

WEEKLY WEATHER AND CROP BULLETIN

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

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service and World Agricultural Outlook Board

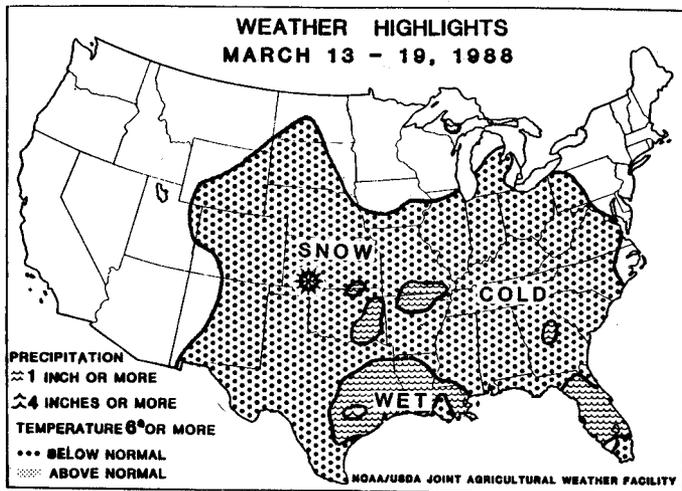
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Mar. 22, 1988

National Weather Summary

March 13 - 19, 1988



HIGHLIGHTS: Cold weather prevailed from the Rockies eastward. Freezing weather penetrated into the deep South, threatening some fruits and tender vegetables. Snow fell at midweek in the central Plains, and snow showers occurred almost daily in parts of the Northeast. Heavy downpours accompanied severe thunderstorms in the Gulf States during the latter half of the week.

SUNDAY... Snow fell in the upper half of the Mississippi Valley and the upper Great Lakes. Showers and thunderstorms were scattered over northern Florida, Georgia, and the Carolinas. Rain showers were scattered across the Middle Atlantic States, the upper Ohio Valley, southern New York, and southern New England. Strong northwesterly winds, blowing across the Great Lakes, brought snow squalls to many lakeshore locations. Cold weather continued in the southern Plains, and light snow fell in Oklahoma.

MONDAY... Lake-effect snow squalls continued in Ohio, Pennsylvania, and New York. Snow showers also occurred in Wisconsin, Illinois, Michigan, and Indiana. Early-afternoon temperatures were below freezing as far south as the southern Appalachians, Kentucky, southern Missouri, and northern Kansas. Parts of New Mexico, northern Texas, and northwestern Louisiana experienced record-cold weather. Snow flurries occurred as far south as Georgia. Rain showers dotted extreme southern Florida, while skies cleared elsewhere in the State.

TUESDAY... Northerly winds across the Great Lakes diminished during the night, but scattered lake-effect snow showers continued in Ohio, Pennsylvania, and New York. A storm system, centered near the Idaho-Utah border, produced scattered

snow from western Montana and Idaho across western Wyoming and northern Utah. Cold arctic air continued to pour into the eastern half of the Nation. More than 40 cities reported new record low temperatures for this date. Temperatures reached the sixties in Texas and southern Florida but were generally in the forties and fifties elsewhere. Temperatures were below freezing all day in the Great Lakes region and the Ohio Valley as well as in the upper Mississippi Valley and the northern Plains.

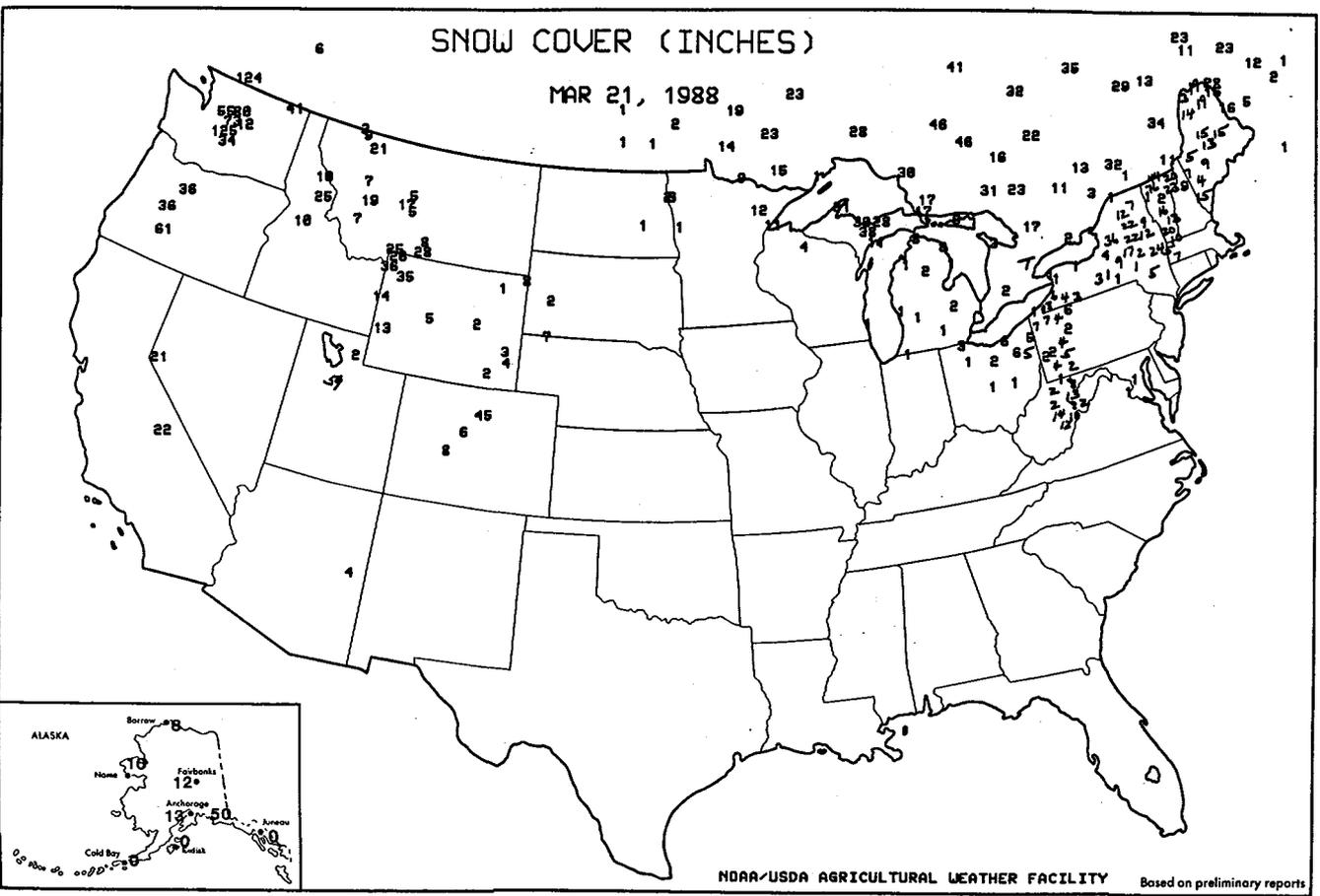
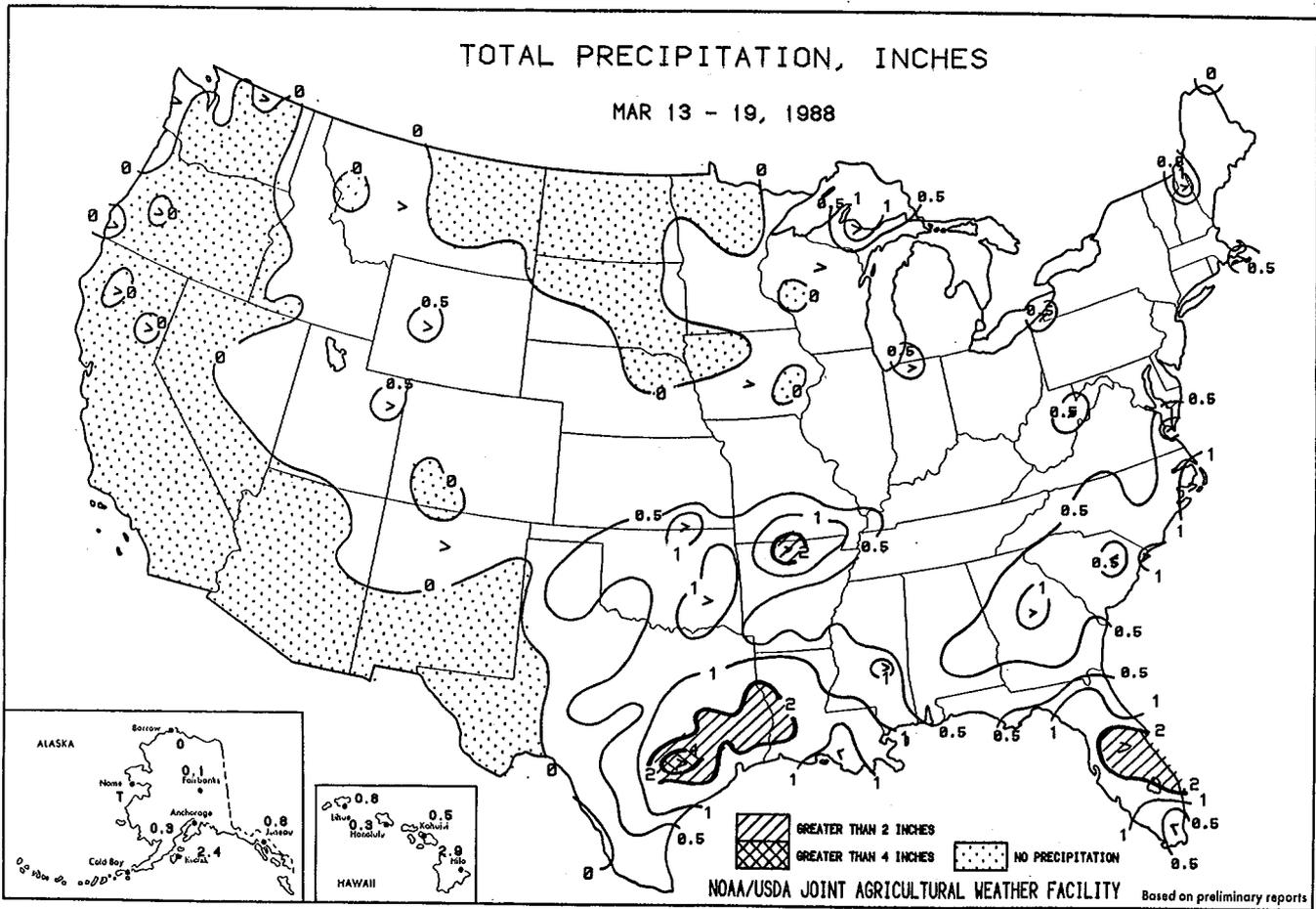
WEDNESDAY... A storm system developed in the Great Basin and central Rockies, causing strong winds with blowing and drifting snow in Utah and Colorado. Light snow fell in Vermont and in West Virginia. Lake-effect snow continued in Pennsylvania and New York. During the day, the intensifying winter storm in the West moved slowly onto the Plains, producing heavy snow in Kansas, eastern Colorado, and surrounding areas. Frost and freezing weather occurred again in the Southeast, affecting the peach crop in South Carolina and Georgia.

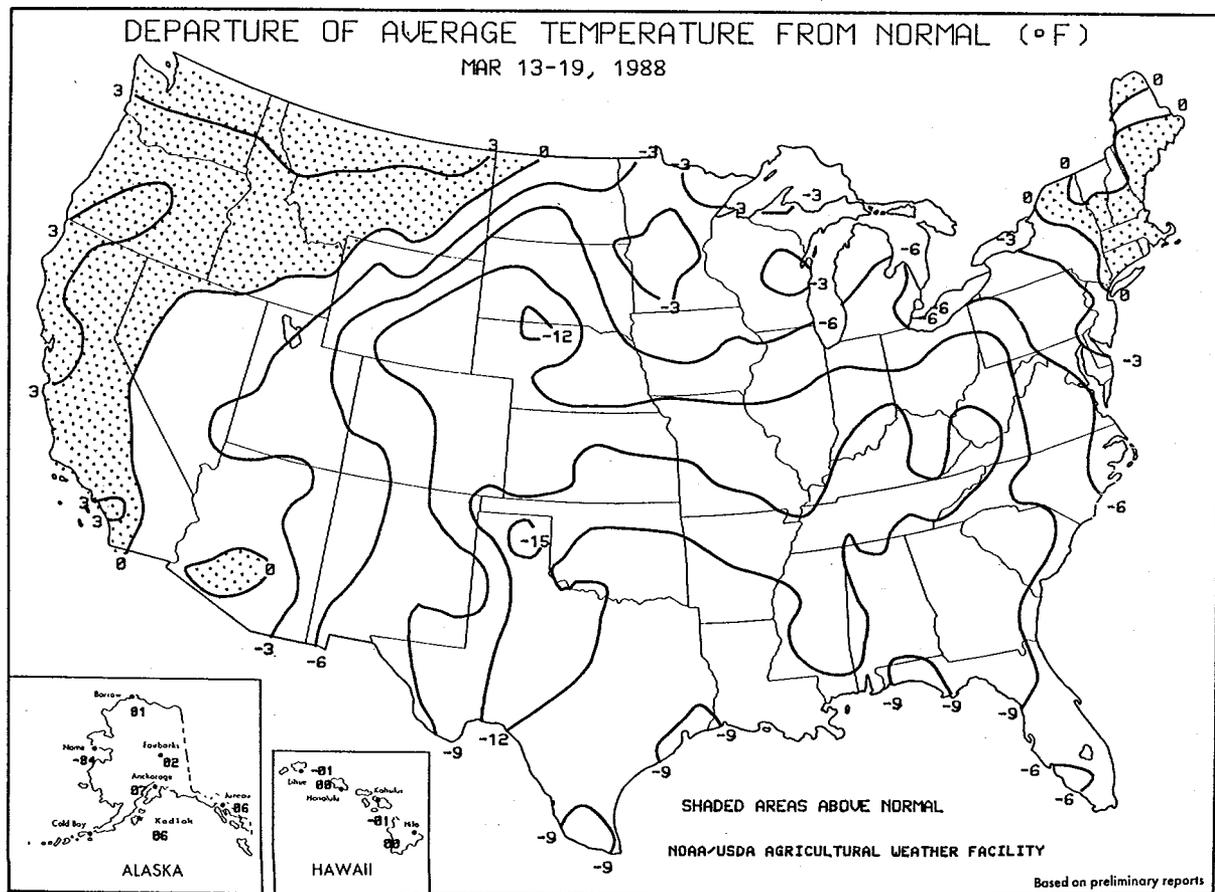
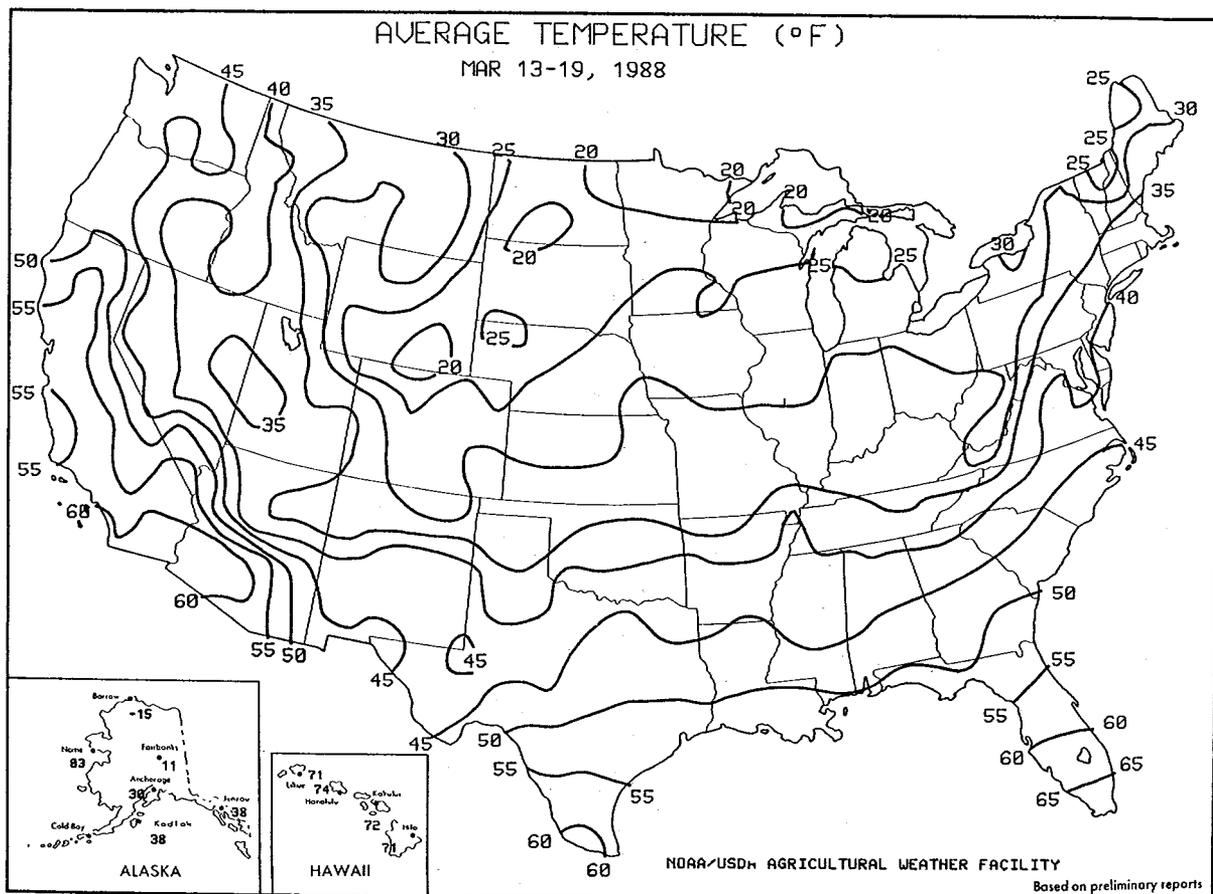
THURSDAY... Snow spread during the day from Kansas and Oklahoma across the Ozark Mountains into the Mississippi and Ohio Valleys. Rain fell in east Texas, northern and western Louisiana, and southern and eastern sections of Arkansas. A band of strong thunderstorms extended from extreme southern Texas to southwestern Louisiana. Dry weather prevailed over the western half of the Nation and over the Atlantic Coast States. Afternoon high temperatures were only in the thirties and upper twenties across the central Plains, Missouri, northeastern New

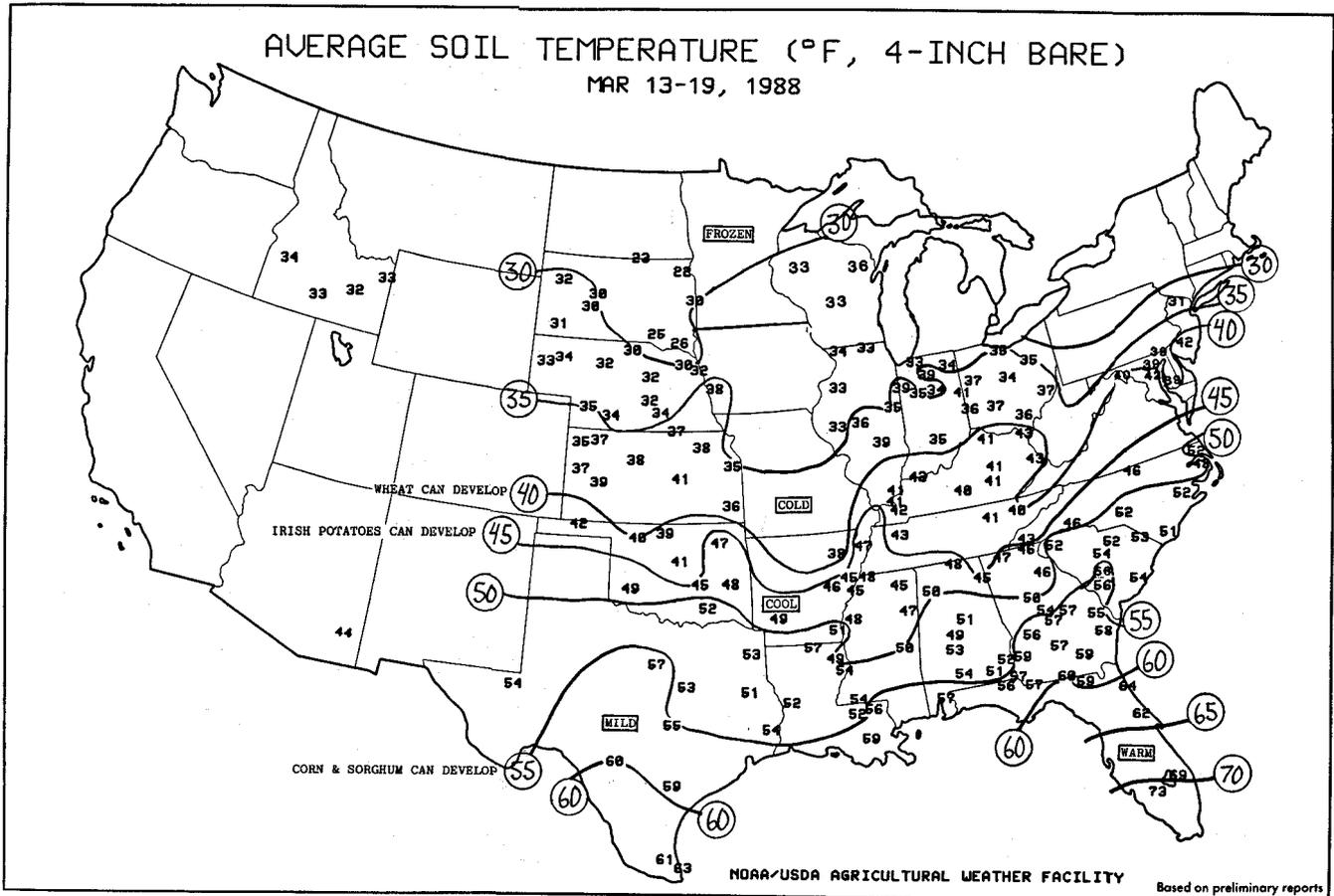
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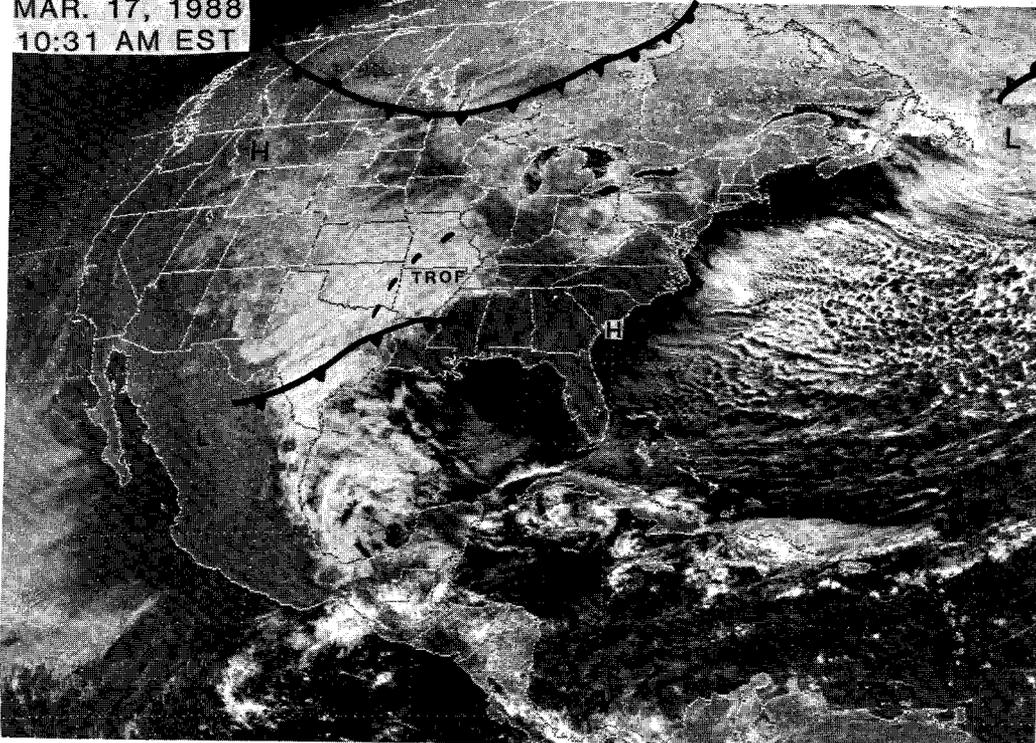
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MAR. 17, 1988
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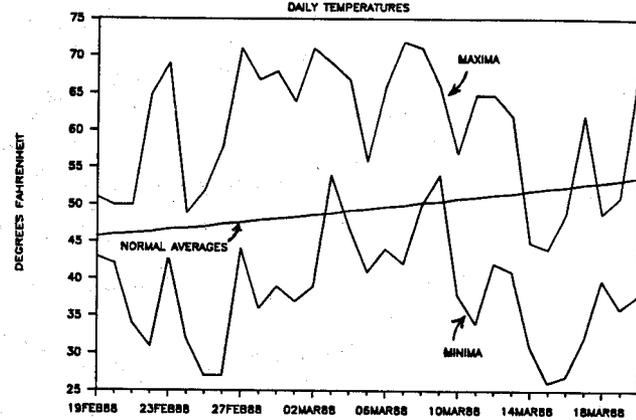
A LATE-WINTER STORM DUMPS HEAVY SNOW OVER THE CENTRAL GREAT PLAINS AND OZARK PLATEAU. SHOWERS AND THUNDERSTORMS MOVE THROUGH EASTERN TEXAS.

STRATOCUMULUS CLOUDS FORM AS COLD AIR MOVES OFF THE CONTINENT AND OVER THE WARMER WATERS OF THE ATLANTIC OCEAN.

LATE FREEZE HITS BLOSSOMING PEACH TREES

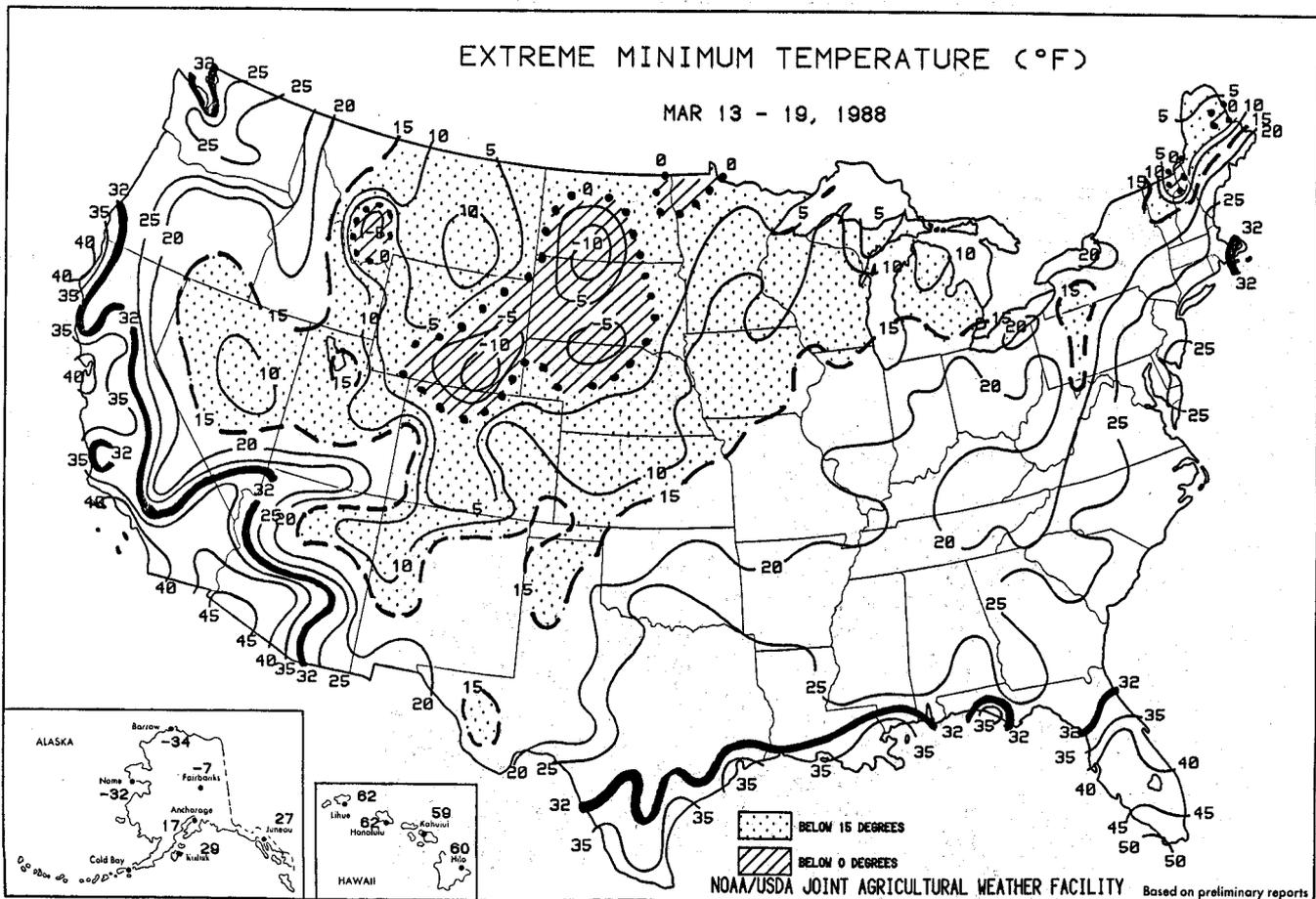
On Saturday, March 12, a very cold air mass began moving from the upper Mississippi Valley toward the deep South. By Tuesday morning, March 15, Atlanta had a temperature of 26 degrees Fahrenheit (F), and Macon, Georgia, recorded a low of 27 degrees F—a record for the date. Several stations in Texas also had record lows for March 15; e.g., San Antonio with 31 degrees F. Columbia, South Carolina, set a record low for March 17 of 24 degrees F. Extremely low temperatures were common on March 15, 16, and 17 throughout the peach orchards of Georgia and South Carolina, where readings were often several degrees lower than in nearby urban centers. At weeks end, temperatures returned to near normal. (See the State Summaries, beginning on page 14, for preliminary damage assessment.)

ATLANTA, GEORGIA



EXTREME MINIMUM TEMPERATURE (°F)

MAR 13 - 19, 1988



National Weather Data for Selected Cities

Weather Data for the Week Ending March 19, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	72 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	53	31	62	24	42	-12	.2	-1.4	.2	2.2	53	9.7	69	85	29	0	4	1	0
MOBILE	59	37	68	27	48	-12	.5	-1.0	.5	4.6	116	15.5	114	81	30	0	2	2	0
MONTGOMERY	56	35	63	25	45	-12	.7	-.7	.7	3.6	97	15.0	120	80	30	0	3	1	1
AK ANCHORAGE	36	24	41	17	30	7	.3	-.1	-.2	.6	151	1.3	65	89	62	0	7	3	0
BARROW	-7	-23	15	-34	-15	1	T	0	0	.1	143	.1	30	80	66	0	7	0	0
FAIRBANKS	20	3	43	-7	11	2	.1	0	0	.1	27	.5	42	76	47	0	7	2	0
JUNEAU	42	33	43	27	38	2	.8	0	.8	2.3	111	11.4	118	99	69	0	3	1	1
KODIAK	41	34	45	29	38	6	2.4	1.5	.7	7.9	314	25.0	186	97	83	0	3	5	2
NOME	13	-8	19	-32	3	-4	T	-.1	T	.9	269	2.7	168	70	42	0	7	1	1
AZ PHOENIX	76	49	84	44	63	2	0	-.2	0	.2	33	1.3	71	33	11	0	0	0	0
PRESCOTT	60	23	68	17	41	-2	0	-.4	0	.3	30	2.1	49	50	13	0	7	0	0
TUCSON	74	40	83	32	57	-1	0	-.2	0	.4	80	1.3	69	35	9	0	1	0	0
YUMA	78	49	87	45	64	0	0	0	0	.1	80	.5	63	41	10	0	0	0	0
AR FORT SMITH	53	27	63	20	40	-11	.7	-.2	.7	4.2	182	7.9	117	85	30	0	5	1	1
LITTLE ROCK	49	32	60	27	40	-12	.4	-.7	.3	2.4	88	8.6	81	64	35	0	5	2	0
CA BAKERSFIELD	78	41	86	36	59	2	0	-.2	0	.4	74	1.6	61	75	18	0	0	0	0
EUREKA	59	43	62	42	51	3	0	0	-.2	1.2	39	8.9	57	90	69	0	0	0	0
FRESNO	74	39	84	36	56	2	0	-.4	0	.3	27	2.6	53	85	21	0	0	0	0
LOS ANGELES	73	50	87	47	61	4	0	-.4	0	.1	11	3.5	53	75	31	0	0	0	0
REDDING	76	36	81	31	56	2	0	-.1	0	.4	12	7.8	43	81	18	0	1	0	0
SACRAMENTO	74	41	80	35	57	4	0	-.5	0	.2	12	4.7	57	87	27	0	0	0	0
SAN DIEGO	71	50	81	47	61	2	0	-.4	0	.6	54	2.9	60	74	31	0	0	0	0
SAN FRANCISCO	68	44	74	41	56	3	0	-.6	0	.1	4	4.4	45	94	42	0	0	0	0
CO DENVER	42	18	67	13	30	-8	.1	-.2	0	.5	78	1.5	81	85	31	0	7	3	0
GRAND JUNCTION	47	23	58	18	35	-7	.2	0	.2	.5	120	1.8	112	74	26	0	7	1	0
PUEBLO	45	16	72	10	30	-10	.1	-.1	0	.2	58	1.2	134	95	32	0	7	3	0
CT BRIDGEPORT	47	31	59	28	39	1	.1	-.8	0	1.0	41	7.3	83	79	39	0	5	4	0
HARTFORD	46	29	57	25	38	0	.3	-.6	.2	1.0	42	8.4	90	86	40	0	6	3	0
DC WASHINGTON	48	32	63	27	40	-6	.1	-.7	.1	.9	42	6.5	87	71	36	0	5	1	0
FL APALACHICOLA	62	42	79	31	52	-9	.6	-.3	.6	4.0	158	15.3	156	84	36	0	1	1	1
DAYTONA BEACH	68	45	83	34	57	-8	.8	-.2	.6	4.5	238	11.6	155	93	37	0	0	3	1
JACKSONVILLE	65	40	83	30	53	-10	.4	-.4	.3	2.3	105	14.7	167	83	37	0	2	2	0
KEY WEST	74	62	83	53	68	-6	.8	-.5	.4	1.7	215	6.9	152	90	58	0	0	3	0
MIAMI	74	57	85	44	66	-6	.2	-.2	.2	.2	18	2.7	52	82	43	0	0	2	0
ORLANDO	68	50	78	42	59	-8	4.0	3.2	2.3	6.1	291	10.6	142	82	38	0	0	4	2
TALLAHASSEE	63	34	79	24	49	-12	.2	-.1	.2	6.6	188	17.2	129	83	29	0	3	1	0
TAMPA	68	49	79	38	58	-8	1.7	.9	1.3	4.1	185	8.3	111	91	43	0	0	3	1
WEST PALM BEACH	73	54	87	43	64	-7	2.1	1.5	1.3	3.8	227	10.2	145	83	41	0	0	3	1
GA ATLANTA	52	33	62	26	43	-10	.8	-.6	.4	2.1	57	10.1	76	74	29	0	4	2	0
AUGUSTA	57	33	73	23	45	-10	.5	-.6	.5	2.6	83	10.2	90	81	31	0	3	4	0
MACON	57	35	70	27	46	-11	1.0	-.2	1.0	2.9	90	10.8	89	85	28	0	3	2	1
SAVANNAH	61	37	76	30	49	-9	.4	-.5	.3	2.1	89	9.7	110	81	34	0	3	3	0
HI HILO	80	63	83	60	72	0	2.9	-.2	2.8	3.6	43	23.8	75	92	59	0	0	2	1
HONOLULU	82	66	85	62	74	0	.3	-.5	.2	.4	20	4.8	54	88	53	0	0	3	0
KAHULUI	79	64	83	59	72	-1	.5	-.1	.3	.5	30	9.2	104	91	57	0	0	3	0
LIHUE	78	65	80	62	71	-1	.8	-.3	.4	.8	30	12.3	96	92	64	0	0	3	0
ID BOISE	58	28	72	20	43	1	0	-.2	0	.9	145	2.6	79	74	23	0	5	0	0
LEWISTON	57	32	66	29	44	1	.1	-.2	.1	.1	18	1.3	43	74	28	0	5	1	0
POCATELLO	47	22	61	12	34	-1	.1	-.1	.1	.7	126	2.0	78	87	33	0	7	1	0
IL CHICAGO	36	23	41	17	30	-8	.2	-.4	.1	.5	30	3.6	84	89	51	0	7	5	0
MOLINE	37	22	47	17	29	-7	T	-.6	T	T	3	2.9	64	85	46	0	7	1	0
PEORIA	38	22	47	17	30	-8	.1	-.6	0	.3	16	3.0	63	90	46	0	7	4	0
QUINCY	38	22	51	18	30	-9	.1	-.7	.1	.4	24	2.0	44	83	43	0	7	1	0
ROCKFORD	35	21	43	13	28	-6	T	-.6	T	.1	6	3.1	77	84	50	0	7	1	0
SPRINGFIELD	38	23	48	19	31	-9	.1	-.6	.1	1.0	55	4.5	89	85	48	0	7	2	0
IN EVANSVILLE	39	27	49	22	33	-12	.1	-.9	.1	1.7	60	8.9	100	84	49	0	7	2	0
FORT WAYNE	37	22	43	18	30	-7	.2	-.5	.1	.8	48	4.3	74	91	56	0	7	5	0
INDIANAPOLIS	37	24	44	20	30	-10	.2	-.6	.1	1.7	80	7.1	97	88	57	0	7	4	0
SOUTH BEND	35	21	41	18	28	-8	.7	-.1	.3	1.0	58	5.2	83	94	56	0	7	6	0
IA DES MOINES	38	19	59	12	29	-7	T	-.5	T	.1	6	1.0	31	81	40	0	7	2	0
SIOUX CITY	40	17	60	11	28	-6	0	-.4	0	.1	13	1.3	50	83	36	0	7	0	0
WATERLOO	35	20	48	12	27	-5	T	-.5	T	T	2	1.1	38	86	48	0	7	1	0
KS CONCORDIA	42	18	68	9	30	-10	.2	-.2	.2	.2	19	1.6	60	80	26	0	7	2	0
DODGE CITY	44	19	68	10	32	-11	.1	-.2	.1	.4	47	1.4	77	75	28	0	7	2	0
GOODLAND	39	12	65	8	26	-11	.3	0	.2	.3	47	2.1	156	82	35	0	7	2	0
TOPEKA	43	20	63	15	32	-11	.2	-.3	.1	.3	27	2.9	89	79	39	0	7	2	0
WICHITA	43	21	63	17	32	-13	.5	0	.4	1.9	155	2.5	92	78	37	0	7	2	0
KY BOWLING GREEN	43	24	52	20	34	-13	.1	-.1	.1	1.1	31	8.3	68	95	48	0	7	1	0
LEXINGTON	38	23	48	17	31	-13	.1	-.1	.1	1.4	47	7.4	74	90	51	0	7	1	0
LOUISVILLE	39	26	49	22	32	-13	.2	-.9	.2	1.7	61	9.3	97	84	48	0	7	1	0
LA ALEXANDRIA	59	37	67	30	48	-11	1.5	.4	1.5	4.7	160	9.8	80	72	30	0	1	1	1
BATON ROUGE	62	39	74	31	51	-10	.7	-.4	.5	5.2	187	21.6	174	77	26	0	1	2	0
LAKE CHARLES	62	39	69	31	50	-10	1.1	.4	1.1	4.8	256	13.1	132	83	36	0	1	2	1
NEW ORLEANS	60	42	68	37	51	-10	1.1	.1	.9	5.4	183	20.4	154	67	35	0	0	2	1

Weather Data for the Week Ending March 19, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	72 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
ME SHREVEPORT	59	33	66	26	46	-12	1.2	-.4	1.2	2.1	93	7.7	78	76	30	0	5	2	1
ME CARIBOU	36	16	42	7	26	1	1.1	-.6	1.1	.2	16	5.6	94	84	46	0	7	0	0
ME PORTLAND	44	27	52	23	36	3	1.1	-.9	1.1	.2	7	5.5	56	82	36	0	7	2	0
MD BALTIMORE	47	30	63	25	38	5	1.1	-.8	1.1	.8	37	7.3	88	71	35	0	5	1	0
MD SALISBURY	50	30	64	24	40	4	1.2	-.8	1.1	1.1	44	9.2	98	73	35	0	6	3	0
MA BOSTON	45	32	53	30	39	0	1.3	-.7	1.2	1.1	42	7.5	73	81	44	0	4	3	0
MA CHATHAM	43	31	48	20	37	0	1.4	-.5	1.2	1.6	65	9.5	86	85	59	0	5	3	0
MI ALPENA	30	14	41	8	22	2	1.2	-.2	1.1	1.9	81	3.4	83	93	59	0	7	5	0
MI DETROIT	36	23	43	15	29	6	1.1	-.5	1.1	1.5	32	3.8	76	85	52	0	7	3	0
MI FLINT	33	19	39	11	26	2	1.2	-.3	1.1	1.9	78	3.7	88	89	60	0	7	4	0
MI GRAND RAPIDS	33	21	39	17	27	2	1.2	-.4	1.1	1.8	52	4.3	85	93	59	0	7	5	0
MI HOUGHTON LAKE	31	14	38	8	22	2	1.2	-.3	1.1	1.6	56	3.5	88	89	57	0	7	4	0
MI LANSING	33	19	40	14	26	2	1.2	-.3	1.1	1.7	54	3.4	76	93	60	0	7	4	0
MI MARQUETTE	27	10	42	4	19	9	1.5	1.0	1.6	2.9	241	7.9	174	97	68	0	7	6	2
MI MUSKEGON	33	21	38	15	27	6	1.2	-.4	1.1	1.4	30	5.0	91	94	62	0	7	4	0
MI SAULT ST. MARIE	29	11	43	6	20	4	1.3	-.1	1.2	1.6	132	5.6	110	88	57	0	7	4	0
MN ALEXANDRIA	30	14	39	6	22	3	1.1	-.2	1.1	1.6	249	2.8	128	88	52	0	7	1	0
MN DULUTH	28	12	37	5	20	4	1.1	-.4	1.1	1.3	129	2.2	72	85	49	0	7	1	0
MN INT'L FALLS	27	9	37	4	18	3	1.1	-.3	1.1	1.6	60	2.3	85	78	50	0	7	0	0
MN MINNEAPOLIS	32	20	42	12	26	3	1.1	-.3	1.1	1.6	60	2.3	85	78	50	0	7	3	0
MN ROCHESTER	29	17	36	9	23	6	1.1	-.3	1.1	1.6	62	2.0	79	90	59	0	7	2	0
MS GREENWOOD	55	31	65	24	43	12	1.2	-.2	1.2	2.2	59	6.6	49	86	29	0	5	1	0
MS JACKSON	56	31	68	22	44	13	1.6	-.7	1.4	2.3	68	8.4	66	85	33	0	4	2	0
MS MERIDIAN	57	30	66	20	43	13	1.5	-.1	1.5	2.2	53	9.1	66	91	27	0	5	1	0
MO CAPE GIRARDEAU	45	25	52	19	35	3	1.3	-.8	1.2	2.0	66	7.3	81	86	42	0	7	2	0
MO COLUMBIA	41	23	56	17	32	11	1.2	-.6	1.1	1.7	87	5.5	97	82	43	0	7	2	0
MO KANSAS CITY	42	19	63	12	31	12	1.1	-.5	1.1	1.3	19	2.4	60	83	37	0	7	1	0
MO SAINT LOUIS	40	24	55	20	32	11	1.1	-.6	1.1	2.7	140	8.3	141	81	44	0	7	2	0
MO SPRINGFIELD	41	23	56	17	32	13	1.5	-.3	1.5	3.0	147	6.5	111	81	42	0	7	1	1
MT BILLINGS	46	23	66	11	35	1	1.1	-.2	1.1	1.3	55	1.5	66	69	28	0	6	0	0
MT GLASGOW	46	18	65	7	32	4	1.1	-.1	1.1	1.1	81	1.8	101	75	25	0	7	0	0
MT GREAT FALLS	45	23	65	14	34	3	1.2	-.1	1.1	1.3	48	1.5	66	82	39	0	6	2	0
MT HAVRE	47	21	66	5	34	5	1.1	-.1	1.1	1.3	15	1.6	43	72	29	0	5	0	0
MT HELENA	46	19	69	11	33	1	1.1	-.1	1.1	1.1	33	1.9	59	90	35	0	7	2	0
MT KALISPELL	49	25	63	19	37	5	1.1	-.1	1.1	1.6	106	2.4	74	88	35	0	6	1	0
MT MILES CITY	46	17	68	8	31	0	1.1	-.1	1.1	1.1	34	1.5	33	67	23	0	7	0	0
MT MISSOULA	52	24	67	16	38	4	1.1	-.2	1.1	1.4	90	1.7	65	80	26	0	7	0	0
NE GRAND ISLAND	41	14	66	7	28	9	1.1	-.3	1.1	1.2	12	1.6	73	82	25	0	7	1	0
NE LINCOLN	44	17	67	11	31	6	1.1	-.4	1.1	1.1	5	1.7	24	79	25	0	7	2	0
NE NORFOLK	39	16	62	8	28	6	1.1	-.4	1.1	1.0	1.3	59	84	31	0	7	0	0	
NE NORTH PLATTE	39	13	66	5	26	8	1.1	-.1	1.1	1.3	54	1.1	70	88	32	0	7	2	0
NE OMAHA	41	17	63	10	29	8	1.1	-.4	1.1	1.2	23	1.9	31	74	36	0	7	1	0
NE SCOTTSBLUFF	39	13	61	1	26	9	1.1	-.1	1.1	1.0	185	1.9	137	86	41	0	7	1	0
NE VALENTINE	34	6	60	-7	20	13	1.1	-.2	1.1	1.2	39	1.6	142	87	38	0	7	1	0
NV ELY	49	16	66	8	33	1	1.1	-.2	1.1	1.3	62	1.7	85	79	24	0	7	2	0
NV LAS VEGAS	68	39	76	35	54	2	1.1	-.1	1.1	1.1	0	1.9	76	39	12	0	0	0	0
NV RENO	63	23	75	18	43	2	1.1	-.2	1.1	1.0	0	1.5	20	62	12	0	7	0	0
NV WINNEMUCCA	58	19	72	12	38	0	1.1	-.1	1.1	1.1	8	1.4	75	79	21	0	7	0	0
NH CONCORD	42	25	49	20	34	1	1.1	-.5	1.1	1.4	22	4.6	65	89	41	0	7	3	0
NJ ATLANTIC CITY	50	29	66	23	40	2	1.1	-.9	1.1	1.5	18	7.3	77	73	34	0	6	1	0
NM ALBUQUERQUE	55	26	65	19	41	6	1.1	-.1	1.1	1.2	53	1.4	36	58	16	0	6	1	0
NM CLOVIS	56	27	68	23	42	5	1.1	-.1	1.1	1.2	52	1.7	53	54	21	0	6	0	0
NM ROSWELL	59	25	70	18	42	9	1.1	-.1	1.1	1.3	13	1.7	163	67	17	0	6	0	0
NY ALBANY	42	26	52	21	34	0	1.1	-.6	1.1	1.6	30	5.5	85	93	49	0	7	3	0
NY BINGHAMTON	33	22	48	18	28	4	1.2	-.5	1.1	1.7	41	6.1	92	89	57	0	7	5	0
NY BUFFALO	35	23	48	15	29	4	1.1	-.2	1.1	1.1	59	6.7	93	93	59	0	7	5	0
NY NEW YORK	48	34	63	30	41	0	1.1	-.9	1.1	1.9	38	7.0	80	77	37	0	2	1	0
NY ROCHESTER	36	24	42	15	30	4	1.1	-.5	1.1	1.1	8	3.0	48	90	55	0	7	2	0
NY SYRACUSE	37	26	46	22	31	2	1.2	-.6	1.1	1.5	26	4.1	58	88	49	0	6	6	0
NC ASHEVILLE	46	25	60	19	36	11	1.3	-.8	1.3	1.9	31	5.5	58	84	32	0	6	1	0
NC CHARLOTTE	52	33	69	26	42	8	1.8	-.4	1.7	2.4	79	6.9	65	77	30	0	4	3	1
NC GREENSBORO	50	28	68	21	39	9	1.7	-.2	1.5	1.2	50	4.8	51	76	31	0	5	3	0
NC HATTERAS	53	38	68	31	45	6	1.2	-.3	1.8	2.7	110	12.5	109	88	46	0	2	3	1
NC NEW BERN	59	36	74	30	47	5	1.7	-.1	1.5	2.8	122	10.1	97	74	33	0	4	3	1
NC RALEIGH	52	30	70	25	41	8	1.5	-.3	1.3	1.2	51	6.7	72	74	32	0	5	3	0
NC WILMINGTON	58	36	73	30	47	7	1.8	-.2	1.7	3.1	124	10.5	108	77	34	0	4	2	1
ND BISMARCK	32	5	43	-11	19	8	1.1	-.2	1.1	1.8	228	1.9	146	88	50	0	7	0	0
ND FARGO	29	13	40	2	21	3	1.1	-.2	1.1	1.9	220	2.7	203	89	58	0	7	1	0
ND GRAND FORKS	29	8	37	-2	19	4	1.1	-.2	1.1	1.7	158	1.5	88	84	56	0	7	0	0
ND WILLISTON	40	13	50	2	26	0	1.1	-.1	1.1	1.3	107	1.3	106	84	31	0	7	0	0
OH AKRON-CANTON	33	23	41	19	28	9	1.4	-.4	1.1	1.3	63	5.1	75	93	63	0	7	7	0
OH CINCINNATI	37	23	45	19	30	12	1.3	-.7	1.2	2.4	100	10.1	121	92	55	0	7	5	0
OH CLEVELAND	35	26	40	20	30	7	1.4	-.3	1.1	1.9	48	4.7	73	91	61	0	7	6	0
OH COLUMBUS	37	24	44	20	30	10	1.2	-.6	1.1	1.6	85	8.0	116	88	56	0	7	4	0

(Continued from front cover)

Mexico, northwestern Oklahoma, and northwestern Texas. Highs in the thirties were also common over the upper Mississippi Valley, the Great Lakes region, and the upper Ohio Valley.

FRIDAY...Light snow extended from lower Michigan, Ohio, and eastern Kentucky across West Virginia into Pennsylvania and New York. Scattered rain

showers extended southward from the Middle Atlantic States to the gulf coast, with frequent showers and thunderstorms in Alabama, Georgia, and Florida. Dry weather prevailed west of the Mississippi River, and abnormally warm weather prevailed west of the Rockies. Temperatures climbed into the eighties in California.

(Continued to p. 8)

Weather Data for the Week Ending March 19, 1988

STATES AND STATIONS	TEMPERATURE °F					PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
DAYTON	36	24	43	21	30	-10	.1	-.6	.1	1.4	77	6.7	102	87	55	0	7	2	0	
TOLEDO	37	23	43	20	30	-6	.3	-.3	.2	.6	37	3.1	57	89	50	0	7	5	0	
YOUNGSTOWN	32	23	41	18	28	-8	.3	-.4	.1	.9	46	4.5	66	92	65	0	7	5	0	
OK OKLAHOMA CITY	48	27	64	21	38	-11	-.1	.1	.1	.9	300	5.3	150	73	33	0	6	2	1	
TULSA	48	27	62	22	37	-12	-.6	.6	.6	.9	217	6.0	122	72	27	0	6	2	1	
OR ASTORIA	60	32	64	28	46	2	0	0	0	2.2	48	12.3	53	95	39	0	6	1	0	
BURNS	55	22	67	17	39	2	0	0	0	.4	58	1.7	45	**	**	0	7	0	0	
MEDFORD	71	29	77	27	50	4	0	0	0	.5	38	3.2	47	81	19	0	6	0	0	
PENDLETON	58	31	67	26	44	0	0	0	0	.4	58	2.4	67	72	29	0	5	0	0	
PORTLAND	64	33	71	29	49	3	0	0	0	-.8	0	0	0	0	0	0	3	0	0	
SALEM	64	29	70	27	47	2	0	0	0	1.2	45	8.8	61	90	34	0	6	0	0	
PA ALLENTOWN	43	28	58	26	36	-3	0	0	0	1.2	52	7.2	83	79	38	0	6	0	0	
ERIE	34	24	41	20	29	-5	-.7	0	.3	1.2	75	5.2	84	90	60	0	7	2	0	
HARRISBURG	43	29	59	26	36	-5	-.7	0	.1	1.2	56	6.7	84	77	40	0	6	2	0	
PHILADELPHIA	49	32	64	28	40	-2	-.1	0	0	.8	36	7.7	92	73	37	0	4	2	0	
PITTSBURGH	35	23	47	20	29	-10	-.3	0	0	1.8	82	6.7	90	97	68	0	7	2	0	
SCRANTON	38	26	53	23	32	-4	-.6	0	0	1.0	63	4.7	80	88	47	0	6	3	0	
RI PROVIDENCE	47	31	52	26	39	1	.3	0	.2	1.0	39	9.0	86	90	43	0	5	3	0	
SC CHARLESTON	61	37	77	28	49	-8	-.5	0	0	1.8	65	6.9	72	82	32	0	3	1	0	
COLUMBIA	57	32	72	24	44	-11	-.7	0	0	1.3	39	7.4	63	88	28	0	4	2	0	
FLORENCE	59	33	76	25	46	-9	-.3	0	0	2.5	97	6.6	68	78	30	0	3	2	0	
GREENVILLE	53	29	68	23	41	-10	-.6	0	0	2.2	60	7.9	63	83	28	0	4	2	1	
SD ABERDEEN	36	12	44	3	24	-4	-.2	0	0	.4	67	1.0	61	84	39	0	7	0	0	
HURON	34	11	49	-1	23	-7	0	0	0	.8	122	1.7	94	87	46	0	7	0	0	
RAPID CITY	33	9	59	-1	21	-12	-.2	0	0	.3	54	.8	51	82	48	0	7	2	0	
STIOUX FALLS	36	16	50	8	26	-5	-.4	0	0	.2	20	2.0	83	86	41	0	7	0	0	
TN CHATTANOOGA	48	30	56	22	39	-11	-.1	0	0	1.5	39	10.5	75	81	35	0	4	1	0	
KNOXVILLE	45	26	53	20	36	-14	-.1	0	0	1.2	64	9.4	76	81	38	0	6	1	0	
MEMPHIS	48	31	57	25	40	-12	-.1	0	0	2.2	67	9.9	81	73	39	0	4	2	0	
NASHVILLE	46	27	53	21	36	-13	-.1	0	0	1.4	40	7.1	59	84	36	0	5	1	0	
TX ABILENE	56	29	68	18	42	-14	.4	0	0	.5	91	1.0	37	79	27	0	6	1	0	
AMARILLO	45	19	65	11	32	-15	-.6	0	0	1.2	221	1.5	97	84	34	0	7	2	1	
AUSTIN	61	39	69	33	50	-11	1.9	1.6	1.9	2.5	253	3.1	61	69	33	0	0	1	1	
BEAUMONT	64	41	73	32	52	-8	1.7	1.1	1.7	4.2	225	12.5	122	80	31	0	1	1	1	
BROWNSVILLE	67	52	74	38	59	-9	.3	.2	.2	4.2	132	5.9	192	89	51	0	0	2	0	
CORPUS CHRISTI	66	44	74	30	55	-11	.4	.2	.4	.5	98	2.4	68	74	37	0	1	1	0	
DEL RIO	63	39	70	29	51	-12	-.1	0	0	.1	26	.3	18	56	22	0	1	2	0	
EL PASO	63	31	72	22	47	-8	0	0	0	.1	48	1.1	102	44	12	0	5	0	0	
FORT WORTH	58	33	68	26	46	-11	.5	0	0	1.3	98	3.4	69	75	28	0	5	1	1	
GALVESTON	61	48	68	40	55	-7	2.0	1.5	2.0	2.9	231	6.8	102	70	39	0	0	2	1	
HOUSTON	62	40	71	32	51	-10	1.8	1.2	1.8	3.1	197	5.7	67	79	35	0	2	2	1	
LUBBOCK	55	23	68	15	39	-12	-.1	0	0	.3	58	1.0	66	79	29	0	6	2	0	
MIDLAND	61	26	69	17	43	-12	0	0	0	.2	60	.6	50	73	22	0	6	0	0	
SAN ANGELO	60	28	70	20	44	-14	-.5	.4	.5	.7	168	1.1	59	79	30	0	6	1	1	
SAN ANTONIO	63	38	70	28	51	-11	-.7	0	0	.8	103	2.1	50	72	29	0	2	1	1	
VICTORIA	64	40	72	33	52	-12	1.1	.4	.6	1.3	170	4.1	84	76	36	0	0	2	1	
WACO	59	36	67	27	47	-11	1.1	0.6	1.1	2.3	209	4.4	91	78	31	0	2	1	1	
WICHITA FALLS	54	29	68	23	41	-12	.2	-.3	.2	4.5	454	6.3	215	82	29	0	6	1	0	
UT BLANDING	47	21	58	17	34	-5	0	0	0	6	2.6	90	76	45	0	7	1	0	0	
CEDAR CITY	48	21	64	16	35	-5	-.1	0	0	1.1	8	115	2.4	111	94	33	0	7	1	0
SALT LAKE CITY	48	26	62	19	37	-4	-.1	0	0	1.1	74	1.9	52	85	30	0	7	2	0	
VT BURLINGTON	36	22	42	16	29	-1	.4	-.1	.2	.6	47	3.0	61	93	55	0	7	5	0	
VA NORFOLK	52	34	66	29	43	-6	-.7	0	.2	1.4	57	7.2	76	82	35	0	4	4	0	
RICHMOND	50	29	66	26	40	-8	.4	-.5	.2	1.0	45	6.6	76	78	32	0	6	4	0	
ROANOKE	45	29	62	23	37	-9	-.8	0	0	.4	18	3.4	40	68	34	0	5	1	0	
WA QUILLAYUTE	61	32	66	30	47	4	.4	-.4	.4	5.0	66	22.7	66	94	35	0	4	1	0	
SEATTLE-TACOMA	60	37	66	33	48	4	0	0	0	.9	39	5.7	45	88	34	0	0	0	0	
SPOKANE	52	29	60	25	41	3	0	0	0	.9	104	3.0	61	80	31	0	5	1	0	
YAKIMA	61	26	71	21	43	1	0	0	0	.1	16	.7	29	79	21	0	7	0	0	
WV BECKLEY	34	22	47	16	28	-13	.3	-.6	0	1.0	43	5.0	54	90	54	0	7	5	0	
CHARLESTON	39	27	50	22	33	-12	.3	-.6	0	1.1	2.0	84	6.2	68	88	54	0	7	4	0
HUNTINGTON	40	27	50	21	33	-12	.2	-.7	0	2.4	98	6.8	79	91	52	0	7	3	0	
PARKERSBURG	39	26	49	20	32	-11	.3	-.6	0	2.8	131	5.6	73	90	52	0	7	4	0	
WI GREEN BAY	33	21	39	17	27	-2	-.1	0	0	.4	35	2.9	88	92	56	0	7	3	0	
LACROSSE	33	19	40	14	26	-5	0	0	0	1.1	10	1.2	43	86	51	0	7	1	0	
MADISON	34	20	40	13	27	-5	-.1	0	0	.2	16	2.5	74	88	53	0	7	3	0	
MILWAUKEE	34	22	41	15	28	-4	-.1	0	0	.3	17	4.8	108	92	55	0	7	3	0	
WALSAU	32	18	37	15	25	-2	0	0	0	.4	37	.8	28	85	56	0	7	1	0	
WY CASPER	32	12	49	-3	22	-10	-.1	0	0	.7	130	1.8	112	83	56	0	7	2	0	
CHEYENNE	32	13	54	2	23	-9	.2	-.1	.2	1.1	202	2.3	170	78	44	0	7	2	0	
LANDER	36	14	54	8	25	-7	.5	-.3	.3	1.3	219	1.7	99	81	43	0	7	3	0	
SHERIDAN	42	20	68	15	31	-1	0	0	0	.5	78	1.9	91	87	43	0	7	1	0	
PR SAN JUAN	86	73	91	71	80	2	0	0	0	1	1	6.1	96	87	68	1	0	0	0	

(Continued from p. 7)

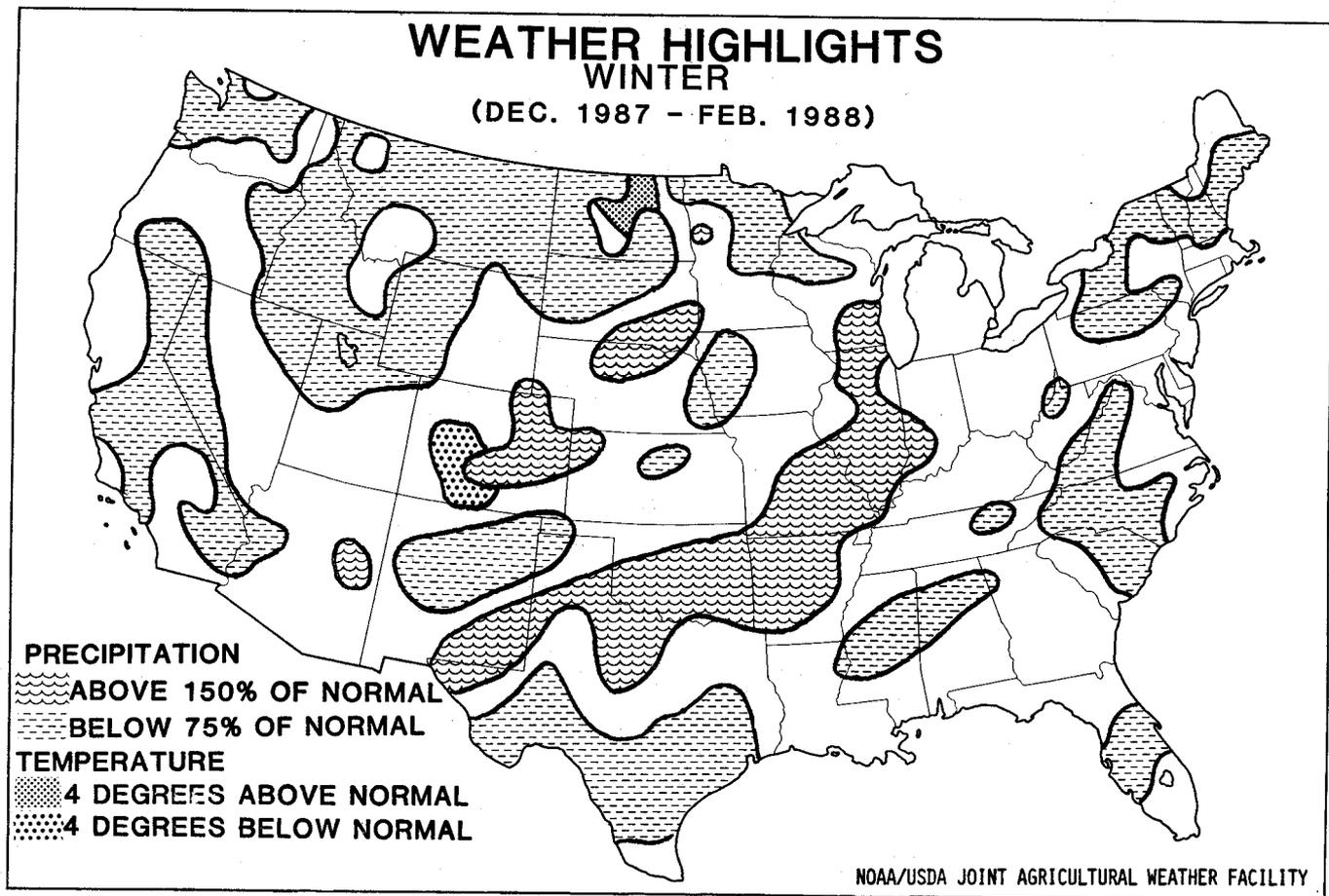
SATURDAY...Another mass of cold air plunged into the upper Mississippi Valley and the Great Lakes region, bringing more snow to Wisconsin, Michigan, Ohio, Pennsylvania, and New York. Scattered rain showers dotted southern Florida. Warming continued in the Southwest, as temperatures climbed into the nineties in southern California.

Heating Degree Days Summary Table

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

LAST DATE OF DATA COLLECTION PERIOD IS 3-19-1988
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK DEV, WEEK FROM, CUM TOTAL, CUM DEV FROM, CUM DEV FROM, CUM DEV FROM, CUM DEV FROM. Rows list various cities and their corresponding heating degree day data.



WINTER WEATHER REVIEW

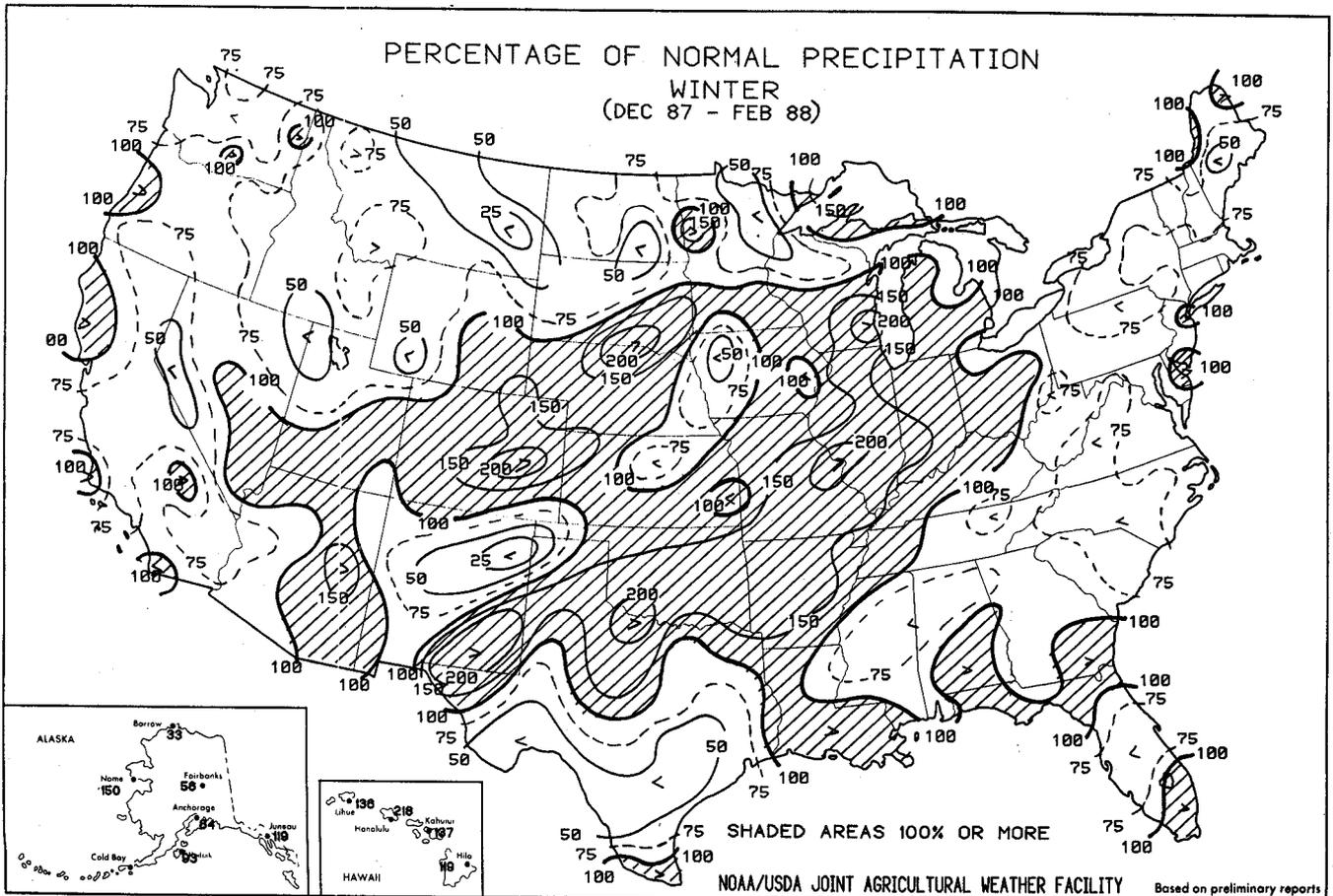
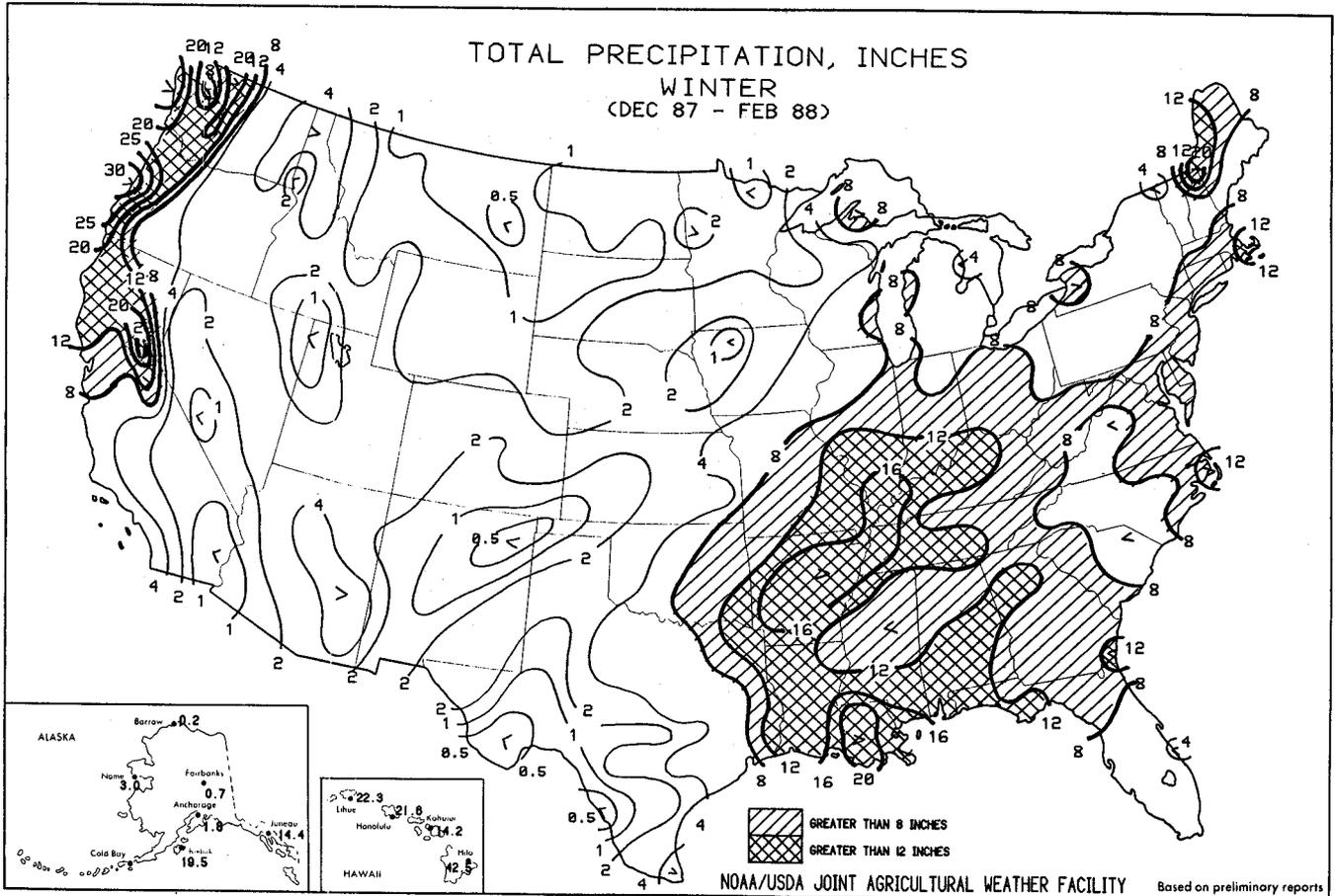
(DECEMBER 1987 - FEBRUARY 1988)

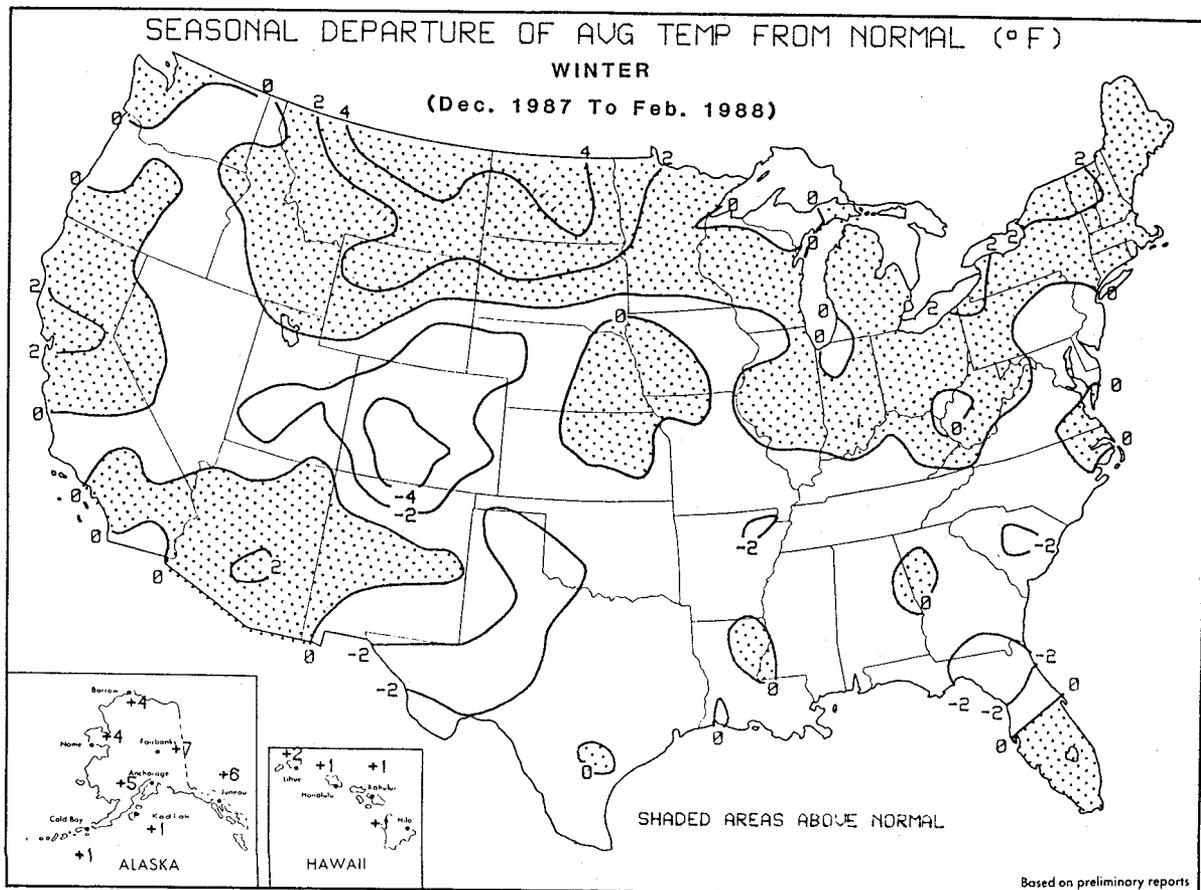
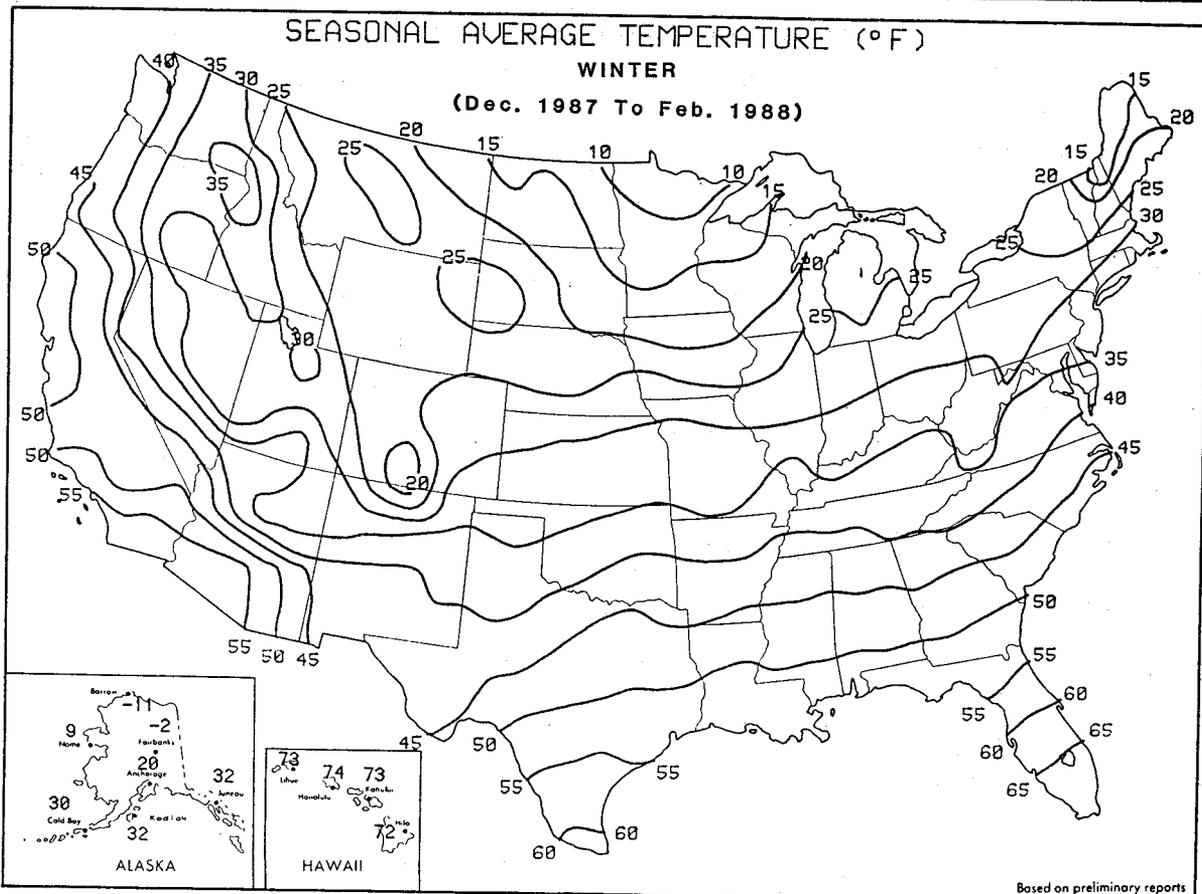
HIGHLIGHTS: For the third consecutive winter, the northern Plains were generally warmer than normal. Also, the Pacific coastal region and Arizona had above-normal temperatures. The central and southern High Plains were somewhat colder than normal. The Northeast and the Great Lakes region were slightly warmer than normal. Elsewhere east of the Mississippi, average temperatures for the winter were near to normal. The Pacific Northwest, California, the northern Great Basin, and the northern Plains were drier than normal. Arizona, the central and southern Plains, and the Mississippi, Ohio, and Tennessee Valleys were wetter than normal. The rest of the Nation east of the Mississippi was generally drier than normal, except for the gulf coast and southern Florida.

DECEMBER...Temperatures averaged mostly above normal from the Rockies eastward and below normal in the far West. The Gulf States, the Atlantic Coast States, and parts of the northern Great Plains had below-normal precipitation. Heavy rains fell in Texas, the lower Mississippi Valley, and Pacific coastal areas. Significant snowfall occurred in the central Great Plains and the Midwest.

JANUARY...Despite numerous outbreaks of arctic air, temperatures averaged above normal in the extreme northern Great Plains. Temperatures were also above normal in the Pacific coastal regions, the desert Southwest, and in part of the Northeast. Below-normal temperatures prevailed in the Rocky Mountains, the central and southern Plains, and over most of the East. Slightly over 50 percent of the Nation experienced below-normal precipitation. Texas had the driest weather with respect to normal. The desert Southwest, the central Rockies, the central Plains, parts of the Midwest, and the extreme Southeast were the wettest areas.

FEBRUARY...The temperature pattern of February resembled that of January, but positive temperature anomalies in the West were greater, and the area affected was larger. Relatively cold weather persisted in the eastern half of the Nation, except for areas along the east coast from North Carolina to New England. Wettest areas, with respect to normal, were the Gulf Coast States, the Rocky Mountain States, the desert Southwest, the Northeast, and the middle and lower Mississippi Valley.





National Agricultural Summary

March 14 to 20, 1988

HIGHLIGHTS: Freezing temperatures swept through the southern Great Plains and Southeast, damaging peaches and other fruit crops in Texas, South Carolina, and Georgia. Frost caused minor fruit crop damage in California. Soil moisture was mostly adequate, except in the central and northern Great Plains where additional moisture is needed. Precipitation slowed fieldwork to less than 4 days in the southern Great Plains and some southeastern States.

Low temperatures slowed wheat growth and development in the Great Plains, Delta, and Southeast. Wheat began heading in Louisiana, and jointing became more prevalent in the Southeast and Delta. Corn planting continued lagging behind normal in the Delta and Southeast. Wetness and low temperatures slowed seeding. Cotton was seeded in southern California and seeding continued in Arizona and Texas. Rice planting was underway in Texas and Louisiana but lagged behind normal in both States. The cold weather damaged some transplanted tobacco in Georgia. Livestock was mostly good.

SMALL GRAINS: Extremely cold temperatures slowed winter wheat and small grain development in the Great Plains, Delta, and Southeast. Small grains were mostly fair to good, except in the Southeast and Corn Belt where condition was mostly good to fair. Dry weather continued plaguing wheat in North Dakota, leaving condition fair to poor.

In Texas, small grains progressed well early in the week. Snow provided much needed moisture in the High Plains, but the colder weather slowed growth in most areas midweek. Crop condition began improving with the arrival of warm weather late in the week. Small grains were greening and provided forage in east Texas. Growers sprayed to control increasing aphid populations. Gradual warming weather melted snow and provided beneficial moisture in northwestern Oklahoma. Wet fields prevented topdressing and herbicide applications. Wheat was mostly good and 10 percent (%) reached the jointing stage. In Kansas, wet snow delayed field activity but oat and barley seedings reached 65 and 70% completion, respectively. Russian wheat aphids, wheat curl mites, and wheat streak mosaic disease remained light. Kansas wheat was fair to good. In some areas, winter wheat was poor because of the lack of moisture, particularly in north-central South Dakota. Montana's wheat was mostly dormant but there was some greening. Minimal freeze damage became noticeable in eastern Colorado.

Spring grain seeding continued in Washington. Crusting soil surfaces inhibited emergence in central and southeastern areas. Light soil small grains were under moisture stress in California. Small grains were irrigated where possible. Arizona wheat was good. Ninety-five percent of the acreage was jointing and 15% reached the heading stage in western areas. Russian wheat aphids became a problem in south-central areas.

Fifty-seven percent of Georgia's wheat was jointing, 21 percentage points above the 5-year average. Heading was just beginning in Louisiana and Alabama. Wheat jointing lagged 9 points behind normal in Mississippi.

OTHER CROPS: Seeding cotton was underway in southern California. Producers made final preparation to seed cotton in central areas. One-fourth of the cotton acreage was planted in western Arizona. Final seedbed preparation progressed well in central and southeastern areas. Boll weevils were active in south-central

areas. Texas cotton was 6% planted, slightly ahead of normal. Planting continued in the Rio Grande Valley and at Coastal Bend as the weather allowed. Cotton seedbed preparations progressed ahead of normal in Oklahoma.

Cold, wet weather slowed corn planting in the Southeast and Delta. Planting lagged behind normal in Alabama (6 points), Georgia (18 points), Louisiana (17 points), and Mississippi (7 points). In Texas, corn planting was 53% finished, compared with 37% normally. The cold weather burned some emerged fields, but most are expected to recover. Corn planting neared completion from the Blacklands to the Rio Grande Valley and along the upper coast.

In Texas, rice planting was underway along the upper coast and reached 2% completion statewide. Louisiana's rice was 2% seeded, 4 points below the average. Producers continued using water to level rice fields. California rice producers actively prepared fields.

Grain sorghum planting increased in the Blacklands and east Texas as the weather permitted. Planting neared completion in the Rio Grande Valley and at Coastal Bend. Thirty-four percent of the acreage was seeded, doubling 1987 and 4 points above average. The cold weather nipped some emerged sorghum.

Tobacco transplanting was underway in Georgia. Low temperatures damaged some transplanted fields, but beds remained in good condition. Flue-cured tobacco bed seeding neared completion, and burley beds were 50% seeded in Virginia. In Kentucky, tobacco beds were prepared and many were seeded.

FRUITS AND NUTS: The cold temperatures severely damaged opened peach blooms along the Ridge and in the coastal Plains areas of South Carolina. Unopened buds appeared to survive. Most Piedmont peach varieties were still dormant with light damage expected. The extent of peach freeze damage was uncertain in Georgia, but temperatures dipped below freezing 2-3 nights in many orchards. Peaches and many other budded out fruit trees received light to heavy freeze damage in Texas. It may take a couple of weeks to fully assess the damage.

Adequate moisture produced abundant foliage in Florida's citrus groves. Some trees were loaded with open flowers. Early orange harvest was virtually finished. Grapefruit movement was very active but temple orange harvest slowed. Market demand slowed citrus harvest in Texas. Valencia oranges and grapefruit were packed in central and western Arizona. Stone fruit bloom neared completion in California. Fruit growers were busy applying fungicides and weed controls, planting young trees, tying trees, cultivating between rows, and irrigating. Peaches and prunes suffered some frost damage in Yuba County. Operators used wind machines and irrigation to protect fruit trees from frost damage in San Joaquin County. Frost damaged unprotected orchards. Almond, peaches, and grapes leafed. Frost damaged Fresno County oranges.

VEGETABLES: Cold weather damaged sweet corn, watermelons, cucumbers, and squash in Florida's vegetable producing areas. Vegetable harvest was active in most areas. Wet conditions slowed vegetable harvest in the Rio Grande Valley and San Antonio-Winter Garden area. The cold weather damaged some planted vegetables and slowed planting in east Texas. In California, low temperatures slowed vegetable growth and development. Sweet corn suffered chill damage, cucumbers and tomatoes grew slowly in Cutler-Orosi

(Continued to back cover)

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 mostly under 0.25 in. Temperatures averaged 9 to 13° below normal.

Days suitable for fieldwork 4.5. Soil moisture 18% short, 73% adequate, 9% surplus. Fieldwork progress 5% ahead of normal, 61% normal, 34% behind normal. Acreage intended for spring planting now 31% prepared, 26% 1987. Corn 14% planted, 21% 1987, 20% avg. Winter wheat fair to good. Few fields headed. Livestock mostly fair. Stored feed supplies 50% short, 50% adequate. Pastures fair to poor. Pasture feed supply 73% short, 27% adequate. Freeze damage to early producing fruits, vegetables light to none. Primary activities: Land preparation; planting corn, vegetables, pine trees; topdressing small grains; repairing fences; fertilizing pastures; pruning, spraying fruit trees; routine care of livestock, poultry.

ARIZONA: Dry northerly winds sunny skies, very low humidity, slight warming trend 13th, 15th. Upper level low pressure, associated cold front 15th, variable clouds, snow flurries, north central, northeast 16th. Gusty winds 15 to 25 mph common. Colder air lowered afternoon temperatures 8 to 18° north, 2 to 8° south. Under high pressure, sunny weather, significant warming trend 17th, 19th. Average temperatures varied from 6° below to 3° above.

Planting 1988 cotton crop very active west; 25% planted. Final seedbed preparations progressed as growers anticipated planting, 5% central, southeast; listing, bedding, pre-irrigation continued. Elsewhere field preparations progressed. Some boll weevil activity south central. Alfalfa harvest continued west, increasing. Curing conditions favorable, light stand renovations. Insecticides applied southeast, Egyptian alfalfa weevil problems. Statewide small grains good, excellent west; 95% jointing, 15% heading. Russian wheat aphids problem south central, 90% stands established, 10% jointing. Corn seedbed preparation occurred southeast. Head lettuce harvest, shipping major vegetable activity west. Romaine, leaf lettuce, cauliflower, broccoli, asparagus harvest continued. Some shipments of mixed vegetables. Melons good, minor frost damage. Central area harvested, shipped head lettuce. Greens, broccoli, rapini, carrots, spinach harvested, shipments continued. Other mixed vegetables harvested smaller scale. Valencia oranges, grapefruit harvested, packed; central, west. Kinnow tangerines still harvested central.

ARKANSAS: Temperatures well below normal. Arctic air kept State very cold. Snow amounts to 22 in. or less northwest, north central; light rain elsewhere. Temperature extremes 13°; 85°. Rainfall totals 0.17 to 2.05 in.

Soil moisture surplus. Activities limited to normal winter chores. Fruits good, few peach buds killed. Pastures set back due to cold weather. Wheat good. Hay supplies exhausted north central. Cattle good.

CALIFORNIA: High pressure over western U.S. brought another dry week to area. Temperatures averaged above normal over much of State. Santa Ana conditions developed late week southern area bringing very warm temperatures to coast.

Warm, dry weather, rapid progress field activity. Small grains light soils moisture stress. Other growth good. Irrigated where possible. Southern seeding cotton ideal weather. Central, final preparations, seed this week. Seeded some wild

rice. Actively preparing rice, corn, bean fields. Sugarbeet harvest progressed. New crop thinned. Alfalfa cut hay, green-chopped San Joaquin, southern valleys. Weevil controls continued. Green-chopped small grains early areas. Bloom complete most stone fruit orchards. Activities included planting young trees, tying trees, weed control, between-row cultivation, irrigation, some fungicide application. Some granny smith apples blossom. Apricots pruned, thinned as bloom nearly complete. Nectarines treated for thrip control. Peaches leafing out. Prunes full bloom. Some frost damage Yuma County river bottom peach, prune orchards. Grapes leafing out. Coachella Valley table grape bunches thinned. Almonds leafing out; San Joaquin County operators used wind machines, irrigation protect from frost damage. Unprotected orchards some frost damage. Hass avocados harvested, good quality. Lemons, tangelos packed. Harvesting navel oranges, desert variety valencia oranges, desert grapefruit. Some freeze damage Fresno County oranges. Asparagus cutting continued Westside, Sacramento Valley, Riverside area. Westside, Salinas, Santa Maria broccoli continued. Growers planted cantaloup, carrots Westside. Riverside continued moving carrots. Cauliflower harvested Westside, Salinas, Santa Maria. Cucumbers grew slowly Cutler-Orosi due to cold mornings. Lettuce harvest to begin next week Huron. Lettuce continued yielding well, good quality Blythe, Imperial. Onion planting continued Westside, young onions grew slowly, cold mornings, Cutler-Orosi. Sweet corn suffered chill damage Cutler-Orosi. Strawberry picking continued south coast. Westside 80% processing tomato plantings germinated good stands. Stands slow Cutler-Orosi. Fresh tomato transplanting continued Westside. Livestock fair to good statewide. Range pastures poor to fair most areas dry weather, caused livestock conditions below normal. Higher elevation ranges better shape. Supplemental feeding heavy Redding continued other areas. Livestock movement continued slow pace. Water supplies low all areas. Bees good job pollinating almond orchards Delta. Nectar pollen good supply.

COLORADO: Light snow midweek; precipitation 0.03 to 0.36 in. Average temperature 5 to 12° below normal.

Days suitable for fieldwork 1.5. Soil moisture 2% very short, 17% short, 64% adequate, 17% surplus. Winter wheat good, small amount of freeze damage eastern areas. Livestock good; cows calved 41%, ewes lambled 40% since January 1st. Stored feed supplies adequate. Seedbed preparation ongoing; planting small grains, onions just underway.

FLORIDA: Cold front cleared State early week, light rains fell over southern area 20th. Many record low temperatures morning of 16th; frost, pockets freezing temperatures reached northern Everglades. Warming trend preceded next cold front which dropped 1.00 to 2.00 in. rain over much of Peninsula, weekend with less than 0.50 in. north. Temperatures averaged 9° below normal north, 6° below central, south.

Soil moisture mostly adequate. Small grains continued generally good. Sugarcane harvest winding down. Some mills closing for season. Midweek frosts burned new growth on pastures northern Peninsula, Panhandle, but timely rains these areas generally favored growth winter grazing

crops. Cool temperatures continued to slow pasture growth central Peninsula. More new growth lower southern Peninsular areas where grazings good. Elsewhere, conditions varied widely from very poor to fair. Supplemental feeding continued many areas. Cattle remained fair to good. Citrus trees excellent for bloom season. Adequate soil moisture produced abundant foliage. Some trees loaded with open flowers; peak bloom 1 to 2 weeks away. Early orange harvest nearly finished. Grapefruit movement very active. Temple movement continued but slowed. Caretakers unbanked young trees. Midweek cold covered vegetable producing areas. Some damage spring sweet corn, watermelons. Lesser damage cucumbers, squash. Harvest continued active. Good volume available tomatoes, cabbage, celery, peppers, potatoes, lettuce, sweet corn, strawberries, carrots, squash. Also ample supply snap beans, radishes, escarole, endive available.

GEORGIA: Cool, rainfall light. Temperatures 9 to 13° below normal. Extreme lows teens northeast mountains to low 20s north; mid, upper 20s to Florida border. Extreme highs mid to upper 60s, around 70s south. Rain 1 or 2 days amount mostly under 0.50 in. Rainfall since January 1 1.00 to 7.00 in. below normal except south totals 2.00 to 6.00 in. above normal.

Days suitable for fieldwork 4.5. Soil moisture 18% short, 66% adequate, 16% surplus. Corn 4% very poor, 20% poor, 38% fair, 38% good; 12% planted, 11% 1987, 30% avg. Freezing temperatures and wet soils south slowed planting, germination, development. Tobacco transplanting just underway, some cold damage, beds good condition. Watermelons fair to good, planting progress less than 33% of normal; 17% poor, 38% fair, 45% good; 11% planted, 25% 1987, 36% avg. Small grains mostly good. Wheat 57% jointing, 47% 1987, 36% avg.; 4% boot, 5% 1987, 10% avg. Apples good, virtually no blooming, freeze damage judged light. Peaches extent of freeze damage uncertain, 2 to 3 nights below freezing many groves; 39% fair, 60% good, 1% excellent; 43% blooming, 64% 1987, 72% avg. Pasture very poor to good. Cattle, hogs fair to mostly good. Main activities: Corn planting, land preparation.

HAWAII: Weather mixture rain, sunny periods. Rain most windward areas mid to latter part of week. Leeward sections generally dry. Winds northeasterly, mostly 10 to 20 mph, gusty at times. Temperatures low 60s to low 80s. Rainfall none to 8.10 in.

Days suitable for fieldwork 7.0. Papaya production seasonal low. Ginger root harvesting, new crop planting active. Sugarcane harvesting steady. Rain hampered field, harvesting operations some vegetables. Leafy vegetable harvesting steady.

IDAHO: Temperatures near normal north, southwest, 3° to 7° below normal east. Precipitation below normal.

Winter wheat good. No Russian wheat aphid. Field activities slowed due to cooler weather, except southwest where plantings of sugarbeets, onions, grains, peas continued. Other activities included livestock care, shopwork, attending seminars, sorting, shipping seed potatoes. Livestock good despite calving, lambing complications, scours. Sheep shearing continued. Hay, roughage supplies adequate.

ILLINOIS: Temperatures 1st to 15th averaged 2 to 4° above normal north; normal central, south. Wide range of temperatures from 60s to teens. Precipitation wide variation less than 0.25 in. northwest, central; 1.50 to 2.00 in. south. North, central 0.50 to 1.00 in. below normal, south 0.50

to 0.75 in. above normal. Temperatures averaged 9° below normal north, 12° below south. Precipitation light except southern third 0.10 to 0.30 in.

Winter wheat 17% fair, 73% good, 10% excellent. Soil moisture 8% poor, 28% short, 64% adequate. Livestock good.

INDIANA: Temperatures averaged 7 to 10° below normal. Lows teens to low 20s, highs 40s to low 50s. Precipitation below normal. Amounts of 0.50 in. northwest to 0.10 in. elsewhere.

Muddy conditions limited field activities. Activities included: Hauling manure, spreading fertilizer, topdressing wheat, plowing, preparing equipment, hauling grain, purchasing supplies, attending meetings, care of livestock. Hay supplies adequate. Livestock good. Wheat mostly good, greening up some areas.

IOWA: Temperatures averaged 1° below normal northwest to 5° below normal southeast. Greatest weekly precipitation total only 0.07 in., 5th consecutive week with negligible precipitation.

Livestock mostly good. Cold temperatures brought some stress to livestock. Calving, lambing good progress across State. Fertilizer being applied to many areas. No concern noted yet about soil moisture.

KANSAS: Temperatures below normal. Average temperatures 9° below normal northwest, west central, to 12° below normal south central area. Temperatures ranged 28° northwest to 33° southeast. Main precipitation spring snow storm dumping up to 8 in. snow south central. Heaviest south central part, 6 to 8 in. snow. Rest 3 to 6 in. except northeast where lighter. Average 0.10 to 0.50 in. precipitation. Moisture ranged 0.14 in. northeast to 0.52 in. southeast.

Days suitable for fieldwork 3.5. Topsoil moisture 48% short, 32% adequate, 20% surplus. Subsoil 31% short, 60% adequate, 9% surplus. Wheat 14% poor, 31% fair, 30% good, 25% excellent. Russian wheat aphid, wheat curl mite light. Wheat streak mosaic remained light. Wet snow delayed, field activity but seeding progressed oat 65%, barley 70%. Range, pasture good, excellent except poor northwest. Calving active. Snow caused stress newborn calves. Feed supply adequate.

KENTUCKY: Cold, mostly dry. Lows averaged in 20s, 5 to 10° below normal. Daytime highs averaged mostly in 40s, 10 to 15° below normal. Precipitation ranged 0.10 to 0.50 in.

Soil moisture mostly adequate. Field activity picking up. Many fields began to dry end of period, land preparation will become more general. Tobacco beds generally prepared, many seeded. Winter feed supplies generally adequate. Feeder calf market very strong.

LOUISIANA: Temperatures 10 to 13° below normal. Temperature extremes 22°; 71°. Rainfall averaged 0.69 to 1.92 in.

Days suitable for fieldwork 3.1. Soil moisture 33% adequate, 67% surplus. Spring plowing 18%, 12% 1987, 30% avg. Corn 8% planted, 2% 1987, 25% avg.; 3% emerged, 1% 1987, 9% avg. Rice 2% planted, 5% 1987, 6% avg. Winter wheat fair to good; 1% headed, 2% 1987, 4% avg. Sugarcane, livestock fair to good. Vegetables, pastures fair. Main activities: Planting corn, rice; spring plowing; topdressing pastures, wheat; harvesting crawfish; water leveling rice fields.

MARYLAND & DELAWARE: Maryland: Average temperature 41°, normal 43°. Lowest temperature 15°, highest temperature 70°. Highest, lowest temperatures far west. Precipitation averaged 0.13 in.

Most areas Eastern Shore short supplies soil moisture. Small grains remained mostly good. Main farm activity caring for livestock.

Delaware: Average temperature 42°, normal 43°. Lows mostly in mid 20s, highs mid 60s. Precipitation averaged 0.15 in.

Southern areas short supplies soil moisture. Small grains remained mostly good. Main farm activity caring for livestock.

MICHIGAN: Temperatures ranged 4 to 7° below normal. Temperature extremes -4°; 43°. Precipitation ranged 0.11 to 1.49 in. across State. Major winter storm early week resulted in blizzard conditions Upper Peninsula, northern lower area. Light to moderate snowfall occurred other areas lower area. Most of new snow cover gone by weekend. Warmer temperatures would benefit winter wheat.

Soil too wet for fieldwork. Activities: Marketing crops, livestock; pruning fruit trees, producing maple syrup, preparing farm machinery. Livestock very good. Feed supplies adequate. Hay supplies plentiful. Calving, lambing increased. Winter favorable for livestock.

MINNESOTA: Temperatures averaged 1 to 4° below normal for State. Extremes -6°; 46°. Precipitation averaged 0.13 to 0.39 in. below normal for State. Precipitation totals averaged 0.01 to 0.10 in. Greatest weekly total 0.29 in. Snowfall averaged trace to 1 in. Snow depth weeks end averaged 9 to 10 in. north central, northeast; trace or less elsewhere.

Livestock good. Farmers waiting for warm weather, dry conditions to begin spring field activities.

MISSISSIPPI: Average temperatures 10 to 15° below normal; extremes 17°; 71°. Cold, dry with freezing temperatures over all but coastal area on 15th and 16th. Greatest 24-hour rainfall 1.60 in. Greatest weekly rainfall 1.66 in.

Days suitable for fieldwork 2.9, 1.7 1987, 2.5 avg. Soil moisture adequate to surplus. Corn 8% planted, 6% 1987, 15% avg. Wheat 35% jointing, 50% 1987, 44% avg.; fair to good. Livestock fair to good, pastures fair. Wet weather limited planting. Freezes over most of State during middle of week.

MISSOURI: Temperatures 5 to 13° below normal. Precipitation less than 0.25 in. northern half, about 0.50 in. southern half. Narrow band of 4 to 8 in. snow south central.

Cold weather, wet fields kept most farmers from tillage work. Warmer temperatures needed for growth of wheat, pastures.

MONTANA: Temperatures southeast near normal, elsewhere normal to 7° above normal. Most areas received moisture, heavier amounts south central.

Winter wheat mostly fair to good. Wind damage to winter wheat fields light. Winter wheat mostly dormant, some greening. Livestock general good to excellent. Calving, lambing 33%. Livestock losses same average.

NEBRASKA: Temperatures averaged 3° below normal across State. Light precipitation midweek averaged under 0.10 in. Extremes -20°; 78°.

Warm temperatures weekend diminished snow cover from blizzard of previous week north central, West. Winter wheat condition unchanged. Calving, lambing continued, conditions favorable. Some losses to spring calves from previous week blizzard west, north.

NEVADA: Jet stream again forced storm fronts to slide north for 6th consecutive week. This again produced mostly sunny skies, near normal

temperatures. No significant precipitation all areas. Temperature extremes 0°; 80°.

Excellent progress fieldwork all sections. Dry fields, sunny days easy on newborn calves, lambs. Feeding requirements lowered by sunny, open type weather. Good progress moving potatoes to market.

NEW ENGLAND: Average precipitation ranged 0.25 to 0.50 in. across area. Average temperatures ranged low 20s northern Maine to upper 30s southern coast. Temperatures few degrees below normal.

Major farm activities: Tending livestock, moving crops from storage, sugaring. Sugar crop looks good.

NEW JERSEY: Temperatures averaged much below normal. Extremes 14°; 54°. Rainfall averaged 0.08 in. north, 0.03 in. central, none south. Heaviest 24-hour total 0.17 in. on 20th, 21st. Estimated soil moisture percent field capacity averaged 98% north, 93% central, 94% south. Four inch soil temperatures averaged 31° north, 39° central, 40° south.

Fieldwork continued on limited basis. Cool temperatures slowed planting of peas, onions, other early spring vegetables.

NEW MEXICO: Average weekly temperatures 5° below normal; limited precipitation northern mountains. Preparations for spring planting continued. Heavy infestations of Russian wheat aphids many locations; spraying activities for control underway.

Days suitable for fieldwork 6.6. Soil moisture 52% short, 48% adequate. Barley 38% fair, 62% good. Wheat 19% poor, 65% fair, 16% good. Cattle 35% fair, 65% good. Sheep 24% fair, 76% good. Range 10% very poor, 15% poor, 55% fair, 20% good. Onions 17% fair, 83% good; lettuce 50% fair, 50% good.

NEW YORK: Week started mild; cold air moved in, remained entrenched. No major storms. Precipitation totals low, though scattered light precipitation, much as snow through State most days.

Major farm activities: Tending livestock, winter chores, machinery maintenance, collecting sap, making maple syrup as sugar season underway. Cold weather end of period not conducive to good sap runs.

NORTH CAROLINA: Temperatures averaged 5 to 10° below normal across State. Temperature extremes 9°; 78°. Precipitation ranged 0.25 to 1.38 in. across State.

Days suitable for fieldwork 4.6. Soil moisture 1% very short, 17% short, 80% adequate, 2% surplus. Wheat 21% fair, 77% good, 2% excellent. Oats 29% fair, 70% good, 1% excellent. Barley 26% fair, 73% good, 1% excellent. Rye 1% poor, 25% fair, 71% good, 3% excellent. Pasture 8% very poor, 3% poor, 42% fair, 47% good. Hay and roughage supplies 5% short, 92% adequate, 3% surplus. Feed grains supplies 8% short, 88% adequate, 4% surplus. Tobacco plantbeds 29% fair, 70% good, 1% excellent. Irish potatoes 69% planted, 40% 1987, 45% avg.; 33% fair, 67% good. Major farm activities: Preparing land for spring planting; sidedressing small grains; care of tobacco plantbeds; transplanting cabbage; planting potatoes; pruning fruit trees, ornamentals; applying lime; feeding livestock; general farm maintenance.

NORTH DAKOTA: Temperatures averaged 8° below normal south central to near normal northwest. Extremes -14° west central 14th; 60° southwest, 19th. Minimal precipitation statewide, averaged none western one-half to 0.03 in. east central.

Soil moisture below normal. Winter grains fair to poor. Livestock good, received supplemental feed. Lambing, calving full swing. Feed supplies

adequate. Main activities: Cleaning seed, marketing grain, farm program sign-up.

OHIO: Temperatures averaged 15 to 20° colder than normal during days, 5 to 10° below normal nights. Precipitation 0.40 to 0.80 in. behind normal. Soil temperatures ranged low 30s to upper 30s.

OKLAHOMA: Temperatures averaged 10° below normal west central to 3° below normal east central. Precipitation averaged none west central to 1.03 in. southeast.

Days suitable for fieldwork 3.8. Topsoil moisture 2% short, 68% adequate, 30% surplus. Subsoil moisture 2% short, 98% adequate. Wheat 4% fair, 95% good, 1% excellent; 10% jointing, 15% 1987, 20% avg. Gradual warming weather northwest melted snow which provided beneficial soil moisture. Wet fields prevented topdressing, herbicide applications. Many cattle removed from wheat pasture. Sorghum 15% seedbed prepared, 3% 1987, 25% avg. Cotton 35% seedbed prepared, 5% 1987, 20% avg. Cattle marketings stable, feeder prices up from preceding week.

OREGON: Temperatures up to 5° above normal southwest, south central areas; elsewhere temperatures near normal. Precipitation 0.20 to 0.40 in. northeast mountains; no precipitation over remainder of State.

Soil moisture short east, short to adequate west. Winter wheat development behind normal east, little winterkill. Wheat, grass seed making good growth west; operators applied nitrogen fertilizer. Spraying, pruning continued on berries; new plantings underway. Orchard clean up, weed control, dormant spraying continued. Ground work, early vegetable seeding underway Willamette Valley. Livestock mostly good. With nice weather, calving, lambing results good. Range, pasture mainly fair. Very dry this early in season.

PENNSYLVANIA: Unseasonably cold week. Rain, snow each day western part of State. Cold, dry eastern parts. Average temperature 29°, 5° below normal. Temperature extremes 0°; 64°. Average precipitation 0.21 in., 0.56 in. below normal.

Activities: Hauling manure; grading potatoes; machinery maintenance; caring for livestock; cutting firewood; early spring activities.

PUERTO RICO: Island average rainfall 0.24 in., 0.33 in. below normal. Highest weekly total rainfall 0.87 in. Pico Del Este-Luquillo, 0.85 in. central San Francisco, 0.84 in. San Lorenzo. Highest 24-hour total 0.85 in. central San Francisco. San Juan WSFO mean temperature 80°, 2° above normal. Total rainfall 0.10 in., 0.39 in. below normal. Divisional temperature averaged 77 to 78° on coasts, 74° interior divisions. Mean station temperature 66° Pico Del Este-Luquillo to 80° San Juan WSFO. Lowest minimum temperature 50° Adjuntas. Highest maximum temperature 93° central Coloso.

SOUTH CAROLINA: Temperatures averaged 8 to 10° colder than normal. Several record low temperatures set. Rainfall averaged 0.50 to 0.75 in. northern half. Lighter south, few stations 0.25 in. or less.

Early blooming Ridge, Coastal Plains; peaches that were in full bloom severely damaged by cold. Unopened buds appeared to survive. Most piedmont peach varieties still dormant, only light damage expected. Farmers busy with land preparation as weather permitted. Early corn, vegetable planting continued southern counties. Tobacco plantbeds, most small grains good.

SOUTH DAKOTA: Average temperatures 3 to 23° below normal. Extremes -18°; 66°. Precipitation zero or traces except southwest light snow.

Winter wheat remained fair to good. Some areas winter wheat poor due to lack of moisture; this is particularly true north central part of State. Livestock good.

TENNESSEE: High pressure dominated most of week; frontal zone passed through State late on 17th, 18th. Temperatures averaged 5 to 15° below normal with larger departures east half of State. Extremes 15°; 74°. Precipitation below normal, averaging less than 0.25 in. Rainfall amounts ranged 0.50 in. northwest to 0.05 in. southeast.

Moderate drying left State short to adequate soil moisture. Pastures continued to provide fair amounts of grazing for cattle. Good week for plowing, fertilizing, other land preparations. Winter wheat mostly fair to good. Livestock mostly fair. Other activities: Pruning fruit trees; planting corn, vegetables; applying fertilizer, lime to pastures; topdressing small grains.

TEXAS: Colder weather rule most week, early week record low, freezing temperatures much State as cold pressure system pushed southward. Midweek snow Panhandle, rain elsewhere. West dry. Temperatures below normal. Below normal precipitation Trans-Pecos, Southern High Plains, Northern Low Plains west. Above normal elsewhere.

Crops: Small grain progress good early week. Midweek colder weather slowed growth. Snow High Plains much needed moisture. Aphids increased, some spraying underway before snow. Conditions improved Blacklands, central with recent moisture; colder temperatures slowed improvement. Arrival warmer weather, small grain conditions increased again. East small grains greening, providing much needed forage. Corn planting winding down many areas Blacklands to Valley, Upper Coast. Some emerged fields burned back by cold weather, should come back. Rainfall improved conditions. Growth good most areas. Land preparation continued Plains before snow. Corn 53% planted, 31% 1987, 37% avg. Grain sorghum planting increased Blacklands, central as conditions permitted. Some early emerged fields burned back. Rainfall aid progress. Most planting complete Valley, Coastal Bend. Sorghum 34% planted, 17% 1987, 30% avg. Cotton planting continued Valley, Coastal Bend as conditions allowed. Cotton 6% planted, 5% 1987, 4% avg. Rice planting underway Upper Coast. Rice 2% planted, 1% 1987, 3% avg.

Commercial Vegetables: Rio Grande Valley wet conditions delayed onion harvest. Harvest carrots, cabbage continued slow pace. Harvest citrus slow because slow market. Fruit quality good overall. San Antonio-Winter Garden harvest slowed because wet conditions. Some watermelons planted. High Plains, land preparation continued some onions set out. East cold front some damage planted crops. Planting operations slowed. Trans-Pecos onion transplanting continued. Conditions dry. Peach trees, many other budded out fruit trees light to heavy damage from late season freeze. Full extent not known couple of weeks. Buds not yet open may survive to produce some fruit. Heavy losses blueberries northeast.

Range and Pasture: Ranges, pastures improvement portions State before colder weather arrived. West critically dry. Supplemental feeding steady this area. Producers continued to move livestock off wheat fields Plains. Wheat pasture providing some forage, feeding slowed. Livestock good. Lamb crop may be below average.

UTAH: Precipitation averaged 0.14 in. west, 0.33 in. north, 0.22 in. south. Temperature averaged below normal.

(Continued to back cover)

HISTORY OF THE WEEKLY WEATHER AND CROP BULLETIN

The origin of the Weekly Weather and Crop Bulletin (WWCB) is traced back to 1872, 2 years after a resolution was passed by Congress to establish a new service in the War Department for taking meteorological observations. This service was partially created in response to storms in 1868 which caused heavy damage to shipping and loss of life on the Great Lakes. The service was assigned to the Signal Corps and named the Division of Telegrams and Reports for the Benefit of Commerce and Agriculture. In addition to its daily reports of meteorological observations, the division began publishing a two-page general summary of national weekly and daily weather called the Weekly Weather Chronicle. This weather summary was the precursor of the current WWCB although the name and content changed several times over the years.

Publication was discontinued in 1881 but resumed as a one-page special monthly bulletin in June 1884. Later, it became known as the Weather Crop Bulletin which included crop information and was issued weekly during the growing season and monthly otherwise. The meteorological division along with its personnel, weather stations, equipment, telegraph lines, and publications was transferred to the U. S. Department of Agriculture (USDA) in 1891 and named the Weather Bureau.

Under USDA, the Bulletin increased in content and, as expected put more emphasis on agriculture. During 1906, however, the scope of the Bulletin was changed to contain only weather reports without reference to the weather's effect on crops. With this change, the publication lost much of its popularity and usefulness, and under strong public pressure, its former scope was reestablished in 1914. Principal crop conditions and telegraphic reports giving specific weather and crop information from each State were added to the national weather summaries and charts and tables of weekly or monthly precipitation and temperature.

The publication was combined with the Snow and Ice Bulletin in 1919, and snow depth and ice conditions on major

rivers were given during the winter months. In 1922, for economy, the Bulletin was consolidated with the less timely Crops and Markets Bulletin under the new title Weather Crops and Markets with the weather section limited to three pages. Due to public demand for more detailed and timely information on weather and its effects on crops, the publication was separated in 1924 with the crop weather report issued weekly and took on its present name the WWCB. The Snow and Ice Bulletin also resumed as a separate publication but was again combined with the WWCB in 1932.

The Weather Bureau, renamed the National Weather Service in 1970, was transferred from Agriculture to the Department of Commerce (DOC) in 1940. Crop information in the WWCB, however, continued to be provided by the USDA staff. This cooperation was formally recognized in 1958 when USDA's Agricultural Marketing Service was added to the Bulletin's masthead.

After several reorganizations under DOC, the present publication is the responsibility of the Joint Agricultural Weather Facility (JAWF) since its establishment in 1978. The facility is a world agricultural weather information center and is comprised of units of the Climate Analysis Center of DOC's National Weather Service and the USDA's World Agricultural Outlook Board and National Agricultural Statistical Service. The facility is located at USDA headquarters in Washington, D.C. After the formation of JAWF, global coverage in the WWCB greatly increased. The expansion was in response to the facility's primary mission of conducting a global agricultural weather watch and assessing the effect of anomalous growing-season conditions on crop prospects.

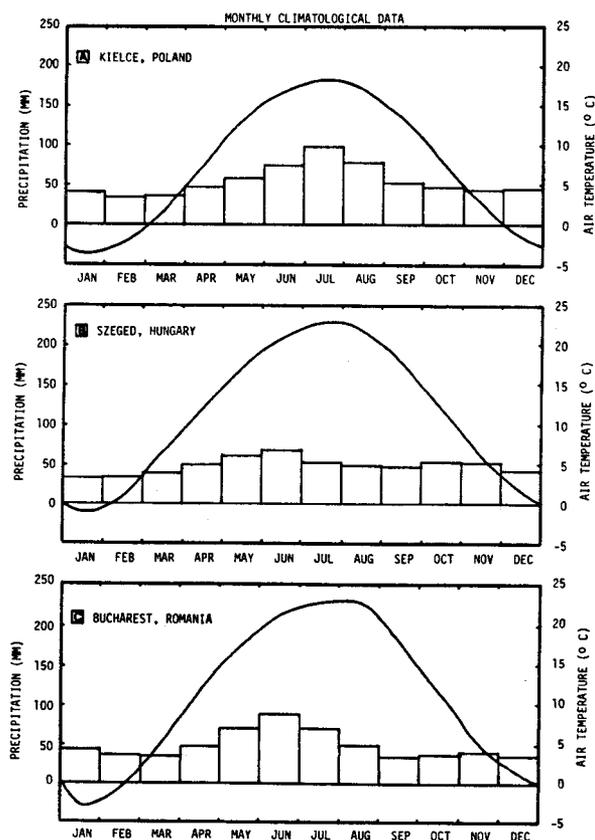
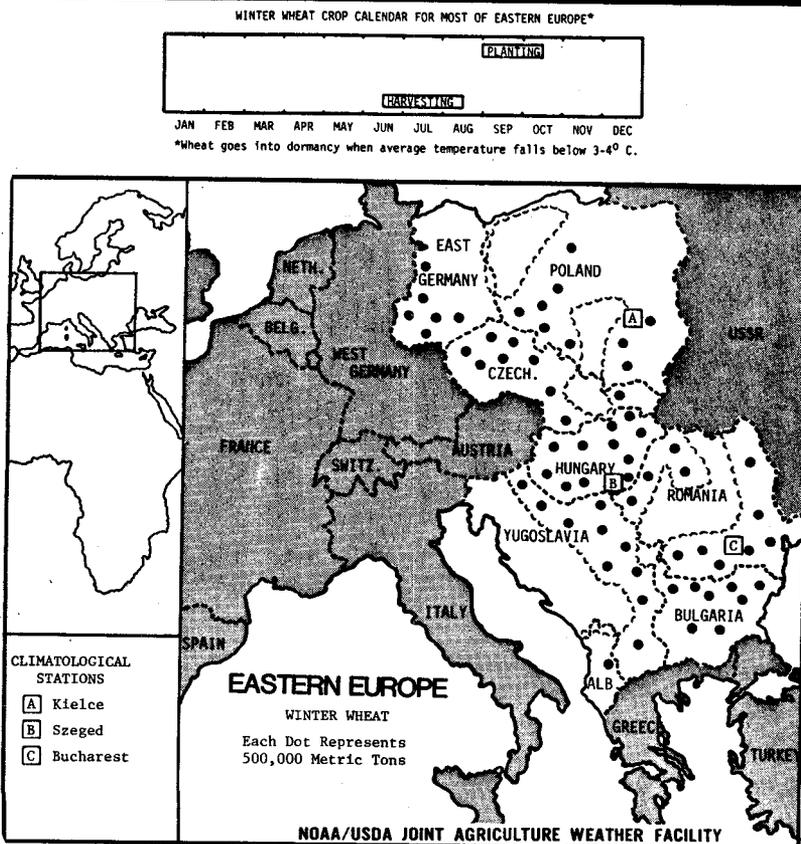
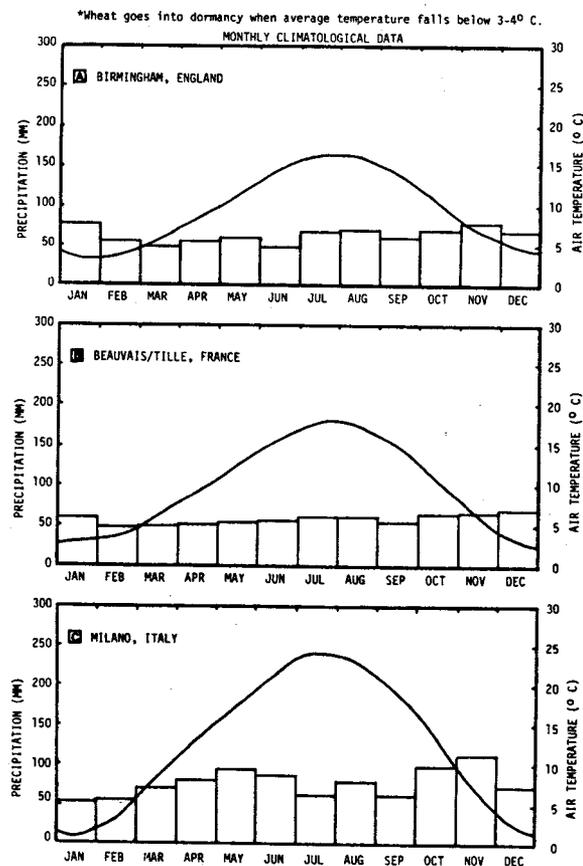
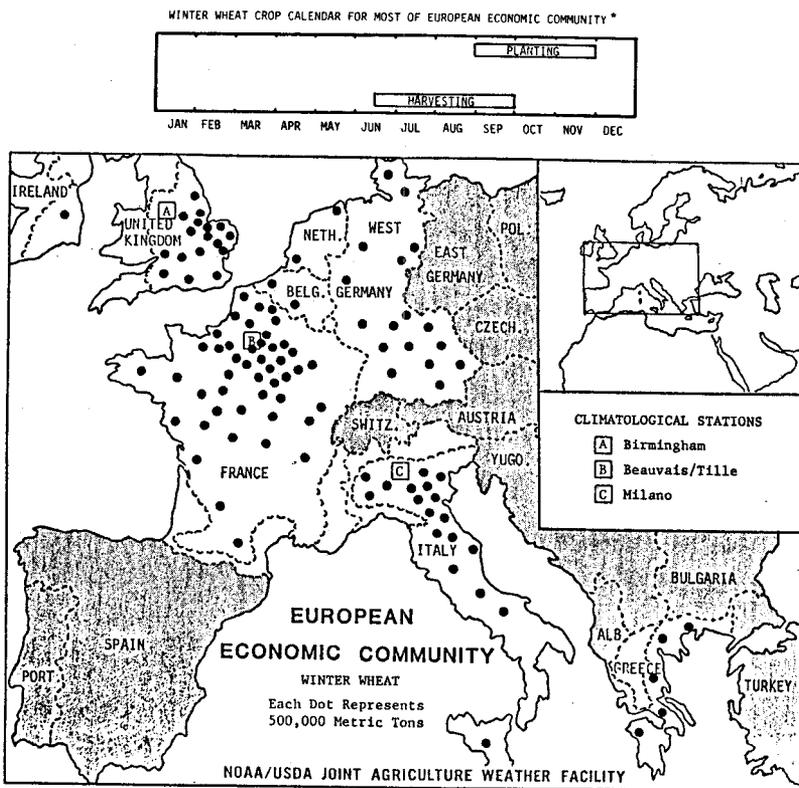
The WWCB has been a chronology of national weather and agriculture for 116 years and, after establishment of JAWF, this chronology now includes much of the world. Since 1940 when the Weather Bureau transferred from USDA to the DOC, it has also been an outstanding example of how two major government agencies, through mutual cooperation are able to provide a service which neither agency could provide alone.

Tom Heddinghaus

Previous names of the Weekly Weather and Crop Bulletin

<u>Title</u>	<u>Period</u>
Weekly Weather Chronicle	Nov 1872 - Apr. 1871
Special Bulletin	June 1884 - Apr. 1877
Weather Crop Bulletin	May 1887 - Jan. 1896
Climate and Crop Bulletin	Feb. 1896 - Aug. 1904
Weather Crop Bulletin	Aug. 1904 - Jan. 1906
National Weather Bulletin	Feb. 1906 - June 1914
National Weather and Crop Bulletin	July 1914 - Nov. 1919
National Weather and Crop and Snow and Ice Bulletin (during the winter months)	Dec. 1919 - Dec. 1921
Weather Crops and Markets	Jan. 1922 - Dec. 1923
Weekly Weather and Crop Bulletin	Jan. 1924 - present

EUROPEAN WINTER WHEAT AREAS AND CLIMATIC PROFILES



International Weather and Crop Summary

March 13-19, 1988

HIGHLIGHTS:

UNITED STATES ... Freezing temperatures damage peaches and other fruit crops in Texas, South Carolina, and Georgia. Low temperatures slow wheat growth and development in the Great Plains, Delta, and Southeast.

WESTERN U.S.S.R. ... Widespread precipitation increases moisture for the upcoming growing season.

EUROPE ... Heavy rain and snow continue across much of northern and western Europe. A return to warmer-than-normal weather favors vegetative winter grains in the south.

SOUTH ASIA ... Drier, warmer weather returns to winter grain regions of Pakistan and India.

NORTHWESTERN AFRICA ... Below-normal precipitation returns to winter grain areas in Algeria and Tunisia. The second consecutive week of dry weather covers Moroccan winter grains in the reproductive phase of development.

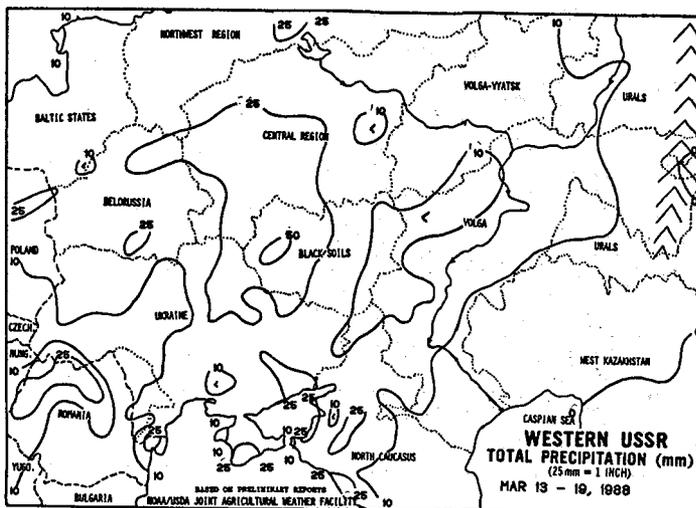
SOUTH AFRICA ... Light rain helps filling crops in the eastern Maize Triangle. Much needed dry weather covers the southern Triangle and Natal.

SOUTHEAST ASIA ... Widespread showers benefit crops in Indonesia and all but the east coast of west Malaysia where dry weather eased local flooding.

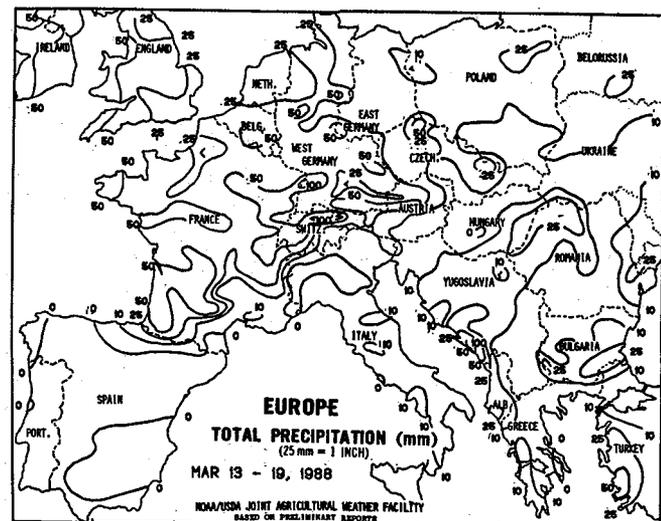
EASTERN ASIA ... Widespread heavy rain delays rice planting across southern and eastern growing areas. Severe thunderstorms cause localized crop damage in the southeast.

SOUTH AMERICA ... Drier weather improves harvest conditions in central Argentina. Dryness continues in southern Brazil, while wet weather covers northern soybean areas.

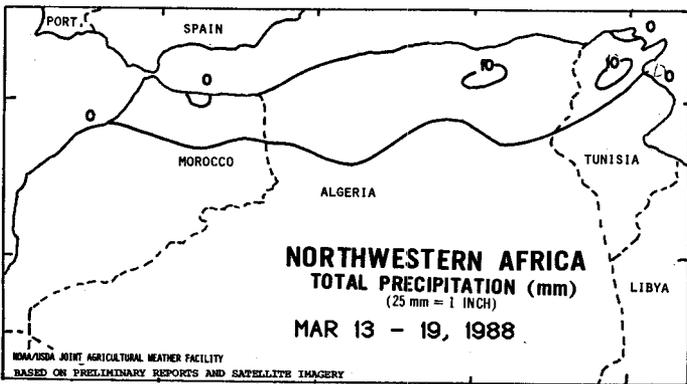
AUSTRALIA ... Scattered showers favor vegetative sugarcane in coastal Queensland. Dryness persists in most summer crop areas.



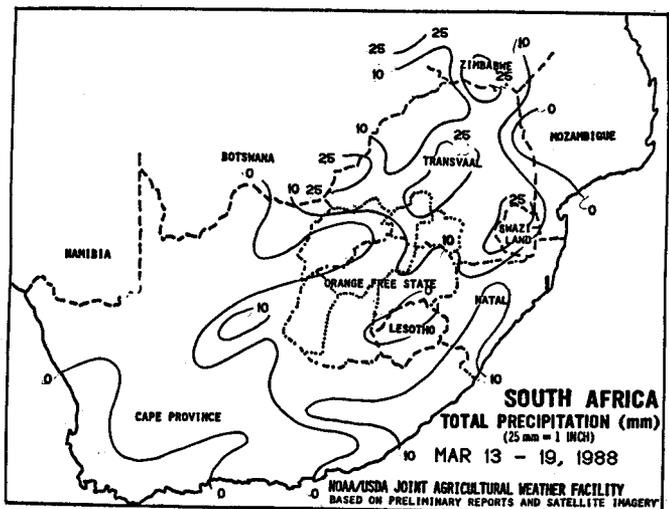
WESTERN U.S.S.R. ... Widespread precipitation covered winter grains over much of the region, increasing moisture for the upcoming growing season. The precipitation began as snow which changed to rain by midweek, and then back to snow by week's end. Total precipitation amounts generally ranged from 15 to 33mm, with greatest amounts (25-50mm) covering the southern half of the Central Region, the western Black Soils Region, the eastern Ukraine, and the western North Caucasus. Strong southerly winds ushered in unusually warm weather on March 17, with maximum temperatures in major southern winter wheat areas ranging from 15 to 20 degrees Celsius (C). By week's end, temperatures returned to more seasonable readings. Winter grains remained dormant except for crop areas adjacent to the Black Sea where greening occurred.



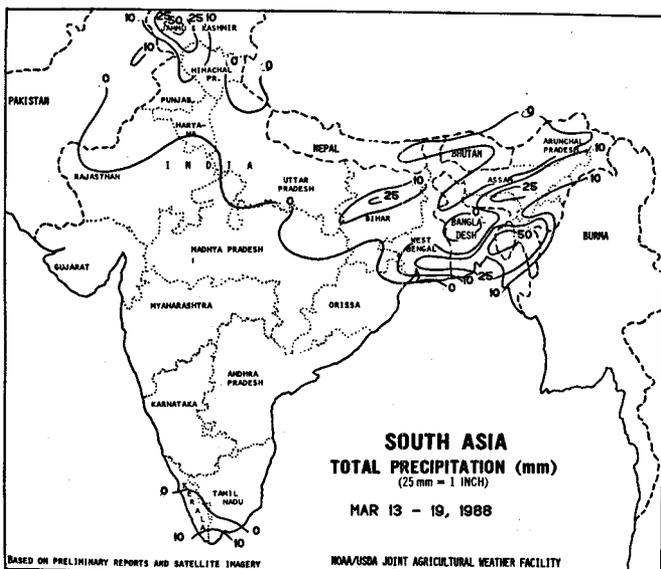
EUROPE ... A slow moving center of low pressure brought widespread heavy rain and snow (greater than 25mm) to northern and western Europe, causing flooding across sections of France, the Low Countries, West and East Germany, and Poland. Abnormally wet and mild weather has persisted in many parts of northern Europe during the winter season, increasing the likelihood of disease and insect problems for winter grains as they become vegetative. Scattered light to moderate rain and snow (less than 15mm) also continued over southeastern Europe, further increasing soil moisture levels, while southwestern Europe remained mostly dry. A return to warmer-than-normal temperatures in southern Europe favored vegetative winter grains.



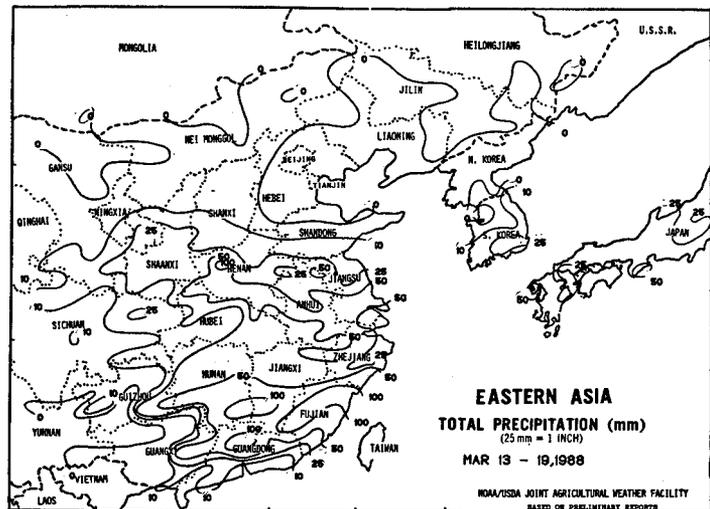
NORTHWESTERN AFRICA ... Following last week's substantial rains over Algeria and Tunisia, below-normal precipitation returned to the winter grain areas. Most areas received rainfall less than 10mm except for isolated areas in central Algeria and southern Tunisia, where precipitation amounts were greater than 10mm. In Morocco, dry weather continued for the second consecutive week, and winter grains had to rely on soil moisture for continued growth. Winter grains over the region were in the highly moisture sensitive reproductive phase of development.



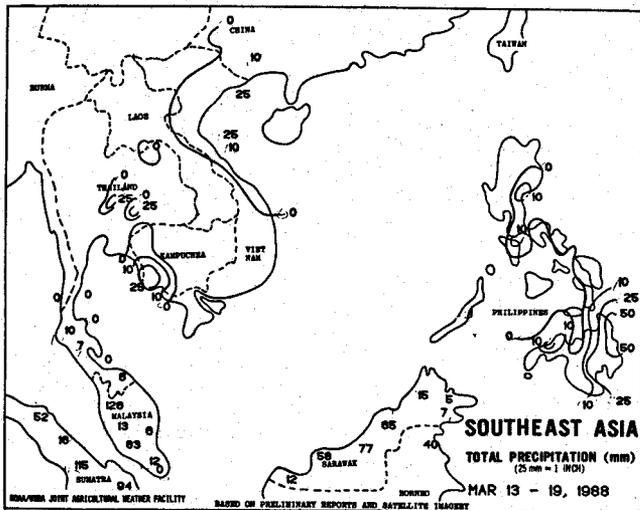
SOUTH AFRICA ... Drier, warm weather benefited maturing crops in the central Maize Triangle and brought much needed relief to flooded regions of the southern Triangle and Natal, where rainfall averaged less than 10mm. Light to moderate rain (10-44mm) benefited late planted, filling corn in the eastern Triangle and central Transvaal.



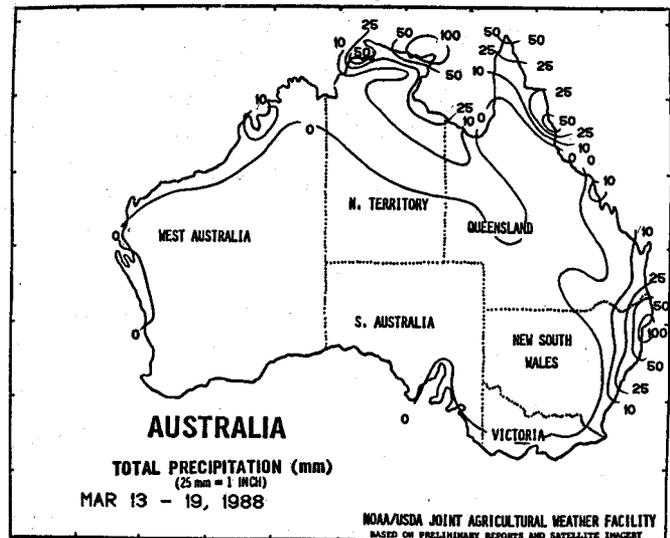
SOUTH ASIA ... Drier weather returned to most winter wheat regions as light rain (less than 10mm) covered crops from northern Pakistan to the eastern states. Maximum temperatures reached 35 degrees C over eastern Uttar Pradesh, Bihar, and wheat regions of central India, benefiting maturing crops. Temperatures were cooler, however, over northern Pakistan and north-central India where late planted wheat is still flowering to filling. Dry, warm weather covered heading rice with light rain (2-18mm) limited to crops in Bangladesh and India's southern tip. Late-week temperatures reached the upper thirties C, stressing reproductive rice.



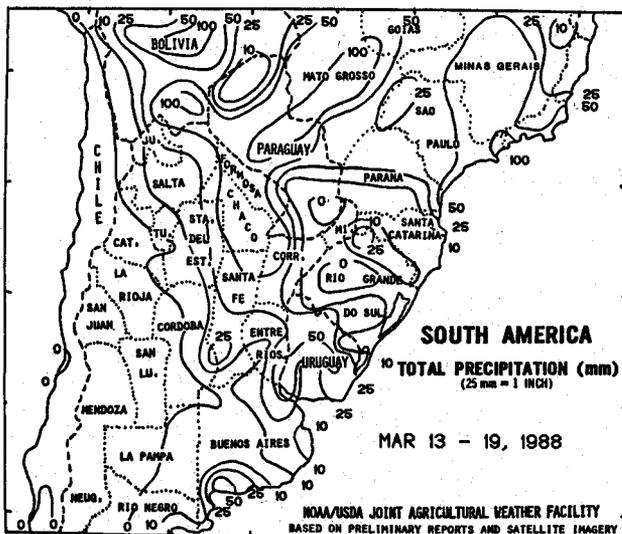
EASTERN ASIA ... A frontal system moving south from the North China Plain brought widespread heavy rain (up to 132mm) to much of southern and eastern China, causing delays in early crop rice planting. Severe thunderstorms produced very heavy rain, high winds, and hail in sections of Jiangxi, Fujian, and Jiangsu, reportedly causing damage to vegetative winter grains and oilseeds. Colder temperatures late in the week changed rain to snow as far south as the Yangtze River Valley. Scattered, mostly light rain and snow favored winter grains across northern growing areas, although more precipitation will be needed as crops become actively vegetative. Moderate to heavy rain (greater than 20mm) also benefited soil moisture levels across South Korea and Japan. Average weekly temperatures across the region ranged from below normal in the north to above normal in the south.



SOUTHEAST ASIA ... Widespread showers (33-100mm or more) covered most crop regions of Indonesia, including chronically dry regions from southern Java eastward, and all but the east coast of western Malaysia. The dry weather in western Malaysia covered areas affected by last week's inundating showers. Dry weather covered peninsular Thailand, but moderate rain (10-44mm) developed in central Thailand, western Kampuchea, and rice regions of northern Vietnam. Drier-than-normal weather continued in the central and northern Philippine islands, but scattered, variable rain (as much as 94mm) covered Mindanao.



AUSTRALIA ... Scattered showers (generally less than 25mm) continued along Queensland's eastern coast, benefiting vegetative sugarcane. Heavier showers (up to 158 mm) also fell over coastal areas of New South Wales, although most summer crop areas remained dry. While most summer crops passed through critical reproductive stages with sufficient available moisture, persistent dry weather in New South Wales since late January has possibly stressed filling and maturing crops. Harvesting of sorghum and cotton has begun in southeastern Queensland, and normally ends in June in New South Wales. Elsewhere, seasonably dry weather covered southern wheat areas. Average temperatures for the week ranged from above normal in the west to below normal in the east.

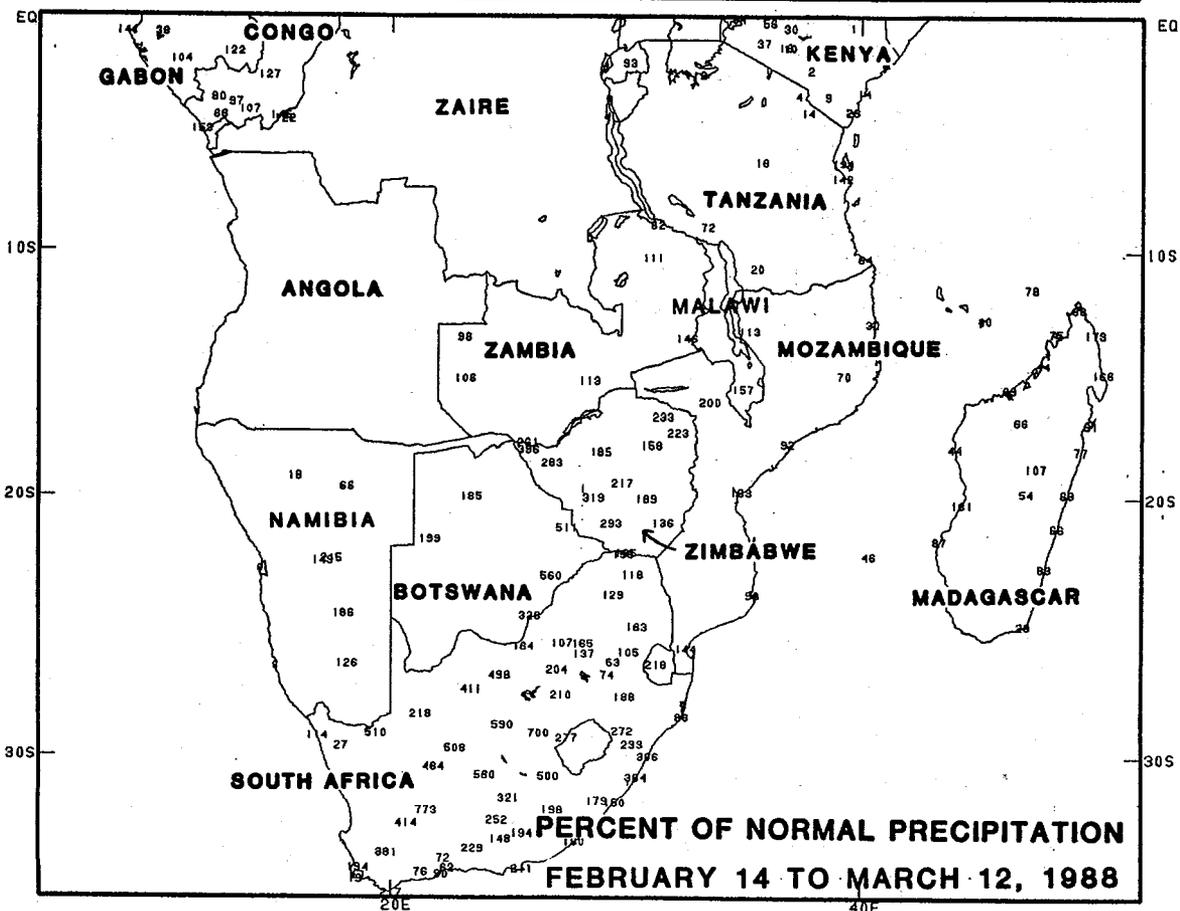
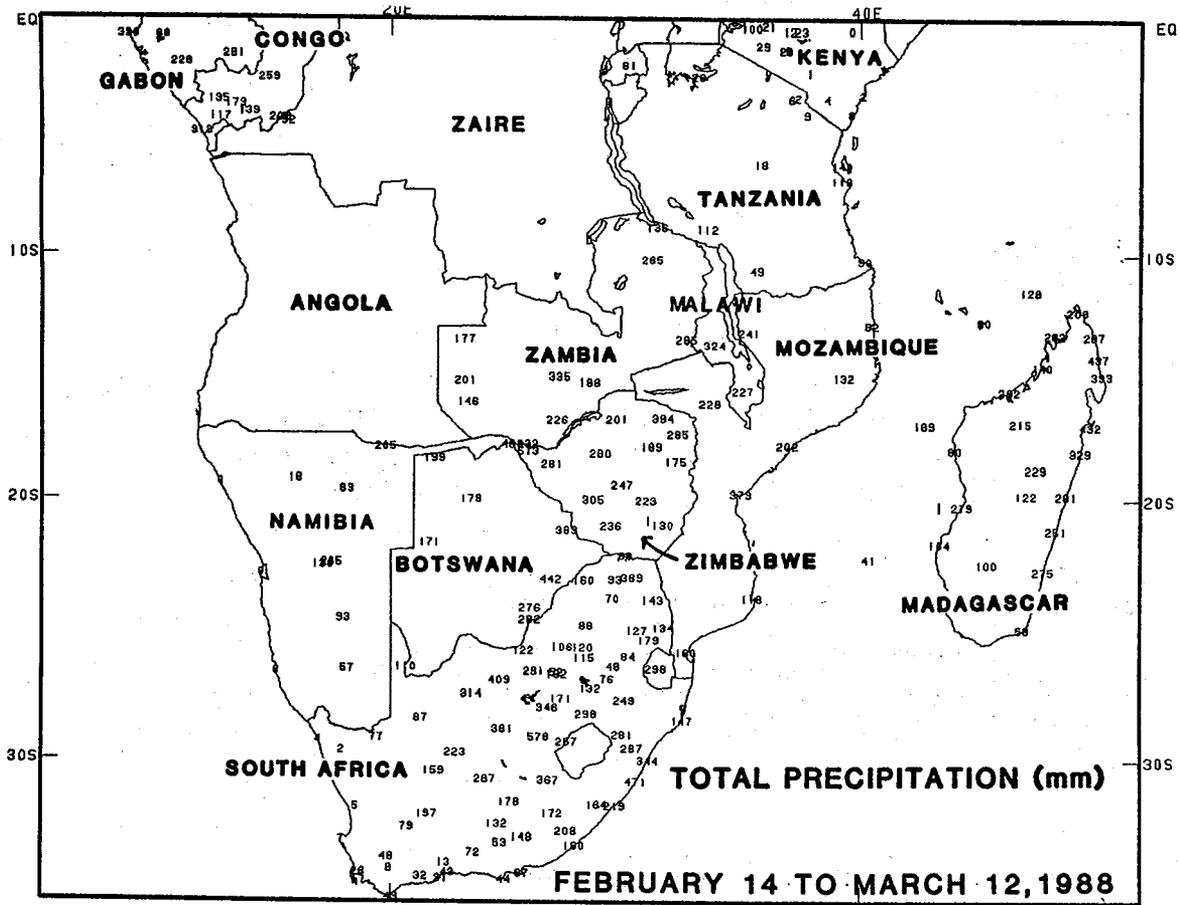


SOUTH AMERICA ... In Argentina, mostly light showers lingered over the primary summer crop area early in the week, but drier weather prevailed for most of the week. The dryness and mild weather helped to alleviate excess wetness, improving field conditions for the harvest. Early-week, heavier rain (25-95mm) from extreme eastern Buenos Aires to the northern cotton areas of Chaco and Formosa hampered early harvesting. In south-central Brazil, continued dryness in much of western Rio Grande do Sul stressed late pod-filling soybeans. Moisture reserves are limited in the south. Some rain (10-32mm) fell in northern Rio Grande do Sul, helping late crop development in that area. Heavier rain (25-128mm) covered soybean areas from northern Parana northward, slowing early harvesting. Soaking rain (75-128mm) fell over central Mato Grosso do Sul and southeastern Minas Gerais.

African Agricultural Weather Summary

In southern Africa, recent widespread, moderate to heavy showers covered filling crops in Zimbabwe, and central, southern, and northwestern Mozambique, Malawi, western Tanzania, and all but northernmost Zambia. Local flooding likely occurred over an area covering southwestern Zambia and western Zimbabwe, as well as the central coast of Mozambique where rainfall from a tropical low exceeded 200 mm. Light rain continued from northeastern Mozambique to northeastern Tanzania. However, most regions of northeastern Tanzania continued too dry to plant. In February, widespread showers covered Zambia, Zimbabwe, and Malawi, providing adequate to abundant moisture for crop

development but causing flooding in western Zimbabwe and southwestern Zambia. The rainfall brought some relief to crops in chronically dry areas of southern Zimbabwe. Generally, dry weather continued in eastern Tanzania, continuing the trend of unfavorable weather that has stressed crops most of this season and, more recently, hindered planting in the northeast. In late February, dry weather developed over western Tanzania, benefiting mature crops. Periodic showers brought some relief to filling crops in Mozambique, but a drying trend has persisted in the northeast since late February.



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(Continued from p. 13)
area, and young onions progressed slowly at Westside. Processing tomatoes were up to stand, and fresh market transplanting continued at Westside. Melons suffered minor frost damage in central Arizona.

PASTURES AND LIVESTOCK: Low temperatures slowed pasture growth from Texas through the Delta and Southeast. Livestock was mostly good. Low temperatures caused stress in some areas.

(Continued from p. 17)
Soil moisture 20% short, 80% adequate. Winter wheat fair to good. Spring land preparation well along extreme southwest, beginning rest of State as soil dries. Calving 43%, lambing farm flocks 41%. Shearing underway. Livestock good. Feed adequate. Major farm activities: Care of livestock, lambing, calving, shearing, hauling manure, spreading fertilizer, plowing, machinery repair and maintenance, spraying alfalfa for weed control, planning taxes, farm records.

VIRGINIA: Cool. Temperatures up to 13° below normal. Range 16 to 71°. Brisk winds many days. Precipitation light. Range 0.05 to 0.54 in.

Days suitable for fieldwork 4.5. Topsoil moisture 54% short, 44% adequate, 2% surplus. Although dry, pastures, small grains, fruit, tobacco plantbeds, other cropland good to mostly excellent. Good progress with topdressing small grains, pastures, hayland. Overseeded pastures, hayland. Land preparation active. Flue-cured tobacco seeding neared completion. Burley tobacco 50% seeded. Potatoes 75% planted. Lambing active, livestock feeding increased with cold.

WASHINGTON: Strong ridge high pressure dominated weather over State. Weak disturbance moved through midweek, produced sprinkles. Otherwise, dry spring like conditions prevailed. Temperatures close to normal. Several nights eastern area temperatures dropped into 20s.

Soil moisture continued dry most areas. Crusting soil surfaces inhibiting crop emergence central, southeast areas. Spring planting continued. Many growers considering late sign-up for zero ninety-two. Asparagus growers grooming fields. Orchardists applying pest control measures, fertilizing orchards. Range, pasture areas greening up. Stockmen continued feeding hay.

WEST VIRGINIA: Average temperature 31°, 12° below normal. Extremes 59° Creston, 11° Flat Top. Precipitation averaged 0.31 in.; below normal.

Days suitable for fieldwork 1.8. Soil moisture 100% adequate. Feed supplies adequate to short. Wheat, barley good. Cows calved 68%; ewes lambed 75%. Farm activities: Livestock care, general farm maintenance.

WISCONSIN: Temperatures below normal, averaged 25°. Extremes -15°; 44°. Precipitation trace to 0.10 in. Snowfall 1 to 2 in., 6 in. near Lake Superior.

WYOMING: Temperatures below normal. Precipitation below normal.

Barley planting started. Winter wheat fair to good. Livestock fair to good. Early calving, lambing, shearing continued. Supplemental feeding continued as needed. Feed supplies adequate most areas.

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