WEEKLY WEATHER AND CROP BULLETIN

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

U.S. DEPARTMENT OF AGRICULTURE
Economics and Statistics Service
World Food and Agricultural Outlook and Situation Board

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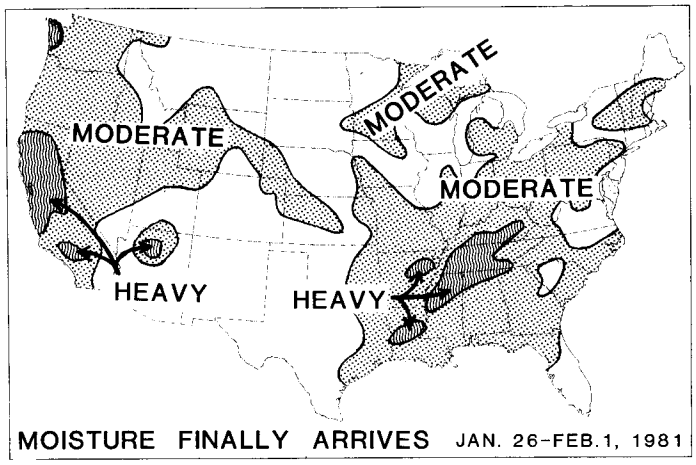

MOISTURE FINALLY ARRIVES JAN. 26-FEB.1, 1981

National Weather Summary

Jan. 26 to Feb. 1, 1981

HIGHLIGHTS...A strong Pacific storm brought rain, snow, and high winds to western United States early in the week. Later a storm developed in the central Rockies and spread a mantle of snow from the central and northern Plains to New England. Rain fell to the south of the snowline. Temperatures were mild during most of the week but cold arctic air plunged southward and covered much of the East by the end of the week.

MONDAY...A cold front brought more precipitation to the Pacific Northwest. Rain fell from central California through Washington. Snow fell in the Cascades and the Sierra Nevada Mountains, spreading across the northern Rockies. Lighter amounts continued across the northern Plains into the upper Great Lakes. A few sprinkles of rain fell over the western Plains and portions of the lower Mississippi Valley. Temperatures were cool across the northern Plains and Great Lakes region but were seasonable elsewhere.

TUESDAY...The Pacific storm spread rain, heavy in some areas, along the entire west coast. Heavy snow in the western mountains and northern Plateau added to the building snowpack. Light snow fell from the northern Plains through New England. Elsewhere, rainshowers were scattered from the central gulf coast into the southern Appalachians, spreading to southeastern United States. The coldest weather was in the northern Plains and the Great Lakes region. Temperatures in the 50s and 60s prevailed from the Southeast to the Southwest.

WEDNESDAY...The Pacific cold front was a real weather maker. Rain, with some heavy snow at higher elevations, fell throughout the Plateau and the west coast for the third straight day. Gusty winds lashed the coastal area and reduced visibility in blowing snow. Light snow pushed through the central Rockies and persisted across the northern tier of States. Light showers covered Florida and the coasts of the Carolinas and Georgia.

THURSDAY...Rain and snow continued in the West where a low pressure center moved over northern California. Some showers were accompanied by small hail in the San Francisco area. Another low pressure center moved eastward from the Texas Panhandle, spreading snow through Kansas and covering the winter wheat with a cozy blanket. The precipitation spread eastward to the lower Ohio Valley and the southern Appalachians. Light snowshowers extended through Ohio to New England.

FRIDAY...Light showers were widespread throughout the West but were more frequent in the central Rockies where a new storm was developing. Elsewhere, a low pressure center moving eastward triggered showers through the Tennessee Valley and the Southeast. Some locally heavy snow fell along the eastern slopes of the southern Appalachians. Cold polar air reached into the northern portion of the southern States. Temperatures in the low teens pushed into the central Plains. Below zero readings extended from the northern Plains across the Lakes and through New England.

SATURDAY...The developing storm moved out of the central Rockies and began to unleash its fury across the Plains. Snow spread over the central and northern Plains and then to the middle and upper Mississippi Valley. Strong northwesterly winds resulted in considerable blowing and drifting snow. The storm also produced rain from southeastern Kansas to the central and western gulf coast and the lower Mississippi Valley. Substantial precipitation fell through many of the very dry areas of the Nation.

SUNDAY...The strong storm system spread precipitation from the gulf coast to the Great Lakes. Thunderstorms developed across parts of the South

(continued on back page)

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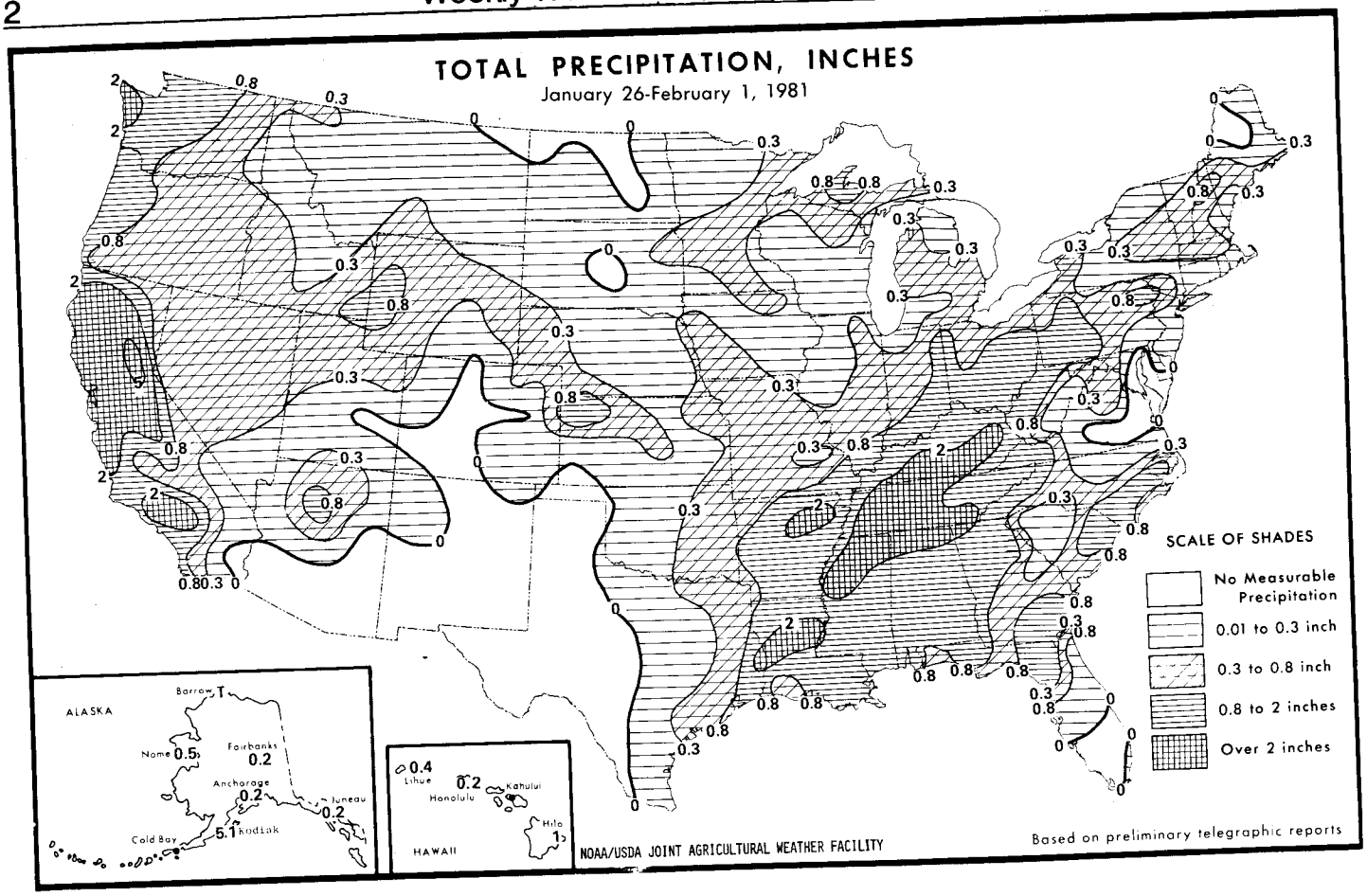
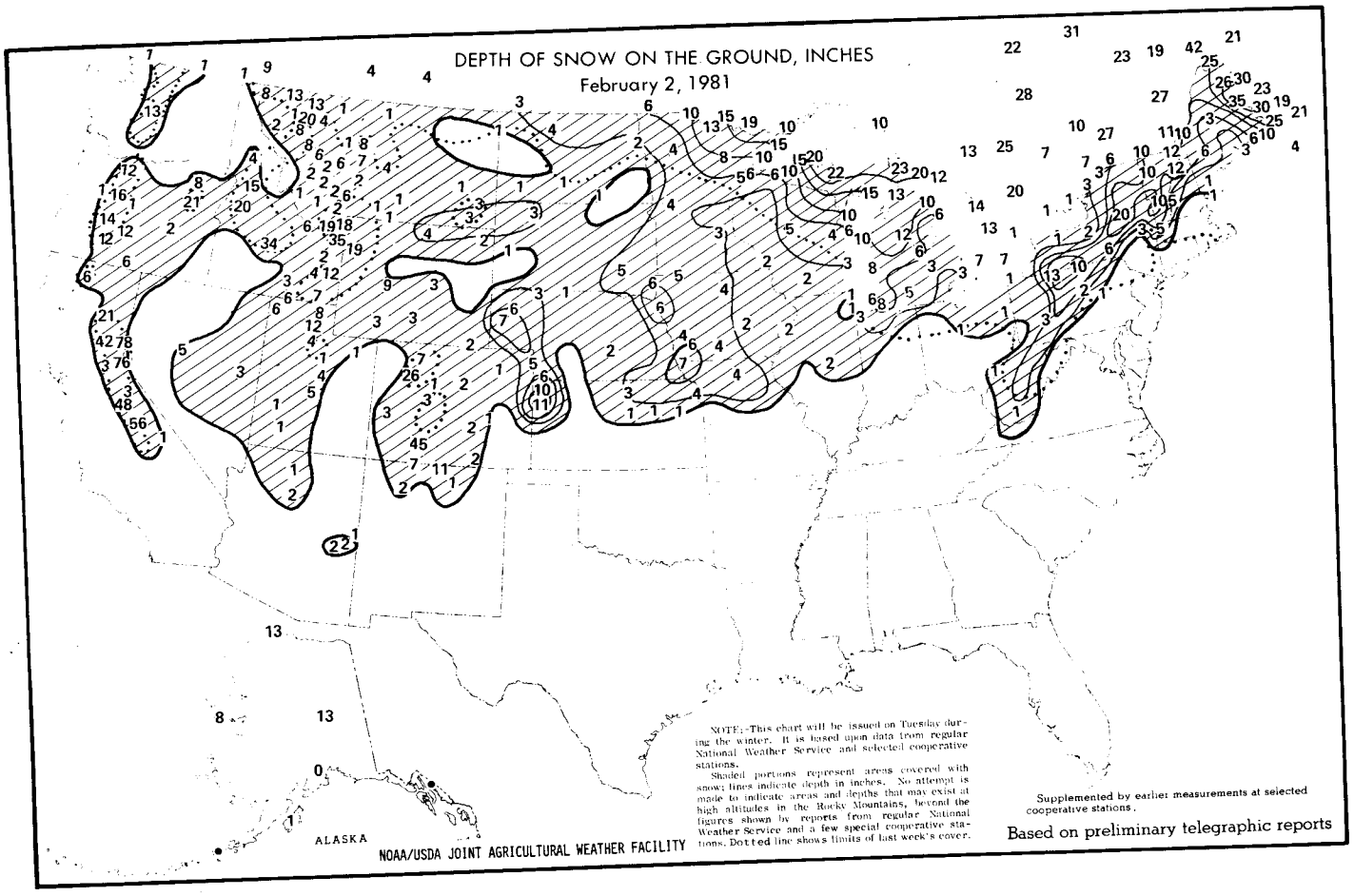
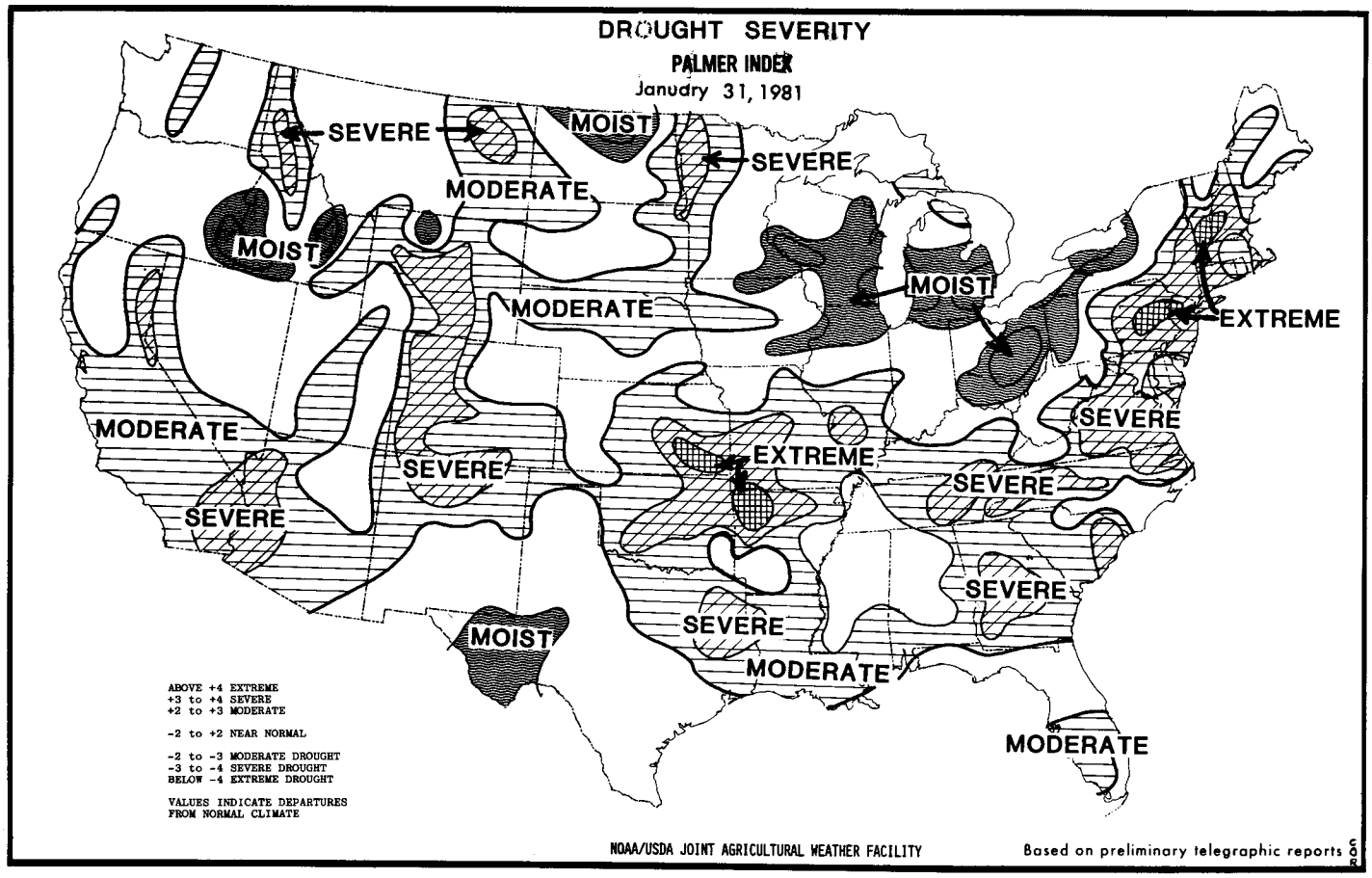
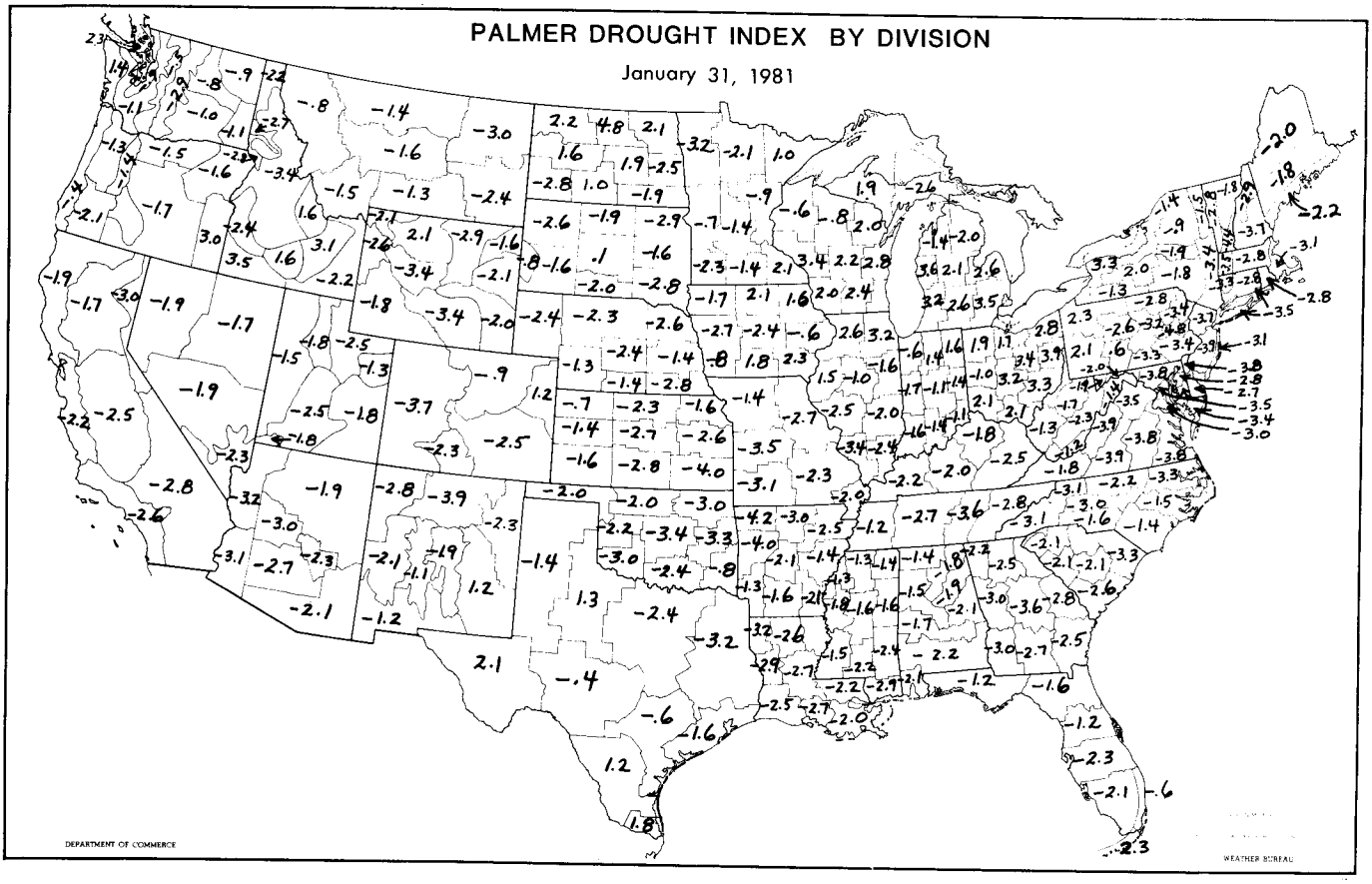
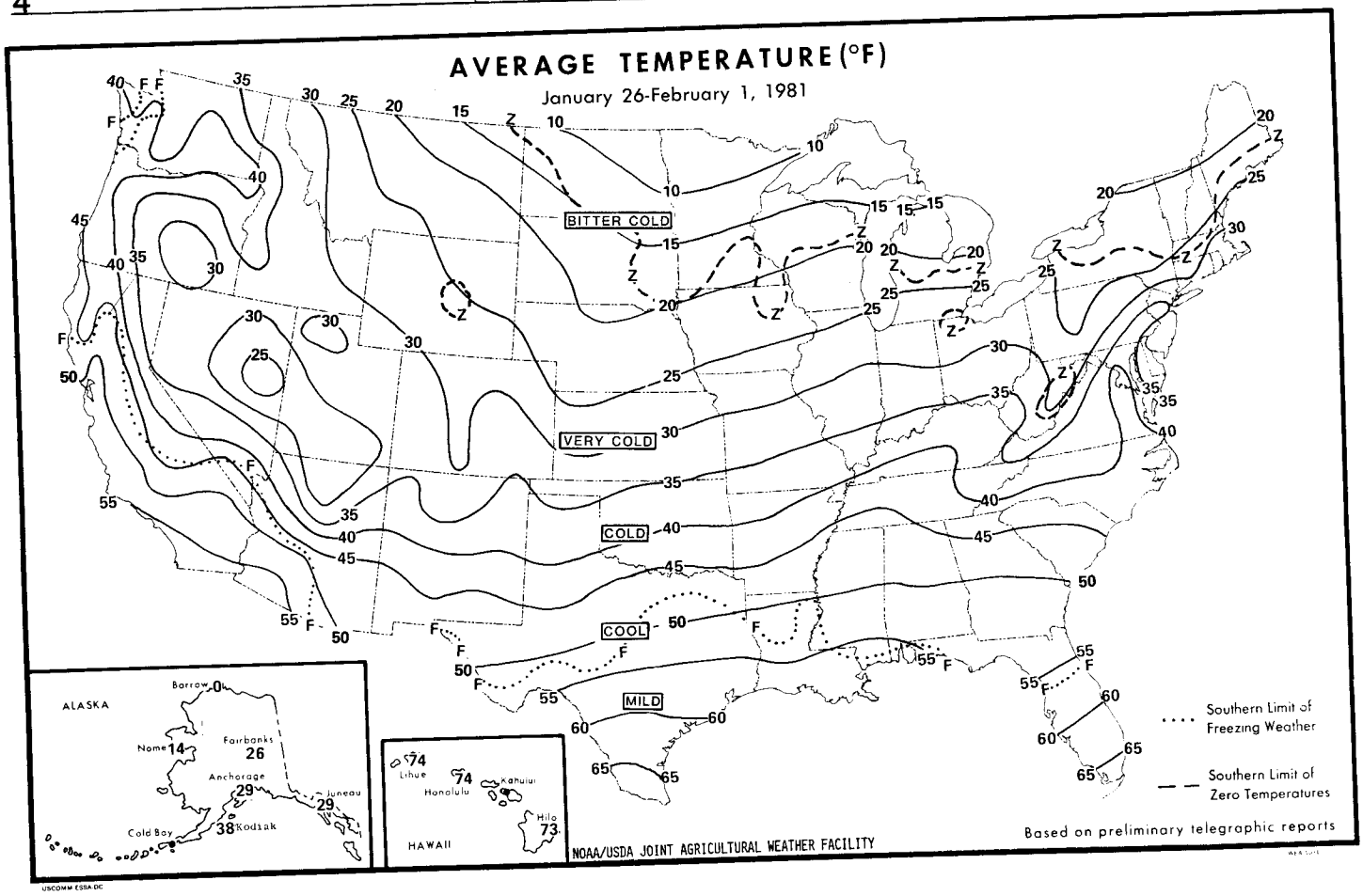
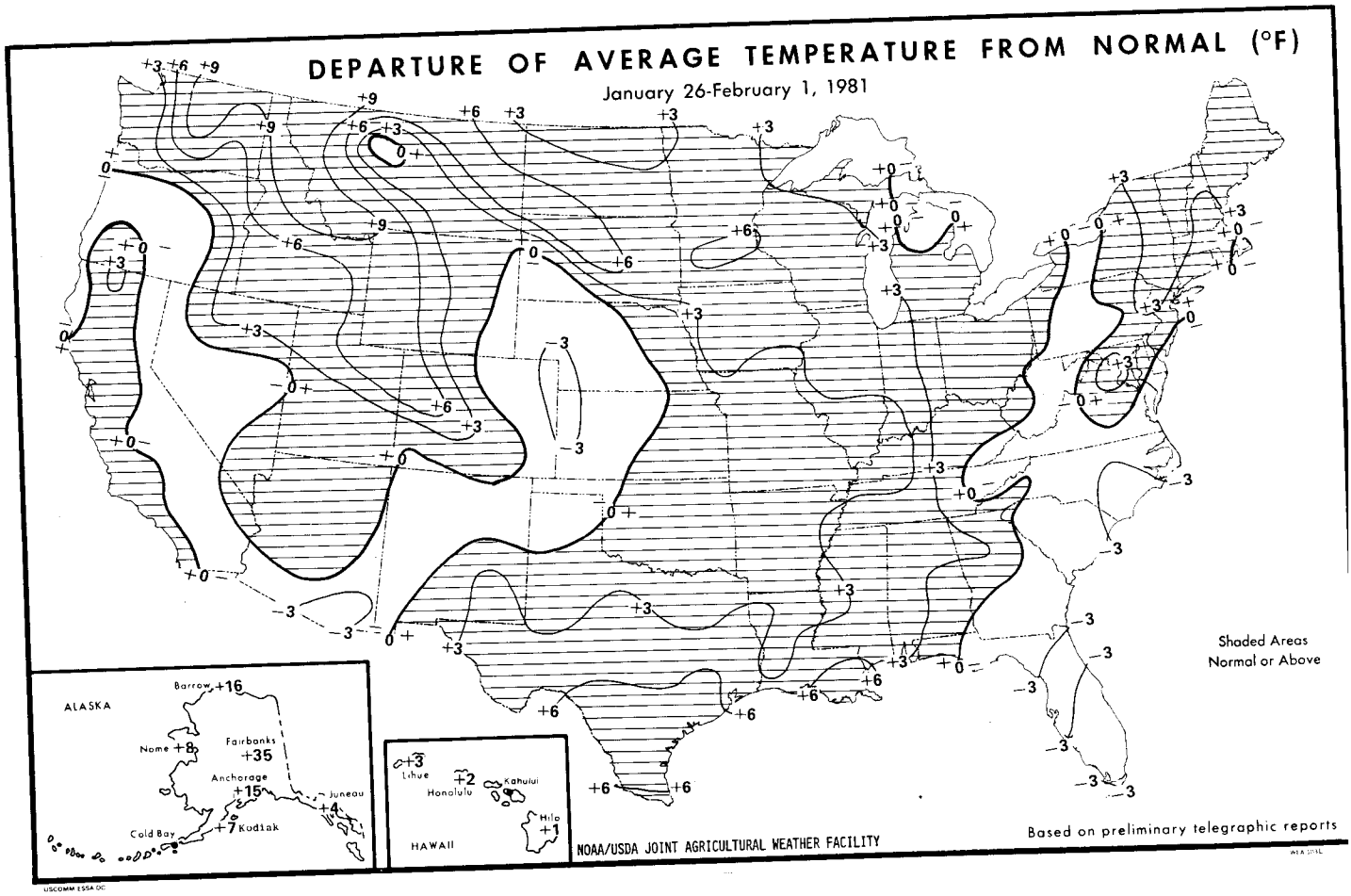

TOTAL PRECIPITATION, INCHES
January 26-February 1, 1981
SCALE OF SHADES
No Measurable Precipitation
0.01 to 0.3 inch
0.3 to 0.8 inch
0.8 to 2 inches
Over 2 inches
ALASKA
Barrow
Nome
Fairbanks
Anchorage
Juneau
Cold Bay
Kodiak
HAWAII
Lihue
Honolulu
Kahului
Hilo
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary telegraphic reports

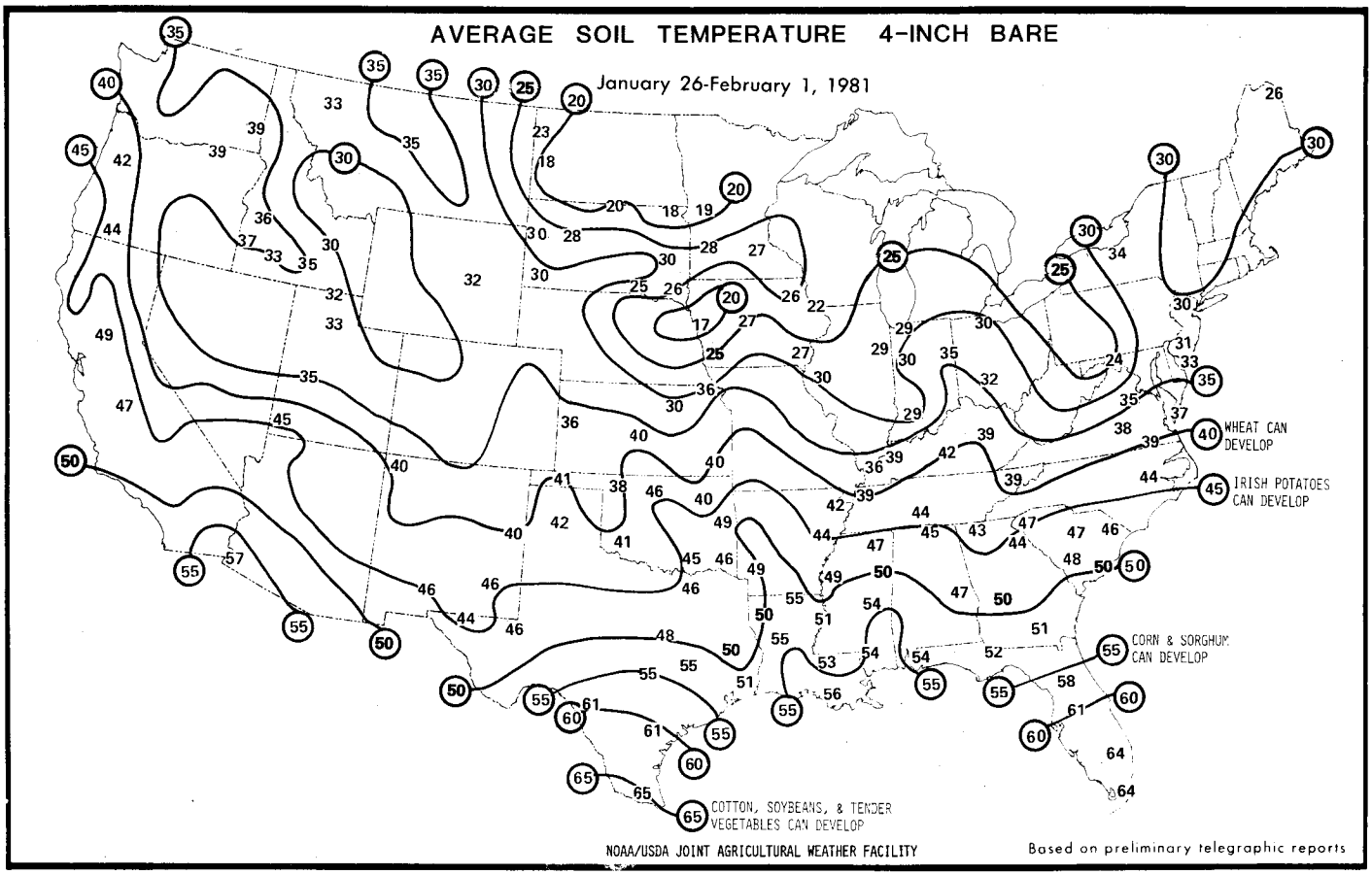

DEPTH OF SNOW ON THE GROUND, INCHES
February 2, 1981
NOTE:-This chart will be issued on Tuesday during the winter. It is based upon data from regular National Weather Service and selected cooperative stations.
Shaded portions represent areas covered with snow; lines indicate depth in inches. No attempt is made to indicate areas and depths that may exist at high altitudes in the Rocky Mountains, beyond the figures shown by reports from regular National Weather Service and a few special cooperative stations. Dotted line shows limits of last week's cover.
Supplemented by earlier measurements at selected cooperative stations.
Based on preliminary telegraphic reports
ALASKA
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

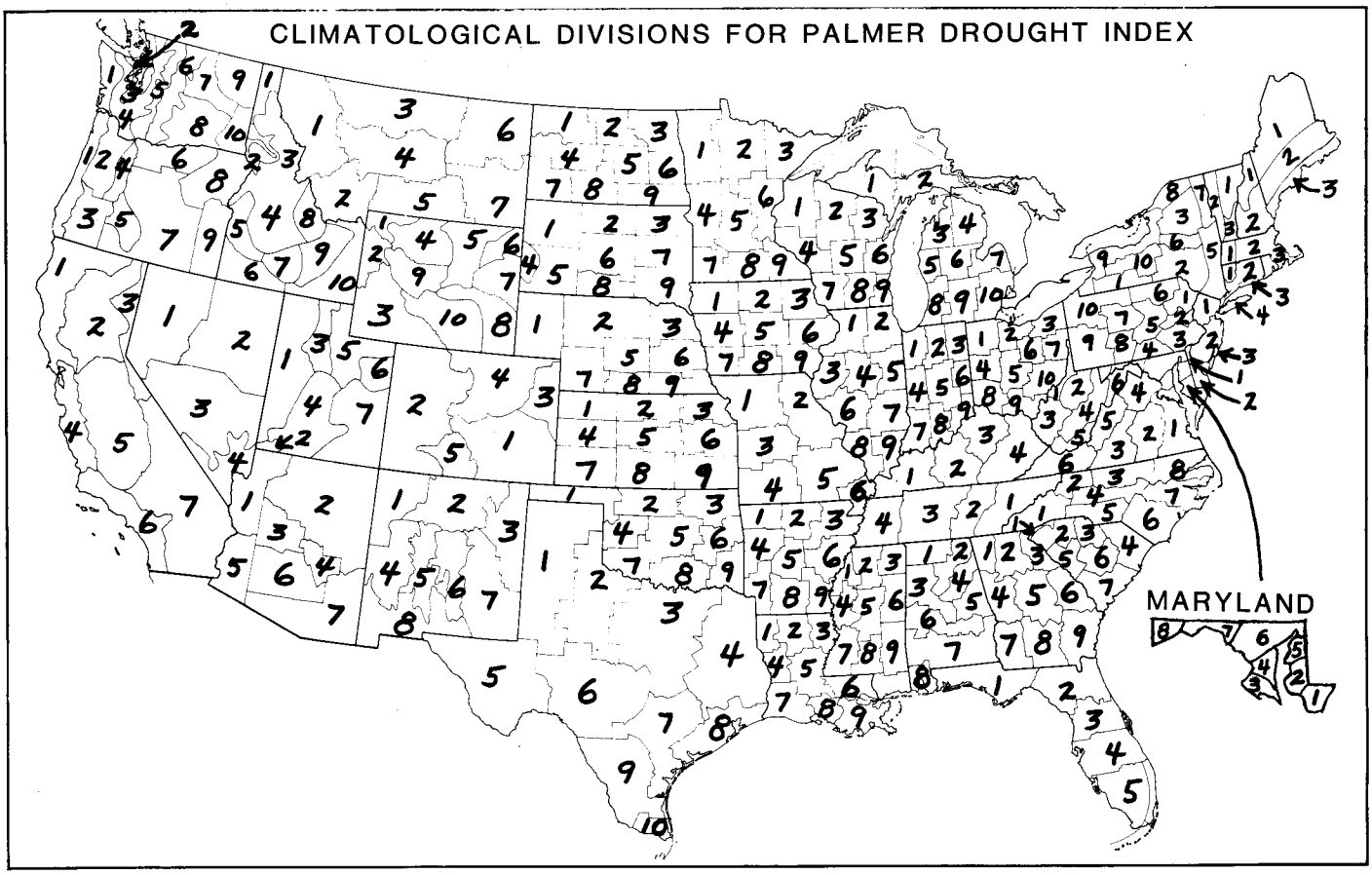

DROUGHT SEVERITY
PALMER INDEX
January 31, 1981
SEVERE
MOIST
SEVERE
MODERATE
MOIST
MODERATE
MOIST
EXTREME
MODERATE
SEVERE
SEVERE
EXTREME
SEVERE
SEVERE
SEVERE
MOIST
SEVERE
MODERATE
MODERATE
ABOVE +4 EXTREME
+3 to +4 SEVERE
+2 to +3 MODERATE
-2 to +2 NEAR NORMAL
-2 to -3 MODERATE DROUGHT
-3 to -4 SEVERE DROUGHT
BELOW -4 EXTREME DROUGHT
VALUES INDICATE DEPARTURES FROM NORMAL CLIMATE
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary telegraphic reports


PALMER DROUGHT INDEX BY DIVISION
January 31, 1981
DEPARTMENT OF COMMERCE
WEATHER BUREAU

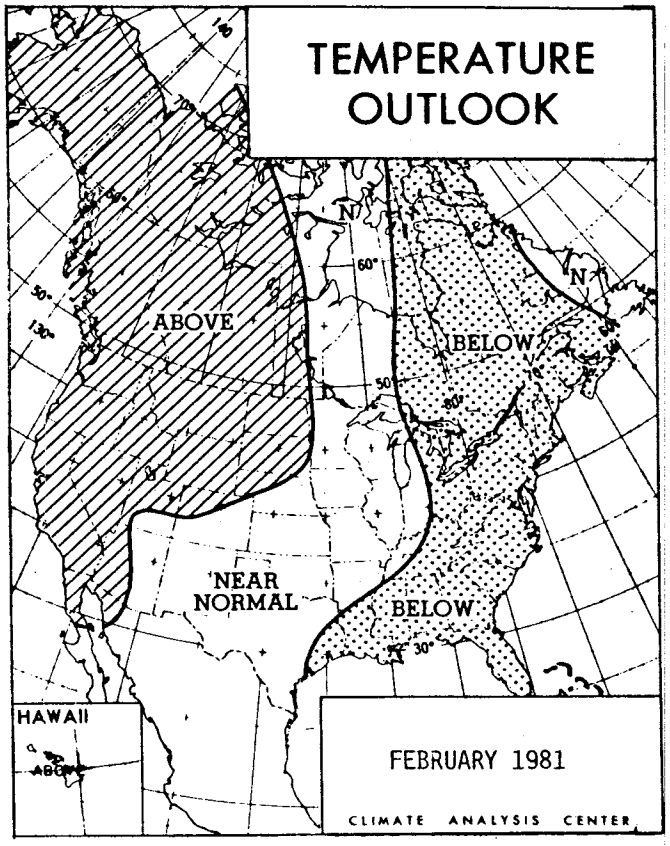

AVERAGE TEMPERATURE (°F)
January 26-February 1, 1981
BITTER COLD
VERY COLD
COLD
COOL
MILD
ALASKA
Barrow 0
Nome 14
Fairbanks 26
Anchorage 29
Juneau 29
Cold Bay 38
Kodiak
HAWAII
Lihue 74
Honolulu 74
Kahului
Hilo 73
Southern Limit of Freezing Weather
Southern Limit of Zero Temperatures
Based on preliminary telegraphic reports
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
USCOMM ESSA-DC

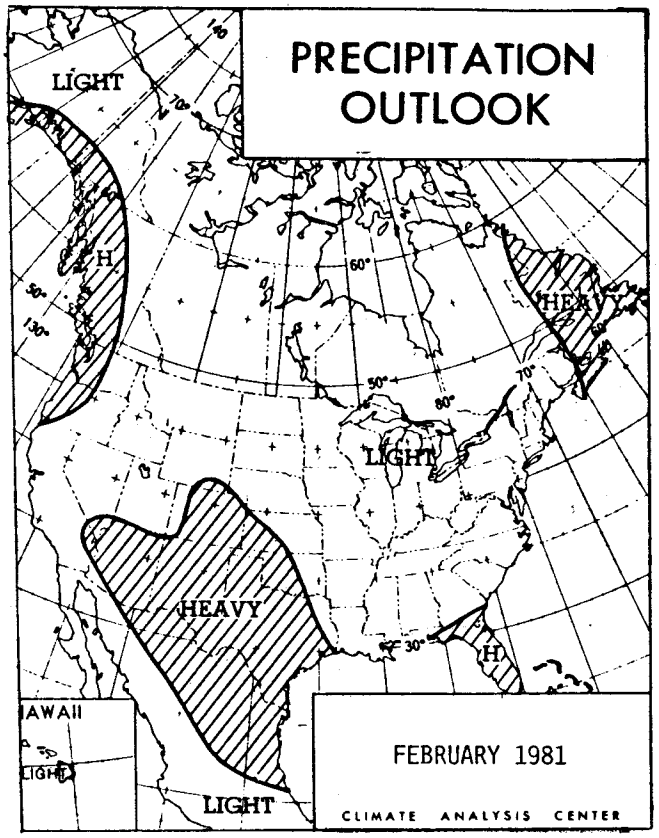

DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
January 26-February 1, 1981
ALASKA
Barrow +16
Nome +8
Fairbanks +35
Anchorage +15
Juneau +4
Cold Bay +7
Kodiak
HAWAII
Lihue +3
Honolulu +2
Kahului
Hilo +1
Shaded Areas Normal or Above
Based on preliminary telegraphic reports
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
USCOMM ESSA-DC


AVERAGE SOIL TEMPERATURE 4-INCH BARE
January 26-February 1, 1981
WHEAT CAN DEVELOP
IRISH POTATOES CAN DEVELOP
CORN & SORGHUM CAN DEVELOP
COTTON, SOYBEANS, & TENDER VEGETABLES CAN DEVELOP
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary telegraphic reports


CLIMATOLOGICAL DIVISIONS FOR PALMER DROUGHT INDEX
MARYLAND

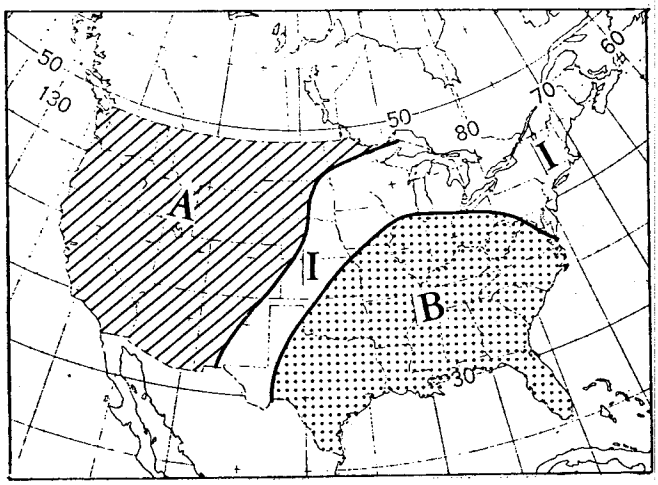
Average Monthly Weather Outlook





OUTLOOK FOR 90 DAY AVERAGE TEMPERATURES

FEBRUARY THROUGH APRIL 1981



A — ABOVE NORMAL, 60% CHANCE OF OCCURRENCE

B — BELOW NORMAL, 60% CHANCE OF OCCURRENCE

I — INDETERMINATE, 50% CHANCE OF ABOVE NORMAL
50% CHANCE OF BELOW NORMAL

The two categories Above and Below are to be compared to the long-term average or "normal" temperatures of the year 1941-70. Each category has a natural climatic frequency or probability of 50%. Each carries a 60% probability of occurring where forecast (shaded area), based on the verification scores of twenty-two years of experimental seasonal predictions.

NOAA, National Weather Service, Climate Analysis Center

Weather Data for the Week Ending Feb. 1, 1981

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	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	60	37	68	29	48	3	1.6	.4	1.4	3.3	32	87	48	0	2	3	1
	MOBILE	68	45	73	38	57	5	1.2	.2	1.0	3.5	32	86	48	0	0	3	1
	MONTGOMERY	65	40	70	31	52	4	.3	-.7	1.6	4.3	47	85	46	0	1	3	1
AK	ANCHORAGE	36	23	46	11	29	15	.2	0	.1	1.4	70	85	73	0	7	3	0
	BARROW	6	-6	23	-16	0	16	T	0	T	.3	60	88	59	0	7	1	0
	FAIRBANKS	33	14	39	2	26	35	.2	.1	.1	.6	60	71	48	0	7	4	0
	JUNEAU	34	25	40	15	29	4	.2	-.7	.1	--	--	96	78	0	7	3	0
	KODIAK	43	33	53	26	38	7	5.1	3.9	1.4	18.1	179	82	80	0	7	4	3
	NOME	26	3	35	-23	14	8	.5	.3	.2	1.7	106	75	64	0	7	4	0
AZ	FLAGSTAFF	41	19	47	0	30	1	.8	.4	.5	2.7	64	92	26	0	7	3	1
	PHOENIX	66	42	70	35	54	1	T	-.1	T	.8	57	57	21	0	0	0	0
	TUCSON	62	37	67	29	49	-2	0	-.2	0	1.5	94	64	24	0	1	0	0
	WINSLOW	52	25	58	17	39	4	T	-.1	T	.9	100	--	--	0	6	1	0
	YUMA	69	42	73	35	56	-1	T	-.1	T	.3	33	63	26	0	0	0	0
AR	FORT SMITH	51	30	64	23	40	0	.8	.1	.7	2.8	52	82	51	0	5	3	1
	LITTLE ROCK	52	34	63	27	43	2	1.5	.5	1.0	4.6	56	71	53	0	4	4	1
CA	BAKERSFIELD	59	43	69	33	51	1	.8	.5	.6	1.1	65	--	48	0	0	4	1
	EUREKA	54	41	60	35	47	-1	2.3	.7	1.0	13.8	97	92	63	0	0	4	3
	FRESNO	52	39	60	31	45	-2	1.8	1.3	.7	3.1	86	99	68	0	1	5	2
	LOS ANGELES	63	48	65	43	55	0	1.2	.5	.8	3.1	70	68	50	0	0	3	1
	RED BLUFF	56	40	65	34	48	1	2.4	1.4	1.1	8.1	95	--	57	0	0	5	2
	SAN DIEGO	64	50	66	44	57	1	1.1	.7	.5	1.8	50	78	55	0	0	4	0
	SAN FRANCISCO	56	43	59	37	50	1	3.8	2.9	1.9	7.6	88	81	59	0	0	4	2
	STOCKTON	56	40	58	32	48	2	2.9	2.3	1.3	5.5	96	--	64	0	1	4	3
CO	DENVER	44	17	57	-1	30	-1	.2	.1	.2	.4	44	69	34	0	7	2	0
	GRAND JUNCTION	44	25	52	18	35	6	.1	-.1	T	.3	27	71	36	0	6	3	0
	PUEBLO	47	19	60	13	33	1	.2	.1	.2	.2	20	71	36	0	7	1	0
CT	BRIDGEPORT	38	23	47	13	30	0	T	-.6	T	1.4	21	63	70	0	7	1	0
	HARTFORD	39	17	49	3	28	3	.1	-.7	.1	1.3	16	72	38	0	7	2	0
DC	WASHINGTON	50	31	63	20	41	5	T	-.6	T	1.1	17	60	45	0	4	0	0
FL	APALACHICOLA	64	43	70	33	53	-1	.5	-.3	.5	2.4	32	--	49	0	0	1	1
	DAYTONA BEACH	70	43	74	33	56	-3	T	-.6	T	1.6	36	84	47	0	0	2	0
	FORT MYERS	76	47	82	42	62	-2	0	-.4	0	1.2	33	93	46	0	0	0	0
	JACKSONVILLE	69	34	77	28	52	-3	.2	-.6	.2	1.2	19	89	40	0	3	1	0
	KEY WEST	73	59	79	52	66	-5	T	-.4	T	.8	22	93	67	0	0	1	0
	MIAMI	77	55	80	49	66	-1	T	-.5	T	.8	19	90	51	0	0	1	0
	ORLANDO	73	42	77	37	58	-3	T	-.6	T	.7	15	91	38	0	0	1	0
	TALLAHASSEE	68	36	73	28	52	-1	.7	-.3	.7	2.8	31	86	48	0	3	1	1
	TAMPA	71	44	78	37	57	-4	T	-.5	T	.8	15	93	53	0	0	1	0
	WEST PALM BEACH	76	52	78	47	64	-1	.1	-.6	.1	1.9	28	86	51	0	0	1	0
GA	ATLANTA	59	35	67	26	47	4	.9	-.1	.6	2.7	28	72	48	0	3	2	1
	AUGUSTA	60	31	67	22	46	-1	.3	-.6	.2	1.7	22	87	40	0	5	3	0
	MACON	64	37	71	29	51	2	.3	-.6	.1	2.2	27	91	46	0	2	4	0
	SAVANNAH	64	35	68	28	50	0	.5	-.2	.5	2.3	33	77	37	0	2	1	0
HI	HILO	--	--	--	--	73	1	1.0	-1.3	--	--	--	--	--	-	-	-	-
	HONOLULU	82	66	83	63	74	2	.2	-.7	.1	4.8	53	90	53	0	0	2	0
	KAHULUI	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	-	-
	LIHUE	--	--	--	--	74	3	.4	-.9	--	5.6	39	--	--	-	-	-	-
ID	BOISE	43	29	52	17	36	5	.4	.1	.4	2.7	87	76	60	0	5	3	0
	LEWISTON	46	34	54	30	40	7	.1	-.2	.1	1.8	60	83	60	0	3	2	0
	POCATELLO	35	25	42	18	30	5	.5	.3	.2	1.2	52	83	72	0	6	4	0
IL	CAIRO	46	29	57	19	38	1	1.6	.7	1.3	3.4	38	--	--	0	0	3	1
	CHICAGO	34	18	43	11	26	3	.2	-.1	.2	3.7	100	75	56	0	6	2	0
	MOLINE	35	14	40	7	25	2	.2	-.1	.2	3.1	67	75	33	0	6	2	0
	PEORIA	36	17	43	10	27	2	.2	-.2	.1	2.7	66	83	50	0	7	2	0
	ROCKFORD	33	16	41	6	24	3	.3	-.1	.2	3.0	75	75	45	0	6	3	0
	SPRINGFIELD	40	21	48	13	30	3	.3	-.1	.1	2.5	61	90	45	0	7	2	0
IN	EVANSVILLE	44	26	57	18	35	2	.8	.1	.8	2.2	30	77	44	0	6	2	1
	FORT WAYNE	33	21	42	8	27	1	1.0	.4	.7	4.1	76	73	54	0	6	1	1
	INDIANAPOLIS	39	23	54	13	31	3	.6	0	.6	1.9	31	84	41	0	6	1	1
	SOUTH BEND	36	21	47	6	29	5	.3	-.2	.3	4.9	86	81	58	0	5	3	0
IA	BURLINGTON	37	18	42	10	27	3	.3	0	.2	3.4	87	--	--	0	6	2	0
	DES MOINES	34	13	41	4	24	3	.3	.1	.2	1.4	54	71	46	0	7	2	0
	DUBUQUE	31	16	39	6	24	5	.2	-.1	.2	2.1	53	78	42	0	6	2	0
	SIOUX CITY	30	12	40	3	21	2	.4	.2	.4	.7	50	76	46	0	7	2	0
KS	CONCORDIA	39	15	54	5	27	-1	.1	-.1	.1	1.0	71	78	50	0	7	2	0
	DODGE CITY	43	19	58	9	31	-1	.2	0	.2	1.0	111	77	49	0	7	1	0
	GOODLAND	36	13	59	-4	25	-4	.9	.8	.8	1.0	111	81	50	0	7	3	1
	TOPEKA	40	19	52	10	30	0	.4	.2	.3	4.2	150	76	55	0	7	3	0
	WICHITA	45	23	58	15	34	1	.2	0	.2	2.4	109	71	43	0	7	2	0
KY	LEXINGTON	43	26	58	12	35	2	1.7	.8	1.7	3.7	43	79	44	0	6	1	1
	LOUISVILLE	46	29	60	17	37	3	1.4	.6	1.4	3.1	40	72	40	0	6	1	1
LA	BATON ROUGE	69	45	75	36	57	5	1.1	.1	1.0	4.7	44	96	53	0	0	3	1

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

Weather Data for the Week Ending Feb. 1, 1981

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	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
LAKE CHARLES	67	44	72	41	55	2	.4	-.6	.4	4.7	45	93	62	0	0	1	0
NEW ORLEANS	72	46	76	36	59	6	1.1	.1	1.0	3.5	32	95	50	0	0	3	1
SHREVEPORT	64	39	72	30	51	3	.8	-.1	.7	2.8	30	89	51	0	1	2	1
ME CARIBOU	26	5	40	-10	16	5	.2	-.3	.2	4.8	100	74	44	0	7	1	0
PORTLAND	35	15	46	1	25	4	.1	-.6	.1	2.3	27	72	48	0	7	1	0
MD BALTIMORE	46	24	54	13	35	1	T	-.6	T	1.2	17	69	42	0	6	0	0
MA BOSTON	39	23	49	13	31	2	.2	-.6	.2	2.0	22	65	36	0	6	1	0
CHATHAM	36	23	43	14	29	--	.1	--	.1	--	--	82	61	0	7	1	0
MI ALPENA	27	6	40	-6	17	0	.2	-.2	.2	2.9	71	--	--	0	7	2	0
DETROIT	33	20	46	2	26	1	.7	.3	.7	3.5	76	84	66	0	6	3	1
FLINT	30	16	42	0	23	1	.4	.2	.4	3.9	102	89	66	0	6	3	0
GRAND RAPIDS	33	17	45	3	25	2	.3	-.1	.3	4.4	100	84	58	0	6	2	0
HOUGHTON LAKE	28	5	36	-12	16	-1	.3	0	.1	3.0	79	82	49	0	7	3	0
LANSING	30	17	39	0	24	2	.3	-.1	.2	3.7	86	89	64	0	6	3	0
MARQUETTE	24	5	33	2	15	2	.8	.4	.3	4.4	113	88	45	0	7	5	0
MUSKEGON	30	16	41	3	23	0	.4	-.1	.3	4.5	83	88	63	0	7	2	0
SAULT STE. MARIE	23	1	35	-11	12	-2	.4	0	.4	5.2	111	84	58	0	7	2	0
MN DULUTH	21	3	31	-11	12	4	.3	0	.3	1.0	32	76	47	0	7	1	0
INT'L FALLS	18	-5	29	-17	6	4	.1	0	.1	.9	45	84	52	0	7	3	0
MINNEAPOLIS	27	9	35	-2	18	5	.2	.1	.1	.6	38	73	43	0	7	3	0
ROCHESTER	27	8	35	-1	18	4	.2	.1	.2	.7	50	87	52	0	7	3	0
SAINT CLOUD	24	4	29	-10	14	5	.3	.1	.2	.7	37	82	--	0	7	4	0
MS JACKSON	64	38	73	28	51	3	1.4	.3	1.4	3.7	34	91	50	0	1	1	1
MERIDIAN	67	38	74	29	52	5	1.7	.7	1.4	4.0	34	89	45	0	2	2	1
MO COLUMBIA	39	21	47	11	30	0	.7	.3	.6	2.1	54	67	41	0	6	3	1
KANSAS CITY	39	19	48	9	29	1	.5	.2	.5	6.0	200	63	41	0	7	2	0
SAINT LOUIS	41	24	51	16	33	0	.6	.1	.4	1.6	37	82	48	0	6	3	0
SPRINGFIELD	45	25	56	19	35	1	.8	.4	.4	3.1	69	81	45	0	7	2	0
MT BILLINGS	33	20	47	14	27	3	.2	.1	.1	.5	36	74	51	0	7	2	0
GLASGOW	23	10	31	2	17	6	T	-.1	T	.2	20	88	79	0	7	2	0
GREAT FALLS	27	14	36	5	21	-1	.1	-.1	.1	.7	39	88	70	0	7	2	0
HAVRE	25	16	33	10	19	6	T	-.1	T	.8	89	90	75	0	7	0	0
HELENA	34	19	42	14	26	6	.2	.2	.2	.6	60	86	62	0	7	1	0
KALISPELL	36	27	38	22	32	11	.2	-.1	.1	4.1	117	90	71	0	7	4	0
MILES CITY	28	17	39	9	23	6	.1	0	.1	.5	50	89	64	0	7	2	0
MISSOULA	38	26	42	23	32	9	T	-.2	T	1.5	52	86	65	0	7	3	0
NE GRAND ISLAND	33	13	45	5	23	0	.2	0	.2	.4	36	77	46	0	7	1	0
LINCOLN	36	16	47	3	26	3	.2	.1	.2	1.0	83	73	35	0	7	1	0
NORFOLK	31	14	41	3	22	2	.1	0	.1	.3	30	69	48	0	7	1	0
NORTH PLATTE	33	12	49	8	23	2	.1	-.1	T	.1	9	73	46	0	7	2	0
OMAHA	33	15	45	4	24	3	.3	.1	.3	.6	46	69	51	0	7	1	0
VALENTINE	27	14	38	8	20	-1	.1	0	.1	.6	60	79	61	0	7	1	0
NV ELY	37	12	43	-6	23	-2	.7	.5	.5	1.9	146	74	45	0	7	2	1
LAS VEGAS	57	37	62	31	47	1	.1	0	.1	.1	10	47	29	0	2	1	0
RENO	43	24	50	17	33	-1	.7	.5	.5	1.4	52	91	46	0	7	3	0
WINNEMUCCA	44	23	53	10	33	3	.4	.2	.2	.7	26	85	47	0	6	6	0
NH CONCORD	34	11	44	-1	22	2	.1	-.5	.1	1.3	20	77	37	0	7	1	0
NJ ATLANTIC CITY	41	20	53	5	30	-2	0	-.8	0	1.4	16	87	49	0	6	0	0
TRENTON	42	26	50	15	34	2	T	-.6	T	.9	13	--	--	0	4	1	0
NM ALBUQUERQUE	51	20	60	16	36	-1	T	-.1	T	.8	80	64	22	0	7	0	0
ROSWELL	59	30	68	24	45	5	0	-.1	0	.5	56	--	--	0	6	0	0
NY ALBANY	33	15	44	-1	24	3	.3	-.2	.3	2.2	38	77	53	0	6	3	0
BINGHAMTON	31	17	45	5	24	2	.2	-.4	.2	2.6	45	83	65	0	6	2	0
BUFFALO	31	18	50	5	25	2	.6	0	.5	4.3	65	78	60	0	6	5	0
NEW YORK	41	26	48	15	34	2	T	-.6	T	1.2	17	70	49	0	4	1	0
ROCHESTER	31	12	50	-3	21	-2	.3	-.3	.1	3.8	73	78	56	0	6	5	0
SYRACUSE	34	16	51	6	25	2	.4	-.3	.3	5.2	77	80	53	0	7	4	0
NC ASHEVILLE	51	24	68	8	38	0	.9	.2	.8	1.7	22	87	58	0	6	3	1
CHARLOTTE	55	28	66	14	41	-2	.2	-.6	.2	1.3	16	74	49	0	4	1	0
GREENSBORO	53	26	63	6	39	0	.2	-.5	.2	1.4	19	78	54	0	4	2	0
HATTERAS	52	33	63	24	42	-3	.6	-.4	.4	6.3	62	71	62	0	5	3	0
RALEIGH	54	22	64	6	38	-3	.2	-.5	.2	2.3	32	82	49	0	5	1	0
WILMINGTON	56	29	68	18	42	-5	.4	-.4	.4	6.5	96	76	45	0	5	2	0
ND BISMARCK	23	5	32	-7	14	5	T	-.1	T	.4	33	75	60	0	7	1	0
FARGO	19	1	26	-6	10	4	.1	0	T	.6	60	70	57	0	7	3	0
WILLISTON	20	5	32	0	13	4	T	-.1	T	.8	89	77	61	0	7	0	0
OH AKRON-CANTON	36	23	49	5	29	3	.8	.2	.8	3.6	63	73	46	0	6	2	1
CINCINNATI	40	24	56	13	32	0	1.2	.4	1.2	3.0	42	85	36	0	6	1	1
CLEVELAND	33	20	47	2	27	0	.7	.1	.6	3.6	63	78	63	0	6	4	1
COLUMBUS	39	25	55	11	32	3	1.2	.6	1.2	4.0	66	78	46	0	6	1	1
DAYTON	37	23	51	12	30	2	.8	.1	.9	2.7	46	80	48	0	6	1	1
TOLEDO	31	18	45	-1	25	0	.6	.2	.5	3.6	73	81	55	0	6	2	1
YOUNGSTOWN	31	18	47	1	25	0	.6	0	.5	2.7	42	78	59	0	6	4	1
OK OKLAHOMA CITY	51	27	66	21	39	1	.2	-.1	.2	1.8	64	78	46	0	7	1	0

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

Weather Data for the Week Ending Feb. 1, 1981

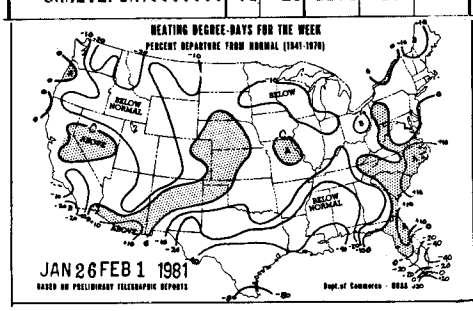
STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION					RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
														TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec. 1	PCT. NORMAL SINCE Dec. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
TULSA	50	29	64	22	39	2	.5	.2	.5	2.1	57	78	47	0	6	1	1
OR ASTORIA	50	36	53	30	43	1	1.3	-.8	.9	14.9	66	90	76	0	2	4	1
BURNS	35	17	39	6	26	-1	.4	0	.2	2.2	55	92	70	0	7	5	0
MEDFORD	48	34	55	26	41	3	.3	-.4	.3	3.2	41	90	66	0	3	3	0
PENDLETON	44	32	50	27	38	4	.7	.4	.4	2.1	55	73	70	0	3	5	0
PORTLAND	48	34	55	30	41	2	.9	-.3	.4	11.3	84	89	72	0	3	3	0
SALEM	47	31	54	30	39	-1	1.2	-.2	.5	12.6	83	100	73	0	5	3	1
PA ALLENTOWN	41	22	49	13	32	5	.3	-.3	.3	1.6	22	80	49	0	7	1	0
ERIE	33	20	51	3	26	2	.6	.1	.4	3.8	62	--	--	0	6	5	0
HARRISBURG	39	21	49	14	30	-1	.3	-.3	.3	1.6	25	73	41	0	7	1	0
PHILADELPHIA	43	23	52	15	33	1	.1	-.6	T	1.3	19	81	48	0	6	2	0
PITTSBURGH	36	19	52	4	28	0	.7	0	.8	2.7	45	79	54	0	6	1	1
SCRANTON	37	21	47	10	29	3	1.2	.8	.8	3.0	60	73	56	0	5	3	1
RI PROVIDENCE	41	20	50	9	30	2	.1	-.8	T	2.4	28	62	43	0	6	2	0
SC CHARLESTON	62	32	70	25	47	-2	.5	-.1	.5	2.2	28	85	38	0	5	1	1
COLUMBIA	60	30	68	20	45	-1	.3	-.6	.2	2.2	28	80	42	0	5	2	0
GREENVILLE	53	29	67	18	41	-2	.1	-.8	.1	1.0	11	68	49	0	5	2	0
SD ABERDEEN	23	7	35	-4	15	5	.1	-.1	.1	.3	30	79	56	0	7	1	0
HURON	27	10	36	-3	19	5	.1	0	.1	.2	20	59	57	0	7	3	0
RAPID CITY	29	16	38	8	22	-1	.1	-.1	.1	.8	80	82	61	0	7	3	0
SIOUX FALLS	27	10	35	-4	19	4	.2	0	.1	.5	38	71	49	0	7	3	0
TN CHATTANOOGA	53	33	63	26	43	2	2.2	.9	1.4	4.2	34	78	52	0	4	3	2
KNOXVILLE	48	30	60	14	39	-2	1.6	.5	1.0	3.8	37	80	62	0	5	5	1
MEMPHIS	56	38	66	30	47	6	1.4	.2	.8	4.4	40	76	51	0	2	4	1
NASHVILLE	52	32	68	17	42	3	2.3	1.2	1.8	4.8	45	75	38	0	4	4	1
TX ABILENE	61	35	73	28	48	3	0	-.3	0	2.9	126	74	41	0	2	0	0
AMARILLO	51	20	70	13	36	-1	T	-.1	T	.5	42	74	28	0	7	0	0
AUSTIN	66	47	76	39	56	6	.2	-.4	.2	3.1	65	83	56	0	0	2	0
BEAUMONT	68	47	72	42	57	4	1.2	.2	.9	6.4	63	95	61	0	0	2	1
BROWNSVILLE	77	56	81	52	67	6	T	-.3	T	3.6	104	96	54	0	0	1	0
CORPUS CHRISTI	72	53	76	47	63	5	.2	-.3	.1	2.9	81	89	58	0	0	4	0
DEL RIO	70	46	79	42	58	6	0	-.2	0	1.6	160	79	42	0	0	0	0
EL PASO	60	34	66	27	47	2	0	-.1	0	1.2	133	66	21	0	2	0	0
FORT WORTH	58	35	77	32	47	1	.3	-.2	.2	2.1	51	78	57	0	4	2	0
GALVESTON	64	54	66	47	59	5	1.1	.4	.6	4.3	59	91	70	0	0	3	2
HOUSTON	72	46	79	40	59	7	.5	-.4	.4	4.0	46	91	49	0	0	2	0
LUBBOCK	57	27	72	19	42	2	0	-.1	0	.9	100	78	19	0	6	0	0
MIDLAND	61	33	72	24	47	2	0	-.1	0	1.7	189	67	23	0	3	0	0
SAN ANGELO	65	37	76	31	51	4	0	-.2	0	3.3	236	72	41	0	3	0	0
SAN ANTONIO	69	46	77	36	58	6	.1	-.4	.1	2.7	73	79	54	0	0	1	0
VICTORIA	70	50	75	40	60	6	.4	-.1	.2	3.1	72	89	59	0	0	3	0
WACO	64	39	75	33	51	4	.2	-.3	.2	3.8	88	81	50	0	0	1	0
WICHITA FALLS	57	32	79	28	45	2	.1	-.2	.1	2.2	81	58	43	0	3	1	0
UT BLANDING	39	19	43	13	29	0	.1	-.1	.1	.3	11	68	53	0	7	2	0
SALT LAKE CITY	42	30	50	20	36	6	.5	.2	.2	1.0	31	80	54	0	5	3	0
VT BURLINGTON	29	12	43	-5	20	4	.2	-.3	.2	2.2	51	73	52	0	6	1	0
VA LYNCHBURG	47	27	62	16	37	0	T	-.6	T	1.0	15	69	--	0	4	0	0
NORFOLK	50	28	62	16	39	-1	T	-.8	T	3.5	52	74	44	0	6	0	0
RICHMOND	52	25	65	15	39	1	T	-.7	T	1.0	15	66	34	0	6	0	0
ROANOKE	48	25	62	9	36	-1	T	-.7	T	.9	14	68	47	0	6	2	0
WA COLVILLE	40	30	45	19	35	9	.4	0	.2	4.3	100	--	--	0	4	3	0
OMAK	44	30	52	24	37	--	.8	--	.3	3.6	--	--	--	0	5	4	0
QUILLAYUTE	48	33	52	27	40	0	2.0	-1.2	.8	22.6	66	96	75	0	4	7	2
SEATTLE-TACOMA	46	36	49	34	41	2	1.0	-.2	.5	9.9	76	92	71	0	0	5	1
SPOKANE	39	29	44	25	34	7	.3	-.2	.2	4.7	85	92	79	0	6	3	0
WALLA-WALLA	44	34	49	30	39	5	.5	.1	.2	3.9	85	85	75	0	2	5	0
YAKIMA	46	32	52	25	39	9	.6	.3	.3	3.7	128	90	57	0	2	3	0
WV BECKLEY	42	22	53	5	32	0	.2	-.6	.2	2.0	26	64	34	0	6	1	0
CHARLESTON	47	26	63	8	37	2	1.0	.2	1.0	3.8	50	65	37	0	5	1	1
HUNTINGTON	46	27	60	13	36	1	1.7	1.0	1.7	4.3	63	69	38	0	6	1	1
PARKERSBURG	42	24	58	13	33	0	1.5	.8	1.5	3.2	54	78	45	0	6	1	1
WI GREEN BAY	28	11	38	1	20	5	.2	0	.1	1.7	61	81	62	0	7	2	0
LA CROSSE	30	11	39	3	21	5	.1	-.1	.1	.8	38	74	45	0	7	2	0
MADISON	31	13	41	4	22	5	T	-.3	.1	1.9	56	82	45	0	7	2	0
MILWAUKEE	30	17	40	10	24	4	.2	-.1	.2	4.0	103	69	52	0	7	1	0
WY CASPER	36	13	47	-11	25	1	.2	.1	.2	1.8	200	68	37	0	7	4	0
CHEYENNE	39	16	49	-1	27	0	.2	.1	.1	.5	50	76	36	0	7	2	0
LANDER	37	14	47	-3	26	4	.6	.4	.5	.9	100	74	42	0	7	3	0
SHERIDAN	34	14	43	-5	24	2	.2	.4	.1	1.1	92	77	45	0	7	3	0
PR SAN JUAN	88	74	91	73	81	6	.6	-.2	.3	6.1	71	84	53	1	0	4	0

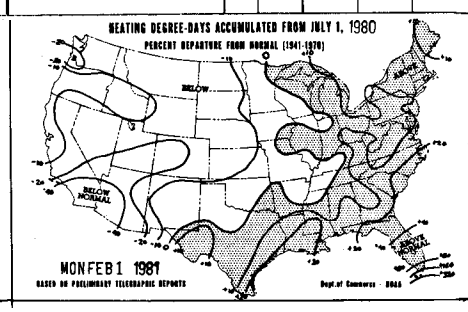
BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

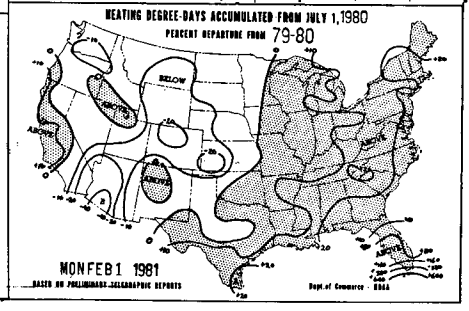
HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING FEB. 1, 1981.

BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JULY 1, 1980.

STATES AND STATIONS	WEEKLY TOTAL	WEEKLY DEPARTURE*	SEASONAL ACCUMULATION + TOTAL	SEASONAL ACCUMULATION + DEPARTURE*	SEASONAL ACCUMULATION + DEPARTURE FROM 1979-80
ALA. BIRMINGHAM	114	-30	2015	193	316
MOBILE	54	-44	1298	198	287
MONTGOMERY	87	-36	1655	171	378
ARIZ. FLAGSTAFF	245	-10	3080	-989	-997
PHOENIX	79	-11	448	-579	-298
TUCSON	107	11	806	-302	-100
WINSLOW	184	-27	2576	-349	-274
YUMA	65	2	266	-435	-144
ARK. FORT SMITH	170	-3	2190	-58	-17
LITTLE ROCK	155	-17	2070	-59	280
CALIF. BAKERSFIELD	97	-13	1144	-275	199
EUREKA	120	1	2329	-243	337
FRESNO	136	10	1479	-179	57
LOS ANGELES	67	-4	438	-472	-12
RED BLUFF	118	-8	1315	-314	-72
SAN DIEGO	55	-14	325	-460	-7
SAN FRANCISCO	106	-5	1546	-132	135
STOCKTON	117	-15	1556	-146	151
COLO. DENVER	243	-1	2744	-678	-794
GRAND JUNCTION	212	-43	2721	-745	-642
PUEBLO	223	-12	2770	-453	-574
CONN. BRIDGEPORT	239	-6	3382	428	494
HARTFORD	258	-22	4145	505	761
DEL. WILMINGTON	221	-10	3137	277	442
D.C. WASHINGTON	168	-35	2479	-31	378
FLA. APALACHICOLA	80	1	1118	241	272
DAYTONA BEACH	63	7	799	241	285
FORT MYERS	27	-6	389	100	234
JACKSONVILLE	91	14	1137	281	258
KEY WEST	9	2	155	121	141
LAKELAND	53	8	726	303	424
MIAMI	3	-11	229	105	152
ORLANDO	48	1	682	233	333
TALLAHASSEE	90	1	1372	340	290
TAMPA	53	4	750	300	436
WEST PALM BEACH	10	-11	282	96	118
GA. ATLANTA	125	-29	1988	45	324
AUGUSTA	134	1	1929	284	299
MACON	99	-20	1547	83	307
SAVANNAH	106	1	1523	254	393
IDAHO. BOISE	203	-35	3270	-200	2
LEWISTON	173	-49	2792	-508	-257
POCATELLO	243	-37	3883	-239	-90
ILL. CAIRO	191	-5	2364	-26	99
CHICAGO	255	-38	3746	-28	242
MOLINE	281	-19	3833	44	99
PEORIA	268	-16	3675	53	16
ROCKFORD	272	-39	3927	-90	-124
SPRINGFIELD	241	-23	3370	45	195
IND. EVANSVILLE	210	-13	2904	75	113
FORT WAYNE	266	-9	3789	182	130
INDIANAPOLIS	236	-23	3535	225	236
SOUTH BEND	252	-35	3571	-142	300
IOWA. BURLINGTON	271	-19	3700	41	85
DES MOINES	289	-24	3688	-283	107
DUBUQUE	288	-38	4060	-221	66
SIOUX CITY	304	-17	3918	-233	-30
KANS. CONCORDIA	267	5	2993	-373	-211
DODGE CITY	241	12	2580	-446	-663
GOODLAND	278	24	3056	-511	-457
TOPEKA	245	-4	3082	-106	-63
WICHITA	217	-11	2650	-222	-126
KY. LEXINGTON	211	-13	3108	268	290
LOUISVILLE	194	-23	2797	-4	190
LA. BATON ROUGE	56	-42	1343	235	113
LAKE CHARLES	66	-25	1289	310	214
NEW ORLEANS	40	-50	1096	135	149
SHREVEPORT	93	-26	1576	169	118
MAINE. CARIBOU	344	-37	5891	440	841
PORTLAND	278	-30	4604	426	607
MD. BALTIMORE	209	-11	3035	258	510
MASS. BOSTON	234	-18	3675	558	689
MICH. ALPENA	326	-10	4783	80	274
DETROIT	271	-10	4173	502	456
FLINT	290	-11	4402	420	648
GRAND RAPIDS	278	-16	4168	317	595
HOUGHTON LAKE	326	-10	4948	252	476
LANSING	287	-14	4268	345	369
MARQUETTE	350	-21	5534	150	186
MUSKEGON	293	-1	4192	363	352
S. STE. MARIE	370	9	5828	749	773
MINN. DULUTH	367	-27	5649	75	369
INTERNATL FALLS	409	-29	6152	-23	-100
MINNEAPOLIS	328	-40	4560	222	71
ROCHESTER	329	-33	4619	174	138
ST. CLOUD	347	-44	5005	186	-48
MISS. JACKSON	96	-30	1804	321	129
MERIDIAN	88	-38	1689	124	162
MO. COLUMBIA	245	2	3173	112	117
KANSAS CITY	250	7	3131	115	25
ST. LOUIS	225	5	2834	44	84
SPRINGFIELD	208	-10	2718	63	219
MONT. BILLINGS	267	-24	3334	839	440
GLASGOW	337	47	4406	828	384
GREAT FALLS	307	6	3889	483	173
HAVRE	311	55	4369	740	86
HELENA	270	44	4191	604	306
KALISPELL	232	78	4356	675	266
MILES CITY	293	46	3773	873	536
MISSOULA	229	67	4110	590	301
NEBR. GRAND ISLAND	294	3	3434	383	288
LINCOLN	270	21	3317	412	230
NORFOLK	298	18	3724	406	169
NORTH PLATTE	296	13	3540	433	83
OMAHA	297	7	3701	71	90
VALENTINE	311	5	3700	539	408
NEV. ELY	283	1	3823	572	94
LAS VEGAS	126	6	1146	563	326
RENO	220	2	3033	453	11
WINNEMUCCA	219	-25	3312	532	33
N.H. CONCORD	297	-14	4901	695	917
N.J. ATLANTIC CITY	240	10	3544	717	685
TRENTON	220	-11	3277	439	647
N.MEX. ALBUQUERQUE	201	3	2581	-104	69
ROSWELL	140	-38	2223	-188	-75
N.Y. ALBANY	287	-21	4601	640	944
BINGHAMTON	286	-15	4635	538	754
BUFFALO	279	-15	4057	230	545
NEW YORK	219	-12	3286	537	665
ROCHESTER	303	11	4211	465	557
SYRACUSE	279	-15	4326	600	817
N.C. ASHEVILLE	194	5	2678	116	354
CHARLOTTE	166	12	2347	335	357
GREENSBORO	179	3	2621	259	397
HATTERAS	157	17	1961	441	529
RALEIGH	187	19	2469	299	409
WILMINGTON	142	13	1905	390	446
N.DAK. BISMARCK	356	-37	4642	-657	-482
FARGO	383	-28	5269	-163	-60
WILLISTON	363	-28	4685	-702	-358
OHIO. AKRON-CANTON	247	-26	3826	262	324
CINCINNATI	230	4	3473	468	416
CLEVELAND	267	-3	3932	453	505
COLUMBUS	227	-25	3518	159	329
DAYTON	242	-13	3662	352	375
TOLEDO	283	3	4227	536	572
YOUNGSTOWN	280	0	4222	565	621
OKLA. OKLAHOMA CITY	179	-10	2220	-89	42
TULSA	177	-14	2189	-120	88
OREG. ASTORIA	151	-13	2287	-628	-212
BURNS	250	-16	3962	-308	19
MEDFORD	166	-21	2559	-319	69
PENDLETON	187	-30	2917	-552	-442
PORTLAND	167	-12	2153	-620	-265
SALEM	178	5	2518	-241	-156
PA. ALLENTOWN	232	-33	3475	106	480
ERIE	271	-15	3936	175	608
HARRISBURG	231	-10	3307	297	412
PHILADELPHIA	220	-11	3265	433	563
PITTSBURGH	260	1	3843	381	482
SCRANTON	251	-22	4034	409	765
R.I. PROVIDENCE	241	18	3859	544	870
S.C. CHARLESTON	123	11	1637	268	336
COLUMBIA	140	7	2043	374	292
GREENVILLE	164	10	2282	297	430
S.DAK. ABERDEEN	348	-36	4510	-572	-196
HURON	324	-38	4300	-450	-85
RAPID CITY	294	2	3526	-629	-341
SIOUX FALLS	323	-27	4330	-304	-30
TENN. CHATTANOOGA	152	-16	2396	191	274
KNOXVILLE	179	11	2583	415	495
MEMPHIS	123	-43	1856	-150	45
NASHVILLE	159	-23	2405	100	188
TEXAS. ABILENE	117	-25	1638	-44	-3
AMARILLO	204	7	2559	-23	-153
AUSTIN	60	-44	1148	8	26
BEAUMONT	55	-36	1203	209	184
BROWNSVILLE	1	-48	523	104	89
CORPUS CHRISTI	17	-48	709	179	211
DEL RIO	45	-48	1084	10	134
EL PASO	124	-15	1787	-28	-44
FORT WORTH	127	-8	1576	54	62
GALVESTON	44	-37	959	204	153
HOUSTON	41	-48	1065	125	17
LUBBOCK	158	-20	2106	-113	-56
MIDLAND	124	-18	1987	275	245
SAN ANGELO	96	-27	1550	67	-87
SAN ANTONIO	54	-42	1086	38	110
VICTORIA	34	-49	959	153	41
WACO	93	-28	1396	-58	-110
WICHITA FALLS	138	-18	1815	-42	13
UTAH SALT LAKE CITY	200	-48	3149	-398	27
VT. BURLINGTON	310	-33	5166	707	1119
VA. LYNCHBURG	189	-7	2794	236	315
NORFOLK	180	5	2377	336	409
RICHMOND	181	-8	2739	349	588
ROANOKE	201	5	2775	188	294
WASH. QUILLAYUTE	170	-8	2852	-449	-146
SEATTLE-TACOMA	165	-14	2489	-468	-210
SPOKANE	216	-48	3656	-407	-255
WALLA WALLA	183	-27	2635	-340	-349
YAKIMA	179	-67	3023	-683	-692
W.VA. BECKLEY	230	1	3548	247	308
CHARLESTON	202	-8	3086	316	362
HUNTINGTON	199	-11	3048	271	414
PARKERSBURG	221	-3	3137	269	304
WIS. GREEN BAY	315	-35	4752	113	350
LACROSSE	292	-50	4240	114	36
MADISON	300	-36	4442	-45	143
MILWAUKEE	289	-27	4261	51	455
WYO. CASPER	279	7	3731	-536	-758
CHEYENNE	261	-3	3410	-620	-627
LANDER	275	-31	3872	-697	-759
SHERIDAN	274	-25	3766	-650	-537







FLORIDA'S SEVERE FREEZE AFFECTS CITRUS: JANUARY 12 - 14, 1981

Don Haddock, NOAA/USDA Agricultural Weather Facility

Florida's citrus production had barely recovered from the 1977 freeze before being hit again on January 12-14, 1981. Damage to citrus and vegetables was widespread, generally ranging from moderate to severe. The sunshine State supplies about 80 percent of the Nation's citrus, with most going into juice concentrate which can be partially salvaged after a freeze. The country's supply of fresh, tender vegetables will be reduced for a while since South Florida is the major winter source. Principal citrus areas are shown in figure 1, and winter vegetable areas are shown in figure 2.

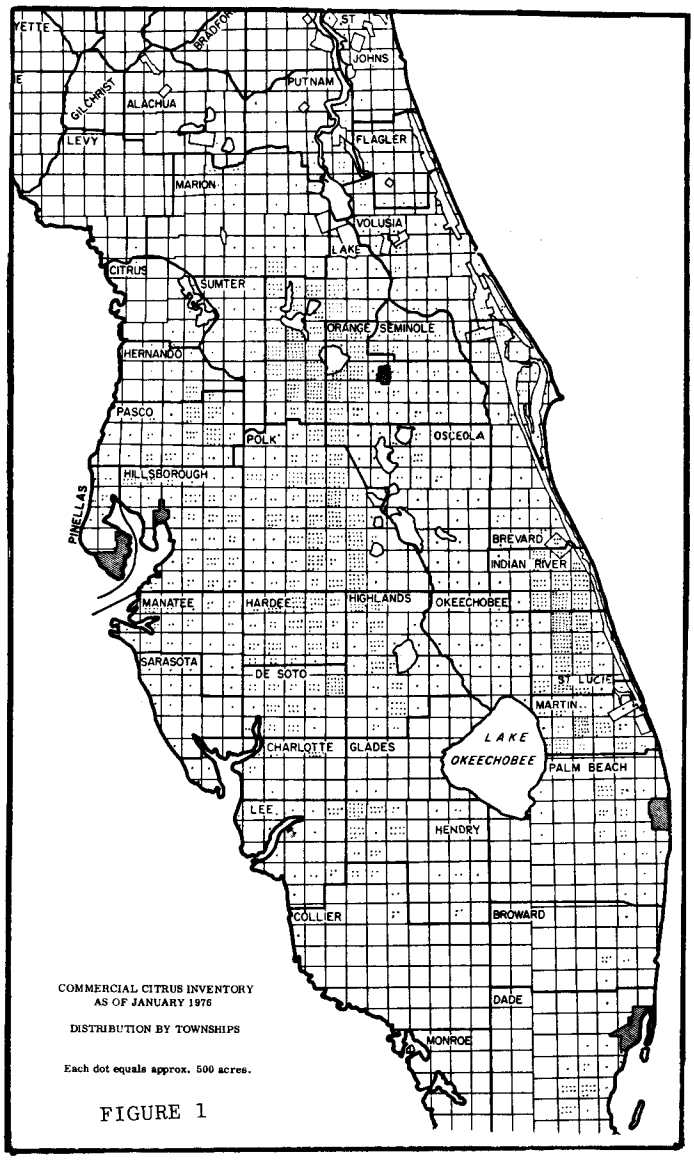


FIGURE 1

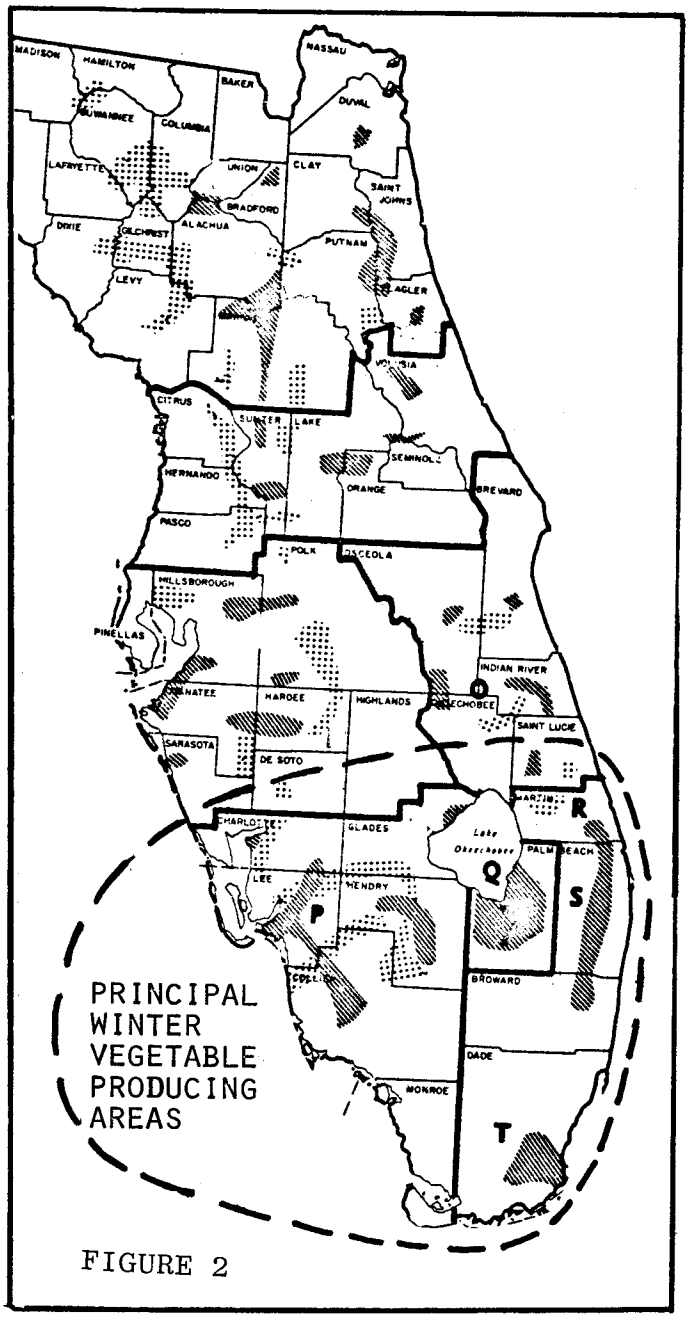


FIGURE 2

SOUTHWEST

P. Ft. Myers-Immokalee - Sweet corn cucumbers, eggplant, peppers, potatoes, squash, tomatoes, watermelons.

EVERGLADES

Q. Bush beans, cabbage, celery, Chinese cabbage, sweet corn, escarole, greens, lettuce, potatoes, radishes.

SOUTHEAST

R. Martin county - Cabbage, potatoes, tomatoes, watermelons.

S. Pompano - Bush beans, lima beans, sweet corn, cucumbers, eggplant, peppers, squash, tomatoes.

T. Homestead - Bush and pole beans, cabbage, sweet corn, cucumbers, potatoes, squash, strawberries, tomatoes.

Appreciation is expressed to Fred Crosby, Jim Noffsinger, and the staff of the National Weather Service Office at Ruskin, Florida for supplying the observed temperature reports, and to the Florida Crop and Livestock Reporting Service, Orlando, for acreage and location maps of the citrus and vegetable producing areas.

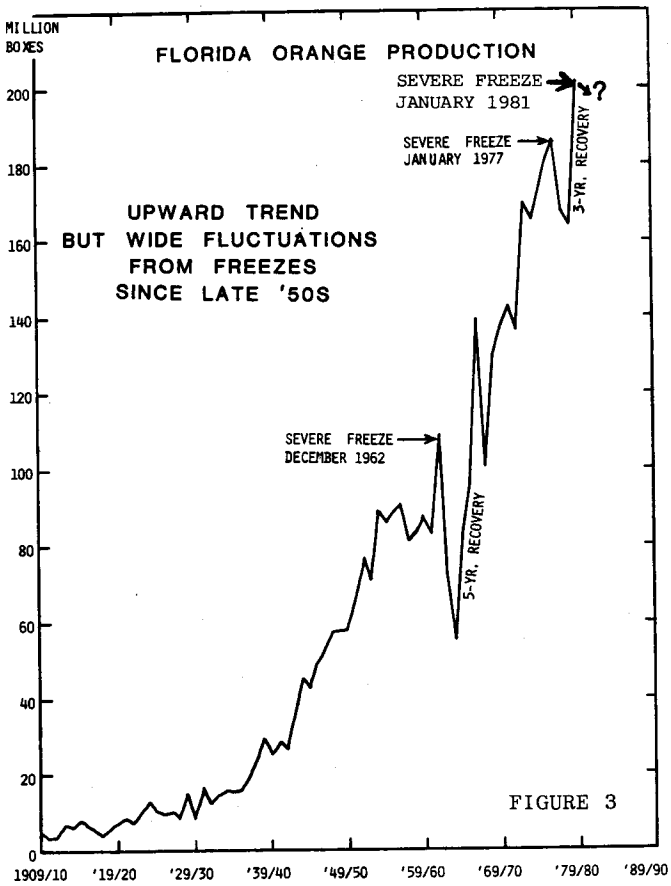


FIGURE 3

FLORIDA CITRUS PRODUCTION HISTORY

Florida citrus has had numerous bouts with freeze during its history. It appears that citrus, introduced into Florida in the 1500's, had reached a production of more than 5 million boxes when the Great Freeze of 1894/95 almost totally wiped out the citrus industry. It took until 1909/10 before that level was reached again. Florida's orange production increased slowly during the next couple of decades, figure 3, then climbed rapidly after the mid 1930's to dominate the Nation's supply.

An interesting feature of the production rise curve is the steadiness prior to the late 1950's and the wide fluctuations, primarily caused by freeze, thereafter. Good weather generally prevailed for citrus during the 1930's and 40's, while the need for more frequent cold protection has been the rule since then.

CITRUS PRODUCTION RECOVERY

The period required for citrus production to climb back to prefreeze levels often varies with the intensity and duration of the freeze. The recovery period was 5 years following the "severe" freeze of 1962, 3 years after the 1977 severe freeze and 1 to 3 years after the hard freezes of the 1950's.

As a general rule, the recovery period for citrus production for the various types of freezes can be summarized as follows:

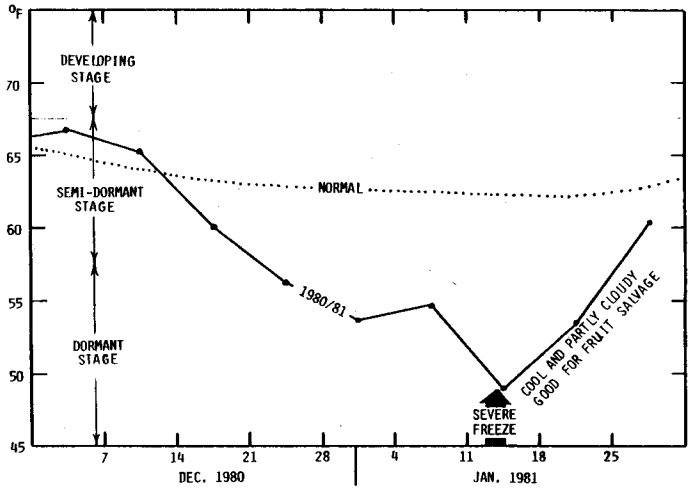
Freeze types	Minimum temperature (°F)	Citrus recovery (No. of years)
Light	32 - 29	0
Moderate	28 - 25	0
Hard	24 - 21	1-3
Severe	<20	3-7

Freezes "back to back" or before the trees have fully recovered can be very devastating to a citrus industry. This happened to the citrus industry in the Lower Rio Grande Valley of Texas when the 1949 severe freeze was followed by another severe freeze of long duration in 1951. Production did not return to the prefreeze-1948 level before another one occurred in 1962. Production this year is expected to be only 43 percent of what it was in 1948.

FLORIDA METEOROLOGICAL SITUATION - 1980/81

Abnormally cool weather (figure 4) set in over Florida by mid December under a persistant northwesterly flow aloft, and intensified as the winter progressed. The weekly mean temperatures dropped to 9° below normal by the end of the year and 13° below seasonal by mid January. This developed an unusual degree of cold hardiness or dormancy, equal to that of southern California citrus trees. This preconditioning allowed Florida's trees to better withstand the ensuing severe freeze.

FIGURE 4 FLORIDA ORANGE BELT - WEEKLY MEAN TEMPERATURE (ORLANDO, TAMPA, FORT MYERS AND WEST PALM BEACH)

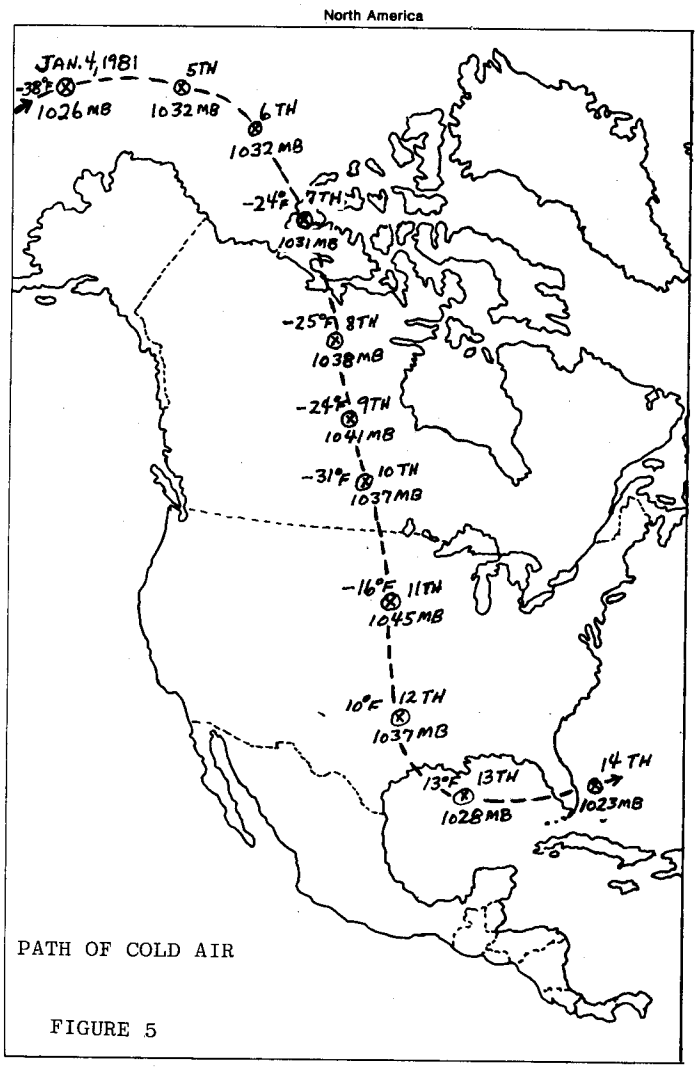


SIBERIAN AIR MOVES THROUGH NORTH AMERICA

Extremely cold (-53°F) air began moving northeastward out of Siberia around January 3rd. It was steered north of Alaska by the jet stream (strong band of winds aloft), through central parts of Canada and the United States, and into Florida by the 12th (figure 5). Temperatures dropped rapidly as the super frigid, dry, windy airmass crossed the State. Cold protection with heaters, wind machines and sprinklers was difficult during the freeze advection phase or first night of the cold outbreak.

Minimum temperatures on the morning on the 13th dipped to 9 degrees at a northwestern citrus site to 31 degrees in the Homestead vegetable area. East Coast grapefruit, which is slightly more cold hardy than orange, experienced temperatures of only 24 degrees.

The radiational phase of the freeze set in on the second night as winds became mostly calm. Usually this is the coldest time of a freeze, but the airmass had modified or warmed slightly over the subtropical waters of the Gulf of Mexico. Minimum temperatures on the morning of the 14th ranged from 17° in some northwestern citrus districts to 40° at Homestead. However, temperatures in the east coast citrus area dropped to 23° -- was cold enough to damage some grapefruit twigs, leaves, and fruit.



PATH OF COLD AIR

FIGURE 5

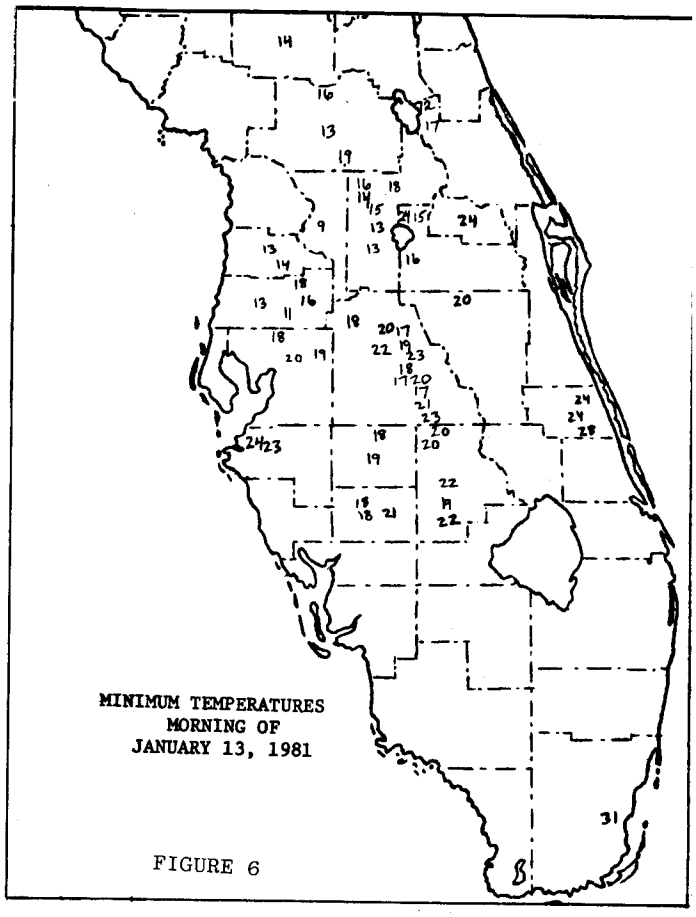


FIGURE 6

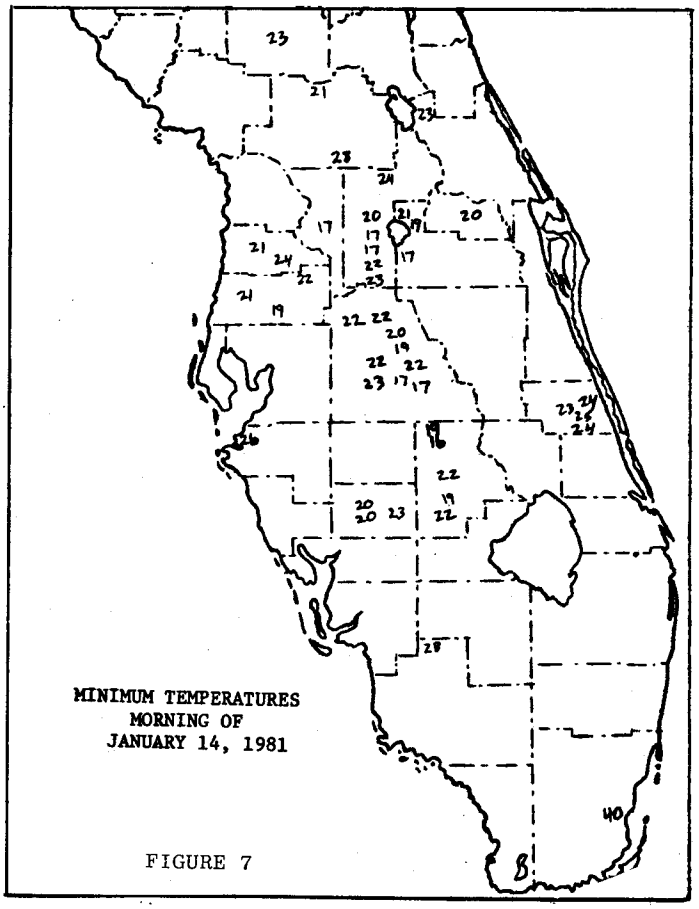


FIGURE 7

CRITICAL TEMPERATURES

Critical temperature threholds for citrus are shown in the table below:

Citrus	Winter (Dec to mid-Feb)	Spring (mid to Feb-March)
Bloom		29 - 30
Fruit-orange	26	29 small green
Grapefruit	25	29 small green
Leaves	24	27
Twigs	22	24
Branches	20	22

Temperature minima and durations of certain thresholds for the 1980/81 freeze are depicted in figures 6-9. For comparison, the minima of the 1962 and 1977 are shown in figures 10 and 11. These freezes are somewhat similar, with each causing considerable damage to citrus and vegetables.

RETURN PERIOD

The return period for severe freezes averages around 10 years, but has a great deal of variability. It is generally impossible to accurately forecast severe freezes more than a few days in advance, because of flucuations in upper air steering currents and airmass warming rates.

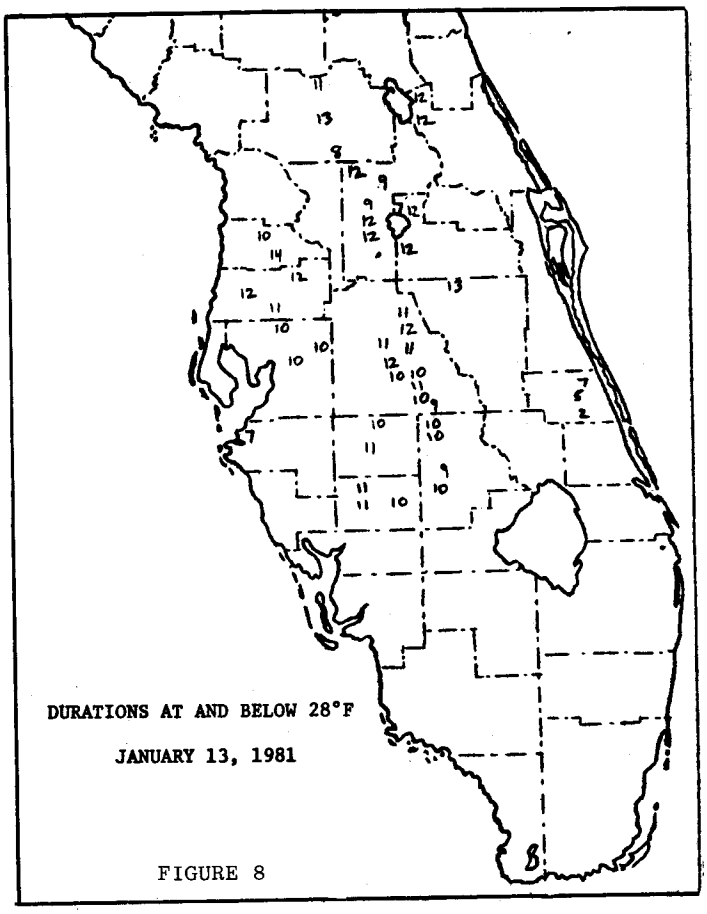


FIGURE 8

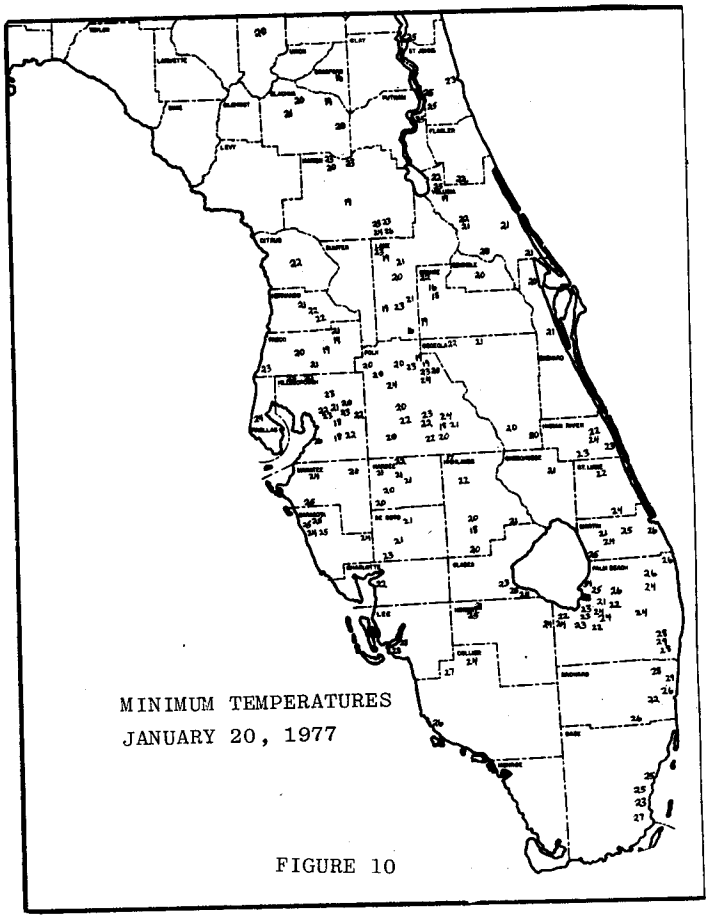


FIGURE 10

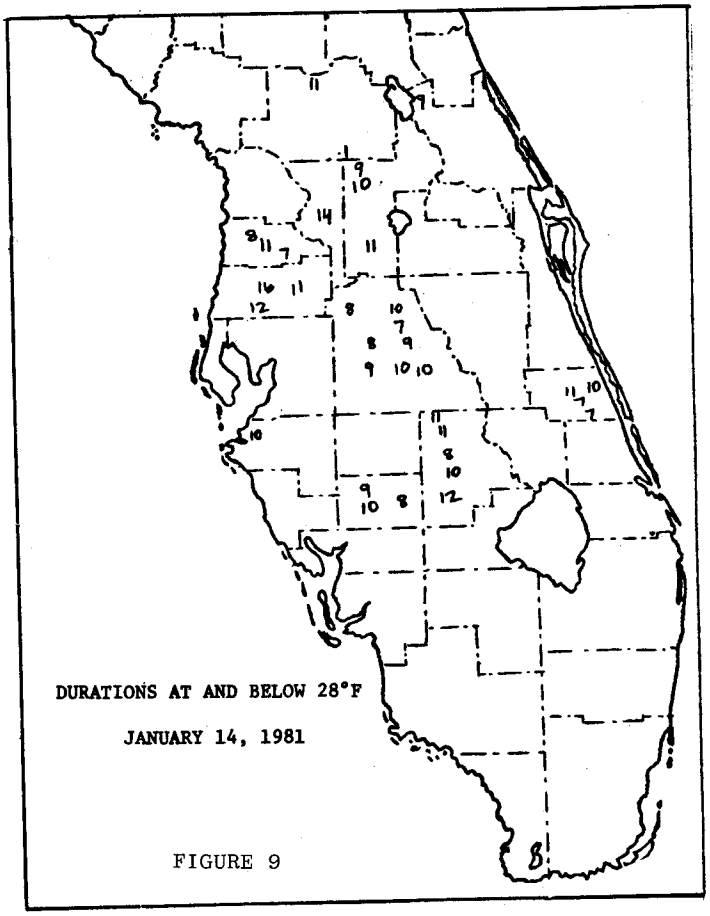


FIGURE 9

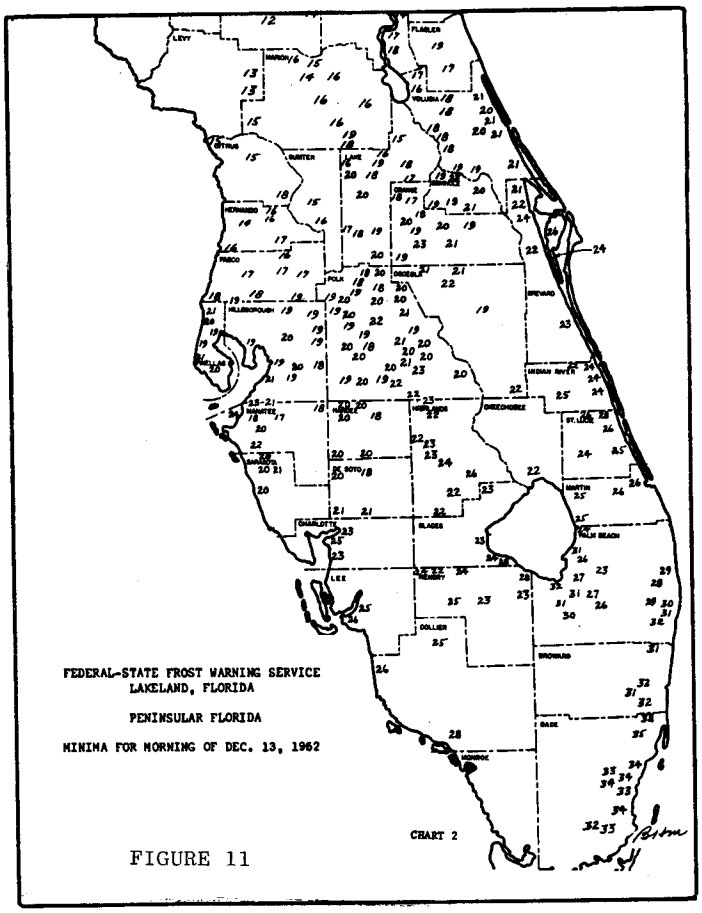


FIGURE 11

National Agricultural Summary

January 26 - February 1, 1981

HIGHLIGHTS: Above normal temperatures continued in the Corn Belt and extended into the South. Western Kansas, and Nebraska, along with East Coast States from Virginia to Florida experienced below normal temperatures. Nearly all areas of the Nation received moisture which helped replenish soil moisture supplies. However, soil moisture supplies were generally still rated as short. Most precipitation came at the end of the week in the form of snow in northern areas and rain in southern areas. Snow covered the Corn Belt and Plains States extending down to the middle of Kansas, Illinois, Indiana, and Ohio.

Many of the small grain fields were exposed and vulnerable to wind and freeze damage prior to the snowfall. Growers sprayed winter wheat fields for greenbug infestation in Kansas, Oklahoma, and the High Plains of Texas. Feed supplies were generally rated adequate in northern areas while some southern States were experiencing shortages of hay. Supplemental feeding requirements increased as weekend storms moved across nearly all areas of the country. Cotton harvest was virtually complete in Texas. Pruning of orchards and farm maintenance operations were the major farm activities. Some farmers took advantage of the mild weather in the South early in the week and started to prepare fields for planting.

SMALL GRAINS: Winter wheat generally rated fair to good in major production areas. Snow fell over several major producing areas providing varying degrees of protection from wind and freeze damage. Some areas of Montana, North Dakota, and Kansas were experiencing light to moderate amounts of wind damage earlier in the week. Warm weather continued to promote insect activity in many fields in Kansas, Oklahoma, and the High Plains of Texas. Greenbug infestation was the primary problem. Weeds were becoming a problem in some Oklahoma fields earlier than normal. Snowcover was common in North Dakota but generally light. As a result, high winds picked up dust, mixing it with snow.

OTHER CROPS: The cotton harvest was virtually complete in Texas. In Arizona, cotton residue disposal was virtually complete and pre-planting activities for new crop cotton were underway. Arizona sugarbeets were making excellent progress and some new crop alfalfa cutting was underway. In Florida, young sugarcane was rated in fair condition, while harvest of the sugarcane crop made excellent progress. In California, overwintered sugarbeets appear to be in good condition. In Kentucky, burley tobacco prices held firm during the eighth week of the tobacco auction.

FRUITS AND NUTS: Florida citrus trees continue to show freeze effects -- a lot of defoliation. Fruit drop varied by area. Strawberry plants in the Hillsborough-Manatee area recovering fairly well from cold weather. Volume is increasing but there is considerable gradeout because of cold damage.

Texas citrus harvest continues, with harvest of early oranges nearing completion. Grapefruit harvest is progressing well.

Arizona's main activity during the week consisted of lemon and tangerines harvest with limited amounts of grapefruit and few Valencias being harvested.

In California, almond buds were swelling and beehives were being moved into the orchards. All citrus is moving better due to rain and Florida embargo.

Pruning of deciduous fruit orchards was the call of the day in many southern areas of the country.

VEGETABLES: Weather was generally fair in the vegetable producing areas of Florida during the week. Total shipments were up 9% from the previous week. Supplies increased for cabbage, cauliflower, cucumber, escarole, lettuce, okra, parsley, and radishes. Volume continued about steady for celery, chinese cabbage, and tomatoes. Supplies of snap beans, carrots, sweet corn, eggplant, peppers, and squash declined.

Producers in the Rio Grande Valley of Texas were harvesting lettuce, cabbage, spinach, carrots, and cauliflower. Spring onions were rated in good condition. Cabbage and carrot harvest was active in the San Antonio-Winter Garden area.

Lettuce harvest in western Arizona was showing good progress. Mixed vegetable harvest was at a normal pace for the season.

Asparagus harvest increased in southern California. Carrot harvest fairly active in the desert; remains active in the Kern District. Cauliflower harvest active in coastal areas. Celery harvest limited by rain on the South Coast; some cutting in desert. Lettuce volume remained heavy in the Imperial Valley. Potato movement slowed somewhat. Tomato planting well along in southern areas.

PASTURE AND LIVESTOCK: Pastures generally rated poor to fair across the South due to short moisture supplies. Supplemental feeding was evident in all areas; requirements increased as storms moved in toward the end of the period.

In Florida, cattle were rated in mostly fair but poor condition in some areas.

In Texas, small grains provided some grazing as supplemental feeding continued. Livestock were rated mostly fair to good condition. Calving was progressing well with lambing expected to begin soon.

Arizona cattle on the desert rated poor to fair while those at higher elevations rated good.

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 ESS State offices in cooperation with the National Weather Service.

ALABAMA: Temperatures 3° above normal. Rain 28th and 1st; heaviest amount 2.35 in. Muscle Shoals.

Soil moisture short. Fieldwork: 4.8 days suitable. Plowing 45% complete. Feed supply: Pastures very short to short; stored feed short. Conditions: Wheat fair; pasture poor; livestock poor to fair. Activities: Care of livestock and poultry, plowing, soil testing, machinery and fence repair, spraying and pruning fruit trees.

ARIZONA: Winter storm 1st half week, light amounts precipitation northern two-thirds, coldest air of winter. Amounts ranged traces, to 0.50 in. Traces snow low as 4,500 ft., 1 to 4 in. over northern, eastern Mountains. Temperatures ranged -4 to +3°.

Cotton residue disposal virtually complete. Pre-plant activity new crop cotton underway. Small grain planting nearing completion, most fields good stand, earliest plantings stem elongation stage. Sugarbeets making excellent progress. Some new crop alfalfa cutting underway, recent warm temperatures accelerated new growth. Lettuce harvest western areas good progress. Mixed vegetable harvest seasonal progress. Dry onions, potatoes sprouting. Harvest lemons, tangerines, limited grapefruit, few Valencias, active during week. Ranges higher elevations fair. Desert ranges very poor to poor. Cattle poor to fair Deserts, good higher elevations. Sheep good to excellent. Water supplies short.

ARKANSAS: Mild week with a general rain toward the end of week. Highest normal 47°, lowest 38°. Highest mean 49°, lowest 37°. Highest temperature 71°, lowest 11°. All departures ranged from +3 to -4°. Most rainfall 2.39 in., least 0.08 in.

Wheat fair condition, helped by showers. Limited applications of nitrogen. Preparations for weed control. Pastures fair to poor. Hay supplies very short. Livestock fair to poor. Orchard preparations have begun. Pruning of apple, peach and grapes underway.

CALIFORNIA: A major change began developing over weekend. A strong and cold upper level trough shoved the stagnant West Coast ridge into the east. Precipitation began early in the weekend and spread nearly Statewide. Three distinct surges of moisture developed as the massive system moved ponderously across the State. Rainfall was measured in inches and snowfall in feet. Cooler air late in the week dropped the snow level in the Sierra Nevada to around 3,000 feet. Weekly mean temperatures were narrowly mixed but the above normal string of six consecutive weeks was broken.

Recent rainfall most beneficial to small grain crop. Herbicides being applied as weather permits. Overwintered sugarbeets appear to be in good condition. Most fieldwork halted due to wet conditions. Rain delayed dormant spraying and pruning. Almond buds swelling; bees moving in. All citrus moving better due to rain and Florida embargo. Asparagus harvest increased south. Broccoli decreased Central Coast; some supplies South Coast, Desert. Carrot harvest fairly active Desert; remains active Kern District. Cauliflower harvest active coastal areas. Celery harvest limited by rain South Coast; some cutting Desert. Lettuce volume remains heavy Imperial Valley. Potato movement slowed somewhat. Strawberry harvest very light South Coast. Tomato planting well along south. Rains and warmer temperatures greatly improved range conditions. Grass starting additional growth. Supplemental feeding necessary. Stock ponds full, spilling over, many areas.

COLORADO: First significant snowfall of the year in the mountains. Several locations received from 5 to 10 in. of new snow. Eastern Plains received generally less than 5 in. of snow. Temperatures still above seasonal normal by 5 to 9°.

FLORIDA: Generally fair, mild days, and cold nights. Daytime highs near normal, but nightly lows generally 10 to 15° below normal. Cold front at midweek and another near weekend brought 0.25 to 0.50 in. of rain.

Soil moisture short entire State. Sugarcane harvest excellent progress. Yound cane fair condition. Small grains fair condition, in need of moisture. Fieldwork limited due to dry soils. Farm activity expected to pick up sharply when moisture conditions improve. Pastures severely stressed by prolonged, much below normal temperatures and little rain. Scattered showers during week, mostly in Panhandle, and general showers beginning night of the 1st. However, forage crops will be slow responding without additional rising temperatures. Hay supplies being depleted several areas. Cattle mostly fair, but poor condition several areas. Citrus trees continue to show freezing effects, a lot of defoliation, fruit drop varies, all available irrigation being used. Lakes, ponds and streams very low. Harvest very active all areas for processing. Weather generally fair in vegetable areas. Daytime highs near normal but nighttime lows generally 10-15° below normal. Cold fronts middle and end of week brought 0.25 to 0.50 in. of rain. Irrigation continues very active. Total shipments up 9% from previous week. Supplies increased for cabbage, cauliflower, cucumbers, escarole, lettuce, okra, parsley, and radishes. Volume continued about steady for celery, chinese cabbage, and tomatoes. Supplies declined for snap beans, carrots, sweet corn, eggplant, peppers, and squash. Strawberry plants, Hillsborough-Manatee area, recovering fairly well. Volume increasing but considerable amount of gradeout because of cold damage. Planting, land preparation active for spring crops central, southern areas.

GEORGIA: Rainfall generally light with only scattered locations receiving amounts to around 0.66 in. Weekly temperatures 3 to 5° above normal. Moderate to heavy rain fell during 31st and 1st several locations more than 1.00 in. Temperatures subnormal north, above normal south.

Soil moisture continued short most areas. Moderate showers Statewide 31st and 1st provided temporary relief from dry conditions. Land preparations made good progress in southern areas. Small grains fair to good. Lime and fertilizer applications continued. Cattle and pasture fair to good. Tobacco plants fair to good.

HAWAII: Rainfall increased some parts of Island chain alleviating dry spell in several areas. However, no relief for the Hamakua-Waimea dis-

tricts, Island of Hawaii. Insufficient rainfall continues creating stress to agricultural plantings. Yield and quality down for some crops. Plantings other Islands making fair to good progress. Vegetables: Supplies adequate. Moderate to heavy for all cabbage crops. Bananas: Showers beneficial. Supplies light. Papayas: Rainfall timely. Most orchards received heavy amounts moderate supplies expected. Pineapples: Slow, harvesting erratic. Sugar: Harvesting down. Rains beneficial to some sections. Pastures: Generally fair to good. Poor in the dry areas.

IDAHO: Temperatures averaged 5 to 15° above normal. Slightly higher in the north. Snow early in week averaged 0.04 in. in Grangeville to 1.87 in. in Emmett.

Rain and snow causing mud; no adverse effect on calving and lambing. Pruning, attending meetings, bookwork, shipping potatoes.

ILLINOIS: Temperatures 1 to 4° above normal. Precipitation 0.16 to 0.30 in. north, 0.50 to 1.00 in. south. One to three in. snow north; up to 6.0 in. south.

Winter wheat mostly good. Livestock mostly good. Activities: Machinery repair, livestock feeding, manure hauling, general farmwork.

INDIANA: Temperatures averaged 2° above normal and ranged from 2 to 57°. Precipitation on weekend from 0.50 in. north increasing southeastward to 1.10 in. Snowcover from 1.00 in. in southeast to 5 in. extreme north.

Limited fieldwork. Fertilizing wheat, cutting wood, going to farm sales, working on taxes, cleaning fence rows, planting clover, chopping stalks, building and equipment maintenance, caring for livestock and usual chores.

IOWA: Mild and dry until January 31 and February 1 when 2 to 6 in. snow fell, followed by a turn to cold at the weekend. Weekend snowcover is generally 2 to 4 in. excepting to 6 in. some southwest and western-most counties.

KANSAS: Two winter storms produced 0.50 to 0.75 in. north and extreme east to less than 0.10 in. southwest quarter. Temperatures averaged 26 to 29° west and north central and 31 to 35° east and south central or 3° below normal northwest and southwest and normal to 2° above normal elsewhere.

Wheat condition fair, scattered light wind damage. Warm temperatures early in week encouraged greenbug activity south and west, light to moderate infestations. Precipitation late in week will help alleviate surface moisture shortage, subsoil moisture short statewide.

KENTUCKY: Temperatures averaged near the seasonal normal for week with above normal readings first part of week and below normal readings end of week and over weekend. Rainfall averaged 1.50 to 2.00 in. with most falling on 1st.

Burley tobacco prices held firm during eighth week of auctions. Volume increased considerably. Winter grains and livestock remain in satisfactory condition. Subsoil moisture continues below normal.

LOUISIANA: Rains general. Temperatures 1 to 4° above normal. Extremes: 29 and 76°.

Activities: Normal wintertime chores, caring for livestock, and preparations for spring planting.

MARYLAND AND DELAWARE: Temperatures averaged 2° above normal, except at Washington National Airport where temperatures averaged 6° above normal. Highs averaged to the low 20's. Precipitation was very light. Snow Hill reported the most precipitation at 0.01 in., while other areas reported no precipitation.

MICHIGAN: Temperatures averaged 2° below normal to 2° above normal Upper and 1° below normal to 3° above normal Lower. Precipitation averaged 0.30 in. to 0.50 in. Upper and 0.25 to 0.55 in. Lower. Rain and snow most areas over weekend with heaviest amounts in southeast.

MINNESOTA: Temperatures averaged 4 to 6° above normal in all districts except locally in the northeast 3° above normal. Extremes: 53° Waseca; -19° at International Falls. Precipitation averaged near normal northwest and north central, 0.10 to 0.20 in. above normal in the central districts, up to 0.10 in. above normal in the southern districts. Snowfall 1 in. northwest and north central, 5 in. in the northeast, 4 to 6 in. central districts, 2 to 5 in. southern districts. Snowdepth at week's end equivalent to snowfall except in the north central and northeast 6 to 13 in.

MISSISSIPPI: A cold front over the weekend brought widespread, much needed rain. Totals ranged from 1.50 to about 3.00 in. Greatest 24-hour rainfall 2.40 in. Temperatures ranged from 75 to 20°.

Soil moisture rated short before weekend rains. Fieldwork: 5.0 days suitable. Wheat and pasture poor. Livestock fair. Hay and roughage supplies short. Feed grains short to adequate.

MISSOURI: Temperatures averaged from 4 to 7° above normal. Precipitation in the form of rain and snow came late in the week, but amounts received weren't enough to overcome moisture deficiencies.

MONTANA: Light to moderate snow fell over State beginning and end of week. Some areas received over one-half in. of moisture, but most areas received less than one-fourth in. Temperatures averaged 4° above normal north central to 10° above northeast and southeast and 11° above west. Highest 52° Livingston, lowest 4° Cut Bank.

Winter wheat fair to good. Wind damage light to moderate. Snowcover light to moderate. Cattle and sheep good. Stock water supply short to adequate eastern part, adequate elsewhere.

NEBRASKA: Precipitation: Widespread snowfall during end of week. Amounts varied with some points in the southwest receiving over 0.50 in. of moisture. Temperatures: Average near normal.

Winter wheat mostly fair with 1 to 5 in. of snowcover common. Wind erosion light in most areas. Limited winter wheat kill during January due to extended dry conditions. Pasture and range feed supplies below average in majority of counties. Hay and forage supplies average or above over 85% of State. Livestock weight gains well above normal. Some early marketing of feedlot cattle.

NEVADA: Series of storms ended bluebird weather and brought much needed precipitation. Northwest received greatest amounts. Bulk fell as snow north and central, even at valley floors. Central Sierras received 10 feet snow, which made skiers happy. Mean temperatures slightly above normal most areas. Extremes: 64 and 4°.

Supplemental feeding requirements livestock increased with inclement weather. Livestock mostly good condition.

NEW ENGLAND: Moderate temperatures most of the period with high pressure dominating. Below normal precipitation continued with 2.00 to 5.00 in. of snow over southern and central parts of the region on the 30th and 31st.

NEW JERSEY: Temperatures near normal averaging 29° north, 33° south and 34° coastal. Extremes: 2° at Newton and 53° at Cape May Court House and Pomona. No significant precipitation during period.

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

NEW MEXICO: Temperatures mild most of the week but much colder over weekend. Very windy over weekend. Temperatures averaged near normal for most areas.

Soil moisture continued short. Main farm and ranch activities include supplemental feeding and some land preparation for spring planting. Winter wheat fair to good with 75% of irrigated fields being grazed and 60 to 70% of dryland fields reported as being grazed. Barley fair to good with 70% being grazed. Lettuce and onions good. Pecan tree pruning is occurring in Mesilla Valley. Ranges fair. Livestock fair to good. Some early calving is occurring in the northeast portion.

NEW YORK: Precipitation well below normal. Significant precipitation on 1st. Temperatures averaged near or a bit above normal. Week began with very mild weather but turned colder midweek.

NORTH CAROLINA: Temperatures: Near normal over the west, 1 to 3° below normal over the east. Precipitation: Below normal. Snowfall on January 30 mostly 2 to 4 in. Roan Mountain recorded 18 in.

Soil moisture: Very short to short. Fieldwork: 4.3 days suitable. Conditions: Wheat, oats, barley, rye mostly fair to good. Pastures poor to mostly fair. Farm feed supplies: Hay, roughage, and feed grains mostly adequate. Major activities: Cutting firewood, tending livestock, seeding tobacco plant beds and signing leases, pruning fruit trees, topdressing small grains, and applying lime. Plowing for spring planting a little behind normal schedule.

NORTH DAKOTA: Temperatures stayed below the freezing mark over most areas. Temperature extremes: -27 to +40°. Division averages were about 3° above normal. Scattered light snow was common but weekly precipitation totals were mainly less than 0.10 in. High winds picked up dust mixing it with the snow producing a "snirt" storm January 31 and February 1, painting State landscape a dingy gray. Snowcover is generally light, averaging 2.5 in., insufficient to hold soil down against the wind, except for the northern one-third quarter where wind erosion is minimal. Continued light precipitation is raising increased concern over the moisture situation for spring.

Warm weather reduced the stress on feed supplies. A few winter ranges and corn fields are being grazed. Virtually all livestock receiving supplemental feed. Forage supplies 47% short and 53% adequate with all supplies accessible; virtually all roads are passable.

OHIO: Weekly average temperatures near normal. Mean highs ranged from low 30's in the northwest to around 40's in the south. Highest readings in the upper 50's across south. Averages of daily lows were in the 20's. Lows for week were in low teens at most stations. Lowest reported was -2° at Canfield. Weekly precipitation was somewhat above normal at stations in the south. Totals ranged from less than 0.25 in. in the northwest to over 1.50 in. in the south.

Southern area 4 in. bare soil temperatures climbed above freezing during sunny periods. Maximum values as high as 40° were reported at Jackson and Ripley. In most areas, however, mean soil temperatures hovered a few degrees below freezing.

OKLAHOMA: Temperatures averaged near normal most divisions. The Panhandle averaged 4° below normal. Some rains occurred late week with largest amounts east. Panhandle division reported no precipitation.

Wheat and other small grains are in fair to poor condition. Above normal temperatures have been favorable for growth, but poor availability of soil moisture has limited root development which has increased plant susceptibility to damage from spring winds. Some spraying to control build-up of greenbugs and winter grain mites has occurred. Weeds are becoming a problem in some fields earlier this year than normal. Pastures and ranges are in fair to poor condition and most have been grazed out. Ranchers are grazing cattle on Hybrid-Sudan forage as well as corn and milo stubble. Supplemental feeding of livestock continues. Livestock are in generally good condition. Weather has been favorable for calving, lambing, and farrowing.

OREGON: Rainfall continued throughout all areas. Heaviest precipitation fell along the coast with an average of 2.50 in. Willamette Valley and North Cascades received an average of 1.50 in., while central and eastern sections received an average of 1.00 in. Most sections reported an average temperature of 1 to 7° above normal.

Soil moisture supplies remain mostly adequate. Winter wheat condition good to excellent; spraying continuing. Pruning underway in fruit orchards, filbert orchards, and caneberries. Livestock feed supplies adequate.

PENNSYLVANIA: Cloudy to partly cloudy with occasional snow flurries central and northern mountains through 29th. Sunny but cold 30th and 31st, increasing cloudiness with moderating temperatures and snow, sleet, and rain 1st. Weekly temperatures near to 3° above normal for second consecutive warmer than normal week. Extremes: -11 and 63°. 0.50 to 2.00 in. precipitation most areas 1st and 2nd for wettest 24 hours since November 26. Only extreme southeast measured less than 0.10 in. because storm rainfall had not penetrated that area by close of week.

PUERTO RICO: Island average rainfall 1.01 in. or 0.31 in. above normal. Highest weekly total 4.18 in. Highest 24-hour total 2.70 in. Temperatures averaged about 77° on coasts and 73° Interior Divisions. Mean station temperatures ranged from 81° to 70°.

SOUTH CAROLINA: Temperatures averaged near normal, warmer than usual first half of week, then very cold near end. Precipitation throughout week, snow over northern third 30th. Heaviest precipitation was 0.97 in. on 1st. Temperature extremes: 68 and 8°.

Lime and fertilizer application, land preparation for vegetables, spring crops. Feeding livestock.

SOUTH DAKOTA: About 4° above in the northeast and 3° above the southeast and west of river. Cold air pushed into the State late in the week, dropping temperatures to the single digit. Minimum temperatures averaged near 7° below zero over the northeast, 2° above zero southeast, and 5° above zero west of the river. Lowest readings Milbank 11° below zero and Conde 10° below. Maximum temperatures averaged mid-30's to low 40's. Snowcover in several regions. Southeastern portion received greatest amounts with 0.37 in. in the extreme southeast, 0.33 in. at Huron, and 0.30 in. at Mitchell. Elsewhere smaller

amounts were recorded, except for Harding in the Black Hills where 0.25 to 0.45 in. of precipitation fell.

TENNESSEE: A series of cold fronts brought average amounts of precipitation and slightly above normal temperatures. Precipitation amounts were successively greater for each frontal passage. On 27th amounts were generally under 0.25 in. increasing to just under 0.50 in. on 30th and 31st, over 1.00 in. on 1st. Temperatures Statewide were about 2° above normal with two exceptions - the southwest corner was 6° above normal and northeast corner, which was 3° below normal.
Activities: General farm chores and caring for livestock.

TEXAS: Weather: Series frontal systems, upper air disturbances producing light, moderate rain. End of week winter temperatures returned with passage arctic cold front. Temperatures near normal northwest Texas, 4 to 11° above normal elsewhere. Rainfall 0.70 in. Blacklands, south central Texas, elsewhere less than 0.10 in.

Range and livestock: Warm temperatures promoted growth of pastures, small grains, development still hampered by dry conditions. Small grains providing some grazing, supplemental feeding continued. Livestock mostly fair to good. Some areas hay supplies becoming short. Calving progressing well. Lambing expected to begin soon.

Commercial vegetables: Rio Grande Valley, producers harvesting lettuce, cabbage, spinach, carrots, cauliflower. Spring onions good. Citrus harvest continues, harvest of early oranges nearing completion, grapefruit harvest progressing well. Coastal Bend and East Texas, land preparation major activity, onions showing excellent growth. San Antonio-Winter Garden area, land preparation continued, harvest of cabbage, carrots active. Trans-Pecos region, activity light, land preparation, harvest of chili peppers occurring.

Crops: Dry, unseasonably warm weather excellent conditions field operations. Small grains responded well under mild temperatures, especially fields receiving moisture. Cotton harvest virtually complete, except scattered fields, Trans-Pecos, southern High Plains. High Plains, unharvested fields shredded, plowed under. Small grain fields good progress under mild temperatures. Dryland fields additional moisture continued growth. Dryland wheat Panhandle poor grazing. Irrigating more often keep up moisture needs. Insect populations increasing across State; spraying heavy, Cross-Timbers, Blacklands. High Plains greenbug infestations difficult to control since plants small, many insects below soil line. Reported wheat condition Statewide is 1% excellent; 82% good; 47% fair; and 20% poor. Cotton harvested 100%, 100% 1979, 100% average. Pecans harvested 100%, 100% 1979, 100% average.

UTAH: First major storm of 1981 in northwestern. Accumulations of moisture moderate to heavy northwest but ranged from little or none to generally light south and east. Average temperatures continued generally above normal ranging from 1° below normal to 11° above. Soil moisture deficit continues serious south and east but improved by weekend's storms northwestern. Grading and marketing of apples, onions and potatoes continued. Routine farm chores, feeding and caring for livestock slowed by storms at period's end.

VIRGINIA: Moderating temperatures averaging about 3° above normal. Extremes: Mid-60's to upper teens. Precipitation very light, less than 0.10 in. occurred mainly on the 30th in the west, with 6 to 8 in. of snow extreme southwest and additional precipitation in west on the 1st.

Milder weather, lack of rain highlighted the week, increasing farm activity while further stressing water supplies. Some northern, western and southern counties reported low to critical water levels, with some farmers having to haul water to livestock and for home use. Some eastern and southeastern counties reported stunted growth of small grains as a result of the lack of rain. Topsoil moisture rated as short. Days suitable for fieldwork 3.9. Condition of winter grains and grazing crops rated fair. Dairy cattle secured an average 5% of their forage requirements from grazing; beef cattle - 12%, sheep - 14%.

WASHINGTON: West: Temperatures dropped from a week ago, but remain 3 to 5° above normal. Precipitation ranged from 1.10 in. below normal on Coast to 0.10 in. below Puget Sound area. Lower temperatures may deter premature budding, fungus growth. Pruning caneberries. Planting, pruning Christmas trees. Harvesting forced rhubarb. Calving, lambing active. Hay supplies adequate; shipments coming in from eastern State, Oregon.

East: Temperatures averaged 9 to 14° above normal. Precipitation was 0.20 to 0.30 in. above normal. Light snow did not last long. Fall seeded grains remain vulnerable to freeze. Stripe rust showing up, growers fear fungus due to mild weather. Weed growing. Fertilization, weed control active. Pruning continues in orchards, vineyards. Calving, lambing continue. Hay supplies adequate.

WEST VIRGINIA: Temperatures averaged slightly above normal across most areas. Some areas highs in 50's earlier in week. Normal lower temperatures returned later in week. Precipitation averaged below normal. Southern part received snow late week.

Soil moisture short to adequate. Fieldwork: 3.5 days suitable. Hay, grain, and other feed supplies remained adequate. Lack of moisture continues to be a problem in several areas. Concern is mounting over water supplies and effect upon small grains.

WISCONSIN: Temperatures near seasonal. Highs 20's and 30's, lows single digits and teens. Extremes: 41 and 21° below. Warmest 26th as January thaw ended. Coldest morning 30th. Average temperatures 16° northwest to 24° southeast. Snow 1 to 3 in. northern snowbelt 27th, otherwise no precipitation until winter storm late 31st and 1st brought 3 to 5 in. snow northwest and 2 to 4 in. other areas except over 1 foot Lake Superior snowbelt. Snowcover as of 30th averaged less than 2 in., lightest ever for that date. Frost depths averaged 29 in., second greatest on record for late January.

WYOMING: Snowfall all regions with greatest amounts in mountains. Largest amount of precipitation 0.72 in. Most stations below 0.05 in. but even these small amounts help close the gap on the below normal conditions for the season. Temperatures well above normal. Warmest spot 62°, lowest 2°.

Winter wheat mostly good, additional moisture would be beneficial. Livestock, mostly good, minimal supplemental feeding.

International Weather and Crop Summary

JANUARY 26 - FEBRUARY 1, 1981

HIGHLIGHTS

WESTERN USSR: Mostly light precipitation. Slightly increased snow depth in northeastern portion of winter grain belt. Brief frigid weather didn't last long enough to cause winterkill.

EUROPE: Mostly light precipitation. Dry soils only in Spain and northern Italy. Winter grain prospects in Spain are not very good.

NORTHWESTERN AFRICA: Winter grains remain too dry in southern Morocco. Very good winter grain prospects in eastern Algeria and northern Tunisia.

SOUTH AFRICA: Above-average rainfall for the second consecutive week provided good soil moisture reserves for corn, now advancing through reproductive development in most areas.

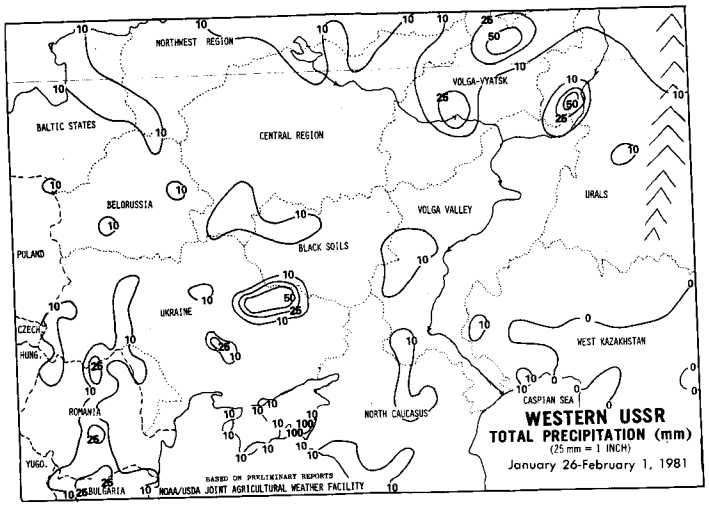
EASTERN ASIA: Chinese winter grain area remained dry; crops dormant. South Korean barley continued to receive beneficial light precipitation.

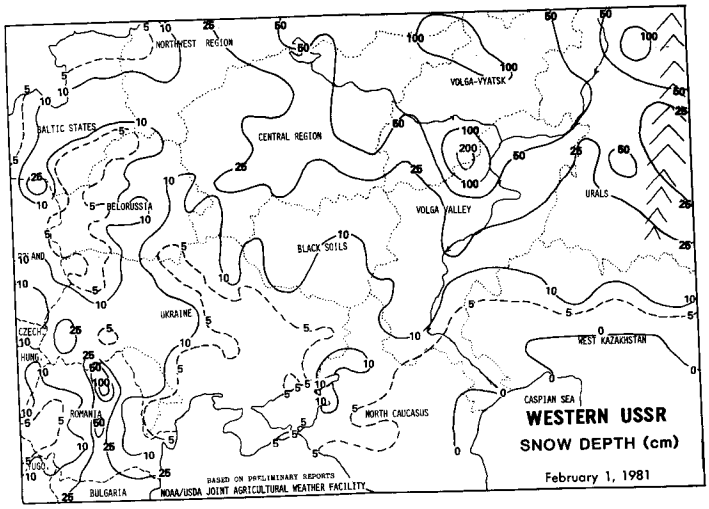
SOUTH ASIA: Beneficial precipitation across Bangladesh, northern India, and northern Pakistan. Winter grains in good condition.

MEXICO: Mostly sunny, mild to warm weather favored West Coast vegetables. Unseasonable warmth over northeastern citrus could cause buds to swell.

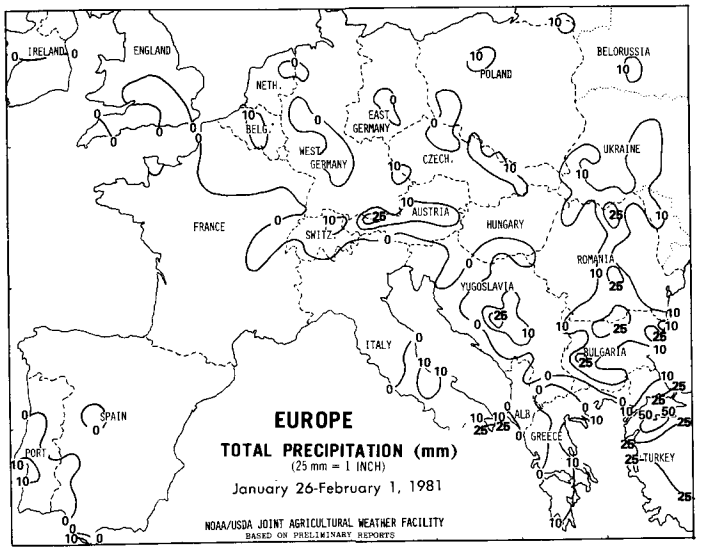
SOUTH AMERICA: Weather conditions remain favorable for corn and soybean browth in Argentina and Brazil. Seasonal temperatures and showers occurred in most areas with crops progressing through reproductive and early pod-filling stages.

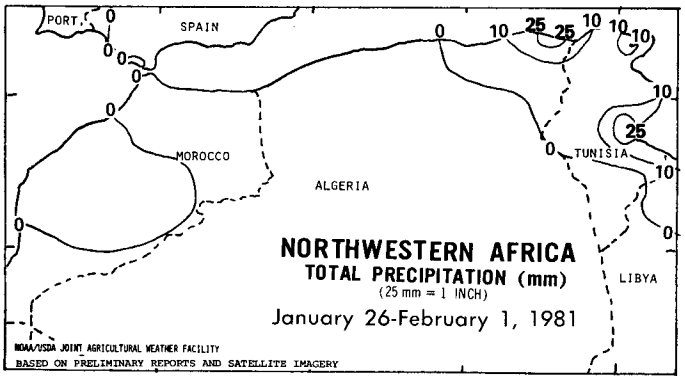
WESTERN USSR: Light precipitation fell over nearly all of European USSR. Some localized areas received substantially above-normal totals, but for the most part, they remained somewhat below normal. The precipitation did increase snowcover slightly in eastern portions of the winter grain belt, giving the crop a little more needed protection in the northeast. Cold weather intruded in the lower Volga Valley briefly during the week, but it did not persist long enough to cause winterkill. Average temperatures for the week remained mostly above normal. Abnormally warm weather has been reported in the southern cotton-growing area where a relatively light snowpack in the mountains also is causing some concern.





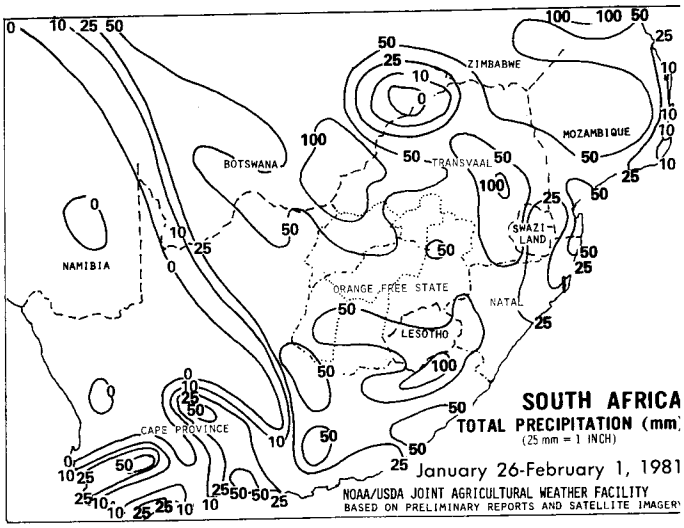
EUROPE: Precipitation slackened further as high pressure again dominated the region. Al+hough precipitation continued above normal in the Balkan Peninsula due to a persistent low pressure system in the eastern Mediterranean, totals there also decreased. Soil moisture remained good in most countries, with snow covering most of Eastern Europe. However, conditions remained too dry for winter grains in northern Italy and much of Spain. This winter is reportedly one of the driest on record in Spain, with pastures and winter grain germination suffering seriously and reservoirs at low levels. Conditions were the worst in southern Spain, where normally warm temperatures had the greatest desiccating effect on plants. Elsewhere, temperatures remained slightly below normal in Eastern Europe and above normal in the northwest, with conditions in southern England just warm enough for some winter grain growth.



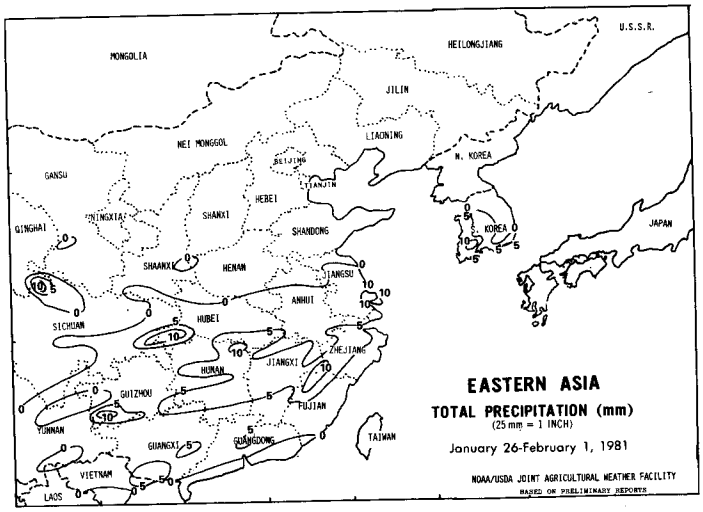


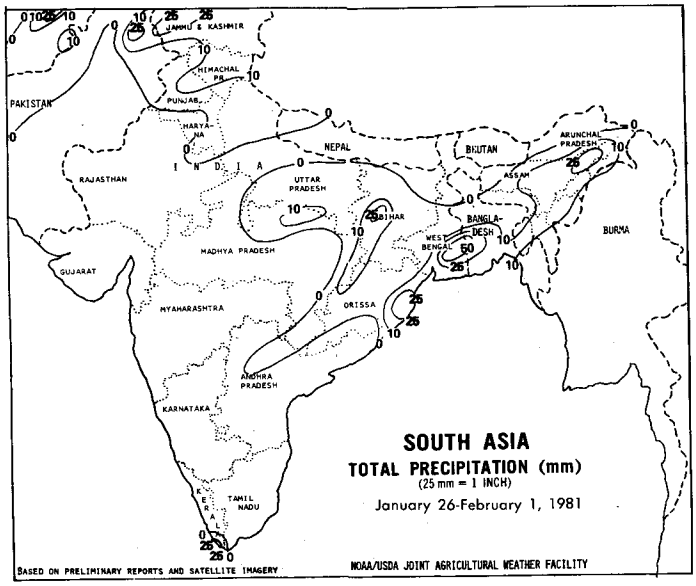
NORTHWESTERN AFRICA: Light rain fell in southern winter grain areas of Morocco, but not enough to do much good for winter grains suffering from dry conditions. Grain areas in northern Morocco and western Algeria received very little precipitation, but soil moisture remained adequate due to earlier rains. Moderate rainfall continued in eastern Algeria and northern Tunisia. Winter grain crop prospects in this area are very good.

SOUTH AFRICA: Another week of significan rainfall (30 to 50 mm) in nearly all of the Maiz Triangle provided beneficial moisture for the cor crop. A major portion of the crop should be i the reproductive stage with early-planted cor developing kernels. Soil moisture supplies hav increased over the past 2 weeks and these reserve should meet crop moisture demands during this pea period of water use. Favorable growing condition in the Maize Triangle at the present time brighte prospects for this season's corn production.



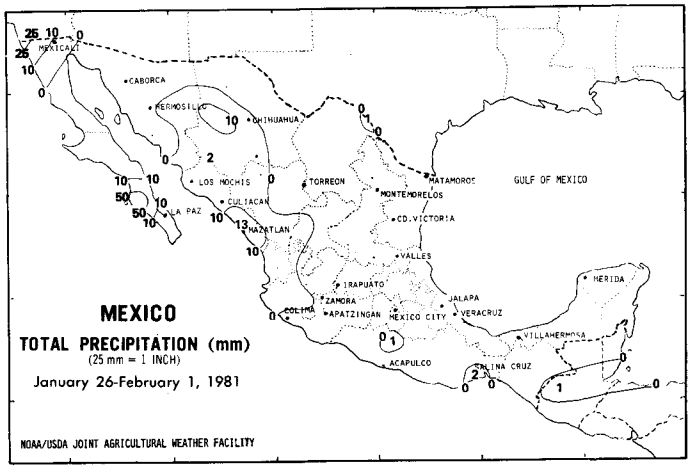
EASTERN ASIA: Precipitation increased south of the Yangtze River, but totals remained below normal. Most winter grain areas received no precipitation. Below-normal temperatures kept the crop dormant, and irrigation water supplies should be sufficient for plant needs as dormancy breaks. However, unless precipitation begins its normal increase for this time of year, moisture shortages could develop before the crop passes through the moisture-sensitive stage. Light precipitation in southern South Korea maintained favorable soil moisture conditions for most barley areas.



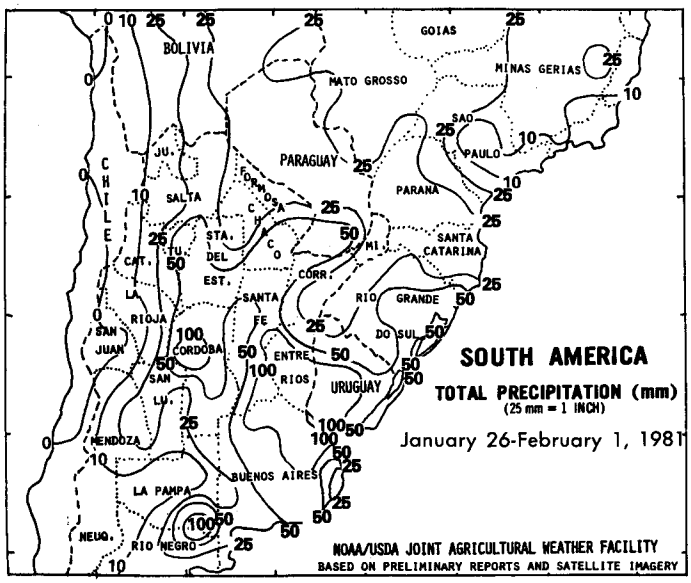


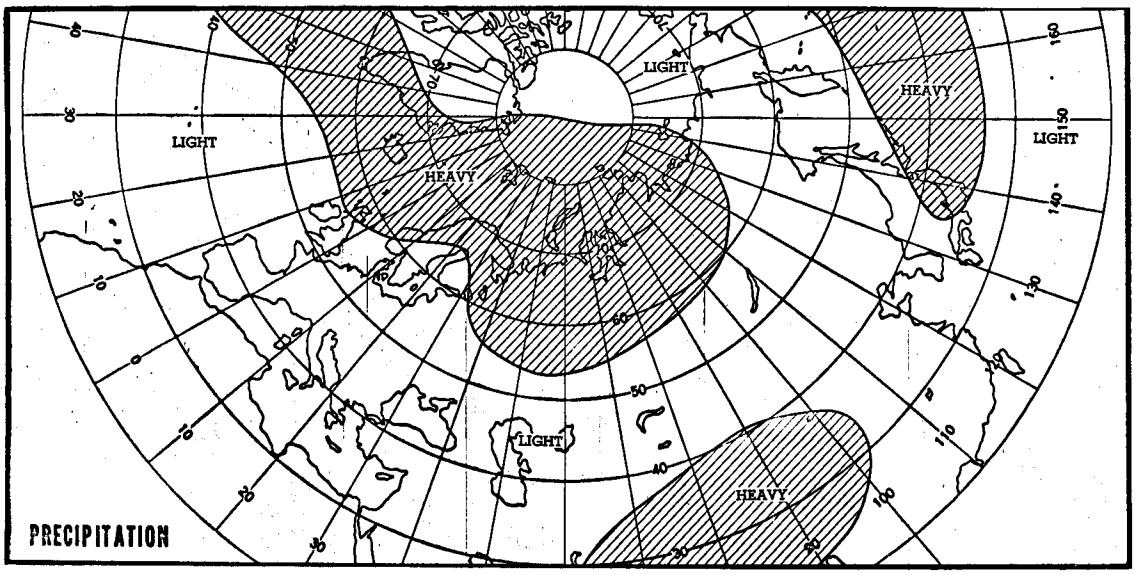
SOUTH ASIA: Conditions remained favorable for winter grains in Pakistan, India, and Bangladesh. Heaviest rains fell in Bangladesh and eastern India, with totals ranging much above normal at many locations. Only light amounts fell in India's major winter grain areas, but moisture conditions remain good, with temperatures running slightly above normal. Kashmir and northern Pakistan had a second consecutive week of abundant precipitation.

MEXICO: Light to moderate rains improved soil moisture over the west coast during the first day of the week. Sunny, mild-to-warm (18 to 20° C) conditions during the rest of the week favored growth and harvest of tomatoes, cucumbers, and other winter vegetables. Localized heavy rains fell in some minor vegetable producing areas of Baja California--the extreme northwest and the southwestern coast. Northeastern citrus districts warmed considerably with temperatures averaging 19 to 21° C--2° to 4° C above normal. Some citrus trees could lose cold hardiness and buds will begin to swell. The rest of the country was mostly dry with good weather for harvesting corn.

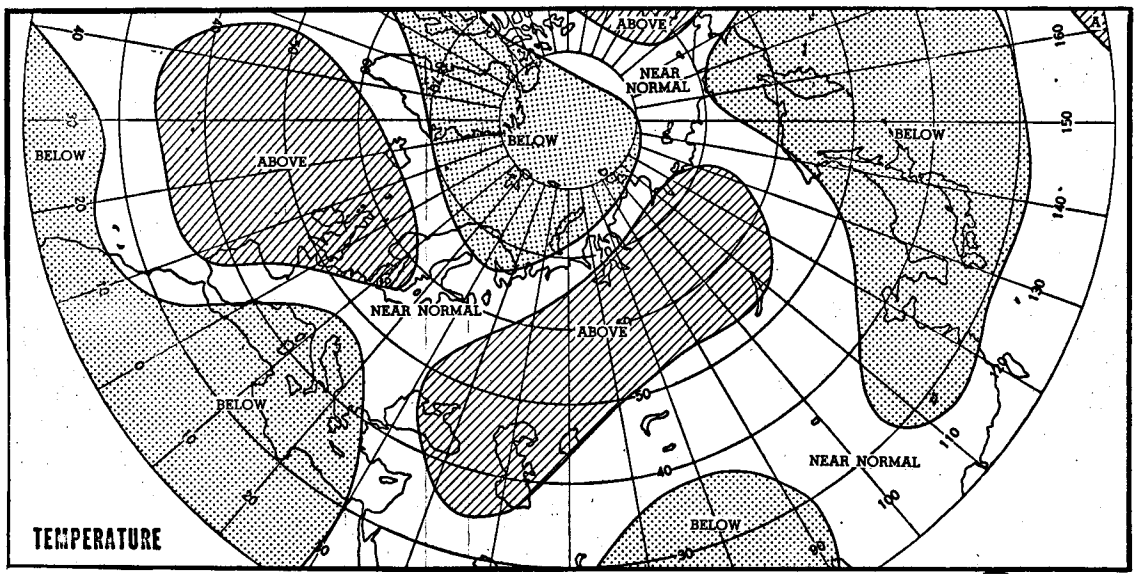


SOUTH AMERICA: Weekly rainfall was generally less than 25 mm in most of Brazil's corn and soybean areas except in the south where 30 to 70 mm of rain fell in crop areas of Rio Grande do Sul. Moisture supplies are adequate for crop growth and maximum temperatures have not been excessive (generally, not exceeding the low 30's C). The soybean crop in northern areas is well into pod filling; further south, the crop is beginning to set pods. In Argentina's important soybean-corn areas of Santa Fe, Cordoba, and Buenos Aires, heavy precipitation (30 to 125 mm) fell during shower and thunderstorm periods throughout the week. Conditions are also favorable for crop growth in Argentina.





EURASIA WEATHER OUTLOOK...FEBRUARY 1981...CLIMATE ANALYSIS CENTER



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National Weather Summary (cont'd from p. 1)

and Southeast as unseasonably warm air advanced northward ahead of the storm center. Severely cold weather plunged southward through the Plains behind the storm. A mantle of snow covered the area from the central and northern Rockies eastward to the Ohio River Valley up through New England. Rain covered the area to the south from the western gulf coast to the mid-Atlantic States.

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