WEEKLY WEATHER AND CROP BULLETIN

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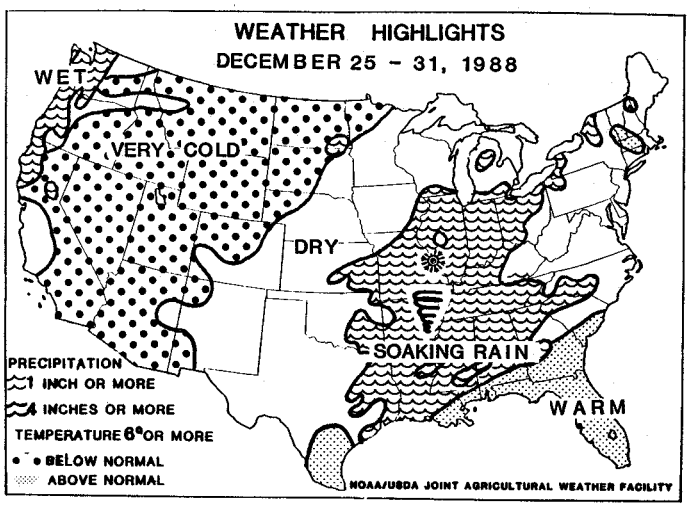
National Weather Summary

December 25-31, 1988



HIGHLIGHTS: A major winter storm trekked across the United States during the first half of the week. Heavy rain fell in the warm, moist air ahead of the system in the lower Mississippi and Ohio Valleys. Thunderstorms brought more drenching rain to the Delta and into the Southeast at year's end. Wet weather persisted along the northern Pacific coast, while much of the winter wheat region in the Great Plains remained dry. The mild weather along the Gulf and Atlantic seaboards contrasted with the persistent cold in the West.

SUNDAY: A winter storm brought snow to the Rockies and Intermountain Plateau, with heavy snow in the higher elevations. Rain fell along the California and Oregon coasts. Snow showers were scattered over the Great Lakes and the Northeast.

MONDAY: The large winter storm system spread snow and ice from the northern Plains to the eastern Corn Belt. Heavy rain fell in the warm air ahead of the system in the southern Plains and middle Mississippi Valley. Very cold air moved into the North Central States.

TUESDAY: The storm system trekked across the Great Lakes and Mississippi Valley. Thunderstorms produced heavy rain and high wind in the warm, moist air ahead of the system, while brisk, northerly winds ushered in bitter, arctic air behind the system. Tornadoes struck the northern Delta and snow blanketed the middle Mississippi Valley. Another storm brought widespread rain and snow to the Pacific Coast States.

WEDNESDAY: The storm system rapidly crossed the eastern third of the Nation, causing rain, sleet, snow, and brief periods of damaging winds. High pressure brought clear, cold weather to the Central United States. Temperatures averaged well below zero across the northern Plains. Cold weather also prevailed in the West as scattered rain and snow showers continued.

THURSDAY: Heavy rain drenched the northern Pacific coast ahead of an approaching frontal system. Rain and snow were widespread across the Northwest, while lake-effect snow fell around the Great Lakes. High pressure and clear skies dominated the remainder of the Nation. Cold weather persisted in the West.

FRIDAY: The Pacific frontal system brought moist air and widespread precipitation into the Far West and northern Rockies. Showers and thunderstorms produced heavy rain from eastern Texas into the Carolinas.

SATURDAY: The end to the year was wet as thunderstorms continued to soak the Southeast. Widespread rain and snow remained in the West. Record-high temperatures for the date over Florida contrasted with the arctic air pushing into the northern Plains.

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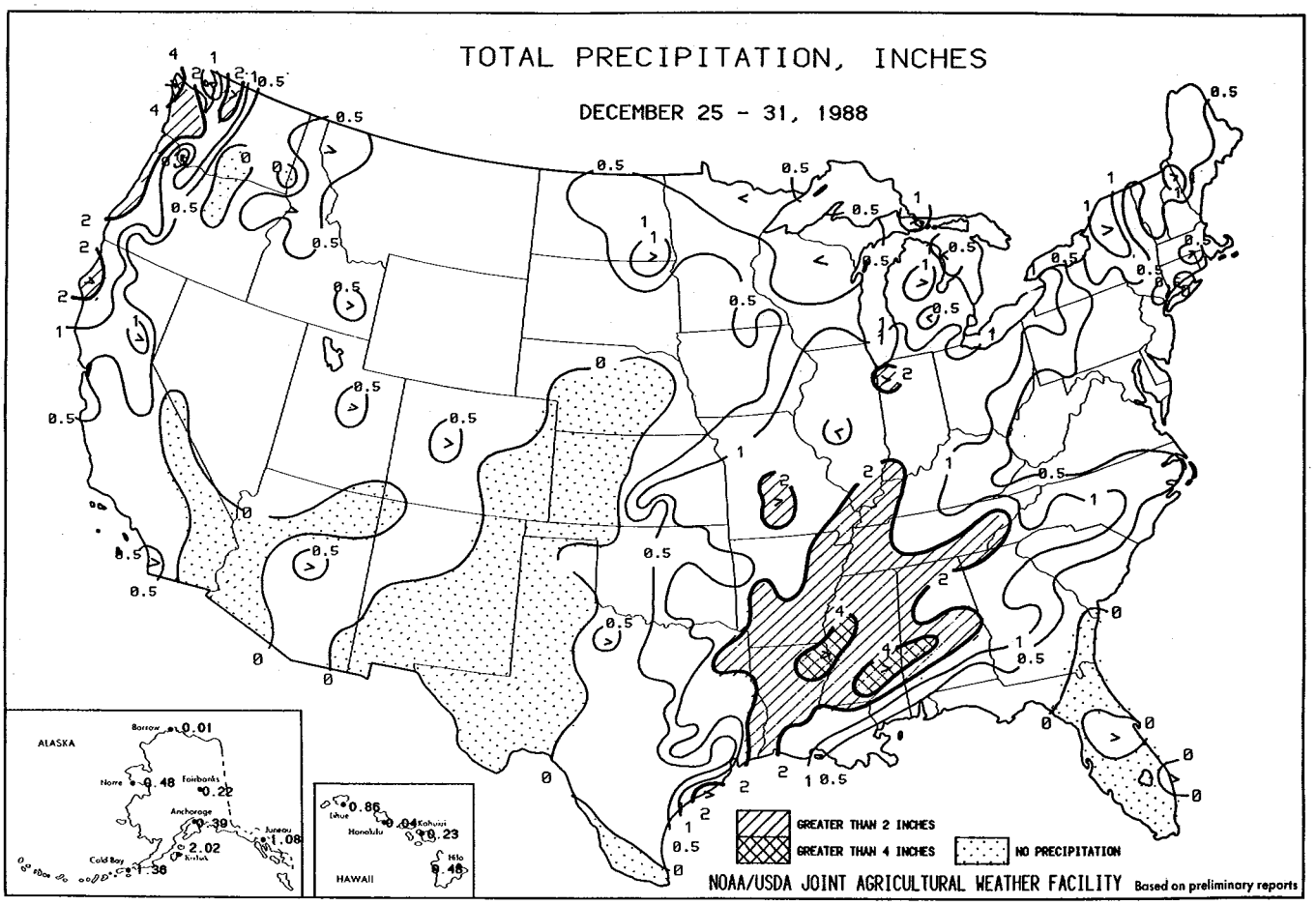
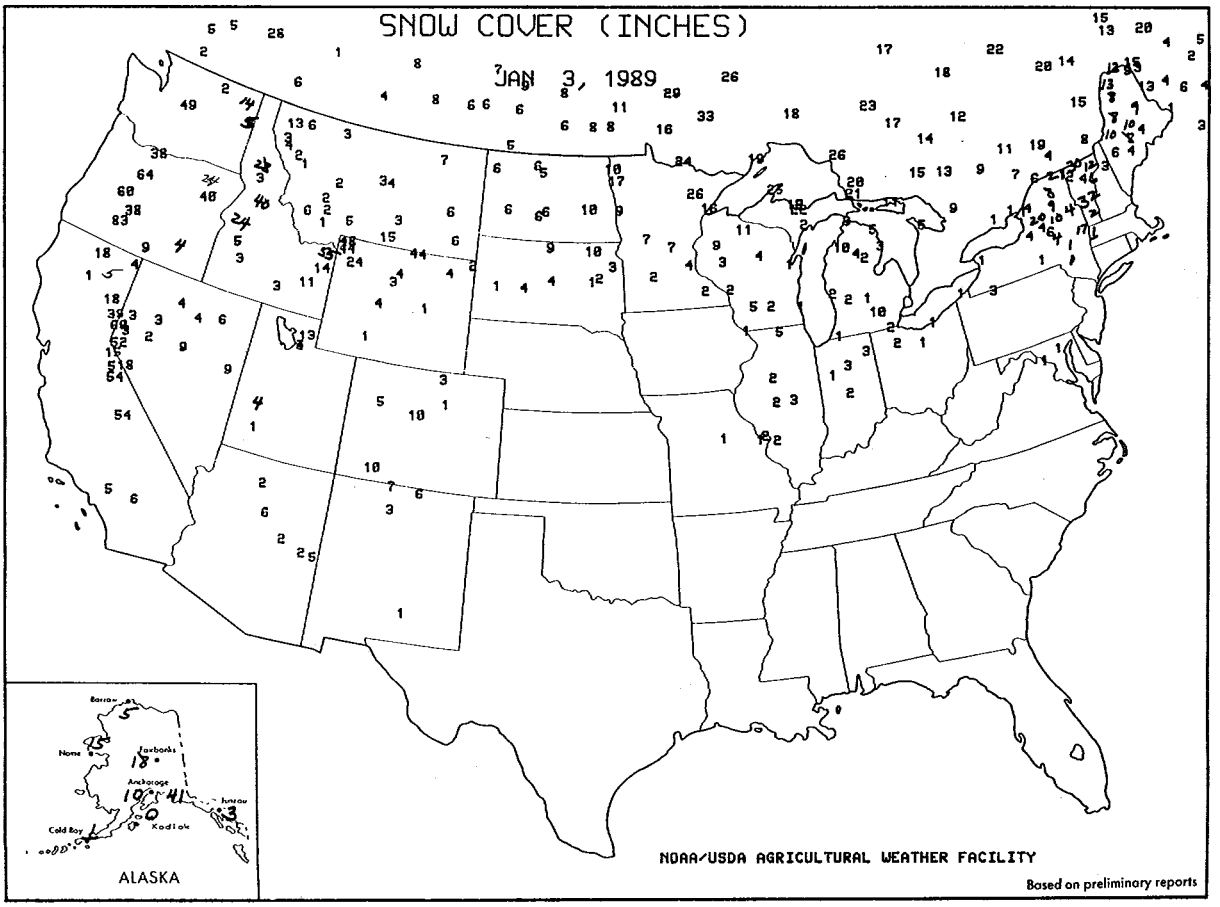
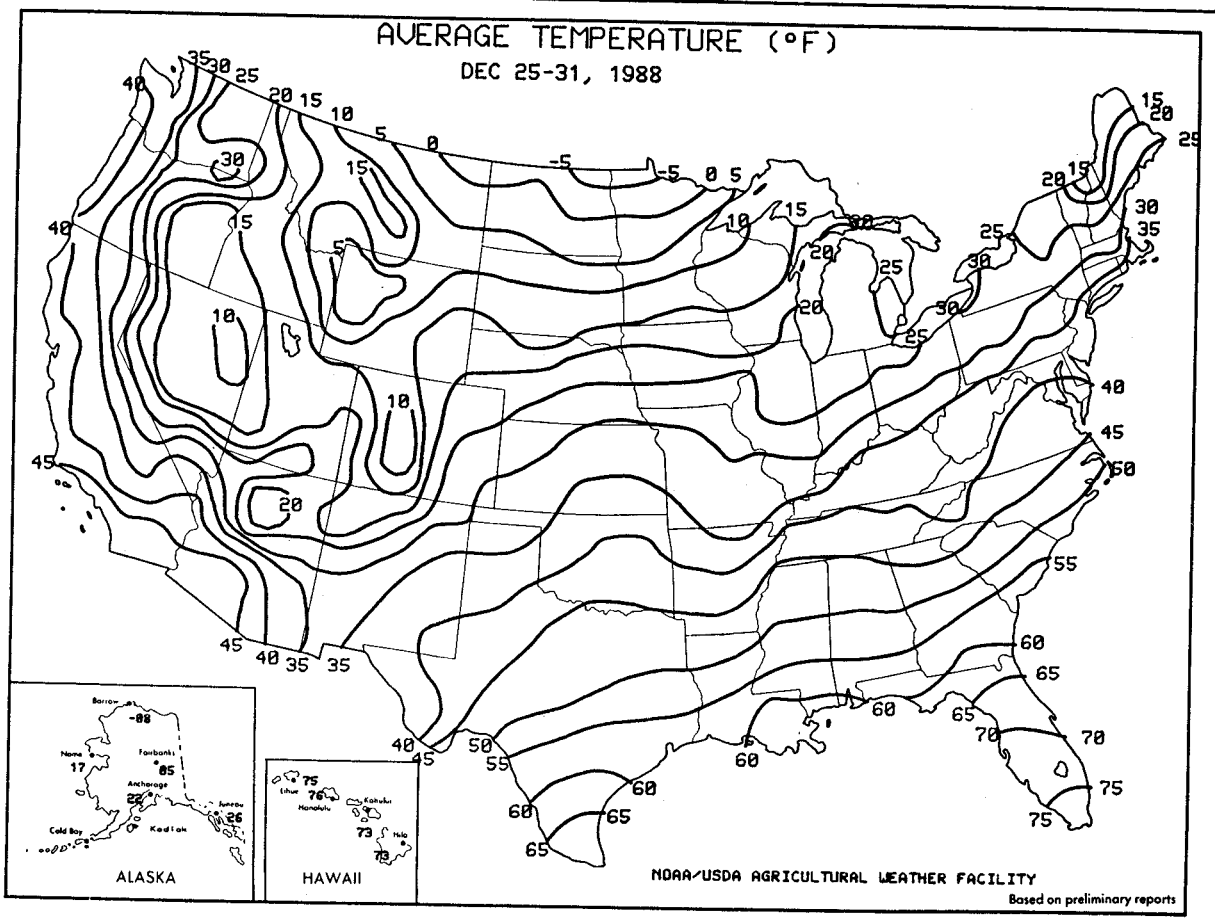
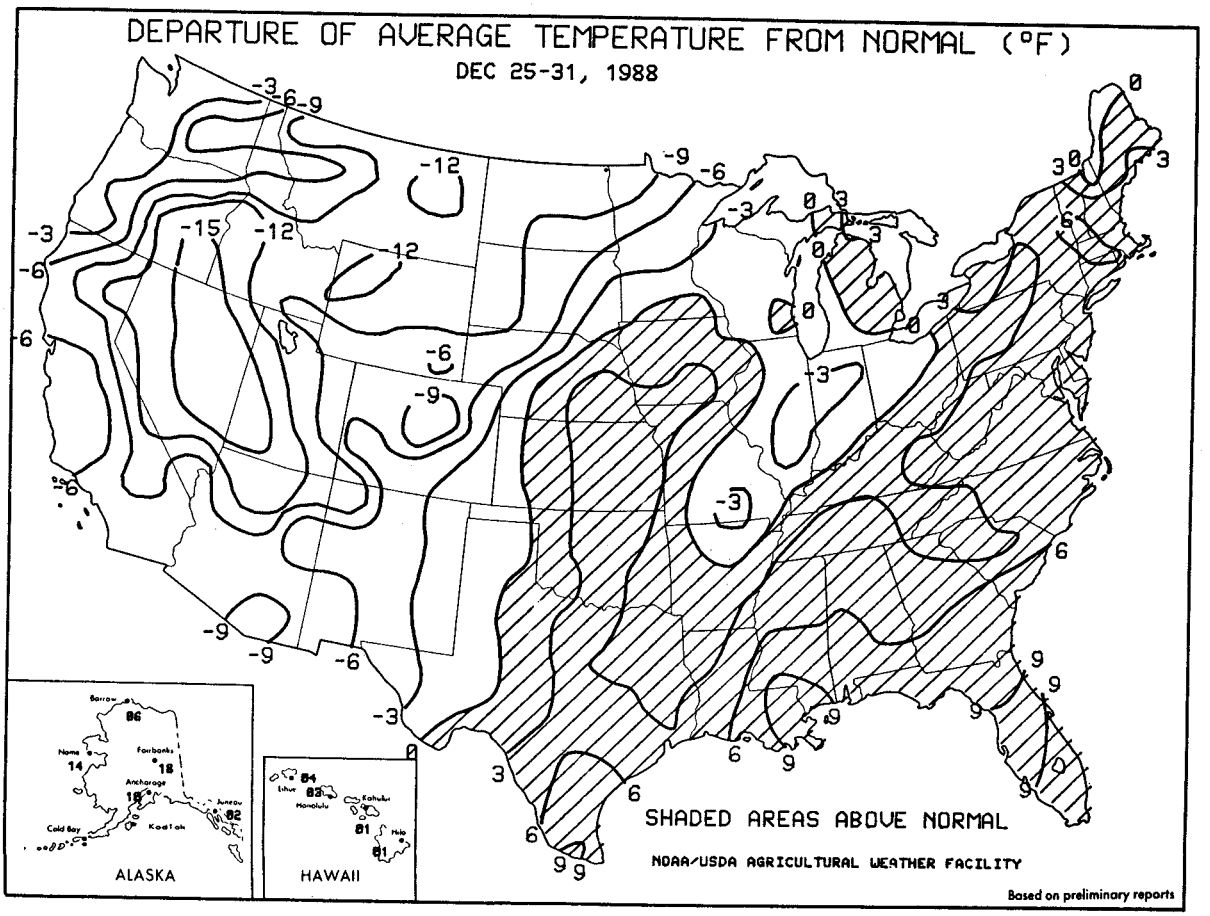

TOTAL PRECIPITATION, INCHES
DECEMBER 25 - 31, 1988
GREATER THAN 2 INCHES
GREATER THAN 4 INCHES
NO PRECIPITATION
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA
HAWAII


SNOW COVER (INCHES)
JAN 3, 1989
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA


AVERAGE TEMPERATURE (°F)
DEC 25-31, 1988
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
DEC 25-31, 1988
SHADED AREAS ABOVE NORMAL
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

National Weather Data for Selected Cities

Weather Data for the Week Ending December 31,1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	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
AL BIRMINGHAM	60	35	70	24	48	4	1.7	.5	.9	2.9	59	41.0	76	91	47	0	3	3	2
MOBILE	69	48	78	34	59	7	.4	-.9	.2	1.8	33	62.3	97	90	53	0	0	2	0
MONTGOMERY	65	38	76	28	52	5	3.1	2.0	1.7	4.4	93	65.6	134	92	47	0	2	3	2
AK ANCHORAGE	27	18	35	13	23	10	.4	.2	.2	1.5	141	14.1	95	89	77	0	7	4	0
BARROW	0	-17	5	-30	-8	6	T	0	T	.3	159	3.6	79	84	73	0	7	1	0
FAIRBANKS	14	-3	23	-12	5	18	.2	.1	.1	.5	67	10.5	101	91	79	0	7	4	0
JUNEAU	31	22	36	11	26	2	.9	0	.8	6.0	129	59.2	112	99	84	0	7	3	1
KODIAK	39	30	42	24	35	5	2.0	.8	1.5	11.0	199	84.4	139	97	69	0	4	5	1
NOME	26	8	32	-20	17	14	.5	.3	.1	1.3	213	13.0	90	95	81	0	7	5	0
AZ PHOENIX	55	34	60	31	45	-7	T	-.2	T	.1	17	7.2	104	66	23	0	4	1	0
PRESCOTT	40	13	49	7	27	-9	.3	-.1	.2	.6	37	14.4	76	82	32	0	7	2	0
TUCSON	55	27	67	20	41	-10	T	-.2	T	.1	5	11.7	107	79	20	0	6	2	0
YUMA	58	36	63	31	47	-8	0	-.1	0	.1	27	2.9	114	47	21	0	1	0	0
AR FORT SMITH	51	28	71	22	40	1	.5	-.1	.4	1.7	58	35.0	88	92	54	0	6	2	0
LITTLE ROCK	49	33	70	23	41	0	1.9	1.0	1.4	3.2	75	47.8	98	81	59	0	2	4	1
CA BAKERSFIELD	49	33	54	27	41	-6	.1	-.1	.1	1.1	181	4.8	87	96	55	0	3	1	0
EUREKA	49	37	52	30	43	-5	2.9	1.4	2.0	6.3	101	31.6	82	89	69	0	1	5	1
FRESNO	45	32	50	27	38	-6	.3	-.1	.1	2.5	155	9.4	91	99	66	0	4	4	0
LOS ANGELES	55	41	59	38	48	-8	.2	-.3	.1	2.5	158	8.0	67	76	44	0	0	3	0
REDDING	42	27	48	20	34	-12	.4	-1.3	.3	2.8	40	30.0	73	98	66	0	7	3	0
SACRAMENTO	44	30	47	28	37	-7	.4	-.4	.2	3.0	105	12.1	71	100	67	0	5	4	0
SAN DIEGO	56	42	59	38	49	-8	.7	.2	.6	2.2	115	10.2	102	80	43	0	0	3	1
SAN FRANCISCO	50	37	52	33	44	-4	.5	-.4	.3	3.7	103	13.7	70	93	62	0	0	4	0
CO DENVER	36	6	51	-3	21	-10	.2	.1	.2	1.0	196	15.0	100	87	33	0	7	1	0
GRAND JUNCTION	31	11	49	6	21	-5	.1	-.1	.1	.2	36	7.9	101	91	45	0	7	2	0
PUEBLO	44	9	52	0	26	-4	0	-.1	0	.4	127	11.2	104	81	26	0	7	0	0
CT BRIDGEPORT	41	31	50	24	36	5	0	-.8	0	.9	23	38.1	92	67	49	0	5	0	0
HARTFORD	41	25	53	19	33	7	.3	-.6	.3	1.4	33	39.8	90	80	45	0	6	1	0
DC WASHINGTON	50	32	70	27	41	5	.1	-.6	.1	1.3	41	31.7	82	72	40	0	5	1	0
FL APALACHICOLA	71	53	78	46	62	8	T	-.8	T	1.2	33	62.3	113	97	67	0	0	0	0
DAYTONA BEACH	79	57	83	53	68	9	T	-.5	T	.9	42	40.9	84	99	57	0	0	0	0
JACKSONVILLE	75	50	82	39	62	8	T	-.6	T	1.1	46	60.7	118	97	59	0	0	0	0
KEY WEST	80	71	80	70	76	6	0	-.3	0	.2	11	36.5	93	92	71	0	0	0	0
MIAMI	82	68	83	65	75	8	T	-.4	T	.1	7	44.6	78	94	57	0	0	0	0
ORLANDO	80	59	83	57	70	10	.1	-.4	.1	1.0	52	52.5	106	100	52	0	0	1	0
TALLAHASSEE	73	45	78	33	59	7	T	-1.0	T	1.1	24	48.4	75	97	54	0	0	2	0
TAMPA	81	60	82	56	71	11	0	-.5	0	1.6	77	52.4	113	99	52	0	0	0	0
WEST PALM BEACH	81	65	82	62	73	7	.3	-.3	.2	1.9	84	64.9	109	97	60	0	0	2	0
GA ATLANTA	58	38	66	27	48	5	1.1	.1	.5	1.2	29	45.8	95	86	45	0	2	3	1
AUGUSTA	64	35	75	29	50	4	.8	0	.7	1.3	41	41.1	96	93	44	0	3	2	1
MACON	66	39	71	28	52	5	1.6	.6	1.3	2.3	56	43.7	98	94	46	0	2	3	1
SAVANNAH	69	47	78	40	58	9	T	-.7	T	1.0	36	48.1	97	92	49	0	0	0	0
HI HILO	80	67	84	65	73	2	9.5	7.0	4.2	13.5	105	140.2	110	95	65	0	0	7	4
HONOLULU	83	70	85	65	76	3	T	-.8	T	5.6	164	15.3	66	85	54	0	0	2	0
KAHULUI	80	67	85	61	73	1	.2	-.5	.1	9.7	354	27.4	151	92	60	0	0	3	0
LIHUE	79	72	80	67	75	4	.9	-.4	.4	6.9	126	43.3	99	85	67	0	0	3	0
ID BOISE	25	9	34	-4	17	-13	.3	0	.2	.8	62	11.3	98	90	68	0	7	4	0
LEWISTON	33	22	42	12	27	-6	T	-.3	T	.1	11	8.4	66	82	57	0	6	0	0
POCATELLO	21	3	32	-12	12	-12	.8	.6	.6	1.2	127	8.1	76	89	70	0	7	6	1
IL CHICAGO	30	14	39	7	22	-1	1.5	1.0	1.0	2.4	103	33.4	98	92	62	0	7	2	1
MOLINE	33	17	39	6	25	2	1.1	.7	.7	1.6	83	25.8	70	92	61	0	7	2	1
PEORIA	31	14	40	2	22	-2	1.1	.7	.7	2.2	111	22.2	63	95	68	0	7	2	1
QUINCY	36	17	48	4	26	0	1.2	.8	.7	1.9	109	19.0	50	93	62	0	7	2	1
ROCKFORD	28	12	38	0	20	-1	1.3	.9	.7	1.8	93	24.8	68	91	67	0	7	2	2
SPRINGFIELD	33	16	46	3	24	-3	1.0	.5	.7	3.2	153	25.3	74	91	66	0	7	2	1
IN EVANSVILLE	43	21	63	9	32	-1	2.0	1.3	1.1	2.8	80	38.4	92	92	53	0	6	3	2
FORT WAYNE	30	15	43	7	23	-3	1.6	1.1	.9	2.5	101	33.3	97	94	70	0	7	3	1
INDIANAPOLIS	36	17	50	4	26	-2	1.6	1.0	.8	2.5	84	31.3	81	94	61	0	7	3	2
SOUTH BEND	31	17	41	10	24	-2	1.2	.6	.7	2.9	99	38.7	102	91	68	0	7	3	1
IA DES MOINES	34	15	44	6	24	3	.3	0	.3	.8	82	22.0	72	90	58	0	7	1	0
SIOUX CITY	32	10	49	4	21	2	T	-.1	T	.6	78	23.3	92	89	51	0	7	1	0
WATERLOO	27	9	33	-3	18	0	.3	.1	.3	.5	46	19.0	58	93	71	0	7	2	0
KS CONCORDIA	44	21	57	13	32	4	.1	-.1	.1	.6	90	14.5	54	74	36	0	7	1	0
DODGE CITY	49	18	65	7	33	2	0	-.1	0	.1	20	15.0	73	72	24	0	7	0	0
GOODLAND	42	12	51	4	27	-2	0	-.1	0	.5	121	20.9	130	70	28	0	7	0	0
TOPEKA	44	21	59	16	33	4	.8	.5	.8	.9	68	19.4	58	88	45	0	6	1	1
WICHITA	48	24	61	15	36	4	.4	.2	.4	.5	52	17.1	60	84	39	0	6	1	0
KY BOWLING GREEN	47	28	64	17	37	2	1.4	.3	1.1	6.3	139	47.1	96	97	61	0	6	3	1
LEXINGTON	46	25	65	14	36	2	.6	-.2	.6	3.6	96	38.9	85	86	49	0	6	1	1
LOUISVILLE	45	26	66	16	35	1	1.8	1.1	1.2	3.5	100	37.5	87	89	50	0	6	3	1
LA ALEXANDRIA	62	44	75	34	53	4	2.8	1.7	1.8	5.8	119	44.5	85	92	64	0	0	3	3
BATON ROUGE	72	50	81	34	61	10	1.3	.2	.9	8.2	164	76.0	136	90	54	0	0	3	1
LAKE CHARLES	66	47	76	36	57	5	1.1	-.1	.4	4.8	95	59.1	109	94	66	0	0	5	0
NEW ORLEANS	71	53	79	42	62	9	.3	-.9	.2	3.9	75	73.8	124	96	63	0	0	4	0

Based on 1951-80 normals

Weather Data for the Week Ending December 31, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	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
SHREVEPORT	59	39	74	26	49	2	2.1	1.3	1.2	4.7	121	36.4	83	95	55	0	2	4	2
ME CARIBOU	20	5	34	-14	12	1	.5	-.1	.2	1.0	31	30.7	84	92	72	0	7	5	0
PORTLAND	37	19	52	12	28	6	.3	-.7	.2	1.2	27	43.7	101	85	43	0	7	2	0
MD BALTIMORE	48	30	69	26	39	5	.2	-.6	.2	1.0	29	32.3	78	75	39	0	6	1	0
SALISBURY	51	30	70	24	41	4	.1	-.8	.1	.7	18	43.0	95	81	39	0	5	2	0
MA BOSTON	43	27	60	19	35	5	.3	-.7	.3	1.0	23	34.8	80	73	41	0	5	1	0
CHATHAM	42	31	52	22	36	4	.1	-1.0	.1	1.4	27	40.2	86	84	56	0	5	1	0
MI ALPENA	29	15	38	3	22	1	.3	-.1	.2	.9	45	26.8	93	92	63	0	7	4	0
DETROIT	33	20	42	14	26	1	1.0	.5	.8	2.0	79	26.9	88	90	59	0	7	3	1
FLINT	32	18	41	12	25	1	.8	.4	.7	1.3	64	27.6	95	89	64	0	7	3	1
GRAND RAPIDS	30	17	39	7	23	-1	.8	.3	.5	1.9	73	36.3	108	93	72	0	7	5	1
HOUGHTON LAKE	26	16	37	11	21	2	1.6	1.2	.9	2.5	130	30.4	109	87	67	0	7	3	2
LANSING	31	17	41	11	24	1	.4	-.1	.3	1.3	51	31.4	106	91	68	0	7	4	0
MARQUETTE	20	4	33	-7	12	-2	.1	-.4	.1	2.4	97	41.8	112	95	69	0	7	5	0
MUSKEGON	31	19	40	14	25	-1	.9	.3	.6	2.8	109	36.1	115	89	65	0	7	4	1
SAULT ST. MARIE	25	11	37	2	18	2	1.1	.6	.5	3.6	142	36.9	111	91	63	0	7	6	0
MN ALEXANDRIA	12	-3	22	-13	4	-5	.4	.2	.3	.4	51	22.7	92	88	74	0	7	2	0
DULUTH	17	-4	29	-19	7	-3	.5	.2	.3	1.1	88	32.2	109	90	69	0	7	5	0
INT'L FALLS	9	-17	21	-29	-4	-7	.4	.2	.2	.8	83	24.9	103	91	74	0	7	5	0
MINNEAPOLIS	23	3	34	-8	13	-1	.5	.3	.5	.7	79	19.0	73	86	63	0	7	2	0
ROCHESTER	24	5	33	-7	14	1	.4	.2	.4	1.1	126	21.4	75	91	71	0	7	1	0
MS GREENWOOD	59	39	75	25	49	5	4.0	2.8	2.0	5.3	99	39.8	75	89	49	0	2	4	3
JACKSON	66	43	75	29	54	8	2.1	.9	1.1	4.8	89	44.0	85	89	53	0	1	4	2
MERIDIAN	64	40	73	27	52	6	4.9	3.6	2.5	7.5	132	56.9	107	93	44	0	2	4	2
MO CAPE GIRARDEAU	43	23	62	11	33	--	2.0	1.3	1.7	2.9	77	38.2	86	98	51	0	6	4	1
COLUMBIA	40	19	53	10	30	-1	1.5	1.1	1.1	3.4	172	30.5	83	95	60	0	7	2	1
KANSAS CITY	43	23	60	16	33	3	.7	.4	.7	.9	57	24.2	67	88	49	0	6	1	1
SAINT LOUIS	40	22	56	14	31	0	1.6	1.1	.9	3.2	147	34.0	101	89	54	0	7	3	2
SPRINGFIELD	43	19	57	4	31	-2	1.9	1.4	1.4	3.1	121	48.5	123	90	56	0	6	3	1
MT BILLINGS	23	6	37	-5	15	-10	.3	.1	.2	.6	72	10.4	70	69	51	0	7	3	0
GLASGOW	10	-10	22	-19	0	-12	.2	.2	.2	.4	135	7.5	69	89	73	0	7	4	0
GREAT FALLS	25	8	42	-7	17	-6	.4	.2	.3	1.0	124	11.8	78	82	62	0	7	3	0
HAVRE	14	-4	36	-16	5	-10	.1	-.1	.1	.1	10	6.0	51	83	66	0	7	1	0
HELENA	20	3	35	-8	12	-9	.1	0	.1	.3	52	10.1	88	90	66	0	7	4	0
KALISPELL	26	13	38	-8	20	-2	.6	.2	.2	2.3	148	14.9	95	89	69	0	7	5	0
MILES CITY	15	-4	31	-16	5	-12	.3	.1	.2	.6	100	5.4	38	80	61	0	7	2	0
MISSOULA	25	8	41	-4	16	-7	.2	-.1	.1	.8	63	11.1	85	93	70	0	7	3	0
NE GRAND ISLAND	41	12	54	6	27	4	0	-.1	0	.3	42	21.1	91	82	38	0	7	0	0
LINCOLN	40	16	51	11	28	5	.1	0	.1	.6	88	18.4	68	84	41	0	7	1	0
NORFOLK	35	11	51	4	23	2	T	-.1	T	.9	142	24.7	105	88	46	0	7	0	0
NORTH PLATTE	40	6	52	-1	23	0	0	-.1	0	T	0	18.8	98	87	35	0	7	0	0
OMAHA	34	16	46	9	25	2	.1	0	.1	.8	104	21.3	71	75	47	0	7	1	0
SCOTTSBLUFF	33	1	49	-12	17	-8	.2	0	.2	.4	78	15.4	105	84	44	0	7	1	0
VALENTINE	28	-2	47	-9	13	-8	T	0	T	.1	46	19.9	118	81	53	0	7	1	0
NV ELY	25	-8	38	-22	9	-16	.3	.2	.3	.8	112	8.6	97	84	49	0	7	1	0
LAS VEGAS	45	28	50	19	36	-8	.1	0	.1	.1	27	2.3	57	61	26	0	6	1	0
RENO	31	7	49	-4	19	-12	T	-.3	T	.8	70	5.3	73	90	56	0	7	2	0
WINNEMUCCA	25	3	33	-16	14	-15	.1	-.1	.1	.5	63	6.7	88	87	61	0	7	3	0
NH CONCORD	37	16	51	9	26	5	.2	-.5	.2	1.1	31	33.3	91	91	49	0	7	1	0
NJ ATLANTIC CITY	47	27	61	23	37	3	.1	-.7	.1	.6	17	33.5	80	83	41	0	5	1	0
NM ALBUQUERQUE	43	15	61	8	29	-5	T	-.1	T	T	6	13.1	166	66	22	0	7	1	0
CLOVIS	52	22	63	14	37	-1	0	-.1	0	1.4	240	20.9	123	62	18	0	6	0	0
ROSWELL	54	22	65	15	38	-1	0	-.1	0	.5	128	13.7	129	58	16	0	6	0	0
NY ALBANY	37	22	44	16	29	6	.2	-.4	.2	1.0	34	29.6	83	81	52	0	7	1	0
BINGHAMTON	32	19	43	13	25	2	.3	-.3	.3	1.2	41	33.6	92	89	59	0	7	2	0
BUFFALO	37	23	51	21	30	4	1.0	.3	.6	2.2	63	38.6	104	87	57	0	7	4	1
NEW YORK	44	32	57	28	38	5	.3	-.5	.3	1.2	32	40.5	95	69	41	0	4	1	0
ROCHESTER	35	24	45	22	30	4	.4	-.2	.4	1.1	43	24.7	79	89	57	0	7	1	0
SYRACUSE	35	20	45	11	27	2	.8	.1	.5	1.9	60	34.5	89	91	55	0	7	6	1
NC ASHEVILLE	51	27	59	20	39	1	.9	.2	.6	1.4	44	26.6	61	90	49	0	6	3	1
CHARLOTTE	56	35	69	29	45	4	1.4	.6	1.1	1.6	48	34.2	80	85	40	0	2	3	1
GREENSBORO	52	31	67	27	42	4	.9	.1	.4	1.2	35	35.3	83	85	41	0	4	3	0
HATTERAS	59	45	72	42	52	5	.1	-1.0	0	.8	17	42.3	76	87	60	0	0	3	0
NEW BERN	60	38	74	30	49	4	.7	-.2	.5	1.0	26	51.0	96	86	37	0	1	2	0
RALEIGH	55	33	74	27	44	4	.8	.1	.4	1.0	33	37.6	91	82	37	0	4	2	0
WILMINGTON	61	41	70	36	51	5	.3	-.5	.2	.6	17	58.2	109	86	38	0	0	2	0
ND BISMARCK	10	-5	22	-17	3	-8	.5	.4	.4	.7	145	10.1	67	86	72	0	7	3	0
FARGO	11	-9	21	-17	1	-7	.6	.5	.5	1.1	182	14.5	75	89	72	0	7	3	1
GRAND FORKS	8	-15	15	-22	-4	-10	.5	.4	.5	1.9	302	13.7	75	86	68	0	7	3	0
WILLISTON	8	-9	22	-18	-1	-11	.4	.3	.4	.8	149	10.6	78	85	71	0	7	5	0
OH AKRON-CANTON	36	18	57	10	27	0	1.1	.4	.8	1.8	70	33.3	93	91	64	0	7	4	1
CINCINNATI	42	21	65	7	31	0	1.5	.8	1.0	2.8	93	39.9	100	86	53	0	6	3	2
CLEVELAND	36	19	57	7	28	0	1.4	.8	1.1	2.5	91	29.7	84	90	63	0	7	3	1
COLUMBUS	39	20	62	13	29	0	1.1	.5	.9	2.5	96	36.6	100	94	61	0	7	3	1

Weather Data for the Week Ending December 31, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	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
DAYTON	37	18	62	6	27	-1	1.5	.9	1.0	2.7	107	36.6	106	93	65	0	7	3	1
TOLEDO	33	14	42	2	24	-2	1.0	.4	.5	2.0	75	28.6	91	95	65	0	7	3	0
YOUNGSTOWN	36	20	57	6	28	2	.9	.3	.8	1.9	70	31.7	85	91	63	0	7	3	1
OK OKLAHOMA CITY	52	32	67	22	42	4	.5	.2	.3	1.4	119	32.0	104	88	46	0	4	3	0
TULSA	52	29	65	21	41	4	.8	.5	.8	1.8	101	33.2	86	90	51	0	6	2	1
OR ASTORIA	46	33	53	27	40	-2	3.7	1.1	2.7	7.3	63	55.1	79	96	75	0	3	4	2
BURNS	22	-2	37	-15	10	-16	.2	-.2	.1	.7	46	8.3	82	86	55	0	7	2	0
MEDFORD	40	29	45	22	35	-2	.4	-.4	.1	1.3	37	13.6	69	97	71	0	5	6	0
PENDLETON	38	25	53	16	32	-3	T	-.4	T	.4	23	10.2	85	83	55	0	5	1	0
PORTLAND	44	34	50	28	39	0	.3	-1.2	.2	2.4	37	31.7	85	91	69	0	2	3	0
SALEM	44	33	49	26	38	-1	1.2	-.5	1.0	3.2	46	32.7	81	94	71	0	3	4	1
PA ALLENTOWN	41	27	56	21	34	5	.3	-.6	.2	1.0	27	39.4	89	82	44	0	7	2	0
ERIE	37	24	55	13	30	3	1.1	.5	1.0	2.6	80	38.9	97	86	59	0	7	4	1
HARRISBURG	44	27	61	22	36	5	.1	-.6	.1	.9	28	33.4	85	79	43	0	7	1	0
PHILADELPHIA	47	29	64	26	38	5	.2	-.6	.2	1.0	29	38.4	93	80	40	0	6	1	0
PITTSBURGH	40	21	61	12	31	2	.5	-.1	.5	2.2	85	27.1	75	94	61	0	7	2	1
SCRANTON	38	24	50	15	31	4	.4	-.1	.4	1.1	43	31.4	90	82	48	0	7	1	0
RI PROVIDENCE	45	28	58	21	36	7	.3	-.7	.3	1.0	23	38.4	85	77	43	0	5	1	0
SC CHARLESTON	66	47	77	42	57	8	.1	-.7	.1	.7	23	42.6	83	89	49	0	0	2	0
COLUMBIA	62	34	74	29	48	3	.6	-.3	.5	.8	22	43.4	88	95	39	0	4	3	0
FLORENCE	62	38	78	30	50	5	.7	-.1	.7	.8	25	37.4	85	81	38	0	2	1	1
GREENVILLE	55	32	65	25	44	2	1.5	.5	1.1	1.9	47	38.2	75	87	47	0	5	3	1
SD ABERDEEN	14	-4	26	-14	5	-7	1.1	1.0	.9	1.4	304	19.0	108	88	78	0	7	3	1
HURON	20	1	34	-9	11	-4	.5	.3	.4	.7	130	19.2	104	87	70	0	7	2	0
RAPID CITY	24	3	43	-10	13	-10	.3	.2	.2	.5	107	10.9	68	85	59	0	7	2	0
SIOUX FALLS	24	4	41	-3	14	-1	.3	.2	.3	.4	53	19.2	80	89	69	0	7	1	0
TN CHATTANOOGA	53	32	62	24	42	3	2.6	1.4	1.5	3.5	69	43.9	83	91	54	0	5	3	2
KNOXVILLE	53	29	67	23	41	2	2.3	1.2	1.2	4.0	87	34.7	74	97	52	0	6	3	2
MEMPHIS	53	36	68	24	44	3	2.8	1.7	2.1	5.9	123	50.3	98	90	46	0	2	4	1
NASHVILLE	54	33	66	20	43	5	1.0	-.1	.7	4.0	86	31.4	65	89	51	0	3	3	1
TX ABILENE	61	34	74	18	47	3	T	-.2	T	.8	94	16.2	70	83	30	0	3	2	0
AMARILLO	51	19	66	8	35	-2	0	-.1	0	.2	36	24.7	131	65	20	0	6	0	0
AUSTIN	64	46	80	33	55	4	.1	-.3	.1	1.1	55	19.2	61	88	50	0	0	3	0
BEAUMONT	64	50	75	35	57	4	2.3	1.3	1.2	5.8	119	50.1	91	91	61	0	0	3	2
BROWNSVILLE	78	59	85	46	68	8	T	-.3	T	.1	6	23.1	91	94	56	0	0	0	0
CORPUS CHRISTI	73	55	84	44	64	7	.4	.1	.2	1.0	81	19.3	62	94	55	0	0	3	0
DEL RIO	64	43	74	29	54	3	.1	0	.1	.4	69	15.5	90	73	31	0	1	2	0
EL PASO	54	23	67	15	39	-5	0	-.1	0	.4	119	11.1	145	57	16	0	6	0	0
FORT WORTH	58	37	74	26	48	2	.8	.4	.7	2.5	146	25.1	81	89	52	0	2	4	1
GALVESTON	63	53	72	43	58	3	1.6	.9	1.0	2.9	81	39.9	99	94	70	0	0	3	2
HOUSTON	65	47	78	33	56	3	.3	-.5	.3	1.3	33	22.9	49	92	53	0	0	3	0
LUBBOCK	55	25	65	15	40	0	0	-.1	0	.6	137	13.0	74	68	22	0	6	0	0
MIDLAND	58	26	68	13	42	-2	0	-.1	0	.5	123	18.3	135	72	21	0	6	0	0
SAN ANGELO	62	33	73	17	47	1	T	-.1	T	.8	127	14.0	78	83	30	0	5	0	0
SAN ANTONIO	67	47	79	33	57	5	.1	-.2	.1	.7	49	19.0	66	87	43	0	0	3	0
VICTORIA	68	50	79	37	59	5	.1	-.4	0	2.2	105	15.9	43	94	50	0	0	3	0
WACO	60	38	75	27	49	2	.3	-.1	.2	2.0	106	24.7	80	95	52	0	2	3	0
WICHITA FALLS	58	32	75	20	45	3	.2	-.1	.2	1.1	93	23.5	89	91	39	0	5	1	0
UT CEDAR CITY	27	3	36	-9	15	-15	.3	.1	.2	.7	108	12.7	123	100	59	0	7	2	0
SALT LAKE CITY	27	9	36	0	18	-10	.3	0	.2	.6	46	9.3	62	95	62	0	7	2	0
VT BURLINGTON	33	15	43	7	24	5	.3	-.2	.2	.9	37	26.7	80	88	57	0	7	3	0
VA NORFOLK	54	35	73	27	45	4	.1	-.7	.1	.6	20	38.7	86	84	43	0	3	1	0
RICHMOND	54	31	72	26	42	5	.2	-.6	.1	.8	23	37.3	85	85	34	0	5	3	0
ROANOKE	52	30	65	20	41	5	.2	-.5	.1	1.3	45	30.0	77	76	33	0	5	2	0
WA QUILLAYUTE	44	32	50	25	38	-1	4.5	.5	2.6	12.1	69	98.9	93	99	82	0	4	6	2
SEATTLE-TACOMA	43	34	50	27	39	-1	1.3	-.1	.7	3.5	55	32.9	86	93	68	0	3	4	2
SPOKANE	28	13	39	-5	21	-7	.6	0	.3	1.8	71	16.5	100	92	73	0	7	3	0
YAKIMA	33	12	47	-5	23	-7	T	-.3	T	.7	54	5.5	70	93	60	0	7	0	0
WV BECKLEY	47	26	58	20	37	5	.1	-.6	.1	2.2	71	33.6	80	82	37	0	6	2	0
CHARLESTON	49	27	66	22	38	4	.3	-.4	.3	2.7	82	31.5	75	81	40	0	6	2	0
HUNTINGTON	48	26	66	22	37	2	.4	-.3	.3	3.2	101	36.1	89	84	43	0	6	2	0
PARKERSBURG	44	25	65	20	35	2	.4	-.3	.4	2.5	92	32.5	86	87	47	0	7	1	0
WI GREEN BAY	24	7	35	-3	16	-1	.3	0	.2	.8	60	24.0	86	90	65	0	7	2	0
LACROSSE	24	5	35	-7	15	-2	.8	.5	.5	.8	72	26.3	88	88	62	0	7	2	0
MADISON	27	11	35	1	19	0	1.0	.7	.6	1.6	103	24.6	80	89	61	0	7	2	1
MILWAUKEE	29	15	37	5	22	0	.9	.5	.6	1.4	72	30.4	99	88	63	0	7	2	1
WAUSAU	21	3	32	-7	12	-2	.5	.2	.3	1.4	110	24.1	76	88	58	0	6	5	0
WY CASPER	21	7	34	-8	14	-10	.3	.2	.3	.5	102	6.5	58	80	57	0	7	2	0
CHEYENNE	31	9	48	0	20	-8	.1	0	.1	.5	143	15.8	118	75	41	0	7	1	0
LANDER	20	-1	30	-7	10	-11	.2	0	.1	.7	141	7.6	59	86	55	0	7	2	0
SHERIDAN	28	5	40	-4	16	-6	.1	-.1	.1	.6	91	9.9	66	88	50	0	7	1	0
PR SAN JUAN	82	71	82	70	77	-1	1.2	.4	.4	4.1	93	60.4	111	93	67	0	0	6	0

Heating Degree Days Summary

CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NESDIS-NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 12-31-1988
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

STATE CITY	CALL	WEEK TOTAL	WEEK DEV FROM NORM	WEEK DEV FROM L YR	CUM TOTAL	CUM DEV FROM NORM	CUM DEV FROM L YR	CUM DEV FROM NORM PRCT	CUM DEV FROM L YR PRCT
AL BIRMINGHAM	BHM	121	-27	26	1114	-18	60	-2	6
AL MOBILE	MOB	53	-45	-11	538	-112	-47	-17	-8
AL MONTGOMERY	MGM	90	-34	13	833	-59	23	-7	3
AK ANCHORAGE	ANC	296	-75	0	4566	-253	239	-5	6
AK BARROW	BRW	508	-47	61	9332	684	994	8	12
AK FAIRBANKS	FAI	418	-129	-8	6170	-245	465	-4	8
AK JUNEAU	JNU	269	-18	29	3700	-256	522	-6	16
AK KODIAK	ADQ	211	-34	-31	3845	-23	44	-1	1
AK NOME	OME	333	-98	-7	6084	-5	143	0	2
AZ FLAGSTAFF	FLG	350	93	22	2686	-157	-173	-6	-6
AZ PHOENIX	PHX	141	50	12	418	-122	-52	-23	-11
AZ PRESCOTT	PRC	266	63	17	1588	-276	-84	-15	-5
AZ TUCSON	TUS	167	69	22	619	-17	-12	-3	-2
AZ WINSLOW	INW	262	24	-74	1642	-304	-246	-16	-13
AZ YUMA	YUM	121	51	-1	310	-66	-55	-18	-15
AR FORT SMITH	FSM	174	-10	-19	1293	-57	47	-4	4
AR LITTLE ROCK	LRL	167	-1	-9	1144	-87	-4	-7	0
CA BAKERSFIELD	BFL	168	42	2	869	30	-22	4	-2
CA EUREKA	EKA	153	29	29	1826	-202	269	-10	17
CA FRESNO	FAT	184	37	0	958	-97	-45	-9	-4
CA LOS ANGELES	LAX	118	55	2	427	-79	-30	-16	-7
CA SACRAMENTO	SAC	191	44	24	936	-111	54	-11	6
CA SAN DIEGO	SAN	110	48	-2	418	20	3	5	1
CA SAN FRANCISCO	SFO	147	28	13	957	-268	99	-22	12
CA STOCKTON	SCK	187	40	17	986	-46	53	-4	6
CO DENVER	DEN	305	65	-31	2228	-114	-178	-5	-7
CO GRAND JUNCTION	GJT	306	29	-23	2075	-216	-106	-9	-5
CO PUEBLO	PUB	268	27	-71	2101	-76	-157	-3	-7
CT BRIDGEPORT	BDR	199	-38	-52	2035	161	94	9	5
CT HARTFORD	BDL	222	-51	-45	2480	164	166	7	7
DE WILMINGTON	ILG	189	-37	-29	1962	147	219	8	13
DC WASHINGTON	DCA	168	-33	-13	1611	102	101	7	7
FL APALACHICOLA	AQQ	26	-58	-24	399	-99	-26	-20	-6
FL DAYTONA BRACH	DAB	0	-56	-25	223	-69	0	-24	0
FL FORT MEYER	FMY	0	-28	-14	70	-62	-4	-47	-5
FL JACKSONVILLE	JAX	27	-57	-20	452	-69	-35	-13	-7
FL KEY WEST	EYW	0	-7	-1	9	-14	4	**	**
FL MIAMI	MIA	0	-14	-7	37	-9	6	**	**
FL ORLANDO	MCO	0	-42	-17	147	-59	6	-29	4
FL TALLAHASSEE	TLH	45	-53	-16	643	13	42	2	7
FL TAMPA	TPA	0	-48	-25	137	-101	-26	-42	-16
FL WEST PALM BEACH	PBI	0	-14	-10	51	-15	-1	**	**
GA ATLANTA	ATL	118	-39	24	1059	-109	102	-9	11
GA AUGUSTA	AGS	105	-34	-73	1088	82	295	8	37
GA MACON	MCN	87	-39	21	888	-2	27	0	3
GA SAVANNAH	SAV	47	-65	-14	651	-91	1	-12	0
HI HILO-HAWAII	ITO	0	0	0	0	0	0	**	**
HI HONOLULU-OAHU	HNL	0	0	0	0	0	0	**	**
HI KAHULUI-MAUI	OGG	0	0	0	0	0	0	**	**
HI LIHUE-KAUAI	LIH	0	0	0	0	0	0	**	**
ID BOISE	BOI	334	89	52	2225	-121	84	-5	4
ID LEWISTON	LWS	261	37	-31	1949	-290	-9	-13	0
ID POCATELLO	PIH	366	81	12	2725	-124	30	-4	1
IL CHICAGO	ORD	299	11	37	2495	131	221	6	10
IL MOLINE	MLI	280	-19	13	2443	17	123	1	5
IL PEORIA	PIA	299	12	54	2349	9	135	0	6
IL QUINCY	UIN	270	-3	32	2172	10	162	0	8
IL ROCKFORD	RFD	313	3	29	2636	20	75	1	3
IL SPRINGFIELD	SPI	283	17	57	2193	88	206	4	10
IN EVANSVILLE	EVV	230	3	49	1862	56	196	3	12
IN FORT WAYNE	FWA	294	18	48	2478	126	211	5	9
IN INDIANAPOLIS	IND	270	13	55	2224	97	195	5	10
IN SOUTH BEND	SBN	287	11	24	2472	126	161	5	7
IA DES MOINES	DSM	281	-25	-9	2428	-19	104	-1	4
IA DUBUQUE	DBQ	324	-3	29	2796	6	110	0	4
IA SIOUX CITY	SUX	304	-18	1	2607	-45	115	-2	5
IA WATERLOO	ALO	330	-6	15	2868	-6	213	0	8
KS CONCORDIA	CNK	227	-37	-63	1871	-248	-95	-12	-5
KS DODGE CITY	DDC	220	-18	-78	1773	-166	-104	-9	-6
KS GOODLAND	GLD	264	6	-66	2116	-275	-193	-12	-8
KS TOPEKA	TOP	224	-34	-24	1909	-132	84	-6	5
KS WICHITA	ICT	202	-33	-77	1611	-217	-127	-12	-7
KY BOWLING GREEN	BWG	193	-13	25	1808	142	193	9	12
KY LEXINGTON	LEX	203	-18	15	1948	123	273	7	16
KY LOUISVILLE	SDF	206	-8	26	1767	55	181	3	11
LA ALEXANDRIA	AEX	79	-33	-99	632	-119	-161	-16	-20
LA BATON ROUGE	BTR	40	-58	-27	470	-175	-14	-27	-3
LA LAKE CHARLES	LCH	54	-38	-25	444	-156	-39	-26	-8
LA NEW ORLEANS	MSY	31	-60	-27	404	-149	-27	-27	-6
LA SHREVEPORT	SHV	112	-15	-19	775	-99	-37	-11	-5
ME CARIBOU	CAR	367	-6	-45	3767	-5	109	0	3
ME PORTLAND	PWM	256	-40	-47	2730	-75	42	-3	2
MD BALTIMORE	BWI	180	-37	-15	1857	122	130	7	8
MD SALISBURY	SBY	170	-30	-13	1750	145	184	9	12
MA BOSTON	BOS	207	-32	-48	2077	97	136	5	7
MA CHATHAM	CHH	199	-28	-40	2033	-3	55	0	3
MI ALPENA	APN	299	-15	11	3085	-52	217	-2	8
MI DETROIT	DTW	269	-8	13	2501	55	204	2	9
MI FLINT	FNT	279	-11	20	2681	78	174	3	7
MI GRAND RAPIDS	GRR	291	5	15	2704	136	165	5	6
MI HOUGHTON LAKE	HTL	308	-11	18	3081	-61	251	-2	9
MI LANSING	LAN	288	-2	17	2739	143	193	6	8
MI MARQUETTE	MQT	370	16	43	3852	164	326	4	9
MI MUSKEGON	MKG	280	2	18	2605	76	162	3	7
MI SAULT ST MARIE	SSM	326	-18	2	3437	-74	189	-2	6
MN ALEXANDRIA	AXN	421	29	78	3562	51	447	1	14
MN DULUTH	DLH	407	17	72	3881	25	381	1	11
MN INT'L FALLS	INL	480	46	139	4174	-27	499	-1	14
MN MINNEAPOLIS	MSP	362	8	37	3115	67	318	2	11
MN ROCHESTER	RST	354	-4	13	3274	114	212	4	7
MN SAINT CLOUD	STC	405	22	67	3551	83	408	2	13
MS GREENWOOD	GWO	109	-36	6	954	-123	28	-11	3
MS JACKSON	JAN	76	-53	-15	826	-101	-14	-11	-2
MS MERIDIAN	MEI	89	-42	2	913	-72	23	-7	3
MO CAPE GIRARDEAU	CGI	223	3	41	1714	22	228	1	15
MO COLUMBIA	COU	246	-2	7	1994	32	97	2	5
MO KANSAS CITY	MCI	226	-31	-22	1927	-55	19	-3	1
MO SAINT LOUIS	STL	234	-5	23	1741	-125	63	-7	4
MO SPRINGFIELD	SGF	233	12	1	1800	25	-1	1	0
MT BILLINGS	BIL	350	61	52	2541	-273	47	-10	2
MT GLASGOW	GGW	452	82	125	3272	-214	368	-6	13
MT GREAT FALLS	GTF	338	37	42	2774	-268	41	-9	2
MT HAVRE	HVR	414	60	69	3213	-233	103	-7	3
MT HELENA	HLN	372	59	13	2978	-355	-33	-11	-1
MT KALISPELL	FCA	316	10	-57	3103	-422	-220	-12	-7
MT MILES CITY	MLS	414	81	106	2838	-273	185	-9	7
MT MISSOULA	MSO	340	42	-46	3008	-274	-129	-8	-4
NE GRAND ISLAND	GRI	266	-28	-49	2334	-187	-116	-7	-5
NE LINCOLN	LNK	258	-40	-28	2215	-218	14	-9	1
NE NORFOLK	OFK	295	-20	-26	2525	-194	-21	-7	-1
NE NORTH PLATTE	LBF	293	0	-55	2498	-246	-186	-9	-7
NE OMAHA	ON4	276	-18	-15	2290	-62	16	-3	1
NE SCOTTSBLUFF	BFF	332	55	-64	2550	-121	-186	-5	-7
NE VALENTINE	VTN	361	51	-18	2765	-99	-40	-3	-1
NV ELY	ELY	393	107	46	2964	-100	41	-3	1
NV LAS VEGAS	LAS	200	53	4	864	-153	-176	-15	-17
NV RENO	RNO	321	83	27	2019	-454	-13	-18	-1
NV WINNEMUCCA	WMC	356	104	37	2400	-232	15	-9	1
NH CONCORD	CON	268	-39	-40	2997	140	106	5	4
NJ ATLANTIC CITY	ACY	194	-29	-26	2091	279	249	15	14
NM ALBUQUERQUE	ABQ	252	35	-5	1685	-110	-472	-6	-22
NM CLOVIS	CVS	193	1	-66	1508	-113	26	-7	2
NM ROSWELL	ROW	186	18	-81	1169	-158	-166	-12	-12
NY ALBANY	ALB	248	-46	-40	2706	121	111	5	4
NY BINGHAMTON	BGM	275	-18	-20	2953	216	206	8	7
NY BUFFALO	BUF	243	-33	-16	2451	-8	175	0	8
NY NEW YORK	LGA	188	-34	-35	1744	33	105	2	6
NY ROCHESTER	ROC	246	-29	-27	2597	166	123	7	5
NY SYRACUSE	SYR	263	-19	-17	2591	127	150	5	6
NC ASHEVILLE	AVL	180	-12	44	1862	165	114	10	7
NC CAPE HATTERAS	HAT	92	-37	-22	824	-38	-22	-4	-3
NC CHARLOTTE	CLT	138	-30	14	1301	2	90	0	7
NC GREENSBORO	GSO	159	-30	12	1640	143	138	10	9
NC NEW BERN	EWN	112	-37	5	1074	14	207	1	24
NC RALEIGH DURHAM	RDU	145	-30	12	1440	81	126	6	10
NC WILMINGTON	ILM	95	-36	0	1005	95	180	10	22
ND BISMARCK	BIS	435	54	93	3454	-90	280	-3	9
ND FARGO	FAR	445	44	96	3562	-36	313	-1	10
ND GRAND FORKS	GFK	477	63	109	3802	-36	355	-1	10
ND WILLISTON	ISN	455	71	107	3535	-115	315	-3	10
OH AKRON-CANTON	CAK	264	0	26	2468	162	219	7	10
OH CLEVELAND	CLE	257	-3	20	2333	85	166	4	8
OH COLUMBUS	CMH	250	0	27	2292	148	299	7	15
OH CINCINNATI	CVG	233	-6	23	2106	122	196	6	10
OH DAYTON	DAY	261	6	34	2314	186	276	9	14
OH TOLEDO	TOL	286	6	27	2558	95	218	4	9
OH YOUNGSTOWN	YNG	259	-12	14	2568	131	216	5	9
OK OKLAHOMA CITY	OKC	162	-32	-85	1250	-173	-106	-12	-8
OK TULSA	TUL	170	-27	-64	1282	-137	-52	-10	-4
OR ASTORIA	AST	176	14	-7	2015	-91	22	-4	1
OR BURNS	4BW	384	111	69	3013	155	180	5	6
OR MEDFORD	MFR	211	14	4	1572	-368	83	-19	6
OR PENDLETON	PDT	232	15	-86	1908	-250	-189	-12	-9
OR PORTLAND	PDX	180	1	-40	1551	-310	3	-17	0
OR SALEM	SLE	184	6	-41	1745	-231	-13	-12	-1
PA ALLENTOWN	ABE	216	-39	-41	2269	97	112	4	5
PA ERIE	ERI	242	-26	9	2287	-122	170	-5	8
PA HARRISBURG	CXY	204	-37	-32	2187	194	136	10	7
PA PHILADELPHIA	PHL	189	-38	-34	1870	73	163	4	10
PA PITTSBURGH	PIT	239	-17	9	2317	67	208	3	10
PA SCRANTON	AVP	236	-32	-42	2496	113	78	5	3
RI PROVIDENCE	PVD	201	-48	-55	2204	76	106	4	5
SC CHARLESTON	CHS	58	-64	-8	700	-109	3	-13	0
SC COLUMBIA	CAE	118	-22	19	1087	58	13	6	1
SC FLORENCE	FLO	103	-35	7	1054	81	143	8	16
SC GREENVILLE	GSP	148	-15	26	1369	107	91	8	7
SD ABERDEEN	ABR	419	47	75	3328	17	316	1	10
SD HURON	HON	378	24	3	3052	-73	164	-2	6
SD RAPID CITY	RAP	362	69	46	2612	-216	45	-8	2
SD SIOUX FALLS	FSD	352	4	-3	3013	-28	148	-1	5
TN CHATTANOOGA	CHA	157	-21	36	1417	4	109	0	8
TN KNOXVILLE	TYS	170	-12	41	1618	176	112	12	7
TN MEMPHIS	MEM	142	-27	0	1137	-97	56	-8	5
TN NASHVILLE	BNA	150	-35	7	1448	-3	106	0	8
TX ABILENE	ABI	121	-23	-103	823	-211	-184	-20	-18
TX AMARILLO	AMA	210	10	-75	1567	-92	-208	-6	-12
TX AUSTIN	AUS	78	-32	-79	426	-238	-157	-36	-27
TX BROWNSVILLE	BRO	13	-29	-269	148	-57	-1993	-28	-93
TX CORPUS CHRISTI	CRP	27	-33	-66	240	-107	-77	-31	-24
TX DEL RIO	DRT	80	-18	-76	491	-127	-118	-21	-19
TX EL PASO	ELP	182	28	-43	1028	-115	-132	-10	-11
TX FORT WORTH	DFW	121	-10	-75	778	-87	-114	-10	-13
TX GALVESTON	GLS	50	-22	-32	283	-134	-44	-32	-13
TX HOUSTON	IAH	67	-22	-50	435	-151	-65	-26	-13
TX LUBBOCK	LBB	173	-4	-87	1207	-187	-134	-13	-10
TX MIDLAND ODESSA	MAF	159	15	-76	1041	-36	-63	-3	-6
TX BEAUMONT	BPT	61	-25	-32	466	-86	1	-16	0
TX SAN ANGELO	SJT	122	-9	-90	802	-126	-178	-14	-18
TX SAN ANTONIO	SAT	65	-33	-74	414	-204	-120	-33	-22
TX VICTORIA	VCT	49	-27	-62	343	-118	-50	-26	-13
TX WACO	ACT	111	-13	-67	644	-148	-149	-19	-19
TX WICHITA FALLS	SPS	141	-23	-90	997	-174	-142	-15	-12
UT BLANDING	4BL	328	64	27	2232	-186	-43	-8	-2
UT CEDAR CITY	CDC	351	101	-6	2336	-9	30	0	1
UT SALT LAKE CITY	SLC	327	69	4	2141	-168	61	-7	3
VT BURLINGTON	BTV	285	-39	-26	2988	17	161	1	6
VA LYNCHBURG	LYH	169	-34	-89	1821	163	-43	10	-2
VA NORFOLK	ORF	140	-27	-3	1290	75	137	6	12
VA RICHMOND	RIC	157	-35	-3	1622	116	154	8	10
VA ROANOKE	ROA	165	-38	-7	1835	159	221	9	14
WA COLVILLE	63S	317	40	-45	2852	-173	85	-6	3
WA QUILLAYUTE	UIL	186	9	3	2282	-193	44	-8	2
WA SEATTLE-TACOMA	SEA	183	6	-9	1829	-251	87	-12	5
WA SPOKANE	GEG	310	43	-49	2663	-184	-29	-6	-1
WA WALLA WALLA	ALW	240	32	-63	1843	-125	-112	-6	-6
WA YAKIMA	YKM	296	44	1	2434	-100	6	-4	0
WV BECKLEY	BKW	196	-39	-102	2249	63	-245	3	-10
WV CHARLESTON	CRW	186	-28	3	1926	111	186	6	11
WV HUNTINGTON	HTS	195	-19	5	1926	118	204	7	12
WV PARKERSBURG	PKB	210	-15	2	2103	227	246	12	13
WI GREEN BAY	GRB	342	4	35	3060	2	210	0	7
WI LACROSSE	LSE	350	14	51	2888	37	292	1	11
WI MADISON	MSN	320	-7	26	2811	-102	80	-4	3
WI MILWAUKEE	MKE	299	-8	36	2586	-85	154	-3	6
WI WAUSAU	AUW	368	11	61	3295	14	304	0	10
WY CASPER	CPR	353	63	-14	2801	-216	-184	-7	-6
WY CHEYENNE	CYS	312	50	-30	2716	-137	-192	-5	-7
WY LANDER	LND	386	77	6	2827	-360	-286	-11	-9
WY SHERIDAN	SHR	339	35	25	2722	-399	-156	-13	-5

National Agricultural Summary

December 26, 1988-January 1, 1989

HIGHLIGHTS: Lack of precipitation continued stressing winter wheat in the central and southern Plains. Lack of snow cover concerned winter wheat producers in portions of the Corn Belt and northern Plains. Cotton harvest was nearly complete. Florida's citrus and vegetable producing areas remained dry. Freezing temperatures slowed vegetable harvests in California. It was too early to assess damage to the citrus groves. Livestock was in mostly good condition.

SMALL GRAINS: In eastern Kansas, rain and snow provided needed moisture for winter wheat. Oklahoma's winter wheat continued under stress from lack of moisture. Greenbug infestation was a problem in the west. In Texas, lack of moisture stressed winter wheat. Greenbug infestation was a continuing problem. Mild temperatures and moisture continued improving conditions in the Blacklands area. Nebraska's winter wheat was mostly fair to good. Lack of snow cover concerned winter wheat producers. Greenbugs and Russian wheat aphids were a problem in the Panhandle area. In Colorado and Montana, snow cover was limited, but very little wind damage occurred. In North Dakota, snow cover was mostly adequate for winter wheat and rye. In eastern Oregon, Russian wheat aphids were a continuing problem. In eastern Washington, snow cover provided protection from freezing temperatures. Ohio's winter wheat needed snow cover. Small grains were mostly good to fair in North Carolina. Small grain seeding continued in California where weather conditions permitted. Germination was good. In Arizona, small grain condition was good.

COTTON: Texas' cotton harvest was 99 percent (%) complete, 13 percentage points ahead of the 5-year average. Land preparation for 1989 cotton was active in the Rio Grande Valley. Stalk shredding, disking, and plowing were active in central and western Arizona. In central California, seedbed preparation was active. Harvest was nearly complete in Oklahoma.

OTHER FIELD CROPS: In Kentucky, rain and high humidity provided favorable conditions for burley tobacco stripping. Tobacco markets were closed for the holidays. Tobacco bed preparation continued in the South. Rain slowed fall plowing and fertilizer application in California and the Delta.

FRUIT AND NUTS: In Florida, warm, dry weather forced producers to continue irrigating. Orange harvest was active. Grapefruit movement for fresh and processing markets continued. Fresh market tangelo and tangerine shipments continued strong. In Arizona, harvest and packing activities included lemons, grapefruit, and tangerines. Pecan harvest was active in the east. In Texas, pecan harvest was 96% complete, 4 points ahead of normal. Citrus harvest continued active. California's citrus groves may have suffered damage from cold weather, but it was still too early to assess damage. Navel orange harvest was slowed by rain and fog. Other crops harvested included dates, avacados, grapefruit, lemons, and tangerines.

VEGETABLES: In Florida, vegetable planting and harvest were active. Primary crops harvested included tomatoes, peppers, celery, and cabbage. Potato planting was complete in the Homestead area. In Arizona, cold weather slowed harvests of lettuce, green onion, carrot, and other crops. Texas' vegetable harvests progressed well. Cold weather slowed vegetable harvests in portions of California. Artichoke fields may have suffered freeze damage in the Salinas area. Cold weather slowed desert broccoli and cauliflower harvests. In the Palo Verde Valley, cold weather also slowed lettuce movement. Dry onion plantings progressed normally in the central valley. Fall potato movement continued active in the Tulelake-Butte Valley. Winter potato harvest continued in the Hemet area.

PASTURES AND LIVESTOCK: Pastures in the South were mostly good to fair. Livestock was mostly good. Rain continued to improve range and pasture conditions in California. Cold weather continued to hamper livestock feeding operations in Nevada. Heavy snow and cold weather stressed livestock in Minnesota. In Iowa, mild weather allowed producers to use crop residue for grazing. Florida's pastures needed rain to promote growth.

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 exceeded 2.00 in. north, central; under 1.00 in. south. Temperatures 5 to 8° above normal.

Soil moisture mostly adequate. Primary activities: Providing supplemental feed; general care of livestock, poultry.

ARIZONA: Winter storm, rain, snow western two-thirds 25th. Snow north, east down to 2,000 ft. south central, southeast 26th. Snow accumulations varied 1 to 5 in. central basins to 3 to 9 in. Mogollon Rim, White Mountains. Clear skies, low dew points, temperatures plunged 10° below zero north, 20s to 30s lower deserts 27th. Sunny, cold temperatures 28th to 29th. Mostly sunny 30th to 31st. Temperatures 4 to 13° below normal.

Cotton harvest almost complete. Stalk shredding, disking, plowing central, west. Wheat, barley 85% seeded, 65% stands established. Stands good. Harvest, packing lemons, grapefruit, tangerines, mineolas, sweets west, central. Inclement weather slowed harvest. Groves protected against freeze. Boston, leaf, romaine, head lettuce; broccoli, cauliflower, cabbage, kale, napa, escarole, bok choy, endive, greens, rapini, green onions, parsley, carrot harvest hampered by sub-freezing temperatures west, central. Asparagus harvest expected west. Pecan harvest neared completion west, central; very active east. Cattle, calves fair to good. Ranges providing average to above average feed supplies.

ARKANSAS: Week began with mild temperatures; cold front midweek brought heavy rain, cooler temperatures. Heaviest rainfall south. Temperature extremes 10°; 75°. Rainfall 0.47 to 3.77 in.

Soil moisture adequate. Farming activities limited by wet field conditions. Wheat progressed normally. Livestock fair to good.

CALIFORNIA: More storms. Extremely cold system brought snowfall to valley floor both Sacramento, San Joaquin. Below normal temperatures, near to above normal precipitation.

Rain, snow greatly curtailed field activities. Small grains seeded, conditions permitting. Germination good favorable soil moisture. Some herbicide applications small grains, next year's cotton seedbeds. Cotton harvest nearly complete desert. Cotton seedbed preparation central areas, soil moisture permitting. Harvest southern seed corn fields completed. Sheep grazing alfalfa fields. Seasonal practices continued. Date, avocado harvests ongoing. Cold weather during Christmas holidays may have injured citrus, too early to assess damage. Navel orange harvest slowed by rain, fog. Grapefruit, lemon, tangerine harvests continued. Artichoke fields Salinas may have received damage from cold weather. Broccoli harvest fairly light, Santa Maria, variable quality. Packing Westside active, production desert slowed, cold temperatures. Cauliflower movement fairly light Santa Maria, variable quality. Harvest Westside ongoing, desert harvest slowed cold weather. Fall season nearly over Salinas-Watsonville. Celery fairly light Santa Maria, variable quality. Harvest ending Salinas-Watsonville, picking continued Westside. Lettuce movement slowed by cold weather, Palo Verde Valley. Melon fields Palo Verde Valley prepared for spring planting. Dry onion plantings progressed normally central valley. Fall potato movement Tulelake-Butte Valley continued full time. Winter potato harvest continued Hemet. Sweetpotato harvest continued Westside. Livestock fair to good. Range, pasture conditions continued to improve, grasses off to good start from rainfall valley, lower foothill areas. Supplemental feeding continued, especially northern counties, foothills where ground feed covered with snow. Feed adequate, water levels improved. Livestock movement slow.

COLORADO: Mostly dry, cold throughout State. Mountains generally less than 6 in. new snow. Scattered snow showers lower elevations produced generally less than 0.10 in. of moisture. Temperatures 5 to 15° below normal.

Snow cover remained very light to non-existent, little wind damage to winter wheat. Cold temperatures put very little stress on livestock which remained good to excellent.

FLORIDA: Southwesterly flow aloft kept temperatures mostly above normal. Weak cold front became stationary across southern Peninsula, dissipated 26th. High pressure center with colder temperatures stayed well north with easterly flow, few showers over Peninsula into 28th. By late 29th, another weak cold front become stationary, dissipating across central Peninsula. Southerly flow around weak ridge high pressure continued warm, mostly dry conditions into 1st, except rain over some areas north 31st. Only scattered showers developed. No well organized areas of precipitation. Heaviest amounts along lower east coast with totals under 1.00 in. Temperatures 5 to 10° above normal statewide.

Soil moisture short to adequate. Growers prepared tobacco beds. Sugarcane harvest active. Small grains good. Rain needed most areas to increase pasture growth. Permanent pastures in heavily frosted central, northern areas neared seasonal low for supplying forage. Hay supplies low, some Panhandle, upper northern Peninsula areas. Cattle condition declined somewhat, particularly upper central Peninsula, Panhandle, but continued generally fair to good. Calf marketings declined seasonally. Citrus areas warm, dry; rain needed, irrigation being applied. Early fruit well colored, good maturity levels on early, mid-season fruit. Orange harvest active all areas. Grapefruit movement for fresh, processed markets. Fresh shipments tangelos, tangerines continued strong. Mild weather continued throughout vegetable producing areas. Rainfall very limited. Planting, harvesting continued active. Good volume available tomatoes, peppers, celery, cabbage, squash, lettuce, snap beans. Lesser supplies cucumbers, radishes, carrots, strawberries, eggplant, escarole, endive. Homestead potato planting completed.

GEORGIA: Warm, wet; temperatures 5 to 10° above normal. Extremes 15° Blairsville, 82° Jesup. Rain mostly 1.00 in. except east under 0.50 in. Highest 2.92 in. Dade County.

Soil moisture short north, southwest; adequate central, southeast. Main activities small grain seeding, land preparation, cotton, soybean, pecan harvest. Small grains fair to mostly good. Pastures poor to mostly fair. Tobacco plants good. Cattle fair to good. Hogs good.

HAWAII: Conditions variable. Mostly sunny beginning week. High winds, localized heavy

rainfall toward weekend. Temperatures lower 70s to mid 80s. Rainfall none to 10.50 in.

Days suitable for fieldwork 7.0. Soil moisture adequate. Fields muddy some areas, slowed fieldwork. High winds caused light damage to vine, tree crops. Bananas, papayas fair, spraying active for disease control. Leafy vegetables fair to good. Rains slowed ginger root harvesting.

IDAHO: Temperatures well below normal with below zero readings over most of State. Precipitation also below normal.

Main farm activities revolved around livestock feeding, milking, culling. Other activities included marketing products, general maintenance, shopwork, planning, preparing taxes. Calving, lambing few areas. Most livestock good. Mostly adequate hay, roughage available.

ILLINOIS: Temperatures none to 3° below normal except near normal extreme south. Precipitation mostly 1.00 to 2.00 in., except 0.50 to 1.00 in. west, south central.

Winter wheat mostly good. Livestock good to excellent.

INDIANA: Temperatures 1 to 3° below normal. Lows, single digits to teens, highs 30 to 40°. Precipitation 1.00 to 2.00 in. Wet, with snow central, northern areas.

Snow, frozen soils limited field activities. Other activities: Plowing, spreading fertilizer, hauling manure, moving grain, building fence, machinery repair, processing tobacco, record keeping, purchasing supplies, care of livestock.

IOWA: Temperatures 2 to 6° above normal; extremes -5 to 49°. Precipitation below normal west, above normal east; 0.03 to 1.14 in., average 0.40 in.

Grain movement to market mostly light. Cattle, pig losses mostly average. Mild week allowed cattle to graze stubble fields. Usual activities feeding livestock, machinery repair, bookkeeping.

KANSAS: Warmer than normal. Temperatures 29° north west, 36° south central, southeast. Temperatures 4 to 6° above normal eastern two-thirds, 1 to 3° above normal western third. Southeast averaged 1.05 in. Heaviest 1.51 in. Pittsburgh. Western trace amounts or no precipitation.

Fieldwork limited; snow, muddy fields eastern area. Rain, snow eastern areas provided needed moisture. Increased supplemental feeding cattle southeast, wheat fields, pastures covered with snow.

KENTUCKY: Temperatures, precipitation above normal. Lows upper 20s, highs mid 40s; both 2° above normal. Rain heavy west, north 1.50 to 3.00 in. Rain south, east 0.50 to 1.00 in.

Soil moisture improved by November, December rains. Rain, high humidity favorable for burley tobacco stripping. Auction markets to reopen 9th. Mild winter to date. Winter grains satisfactory. Livestock generally good.

LOUISIANA: Temperatures 1 to 10° above normal. Temperature extremes 25°; 81°. Rainfall 0.12 to 4.71 in.

Main Activities: Livestock care, routine chores.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.50 in. Temperature 41°, normal 35°. Temperature extremes 15°; 70°.

Main farm activities caring for livestock, maintaining machinery.

DELAWARE: Precipitation 0.37 in. Temperature 42°, normal 36°. Temperature extremes 22°; 69°.

Main farm activities caring for livestock, maintaining machinery.

MICHIGAN: Temperatures 2° below normal to 2° above normal. Temperature extremes -7°; 42°. Precipitation 0.12 to 1.58 in. Light snowfall most areas.

Snow cover limited lower peninsula. Activities: Routine farm chores, caring for livestock. Livestock excellent. Feed mostly adequate.

MINNESOTA: Temperatures near normal to 7° below normal. Temperature extremes -33°; 36°. Precipitation 0.23 to 0.67 in. Greatest weekly total 0.94 in. Snowfall 3 to 16 in. Snow depth 2 to 20 in. Widespread, heavy snowfall covered State.

Heavy snow, cold temperatures raised feeding and bedding requirements for cattle. Alfalfa winterkill may be less severe due to good snow cover.

MISSISSIPPI: NO DATA AVAILABLE.

Days suitable for fieldwork 1.5, 2.8 1988, 2.1 avg. Soil moisture adequate to surplus. Wheat good; 100% emerged, 94% 1988. Livestock good. Pasture good. Hay, roughage adequate, feed grains adequate. Activities: livestock, shop work.

MISSOURI: Temperatures above normal except southwest to central slightly below normal. Precipitation 0.50 in. northwest to 2.00 in. southeast, some localized mild flooding west.

Topsoil moisture 48% short, 37% adequate, 15% surplus. Subsoil moisture 68% short, 29% adequate, 3% surplus. Northern areas mostly dry, surplus some southern counties, particularly southeast. Wheat 5% poor, 56% fair, 39% good, north poorest. Hay 8% very short, 48% short, 41% adequate, 3% surplus, worst shortage northeast. Livestock water 21% critically short, 22% short, 57% adequate, northern areas most deficient, some livestock being sold due to shortage. Livestock 1% poor, 16% fair, 76% good, 7% excellent.

MONTANA: Temperatures slightly below normal west, several degrees below other areas. Precipitation scarce north central. Central, east 0.12 to 0.55 in. of moisture.

Soil moisture continued short but wind damage not occurring. Winter wheat fair to good. Livestock grazing mostly open on crop residue, winter ranges. Supplemental feeding continued for most livestock.

NEBRASKA: Scattered light precipitation beginning week produced traces to 0.20 in. of moisture. Temperatures 1 to 7° below normal west, 3 to 5° above normal east. Extremes -12°; 54°. Snow cover Panhandle 1 in., northeast none to 3 in., reminder of State none.

Winter wheat 3% poor, 62% fair, 35% good. Growers concerned about lack of snow cover, soil moisture. Greenbugs, Russian wheat aphids, especially Panhandle. Feed grain, hay, forage adequate. Pasture, range feed short to adequate. Main activities: Grain handling, livestock care, book work, routine chores, equipment maintenance.

NEVADA: Cold, low pressure system extended into January. All areas much colder than normal, significant snow all areas except extreme south. Temperatures 12 to 15° below normal. Temperature extremes 26° below zero; 54°.

Livestock feeding operations hampered by persistent low temperatures, snow flurries. Chopping ice for livestock continued all areas except extreme south.

NEW ENGLAND: Precipitation (rainfall, water equivalent of snow) 0.50 to 0.75 in. Connecticut, western Massachusetts; 0.25 to 0.50 in. remainder.

Temperatures single digits near Canadian border to low 20s southern coast. Temperatures below normal.
Major farm activities: Machinery repair, tending livestock.

NEW JERSEY: Temperatures slightly above normal, 32° north, 36° south, 38° coastal. Extremes 16°; 68°. Precipitation below normal; 0.26 in. north, 0.22 in. south, 0.29 in. coastal. Heaviest 24-hour total 0.39 in. on 28th to 29th.
Farmers caring for livestock, tending to normal winter chores.

NEW MEXICO: Light snow 26th; then turned dry, cold. Temperatures below normal statewide, especially west where departures about 10° below normal. Light snow northern, western mountains.

NEW YORK: Continued absence of large storms. Wide swings in temperatures with lake effect snow common around Lake Ontario counties. Temperatures above normal 25th, 27th, 28th, 31st. Near normal rest of week. Snowfall 0.50 in. or less Buffalo to Massena, 1 to 4 in. northern portions.
Farmers busy with normal winter chores.

NORTH CAROLINA: Temperatures 1° above normal mountains, 5 to 6° above normal Piedmont, 5° above normal along coast. Temperature extremes none to 78°. Precipitation 0.11 to 2.15 in.
Days suitable for fieldwork 5.3. Soil moisture 4% very short, 50% short, 44% adequate, 2% surplus. Pasture 2% very poor, 20% poor, 41% fair, 37% good. Oats 36% fair, 64% good. Barley 38% fair, 62% good. Rye 37% fair, 61% good, 2% excellent. Wheat 33% fair, 65% good, 2% excellent; 94% emerged. Feed grains 8% short, 92% adequate. Hay, roughage 8% short, 87% adequate, 5% surplus. Major farm activities: Tending livestock, general farm maintenance. Other activities: Fall plowing; repairing equipment; tobacco plant bed preparation; cutting firewood. Small grains need moisture mountain, southern coastal Plains.

NORTH DAKOTA: Temperatures 4° below normal northeast to 4° above normal southwest. Extremes -27° east central 29th; 32° southwest 31st. Statewide snowstorm early week 6 to 12 in. new snow. Precipitation 0.32 in. northeast to 0.76 in. southeast.
Soil moisture below normal. Snow depth 9 in. Snow cover protection winter wheat 93% sufficient, rye 97%, alfalfa 100%. Winter wheat 24% very poor to poor, 57% fair, 19% good; rye 25%, 58%, 17%. Livestock good, receiving supplemental forages. Hay, roughage 51% short, 48% adequate, 1% plentiful. Pastures open for grazing 2%. Roads mostly open, some drifted with snow.

OHIO: Temperatures, precipitation above normal. Temperatures low upper teens to mid 20s; 1 to 8° above normal. Highs freezing to mid 40s; 1 to 3° above normal. Snow mainly 28th, 1 to 3 in. Water equivalent 0.75 to 1.25 in.; 0.30 to 0.80 in. above normal.
Winter wheat limited snow cover protection for several days.

OKLAHOMA: Temperatures 2° below normal Panhandle to 1° above normal southwest. Precipitation none Panhandle to 1.00 in. east central.
Topsoil moisture 45% short, 45% adequate, 10% surplus. Subsoil moisture 30% short, 70% adequate. Dry weather lowered wheat prospects. Moisture needed statewide but particularly west. Greenbug infestation west. Cotton 98% harvested. Pasture growth restricted by dry weather. Some southern cattlemen culling herds. Cattle marketings average, prices continued recent climb.

OREGON: An unstable air mass from north brought very cold temperatures to eastern, southern sections of State. Temperatures below normal over entire State. Southern areas much as 17 to 18° below normal. Temperature 9 to 11° below normal northeast. Elsewhere temperatures slightly below normal. Precipitation widespread over area. Heaviest amounts up to 4.00 in. along coast, north and central coastal mountains. Willamette Valley over 1.00 in. Northeast 0.75 in. Elsewhere precipitation totaled trace to 0.50 in.
Soil moisture mostly adequate. Winter wheat development about normal statewide; still concern with Russian wheat aphid most eastern counties. Weed control practices underway on Willamette Valley berry fields, fruit, nut orchards. Carrot harvest continued Willamette Valley. Livestock mostly good. Supplemental hay feeding continued. Range, pastures mostly good high elevations of east snow covered.

PENNSYLVANIA: Wide swing in temperatures, continued dry. Temperature 31°, 2° above normal. Temperature extremes 4°; 64°. Precipitation 0.36 in., 0.33 in. below normal.
Activities: Hauling manure; caring for livestock; maintaining machinery; fixing fence; grading potatoes.

PUERTO RICO: Island rainfall 1.82 in., 0.92 in. above normal. Highest weekly rainfall 6.28 in. Pico Del Este-Luquillo, 5.16 in. Rio Blanco Lower, 3.26 in. Toa Baja, Maunabo. Highest 24-hour total 2.00 in. Rio Blanco Lower. Total rainfall since January 1st 64.92 in., 2% above normal. San Juan WSFO temperature 76°, 1° below normal. Total rainfall 2.27 in., 1.39 in. above normal. Divisional temperature 76° on coasts, 69 to 70° interior. Station temperature 61° Cerro Maravilla to 78° Roosevelt Roads. Lowest minimum temperature 55° several locations. Highest maximum temperature 90° San Sebastian.

SOUTH CAROLINA: Temperatures 2 to 4° above normal. Precipitation varied 1.00 in. mountains to less than 1.25 in. near coast.

SOUTH DAKOTA: Temperatures mostly below normal; 11° below to 2° above. Extremes -16°; 54°. Freezing rain southeast. Snow 6 to 12 in. west, north. Southern part State up to 4 in. with some areas only trace. North 2 to 12 in. snow cover.
Crop conditions unchanged from last week.

TENNESSEE: Cold fronts crossed State 27th, 28th, weekend. Fronts brought widespread rain. Temperatures 4° above normal. Mostly upper 40s to mid 50s. Precipitation middle State slightly less than normal; east, west 1.00 to 2.00 in. above normal.
Spring planning, farm chores, record updating main activities.

TEXAS: Surges of Gulf moisture brought widely scattered rains eastern portions. Some rains significant. Rains western part more scarce. Temperatures above normal, only exceptions southern High Plains, Panhandle. Precipitation below normal all areas except east.
Crops: Cotton producers Plains good harvest progress. Many producers finishing up for season. Ginning operations steady. Land preparation continued Rio Grande Valley. Cotton 99% harvested, 98% 1987, 86% avg. Dry conditions continued hamper small grain progress many parts. Central continued one of drier areas, some stands dying. Mild temperatures, moisture improved growth Blacklands. Fields providing good grazing. Fields east good progress. Dryland fields Plains providing less forage. Livestock moved around because of lack of

growth. Some irrigation still occurring. Greenbugs continued problem some fields. Moisture critical for any possible crop development later season. Other Field Crops: Pecans 96% harvested, 92% 1987, 92% avg. Oats 100% planted, 100% 1987, 98% avg.

Commercial Vegetables: Rio Grande Valley harvest progressed without delay most vegetables. Good progress onions. Land preparation melons continued. Harvest citrus also continued, good yields. Prices down slightly. San Antonio-Winter Garden harvest most vegetables continued. Spinach harvest slow, quality fair. Pecan harvest winding down many areas, operations slowed slightly because low prices. Quality not as good on later nuts expected.

Range and Pasture: Statewide range, pasture grasses not improved much. East some improvement. Supplemental feeding increased as colder weather moved midweek. Small grain fields dry Plains, grazing short. Many stockers moved off. Calving operations continued some areas. Overall livestock conditions steady, minor stress from cold temperatures. Lack of available stock tank water problem drier parts.

UTAH: Precipitation, mostly snow, 0.75 in. mountains; 0.25 in. over rest of State. Temperatures 11°.

Snow cover light to moderate. Livestock fair to good. Feed adequate. Major farm activities: Livestock chores, repair equipment, building maintenance, summarizing tax records, attending farm meetings.

VIRGINIA: Mild but temperatures saw both extremes. Range 16 to 74°. Overall temperatures above normal. Precipitation 0.33 to 0.50 in.

Days suitable for fieldwork 3.9. Topsoil moisture 35% short, 52% adequate, 13% surplus. Christmas week, few activities. Hunting, livestock care, record keeping. Winter grains, grazing crops 22% poor, 44% fair, 31% good, 3% excellent. Lambing, calving.

WASHINGTON: Temperatures 1 to 3° below normal west, 4 to 10° below normal east. Precipitation 0.70 to 3.88 in. west, 0.04 to 0.63 in. east. Most precipitation as snow east 5 to 15 in.

Field activity minimal. Most fields east under snow cover as temperatures dropped. No adverse effects on winter wheat expected. Heavy rainfall west, some minor flooding of farmland adjacent to major streams. Pruning continued, Benton County. Cattle on hay, east. Herd generally good.

WEST VIRGINIA: Temperature 37°, 3 to 8° above normal. Extremes 12° Flat Top; 69° Weston, Gary. Precipitation 0.55 in., slightly below normal.

Days suitable for fieldwork 4.4. Soil moisture 10% very short, 30% short, 50% adequate, 10% surplus. Wheat, barley fair. Livestock good to fair. Feed 8% very short, 33% short, 59% adequate. Farm activities: General farm maintenance, livestock care, tobacco stripping.

WISCONSIN: Variable temperatures 17°. Extremes -19°; 38°. Precipitation 0.30 to 0.90 in. Snow 3 to 6 in., 26th to 27th. Rain south 27th.

Snow cover 4.2 in., normal 6.5 in. Frost depth 10.6 in., normal 6.9 in. Farmers concerned ice may cause winterkill in hay, winter grains.

WYOMING: Temperatures below normal. Precipitation near normal.

Winter wheat mostly good. Additional moisture needed for good development. Livestock fair to good. Colder temperatures, snow increased stress, feed requirements. Supplemental feeding underway in areas with snow cover or short winter pastures.

International Weather and Crop Summary

December 1988

December 25-31, 1988

HIGHLIGHTS

WESTERN USSR ... A warming trend diminishes snow cover in the west and south.

EUROPE ... Warmer and drier weather covers the north. Dryness returns to the south.

SOUTH ASIA ... Scattered rain across northern India benefits vegetative winter wheat.

EASTERN ASIA ... Heavy rain falls across southeastern China and Taiwan.

SOUTHEAST ASIA ... Locally heavy rain persists over northern Java, causing flooding. Typhoon Val brushes the northeastern Philippines likely causing some damage to mature rice.

SOUTH AMERICA ... Soaking rain in Brazil improves conditions for corn and soybeans. Scattered showers and hot weather increase stress on summer crops in Argentina.

AUSTRALIA ... Moderate to heavy rain continues to benefit summer crops in the east. Seasonal heavy rain favors vegetative sugarcane in the northeast.

SOUTH AFRICA ... Widespread showers maintain favorable conditions for vegetative corn.

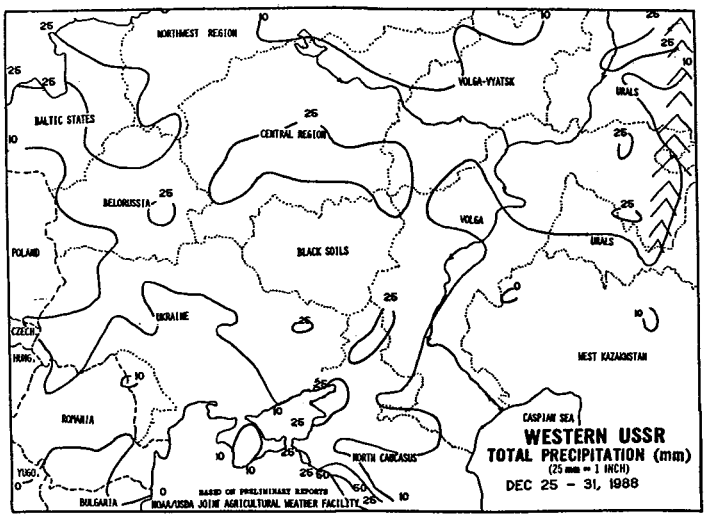
NORTHWESTERN AFRICA ... Dry weather covers winter grains in the early vegetative stage.

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

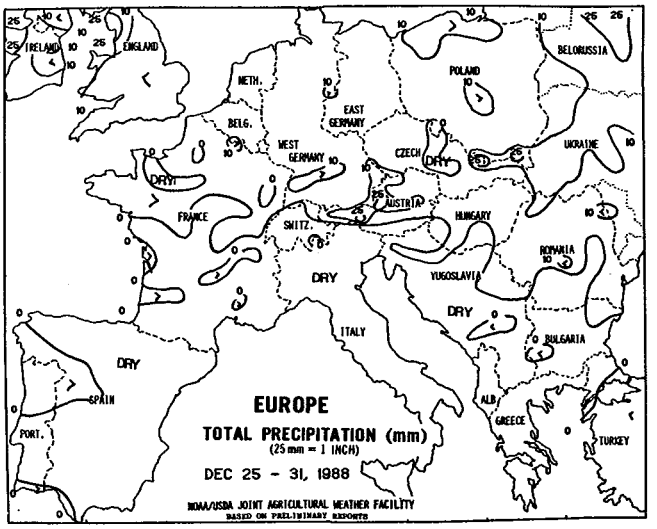
COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
NORWAY	OSLO	-3	-10	9	-23	-6	-1.3	38.2	-30.1
SWEDEN	STOCKHOLM	-1	-6	7	-19	-3	-2.9	41.7	-5.0
FINLND	HELSINKI	-4	-10	4	-23	-7	-3.6	66.1	9.9
U KING	GLASGOW	9	6	13	1	8	2.9	90.8	-26.5
	EDINBURGH	9	5	14	-3	7	3.2	31.0	-27.4
	BIRMINGHAM	10	6	14	1	8	3.5	37.4	-27.3
	LONDON	10	5	13	-2	8	3.2	15.7	-61.0
IRELND	DUBLIN	10	7	14	1	9	2.7	44.7	-34.2
ICELND	REYKJAVIK	3	-1	10	-12	1	0.8	119.9	43.8
DENMRK	COPENHAGEN	5	1	9	-5	3	0.7	46.1	-2.9
LUXEMB	LUXEMBOURG	6	3	11	-2	5	3.2	104.0	27.6
SWITZL	ZURICH	5	2	11	-6	3	2.4	116.7	41.6
	GENEVA	6	0	13	-6	3	1.0	65.2	-15.2
FRANCE	PARIS	9	6	14	0	8	3.2	57.0	6.2
	STRASBOURG	7	3	13	-6	5	3.1	76.3	43.4
	BOURGES	8	4	14	-2	6	1.7	36.0	-24.9
	BORDEAUX	10	4	15	-2	7	0.9	59.2	-44.7
	TOULOUSE	9	4	16	-3	6	0.4	32.1	-26.7
	MARSEILLE	12	3	17	-3	7	-0.1	5.4	-57.6
SPAIN	VALLADOLID	7	0	12	-5	4	-0.5	1.4	-39.4
	MADRID	12	-2	17	-5	6	-0.2	10.2	-35.7
	SEVILLE	16	4	19	1	10	-1.0	9.1	-68.7
E GRMY	LEIPZIG	5	1	10	-6	3	1.8	88.1	50.9
	DRESDEN	5	1	10	-6	3	2.5	127.6	90.6
W GRMY	HAMBURG	6	3	11	-5	4	2.3	89.2	18.5
	BERLIN	5	2	10	-5	4	2.2	65.7	16.7
	DUSSELDORF	8	5	12	-1	7	3.6	99.6	41.7
	STUTTGART	5	2	10	-7	4	2.9	86.4	40.1
	NURNBERG	5	2	10	-9	3	2.9	85.4	36.0
	MUNICH	4	1	11	-11	2	2.5	133.6	81.7
AUSTRI	VIENNA	6	0	13	-12	3	2.2	61.4	24.3
	INNSBRUCK	4	-2	10	-12	1	2.0	106.2	54.3
CZECH	PRAGUE	4	0	9	-7	2	2.4	50.6	26.3
POLAND	WARSAW	2	-1	9	-10	1	1.2	44.0	11.7
	LODZ	2	-1	8	-9	1	1.9	74.4	32.5
	KATOWICE	2	-1	7	-17	1	1.8	91.2	47.3
	PRZEMYSL	1	-2	6	-14	0	0.1	59.0	19.1
HUNGAR	BUDAPEST	5	0	11	-8	2	1.6	56.9	16.6
YUGOSL	SARAJEVO	3	-5	14	-18	-1	-0.5	54.0	-49.9
ROMANI	BUCHAREST	3	-3	9	-11	0	-0.2	23.4	-23.1
BULGAR	SOFIA	4	-2	14	-10	1	0.8	41.8	-20.6
ITALY	MILAN	7	-1	20	-5	3	1.1	61.0	-5.2
	VERONA	7	-1	15	-7	3	1.4	30.2	-21.1
	VENICE	8	0	14	-6	4	0.3	30.4	-35.7
	GENOA	14	8	17	0	11	1.9	44.6	-62.8
	ROME	13	4	18	-3	9	-0.6	39.2	-47.2
	NAPLES	14	5	18	-4	9	0.1	100.8	-17.9
GREECE	THESSALONIKA	9	2	19	-9	5	-2.0	47.9	-6.8
	LARISSA	7	-1	20	-18	3	-4.0	85.2	28.5
	ATHENS	14	8	20	2	11	-1.3	95.0	27.1
TURKEY	ISTANBUL	9	5	18	-1	7	-0.6	161.0	70.0
	ANKARA	6	-1	14	-11	2	0.7	23.5	-5.5
CYPRUS	LARNACA	17	8	21	3	13	-0.9	111.4	8.3
USSR	TALLINN	-1	-6	5	-16	-4	-1.5	64.7	17.2
	LENINGRAD	-5	-9	3	-19	-7	-2.4	44.9	1.3
	KAUNAS	-1	-5	7	-16	-3	-0.4	48.1	3.6
	MINSK	-2	-7	5	-21	-4	-0.7	55.5	12.8
	KAZAN	-9	-14	1	-28	-11	-2.1	35.3	1.9
	MOSCOW	-5	-9	2	-22	-7	-1.2	76.2	32.4
	SVERDLOVSK	-8	-15	3	-29	-11	0.1	26.3	4.5
	OMSK	-8	-15	4	-27	-11	3.6	29.4	12.8
	KUSTANAY	-8	-15	1	-28	-11	1.5	19.4	1.7
	KRASNOYARSK	-8	-14	2	-26	-11	3.8	15.5	-8.6
	NOVOSIBIRSK	-7	-11	4	-21	-9	7.2	17.7	-5.2
	BARNAUL	-6	-12	3	-21	-9	4.9	25.6	-6.6
	KHABAROVSK	-12	-20	-6	-27	-16	1.8	1.5	-17.1
	VLADIVOSTOK	-5	-10	4	-16	-7	2.1	13.1	-3.3
	KIEV	-1	-5	5	-15	-3	-1.1	56.4	11.9
	LVOV	1	-3	6	-17	-1	0.4	65.1	11.6
	KIROVOGRAD	-1	-6	5	-19	-4	-1.4	50.6	13.2

COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
December 1988									
USSR	ODESSA	2	-2	10	-12	0	-1.6	64.9	20.1
	YALTA	8	3	14	-3	5	-0.7	115.2	35.2
	VORONEZH	-4	-10	2	-21	-7	-1.9	46.1	-2.1
	SARATOV	-6	-10	2	-23	-8	-1.0	33.6	2.5
	KHARKOV	-3	-8	3	-20	-5	-2.1	53.3	8.3
	VOLGOGRAD	-3	-8	7	-21	-6	-0.9	35.5	-9.5
	ROSTOV	0	-4	9	-12	-2	-0.3	92.3	29.2
	ASTRAKHAN	1	-4	8	-12	-2	0.9	15.7	0.2
	KRASNODAR	4	0	12	-6	2	0.1	122.4	47.4
	ORENBURG	-6	-12	2	-28	-9	1.0	19.8	-11.6
	TSELINOGRAD	-6	-12	2	-22	-9	5.8	19.3	9.6
	KARAGANDA	-5	-11	4	-20	-8	3.9	23.7	5.9
	TBILISI	8	2	14	-5	5	1.3	1.2	-22.5
	TASHKENT	12	3	23	-4	7	4.9	10.5	-41.9
	ASHKHABAD	16	2	25	-7	9	5.3	6.7	-15.0
SYRIA	DAMASCUS	14	2	24	-2	8	-0.1	51.2	4.8
ISRAEL	JERUSALEM	14	6	23	2	10	-0.4	189.6	78.7
PAKIST	KARACHI	28	14	32	10	21	1.4	0.1	-7.6
INDIA	AMRITSAR	21	5	25	1	13	0.0	45.9	31.0
	NEW DELHI	23	9	27	6	16	0.5	3.4	-4.1
	AHMEDABAD	30	15	36	11	22	0.9	0.1	-1.8
	INDORE	27	10	29	5	19	-0.2	0.1	-9.1
	CALCUTTA	27	16	29	11	21	1.1	1.0	-2.0
	VERAVAL	30	16	34	13	23	-0.1	0.1	-1.2
	BOMBAY	33	18	35	12	26	0.6	0.1	-0.8
	POONA	27	12	30	8	20	-1.3	0.1	-4.4
	BEGAMPET	28	16	30	12	22	0.7	14.1	8.5
	MADRAS	29	21	30	20	25	0.4	109.9	-29.5
	MANGALORE	34	21	35	14	27	0.5	0.5	-17.5
H KONG	HONG KONG	20	16	23	13	18	0.3	107.2	81.5
N KREA	PYONGYANG	2	-9	10	-17	-4	0.7	16.3	-5.8
S KREA	SEOUL	4	-3	14	-12	1	2.0	12.7	-19.3
JAPAN	SAPPORO	2	-3	10	-7	0	1.1	122.8	17.9
	NAGOYA	11	2	16	-2	7	0.5	13.1	-35.0
	TOKYO	13	5	18	1	9	1.2	0.1	-56.3
	YOKOHAMA	12	4	17	1	8	0.4	0.7	-58.0
	KYOTO	11	2	16	-1	7	0.8	27.5	-25.5
	OSAKA	11	4	16	2	8	0.1	12.1	-30.0
THAILN	PHETCHABUN	30	16	33	12	23	0.3	0.1	0.1
	BANGKOK	31	20	33	17	26	-0.3	0.1	-10.8
MALAYS	KUALA LUMPUR	31	23	33	20	27	1.0	96.9	-133.0
VIETNM	HANOI	23	17	26	11	20	1.3	1.0	-19.3
CHINA	HARBIN	-10	-21	1	-30	-16	1.6	10.4	4.6
	HAMI	1	-10	5	-13	-4	3.4	0.1	-0.4
	LANCHOW	4	-7	10	-10	-1	3.9	2.7	1.5
	BEIJING	5	-4	11	-9	0	2.6	1.0	-1.6
	TIENTSIN	5	-3	10	-8	1	2.2	0.1	-3.6
	LHASA	9	-7	16	-12	1	1.4	0.1	0.1
	KUNMING	16	4	19	-2	10	1.4	0.9	-12.2
	CHENGCHOW	9	-3	17	-10	3	2.3	15.2	5.7
	YEHCHANG	12	5	21	0	8	1.0	18.1	-5.0
	HANKOW	12	3	22	-2	8	2.6	8.1	-22.9
	CHIHKIANG	13	5	19	-2	9	1.8	6.6	-29.2
	SHANGHAI	12	3	20	-3	8	1.3	3.1	-37.9
	NANCHANG	14	6	20	1	10	2.1	1.0	-46.2
	TAIPEI	21	15	29	11	18	1.2	28.2	-45.7
	CANTON	22	11	26	6	17	1.1	64.0	37.7
	NANNING	22	13	27	6	17	2.3	0.1	-26.4
CNRY I	LAS PALMAS	22	16	24	13	19	0.9	1.0	-28.9
MOROCC	CASABLANCA	18	8	21	3	13	0.0	9.1	-88.5
	MARRAKECH	19	6	22	3	12	0.7	0.1	-32.5
ALGERI	ALGER	17	7	23	1	12	-0.2	182.3	60.5
	BATNA	9	1	17	-5	5	-0.8	26.9	-3.1
TUNISI	TUNIS	16	8	21	1	12	-0.2	51.9	-0.5
NIGER	NIAMEY	32	17	38	13	24	-0.5	0.1	0.1
MALI	TIMBUKTU	28	12	40	8	20	-2.2	0.1	0.1
	BAMAKO	31	18	37	13	25	0.0	0.1	0.1
MAURIT	NOUAKCHOTT	28	16	33	10	22	0.2	0.1	-6.4
SENEGL	DAKAR	26	20	31	17	23	0.2	0.1	0.1
CHAG A	DIEGO GARCIA	31	26	39	24	28	1.0	114.2	-150.4
LIBYA	TRIPOLI	16	8	21	4	12	-1.5	86.0	19.7
	BENGHAZI	17	11	24	7	14	-0.5	114.5	49.3
EGYPT	CAIRO	20	11	27	7	15	-0.2	10.1	3.1
	ASWAN	24	13	31	7	18	0.4	0.1	0.1
ETHIOP	ADDIS ABABA	23	6	30	2	14	-1.5	0.1	-18.2
KENYA	NAIROBI	25	13	28	9	19	-0.2	85.8	14.5

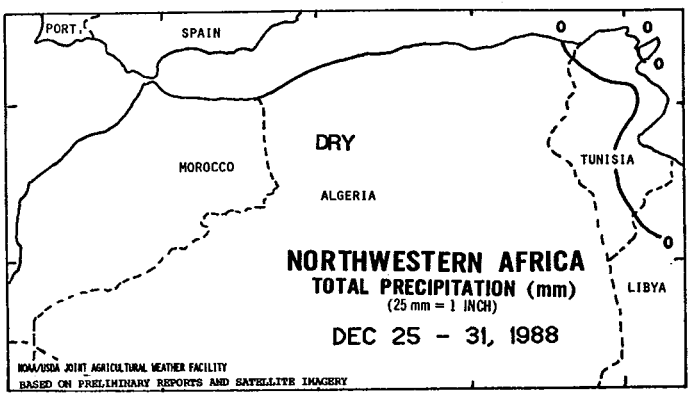
COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
December 1988									
TANZAN	DAR ES SALAAM	31	23	33	21	27	-0.4	146.8	46.0
GABON	LIBREVILLE	28	23	29	20	25	-1.3	303.2	-32.5
TOGO	LOME	31	23	35	16	27	0.4	44.0	35.0
B FASO	OUAGADOUGOU	32	17	36	13	24	-1.2	0.1	0.1
IVRY C	ABIDJAN	31	24	33	18	27	0.2	31.2	-70.1
MOZAMB	MAPUTO	28	21	35	16	24	-1.0	74.8	-16.6
ZAMBIA	KABWE	26	17	31	14	22	0.7	124.3	-126.8
ZIMBAB	HARARE	26	16	31	14	21	0.5	115.1	-70.0
S AFRI	PRETORIA	27	16	34	11	21	0.1	107.4	-3.8
	KROONSTAD	27	15	34	11	21	-0.8	123.5	28.5
	JOHANNESBURG	24	14	30	10	19	-0.2	155.1	47.2
	BETHAL	24	13	28	9	18	-0.9	154.4	29.4
	DURBAN	26	20	29	15	23	0.1	173.0	68.0
	CAPE TOWN	26	15	35	9	21	1.1	8.7	-7.3
CANADA	TORONTO	2	-7	12	-20	-3	0.4	36.7	-28.0
	MONTREAL	-3	-13	10	-24	-8	-1.0	35.6	-51.0
	WINNIPEG	-8	-18	7	-31	-13	0.9	23.0	3.8
	REGINA	-6	-17	6	-34	-12	1.1	17.5	0.8
	SASKATOON	-7	-17	7	-35	-12	2.2	16.3	-3.2
	LETHBRIDGE	2	-11	17	-32	-5	0.8	20.0	-1.8
	CALGARY	1	-11	18	-25	-5	2.5	4.9	-11.6
	EDMONTON	-2	-11	9	-24	-7	3.7	13.8	-10.9
	VANCOUVER	8	2	12	-3	5	0.9	190.6	8.2
MEXICO	GUADALAJARA	21	8	27	5	15	-1.2	2.5	-14.1
	MEXICO CITY	22	8	25	3	15	2.5	21.3	5.0
	ACAPULCO	32	21	33	19	26	-0.5	0.1	-7.3
BERMUD	ST. GEORGES	22	17	25	13	19	0.5	171.1	55.0
BAHAMA	NASSAU	27	18	29	13	22	0.7	6.6	-41.3
CUBA	HAVANA	27	20	29	16	23	1.1	27.4	-22.2
JAMAIC	KINGSTON	31	23	33	21	27	0.7	4.6	-33.3
P RICO	SAN JUAN	28	22	30	19	25	-0.5	103.9	-7.7
GUADEL	RAIZET	29	21	30	18	25	0.4	46.1	-55.2
MARTNQ	LAMENTIN	29	23	30	20	26	1.5	55.9	-90.0
BARBAD	BRIDGETOWN	29	23	29	16	26	-0.1	16.3	-86.5
TRINID	PORT OF SPAIN	30	22	32	18	26	1.1	68.2	-67.1
COLOMB	BOGOTA	18	7	20	1	12	-0.3	117.9	77.0
VENEZU	CARACAS	29	22	33	20	26	0.4	155.9	96.6
F GUIA	CAYENNE	30	23	31	22	26	0.8	328.4	-8.7
BRAZIL	FORTALEZA	29	24	30	22	27	-0.7	159.9	122.2
	RECIFE	29	23	30	20	26	-0.6	58.4	5.5
	BELO HORIZONTE	28	19	33	10	24	0.9	243.6	-37.3
	CAMPO GRANDE	31	22	36	20	26	1.9	168.1	-22.9
	FRANCA	27	17	31	15	22	1.0	145.6	-124.4
	RIO DE JANEIRO	29	22	36	20	25	0.2	107.3	-29.6
	LONDRINA	31	20	36	17	26	2.5	136.2	-100.1
	SANTA MARIA	31	19	36	14	25	1.3	68.8	-54.1
PERU	LIMA	25	18	28	16	22	1.6	0.6	0.3
BOLIVI	LA PAZ	15	3	19	1	9	-0.5	107.6	6.2
CHILE	SANTIAGO	29	11	33	8	20	0.4	3.0	0.6
ARGENT	IGUAZU	32	20	38	17	26	***	139.2	****
	FORMOSA	33	21	40	17	27	0.6	214.0	95.0
	CERES	33	19	39	12	26	1.4	75.7	-49.3
	CORDOBA	31	18	38	13	24	1.9	56.7	-81.6
	RIO CUARTO	31	18	38	13	24	2.3	135.7	-5.6
	ROSARIO	32	17	39	8	25	1.9	57.6	-51.2
	BUENOS AIRES	30	16	37	10	23	1.3	73.2	-11.6
	SANTA ROSA	31	16	36	8	24	1.2	73.8	-0.8
	TRES ARROYOS	28	14	35	7	21	1.6	66.3	-3.4
MIDW I	MIDWAY ISLAND	24	20	27	15	22	1.8	34.4	-169.2
N CALD	NOUMEA	28	22	33	20	25	0.4	122.9	58.5
FIJI	NAUSORI	29	22	32	18	25	-0.2	266.7	-90.4
SAMOA	PAGO PAGO	29	24	31	22	27	-0.3	582.4	215.7
TAHITI	PAPEETE	30	23	33	22	27	0.3	319.5	64.6
N ZEAL	AUCKLAND	23	15	25	12	19	1.0	205.9	118.3
	WELLINGTON	20	13	27	8	17	1.7	26.0	-69.2
PA N G	PORT MORESBY	30	24	32	22	27	-0.7	178.7	34.5
AUSTRL	DARWIN	30	25	33	21	27	-1.6	311.0	73.9
	MOREE	33	20	37	13	26	0.8	62.0	1.1
	BRISBANE	27	21	30	17	24	-0.3	212.9	67.2
	PERTH	28	16	34	9	22	-0.6	16.0	4.1
	CEDUNA	25	15	41	10	20	-0.5	34.0	17.0
	ADELAIDE	26	15	38	10	21	0.6	48.8	22.6
	MELBOURNE	23	13	33	8	18	-0.1	52.2	4.3
	WAGGA	28	17	35	9	23	1.1	221.6	172.6
	CANBERRA	24	14	30	7	19	0.8	137.2	82.8
PHILIP	MANILA	30	21	36	17	25	-0.3	1.0	-60.7



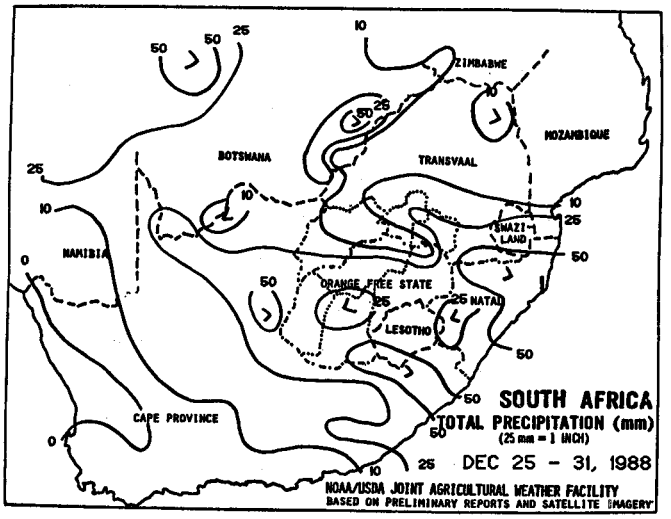
WESTERN USSR ... Unseasonably warm weather covered most of the region except for the Volga Vyatsk, where weekly average temperatures were below normal. Warmest weather covered western and southern winter grain areas, where highest weekly temperatures ranged from 5 to 11 degrees Celsius (C). As a result, snow cover diminished in the western portion of the Baltic States, western Belorussia, and the western and southern Ukraine, leaving winter grains vulnerable to extreme cold. Coldest weather during the week (minimum temperatures ranging from -20 to -30 degrees C) covered winter grains in the Central Region, the northern Black Soils Region, the Volga Vyatsk, and the upper Volga, where a deep snow cover protected winter grains from potential winterkill. Widespread precipitation continued over the region with greatest amounts (25-30mm) covering crop areas in the Baltic States, the Central Region, and the northern North Caucasus.



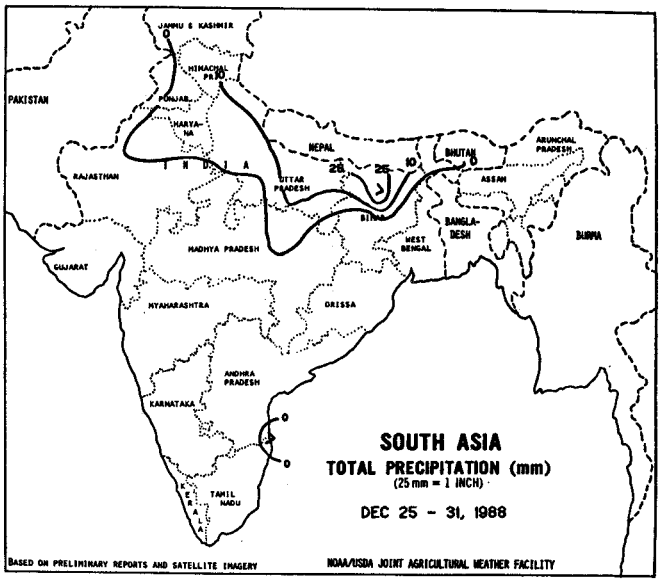
EUROPE ... Warmer and drier weather covered much of the continent, with above-normal temperatures over all but southern crop areas. Mostly light rain (less than 10mm) fell from the United Kingdom and northern France eastward to Romania. Mean temperatures as much as 8 degrees C above normal reduced protective snow cover over most northern and eastern winter grain areas, but accelerated drying over previously saturated soils in the Low Countries and West Germany. The warm weather may also have induced late-season growth of winter grains in northwestern crop areas. In the south, dry weather returned to most crop areas except for scattered light showers (less than 10mm) in sections of the western Iberian Peninsula and eastern Balkans.



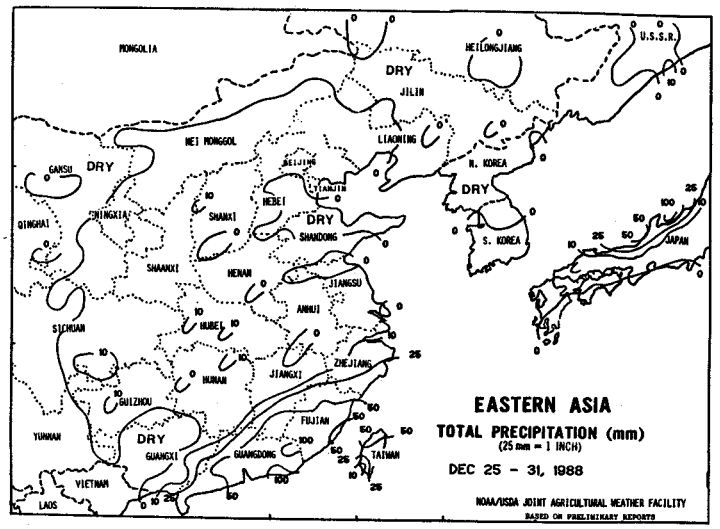
NORTHWESTERN AFRICA ... High pressure over western Europe ushered in cool, dry air. As a result, dry weather covered most winter grain areas. Continued dry weather over Moroccan winter grain areas since early December has reduced soil moisture to unfavorably low levels for vegetative growth. Rain is needed soon to prevent the potential for significant stress. Further east, dry weather returned to winter grain areas in Algeria and Tunisia, where light to moderate showers in past weeks improved moisture conditions for winter grain emergence and early establishment.



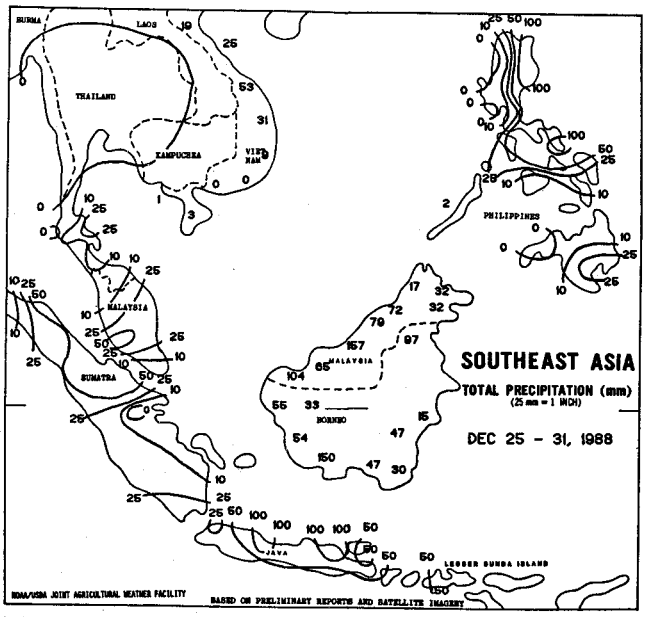
SOUTH AFRICA ... Widespread, mostly moderate showers and generally mild temperatures continued across the major crop regions, maintaining favorable conditions for vegetative corn. Although rainfall averaged less than 10mm over the central Maize Triangle, the eastern and western Triangle and most crop areas of the eastern Cape Province and Natal received moderate to heavy rain (10-40mm or more). Drier weather, however, returned to minor production areas of the southern Cape Province and the northern Transvaal, with temperatures in the Transvaal reaching the middle to upper thirties Celsius, stressing vegetative crops.



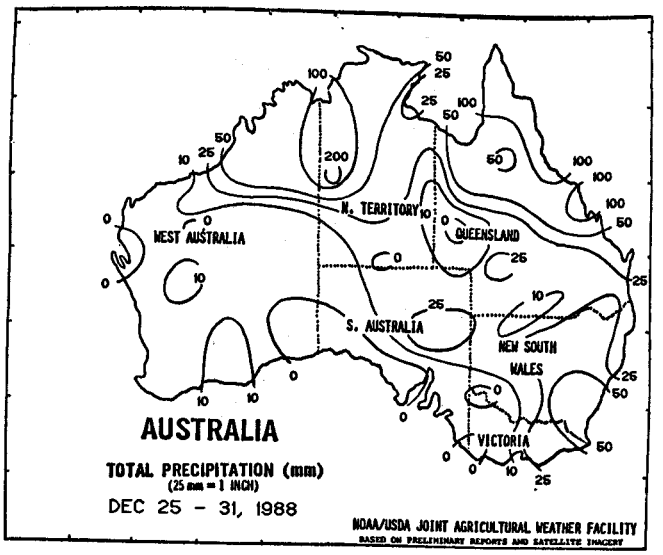
SOUTH ASIA ... Scattered, light rain (1-6mm) fell over wheat regions of north-central India, with locally heavier rain (10-32mm) over eastern Uttar Pradesh and northern Bihar, boosting irrigation reserves. Temperatures averaged near normal over India's wheat regions and 2 degrees C above normal over northern Pakistan. Winter wheat is mostly in the vegetative stage of development and usually enters the heading stage in late January and February. Dry weather favored cotton harvesting over southern India and rice planting in parts of the north and east.



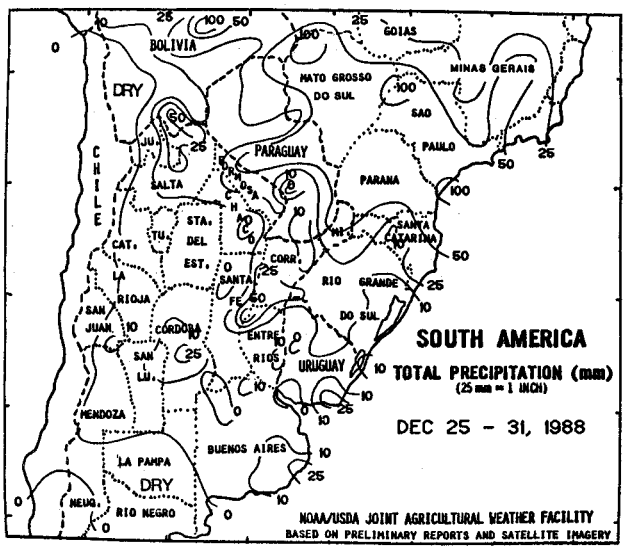
EASTERN ASIA ... Heavy rain (25-75mm, with scattered rainfall in excess of 75mm) fell late in the week over much of Guangdong, Fujian, southern Zhejiang, and Taiwan, possibly causing localized flooding but improving soil moisture and irrigation reservoir levels. Light to moderate rain and snow (5-20mm) helped ease dryness for winter grains in the Yangtze Valley, although most crops have entered dormancy or become semi-dormant. In the north, light snow (less than 10mm) fell across northwestern crop areas while seasonable dryness returned to the North China Plain. Scattered rain and snow (10-60mm, with isolated amounts greater than 75mm) continued in southern South Korea and western Honshu, Japan. Mean temperatures were normal to above normal over all growing areas except Japan, where they were normal to below normal.



SOUTHEAST ASIA ... Light to moderate rain (10-50mm) fell over the Malay Peninsula, but to the east, heavy showers (65-157mm) returned to copra and palm oil regions of eastern Malaysia, causing local flooding. Variable showers (10-50mm or more) continued over Indonesia with locally heavy rain (100mm or more) persisting over flooded regions of northern Java. Irrigation reserves for rice planting are adequate to abundant across Indonesia, and with a return to more seasonable rainfall across southern Java, second season rice planting should be underway. In the Philippines, moderate to heavy showers (25-100mm or more) fell over eastern and southern Luzon, due to the passage of Tropical Storm Val early in the week. Rainfall exceeded 100mm in the Cagayan Valley, improving moisture conditions for second season grains, normally planted at this time, but likely causing lodging of maturing main season rice. Winds from the storm reached 50 knots.



AUSTRALIA ... Moderate to heavy rain (15-50mm, with isolated rainfall up to 75mm) continued across summer crop areas of southern Queensland and northern New South Wales, favoring vegetative to reproductive crops. Very heavy seasonal rain (50-150mm, with isolated amounts greater than 150mm) fell over coastal eastern Queensland, benefiting vegetative sugarcane but possibly causing some localized flooding. In the south, scattered light rain (less than 10mm) across southern Western Australia, South Australia, and northwestern Victoria caused only minor delays in late winter grains harvest. Mean temperatures were below normal over most growing areas, slowing grain drydown rates in the south and crop development rates in the east.



SOUTH AMERICA ... In south-central Brazil, soaking rain (50-107mm) fell over Parana, Sao Paulo, and Mato Grosso do Sul, bringing much needed moisture for corn and soybeans stressed by deficient moisture. Showers (11-50mm) maintained adequate moisture for northern soybean and coffee areas, and helped developing soybeans in western Rio Grande do Sul in the far south. Thus, late December rain throughout Brazil's major soybean areas improved soil conditions for late planting and provided limited topsoil moisture reserves for the weather sensitive reproductive phase of development. In Argentina, scattered, mostly light showers (less than 10mm) covered the primary soybean areas of southern Santa Fe, northwestern Buenos Aires, and extreme southern Cordoba. Isolated heavier showers (10-27mm) fell in central Cordoba, Buenos Aires, and northern cotton areas. However, unfavorable high temperatures early and again late in the week increased evaporation rates and crop stress. Early planted summer crops, advancing through reproduction, were most susceptible to heat and dryness.

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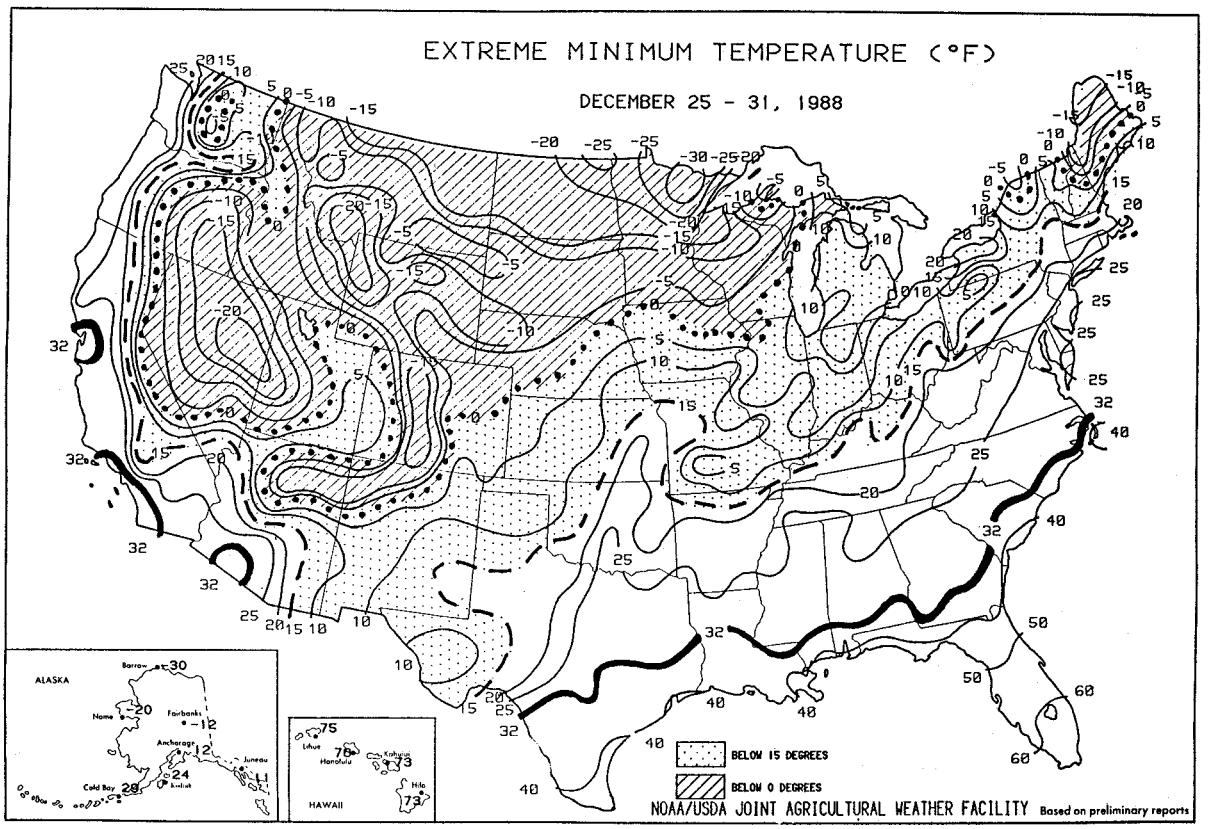

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