

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

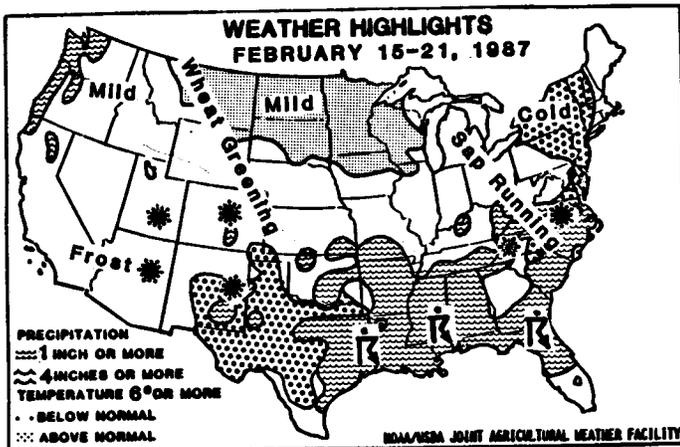
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National Weather Summary

February 15 to 21, 1987



TUESDAY...Precipitation was lighter, but snow piled up in western Virginia and North Carolina, while an icy mixture of sleet and freezing rain reached almost to the coast. Severely cold weather continued in the Northeast. Cooler air still flowed into the Southwest, although day temperatures were still reasonably warm.

WEDNESDAY...A few snow showers remained over the Tennessee Valley and the lower Appalachians, while rainshowers covered southern Florida. Snow was widespread through the Rockies, especially in New Mexico where another storm was brewing. Cold air pouring into the Southwest brought frost to some of the colder valleys of southern California and Arizona.

THURSDAY...Little or no precipitation fell east of the Mississippi River. However, the new storm brought moderate to heavy snow to the southern Rockies and thunderstorms to eastern Texas and Louisiana. Lighter snow fell from Arizona and Utah to the central Plains and western Texas. Cold advection into the Southwest continued to bring frosty mornings to parts of southern California.

FRIDAY...Thundershowers covered the gulf coast from central Texas across the South. Lighter rain spread northward to the Ohio Valley. Snow continued in the Southwest and the central and southern Plains. Unusually cold weather continued in much of the Southwest.

SATURDAY...It was another frosty morning in southern California, but clouds and light rain developed all along the west coast later in the day. Light snow continued in southern New Mexico, northwestern Texas, and central Oklahoma. Rainshowers reached across the South and spread northward through the Ohio Valley. Another disturbance brought snow to the northern Plains, western Great Lakes, and parts of the Midwest.

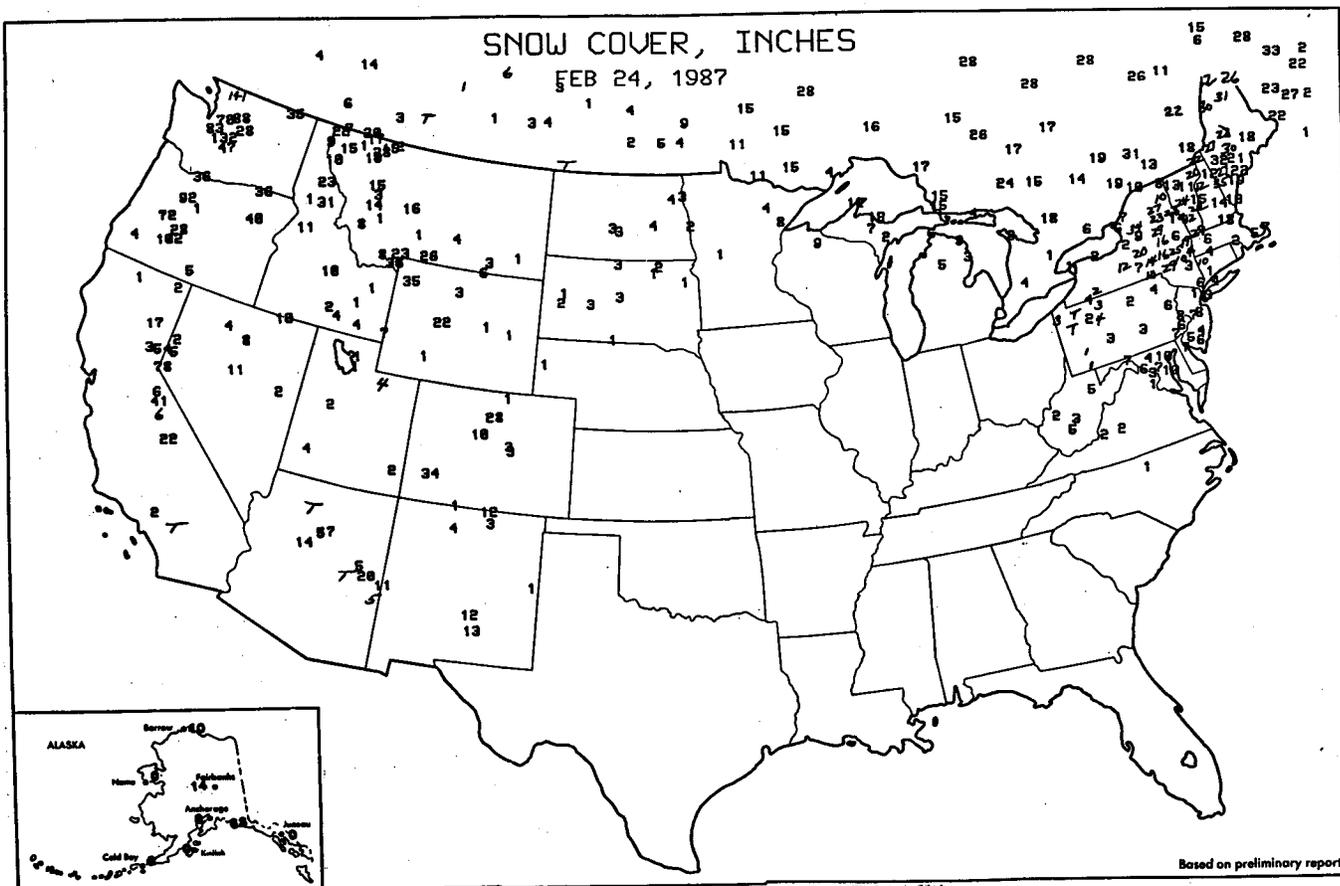
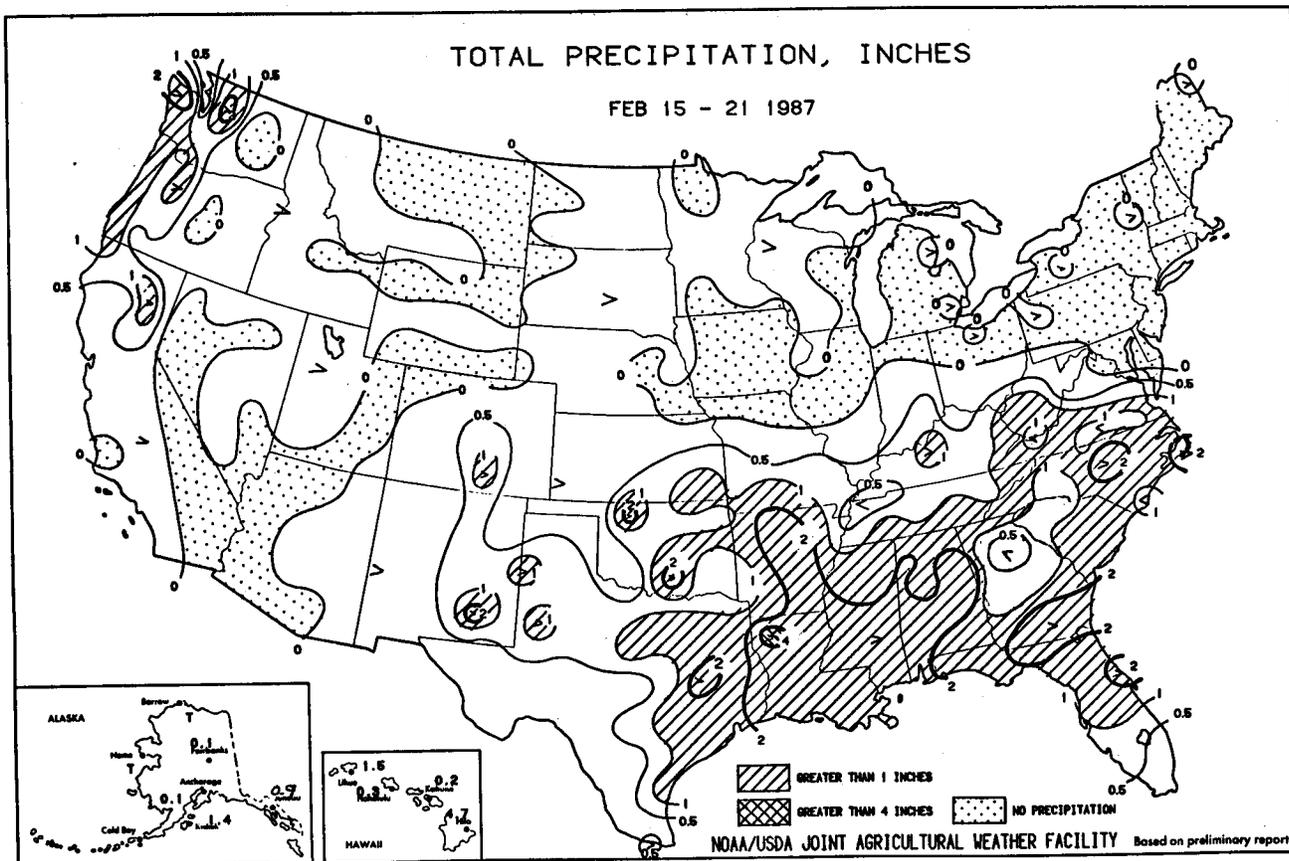
HIGHLIGHTS: A near-stationary, low pressure system in the Southwest spawned a series of storms that moved eastward and dropped snow from Arizona and Utah to the western portion of the central and southern Plains. Rainshowers covered the South, and rain or freezing rain spread northward to southern Missouri and the Ohio Valley. Heavy snow fell in the lower Appalachians and the Piedmont of North Carolina and southwestern Virginia. As the week ended, snow spread into the Midwest and northward through the Appalachians. Cold air flowed continuously into the Southwest, and, after mid-week, some frost reached into parts of southern California.

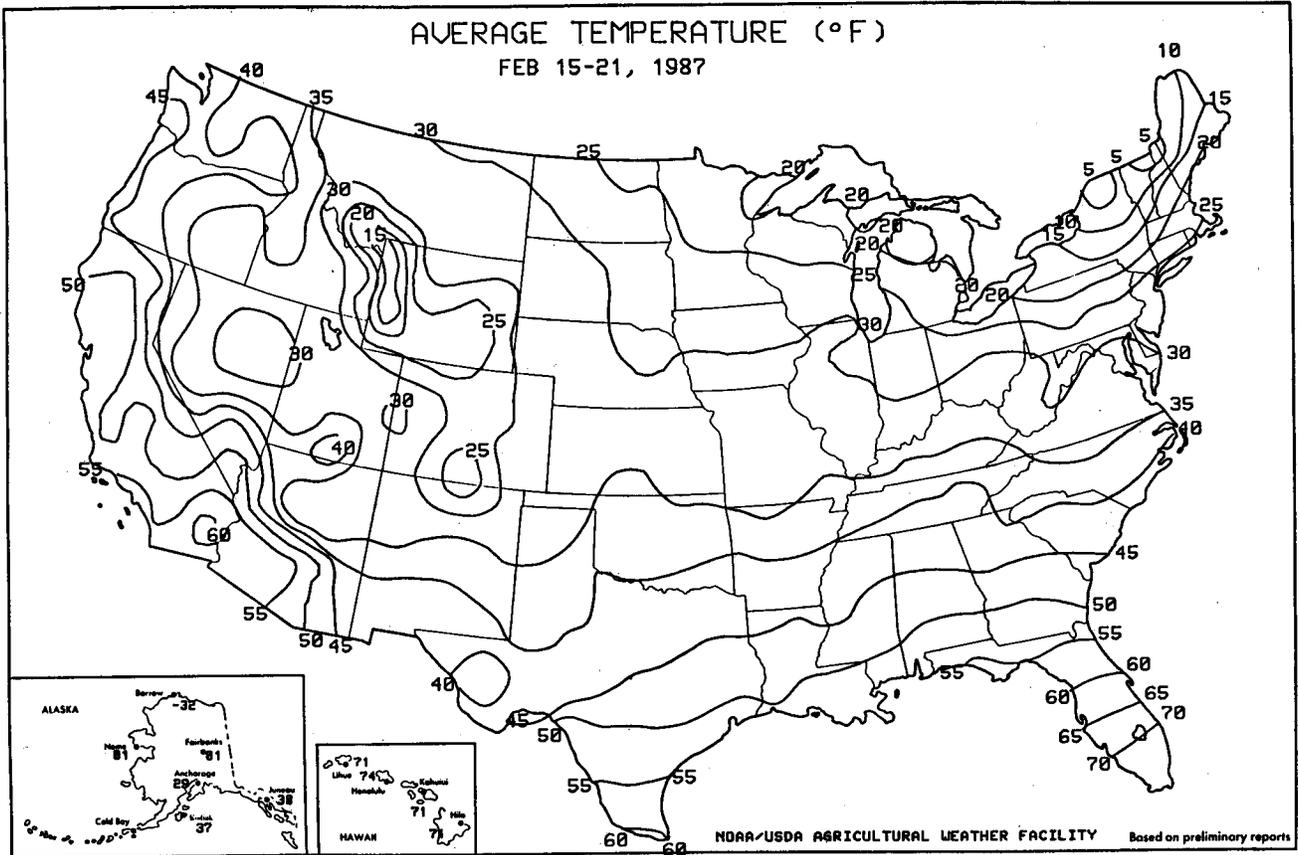
SUNDAY...Powerful thunderstorms rumbled across the South as a storm system moved eastward to Mississippi. Rain reached from the lower Mississippi Valley, through the Ohio Valley and lower Appalachians and to the Carolina coasts. Light rain and some freezing rain fell in the central and northern Great Plains. Light rain, with snow at higher elevations, also fell from the West coast across the middle and upper Intermountain region.

MONDAY...The storm spread ice and snow from Missouri to the Carolinas and Virginia. Heavy snow fell in the lower Appalachians and the Piedmont from North Carolina and to Virginia, with moderate rain along the Southeast coast. Clear skies and severely cold weather covered the Northeast. Light snow or rain in more southern areas fell in the central and southern Rockies. Much cooler air was feeding into the Southwest east of the coastal areas.

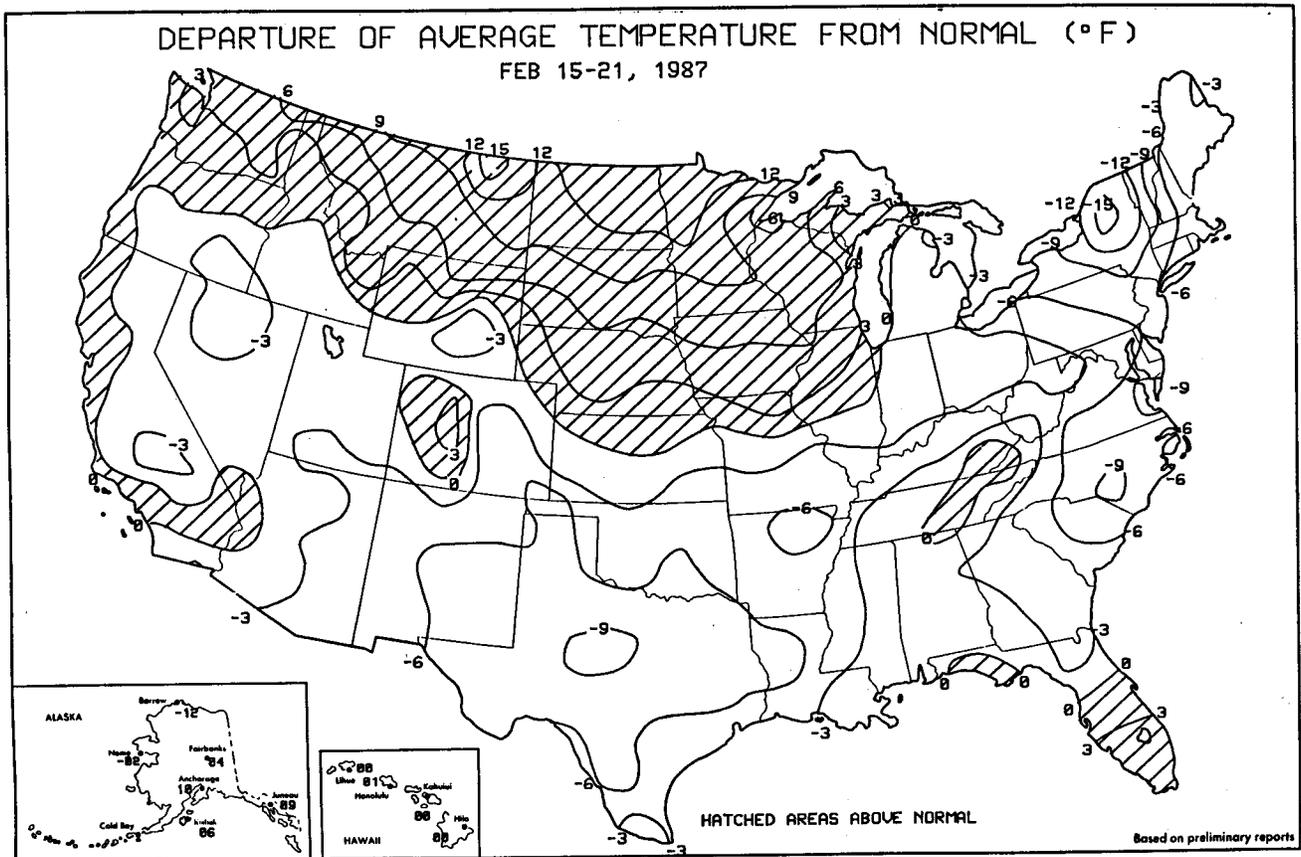
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Point values may differ on these computerized maps from the reported values in the tables.



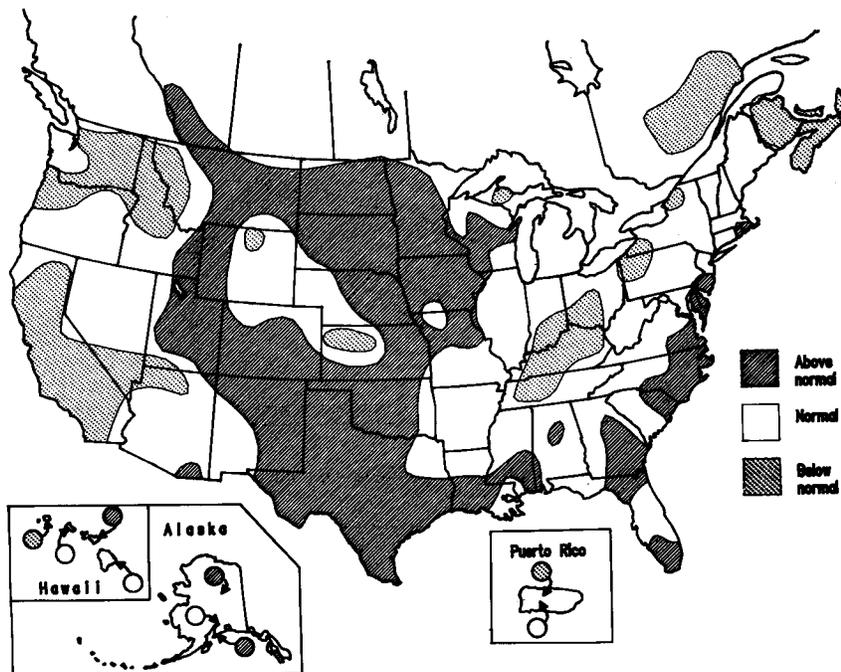
National Water Conditions

UNITED STATES
Department of the Interior
Geological Survey

CANADA
Department of the Environment
Water Resources Branch

JANUARY 1987

STREAMFLOW DURING JANUARY 1987



Total January streamflow at 190 index streamflow stations was down 27 percent from that for December at the same stations. About 82 percent of the stations reporting had flows in the normal to above-normal range, compared to 89 percent in those ranges for December. Record-high monthly means occurred at six index stations, the most notable being that for the St. Lawrence River at Cornwall, Ontario, near Massena, New York --298,700 cubic feet per second. Streamflow at all eight index stations in the Hudson Bay basin for the last 26 months is featured this month.

Contents of 85 percent of reporting reservoirs were near or above average for the end of January, compared with 87 percent for the end of December.

Lake Erie averaged a January record high of 574.62 feet above National Geodetic Vertical Datum (NGVD) of 1929.

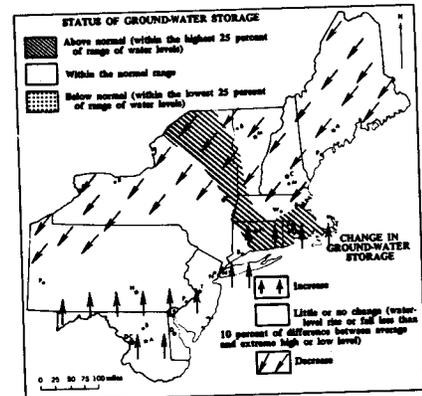
The elevation of Utah's Great Salt Lake was at 4,211.40 feet above NGVD of 1929 after rising 0.20 foot during the month.

GROUND-WATER CONDITIONS DURING JANUARY 1987

Ground-water levels continued to rise in Maryland, Delaware, southern New Jersey, and also in much of southern New England. (See map.) Levels declined in northern parts of the Northeast, including Maine, New Hampshire, Vermont, and northern and western New York State. Water levels near the end of January were in the normal range of winter levels in most of the region, but were above average in Rhode Island, southeastern and western Massachusetts, much of Connecticut, and northeastern New York State.

In the Southeastern States, ground-water levels rose in Virginia, North Carolina, Louisiana, and Mississippi. Water-level changes were mixed in other States. Water levels were above average in Kentucky and Virginia and below average in Arkansas. Levels were mixed with respect to average in West Virginia, North Carolina, Louisiana, and Florida. Tennessee had a new low ground-water level for January in the key well at Memphis. Also, wells in Arkansas and the coastal plain of Georgia in the Savannah area had new low levels. The new January lows in all three States occurred even though water levels rose from December's levels.

In the central and western Great Lakes States, ground-water levels rose in Indiana, showed mixed changes in Minnesota, and declined in Wisconsin, Michigan, Ohio, and Iowa. Water levels were above average in Iowa, near or above average in Wisconsin, and below average in Ohio. Levels were mixed with respect to average in Minnesota and Michigan.



Map showing ground-water storage near end of January and change in ground-water storage from end of December to end of January.

In the Western States, ground-water levels rose in Arizona and declined in North Dakota, Nebraska, and Utah, and in most of the key wells in Idaho. Changes were mixed in other Western States. Water levels were above average in North Dakota and mixed with respect to average in other States. Idaho, North Dakota, Nebraska, and Nevada had new high ground-water levels. The level in the Berrendo-Smith observation well in the Roswell artesian basin in New Mexico rose to an all-time high level in 20 years of record for the third consecutive month. The new month-end high levels in Idaho, North Dakota, and Nebraska were established despite contrary water-level changes during the month. Likewise, the new January low in the key well at El Paso in Texas was established despite a net rise during the month.

National Weather Data for Selected Cities

Weather Data for the Week Ending FEBRUARY 21, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	52 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	52	37	67	27	45	-2	1.2	.1	1.1	11.6	85	8.3	95	95	66	0	2	4	1
MOBILE	58	44	67	33	51	-4	3.0	1.8	2.3	14.6	107	10.9	135	93	66	0	0	3	2
MONTGOMERY	57	41	70	29	49	-2	2.3	1.2	2.0	15.0	122	11.9	159	94	59	0	1	3	1
AK ANCHORAGE	35	23	40	18	29	11	.1	-2	.1	3.2	123	1.8	120	88	64	0	7	2	0
BARROW	-27	-37	-8	-50	-32	-12	T	0	T	.3	48	.2	50	70	60	0	0	0	0
FAIRBANKS	9	-7	38	-14	1	5	.1	0	.1	1.1	66	.7	78	84	59	0	7	1	0
JUNEAU	40	35	42	34	38	9	T	-1.0	T	12.5	111	5.8	89	92	69	0	0	0	0
KODIAK	41	33	42	28	37	8	1.4	-1.1	.5	26.0	133	14.6	110	93	66	0	2	6	0
NOME	7	-5	27	-13	1	-2	T	-1.1	T	2.1	114	1.0	83	72	51	0	7	2	0
AZ PHOENIX	67	46	72	40	57	0	.1	-1.1	.1	2.1	106	.7	58	62	18	0	0	1	0
PRESCOTT	48	26	54	22	37	-3	.1	-2.1	.1	2.5	55	1.6	57	82	34	0	7	2	0
TUCSON	63	38	73	34	50	-4	T	-1.1	T	1.9	83	.6	46	59	18	0	0	0	0
YUMA	71	46	78	41	59	-2	0	-1.1	0	.3	33	.1	17	45	14	0	0	0	0
AR FORT SMITH	47	33	56	29	40	-4	1.1	.4	.9	5.6	86	4.4	119	92	62	0	5	3	1
LITTLE ROCK	44	33	57	29	39	-6	2.8	1.9	2.7	8.0	77	4.7	73	87	72	0	3	4	1
CA BAKERSFIELD	61	38	66	35	50	-4	.3	0	.3	3.3	133	2.3	128	90	41	0	0	1	0
EUREKA	56	42	61	38	49	0	.7	-6	.6	13.5	79	9.7	88	89	66	0	0	2	1
FRESNO	61	40	63	34	50	-1	.1	-4	.1	5.5	109	3.2	91	93	40	0	0	2	0
LOS ANGELES	68	50	73	44	59	2	T	-6	T	2.0	30	1.7	34	66	24	0	0	1	0
REDDING	62	40	66	32	51	-1	.4	-1.0	.4	13.0	***	11.0	83	78	30	0	1	2	0
SACRAMENTO	62	41	67	36	52	1	.3	-4	.3	5.7	62	5.0	79	85	38	0	0	2	0
SAN DIEGO	65	47	67	44	56	-2	T	-3	T	2.9	63	1.9	59	84	38	0	0	1	0
SAN FRANCISCO	61	46	67	42	53	1	.2	-3	.2	8.0	74	6.3	88	87	49	0	0	2	0
CO DENVER	38	23	45	16	30	-4	.4	.2	.3	1.9	123	1.6	160	92	55	0	7	4	0
GRAND JUNCTION	44	26	45	21	35	0	.1	-1	.1	1.5	91	1.0	100	86	39	0	7	1	0
PUEBLO	39	24	47	9	32	-5	.8	.5	.5	2.0	268	1.6	320	99	59	0	6	3	1
CT BRIDGEPORT	36	16	44	2	26	-5	0	-8	0	9.5	103	5.1	93	50	27	0	7	0	0
HARTFORD	33	10	40	-4	22	-6	0	-8	0	12.7	126	6.5	110	56	31	0	7	0	0
DC WASHINGTON	42	26	48	16	34	-4	0	-7	0	10.0	128	5.1	109	63	28	0	7	0	0
FL APALACHICOLA	64	49	71	41	56	1	1.4	.5	.5	17.8	183	8.1	131	93	65	0	0	4	0
DAYTONA BEACH	66	52	76	44	59	0	2.4	1.5	1.4	11.3	164	8.5	181	96	63	0	0	4	2
JACKSONVILLE	62	44	77	41	53	-2	1.7	.8	1.1	14.2	172	9.5	170	96	63	0	0	3	2
KEY WEST	79	69	83	65	74	4	.2	-3	.1	12.6	256	1.5	47	97	76	0	0	2	0
MIAMI	80	67	84	61	74	6	.2	-3	.1	5.4	98	3.2	89	92	65	0	0	3	0
ORLANDO	72	52	79	48	62	0	1.5	.8	.6	7.1	119	3.5	85	97	61	0	0	4	2
TALLAHASSEE	64	44	74	30	54	0	2.7	1.4	1.2	18.1	140	10.1	122	97	52	0	1	4	2
TAMPA	73	54	81	51	63	2	.9	.1	.7	6.4	98	4.4	100	96	59	0	0	3	1
WEST PALM BEACH	79	63	86	52	71	5	.3	-3	.2	12.4	178	2.3	49	95	63	0	0	4	0
CA ATLANTA	47	36	61	31	42	-4	.5	-6	.4	10.6	86	7.6	94	91	65	0	2	5	0
AUGUSTA	54	36	63	31	45	-3	.7	-3	.4	15.6	154	11.5	164	89	54	0	3	3	0
MACON	54	39	66	34	47	-3	.8	-4	.5	13.4	115	9.7	128	92	58	0	0	4	1
SAVANNAH	55	39	69	35	47	-5	1.6	.8	1.0	17.0	207	11.8	219	93	59	0	0	3	2
HI HILO	79	63	81	61	71	0	4.7	1.2	1.7	19.0	59	13.3	69	94	63	0	0	5	3
HONOLULU	81	66	83	61	74	1	.3	-3	.2	1.7	18	1.1	19	88	51	0	0	3	0
KAHULUI	78	65	82	59	71	-1	.2	-5	.1	5.3	56	2.5	37	86	59	0	0	2	0
LIHUE	77	66	78	60	71	0	1.5	.7	1.3	5.2	36	3.9	43	88	58	0	0	4	1
ID BOISE	45	27	48	21	36	-1	.1	-2	.1	1.9	49	1.8	72	91	45	0	6	3	0
LEWISTON	48	33	52	29	40	1	T	-2	T	1.3	39	.8	38	95	57	0	4	1	0
POCATELLO	37	22	42	14	29	-1	.2	-1	.1	1.8	65	1.6	89	90	59	0	7	3	0
IL CHICAGO	39	22	47	17	30	3	T	-4	T	2.9	63	1.8	72	83	38	0	7	0	0
MOLINE	41	20	48	16	31	5	T	-3	T	3.0	66	1.0	38	86	41	0	7	1	0
PEORIA	42	21	50	18	32	4	0	-4	0	4.2	91	1.6	62	83	37	0	7	0	0
QUINCY	41	24	50	20	33	3	0	-4	0	3.4	83	1.6	70	82	44	0	7	0	0
ROCKFORD	40	20	47	16	30	6	T	-3	T	1.6	38	1.0	43	85	37	0	7	0	0
SPRINGFIELD	41	22	50	18	32	1	T	-5	T	2.9	59	1.5	54	85	44	0	7	0	0
IN EVANSVILLE	37	28	45	26	33	-3	.6	-1	.4	4.6	53	2.4	46	95	73	0	7	5	0
FORT WAYNE	36	17	45	11	26	-1	T	-5	T	3.7	62	2.1	60	88	43	0	7	0	0
INDIANAPOLIS	36	21	42	17	29	-2	.3	-3	.3	3.6	49	1.9	43	87	53	0	7	1	0
SOUTH BEND	35	18	44	11	27	-1	0	-5	0	4.8	69	3.1	78	76	39	0	7	0	0
IA DES MOINES	41	21	52	15	31	5	T	-3	T	1.4	50	.5	28	83	40	0	7	0	0
SIOUX CITY	41	17	50	9	29	5	T	-3	T	.5	26	.3	23	88	37	0	7	1	0
WATERLOO	38	18	49	13	28	7	T	-3	T	1.3	48	.5	33	91	49	0	7	0	0
KS CONCORDIA	44	24	53	17	34	2	T	-2	T	2.2	119	.8	67	87	46	0	7	1	0
DODGE CITY	40	26	48	21	33	-3	.2	.1	.1	2.4	183	1.5	188	97	67	0	6	2	0
GOODLAND	40	26	49	21	33	0	.3	.2	.1	.9	87	.8	133	97	64	0	7	5	0
TOPEKA	42	26	53	21	34	0	.5	.2	.4	3.2	109	2.0	125	94	59	0	7	2	0
WICHITA	42	26	51	22	34	-2	.9	.7	.6	4.1	182	2.8	233	94	61	0	7	3	1
KY BOWLING GREEN	41	31	49	29	36	-2	.7	.5	.5	7.8	64	3.0	40	99	77	0	5	3	0
LEXINGTON	37	27	45	20	32	-3	.5	-3	.3	5.7	59	2.4	41	95	70	0	6	3	0
LOUISVILLE	38	29	45	22	34	-3	1.1	.3	.6	5.5	60	2.8	49	93	68	0	6	6	1
LA ALEXANDRIA	52	43	69	35	47	-8	3.8	2.4	2.0	14.0	102	9.0	102	80	63	0	0	3	2
BATON ROUGE	57	46	70	37	51	-3	2.8	1.5	1.6	17.1	128	10.9	131	89	65	0	0	3	2
LAKE CHARLES	56	43	71	32	49	-5	2.1	1.1	1.3	18.8	153	9.0	123	89	64	0	1	3	2
NEW ORLEANS	59	49	71	40	54	-2	2.5	1.2	1.6	17.3	122	12.3	138	91	69	0	0	3	2

Based on 1951-80 normals.

Weather Data for the Week Ending FEBRUARY 21, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVERPORT	50	37	69	28	44	-7	3.3	2.5	1.8	11.9	113	7.2	109	97	68	0	2	4	2
ME CARIBOU	19	4	26	-9	12	-2	.1	-1.5	.1	4.2	59	2.5	64	72	49	0	7	1	0
PORTLAND	33	6	39	-11	20	-4	0	0	0	11.2	102	5.3	83	64	29	0	7	0	
MD BALTIMORE	40	22	47	12	31	-4	0	0	0	11.4	133	5.9	113	60	27	0	7	0	
SALISBURY	38	22	45	13	30	-7	0	0	0	15.0	158	8.2	141	72	37	0	7	0	
MA BOSTON	35	15	42	-1	25	-6	0	0	0	14.4	129	8.1	121	51	28	0	7	0	
CHATHAM	33	19	39	7	26	-5	0	0	-1.1	17.3	139	9.8	131	66	51	0	7	0	
MI ALPENA	31	-1	43	-21	15	-3	T	T	T	2.6	57	1.7	65	92	43	0	7	0	
DETROIT	33	15	43	4	24	-3	T	T	T	4.8	85	2.5	81	85	37	0	7	0	
FLINT	33	12	45	1	23	-1	T	T	T	3.1	67	1.4	54	81	41	0	7	0	
GRAND RAPIDS	35	15	45	4	25	1	0	0	-0.4	1.8	31	.7	23	80	37	0	7	0	
HOUGHTON LAKE	33	2	42	-15	17	-1	T	T	T	2.3	54	1.5	63	85	35	0	7	0	
LANSING	34	13	44	1	24	0	0	0	-0.4	2.1	42	1.1	38	81	45	0	7	0	
MARQUETTE	31	8	41	-1	20	5	.1	-0.4	0	3.5	60	2.9	85	97	50	0	7	2	
MUSKEGON	36	15	43	4	25	1	0	0	0	3.0	48	1.6	44	86	40	0	7	0	
SAULT STE. MARIE	28	7	38	-20	17	3	0	0	-0.4	4.7	78	2.5	71	77	40	0	7	0	
MN ALEXANDRIA	33	17	42	12	25	11	.2	.1	.1	1.0	50	.9	69	91	56	0	7	2	
DULUTH	30	7	38	-5	18	5	.1	-1	.1	1.4	44	.9	50	92	54	0	7	2	
INT'L FALLS	30	15	35	-3	22	14	.1	-1	.1	.9	38	.6	43	88	55	0	7	1	
KANSAS CITY	38	18	46	13	28	9	T	T	T	1.0	43	.7	50	82	41	0	7	1	
MINNEAPOLIS	35	15	44	10	25	7	.1	-1	.1	1.0	50	.7	58	93	48	0	7	1	
ROCHESTER	38	15	44	10	25	7	.1	-1	.1	1.0	50	.7	58	93	48	0	7	1	
MS GREENWOOD	50	38	66	29	44	-3	1.8	.6	1.1	9.2	67	6.7	79	94	67	0	1	3	
JACKSON	50	40	64	31	45	-4	2.7	1.6	1.6	14.8	108	9.8	118	97	73	0	0	3	
HERIDIAN	54	42	67	34	48	-2	3.1	1.9	1.9	18.9	135	14.7	177	90	65	0	0	3	
MO CAPE GIRARDEAU	41	30	53	27	36	1	.8	0	.5	4.6	52	2.2	44	95	74	0	5	3	
COLUMBIA	42	27	55	21	35	1	.1	-0.4	.1	4.2	88	2.2	76	82	49	0	7	2	
KANSAS CITY	40	24	51	17	32	-1	.3	0	.2	2.8	85	1.5	79	94	57	0	7	2	
SAINT LOUIS	40	25	51	21	33	-2	.4	-1	.4	3.5	65	2.5	78	88	55	0	7	1	
SPRINGFIELD	39	26	50	22	33	-5	1.4	.9	1.0	6.7	119	5.4	174	94	72	0	7	3	
MT BILLINGS	45	23	50	19	34	5	T	-1	T	.2	10	.1	7	84	37	0	7	2	
GLASGOW	39	24	50	20	32	14	0	-1	0	.2	17	.1	13	92	55	0	7	0	
GREAT FALLS	47	24	51	18	35	7	0	-2	0	.4	15	.1	6	74	28	0	7	0	
HAVRE	44	18	51	12	31	9	0	-1	0	.1	5	.1	11	88	39	0	7	0	
HELENA	43	21	46	14	32	4	T	-1	T	.4	25	0	0	88	40	0	7	0	
KALISPELL	38	26	44	20	32	5	.1	-2	.1	1.5	38	1.0	40	98	69	0	7	2	
MILES CITY	44	22	50	17	33	9	T	-1	T	.2	13	.1	10	86	45	0	7	0	
MISSOULA	39	26	43	21	33	3	T	-2	T	1.1	34	.6	29	92	60	0	7	2	
NE GRAND ISLAND	40	22	52	16	31	2	T	-2	T	.4	23	.1	9	92	50	0	7	1	
LINCOLN	42	18	56	9	30	2	T	-3	T	1.5	75	.2	15	87	40	0	7	0	
NORFOLK	39	18	49	13	29	4	T	-2	T	1.0	56	.6	55	94	43	0	7	0	
NORTH PLATTE	40	23	51	16	32	4	.2	.1	.2	.9	73	.6	75	95	64	0	7	2	
OMAHA	41	22	51	14	32	5	T	-3	T	.7	35	.1	7	76	51	0	7	0	
SCOTTSBLUFF	42	22	47	17	32	1	T	-1	T	1.1	92	.8	114	94	47	0	7	0	
VALENTINE	39	22	49	18	31	5	.1	-1	.1	.3	27	.3	43	86	57	0	7	1	
NV ELY	38	16	44	6	27	-3	.2	0	.1	1.3	64	1.2	100	90	47	0	7	2	
LAS VEGAS	61	41	67	32	51	0	T	-1	T	1.7	138	1.2	133	41	17	0	1	0	
RENO	48	24	51	17	36	-2	T	-2	T	.1	34	.9	45	83	30	0	6	0	
MINNEMUCCA	45	18	49	12	32	-5	.1	-1	0	.9	39	.8	57	89	34	0	7	2	
NH CONCORD	29	7	37	-7	18	-5	0	-6	0	7.5	93	3.0	65	56	31	0	7	0	
NJ ATLANTIC CITY	38	18	45	7	28	-5	0	-8	0	11.5	121	6.7	114	65	32	0	7	0	
NM ALBUQUERQUE	41	28	51	18	35	-6	.4	.3	.3	1.6	131	1.1	157	85	48	0	6	3	
CLOVIS	39	29	53	19	34	-8	1.0	.9	.4	3.0	193	1.6	178	87	65	0	5	6	
ROSWELL	43	34	60	28	38	-8	1.4	1.4	1.0	2.5	353	1.7	340	91	68	0	2	1	
NY ALBANY	27	-2	39	-11	12	-12	0	-6	0	8.3	118	4.4	110	76	41	0	7	0	
BINGHAMTON	26	6	36	-10	16	-7	T	-6	T	5.9	83	3.5	83	78	43	0	7	0	
BUFFALO	28	9	43	0	18	-6	T	-6	T	7.5	92	3.5	73	86	46	0	7	0	
NEW YORK	36	19	45	5	28	-6	0	-8	0	11.1	123	5.9	109	53	31	0	7	0	
ROCHESTER	27	5	40	-3	16	-8	T	-6	T	5.9	89	2.4	59	90	47	0	7	0	
SYRACUSE	24	0	37	-12	12	-12	T	-7	T	7.0	90	3.6	78	83	44	0	7	0	
NC ASHEVILLE	41	31	50	27	36	-4	1.4	.4	1.3	9.6	100	5.3	87	99	69	0	5	2	
CHARLOTTE	45	32	53	24	38	-5	.7	-3	.7	9.3	93	6.1	92	90	56	0	4	3	
GREENSBORO	41	26	49	20	34	-7	1.0	.2	1.0	8.7	92	5.1	85	93	55	0	7	2	
HATTERAS	46	37	54	34	42	-4	2.8	1.8	1.6	20.9	169	14.3	181	90	62	0	0	4	
NEW BERN	47	32	55	29	39	-7	1.3	.3	.8	12.3	115	8.8	126	92	55	0	4	1	
RALEIGH	41	27	51	23	34	-8	2.2	1.3	2.0	11.8	128	8.9	146	92	48	0	6	2	
WILMINGTON	48	32	56	29	40	-7	.8	0	.7	14.4	149	8.1	131	93	54	0	4	1	
ND BISMARCK	33	23	40	12	28	12	.2	.1	.2	.6	39	.5	56	97	75	0	7	0	
FARGO	31	20	36	15	26	13	.2	.1	.1	.7	48	.4	50	91	67	0	7	2	
GRAND FORKS	29	21	33	18	25	14	.1	0	.1	1.1	60	.7	64	94	77	0	7	0	
WILLISTON	36	21	43	15	28	12	T	-1	T	.4	28	.3	30	92	63	0	7	0	
OH AKRON-CANTON	37	15	45	5	26	-2	T	-6	T	4.9	73	2.2	54	75	27	0	7	0	
CINCINNATI	39	26	46	18	33	0	.3	-4	.2	3.9	49	1.4	28	84	40	0	6	4	
CLEVELAND	34	14	47	6	24	-4	T	-6	T	5.2	75	2.3	56	83	35	0	7	0	
COLUMBUS	40	21	46	12	31	0	.1	-5	.1	.9	59	1.3	30	74	31	0	7	2	

Based on 1951-80 normals.

Weather Data for the Week Ending FEBRUARY 21, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
DAYTON	37	20	44	12	29	-2	.3	.3	4.2	63	1.3	32	83	42	0	6	2	0	0	
TOLEDO	33	15	44	7	24	-2	T	T	3.8	65	1.9	58	87	44	0	7	0	0	0	
YOUNGSTOWN	36	12	46	2	24	-2	T	T	5.5	77	2.1	49	82	33	0	7	0	0	0	
OK OKLAHOMA CITY	43	29	53	26	36	-5	.7	.3	6.4	208	5.3	279	97	65	0	5	2	1	1	
TULSA	44	29	55	23	36	-5	1.0	.5	5.1	117	4.2	162	93	60	0	5	3	1	1	
OR ASTORIA	51	40	52	33	46	1	1.3	.3	21.9	76	14.6	84	98	73	0	0	7	1	1	
BURNS	42	22	45	13	32	-2	.3	.3	2.4	147	2.2	275	—	—	0	7	1	0	0	
WEDFORD	52	34	56	27	43	0	.2	.3	5.8	68	5.1	100	96	51	0	2	2	0	0	
PENDLETON	49	35	54	31	42	2	.3	.0	2.9	67	2.1	81	86	52	0	3	3	0	0	
PORTLAND	51	40	54	38	46	2	.6	.3	13.7	88	9.4	102	98	67	0	0	4	0	0	
SALEM	51	37	53	32	44	1	.9	.2	14.7	83	10.9	103	98	68	0	2	3	0	0	
PA ALLENTOWN	34	14	44	1	24	-5	0	.4	8.4	90	4.1	73	64	34	0	7	0	0	0	
ERIE	28	10	40	1	19	-6	T	T	7.3	100	3.3	80	82	50	0	7	0	0	0	
HARRISBURG	35	19	45	7	27	-5	0	T	11.5	140	6.6	132	68	35	0	7	0	0	0	
PHILADELPHIA	38	19	46	9	29	-5	0	T	10.9	125	4.9	94	57	31	0	7	0	0	0	
PITTSBURGH	38	18	47	5	28	-1	0	0	6.1	85	2.6	57	59	26	0	7	0	0	0	
SCRANTON	28	8	38	-5	18	-9	0	0	4.9	78	2.9	76	75	38	0	7	0	0	0	
RI PROVIDENCE	36	14	44	0	25	-4	0	0	13.1	116	5.0	74	53	29	0	7	0	0	0	
SC CHARLESTON	52	37	62	34	45	-6	1.7	.9	15.1	170	9.9	171	88	58	0	0	3	2	2	
COLUMBIA	50	34	60	30	42	-6	1.4	.4	12.9	119	10.3	141	92	58	0	3	1	1	1	
FLORENCE	48	33	57	28	41	-7	1.3	.5	10.6	117	7.3	122	86	53	0	5	1	1	1	
GREENVILLE	45	32	52	27	39	-5	.8	.8	10.4	92	6.2	84	93	58	0	4	2	1	1	
SD ABERDEEN	33	20	40	6	27	10	.3	.1	.3	.3	.3	33	94	71	0	7	1	0	0	
HURON	36	19	43	7	28	8	.4	.1	.6	.6	.6	60	94	60	0	7	1	0	0	
RAPID CITY	40	21	49	18	31	4	.1	0	.6	.6	.6	75	98	58	0	7	2	0	0	
SIoux FALLS	38	15	47	8	27	6	T	T	.2	.2	.2	17	85	40	0	7	1	0	0	
TN CHATTANOOGA	47	38	55	32	42	0	1.5	.3	14.0	102	9.3	108	97	70	0	1	4	2	2	
KNOXVILLE	45	37	52	34	41	-1	.8	.2	10.3	84	6.2	81	99	78	0	0	6	1	1	
MEMPHIS	45	36	57	30	40	-4	.7	.4	7.4	58	3.5	45	99	86	0	3	4	0	0	
NASHVILLE	43	35	53	31	39	-2	.7	.3	6.0	49	2.7	36	99	82	0	1	4	0	0	
TX ABILENE	45	34	54	27	40	-9	.7	.5	4.9	191	2.9	171	93	62	0	3	3	0	0	
AMARILLO	39	28	46	24	33	-7	.6	.5	2.7	193	2.0	222	98	71	0	5	5	0	0	
AUSTIN	53	42	68	33	48	-6	.6	0	7.4	132	1.6	46	89	53	0	0	3	0	0	
BEAUMONT	58	44	73	31	51	-5	2.4	1.4	20.2	174	10.6	149	88	58	0	1	3	2	2	
BROWNSVILLE	68	52	86	48	60	-3	.3	.1	6.4	175	3.9	156	89	56	0	0	1	0	0	
CORPUS CHRISTI	63	46	79	38	55	-5	1.5	1.2	9.7	227	5.1	176	94	53	0	0	4	1	1	
DEL RIO	57	43	72	38	50	-6	.1	.1	5.2	297	2.9	242	86	60	0	0	1	0	0	
EL PASO	35	30	63	26	43	-6	.2	.1	2.0	172	.5	63	85	36	0	5	3	0	0	
FORT WORTH	49	35	62	27	42	-7	1.1	.6	5.5	114	3.0	97	90	62	0	2	2	1	1	
GALVESTON	57	47	73	41	52	-4	1.1	.5	9.1	109	5.1	106	85	54	0	0	3	1	1	
HOUSTON	55	42	73	30	49	-6	1.4	.5	9.7	104	4.0	70	90	57	0	1	3	1	1	
LUBBOCK	42	32	52	26	37	-6	.5	.4	2.2	217	1.4	175	98	70	0	4	5	0	0	
MIDLAND	47	32	60	27	40	-9	.6	.4	4.9	370	1.6	178	97	62	0	4	2	0	0	
SAN ANGELO	48	35	58	26	42	-9	.2	0	6.8	355	4.3	331	92	59	0	2	2	0	0	
SAN ANTONIO	57	42	70	32	49	-6	.6	.1	10.0	228	3.0	100	92	52	0	1	2	0	0	
VICTORIA	58	44	75	34	51	-6	1.2	.7	8.2	143	4.0	111	91	55	0	0	4	1	1	
WACO	51	36	66	24	44	-8	.6	.1	5.8	112	2.3	70	90	62	0	2	2	0	0	
WICHITA FALLS	47	34	56	26	40	-6	.2	.1	4.4	155	3.5	206	91	64	0	2	3	0	0	
UT BLANDING	41	23	45	17	32	-2	.1	.1	2.6	78	2.0	95	92	61	0	7	1	0	0	
CEDAR CITY	39	24	45	20	32	-3	.1	.2	1.5	82	1.0	83	93	54	0	7	1	0	0	
SALT LAKE CITY	42	27	44	22	34	-1	.1	.3	2.8	76	2.7	117	88	45	0	7	3	0	0	
VT BURLINGTON	21	-8	33	-22	6	-12	0	0	3.7	67	2.4	77	82	36	0	7	0	0	0	
VA NORFOLK	38	27	42	23	33	-9	1.4	.6	15.4	165	11.6	187	90	47	0	7	2	2	2	
RICHMOND	40	23	46	19	31	-8	.7	0	11.5	129	6.4	116	87	38	0	7	2	0	0	
ROANOKE	39	23	47	17	31	-7	1.0	.2	11.1	137	5.6	108	91	47	0	7	3	1	1	
WA COLVILLE	44	32	48	26	38	6	.1	.3	3.7	64	2.2	65	97	78	0	4	1	0	0	
QUILLAYUTE	49	37	52	30	43	1	2.6	.4	1.3	33.8	83	21.4	88	100	82	0	1	7	2	2
SEATTLE-TACOMA	49	41	53	35	45	2	.4	.6	11.7	75	8.0	86	94	67	0	0	3	0	0	
SPOKANE	42	29	46	20	35	2	.2	.1	3.3	54	2.4	65	98	69	0	6	4	0	0	
YAKIMA	50	29	56	22	39	2	.1	.1	2.6	77	1.7	85	97	50	0	5	1	0	0	
WV BECKLEY	37	26	44	21	32	-1	.9	.1	7.6	84	4.9	84	96	64	0	7	3	1	1	
CHARLESTON	39	28	44	23	33	-3	1.3	.5	8.9	98	5.0	86	99	61	0	6	4	1	1	
HUNTINGTON	38	26	46	21	32	-4	1.2	.5	7.5	89	3.9	74	96	63	0	6	3	1	1	
PARKERSBURG	41	23	47	15	32	-2	.3	.5	6.1	69	2.0	33	78	30	0	7	2	0	0	
WI GREEN BAY	34	17	44	10	26	7	T	T	1.0	28	.5	25	95	52	0	7	0	0	0	
LA CROSSE	38	17	48	12	28	7	T	T	1.5	56	1.1	69	87	40	0	7	0	0	0	
MADISON	39	16	46	13	27	6	T	T	1.4	42	.7	39	91	39	0	7	1	0	0	
MILWAUKEE	36	21	46	16	29	5	T	T	2.3	51	1.2	46	84	45	0	7	6	0	0	
WAUSAU	35	13	42	5	24	7	T	T	1.1	37	.6	38	84	43	0	7	0	0	0	
WY CASPER	31	14	33	8	22	-5	.2	0	2.5	177	2.3	256	94	69	0	7	2	0	0	
CHEYENNE	33	21	37	15	27	-3	T	T	.5	50	.3	43	92	55	0	7	0	0	0	
LANDER	37	19	41	10	28	1	.3	.1	1.6	110	1.4	156	86	42	0	7	1	0	0	
SHERIDAN	43	24	49	18	34	6	T	T	1.0	52	.9	69	92	45	0	7	0	0	0	
PR SAN JUAN	86	70	87	69	78	1	T	T	5.2	58	2.2	49	89	76	0	0	2	0	0	

Based on 1951-80 normals.

National Agricultural Summary

February 16-22, 1987

HIGHLIGHTS: Precipitation and below-normal temperatures across the southern half of the Nation slowed farming activities. Above-normal temperatures in many of the northern States were beneficial to livestock and started to greenup winter wheat. Soil moisture was generally adequate to surplus in the South, adequate to short in the north-central Plains, and mostly adequate elsewhere. Most winter wheat continued to have minimal to no snow cover. Fruit tree pruning continued active across the Nation. Livestock continued good as lambing and calving progressed.

SMALL GRAINS: Small grains were generally good to fair across the Nation. Snow cover was limited in most States, leaving winter wheat vulnerable to freeze damage. In Texas, cattle were being moved off wheat pastures and some fields were jointing in the southern areas. Recent precipitation improved the condition of the wheat. In Oklahoma, fields were showing good growth and some weed spraying was beginning. Fields were beginning to greenup in Kansas and Nebraska. In Montana, 50 percent (%) of the fields were greening, while the remainder were dormant. Some wind damage occurred. Topdressing was being applied in many States as weather permitted. Wheat and barley were fair in California and needed additional precipitation. In Arizona, wheat and barley were good with 20% of the crop jointed. Wheat was mostly fair to good in the southeast. Rust was a concern as a potential disease problem in Arkansas.

COTTON: Cotton harvest was 95% complete in Oklahoma. Additional precipitation contributed to harvesting problems. Some bottomland acreage may not be harvested. In Texas, 98% of the crop was harvested, but the remaining fields are wet and quality continued to deteriorate.

OTHER CROPS: In the South and Southeast, precipitation and below-normal temperatures slowed land preparation. In Texas, corn and sorghum were being planted. Corn planting in Arizona was 15% complete, and the first cutting of hay was underway. Sugarbeet harvest in California, and sugarcane harvest in Florida were active. Tobacco bed preparation continued. Maple trees were being tapped for syrup in the Northern States.

FRUIT AND NUTS: Fruit tree pruning continued throughout the Nation. In the South, cooler-than-normal temperatures slowed bud development. In Florida, early orange harvest

slowed while temple harvest increased. Movement of grapefruit was active, but tangelo and tangerine movement slowed. Strawberry harvest was light. In Texas, peach trees continued to bud and bloom across the State. Frost may have damaged some early blooms. In Arizona, citrus harvest continued. California's citrus harvest progressed with high winds, causing some navel oranges to drop. Stone fruits continued to bloom. In Oregon, pruning and training continued on caneberries.

VEGETABLES: In Florida, mostly mild weather prevailed over the vegetable producing areas but winds burned some young crops. Harvest of winter crops included large quantities of tomatoes, celery, cabbage, carrots, potatoes, lettuce, and squash. Snap beans, radishes, sweet corn, escarole, eggplant, and cauliflower were in good supply. In the Rio Grande Valley, Texas, wet conditions slowed vegetable harvest. Spring planting of melons, tomatoes, and peppers were underway, where field conditions allowed. In the San Antonio-Winter Garden area, spinach, broccoli, carrots, onions, and cabbage continued to be harvested. Producers were planting watermelons and preparing land for other spring vegetables. In north Texas, onion and potato plantings started but were halted by wet conditions. Some sweet corn, cabbage, and turnip greens were planted. Seasonal packing of winter vegetables continued in Arizona including lettuce, cauliflower, broccoli, and mixed vegetables. Artichokes were progressing well. Spring vegetable planting continued and land preparation for carrots and chilies began. In California, artichoke harvest was moderate but quality improved in Salinas. Asparagus harvest was moderate in the desert, and cutting was just beginning at Westside. Broccoli harvest was moderate in Salinas and Santa Maria but heavy in the desert. Carrot digging increased in the desert and remained active at Westside. Cauliflower harvest was moderate at Santa Maria but light in the desert. Celery harvest was active in Oxnard, Los Angeles-Orange County, and Chula Vista. Lettuce packing continued slowly in the Palo Verde Valley. Fall potato packing continued in Tulelake-Butte Valley with winter potato digging active in Kern and Riverside Counties.

PASTURES AND LIVESTOCK: Pastures were mostly fair. Livestock continued to be good as above-normal temperatures helped calving and lambing in the Northwest and North Central States. Supplemental feed supplies were adequate in most areas.

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 1.00 to 2.00 in. northern half; 1.00 to 1.50 in. central, south; near 2.00 in. extreme south. Temperatures averaged 4 to 7° below normal.

Soil moisture adequate to surplus. Livestock, poultry mostly good.

ARIZONA: Storm system crossed State 16th, snow level 7,000 ft. Sunny to partly cloudy 17th, 18th. Late 19th to early 20th, cold upper level low pressure intensified northwest, moving southward. Snow level to 3,000 ft., amounts from 1 in. southeast to 9 in. Mogollon Rim, White Mountains. Afternoon rain showers, isolated thunderstorms lower deserts. Weekly precipitation from traces lower deserts to 0.75 in. Mogollon Rim, White Mountains, except no rain along Colorado River Valley. Average temperatures from normal to 50 below.

Wheat, barley stands established 99%, 100% 1986, 100% avg.; jointing 20%, 30% 1986, 15% avg.; heading just beginning. Both crops good. Routine irrigation, fertilization continued. Cotton crop land preparation advanced. Planting underway very limited scale. Alfalfa first cutting underway. New hay supplies short, good demand expected. Hay stands good. Sheep grazing light to moderate. Green chopping continued. Insecticide, herbicide applications performed. Corn land preparation moved ahead west, 15% planted. Sorghum land preparation very early stages. Seasonal packing of winter vegetables continued, including lettuce, cauliflower, broccoli, mixed vegetables. Asparagus cutting advanced. Artichokes progressed well. Spring vegetable planting moved ahead included lettuce, melons. Land preparation for carrots, chilies began. Lettuce growth southeast slowed by low temperatures. Established lettuce stands thinned, sidedressed. Cauliflower, broccoli, mixed vegetable planting virtually completed. Citrus harvests moved ahead. Fruit, nut trees pruned. Pecans shipped.

ARKANSAS: Temperatures well below normal. Precipitation statewide first of week, across southern portion latter part of week. Temperature extremes 23°; 57°. Rainfall 0.43 to 2.81 in.

Soil moisture above adequate. Wheat fair. Fertilization continued. Rust concern as potential disease problem. Fruit budding limited by cold. Spring pasture fertilizer application began. Livestock excellent.

CALIFORNIA: Week began with a storm early 22nd that dropped rain over northern half State with snow in mountains. High pressure built in till about 21st when another weak system moved through State. Temperatures near normal over northern two-thirds State, above normal south.

Rainfall improved small grain condition. Precipitation only 50% of normal throughout State. Wheat, barley fair but need rain. Herbicide spraying active in small grains, alfalfa. Row crop growers prepared ground for planting. Sugarbeet harvest active. Stone fruits bloomed. New deciduous orchards planted. San Bernardino County concerned about summer water supply. Citrus harvested. High winds caused some Navel oranges to drop. Artichokes moderate, variable but improved quality, Salinas. Asparagus moderate, variable quality, desert. Cutting began, good quality, Westside. Broccoli moderate, variable quality, Salinas; moderate, good quality, Santa Maria.

Desert, heavy, good quality, three more weeks to end-of-season. Carrot digging picked up, desert, good quality; remained active, Westside. Cauliflower moderate, good quality, Santa Maria. Quality good, desert, but light demand. Mature plantings Westside, treated for disease. Celery harvest active, Oxnard, Los Angeles-Orange County, Chula Vista. Lettuce packing, Palo Verde Valley, continued slowly as fields matured. Fields, Westside, progressing well for April harvest, some damage due to birds. Fall potato packing, Tulalake-Butte Valley, continued full-time, light demand, stable prices. Winter potato digging active, Kern, Riverside Counties. Planting tomatoes for processing, fresh market active statewide. Westside fields plagued by birds. Range, pastures continued improvement with rains over most State. Additional rains needed to continue range, pasture growth; fill stock ponds. Calving, lambing continued active. Sheep grazed alfalfa fields.

COLORADO: Temperatures 1 to 3° below normal Arkansas Valley; rest of State 3 to 6° above normal. Precipitation southern, eastern portions. Amounts 0.50 in. southern foothills decreased to traces north.

Livestock good. Winter wheat good. Calving, lambing activities underway.

FLORIDA: Seasonal temperatures, above normal cloudiness statewide with substantial rain Panhandle, north. Cold front moved through 16th, 18th; warm front pushed northward up Peninsula 21st, 22nd. Showers, thunderstorms accompanied cold front. Rainfall averaged 3.00 to 4.00 in. north, near 1.00 in. central, 0.50 to 1.00 in. south. Scattered frost Panhandle morning of 19th. Temperatures averaged near normal except 4° above normal south. Midweek rains totaled 0.50 to 1.00 in.

Soil moisture adequate except surplus some northern localities. Wet soils limited land preparation. Tobacco beds, most small grains good. Sugarcane harvest active. Winter annual pastures fair to good. Permanent pastures poor to fair Panhandle, northern, central Peninsula; good, southern Peninsula. Cattle on ryegrass, small grains, receiving hay, supplements good. Cattle on poorer grazing with only limited supplemental feed fair to poor. Citrus belt cool, damp, windy weather. Only limited irrigation. Trees very good. Early orange harvest slowed. Grapefruit movement very active all areas. Temple harvest increased; tangelo, tangerine movement slowed, as supplies low. Caretakers active hedging, fertilizing, disking. Mostly mild weather prevailed over vegetable producing areas. Winds burned some young crops. Land preparation, planting spring crops active. Harvest winter crops continued. Volume leaders: Tomatoes, celery, cabbage, carrots, potatoes, lettuce, squash. Good supplies snap beans, radishes, sweet corn, escarole, eggplant, cauliflower. Light supplies strawberries continued.

GEORGIA: Cold, wet week. Temperatures 5° below normal. Lowest readings mid 20s mountains to 41° Brunswick. Highest temperatures upper 40s mountains to 70s south. Rain 3 to 6 days. Rain totals 0.50 to 1.00 in. Amounts 2.00 in. south with 3.00 in. plus at Brunswick.

Soil moisture adequate north and southwest, surplus other areas. Main activities land

preparation, tobacco bed preparation, small grain topdressing. Small grains poor to good, mostly good. Pastures poor to good, mostly fair. Cattle poor to good. Tobacco poor to good. Hogs good.

HAWAII: Wet, windy conditions during first half of week slowed farm activity, caused some minor crop losses. Skies cleared by midweek. Overall, crops made fair to good progress. Temperatures averaged a degree or two above normal for most of week. Variable winds north, northeasterly 15 to 30 mph. Temperatures ranged mid 60s to low 80s. Rainfall ranged none to 9.10 in.

Days suitable for fieldwork 7.0. Banana production to remain steady. Papaya production on seasonal decline. Production heavy for Chinese cabbage, light to moderate for other vegetables.

IDAHO: Mild showers statewide, lower average temperatures.

Limited farm activity consists of livestock management, shop work, fertilizing. Livestock good. Hay, roughage supplies adequate to surplus.

ILLINOIS: Temperatures averaged 2 to 5° above normal north, 1 to 4° below normal south. Precipitation none to 0.78 in. heaviest south.

Soil moisture 12% short, 79% adequate, 9% surplus. Winter wheat 1% poor, 36% fair, 59% good, 4% excellent. Livestock mostly good.

INDIANA: Temperatures averaged warmer than normal north, cooler than normal south. Precipitation light north, 0.20 to 1.00 in central and south, mainly as snow.

Dry field conditions permitted outside activities. Plowing, topdressing wheat, chopping corn stalks, spreading fertilizer and manure, moving grain. Other activities included working taxes, attending meetings, readying equipment, feeding and care of livestock. Maple syrup season underway. Livestock good.

IOWA: Continued warm, dry. Temperatures averaged 27° north to 31° south, varying from 6° above normal north to 4° above south. Warmest 21st with 52° Des Moines, Lamoni, Ames. Coldest 18th with 8° Spencer, 9° Sioux City.

Major farm activities: Moving crops from storage, tending livestock, repairing machinery, planning spring work.

KANSAS: Average temperatures middle 30s ranging near normal north, 4 to 5° below normal south. Precipitation 0.10 to 0.20 in. north, nearly 3.00 in. southeast, 0.50 to 1.00 in. elsewhere.

Wheat vulnerable to freeze damage, snow cover receded. Soil moisture adequate. No serious infestations of greenbugs in small grains found. Alfalfa weevil, clover leaf weevil abundant some areas. Farmers lining up seed supplies, preparing machinery. Favorable conditions calving, lambing. Marketing crops, livestock.

KENTUCKY: Temperatures cold early then moderated, readings averaged 1 to 4° below normal. Lowest temperature upper teens or lower 20s, highest temperatures around 50°. Precipitation averaged 0.25 to 0.50 in. above normal, totals mostly 1.00 to 1.50 in.

Ice, snow early caused agricultural problems. Heavy ice storm resulted many down power lines, some areas no electricity several days. Most serious problems south central area, especially on dairy farms. Some producers inadequate generating capability, milking became difficult to impossible.

LOUISIANA: Temperature 3 to 7° below normal. Temperature extremes 28°; 74°. Rainfall much above normal; east averaged over 3.00 in. while remainder averaged 2.00 to 3.00 in.

Activities: Winter chores, caring for livestock, preparing for spring planting.

MARYLAND & DELAWARE: Maryland: Average temperature 30°, normal 36°; lowest 5°, highest 48°. Week of 14th to 20th, no significant precipitation. During 22nd to 23rd approximately 12 in. of heavy snow.

Delaware: Average temperature 27°, normal 37°. Week of 14th to 20th, no precipitation. During 22nd to 23rd significant snow.

Main farm activity caring for livestock.

MICHIGAN: Temperatures ranged 2° below to 6° above normal. Temperature extremes 0°; 45°. Precipitation ranged from none to 0.08 in. across State.

Upper Peninsula, northern lower Peninsula snow cover continued. Snow cover gone southern lower Peninsula. Winter wheat continued susceptible to cold temperatures southern lower Peninsula. Activities: Cutting wood, spreading manure, preparing taxes, attending meetings, pruning fruit trees, general farm maintenance and equipment repair, fertilizing and weed spraying strawberries, isolated corn fields being harvested, marketing grain, potatoes, livestock; maple trees being tapped for syrup. Excellent maple syrup weather. Livestock remained good. Lambing, calving, farrowing continued. Feed supplies adequate.

MINNESOTA: Temperatures averaged 8 to 15° above normal for State. Temperature extremes -5°; 56°. Precipitation averaged near normal to 0.24 in. below normal for State. Snowfall averaged trace to 2 in. for State. Snow depth weeks end averaged 1 to 15 in. northern third; trace or less elsewhere.

Continued mild temperatures help livestock management. Livestock good to excellent.

MISSISSIPPI: Temperatures 2 to 6° below normal; extremes 28°; 67°. Stationary low over northern gulf with upper level disturbances caused cloudy wet weather. Rainfall 1.50 to 2.50 in. north, 3.50 to 4.00 in. south. Greatest 24-hour total 3.38 in.

Days suitable for fieldwork 0.4, 1.0 1986, 2.1 avg. Soil moisture surplus. Wheat fair.

MISSOURI: Temperatures below normal across southern half, above normal northern half. Rain, snow across southern half 1.00 to 2.00 in., trace amounts to 0.50 in. northern half.

Livestock doing well. Feed supplies adequate, winter grazing available some areas.

MONTANA: Temperatures about 6° above normal most places. Some high line locations 15° above. No precipitation most areas except southwest 0.10 to 0.13 in. Winter wheat 14% poor, 59% fair, 27% good. Crop 50% dormant, 50% greening. Wind damage winter wheat 36% light, 59% moderate, 5% heavy. Calving, lambing 15% complete. Grazing 88% open, 9% difficult, 3% closed. Hay supplies 27% adequate, 73% surplus.

NEBRASKA: Temperatures 3 to 5° above normal. Precipitation amounts mostly traces across State, few isolated snow showers over Panhandle. Temperature extremes 9°; 56°.

Winter wheat beginning to green-up. Topsoil moisture short, subsoil adequate. Conditions good for calving, lambing.

NEVADA: Development trough early in period dropped temperatures slightly below normal northern, central sections. Southern areas averaged near to little above normal. Lowest readings for week 5 to 10° north central, northeast. Highest temperatures 40 to 50° north, 60s south. Precipitation continued relatively light. Several weak storms

brought trace to 0.20 in. most areas. Heaviest amounts recorded central, south. Snowstorm hit west, northeast end of period.

Calving, lambing operations full swing all areas. Livestock feeding requirements normal due relatively mild weather.

NEW ENGLAND: Dry week. Precipitation free, trace northern Maine. Temperatures averaged below normal ranging from teens near Canadian border to upper 20° southern coast.

Major farm activities: Tending livestock, repairing machinery, moving corps from storage.

NEW JERSEY: Temperatures below normal, averaged 27° north, 30° south, 32° coastal. Extremes 0°; 50°. Precipitation below normal north; above normal south, coastal; averaged 0.41 in. north, 1.27 in. south, 1.05 in. coastal. Heaviest 24-hour total 2.53 in. on 22nd, 23rd. Heaviest 24-hour snowfall 20.5 in. on 22nd, 23rd. Depth of snow on ground 23rd ranged from 3 to 10 in. north, 6 to 20 in. south.

Farmers cared for livestock, tended winter chores.

NEW MEXICO: Temperatures averaged from 10° below normal eastern plains, 4 to 13° below normal mountains, west. Storms during week left significant amounts of snow over mountains, north. Precipitation ranged from 0.08 to 2.00 in.

Days suitable for fieldwork 5.5. Soil moisture 17% short, 66% adequate, 17% surplus. Barley 14% fair, 72% good, 14% excellent. Irrigated wheat 22% fair, 67% good, 11% excellent. Dryland wheat 50% fair, 25% good, 25% excellent. Onions, lettuce 100% good. Cattle 33% fair, 67% good. Sheep 50% fair, 50% good. Ranges 17% poor, 33% fair, 42% good, 8% excellent.

NEW YORK: Large area of high pressure over Canada kept State dry, with temperatures 5 to 10° below normal. Lows well below zero, highs in 30s. No precipitation reported statewide.

Producers spent week doing winter chores, planning for 1987.

NORTH CAROLINA: Temperatures 6 to 9° below normal across State. Temperature extremes 17°; 66°. Precipitation ranged from 0.49 to 3.00 in. across State.

Days suitable for fieldwork 1.4. Soil moisture 1% short, 55% adequate, 44% surplus. Small grains mostly fair to good. Pasture 6% very poor, 25% poor, 47% fair, 22% good. Hay, roughage supplies 26% short, 74% adequate. Feed grain supplies 21% short, 77% adequate, 2% surplus. Major farm activities: Tending livestock; equipment maintenance; seeding tobacco plantbeds; topdressing small grains; cutting firewood; tax preparation; pruning fruit trees; general farm maintenance.

NORTH DAKOTA: Another mild week. Temperatures averaged 7 to 10° above normal. High 47° southwest 17th, 20th. Precipitation slightly above normal east, south central to slightly below normal west.

Temperatures continued above normal, aiding fall seeded crops and livestock. Feed supplies adequate. Calving, lambing major activities.

OHIO: Average temperatures variable; north above normal, south subnormal. Precipitation water equivalent 0.10 to 0.25 in., some eastern sections 0.50 in., few southern areas up to 2.00 in.

Upper soil layer freezing, thawing almost daily. No stress to overwintering crops or livestock. Some snow cover early week; complete melt by end of period. Fruit growers pruning trees.

OKLAHOMA: Temperatures averaged 5° below normal east central to 8° below normal west central, south

central, southeast. Precipitation averaged 0.19 in. Panhandle to 1.07 in. south central.

Wheat making good growth. Heavy weeds, some spraying. Insect activity light. Cotton 95% harvested 100% 1986, 100% avg. Bottomland acreage harvest questionable. Cattle good.

OREGON: Temperatures at or slightly above normal during week. Greatest departures up to 4° above normal Columbia Gorge and Basin. Coastal range received about 2.00 to 3.00 in. Western interior valleys received 0.50 to 1.00 in. High plateau, north Cascades 0.50 to 2.00 in. Eastside received generally about 0.10 in. of precipitation, except some northeast locations up to 0.50 in.

Soil moisture mostly surplus west, mostly adequate east except Klamath Basin, southeast short. Grain crops very good, many crops started growth Columbia Basin. Spring fieldwork should start soon if weather remains mild. Some herbicide, fertilizer applied to alfalfa. Pruning, training continued on caneberrys. Vegetable fieldwork slow. Some 1986 potato, onion movement continued. Livestock mostly good. Ranges, pastures good except where moisture is lacking. Stream flow forecasts below normal throughout State. Calving mostly completed. Range grasses started growth east.

PENNSYLVANIA: Cold, dry week. Average temperature 23°, 5° below normal. Temperature extremes -12°; 48°. Average precipitation none to 0.65 in. below normal.

Activities: Grading potatoes; hauling manure; cutting firewood; machinery maintenance; caring for livestock.

PUERTO RICO: Island average rainfall 0.68 in., 0.12 in. above normal. Highest weekly total 2.64 in. Highest 24-hour total 1.47 in. Temperature averaged about 71° interior divisions, 76° on coasts. Mean station temperature ranged from 63 to 79°. Extremes 48°; 92°. San Juan WSFO mean temperature 77°. Total rainfall 0.03 in., 0.46 in. below normal.

SOUTH CAROLINA: Temperatures averaged 6° colder than normal, even colder in some areas. Early week precipitation included sleet, freezing rain. Scattered showers across State late week. Total rainfall 2.00 in. near coast, less than 1.00 in. northwest.

Farm activities included preparing tax records, winter farm maintenance. Topdressing of small grains continued.

SOUTH DAKOTA: Average temperatures 5 to 10° above normal. Extremes 2°; 50°. Black Hills low -3°. Precipitation for week above normal north, normal south. Yearly precipitation below normal statewide.

Winter grains good. Some soil blowing. Livestock good; grazing open fields. Main agricultural activities tending livestock, attending farm meetings, planning spring planting.

TENNESSEE: Temperatures averaged 5 to 7° below normal west; 1 to 2° below normal plateau, east. Lows averaged lower 30s, highs averaged lower 40s. Precipitation extreme west averaged near normal, remainder State 0.50 to 1.00 in. above normal.

Farm chores, meetings, crop planning main activities. Livestock satisfactory.

TEXAS: Cool temperatures first part week, precipitation High Plains. Midweek big upper level storm brought rough winter weather High Plains, north. Storm system triggered thunderstorms north central, east, south. Precipitation tapered off weekend. Temperatures below normal statewide.

Precipitation averaged near to above normal except south central, southeast slightly below normal.

Crops: Some progress remaining cotton harvest, rain, snow again interrupted fieldwork late week. Remaining fields wet, quality unharvested cotton continued deteriorate. Cotton 98% harvested, 100% 1985, 100%. Small grains continued to respond to current conditions. Moisture beneficial most areas where fields fertilized, rapid growth underway. Cool temperatures helped slow greenbugs, other insects. Some leafrust continued to spread. Wheat fields beginning to joint southern areas, producers moving cattle off wheat where grain crop planned. Planting corn, sorghum started far north as Blacklands, major activity limited to Coastal Bend, south. Early progress halted by rainfall, cool temperatures. Corn 2% planted, 5% 1986, 1% avg. Sorghum 2% planted, 2% 1986, none avg.

Commercial Vegetables: Rio Grande Valley, wet fields slowed harvest carrots, broccoli, other winter vegetables, some quantities available. Planting melons, tomatoes, peppers underway where field conditions allowed. Some citrus available. San Antonio-Winter Garden, harvest spinach, broccoli, carrots, onion plants, cabbage, greens continued. Producers planting watermelons, preparing, planting land to other spring vegetables. North, planting onions, potatoes started before being halted by wet conditions. Some sweet corn, cabbage, turnip greens planted. Peach trees continued bud, bloom across State, frost may have damaged some early blooms. Most areas peach trees needed extra hours of cool temperatures.

Range and Pasture: Additional moisture helpful to native range, pastures, small grain fields, other grazing forage. Winter temperatures mild, forage growth adequate most areas. Recent moisture, spring growth respond quickly to warmer temperatures. Excellent livestock gains occurred

from available forage, supplemental feeding. Markets strong, cattle moved off small grain pastures. Lambing, calving continued without major problems. Goat shearing continued.

UTAH: Precipitation heavy north central, northern mountains; moderate south central; light elsewhere. Temperature maximums 60 below to 30 above normal, minimums 1 to 11° above normal.

Livestock feed adequate. Livestock generally good. Major farm activities: Livestock care, marketing, equipment, building maintenance, budgeting, planning.

VIRGINIA: Below normal temperatures. Heavy snowfall over most of State. Temperatures range 8 to 64°. Maximum water content 1.25 in. east, southeast.

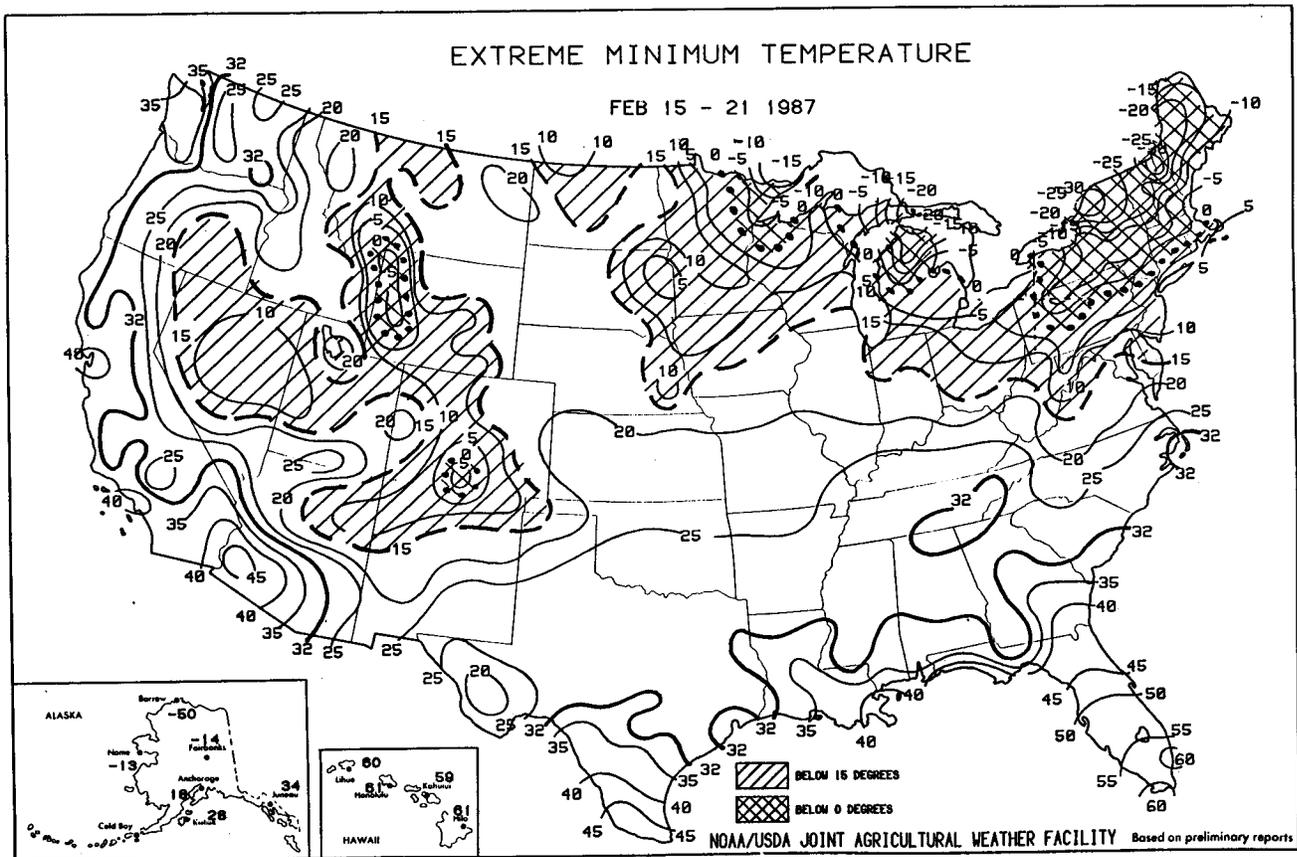
Days suitable for fieldwork 0.3. Topsoil moisture 30% adequate, 70% surplus. Small grains good to excellent. Livestock feeding active. Calving, lambing active. Little soil preparation, some pasture topdressing, fruit tree pruning. No tobacco bed seeding yet. Meetings, equipment repair, tax work.

WASHINGTON: Temperatures up to 10° above normal. Lows in 20s, highs in 50s. Precipitation light except west, southeast portion of State.

Days suitable for fieldwork 5.8. Hay 75% adequate, 25% surplus. Winter wheat, barley good to excellent. Snow cover continued to thaw. Most fields now bare. Spring seeding began southern areas. Fruit tree pruning ahead of schedule. Nurserymen worried about potential frost damage with early bud break. Aside from muddy conditions, calving progressed well.

WEST VIRGINIA: Temperatures averaged 31°, 2° below normal. Extremes -4° Greenbank; 58° Creston.

(Continued to back cover)



International Weather and Crop Summary

February 15 to 21, 1987

HIGHLIGHTS:

UNITED STATES ... Precipitation and below normal temperatures across the southern half of the Nation slow farming activities. Above-normal temperatures in many of the Northern States are beneficial to livestock and start to green up winter wheat.

WESTERN U.S.S.R. ... Persistent, light freezing rain occurs in the west and south. Temperatures average somewhat above normal but still generally remain below the freezing level.

EUROPE ... Wet weather and below-average temperatures prevail over most crop areas.

SOUTH ASIA ... Showers improve irrigation reserves in the winter grain areas of northern Pakistan and India but likely slow late cotton harvesting.

SOUTHEAST ASIA ... Scattered, tropical showers fall throughout Indonesia, with some flooding likely in Java.

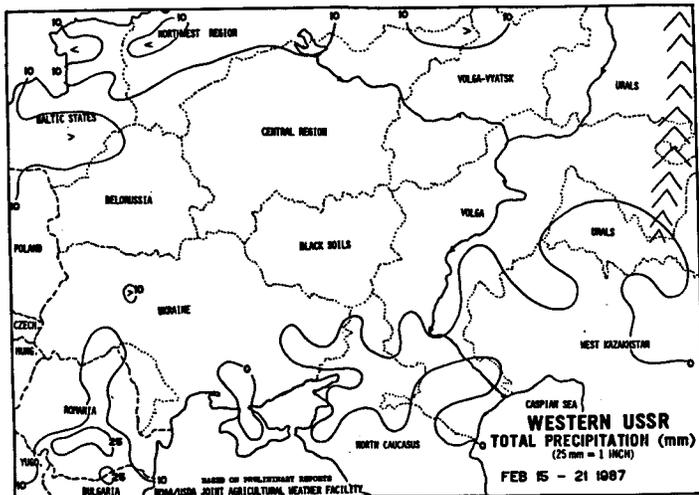
EASTERN ASIA ... Cooler weather and showers cover the winter wheat areas of the North China Plain and early rice areas of the Yangtze Valley.

SOUTH AMERICA ... Hot weather stresses crop development in Argentina's major summer crop area, where rainfall was limited. Widespread rain benefits Brazil's soybeans.

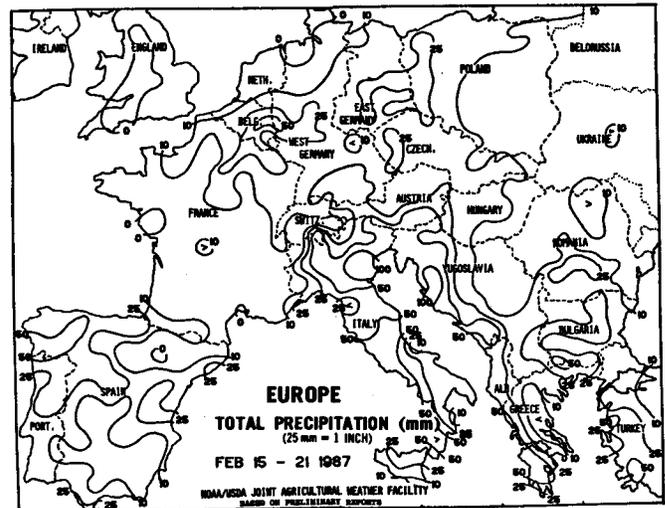
AUSTRALIA ... Light rain and warm weather continue in most summer crop areas of eastern Australia. Below-normal rainfall persists in the major sugarcane areas.

SOUTH AFRICA ... Showers return to South Africa's major producing areas, but dryness continues in the northern Transvaal and southwest Orange Free State.

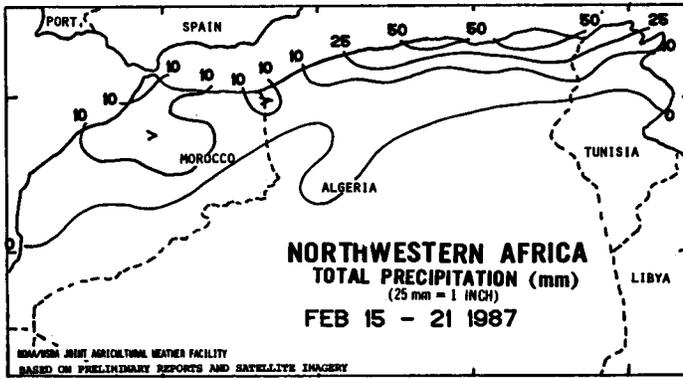
NORTHWESTERN AFRICA ... Widespread showers benefit winter grains in the jointing stage.



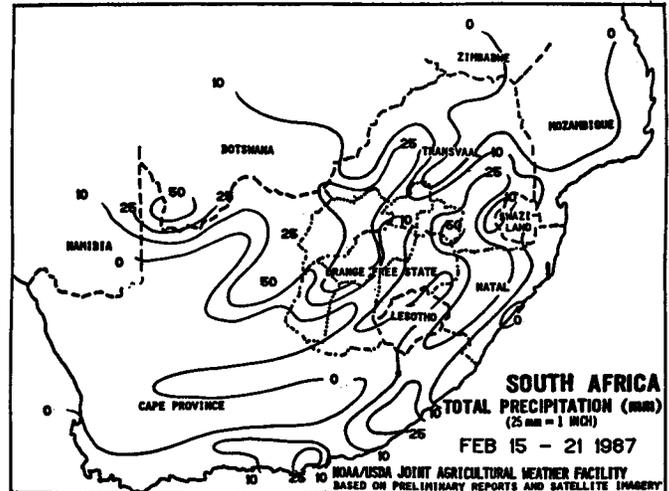
WESTERN U.S.S.R. ... Light freezing rain and freezing drizzle occurred almost daily in the Baltic States, Belorussia, the Ukraine, and North Caucasus, likely causing ice-crusting. Precipitation averaged 5mm or less throughout most of the region with somewhat heavier amounts (10 to 15mm) in the Baltic States and across the extreme north. The gradual warming trend continued with temperatures averaging above normal in western and southern crop areas. However, temperatures generally remained below freezing over a protective snow cover. Dormant winter grains are void of snow in the extreme west and south.



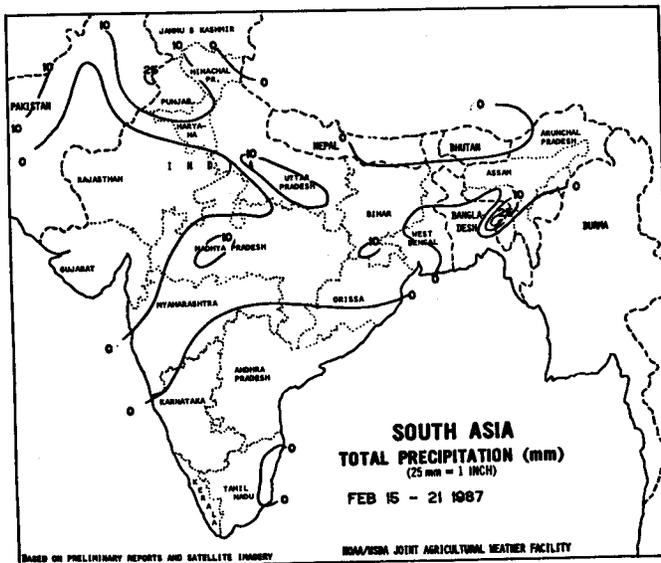
EUROPE ... Storm systems moving through the Mediterranean Basin kept southern areas, especially Italy and the Balkan peninsula, quite wet. Rainfall was highly variable, ranging from 75 to 150mm and concentrated over northern Italy and scattered coastal areas of Yugoslavia. A frontal system moved across the north during mid-week, bringing snow and colder weather to western and central Europe. Light precipitation fell in the east. Temperatures averaged below normal over nearly all of Europe, except the southeast where warmer-than-normal weather prevailed.



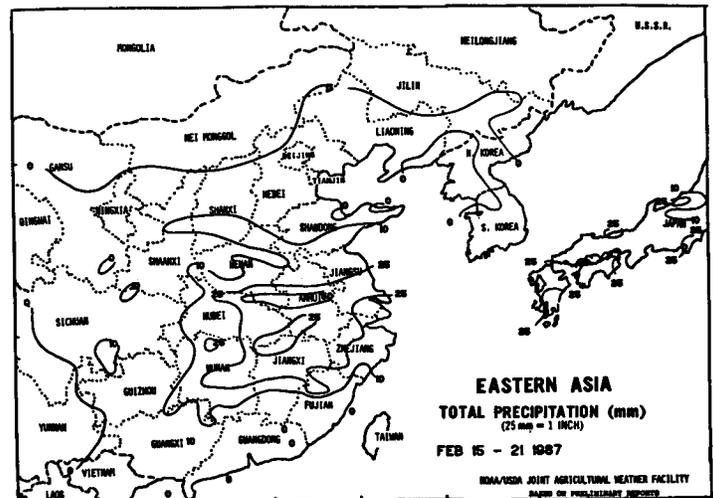
NORTHWESTERN AFRICA ... Periodic, widespread showers continued to benefit winter grains, in the jointing stage, over much of the region. In Morocco, rainfall averaged 10 to 18mm in northern crop areas but diminished to less than 5mm in the south, the only area in the region to miss substantial showers. More rain is needed in upcoming weeks as winter grains enter the moisture-sensitive reproductive stage. In Algeria and Tunisia, beneficial rain covered nearly all crop areas. Weekly rainfall averaged about 10mm in extreme western Algeria and along the southern fringes of winter grain areas in both countries. Rainfall increased toward the Mediterranean coast, ranging from 12 to 66mm. Weekly temperatures generally averaged slightly below normal.



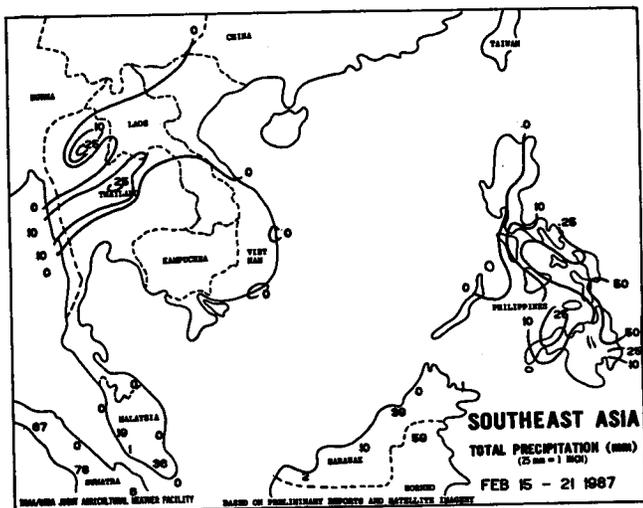
SOUTH AFRICA ... Moderate to heavy showers (15 to 45mm) returned to the major grain areas of the northern Orange Free State and southern Transvaal, relieving last week's dryness. However, minimal rain (less than 3mm) persisted in the northern Transvaal as temperatures reached 40 degrees C, stressing reproductive corn. Light to moderate showers (10 to 32mm) continued in grain areas of Natal and the eastern Cape Province, but dry, hot weather returned to the western Orange Free State. Above-normal temperatures since December have increased the need for rainfall in all major grain areas, with the greatest moisture-deficient areas being the western Orange Free State and, most recently, parts of the northern Transvaal.



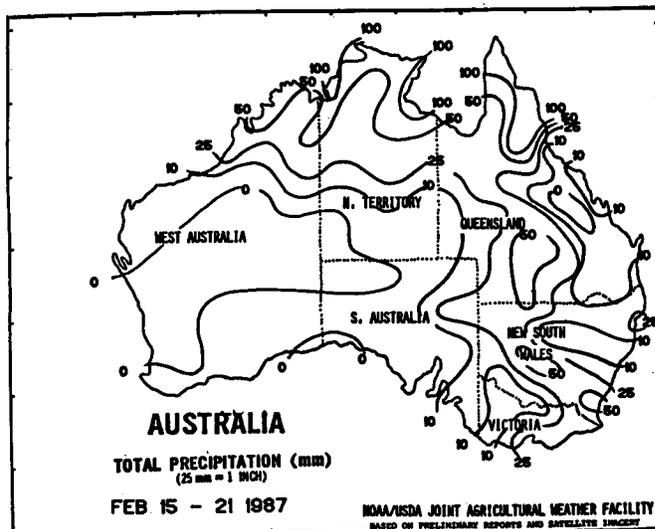
SOUTH ASIA ... Light to moderate rain (1 to 23mm) from northern Pakistan into northwest India and from Bihar southward to Maharashtra improved irrigation reserves for winter grains advancing through reproduction. However, the rain extended into the cotton areas of Maharashtra, likely delaying late harvesting. Dry weather in southeast India favored summer rice transplanting.



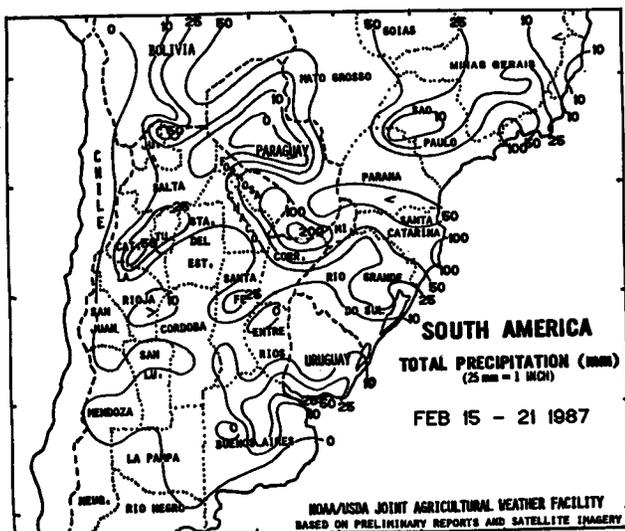
EASTERN ASIA ... Following a prolonged period of unseasonable warm weather, a cooling trend covered winter wheat areas in the North China Plain. Weekly average temperatures dropped to near-normal levels, slowing crop growth in the south and keeping crops dormant in northern areas. Light to moderate showers (5 to 25mm) over the North China Plain increased soil moisture. Beneficial showers (25 to 50mm) continued over early rice areas of the Yangtze Valley, where rice planting usually begins in March. Dry weather in Guangdong and Guanxi continued a prolonged period of dryness, increasing the need for irrigation for early rice planting, which will be underway soon.



SOUTHEAST ASIA ... Light to moderate showers (10 to 50mm) in the Philippines extended from southern Luzon to northern Mindanao. Unseasonable heavy rain (10 to 37mm) spread through northern Thailand and northern Vietnam, but dry weather elsewhere on the mainland extended as far south as western Malaysia. Scattered, tropical showers dotted Indonesia, with heavy rainfall in Java (more than 200mm) likely causing some flooding.



AUSTRALIA ... Minimal rain (less than 3mm) continued throughout Queensland's summer crop region, as heavy showers (25 to 57mm) over western Queensland failed for the second straight week to reach the major grain areas. Moderate to heavy showers (25 to 60mm) extended from Victoria into the summer grain areas of southern New South Wales, but rainfall diminished to the north, averaging only 10mm. Temperatures averaged 24 to 28 degrees C throughout the summer crop areas, as moisture reserves are becoming limited in some areas for grains advancing through reproduction. Heavy tropical showers (67 to 134mm) covered Queensland's northernmost sugarcane areas, but rainfall averaged only 10mm in most other major producing areas to the south. Moisture reserves have been insufficient for the crop's normal vegetative growth since December.



SOUTH AMERICA ... In Argentina, significant showers (10 to 40mm) late in the week benefited summer crops in northeastern Buenos Aires and isolated areas of Santa Fe. However, mostly dry weather prevailed over the remainder of the primary corn and soybean areas. Weekly temperatures averaged 3 to 5 degrees C above normal throughout the region with maximum temperatures in the low to middle 30's (degrees C). Hot weather is unfavorable for reproductive and grain-forming crops. Inundative rain (75 to over 100mm) fell over extreme southern Paraguay and Argentina's northernmost cotton areas. In Brazil, widespread showers produced highly variable weekly rainfall over the entire soybean growing areas. Heavier rainfall (50 to 100mm) soaked flowering to pod-filling soybeans in Santa Catarina, Parana, and Mato Grosso do Sul. Weekly temperatures averaged near normal, favoring crop development in south-central Brazil.

EL NIÑO – SOUTHERN OSCILLATION

Heavy rain, along the coast of Ecuador and northern Peru (fig. 1), resulted from the anomalous ocean warming, extending from the central equatorial Pacific to the coast of South America (fig. 2). This phenomenon is known as El Niño (Spanish for "The Child," an allusion to the Christ child) because the warm waters often devastate fish in the normally cold currents off Peru and Ecuador around Christmas. El Niño is connected with the alteration of the atmospheric pressure distribution in the equatorial Pacific known as the Southern Oscillation. These El Niño Southern Oscillation (ENSO) events recur irregularly every 2 to 7 years. The present ENSO event is much milder than the previous occurrence in 1982-83, which caused major weather disruptions throughout the globe.

**TOTAL PRECIPITATION (mm)
JANUARY 4 TO FEBRUARY 14, 1987**

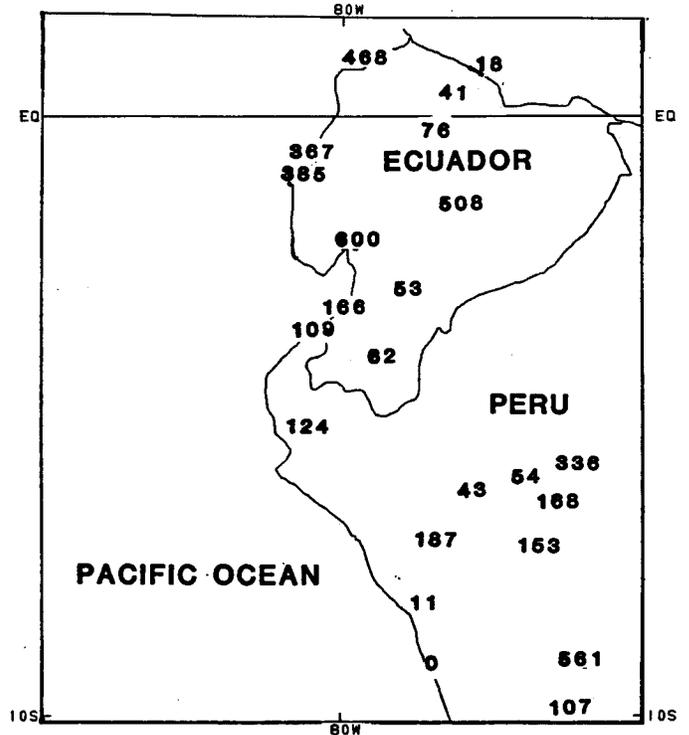


Fig. 1. Total precipitation (mm) over Ecuador and northwestern Peru for the period January 4 to February 14, 1987. The rainfall along the coast of Ecuador ranged from 200 to 800 percent of normal for the period.

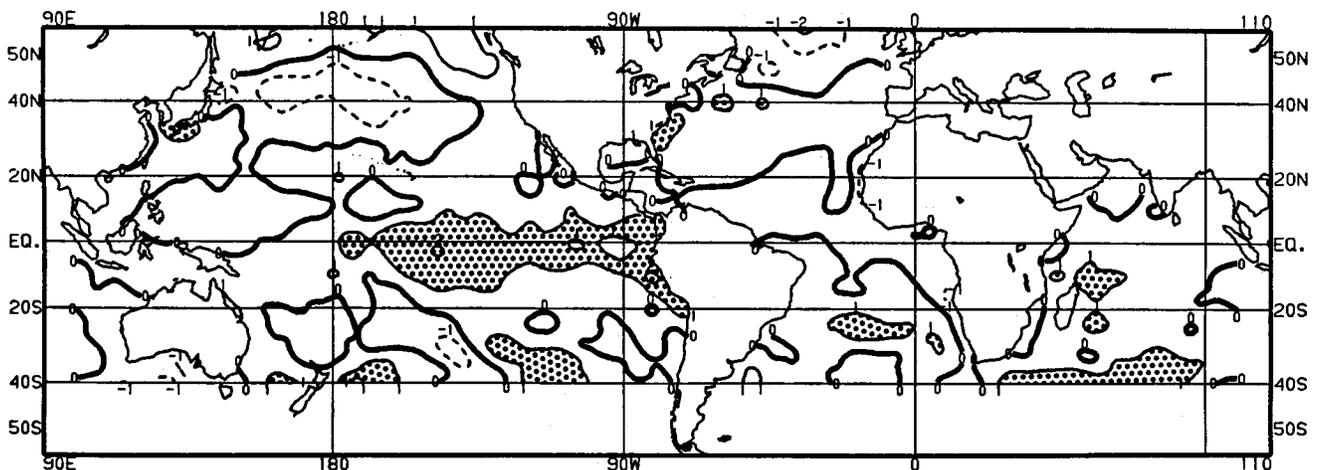
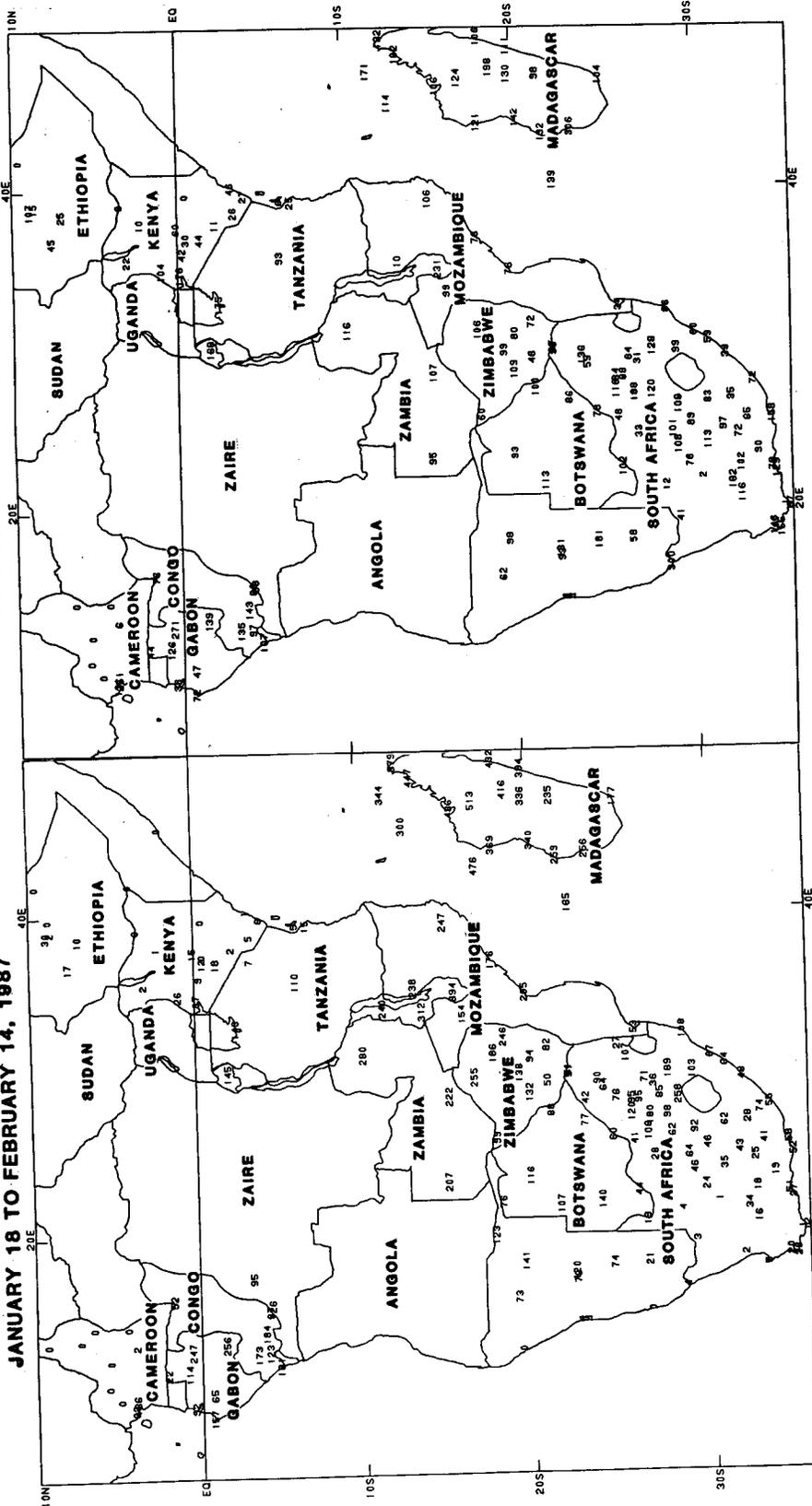


Fig. 2. Sea surface temperature anomalies for January 1987. Positive anomalies greater than 1°C are stippled.

AFRICAN AGRICULTURAL WEATHER SUMMARY

PERCENT OF NORMAL PRECIPITATION
JANUARY 18 TO FEBRUARY 14, 1987



In southern Africa, the rainy season is normally at its peak during January and early February. In Zambia, rainfall averaged about half of normal in the south during January, due mainly to dryness from early through midmonth. In southern Zambia in January, rainfall rankings averaged below 30 percent (dry), while temperature rankings averaged above 85 percent (hot). Prolonged hot, dry conditions began to stress crops and rapidly deplete moisture supplies for crop development. In late January and in the first 2 weeks of February, rainfall increased but still averaged slightly below normal. Dry weather returned again during the past week. In northern and central Zambia, moisture conditions continued adequate for crops, with near normal to slightly above-normal rainfall. In northern and central Zambia, moisture conditions have been similar to Zambia, with below-normal rainfall in the southeast and near-normal rainfall in January and early February. In Mozambique, southern regions continued very dry with well-below-normal rainfall in January and early February. In southern Mozambique, moisture conditions are unfavorable and more rain is needed. Central and northern Mozambique continued to receive adequate rainfall in January and early February, with favorable moisture conditions for crop development. In Tanzania, rainfall is normally light during January and February, during corn planting. Rainfall normally has a double maxima, a secondary peak in October and the primary peak in April. Rainfall has been abundant in January, with high monthly rainfall rankings and adequate moisture for crop planting and emergence.

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Precipitation below normal northwest, north central. Above normal elsewhere. Average precipitation 1.16 in.

Soil moisture 88% adequate, 12% surplus. Feed supplies 6% very short, 6% short, 88% adequate.

WISCONSIN: Another dry, mild week. Average temperature 26°; low -8°; high 50°. Precipitation

trace, except northwest 0.10 in. Snowfall trace to 3 in.

WYOMING: Another mild week. Precipitation mostly above normal.

Winter wheat fair to good. Additional moisture needed for good development. Livestock good. Mild weather conducive to good calving, lambing, shearing. Supplemental feeding continued as needed. Hay supplies adequate.

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