

WEEKLY WEATHER AND CROP BULLETIN

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

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National Agricultural Statistics Service and World Agricultural Outlook Board

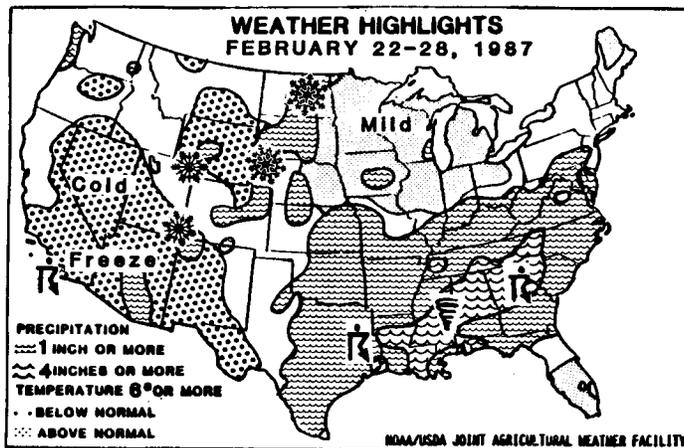
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National Weather Summary

February 22 to 28, 1987



from the mountains of California to the Rockies and northern Plains. Showers and thunderstorms preceded the snow in parts of the Southwest. Rain fell in the central Plains, and showers and thunderstorms covered the gulf coast. Thunderstorms in southern California brought more hail.

WEDNESDAY...The storm in the West continued to move slowly eastward, spreading rain and mountain snow from the mountains of southern California to the central and northern Rockies and northern Plains. Snow was heavy at many mountain locations. Moderate to heavy rain showers reached from southern California across the Southwest into Texas. Severe weather continued to pummel southwestern California. Showers and thunderstorms were heavy along the western gulf coast and lighter across the South.

THURSDAY...The storm in the central Rockies and disturbances moving eastward from the main storm spread precipitation over three-fourths of the Nation. Heavy snow fell in the mountains of the southern Plateau and the Central Rockies and began to spread into the central High Plains. Rain fell in the rest of the central Plains and western part of the Midwest, and from Arizona to Georgia. Showers and thunderstorms reached from the lower Mississippi Valley to the Ohio Valley. As the day ended, rain spread through the lower Appalachians and the Carolinas to southwestern Virginia.

FRIDAY...The intense storm in the central Plains and widespread moisture from the Gulf of Mexico resulted in precipitation over nearly all of the East. Heavy snow continued in the central High Plains and northern Plains and covered the South and the Midwest. Cool dry air persisted in the Northeast from eastern Virginia and Maryland northward. Heavy snow covered the lower Appalachians and the Piedmont from western North Carolina to southwestern Virginia. Heavy rain covered much of the South.

(Continued to p.5)

HIGHLIGHTS: An intense storm developed in the western Plateau region and spread heavy mountain snow through the West with rain at lower elevations. Small hail accompanied thunderstorms in southwestern California, and cold air spread into the southern valleys of California and Arizona. A strong flow of warm moist air from the Gulf of Mexico that spread over all of the East preceded the storm as it moved out of the West. Rain was heavy from the central Great Plains to the east coast from Georgia to the Mid-Atlantic region. The precipitation began as snow in the lower Appalachians and Piedmont from North Carolina to southwestern Virginia but changed to rain as the air warmed.

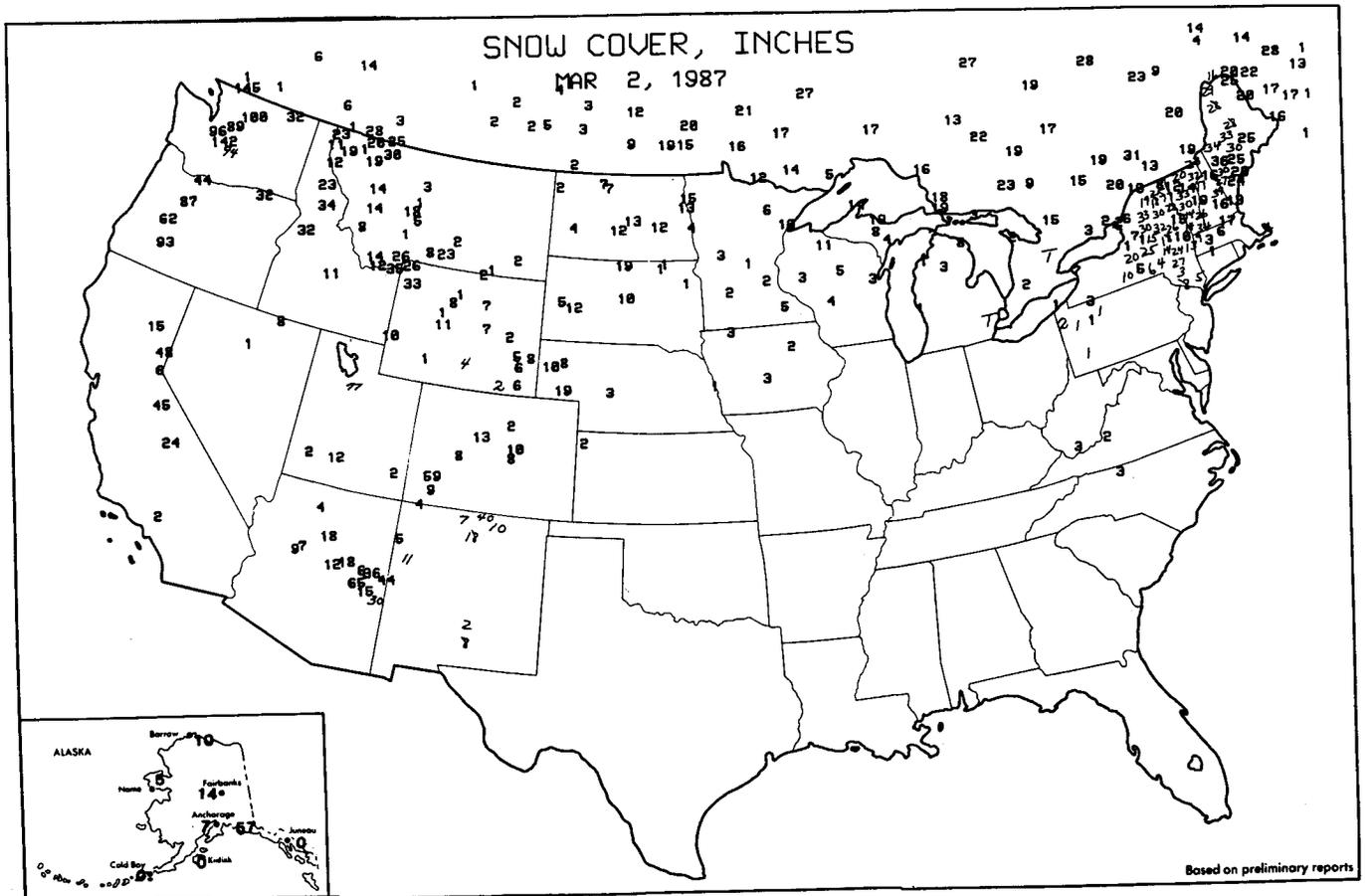
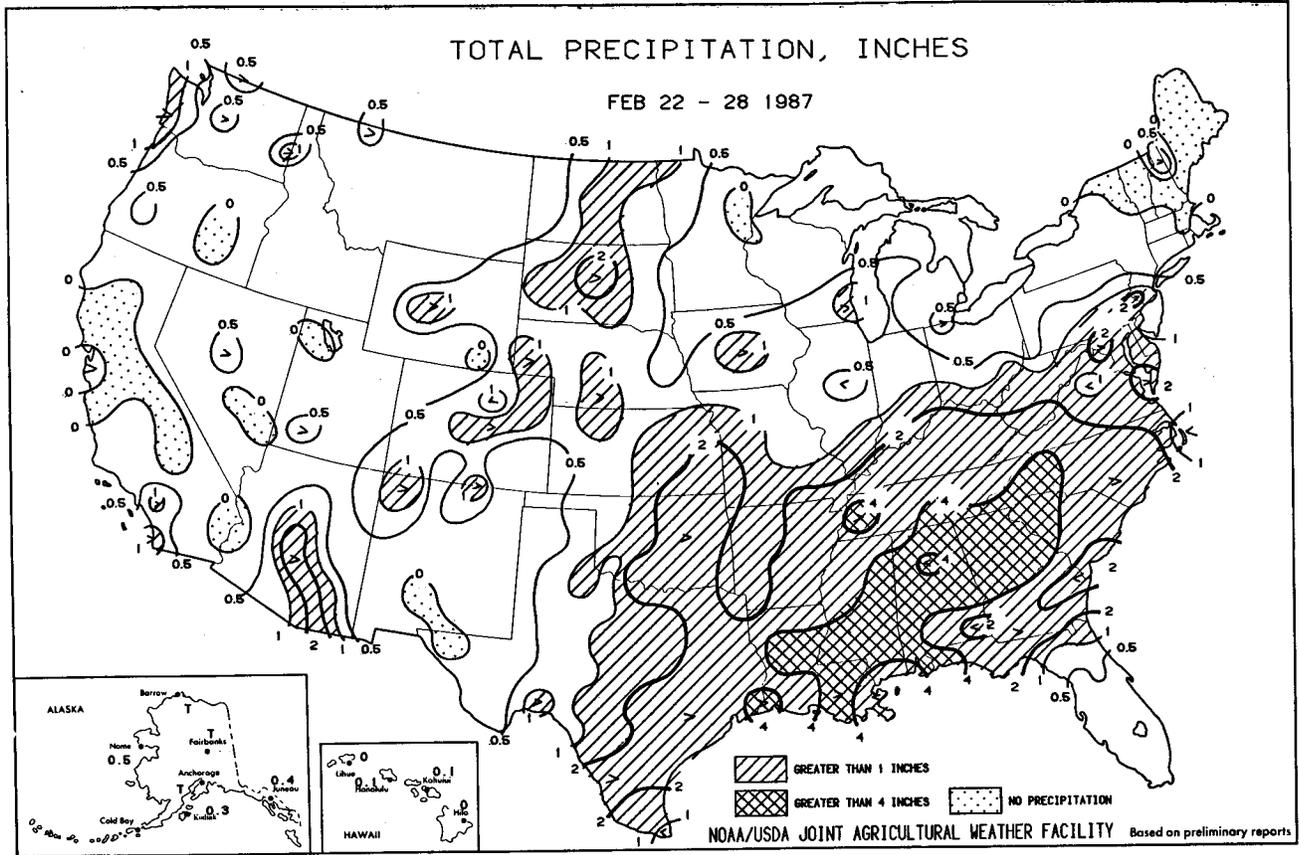
SUNDAY...A low pressure system moved from the eastern gulf coast northeastward along the east coast of the United States. The storm spread showers and thunderstorms across the South and into the Carolinas. A mixture of sleet and freezing rain covered the lower Appalachians and heavy, wet snow fell from West Virginia through the Mid-Atlantic States. Rain showers covered the west coast, and snow fell from the northern Rockies into the northern Great Plains.

MONDAY...Snow tapered off in most of the Mid-Atlantic region but continued from New Jersey and Pennsylvania to southern New England. A storm in the West brought wind and snow to the central and southern Plateau and northern Rockies and Plains. Thunderstorms in southwestern California carried some small hail. Rain fell in much of Texas and Oklahoma and eastward along the coast to Florida.

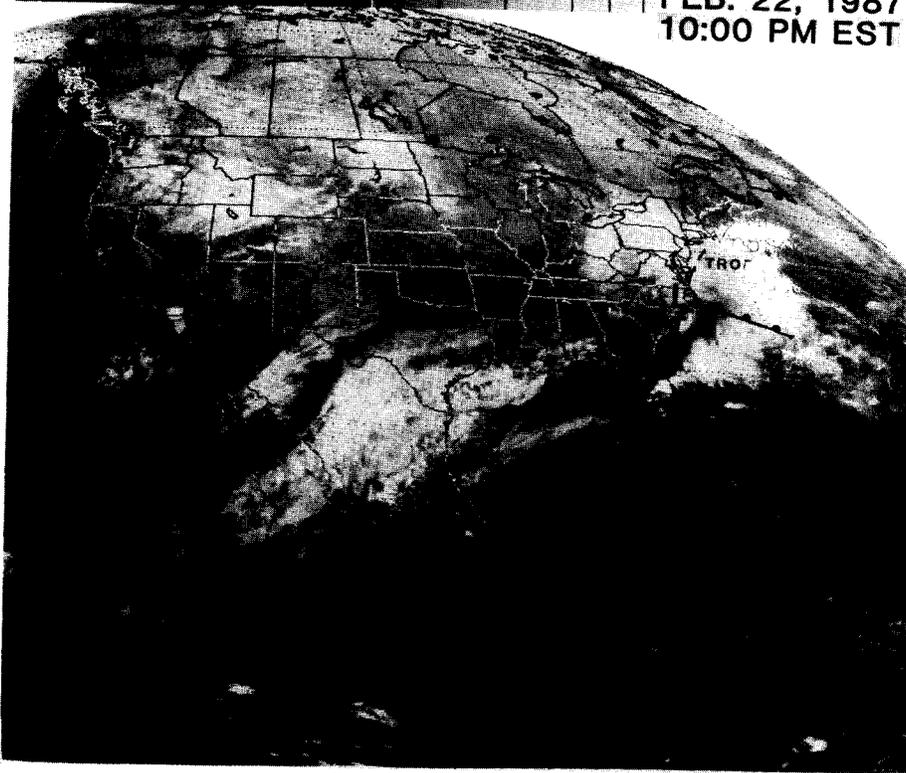
TUESDAY...A severe storm in the Central Plateau was responsible for heavy snow and strong, gusty winds

Contents

	Page
National Weather Summary	1
Total Precipitation & Snow Cover Maps	2
North American Satellite Image	3
Average Temperature & Departure	4
National Weather Data for Selected Cities	5
Heating Degree Days Summary Table	8
National Agricultural Summary	9
State Summaries of Weather and Agriculture	10
Extreme Minimum Temperature	13
International Weather and Crop Summary & Temperature and Precipitation Tables	14
Special Mexico Weather Summary	18
El Nino and Global Climatic Conditions	19
Subscription and Mailing Permit Information	20



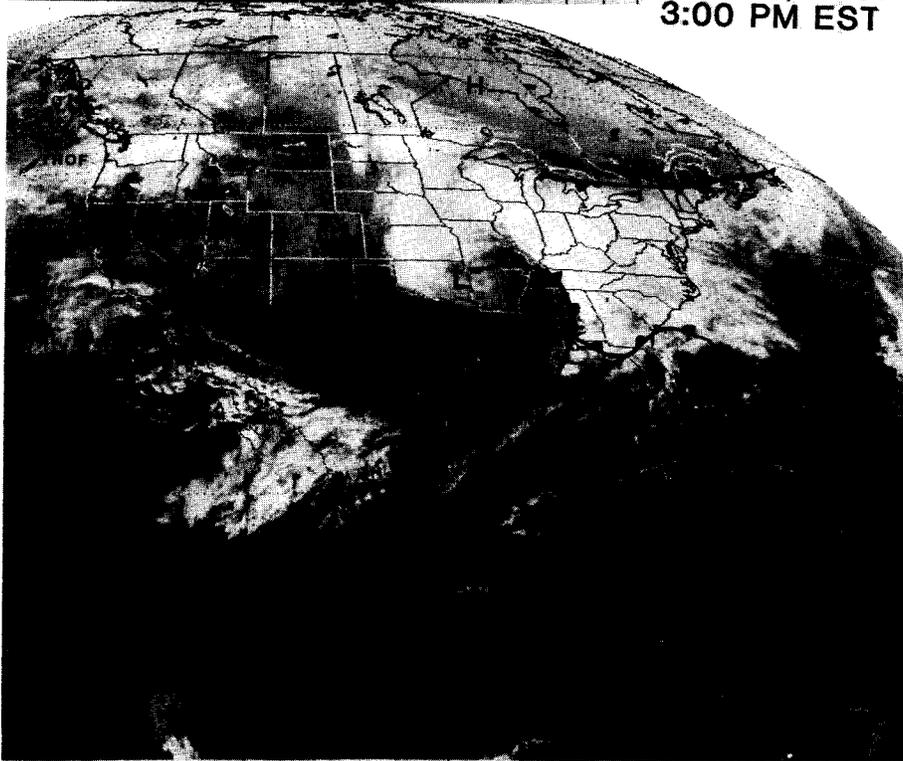
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10:00 PM EST



A MAJOR SNOW STORM MOVES UP THE EAST COAST AND DUMPS HEAVY SNOW OVER THE MIDDLE ATLANTIC STATES.

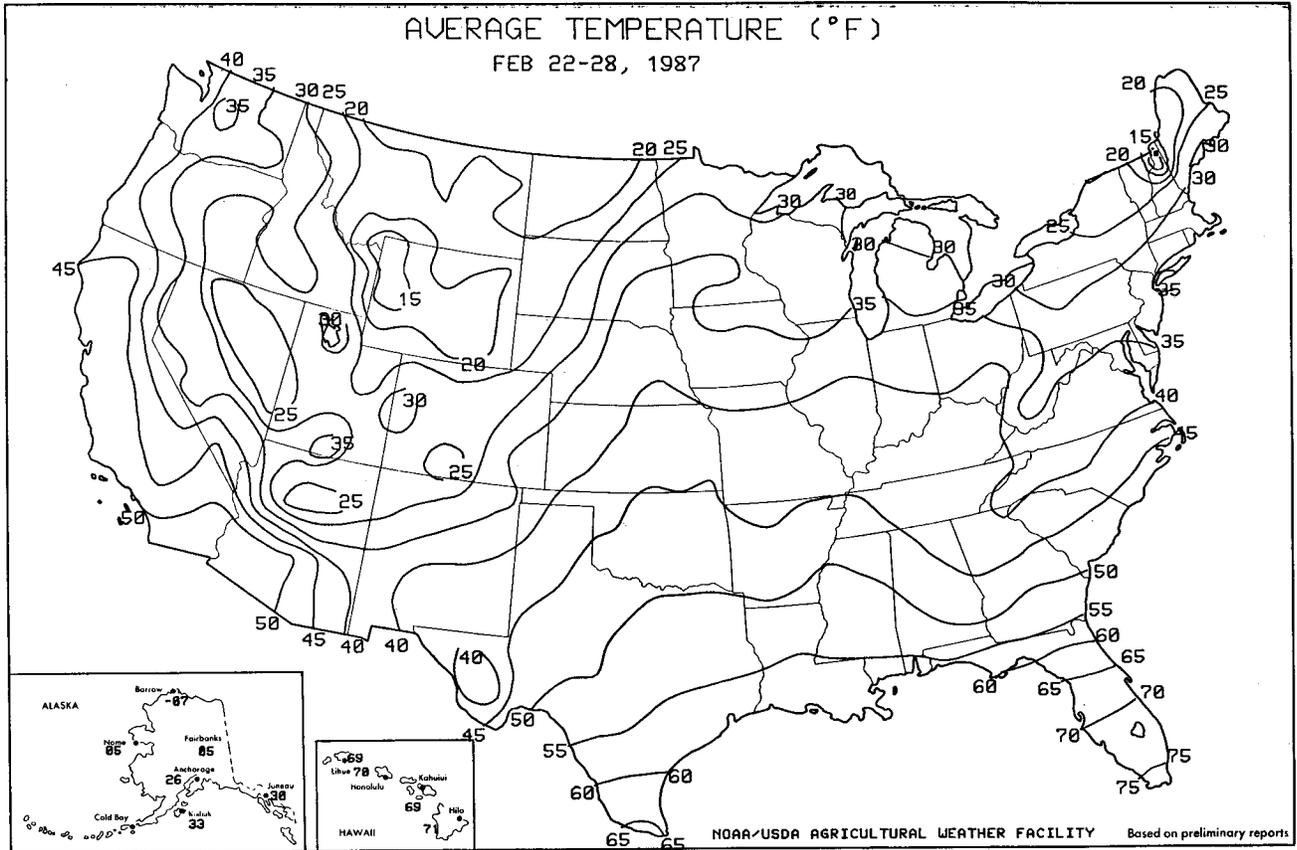
A SUBTROPICAL JET BRINGS MOISTURE FROM THE PACIFIC OVER CENTRAL MEXICO AND SOUTHERN TEXAS. RAIN FALLS OVER THE NORMALLY DRY CENTRAL MEXICAN PLATEAU. A TROUGH(TROF) OF LOW PRESSURE PRODUCES THUNDERSTORMS AND HAIL ACROSS SOUTHERN CALIFORNIA.

2000 28FE87 38E-4ZA 00502 22691 UC6 FEB. 28, 1987
3:00 PM EST

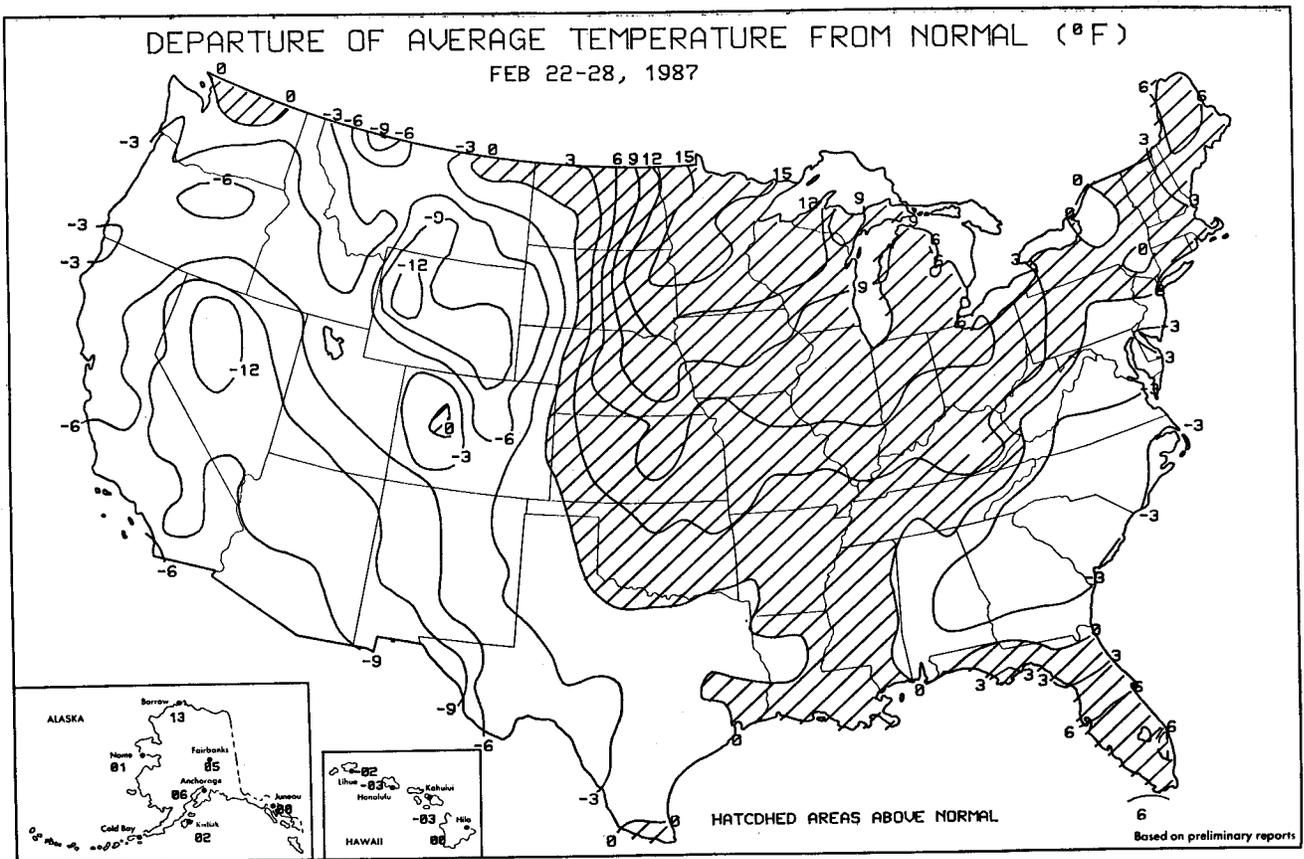


A DEEP LOW PRESSURE SYSTEM, CENTERED OVER EASTERN OKLAHOMA, SPREADS RAIN OVER MUCH OF THE EASTERN HALF OF THE NATION.

A PACIFIC STORM CAUSES SHOWERS ALONG THE COAST OF BRITISH COLUMBIA AND THE NORTHWEST.



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



National Weather Data for Selected Cities

Weather Data for the Week Ending February 28, 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	
AL BIRMINGHAM	53	39	61	33	46	-2	3.3	2.0	1.2	14.9	100	11.5	115	94	57	0	0	4	4	
MOBILE	61	49	71	39	55	-1	3.6	2.2	1.2	18.1	121	14.4	152	99	77	0	0	6	3	
MONTGOMERY	54	42	66	37	48	-4	5.0	3.8	1.9	20.0	148	17.0	195	95	74	0	0	6	4	
AK ANCHORAGE	33	18	43	5	26	6	0	0	0	3.2	114	1.8	106	76	41	0	7	1	0	
BARROW	1	-15	18	-27	-7	13	0	0	0	0	54	0	50	85	74	0	7	2	0	
FAIRBANKS	15	-6	47	-24	5	6	0	-1	1.1	65	80	80	86	58	0	7	2	0	0	
JUNEAU	34	25	41	12	30	0	4	-5	0.3	12.9	106	6.3	85	92	59	0	6	2	0	
KODIAK	40	27	45	18	34	4	3	-1	0.2	26.3	126	14.9	102	69	35	0	6	3	0	
NOME	14	-4	21	-9	5	2	5	4	4	2.6	132	1.5	115	87	63	0	7	4	0	
AZ PHOENIX	60	41	68	38	51	-7	2.0	1.8	1.3	4.1	191	2.7	208	78	37	0	0	3	2	
PRESCOTT	41	18	49	9	30	-11	1.9	1.5	1.8	4.4	90	3.5	109	90	47	0	7	3	1	
TUCSON	57	37	64	32	47	-8	1.6	1.4	1.2	3.5	144	2.2	147	84	37	0	1	3	1	
YUMA	66	42	72	35	54	-7	2	2	2	5	53	0.3	50	69	27	0	0	1	1	
AR FORT SMITH	55	40	59	28	47	3	1.6	0.9	0.6	7.2	99	6.0	136	92	57	0	2	2	2	
LITTLE ROCK	54	42	58	35	48	1	2.9	1.9	1.0	11.0	96	7.6	103	82	60	0	0	4	3	
CA BAKERSFIELD	59	34	65	31	47	-8	0	-2	0	3.3	122	2.3	110	88	36	0	3	0	0	
EUREKA	54	37	56	33	46	4	2	-1	0.2	13.7	74	9.9	81	81	59	0	0	2	0	
FRESNO	58	36	65	33	47	-5	1.4	-4	0.2	2.2	31	1.9	34	82	42	0	0	2	0	
LOS ANGELES	61	43	66	39	52	-5	0	0	0	13.0	0	11.0	70	24	0	4	0	0	0	
REDDING	60	34	65	28	47	1	0	0	0	5.7	58	5.0	72	86	30	0	3	0	0	
SACRAMENTO	60	34	65	31	47	-5	0	-6	0	0	0	0	0	0	0	0	0	0	0	
SAN DIEGO	59	46	62	45	53	-3	1.3	0.9	0.6	4.1	84	3.2	91	87	52	0	0	5	1	
SAN FRANCISCO	58	41	63	38	49	-6	0	-7	0	8.0	70	6.3	80	92	45	0	0	1	0	
CO DENVER	37	19	48	12	28	-7	0.3	0.1	0.3	2.2	127	1.9	158	85	53	0	7	3	0	
GRAND JUNCTION	41	25	47	19	33	-4	0.5	0.4	0.3	2.0	112	1.5	125	85	49	0	7	4	0	
PUEBLO	44	21	53	14	33	-4	0.4	0.3	0.4	2.4	292	2.0	400	96	49	0	7	1	0	
CT BRIDGEPORT	42	27	44	23	34	2	0.2	-6	0.2	9.6	96	5.2	83	72	40	0	7	1	0	
HARTFORD	42	22	46	17	32	2	0.1	-7	0.1	12.8	118	6.6	99	75	35	0	7	2	0	
DC WASHINGTON	45	31	48	28	38	-1	2.0	1.3	0.8	12.0	140	7.0	130	83	44	0	3	3	3	
FL APALACHICOLA	66	53	71	46	60	3	2.1	1.1	1.3	19.8	186	10.2	142	94	74	0	0	4	2	
DAYTONA BEACH	74	54	83	50	64	4	0.3	-5	0.2	11.6	151	8.8	160	98	66	0	0	2	0	
JACKSONVILLE	66	49	81	45	57	0	1.1	0.2	1.0	15.3	167	10.6	161	98	67	0	0	3	1	
KEY WEST	80	73	82	66	76	0	0	-5	0	12.6	234	1.5	41	91	72	0	0	0	0	
MIAMI	80	70	87	67	75	6	0.3	-2	0.3	5.7	95	3.5	85	86	58	0	0	3	0	
ORLANDO	78	58	84	50	68	5	0.3	-5	0.2	7.4	110	3.8	78	97	54	0	0	3	0	
TALLAHASSEE	64	49	73	44	57	1	2.5	1.2	1.7	20.5	144	12.6	130	94	64	0	0	5	2	
TAMPA	78	61	83	52	69	7	0.4	-5	0.2	6.7	92	4.8	92	93	59	0	0	3	0	
WEST PALM BEACH	79	66	86	58	73	6	0.1	-5	0.1	12.5	164	2.4	45	88	58	0	0	2	0	
GA ATLANTA	47	38	54	36	42	-5	4.2	3.0	1.7	14.8	109	11.7	126	92	67	0	0	4	3	
AUGUSTA	53	39	62	34	46	-4	4.9	3.8	2.0	20.5	183	16.4	205	94	58	0	0	4	3	
MACON	53	39	63	34	46	-5	4.1	2.9	1.3	17.5	136	13.8	157	95	62	0	0	5	4	
SAVANNAH	57	43	70	37	50	-4	1.2	0.4	0.9	18.1	201	13.0	206	92	57	0	0	4	1	
HI HILO	80	61	82	60	71	-1	0	-3	0	19.0	53	13.3	58	86	51	0	0	0	0	
HONOLULU	81	59	82	55	70	-3	0.1	-6	0.1	1.8	18	1.2	18	90	48	0	0	2	0	
KAHULUI	80	58	83	55	69	-3	0.1	-6	0.1	5.5	53	2.6	35	87	49	0	0	1	0	
LIHUE	78	60	80	57	69	-3	0.1	-9	0	5.2	34	3.9	39	86	45	0	0	0	0	
ID BOISE	42	24	51	19	33	-6	0.1	-2	0.1	1.9	48	1.8	67	93	48	0	7	1	0	
LEWISTON	44	28	47	24	36	-4	0.1	-2	0.1	1.4	39	0.8	35	79	42	0	6	1	0	
POCATELLO	36	22	43	14	29	-3	0.2	-1	0.1	1.9	65	1.7	85	85	53	0	7	4	0	
IL CHICAGO	44	29	47	20	36	7	0.8	0.4	0.8	3.7	75	2.7	93	86	46	0	5	1	1	
MOLINE	44	28	47	20	36	8	0.8	0.4	0.8	3.8	78	1.8	62	87	49	0	5	1	1	
PEORIA	47	31	51	24	39	9	0.8	0.3	0.8	4.9	98	2.3	77	89	47	0	5	2	1	
QUINCY	47	32	51	25	39	7	0.6	0.2	0.6	4.0	89	2.2	79	86	52	0	4	2	1	
ROCKFORD	42	27	46	19	35	8	0.8	0.4	0.7	2.4	52	1.8	69	91	50	0	5	2	1	
SPRINGFIELD	49	32	52	25	40	8	0.7	0.2	0.6	3.6	67	2.2	67	88	47	0	4	2	1	
IN EVANSVILLE	51	35	58	26	43	5	1.9	1.0	1.3	6.4	68	4.2	70	94	58	0	3	3	1	
FORT WAYNE	45	27	48	21	36	7	0.5	0	0.5	4.2	65	2.6	65	92	50	0	6	2	1	
INDIANAPOLIS	47	31	53	26	39	6	0.9	0.3	0.8	4.5	56	2.8	55	90	52	0	5	2	1	
SOUTH BEND	43	27	46	21	35	6	0.5	0	0.5	5.3	71	3.6	80	87	47	0	6	1	1	
IA DES MOINES	46	28	51	19	37	9	1.3	1.0	1.3	2.8	87	1.8	86	87	48	0	6	2	1	
SIoux CITY	46	30	57	19	38	11	0.3	0	0.2	0.8	36	0.6	40	86	49	0	2	2	0	
WATERLOO	44	27	47	22	35	12	0.9	0.6	0.9	2.2	73	1.4	78	92	52	0	6	1	1	
KS CONCORDIA	47	34	56	20	41	7	0.7	0.4	0.3	2.9	136	1.5	100	94	62	0	2	5	0	
DODGE CITY	47	32	55	22	40	2	0.5	0.3	0.3	2.9	191	2.0	200	94	65	0	4	2	0	
GOODLAND	44	26	53	18	35	1	0.6	0.4	0.3	1.5	125	1.3	163	93	59	0	5	4	0	
TOPEKA	50	34	55	22	42	6	1.8	1.5	1.7	5.0	155	3.8	200	92	59	0	2	3	1	
WICHITA	50	38	56	28	44	6	1.9	1.6	1.1	5.9	236	4.7	313	96	64	0	2	4	2	
KY BOWLING GREEN	50	35	59	25	42	2	3.8	2.7	1.8	11.5	88	6.8	79	98	64	0	4	4	3	
LEXINGTON	49	35	57	27	42	4	2.5	1.6	1.3	8.2	77	4.9	72	90	59	0	2	4	2	
LOUISVILLE	50	35	57	28	43	4	2.4	1.5	1.7	7.9	78	5.3	80	90	56	0	2	4	1	
LA ALEXANDRIA	61	49	72	38	55	-1	5.5	4.1	2.5	19.5	129	14.5	142	89	66	0	0	6	3	
BATON ROUGE	66	50	80	38	58	3	4.1	2.9	1.0	21.2	146	15.0	156	97	68	0	0	6	4	
LAKE CHARLES	62	50	74	44	56	0	3.6	2.7	1.7	22.4	169	12.5	154	97	68	0	0	7	3	
NEW ORLEANS	64	53	73	46	58	2	3.9	2.6	1.7	21.2	137	16.2	159	96	72	0	0	5	2	

Based on 1951-80 normals.

(Continued from front cover)
SATURDAY...The storm moved to the Mississippi River and northward, spreading rain from the Plains to

the east coast. Snow in the Appalachians changed to rain, but snow continued in the northern Plains and upper Great Lakes. Rain was heavy in much of the area from the central Plains to the east coast.

Weather Data for the Week Ending February 28, 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
ME SHREVEPORT	58	45	67	33	52	0	2.0	1.2	.6	13.9	122	9.2	123	99	68	0	0	6	2
ME CARIBOU	31	15	38	7	23	7	T	-1.6	T	4.2	55	2.5	56	83	54	0	7	0	0
ME PORTLAND	41	19	47	11	30	4	T	-1.9	T	11.2	94	5.3	72	78	38	0	7	0	0
MD BALTIMORE	44	27	47	20	35	-2	1.7	1.0	.7	13.1	140	7.6	127	77	41	0	7	3	2
MD SALISBURY	45	28	53	21	37	-2	1.2	.3	.7	16.2	155	9.3	139	86	40	0	6	3	1
MA BOSTON	41	27	47	25	34	2	T	-1.0	T	14.4	118	8.1	105	72	37	0	7	7	0
MA CHATHAM	38	25	42	21	31	-1	.5	-1.6	.5	17.8	132	10.3	121	78	53	0	7	1	0
MI ALPENA	39	16	43	9	27	7	.1	-2.2	.1	2.8	56	1.8	60	98	54	0	7	3	0
MI DETROIT	42	29	48	23	35	7	.5	0	.5	5.2	86	3.0	83	87	45	0	6	1	0
MI FLINT	42	26	46	19	34	8	.4	-1.1	.4	3.5	69	1.7	55	91	49	0	6	1	0
MI GRAND RAPIDS	41	26	47	21	34	8	.3	-1.1	.3	2.1	35	1.1	32	87	50	0	6	2	0
MI HOUGHTON LAKE	39	18	42	7	29	8	-1	-1.3	.1	2.4	51	1.5	54	89	49	0	7	1	0
MI LANSING	41	25	45	19	33	7	.3	-1.1	.3	2.4	44	1.3	39	89	48	0	6	1	0
MI MARQUETTE	38	17	43	7	27	11	-1	-1.4	.1	3.6	57	3.1	79	97	52	0	7	1	0
MI MUSKEGON	42	29	49	24	35	9	.6	.2	.6	3.6	54	2.2	55	88	50	0	6	1	1
MI SAULT STE. MARIE	37	19	42	6	28	12	.1	-1.4	.1	4.8	74	2.6	67	89	50	0	7	1	0
MN ALEXANDRIA	38	27	46	19	33	17	.4	-.2	.3	1.4	61	1.3	87	92	61	0	7	2	0
MN DULUTH	34	22	39	17	28	13	T	-.2	T	1.4	41	1.0	48	94	66	0	7	2	0
MN INT'L FALLS	35	23	41	15	29	18	.1	-1.1	.1	1.0	40	.7	44	91	66	0	7	2	0
MN MINNEAPOLIS	42	28	48	23	35	14	-1	-.2	.1	1.0	41	.7	41	85	48	0	7	1	0
MN ROCHESTER	39	26	43	23	32	12	.2	-1.1	.2	1.2	52	.9	64	92	58	0	7	1	0
MS GREENWOOD	59	44	66	31	51	2	2.9	1.7	1.3	12.2	81	9.6	99	93	60	0	1	4	2
MS JACKSON	60	47	69	33	53	2	5.1	3.9	2.5	19.9	134	14.9	157	97	66	0	0	6	4
MS MERIDIAN	59	45	71	35	52	1	5.4	4.1	2.1	24.3	159	20.1	209	96	68	0	0	6	4
MO CAPE GIRARDEAU	53	35	60	26	44	-	1.9	1.0	1.3	6.4	66	4.1	69	98	59	0	4	3	1
MO COLUMBIA	48	35	53	27	41	6	.8	.2	.7	5.0	93	3.0	88	91	57	0	3	3	1
MO KANSAS CITY	49	32	55	21	41	5	1.5	1.1	1.4	4.3	117	3.0	130	86	53	0	3	3	1
MO SAINT LOUIS	50	35	54	26	43	6	.9	.3	.6	4.4	73	3.4	87	84	49	0	2	3	1
MO SPRINGFIELD	51	35	57	20	43	4	1.9	1.3	1.4	8.6	137	7.3	197	90	52	0	2	3	1
MT BILLINGS	28	13	44	3	21	-10	.4	.2	.2	.6	25	.5	29	92	66	0	7	4	0
MT GLASGOW	30	12	37	4	21	2	.1	0	.1	.3	24	.2	25	91	64	0	7	3	0
MT GREAT FALLS	32	16	43	0	24	-5	.2	0	.1	.5	20	.3	17	83	52	0	7	4	0
MT HAVRE	29	10	41	-9	19	-4	.2	.1	.1	.3	17	.3	30	93	58	0	7	3	0
MT HELENA	34	14	45	2	24	-5	T	-1.1	T	.4	24	0	0	87	41	0	7	1	0
MT KALISPELL	32	19	36	4	26	-3	.2	0	.1	1.7	41	1.2	44	84	55	0	7	2	0
MT MILES CITY	29	12	42	3	20	-5	.1	-1.1	.1	.3	17	.1	9	86	63	0	7	1	0
MT MISSOULA	37	21	44	18	29	-2	T	-1.1	T	1.1	33	.6	27	79	37	0	7	1	0
NE GRAND ISLAND	46	31	57	16	38	8	.7	.4	.4	1.1	53	.8	62	92	56	0	3	4	0
NE LINCOLN	49	32	58	16	41	11	.4	.1	.2	1.9	82	.6	35	85	52	0	2	2	0
NE NORFOLK	46	32	54	23	39	12	.5	.2	.4	1.4	73	1.1	85	86	54	0	3	3	0
NE NORTH PLATTE	42	27	47	13	34	5	1.1	.9	.6	2.0	143	1.7	170	95	68	0	4	5	1
NE OMAHA	47	31	56	22	39	11	.7	.4	.4	1.4	58	.7	41	81	52	0	3	2	0
NE SCOTTSBLUFF	32	16	49	12	24	-8	1.4	1.2	.9	2.5	186	2.2	275	92	63	0	7	5	1
NE VALENTINE	37	20	47	13	29	-2	.6	.5	.4	.9	79	.9	113	85	65	0	7	4	0
NV ELY	36	7	48	-2	21	-9	.2	0	.1	1.4	67	1.4	100	86	44	0	7	2	0
NV LAS VEGAS	53	34	60	32	44	-8	.4	.3	.4	2.1	162	1.6	160	80	28	0	2	2	0
NV RENO	44	20	60	15	32	-7	.4	.2	.4	1.5	44	1.3	59	89	37	0	7	2	0
NV WINNEMUCA	39	10	49	-3	24	-13	.2	.1	.1	1.1	45	1.0	63	92	52	0	7	2	0
NH CONCORD	40	18	49	10	29	4	T	-1.6	T	7.5	86	3.0	57	79	35	0	7	0	0
NJ ATLANTIC CITY	42	23	46	19	32	-3	.9	0	.6	12.4	119	7.6	112	85	46	0	7	3	1
NM ALBUQUERQUE	46	24	54	18	35	-6	.2	0	.2	1.7	129	1.3	163	83	33	0	7	1	0
NM CLOVIS	48	31	55	19	40	-3	.3	.2	.3	3.3	196	1.9	173	88	50	0	3	2	0
NM ROSWELL	53	31	60	14	42	-6	.2	.1	.2	2.7	344	1.9	300	90	39	0	3	1	0
NY ALBANY	38	17	46	10	27	1	.1	-1.5	.1	8.4	110	4.5	96	87	47	0	7	1	0
NY BINGHAMTON	36	20	43	16	28	3	.3	-1.3	.2	6.2	80	3.8	78	82	43	0	7	2	0
NY BUFFALO	39	21	48	14	30	3	.3	-1.3	.3	7.9	89	3.9	72	87	44	0	7	2	0
NY NEW YORK	43	30	47	20	37	2	.4	-1.5	.3	11.5	116	6.3	102	72	40	0	7	2	0
NY ROCHESTER	37	18	44	13	28	1	.1	-1.5	.1	6.0	83	2.5	54	92	46	0	7	2	0
NY SYRACUSE	36	17	41	11	27	0	.1	-1.6	.1	7.0	83	3.7	70	86	49	0	7	2	0
NC ASHEVILLE	44	32	53	23	38	-4	4.4	3.4	2.5	13.9	132	9.7	137	91	61	0	3	4	2
NC CHARLOTTE	47	35	56	32	41	-4	4.0	3.0	2.2	13.2	120	10.1	133	88	54	0	2	4	2
NC GREENSBORO	45	30	53	27	38	-5	3.8	3.0	1.8	12.5	122	8.9	129	88	49	0	6	4	3
NC HATTERAS	53	39	63	32	46	-1	.7	-1.3	.3	21.6	162	14.9	169	91	56	0	1	4	0
NC NEW BERN	56	34	64	30	45	-3	2.3	1.4	1.4	14.6	125	11.1	139	97	45	0	3	4	2
NC RALEIGH	48	30	59	26	39	-4	3.2	2.3	1.5	15.0	148	12.1	173	89	44	0	5	3	3
NC WILMINGTON	55	37	64	33	46	-3	2.9	1.9	1.2	17.2	164	10.9	154	93	50	0	0	4	2
ND BISMARCK	25	14	30	-7	19	1	1.3	1.2	.3	1.8	123	1.8	100	94	74	0	7	-6	0
ND FARGO	35	26	39	20	30	15	.7	.6	.3	1.4	88	1.1	110	93	74	0	7	5	0
ND GRAND FORKS	30	19	36	14	25	11	.8	.7	.4	1.9	97	1.5	115	95	79	0	7	4	0
ND WILLISTON	27	11	35	6	19	1	-2	-1.1	-1.1	.6	38	.5	45	94	63	0	7	3	0
OH AKRON-CANTON	44	28	51	20	36	6	.1	-1.5	-1.1	5.1	68	2.3	49	82	40	0	5	1	0
OH CINCINNATI	48	32	54	25	40	5	1.1	-1.4	-1.1	5.1	58	2.5	43	84	45	0	3	3	1
OH CLEVELAND	43	28	52	19	36	6	.2	-1.4	-1.1	5.3	72	2.5	53	85	47	0	6	1	0
OH COLUMBUS	47	31	51	21	39	7	.5	-1.1	-1.1	4.5	60	1.7	35	82	42	0	4	2	0

Based on 1951-80 normals.

Weather Data for the Week Ending February 28, 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
DAYTON	46	31	51	22	38	6	.8	.2	.7	4.9	69	2.1	45	87	45	0	4	1	
TOLEDO	43	27	50	22	35	7	.5	0	.5	4.3	67	2.4	63	91	44	0	1	1	
YOUNGSTOWN	42	25	49	17	34	6	.2	-.4	.2	5.7	74	2.3	47	84	47	0	6	0	
OK OKLAHOMA CITY	52	41	58	31	46	3	1.3	.9	.9	7.7	224	6.6	287	95	67	0	1	5	
TULSA	53	38	58	29	46	2	2.9	2.4	2.0	8.0	164	7.1	229	93	57	0	1	1	
OR ASTORIA	51	33	53	26	42	-2	1.2	-.6	1.0	23.1	75	15.8	83	94	52	0	4	4	
BURNS	39	20	48	12	30	-5	T	-.1	T	2.4	139	2.2	244	93	57	0	7	1	
MEDFORD	54	29	62	22	41	-3	T	-.5	T	5.8	65	5.1	93	92	39	0	6	0	
PENDLETON	43	28	46	23	36	-6	.1	-.2	.1	2.9	65	2.1	75	81	48	0	6	0	
PORTLAND	51	34	53	25	42	-2	.2	-.7	-.1	13.9	84	9.6	95	95	52	0	6	0	
SALEM	51	31	52	23	41	-3	.1	-.9	-.1	14.9	79	11.0	95	88	43	0	2	3	
PA ALLENTOWN	42	24	48	19	33	1	.9	-.1	.1	9.4	93	5.0	78	90	46	0	4	2	
ERIE	40	24	47	15	32	5	.4	-.1	.6	7.8	99	3.7	80	80	42	0	7	3	
HARRISBURG	42	26	48	20	34	0	1.3	.6	.6	12.7	143	7.9	139	86	52	0	6	3	
PHILADELPHIA	43	26	50	23	35	-1	.9	-.1	.6	11.8	125	5.8	97	82	46	0	7	3	
PITTSBURGH	45	29	49	23	37	0	.2	-.4	-.1	6.3	81	2.9	55	67	35	0	6	3	
SCRANTON	38	20	46	14	29	0	.5	-.1	.3	5.4	78	3.3	77	82	42	0	7	2	
RI PROVIDENCE	42	24	46	20	33	2	T	-1.0	T	13.1	107	5.0	64	76	38	0	7	0	
SC CHARLESTON	56	41	69	38	49	-3	2.0	1.1	.7	17.1	174	11.9	178	95	61	0	0	4	3
COLUMBIA	52	38	62	32	45	-5	3.6	2.6	1.6	16.5	139	14.0	167	97	56	0	1	4	3
FLORENCE	53	38	64	32	45	-4	3.2	2.3	2.0	13.8	140	10.6	154	85	48	0	1	4	2
GREENVILLE	47	35	57	32	41	-4	5.8	4.5	3.5	16.1	129	12.0	140	92	59	0	1	4	2
SD ABERDEEN	36	27	41	24	32	12	.9	.7	.2	1.2	76	1.2	109	97	75	0	6	6	0
HURON	41	31	49	26	36	14	.8	.6	.3	1.3	78	1.3	108	94	60	0	5	5	0
RAPID CITY	27	16	42	13	21	-7	1.1	-.9	.5	1.8	118	1.8	180	94	72	0	7	3	0
SIoux FALLS	44	29	53	18	36	13	.2	-.1	.1	.4	19	.4	29	86	51	0	5	3	0
TN CHATTANOOGA	51	39	58	35	45	1	4.3	3.0	1.3	18.3	122	13.5	136	89	66	0	0	4	4
KNOXVILLE	52	36	62	30	44	0	3.1	2.0	1.0	13.4	100	9.3	106	97	63	0	2	4	3
MEMPHIS	56	41	65	29	49	3	3.7	2.6	1.7	11.1	81	7.2	81	96	67	0	1	4	4
NASHVILLE	52	37	61	31	44	2	3.8	2.7	1.7	9.7	74	6.4	75	98	68	0	3	4	3
TX ABILENE	56	42	64	34	49	-2	1.2	1.0	.5	6.1	221	4.1	216	95	62	0	0	6	0
AMARILLO	49	32	55	22	40	-1	.1	0	.1	2.8	182	2.1	210	94	53	0	4	2	0
AUSTIN	60	48	66	40	54	-2	2.2	1.6	.9	9.6	155	3.8	93	96	68	0	0	5	1
BEAUMONT	63	51	74	44	57	0	5.3	4.5	2.9	25.6	206	15.9	201	96	66	0	0	6	3
BROWNSVILLE	74	58	82	47	66	1	.8	.5	.5	7.2	181	4.7	168	96	60	0	0	3	1
CORPUS CHRISTI	66	52	78	43	59	-2	3.0	2.7	2.3	12.7	277	8.2	256	98	71	0	0	7	2
DEL RIO	62	46	71	36	54	-4	.8	.6	.7	6.0	307	3.6	257	95	54	0	0	4	1
EL PASO	56	29	64	18	42	-8	T	-.1	T	2.0	161	.5	63	88	28	0	6	0	0
FORT WORTH	55	45	60	36	50	-1	1.9	1.4	.6	7.3	139	4.9	136	98	72	0	0	6	1
GALVESTON	62	52	69	47	57	0	2.6	2.1	2.0	11.7	132	7.7	145	97	63	0	0	6	1
HOUSTON	63	50	76	42	56	0	2.7	2.0	1.1	12.4	123	6.7	103	96	66	0	0	4	2
LUBBOCK	52	35	55	26	44	-1	.7	.5	.3	3.3	240	2.0	200	99	59	0	3	3	0
MIDLAND	55	38	66	28	46	-4	.5	.3	.2	5.3	368	2.1	210	97	54	0	2	3	0
SAN ANGELO	59	41	63	32	50	-2	.8	.6	.5	7.6	357	5.1	340	95	56	0	1	2	0
SAN ANTONIO	62	47	69	39	54	-2	2.8	2.4	1.1	12.8	267	5.8	171	96	65	0	0	5	3
VICTORIA	64	51	77	42	57	-1	2.7	2.2	1.0	10.9	174	6.6	161	95	68	0	0	7	2
WACO	57	45	62	33	51	-2	1.6	1.1	.5	7.4	132	4.0	108	98	73	0	0	6	0
WICHITA FALLS	56	42	67	31	49	1	2.4	2.1	.8	6.8	217	5.9	311	99	65	0	1	7	2
UT BLANDING	38	18	45	8	28	-7	.6	.4	.5	3.2	89	2.5	109	91	63	0	7	3	0
CEDAR CITY	38	14	48	3	26	-10	.7	.5	.5	2.2	106	1.7	121	97	53	0	7	3	1
SALT LAKE CITY	43	24	47	20	33	-3	.2	-.2	-.1	3.0	74	2.9	107	85	38	0	7	3	0
VT BURLINGTON	34	12	40	3	23	2	T	-.5	T	3.7	62	2.4	67	86	43	0	7	0	0
VA NORFOLK	48	31	56	25	39	-3	2.4	1.6	1.2	17.8	175	14.0	200	86	44	0	5	3	2
RICHMOND	48	29	53	25	38	-3	1.8	.9	1.0	13.3	136	8.1	127	86	42	0	5	3	2
ROANOKE	44	28	50	25	36	-4	3.4	2.6	1.7	14.5	162	9.1	152	91	47	0	7	3	3
WA COLVILLE	42	26	47	17	34	1	T	-.3	T	3.7	61	2.2	59	85	47	0	7	1	0
QUILLAYUTE	50	32	54	26	41	-1	1.0	-1.9	.5	34.8	80	22.4	82	92	53	0	4	4	0
SEATTLE-TACOMA	49	35	53	29	42	-2	.4	-.5	.3	12.1	73	8.4	82	82	44	0	1	3	0
SPOKANE	38	25	40	17	31	-3	T	-.3	T	3.3	51	2.4	59	79	45	0	7	1	0
YAKIMA	47	23	52	17	35	-4	T	-.1	T	2.6	75	1.7	77	87	33	0	6	1	0
WV BECKLEY	41	28	48	17	34	0	2.0	1.2	.7	9.6	97	6.9	105	90	57	0	5	4	2
CHARLESTON	49	32	55	23	41	2	1.6	.8	.9	10.5	106	6.6	100	93	46	0	5	4	1
HUNTINGTON	49	32	57	24	41	2	1.9	1.1	.9	9.4	102	5.8	95	88	45	0	4	3	2
PARKERSBURG	49	32	53	23	41	5	1.0	.2	.8	7.1	74	3.1	46	81	38	0	4	3	1
WI GREEN BAY	39	23	41	20	31	10	.4	.1	.2	1.3	37	.9	41	99	65	0	7	2	0
LA CROSSE	43	28	47	23	35	12	.3	0	.3	1.8	61	1.4	78	87	48	0	6	2	0
MADISON	40	24	44	20	32	8	.6	.3	.5	2.0	54	1.3	62	93	58	0	7	2	1
MILWAUKEE	39	29	42	21	34	9	1.2	.8	1.2	3.6	71	2.4	80	91	61	0	5	2	1
WAUSAU	39	25	41	22	32	13	.1	-.2	-.1	1.1	35	.7	37	91	51	0	7	1	0
WY CASPER	26	10	37	2	18	-11	.6	.5	.5	3.1	199	2.9	264	90	66	0	7	3	0
CHEYENNE	29	14	39	6	21	-9	.7	.5	.6	1.2	100	1.0	125	89	64	0	7	5	1
LANDER	25	8	39	-7	16	-12	1.2	1.0	.6	2.8	172	2.6	236	91	61	0	7	3	2
SHERIDAN	31	12	43	2	22	-7	.3	.1	.2	1.3	61	1.2	80	96	58	0	7	3	0
PR SAN JUAN	84	69	86	67	77	-1	.2	-.3	.2	5.4	57	2.4	48	83	69	0	0	2	0

Based on 1951-80 normals.

Heating Degree Day Summary Table

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

LAST DATE OF DATA COLLECTION PERIOD IS 2-28-1987
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK WEEK, CUM CUM, CUM CUM, CUM CUM, CUM CUM. It lists heating degree days for various cities across the United States, including Birmingham, Atlanta, Chicago, Dallas, Denver, and many others.

National Agricultural Summary

February 23 to March 1, 1987

HIGHLIGHTS: Rain and snow interrupted fieldwork across the eastern half of the Nation but provided much needed moisture in the central and northern Great Plains. Snow protected wheat and small grains from low temperatures in the northern Great Plains and Montana. Moisture and above-normal temperatures promoted growth and greening from Nebraska southward. Corn planting was underway in Texas and Alabama. Sorghum was seeded in Texas. Spring plowing and fertilizing was underway as far north as Iowa and Utah. Livestock was mostly good.

SMALL GRAINS: Small grains were mostly good, except in the Delta where conditions were fair. Warmer-than-normal temperatures and moisture promoted growth throughout most of the central Great Plains and in the Corn Belt. Snow cover was limited in most areas, but snowfall protected winter wheat from low temperatures in Montana, North Dakota, and South Dakota. Kansas' wheat was greening, and fertilizer and weed control applications continued. In Nebraska, winter wheat was mostly good as it broke dormancy in many areas. Rain and snow aided topsoil moisture. Spring barley seeding was underway in Iowa. Oats were seeded in Mississippi and Missouri. Wet weather hampered topdressing and weed control in Oklahoma. Some wheat reached the jointing stage. Cool, wet conditions slowed small grains growth in many parts of Texas, but most fields had greened-up. The excess moisture increased rust. Small grains neared the boot stage in south and central Texas, while jointing was prevalent in the Blacklands. Drier, warmer weather is needed in most areas to promote growth and development. Precipitation and warm weather provided excellent growing conditions for small grains in California. Herbicide spraying, fertilizing, and irrigating continued. Wheat and barley progressed normally in Arizona. Stands were established, and farmers irrigated and fertilized as needed. Twenty-five percent of the acreage reached the jointing stage. In Oregon, small grains grew well.

COTTON: Rain impeded cotton harvest in Texas. Only a few fields remain to be harvested in the Low Plains. Cotton harvest reached 95 percent (%) completion in Oklahoma. It is questionable whether the remaining acreage will be harvested. Land preparation continued for seeding the 1987 cotton crop in California and Arizona.

OTHER CROPS: Land preparation continued and moved into the central Plains and as far north as Iowa. Plowing and spring planting was underway in southern Utah. However, rain virtually halted fieldwork in the eastern half of the Nation. Corn planting was underway in Alabama, but conditions were too wet to seed corn in Louisiana. Texas corn was 3 percent seeded, 3 percentage points ahead of 1986. Sorghum planting reached 2% completion in Texas.

Tobacco bed preparation continued in Georgia. The tobacco plant condition ranged from poor to good. Tobacco beds were seeded in North Carolina and Virginia. Kentucky's tobacco producers began tobacco bed preparation.

FRUIT AND NUTS: Pruning was active in most areas of the Nation. Scattered showers provided adequate moisture in Florida's citrus producing areas. Buds swelled with a few open blooms in mostly young trees. Early and midseason orange harvest neared completion, and a few valencia oranges were picked for fresh use. Tangelo harvest slowed, but temple orange and grapefruit movement was active in all areas. In Texas, valencia orange harvest slowed. Many groves bloomed and showed flush new growth. Peach trees bloomed in the central and eastern areas of Texas. Some orchards experienced freeze damage in the Blacklands. In California, early variety stone fruit continued blooming. Deciduous orchards were planted, and fungicides were applied. Avocado and citrus harvests progressed well. External citrus freeze damage was more prevalent, but interior quality was good. Valencia oranges, grapefruit, and lemons were harvested in Arizona.

VEGETABLES: Vegetable activity started along the Ohio River with producers seeding mostly vegetable flats in greenhouses. Vegetables made good growth in Florida. Spring planting was progressing on schedule. Winter vegetable harvest was active. Tomatoes, celery, cabbage, potatoes, carrots, and lettuce were volume leaders. Good supplies of radishes, squash, snap beans, sweet corn, cucumbers, escarole, eggplant, and cauliflower were available. Main crop strawberry harvest was underway. Rainy weather slowed vegetable harvest in the Rio Grande Valley and in the San Antonio-Winter Garden area. Spring planting was interrupted in east Texas, and land preparation slowed in the High Plains. In California, asparagus harvest increased in the desert but was limited due to frost damage at Westside. Cauliflower harvest was moderate in Salinas, but light in Santa Maria and in the desert. Lettuce volume improved in the Palo Verde Valley but declined as shippers finished in the Imperial Valley. Spring carrot planting progressed well. Spring onions grew well. Tomato planting for processing and fresh market were active Statewide. Significant frost damaged acreage will need to be transplanted at Westside. Vegetable harvest was well advanced in Yuma County, Arizona. Cold weather slowed artichoke progress in La Paz County.

PASTURES AND LIVESTOCK: Moisture promoted pasture growth in the southern half of the Nation. Livestock was mostly good. Calving, lambing, and farrowing continued 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 3.00 to 5.00 in. northern half; 2.00 to 4.00 in. south; under 1.50 in. extreme south. Temperatures averaged 10° below normal northern half, extreme southwest; 2 to 4° below normal elsewhere.

Fieldwork progress normal to 3 weeks behind statewide. Wheat mostly good. Livestock fair to good. Pastures poor to fair. Main activities include general care, feeding of livestock, poultry; topdressing small grains; routine maintenance, repair of equipment; pruning fruit trees; soil testing; preparing land; planting corn, when weather permits.

ARIZONA: Week began sunny. Abrupt change late 23rd spread snow, rain over State. Winter storm intensified 24th; Prescott, Flagstaff received 15 in. snow. By late 25th, snowfall amounts 3 ft. high country, 2 ft. at 5,000 ft. elevations, several inches 3,000 to 4,000 ft. Rainfall 1.00 to 2.00 in. southern deserts. Light snow, rain continued 26th. Clearing late 26th. Low temperatures plunged to zero to 13° below White Mountains, teens 5,000 ft., 20s and 30s lower deserts 27th, 28th. Sunny skies, warmer temperatures returned 28th. Average temperatures for week 7 to 12° below seasonal normals.

Harvest of lettuce, cauliflower, mixed vegetables, asparagus well advanced Yuma County. Cold weather slowed artichoke progress La Paz County. Mixed vegetables from Yuma, Salt River Valley included romaine, leaf and Boston lettuce, cabbage, napa, endive, bok choy, celantro, spinach, turnips, rapini. Spring melons planted, west, central. Valencia oranges, grapefruit, lemons harvested; groves good. Land preparation advanced for cotton, planting on limited scale Yuma County. Wheat, barley progress normal, stands established. Irrigation, fertilization as needed. Jointing 25%, 40% 1986. Lower temperatures, wind, rains hindered cutting, curing alfalfa hay. Sheeping off activities diminishing. Weed infestation light to moderate. Cattle, calves north 45% fair, 55% good; sheep, lambs 30% poor, 65% fair, 5% good; ranges 75% normal desert to 90% high elevations. Cattle, calves fair to good central, south; range conditions 25% below normal, except extreme southeast excellent.

ARKANSAS: Temperatures near normal. Heavy rain, thunderstorms latter part of week with heaviest rain southeast. Temperature extremes 19°; 65°. Rainfall 1.42 to 5.21 in.

Soil moisture surplus. No fieldwork. Wheat fair. Livestock excellent. Pasture growth spurred by warm wet conditions.

CALIFORNIA: Very cold low pressure settled over State nearly all week. Storm brought widespread freezing temperatures inland areas, various amounts rainfall. Most locations received light rain with snow levels low. Low moved out weeks end with temperatures returning to more normal levels.

Precipitation, warm weather provided excellent growing conditions small grains. More precipitation required. Herbicide spraying, fertilizing, irrigating main activities small grains. Land preparation for corn, cotton, other row crops continued. Alfalfa weevil control active. Deciduous orchards planted. Fungicide applied. Early variety stone fruits continued blooming. Avocado, citrus harvests progressed. External citrus damage from mid-January freeze

appeared, interior quality good. Artichokes moderate, variable quality, Salinas. Asparagus harvest increased, good quality due to warming trend desert. Westside harvest limited due to frost damage. Broccoli moderate, variable quality, Salinas; fairly light, good quality Santa Maria. Volume from desert fairly light, variable quality. Harvest continued El Nido; spring crop progressed well Westside. Carrot fairly light to moderate, good quality desert; medium to large sizes. Harvest active Westside; while spring planting progressed. Cauliflower moderate Salinas, light, Santa Maria; good quality. Harvest light desert, variable quality. Harvest Westside begin three weeks. Celery harvest active Oxnard, Los Angeles-Orange County, Chula Vista. Lettuce improved in volume, quality Palo Verde Valley. Harvest Imperial Valley decreased; some shippers finished; Spring onion fields showed good growth Westside. Fall potato packing Tulelake-Butte Valley continued; light demand improved prices. Winter potato digging active Kern, Riverside; fair quality, excellent demand. Planting tomatoes for processing, fresh market active statewide. Significant market acreage Westside needs to be transplanted due to frost. Range, pastures continued improving, however, grass growth below normal. Stock water supplies remained short. Supplemental feeding active most districts.

COLORADO: Temperatures 1 to 2° below normal north and west; elsewhere 6 to 8° below normal. Precipitation heavy southwest, lighter northeast. Amounts 0.33 to 3.00 in.

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

FLORIDA: Cloudy, cool, wet north. Warm, some showers central, south. Rains exceeded 2.00 in. north, few spots lower east coast; elsewhere mostly 1.00 in. or less.

Soil moisture adequate central, south; surplus north, Panhandle. Wet soils delayed land preparation. Tobacco plantbeds good. Sugarcane harvest active. Small grains good. Permanent pastures began greening up with generally above normal rainfall, warming temperatures. Grazing on these pastures remained light, limited mostly to warmer southern areas. Supplemental feeding continued. Ryegrass, small grain pastures continued to provide most grazing. Cattle, calves mostly good; but only fair several Panhandle, Peninsula localities. Scattered showers citrus areas provided adequate moisture. Bloom buds starting to show, only scattered open bloom, mostly young trees. Early, midseason orange harvest almost over, few valencias picked fresh use. Grapefruit movement active. Tangelos harvest slowing. Temple movement active all areas. Mild weather again prevailed vegetable areas. Precipitation limited to scattered showers. Crops made good growth. Planting spring crop on schedule. Harvest active winter crops. Volume leaders: Tomatoes, celery, cabbage, potatoes, carrots, lettuce. Also available, good supplies: Radishes, squash, snap beans, sweet corn, cucumbers, escarole, eggplant, cauliflower. Harvest main crop strawberries underway.

GEORGIA: Cold, wet. Rain totals 5.00 in. north to 1.00 in. south. Most totals 3.00 to 4.00 in. Rain 4 days most locations. Temperatures 3° below normal. Lows 20s mountains, mid 30s central, low

40s south. Extremes high 50s north and 70s central, south. Valdosta 80° on 28th.

Soil moisture surplus all 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, mostly 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 degree or 2 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 remained steady. Papaya production seasonal decline. Production heavy Chinese cabbage, light to moderate for other vegetables.

IDAHO: Temperatures normal to 4° below normal statewide. Precipitation fractionally above normal south central, east, southwest, elsewhere 0.25 to 0.50 in. below normal.

Minimal farm activity consists of feeding livestock, shop work, onion processing, taxes, marketing. Livestock good. Hay, roughage supplies adequate to surplus.

ILLINOIS: Temperatures averaged 3 to 8° above normal north, 2 to 6° above normal south. Precipitation 0.38 to 3.10 in. heaviest south.

Winter wheat fair to good. Livestock mostly good.

INDIANA: Temperatures well above seasonal levels. Precipitation widespread. North averaged 0.50 to 0.75 in., south 0.50 to 2.00 in.

Spring fieldwork starting. Soils drying. Activities: Tilling, spreading manure, seeding clover, grass seed, spreading fertilizer, topdressing wheat, moving grain to elevator, attending meetings, caring for livestock.

IOWA: Warm, dry, then colder, weekend. Snow 2 to 4 in. over northern, central, south central districts, 1 in. elsewhere. Temperatures averaged above normal 8° south to 11° north. Warmest 57° Sioux City 26th, low 12° Spencer 23rd. Precipitation greatest south central, 1.62 in. Lamoni.

Continued mild temperatures helps livestock management. Roughage supplies abundant. Rain, snow weekend ended fieldwork.

KANSAS: Precipitation 0.50 in. ranging 0.29 to 0.77 in. Temperatures 44° east, 7° above normal; west 40°, few degrees above normal.

Wet weather halted field activity. Some barley planted, wheat being fertilized and treated for weed control. Wheat greening, soil moisture adequate.

KENTUCKY: Seasonal temperatures. Daily mean temperatures averaged lower to mid 40s. Heavy rains 27th, 28th. Rainfall averaged around 2.50 in. west, 2.00 in. east.

Soils mostly saturated. Some flooding 28th, water standing on lowland. Fieldwork halted by wet conditions. Some early plowing, grass seeding, tobacco bed preparation, fertilizing. Livestock wintered well, ice and wet conditions caused recent stress.

LOUISIANA: Temperature 1° below to 2° above normal. Temperature extremes 31°; 75°. Rainfall averaged 2.35 to 5.33 in.

Days suitable for fieldwork 0.1. Soil moisture 100% surplus. Spring plowing 2% complete, 18%

1986, 11% avg. Corn none planted, 6% 1986, 2% avg. Winter wheat, sugarcane, vegetables, livestock fair; pastures poor to fair. Main activities: Caring for livestock, water leveling rice fields, general maintenance.

MARYLAND & DELAWARE: **Maryland:** Temperatures averaged 35°, normal 37°; lowest temperature 2°, extreme west; highest temperature 50°, north central region. Precipitation averaged 1.40 in., ranging from 0.73 in. far west to 2.33 in. east north central. Snow storm 22nd, 23rd dumped an average of 12 in. of snow ranging from 7 in. Briantown to 20 in. Frederick. Main farm activities: Caring for livestock, machinery maintenance, tax preparation.

Delaware: Average temperature 34°, normal 38°. Lows high teens to low 20s, high temperatures mid 40s. Precipitation averaged 1.16 in. Snowfall 22nd, 23rd averaged 3 in. Main farm activities: Caring for livestock, machinery maintenance, tax preparation.

MICHIGAN: Temperatures ranged 8 to 13° above normal. Temperature extremes 6°; 49°. Precipitation ranged from 0.02 to 0.61 in. across State.

Snow cover continued upper Peninsula, northern lower Peninsula. No snow cover southern lower Peninsula. Southern lower Peninsula winter wheat susceptible to cold temperatures. Activities: Cutting wood, preparing taxes, spreading manure, attending meetings, pruning, pulling fruit trees, general farm maintenance and equipment repair, marketing grain, potatoes, livestock; maple trees continued being tapped for syrup. Cold nights, warm days; excellent maple syrup weather. Livestock remained good. Lambing, calving, farrowing continued. Feed supplies adequate.

MINNESOTA: Temperatures averaged 13 to 17° above normal for State. Temperature extremes 7°; 54°. Precipitation averaged near normal to 0.74 in. above normal for State. Greatest weekly total 0.89 in. Snowfall averaged 2 to 5 in. for State. Snow depth weeks end averaged 9 to 11 in. northern third; 1 to 4 in. elsewhere.

Temperatures remained mild, snowfall end of week. Minimal fieldwork, livestock management active. Livestock remained good to excellent.

MISSISSIPPI: Temperatures 1° above normal; extremes 26°; 73°. Damp and stormy week, low pressure dumped an average 4.00 in. of rain over State. Rivers above flood stage. Greatest 24 hour total rainfall 4.97 in.

Days suitable for fieldwork 0.0, 5.6 1986, 2.2 avg. Soil moisture excessive. Wheat fair.

MISSOURI: Temperatures 4 to 6° above normal. Rainfall averaged 1.50 in., ranging 0.75 in. northeast to 2.25 in. southwest. Some flooding northwest, southwest.

Topsoil moisture 11% short, 73% adequate, 16% surplus. Wheat 5% very poor, 20% poor, 52% fair, 23% good. Farmers fertilizing, starting spring tillage. Some oats seeded. Livestock 11% poor, 83% fair, 6% good. Supply of hay, roughage 3% short, 83% adequate, 14% surplus.

MONTANA: Temperatures below normal over State. South central coolest with 12° below normal. Northeast, west averaged 1 to 2° below normal. Rest of State about 5° below normal. Precipitation heaviest along mountains. Most areas some snow. Precipitation amounts less than 0.50 in.

Winter wheat mostly fair, about half still dormant. Light snow cover gave protection during low temperatures. Calving, lambing progressed

under good conditions. Concern developing over future irrigation water supplies.

NEBRASKA: Precipitation, mild temperatures across State. East temperatures up to 12° above normal, North central, Panhandle reported below normal temperatures. Up to 1.50 in. of precipitation in form of snow west. Eastern area about 0.50 in. rain. Temperature extremes -4°; 58°.

Some early tillage, ammonia application, corn stalk shredding. Manure spreading, ditch burning other activities. Winter wheat improved to 29% poor, 62% good, 9% excellent as dormancy breaks many areas. Rain, snow aided topsoil moisture. Livestock good. Feed grains, hay, forage supplies mostly surplus. Range, pasture mostly adequate. Calving, lambing preceded well.

NEVADA: Cold, low pressure system controlled weather through midweek northern areas. High pressure system moderated temperatures north midweek, end of period south. Above normal precipitation reported all sections, mostly in form of snow north, west, rain extreme south.

Lack of snow valleys favorable newborn calves, lambs. Fieldwork delayed by snow, rain muddy fields, gusty winds most areas.

NEW ENGLAND: Dry week. Average precipitation included rainfall, water equivalent of snowfall 0.20 to 0.50 in. western and southeastern Vermont, western and central Massachusetts, Rhode Island, Connecticut, 0.20 in. to trace northern Maine, southern New Hampshire, northeastern Vermont, eastern Massachusetts, none southern and coastal Maine, northern New Hampshire. Temperatures averaged 5 to 7° above normal north, 2 to 4° above normal south.

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

NEW JERSEY: Temperatures near normal, averaged 33° north, 35° south, 38° coastal. Extremes 11°; 59°. Precipitation above normal north; near normal south, coastal; averaged 1.43 in. north, 0.89 in. south, 0.74 in. coastal. Heaviest 24-hour total 1.05 in. on 28th, 1st. Depth of snow on ground 2nd, none to 3 in. north.

Farmers cared for livestock, tended to winter chores. Soil moisture excessive.

NEW MEXICO: Weekly average temperatures ranged from a few degrees below normal eastern plains to 15° below normal mountains, west. Northwest, northern mountains received snow in amount of 6 in. to 2 ft. midweek. Rain in amount of less than 0.25 in. lower elevations.

Days suitable for fieldwork 3.5. Soil moisture 33% adequate, 67% surplus. Barley 71% good, 29% excellent. Irrigated wheat 86% good, 14% excellent. Dryland wheat 75% good, 25% excellent; need dry, warm weather for growth and development. Onions, lettuce 100% good. Cattle 33% fair, 67% good. Sheep 36% fair, 55% good, 9% excellent. Ranges 17% poor, 25% fair, 50% good, 8% excellent.

NEW YORK: Generally dry weather continued statewide. In many areas driest February on record. Temperatures averaged slightly above normal.

Producers continued with winter chores, planned for coming growing season.

NORTH CAROLINA: Temperatures 5 to 7° below normal across State. Temperature extremes 19°; 66°. Precipitation ranged from 0.58 to 4.94 in. across State.

Days suitable for fieldwork 1.9. Soil moisture 3% short, 50% adequate, 47% surplus. Small grains mostly fair to good. Pasture 10% very poor, 16% poor, 46% fair, 28% good. Tobacco plantbeds 3%

poor, 33% fair, 64% good. Hay, roughage supplies 28% short, 70% adequate, 2% surplus. Feed grain supplies 20% short, 74% adequate, 6% surplus. Major farm activities: Tending livestock; maintaining equipment; seeding tobacco plantbeds; topdressing small grains; cutting firewood; tax preparation; pruning fruit trees; preparing land; planting Irish potatoes; general farm maintenance.

NORTH DAKOTA: Precipitation major point of interest. Precipitation averaged 0.21 to 0.80 in. above normal, heaviest in eastern two-thirds of State. South central received most 1.50 in. Temperatures averaged 5° below normal southwest to 15° above normal southeast. Temperature extremes -4° 28th to 41° 22nd.

Record warm February beneficial to livestock, feed supplies. Heavy snowfall past week provided sufficient cover to protect 82% winter wheat. Winter wheat 48% good versus 81% 1986. Average snow depth 10 in. Calving 9% complete, lambing 20%, shearing 34%. Feed supplies adequate.

OHIO: Temperature averaged 3 to 6° above normal ranged from teens to upper 50s. Precipitation widespread averaging 0.50 to 1.00 in. No snow cover or frozen soils.

Recent rains improved soil moisture supplies, kept most farmers thinking about some early outside activity from getting into fields. No stress on livestock or overwintering crops. Earliest vegetable activity started along Ohio River; mostly seeding vegetable flats in greenhouses.

OKLAHOMA: Temperatures averaged 1° below normal west central, south central to 3° above normal northeast. Precipitation averaged 0.58 in. Panhandle to 2.44 in. northeast.

Topsoil moisture 15% short, 85% adequate. Subsoil moisture 100% adequate. Wheat 1% jointing, 5% 1986, 3% avg. Wet weather hampered topdressing, weed control. Many wheat producers planned to substitute oats, barley but were unable to enter wet fields. Cotton 95% harvested, 100% 1986, 100% avg. Much acreage questionable for harvest. Pastures greening. Cattle good; marketings average, prices up from preceding week.

OREGON: Wet, cooler than normal all areas. Most rain beginning of week, with some rain later at coast. Precipitation totals up to 0.70 in. coast, north Cascades; 0.50 in. north plateau; traces northeast, southeast; less than 0.10 in. rest of State. Temperatures 4 to 5° cooler than normal, except extreme south coast 7° above normal.

Soil moisture mostly surplus west, mostly adequate east. Grain crops growing well most areas. Some fertilizing continued. Fields snow covered northeast mountains. Clover showed good growth Willamette Valley. Some pruning, delayed dormant spraying continued on western fruit trees. Mild winter for pruning Columbia Basin, trees in good shape. Range, pasture good to excellent. Grass greening up west, low elevations east. Livestock good to excellent. Calving continued.

PENNSYLVANIA: Temperatures slightly above normal, precipitation above normal. Average temperature 32°, 3° above normal. Temperature extremes 8°; 51°. Average precipitation 0.88 in., 0.21 in. above normal.

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

PUERTO RICO: Island average rainfall 0.37 in., 0.17 in. below normal. Highest weekly total rainfall 1.89 in. Pico Del Este-Luquillo, 0.77 in. Negro-Corozal, 0.71 in. Corozal Aes. Highest 24-hour total 0.80 in. Pico Del Este-Luquillo. Accumulated total rainfall 6.73 in., 20% above

normal. Divisional temperature averaged about 74 to 76° on coasts, 70 to 71° interior division. Mean station temperature ranged 63° Pico Del Este-Luquillo to 78° Roosevelt Roads. Highest maximum temperature 91° several places, lowest minimum temperature 47° Adjuntas.

SOUTH CAROLINA: Temperatures averaged 1 to 4° cooler than normal. Precipitation heavy last half of week averaging 3.00 to 6.00 in. west, central, north portion; much lighter southeast.

Major farm activities: Land preparation early week; topdressing small grains; equipment maintenance; general farm maintenance. Pastures, small grains greening up.

SOUTH DAKOTA: Average temperatures 10 to 15° above normal east, zero to 5° above normal central, 2 to 7° below normal west. Extremes -10; 57°. Black Hills low -20. Precipitation above normal for year. Melted precipitation 0.12 to 3.75 in. Snow central, west; general 12 in.; up to 36 in. west central. Northwest, southeast missed most precipitation. Light winds, little drifting.

Winter grains good. Livestock good, grazing open fields, supplemental feeding where needed. Main agricultural activities; tending livestock, attending farm meetings, planning spring planting.

TENNESSEE: Temperatures averaged above normal 20° east, middle; 7° west. Lows averaged mid 30s, low 40s. Highs averaged low 50s. Precipitation 1.00 to 2.00 in. above normal. Actual precipitation 3.00 in., more most State.

Farm chores, planning spring fieldwork, meetings main activities.

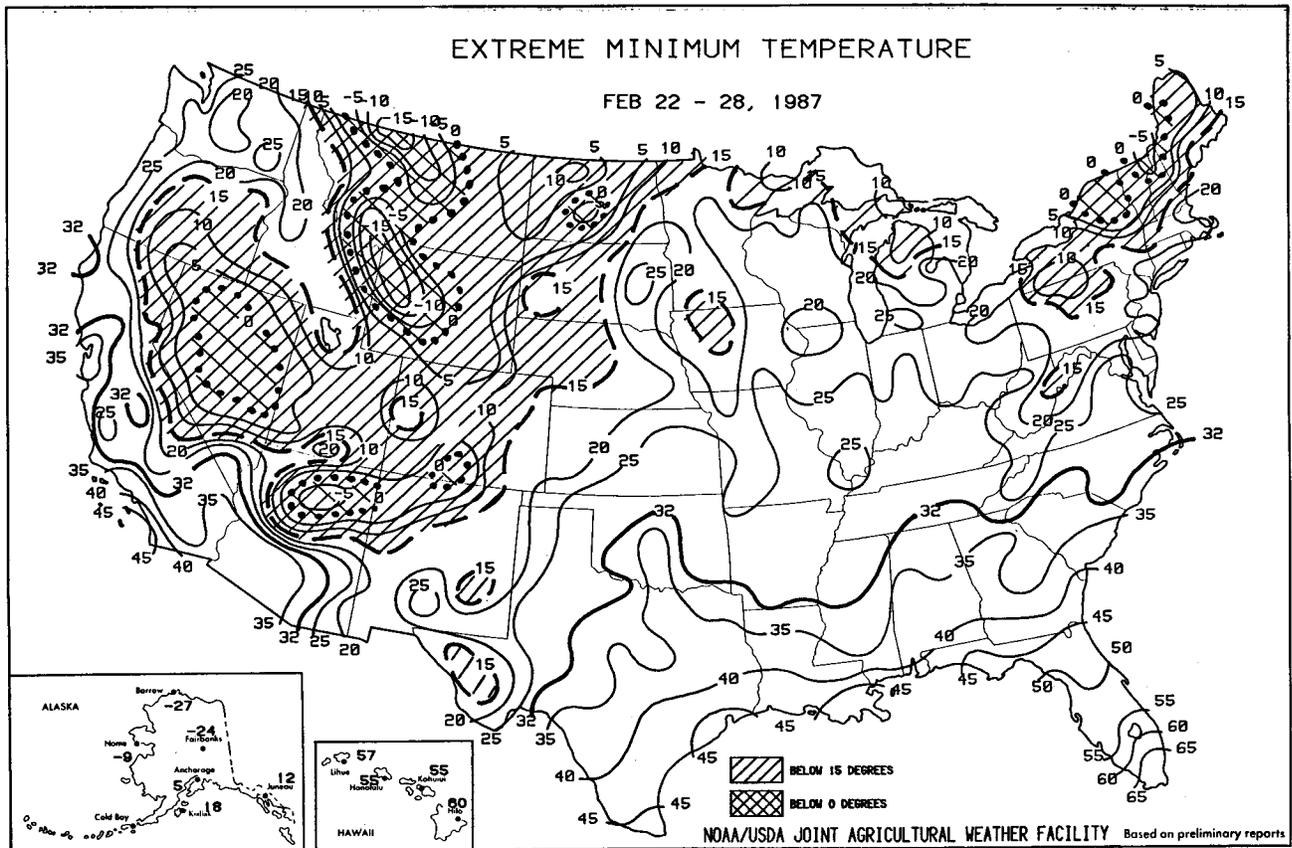
TEXAS: Weak high pressure covered State early week producing clear, open weather generally mild

days, cool nights. Midweek pair of frontal systems, one from west, other developing in Gulf, brought rain, cooler temperatures to much of State. Temperatures averaged near to several degrees below normal most State, but above normal northern High Plains, south central. Precipitation above normal statewide; east, coastal areas wettest.

Crops: Remaining cotton fields for harvest Low Plains little attention last week, continued rain further stalled progress. Cotton 99% harvested, 100% 1985, 100% avg. Small grains across could soon use some drier, warmer weather to continue good field progress. Additional rainfall, cloudy, overcast skies slowed growth many parts. Most fields greened up with moisture. Excess moisture increased rust. Fields neared boot stage south, central; jointing Blacklands. Grazing good fertilized fields. Rain curtailed planting corn, grain sorghum south, Rio Grande Valley. Land preparation planting interrupted other areas. Some early fields corn emerged Upper Coast. Planting activities increased with open weather. Corn 3% planted, 17% 1986, 6% avg. Sorghum 2% planted, 9% 1986, 4% avg.

Commercial Vegetables: Rio Grande Valley, vegetable harvest slowed because rainy weather. Onions maturing, harvest begin with drier weather. Harvest grapefruit, valencia oranges slowed. Many groves blooming, good flush new growth. San Antonio-Winter Garden, harvest broccoli, cabbage, carrots, greens slowed because inclement weather. Demand down. East planting activities interrupted by rain. High Plains land preparations slowed by wet weather. Peach trees continued bloom central, eastern parts State. Some spraying Cross-Timbers. Freeze damage some orchards Blacklands.

Range and Pasture: Native pastures, ranges benefited from additional moisture last week. Most good condition. Small grains provide good grazing (Continued to back cover)



International Weather and Crop Summary

FEBRUARY 1987

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

February 22-28, 1987

HIGHLIGHTS:

UNITED STATES ... Rain and snow interrupts fieldwork across the eastern half of the Nation but provides much needed moisture in the central and northern Great Plains. Snow protects wheat and small grains from low temperatures in the northern Great Plains and Montana.

WESTERN U.S.S.R. ... Mostly light snow covers western and northern areas, with mixed rain and snow covering the southeast. A cooling trend occurs during the week.

EUROPE ... Precipitation increases in western and north-central winter grain areas, increasing soil moisture for spring growth.

SOUTH ASIA ... Showers in Pakistan and India improve moisture reserves for reproductive winter grains but may slow late cotton harvesting.

EASTERN ASIA ... Timely planting rains cover early rice areas in southern China.

SOUTHEAST ASIA ... Unseasonable rain continues in parts of Southeast Asia. Seasonable tropical showers continue in Indonesia, possibly causing local flooding in Java.

SOUTH AMERICA ... Widespread rain helps immature crops in Argentina but comes too late for maturing grains. Showers maintain favorable growing conditions for soybeans in south-central Brazil.

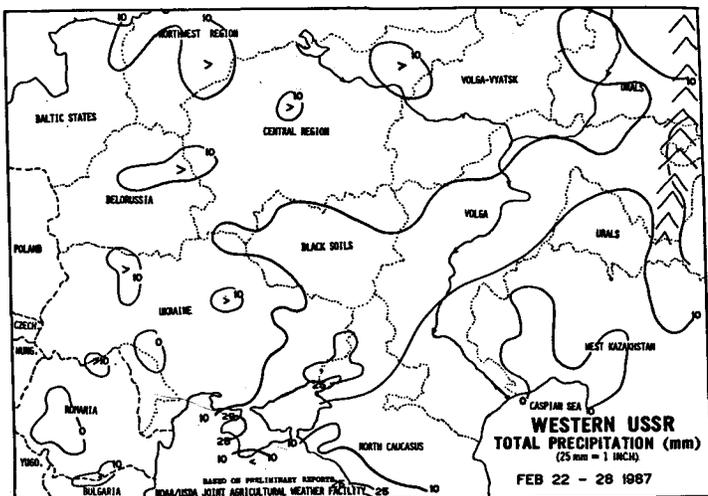
AUSTRALIA ... Below-normal rainfall in eastern Australia's summer crop and sugarcane areas necessitates additional irrigation.

SOUTH AFRICA ... Timely showers benefit reproductive corn in most major grain areas.

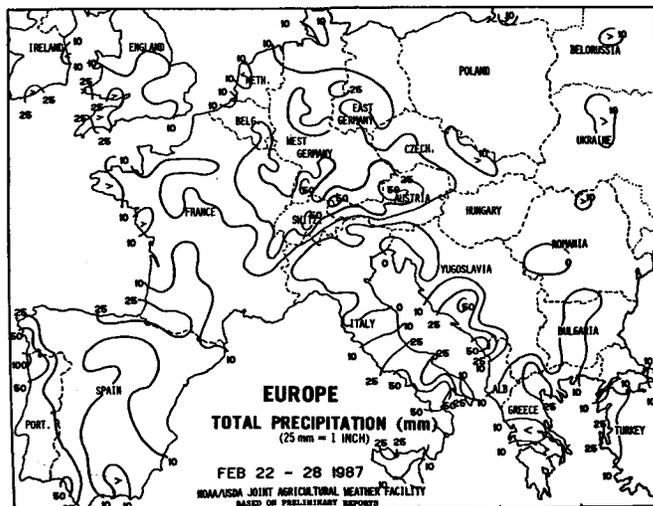
NORTHWESTERN AFRICA ... Rainfall diminishes over Moroccan winter grain areas. Beneficial showers continue over wheat in Algeria and Tunisia.

COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
	AVG	AVG	HI	LO	DPART	TOTAL	F/NRM	DPART
	MAX	MIN	MAX	MIN	AVG			
NORWAY OSLO	-4	-12	4	-23	-8	0.0	38.2	-8.7
SWEDEN STOCKHOLM	-2	-7	4	-20	-4	-1.1	14.1	-14.9
FINLND HELSINKI	-4	-10	2	-25	-7	-0.1	35.3	1.4
U KING GLASGOW	7	0	12	-9	4	-0.7	78.4	-9.7
EDINBURGH	7	0	12	-9	3	0.2	40.2	-0.9
BIRMINGHAM	7	1	13	-9	4	0.2	32.4	-16.2
LONDON	7	1	15	-9	4	0.0	28.2	-24.5
IRELND DUBLIN	8	2	15	-4	5	0.2	33.8	-17.4
ICELND REYKJAVIK	3	0	9	-6	2	1.4	78.7	7.6
DENMRK COPENHAGEN	1	-3	5	-12	-1	-0.7	14.7	-24.4
LUXEMB LUXEMBOURG	2	-2	10	-11	0	-1.1	58.4	-1.6
SWITZL ZURICH	2	-1	11	-9	1	-0.2	65.2	-14.6
GENEVA	5	0	11	-4	3	0.3	45.6	-34.5
FRANCE PARIS	6	1	15	-10	4	-0.4	52.4	6.6
STRASBOURG	4	-1	14	-12	1	-0.8	40.1	4.7
BOURGES	6	1	21	-6	4	-0.6	48.7	-9.2
BORDEAUX	10	4	19	-5	7	0.5	53.0	-33.1
TOULOUSE	9	4	16	-3	7	0.6	28.8	-23.4
MARSEILLE	11	4	18	-4	7	0.1	60.0	4.9
SPAIN VALLADOLID	10	3	16	-6	6	1.0	61.9	25.4
MADRID	12	2	21	-5	7	0.2	32.4	-18.0
SEVILLE	17	8	26	3	12	0.4	65.2	-17.9
E GRMY LEIPZIG	2	-4	8	-13	-1	-1.2	49.9	18.6
DRESDEN	2	-3	7	-13	-1	-0.1	52.6	16.6
W GRMY HAMBURG	3	-2	8	-8	1	0.0	45.0	4.8
BERLIN	2	-3	7	-12	0	-0.9	40.3	7.2
DUSSELDORF	5	1	11	-5	3	0.5	46.7	-6.4
STUTTGART	4	-2	14	-14	1	-0.1	49.2	2.4
NURNBERG	3	-3	9	-18	0	-0.7	54.2	14.5
MUNICH	3	-4	12	-18	-1	-0.5	69.4	14.9
AUSTRI VIENNA	3	-3	10	-19	0	-0.8	48.0	18.0
INNSBRUCK	6	-3	13	-16	1	0.6	55.7	14.9
CZECH PRAGUE	1	-5	7	-21	-2	-1.2	32.3	11.4
POLAND WARSAW	2	-3	7	-15	-1	1.6	14.6	-10.0
LODZ	1	-3	8	-12	-1	0.7	17.2	-13.8
KATOWICE	3	-4	11	-16	-1	1.4	21.0	-15.1
PRZEMYSL	3	-4	11	-13	-1	1.4	6.2	-25.5
HUNGAR BUDAPEST	4	-2	12	-17	1	0.0	18.6	-13.2
YUGOSL SARAJEVO	7	-2	16	-13	2	3.6	37.8	-28.2
ROMANI BUCHAREST	3	-4	15	-12	0	0.3	32.8	-4.6
BULGAR SOFIA	6	-1	13	-8	3	1.0	39.2	1.1
ITALY MILAN	7	0	15	-9	3	-0.5	132.0	65.3
VERONA	7	1	11	-10	4	-0.5	167.5	116.9
VENICE	8	2	12	-7	5	0.0	158.4	101.1
GENOA	11	6	17	0	8	-0.3	159.4	68.5
ROME	13	6	16	-2	10	0.6	135.8	66.3
NAPLES	13	5	19	1	9	0.2	121.5	27.7
GREECE THESSALONIKA	11	5	18	-2	8	1.1	52.0	14.9
LARISSA	12	4	18	-3	8	0.4	42.7	4.6
ATHENS	14	9	18	2	11	-0.1	40.4	4.4
TURKEY ISTANBUL	10	4	18	-7	7	1.5	27.0	-43.0
ANKARA	9	-2	18	-10	3	2.6	17.6	-12.4
CYPRUS LARNACA	19	9	21	4	14	1.5	27.7	-33.3
USSR TALLINN	-3	-8	2	-23	-5	0.5	48.3	23.5
LENINGRAD	-3	-9	2	-22	-6	1.5	44.9	13.7
KAUNAS	-1	-7	2	-21	-4	0.9	36.4	5.2
MINSK	-2	-6	2	-18	-4	2.1	28.4	-3.5
KAZAN	-6	-12	1	-22	-9	3.5	24.2	-0.5
MOSCOW	-3	-9	3	-20	-6	2.3	20.4	-15.7
SVERDLOVSK	-6	-14	4	-30	-10	3.2	16.9	-3.1
OMSK	-10	-16	0	-30	-13	4.3	11.8	0.3
KUSTANAY	-8	-15	2	-30	-11	5.0	10.0	-2.6
KRASNOYARSK	-10	-19	8	-37	-14	1.7	12.2	-0.4
NOVOSIBIRSK	-10	-16	3	-28	-13	4.7	17.0	1.8
BARNAUL	-7	-14	3	-25	-11	4.9	13.0	-9.0
KHABAROVSK	-12	-22	-4	-30	-17	0.5	8.3	-2.4
VLADIVOSTOK	-6	-12	5	-20	-9	1.8	3.9	-15.8
KIEV	-1	-7	3	-17	-4	0.2	7.4	-37.0
LVOV	1	-6	9	-19	-2	1.4	18.0	-28.2
KIROVOGRAD	-3	-8	5	-20	-5	-0.3	5.2	-25.2

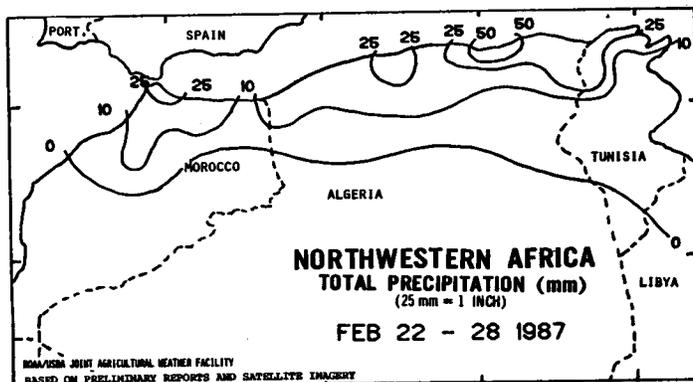
COUNTRY CITY	TEMPERATURE (C)								PRECIPITATION (MM)		COUNTRY CITY	TEMPERATURE (C)								PRECIPITATION (MM)	
	AVG	AVG	HI	LO	DPART	F/NRM	TOTAL	F/NRM	AVG	AVG		HI	LO	DPART	F/NRM	TOTAL	F/NRM				
	MAX	MIN	MAX	MIN	AVG				MAX	MIN		AVG	MAX	MIN				AVG	MAX	MIN	AVG
USSR ODESSA	1	-5	12	-14	-2	-0.7	3.5	-37.3			TANZAN DAR ES SALAAM	33	24	35	21	28	0.6	13.2	-55.9		
YALTA	8	2	17	-7	5	1.1	12.2	-47.7			GABON LIBREVILLE	30	24	32	21	27	0.1	182.7	-89.2		
VORONEZH	-5	-12	3	-22	-8	0.4	24.6	-5.0			TOGO LOME	33	25	33	22	29	1.0	12.0	-20.3		
SARATOV	-7	-12	3	-20	-9	2.1	24.8	-0.2			B FASO OUAGADOUGOU	37	20	40	16	29	1.0	3.8	1.9		
KHARKOV	-3	-8	4	-18	-6	0.3	14.0	-20.6			IVRY C ABIDJAN	31	25	33	22	28	0.5	9.9	-49.0		
VOLGOGRAD	-7	-13	2	-20	-10	-1.0	8.6	-19.3			MOZAMB KAPO	33	24	38	22	29	2.6	5.0	-135.0		
ROSTOV	-3	-8	3	-19	-6	-1.9	40.6	-24.6			ZAMBIA KABWE	28	18	31	17	23	2.5	111.8	-94.3		
ASTRAKHAN	-1	-9	7	-21	-5	0.3	3.5	-6.1			ZIMBAB HARARE	28	17	30	14	22	2.2	66.7	-91.0		
KRASNODAR	3	-4	20	-19	-1	-0.6	20.6	-33.9			S AFRI PRETORIA	31	20	34	17	25	4.1	73.5	-12.2		
ORENBURG	-8	-14	4	-28	-11	2.8	19.6	-3.0			KROONSTAD	30	17	34	15	24	1.7	81.5	0.5		
TSELINOGRAD	-9	-16	-1	-28	-13	4.0	19.8	13.5			JOHANNESBURG	28	17	31	14	22	3.3	53.8	-42.6		
KARAGANDA	-6	-14	3	-27	-10	3.9	25.5	8.3			BETHAL	27	15	31	13	21	2.4	62.4	-36.7		
TBILISI	8	1	20	-3	4	1.0	20.9	-2.1			DURBAN	29	23	33	20	26	2.2	34.2	-75.2		
TASHKENT	11	2	23	-5	7	4.5	15.2	-36.2			CAPE TOWN	25	16	33	11	21	0.3	18.6	1.8		
ASHKABAD	12	1	24	-7	7	2.2	12.7	-14.6			CANADA TORONTO	-1	-11	4	-24	-6	0.1	14.3	-31.6		
SYRIA DAMASCUS	18	3	24	-3	11	2.0	6.0	-26.4			MONTREAL	-6	-17	4	-31	-11	-2.4	33.7	-31.6		
ISRAEL JERUSALEM	16	7	24	2	11	1.2	41.7	-76.1			WINNIPEG	-2	-10	3	-21	-6	9.0	41.8	24.4		
PAKIST KARACHI	29	13	32	9	21	0.7	0.0	-8.6			REGINA	-1	-11	6	-19	-6	7.2	17.6	1.5		
INDIA AMRITSAR	23	8	25	4	15	0.9	12.0	-9.8			SASKATOON	-4	-13	4	-25	-8	6.7	13.5	-4.5		
NEW DELHI	26	12	30	9	19	1.6	19.2	4.5			LETHBRIDGE	7	-7	18	-25	0	5.4	11.4	-7.6		
AHMEDABAD	32	15	35	1	24	0.9	25.0	24.0			CALGARY	6	-9	17	-18	-2	5.6	3.0	-12.5		
INDORE	30	12	33	2	21	1.0	6.0	4.3			EDMONTON	1	-7	9	-16	-3	6.2	7.3	-11.6		
CALCUTTA	30	16	35	8	23	0.3	2.8	-9.1			VANCOUVER	10	3	15	-2	7	1.9	78.2	-36.5		
VERAVAL	30	17	35	14	23	1.0	0.0	-1.5			MEXICO GUADALAJARA	25	6	28	0	15	-1.4	24.8	18.0		
BOMBAY	32	19	36	17	26	1.3	0.0	-0.9			MEXICO CITY	23	9	28	2	16	2.0	7.0	0.9		
POONA	32	12	34	1	22	-1.0	3.0	3.0			ACAPULCO	32	22	34	21	27	0.9	0.0	0.0		
BEGAMPET	31	18	35	14	24	-0.1	0.0	-4.9			BERMUD ST. GEORGES	19	15	22	11	17	-0.7	136.8	29.4		
MADRAS	30	21	33	19	25	-0.5	0.0	-3.7			BAHAMA NASSAU	26	18	30	11	22	1.2	80.0	38.7		
MANGALORE	33	22	35	19	27	0.5	0.0	-2.0			CUBA HAVANA	28	20	32	15	24	1.7	121.8	69.5		
H KONG HONG KONG	21	17	25	10	19	2.8	10.8	-31.0			JAMAIC KINGSTON	31	23	33	20	27	0.9	5.7	-14.6		
N KREA PYONGYANG	1	-8	8	-22	-4	1.4	41.4	30.5			P RICO SAN JUAN	29	21	31	19	25	0.4	30.5	-20.8		
S KREA SEOUL	4	-3	13	-9	1	2.4	50.0	28.9			GUADEL RAIZET	30	20	31	16	25	0.8	8.1	-40.6		
JAPAN SAPPORO	-1	-6	7	-14	-4	0.6	81.1	-10.8			MARTNQ LAMENTIN	29	21	30	16	25	1.5	9.2	-78.7		
NAGOYA	10	2	19	-3	6	1.7	41.5	-19.8			BARBAD BRIDGETOWN	29	23	30	19	26	0.5	20.0	-27.8		
TOKYO	11	4	23	-1	7	1.6	31.5	-31.9			TRINID PORT OF SPAIN	31	22	33	19	27	1.8	8.6	-39.1		
YOKOHAMA	11	3	21	-1	7	1.6	30.5	-41.3			COLOMB BOGOTA	20	7	22	0	13	0.4	36.6	-1.2		
KYOTO	10	2	20	-2	6	1.6	40.8	-26.5			VENEZU CARACAS	29	22	34	15	26	1.0	0.0	-38.9		
OSAKA	10	4	20	-1	7	1.1	46.0	-13.5			F GUIA CAYENNE	30	24	31	21	27	1.7	132.3	-235.3		
THAILN PHETCHABUN	35	21	38	15	28	1.8	31.0	5.3			BRAZIL FORTALEZA	31	24	32	22	27	0.2	143.4	-82.4		
BANGKOK	33	24	34	19	28	0.4	0.0	-25.3			RECIFE	30	23	32	20	27	-0.5	142.2	35.6		
MALAYS KUALA LUMPUR	33	22	35	21	27	0.9	45.4	-111.8			BELO HORIZONTE	30	20	33	16	25	1.7	82.0	-134.4		
VIETNM HANOI	23	19	28	14	21	3.9	67.2	39.3			CAMPO GRANDE	29	20	34	12	25	0.3	240.0	41.1		
CHINA HARBIN	-8	-20	2	-29	-14	1.7	4.9	0.0			FRANCA	27	18	30	15	22	0.9	215.4	-4.6		
HAMI	7	-7	13	-13	0	5.2	0.0	0.0			RIO DE JANEIRO	30	25	34	21	27	0.6	118.0	-33.1		
LANCHOW	9	-4	14	-12	2	4.4	1.5	-0.8			LONDRINA	28	19	33	13	24	-0.3	186.3	-15.5		
BEIJING	6	-5	16	-11	1	2.7	2.8	-4.6			SANTA MARIA	30	20	37	12	25	0.8	177.6	36.6		
TIENTSIN	5	-4	15	-9	1	2.2	6.3	0.2			PORTO ALEGRE	30	22	37	14	26	1.5	104.7	0.8		
LHASA	10	-6	16	-12	2	0.4	0.0	-3.4			PERU LIMA	29	22	31	21	25	3.1	0.2	0.2		
KUNMING	18	4	23	1	11	1.4	12.3	1.0			BOLIVI LA PAZ	14	4	19	1	9	0.1	46.6	-57.6		
CHENGCHOW	10	-1	21	-8	4	2.2	15.3	2.8			CHILE SANTIAGO	30	13	34	9	21	1.5	0.0	0.0		
YEHCHANG	12	5	23	-1	8	1.5	21.7	-6.4			ARGENT IGUAZU	28	19	34	10	24	***	207.4	***		
HANKOW	11	3	26	-2	7	2.3	53.3	-5.9			FORMOSA	31	21	35	11	26	-1.1	263.1	127.1		
CHIHKIANG	13	6	28	0	10	3.3	37.1	-11.6			CERES	31	20	37	10	25	0.3	54.2	-49.8		
SHANGHAI	11	3	27	-6	7	2.6	22.5	-40.2			CORDOBA	29	18	36	8	23	0.8	97.1	-13.5		
NANCHANG	12	6	28	-1	9	2.6	69.2	-26.0			RIO CUARTO	29	18	34	8	23	1.4	66.3	-19.5		
TAIPEI	20	15	28	7	17	2.2	48.5	-87.4			ROSARIO	30	18	34	7	24	1.1	93.8	-14.3		
CANTON	22	14	28	7	18	4.3	23.7	-30.2			BUENOS AIRES	29	19	34	8	24	1.9	210.2	112.5		
NANNING	22	15	30	8	19	5.0	21.8	-14.7			SANTA ROSA	29	17	36	5	23	0.7	33.4	-38.7		
CNRY I LAS PALMAS	21	16	24	13	18	1.1	1.1	-20.9			TRES ARROYOS	29	17	35	8	23	1.9	57.1	-6.4		
MOROCC CASABLANCA	18	10	22	4	14	0.5	77.6	17.3			MIDW I MIDWAY ISLAND	21	17	24	13	19	0.3	54.4	-56.2		
MARRAKECH	20	9	30	5	14	1.1	35.8	0.0			N CALD NOUMEA	28	22	32	20	25	-0.8	69.5	-38.4		
ALGERI ALGER	17	8	24	3	12	0.7	134.8	47.3			FIJI NAUSORI	30	25	34	22	27	0.6	361.4	30.7		
BATNA	11	2	18	-9	6	0.1	35.2	5.2			SAMOA PAGO PAGO	31	25	32	23	28	0.9	276.1	-25.5		
TUNISI TUNIS	16	9	20	5	12	0.6	98.3	40.7			TAHITI PAPEETE	32	25	33	24	28	1.6	198.8	-26.4		
NIGER NIAMEY	37	20	42	17	29	1.3	0.0	0.0			N ZEAL AUCKLAND	23	15	26	12	19	-1.3	49.1	-43.5		
MALI TIMBUKTU	34	16	38	12	25	0.4	0.0	0.0			WELLINGTON	20	13	25	9	17	-0.1	55.3	-17.9		
BAMAKO	36	22	40	19	29	1.4	0.0	0.0			PA N G PORT MORESBY	30	24	33	23	27	-0.2	206.6	-0.4		
MAURIT NOUAKHOTT	33	17	41	13	25	1.9	1.1	-0.8			AUSTRAL DARWIN	29	25	32	23	27	-0.7	376.7	14.5		
SENEGL DAKAR	24	17	35	16	21	0.0	0.0	-1.3			MOREE	32	23	38	19	27	1.2	54.4	-15.2		
CHAG A DIEGO GARCIA	31	26	33	23	28	0.8	519.5	238.5			BRISBANE	29	22	32	20	25	0.4	81.7	-93.8		
LIBYA TRIPOLI	19	8	30	2	14	0.4	38.2	0.7			PERTH	32	16	39	12	24	-0.7	0.4	-14.1		
BENGHAZI	20	10	28	6	15	1.5	16.4	-18.6			CEDUNA	24	16	34	10	20	-1.9	17.9	4.3		
EGYPT CAIRO	23	11	32	7	17	1.6	9.0	5.1			ADELAIDE	26	17	34	13	21	-0.5	43.5	-2.0		
ASWAN	25	13	31	8	19	1.1	0.0	-0.1			MELBOURNE	24	13	29	8	19	-1.5	74.7	19.8		
ETHIOP ADDIS ABABA	24	9	27	-1	16	-1.1	65.8	29.0			WAGGA	29	18	41	11	24	0.0	59.5	24.4		
KENYA NAIROBI	28	13	31	9	21	0.5	61.0	16.1			CANBERRA	27	14	36	9	20	0.4	102.3	46.3		
											INDONE DJAKARTA	29	24	32	12	27	-0.1	443.1	87.1		
											PHILIP MANILA	31	20	34	16	25	-0.8	0.0	-4.6		



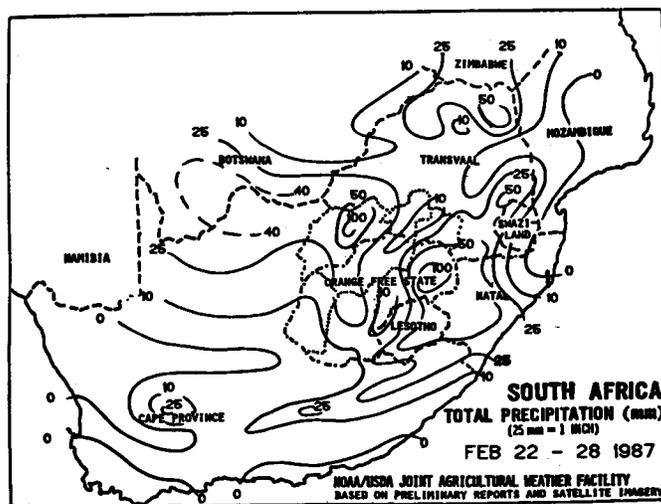
WESTERN U.S.S.R. ... Several storm systems crossed the region and produced widespread precipitation. Light to moderate snow covered western and northern winter grain areas, increasing the snow cover. Greatest amounts of precipitation (20 to 34mm) covered winter grains in the eastern Ukraine, lower Volga, and the northern North Caucasus, where light, continuous rain turned to snow showers. A cooling trend occurred over the region with temperatures in the west and north falling to below normal by week's end.



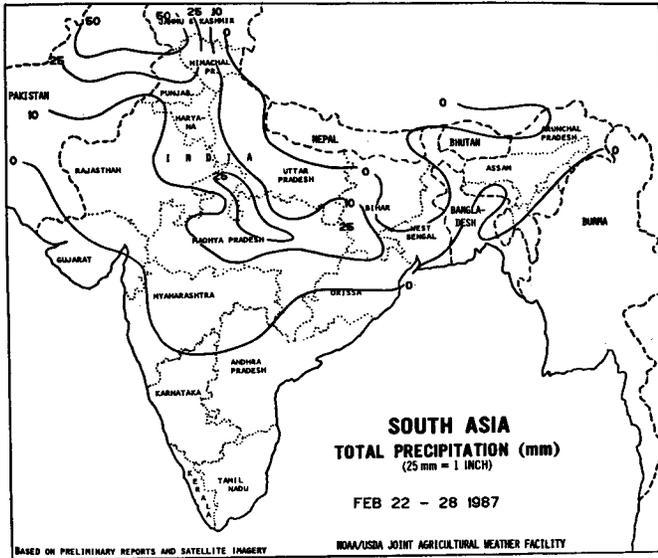
EUROPE ... Precipitation increased in western and north-central Europe, with rainfall amounts from 10 to 25mm increasing soil moisture. Dry weather covered winter grains in Italy's Po Valley, while light precipitation (less than 10mm) covered Eastern Europe. The precipitation over Eastern Europe occurred as snow, increasing the snow cover. Elsewhere, a storm system in the eastern Mediterranean produced above-normal precipitation over southern Italy and the lower Balkan peninsula. Temperatures were above normal in western and north-central areas but were below normal in Eastern Europe.



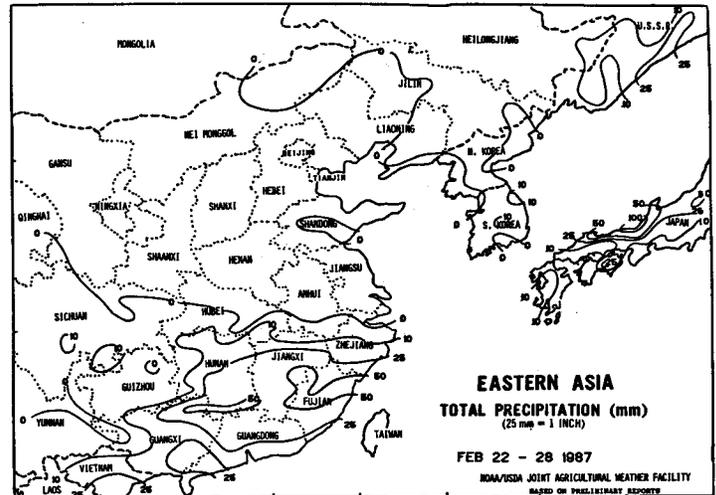
NORTHWESTERN AFRICA ... Rainfall diminished over Moroccan winter grain areas. Light showers (2 to 10mm) covered winter grains in northern Morocco, while the second consecutive week of dryness in southern Morocco caused winter grains to rely on limited soil moisture for continued growth. Widespread, beneficial showers (20 to 50mm) in Algeria and Tunisia continued to provide abundant moisture for winter grains. Winter grains were in the jointing stage over much of the region and normally advance through the critical reproductive and filling stages from late March through April.



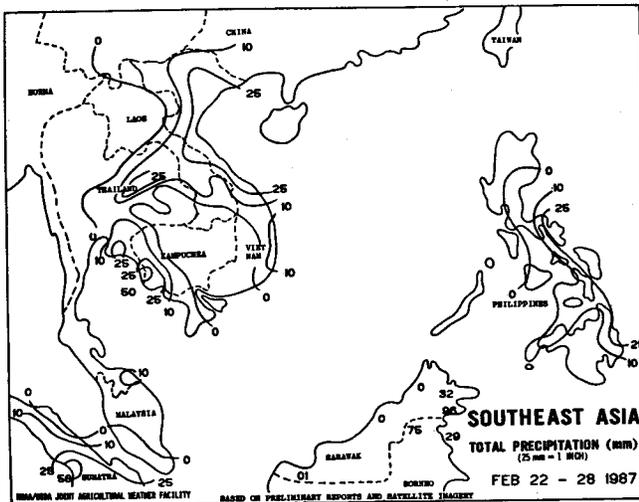
SOUTH AFRICA ... Beneficial showers (10 to more than 100mm) covered South Africa's corn areas. Except for areas in the central Orange Free State and southern Transvaal, rainfall averaged above normal. Maximum temperatures averaged 28 to 33 degrees C, with highest temperatures in those areas of the Orange Free State and Transvaal receiving the lightest rainfall. Corn is advancing through reproduction throughout South Africa, underscoring the timeliness of the recent beneficial weather. However, earlier periods of hot, dry weather have irreversibly damaged crops in parts of the southwest Orange Free State and northern Transvaal.



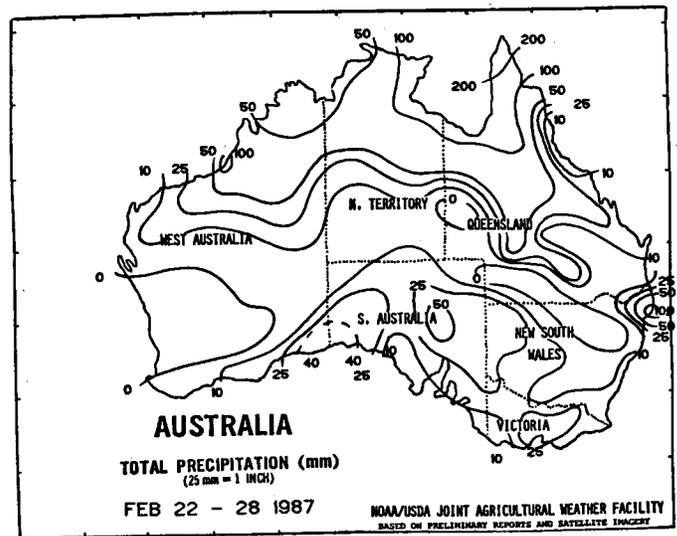
SOUTH ASIA ... Moderate to heavy showers (10 to more than 100mm) improved moisture reserves for reproductive winter grains in Pakistan and northern India. However, showers extended into cotton areas of Maharashtra, possibly slowing late cotton harvesting. Summer rice areas of southern India remained dry.



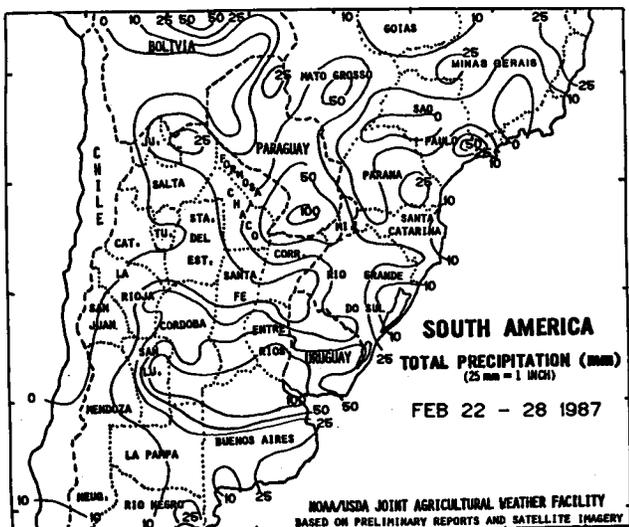
EASTERN ASIA ... Dry weather returned to winter grain areas in the North China Plain. Near-normal temperatures accompanied the dry weather. Timely planting rain covered early-rice areas of Guanxi, Guangdong, Jiangxi, southern Hunan, and Fujian. Rainfall amounts in these areas ranged from 25 to 50mm with localized areas receiving rainfall in excess of 50mm, lessening irrigation requirements. Rain is needed in early-rice areas of Hubei, Anhui, and Jiangsu as planting progresses northward during March.



SOUTHEAST ASIA ... Unseasonable showers (10 to more than 50mm) extended from southern Thailand and Kampuchea to northern and central Vietnam. In the Philippines, dry weather continued in northern Luzon and southern Mindanao, as scattered showers continued elsewhere. Mostly dry weather covered Malaysia, but seasonable, tropical showers in Indonesia may have produced local flooding in Java.

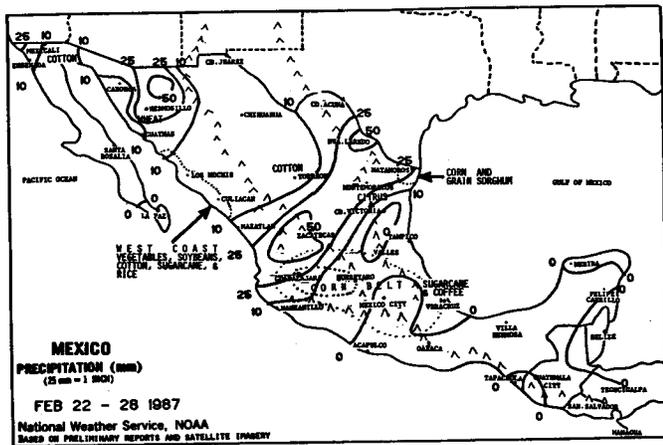


AUSTRALIA ... Below-normal rainfall (less than 9mm) continued in the summer crop areas of southeast Queensland and northern New South Wales, as maximum temperatures averaged 31 to 33 degrees C. Warm, drier-than-normal weather has persisted since early February, increasing the need for irrigation of grains and cotton advancing through reproduction. Rainfall averaged about 10mm in most sugarcane areas along Queensland's coast. Seasonable heavy rain (50 to 135mm) benefited crops to the north. In most dry areas, irrigation is being used heavily to supplement the rainfall.



SOUTH AMERICA ... In Argentina, widespread showers and thunderstorms produced locally heavy rain (50 to over 100mm) over the major summer crop areas of northern Buenos Aires, northeastern La Pampa, southern Cordoba, and southern Santa Fe. The wetness brought beneficial moisture for immature crops, especially soybeans, which range from flowering to pod filling, but came too late for maturing grains stressed by earlier hot, dry weather. Early harvesting of sunflowers, corn, and sorghum began, but the locally heavy showers halted fieldwork. Heavy showers inundated southern Paraguay for the second consecutive week, while substantial rain (20 to 45mm) favored immature soybeans over much of south-central Brazil. Isolated heavier showers (50 to 95mm) kept southern Mato Grosso do Sul wet, while light rain (less than 10mm) covered soybean areas of western Parana, central Sao Paulo, and south-eastern Minas Gerais. Temperatures generally averaged above normal throughout the region.

SPECIAL MEXICO WEATHER SUMMARY



Unseasonable heavy rain of 25 to 50mm and more fell from the north-central Pacific coast to the southern Texas border and in the Northwest. Temperatures averaged 2 to 4 degrees C below normal in most of the northwestern half of Mexico. Temperatures were below freezing in the northern highland states but were not as low as those that occurred in January (see Weekly Weather and Crop Bulletin, Jan. 27, 1987, Vol. 74, No. 4).

EL NINO AND GLOBAL CLIMATIC CONDITIONS

The "ENSO" (El Nino-Southern Oscillation) conditions* that currently prevail in the Equatorial Pacific are likely to be associated with climatic anomalies worldwide, as have previous ENSO events.

The Climate Analysis Center studies (Ropelewski and Halpert, 1986 and 1987) identified those regions where significant climatic responses to an El Nino are most likely. Statistical analysis of anomalous climatic conditions that occurred at the time of previous El Nino events obtained these results. The map shows the regions, the nature of the anomaly, and the most likely months of occurrence.

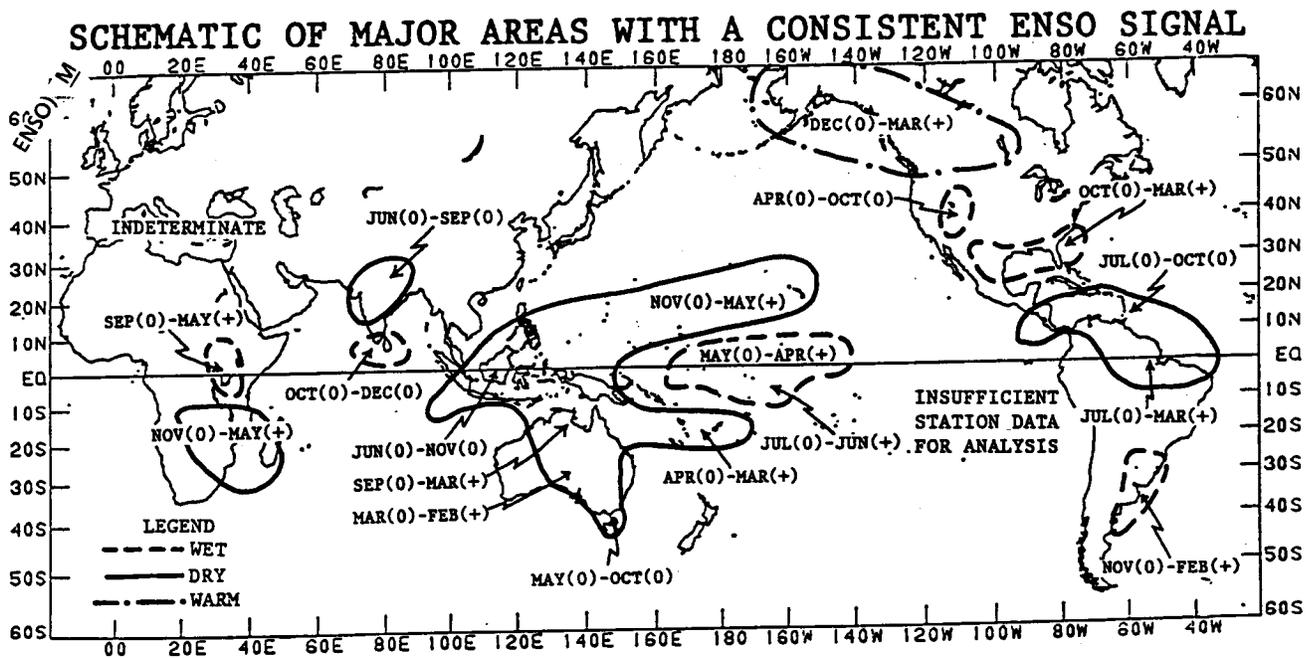
Not every indicated anomaly occurs with every ENSO event. The very strong event of 1982-83 triggered a response in nearly all of the indicated areas. The weaker event currently underway has likely played a role in the occurrence of some recent climatic anomalies. The persistently above-normal temperatures in western Canada and the heavier-than-normal precipitation in the southeastern United States during recent months agree with results of the study.

Scientists believe that an El Nino brings about large-scale climatic aberrations by adding extra heat from the warmer-than-normal ocean waters to the overlying atmosphere, thereby changing atmospheric circulation patterns to some extent. Since no two ENSO events are identical in every detail, it is not possible to predict the resulting disturbance of climatic conditions exactly. Research continues on the causes of ENSO events and the way they affect global climatic conditions.

References

- C. F. Ropelewski, and M. S. Halpert. "Global and Regional Scale Precipitation Patterns Associated with the El Nino/Southern Oscillation," *Monthly Weather Review*, in press.
- C. F. Ropelewski, and M. S. Halpert. "North American Precipitation and Temperature Patterns Associated with the El Nino/Southern Oscillation, (ENSO)" *Monthly Weather Review*, 114, 2352-2362. (Dec. 1986).

*See Weekly Weather and Crop Bulletin, Feb. 24, 1987, Vol. 74, No. 8



(After Ropelewski and Halpert, 1987)

The map shows regions likely to experience anomalous climatic conditions during an ENSO event. A "0" in parentheses after the month indicates the month of the same year as the ENSO event began; a "+" indicates the following year. For the event currently in progress, "0" is 1986 and "+" is 1987. For example, above-normal temperatures in Alaska and western Canada are shown as likely between December 1986 and March 1987.

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(Continued from p.13)

where fertilized. Movement livestock off fields for grain started Blacklands. Livestock continued good. Marketings steady, prices good. Inclement weather caused some sickness. Lambing continued many areas.

UTAH: Precipitation light north central, heavy northern mountains, moderate elsewhere. Temperature 80 below to 20 above normal.

Plowing, spring planting reported south. Winter wheat 31% fair, 63% good, 7% excellent. Hay adequate to surplus. Livestock generally good to excellent. Early calving begun. Major farm activities: Livestock care, hauling manure, fertilizer application, machinery repair, farm records, marketing.

VIRGINIA: Highly variable weather. Rain followed by sunshine, mild temperatures mid period. Colder with snow, sleet in mountains. Continued rain on saturated ground produced minor flooding. Overnight lows continued well below freezing.

Fields not suitable for work during week. Topsoil moisture 90% surplus with water, some snow standing in fields. Supplemental livestock feeding, care continued as primary activity. Some tobacco plantbeds seeded before rain, snow began. Sunny, warm weather 1st encouraged eastern shore farmers preparing to plant potatoes.

WASHINGTON: Clear skies, cool temperatures statewide except weekend, rain showers west of Cascades. Precipitation below normal. Snow cover thaw continued.

Days suitable for fieldwork 5.8. Hay 80% adequate, 20% surplus. Winter wheat 90% good, 10% excellent. Nurserymen fear frost damage from cooler temperatures. Orchard pruning, clean up continued. Some field preparation activities underway. Early spring planting began for wheat, barley, peas, potatoes. Calving, lambing on going.

WEST VIRGINIA: Average temperature 38°, 1 to 3° above normal. Extremes 10° Green Bank; 65° Morgantown. Precipitation averaged 0.85 in.; above normal southern section, below normal elsewhere.

Soil moisture 11% short, 56% adequate, 33% surplus. Feed supplies 10% short, 90% adequate.

WISCONSIN: Temperatures above normal, averaged 32°; Low 30°; high 48°. Precipitation 0.50 to 1.25 in. Snowfall 1 to 10 in. on 28th, 1st. Average snow depth 1 in. on 27th. Frost depth averaged 13.5 in.

Soils drying, relatively good condition for late February.

WYOMING: Precipitation above normal. Temperatures cool.

Winter wheat fair to good. Livestock good. Early calving, lambing, shearing underway. Supplemental feeding continued as needed. Hay supplies adequate.

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