0	138	T	0	75	43	0	0	7	7	1	0	
ERIE	24	12	41	4	18	-10	.5	-1.2	.3	3.1	83	.2	211	83	52	0	0	7	7	4	0	
HARRISBURG	26	17	39	15	22	-5	.2	-1.7	T	4.0	117	.0	0	70	47	0	0	7	7	1	0	
PHILADELPHIA	30	20	43	17	25	-6	.2	-1.6	-1	3.8	101	.1	100	72	41	0	0	7	7	2	0	
PITTSBURGH	24	10	44	4	17	-11	.2	-1.5	-1	2.2	72	T	33	80	57	0	0	7	7	5	0	
SCRAMTON	24	7	41	-1	16	-11	.1	-1.4	-1	3.1	118	T	14	80	47	0	0	7	7	2	0	
RI PROVIDENCE	28	11	42	6	19	-10	.3	-1.6	.2	5.8	127	.0	0	72	36	0	0	7	7	2	0	
SC CHARLESTON	59	33	68	24	46	-3	1.4	.6	1.4	3.7	113	1.4	>1000	86	38	0	0	4	4	1	1	
COLUMBIA	54	28	67	18	41	-4	.5	-1.4	.4	2.7	74	.4	250	85	40	0	0	4	4	2	0	
FLORENCE	54	29	66	19	42	-3	1.4	.6	1.3	3.2	98	1.3	>1000	83	40	0	0	4	4	2	1	
GREENVILLE	49	26	62	17	37	-4	.3	-1.7	.3	2.9	69	T	0	82	42	0	0	6	6	2	0	
SD ABERDEEN	17	-7	36	-23	5	-1	.1	.0	.0	.6	106	T	0	82	57	0	0	7	7	3	0	
BURON	24	-1	37	-15	12	-3	.1	.0	.0	.7	150	T	0	83	68	0	0	7	7	4	0	
RAPID CITY	43	18	50	4	30	-8	.2	-1.1	-1	.5	106	T	0	83	49	0	0	7	7	2	0	
SIoux FALLS	24	0	40	-14	12	-2	.1	-1.1	.0	.3	44	T	100	88	55	0	0	7	7	3	0	
TN CHATTANOOGA	50	27	62	18	39	0	1.0	-1.2	.9	5.4	101	.2	94	90	49	0	0	6	6	2	1	
KNOXVILLE	45	26	57	18	36	-2	1.3	-1.2	1.1	8.2	175	.2	114	82	50	0	0	5	5	3	1	
MEMPHIS	51	32	65	23	42	1	.7	-1.4	.6	5.7	96	.1	64	78	47	0	0	5	5	2	1	
NASHVILLE	46	26	60	15	36	-2	1.0	.0	.9	6.7	141	.1	62	81	44	0	0	6	6	2	1	
TX ABILENE	59	34	71	29	47	4	.0	-1.2	.0	.9	85	.0	0	80	34	0	0	3	3	0	0	
AMARILLO	53	23	71	21	38	3	.0	-1.1	.0	1.0	221	.0	0	79	35	0	0	7	7	0	0	
AUSTIN	63	40	73	33	51	2	T	-1.4	T	1.1	59	T	0	83	38	0	0	0	0	0	0	
BEAUMONT	65	41	76	31	53	1	.5	-1.4	.4	2.0	40	.1	31	95	53	0	0	1	3	0	0	
BROWNSVILLE	69	47	79	37	58	-2	1.1	.8	.9	2.3	176	T	0	95	51	0	0	0	3	3	1	
CORPUS CHRISTI	66	46	77	36	56	0	1.1	-1.2	.1	4.8	368	T	0	90	49	0	0	0	1	0	0	
DEL RIO	66	43	74	30	55	5	.0	-1.2	.0	.2	16	.0	0	69	36	0	0	1	0	0	0	
EL PASO	57	34	63	22	46	3	.2	-1.1	.2	.7	116	.0	0	82	42	0	0	3	1	0	0	
FORT WORTH	60	36	71	28	48	5	.0	-1.4	.0	2.5	118	.0	0	81	36	0	0	3	0	0	0	
GALVESTON	63	49	72	42	56	2	1.6	.8	1.2	2.6	70	.1	118	86	63	0	0	0	2	3	1	
HOUSTON	64	40	75	33	52	1	1.1	-1.1	.1	2.7	55	T	15	93	52	0	0	0	3	0	0	
LUBBOCK	59	27	70	23	43	4	.0	-1.1	.0	.3	60	.0	0	82	29	0	0	5	0	0	0	
MIDLAND	60	33	74	27	46	3	T	-1.1	T	.3	68	.0	0	83	32	0	0	4	0	0	0	
SAN ANGELO	62	37	73	34	49	6	.0	-1.2	.0	.8	95	.0	0	81	31	0	0	0	0	0	0	
SAN ANTONIO	64	41	75	31	53	3	T	-1.3	T	.4	28	.0	0	79	37	0	0	1	0	0	0	
VICTORIA	64	44	75	37	54	1	.6	-1.1	.6	4.0	131	T	18	88	41	0	0	3	3	1	0	
WACO	60	34	73	27	47	2	.0	-1.4	.0	1.5	77	.0	0	89	43	0	0	3	0	0	0	
WICHITA FALLS	56	29	70	20	43	3	.0	-1.4	.0	2.6	164	.0	0	81	35	0	0	3	0	0	0	
UT CEDAR CITY	44	22	52	17	33	4	.1	-1.1	.1	.4	49	.0	0	89	47	0	0	7	7	1	0	
SALT LAKE CITY	38	22	45	16	30	3	.1	-1.2	.1	.9	60	T	0	91	64	0	0	7	2	0	0	
VT BURLINGTON	18	-3	37	-17	8	-11	T	-1.4	T	1.6	63	.0	0	84	53	0	0	7	2	0	0	
VA NORFOLK	40	24	51	16	32	-9	.5	-1.3	.3	3.6	107	.3	250	86	56	0	0	7	3	0	0	
RICHMOND	36	20	45	8	28	-9	.9	-1.1	.4	4.1	121	.3	291	85	51	0	0	7	3	0	0	
ROANOKE	36	19	43	15	27	-8	.4	-1.2	.3	5.3	173	.0	0	74	46	0	0	7	2	0	0	
NA QUILLAYUTE	47	40	50	31	43	4	2.9	-1.5	1.2	12.7	79	.1	10	99	94	0	0	2	5	2	0	
SEATTLE-TACOMA	46	37	52	27	41	2	1.1	-1.2	.4	4.7	77	.2	121	96	81	0	0	3	4	0	0	
SPOKANE	31	26	38	23	29	2	1.0	-1.5	.8	2.6	106	.8	>1000	97	87	0	0	7	2	1	0	
YAKIMA	34	28	47	24	31	3	.1	-1.3	.1	1.0	70	T	25	91	73	0	0	7	3	0	0	
WV BECKLEY	33	16	46	7	25	-6	.6	-1.2	.4	4.5	134	T	0	82	49	0	0	7	3	0	0	
CHARLESTON	34	16	49	11	25	-9	.4	-1.3	.4	3.2	93	T	0	88	53	0	0	7	2	0	0	
HUNTINGTON	32	16	44	9	24	-8	.7	-1.1	.6	3.3	90	T	0	85	54	0	0	7	3	1	0	
PARKERSBURG	28	12	45	3	20	-12	.2	-1.5	.2	2.1	68	T	0	85	54	0	0	7	3	0	0	
WI GREEN BAY	18	3	34	-9	11	-6	.1	-1.2	.1	.5	33	.1	200	76	52	0	0	7	3	0	0	
LACROSSE	21	5	36	-8	13	-3	T	-1.3	T	T	0	T	0	74	51	0	0	7	7	0	0	
MADISON	22	5	38	-5	14	-4	.1	-1.2	.1	.4	26	.1	225	87	50	0	0	7	2	0	0	
MILWAUKEE	26	10	43	1	18	-3	T	-1.4	T	.7	30	T	50	83	44	0	0	7	2	0	0	
WAUSAU	17	-1	30	-13	8	-6	.2	-1.1	.1	.7	48	.1	325	68	35	0	0	7	3	0	0	
WY CASPER	37	24	42	17	31	9	T	-1.1	T	.7	100	.0	0	74	50	0	0	7	7	0	0	
CHEYENNE	44	23	53	18	34	7	T	-1.1	T	.3	70	.0	0	85	35	0	0	7	1	0	0	
LANDER	34	13	46	2	24	5	.0	-1.1	.0	.4	71	.0	0	85	47	0	0	7	7	0	0	
SHERIDAN	42	20	50	10	31	10	T	-1.2	T	.5	62	T	0	86	54	0	0	7	1	0	0	

Based on 1961-90 normals.

## CROP PROGRESS 1993

The 1993 winter wheat crop came through the winter in generally good condition. Timely storms kept adequate snow cover in the Northwest and central and northern Great Plains for most of the winter. The crop in the South and Southeast although rated in good condition, was stressed by mostly wet conditions. Cool, cloudy conditions in April delayed the growth of the wheat crop across much of the country. Cool and wet conditions across the Plains and hot dry conditions across the Southeast in May caused winter wheat conditions to decline. In June, continued hot weather across the Southeast and parts of Texas stressed the crop, allowed the harvest to begin, and permitted a rapid advance to its conclusion in July. In the Great Plains and Northwest, continued cool and wet conditions delayed wheat development, hindered harvest progress, and caused the wheat harvest to lag. By the end of August, the wheat harvest concluded in the Great Plains and finished in the Northwest by mid-September. Producers started planting of the 1994 winter wheat crop in late September. Conditions were mostly favorable, although progress was hindered at times by excessively dry soils in parts of Texas and the Southeast, and excessive moisture in parts of the Great Plains. By the end of October, planting progress was on schedule when compared to last year and the 5 year average. Wheat emergence in November was also on schedule when compared to last year and the average, though it lagged slightly in the Northwest. Snow across the Northwest and upper Great Plains gave the new crop adequate protection during November and early December. Warm conditions the end of December, diminished the snow cover in the Northwest and parts of the upper Great Plains, which caused concern to producers in those areas. In the South and Southeast, the crop was in mostly good condition, although sunshine and warmer weather would help the crop.

Planting of the 1993 spring wheat crop was hindered by wet conditions in April. Although drier conditions in May allowed completion of planting, much of the acreage was planted late. Favorable June conditions allowed the crop to make good progress. Cool, damp conditions in July and August slowed crop maturity, promoted disease, hurt quality, and hindered harvest. Harvest of the spring wheat crop continued through September and finally finished in the Northwest in early October.

Corn planting began in southern Texas in early March. Planting progress moved northward in March but was severely delayed by wet conditions in the corn belt in April. Continued wet conditions during May and early June across the corn belt hindered planting. Although planting was finished by mid-June, much of the crop was planted 1 to 2 weeks later than normal, and some fields that were intended for corn in May were not planted. Weather conditions across the corn belt in June, July and early August were cool and wet which further slowed crop development. Excessive moisture in July damaged and destroyed some corn fields in parts of central Iowa, southwestern Minnesota, and along the upper half of the Mississippi River. In the Southeast, corn yield prospects were sharply reduced by hot, dry conditions in June, July and August. Harvest of the corn crop started in late July in Texas and spread quickly to the South and Southeast in August. By September, the harvest of the heat stressed crop in the Southeast was well along, but harvest of the late planted slow-maturing crop in the corn belt was behind

average. Harvest in the Southeast was virtually over in October. A hard, killing frost occurred over the corn belt in early October, helping the crop to dry down and allowing harvest progress to accelerate. By the middle of November, the corn harvest was virtually concluded, finishing well ahead of last year, and close to average.

Planting of the 1993 soybean crop was hindered by excessive moisture in the central parts of the Nation and excessive dryness in the Southeast in May and June. By the middle of July the crop was planted. However, excessive rains in the Midwest prevented some intended acreage from being planted and damaged or destroyed other planted acreage. Cool conditions across the central part of the Nation and dry conditions in the Southeast in July and August slowed crop development. Harvest of the crop started in late September, but progress lagged last year and average. More favorable conditions in October allowed the harvest to accelerate and by the beginning of November, progress was equal to last year and average. Harvest was completed in most areas of the country by the middle of November. Wet conditions delayed completion of the harvest in the Southeast until early December.

Sorghum planting began in Texas in early March. As planting of the crop spread northward, progress was impeded by wet conditions. By the end of April, planting progress was about one week behind average. Wet fields, especially in the central Mississippi Valley insured that planting progress remained a week behind average at the end of May. Although wet conditions plagued producers throughout June and into July, the crop was finally planted by mid-July. Cool, damp conditions that slowed crop development in late July, gave way to warmer and drier conditions in August. The harvest started in September and made normal progress. Wet conditions in October, and a late maturing crop in the Central Plains hindered harvest progress. Drier conditions in November allowed harvest progress to increase. By mid-November, the harvest was virtually over.

Planting of the cotton crop started in Texas in early March. Progress spread to other areas in April and May with the planting done by early June. Some planting problems occurred in the lower Mississippi Delta due to excessive moisture. Hot dry conditions allowed the crop to mature rapidly during July and August. By September, the hot dry conditions caused some premature boll openings, and harvest began. Favorable conditions allowed the harvest to progress rapidly during September and October, although rain caused delays in the Mississippi Delta and parts of the West. A killing frost at the end of October covered much of the remaining cotton, which allowed increased harvest activity during November. By the end of November, the cotton harvest was virtually completed.

Excessively wet fields, especially in the lower Mississippi Delta, during April and May caused delays in the planting of rice. Although excessive moisture remained a problem, the crop was planted by mid-June. Good conditions in July and August allowed the crop to make good growth. Harvest started in August. During September, rains had delayed harvest and by October, progress was one to two weeks behind average. The harvest concluded by the end of October.

## National Agricultural Summary

December 27, 1993 - January 2, 1994

**HIGHLIGHTS:** Snow cover was reduced in the central Great Plains and livestock stress was decreased in the West by above-normal temperatures. Growth of fall-planted grains was slowed and livestock remained stressed by below-normal temperatures which occurred over the Great Lakes, eastern seaboard and southern States. Field work was delayed early in the week by a storm that brought rain to the South and snow to the middle Atlantic States. Fall grains in the Northwest benefited from a late-week rain storm.

**SMALL GRAINS:** Above-normal temperatures across the Northwest, central Great Plains, and Montana removed much of the snow cover for winter wheat and fall-planted small grains. This lack of snow cover caused concern to producers in these areas. Further east, snow cover was mostly adequate from the Dakotas to the Ohio Valley. In the southern Great Plains, winter wheat and other small grain fields needed more moisture. Dry conditions in Texas and Oklahoma allowed producers to treat some fields for greenbugs. Sunshine and drier conditions were needed for some fields in Arkansas.

**OTHER FIELD CROPS:** Georgia onion planting advanced where conditions allowed. The harvest of peanuts was essentially completed in Texas. The sugarcane harvest remained mostly active, and sugarcane planting advanced in Florida. Tobacco bed preparation was active in Georgia where weather conditions permitted, while tobacco plant beds were started in Florida.

**FRUITS AND NUTS:** The pecan harvest continued in Georgia, Arizona, and New Mexico. In Texas, rain hampered the pecan harvest in the Trans-Pecos area. Citrus harvests advanced in Arizona, California, and Florida. Light rains across the Florida citrus areas allowed producers to suspend irrigation. This week's cool weather induced near dormant citrus tree conditions in Florida. In California, producers fertilized and sprayed their deciduous trees. The California date harvest ended with quality and yields better than normal.

**VEGETABLES:** The vegetable harvest advanced in California, Florida, and Arizona, although harvest and movement of some vegetables were slowed by the holidays. Wind scarred some vegetables in the Dade County and Homestead, Fl areas. Strong winds blew topsoil and hampered planting in Riverside County, Ca. Minor damage from last week's frost was discovered on some vegetables in west central Florida. Carrot supplies remained tight in California due to lower than expected yields. Preparations for and planting of spring vegetables advanced where conditions allowed. In the Trans-Pecos of Texas, some producers were controlling weeds and irrigating their fields along Rio Grande River.

**PASTURE AND LIVESTOCK:** This week's below-normal temperatures across the north central and northeastern parts of the country continued to stress livestock and put pressure on feed supplies. The cold conditions have affected feedlots in the central part of the Nation and helped producers in South Dakota control foot rot problems in their livestock. In the Central Plains, livestock grazed on stubble and stalk pastures where conditions allowed. Pasture feed conditions in the South and Southeast were fair to good. Pastures in Texas and California needed more moisture to promote growth. Nationwide, supplemental feeding of livestock continued where needed. Feed supplies remained mostly adequate across the Nation. However, some shortages were reported in Texas and Arizona, and good quality feed was short in Minnesota. The condition of livestock rated mostly good across the Nation. Calving and lambing activities were active in California.

## 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 0.24 to 1.67 in. north; 0.20 to 1.23 in. central; 0.08 to 0.27 in. south. Temperatures 6° below normal to 2° above normal north; 6° below normal to 1° above normal central; 4° below normal to 2° above normal south. Lows 12 to 21° north; 14 to 22° central; 16 to 27° south. Highs 57 to 70° north; 63 to 74° central; 70 to 74° south.

Primary activities: General care of livestock, poultry, catfish.

**ARIZONA:** Temperatures warmed, 1° above normal to 7° above normal. Extremes 10°; 67° higher elevations; 25°; 75° deserts. Scattered rain, snow showers early, midweek.

Small grains field preparations, planting continue ahead of past years. Small grain seeded 87%, 78% 1992, 84% avg.; established 76%, 63% 1992, 65% avg. Alfalfa mostly good. Harvest, sheepling off activities light; stand renovation, new stand establishment mostly below normal to normal. Citrus harvest slowed for holidays. Grapefruit, navel, sweet oranges, lemons available central, western areas. Tangerines, tangelos, also available central area. Vegetable harvest steady. Available from both western, central areas: broccoli, cabbage, cauliflower, leaf, romaine lettuces, spinach. Western harvest also included: Iceberg lettuce, endive, escarole. Central crops also available included: Mixed greens, green onions, radishes, rapini, rutabagas, turnips. Apples, pecans available eastern areas. Cattle, calves continued fair to good condition. Below average to average feed supplies available. Stockwater supplies mostly adequate; soil moisture short to adequate.

**ARKANSAS:** Temperatures, precipitation were variable. Rains were heaviest in southeast late week. Parts of north were dry.

Soil moisture supplies adequate to surplus. All farming activities normal. Cotton gins were cleaning up modules, continued to close down for the year. Wheat fair to good, needs sunshine, dry weather. Some wheat fields saturated. Livestock good. Producers feeding hay, supplies adequate. Pastures good.

**CALIFORNIA:** Weak weather system moved through end of week bringing light rain. Most locations dry. Temperatures below normal foggy valley, temperatures 2 to 6° above elsewhere.

Limited field activity lighter soils. Some fields too wet heavy equipment. Winter wheat planting mostly complete Sacramento Valley, adequate soil moisture, good development emerged fields. Small grain, forage crop planting continued San Joaquin Valley. Wheat plantings desert region growing well, south coast area fields need precipitation. Some oat planting continued Sacramento Valley, emerged stands looked good due to lack of freezing temperatures. Alfalfa planting advanced Sacramento Valley, newly-planted fields San Joaquin Valley doing well. Alfalfa hay harvesting ongoing desert. Alfalfa, sudangrass for greenchop progressed slowly southern districts. Milo harvest essentially over. Other field activities include ground preparation, weed control alfalfa, clover, corn, cotton. Pruning deciduous trees, vines progressing. Weed control, dormant sprays, fertilizer applications continued. Dates harvest complete; quality, yield above average. Lemons, grapefruit, tangerines, Navel orange harvest continued. Harvest broccoli light Salinas-Watsonville, Santa Maria. Tulare County broccoli harvest tapering down, going local markets, processing. Small amount cabbage harvested central valley. Supplies carrots continue tight. Cauliflower season drawing to a

close, central valley. Movement cauliflower slow due to holidays. Some celery coming out desert valleys. New crop head lettuce planted in western Tulare County. Riverside County harvested head, leaf lettuce. Movement lettuce slow through holidays. Winter potato movement Riverside County continued, demand fall potatoes Tulelake-Butte off a little. Harvest spinach Coachella Valley continued. Strong winds, blowing topsoil hampered planting Riverside County. Ground preparation, preplant weed control San Joaquin Valley. Other crops being harvested: Green onions, turnips, various oriental vegetables. Cattle grazing foothill pastures. Ranges/pastures need moisture, warmth to promote growth. Water supplies adequate, snow needed for runoff. More ranchers used supplemental feed. Calving/lambing active, young doing well. Cattle movement moderate to heavy. Livestock good condition.

**COLORADO:** Cold front moved through on the 27th leaving 3 to 6 in. new snow in the northern, central mountains, mostly fog, traces of moisture at lower elevations. Fog continued on the 28th but little precipitation reported, mostly dry conditions continued through the 1st. High winds in the mountains, near the Front Range on the 31st through the 2nd. On the 2nd 5 to 10 in. snow fell in portions of the northern, central mountains, little moisture at lower elevations. Temperatures statewide were generally within a couple of degrees of normal in the San Luis Valley, west of the Continental Divide, mostly 4 to 7° above normal near the eastern foothills, in the eastern plains.

Lack of snowcover is a concern for winter wheat producers. Care of livestock is the primary producer activity.

**FLORIDA:** Temperatures 2 to 7° below normal north to 3 to 6° above normal south. Highs; lower 70s north to mid 80s south. Lows; near 20 extreme north, Panhandle to near 60° along southeast coast. Rain reported 1 to 4 days. Totals less than 0.50 to 3.00 in.

Soil moisture short to adequate throughout State. Sugarcane harvest, planting active. Started planting tobacco beds. Good citrus tree condition. Light rains one or more days, most irrigation discontinued. Cool weather has induced near dormant tree condition. Fruit drop light. Early-mid orange harvest very active. Grapefruit movement increasing for fresh, processing. Early tangerines almost complete with Dancy harvest increasing. Tangelos increasing for fresh, processing. Vegetable production areas cool, dry. Vegetable crops being irrigated south. 25 mph wind scarred fruit, tossed vines about Dade/Homestead area. Minor frost damage from previous weekend freeze noted West Central. Holidays slowed harvesting. Volume leaders; tomatoes, peppers, squash, cucumbers, snap beans. Also available; cabbage, chinese cabbage, carrots, sweet corn, celery, eggplant, endive, escarole, iceberg, specialty lettuces, radishes, strawberries, cherry tomatoes. Pasture feed 50% fair, 50% good. Cattle herds mostly fair to good condition.

**GEORGIA:** Temperatures 1 to 4° below normal. Middle 50s northeast mountains to lower 70s extreme southeast. Temperatures from middle teens across north to low to middle 20s central, southwest to upper 20s southeast. Number of rain days one to two central, south, 3 to 4 days north. Rainfall 1.00 in. mountains, extreme southeast 0.25 in. elsewhere except somewhat greater amounts locally.

Soil moisture adequate to surplus, mostly adequate. Field activity limited due to below normal temperatures, holidays, wet fields. Pecan harvest steady progress. Soybeans, cotton harvest virtually

complete. Onion planting, tobacco bed preparation as weather permitted, conditions mostly good. Pastures poor to fair, livestock good. Small grain seeding complete most areas, conditions fair to mostly good.

**HAWAII:** Year ended with cool, dry weather. Light trade winds allowed volcanic haze from Hawaii island to drift over island chain. Rains varied none to 1.80 in. Temperatures high 50s to mid 80s.

Days available for fieldwork 7.0. A ban on agriculture burning was in effect early in the week due to volcanic haze. Growers stepped up irrigation efforts, ensuring normal crop progress. Rouging programs (tree removal) for disease control were on-going for banana bunchy top and papaya ringspot virus. Banana production near last week's level. Papaya output declining. Tomato picking heavy.

**IDAHO:** Temperatures 5° above to 3° below normal. Precipitation 0.08 to 1.26 in. north, none to 0.15 in. southwest, none to 0.14 in. south central, none to 0.09 in. east. Fairfield reached the State low of 9° below zero.

Soil moisture adequate. Hay, roughage supplies adequate. Activities: Marketing, educational meetings, shop activities, livestock care. Concern about lack of snowcover. Livestock good condition.

**ILLINOIS:** Cold temperatures dominated last week, aided by some snowcover. Temperatures 1 to 4° colder than normal. Greatest temperature departures occurred in southern areas, where lows were in the single digits, teens. Wind chills well below zero on some days. Precipitation was minimal, with averages of less than 0.25 in. or less than 0.10 in. common in most areas.

Farm activities last week continued mostly in the area of livestock care. Cold weather over the last two weeks has affected feed lot conditions, as farmers continue to monitor quality hay supplies.

**INDIANA:** Cold temperatures dominated. Temperatures 3 to 8° below normal. Lows often in the single digits, teens during the week, moderating over the weekend to the teens, 20s. High temperatures mainly below freezing until the weekend. Rainfall, water equivalent, averaged less than 0.25 in., mostly falling as snow.

Frozen ground permitted some late harvest of corn. Wheat condition remains good in most areas with adequate snowcover early in the week. Hay supplies remain adequate to good. Livestock in mostly good condition. Other activities: Building maintenance, hauling manure, tax preparation, machinery maintenance.

**IOWA:** Highly variable weather. Very cold, dry early week; mild late week; widespread moderate snowfall, turning much colder by weekend. Overall, temperatures within 2° of normal. Extremes -21°; 49°. Precipitation 0.07 in. southwest to 0.67 in. east central; average 0.27 in. (normal 0.21 in.). Snowcover 1" southwest to 6" north one-third.

Major farm activities currently are livestock care, preparation of 1993 taxes, buying inputs for the 1994 crop.

**KANSAS:** Temperatures continued above normal. Precipitation was light. Crops, livestock continue in better shape than a year ago. Snows have been light, interspersed with warm days. Ground remains unfrozen.

**KENTUCKY:** Cold with limited precipitation. Ice, snow on 28th blanket the State. Snow generally 1 to 4 in. High temperatures upper 30s. Lows averaged low 20s. Precipitation near 0.75 in.

Snow provided winter wheat some limited protection from cold

temperatures. Field activity minimal. Farmers busy feeding cattle, breaking ice. Supplemental feeding continued with adequate feed, hay supplies.

**LOUISIANA:** No weather data available.

Northern parishes experienced rain which delayed fieldwork considerably. Main activities were equipment repair, headland maintenance, tending of cattle. Southern parishes also had limited days suitable for fieldwork because of rain showers throughout the week. Main activities were winter wheat fertilization, equipment repair, maintenance, end of the year bookkeeping, tending of cattle.

**MARYLAND & DELAWARE:** **MARYLAND:** Precipitation 0.47 in., normal 0.78 in. Temperature 23.5°, normal 34.5°. Extremes 4°; 42°.

Activities: Attending meetings. Caring for livestock. General chores. Holidays.

**DELAWARE:** Precipitation 0.44 in., normal 0.80 in. Temperature 24.7°, normal 35.5°. Extremes 10°; 37°.

Activities: Attending meetings. Caring for livestock. General chores. Holidays.

**MICHIGAN:** Extremes -17°; 40°. Precipitation 0.04 to 1.15 in. Major activities: Cutting wood, pruning orchards, repairing machinery, spreading manure, trimming fence rows, hauling corn to market, grading apples.

**MINNESOTA:** Temperatures 2 to 8° below normal for the State. Extremes -35°; 38°. Precipitation 0.06 in. above normal for the northeast, near normal to 0.17 in. below normal elsewhere. Precipitation 0.07 to 0.28 in. Greatest weekly total 0.50 in. Aitkin. Snowfall 2 to 5 in. for State. Snow depth at weekend 2 to 3 in. for the southern one third of the State, 7 to 15 in. elsewhere.

Past week was the second in a row in which temperatures were below normal for the State. Cold weather continues to place stress on livestock producers facing shortages of good quality feed.

**MISSISSIPPI:** Weather data not available.

Days suitable for fieldwork 1.6, 2.0 1993, 1.5 5 yr avg. Soil moisture 25% adequate, 50% surplus, 25% excessive. Hay supply 33% short, 67% adequate. Feed grain 33% short, 67% adequate. Livestock 33% fair, 67% good. Pasture feed 79% of normal. Activities: Feeding livestock.

**MISSOURI:** Temperatures near normal. Precipitation 0.13 in., mostly minor except southeast, 0.45 in.

Topsoil 66% adequate, 34% surplus. Subsoil 70% adequate, 30% surplus. Wheat 2% very poor, 18% poor, 64% fair, 16% good. Hay supply 5% short, 85% adequate, 10% surplus, quality below normal. Livestock 20% fair, 78% good, 2% excellent. Pasture 1% very poor, 7% poor, 61% fair, 30% good, 1% excellent.

**MONTANA:** Temperatures 5 to 10° above normal except northeast 2° above normal. Precipitation at least 0.10 in. except north central. Western third, higher elevations received 0.25 to more than 1.00 in.

Protectiveness of snowcover for winter wheat is 71% poor, 20% fair, 8% good, 1% excellent. Winter wheat 2% poor, 24% fair, 58% good, 16% excellent. Grazing is 69% open, 29% difficult, 2% closed. Supplemental feed was given to 81% of the cattle, calves, 88% of the sheep and lambs.

**NEBRASKA:** Temperatures 1 to 9° above normals. Precipitation 0.10 to 0.20 in. north with only trace amounts elsewhere.

Winter wheat 5% poor, 21% fair, 70% good, 4% excellent. Feed

grain supplies 3% short, 91% adequate, 6% surplus. Hay, forage supplies 7% short, 80% adequate, 13% surplus. Cattle were grazing stalk fields with some supplemental feeding due to snowcover. Other farm activities included marketing, delivering grain, monitoring farm stored grains, repairing machinery, routine chores.

**NEVADA:** Some light rain and snow northern, central areas on 26th, 27th. Temperatures above normal. Extremes 2°; 65°.

Mild weather generally favorable all livestock activities. Major activities include care and feeding of livestock, chopping ice for livestock water, general maintenance.

**NEW ENGLAND:** Precipitation 0.04 to 0.44 in. regionwide. Temperatures 0 to 15° north; 9 to 21° south. Maximum temperatures 38 to 40° north; 42 to 43° south. Minimum temperatures -22 to -24°; -11 to 6° south.

Major farm activities: Preparing for winter, readying for lambing.

**NEW JERSEY:** Temperatures much below normal; 19° north, 25° south, 28° coastal. Extremes -2°; 54°. Precipitation below normal; averaging 0.17 in. north, 0.49 in. south, 0.57 in. coastal. Heaviest 24 hour total 0.52 in. on 1st, 2nd. Heaviest 24-hour snowfall 4 in. on the 29th, 30th. Snow on ground on 3rd less than 1 in. north.

Farmers caring for livestock and other normal winter chores.

**NEW MEXICO:** Quick-moving winter storm hit south central areas around mid week; otherwise, it was an uneventful week. Temperatures between 3 to 4° above normal. Precipitation almost all confined to south central areas. Higher totals in these areas reached 0.50 in.

Farming activities: Primarily consisted of turning under crop stubble, land preparation for spring crops. A small amount of pecan harvest still underway. Supplemental feeding of livestock active.

**NEW YORK:** Temperatures cooler than normal. Highs 0 to 10° Saint Lawrence Valley to the teens in southern areas. Light snow fell on 26th with more substantial lake effect snow east of Lakes Ontario, Erie. A similar case occurred on the 30th.

Major activities: Tending livestock, spreading manure, repairs, attending meetings. Coldness made outside activities difficult.

**NORTH CAROLINA:** Mean temperatures 8 to 3° below normal. Largest negative departures were in the eastern half of the State. Precipitation 1.25 in. Murphy to no rain at Kerr Scott.

Activities included planting cover crops, tending livestock, general farm maintenance, cutting wood.

**NORTH DAKOTA:** Arctic high pressure brought wind, sub-zero temperatures, snow. Temperatures 5° below normal to 2° above normal. Extremes -35° north central; 40° southwest. Precipitation was above normal over half the State.

Snowcover sufficient to protect 93% of winter wheat, 97% of rye, alfalfa. Condition of winter wheat 23% fair, 71% good, 6% excellent. Rye 18% fair, 69% good, 13% excellent. All range cattle, sheep were receiving supplemental feed, supplies of hay, forage 91% adequate, 9% plentiful. Cattle 9% fair, 86% good, 5% excellent. Sheep 5% fair, 90% good, 5% excellent. Livestock

marketing was normal. Travel was hazardous due mostly to drifting with secondary roads rated 58% open, 42% difficult.

**OHIO:** Colder, drier than normal weather occurred as surges of arctic air swept southeast across the Great Lakes, Ohio Valley. Highs from the mid, upper 20s in the north, central to the upper 20s, lower 30s in the south; 5 to 9° below normal. Lows averaged from the teens over the north, central to around 20° in the south; 2 to 7° below normal. Coldest readings, near 0°, occurred early in the period. Precipitation totals (water equivalent) averaged less than 0.25 in. except for up to 0.60 in. in the far southeast, drier than normal by 0.40 to 0.60 in. in most areas.

Snowcover of 1 to 2 in. was limited to the north by the 3rd, continuing to protect winter wheat. Livestock were stressed by cold.

**OKLAHOMA:** Temperatures 1° below normal west central to 2° above normal east central. Precipitation none western third of State to 0.21 in. east central.

Topsoil moisture 41% short, 59% adequate. Subsoil moisture 23% short, 77% adequate. Wheat 63% fair, 37% good; lack of rain restricted growth. Mild weather prompted spraying greenbug infestations. Acreage grazed 39%. Cattle good; marketings slow during holiday. Feeder cattle prices steady to \$0.50 per cwt. higher than preceding week.

**OREGON:** Temperatures close to normal, within 3° of normal. Precipitation statewide, coastal areas 2.00 in., western valleys 1.00 in., eastern areas a trace to a half inch. Pendleton did receive 1.00 in.

Soil moisture adequate. Winter orchard clean up continued. Livestock good to excellent. Supplemental feeding continued, statewide.

**PENNSYLVANIA:** Coldest week of season. Some snow showers. Temperature 18°, 11° below normal. Extremes -16°; 49°. Precipitation 0.11 in., 0.58 in. below normal.

Activities: Hauling manure; fixing fence; caring for livestock.

**PUERTO RICO:** Rainfall 0.54 in. was 0.29 in. below normal. Heaviest rain 3.03 in. at Pico Del Este, 1.05 in. at Canovanas, 0.97 in. at Vieques. Highest 24 hour total 1.32 in. Pico Del Este. Temperatures 77 to 78° on coast, 72 to 73° in interior; mean station temperature 79.1° at Guayama to 68° at Adjuntas Aes. Extremes 51°; 90°.

**SOUTH CAROLINA:** Temperatures normal to 2° below normal across State. Precipitation 0.08 in. statewide.

Farming activities included late small grain planting, tobacco bed preparation, normal equipment, farm maintenance activities.

**SOUTH DAKOTA:** Temperatures generally 5 to 10° below normal across the east, readings were near normal in the central, around 5° above normal in the west. Extremes -36°; 52°. Precipitation was around 1 to 3 in. snow. Northeast, southwest had greater amounts, with lesser amounts in the southeast, northwest. Snowcover near 10 to 20 in. northeast, 5 to 10 in. east central through the north central with only trace amounts in the southwest, along the southern border. Precipitation for the year remained well above normal most areas.

Topsoil moisture 4% short, 71% adequate, 25% surplus. Subsoil moisture 7% short, 72% adequate, 21% surplus. Winter wheat 2% fair, 91% good, 7% excellent. Winter rye 1% fair, 99% good. Most

areas reported adequate snowcover for the winter grains. Livestock 3% fair, 82% good, 15% excellent. Foot rot a problem in feedlots until the ground froze which improved conditions. In some areas due to snow cover producers were unable to graze winter pastures or cornstalks, while in other areas producers were grazing cattle on winter pastures. Farm activities include: Livestock care, hauling hay, livestock sales, routine chores.

**TENNESSEE:** Temperatures near normal in west, below normal by 3° Middle, Plateau. East was below normal by 2°. Highs generally in the 40s. Lows mid 20s to the lower 30s. Precipitation was above normal over the East, Plateau, by 0.10 to 0.24 in. respectively. Rainfall below normal elsewhere. Rainfall just over an inch (1.18 in.) east, just under an inch (0.95 in.) west.

Cattle, wheat remain in good condition. Soil moisture levels are adequate for this time of year in most locations. Burley tobacco markets were closed for the holidays, reopen this week. Dark tobacco producers have nearly finished getting their crop ready for the markets which open January 18th. Livestock chores, farm maintenance continue to occupy most of the farmers' schedules.

**TEXAS:** A series of fast moving disturbances lead to rain over Eastern, Coastal areas for much of the week. Cloudiness kept temperatures cool in these areas. Temperatures averaged below normal in Lower Valley, Coastal Bend, Southern High, Low Plains with near to above normal readings elsewhere. Precipitation ran below normal with none reported on the Plains, Edwards Plateau.

Crops: Small grains most areas continued to need moisture. Light rains were beneficial, more moisture is needed to promote growth. Some producers in Plains having to treat wheat fields for greenbugs. Wheat 62% normal, 67% 1992. Peanut harvest virtually completed.

Commercial Vegetables: Rio Grande Valley, land preparation continued. In East Texas, land preparation continued where conditions allowed. In High Plains, land preparation continued for spring planting. In Trans-Pecos, producers were controlling weeds, irrigating fields along Rio Grande River. Some fields were being prepared for spring pepper crop. Pecans: Harvest continued. Rain hampered harvest in some areas of Trans-Pecos. Some East Texas producers were planting trees.

Range and Livestock: Ranchers were feeding hay, protein supplement to livestock as small grain pastures, ranges continued to be in need of rain. Irrigated wheat pastures in High Plains provided some forage. Hay supplies remained short. Ranchers in Edwards Plateau continued to treat goats, sheep for lice, ticks. Stock tanks were running low in Southern High Plains, South Texas. Thefts of small calves have occurred in some areas, cattlemen were keeping a close watch over their herds.

**UTAH:** Temperature maximums 1.5° below normal, minimums 3° below normal. Precipitation was zero for the Uinta Basin, light across the rest of the State.

Major farm activities: Feeding, caring for livestock; marketing onions, grains, hay; year end bookkeeping; hauling manure.

**VIRGINIA:** Temperatures below normal. Extremes 1°; 54°. Precipitation was above normal.

Days suitable for fieldwork 0.6. Topsoil 5% short, 50% adequate, 45% surplus. Soybeans harvested 100%, 100% 1993, 100% avg. Winter grains, grazing crops condition 1% poor, 13% fair, 86% good. Forage from pastures, grazing crops dairy cattle 2%, beef cattle 11%, sheep 7%. Pesticide recertification, repairing machinery, caring for livestock.

**WASHINGTON:** Temperatures 6° below normal to normal west; 6° below normal to 4° above normal east. Precipitation 0.12 to 1.87 in. west; none to 0.50 in. east.

Days suitable for fieldwork 5.7. Soil moisture 49% short, 50% adequate, 1% surplus. Hay, other roughage supplies 5% very short, 10% short, 85% adequate. Range, pasture 25% very poor, 35% poor, 30% fair, 10% good. Winter wheat dryland 55% fair, 45% good; irrigated 10% fair, 90% good. Barley dryland 95% fair, 5% good; irrigated 15% fair, 85% good. Temperatures rose, precipitation increased during the week. Drying soils, low reservoir levels concerned producers. Little damage reported in small grains, they remain vulnerable with lack of snowcover. Fruit tree pruning progressed under good working conditions. Hay sales reported slow; most livestock on winter rations, some grazing possible with mild temperatures, lack of cover.

**WEST VIRGINIA:** Temperature 25°. Extremes -4°; 52°. Precipitation 0.39 in. Temperatures 1 to 8° below normal. Precipitation a little below normal, mostly in the form of snow.

Farm activities: Feeding livestock, bookkeeping, general maintenance.

**WISCONSIN:** Week began colder than normal, ended somewhat warmer than normal. State received less than average precipitation. Temperature 12°. Extremes -24°; 43°. Late-December frost depth 8.00 in. 1993, 4.50 1992, 7.40 32-yr avg. Snow depth 2.10 in. 1993, 2.40 1992, 6.10 32-yr avg. Data on frost, snow depths relate to 31st.

Another week of cold temperatures, poor snowcover has allowed frost to penetrate quickly. This has permitted farmers to spread manure on the frozen ground. Beyond daily outside chores most other farm activity has been confined to heated areas.

**WYOMING:** Temperatures near or above normal across the State except for the extreme northwest where temperatures were below normal. Precipitation was near or below normal across the State.

Winter wheat 23% fair, 76% good, 1% excellent. Snowcover protection on winter wheat 93% short, 4% adequate, 3% surplus. Livestock in good condition. Hay, roughage supplies 5% short, 95% adequate.

## December 1993

MONTHLY DATA FROM SELECTED FOREIGN CITIES  
CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA

\*\*\* = DATA NOT AVAILABLE

International Weather and Crop Summary  
HIGHLIGHTS

December 26, 1993 - January 1, 1994

**FSU-WESTERN:** Unseasonably mild weather provided favorable overwintering conditions for winter grains. Major winter wheat producing areas of Ukraine and Russia lack a protective snow cover.

**EUROPE:** Unfavorable wetness persisted in the northwest.

**SOUTH ASIA:** Seasonably dry, warm weather dominated India and Pakistan, hastening winter crop development.

**SOUTHEAST ASIA:** Typhoon Nell inundated Philippine crop areas ravaged by previous storms.

**EASTERN ASIA:** Seasonably dry weather continued across China.

**NORTHWESTERN AFRICA:** Light to moderate showers in eastern Algeria and Tunisia improved topsoil moisture for winter grains. Mostly dry weather covered Morocco and western Algeria.

**SOUTH AFRICA:** Beneficial showers covered primary corn and sugarcane areas.

**AUSTRALIA:** Drier weather favored southern wheat harvesting, while cool temperatures slowed maturation.

**SOUTH AMERICA:** In Argentina, rain slowed winter wheat harvesting and summer crop planting. Across southern Brazil, widespread showers benefited vegetative corn and soybeans.

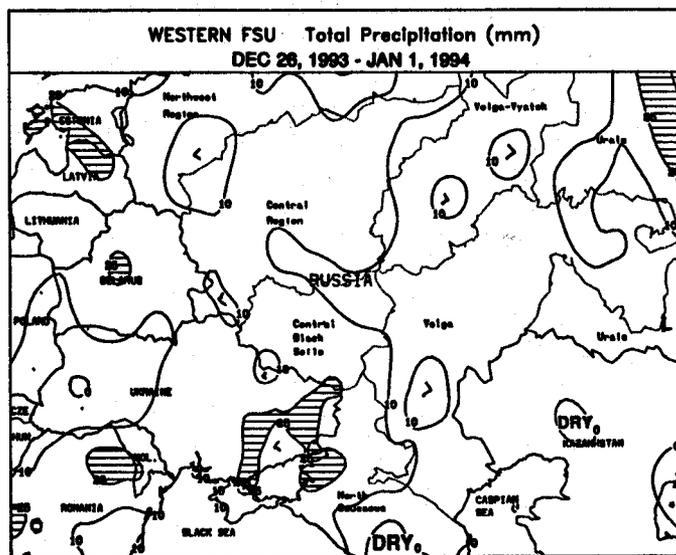
COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG MAX	AVG MIN	HI	LO	DPART	TOTAL	DPART	
NORWAY	OSLO	-4	-9	8	-20	-6	-0.5	104	39
SWEDEN	STOCKHOLM	1	-2	7	-11	0	0.7	73	26
FINLAND	HELSINKI	-2	-5	3	-19	-4	0.5	80	23
U KING	GLASGOW	5	1	13	-9	3	-1.6	179	62
	EDINBURGH	5	1	13	-7	3	-1.2	106	49
	BIRMINGHAM	8	4	15	-6	6	1.2	98	33
	LONDON	8	4	13	-2	6	0.8	133	54
IRELAND	DUBLIN	8	4	13	-1	6	-0.1	106	31
ICELAND	REYKJAVIK	0	-3	8	-12	-2	-1.5	59	-20
DENMRK	COPENHAGEN	4	1	10	-6	2	-0.2	63	14
LUXEMB	LUXEMBOURG	5	2	12	-5	3	2.2	223	144
SWITZL	ZURICH	6	2	16	-6	4	3.3	86	9
	GENEVA	7	3	15	-5	5	3.0	143	57
FRANCE	PARIS/ORLY	9	5	14	0	7	***	82	**
	STRASBOURG	8	4	17	-6	6	4.0	53	11
	BOURGES	9	4	14	-3	7	2.9	67	4
	BORDEAUX	12	7	17	-1	10	3.5	216	118
	TOULOUSE	12	6	19	-3	9	3.0	104	49
	MARSEILLE	12	5	16	-3	9	1.5	27	-28
SPAIN	VALLADOLID	9	4	14	-3	7	2.4	4	-38
	MADRID	11	3	16	-5	7	0.9	3	-43
	SEVILLE	17	7	21	1	12	1.0	0	-84
PORTUG	LISBON	15	10	18	6	12	0.8	14	-90
GERMNY	HAMBURG	5	2	13	-7	4	1.6	150	78
	BERLIN	5	2	12	-8	3	2.0	94	41
	DUSSELDORF	7	3	15	-3	5	2.2	149	91
	LEIPZIG	5	1	12	-15	3	1.8	67	30
	DRESDEN	6	2	12	-7	4	3.3	81	44
	STUTTGART	6	2	15	-10	4	3.5	96	49
	NURNBERG	5	1	11	-10	3	2.6	131	79
AUSTRI	VIENNA	5	0	15	-8	3	1.9	52	15
	INNSBRUCK	4	-2	14	-9	1	2.1	60	9
CZECH	PRAGUE	5	0	11	-12	3	2.9	43	19
POLAND	WARSAW	4	0	9	-10	2	2.9	60	27
	LODZ	4	0	8	-10	2	2.7	74	32
	KATOWICE	4	0	10	-12	2	3.3	45	1
	PRZEMYSL	4	0	9	-10	2	3.0	31	-9
HUNGAR	BUDAPEST	5	0	12	-6	3	2.0	47	7
F YUGO	BELGRADE	9	2	17	-4	6	3.2	88	30
ROMANI	BUCHAREST	7	-2	14	-9	2	1.7	14	-33
BULGAR	SOFIA	7	0	18	-8	3	2.9	28	-22
ITALY	MILAN	8	0	13	-5	4	1.9	5	-50
	VERONA	8	1	13	-4	4	1.7	12	-39
	VENICE	8	2	13	-2	5	2.0	27	-23
	GENOA	14	8	17	-1	11	1.7	24	-84
	ROME	16	7	21	0	12	2.4	65	-25
	NAPLES	15	9	18	3	12	2.6	157	39
GREECE	THESSALONIKA	13	5	19	0	9	2.2	22	-35
	LARISSA	14	3	20	-3	9	2.4	24	-31
	ATHENS	17	10	20	6	13	1.3	17	-48
TURKEY	ISTANBUL	13	7	19	1	10	1.8	66	-25
	ANKARA	7	-2	12	-8	2	0.8	31	2
CYPRUS	LARNACA	20	11	22	7	15	1.3	9	-94
ESTONI	TALLINN	-1	-4	5	-11	-2	0.6	69	15
FSU	ST. PETERSBERG	-2	-5	5	-15	-3	1.2	58	11
LITHUA	KAUNAS	1	-1	5	-10	0	2.4	69	24
FSU	MINSK	0	-2	6	-13	-1	2.9	86	37
	KAZAN	-7	-11	1	-24	-9	-0.1	42	6
	MOSCOW	-2	-6	3	-17	-4	1.9	87	37
	YEKATERINBURG	-8	-12	0	-22	-10	0.1	21	-2
	OMSK	-13	-18	1	-31	-15	-1.0	38	17
	KUSTANAY	-12	-18	0	-34	-15	-2.5	29	10
	KRASNOYARSK	-9	-14	1	-23	-12	2.3	15	-10
	NOVOSIBIRSK	-13	-18	-1	-32	-15	0.8	26	3
	BARNAUL	-11	-18	19	-31	-15	-1.3	21	-8
	KHABAROVSK	-15	-22	-8	-30	-18	-0.8	14	-5
	VLADIVOSTOK	-5	-11	3	-20	-8	1.8	15	0
	KIEV	1	-2	7	-18	0	1.8	70	25
	LVOV	4	-1	9	-10	2	3.5	34	-18
	KIROVOGRAD	2	-2	7	-14	0	1.9	49	12

Based on Preliminary Reports

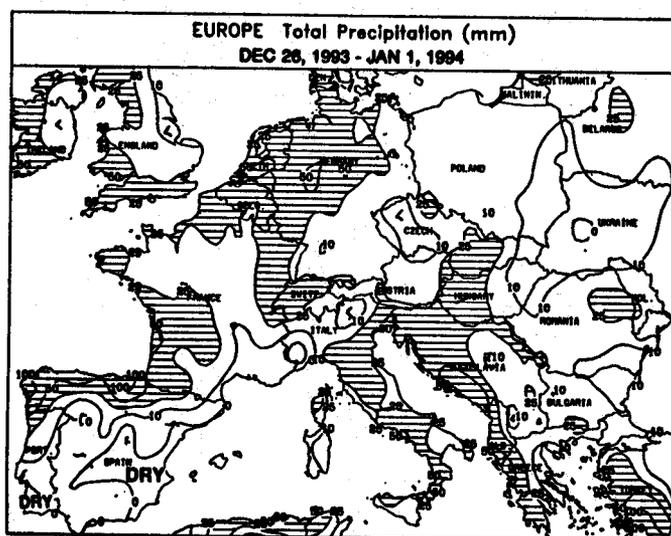
December 1993

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)			
		AVG	AVG	HI	LO	DPART	DPART	TOTAL	DPART			AVG	AVG	HI	LO	DPART	TOTAL	DPART		
		MAX	MIN	MAX	MIN	AVG	F/NRM	F/NRM	F/NRM			MAX	MIN	MAX	MIN	AVG	F/NRM	F/NRM	F/NRM	
FSU	ODESSA	6	1	15	-10	3	1.8	25	-24	KENYA	NAIROBI	25	14	27	11	20	0.5	49	-30	
	YALTA	9	4	17	-11	6	0.1	64	-16		TANZAN	DAR ES SALAAM	32	23	33	16	27	-0.3	114	12
	VORONEZH	-1	-6	19	-20	-4	1.5	97	47		GABON	LIBREVILLE	**	**	32	21	**	***	***	**
	SARATOV	-5	-9	2	-19	-7	0.6	87	54		TOGO	LOME	**	**	35	21	**	***	***	**
	KHARKOV	-1	-4	6	-20	-3	0.5	62	17		B FASO	OUAGADOUGOU	34	18	37	12	26	0.8	0	0
	VOILGOGRAD	-3	-7	5	-20	-5	0.1	46	1		IVRY C	ABIDJAN	32	25	34	23	29	1.6	79	2
	ROSTOV	0	-4	10	-18	-2	-0.8	81	8		MOZAMB	MAPUTO	30	22	41	18	26	1.0	63	-15
	ASTRAKHAN	0	-5	11	-21	-3	-0.7	19	5		ZAMBIA	LUSAKA	27	19	31	14	**	***	121	-30
	KRASNODAR	5	-2	14	-17	1	-0.5	52	-23		ZIMBAB	HARARE	28	17	30	8	22	1.8	134	-35
	ORENBURG	-8	-13	1	-28	-10	-0.9	31	0		S AFRI	PRETORIA	29	18	34	16	23	1.3	108	3
	TSELINGRAD	-11	-18	-1	-30	-15	0.4	16	7		JOHANNESBURG	JOHANNESBURG	26	15	30	11	20	1.0	94	-10
	KARAGANDA	-9	-17	-1	-30	-13	-1.9	9	-11		BETHAL	BETHAL	26	14	30	10	20	0.7	161	36
	TBILISI	**	-1	15	-5	**	***	15	-11		DURBAN	DURBAN	27	20	30	17	23	0.2	170	67
	TASHKENT	6	-2	18	-7	2	-0.8	71	20		CAPE TOWN	CAPE TOWN	26	15	35	10	20	0.9	28	9
	ASHKABAD	7	1	24	-6	4	-0.4	14	-10		CANADA	TORONTO	1	-7	10	-21	-3	0.6	29	-36
	DAMASCUS	17	2	21	-5	10	1.9	4	-47		MONTREAL	MONTREAL	-2	-10	7	-31	-6	1.2	69	-17
	JERUSALEM	17	8	29	4	13	2.3	18	-100		WINNIPEG	WINNIPEG	-9	-17	0	-33	-13	1.8	13	-6
	KARACHI	28	13	33	11	21	1.1	0	-4		REGINA	REGINA	-5	-14	3	-36	-9	4.1	19	3
	AMRITSAR	23	5	27	1	14	1.0	0	-17		SASKATOON	SASKATOON	-5	-16	4	-32	-10	4.6	9	-8
	NEW DELHI	24	8	28	4	16	0.3	0	-10		LEATHERIDGE	LEATHERIDGE	5	-6	15	-20	-1	5.7	11	-9
AHMEDABAD	30	14	35	10	22	1.0	0	-2	CALGARY	CALGARY	4	-8	15	-17	-2	6.3	3	-10		
INDORE	28	11	31	7	19	0.5	2	-8	EDMONTON	EDMONTON	0	-9	7	-17	-5	5.8	12	-10		
CALCUTTA	27	14	30	12	21	0.5	0	-3	VANCOUVER	VANCOUVER	8	2	13	-4	5	1.1	163	-16		
VERAVAL	31	18	35	16	25	1.4	0	0	MEXICO	GUADALAJARA	22	8	28	5	15	-0.4	0	-17		
BOMBAY	32	19	34	16	26	0.8	0	-1	MEXICO CITY	MEXICO CITY	**	**	26	5	**	***	0	-16		
POONA	27	11	29	7	19	-1.6	36	29	ACAPULCO	ACAPULCO	32	23	34	21	28	0.8	0	-3		
BEGAMPET	27	14	30	10	20	-1.1	35	28	BERMUD	ST. GEORGES	23	18	26	13	21	1.7	68	-48		
VISHAKHAPATNAM	28	21	30	15	24	***	0	**	BAHAMA	NASSAU	26	19	29	14	23	0.8	47	-9		
MADRAS	29	22	38	19	25	0.4	266	108	CUBA	HAVANA	27	20	31	15	24	1.5	71	21		
MANGALORE	33	22	34	16	27	0.6	39	21	JAMAIC	KINGSTON	31	23	33	21	27	0.7	15	-21		
KINGS PEAK	21	15	27	9	18	***	6	**	P RICO	SAN JUAN	30	22	32	21	26	0.5	76	-44		
PYONGYANG	1	-8	7	-17	-4	0.7	17	-5	GAUDEL	RAIZET	31	21	31	18	26	1.1	29	-65		
SEOUL	4	-3	10	-11	0	1.5	12	-20	MARTINQ	LAMENTIN	30	23	31	21	26	1.6	67	-105		
SAPORO	2	-2	8	-10	0	1.1	131	30	BARBAD	BRIDGETOWN	29	24	29	22	27	0.9	25	-79		
NAGOYA	11	4	18	-1	8	1.2	58	18	TRINID	PORT OF SPAIN	31	23	32	20	27	1.7	43	-93		
TOKYO	12	6	21	1	9	1.0	67	21	COLOMB	BOGOTA	**	**	22	5	**	***	**	**		
YOKOHAMA	13	5	22	1	9	1.6	130	72	ENEZU	CARACAS	29	21	30	16	25	-0.6	8	-40		
KYOTO	11	4	19	0	8	1.4	65	19	F GUIA	CAYENNE	29	23	31	22	26	0.5	249	-113		
OSAKA	12	6	19	2	9	0.9	57	23	BRAZIL	FORTALEZA	31	25	32	24	28	0.5	12	-56		
PHETCHABUN	31	17	37	9	24	1.3	0	0	RECIFE	RECIFE	**	24	30	21	**	***	28	-32		
BANGKOK	31	21	34	16	26	-0.4	0	-12	BELO HORIZONTE	BELO HORIZONTE	27	19	32	16	23	0.2	361	44		
KUALA LUMPUR	31	24	36	23	28	1.6	236	5	CAMPO GRANDE	CAMPO GRANDE	30	21	35	17	26	0.7	368	149		
HANOI	22	15	30	11	18	0.1	11	-9	FRANCA	FRANCA	26	19	31	16	23	1.6	327	57		
HARBIN	-10	-19	-2	-29	-15	2.6	14	9	LONDRINA	LONDRINA	**	20	34	16	**	***	235	-3		
HAMI	-1	-13	5	-19	-7	0.0	2	1	SANTA MARIA	SANTA MARIA	29	18	37	12	23	-0.3	191	68		
LANCHOW	2	-8	7	-14	-3	1.6	1	0	PORTO ALEGRE	PORTO ALEGRE	29	19	37	12	24	0.6	216	128		
BEIJING	4	-5	8	-11	0	1.5	0	-2	PERU	LIMA	25	18	27	17	21	0.3	0	0		
TIENSIN	4	-6	8	-12	-1	-0.1	0	-4	BOLIVI	LA PAZ	15	5	18	1	10	0.5	96	-5		
LHASA	10	-7	16	-10	1	1.8	0	0	CHILE	SANTIAGO	29	11	34	6	20	0.2	0	-3		
KUNMING	16	4	21	-2	10	1.6	14	-3	ARGENT	IGUAZU	31	20	36	14	26	***	178	**		
CHENGCHOW	8	-3	19	-9	3	1.7	0	-9	FORMOSA	FORMOSA	33	21	38	12	27	0.6	57	-88		
YEHCHANG	12	4	21	1	8	0.6	3	-18	CERES	CERES	29	17	36	8	23	-1.4	108	-21		
HANKOW	11	2	18	-3	7	1.7	24	-4	CORDOBA	CORDOBA	29	16	38	10	22	-0.4	178	34		
CHUNGKING	10	7	16	2	9	***	16	**	RIO CUARTO	RIO CUARTO	28	16	37	10	22	0.1	148	6		
CHIHKIANG	12	3	18	-2	7	-0.2	46	11	ROSARIO	ROSARIO	29	17	34	11	23	0.0	172	48		
WU HU	9	1	18	-5	5	***	25	**	BUENOS AIRES	BUENOS AIRES	28	16	34	8	22	0.1	137	44		
SHANGHAI	10	3	18	-4	6	***	23	**	SANTA ROSA	SANTA ROSA	30	15	37	6	22	0.0	72	-13		
NANCHANG	11	4	16	-1	8	-0.2	64	23	TRES ARROYOS	TRES ARROYOS	27	14	34	7	21	0.8	27	-68		
TALPEI	20	16	26	11	18	0.9	47	-27	N CALD	NOUMEA	28	22	35	18	25	0.3	28	-45		
CANTON	20	12	26	7	16	1.0	2	-24	FIJI	NAUSORI	29	24	32	20	26	1.2	120	-142		
NANNING	19	11	27	6	15	0.0	6	-17	SAMOA	PAGO PAGO	31	26	32	24	29	1.6	321	-43		
IAS PALMAS	21	16	23	14	19	0.3	103	81	TAHITI	PAPEETE	31	24	32	23	28	1.3	193	-107		
CASAELANCA	17	10	23	6	14	0.5	19	-63	N ZEAL	AUCKLAND	20	15	25	10	17	-0.6	0	-86		
MARRAKECH	20	7	32	3	13	1.4	10	-16	WELLINGTON	WELLINGTON	18	13	24	8	16	***	129	**		
ALGER	18	7	21	3	12	0.6	82	-27	PA N G	PORT MORESBY	31	24	34	23	28	0.0	55	-72		
BAINA	13	2	18	-3	7	1.1	37	7	AUSTRL	DARWIN	31	25	40	23	28	-0.7	471	237		
TUNIS	17	9	22	4	13	0.8	14	-51	MOREE	MOREE	31	18	40	9	24	-1.4	34	-25		
NIAMEY	32	18	37	12	25	0.4	0	0	BRISBANE	BRISBANE	27	18	34	13	23	-1.6	90	-56		
TIMBUKTU	29	15	33	10	22	0.2	0	0	PERTH	PERTH	28	16	38	12	22	0.0	1	-9		
BAMAKO	33	19	37	13	26	1.4	0	0	CEDUNA	CEDUNA	25	14	39	9	19	-1.5	29	12		
NOUAKCHOTT	29	16	34	12	22	0.2	0	0	ADELAIDE	ADELAIDE	24	14	34	8	19	-1.3	88	63		
DAKAR	27	20	35	17	23	0.6	0	0	MELBOURNE	MELBOURNE	21	11	32	4	16	-1.9	98	48		
DIEGO GARCIA	30	25	33	24	28	0.2	342	78	WAGGA	WAGGA	26	13	40	7	20	-1.9	49	-1		
TRIPOLI	19	8	25	5	14	0.5	10	-36	CANBERRA	CANBERRA	24	12	34	7	18	-0.8	23	-31</		

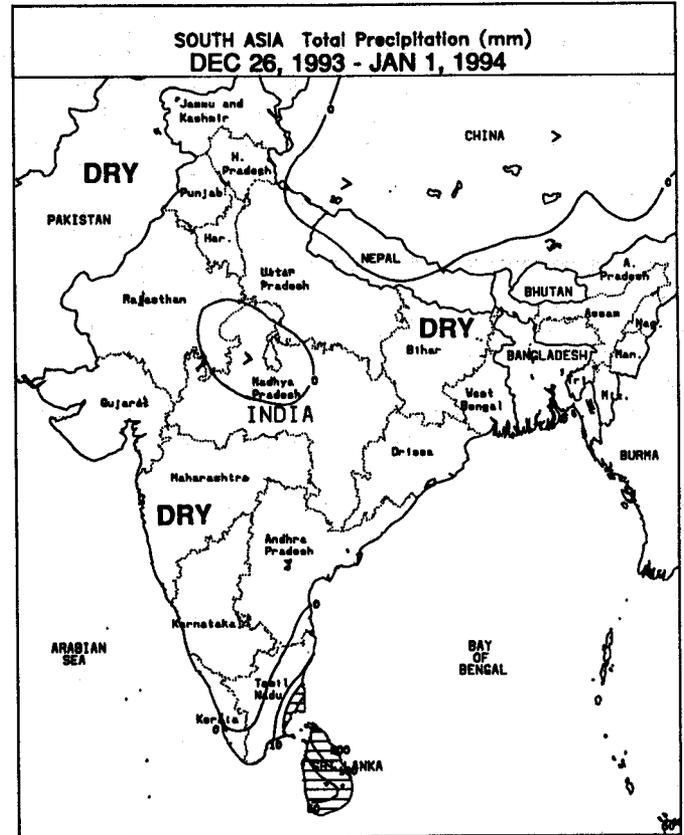
**FSU-WESTERN:** Unseasonably mild weather over most winter grain areas continued to provide favorable overwintering conditions. Weekly average temperatures were 2-6 degrees Celsius (C) above normal. The exception was in extreme northeastern areas (eastern Central Region, Volga Vyatsk, and northern Urals), where a brief cold snap occurred. Snow cover was adequate to protect winter grains from potential winterkill in these areas, and temperatures quickly moderated by week's end. Widespread light precipitation (mostly around 10 mm) covered most areas, occurring mainly as snow in the north, with a mixture of rain, sleet, and snow covering western and southern areas. Major winter wheat producing areas in Ukraine and North Caucasus, Russia continued to lack a protective snow cover, leaving crops vulnerable to extreme cold.



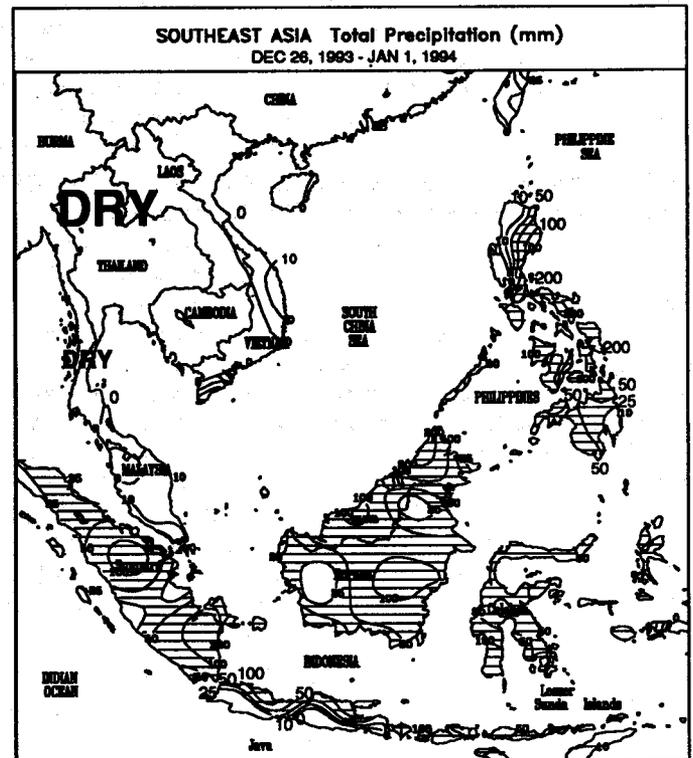
**EUROPE:** Wet weather continued to soak flooded areas of western Europe, although amounts diminished from the previous week's inundating rain. Rainfall totaled 20-70 mm in southern England, most of France, the Benelux countries, northern Germany, and extreme northwestern Spain. Substantial rain (25-50 mm or more) also fell from Italy to western Hungary and southward to Greece, providing beneficial moisture for dormant winter grains in the north and for crop development along the Mediterranean region. Favorable moisture (5-20 mm) also fell over Poland and the Czech Republic, boosting soil reserves for spring growth. Dry weather was again confined to southern Spain, where decreasing topsoil moisture due to a recent drying trend is unfavorable for early vegetative growth of winter wheat and winter barley. Average temperatures were 1-5 degrees C above normal for the third consecutive week across most of Europe, leaving crops in the northeast without a snow cover.



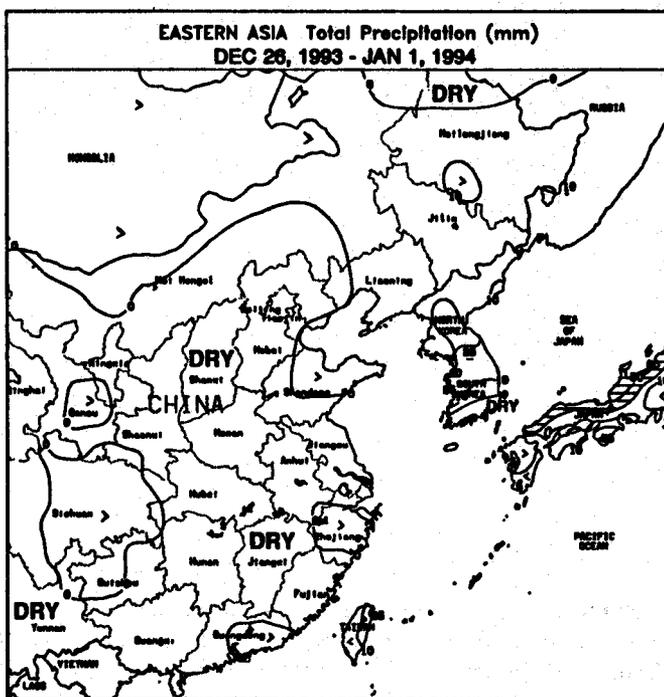
**SOUTH ASIA:** Seasonably dry weather dominated India and Pakistan, but heavy rain (42-100 mm or more) continued over Sri Lanka. Near- to above-normal temperatures over the northern winter crop regions hastened development of wheat and oilseeds.



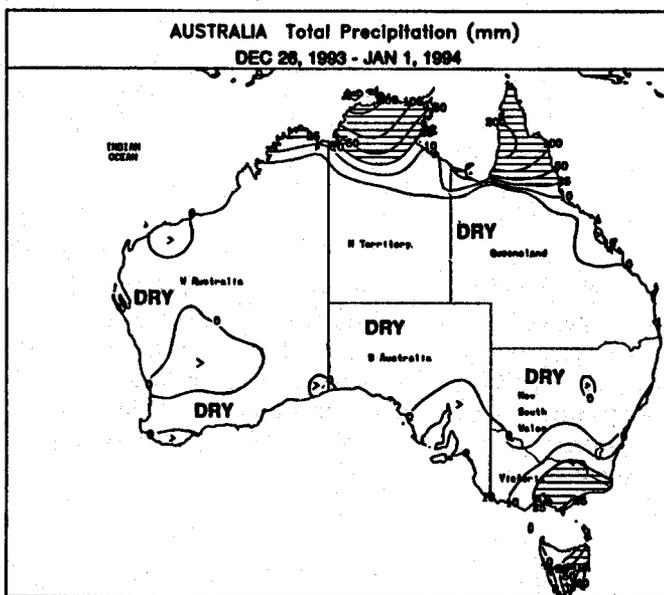
**SOUTHEAST ASIA:** Typhoon Nell, which struck Mindanao, Philippines on December 26, brought inundating rains (100-200 mm or more) to the Visayans as it tracked slowly northwestward and dissipated. More flooding and wind damage was likely over rice, corn, sugarcane, and copra regions. To the west, dry weather dominated Indochina, including rice and oil palm areas of the Malay Peninsula that recently experienced flooding. However, widespread heavy showers (50-100 mm or more) covered eastern Malaysia and much of Indonesia, including Java's western and northeastern rice areas.



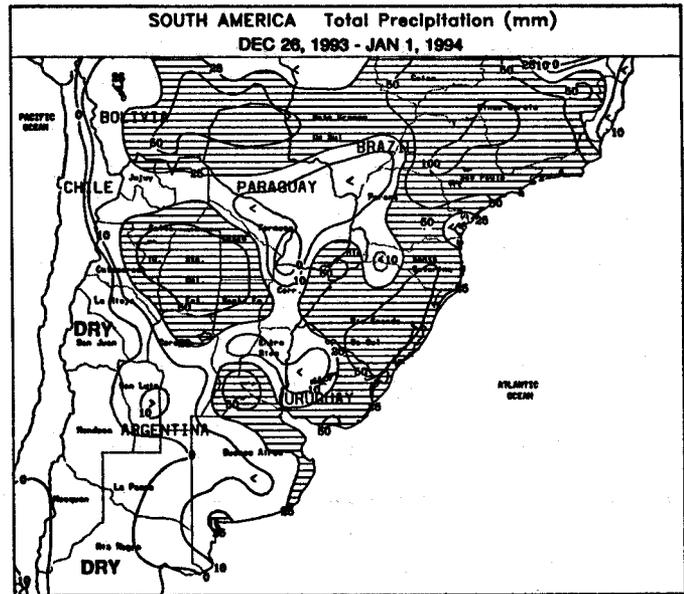
**EASTERN ASIA:** Seasonably dry weather continued across China. Winter wheat remained dormant across the North China Plain, despite temperatures averaging 2-4 degrees C above normal.



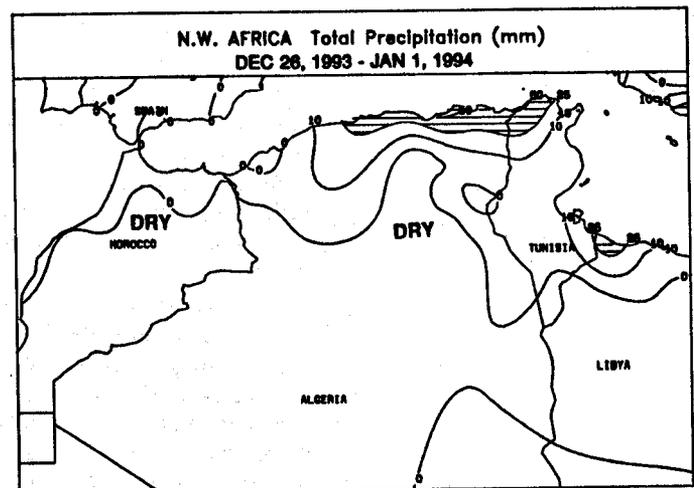
**AUSTRALIA:** Light rain (2-11 mm) fell across the southern wheat areas, allowing some winter wheat harvesting to occur after the previous wet weather. However, cool temperatures (3-6 degrees C below normal) across southern and eastern Australia, slowed wheat maturation and summer crop development. Dry weather prevailed across the eastern summer crop region, where additional rain is needed due to long-term moisture deficits. Tropical showers (40-200 mm) benefited northern Queensland sugarcane, but the main sugarcane areas received only light showers (4-16 mm). Seasonal rainfall benefited pastures across southeastern Australia and New Zealand.



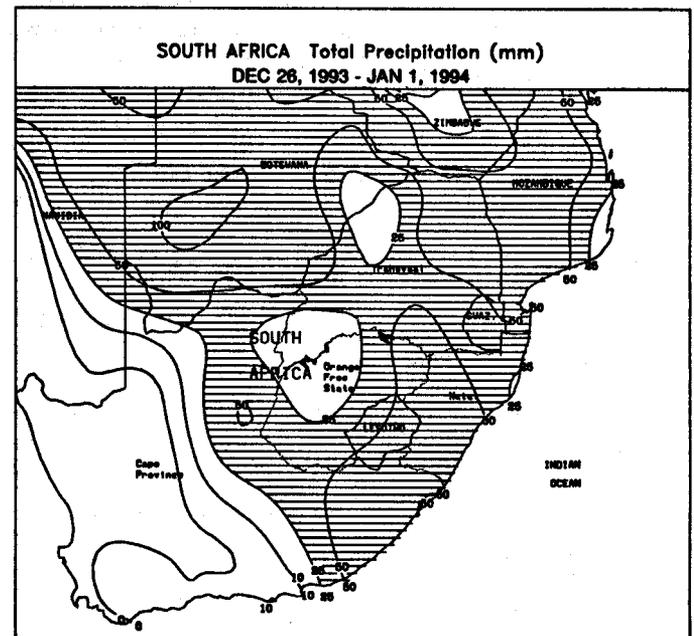
**SOUTH AMERICA:** In Argentina, light to moderate rain (9-20 mm) fell across the central crop areas, slowing winter wheat harvesting and summer crop planting. Scattered showers (20-50 mm) slowed cotton replanting efforts across northern Argentina. Across southern Brazil, widespread showers (15-75 mm) covered most crop areas, keeping soil moisture levels high for germinating to vegetative corn and soybeans. Isolated heavier showers (greater than 100 mm) caused some flooding in northern Parana and eastern Minas Gerais. Temperatures averaged near normal across southern Brazil and 1-2 degrees C below normal across central Argentina.



**NORTHWESTERN AFRICA:** Light to moderate showers (10-25 mm with local amounts in excess of 25 mm) covered eastern Algeria and Tunisia, improving topsoil moisture for winter grain germination and establishment. Although planting is usually complete in these areas by late December, insufficient moisture since the beginning of the growing season may have caused planting delays. As a result, planting will likely extend into January. Further west, the second consecutive week of dry weather covered vegetative winter grains in Morocco and western Algeria.



**SOUTH AFRICA:** Moderate to heavy showers (25-50 mm or more) returned to South Africa's eastern crop areas, including Natal's primary sugarcane regions. Light to moderate rain (10-35 mm) kept topsoils moist for vegetative crops in western corn areas. Temperatures averaged near normal across the region, with daily highs ranging in the mid 20's to low 30's C promoting seasonable crop growth rates.



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**U.S. DEPARTMENT OF COMMERCE**

National Oceanic and Atmospheric Administration  
National Weather Service/Climate Analysis Center  
Managing Editor . . . . . **Douglas Le Conte**  
Editor . . . . . **Brad Rippey** (202) 720-1444  
Meteorologists . . . . . **David Secora**  
**Vilhelm Bjerknes and Jeff Savadel**

Subscriptions . . . . . **Joyce Houston** (202) 720-7917

**U.S. DEPARTMENT OF AGRICULTURE**

Economics Management Staff  
E.M.S. Editor . . . . . **Sharon Lee**  
National Agricultural Statistics Service  
Agricultural Statistician . . **David Mueller** (202) 720-2157  
State Summaries Editor . . . **Klara Haskins** (202) 720-8033  
World Agricultural Outlook Board  
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(Continued from front cover)

Atlantic States to coastal New England on Tuesday and Wednesday. At midweek, snow depths included 6 inches at Salisbury, MD and 4 inches at Richmond, VA. Richmond also experienced significant icing, as did the piedmont of North Carolina. By Thursday, Boston, MA and Providence, RI noted an 8-inch cover of new snow, while New York (JFK Airport), NY reported 4 inches. To the west, downslope winds propelled weekly temperatures 6 to 12°F above normal in the northern and central High Plains, with maxima topping 50°F as far north as Wyoming. Late in the week, precipitation spread into the Northwest. About an inch of moisture dampened Pendleton, OR and Spokane, WA. Stampede Pass, WA received 1 foot of new snow. Elsewhere, rain streaked across the coastal Southeast, and light snow dusted the Northern Tier States.

**Weekly heating degree day data is unavailable this week.  
Production will resume next week.**

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