

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

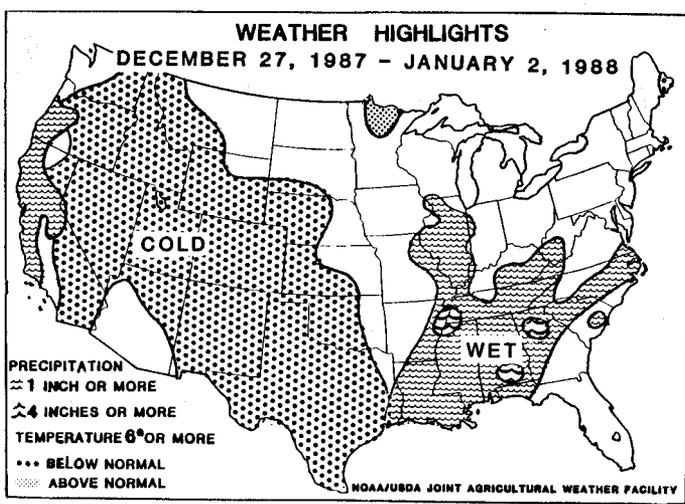
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Jan. 5, 1988

National Weather Summary

December 27, 1987 - January 2, 1988



WEDNESDAY...Cold air settled over the Northeast. Another arctic front swept southward out of Canada and into the northern Great Plains and upper Mississippi Valley. Winds gusted to 40 miles per hour over the Dakotas. South of the arctic front, southerly winds gusted to over 40 miles per hour over much of Kansas, Missouri, and Iowa. Fifty-mile-per-hour winds caused blowing and drifting snow along the mountain slopes in Nevada, Arizona, and New Mexico. Winds diminished during the day in the Northeast. Rain mixed with snow fell in the Pacific Northwest.

THURSDAY...Cold, stormy weather invaded the Midwest and the Great Lakes regions. Snow continued falling in the Intermountain regions of the Pacific Northwest. Rain was mixed with snow over south-central Pennsylvania. Rain fell in the central and southern Appalachians, Alabama, Mississippi, eastern Texas, and Florida Panhandle. Unusually cold weather returned to the Southwest.

FRIDAY...A cold front moved from the Ohio Valley to the eastern seaboard, accompanied by rain and snow. Strong northwesterly winds drove snow squalls across the Great Lakes. Cold weather continued in much of California, Arizona, and Nevada.

SATURDAY...A cold, dry air mass spread across most of the Nation, bringing generally fair weather. Light rain fell along the Carolina coast, parts of Florida and Georgia, and central Gulf coast. Snow squalls recurred in the Great Lakes region. Rain fell in northern California as light snow fell in eastern Washington.

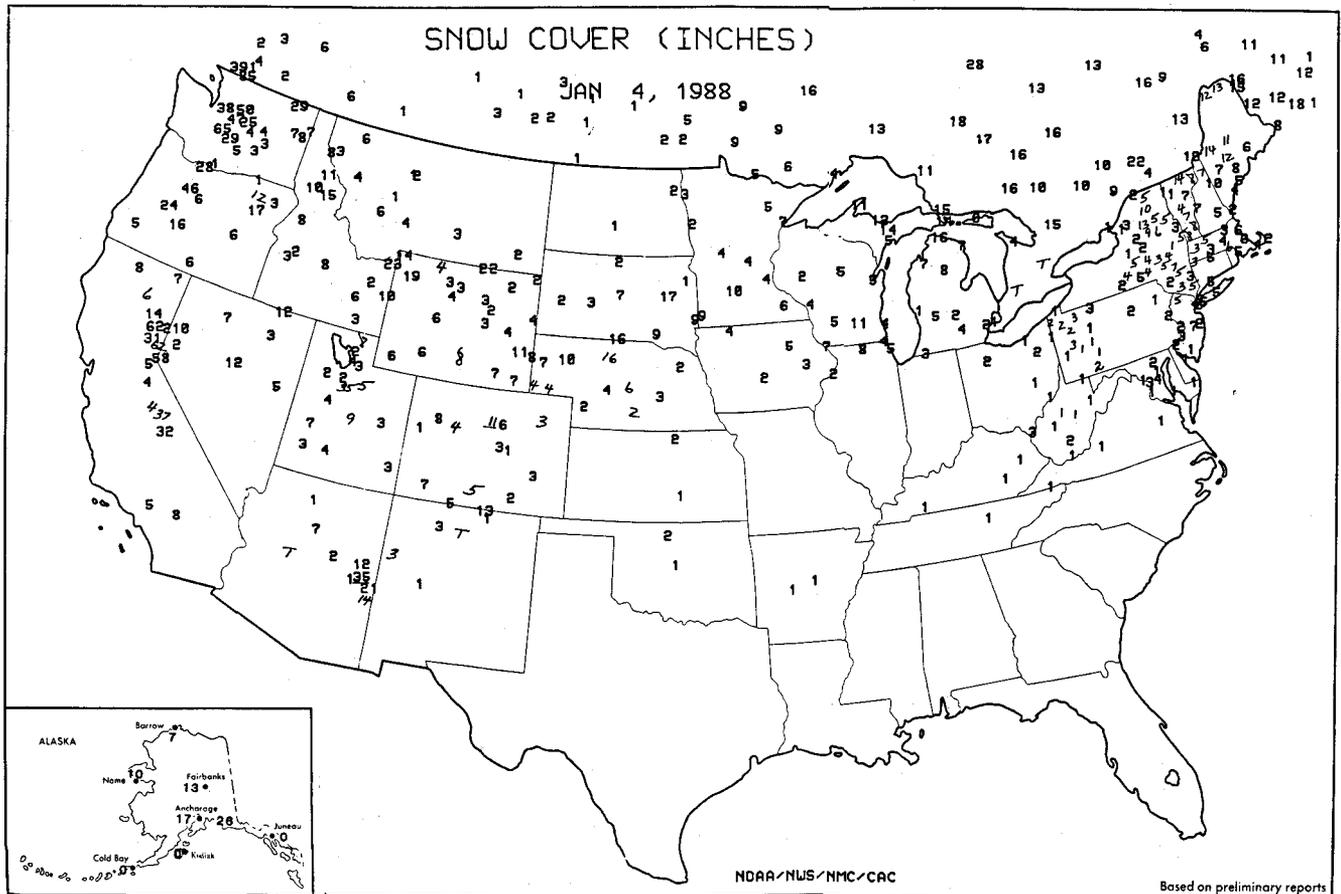
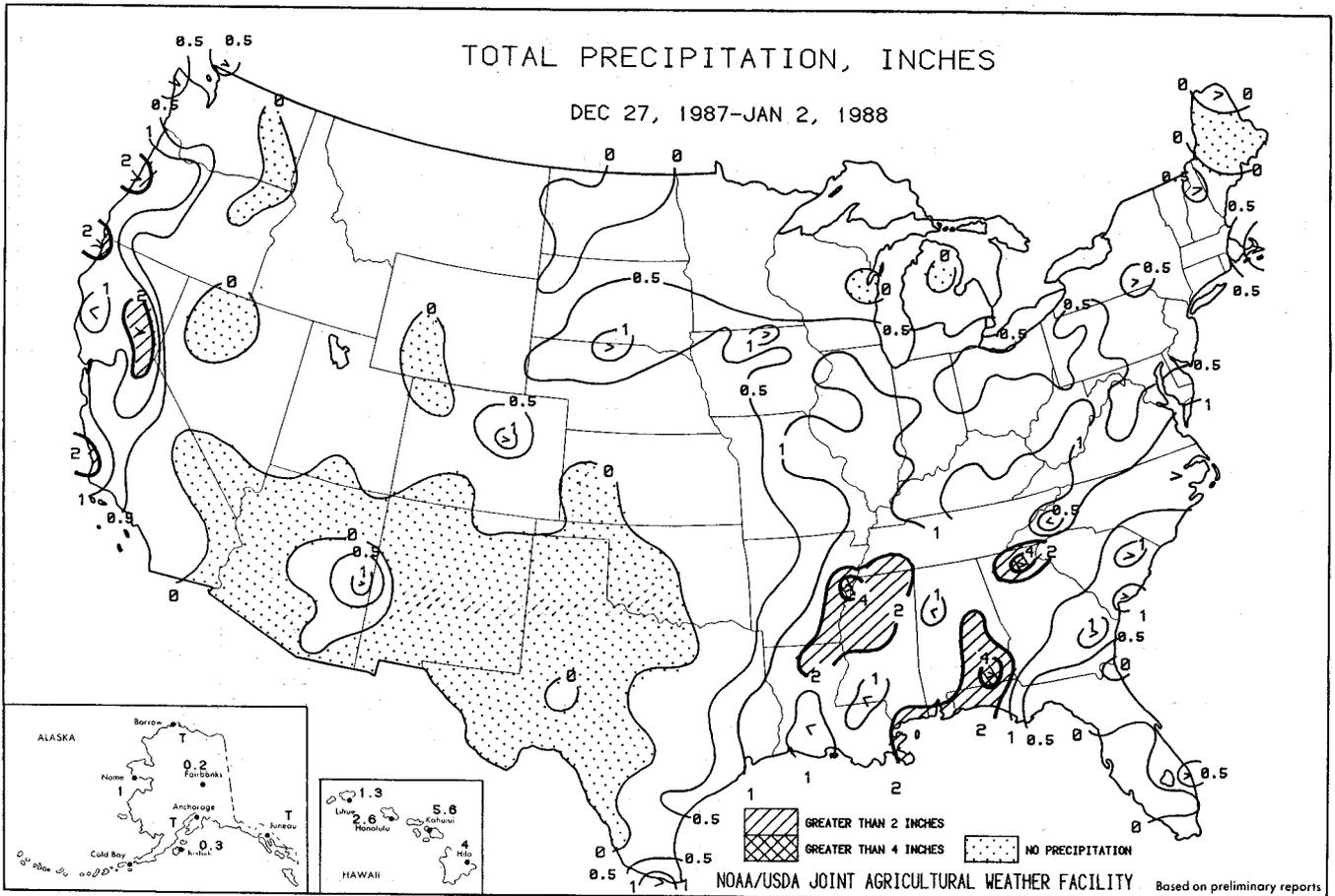
HIGHLIGHTS: A succession of polar outbreaks brought snow to the West, the country's mid-section, and the Northeast. Unseasonably cold weather prevailed in most of the Nation west of the Mississippi River. The Southeast experienced mostly wet, mild weather.

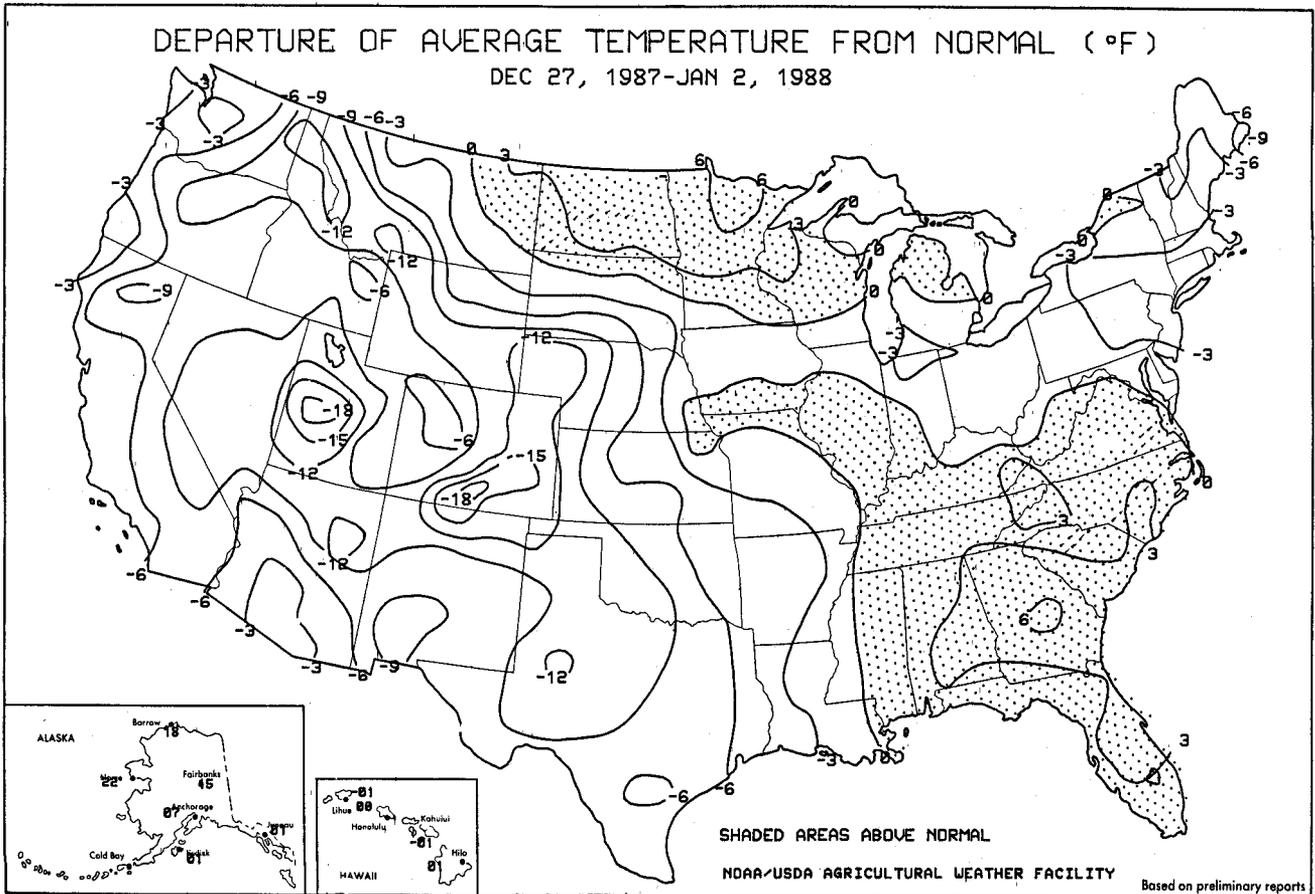
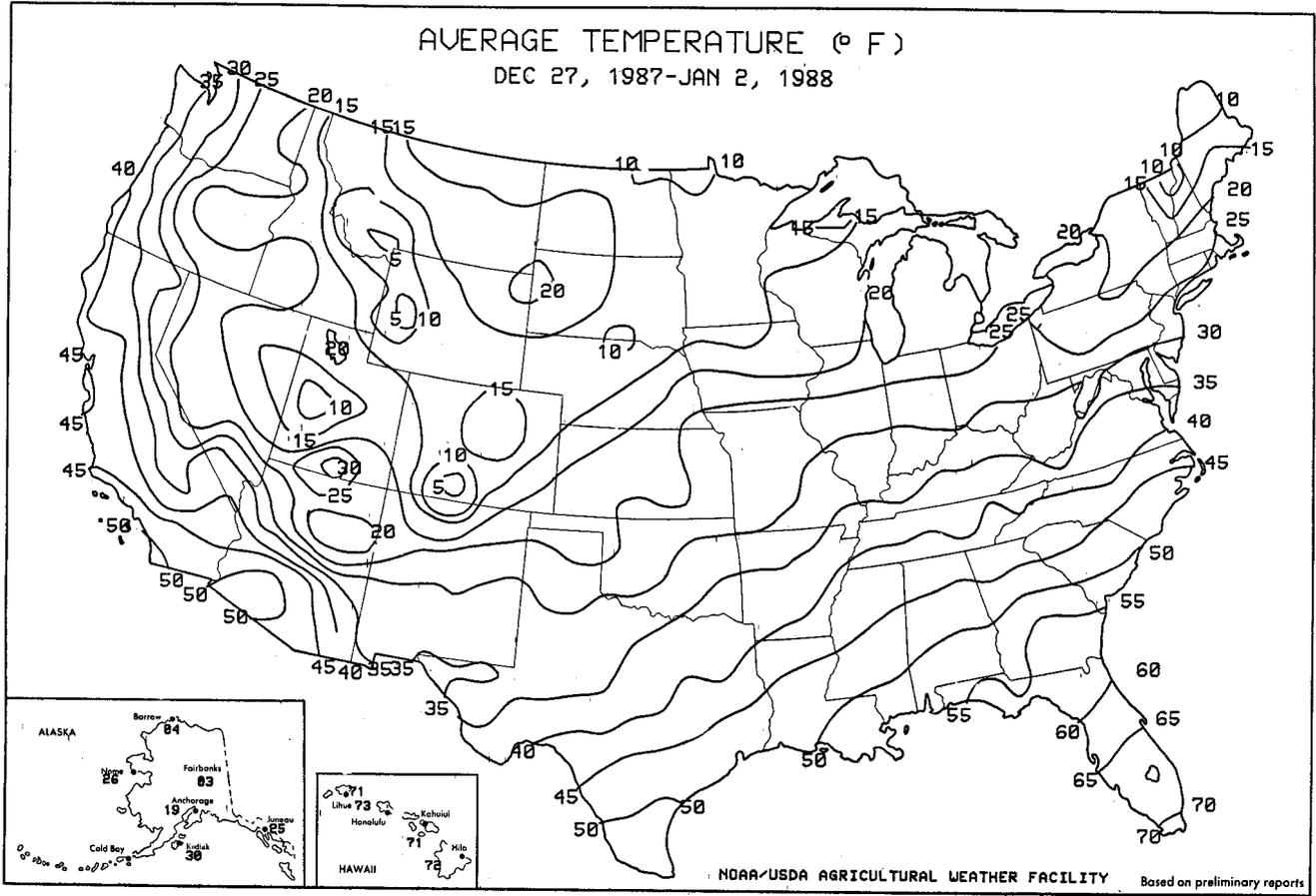
SUNDAY...Blizzard conditions prevailed over parts of Wyoming and Colorado. Snow also fell in the Dakotas, Nebraska, Kansas, Iowa, and Minnesota. Snow was mixed with rain and freezing rain in Iowa and Illinois. Rain fell in the Midwest, the lower Mississippi Valley, and in parts of the Southeast. Rain also fell in the coastal regions of the Pacific Northwest, with snow at higher elevations.

MONDAY...Snow fell in Michigan, Wisconsin, Iowa, Illinois, Pennsylvania, New York, New Jersey, Kentucky, and Ohio. Rain was scattered over parts of California, Florida, Virginia, West Virginia, and Ohio. Freezing rain occurred over northeastern Ohio and western Pennsylvania.

TUESDAY...A winter storm produced snowfall across New York State and much of New England. Another winter storm caused snowfall in the Great Basin, Pacific Coast States, Rocky Mountain States, northern and central Plains, and upper Mississippi Valley.

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National Weather Data for Selected Cities

Weather Data for the Week Ending January 2, 1988

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	TEMPERATURE °F		PRECIPITATION
																		.01 INCH OR MORE	.50 INCH OR MORE	
AL BIRMINGHAM	55	36	64	24	46	2	1.3	.2	.5	3.9	75	.5	137	95	57	0	3	3	1	1
MOBILE	60	43	76	30	52	0	1.5	.8	.7	4.0	76	.4	0	95	63	0	1	4	1	1
MONTGOMERY	61	40	80	24	51	5	2.0	1.4	1.2	5.6	121	1.3	0	92	55	0	2	5	1	1
AK ANCHORAGE	25	14	35	8	20	7	T	.1	T	1.1	109	0	0	95	80	0	7	1	0	0
BARROW	14	-6	29	-36	4	14	T	0	T	.2	162	0	0	91	78	0	7	1	0	0
FAIRBANKS	11	-6	20	-20	3	11	T	.1	T	.5	77	0	0	88	78	0	7	3	0	0
JUNEAU	29	21	36	15	25	5	T	.5	T	5.3	119	0	0	95	72	0	6	1	0	0
KODIAK	37	23	40	16	30	1	T	.4	T	2.4	44	0	0	94	71	0	6	2	0	0
Nome	31	21	34	5	26	19	1.0	.9	.5	1.4	236	.2	0	98	81	0	7	6	1	0
AZ PHOENIX	61	38	71	31	50	-3	0	-1	0	1.6	203	0	0	63	24	0	1	0	0	0
PRESCOTT	46	19	54	9	32	-1	0	-2	0	.7	43	0	0	75	27	0	6	0	0	0
TUCSON	62	34	75	24	48	-3	0	-1	0	1.5	165	0	0	75	24	0	2	0	0	0
YUMA	60	40	63	32	50	-7	0	-1	0	.8	234	0	0	48	22	0	1	0	0	0
AR FORT SMITH	45	25	50	18	35	-3	.2	-1	.2	8.1	299	0	0	92	53	0	7	1	0	0
LITTLE ROCK	42	30	49	23	36	-3	.6	.1	.3	10.7	262	0	0	83	64	0	5	3	0	0
CA BAKERSFIELD	50	32	57	25	41	-3	.1	0	.1	.8	134	0	0	91	52	0	3	2	0	0
BUREKA	52	40	57	34	46	0	1.6	.7	.5	11.2	186	.3	0	87	60	0	0	5	1	0
FRESNO	47	31	51	26	39	-4	.7	.4	.4	1.2	77	T	0	95	64	0	4	3	0	0
LOS ANGELES	60	41	67	37	50	-8	.2	-1	.2	1.8	115	0	0	73	34	0	0	1	0	0
REDDING	45	29	51	25	37	-11	1.6	.6	.8	9.3	136	.2	0	97	62	0	5	4	1	1
SACRAMENTO	47	35	49	29	41	-2	.7	.3	.6	3.2	114	.1	0	98	63	0	3	4	1	1
SAN DIEGO	60	41	63	37	51	-7	.1	-1	.1	2.7	210	0	0	70	42	0	0	2	0	0
SAN FRANCISCO	50	41	54	36	45	-1	1.2	.6	.4	4.7	137	.2	0	96	68	0	0	4	0	0
CO DENVER	33	3	40	-6	18	-9	.6	.5	.5	1.3	255	0	0	89	48	0	7	2	1	0
GRAND JUNCTION	29	6	33	-4	17	-6	.1	0	.1	.8	148	0	0	92	59	0	7	1	0	0
PUEBLO	30	-2	42	-15	14	-12	.1	0	.1	.4	150	0	0	97	57	0	7	1	0	0
CT BRIDGEPORT	32	20	41	6	26	-7	.2	-2	.1	2.2	60	.1	0	71	38	0	6	3	0	0
HARTFORD	32	14	47	0	23	-5	.3	-2	.3	1.6	39	T	0	77	39	0	7	3	0	0
DC WASHINGTON	42	28	55	21	35	-3	.4	0	.4	2.6	84	T	0	81	47	0	4	2	0	0
FL APALACHICOLA	65	48	76	35	57	2	.1	-4	.1	1.0	30	.1	0	90	62	0	0	1	0	0
DAYTONA BEACH	74	50	81	41	62	3	.1	-2	.1	.3	15	.1	0	95	52	0	0	1	0	0
JACKSONVILLE	69	46	80	31	58	4	.2	-4	T	.2	7	0	0	93	52	0	1	0	0	0
KEY WEST	75	65	81	57	70	0	T	0	.1	2.9	177	.2	0	91	64	0	0	4	0	0
MIAMI	77	62	83	51	70	0	T	T	T	4.3	240	T	0	84	49	0	0	0	0	0
ORLANDO	75	54	81	47	65	4	T	T	T	.5	28	T	0	94	48	0	0	0	0	0
TALLAHASSEE	65	43	77	26	54	2	.4	-3	.2	1.3	30	.3	0	96	59	0	2	3	0	0
TAMPA	75	52	80	38	63	2	T	T	T	.5	24	0	0	93	49	0	0	0	0	0
WEST PALM BEACH	75	61	83	50	68	0	.6	.3	.5	2.0	93	.6	0	88	53	0	0	3	0	0
GA ATLANTA	55	37	63	27	46	4	1.6	1.0	.6	4.6	113	.5	0	88	55	0	1	4	2	2
AUGUSTA	60	38	70	23	49	3	1.1	.7	.8	2.3	75	.9	0	93	57	0	3	3	1	1
MACON	62	42	78	27	52	7	1.0	.5	.5	2.6	66	.7	0	93	54	0	2	3	0	0
SAVANNAH	66	43	79	27	54	6	1.0	.6	.6	1.8	68	.4	0	89	53	0	1	2	1	1
HI HILO	78	66	83	63	72	2	4.0	2.6	3.0	25.3	205	3.1	0	96	69	0	0	7	1	0
HONOLULU	79	67	84	64	73	2	2.6	2.2	1.7	18.1	550	.9	0	92	63	0	0	4	2	2
KAHULUI	79	63	84	60	71	0	5.6	5.2	4.1	8.7	325	5.6	1	92	63	0	0	2	2	2
LIHUE	76	66	80	62	71	2	1.3	.5	.9	12.0	228	1.2	0	92	69	0	0	4	1	1
ID BOISE	32	13	42	0	23	-5	.3	.1	.1	1.1	83	0	0	95	62	0	7	3	0	0
LEWISTON	28	20	35	14	24	-10	T	T	T	.5	37	0	0	84	66	0	7	0	0	0
POCATELLO	25	1	35	-14	13	-9	.3	.2	.2	1.2	134	T	0	96	67	0	7	3	0	0
IL CHICAGO	30	12	39	-1	21	4	.7	.4	.7	3.8	165	0	0	88	67	0	7	2	1	1
MOLINE	31	15	37	2	23	5	1.1	.8	.7	4.5	241	0	0	91	68	0	7	2	1	1
PEORIA	32	19	38	5	26	6	.8	.5	.6	4.2	212	0	0	91	64	0	7	2	1	1
QUINCY	35	21	39	11	28	5	1.1	.9	1.1	3.8	228	0	0	86	58	0	7	2	1	1
ROCKFORD	28	8	35	-5	18	3	.9	.7	.8	4.0	220	0	0	91	61	0	7	2	1	1
SPRINGFIELD	35	23	40	12	29	6	.7	.5	.7	5.0	244	0	0	86	64	0	6	2	1	1
IN EVANSVILLE	40	26	47	14	33	4	1.1	.7	.4	5.7	170	0	0	94	63	0	6	3	0	0
FORT WAYNE	30	16	38	6	23	0	.4	.1	.4	3.5	146	0	0	88	62	0	7	2	0	0
INDIANAPOLIS	35	22	42	9	29	4	.6	.2	.4	4.8	166	0	0	90	60	0	6	3	0	0
SOUTH BEND	29	12	37	2	21	-1	.6	.2	.6	4.1	146	T	0	89	59	0	7	1	1	1
IA DES MOINES	29	14	36	1	21	5	.7	.6	.5	2.6	262	0	0	91	67	0	7	2	1	1
SIOUX CITY	27	12	35	-4	19	7	.2	.1	.2	.5	67	0	0	90	66	0	7	3	0	0
WATERLOO	26	5	35	-9	16	4	.3	.2	.2	1.8	167	0	0	92	70	0	7	2	0	0
KS CONCORDIA	30	14	38	5	22	-3	.2	.1	.2	.8	118	0	0	86	62	0	7	1	0	0
DODGE CITY	34	12	44	3	23	-8	T	T	T	.7	147	0	0	91	59	0	7	0	0	0
GOODLAND	29	7	40	1	18	-8	T	T	T	.5	124	0	0	86	58	0	7	1	0	0
TOPEKA	35	21	41	11	28	3	.2	.1	.2	1.9	153	0	0	87	59	0	7	2	0	0
WICHITA	30	16	35	9	23	-6	T	T	T	2.3	239	0	0	95	67	0	7	1	0	0
KY BOWLING GREEN	44	28	53	18	36	2	1.1	.5	.5	7.0	159	T	0	97	59	0	5	4	1	1
LEXINGTON	40	25	49	13	33	1	1.0	.5	.5	6.2	169	T	0	92	52	0	5	4	1	1
LOUISVILLE	41	27	48	16	34	2	.9	.5	.4	4.7	140	0	0	89	50	0	5	3	0	0
LA ALEXANDRIA	54	39	60	32	46	-4	.7	0	.4	7.9	167	.1	0	83	62	0	1	3	0	0
BATON ROUGE	59	41	77	33	50	-1	.9	.3	.6	4.4	92	.6	0	94	59	0	0	3	1	1
LAKE CHARLES	56	41	65	34	48	-5	.5	-1	.4	5.3	107	.4	0	93	63	0	0	3	0	0
NEW ORLEANS	60	46	77	38	53	0	1.2	.5	.6	3.6	71	.8	0	93	64	0	0	4	1	1

Based on 1951-80 normals.

Weather Data for the Week Ending January 2, 1988

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	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	49	34	55	27	42	-7	1.1	-.6	.5	8.1	215	T	0	92	57	0	3	3	1
ME CARIBOU	15	-2	34	-13	7	-10	T	-.3	T	2.6	85	T	0	87	63	0	7	2	0
PORTLAND	29	12	45	0	21	-6	.1	-.4	.1	2.0	46	T	0	74	40	0	7	1	0
MD BALTIMORE	41	25	53	17	33	-2	.4	0	.3	2.1	64	T	0	82	41	0	4	2	0
SALISBURY	45	25	54	16	35	-3	.6	.1	.4	3.2	89	T	0	84	46	0	5	2	0
MA BOSTON	34	18	48	3	26	-8	.3	-.3	.3	2.1	49	T	0	72	38	0	7	2	0
CHATHAM	33	23	40	8	28	-7	1.3	-.7	1.3	4.2	88	T	0	81	57	0	6	1	0
MI ALPENA	28	13	36	2	20	0	T	-.2	T	2.2	115	T	0	87	58	0	7	1	0
DETROIT	30	14	39	1	22	-2	.7	-.4	.7	4.6	188	T	0	85	59	0	7	1	0
FLINT	30	15	38	7	23	0	T	-.2	T	2.5	132	T	0	82	57	0	7	1	0
GRAND RAPIDS	29	13	37	0	21	-3	.4	-.1	.3	3.4	136	T	0	88	60	0	7	3	0
HOUGHTON LAKE	27	12	38	1	19	1	T	-.2	T	1.9	104	T	0	87	62	0	7	0	0
LANSING	30	12	43	-3	21	-1	.3	0	.3	3.4	143	T	0	86	60	0	7	1	0
MARQUETTE	24	6	33	-4	15	-1	.1	-.1	.1	3.6	178	T	0	93	73	0	7	2	0
MUSKEGON	31	16	38	6	24	-1	.2	-.1	.2	4.2	169	T	0	82	57	0	7	2	0
SALT ST. MARIE	24	6	34	-1	15	-1	.4	.1	.2	3.3	135	T	0	89	61	0	7	3	0
MN ALEXANDRIA	21	5	28	-8	13	11	.1	.1	.1	.7	95	T	0	97	76	0	7	2	0
DULUTH	22	6	30	-15	14	13	.1	0	.1	.7	53	T	0	90	65	0	7	2	0
INT'L FALLS	19	5	27	-18	12	19	.1	0	.1	.2	24	T	0	92	74	0	7	3	0
MINNEAPOLIS	24	7	34	-9	16	9	.1	0	.1	1.3	154	T	0	86	66	0	7	1	0
ROCHESTER	22	3	34	-12	13	8	.3	-.2	.2	1.8	206	T	0	91	73	0	7	2	0
MS GREENWOOD	52	36	62	27	44	1	2.7	2.0	2.2	4.5	86	T	0	93	57	0	3	3	1
JACKSON	54	38	67	28	46	-1	1.2	.4	.4	3.9	75	T	0	96	64	0	3	4	0
MERIDIAN	56	38	66	26	47	1	1.1	.3	.6	4.7	86	T	0	97	58	0	3	4	1
MO CAFE GIRARDEAU	42	28	47	17	35	-	1.1	.7	.9	8.2	225	T	0	93	62	0	5	3	1
COLUMBIA	35	21	40	10	28	1	1.1	.9	1.1	5.5	284	T	0	90	60	0	7	1	1
KANSAS CITY	35	20	40	8	28	1	.4	.2	.3	2.1	145	T	0	96	64	0	7	2	0
SAINT LOUIS	37	25	44	15	31	4	1.7	1.4	1.7	7.5	352	T	0	86	59	0	6	2	1
SPRINGFIELD	37	21	41	10	29	-1	.4	.1	.4	7.5	304	T	0	92	57	0	7	1	0
MT BILLINGS	30	10	47	4	20	0	.1	0	.1	.1	15	T	0	85	46	0	7	3	0
GLASGOW	25	3	36	-9	14	8	T	0	T	10	T	0	86	56	0	7	1	0	
GREAT FALLS	30	10	46	-11	20	2	.1	0	.1	.2	32	T	0	82	47	0	7	2	0
HAVRE	24	-3	33	-19	11	-3	T	-.1	T	2	T	0	84	53	0	7	1	0	
HELENA	22	-1	31	-9	10	-6	T	0	T	.4	71	T	0	95	63	0	7	3	0
KALISPELL	21	6	24	-7	13	-8	.1	-.1	.1	1.6	106	T	0	91	73	0	7	2	0
MILES CITY	29	4	41	-11	16	6	.1	0	.1	.1	14	T	0	79	48	0	7	1	0
MISSOULA	16	3	23	-4	10	-13	.1	-.1	.1	1.1	97	T	0	92	75	0	7	2	0
NE GRAND ISLAND	25	9	36	-6	17	0	.3	.3	.3	.8	129	T	0	89	70	0	7	2	0
LINCOLN	30	15	39	3	23	5	.3	.2	.3	.7	114	T	0	91	63	0	7	1	0
NORFOLK	24	9	33	-9	16	3	.3	.2	.3	.8	132	T	0	91	68	0	7	1	0
NORTH PLATTE	25	2	34	-7	13	-5	.4	.3	.4	.8	208	T	0	93	65	0	7	1	0
OMAHA	29	15	35	2	22	4	.3	.2	.3	.8	106	T	0	82	64	0	7	3	0
SCOTTSDUFF	22	-3	28	-11	10	-12	.5	.5	.5	1.0	215	T	0	90	63	0	7	2	0
VALENTINE	21	-2	32	-17	10	-5	1.6	1.6	1.6	2.0	850	T	0	91	62	0	7	2	1
NV ELY	31	-2	37	-13	15	-6	.2	.1	.2	.7	94	T	0	83	43	0	7	2	0
LAS VEGAS	48	27	51	24	37	-6	0	-.1	0	.9	318	T	0	74	28	0	6	0	0
RENO	34	12	37	4	23	-7	.1	-.1	.1	.6	50	T	0	92	56	0	7	1	0
WINNEVOCCA	34	7	38	0	20	-8	T	-.1	T	.7	83	T	0	90	53	0	7	0	0
NH CONCORD	29	9	44	-2	19	-6	.1	-.3	.1	1.6	47	T	0	78	40	0	7	1	0
NJ ATLANTIC CITY	40	20	53	7	30	-6	.3	-.2	.1	2.3	65	.1	0	90	47	0	6	3	0
NM ALBUQUERQUE	38	16	44	10	27	-6	T	-.1	T	.3	72	T	0	78	34	0	7	0	0
CLOVIS	42	20	57	6	31	-8	T	-.1	T	1.8	311	T	0	75	44	0	7	0	0
ROSWELL	42	19	46	-3	30	-11	T	-.1	T	1.1	326	T	0	89	49	0	7	0	0
NY ALBANY	29	11	39	-1	20	-4	.2	-.2	.2	1.6	57	T	0	83	47	0	7	2	0
BINGHAMTON	27	10	37	0	18	-5	.6	-.2	.4	2.2	78	T	0	92	53	0	7	2	0
BUFFALO	31	16	42	8	23	-3	.3	-.1	.2	2.8	85	T	0	89	54	0	7	3	0
NEW YORK	37	23	46	10	30	-6	.4	-.1	.4	2.3	64	T	0	79	46	0	6	2	0
ROCHESTER	31	12	41	0	22	-4	.2	-.1	.2	2.0	79	T	0	87	52	0	7	2	0
SYRACUSE	30	12	41	0	21	-6	.2	-.2	.2	2.0	65	T	0	84	49	0	7	3	0
NC ASHEVILLE	48	32	54	21	40	2	.5	.1	.2	2.5	80	.1	0	93	61	0	4	4	0
CHARLOTTE	50	36	56	26	43	1	1.3	.9	.7	3.9	119	.5	0	90	57	0	3	4	1
GREENSBORO	46	33	54	24	39	0	1.2	.7	.4	3.7	114	.3	0	86	57	0	4	4	0
HATTERAS	53	38	68	24	46	-3	1.5	.9	1.0	2.5	59	.3	0	95	63	0	2	5	1
NEW BERN	56	38	73	25	47	0	1.8	1.3	1.0	3.9	109	.4	0	91	56	0	2	4	1
RALEIGH	48	34	62	25	41	-1	1.4	.9	.6	3.5	115	.5	0	90	59	0	4	4	1
WILMINGTON	59	39	72	28	49	0	.8	.4	.4	1.6	49	.3	0	94	60	0	2	4	0
ND BISMARCK	26	3	38	-8	15	9	T	0	T	.1	28	T	0	86	59	0	7	1	0
FARGO	19	6	26	-9	13	11	.3	.2	.2	.7	117	T	0	91	74	0	7	2	0
GRAND FORKS	19	1	25	-12	10	9	.1	.1	.1	.4	62	T	0	89	75	0	7	2	0
WILLISTON	24	-1	36	-13	12	6	T	-.1	T	.1	15	T	0	86	57	0	7	0	0
OH AKRON-CANTON	33	19	40	7	26	0	.3	-.1	.2	2.3	90	T	0	90	52	0	7	3	0
CINCINNATI	37	21	44	8	29	0	.8	.4	.5	3.4	120	T	0	90	52	0	6	4	0
CLEVELAND	32	19	40	7	25	-1	.5	.1	.4	3.0	112	T	0	91	53	0	7	3	0
COLUMBUS	35	20	43	9	28	0	.5	.3	.3	2.9	116	T	0	87	51	0	6	3	0

Based on 1951-80 normals.

Weather Data for the Week Ending January 2, 1988

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	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	34	19	42	7	27	0	.2	-.1	.1	3.0	126	0	0	87	54	0	7	3	0
TOLEDO	30	13	39	2	22	-3	.4	.1	.4	3.8	151	0	0	90	61	0	7	2	0
YOUNGSTOWN	32	18	39	7	25	0	.4	.1	.2	2.7	103	0	0	91	57	0	7	4	0
OK OKLAHOMA CITY	35	23	39	19	29	-8	0	-.1	0	3.8	335	0	0	93	63	0	7	0	0
TULSA	37	24	42	18	31	-6	0	-.2	0	5.9	339	0	0	88	55	0	7	0	0
OR ASTORIA	45	32	49	27	39	-2	.3	-.2	.3	8.9	79	0	0	90	58	0	7	1	0
BURNS	28	6	31	-7	17	-7	.5	.4	.4	2.1	130	0	0	**	**	0	4	2	0
MEDFORD	42	28	54	22	35	1	.1	-.2	.2	3.8	112	0	0	92	64	0	7	4	0
PENDLETON	24	17	29	12	21	-15	0	-.2	0	1.2	77	0	0	97	84	0	7	1	0
PORTLAND	39	28	42	22	33	-7	.2	-.7	.1	8.0	129	0	0	88	57	0	6	4	0
SALEM	39	26	43	19	33	-8	1.3	.3	1.0	10.9	159	0	0	97	74	0	6	4	1
PA ALLENTOWN	32	17	40	5	24	-4	.2	-.3	.1	1.5	42	0	0	87	49	0	7	3	0
ERIE	32	22	40	17	27	0	.2	-.2	.2	3.4	108	0	0	85	54	0	7	3	0
HARRISBURG	34	20	42	11	27	-3	.3	-.1	.3	1.8	59	0	0	91	53	0	7	2	0
PHILADELPHIA	37	22	48	13	30	-5	.2	-.3	.1	1.7	51	0	0	84	47	0	6	3	0
PITTSBURGH	36	19	43	9	28	0	.4	0	.2	2.4	98	0	0	94	53	0	7	4	0
SCRANTON	29	13	41	2	21	-6	.2	-.1	.1	1.0	41	0	0	92	55	0	7	3	0
RI PROVIDENCE	34	17	48	4	26	-8	.3	-.3	.2	2.4	55	.1	0	72	41	0	6	2	0
SC CHARLESTON	63	42	73	30	52	4	.5	.1	.4	1.7	57	.1	0	96	55	0	2	2	0
COLUMBIA	57	37	70	21	47	1	.9	.4	.5	2.2	65	.7	0	96	52	0	3	4	0
FLORENCE	59	38	74	25	48	1	.8	.4	.7	2.5	88	.1	0	94	56	0	3	3	0
GREENVILLE	50	36	56	22	43	1	1.7	1.2	.6	5.1	131	.5	0	92	57	0	2	4	1
SD ABERDEEN	22	2	29	-14	12	7	.1	0	.1	.1	19	0	0	92	69	0	7	1	0
HURON	19	2	28	-17	11	4	.9	.9	.7	1.3	267	0	0	91	75	0	7	3	1
RAPID CITY	29	8	40	-7	18	1	.2	-.2	.2	.3	74	0	0	82	51	0	7	1	0
STOIX FALLS	21	3	31	-17	12	4	.6	-.5	.6	1.4	206	0	0	91	74	0	7	2	1
TN CHATTANOOGA	50	34	56	23	42	3	1.0	.3	.6	3.5	69	.2	0	90	52	0	3	4	1
KNOXVILLE	50	32	56	20	41	3	1.8	1.2	.9	3.9	87	.4	0	96	60	0	4	4	1
MEMPHIS	48	34	60	26	41	2	2.0	1.3	1.5	11.4	243	0	0	88	60	0	4	2	1
NASHVILLE	48	31	58	20	39	3	.8	-.2	.4	5.5	123	0	0	96	53	0	4	4	0
TX ABILENE	43	24	51	17	33	-10	0	-.1	0	4.7	554	0	0	89	49	0	7	0	0
AMARILLO	37	16	55	6	26	-9	0	-.1	0	1.8	372	0	0	92	52	0	7	0	0
AUSTIN	50	34	65	29	42	-10	.2	-.1	.1	1.4	71	.1	0	86	46	0	4	2	0
BEAUMONT	58	37	68	10	47	-9	1.0	.4	.5	6.0	126	.5	0	90	57	0	1	2	2
BROWNSVILLE	60	45	73	41	52	-10	1.0	.8	.6	1.3	122	.9	0	88	62	0	0	3	1
CORPUS CHRISTI	57	42	78	34	50	-10	.2	-.1	.1	1.1	97	.2	0	88	55	0	0	3	0
DEL RIO	53	32	66	26	43	-9	0	-.1	0	.6	117	0	0	75	32	0	4	0	0
EL PASO	49	23	64	14	36	-9	0	-.1	0	2.9	820	0	0	89	36	0	6	0	0
FORT WORTH	44	29	48	26	36	-9	0	-.2	0	2.9	174	0	0	86	49	0	6	0	0
GALVESTON	55	45	65	38	50	-8	1.2	.8	.8	2.6	75	.8	0	87	54	0	0	3	1
HOUSTON	53	39	65	32	46	-11	1.0	.5	.7	4.6	125	0	0	89	59	0	1	3	1
LUBBOCK	39	21	50	12	30	-10	0	-.1	0	1.1	311	0	0	91	60	0	7	0	0
MIDLAND	44	21	53	12	32	-11	0	-.1	0	.4	90	0	0	88	43	0	7	0	0
SAN ANGELO	45	24	53	18	35	-10	0	-.1	0	2.1	342	0	0	88	44	0	7	0	0
SAN ANTONIO	52	36	67	31	44	-9	0	-.2	0	2.2	168	0	0	81	43	0	2	0	0
VICTORIA	55	39	75	31	47	-10	.3	0	.3	1.9	90	0	0	92	55	0	1	2	0
WACO	47	31	60	28	39	-10	.2	0	.1	3.4	188	.1	0	91	55	0	4	2	0
WICHITA FALLS	40	24	48	19	32	-9	0	-.1	0	4.8	421	0	0	89	53	0	7	0	0
UT BLANDING	33	10	38	5	21	-4	0	-.2	0	.8	62	0	0	92	71	0	7	1	0
CEDAR CITY	31	1	40	-10	16	-10	.1	0	.1	1.1	168	0	0	100	59	0	7	1	0
SALT LAKE CITY	28	11	32	4	19	-8	0	-.1	0	1.1	85	0	0	90	63	0	7	1	0
VT BURLINGTON	26	10	40	-2	18	-4	0	-.3	0	1.2	50	0	0	77	47	0	7	1	0
VA NORFOLK	48	34	66	25	41	-2	1.1	.6	.6	2.7	87	.3	0	89	51	0	3	5	1
RICHMOND	46	30	57	16	38	-2	.5	.1	.4	2.9	89	.1	0	87	48	0	4	4	0
ROANOKE	44	29	51	20	36	0	.6	.2	.3	2.1	76	0	0	84	49	0	4	2	0
WA QUILLAYUTE	45	31	48	20	38	1	.6	-.7	.3	11.7	69	0	0	99	67	0	5	3	0
SEATTLE-TACOMA	44	31	48	23	38	0	.1	-.8	.1	6.1	100	0	0	87	52	0	4	1	0
SPOKANE	22	4	27	-3	13	-13	0	-.3	0	4.9	205	0	0	94	83	0	7	1	0
YAKIMA	28	22	31	19	25	-6	.2	0	.2	3.3	266	0	0	94	77	0	7	2	0
WV BECKLEY	40	24	47	10	32	0	1.1	.7	.5	4.5	150	.3	0	90	59	0	5	5	1
CHARLESTON	42	26	50	16	34	0	.6	.1	.2	4.3	135	.1	0	94	56	0	5	5	0
HUNTINGTON	42	25	50	15	33	-1	.5	.1	.2	4.9	161	.1	0	89	54	0	5	5	0
PARKERSBURG	39	22	47	12	30	-2	.6	.3	.4	3.2	122	0	0	94	54	0	5	3	0
WI GREEN BAY	27	8	35	-5	17	6	0	-.2	0	2.0	151	0	0	90	66	0	7	0	0
LACROSSE	28	9	37	-6	18	8	.2	.1	.2	1.8	175	0	0	84	61	0	7	1	0
MADISON	27	7	35	-7	17	5	.8	.6	.8	4.1	280	0	0	87	64	0	7	1	1
MILWAUKEE	29	14	36	-3	21	7	.5	.3	.5	5.4	277	0	0	92	69	0	7	1	1
WAUSAU	26	8	33	-11	17	11	.1	-.1	.1	1.5	122	0	0	87	59	0	7	1	0
WY CASPER	27	2	41	-9	14	-6	0	0	0	.6	134	0	0	85	53	0	7	2	0
CHEYENNE	30	6	43	-4	18	-5	.4	.3	.3	.9	243	0	0	81	46	0	7	2	0
LANDER	20	-1	32	-12	10	-5	0	-.1	0	.7	147	0	0	86	59	0	7	0	0
SHERIDAN	29	4	38	-4	16	-2	.1	0	.1	.3	46	0	0	86	52	0	7	1	0
PR SAN JUAN	84	73	86	70	78	1	1.0	.5	.4	8.4	198	.6	0	90	78	0	0	1	0

Based on 1951-80 normals.

National Agricultural Summary

December 28 to January 3, 1988

HIGHLIGHTS: Precipitation prolonged cotton harvest in Oklahoma and Texas and soybean harvest in the Southeast. Snow protected winter grains from bitter cold early in the week but melted by week's end in some areas. Freezing temperatures plunged into California and Arizona, but fruit and vegetable damage is not expected to be serious. Spring vegetable planting was active in California, Arizona, and Florida. Wetness virtually curtailed fieldwork in most of the eastern half of the Nation. Snow and cold temperatures increased livestock stress and supplemental feeding.

SMALL GRAINS: Winter wheat was mostly good to fair. Seeding was virtually finished in the Southeast. In California, seeding progressed well, but cool temperatures slowed emergence and growth. Fertilizer and herbicides were applied as weather permitted. Wheat and barley seeding continued in western Arizona, but low temperatures plagued emergence. Established stands were good in western and central areas, but cold weather slowed growth in central areas. Excessive water flooded winter grains in Arkansas, but damage cannot be assessed until growth resumes. Cold temperatures maintained adequate snow cover protection in eastern Colorado. Illinois winter wheat may suffer winterkill as a result of no snow cover except in the extreme northern part of the State. Recent moisture improved winter wheat in Indiana. Snow protection vanished in central and western Kansas by week's end. Despite poor snow protection, wind damage was light in Montana. Kansas wheat was good to fair, and snow provided adequate protection from cold temperatures. Wheat emergence neared completion in North Carolina. North Dakota's winter grains lacked proper protection from low temperatures. In Oklahoma, cold temperatures, snow, and ice eliminated greenbugs. Stress plagued winter grains in dry areas of South Dakota. Moisture improved small grains in most areas of Texas. Cold temperatures kept insect problems to a minimum but slowed growth.

COTTON: Wetness drastically slowed cotton harvest and the movement of cotton to gins in Texas. Harvest reached 98 percent (%) completion compared with 86% normally. Wetness held cotton harvest to 90% completion in Oklahoma. In Arizona, virtually all cotton was harvested. Stalk shredding and plowdown resumed in central areas. Land preparation and pre-irrigation for 1988 cotton was active in California.

OTHER CROPS: Soybean harvest slowly crept toward completion in the southeast. A few acres remained to be harvested in South Carolina and North Carolina.

Wetness restricted fall plowing and fertilizer applications in the Delta, Southeast, and Corn Belt. Tobacco bed preparation was underway in North Carolina. Burley tobacco markets reopened following the Christmas holiday break.

FRUIT AND NUTS: Florida's citrus trees were near excellent. Cool weather is needed to maintain the semi-dormant tree condition. Light rain sprinkled most citrus areas, but some irrigation was still needed. Texas citrus harvest increased. In California, the extent of the citrus freeze damage was unknown but appeared light. Citrus harvest continued in most areas. Avocado production suffered minimally from the freeze. Deciduous tree practices continued. Sub-freezing temperatures caused undetermined citrus fruit damage in western Arizona. Some twig damage was apparent. Grapefruit and lemon harvests advanced. Navel orange movement was active in the central valley. Orlando tangerine harvest slowed.

VEGETABLES: Land preparation and spring crop planting continued in Florida. Irrigation increased as soils dried. Tomato, pepper, celery, squash, cabbage, snap bean, and cucumber volumes were good. Wet fields slowed vegetable harvest in the San Antonio-Winter Garden area. Harvesting of most vegetables proceeded without delays in the Rio Grande Valley. Ice delayed fresh vegetable harvest in western Arizona. Lettuce, cauliflower, and broccoli movements were active. Lettuce shipments slowed in the central valley and were finished in western areas. Spring lettuce was up to stand in central Arizona. Frost damaged unprotected strawberries in Los Angeles and Orange Counties, California. Cool weather and frost slowed celery and cauliflower harvests at Riverside. Spring lettuce planting neared completion at Westside.

PASTURES AND LIVESTOCK: Cold, wet conditions slowed pasture growth in the southern Great Plains, Delta, and Southeast. Livestock stress increased as cold weather plunged into the central and northern Great Plains and Corn Belt. Snow covered fields and slow pasture growth caused increased supplemental feeding.

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 0.50 to 1.00 in. north; 1.00 to 2.00 in. south. Temperatures averaged near normal. Primary activity: Pruning fruit trees, routine care of livestock, poultry.

ARIZONA: Sunshine, warming trend prevailed 27th to 29th, except northeastern valleys. Weak winter storm moved across State 30th; partly cloudy skies south, light snow north. Colder air 30th lowered maximum temperatures 5 to 18°. Partly sunny skies, warming trend 31st. Temperatures varied 2 to 13° below normal.

Soil moisture 6% short, 81% adequate, 13% surplus. Cotton stalk shredding, plowdown resumed central. Virtually all cotton picked. Average to above average yields statewide. Sub-freezing temperatures damaged alfalfa hay west. Sheeping off, green-chop active central. Slow growth central. Wheat, barley planting continued west; emergence slowed by low temperatures. Cold weather slowed growth central. Established stands good condition west, central. Fresh vegetable harvest delayed by ice west. Lettuce, cauliflower, broccoli movement active. Lettuce shipments winding down central valley, complete west. Spring lettuce stands established central. Sub-freezing temperatures west; undetermined citrus damage, some twig damage. Grapefruit, lemon harvest advanced west; tangerines, oranges picked. Navel orange movement active central valley; shipments slowed. Minneola's picked. Orlando tangerine harvest slowed. Pecans harvested southwest. Cattle 6% poor, 32% fair, 56% good, 6% excellent. Sheep 40% fair, 60% good. Rain, snow improved soil moisture conditions north; spring feed prospects good. Stock water 6% short, 76% adequate, 18% surplus.

ARKANSAS: Cold, some precipitation most areas. Fewer than normal stations reported due to holidays. Temperature extremes 12°; 57°. Rainfall total 0.01 to 1.89 in.

Flood waters receding. No way to measure damage to wheat, pasture until warmer temperatures allow growth. Cattle good, being fed hay.

CALIFORNIA: Cold, moist air moved across State from Gulf of Alaska 28th to 29th. Storm brought some heavy rains coastal areas, heavy snow mountains. Snow also lower foothills, high coastal peaks. Temperatures well below normal, northeast coldest readings.

Limited field activities. Seeding small grains progressed, cool weather slowed emergence, growth. Fertilizer, herbicide applications weather permitting. Land preparation, pre-irrigation 1988 cotton fields active. Southern alfalfa green-chopped, sheeped off. Deciduous practices continued. Extent of citrus freeze damage unknown, appears light. Citrus harvest continued. Navel oranges 25% harvested. Lemons 20 to 25% harvested, central valley, southern coastal districts. Avocado production, minimum impact from freeze. Broccoli harvest continued Westside. Cauliflower, celery harvests active Westside, Los Angeles-Orange areas, slowed by cool weather and frost Riverside. Lettuce planting for spring 95% harvested Westside. Strawberries frost-damaged in unprotected fields Los Angeles-Orange. Livestock fair to good, statewide. Market movement, seasonal standstill northern districts. Supplemental feeding heavy Shasta County. Westside feedlots approximately 50% capacity. Range, pastures good, growth slowed cold temperatures. Water supply levels improved,

more needed Siskiyou County. Calving continued active.

COLORADO: Mostly clear, dry early week. Windy conditions and snow across northern half of State midweek, followed by cold and dry conditions statewide rest of period. Snowfall heaviest in mountains, little accumulation elsewhere. Average temperatures 10 to 15° below normal west of Divide. Feed, care of livestock; ice removal from water tanks major activities. Snow cover on eastern plains being maintained by cold.

FLORIDA: Very warm winds, little or no rain, 28th, then strong northwest to north winds. Widespread cloudiness. Sprinkles 0.10 to 0.20 in. or less by 29th. Another cold front moved through; temperatures to mid 20s north to mid 30s central, interior, south midweek, increasing rapidly to above normal, weekend. Cloudy but almost no rain 2nd, 3rd in advance of another cold front northwest.

Soil moisture supplies declined; short to adequate throughout. Preparation, planting tobacco beds active. Small grains for grain harvest mostly fair to good. Sugarcane harvest continued good progress. Light, scattered showers benefited pastures. Panhandle, most Peninsula grazing poor to fair. Southern pastures good to excellent. Cattle fair to good. Citrus trees near excellent. Light rain, some irrigation. Cool weather needed to maintain semi-dormant tree condition. Mild weather changed to cool midweek, throughout vegetable producing areas. Irrigation becoming active. Land preparation, planting spring crops continued. Good volume available tomatoes, peppers, celery, squash, cabbage, snap beans, cucumbers; lesser supplies endive, escarole, lettuce, radishes, carrots, sweet corn, eggplant, strawberries. First spring hastings potatoes planted.

GEORGIA: Temperatures 29th to 4th near normal. Lows 20s in mountains, low mid 30s south. Highs 50s north, near 80s southeast. Rain 3 to 5 days. Totals 1.00 in. or less north, central and south over 1.00 in., local over 4.00 in.

Soil moisture short southeast; southwest to surplus north, central. Activities: Land, tobacco bed preparation, continued planting of small grains, harvest of cotton and soybeans neared completion. Pecan harvest active as weather permitted. Wheat, rye, other small grains fair to mostly good. Pasture remained poor to mostly fair. Cattle fair; hogs fair to mostly good.

HAWAII: Heavy, intense rains New Year's Eve. Windward area Kauai, Oahu Islands hardest hit. Isolated flooding. Rainfall none to 18.20 in. Variable winds 5 to 30 mph.

Days suitable for fieldwork 7.0. Fieldwork slowed by wet conditions, halted some areas. Agricultural losses light to heavy individual farms. Overall produce supplies not affected seriously. Minimal losses in major vegetable region on Maui, Hawaii Islands. Chinese, head cabbage production moderate to heavy. Tomato production increased. Head lettuce very low production. Banana, papaya production declined seasonally.

IDAHO: Southern 5 to 10° below normal, north 7 to 15° below normal. Precipitation well below normal.

No fieldwork. Feeding livestock prominent farm activity. Other activities included shipping, marketing products, cleaning barns, doing shop work, calving, lambing. Hay, roughage supplies adequate. Farmers attended seminars.

ILLINOIS: Temperatures averaged 2 to 5° below normal north, normal central and south. Precipitation 0.10 in. or less north, 0.30 to 0.60 in. north, 0.20 to 0.60 in. south.

Winter wheat may suffer winterkill with little or no snow cover except extreme north 4 to 8 in. of snow. High livestock stress levels north.

INDIANA: Temperatures 1 to 2° below normal. Low teens to low 20s, highs averaged low 30s. Rainfall amounts under 0.25 in., 0.50 in. northwest.

Wet weather halted field activities. Other activities: Moving grain, hauling manure, machinery repair, stripping tobacco, tax preparation, caring for livestock, other usual farm chores. Hay supplies adequate. Livestock good. Recent rainfall improved wheat condition, soil moisture.

IOWA: Average temperatures varied 11° north to 25° south. Substantial snow 28th, deposited up to 12 in. northeast counties. Snow cover weekend, 3 to 7 in. northern districts decreased to bare ground southern districts.

Farm activities limited to general livestock care. Feeder calf sales picking up after 1st.

KANSAS: Considerably colder normal west, near normal east. District average 5 to 7° below normal west of line Wichita, Goodland. Readings 3 to 4° below normal covered central, north central districts. East, northeast readings near normal. District average temperatures 26° north central, 32° southeast. Precipitation fairly uniform across State. District average ranged nearly 0.20 in. southwest, 0.75 in. southeast. Other districts between 0.25 to 0.50 in.

Most snow central, western areas, ice eastern area melted by end of week. Feeding cattle heavy early week where pastures, wheat fields covered snow or ice. Feed yards becoming muddy making care livestock difficult.

KENTUCKY: Temperatures near normal, precipitation little below normal. Lows in mid 20s, highs around 40°. Precipitation averaged around 0.75 in.

Topsoil moisture supplies mostly adequate, some areas still short subsoil moisture. Burley markets reopened 4th, nearly 30% left to be sold. Wheat mostly satisfactory. Livestock satisfactory, pond water supplies generally replenished.

LOUISIANA: Temperatures 1 to 9° below normal. Temperature extremes 27°; 84°. Rainfall averaged 0.65 to 6.04 in.

Main activities: Livestock care, routine chores.

MARYLAND & DELAWARE: Maryland: Temperatures averaged 36°, 34° normal for State; lowest temperatures mid teens to low 20s southern areas west of Bay and Eastern Shore; mostly mid teens elsewhere. Lows 60s, highs mid 50s. Precipitation averaged 0.71 in., ranging 0.29 in. Hagerstown to 1.38 in. Cambridge.

Days suitable for fieldwork 3.0. Topsoil, subsoil moisture adequate. Small grains good. Farmers caring for livestock, working on taxes.

Delaware: Temperatures averaged 35°, 35° normal; lowest temperatures mostly mid teens to 20°, high temperatures mid 50s to near 60s. Precipitation averaged 0.53 in., ranging 0.21 in. Georgetown to 0.90 in. Dover.

Days suitable for fieldwork 2.5. Topsoil, subsoil moisture adequate. Small grains good. Farmers caring for livestock, working on taxes.

MICHIGAN: Temperatures ranged 3° below to 1° above normal. Temperature extremes -4°; 39°. Precipitation none to 0.67 in. across State. Some snow cover most areas.

Activities: Spreading manure, marketing grain and hay, pruning fruit trees, attending meetings. Livestock good. Livestock marketing slowed by Holidays, icy road conditions. Feed supplies adequate, hay demand strong.

MINNESOTA: Temperatures averaged 2° below normal to 5° above normal for State. Extremes -25°; 38°. Precipitation averaged 0.14 to 0.28 in. above normal northwest, southwest, south central and near normal to 0.14 in. below normal elsewhere. Precipitation totals averaged 0.05 to 0.40 in. Greatest weekly total 0.82 in. Snowfall averaged trace to 4 in. Snow depth weeks end averaged 6 to 9 in. for southern third, 2 to 5 in. elsewhere.

Most reporting stations reported double digit lows. More attention needed in caring for livestock. No major difficulties.

MISSISSIPPI: Days suitable for fieldwork 2.8, 2.0 1987, 2.1 avg. Soil moisture adequate. Wheat 100% planted, 93% 1987. Pecans 90% harvested, 97% 1987. Hay, roughage supply adequate. Feed grain supply adequate. Livestock fair to good. Wheat fair to good. Pastures fair. Unseasonably warm weather combined with recent precipitation allowed for stimulated pasture growth, for greater utilization of some grazing crops.

MISSOURI: Rain, snow, sleet Christmas weekend. Precipitation less than 0.50 in. west, 1.00 to 2.00 in. east. Some flooding, especially south. Temperatures near normal, except southwest 5° below normal.

Topsoil moisture 2% short, 55% adequate, 43% surplus. Winter wheat 1% poor, 32% fair, 56% good, 11% excellent. Snow cover gone. Supply of hay, roughage 8% short, 84% adequate, 8% surplus. Livestock losses light. Livestock 2% poor, 18% fair, 77% good, 3% excellent.

MONTANA: Very cold west, southwest 7 to 12° below normal. Rest of State zero to 5° below normal. South central 0.33 in. precipitation; west and southwest 0.10 in. Little or no precipitation elsewhere.

Winter wheat mostly fair. Wind damage to winter wheat light. Snow cover protection poor. Cattle, calves generally good to excellent. Sheep, lambs good to excellent. Grazing mostly open.

NEBRASKA: Dry, cold. Temperatures averaged 1° below normal east to 17° below normal west. Extremes -17°; 39°. Precipitation averaged less than 1.00 in. Snow cover averaged 7 in., ranging 15 in. north central, under 2 in. southeast.

Grain handling, livestock management, general farm chores main activities. Farm stored grain generally good, minimal damage from insects, rodents, spoilage hot spots. Winter wheat 25% fair, 75% good. Snow cover adequate for wheat but caused supplemental hay feeding for cattle. Feed grain, hay, forage supplies adequate to surplus. Range, pasture grass mostly adequate.

NEVADA: Cold air, snow flurries continued all areas. Temperatures averaged up to 10° below normal northwest, south central; 7° below normal northeast; 5° below normal extreme south. Temperature extremes 15° below zero; 56°. Precipitation mainly in form of snow.

Livestock feeding operations hampered by continued low temperatures, snow flurries. Low temperatures hard on newborn calves, lambs.

NEW ENGLAND: Average temperatures ranged 10° near Canadian Border to upper 20s along south coast. Temperatures near normal north, slightly below normal south. Average precipitation (water equivalent of snow) ranged trace to 0.15 in. across northern areas to between 0.15 to 0.30 in. across southern areas.

Major farm activities: Tending livestock, poultry.

NEW JERSEY: Temperatures below normal, averaged 20° north, 26° south, 29° coastal. Extremes -3°; 55°. Precipitation below normal north, near normal south, coastal, averaged 0.49 in. north, 0.85 in. south, 0.95 in. coastal. Heaviest 24-hour total 0.92 in. on 3rd, 4th. Heaviest 24-hour total snowfall 7 in. on 3rd. Depth of snow on ground 4th, ranged from 1 to 7 in.

Some crops moved from farm storages. Farmers caring for livestock, tending to normal winter chores.

NEW MEXICO: Average weekly temperatures well below normal; sparse precipitation statewide.

Days suitable for fieldwork 1.3. Soil moisture 100% adequate. Cotton 22% fair, 78% good; 95% harvested, resuming again as fields dry out. Barley 40% fair, 60% good. Wheat 79% fair, 21% good. Irrigated, dryland grain sorghum harvest virtually over. Pecans 20% poor, 80% fair; harvest started up again. Cattle 30% fair, 70% good. Sheep 43% fair, 57% good. Range 90% fair, 10% good.

NEW YORK: Temperatures 2 to 3° below normal. Precipitation amounts varied significantly from trace amounts in central areas to as much as 18 in. Lake Ontario areas.

Year end chores, bookkeeping occupied most producers time.

NORTH CAROLINA: Temperatures averaged near normal except 2° above normal in mountains. Temperature extremes 14°; 75°. Precipitation 0.49 to 2.79 in. across State.

Days suitable for fieldwork 1.8. Soil moisture 6% short, 63% adequate, 31% surplus. Soybean harvest virtually completed. Wheat 96% emerged, 95% 1986. Small grains fair to mostly good. Pasture 19% poor, 40% fair, 41% good. Hay, roughage supplies; feed grains supplies mostly adequate. Major farm activities: Equipment repair, maintenance; soil sampling; preparing tobacco plantbeds; tending livestock; general farm maintenance.

NORTH DAKOTA: Seasonably mild, precipitation midweek. Temperatures ranged 1 to 5° above normal statewide. Extremes -16° northwest; 44° southwest. Precipitation slightly below normal, heaviest north central 0.42 in.

Soil moisture below normal. Average snow depth 1 in. Inadequate snow cover for winter grain, alfalfa protection. Livestock good. Feed supplies adequate.

OHIO: Average minimum temperatures 1 to 6° below normal; maximum 1 to 5° below normal. Extremes ranged 50° along Ohio River to 2° Toledo. Soil temperatures mid to upper 30s. Precipitation 0.20 in. north to 0.75 in. south.

Subnormal temperature, wind chill increased livestock cold stress.

OKLAHOMA: Temperatures below normal statewide, ranged 4° below normal east central to 11° below normal west central. Precipitation below normal,

only central, east central, southeast measurable amounts.

Cold with snow, ice stopped greenbugs. Wheat good, 50% grazed. Supplemental feeding taking place. Wet fields holding cotton; 90% harvested, 40% 1987, 80% avg. Livestock mostly good.

OREGON: Cold spell during week broke record minimum temperatures many sites across State. Western valleys, coastal areas averaged 3 to 6° below normal. Nighttime lows of -10 to -13° north central, northeast locations dropped average temperatures to 14° below normal. South central, southeast area averaged 12° below normal. Rainfall totals 2.00 to 4.00 in. most coastal areas. Remainder of State 0.20 to 0.80 in., mostly as snow east of Cascades.

Soil moisture mostly adequate east, adequate to surplus west. Fields frozen, snow covered east of Cascades; mostly dormant west. Fruit tree pruning continued. Training caneberry vines. Livestock mostly good. Western pastures poor, too cold for growth. Eastern pasture, rangeland snow covered. Active alfalfa hay movement, much cattle feeding east.

PENNSYLVANIA: Chilly, dry. Average temperature 25°, 2° below normal. Temperature extremes -7°; 48°. Average precipitation 0.39 in., 0.28 in. below normal.

Activities: Hauling manure; machinery maintenance; caring for livestock.

PUERTO RICO: Island average rainfall 1.68 in., 0.78 in. above normal. Highest weekly total rainfall 3.88 in. Pico Del Este-Luquillo, 3.03 in. Morovis, 2.99 in. Corozal Aes. Highest 24-hour total 1.95 in. Morovis. San Juan mean temperature 78°, 1° above normal. Total rainfall 1.02 in., 0.15 in. above normal. Divisional temperature averaged about 77 to 78° on coasts, 69 to 73° interior, mean station temperature ranging 63° Pico Del Este-Luquillo to 80° Guayama. Lowest minimum temperature 52° Pico Del Este-Luquillo. Highest maximum temperature 90° Mayaguez.

SOUTH CAROLINA: Rainfall varied from less than 0.50 in. near south coast to more than 1.00 in. in mountains. Temperatures averaged somewhat above normal.

Small grains good, developing well. Soybean harvest about complete.

SOUTH DAKOTA: Average temperatures 9° below to 4° above normal. Extremes -25°; 61°. Snow cover 10 to 20 in. central, east areas; lesser amounts rest of State. Some melted precipitation.

In some areas of State that went into winter with enough moisture, winter wheat is in good condition. However many areas went into winter dry, still very dry. These areas definitely under stress. There will probably be an above normal amount of winterkill. Overall crops poor to fair. Livestock good.

TENNESSEE: Temperatures below normal, averaged 35 to 42°. Rainfall below normal west, above normal east; ranged 0.30 to 1.50 in.

Topsoil moisture supplies adequate. Livestock chores, hay feeding, bookkeeping main activities. Livestock, winter wheat good.

TEXAS: Cool, north Pacific air mass brought freezing temperatures, frost central part State. Midweek wide area rain east, scattered showers south. Another cold front 31st, bringing clear skies west, north, light rain, drizzle south. Temperatures below normal. Rainfall slightly below normal, except Rio Grande Valley.

Crops: Cotton producers drastically slowed finish harvest Plains. Wet fields slowed movement

modules to gins. Remaining cotton suffered quality, yield reductions; majority crop harvested. Gins catch up on stockpiles. Cotton 98% harvested, 70% 1986, 86% avg. Small grains improved most areas because continued moisture. Temperatures need to warm up for increased growth, especially oats. Grazing limited many areas because prolonged wetness. cold temperatures kept insect problems minimum. Sunshine help fields areas. Sugarcane harvest proceeded Rio Grande Valley few delays. Quality, yields good. Other crops harvested: Pecans 93%, 93% 1986, 93% avg.

Commercial Vegetables: Rio Grande Valley harvest most vegetables proceeded, no delay. Some carrot harvest slowed by wet fields. Markets, prices strong. Onions continued good progress. Harvest citrus increased after Christmas, good demand after freeze California. San Antonio-Winter Garden harvest slowed wet fields. Cooler weather helped spinach. Pecan harvest nearly complete all areas, except west. Wet ground slowed progress many groves. Quality suffer nuts stay on ground.

Range and Pasture: Range, pastures good, bad effects from recent weather. Moisture improved conditions; colder weather slowed improvement. Grazing limited many small grain fields because wetness. Native ranges some improvement. Heavy supplemental feeding continued. Calving, lambing continued, some small lambs lost because cold temperatures Hill Country.

UTAH: Precipitation very light. Temperatures 15° below normal south central to 6° below normal southeast.

Snow cover light to moderate. Livestock good to excellent. Feed adequate. Major farm activities: Summarizing tax records, attending farm meetings, livestock chores.

VIRGINIA: Widespread, moderate rain began. Scattered, light rain end period. Temperatures averaged 4° above normal, range 10 to 70°. Precipitation 0.15 to 1.66 in.

Days suitable for fieldwork 1.5. Topsoil moisture 63% adequate, 37% surplus. Winter grains good to excellent. Prepared burley tobacco for market. General livestock care, feeding. Lambing,

calving activities progressed well. Normal winter conditions, activities. Feed tight some areas, adequate most areas.

WASHINGTON: Early period weak disturbance dropped light precipitation around State. Strong high pressure dominated remainder of week. Dry, northerly air flow kept temperatures below normal. Trapped low level moisture produced fog, snow flurries isolated areas.

Soil moisture 60% short, 40% adequate. Good snow cover protected winter crops Central Basin, Palouse. Dry, cold weather prevailed southeast counties. Pruning crews taking advantage of excellent pruning weather Chelan, Yakima Counties. Most cattle continued on feed. Early lambing, calving began Klickitat County. Farmers spent time preparing tax forms, attending meetings.

WEST VIRGINIA: Average temperature 30°; ranged from near normal to 3° below normal. Extremes 6° Elkins; 54° Gary. Precipitation averaged 0.69 in.; near normal except northern mountains, southeastern portions well above normal.

Days suitable for fieldwork 5.0. Soil moisture 86% adequate, 14% surplus. Farm activities: Livestock care, general farm maintenance, fencing. Wheat, barley good to fair. Feed supplies adequate to short.

WISCONSIN: Temperatures colder, averaged 17°. Extremes -17°; 38°. Precipitation trace to 0.20 in. Snowfall 3 to 6 in. southwest on 28th; 5 to 13 in. south central, southeast on 28th; 1 to 3 in. northwest on 30th. Average frost depth 1.6 in. on 1st, record minimum since 1961. Average snow depth 7 in. on 1st.

Topsoil moist, subsoil mostly moist.

WYOMING: Temperatures from 1 to 20° below normal. Precipitation above normal southeast, rest of State dry.

Winter wheat fair to good. Snow cover southeastern areas protecting winter wheat from bitter cold temperatures. Subzero temperatures, snow cover continued to increase stress on livestock. Supplemental feeding continued most areas. Feed supplies adequate.

International Weather and Crop Summary

December 27, 1987 - January 2, 1988

HIGHLIGHTS:

UNITED STATES...Precipitation prolongs cotton harvest in Oklahoma and Texas and soybean harvest in the Southeast. Snow protects winter grains from bitter cold early in the week but melts by week's end in some areas.

WESTERN U.S.S.R...Overwintering conditions continue favorable for winter grains. A protective snow cover is needed in western and southern winter grain areas, where unseasonably warm weather diminished snow cover.

EUROPE...Rains cause unfavorably wet soils in the north. Normal to above-normal temperatures reduce protective snow cover in the north and east.

SOUTH ASIA...Conditions favor cotton and rice in the south. Dry weather stresses wheat but helps maturing rice.

NORTHWESTERN AFRICA...Beneficial rain covers vegetative winter grains in western and central Algeria. Unfavorable dry weather stresses crops in eastern Algeria and Tunisia.

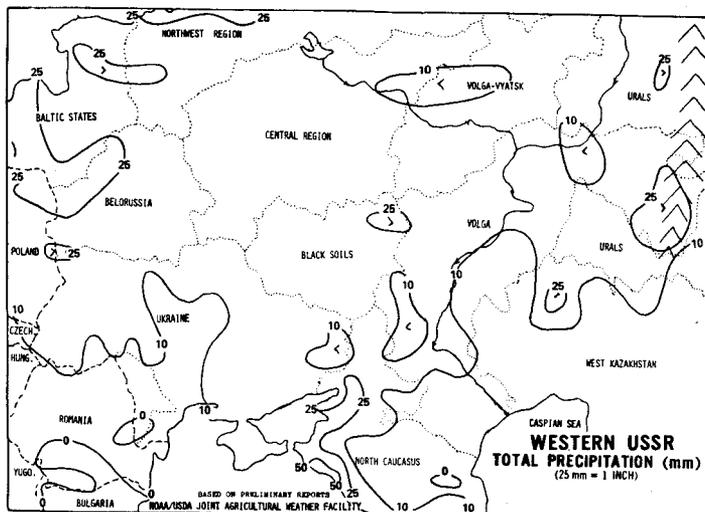
SOUTH AFRICA...Hot, dry weather stresses vegetative corn in the western Maize Triangle. Showers and warm weather benefit crops to the east.

SOUTHEAST ASIA...Seasonable dryness benefits mature Thai rice. Showers benefit Indonesian rice.

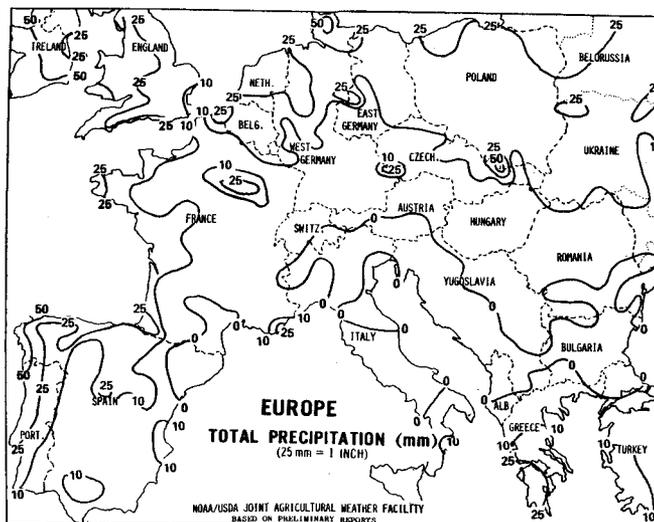
EASTERN ASIA...Temperatures remain above normal over much of China. Soil moisture is becoming short in some southern areas.

SOUTH AMERICA...Moisture favors crop development in Argentina and most of south-central Brazil. Some rain falls in western Rio Grande do Sul, where dryness has delayed late soybean planting.

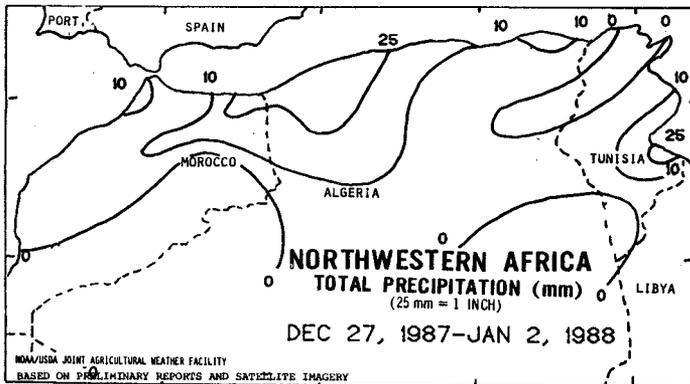
AUSTRALIA...Heavy rains fall in northeastern sugar cane areas, likely causing flooding. Rain also hampers late wheat harvest in the south.



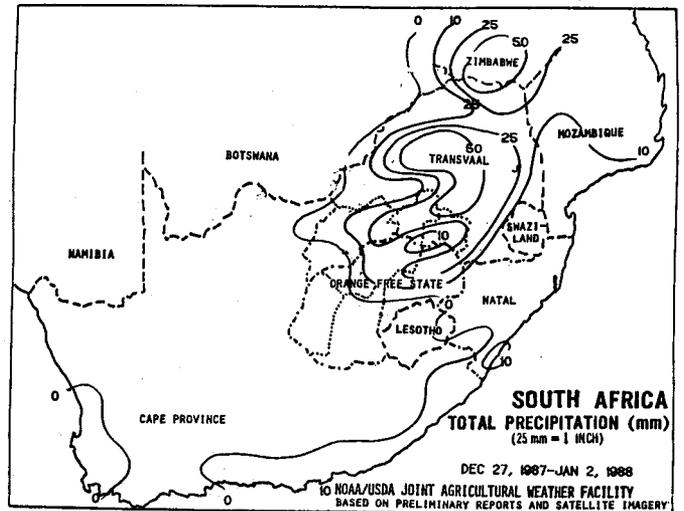
WESTERN U.S.S.R...Widespread precipitation covered most areas. Snow changed to rain (10-25mm) over the Baltic States, Belorussia, and the Ukraine. Snow cover increased in the Volga Vyatsk, the Central Region, Black Soils Region, and the Volga, where precipitation ranged from 10 to 25mm. The combination of much above-normal temperatures and rain in the western Baltic States, western Belorussia, and the Ukraine has diminished snow cover, leaving winter grains vulnerable to extreme cold.



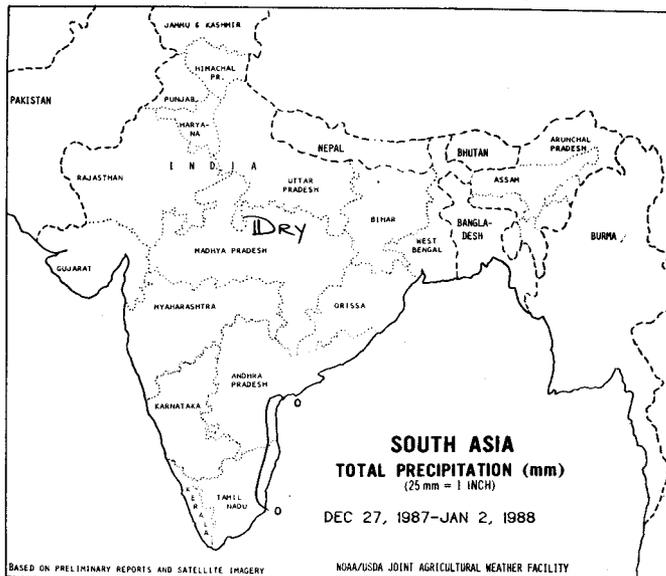
EUROPE...A large area of high pressure remained over southern Europe, keeping temperatures normal to above normal over much of the continent. Moderate to heavy rain (greater than 20mm) fell from England eastward to Poland, causing soils to be unfavorably wet in some locations. Rainfall and above-normal temperatures have reduced or completely melted snow cover in northern and eastern Europe over the past 3 weeks, leaving dormant winter grains potentially more vulnerable to freezing temperatures. In the south, scattered showers (up to 78mm) fell over Spain, Portugal, southern Italy, and Greece, while portions of Italy and the Balkans remained dry. Normal to above-normal temperatures favored winter grains, which are still mainly vegetative.



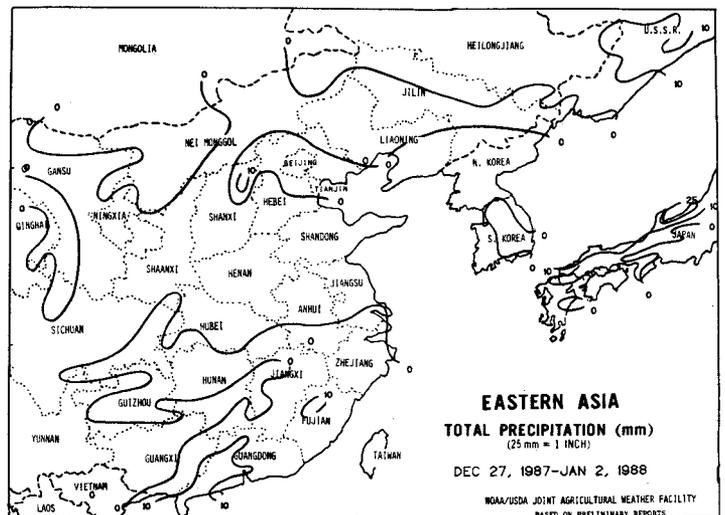
NORTHWESTERN AFRICA...Light, scattered precipitation (5 to 10mm) over Morocco continued a minimal rainfall pattern which has lasted for the past 2 weeks. Although moisture supplies were adequate for winter grains in the vegetative stage, soil moisture is becoming limited and rain is needed to maintain favorable crop prospects. Widespread beneficial rain (25 to 40mm) over western and central Algeria reversed a drying trend, improving conditions for crop growth. Unfavorable dryness in eastern Algeria and Tunisia stressed winter grains in the vegetative stage.



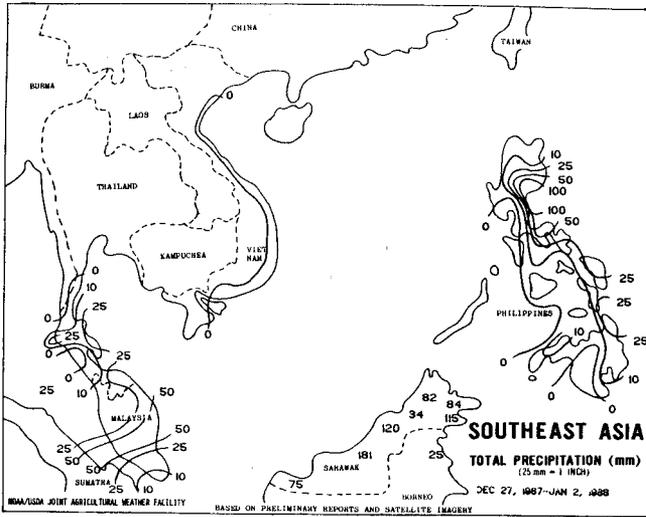
SOUTH AFRICA...Hot, dry weather stressed vegetative corn in the southwestern and central Maize Triangle, with daily temperatures reaching the middle to upper thirties Celsius the latter half of the week. Moisture has been limited in parts of the western and southern Triangle for much of the season due to periodic dry, warmer than normal weather, but conditions had been generally favorable thus far in the primary corn regions. The hot weather in the central Triangle followed early-week light rain (less than 10mm). Beneficial showers (15-58mm) continued in major corn areas to the east, but maximum temperatures reached 35 degrees C by week's end, increasing evaporation rates.



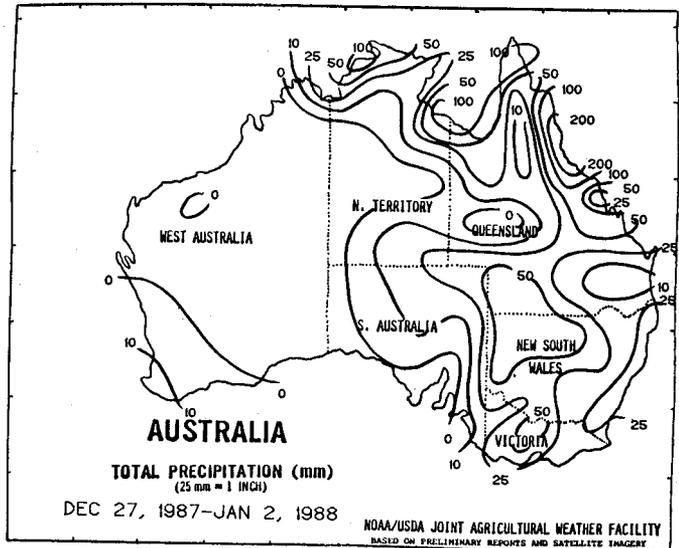
SOUTH ASIA...Dry weather covered the major crop regions. However, moisture continued adequate in southern India for boll forming to filling cotton and vegetative rice due to December's beneficial rainfall. The dryness benefited maturing rice in the east but continued the trend of unfavorable conditions for vegetative wheat in central and northern India. Many winter wheat areas remain unplanted following this summer's monsoon failure and subsequent lack of sufficient irrigation reserves.



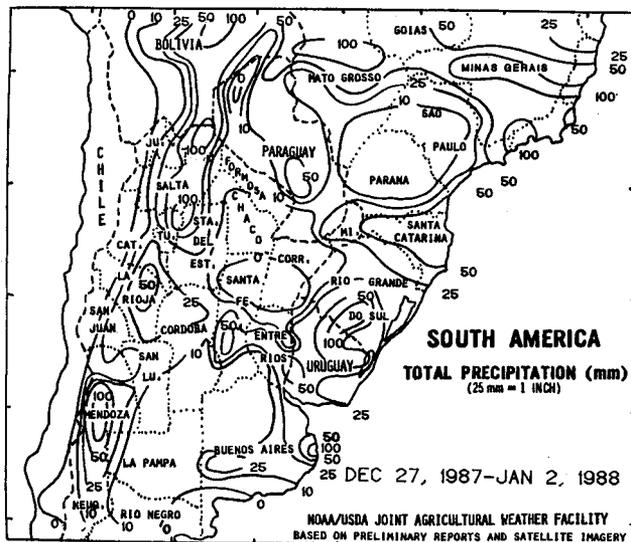
EASTERN ASIA...A continental air mass from central Asia moved over China early in the period, bringing slightly cooler temperatures to northern and central Chinese growing areas. Temperatures were still above normal for much of the week, however. The cold front associated with the air mass set off scattered showers (up to 30mm) along China's southeast coast from Guangdong northward to Jiangsu, favoring secondary crops. Much warmer than normal weather has increased evapotranspiration losses, and soil moisture is becoming short in portions of southeastern China after several weeks of below-normal rainfall. Scattered, mainly light precipitation also fell in the North China Plain and over Korean growing areas, favoring soil moisture levels.



SOUTHEAST ASIA... Dry weather in Indochina benefited late-planted, maturing rice. Light to moderate showers (10-60mm) benefited crops along the Malay Peninsula. Moderate to heavy showers (25-100mm or more) benefited Indonesian rice as far south as northern Java, with little or no rain from southern Java eastward. In the Philippines, light to moderate showers (10-40mm) fell along the eastern half of the islands with pockets of heavy rain (50-104mm) in east-central Luzon. Dry weather covered the western half, as well as northern Luzon's Cagayan Valley, where moisture levels continued favorable for newly planted corn.



AUSTRALIA... Moderate to heavy rain (greater than 20mm) interrupted late wheat harvest in Victoria and Western Australia, while most production areas in South Australia remained favorably dry. Wheat harvest is normally completed in January. Residual tropical moisture brought very heavy rain (up to 227mm) to sugar cane areas of eastern Queensland, likely causing flooding at some coastal locations. The rain followed several consecutive weeks of below-normal precipitation and favored the vegetative cane crop. Scattered rain also covered nearly all summer crop areas of Queensland and New South Wales, benefiting soil moisture levels as crops near phenological stages of maximum water usage.



SOUTH AMERICA... In Argentina, light rain (1-8mm) fell over the major summer crop areas of southern Cordoba, southern Santa Fe, and northern Buenos Aires. Wheat harvesting and second-crop soybean planting are still underway. Heavier rain (20-50mm or more) fell over scattered areas of southern and eastern Buenos Aires and central Santa Fe. Moisture is generally favorable for corn and other grains advancing through reproduction. Light showers (1-10mm) covered northern cotton areas, where beneficial rain fell during the previous week. In Brazil, locally heavy showers (50-100mm or more) covered southern Goias and northern Mato Grosso do Sul, maintaining adequate moisture for soybean growth. Some beneficial rain (9-28mm) fell in western Rio Grande do Sul, where late soybean planting has been delayed by hot, dry weather. Moisture, however, is limited in this area. Light rain fell over Parana, southern Mato Grosso do Sul, and Sao Paulo, but early-season moisture has been favorable for crop development.

