

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration, National Weather Service

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National Agricultural Statistics Service and World Agricultural Outlook Board

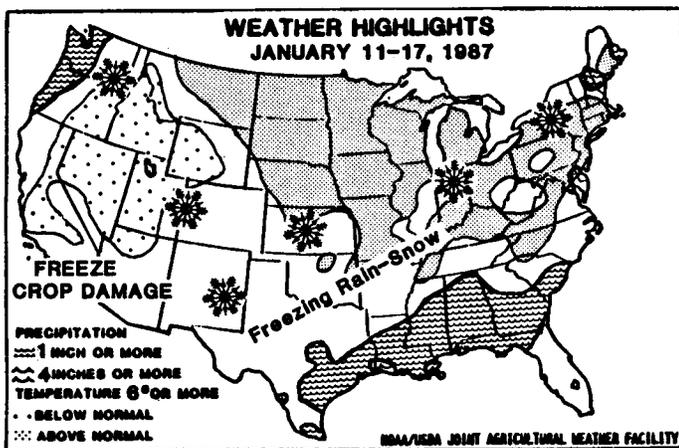
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National Weather Summary

January 11 to 17, 1987



HIGHLIGHTS: Unusually warm weather persisted through the Great Plains until midweek, then an arctic outbreak pushed southward through the West and the Plains. Freezing temperatures covered nearly all of California and the Southwest. A severe storm developed in the Southwest, ahead of the cold air, and spread snow from Arizona and Utah, through western Texas and the central Plains, to the Great Lakes region and the Ohio Valley. Freezing rain fell ahead of the snow from western Texas to parts of the Ohio Valley. Moderate to heavy rain or rainshowers stretched from eastern Texas to Georgia and the Carolina coasts. Lighter rain was in the Mid-Atlantic States, and snow covered the Northeast. The lower and middle Appalachians had freezing rain or snow.

SUNDAY... Heavy snow was in upper New England, while light amounts stretched throughout the Appalachians, the upper Ohio Valley, and from the eastern Great Lakes to New England. Some freezing rain stretched from New Jersey to southern New England. Heavy rain stretched along the upper Northwest Coast, and lighter amounts spread to northern California.

MONDAY... Snow tapered off to flurries in the Northeast, with some very light freezing rain. Moderate to heavy rain spread from the upper Northwest to northern California. Heavy snow covered the Cascades, and lighter amounts reached to the Sierras and across the Intermountain region. Unusually warm weather spread throughout the Great Plains and into Canada. Light showers developed in southeastern Texas.

TUESDAY... The area of light showers expanded from southeastern Texas through the lower Mississippi Valley. Moderate rain stretched along the Northwest coast, snow covered the Cascades, and rain froze in the Columbia River Basin. Light snow covered the northern Rockies. Parts of the northern Plains had slightly cooler but still, record-high temperatures.

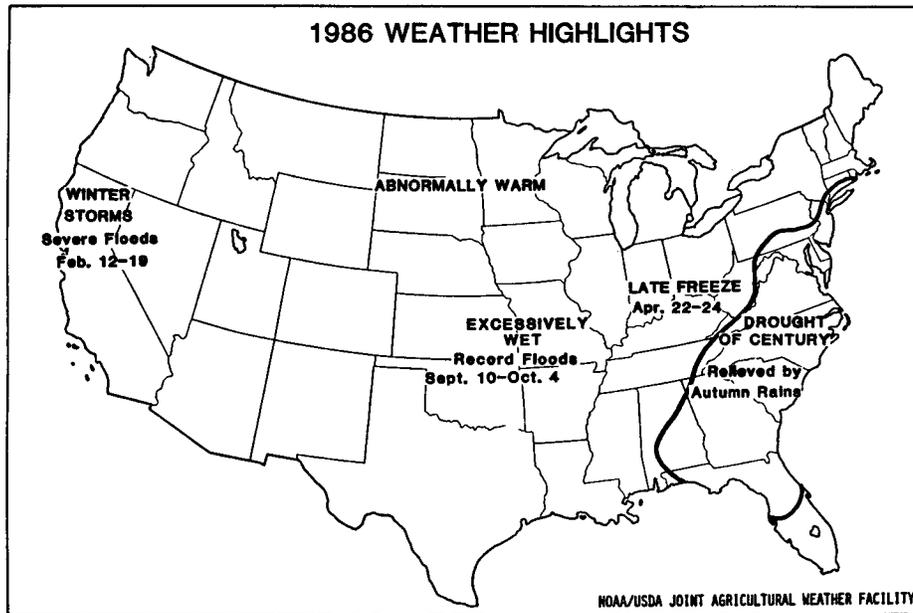
WEDNESDAY... Light rain or rainshowers spread over a wide area from southeastern Texas and the lower Mississippi Valley, across the South, through the Ohio Valley and eastern Great Lakes, to the Atlantic Ocean. Much cooler weather pushed into the northern Plains and west of the Rockies. The central and northern Rockies and the Intermountain region had snow. Rain was mixed with snow along the Northwest Coast.

THURSDAY... Bitterly cold air pushed into the Plains, the Rockies, and the West. Freezing temperatures reached to the coasts of Washington and Oregon and into the inland valleys of California. Strong, gusty wind accompanied the onset of cold air. A developing storm in the Southwest spread snow from Arizona and New Mexico through the central Plateau, Rockies, and Plains. Light rain covered most of the East. Some heavy showers were over the gulf coast.

FRIDAY... The cold air pushed over the West Coast and freezing temperatures sank further into southern California. The storm in the Southwest spread near continuous snow from Arizona and Utah to western Texas, the central Plains, and into Iowa and Illinois. Sleet or freezing rain stretched from central Texas into southern Missouri. Showers reached from southeastern Texas across the South and northward into southern Virginia.

(Continued to p. 7)

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1986 WEATHER REVIEW

The long-term drought, in the Southeast and Mid-Atlantic States that began in December 1985 was probably the worse in at least 111 years. Heavy rainfall during October, November, and December relieved much of the drought area. Frequent and occasional torrential rain resulted from a stalled frontal system during September 10 to October 4 over westcentral Texas to Michigan. The rains caused severe flooding, delayed fieldwork, and deteriorated crops. The entire Nation was abnormally warm the first half of the year, particularly during March, which ranked as the third warmest since 1931.

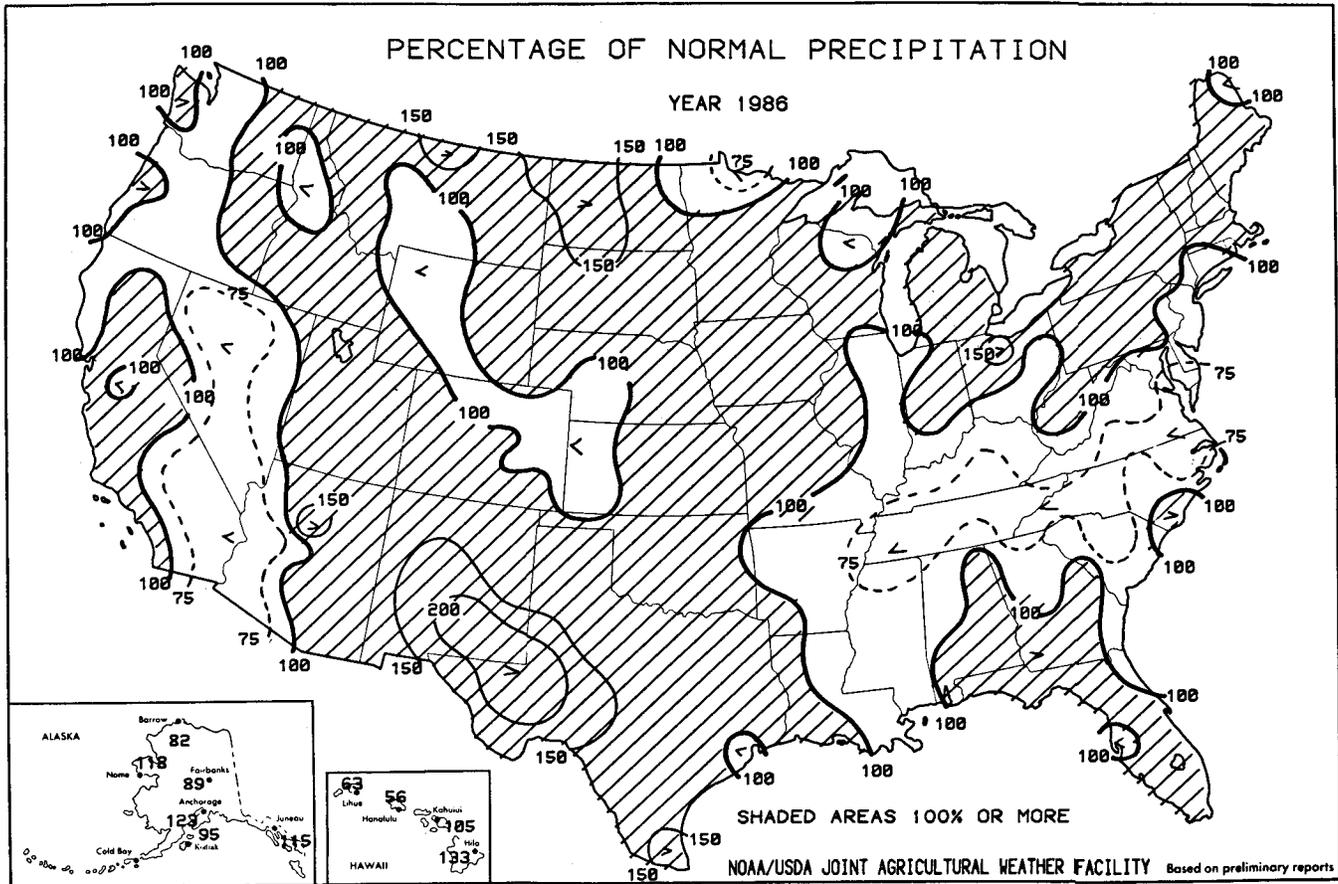
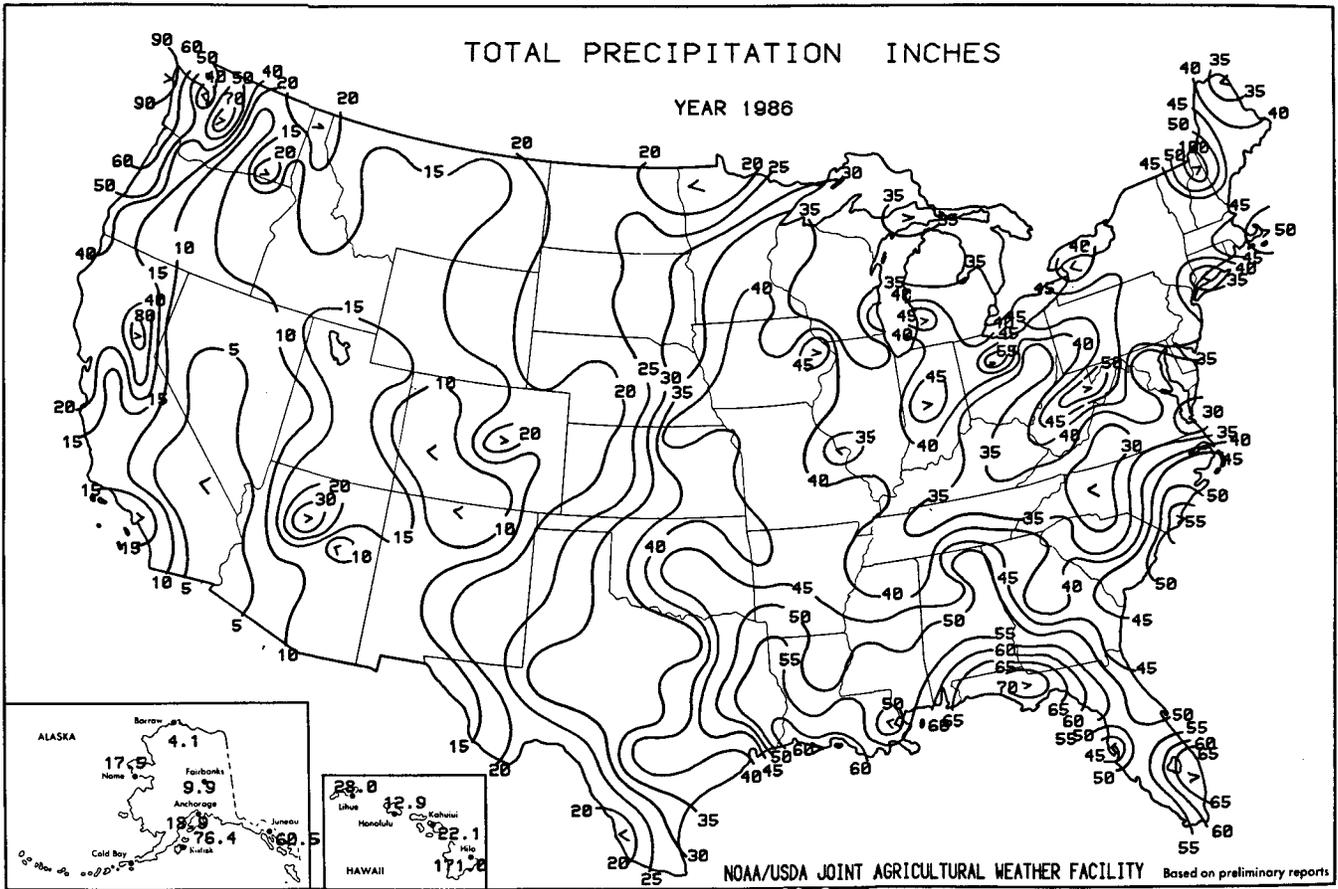
WINTER (DECEMBER 1985 - FEBRUARY 1986): Most of California, the northern Plateau, and northern Rockies had normal or better precipitation, and some parts of the central Sierras and the northern Rockies piled up unusual amounts of snow. The rainy season was not well started in the Southwest. Much of the southern Plateau and central and southern Great Plains had only about half the normal precipitation. The area from central Mississippi, across northern Georgia, and through the western Carolinas had less than half the normal precipitation, even though 3 to 4 inches did fall in this area. The east-central and northeastern coastal areas had less than normal precipitation, but southern Alabama, southern Georgia, and most of Florida were wetter than normal. Temperatures were generally colder than normal in the East and warmer than normal in the West, except the area from southern Washington and eastern Oregon to western Montana and Wyoming, where average winter temperatures were 3 to 5 degrees colder than normal. The Southwest was 4 to 5 degrees warmer than normal.

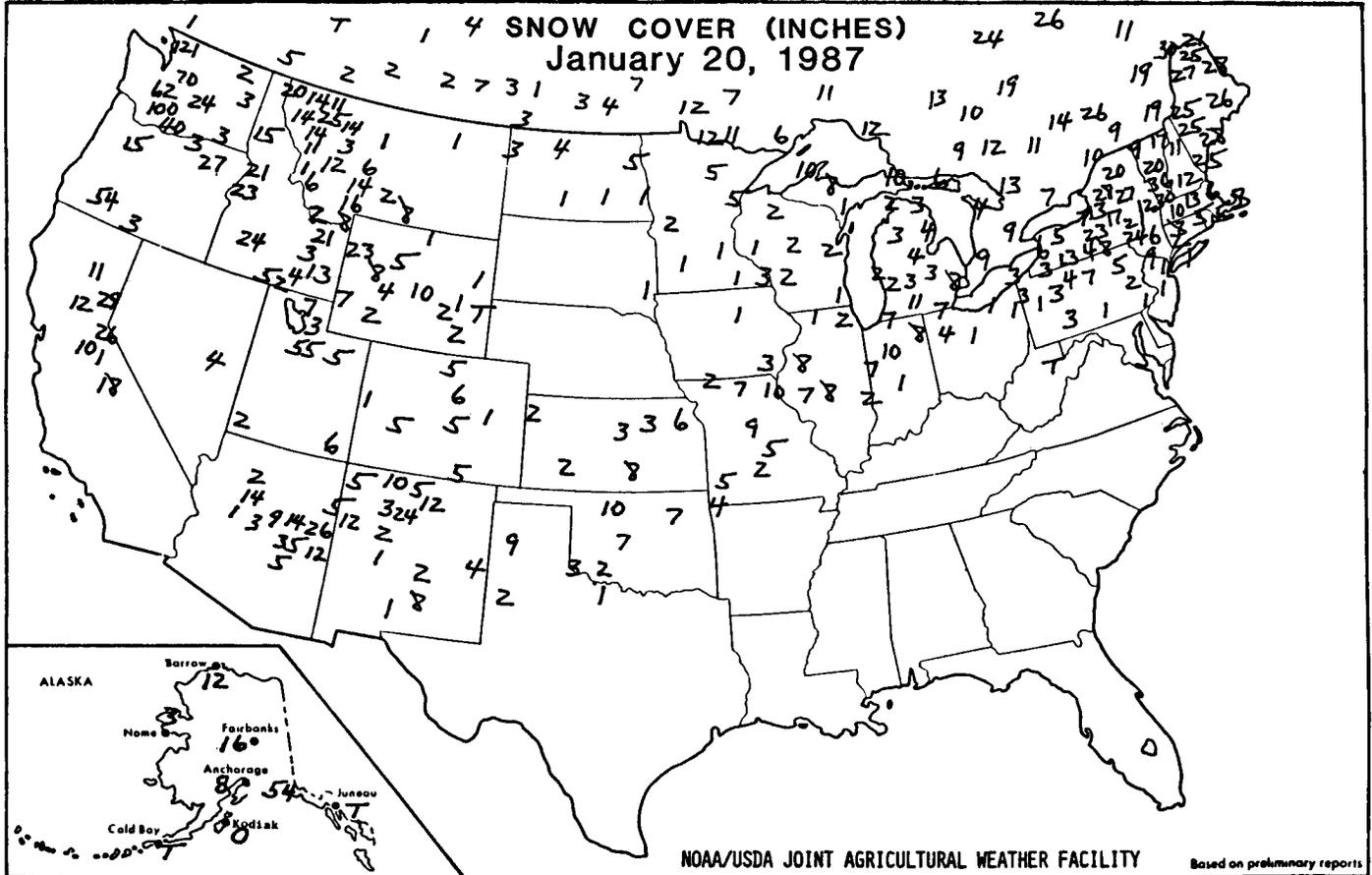
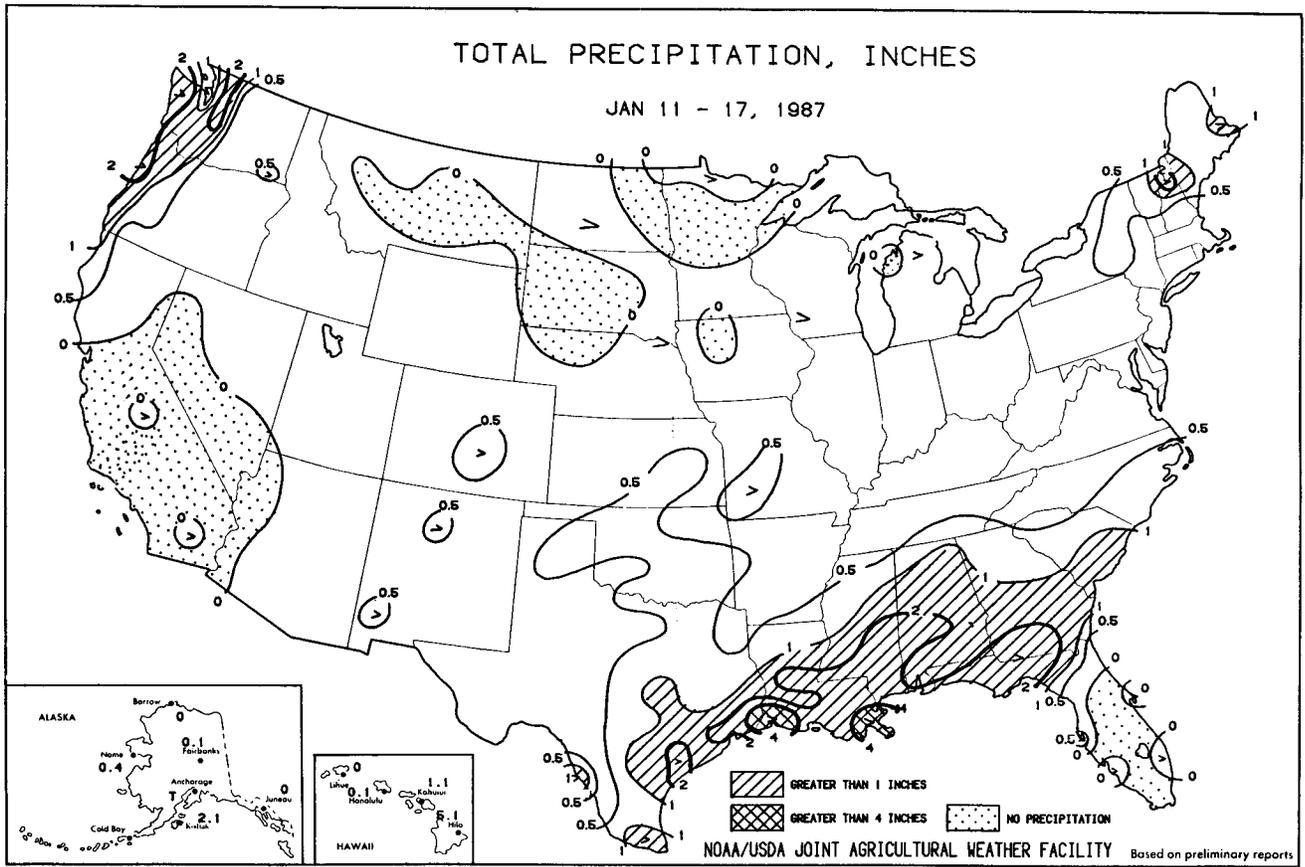
SPRING (MARCH - MAY): The very dry weather that prevailed all winter along the east coast and from the lower Mississippi Valley to the Mid-Atlantic States continued through the spring. Shower activity began to increase as the season ended, especially from the lower Mississippi Valley through the Tennessee Valley. However, most of the area from Maryland southward had only isolated, light showers. Early and mid-March freezing temperatures damaged early blooming fruit trees in the Southeast and a late cold outbreak brought record-cold temperatures to the lower Missouri

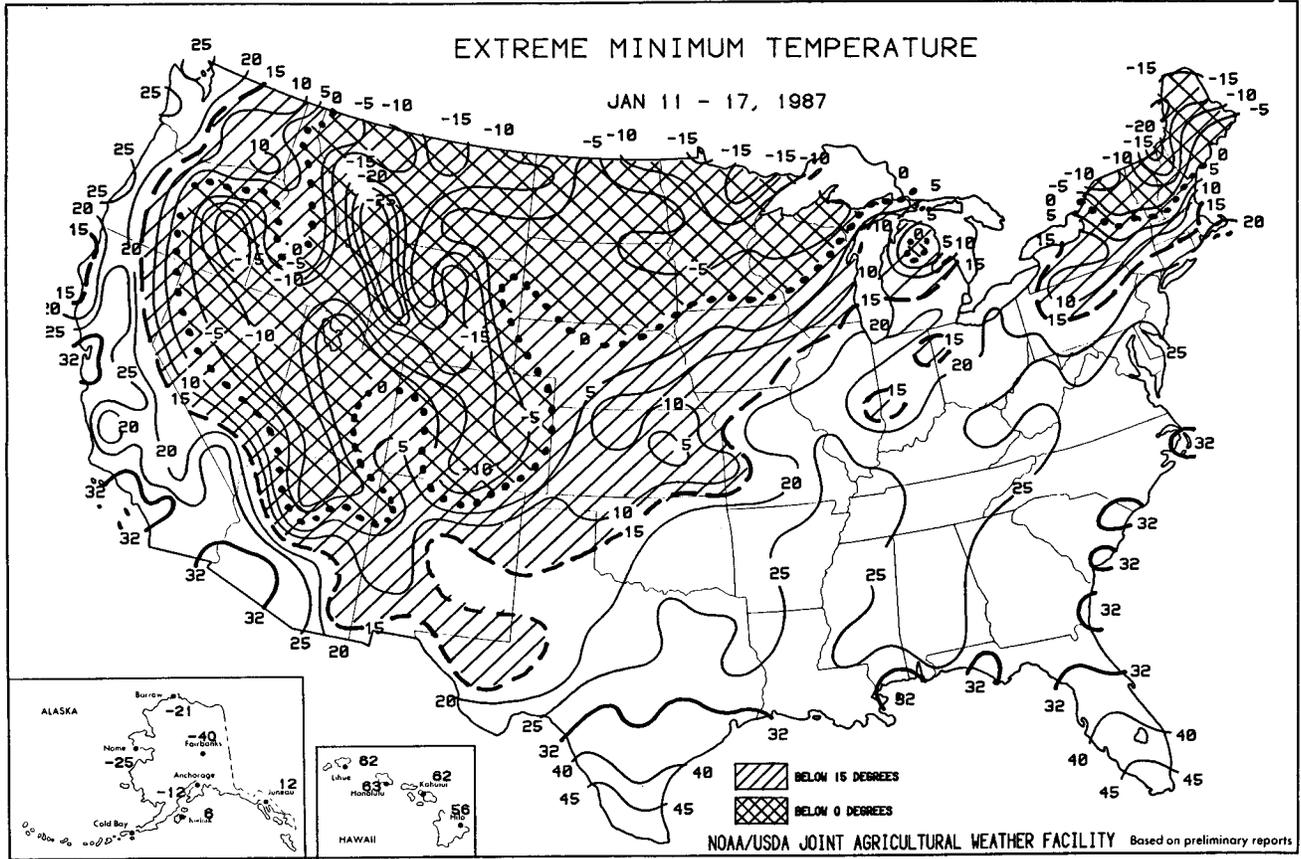
Valley and the Great Lakes. Persistent rain, in the northern Plains early in the season, delayed planting and fieldwork, but a drying period before the end of the season allowed late work to resume. Severe weather included the usual spate of tornadoes from the Plains through the Ohio Valley and the Southeast. Average temperatures for the season were warmer than normal in all of the Nation except Florida.

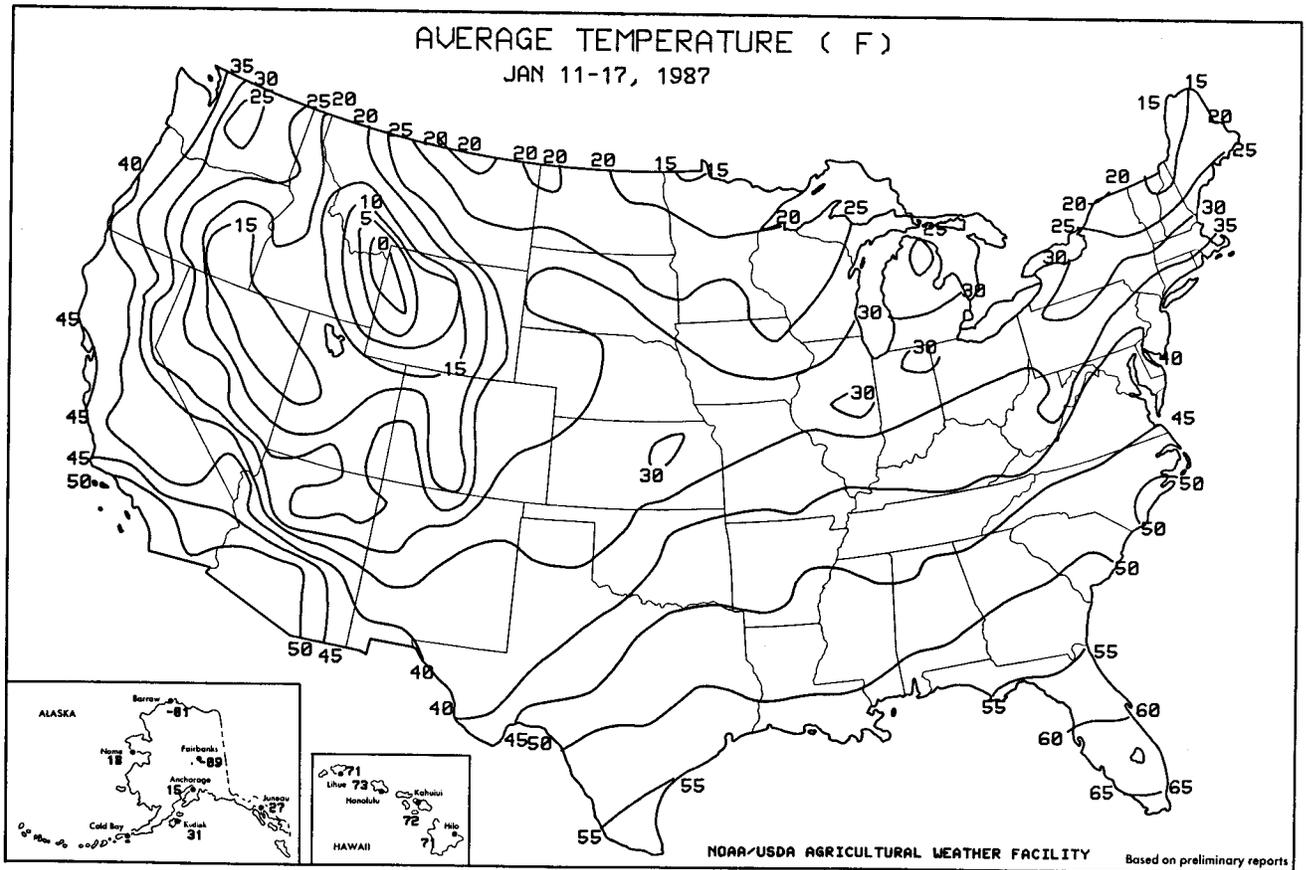
SUMMER (JUNE - AUGUST): The drought that began in December 1985 persisted into the summer and became the worst drought of the century. The drought covered the area from the lower Mississippi Valley through Maryland and New Jersey to southern New England. A heat wave that lasted through most of July reached across the South and into North Carolina, further stressing the area water needs. The frequency of showers and thunderstorms began to increase in late July, and by the end of summer, most of the drought area was relieved of immediate stress. However, the drought effects lingered. Hurricane Bonnie moved into eastern Texas in July, and Hurricane Charlie moved along the east coast, from South Carolina to New Jersey in August. Thunderstorms were widespread in the Southeast, Plains, Midwest, and Northeast. Temperatures were higher than normal in the central Plateau of the West and in the Southeast.

FALL (SEPTEMBER - NOVEMBER): Frequent rain and occasional torrential downpours from westcentral Texas and through much of Missouri flooded lowlands, delayed fieldwork, and deteriorated crops. Well above-normal rainfall stretched through most of the Southeast, where drought had persisted since the previous winter. However, parts of Florida and the Mid-Atlantic States needed more rain to completely end the long standing drought. Seasonal rain began in the West in late September, with less than normal amounts in most of the Southwest. Snow covered the Cascades, the northern Sierras, most of the Rockies, the northern Great Plains, and across the Great Lakes to western New York and New England. Freezing temperatures pushed through all of the Nation, except the gulf coast region and the southern Pacific coast. Average temperatures were near normal in most of the Nation but as much as 3 to 4 degrees warmer than normal in the Southeast.

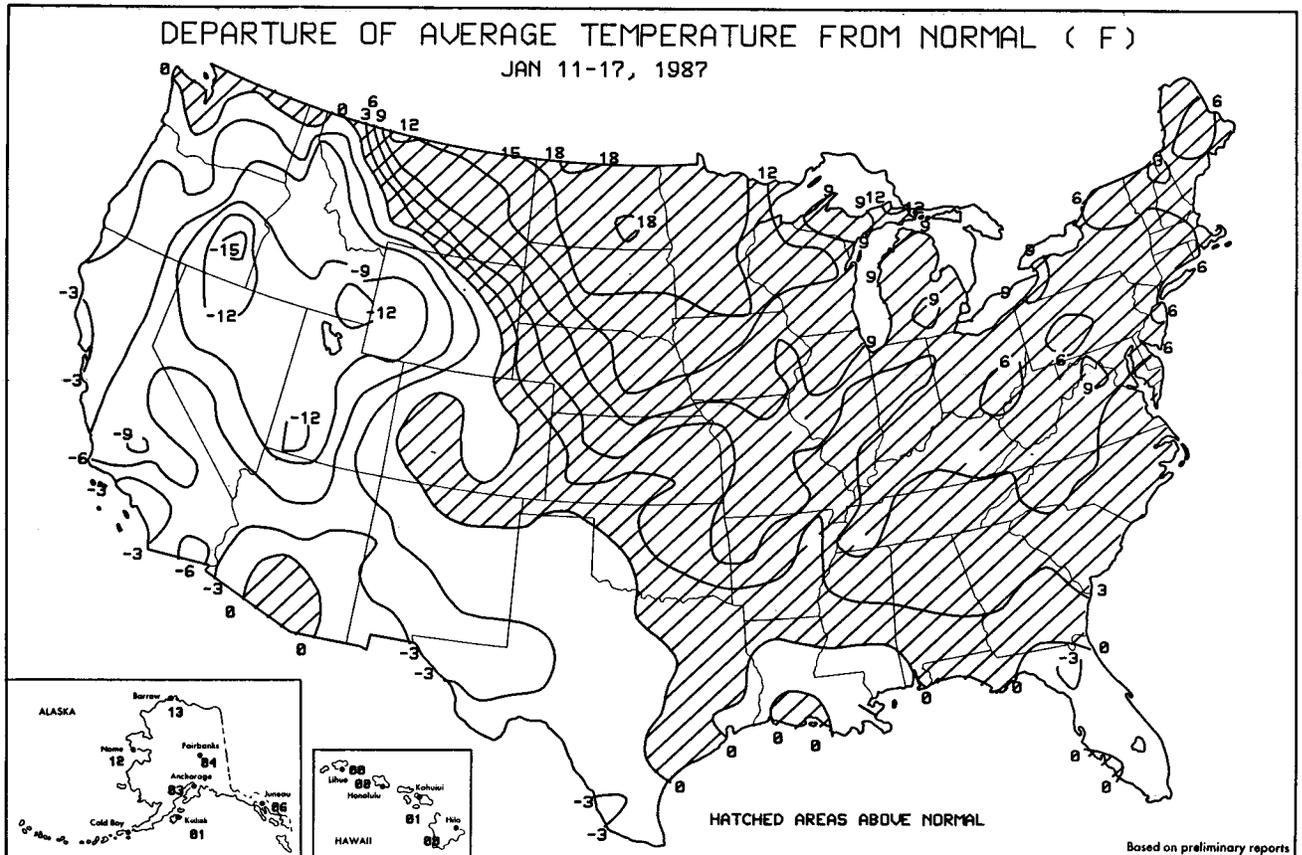








Point values may differ on these computerized maps from the reported values in the tables.



National Weather Data for Selected Cities

Weather Data for the Week Ending January 17, 1987

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
AL BIRMINGHAM	55	37	65	20	46	3	1.3	.1	1.0	4.9	62	1.5	52	97	57	0	3	4	1
MOBILE	59	41	67	27	50	0	1.3	.3	.9	6.3	79	2.7	104	95	61	0	2	4	1
MONTGOMERY	56	40	65	24	48	2	1.9	1.0	.9	5.8	82	2.8	122	93	61	0	3	4	2
AK ANCHORAGE	23	7	40	-12	15	2	T	-1.1	T	2.7	177	1.3	325	90	66	0	7	2	0
BARRON	7	-8	22	-21	-1	13	T	-1.1	T	.2	72	.1	100	87	76	0	7	0	0
FAIRBANKS	1	-19	22	-40	-9	5	.1	-1.1	.1	.9	84	.6	200	91	78	0	7	1	0
JUNEAU	32	22	42	12	27	6	1.7	.9	1.0	9.9	147	3.3	157	95	68	0	6	4	1
KODIAK	37	24	42	6	31	-2	2.1	.2	1.2	15.7	147	4.4	100	88	58	0	6	6	2
NOHE	25	12	33	-25	18	12	.4	.2	.2	1.8	161	.6	120	95	73	0	7	6	0
AZ PHOENIX	63	40	75	29	52	0	.1	-1.1	.1	1.6	123	.2	40	64	22	0	1	2	0
PRESCOTT	45	18	59	8	32	-4	.1	-1.4	.1	1.3	49	.4	40	91	41	0	7	2	0
TUCSON	63	36	75	19	49	-2	.4	.2	.4	1.7	118	.5	100	60	22	0	2	1	0
YUMA	63	42	73	34	53	-3	T	-1.1	T	.2	41	T	0	45	19	0	0	0	0
AR FORT SMITH	52	35	62	23	44	7	.4	0	.4	3.4	88	2.2	220	91	58	0	3	3	0
LITTLE ROCK	51	37	66	27	44	5	.1	-1.7	.1	4.4	73	1.1	55	80	61	0	2	3	0
CA BAKERSFIELD	45	33	51	26	39	-9	T	-2.2	T	2.3	199	1.3	260	96	64	0	3	0	0
EUREKA	53	34	60	10	44	-3	.7	-1.9	.7	7.8	78	4.0	103	92	62	0	2	2	1
FRESNO	45	33	51	26	39	-6	T	-1.5	T	3.9	146	1.6	145	93	66	0	3	1	0
LOS ANGELES	66	43	79	33	54	-2	0	-1.7	0	1.6	49	1.3	81	70	18	0	0	0	0
REDDING	52	30	64	28	41	-1	T	-1.1	T	5.5	-	3.5	-	75	39	0	6	1	0
SACRAMENTO	49	32	56	26	40	-5	T	-1.9	T	1.5	29	.7	32	85	43	0	4	0	0
SAN DIEGO	65	43	75	36	54	-3	0	-1.5	0	2.6	102	1.6	133	78	31	0	0	0	0
SAN FRANCISCO	53	39	60	35	46	-2	T	-1.1	T	3.4	56	1.8	69	81	44	0	0	0	0
CO DENVER	40	16	64	-11	28	-1	.3	.2	.3	.9	112	.6	300	80	39	0	6	2	0
GRAND JUNCTION	48	12	45	1	25	1	T	-2	T	.5	56	.1	25	82	35	0	7	1	0
PUEBLO	45	12	71	-11	28	-1	.5	.4	.3	1.0	215	.6	300	94	41	0	7	2	0
CT BRIDGEPORT	41	31	53	19	36	7	T	-1.7	T	5.9	105	1.5	79	73	45	0	3	1	0
HARTFORD	40	25	51	12	33	8	.2	-1.6	.2	8.9	145	2.8	140	79	49	0	6	2	0
DC WASHINGTON	50	35	60	28	42	7	T	-1.6	T	5.8	122	.8	53	76	42	0	3	1	0
FL APALACHICOLA	64	46	68	30	55	2	2.5	1.7	1.4	14.4	268	4.7	247	96	66	0	2	2	2
DAYTONA BEACH	72	44	80	29	58	0	T	-1.5	T	3.1	92	.4	33	93	47	0	1	0	0
JACKSONVILLE	65	42	73	31	54	1	.5	-1.2	.4	6.9	165	2.2	138	97	57	0	1	3	0
KEY WEST	74	62	82	53	68	-1	.5	-1	.5	11.7	449	.5	56	93	65	0	0	1	1
MIAMI	76	54	84	44	65	-2	T	-1.5	T	3.0	100	.8	73	92	50	0	0	1	0
ORLANDO	72	48	82	37	60	0	T	-1.5	T	4.4	150	.8	73	92	43	0	0	0	0
TALLAHASSEE	62	40	68	22	51	0	2.5	1.5	1.8	12.4	175	4.5	180	97	58	0	3	3	2
TAMPA	71	49	78	35	60	0	.1	-1.3	.1	3.2	98	1.2	109	93	53	0	0	1	0
WEST PALM BEACH	75	52	85	40	64	-2	-1	-1.6	-1	11.0	296	.9	60	92	45	0	0	1	0
GA ATLANTA	54	39	66	27	46	5	.7	-1.5	.3	4.2	60	1.1	41	85	57	0	2	3	0
AUGUSTA	58	38	68	30	48	3	.7	-1.3	.5	7.1	134	3.0	143	89	52	0	3	3	1
MACON	58	40	70	26	49	3	1.1	.2	.7	6.9	109	3.2	139	88	55	0	2	4	1
SAVANNAH	61	42	73	31	52	3	1.4	.7	.6	10.9	244	5.8	341	88	54	0	1	3	2
HI HILO	78	63	80	56	71	-1	5.1	3.2	2.8	12.8	72	7.0	146	92	60	0	0	3	2
HONOLULU	79	66	83	63	73	0	.1	-1.8	.1	.7	13	.1	5	81	53	0	0	2	0
KAHULUI	78	66	80	62	72	0	1.1	.1	1.0	4.0	78	1.1	48	85	57	0	0	3	1
LIHUE	76	65	78	62	71	0	T	-1.5	T	1.3	14	T	0	76	51	0	0	0	0
ID BOISE	31	10	37	0	21	-9	T	-1.4	T	.4	18	.3	33	89	47	0	7	1	0
LEWISTON	34	-22	44	6	28	-3	.1	-1.2	.1	.6	30	.1	13	78	54	0	6	1	0
POCATELLO	22	-2	31	-12	10	-13	T	-1.3	T	.8	51	.6	100	89	56	0	7	1	0
IL CHICAGO	39	25	45	20	32	11	.3	-1.1	.3	2.2	72	1.1	122	94	63	0	7	2	0
MOLINE	38	22	50	16	30	11	-1	-1.3	-1	2.7	92	.7	70	92	59	0	7	1	0
PEORIA	37	25	44	22	31	10	.3	0	.3	3.7	125	1.1	122	94	68	0	7	2	0
QUINCY	40	26	48	20	33	10	.3	0	.3	2.8	112	1.0	125	87	62	0	6	1	0
ROCKFORD	35	20	44	13	28	10	-1	-1.2	-1	1.2	45	.6	67	91	64	0	7	1	0
SPRINGFIELD	38	28	46	21	33	9	.3	0	.3	2.4	82	1.0	111	91	67	0	6	1	0
IN EVANSVILLE	47	31	59	24	39	9	.1	-1.6	.1	2.5	49	.3	18	93	67	0	4	2	0
FORT WAYNE	35	22	40	13	28	5	T	-1.5	T	2.2	60	.7	50	93	71	0	6	1	0
INDIANAPOLIS	38	26	45	18	32	7	T	-1.6	T	2.4	55	.7	47	91	67	0	5	1	0
SOUTH BEND	36	24	42	19	30	7	.3	-1.3	.2	2.5	58	.9	64	92	64	0	6	3	0
IA DES MOINES	39	20	62	10	29	11	T	-1.2	T	1.3	85	.4	80	88	57	0	7	1	0
SIoux CITY	42	18	64	4	30	14	T	-1.1	T	.3	28	.1	33	89	46	0	7	1	0
WATERLOO	32	15	45	4	24	11	T	-1.1	T	1.2	73	.4	80	95	66	0	7	1	0
KS CONCORDIA	41	23	61	9	32	8	.2	0	.1	2.0	190	.5	167	87	54	0	5	2	0
DODGE CITY	43	21	67	8	32	3	.4	.3	.3	1.5	186	.6	200	87	51	0	5	2	0
GOODLAND	41	18	70	3	29	3	.2	.1	.1	.5	69	.3	150	82	47	0	6	2	0
TOPEKA	39	20	58	6	30	5	.4	.2	.3	2.3	124	1.1	220	94	66	0	7	2	0
WICHITA	38	21	58	6	30	1	.6	.4	.3	2.4	176	1.2	300	94	69	0	7	2	0
KY BOWLING GREEN	48	32	57	24	40	6	.1	-1.0	.1	5.0	71	.3	12	96	69	0	3	2	0
LEXINGTON	44	31	55	25	38	7	.1	-1.8	0	3.5	60	.2	10	92	62	0	5	2	0
LOUISVILLE	47	33	57	26	40	8	T	-1.7	T	2.9	54	.2	11	87	57	0	4	3	0
LA ALEXANDRIA	55	42	59	28	48	-4	2.4	1.4	2.3	8.8	117	3.8	146	87	69	0	2	4	1
BATON ROUGE	57	42	60	28	50	-1	3.4	2.4	1.9	11.2	151	4.9	204	93	60	0	2	4	2
LAKE CHARLES	57	44	61	28	50	-1	4.5	3.5	2.9	15.3	205	5.5	229	95	68	0	2	5	2
NEW ORLEANS	56	43	59	28	49	-3	3.1	2.0	1.4	9.8	123	4.8	178	96	68	0	1	4	2

Based on 1951-80 normals.

(Continued from front cover)
SATURDAY...Freezing temperatures pushed through California, even into the desert valleys of the South. The frigid air covered all of the West and the Plains. Snow was heavy at times from New Mexico and western Texas, through the central

Plains, to the Great Lakes region and the Ohio Valley. Freezing rain reached from central Texas to parts of the Ohio Valley. Moderate rain stretched across the South, the Tennessee Valley, the middle and lower Appalachians, and the East Coast States to the Mid-Atlantic region. The Appalachians had snow or sleet.

Weather Data for the Week Ending January 17, 1987

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		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	55	39	63	23	47	1	.5	-.4	.5	6.4	103	1.7	77	94	63	0	2	2	1
ME CARIBOU	22	11	31	-9	16	5	.7	-.1	.6	2.7	60	1.1	79	90	70	0	7	3	1
PORTLAND	35	16	40	-2	25	3	.7	-.2	.6	9.0	137	3.1	148	89	52	0	7	2	1
MD BALTIMORE	49	32	62	25	40	7	T	-.7	T	6.8	135	1.3	76	72	42	0	4	1	0
SALISBURY	49	33	59	25	41	6	T	-.8	T	8.8	157	1.9	100	87	44	0	3	1	0
MA BOSTON	41	28	50	15	35	5	.2	-.8	.1	9.7	146	3.4	155	73	49	0	6	2	0
CHATHAM	41	29	46	21	35	4	.1	-.9	0	10.5	143	3.0	125	89	60	0	6	2	0
MI ALPENA	35	16	45	2	25	8	T	-.3	T	1.2	42	.3	30	94	56	0	7	1	0
DETROIT	36	25	42	20	31	8	.1	-.3	.1	3.5	96	1.2	109	92	66	0	6	2	0
FLINT	36	22	44	15	29	8	.2	-.2	.1	2.4	83	.7	78	92	61	0	7	3	0
GRAND RAPIDS	36	23	44	15	29	7	.1	-.3	.1	1.3	37	.3	27	86	57	0	6	1	0
HOUGHTON LAKE	33	15	46	-1	24	7	T	-.3	T	1.1	39	.2	22	90	60	0	7	1	0
LANSING	36	22	46	14	29	8	.2	-.2	.2	1.7	53	.6	60	93	60	0	6	2	0
MARQUETTE	33	10	43	-9	21	9	.1	-.4	.1	1.2	33	.7	58	93	57	0	7	1	0
MUSKOGON	36	23	43	14	30	7	.1	-.5	.1	2.0	51	.7	50	93	64	0	6	1	0
SAULT STE. MARIE	32	17	40	-3	25	11	.2	-.3	.2	2.6	69	.4	33	91	62	0	7	2	0
MN ALEXANDRIA	34	10	47	-5	22	17	0	-.2	0	.4	34	.3	66	88	60	0	7	0	0
DULUTH	30	10	45	-9	20	14	T	-.2	T	.5	26	0	14	88	49	0	7	0	0
INT'L FALLS	27	5	42	-14	16	18	T	-.2	T	.3	22	0	0	88	53	0	7	1	0
MINNEAPOLIS	35	15	48	-2	25	15	T	-.2	T	.4	33	.1	20	90	53	0	7	1	0
ROCHESTER	32	15	45	-1	24	14	T	-.2	T	.6	48	.3	60	91	61	0	7	1	0
MS GREENWOOD	54	39	59	29	46	3	.9	-.3	.9	4.3	51	1.7	59	92	61	0	2	1	1
JACKSON	53	40	59	25	47	2	1.4	.3	1.2	7.5	91	2.5	89	98	67	0	2	4	1
MERIDIAN	54	38	65	23	46	1	2.3	1.2	1.4	7.3	85	3.1	107	94	63	0	3	4	1
MO CAPE GIRARDEAU	47	32	60	27	40	—	.2	-.4	.2	2.8	51	.4	25	95	67	0	4	1	0
COLUMBIA	42	28	57	22	35	8	.6	.2	.5	3.6	127	1.5	167	95	64	0	6	2	1
KANSAS CITY	41	22	60	13	31	6	.4	.1	.2	2.0	98	.7	100	94	61	0	6	2	0
SAINT LOUIS	44	31	58	24	37	9	.3	0	.3	2.4	77	1.4	156	87	59	0	5	1	0
SPRINGFIELD	46	30	66	18	38	7	.7	.3	.4	3.1	90	1.8	200	93	55	0	5	3	0
MT BILLINGS	34	16	56	-4	25	5	T	-.3	T	.2	13	.1	17	62	38	0	6	0	0
GLASGOW	31	10	47	-11	20	13	T	-.1	T	.1	23	0	0	85	55	0	7	1	0
GREAT FALLS	36	18	61	-8	27	10	.1	-.2	0	.3	21	.1	17	62	33	0	5	2	0
HAVRE	36	9	56	-18	22	12	.1	-.1	0	.1	8	.1	33	73	42	0	6	2	0
HELENA	27	5	42	-12	16	-1	T	-.2	T	.4	39	T	0	84	46	0	7	0	0
KALISPELL	24	6	36	-4	15	-3	T	-.3	T	.7	28	.2	22	94	69	0	7	1	0
MILES CITY	36	13	55	-5	24	11	T	-.1	T	.2	17	T	0	77	40	0	7	0	0
MISSOULA	24	5	40	-11	15	-6	T	-.3	T	.6	31	.1	11	90	52	0	7	2	0
NE GRAND ISLAND	46	19	68	8	33	13	T	-.1	T	.3	34	0	0	80	37	0	7	1	0
LINCOLN	44	19	66	9	32	13	T	-.1	T	1.4	136	0	0	89	42	0	7	1	0
NORFOLK	42	18	63	4	30	14	T	0	T	.5	62	.2	100	85	43	0	6	1	0
NORTH PLATTE	44	14	67	4	29	9	T	-.1	T	.4	72	.2	100	85	36	0	7	1	0
OMAHA	43	22	63	8	32	14	T	-.1	T	.7	64	0	0	77	50	0	5	2	0
SCOTTSBLUFF	40	14	66	1	27	4	.1	0	.1	.6	69	.3	100	77	38	0	7	2	0
VALENTINE	45	14	72	-3	29	11	T	-.1	T	T	9	0	0	71	29	0	7	0	0
NV ELY	29	0	43	-12	15	-9	.1	0	.1	.7	60	.6	150	86	50	0	7	1	0
LAS VEGAS	50	30	57	27	40	-4	0	-.1	0	1.6	302	1.2	600	65	23	0	3	0	0
RENO	36	12	43	5	24	-8	T	-.3	T	.6	33	.4	57	78	37	0	7	0	0
WINNEHUCCA	32	1	38	-6	16	-13	T	-.2	T	.5	36	.4	80	86	45	0	7	1	0
NH CONCORD	36	19	46	-1	28	8	.4	-.3	.3	5.9	118	1.4	88	81	50	0	7	2	0
NJ ATLANTIC CITY	47	31	58	21	39	7	T	-.8	T	6.6	120	1.7	89	84	43	0	5	0	0
NM ALBUQUERQUE	44	21	58	15	33	-2	.4	.4	.2	.9	111	.4	133	74	32	0	7	3	0
CLOVIS	48	26	66	14	37	0	.2	0	.2	1.7	172	.3	100	71	38	0	6	1	0
ROSWELL	51	23	69	18	37	-4	.2	.2	.1	1.0	281	.2	200	82	37	0	7	2	0
NY ALBANY	36	22	47	4	29	8	.5	-.1	.5	5.8	132	1.9	136	90	61	0	7	2	0
BINGHAMTON	35	23	48	11	29	8	.6	0	.4	4.4	101	1.9	136	89	60	0	6	4	0
BUFFALO	38	28	46	18	33	9	.4	-.3	.2	5.3	104	1.3	76	93	61	0	6	4	0
NEW YORK	44	34	55	23	39	7	T	-.7	T	7.6	140	2.4	141	73	46	0	2	1	0
ROCHESTER	36	25	47	15	30	7	.2	-.3	.1	4.4	115	.9	75	92	61	0	7	3	0
SYRACUSE	36	24	47	10	30	7	.5	-.1	.2	5.1	110	1.8	129	90	60	0	6	3	0
NC ASHEVILLE	52	32	62	25	42	6	.2	-.6	.1	4.8	88	.5	26	92	50	0	4	4	0
CHARLOTTE	57	36	65	29	47	7	.2	-.7	.1	4.9	91	1.8	90	83	38	0	3	3	0
GREENSBORO	54	34	63	27	44	7	.2	-.6	.2	4.7	88	1.1	58	82	42	0	4	2	0
HATTERAS	56	42	65	32	49	4	.7	-.4	.5	11.9	169	5.3	204	91	58	0	2	2	0
NEW BERN	59	37	68	27	48	4	.8	-.1	.7	6.9	119	3.4	162	91	45	0	2	2	1
RALEIGH	55	34	66	25	45	6	.2	-.6	.2	4.9	98	2.0	105	86	39	0	3	2	0
WILMINGTON	60	39	69	31	50	4	.5	-.3	.4	9.8	181	3.5	175	94	47	0	2	2	0
ND BISMARCK	33	12	50	-3	22	17	T	-.1	T	.1	6	0	0	84	56	0	7	1	0
FARGO	33	10	49	-4	21	18	T	-.1	T	.3	29	T	0	87	54	0	7	0	0
GRAND FORKS	28	9	40	-6	19	17	T	-.2	T	.3	31	T	0	86	65	0	7	0	0
WILLISTON	29	9	45	-10	19	13	.1	0	.1	.2	27	.1	33	88	62	0	7	1	0
OH AKRON-CANTON	37	26	46	19	32	7	.1	-.5	0	3.6	88	.8	57	89	68	0	6	2	0
CINCINNATI	43	28	52	22	36	7	.1	-.6	.1	2.9	62	.3	18	84	59	0	5	1	0
CLEVELAND	40	28	52	21	34	9	.1	-.5	.1	3.6	88	.8	57	85	60	0	6	3	0
COLUMBUS	41	27	49	21	34	7	.1	-.6	0	.1	75	.3	20	91	64	0	6	3	0

Based on 1951-80 normals.

Weather Data for the Week Ending January 17, 1987

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	40	26	49	20	33	7	.1	-.6	0	3.1	79	.5	20	93	66	0	6	2	0	
TOLEDO	36	24	44	18	30	7	.1	-.4	.1	2.8	74	.9	75	93	67	0	6	2	0	
YOUNGSTOWN	38	26	50	17	32	8	.1	-.6	0	4.1	96	.7	47	91	63	0	6	2	0	
OK OKLAHOMA CITY	48	31	66	22	39	4	.7	.5	.6	186	2.0	400	93	58	0	3	3	1		
TULSA	49	31	65	22	40	6	.1	-.2	.1	2.3	92	1.4	200	93	57	0	4	3	0	
OR ASTORIA	48	33	57	24	40	0	2.0	-.6	1.1	11.4	63	4.0	603	96	61	0	4	3	2	
BURNS	26	4	31	-6	15	-12	.1	0	.1	.9	76	.7	233	62	54	0	7	1	0	
MEDFORD	45	23	51	15	34	-3	.1	-.7	.1	2.0	36	1.2	60	96	51	0	7	2	0	
PENDLETON	34	19	42	8	26	-6	.2	-.3	.1	1.4	53	.6	60	90	60	0	6	2	0	
PORTLAND	44	31	49	23	37	-1	1.1	-.4	.7	6.9	69	2.6	74	90	57	0	4	3	1	
SALEM	44	27	56	19	36	-3	1.2	-.5	.9	6.8	61	2.9	73	97	60	0	5	3	1	
PA ALLENTOWN	42	28	49	17	35	8	T	-.7	T	6.0	106	1.6	84	79	50	0	6	1	0	
ERIE	39	29	53	23	34	9	.1	-.4	.1	4.8	103	.8	57	86	60	0	7	4	0	
HARRISBURG	41	29	48	20	35	6	T	-.7	T	6.3	128	1.4	82	78	48	0	4	1	0	
PHILADELPHIA	46	31	57	23	39	8	T	-.7	T	7.5	142	1.5	83	80	46	0	5	1	0	
PITTSBURGH	39	28	53	20	34	7	.1	-.6	.1	4.2	102	.8	50	76	52	0	6	3	0	
SCRANTON	37	24	46	14	31	6	.1	-.4	0	3.2	83	1.1	85	87	53	0	6	3	0	
RI PROVIDENCE	42	29	51	18	36	8	T	-.9	T	9.9	147	1.8	82	76	45	0	5	2	0	
SC CHARLESTON	60	41	71	30	51	3	1.3	.6	.8	9.2	188	4.0	222	87	53	0	1	3	1	
COLUMBIA	59	37	67	26	48	4	.8	-.2	.6	4.9	83	2.3	96	85	43	0	3	3	1	
FLORENCE	58	38	67	30	48	3	.8	.1	.6	4.9	101	1.7	89	91	44	0	3	3	1	
GREENVILLE	57	37	67	26	47	6	.3	-.7	.1	5.4	87	1.3	57	91	48	0	2	4	0	
SD ABERDEEN	39	9	58	-9	24	17	T	-.1	T	T	6	0	0	91	44	0	7	1	0	
HURON	40	13	62	-2	26	16	T	-.1	T	.2	25	.2	100	87	47	0	7	0	0	
RAPID CITY	43	16	76	-4	30	10	T	-.1	T	T	2	T	0	70	28	0	6	0	0	
SIOUX FALLS	40	13	60	-2	26	15	.1	0	.1	.1	8	.1	50	85	43	0	7	1	0	
TN CHATTANOOGA	54	36	64	24	45	7	.6	-.6	.4	5.5	69	.7	24	93	57	0	3	3	0	
KNOXVILLE	51	34	62	23	43	5	.3	-.8	.1	4.7	66	.6	23	96	61	0	4	4	0	
MEMPHIS	52	37	64	28	45	6	.1	-.9	.1	4.7	64	.8	31	92	63	0	3	2	0	
NASHVILLE	50	33	61	22	41	4	.1	-.9	.1	3.5	49	.2	8	91	60	0	3	2	0	
TX ABILENE	50	31	69	23	41	-2	.3	.1	.2	2.6	188	.5	100	89	53	0	3	2	0	
AMARILLO	45	22	66	12	34	-2	.8	.7	.5	1.5	215	.9	450	86	46	0	7	3	0	
AUSTIN	56	41	64	31	48	0	.7	.4	.7	6.7	236	.9	113	94	62	0	1	2	1	
BEAUMONT	57	45	62	28	51	-1	5.8	4.8	4.0	16.6	242	6.9	300	94	70	0	2	5	2	
BROWNSVILLE	65	54	73	49	59	-1	1.3	1.0	1.1	3.7	211	1.3	217	96	76	0	0	5	1	
CORPUS CHRISTI	60	49	67	42	55	-1	2.0	1.6	.8	6.5	289	2.0	222	96	73	0	0	5	2	
DEL RIO	57	42	66	31	49	-1	.1	0	.1	2.5	333	.2	100	79	50	0	1	2	0	
EL PASO	55	24	67	17	40	-4	.3	.2	.3	1.7	304	.3	150	76	28	0	6	1	0	
FORT WORTH	53	36	65	26	44	1	.5	.1	.5	3.5	139	1.1	122	94	64	0	2	1	0	
GALVESTON	57	48	65	38	53	-1	.9	.2	.4	5.1	96	1.1	65	92	67	0	0	4	0	
HOUSTON	58	46	61	29	52	1	1.9	1.2	1.2	8.0	148	2.2	129	95	68	0	2	4	2	
LUBBOCK	49	24	69	16	37	-2	.3	.2	.3	1.7	288	.4	200	83	46	0	6	1	0	
MIDLAND	51	25	70	13	38	-5	.1	0	.1	3.4	540	.1	50	90	44	0	6	1	0	
SAN ANGELO	55	31	73	20	43	-2	.3	.1	.3	3.1	313	.6	200	92	47	0	4	1	0	
SAN ANTONIO	57	41	65	30	49	-1	.7	.4	.7	7.9	367	.8	100	95	61	0	1	1	1	
VICTORIA	61	47	70	33	54	1	2.3	1.9	.9	6.5	210	2.3	230	95	68	0	0	5	2	
WACO	54	37	65	25	45	-1	.9	.6	.9	4.7	171	1.3	144	97	67	0	2	2	1	
WICHITA FALLS	49	30	64	20	40	0	.7	.5	.5	2.6	150	1.7	340	93	61	0	4	3	1	
UT BLANDING	38	14	44	5	26	-1	.2	-.1	.2	1.5	73	.8	100	90	64	0	7	2	0	
CEDAR CITY	30	4	47	-5	17	-12	T	-.1	T	.8	80	.3	100	88	53	0	7	1	0	
SALT LAKE CITY	28	10	31	0	19	-9	T	-.3	T	1.2	58	1.1	157	84	51	0	7	1	0	
VT BURLINGTON	30	14	37	-8	22	5	.6	.2	.5	2.6	74	1.2	120	92	62	0	7	5	1	
VA NORFOLK	54	36	67	28	45	5	.2	-.6	.1	6.9	132	3.1	155	91	45	0	2	3	0	
RICHMOND	53	32	69	23	42	6	.1	-.6	.1	6.7	129	1.5	83	88	38	0	4	3	0	
ROANOKE	50	35	58	31	42	7	.1	-.5	.1	6.3	141	.8	53	77	45	0	3	3	0	
WA COLVILLE	33	19	40	10	26	2	0	-.5	0	2.2	58	.7	54	91	74	0	7	0	0	
QUILLAYUTE	43	33	51	23	38	0	4.0	.5	2.4	21.0	84	8.5	100	99	77	0	4	4	3	
SEATTLE-TACOMA	44	34	59	25	39	1	.9	-.5	.5	5.7	58	2.0	59	90	59	0	2	4	1	
SPOKANE	31	15	38	1	23	-2	.1	-.4	.1	1.5	40	.6	43	96	62	0	7	1	0	
YAKIMA	34	14	44	5	24	-3	.2	-.2	.1	1.2	57	.3	33	91	56	0	7	2	0	
WV BECKLEY	42	30	53	23	36	6	.3	-.5	.1	3.3	65	.6	32	93	66	0	5	4	0	
CHARLESTON	45	32	56	26	39	6	.3	-.5	.2	4.8	92	.9	47	93	58	0	4	3	0	
HUNTINGTON	45	32	54	25	39	6	.1	-.7	.1	4.1	83	.6	33	85	57	0	4	2	0	
PARKERSBURG	42	29	54	23	35	5	.1	-.8	.1	4.5	95	.5	25	86	59	0	5	2	0	
WI GREEN BAY	34	17	44	5	25	12	.1	-.2	.1	.7	33	.2	29	93	59	0	7	1	0	
LA CROSSE	33	14	46	0	24	10	T	-.2	T	.9	58	.5	100	93	58	0	7	1	0	
MADISON	35	18	44	8	27	12	T	-.3	T	1.0	47	.3	43	92	63	0	7	1	0	
MILWAUKEE	37	23	45	16	30	12	.1	-.2	.1	2.0	66	.9	90	88	62	0	7	2	0	
WAUSAU	34	13	45	-2	24	13	T	-.2	T	.6	31	.1	20	86	49	0	7	0	0	
WY CASPER	27	6	45	-11	17	-5	.2	-.1	.1	1.4	185	1.1	550	79	55	0	7	3	0	
CHEYENNE	37	14	65	-4	26	0	.1	-.1	.1	.3	44	.1	33	72	37	0	7	1	0	
LANDER	20	-1	29	-9	9	-10	.2	-.1	.2	.8	115	.6	300	85	56	0	7	1	0	
SHERIDAN	34	12	58	-8	23	4	T	-.1	T	.5	45	.3	100	85	47	0	7	1	0	
PR SAN JUAN	85	69	88	68	77	0	.1	-.6	.1	3.2	51	.2	11	97	60	0	0	1	0	

Based on 1951-80 normals.

Heating Degree Day Summary Table

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

LAST DATE OF DATA COLLECTION PERIOD IS 1-17-1987
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

STATE CITY	CALL	WEEK	WEEK	WEEK	CUM	CUM	CUM	CUM	STATE CITY	CALL	WEEK	WEEK	WEEK	CUM	CUM	CUM	CUM		
		TOTAL	DEV	DEV	TOTAL	DEV	DEV	DEV			TOTAL	DEV	DEV	TOTAL	DEV	DEV	DEV		
			FROM	FROM		FROM	FROM	FROM				FROM	FROM		FROM	FROM	FROM		
			NORM	NORM		NORM	NORM	NORM				NORM	NORM		NORM	NORM	NORM		
			L YR	L YR		L YR	L YR	L YR				L YR	L YR		L YR	L YR	L YR		
AL BIRMINGHAM	BHM	132	-26	-13	1354	-156	-56	-10	-4	MT KALISPELL	FCA	347	18	59	4299	-13	-716	0	-14
AL MOBILE	MOB	125	-9	-1	848	-60	-25	-7	-3	MT MILLEN CITY	MSL	282	-82	36	3657	-326	-844	-8	-17
AL MONTGOMERY	MGM	118	-15	-9	1077	-130	-58	-11	-5	MT MISSOULA	MSO	351	38	40	4204	170	-613	4	-13
AK ANCHORAGE	ANC	349	-18	74	4842	-874	-512	-15	-10	NE GRAND ISLAND	GRI	225	-90	50	2976	-304	-636	-9	-18
AK BARROW	BRW	456	-95	-122	9244	-741	-530	-7	-5	NE LINCOLN	LNK	233	-89	51	2911	-295	-620	-9	-18
AK FAIRBANKS	FAI	511	-40	67	6954	-802	-333	-10	-5	NE NORFOLK	ONF	243	-96	67	3209	-323	-696	-9	-18
AK JUNEAU	JNU	264	-44	59	4015	-681	-667	-15	-14	NE NORTH PLATTE	NBP	250	-62	38	3115	-378	-892	-11	-22
AK KODIAK	ADQ	240	13	30	4024	-405	-301	-9	-7	NE OMAHA	ON4	227	-94	47	3020	-98	-648	-3	-18
AK NOME	OME	324	-85	-110	6440	-656	105	-9	2	NE SCOTTSBLUFF	BFF	265	-27	55	3284	-90	-805	-3	-20
AZ FLAGSTAFF	FLG	300	41	107	3620	148	290	4	4	NE WASHINGTON	WNT	251	-78	11	3418	-236	-879	-6	-20
AZ PHOENIX	PHX	91	0	71	489	-274	-96	-4	-4	NE WY	WY	351	64	155	3871	110	-73	3	-2
AZ PRESCOTT	PRC	233	30	85	2345	-12	223	**	11	NV LAS VEGAS	LAS	172	25	82	1297	-80	-72	-6	11
AZ TUCSON	TUS	104	8	71	785	-91	45	-10	-6	NV RENO	RNO	288	55	125	2877	-169	-137	-6	-5
AZ WINSLOW	INW	250	14	62	2502	-20	128	-1	5	NV WINNEMUCCA	WMC	339	87	168	3422	176	-244	5	-7
AZ YUMA	YUM	84	18	75	389	-153	51	-28	15	NH CONCORD	CON	240	-55	-86	3607	-14	1	0	0
AR FORT SMITH	FSM	148	-48	17	1753	-69	-118	-4	-6	NJ ATLANTIC CITY	ACY	180	-51	-80	2302	-69	101	-3	5
AR LITTLE ROCK	LRL	143	-39	35	1656	-7	21	0	1	NM ALBUQUERQUE	ABO	225	11	59	2431	112	277	5	13
CA BAKERSFIELD	BFL	180	60	81	1231	92	-79	8	-6	NM CLOVIS	CVS	193	-27	50	2135	3	-20	2	-1
CA EUREKA	EKA	148	22	86	2028	-306	-156	-13	-7	NM ROSWELL	ROW	195	27	67	1930	195	273	11	14
CA FRESNO	FAT	182	42	89	1176	-227	-96	-16	-8	NY ALBANY	ALB	250	-58	-79	3326	-2	-26	0	-1
CA LOS ANGELES	LAX	73	7	54	443	-223	-4	-38	-1	NY BINGHAMTON	BGM	250	-58	-64	3289	-190	-207	-5	-6
CA SACRAMENTO	SAC	169	29	63	1332	-45	-142	-5	-10	NY BUFFALO	BUF	224	-68	-51	3020	-138	-94	-4	-3
CA SAN DIEGO	SAN	77	21	58	458	-86	57	-16	14	NY NEW YORK	LGA	181	-50	-65	2109	-161	-15	-7	-1
CA SAN FRANCISCO	SFO	130	11	42	1339	-175	-94	-12	-7	NY ROCHESTER	RDC	241	-49	-52	3205	79	-48	3	-1
CA STOCKTON	SKT	177	35	66	1341	-43	-216	-3	-14	NY SYRACUSE	SYR	245	-49	-69	3210	3	3	1	0
CO DENVER	DEV	257	5	115	2999	49	-238	2	-7	NC ASHEVILLE	AVL	159	-41	-33	1968	-209	-30	10	-2
CO BRAND JUNCTION	BJT	278	-4	72	2883	-96	30	-3	1	NC CAPE HATTERAS	CHT	107	-33	-63	879	-317	-73	-27	-6
CO PUEBLO	PUB	254	-2	108	2891	106	-300	4	-9	NC CHARLOTTE	CLT	127	-48	-55	1525	-195	-18	-11	-1
CT BRIDGEPORT	BRP	200	-4	-12	2485	14	-43	1	-2	NC GREENSBORO	GSO	144	-52	-40	1811	-155	14	-6	1
CT HARTFORD	HFD	235	-54	74	3000	9	-41	0	-1	NC NEW BERN	EBN	118	-36	-44	1165	-269	38	-19	3
DE WILMINGTON	ILG	183	-55	-73	2265	-122	57	-5	3	NC RALEIGH DURHAM	RDU	139	-43	-39	1625	-166	42	-9	3
DC WASHINGTON	DCA	157	-53	-65	1976	-37	97	-2	5	NC WILMINGTON	ILM	104	-32	-50	1039	-199	33	-16	3
FL APALACHICOLA	AQC	72	-22	-16	462	-252	-205	-35	-31	ND BISMARCK	BIS	296	-119	32	4215	-322	-867	-7	-17
FL DAYTONA BEACH	DAB	53	-5	-14	231	-199	-198	-46	-46	ND FARGO	FAR	304	-127	18	4279	-351	-953	-8	-18
FL FORT MEYER	FMY	27	-8	0	73	-139	-85	-66	-54	ND GRAND FORKS	GFK	324	-123	30	4552	-354	-1036	-7	-19
FL JACKSONVILLE	JAX	78	-13	-17	544	-197	-128	-27	-19	ND MINOT	MIN	320	-96	69	4386	-26	-739	-6	-14
FL KEY WEST	EYW	9	-2	0	9	-35	-34	**	**	OH AKRON CANTON	CAK	231	-49	-37	2864	-116	-117	-4	-4
FL MIAMI	MIA	10	2	4	4	-36	-64	**	**	OH CLEVELAND	CLE	217	-62	-48	2733	-180	-231	-6	-6
FL ORLANDO	MCO	45	-4	-5	146	-174	-170	-54	-54	OH COLUMBUS	CMH	218	-68	-11	2572	-213	-90	-8	-3
FL TALLAHASSEE	TLH	98	-6	-19	702	-172	-156	-20	-18	OH CINCINNATI	CVG	204	-50	-4	2472	-122	-52	-5	-2
FL TAMPA	TPA	46	-3	-7	154	-203	-178	-57	-54	OH DAYTON	DAY	224	-47	-4	2659	-117	-106	-4	-4
FL WEST PALM BEACH	PBI	31	10	7	59	-32	-80	-47	-58	OH TOLEDO	TOL	242	-52	-21	2946	-227	-189	-7	-6
GA ATLANTA	ATL	129	-35	-2	1324	-238	17	-15	-1	OH YOUNGSTOWN	YNG	231	-56	-43	2971	-156	-84	-5	-3
GA AUGUSTA	AUG	117	-26	-31	1106	-243	-38	-18	-3	OK OKLAHOMA CITY	OKC	177	-33	66	1939	16	-143	1	-7
GA MACON	MCN	108	-27	-24	1071	-136	-51	-11	-5	OK TULSA	TUL	172	-44	64	2006	7	4	0	0
GA SAVANNAH	SAV	91	-28	-29	770	-257	-92	-25	-11	OR ASTORIA	AST	170	0	53	2360	-156	-455	-6	-16
HI HILO-HAWAII	HIT	0	0	0	0	0	0	**	**	OR BURNS	BBW	343	77	73	3842	328	-1066	9	-22
HI HONOLULU-DAHU	HNL	0	0	0	0	0	0	**	**	OR MEDFORD	MFR	218	22	99	2394	-25	-137	-1	-5
HI KAHULUI-HAWI	HGG	0	0	0	0	0	0	**	**	OR PENDELTON	PDT	269	38	46	2840	125	-964	5	-25
HI LIHUE-KAUAI	LIH	0	0	0	0	0	0	**	**	OR PORTLAND	PDX	193	5	30	2105	-208	-577	-9	-22
ID BOISE	BOI	310	59	28	3188	232	-989	8	-24	OR SALEM	SLE	205	23	51	2386	-32	-419	-1	-15
ID LEWISTON	LWS	256	19	83	2744	-66	-819	-2	-23	PA ALLENTOWN	ABE	207	-59	-70	2778	-34	70	-1	3
ID POCATELLO	PIH	381	87	82	3822	262	-691	7	-15	PA BRIDGEVILLE	ERI	117	-67	-46	2777	-312	-75	-10	-1
IL CHICAGO	ORD	230	-78	-32	2912	-175	-636	-6	-18	PA HARRISBURG	HAR	208	-42	-55	2437	44	143	2	7
IL MOLINE	MLI	245	-7	6	3075	-55	-567	-5	-16	PA PHILADELPHIA	PHL	182	-56	-71	2242	-127	50	-5	-2
IL PERIA	PIA	238	-70	11	2850	-225	-402	-7	-12	PA PITTSBURGH	PIT	218	-49	-34	2747	-146	-17	-5	-1
IL QUINCY	UIN	223	-71	17	2716	-150	-354	-5	-12	PA SCRANTON	AVP	239	-41	-48	3072	15	87	0	3
IL ROCKFORD	RFD	260	-70	-27	3247	-163	-547	-5	-14	RI PROVIDENCE	PVD	204	-55	-73	2696	-55	18	-2	1
IL SPRINGFIELD	SPI	225	-62	14	2687	-104	-245	-4	-8	SC CHARLESTON	CHS	99	-29	-34	853	-257	-73	-23	-8
IN EVANSVILLE	EVV	180	-65	-11	2281	-109	-104	-5	-4	SC COLUMBIA	CAE	116	-34	-41	1237	-144	-28	-10	-2
IN FORT WAYNE	FWA	254	-40	10	2925	-132	-190	-4	-6	SC FLORENCE	FLO	117	-30	-28	1174	-146	89	-11	6
IN INDIANAPOLIS	IND	228	-47	2	2679	-108	-152	-4	-5	SC GREENVILLE	GSP	125	-43	-42	1600	-70	29	-4	2
IN SOUTH BEND	SNB	245	-49	-8	2980	-73	-229	-2	-7	SD ABERDEEN	ABR	285	-119	1	3940	-337	-1024	-8	-21
IA DES MOINES	DSM	248	-81	29	3104	-132	-741	-4	-19	SD HURON	HON	268	-116	-8	3676	-966	-1087	-9	-23
IA DUBUQUE	DBQ	201	-49	-8	3479	-151	-831	-4	-19	SD RAPID CITY	RAP	246	-69	38	3451	-131	-879	-4	-20
IA SIOUX CITY	SUX	244	-103	44	3287	-199	-727	-4	-18	SD SIOUX FALLS	SFX	209	-106	15	3747	-237	-927	-6	-20
IA WATERLOO	ALO	284	-77	16	3585	-156	-720	-4	-17	TN CHATTANOOGA	CHA	138	-51	-28	1579	-284	-47	-15	-3
KS CANCERDIA	CNK	229	-58	80	2639	-165	-498	-6	-16	TN KNOXVILLE	TYS	155	-34	-38	1796	-103	-12	-5	-1
KS DODGE CITY	DDC	229	-23	94	2508	-39	-390	-2	-13	TN MEMPHIS	MEM	141	-41	14	1606	-62	9	-4	1
KS GOODLAND	GLD	246	-23	106	2791	-249	-541	-8	-16	TN NASHVILLE	BNV	143	-33	9	3827	-97	27	5	1
KS TOPEKA	TOP	244	-34	77	2583	-125	-376	-5	-13	TN ABILENE	ABI	169	15	78	1538	132	61	9	4
KS WICHITA	ICT	246	-6	91	2468	-35	-229	-8	-8	TX AMARILLO	AMA	219	9	89	2329	-143	-57	8	-2
KY BOWLING GREEN	BWG	175	-45	-2	207	-116	8	-5	0	TX AUSTIN	AUS	114	-2	57	909	-31	34	-3	4
KY LEXINGTON	LEX	190	-48	-3	2268	-124	21	-5	-1	TX BROWNSVILLE	BRD	38	-11	-2	393				

National Agricultural Summary

January 12 to 18, 1987

HIGHLIGHTS: Extremely cold temperatures swept across California and Arizona, damaging fruit and vegetables. The extent of the damage was unknown. Below-freezing temperatures moved into Florida, but damage to fruit and vegetables was insignificant. Snow and extremely cold weather halted cotton harvest in Oklahoma and Texas. Much of the wheat and small grains lacked snow cover in Nebraska, South Dakota, Montana, and southern North Dakota. Below-normal temperatures, from Texas to California and along the west coast, slowed small grain growth. Land preparation progressed in the southern half of the Nation as weather permitted. Livestock was mostly good. Supplemental feed increased as temperatures fell below freezing.

SMALL GRAINS: Wheat and small grains were mostly fair to good. Small grain seeding continued in the Southeast and Southwest as weather permitted. Arkansas wheat had limited rust problems. In Colorado, winter wheat was mostly good. Light to moderate snow cover in many areas provided adequate shelter for the crop. Snow protected most wheat in Kansas. Montana's wheat was mostly fair to good, with little wind damage, but snow cover protection was poor. The cold weather may affect fall seeded grains because of light snow cover in North Dakota. Snow insulated Oklahoma's wheat from the cold weather. South Dakota's winter grains were good but remained dormant despite warm temperatures. Soil blowing may cause some damage. In Wyoming, wheat needs additional moisture for good development. Cold weather slowed small grain growth in California, but rain provided much needed moisture in some areas. Wheat and barley seedings were 87 percent (%) finished in Arizona, compared with the 85% 5-year average. In Texas, small grains benefited from warmer temperatures early in the week, but cold weather slowed progress late in the week. Grazing decreased in many areas because of wet fields and slow growth. Additional sunshine and drier weather are needed to improve conditions.

COTTON: Cotton harvest progressed well until midweek in the Texas' Plains. The dry conditions allowed producers to strip fields at night. Before extreme cold and snow halted harvesting late in the week, some gins were running around the clock. Harvest ended the week 86% finished, compared with 97% of the average. Snow restricted cotton harvest in Oklahoma. Cotton harvest reached 70% completion, up 10 percentage points from the previous week but was still 28 points below average. Most of the Harmon and Jackson Counties' cotton remained unharvested. Cotton harvest was nearing completion in New Mexico. Seedbed preparations were underway for the 1987 cotton crop in California.

OTHER CROPS: Farmers continued plowing and spreading manure, where the weather permitted in the Corn Belt. A few acres of corn were harvested in southwestern Michigan. Soybean harvest continued in Southeast, but most acreage had been combined.

Tobacco sales continued in Tennessee, but burley sales were nearing completion. Tobacco seedbed preparation continued in Georgia, and emerged plants were good.

FRUIT AND NUTS: Cold temperatures swept into the Southwest and Florida, but damage was much more severe in California and Arizona than in Florida. The freezing temperatures fell below zero and the cold spell lasted from Friday thru most of the weekend in Arizona and California. The extent of damage was unknown, but citrus crops were affected.

Grapefruit, lemon, navel orange, and tangelo harvests continued in California. Imports from Chile slowed grape movement from storage. Arizona's citrus harvest progressed as the weather permitted. Citrus harvest slowed in Texas. Florida's citrus groves were very good. The cold temperatures caused little damage but very little frost in the major growing areas, which kept freeze protection measures to a minimum. Orange harvest was very active, and grapefruit movement was active for fresh and processing. Temple and tangelo harvests were strong in all areas.

VEGETABLES: During much of the week, night temperatures fell below freezing in Florida's vegetable producing areas. However, damage was insignificant. Springlike temperatures returned by the weekend. Winter vegetable harvest was active. Spring vegetable planting progressed well in the southern areas, and plant growth was good. Winter vegetable harvest slowed in the Rio Grande Valley. Some early cantaloups were planted. Spinach, carrot, cabbage harvests continued in the San Antonio-Winter Garden area. In California, strawberries sustained freeze damage along the south coast and at Riverside. Frost damaged lettuce, and slower growth is expected due to colder temperatures. Melon fields were being prepared for February planting in the Palo Verde Valley. Broccoli, asparagus, carrots, celery, and artichokes were harvested. Spring vegetable planting advanced in Arizona.

PASTURES AND LIVESTOCK: Cold temperatures slowed pasture growth from Texas to California. Livestock was mostly good. Supplemental feeding increased in some areas. Livestock continued grazing harvest residue in the northern Great Plains, where snow did not cover the ground.

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 totals exceeded 1.00 in. statewide; 3.00 to 4.00 in. common. Temperatures averaged 8° above normal.

Soil moisture adequate statewide. Livestock, poultry mostly good.

ARIZONA: Sunny mild weather 12th to 13th. Minor weather disturbance 14th, caused considerable cloudiness, no precipitation. Very cold winter storm 15th, set off heavy snow of 5 to 25 in. central mountains, 1 to 5 in. to 2,000 ft. Snow continued 16th. By late 16th, skies cleared, but temperatures plunged to 5 above to 13° below high country, 4 to 10° above 5,000 ft., 20s lower deserts. Maximum readings 10s, 20s high country, 30s intermediate elevations, 40s lower deserts 17th. Averages for week varied from normal to 7° below.

Wheat, barley seeding 87%; 80% 1986; 85% avg. Stands established 65%, both crops good to excellent. Cotton stalk shredding, plow down winding down. Alfalfa hay cutting light. Green chopping moved ahead, sheepling off moderate to active. Spring field crop land preparation took place. Cold temperatures caused citrus frost damage, extent still unknown. Citrus harvest took place as weather permitted. Pecan harvest continued. Apples shipped. Seasonal packing of winter vegetables moved ahead. Lettuce, cauliflower, broccoli, mixed vegetables shipped. Spring vegetable planting advanced.

ARKANSAS: Good warm spell during first, middle parts of week caused temperatures to be quite a bit above normal for week despite new cold front which brought cold air in by weekend. Precipitation generally light with front. Temperature extremes 18°; 78°. Rainfall 0.26 to 1.98 in.

Very little farming activity. Limited wheat rust problem.

CALIFORNIA: Cold, dry weather prevailed week ending 16th. Only significant rainfall on north coast. Cold air followed accounted for widespread frost at weekend.

Small grain growth slowed by cold weather; rains some areas provided needed moisture. Alfalfa growers treated for weeds, planted new stands. Early planted sugarbeets up, plantings continued. Cotton seedbed preparations continued. Dry conditions, irrigation Sacramento Valley. Freezing conditions, some damage, citrus, avocados. Impact central valley, Ventura undetermined. Avocados harvested. Grape movement from storage slowed; imports from Chile. Grapefruit, lemon, Navel, and tangelo harvests continued. Artichokes moderate, variable quality central coast. Asparagus harvest continued Coachella, Palo Verde. Strawberry fields south coast, Riverside sustained some freeze damage. Broccoli Salinas, Santa Maria; light, good quality. Harvest active westside; packers winding up winter season eastside. Harvest continued desert. Carrot digging progressed; San Joaquin Valley, desert. Cauliflower very light, good quality Santa Maria. Harvest active westside, desert; started to wind down eastside. Celery harvest Santa Maria nearly over; light shipments continued. Lettuce harvest Blythe; continued at slow pace, good quality. Some frost damage, slower growth expected due to colder temperatures. Young plantings Firebaugh District; being thinned, weeded. Melon fields being prepared for February planting Palo Verde Valley. Onion plantings

eastside, normal development. Winter potatoes being dug Hemet-San Jacinto; fall potatoes moved to market from storages Tulelake-Butte Valley. Sweetpotato hotbed fumigation continued Merced-Atwater. Tomato growers westside continued fumigate fields. Soil moisture on ranges, pastures reduced by winds. More rain needed continue grass growth, replenish stock water supplies. Supplemental feeding remains heavy most districts. Calving, lambing continued active.

COLORADO: Temperatures generally 2 to 4° above normal except southeastern Foothills up to 5° below normal. Temperatures dropped dramatically behind storm which moved through State on 15th, 16th. Precipitation amounts northern two-thirds of State mostly 0.10 to 0.30 in.; the southern one-third widely varying amounts, ranging from traces to 5 ft. of snow.

Livestock remained good most areas. Supplemental feeding maintained condition at this time. Winter wheat crop good. Light to moderate snow cover many areas provided adequate shelter for crop.

FLORIDA: Cold front first half of week. Hard freeze Panhandle, northwest. Freezing elsewhere north; some central areas. Considerable frost 13th, patchy frost 14th northern half of State with few patches into deep south. Warming trend began afternoon of 14th, producing near record warm temperatures south by early weekend. Rainfall 1.00 to 3.00 in. occurred mainly Panhandle, Big Bend areas with generally 0.20 in. or less elsewhere.

Soil moisture adequate except surplus some northeastern counties. Small grains, good progress. Land preparation spring crops underway. Sugarcane harvest active; quality, yields good. Frost, freeze lessened permanent grazing. Pastures mostly poor to fair except good, lower Peninsula. Winter grazing good, Panhandle. Cattle good, except fair, central, northern localities. Supplemental feeding active. Citrus groves very good. No damage from cold temperatures, very little frost major growing areas. Minimum irrigation. Orange harvest very active, grapefruit movement active for fresh, processing. Temple, tangelo harvest strong all areas. Caretakers general maintenance prior to harvest. Night-time temperatures, for much of week, over vegetable producing areas mid-to-upper 30s. No significant damage. Warmed to spring-like by weekend. Precipitation limited. Winds light to moderate. Harvest winter crops active. Volume leaders: tomatoes, cabbage, green peppers, celery, carrots. Also available in good quantities: Snap beans, lettuce, radishes, sweet corn, squash, cucumbers, strawberries, endive-escarole, eggplant. Light supplies Chinese cabbage, cauliflower available. Planting spring crops progressing, southern areas. Plant growth good.

GEORGIA: Rain reported 5 days most stations. Rain 2.00 to 4.00 in. common with totals near 6.00 in. over north. Southeast received least rain with 1.00 to 2.00 in. Temperatures 8° above normal. Maximum temperatures 70s south. Coldest temperatures 20° north, 30° elsewhere.

Soil moisture surplus virtually all areas. Main activities harvesting cotton, pecans, soybeans; land preparation, tobacco bed preparation; small grain seeding, small grain topdressing. Small grains poor to good, mostly good. Pastures poor to good, mostly good. Cattle fair to good, mostly fair. Tobacco good. Hogs good.

HAWAII: Conditions variable. Shower bands passed through islands caused sporadic, light rainfall. Northeasterly winds 5 to 15 mph. Temperatures ranged low 60s to mid 80s. Rainfall ranged none to 3.90 in.

Days suitable for fieldwork 7.0. Weather mostly favorable for crop development. Banana harvesting active, orchards fair to good. Papaya harvesting down slightly, spray programs controlling insects, diseases. Vegetables fair to good.

IDAHO: High surface pressure, strong northerly air flow. Continued cold temperatures averaged up to 13° below normal. Light precipitation, below normal.

Limited farm activity consists of livestock management, farm planning, equipment repair. Livestock good. Hay, roughage supplies adequate to surplus.

ILLINOIS: Temperatures averaged 7 to 10° above normal north, 3 to 8° above normal south. Precipitation 0.07 to 0.66 in.

Soil moisture 3% short, 80% adequate, 17% surplus. Winter wheat 1% poor, 31% fair, 62% good, 6% excellent. Livestock mostly good.

INDIANA: Temperatures mild, averaging 5 to 10° above normal. Lows single digits northwest, highs upper 50s south. Water equivalent precipitation averaged 0.10 to 0.50 in. Snow cover melted by midweek.

Outside activities limited by snow cover. Plowing of land, spreading manure where conditions permitted. Other activities included moving grain to elevator, soil testing, doing shop work, maintaining equipment, working on taxes, caring for livestock.

IOWA: Warm, dry week. Temperatures averaged 11° above normal southeast to 14° above normal northwest. Temperatures ranged from 2° Spencer, Storm Lake to 64° Sioux City, 62° Des Moines, both record highs. Precipitation less than 0.10 in. except southeast 0.10 to 0.15 in.

Livestock mostly good, little weather stress. Weather allowing considerable use of corn stalks for cattle.

KANSAS: Temperatures averaged 31 to 35° ranging 2 to 6° above normal. Snow over entire State last half of week. Heaviest amounts 6 to 10 in. east and south central, 2 to 4 in. west and north central. Precipitation 0.10 in. or less north central, 0.20 in. south.

Harvest of late crops halted by snow. Snow provided some protection to wheat. Topsoil moisture adequate to prevent soil blowing most areas. Colder temperatures, heavy supplemental feeding of livestock.

KENTUCKY: Mild with temperatures 5 to 10° above normal. Lows in lower 30s, highs averaged around 50°. Soil temperatures at depth of 4 in. Averaged in lower 40s. Rainfall amounts averaged 0.25 to 0.50 in.

Soil moisture adequate. Livestock feeding active with hay supplies adequate. Field activity minimal.

LOUISIANA: Temperature 2 to 4° below normal. Temperature extremes 23°; 73°. Rainfall averaged 1.00 in. north to 3.00 in. south.

Activities: Winter chores, caring for livestock.

MARYLAND & DELAWARE: Maryland: Average temperature 41°, normal 32°. Lowest temperature 21°; highest temperature 63°. Precipitation averaged 0.36 in.

No long lasting snow cover so far this season. Main farm activity caring for livestock.

Delaware: Average temperature 43°, normal 33°. Lowest temperature 23°; highest temperature 58°. Precipitation averaged 0.39 in.

No significant snowfall so far this season. Main farm activity caring for livestock.

MICHIGAN: Temperatures ranged 7 to 12° above normal. Temperature extremes -9°; 48°. Precipitation ranged from none to 0.25 in. across State. Several inches snow southern area over weekend. Smaller accumulation rest of State.

More snow needed to cover forage, small grain crops. Activities: Field cultivating, corn combining southwest; pruning fruit trees and grapevines, spreading manure, general farm and equipment maintenance, farmers signing up at ASCS offices trying to qualify for Federal and State crop disaster relief programs, weekend snowplowing. Sugarbeets transferred from piles to factory with very low spoilage reported. Livestock remained good; lambing, calving, farrowing continued. Feed supplies adequate. Livestock marketing active.

MINNESOTA: Temperatures averaged 12 to 18° above normal for State. Temperature extremes -18°; 59°. Precipitation averaged 0.20 in. below normal over north central, northeast, extreme southeast; 0.05 to 0.15 in. below normal for remainder of State except 0.82 in. above normal along Mississippi River at Red Wing. Snowfall averaged trace to 0.50 in. statewide. Snow depth weekend 4 in. over northeast section of State, trace to 1 in. over remainder of State.

Spring-like weather cooled off to more normal winter conditions. With generally light amounts of snow across State, livestock continued good.

MISSISSIPPI: Temperatures normal to 6° above normal. Extremes 20°; 71°. Weak high pressure covered State caused rain over coast while north dry all but towards end of week. Greatest 24-hour total 3.68 in.

Days suitable for fieldwork 0.7, 6.1 1986, 2.3 avg. Soil moisture surplus to excessive. Wheat fair to good.

MISSOURI: Temperatures 5 to 9° above normal, warmest northeast, coolest southwest. Snow across northern two-thirds melted by midweek. Several inches more snow 17th to 19th covered wide area.

Care, feeding of livestock main work. Good feed supply.

MONTANA: Very mild first of week, some record high temperatures across plains. Much colder midweek over State with subzero temperatures. For week temperatures again much above normal over plains, from 5 to 15°. West, southwest temperatures 1 to 10° below normal. Temperatures 30 to 40 below zero noted west, southwest. Precipitation light over State.

Winter wheat mostly fair to good. Little wind damage to date. Snow cover protection poor. Cattle, sheep good to excellent. Most on supplemental feed. Grazing mostly open.

NEBRASKA: Mild weather continued, only very light snow occurred throughout week. Average temperatures ranged from 1° above normal Panhandle to 13° above normal east. Temperature extremes -6°; 72°.

NEVADA: Cold northerly airflow dominated weather entire week. Weak front early in period spread few snow flurries northern areas. Snowfall mostly light due to low water equivalent. Average temperatures for week 5 to 16° below normal. Temperature extremes -19°; 64°.

Winter grains dormant due below normal temperatures. Lack of snow cover concern some

areas. Livestock feeding requirements continued heavy due cold weather. Ice chopping necessary all areas.

NEW ENGLAND: Average precipitation included rainfall, snowfall water equivalent; 0.50 to 0.75 in. northern Maine, 0.25 to 0.50 in. southern and central Maine, New Hampshire, Vermont, 0.25 in. elsewhere. Average temperatures ranged from teens near Canadian border to mid 30s along south coast.

Major farm activities: Machinery repair, clearing snow, tending livestock, moving crops from storage.

NEW JERSEY: Temperatures above normal, averaging 33° north, 36° south, 40° coastal. Extremes 10°; 59°. Precipitation near normal north, above normal south and coastal; averaging 0.59 in. north, 0.97 in. south, 1.23 in. coastal. Heaviest 24-hour total 1.30 in. on 18th, 19th. Heaviest 24-hour total snowfall 3 in. on 18th, 19th. Depth of snow on ground 19th ranged from none to 4 in.

Main activities caring for livestock, normal winter chores. Frozen topsoil allowed delayed harvest of soybeans, corn for grain.

NEW MEXICO: Temperatures early in week averaged above normal. Major storm beginning on 15th dropped temperatures below normal for remainder of week. Low -15° northern mountains. High reported 72° southeastern plains. Most areas reported 4 in. snow or more. Precipitation from trace southeastern plains to 1.39 in. northern mountains.

Days suitable for fieldwork 6.1. Soil moisture 13% short, 80% adequate, 7% surplus. Cotton 14% poor, 29% fair, 57% good. Cotton 94% harvested compared with 100% 1985, 100% avg. Barley 13% fair, 87% good. Dryland wheat 40% poor, 20% fair, 40% good. Pecans 17% fair, 83% good. Cattle 29% fair, 71% good. Sheep 29% fair, 71% good. Ranges 47% fair, 53% good.

NEW YORK: Temperatures averaged 5 to 9° above normal early in week, but sharply colder air late in week plunged temperatures well below freezing north. Precipitation light statewide.

Farmers spent week closing out their 1986 books, maintaining machinery, doing daily chores.

NORTH CAROLINA: Temperatures 2 to 4° above normal across State. Temperature extremes 17°; 69°. Precipitation ranged from 0.07 to 1.13 in.

Days suitable for fieldwork 4.5. Soil moisture 10% short, 81% adequate, 9% surplus. Soybeans harvested 98%, 100% 1986, 100% avg. Small grains poor to good. Pasture 7% very poor, 18% poor, 47% fair, 28% good. Hay, roughage supplies 22% short, 75% adequate, 3% surplus. Feed grain supplies 17% short, 78% adequate, 5% surplus. Major farm activities: Harvesting soybeans; preparing tobacco plantbeds; cutting firewood; tending livestock; repairing equipment; conservation work; tillage operations; spreading lime; soil sampling; general farm maintenance.

NORTH DAKOTA: Temperatures averaged 14 to 18° above normal due to mild weather beginning of week. Extremes ranged from -15° northeast 15th, 16th to 60° south central, southeast 11th, 13th. Most areas received trace precipitation with arctic front at weekend. Greatest precipitation 0.13 in. northwest, central.

Cold weather may affect fall seeded crops due to light snow cover. Ranchers good feed supplies. Taxes, 1987 crop plans major activities.

OHIO: Temperatures 5 to 10° above normal. Precipitation widespread but light. Water equivalent averaged 0.10 to 0.25 in.

Virtually no snow cover statewide. No stress on livestock or over wintering crops.

OKLAHOMA: Temperatures averaged 7° above normal north central to 3° below normal southwest. Precipitation ranged 0.23 in. north central to 1.04 in. east central.

Widespread snow cover during week provided good insulation for wheat but restricted cotton harvest, livestock grazing. Much Jackson, Harmon County cotton remains unharvested. Cotton 70% harvested, 98% 1986, 98% avg. Snow cover hurt cattle, supplemental feeding most areas State.

OREGON: Temperatures below normal across State. Far eastern locales largest spread below normal. Burns averaged 12° below normal for week. Coldest temperature -24° Ukiah. Precipitation ranged from less than 0.25 in. eastern areas up to 2.50 in. along coast. Northeastern mountains 6.00 in. of snow during week.

Soil moisture mostly adequate. Wheat, crimson clover, other fall seeded crops growing well west. Cold slowed growth, but no apparent freeze damage yet. Winter wheat dormant east with only limited snow cover over most of region. Orchard pruning, other cultural practices continued in west. Livestock good. Ranges, pastures poor to good. Hay use much less than last year. Western pasture growth halted with recent cold temperatures.

PENNSYLVANIA: Week warm, dry. Average temperature 33°, 7° above normal. Temperature extremes 7°; 57°. Average precipitation 0.08 in., 0.57 in. below normal.

Activities: Grading potatoes; hauling manure; cutting firewood; machinery maintenance; caring for livestock; attending State Farm Show.

PUERTO RICO: NO DATA AVAILABLE

SOUTH CAROLINA: Temperatures averaged 4 to 8° above normal. Lower temperatures later in week. Rainfall varied across State; 1.00 to 3.00 in., pulled total to above normal in most areas.

Cotton harvest complete, soybean harvest virtually complete. Late planting small grains continued as weather permitted. Other winter farm activities continued.

SOUTH DAKOTA: Average temperatures ranged 8 to 17° above normal. Extremes -10°; 76°. Precipitation widely scattered, light; largest amount 1.00 in. snow.

Winter grains good; remain dormant despite warm temperatures. Soil beginning to blow. Livestock good. Feed supplies adequate. Main activities included attending farm meetings, farm shows, repairs.

TENNESSEE: Temperatures averaged 3 to 8° above normal. Low 21°; high 66°. Precipitation west of plateau below normal. Plateau, east above normal rainfall. Southeastern section over 3.00 in. rain.

Soil moisture ample. Tobacco sales continued. Burley sales nearly complete. Livestock chores, meetings main activities.

TEXAS: Storm track established over southwest U.S., just north of State. Moist, Pacific systems east, northeastward from southwestern States, Mexico. Showers Lower Rio Grande to Coastal Plains. Late week very cold air edged into State interacting with moist disturbances. Large snow accumulations northern Panhandle, parts southern Plains, Trans-Pecos. North, east, Permian Basin mixture sleet, snow, freezing rain. Temperatures near or below normal. Coldest areas High, Low Rolling Plains. Most precipitation rain Upper Coast. All areas near or above normal.

Crops: Cotton harvest good pace Plains until midweek. Dry condition allowed producers strip fields at night. Some gins started running 24-hours again. Extreme cold, snow halted harvest

late week. Remaining fields continued to deteriorate. Harvest Trans-Pecos winding down late week. Cotton 86% harvested, 99% 1985, 97% avg. Small grains benefited warmer temperatures early week. Growth, regrowth grazed fields slow. Late week cold spell slowed progress. Grazing decreased many areas. Wet fields Blacklands, central slowed growth wheat, oats. Some topdressing early week. Rust, greenbugs damage parts State. Oats yellowing from excessive rains. Additional sunshine, drier weather improve conditions. Sugarbeet harvest continued until midweek Plains. Sugarcane harvest stalled most week Valley because rain. Soybeans 100% harvested, 100% 1985, 100% avg. Sugarbeets 99% harvested, 100% 1985, 100% avg. Pecans 97% harvested, 96% 1985, 99% avg. Oats 99% planted, 100% 1985, 100% avg.

Commercial Vegetables: Rio Grande Valley, harvest fall, winter vegetable slowed. Some early cantaloups planted. Onions good. Citrus movement slow. San Antonio-Winter Garden, carrots, cabbage, spinach harvest continued early, midweek. Some late onions set out; some seeded. Pecan harvest winding down Trans-Pecos. Quality excellent. Harvest slow other areas, most operations complete.

Range and Pasture: Grazing good native pastures; small grains provided less forage. Growth slow. Weight gains limited small grain; most livestock good shape. Feeding increased with colder weather. Lice infested many herds. Hill Country lamb crop good. Prices stable.

UTAH: Precipitation none to light. Temperature 12° below normal north central to 3° above Uintah Basin.

Livestock feed adequate. Livestock generally good. Major farm activities: Livestock care, equipment repair, marketing livestock, tax accounting, planning and management meetings.

VIRGINIA: Warm days, cold nights. Low 18°; high 69°. Rain end period, average 0.25 in. but rain continued as period ended.

Days suitable for fieldwork 2.4. Topsoil moisture 50% adequate, 50% surplus. Winter grains good to excellent. Normal winter chores, including livestock feeding, equipment maintenance, plowing. Normal, mild weather benefiting livestock, conserving feed. Feed adequate.

WASHINGTON: Western area temperatures normal to slightly above with moderate rainfall. Eastern areas near normal to slightly below with more snowfall.

Days suitable for fieldwork 4.0. Soil moisture 10% short, 80% adequate, 10% surplus. Hay, other feed 90% adequate, 10% surplus. Winter wheat snow cover increased eastern area. Orchard pruning continued. Calving in full swing. Early lambing starting.

WEST VIRGINIA: Temperatures 5 to 8° above normal. Extremes 62° Martinsburg; 15° Greenbank, average 37°. Precipitation varied. Above central, southwest, southern divisions; below elsewhere, average 0.75 in.

Soil moisture 83% adequate, 17% surplus. Feed supplies 100% adequate.

WISCONSIN: Temperatures very mild first half of week, averaged 15 to 20° above normal, record highs northwest. Low -12°, high 52°. Snowfall trace to 1 in. Average snow depth 2 in., lowest since 1962. Frost depth averaged 3.5 in., shallowest in 25 years.

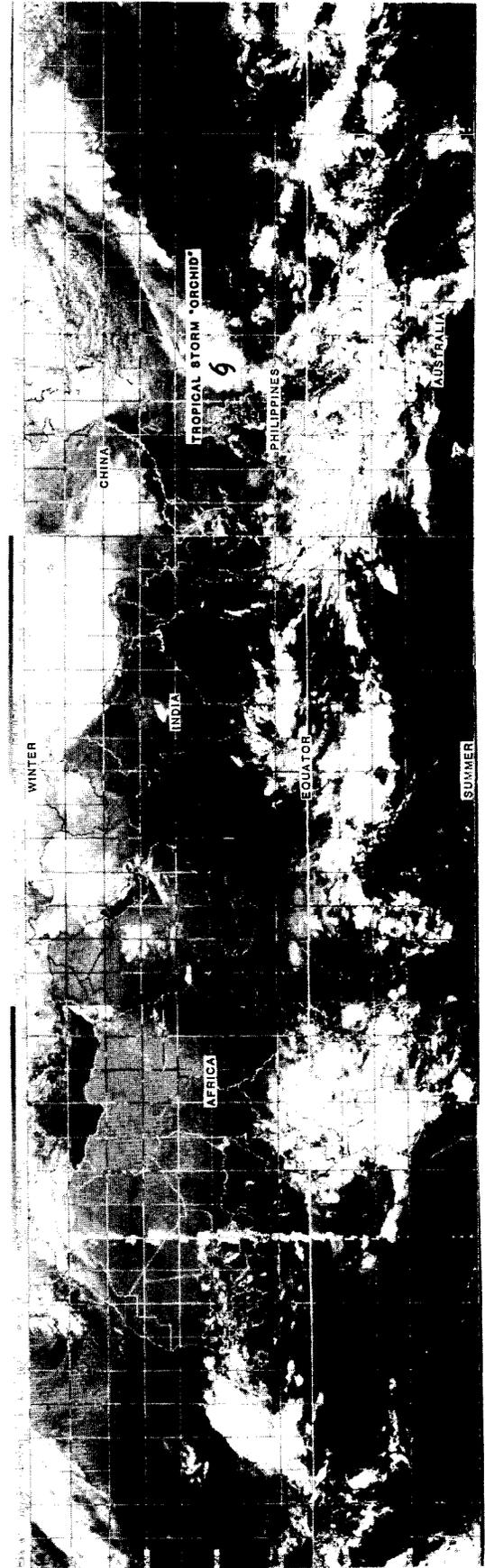
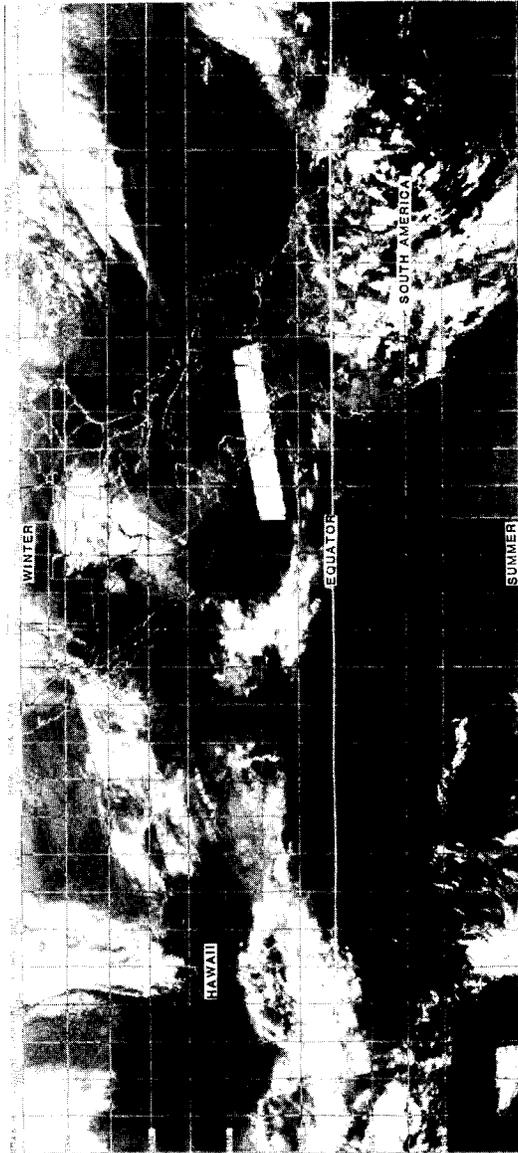
Soil moist. Some alfalfa heaving.

WYOMING: Drier than normal. Temperatures above normal east, below normal elsewhere.

Winter wheat mostly good, additional moisture needed for good development. Livestock good, colder weather increased need for supplemental feeding. Early lambing, shearing starting. Hay supplies adequate.

Global Weather Satellite Image

JANUARY 13, 1987



International Weather and Crop Summary

January 11-17, 1987

HIGHLIGHTS:

UNITED STATES ... Extremely cold temperatures across California and Arizona damage fruit and vegetables. The extent of the damage is unknown. Much of the wheat and small grains lack snow cover in Nebraska, South Dakota, Montana, and southern North Dakota.

WESTERN U.S.S.R. ... Moderate to heavy snow over much of the region increases the snow cover. Early-week extreme cold is followed by a gradual moderation in temperatures.

EUROPE ... Arctic air covers the region, breaking records for cold weather at many locations. Most vulnerable winter grain areas receive significant snow cover. The greatest potential for crop damage exists in Poland and East Germany, where unusually severe cold occurred.

SOUTH ASIA ... Showers improve moisture reserves for winter grains and summer rice throughout India. Dry weather favors harvesting in most cotton areas of southern India.

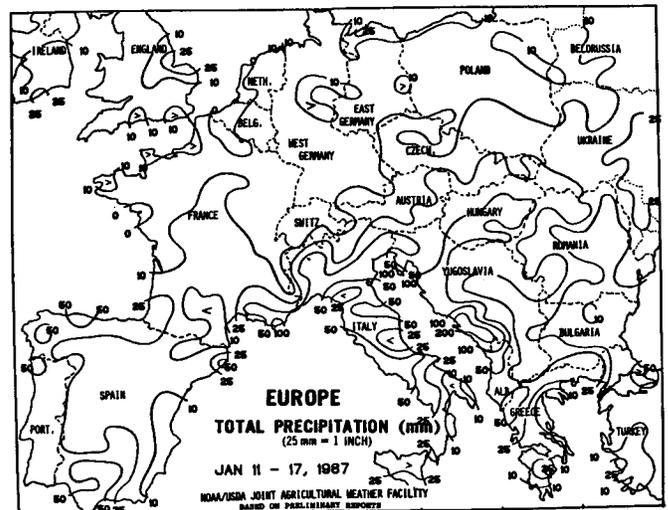
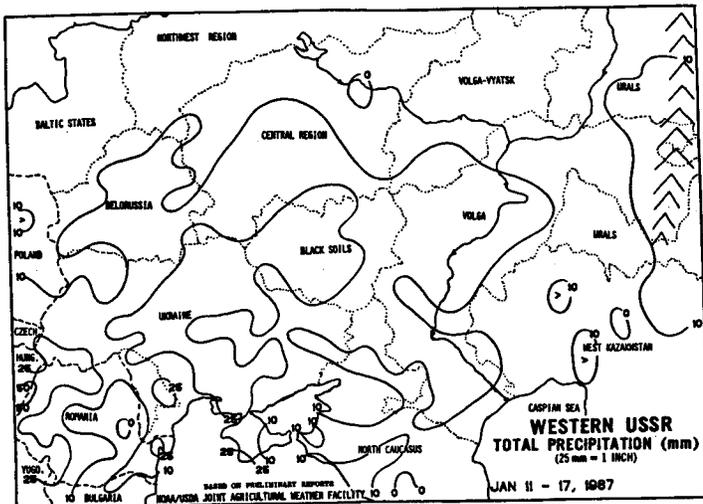
EASTERN ASIA ... Mild, dry weather covers dormant winter grains in the North China Plain.

SOUTH AMERICA ... Intermittent rain produces highly variable weekly totals but generally favors summer crop development. Soybeans are flowering throughout the region.

AUSTRALIA ... Periods of dry weather favor wheat harvesting in southernmost grain areas. Showers continue in eastern Australia's summer crop regions as grains and cotton enter reproduction. Showers benefit northern sugarcane areas.

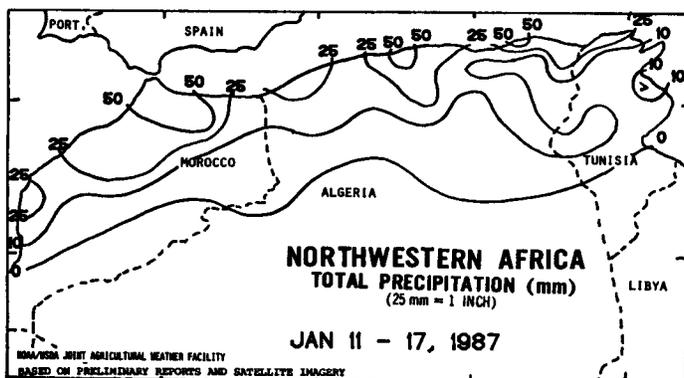
SOUTH AFRICA ... Moderate to heavy showers in most grain areas benefit corn in or nearing the reproductive stage of development.

NORTHWESTERN AFRICA ... Substantial showers, the first since early November, benefit Moroccan winter grains.

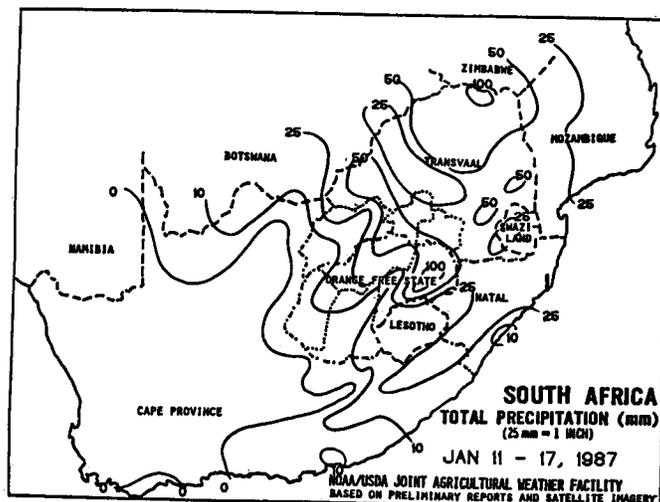


WESTERN U.S.S.R. ... A gradual moderation in temperatures followed extreme cold early in the week. Moderate to heavy snow over much of the region increased the protective snow cover. Minimum temperatures, across minor winter wheat areas from the Baltics and Belorussia and through the Central Region, rose from around -30 degrees C early in the week to around -20 degrees C by week's end. In major winter wheat producing areas of the Ukraine and North Caucasus, widely fluctuating temperatures continued the previous week's temperature pattern. Maximum temperatures on some days were as high as 5 degrees C, while night lows dropped to around -10 degrees C. This temperature pattern, along with frequent precipitation, continued to create the potential for crop damage caused by ice crusting and frost heaving.

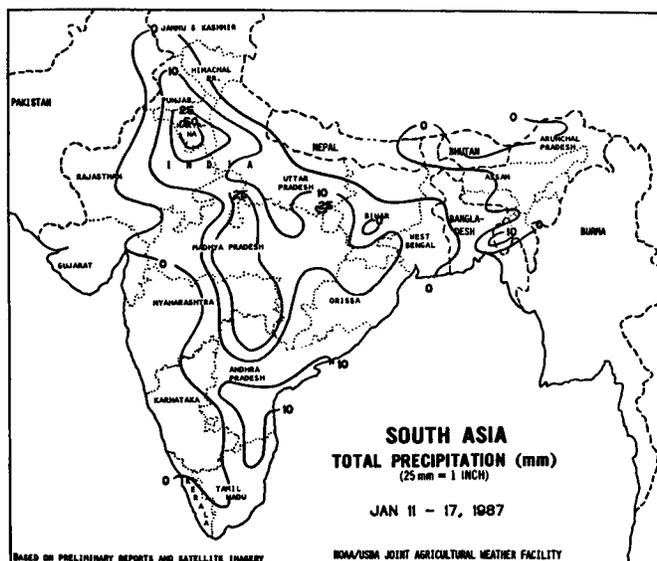
EUROPE ... Arctic air continued to dominate the continent. On January 14, record-low temperatures covered some locations in Poland, East Germany, Czechoslovakia, and northern Hungary. Minimum temperatures in Poland dropped to around -30 degrees C, while in the remaining countries, temperatures were around -25 degrees C. Moderate amounts of precipitation (23 to 76mm), in the form of snow, accompanied extreme cold in eastern Czechoslovakia, Hungary, eastern Yugoslavia, and western Romania. Heavy snow also stretched over parts of Spain, the French Riviera, and northern Italy. Minimum temperatures in winter grain areas of England fell to as low as -11 degrees C, while in France, minimum temperatures fell to around -15 degrees C. Overall, snow cover in most areas provided some protection from extreme cold. The potential for crop damage, due to cold weather, was greatest in Poland and East Germany, where severe cold occurred. By week's end, temperatures slowly moderated over the region.



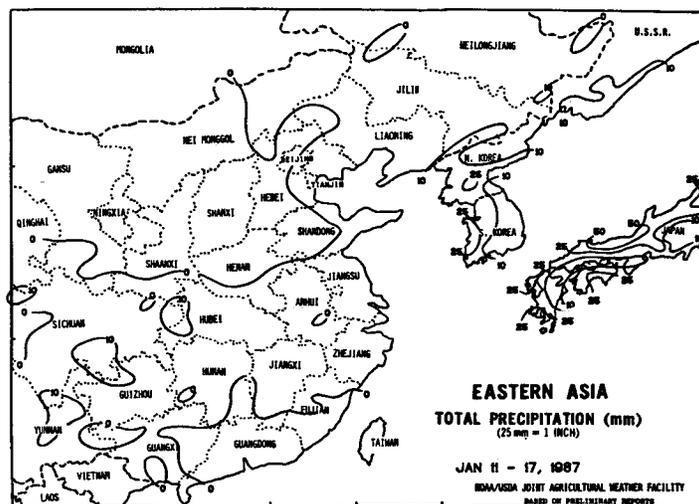
NORTHWESTERN AFRICA ... Substantial showers, the first since early November, covered Moroccan winter grain areas. Rainfall ranged from 25 to 50mm, improving conditions for early vegetative wheat growth. Light showers (10 to 25mm) over winter grains in northwestern Algeria reversed a drying trend. Widespread light to moderate showers, over central and eastern Algeria, continued to provide adequate to abundant moisture for winter grains. Drier weather covered winter grains in Tunisia, but soil moisture was likely adequate to meet crop-moisture requirements.



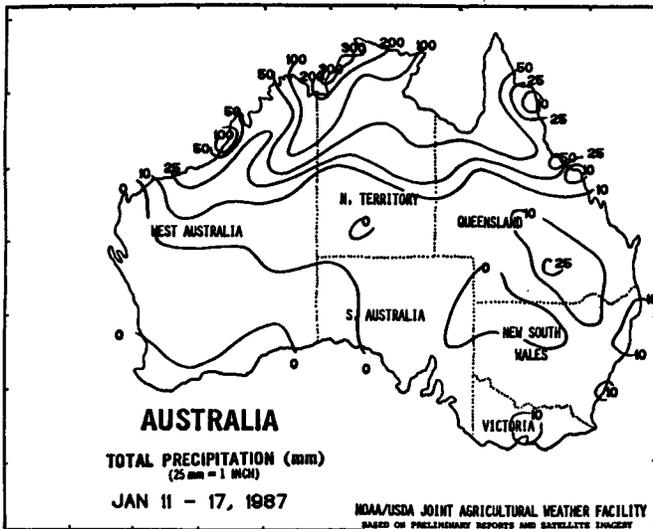
SOUTH AFRICA ... Moderate to heavy showers (25 to more than 100mm) covered corn areas of the Transvaal, Natal, eastern Orange Free State, and easternmost Cape Province, benefiting corn in or nearing the tasseling stage of development. However, below-normal rainfall (5 to 15mm) persisted in western Orange Free State, with maximum temperatures averaging 31 to 34 degrees C. Soil moisture remains limited for vegetative growth of corn in the western Maize Triangle, but moisture supplies are adequate to abundant over the primary growing areas.



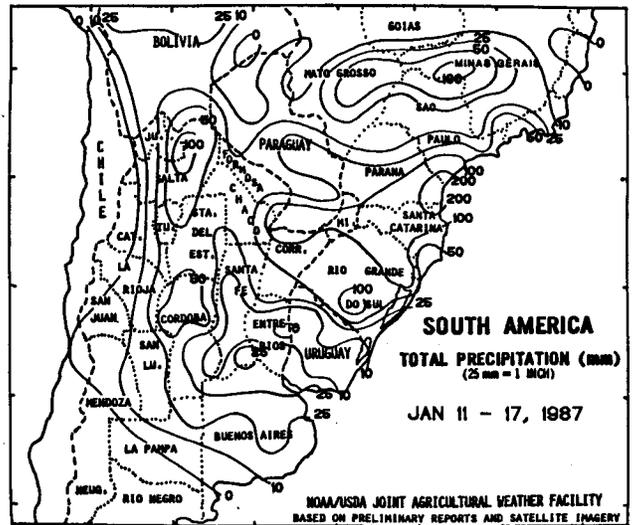
SOUTH ASIA ... Dry weather covered most wheat areas in northern Pakistan, but scattered showers improved moisture supplies for irrigation throughout India's grain areas. Winter wheat in central India is normally in the heading stage, while further north wheat is in the vegetative stage. Light to moderate rain (1 to 26mm) in eastern coastal areas increased irrigation reserves for recently planted summer rice. Mostly dry weather covered southern India's cotton regions, but moderate to heavy showers (10 to more than 40mm) may have affected unharvested cotton in eastern Maharashtra and central Madhya Pradesh.



EASTERN ASIA ... Mostly dry weather covered dormant winter grains in the North China Plain. Light rain (2 to 13 mm) fell eastward from Sichuan and Gizhou, through Hubei and Hunan, into Jiangsu. Dry weather stretched along south coastal areas. Mild weather covered the North China Plain with temperatures averaging 1 to 4 degrees C above normal. Winter wheat normally remains dormant until mid-March, when temperatures begin to increase.



AUSTRALIA ... Following early-week light rain (less than 4mm), dry weather favored wheat harvesting in Australia's southernmost grain areas. Moderate showers (about 15mm) continued in central Victoria, but periods of dry weather within the week brought some relief to the recently wet area. Light to moderate showers (4 to 26mm) in southeast Queensland and northern New South Wales improved moisture reserves for reproductive summer grains and cotton. Scattered showers (10 to more than 50mm) fell over northern sugarcane areas along Queensland's coast, but rainfall generally averaged less than 4mm in crop areas to the south.



SOUTH AMERICA ... Intermittent showers covered the crop areas. In Argentina, weekly rainfall, averaging 10 to 30mm and near-normal temperatures, favored summer crop development in Cordoba, northeastern La Pampa, southeastern Santa Fe, and Buenos Aires. Light rain (less than 10mm) fell over most of Santa Fe, and in southwestern Buenos Aires, where the wheat harvest is advancing toward completion. Locally heavy rain (50 to over 150mm) fell again in extreme northeastern Argentina and extended across southern Paraguay into Brazil, from Rio Grande do Sul to southern Parana. Another area of heavy showers (50 to 112mm) extended from Mato Grosso do Sul through northern Sao Paulo, to southern Minas Gerais. Some rain (mostly less than 15mm) fell in southern Sao Paulo and northern Parana, where above-average temperatures persisted. Soybeans are flowering throughout the region.

COLD WAVE BRINGS RECORD LOW TEMPERATURES AND SNOW TO EUROPE, USSR

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U.S.S.R.

On about December 24, arctic air from Siberia began to push into the region, causing a steady decline in temperatures. From January 1-12, near record lows, ranging from -30 to -35 degrees C, occurred as far south as the northern Ukraine (fig. 1). The tillering node of a wheat plant lies beneath the soil surface (at about 3 cm) and is a vital organ. Freezing at the tillering node kills the plant (winterkill). Without snow cover, the critical temperature at the tillering node, which causes plant injury, ranges from -18 to -20 degrees C if the plant is well hardened. The bare soil temperature at the tillering node is about 4 degrees C higher than the air temperature. As the depth of snow cover increases, the difference between the soil temperature and the air temperature increases. However, this relationship is nonlinear (fig. 2). Also, wind, uneven terrain, windbreaks, and other factors cause large variations in snow depths, over short distances. Most areas received snow during the recent cold wave, which produced a deep snow cover. In major winter grain producing areas from the southern half of the Ukraine through the North Caucasus, storms from the Mediterranean region caused fluctuating temperatures. Day highs reached 5 degrees C, while night lows dropped to around -20 degrees C during the period, increasing the potential for some damage caused by ice crusting and frost heaving. Since January 13, temperatures moderated over most of the major winter wheat producing areas.

EUROPE

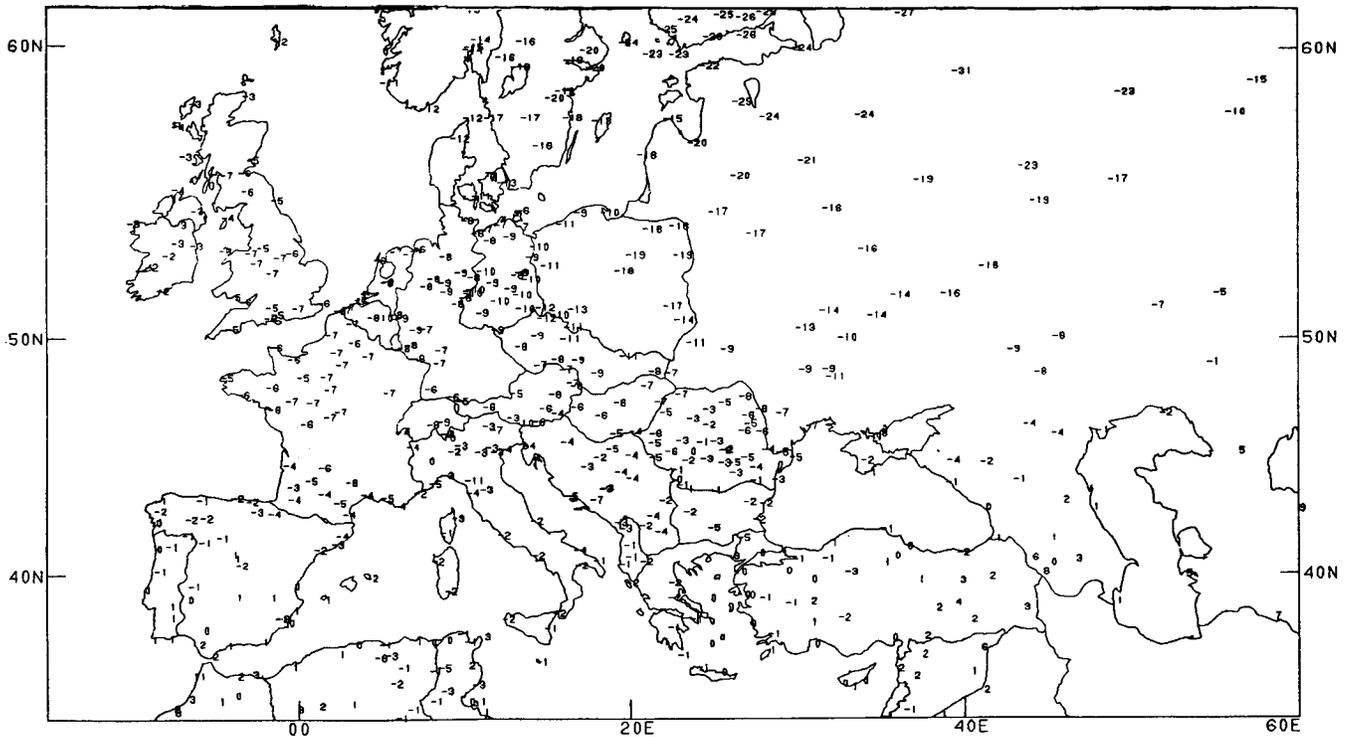
As temperatures started to moderate over European U.S.S.R., bitter cold continued to move slowly westward into Europe. On January 13 and 14, record-low temperatures (fig. 3) were broken in Poland at Warsaw, Wroclaw, and Krakow. At Wroclaw and Krakow, the lowest temperatures were 7 degrees C below the previous lowest temperature (-30 degrees C versus -23 degrees C). Record lows of -22 degrees C were matched at Vienna and Budapest. Departures from normal (degrees C) are shown in figure 4 for January 7-12. An adequate snow cover provided winter grains with some protection from extreme cold over much of the region, except for crop areas in Poland and East Germany, where severe cold (minimum temperatures less than -20 degrees C) over a shallow snow cover increased the potential for crop damage.

Such an extreme cold wave as that of January 1987 invites comparison with earlier similar events. Record-minimum temperatures for the Western U.S.S.R. were taken from Lydolph (2), and record minima from Europe were taken from Wallen (4). Figures 1 and 3 show comparisons between these record lows and those during January 1-14, 1987.

However, some of the records given by Lydolph and Wallen were almost certainly broken during the extremely cold episode that affected Europe in January 1985 (3). While affecting the Soviet Union hardly at all, the main thrust of cold air was from

(Continued to p. 22)

FIGURE 4.

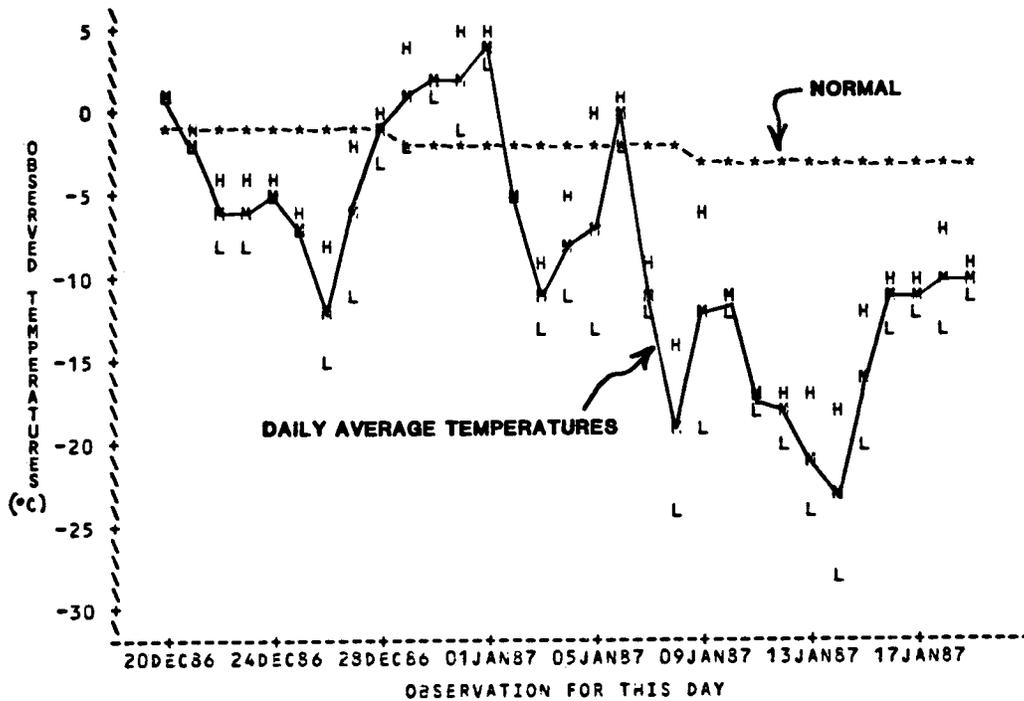


DEPARTURES OF TEMPERATURE FROM NORMAL (DEGREES CELSIUS), JAN. 7-12, 1987

FIGURE 5.

DAILY TEMPERATURES

H=MAXIMUM L=MINIMUM M=MEAN *=NORMAL
REGION=SCUTH POLAND



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