

# WEEKLY WEATHER AND CROP BULLETIN

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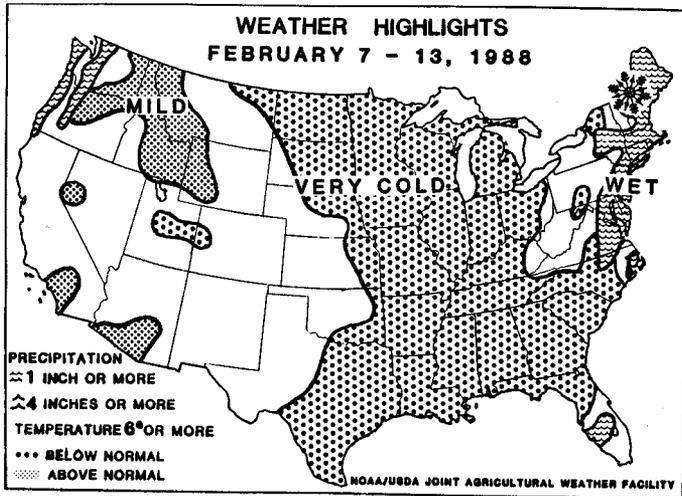
Feb. 17, 1988

**CORRECTION:**

Volume 75, No. 9 to read  
Volume 75, No. 6

## National Weather Summary

February 7 - 13, 1988



**HIGHLIGHTS:** A winter storm swept through the northern Plains and Great Lakes region the first half of the week. A second winter storm developed over the southern Plains on Wednesday, and during the remainder of the week spread snow, sleet, rain, and freezing rain across most of the Nation east of the Rockies. The eastern two-thirds of the Nation was quite cold, while the western third was warmer than normal.

**SUNDAY...**Very cold weather occurred in the Ohio Valley, the mid-Atlantic States, and the Southeast. Snow fell in parts of Louisiana and east Texas. Snow and blowing snow spread across the Great Lakes region and parts of the Northeast. Winds gusted to over 60 miles per hour on the eastern slopes of the Rockies. The Southwest continued dry and relatively warm.

**MONDAY...**Snow and blowing snow developed over the upper and middle Mississippi Valley, as a frontal system brought colder arctic air into the region. Northerly winds of 10-20 miles per hour accompanied the new surge of arctic air across the northern half of the Plains. Warm, sunny weather continued in the Southwest.

**TUESDAY...**The surge of new arctic air that affected the northern Plains on Monday continued southward. Northerly winds gusting up to 30 miles per hour accompanied the arctic air mass into Nebraska and Iowa. High winds accompanied snow and blowing snow in Wyoming and Colorado. More record high temperatures occurred in southern California.

**WEDNESDAY...**Storm development over the southern and central Plains caused snow to spread across the upper and middle Mississippi Valley, the Great

Lakes region, and the Ohio Valley. Very cold weather prevailed over the northern part of the Nation from the Rockies eastward. Temperatures fell to below 20 degrees Fahrenheit as far south as Texas, and northerly winds gusted to 35 miles per hour in Kansas, Oklahoma, and Texas. Strong winds again developed on the eastern slopes of the Rockies. Warm, dry weather continued in the desert Southwest.

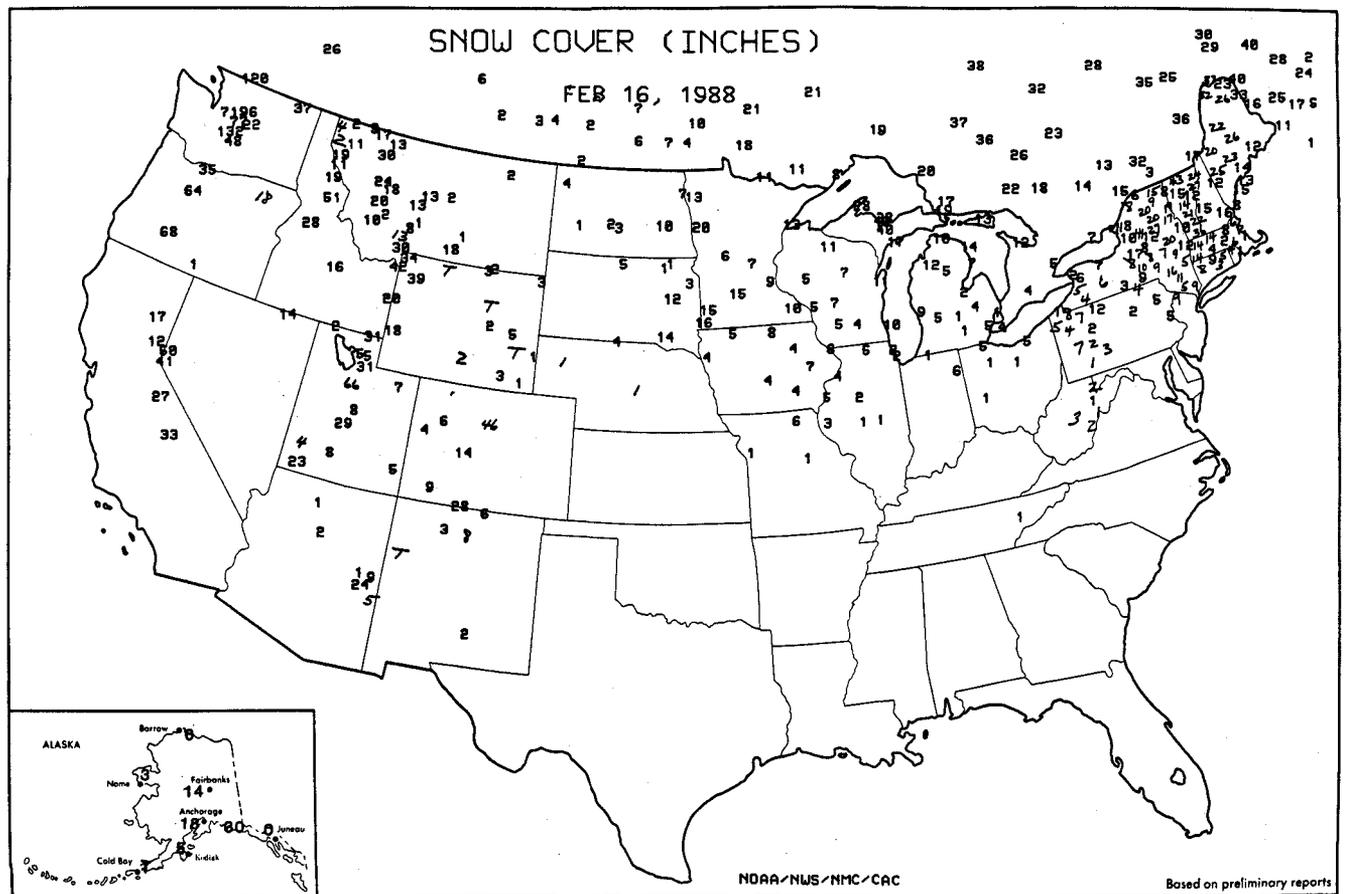
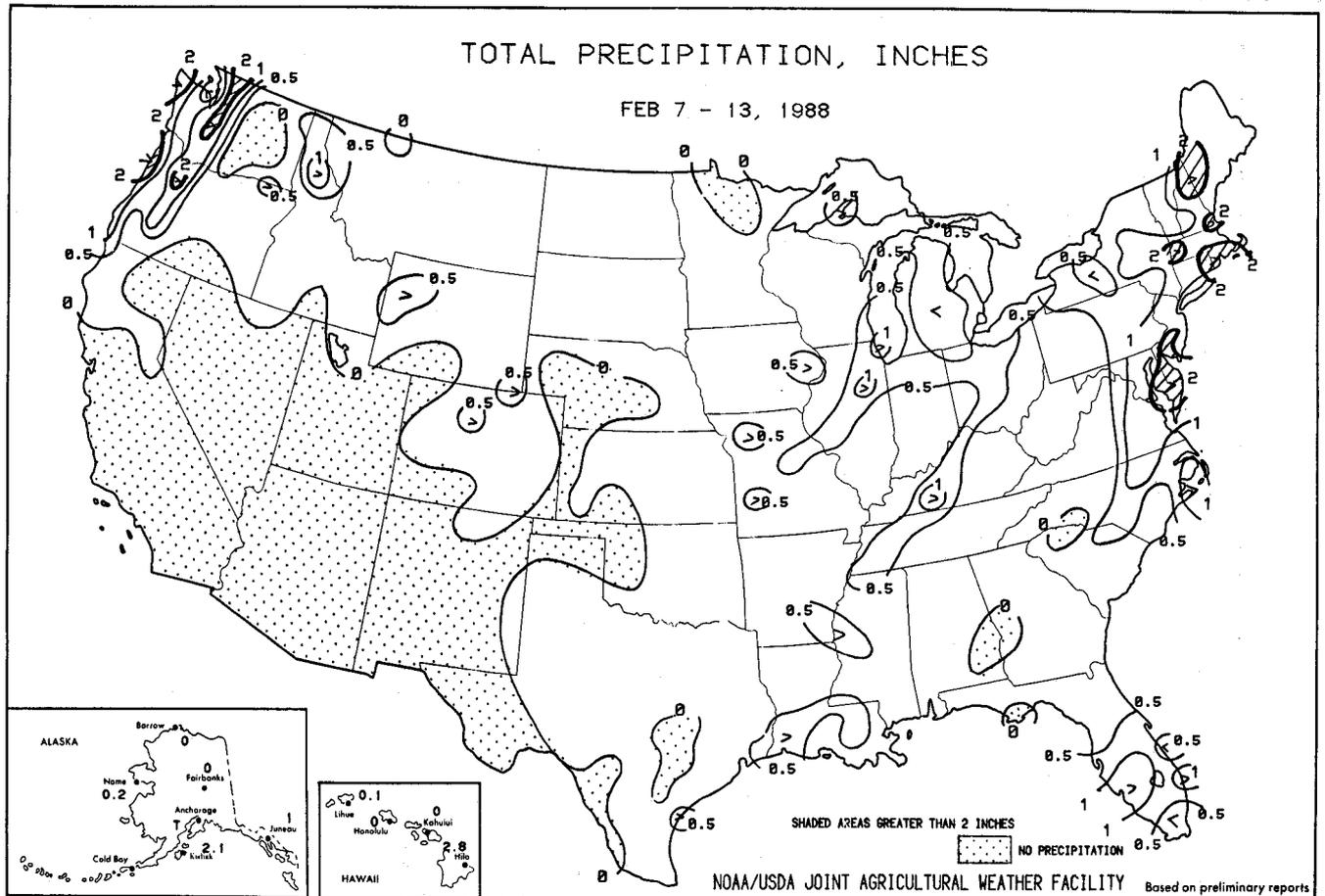
**THURSDAY...**A winter storm moved northeastward from the lower Mississippi Valley into the Ohio and Tennessee Valleys. Snow extended from lower Michigan across eastern Illinois, Indiana, and western Ohio, Kentucky, Tennessee, and northern Alabama. Rain was scattered across the upper Ohio Valley, the middle Atlantic States, and parts of the Southeast. Snow and sleet fell in parts of Texas and Arkansas. Unseasonably warm weather continued in California. The eastern slopes of the Rockies again experience strong gusty winds.

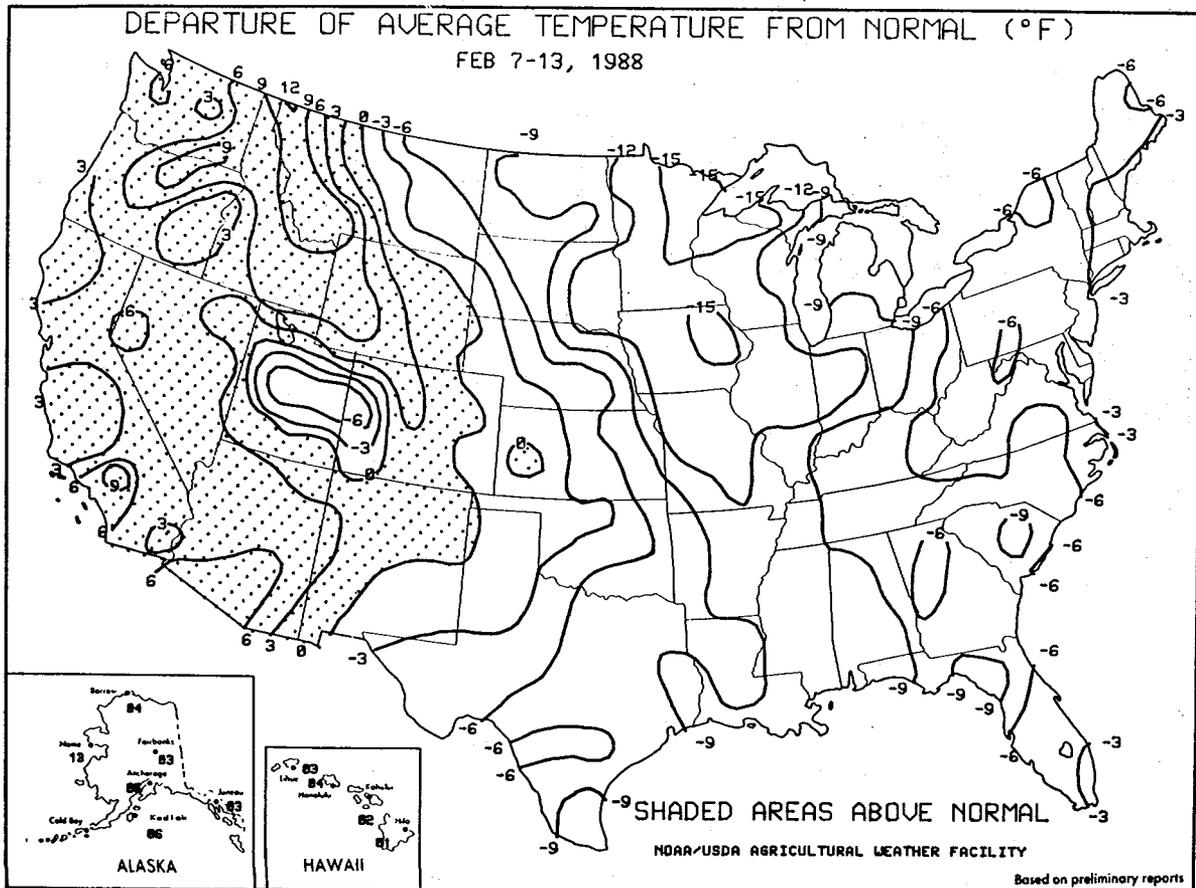
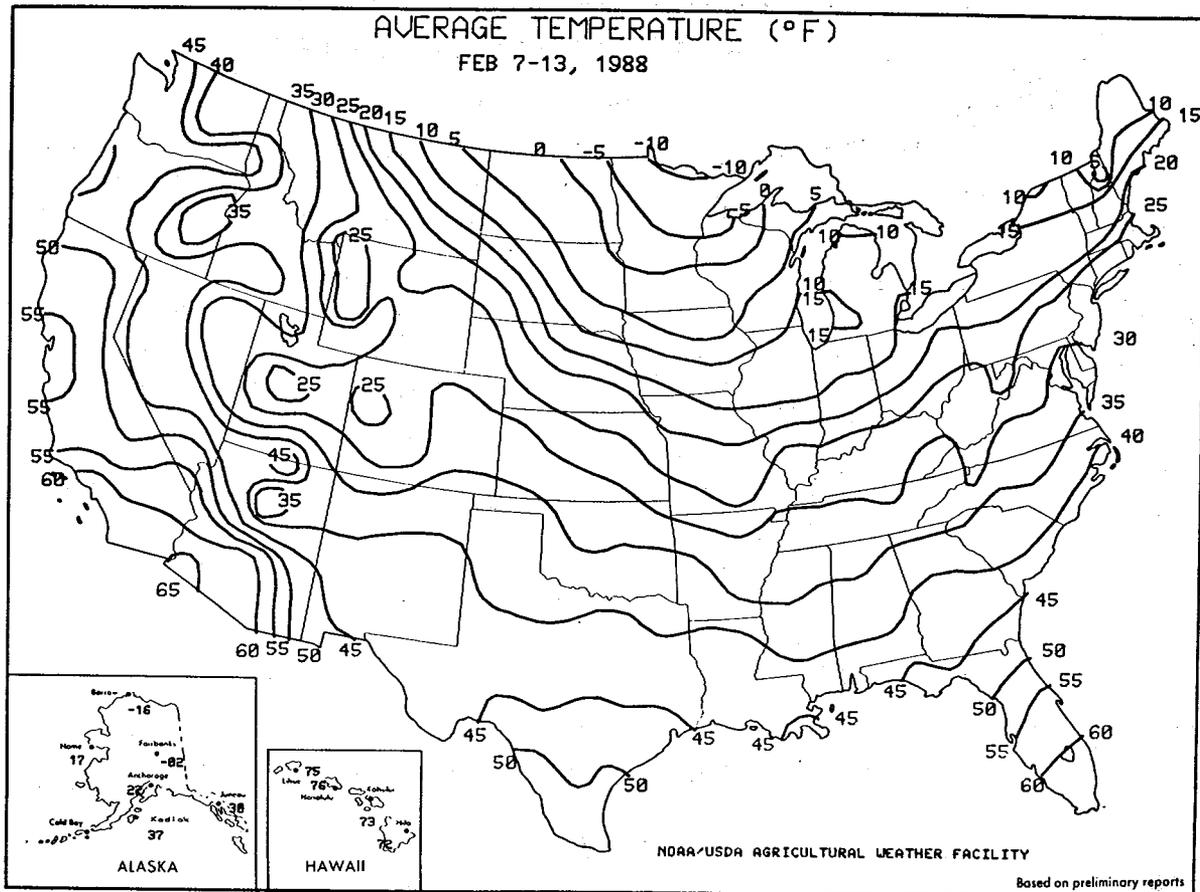
**FRIDAY...**The storm that dominated Wednesday's and Thursday's weather picture continued its north-easterly course to New York State and New England. Precipitation was mostly rain along the middle Atlantic coast, but was mostly snow in Pennsylvania, New York, and New England. Near-blizzard conditions prevailed in parts of New Hampshire and Maine. Colder air moving into the mid-Atlantic region caused rain to change to snow late in the day. Lake-effect snow fell in Michigan. A cold front brought strong, gusty winds to parts of the Pacific Northwest. Above-normal temperatures continued west of the Rockies.

**SATURDAY...**Precipitation ended in most of the Northeast as a cold high-pressure system came to dominate the weather picture. Northerly winds brought subfreezing temperatures as far south as northern Florida. Snow squalls were common over areas downwind from the Great Lakes. Strong, gusty winds developed in parts of the Southwest.

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# National Weather Data for Selected Cities

Weather Data for the Week Ending February 13, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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	TEMPERA- TURE °F		PRECIPI- TATION	
																		90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	49	21	61	12	35	-10	.1	-1.0	.1	9.8	80	6.7	93	86	29	0	7	1	1	0	
MOBILE	56	29	64	19	42	-10	.1	-1.1	.1	9.9	82	6.3	94	86	36	0	7	1	1	0	
MONTGOMERY	54	24	65	17	39	-10	T	-1.0	T	14.1	129	9.8	160	85	25	0	5	7	1	0	
AK ANCHORAGE	27	17	32	12	22	5	T	-2	T	1.5	67	.4	35	86	62	0	7	1	1	0	
BARROW	-9	-23	-2	-30	-16	4	T	0	T	.2	41	T	0	80	65	0	7	7	0	0	
FAIRBANKS	18	-15	18	-22	-2	3	0	0	0	.9	59	.4	47	84	56	0	4	0	0	0	
JUNEAU	34	27	37	15	30	3	1.0	0	1.0	9.1	90	3.7	69	88	86	0	4	1	1	1	
KODIAK	40	35	41	30	37	7	2.1	.8	.8	13.6	99	11.2	136	96	80	0	1	6	1	1	
NOME	24	10	32	-9	17	13	.2	.1	.2	1.8	110	.6	62	82	57	0	7	1	1	0	
AZ PHOENIX	77	49	84	47	63	7	0	-1	0	2.7	153	1.1	115	63	19	0	0	0	0	0	
PRESCOTT	63	25	68	21	44	5	0	-4	0	2.5	60	1.8	73	71	21	0	7	0	0	0	
TUCSON	77	42	86	40	60	7	0	-2	0	2.5	124	1.0	94	63	14	0	0	0	0	0	
YUMA	80	52	83	47	66	6	0	-1	0	1.0	122	.4	78	44	16	0	0	0	0	0	
AR FORT SMITH	47	23	62	13	35	-6	.1	-4	.1	10.5	186	2.4	85	87	49	0	6	1	0	0	
LITTLE ROCK	43	23	54	10	33	-10	.1	-8	.1	18.6	189	4.8	86	77	51	0	5	2	0	0	
CA BAKERSFIELD	70	38	79	33	54	2	0	-3	0	1.7	78	.8	56	88	37	0	0	0	0	0	
EUREKA	56	46	60	44	51	3	.1	-1.2	.1	18.2	115	7.2	76	94	86	0	0	2	0	0	
FRESNO	68	36	75	32	52	2	0	-5	0	2.7	60	1.5	52	98	44	0	1	0	0	0	
LOS ANGELES	77	52	83	48	64	4	0	-7	0	4.2	72	2.4	57	74	24	0	0	0	0	0	
REDDING	70	38	78	30	54	3	0	-1.6	0	16.3	87	7.3	62	92	30	0	1	0	0	0	
SACRAMENTO	69	41	74	35	55	5	0	-8	0	5.8	69	2.6	48	96	42	0	0	0	0	0	
SAN DIEGO	76	49	83	45	63	6	0	-4	0	4.9	103	2.2	76	70	22	0	0	0	0	0	
SAN FRANCISCO	67	46	74	41	56	5	0	-8	0	8.4	86	3.9	62	92	52	0	0	0	0	0	
CO DENVER	49	21	64	4	35	2	.2	.1	.2	2.0	154	.7	92	81	33	0	6	1	1	0	
GRAND JUNCTION	39	11	42	5	25	-7	.1	-1	.1	2.1	147	1.3	147	87	51	0	7	1	1	0	
PUEBLO	51	16	64	5	34	-1	.1	0	.1	1.2	180	.7	209	99	43	0	7	1	1	0	
CT BRIDGEPORT	34	22	40	9	28	-2	1.4	.6	1.4	7.1	86	5.0	110	75	45	0	7	1	1	1	
HARTFORD	32	15	36	1	24	-3	1.9	1.1	1.8	7.9	87	6.4	129	75	44	0	7	2	1	1	
DC WASHINGTON	39	23	48	11	31	-5	.9	.2	.8	7.4	106	4.9	125	81	46	0	7	2	2	1	
FL APALACHICOLA	59	34	62	24	46	-8	T	-9	T	3.9	45	3.0	58	86	33	0	1	0	0	0	
DAYTONA BEACH	64	45	66	33	55	-4	.3	-5	.2	6.4	108	6.2	164	94	52	0	0	3	0	0	
JACKSONVILLE	59	37	64	25	48	-7	.1	-8	.1	7.4	105	7.2	158	95	46	0	2	2	0	0	
KEY WEST	70	59	74	54	64	-5	.4	-1	.4	7.9	180	5.2	193	89	67	0	0	1	0	0	
MIAMI	73	56	78	45	65	-3	.4	-2	.4	6.5	134	2.3	75	91	55	0	0	1	0	0	
ORLANDO	67	47	74	40	57	-4	.7	-1	.6	4.5	84	4.0	115	91	50	0	0	3	1	1	
TALLAHASSEE	61	27	71	21	44	-9	T	-1.2	T	5.0	44	4.0	58	86	26	0	7	1	1	0	
TAMPA	64	45	70	36	55	-6	.5	-2	.3	3.9	70	3.4	99	95	56	0	0	2	0	0	
WEST PALM BEACH	70	54	73	43	62	-3	1.1	.5	.8	6.1	98	4.6	116	95	58	0	0	4	1	1	
GA ATLANTA	52	27	60	16	39	-4	T	-1.1	T	11.5	104	7.4	108	70	26	0	5	1	0	0	
AUGUSTA	52	25	63	17	39	-8	.1	-9	.1	7.9	88	6.5	113	88	26	0	7	1	1	0	
MACON	57	25	65	16	41	-7	T	-1.1	T	8.0	77	6.1	98	86	23	0	7	1	1	0	
SAVANNAH	54	34	62	24	44	-7	.1	-7	.1	5.2	71	3.8	84	79	36	0	2	2	0	0	
HI HILO	79	65	81	62	72	1	2.8	-5	.9	35.3	125	13.1	85	95	65	0	0	7	2	2	
HONOLULU	83	69	84	66	76	4	0	-7	0	20.3	241	3.1	61	79	49	0	0	0	0	0	
KAHULUI	81	65	83	60	73	2	T	-7	T	13.3	162	7.8	141	86	55	0	0	0	0	0	
LIHUE	79	70	80	65	75	4	.1	-8	.1	21.3	158	10.4	129	86	65	0	0	2	0	0	
ID BOISE	49	31	59	24	40	5	.3	0	.1	2.6	76	1.6	72	98	52	0	5	4	0	0	
LEWISTON	52	37	58	33	45	7	.1	-2	0	1.8	58	1.0	55	78	47	0	0	2	0	0	
POCATELLO	43	30	50	16	37	8	.1	-2	0	2.3	96	1.1	75	93	56	0	4	3	0	0	
IL CHICAGO	22	6	27	-5	14	-10	.7	-4	.4	6.5	148	2.8	134	87	53	0	7	4	0	0	
MOLINE	22	0	29	-14	11	-13	.6	-3	.5	7.1	174	2.6	122	86	65	0	7	4	1	1	
PEORIA	23	3	31	-12	13	-12	.4	-1	.3	6.7	161	2.6	119	89	66	0	7	2	0	0	
QUINCY	24	4	34	-11	14	-13	.1	-2	.1	5.4	149	1.6	84	81	63	0	7	1	0	0	
ROCKFORD	19	2	26	-7	10	-12	.3	0	.1	6.8	181	2.7	147	85	59	0	7	2	0	0	
SPRINGFIELD	25	5	34	-14	15	-13	.6	-2	.5	8.2	187	3.2	141	88	64	0	7	2	0	0	
IN EVANSVILLE	34	19	42	5	26	-7	.1	-6	.1	12.2	158	6.5	154	86	61	0	7	1	0	0	
FORT WAYNE	22	6	30	-6	14	-12	.7	-2	.6	6.4	118	2.9	99	89	67	0	7	3	1	1	
INDIANAPOLIS	26	8	33	-4	17	-12	.2	-4	.2	9.2	138	4.4	119	86	62	0	7	3	0	0	
SOUTH BEND	21	7	27	-3	14	-11	.7	-2	.2	7.7	123	3.6	107	87	65	0	7	7	0	0	
IA DES MOINES	20	0	36	-16	10	-13	.4	-2	.2	3.5	142	.9	62	85	62	0	7	4	0	0	
SIOUX CITY	23	-2	40	-22	10	-12	.4	-2	.3	1.6	95	1.2	117	87	58	0	7	4	0	0	
WATERLOO	13	-7	19	-20	3	-16	.3	-1	.2	2.9	128	1.1	95	93	68	0	7	3	0	0	
KS CONCORDIA	35	10	60	-9	23	-8	.1	-1	.1	2.1	130	1.3	143	84	56	0	7	1	0	0	
DODGE CITY	49	17	69	-2	33	-1	T	-1	T	1.6	148	.9	154	85	40	0	7	0	0	0	
GOODLAND	43	18	61	2	31	-1	T	-1	T	2.3	264	1.8	377	89	53	0	7	0	0	0	
TOPEKA	36	10	58	-7	23	-8	.2	-1	.2	4.1	160	2.2	172	87	55	0	7	1	0	0	
WICHITA	44	16	67	-2	30	-4	.1	-1	.1	2.9	152	.7	72	90	50	0	7	1	0	0	
KY BOWLING GREEN	37	18	49	8	27	-9	1.0	.1	.8	12.8	118	5.8	92	98	56	0	7	2	1	1	
LEXINGTON	35	17	49	3	26	-7	.2	-6	.2	11.4	130	5.2	104	84	53	0	7	1	0	0	
LOUISVILLE	34	20	42	10	27	-8	.4	-3	.4	11.3	138	6.6	139	91	55	0	7	1	0	0	
LA ALEXANDRIA	55	32	69	26	44	-8	T	-1.2	T	11.5	101	3.7	57	79	47	0	3	0	0	0	
BATON ROUGE	56	31	66	22	44	-9	.4	-8	.4	14.1	119	10.3	149	98	40	0	5	3	0	0	
LAKE CHARLES	53	33	64	26	43	-9	.8	0	.4	10.6	94	5.7	91	94	60	0	4	4	0	0	
NEW ORLEANS	56	32	65	25	44	-9	.3	-1.0	.3	11.8	93	8.9	121	92	45	0	4	1	0	0	

Based on 1951-80 normals.

Weather Data for the Week Ending February 13, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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	TEMPERATURE °F		PRECIPITATION	
																		.01 INCH OR MORE	.50 INCH OR MORE		
ME SHREVEPORT	56	27	68	17	41	-7	.3	-.6	.3	10.7	112	2.6	47	88	41	0	5	1	0		
ME CARIBOU	16	-3	23	-15	6	-5	1.5	1.0	.8	7.3	113	4.8	144	93	58	0	7	4	2		
ME PORTLAND	29	12	35	2	21	-1	1.1	-.1	1.0	5.9	60	3.9	73	84	43	0	7	4	1		
MD BALTIMORE	39	21	48	9	30	-4	1.5	.8	.9	7.6	99	5.6	130	77	47	0	7	2	2		
MD SALISBURY	43	21	52	11	32	-3	2.3	1.5	1.5	10.1	117	6.9	141	86	39	0	7	2	2		
MA BOSTON	34	21	39	8	28	-2	1.5	.6	1.5	7.5	74	5.4	95	81	46	0	7	2	1		
MA CHATHAM	39	24	47	13	31	1	1.5	.5	1.5	10.9	97	6.7	106	82	55	0	7	2	1		
MI ALPENA	18	2	23	-4	10	-6	.3	-.1	.1	4.0	94	1.8	80	90	59	0	7	5	0		
MI DETROIT	23	9	28	2	16	-3	.7	.4	.5	7.3	145	2.8	109	87	54	0	7	6	1		
MI FLINT	21	4	23	-4	12	-10	.4	-.1	.3	4.8	114	2.2	101	88	59	0	7	5	0		
MI GRAND RAPIDS	20	4	24	-1	12	-11	.3	-.1	.1	6.3	121	3.0	114	88	61	0	7	5	0		
MI HOUGHTON LAKE	19	3	23	-11	11	-6	.1	-.2	0	4.8	121	2.3	113	86	59	0	7	6	0		
MI LANSING	21	2	23	-7	11	-9	.2	-.1	.1	5.5	118	2.1	94	88	55	0	7	4	0		
MI MARQUETTE	14	-10	27	-19	2	-16	.1	-.3	0	7.7	172	4.1	172	96	60	0	7	3	0		
MI MUSKEGON	21	10	26	9	16	-7	.6	-.2	.2	8.1	143	3.9	126	88	59	0	7	6	0		
MI SAULT ST. MARIE	15	-4	20	-12	6	-8	.2	-.2	.1	6.5	118	3.5	117	73	45	0	7	4	0		
MN ALEXANDRIA	7	-14	18	-32	-4	-14	.1	-.1	.1	1.9	99	1.2	104	86	62	0	7	1	0		
MN DULUTH	7	-21	18	-26	-7	-18	.1	-.2	.1	1.5	53	.8	55	80	42	0	7	1	0		
MN INT'L FALLS	6	-25	20	-35	-10	-15	.1	-.2	.1	.7	31	.5	38	84	44	0	7	0	0		
MN MINNEAPOLIS	11	-9	21	-16	1	-14	.2	0	.2	2.9	146	1.6	144	81	54	0	7	2	0		
MN RHESTER	10	-9	18	-18	0	-14	.1	-.1	.1	3.1	158	1.3	125	87	66	0	7	2	0		
MS GREENWOOD	49	19	63	10	34	-12	.2	-.9	.2	7.6	61	3.3	45	90	40	0	7	1	0		
MS JACKSON	53	23	66	12	38	-10	.5	-.5	.5	7.0	57	3.5	50	91	39	0	7	1	0		
MS MERIDIAN	53	22	65	13	37	-11	.3	-.8	.3	9.7	76	5.2	74	94	31	0	7	1	0		
MO CAPE GIRARDEAU	36	18	45	5	27	-	.2	-.5	.1	12.6	159	4.4	106	88	60	0	7	2	0		
MO COLUMBIA	29	7	42	-14	18	-14	.6	-.2	.6	8.4	186	2.9	116	86	65	0	7	2	1		
MO KANSAS CITY	30	6	49	-11	18	-14	.3	-.1	.3	4.2	134	2.1	128	90	60	0	7	2	0		
MO SAINT LOUIS	29	13	37	-3	21	-11	.4	-.1	.3	12.2	255	4.8	184	80	62	0	7	3	0		
MO SPRINGFIELD	36	13	56	-6	25	-10	.3	-.2	.3	9.6	192	2.1	86	98	67	0	7	1	0		
MT BILLINGS	33	14	45	-9	24	-4	.2	0	.1	1.4	68	1.1	85	83	55	0	6	2	0		
MT GLASGOW	17	-3	42	-19	7	-7	.2	.1	.1	.7	81	.7	125	85	63	0	7	5	0		
MT GREAT FALLS	37	16	54	-5	26	0	.3	.1	.3	1.6	76	1.4	102	83	51	0	6	2	0		
MT HAVRE	24	3	47	-20	14	-6	.2	.1	.2	.5	40	.5	59	84	55	0	6	1	0		
MT HELENA	40	18	52	-4	29	4	.3	.2	.1	1.1	74	.7	78	92	51	0	7	4	0		
MT KALISPELL	41	27	48	11	34	8	.4	.2	.2	3.2	87	1.6	76	90	63	0	4	4	0		
MT MILES CITY	26	4	45	-19	15	-5	.1	0	.1	.4	29	.4	40	80	53	0	7	2	0		
MT MISSOULA	43	30	49	25	37	9	.4	.2	.2	2.3	77	1.2	66	95	57	0	6	4	0		
NE GRAND ISLAND	33	10	59	-9	22	-4	.1	-.2	.1	2.2	151	1.4	175	87	56	0	7	0	0		
NE LINCOLN	33	6	58	-10	20	-5	.1	-.2	.1	1.3	74	.5	51	89	53	0	7	2	0		
NE NORFOLK	27	0	53	-20	14	-9	.3	.1	.2	1.9	135	1.1	140	90	58	0	7	4	0		
NE NORTH PLATTE	34	8	52	-5	21	-5	.1	-.1	.1	1.6	162	.8	133	91	59	0	7	0	0		
NE OMAHA	25	3	43	-16	14	-12	.2	0	.1	1.4	76	.6	59	81	60	0	7	3	0		
NE SCOTTSBLUFF	43	15	58	2	29	0	.1	0	0	1.9	175	.9	149	86	45	0	7	2	0		
NE VALENTINE	28	2	44	-26	15	-7	.1	0	.1	2.7	399	.9	210	86	65	0	7	1	0		
NV ELY	47	18	56	9	33	4	0	-.2	0	2.0	111	1.3	125	83	39	0	7	0	0		
NV LAS VEGAS	68	38	75	34	53	4	0	-.1	0	1.8	180	.9	126	69	19	0	0	0	0		
NV RENO	61	25	66	20	43	6	0	-.3	0	1.1	38	.5	30	85	24	0	0	0	0		
NV WINNEMUCCA	52	28	55	18	40	5	0	-.2	0	1.9	93	1.2	101	84	42	0	6	0	0		
NH CONCORD	29	8	32	0	18	-3	.9	.3	.8	5.0	68	3.4	88	85	44	0	7	3	1		
NJ ATLANTIC CITY	39	19	47	5	29	-4	1.4	.6	1.2	7.3	86	5.1	104	87	44	0	7	2	1		
NM ALBUQUERQUE	57	25	66	20	41	2	0	-.1	0	.5	49	.2	30	74	22	0	7	0	0		
NM CLOVIS	59	22	72	9	41	0	.1	-.1	.1	2.3	182	.5	75	82	32	0	7	1	0		
NM ROSWELL	57	22	75	14	40	-3	0	-.1	0	3.1	326	1.7	293	88	39	0	7	0	0		
NY ALBANY	28	9	36	-5	18	-4	1.3	.7	1.2	6.2	98	4.6	136	85	51	0	7	2	1		
NY BINGHAMTON	24	9	31	-5	16	-5	1.0	.5	.9	6.6	102	4.4	124	84	54	0	7	3	1		
NY BUFFALO	28	10	35	2	19	-5	.7	.1	.3	6.6	87	3.8	92	90	61	0	7	7	0		
NY NEW YORK	35	23	40	11	29	-3	1.4	.6	1.4	7.2	89	4.9	111	77	45	0	7	1	1		
NY ROCHESTER	27	7	34	1	17	-6	.5	-.1	.3	3.8	64	1.8	54	88	57	0	7	4	0		
NY SYRACUSE	28	8	34	1	18	-5	.7	0	.3	5.0	71	3.0	79	89	57	0	7	6	0		
NC ASHEVILLE	44	17	52	5	30	-8	.1	-.7	.1	6.5	85	4.2	92	86	30	0	7	1	0		
NC CHARLOTTE	46	26	56	16	36	-6	.1	-.9	.1	7.5	85	4.1	76	76	28	0	6	0	0		
NC GREENSBORO	44	22	53	11	33	-6	.1	-.8	0	6.6	79	3.2	64	77	32	0	7	2	0		
NC HATTERAS	49	35	63	27	42	-3	.6	-.4	.2	9.0	80	6.7	100	86	53	0	3	4	0		
NC NEW BERN	50	31	58	21	41	-4	.8	-.2	.5	9.7	101	6.1	104	84	45	0	4	3	0		
NC RALEIGH	44	24	55	13	34	-6	.7	-.2	.5	8.2	100	5.2	102	80	38	0	7	2	0		
NC WILMINGTON	50	31	59	19	41	-6	.4	-.4	.3	7.4	86	6.1	117	87	43	0	4	4	0		
ND BISMARCK	14	-10	32	-35	2	-11	.2	.1	.1	1.1	94	1.0	142	85	63	0	7	4	0		
ND FARGO	6	-10	24	-21	-2	-11	.1	0	.1	2.4	186	1.8	250	86	68	0	7	2	0		
ND GRAND FORKS	6	-16	23	-26	-5	-13	.1	-.1	.1	1.2	72	.8	80	82	66	0	7	1	0		
ND WILLISTON	16	-8	41	-26	4	-9	.1	0	0	.9	78	.9	123	87	61	0	7	3	0		
OH AKRON-CANTON	29	11	40	-2	20	-6	.3	-.2	.2	5.4	87	3.0	87	87	59	0	7	5	0		
OH CINCINNATI	31	13	39	2	22	-9	.4	-.2	.4	10.2	141	6.8	158	87	57	0	7	2	0		
OH CLEVELAND	28	11	39	-2	20	-7	.6	.1	.4	5.8	94	2.8	83	91	60	0	7	4	0		
OH COLUMBUS	29	13	41	0	21	-8	.6	.1	.5	8.5	136	5.6	152	86	58	0	7	3	1		

Based on 1951-80 normals.

Weather Data for the Week Ending February 13, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
DAYTON	26	10	34	-3	18	-11	.3	-.2	.3	7.5	126	4.5	129	86	64	0	7	4	0	
TOLEDO	22	6	29	-1	14	-11	.3	-.2	.2	5.8	108	2.0	72	99	72	0	7	4	0	
YOUNGSTOWN	28	11	38	-3	19	-6	.2	-.3	.1	5.6	87	2.9	79	89	56	0	7	4	0	
OK OKLAHOMA CITY	49	21	71	6	35	-4	.4	-.3	.1	5.2	194	1.4	95	90	48	0	6	1	0	
TULSA	46	21	69	4	33	-6	.1	-.3	.1	7.1	186	1.3	62	83	43	0	6	1	0	
OR ASTORIA	51	44	53	41	48	4	1.9	-.1	1.1	17.9	68	9.0	62	96	81	0	6	1	1	
BURNS	43	27	47	18	35	4	.1	-.2	.0	3.3	81	1.2	49	***	***	0	5	3	0	
MEDFORD	57	35	64	26	46	4	.2	-.4	.1	6.5	82	2.7	61	98	51	0	4	2	0	
PENDLETON	55	38	64	35	46	8	.7	-.3	.3	3.1	80	1.9	83	82	50	0	4	2	0	
PORTLAND	54	41	59	36	48	5	.7	-.4	.1	3.1	94	5.6	69	97	72	0	5	5	0	
SALEM	54	40	60	34	47	4	.6	-.6	.2	18.3	112	7.4	79	97	71	0	5	5	0	
PA ALLENTOWN	33	18	39	5	26	-3	.8	-.1	.6	6.2	73	4.7	100	84	47	0	7	2	1	
ERIE	28	11	39	5	20	-5	.2	-.3	.1	6.1	93	2.7	82	87	58	0	7	4	0	
HARRISBURG	34	19	41	5	26	-4	.8	-.2	.5	6.2	84	4.4	105	79	46	0	7	2	0	
PHILADELPHIA	38	21	46	8	29	-3	1.7	1.1	1.2	7.2	92	5.5	126	82	42	0	7	2	2	
PITTSBURGH	31	14	43	-3	23	-5	.2	-.4	.1	6.8	105	4.4	113	92	57	0	7	6	0	
SCRANTON	29	14	35	1	22	-5	.2	-.5	.0	5.4	73	3.1	99	80	47	0	7	2	1	
RI PROVIDENCE	36	21	39	6	28	0	2.3	1.4	2.3	8.5	84	6.3	111	83	45	0	7	1	1	
SC CHARLESTON	52	34	62	22	43	-6	.1	-.7	.0	4.7	60	3.1	66	87	42	0	2	3	0	
COLUMBIA	49	24	61	15	37	-9	.2	-.8	.2	7.0	73	5.5	98	94	30	0	7	1	0	
FLORENCE	49	29	61	17	39	-7	.5	-.3	.4	5.9	73	3.4	68	81	35	0	5	2	0	
GREENVILLE	48	22	56	11	35	-8	.7	-.8	.1	9.8	96	5.2	85	81	27	0	7	0	0	
SD ABERDEEN	12	-9	31	-35	1	-12	.2	-.1	.1	.7	57	.6	82	87	69	0	7	4	0	
HURON	13	-7	27	-35	3	-14	.4	-.3	.3	2.1	176	.8	120	88	70	0	7	3	0	
RAPID CITY	37	7	60	-14	22	-3	.7	-.1	.1	.5	50	.2	34	89	52	0	7	2	0	
SIoux FALLS	15	-6	31	-29	5	-13	.2	-.0	.2	3.1	200	1.7	202	86	68	0	7	2	0	
TN CHATTANOOGA	47	21	58	10	34	-7	.1	-1.0	.1	11.3	91	8.0	110	96	32	0	7	1	0	
KNOXVILLE	44	20	56	7	32	-8	.1	-.9	.1	10.5	95	7.0	109	91	39	0	7	2	0	
MEMPHIS	46	20	60	6	33	-10	.5	-.6	.5	17.9	158	6.5	100	85	44	0	6	1	0	
NASHVILLE	42	20	56	10	31	-8	.3	-.7	.3	10.4	96	4.9	79	98	45	0	7	1	0	
TX ABILENE	55	27	76	15	41	-6	.1	-.2	.1	4.8	208	.2	17	87	44	0	5	1	0	
AMARILLO	58	17	73	1	38	-1	.1	-.1	.1	2.1	177	.4	52	87	27	0	7	1	0	
AUSTIN	57	34	70	23	45	-7	.7	-.6	.7	1.6	34	.3	12	89	51	0	2	0	0	
BEAUMONT	54	34	65	26	44	-10	1.0	-.1	.4	12.5	114	6.4	104	93	57	0	4	4	0	
BROWNSVILLE	61	45	73	36	53	-9	.8	-.4	.7	5.9	189	5.5	274	98	69	0	0	3	1	
CORPUS CHRISTI	60	41	72	30	51	-7	.2	-.2	.2	3.0	84	2.1	88	98	59	0	1	2	0	
DEL RIO	60	34	73	28	47	-7	.7	-.2	.7	.9	59	.3	31	85	39	0	3	0	0	
EL PASO	62	28	72	22	45	-3	.0	-.1	.0	3.7	390	.8	140	91	27	0	5	0	0	
FORT WORTH	53	28	70	17	41	-7	.2	-.3	.1	4.1	95	1.2	45	90	51	0	4	2	0	
GALVESTON	55	39	64	32	47	-8	.1	-.5	.1	5.1	66	3.3	79	92	61	0	1	3	0	
HOUSTON	56	36	71	24	46	-8	.2	-.7	.2	6.7	76	2.2	42	92	53	0	2	3	0	
LUBBOCK	57	25	75	11	41	-1	.1	-.1	.1	1.8	187	.7	117	90	36	0	6	1	0	
MIDLAND	63	24	78	12	43	-3	.7	-.1	.7	.5	42	.1	11	87	25	0	7	1	0	
SAN ANGELO	63	26	79	18	45	-4	.1	-.2	.1	2.3	140	.3	25	91	36	0	5	1	0	
SAN ANTONIO	59	34	71	22	47	-6	.7	-.4	.7	3.0	81	.9	36	86	47	0	3	1	0	
VICTORIA	60	38	71	25	49	-6	.1	-.5	.1	2.4	46	.5	17	97	58	0	3	3	0	
WACO	56	29	71	20	43	-7	.1	-.4	.1	3.9	87	.6	23	92	50	0	5	2	0	
WICHITA FALLS	53	22	77	7	38	-6	.3	-.1	.3	6.6	263	1.7	133	94	48	0	6	1	0	
UT BLANDING	45	20	49	16	32	0	.0	-.3	.0	3.3	105	2.5	137	93	59	0	7	0	0	
CEDAR CITY	48	21	55	8	35	2	.0	-.2	.0	2.5	156	1.5	152	94	42	0	7	0	0	
SALT LAKE CITY	43	26	49	17	34	1	.1	-.2	.1	2.3	69	1.2	60	92	54	0	7	2	0	
VT BURLINGTON	24	2	32	-10	13	-4	.6	.2	.4	3.2	63	2.0	77	83	49	0	7	3	0	
VA NORFOLK	46	28	56	19	37	-3	.8	.0	.6	7.4	89	5.1	98	85	52	0	6	2	1	
RICHMOND	42	22	49	10	32	-6	1.7	-.9	1.5	8.1	101	5.2	113	85	46	0	7	2	1	
ROANOKE	42	20	50	10	31	-6	.1	-.7	.1	4.9	68	2.7	63	77	34	0	7	1	0	
WA QUILLAYUTE	49	43	50	41	46	5	3.4	-.3	.8	25.0	66	13.3	66	99	89	0	0	7	3	
SEATTLE-TACOMA	50	44	52	41	47	5	.6	-.5	.4	10.8	75	4.7	57	96	79	0	0	4	0	
SPOKANE	44	32	51	27	38	7	.2	-.2	.2	6.9	121	2.0	61	95	74	0	4	2	0	
YAKIMA	52	28	56	25	40	5	.7	-.2	.7	4.0	129	.7	38	93	51	0	6	0	0	
WV BECKLEY	37	18	45	3	27	-4	.2	-.6	.1	7.4	93	3.2	66	84	45	0	7	3	0	
CHARLESTON	40	19	54	5	29	-5	.2	-.5	.2	7.4	91	3.2	66	89	43	0	7	2	0	
HUNTINGTON	39	19	55	5	29	-5	.1	-.5	.1	8.6	113	3.8	85	93	45	0	7	2	0	
PARKERSBURG	37	17	54	1	27	-6	.1	-.6	.1	5.8	86	2.6	65	86	47	0	7	1	0	
WI GREEN BAY	16	-3	20	-10	6	-10	.3	.1	.1	4.2	140	2.2	135	86	50	0	7	4	0	
LACROSSE	15	-6	22	-16	5	-14	.1	-.1	.0	2.9	122	1.1	82	94	59	0	7	2	0	
MADISON	17	-4	24	-11	6	-13	.2	-.1	.1	6.2	206	2.1	142	85	52	0	7	4	0	
MILWAUKEE	19	5	25	1	12	-10	.7	.4	.4	9.5	226	4.1	186	96	57	0	7	4	0	
WAUSAU	15	-8	22	-17	4	-10	.7	-.2	.7	1.9	74	.4	33	78	47	0	7	2	0	
WY CASPER	39	15	51	2	27	1	.5	.4	.2	1.4	117	.8	109	84	45	0	7	3	0	
CHEYENNE	40	15	52	-5	28	-1	.5	.4	.3	1.9	215	1.1	204	85	43	0	7	2	0	
LANDER	44	18	53	7	31	6	.1	.0	.1	.9	72	.2	26	85	44	0	7	2	0	
SHERIDAN	36	14	51	-5	25	-1	.7	-.2	.7	1.4	75	1.0	94	86	47	0	6	1	0	
PR SAN JUAN	84	69	87	67	77	0	.2	-.4	.1	12.7	152	4.9	125	93	79	0	0	5	0	

Based on 1951-80 normals.

Heating Degree Days Summary

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

LAST DATE OF DATA COLLECTION PERIOD IS 2-13-1988
ACCUMULATIONS ARE FROM JULY 1
\*\* = NORMAL LESS THAN 10% OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK TOTAL, WEEK DEV, WEEK DEV FROM NORM, CUM TOTAL, CUM DEV FROM NORM, CUM DEV FROM L YR, CUM DEV FROM L YR PRCT, CUM DEV FROM L YR PRCT. Lists 100+ cities and their heating degree day data.

## National Agricultural Summary

FEBRUARY 8 to 14, 1988

**HIGHLIGHTS:** Above-normal temperatures melted most snow cover in the central Great Plains, leaving wheat vulnerable to freeze damage. Warm weather promoted growth in the southern Great Plains. Dry weather spurred cotton land preparation in Arizona and California. Early stone fruit approached the bloom stage in California. Frost caused no damage to citrus trees and fruit in Florida. Pinhead bloom buds formed in southern Florida. Livestock was mostly good. The cold weather increased stress in the northern and central Great Plains, Corn Belt, and Rocky Mountain States.

**SMALL GRAINS:** Winter wheat and small grains were mostly good to fair. Snow cover protection was adequate during periods of cold temperatures except in the central Great Plains and Pacific Northwest. Wide temperature variations left wheat susceptible to freeze damage in Kansas. Moisture is still needed in western areas. Wheat grew slowly in western Oregon. Small grains were still frosted and remained dormant in the eastern high country. Potential frost damage to late seeded wheat concerned growers in Washington. California small grains developed well. Small grain irrigating and weed control applications were active. Arizona's small grains progressed well. Wheat growers fertilized and sprayed for weeds in Oklahoma. Small grains responded favorably to mild weather in Texas early in the week. Colder temperatures sent most fields back into dormancy by midweek. Most producers completed topdressing in the Blacklands and central areas. Arkansas' wheat was good with virtually no growth. Small grains were topdressed in Georgia. Idaho's wheat remained good despite above-normal leaf damage. Wheat showed signs of damage from the cold weather and the lack of snow cover in Indiana. Wind damage was mostly light in Montana.

**OTHER CROPS:** Cotton field preparation continued in Arizona. Furrowing, preirrigation, preplant fertilization, and herbicide applications were dominant activities in western areas. Wetness slowed cotton land preparation in eastern areas. Land preparation progressed rapidly in California.

Sugarbeet harvest continued in California. Growers thinned new stands and seeded new fields. Wetness slowed sugarcane harvest in Texas. Sugarcane harvest continued in Florida. Planting neared completion. Land preparation was active in the Southeast as weather permitted. Field work was limited to mostly spreading fertilizer and manure in the Corn Belt.

Tobacco seedbed preparation moved into Virginia. Georgia's tobacco plants were fair to good. Tobacco bed preparation and seeding continued in North Carolina and South Carolina.

**FRUITS AND NUTS:** Light scattered frost caused no damage to citrus trees and fruit in Florida. Citrus groves were very good to excellent with adequate moisture. Trees showed new growth and pinhead bloom buds in southern areas. Early

orange harvest passed peak, but grapefruit movement was very active. Temple orange quality was excellent, with good movement to fresh markets. Texas citrus progressed slowly. Some new growth was underway in scattered groves. Orchard cultural practices continued in California. Early almonds bloomed, and bees were moved into orchards and floors were set for frost control. Early stone fruit reached the bud push stage. Navel orange harvest was virtually complete, but desert valencia harvest should begin in 2 weeks. Desert grapefruit, lemon, and royal mandarin harvests progressed normally. Navel orange harvest was finished in central Arizona. Valencia harvest was just getting underway. Western shipments included lemons, grapefruit, and valencia oranges.

Peach and fruit tree prunings were active in the Southeast. In Oregon, caneberry training was mostly finished, but weed and disease control treatments were underway. Pruning and orchard cleanup were the major activities in Washington's fruit producing regions. Peach trees were pruned and sprayed with dormant oil in Texas.

**VEGETABLES:** Cool temperatures and gusty winds caused some vegetable leafburn in central and southwest Florida. Harvest continued between rains with good volumes of snap beans, cabbage, carrots, celery, sweet corn, lettuce, peppers, radishes, and squash. Wetness slowed vegetable harvest in the Rio Grande Valley. Spinach harvest continued, but quality declined in the San Antonio-Winter Garden area. Colder weather slowed watermelon planting. Onion transplanting was underway at Trans-Pecos. Land preparations progressed as weather permitted in the High Plains and east Texas. In California, warm, dry weather allowed vegetable groundwork, but triggered irrigation. Supplemental heating or air turbulence was required to protect new seedlings a few cold mornings. New asparagus spears emerged at Westside. Broccoli movement continued at Salinas, Santa Maria, Merced-Atwater, Westside, and Riverside. Carrot harvest was active in lower Westside and Riverside. Lettuce plants were thinned, weeded, and irrigated at Westside. Direct tomato seeding began in the Gustine area. Hot cap tomatoes were started in Culter-Orosi. Watermelon planting preparations continued in western Arizona. Vegetable shipments consisted mostly of broccoli, cauliflower, lettuce, greens, and other mixed vegetables.

**PASTURES AND LIVESTOCK:** Some newborn lambs died from exposure in High Country area of Texas. Cold temperatures lowered daily weight gains in Iowa. Transmissible gastroenteritis pneumonia, and unfavorable weather were the most frequent causes of illness, stress, and death in hogs and pigs. Variable temperatures stress livestock in Kentucky, especially newborn calves. Cold wind chill stressed livestock in Ohio. Livestock was mostly good and supplemental feeding increased in most areas. Pastures were mostly fair.

## State Summaries of Weather and Agriculture

**ALABAMA:** Rainfall totals under 0.25 in. Tennessee Valley; 0.75 to over 1.00 in. elsewhere. Temperatures averaged 4 to 9° below normal.

Soil moisture mostly adequate. Livestock, poultry mostly good. Primary activities: General care of livestock, poultry; repairing fences, equipment; pruning fruit trees; fieldwork, when weather permits.

**ARIZONA:** Bright sunny skies, strong high pressure system over State raised daytime temperatures 7th to 9th; lower 80s southwestern deserts, upper 50s high country, middle 60s 5,000 ft. Sunny skies continued 10th to 13th; temperatures held high levels, except for cooling eastern one-third of State. Average temperatures 2 to 8° above normal. No precipitation.

Cotton field preparation continued. Furrowing, pre-irrigation, pre-plant fertilizer, herbicide applications dominant activities west. Wet fields slowed work east. Alfalfa sheeping-off west, crop condition significantly improved. Growers began harvest west. South central crop good, light stand renovation, few new stands established. Harvest progress light to moderate. Weed, insect, disease infestation moderate. Small grains progressed well; 95% stands established west, 50% jointing; crop good. Stands established south central 100%, crop good. No stands established east. Western areas shipped lettuce, cauliflower, broccoli, other mixed vegetables. Preparation for planting melons continued west. Central areas shipped greens, broccoli, cauliflower, lettuce, other mixed vegetables. Broccoli harvest began south central area. Western citrus shipments included lemons, grapefruit, valencia oranges. Central areas shipped grapefruit, kinnow tangerines. Navels completed for season. Few valencia oranges harvested, shipments expected to increase.

**ARKANSAS:** Cold weather continued as more arctic air spilled into State midweek. Light precipitation all sections. Temperature extremes 1°; 70°. Rainfall total none to 0.59 in.

Wheat good, no growth. No land preparations. Fruit trees good. Livestock being fed and in good condition.

**CALIFORNIA:** Strong high pressure along coast, sunny spring weather. Record high temperatures set 10th, 11th. Highs 70° north, 80 to 90° south.

Warm weather, no precipitation, rapid progress field activities. Burning rice stubble. Small grains developed well. Weed controls small grains, alfalfa active. Irrigation small grains, pre-irrigation spring crops increased. Barley, alfalfa green-chopped desert valleys. Some alfalfa seeded. Sheeping-off continued central, southern. Sugarbeet harvest continued. Thinning new stands, seeding new fields. Cultural practices continued. Early almonds bloomed; bees moved into orchards, floors set up for frost control. Date palms dethroned. Early stone fruit at bud push stage. Navel orange 95% harvested. Desert grapefruit, lemon, royal mandarin harvests continued. Start desert valencia orange harvest in 2 weeks. Warm, dry weather allowed groundwork vegetables; triggered irrigation. Few cold mornings required supplemental heating or air turbulence protect new seedlings. Asparagus harvest Riverside lagged; lower yields. New spears emerged Westside. Broccoli movement continued Salinas, Santa Maria, Merced-Atwater, Westside, Riverside. Cauliflower harvested Salinas, Santa Maria, Riverside, Los Angeles-Orange. Carrot movement active lower Westside, Riverside. Celery production continued Los Angeles-Orange. Lettuce plants thinned, weeded, irrigated, Westside harvest continued Riverside. Onion sets planted Westside, irrigated lower Westside. Potato harvest slow Riverside light demand. Potato sheds operated full time north. Tomato weed control continued Merced-Atwater. Direct seeding began Gustine area. Tomatoes started hot caps Cutler-Orosi. Tomatoes planted Westside, groundwork for tomatoes continued Delta, Sacramento Valley, Los Angeles-Orange area. Livestock good statewide. Cattle, sheep grazed foothill regions. Range, pasture grasses fair to good, some areas stressed lack rainfall. Supplemental feeding continued most areas. Westside feedlots 75% capacity. Water supply northern areas below average. Calving, lambing active.

**COLORADO:** Snow throughout eastern areas, mountains early week; trace to 0.20 in. moisture. Warming Chinook winds kept temperatures near

normal eastern Foothills, while temperatures on plains 5 to 8° below normal.

Snow cover on eastern Plains remained adequate. Major activities included livestock care, machinery maintenance.

**FLORIDA:** Polar air mass over State reinforced on 12th, resulting in cold week. Minimums upper 20s to mid 30s north throughout week. Then substantial freeze in 20s over north; minimums into 30s with patchy frost southward to northern Everglades 13th, 14th. Temperatures averaged 8° below normal north, 4 to 7° below central, 2 to 4° below, south. Statewide rains 8th, continued along southeast coast on 9th through 12th. Rainfall averaged 0.33 in. Panhandle, 0.50 in. to around 1.00 in. elsewhere.

Soil moisture mostly adequate. Small grains continued generally good. Land preparation active. Sugarcane harvest continued active, planting near complete. Winter pastures provided most grazing central, northern areas; as coolness, frosts continued to limit most permanent pasture growth. Grazing mostly fair western Panhandle, generally poor to fair elsewhere except fair to good extreme lower Peninsula. Cattle mostly fair with supplemental feeding active, but some herds in good flesh where grazing is more ample. Citrus groves, trees very good to excellent. Moisture generally adequate. Light, scattered frost, no damage to citrus. Southern areas showed new growth, pinhead bloom buds. Early orange harvest past peak. Grapefruit movement very active. Temples excellent quality with good movement to fresh markets. Cool temperatures, gusty winds caused some leafburn to vegetables, southwest, central areas. Harvest continued between rains with good volume of snap beans, cabbage, carrots, celery, sweet corn, lettuce, peppers, radishes, squash available. Lesser volume cucumbers, eggplants, escarole, endive, greens, potatoes, strawberries, tomatoes.

**GEORGIA:** Cool week. Temperatures 3 to 5° below normal north, 4 to 7° below normal central, south. Lows teens north, mid 20s central, south. Highs near 60s extreme north, near 70s extreme south. Rain 1 or 2 days most locations. Totals 0.50 in. northern half, under 0.25 in. central, south.

Soil moisture adequate. Activities: Small grain topdressing, land preparation, pruning peach trees, attending farm meetings. Tobacco plants fair to good. Wheat, rye, other small grains good; pastures poor to good; cattle fair to mostly good, hogs mostly good.

**HAWAII:** Favorable weather. Mostly sunny. Light, moderate weekend showers windward areas. Temperatures above normal highs. Temperatures high 60s to mid 80s. Rainfall none to 3.20 in. Variable winds 5 to 20 mph.

Days suitable for fieldwork 7.0. Papaya production on seasonal decline. Banana production heavy, steady. Head cabbage output heavy, good quality. Chinese cabbage supplies heavy, good yields and quality. Head lettuce production higher, fields improved. Overall cucumber supplies moderate. Ginger root harvesting active, mainland shipments heavy. Irrigation, pesticide spraying increased. Crops mostly good.

**IDAHO:** Temperatures up to 11° above normal. Precipitation widespread, below normal.

Most winter wheat lacked snow cover. Some areas still under 2 in. of snow. Winter wheat remained good, despite above normal leaf damage. Farm activities included feeding, caring for livestock, shipping, marketing products, attending seminars, machinery maintenance. Livestock remained good. Calving, lambing underway. Hay, roughage supplies adequate, some surplus.

**ILLINOIS:** Temperatures 10 to 12° below normal north, 6° below normal south. Precipitation 0.50 to 0.70 in. north (0.20 to 0.40 in. above normal) 0.25 in. south (0.20 to 0.40 in. below normal).

Winter wheat continued mostly good. Livestock good to fair; low temperatures, snow, dangerously cold wind chills still caused considerable stress.

**INDIANA:** Temperatures averaged 5 to 10° below normal. Lows below zero, highs 40s north to 50s south. Precipitation totals ranged 1.00 in. or more north to 0.30 to 0.50 in. south. Snowfall totaled 3 to 7 in. central, north.

Heavy snow limited field activity. Other activities: Hauling manure, moving grain, spreading fertilizer, machinery repair, tax preparation, attending meetings, cutting wood, feeding and care of livestock. Hay supplies adequate. Livestock good. Wheat mostly good; damaged in some fields because of cold weather, lack of snow cover.

**IOWA:** Cold week, temperatures 12° below normal. Precipitation near seasonal normals most areas to above normal southeast.

Farmers spreading manure, tending livestock. Livestock generally good. TGE, pneumonia, unfavorable weather most frequent causes of illness, stress, death in hogs and pigs. Cold temperatures lowered daily weight gains. Grain movement around State mostly average.

**KANSAS:** Temperatures below normal. Temperatures mid 20s northeast, 30s across west, south. East 6° below normal, west 1 to 2° below. Precipitation light, under 0.25 in. Three western districts, central, south central less than 0.10 in.

Midweek storm covered State up to 6 in. snow, however warm front melted virtually all snow. Moisture from snow needed western areas but added to over saturation eastern areas. Wide swing temperatures left wheat susceptible to freeze damage. Calving, lambing continued. Feedlots muddy making livestock tending difficult.

**KENTUCKY:** Temperatures averaged below normal, much below normal between 11th and 13th with minimums single digits 12th. Milder readings end with 50s on 14th. Snowfall 11th and 12th, as 4 to 6 in. west and central, lesser amounts east. Rain developed 14th, amounts ranged trace to 0.25 in.

Rain, snow replenished topsoil moisture. Some concern over wheat because of freezing, thawing. Variable temperatures stressed livestock, especially newborn calves. Supplemental feed generally adequate, few local shortages.

**LOUISIANA:** Temperatures 8 to 10° below normal. Temperature extremes 13°; 69°. Rainfall averaged 0.26 to 0.61 in.

Main activities: Harvesting crawfish, caring for livestock, routine maintenance.

**MARYLAND & DELAWARE:** Maryland: Average temperature 30°, normal 34°. Lowest temperature 2°, highest temperature 52°. Precipitation averaged 1.49 in.

Soil moisture remained adequate. No snow cover. Small grains remained dormant. No significant freeze damage. Main farm activity caring for livestock.

**Delaware:** Average temperature 31°, normal 34°. Precipitation averaged 0.40 in.

Soil moisture remained adequate. No snow cover. Main farm activity caring for poultry, livestock.

**MICHIGAN:** Temperatures ranged 5 to 13° below normal. Temperature extremes -19°; 28°. Precipitation ranged 0.10 to 0.88 in. across State.

Temperatures averaged well below normal all week. Southeast lower State (Detroit area) received its largest single snowfall in 6 years.

New snow cover protected winter wheat from cold temperatures. Activities: General farm maintenance, pruning fruit trees, attending farm meetings, marketing crops. Drifting snow, icy roads slowed marketing of crops and cattle. Cattle, sheep sought extra protection because of stormy weather. Feed supplies adequate. Livestock good.

**MINNESOTA:** Temperatures averaged 8° below normal to 3° above normal for State. Extremes -37°; 32°. Precipitation averaged near normal to 0.18 in. below normal. Precipitation totals averaged none to 0.24 in. Greatest weekly total 0.37 in. Snowfall averaged trace to 3 in. Snow depth weekend averaged 7 to 9 in. central third State, 10 to 20 in. elsewhere.

Extremely cold weather continued to slow weight gains on livestock being fed out. More supplementary feed needed than normal. Some lambing in progress, higher than normal death loss because of cold weather. Main activity continued to be meetings, planning for 1988.

**MISSISSIPPI:** Temperatures 10° below normal; extremes 10°; 73°. Very cold across State, up to 3 in. snow north. Greatest 24-hour total rainfall 1.74 in. Greatest weekly rainfall 1.74 in.

Days suitable for fieldwork 1.8, 0.3 1987, 2.1 5-year avg. Soil moisture adequate to surplus. Supply of hay, feed grains adequate. Livestock fair to good; wheat, pasture fair. Farm work limited by snow northern third. Included tending livestock, preparing to topdress small grains.

**MISSOURI:** Temperatures averaged 10 to 14° below normal, warmest southwest, most below normal Bootheel.

Farm activities limited to chores, inside work. Most wheat snow covered through cold period.

**MONTANA:** Temperatures several degrees above normal west, southwest. North central, east below normal temperatures. South central averaged 0.60 in. precipitation, west 0.40 in. Other areas 0.10 to 0.30 in. precipitation.

Winter wheat 1% poor, 74% fair, 25% good. Wind damage to winter wheat fields 1% none, 91% light, 8% moderate. Snow cover protection for winter wheat fields 18% poor, 41% fair, 35% good, 6% excellent. Cattle, calves generally 84% good, 16% excellent. Sheep, lambs generally 85% good, 15% excellent. Livestock receiving supplemental feed 98%. Grazing 28% open, 64% difficult, 8% closed. Cattle losses compared with average 22% lighter, 78% same. Sheep losses 20% lighter, 80% same. Stockwater supply 23% short, 77% adequate.

**NEBRASKA:** Precipitation averaged 0.10 in. across State except northeast average of 0.30 in. Average temperature ranged 1° below normal northwest to 10° below normal northeast. Extremes -26°; 59°.

Farm, ranch activity centered around livestock management, grain handling, seasonal farm work. Calving, lambing continued. Feedlots very muddy west, north. No other major problems as weather cooperates in most areas. Supplemental feeding continued, supplies adequate to cover demand. Winter wheat unchanged.

**NEVADA:** Unseasonably mild all areas. Ridge of high pressure kept storm systems just brushing northern section. Precipitation negligible, average temperatures well above normal.

Mostly dry fields favorable livestock feeding operations, newborn calves, lambs. Movement potatoes to market accelerated by mild, dry weather. Snow cover completely gone winter grain fields.

**NEW ENGLAND:** Average precipitation (rain, water equivalent of snow) ranged from less than 0.50 in. western Vermont, 1.00 to 2.00 in. Maine, eastern Vermont, New Hampshire, western Massachusetts, Connecticut, over 2.00 in. eastern Massachusetts and Rhode Island. Average temperatures ranged single digits northern Maine to upper 20s southern coast.

Major farm activities: Tending livestock, repairing machinery.

**NEW JERSEY:** Temperatures below normal, averaged 25° north, 29° south, 33° coastal. Extremes 7°; 49°. Precipitation above normal, averaged 1.45 in. north, 1.72 in. south, 1.56 in. coastal. Heaviest 24-hour total 2.05 in. on 11th, 12th. Heaviest 24-hour snowfall 11 in. on 11th, 12th. Depth of snow on ground ranged from 12 in. north to none south.

Farmers caring for livestock, tending to normal winter chores.

**NEW MEXICO:** Temperatures near normal most locations. Snowfall limited to northeast quarter of State.

Days suitable for fieldwork 5.4. Soil moisture 46% short, 36% adequate, 18% surplus. Barley 57% fair, 43% good. Wheat 75% fair, 25% good. Cattle 55% fair, 45% good, calving continued most areas. Sheep 56% fair, 44% good; lambing continued. Supplemental feeding of livestock continued in pasture-short and snow covered areas. Range 9% very poor, 9% poor, 73% fair, 9% good. Onions 100% good. Lettuce 100% good; planting neared completion.

**NEW YORK:** Seasonal temperatures much of week. Precipitation varied but most areas received several inches of snow.

Producers busy preparing taxes, doing routine winter chores.

**NORTH CAROLINA:** Temperatures averaged 4 to 10° below normal across State. Temperature extremes 3°; 63°. Precipitation ranged none to 1.65 in.

Days suitable for fieldwork 3.4. Soil moisture 73% adequate, 27% surplus. Wheat 2% poor, 22% fair, 76% good. Oats 2% poor, 33% fair, 65% good. Barley 3% poor, 22% fair, 75% good. Rye 2% poor, 25% fair, 73% good. Pasture 4% very poor, 18% poor, 36% fair, 40% good, 2% excellent. Hay and roughage supplies 10% short, 82% adequate, 8% surplus. Feed grains supplies 10% short, 86% adequate, 4% surplus. Major farm activities: Equipment repair, maintenance; tending livestock; preparing, seeding tobacco plantbeds; pruning fruit trees, ornamentals; sidedressing small grains; soil sampling; general farm maintenance.

**NORTH DAKOTA:** Temperatures averaged 7 to 12° below normal. Extremes -43° south central, 11th; 48° northwest, 13th. Precipitation light, variable. Heaviest 0.24 in. south central.

Soil moisture below normal. Winter grains fair to poor. Livestock good; lambing, calving progressed. Feed supplies adequate. Main activities; winter meetings, spring preparation.

**OHIO:** Temperature highs averaged mid 20s to mid 30s; lows averaged low to mid teens. Overall temperatures averaged 5 to 10° subnormal. Variety of precipitation produced rain equivalent 0.33 to 0.75 in.

Cold, wind chill stressed livestock. Snow protected winter wheat from coldest weather. Mild end of period reduced livestock stress, melted most snow cover.

**OKLAHOMA:** Temperatures averaged 5° below normal south central to 1° above normal east central. Precipitation averaged none Panhandle, west central to 0.11 in. northeast.

Dry weather accelerated field activity. Wheat growers fertilizing, spraying weeds. Strong breezes aided drying, hampered wind-sensitive operations. Cattle good, prices up from preceding week.

**OREGON:** Temperatures above normal over most of State. Only extreme south, Grants Pass to Klamath Falls, had below normal temperatures. Coast normal to 5° above; Willamette Valley 5 to 6° above normal. Precipitation widespread; greatest rainfall 1.00 to 2.00 in. along coast. Willamette Valley received 0.50 to 1.00 in. East of Cascades received mostly less than 0.10 in. except northeast nearly 0.50 in.

Soil moisture mostly adequate. Western wheat, grass seed fields continued slow growth. Fields eastern high country still frosted, spring planting plans being made. Caneberry training mostly completed; weed, disease control treatments underway. Livestock good. Calving started; lambing neared completion east. Mild winter has meant excellent feeding conditions east of Cascades. Eastern ranges mostly fair; western pastures fair due to dry fall, cold winter. Winter moisture, mountain snow pack much below normal.

**PENNSYLVANIA:** Cold, dry week. Average temperature 22°, 4° below normal. Temperature extremes -6°; 46°. Average precipitation 0.53 in., 0.08 in. below normal.

Activities Hauling manure; grading potatoes; machinery maintenance; caring for livestock; cutting firewood.

**PUERTO RICO:** Island average rainfall 0.32 in., 0.27 in. below normal. Highest weekly total rainfall 1.52 in. Pico Del Este-Luquillo, 1.44 in. Mayaguez, 1.11 in. San Lorenzo. Highest 24-hour total 1.10 in. Vieques. San Juan WSFO mean temperature 76°, 1° below normal. Total rainfall 0.28 in., 0.21 in. below normal. Divisional temperature averaged about 75 to 77° on coasts, 68 to 72° interior. Mean station temperature ranged 61° Pico Del Este-Luquillo to 80° Roosevelt Roads. Lowest minimum temperature 48° Pico Del Este-Luquillo. Highest maximum temperature 90° San Sebastian.

**SOUTH CAROLINA:** Precipitation light and varied, ranging less than 0.10 in. western part of State to 0.50 in. east. Temperatures averaged 4 to 7° below normal.

Farm activities included care of tobacco seedbeds, equipment maintenance, routine chores.

**SOUTH DAKOTA:** Average temperatures 4 to 18° below normal. Extremes -42°; 61°. Light precipitation, mostly east; 1 to 4 in. of snow in Black Hills.

Winter wheat condition much same. Many areas dry, wide open with no snow cover. East central part of State much better with more moisture, protective snow cover. Livestock good.

**TENNESSEE:** Snow, bitter cold across State 11th to 12th. High pressure 14th brought warming southerly winds and scattered thundershowers west, middle. Temperatures averaged 3 to 10° below normal. Liquid precipitation (rain, melted snow) less than 1.00 in. statewide.

Some livestock stressed by cold, snow. Activities include livestock chores, meetings.

**TEXAS:** Week started cool, surface low pressure trough triggered light rain along coast, cloudy skies eastern half. Arctic front moved in midweek, bringing freezing rain, snow west, north, central. Warming trend started weekend. Precipitation below normal except Lower Valley. Temperatures well below normal Lower Valley, Coastal Bend, near to

above normal Northern High Plains, Cross-Timbers, south central. Normal elsewhere.

**Crops:** Small grains responding favorably mild weather early week; midweek colder temperatures sent most fields back into dormancy. Many fields increased greening with warmer weather. Producers completed majority topdressing Blacklands, central. Cold weather isolated losses oats Cross-Timbers. Small grain fields provided limited grazing. Milder weather weekend needed to continue crop improvements. Colder weather reduced insect populations. Corn planting progressed Coastal Bend, Rio Grande Valley early week. Planting began south. Producers many other areas busy preparing land as conditions allow. Rainfall beneficial for planting moisture. Sugarcane harvest Valley slowed by wet conditions.

**Commercial Vegetables:** Rio Grande Valley harvest most vegetables limited by wet conditions. Movement mostly on-hand supplies. Moisture beneficial to crops, citrus. Harvest citrus slow pace. Some new growth underway scattered groves. San Antonio-Winter Garden, spinach harvest continued, quality declining. Other vegetables making average progress. Watermelon planting slowed colder weather. Trans-Pecos transplanting onions underway. High Plains, East land preparation underway as weather allowed. Peach trees pruned, sprayed with dormant oil.

**Range and Pasture:** Ranges, pastures showing signs improvement before weather turned bad. Once again producers heavy feeding. Most native grasses low in protein this season because dry, cold weather. Some new born lambs died Hill Country. Markets strong.

**UTAH:** Precipitation very light. Maximums 0.15 in. northern mountains. Temperatures 7° below to 2° above normal.

Snow cover on fall seeded grains none to light. Livestock feed adequate. Livestock good. Major farm activities: Machinery repair and maintenance, purchasing seed, supplies, summarizing records, tax preparation, marketing hay, livestock chores, hauling manure.

**VIRGINIA:** Cold, rainy, trace of snow. Temperatures 6 to 12° below normal, range none to 57°. Precipitation widespread, highest total 1.68 in. Richmond.

Days suitable for fieldwork 1.5. Topsoil moisture 58% adequate, 42% surplus. Winter grains, pastures good to excellent. Some topdressing of grains, pasture where land not too wet. Tobacco seedbed preparation underway. Tapping maple trees. Some plowing. Livestock care, feeding active. Calving, lambing continued. Other main chores: Taxes, meetings, government program sign-up.

**WASHINGTON:** Weak disturbances moved through State brought light, moderate rainfall along coast, southwest. Cascade rain shadow prevented rains from reaching central, northeast regions. Light rains southeastern areas. Temperatures above normal due to mild southwest flow aloft.

Adequate snow cover remained Douglas County, other counties snow cover inadequate. Late seeded wheat frost damage potential concern growers. Winter wheat mostly fair. Light rains, partially thawed soil caused erosion problems Garfield County. Pruning, orchard cleanup major activities fruit producing regions. Rhubarb harvest continued western areas. Calving, lambing, winter feeding continued. Hay, other roughage feed supplies mostly adequate, surplus.

**WEST VIRGINIA:** Temperature 29°; 1 to 5° below normal except normal eastern Panhandle. Extremes -4° Circleville; 60° Creston. Precipitation averaged 0.17 in., well below normal.

Days suitable for fieldwork 1.7. Soil moisture 100% adequate. Feed supplies adequate to short. Wheat, barley good to fair. Cows calved 15%; ewes lambed 23%. Farm activities: General farm maintenance, livestock care.

**WISCONSIN:** Cold week, temperatures below normal all areas. Extremes -35°; 41°. Light snow southern areas. Frost depth 16.1 in, average 16.8; snow depth 10.5 in., average 11.1 in.

**WYOMING:** Temperatures mostly below normal. Precipitation generally above normal.

Winter wheat fair to good. Additional moisture needed for good development. Livestock fair to good. Supplemental feeding underway in areas with snow cover or short winter pasture. Feed supplies adequate. Early calving, lambing, shearing underway.

## International Weather and Crop Summary

February 7-13, 1987

### HIGHLIGHTS:

**UNITED STATES ...** Above-normal temperatures melt most snow cover in the central Great Plains, and leave wheat vulnerable to freeze damage. Warm weather promotes growth in the southern Great Plains.

**U.S.S.R. ...** Above-freezing temperatures melt snow in western areas. A cooling trend covered the lower Volga and North Caucasus.

**EUROPE ...** An intense storm brings wind and widespread precipitation to the northwest. Mostly dry weather returns to parts of the southeast.

**SOUTH ASIA ...** Light rain brings some relief to vegetative to heading wheat in north-central India. Dry weather in the south benefits mature cotton.

**SOUTHEAST ASIA ...** Widespread rain in Indonesia and Malaysia increases irrigation levels. Showers benefit crops in the eastern Philippines, except for northern grains which remain dry.

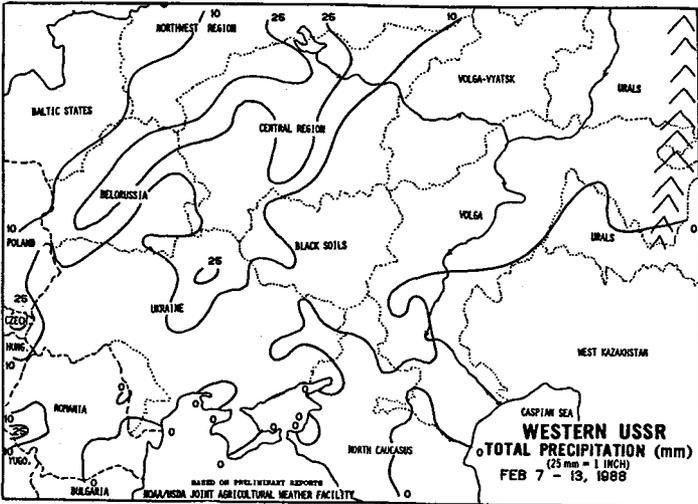
**EASTERN ASIA ...** Widespread rain continues across southeastern China. Most winter wheat areas remain seasonably dry.

**SOUTH AMERICA ...** Beneficial rain favors summer crop development in Argentina and south-central Brazil.

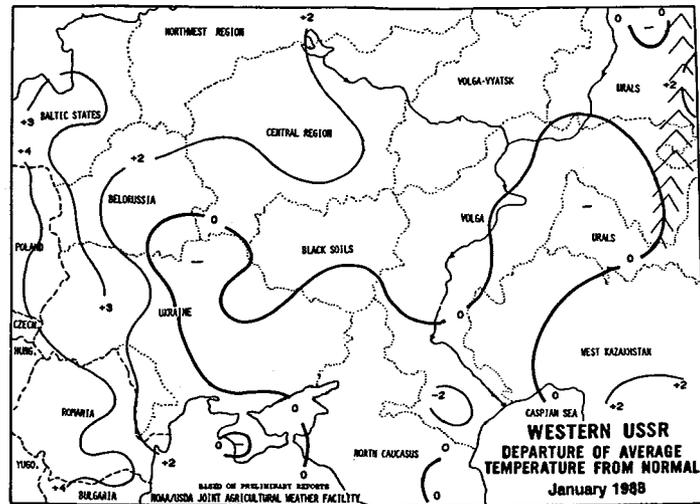
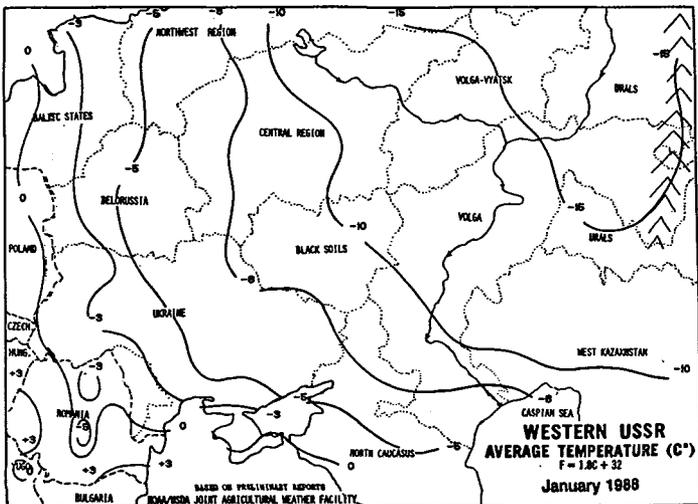
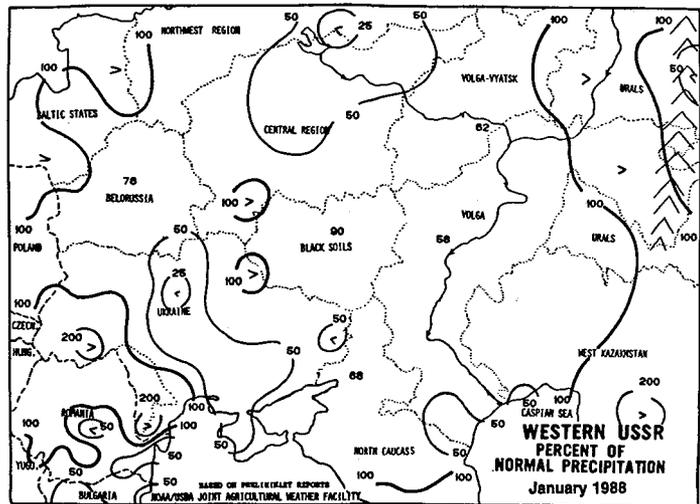
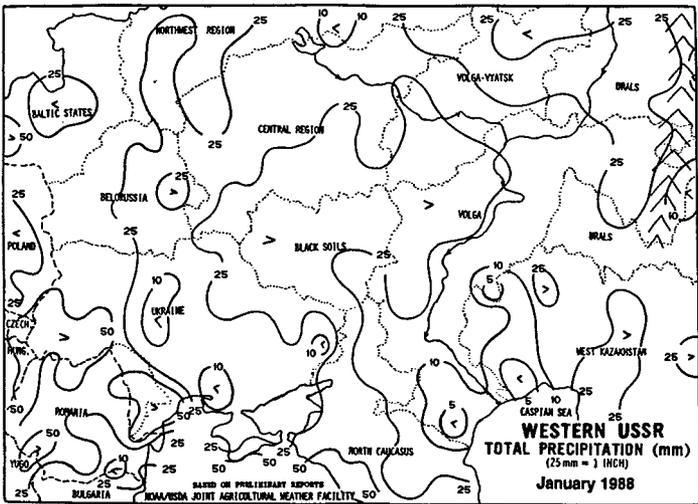
**AUSTRALIA ...** Heavy rain brings relief to most northeastern sugarcane growing areas. Rain also benefits crops in summer growing areas.

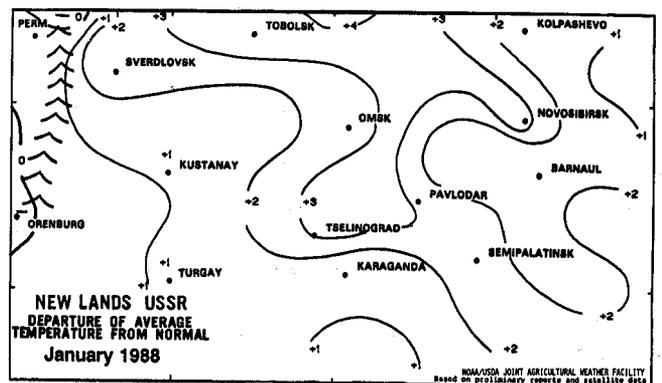
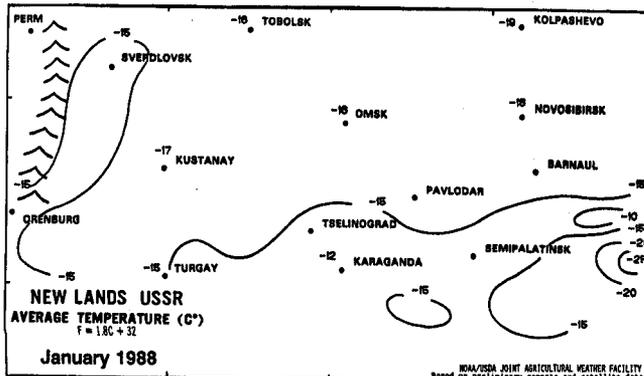
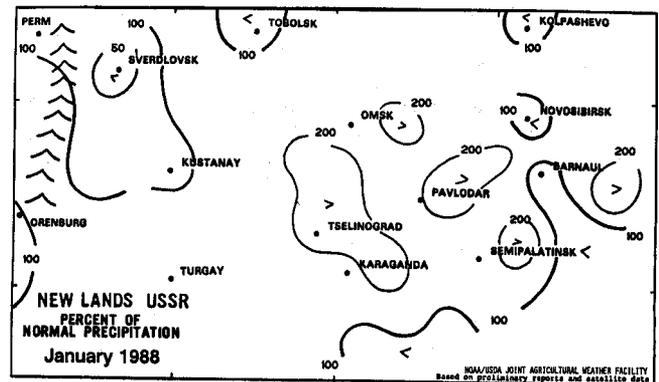
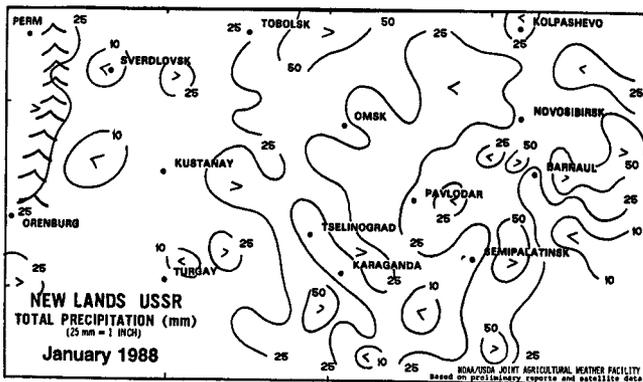
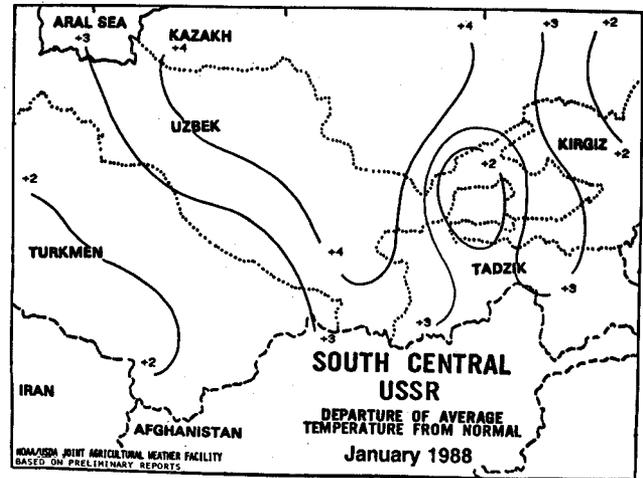
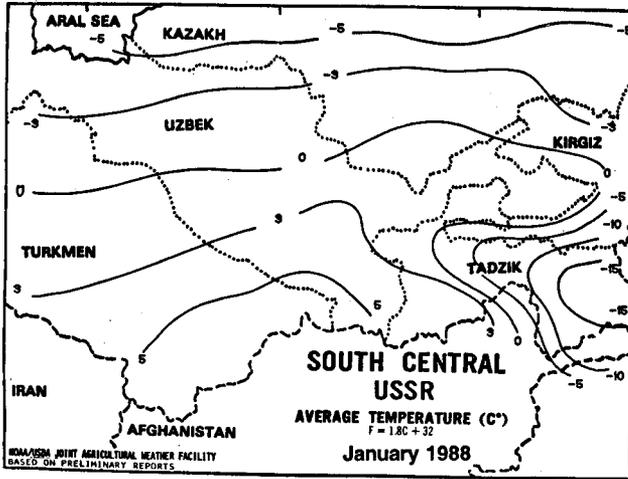
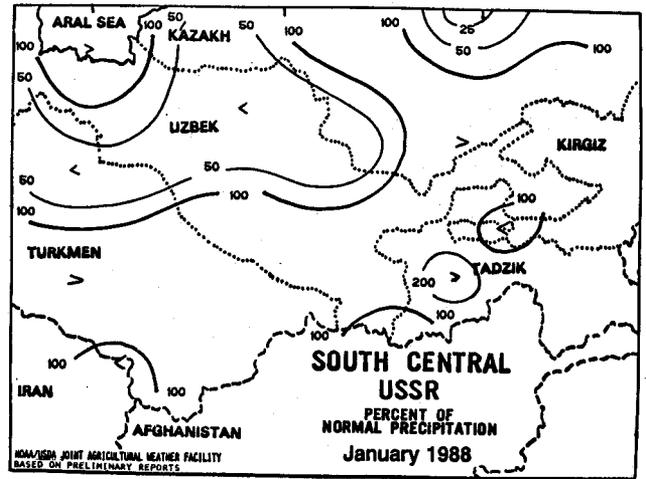
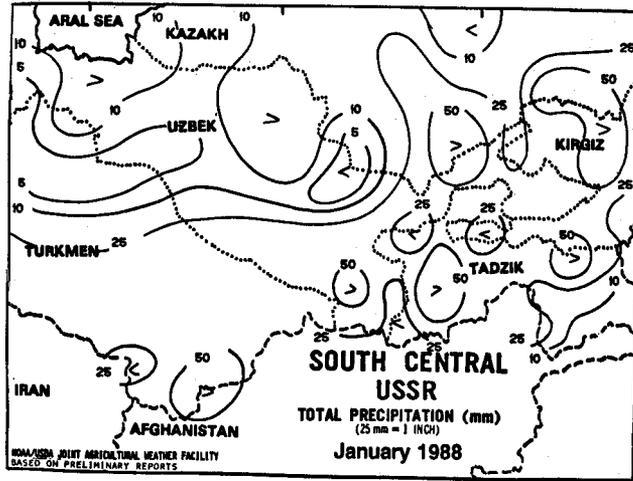
**NORTHWESTERN AFRICA ...** Light showers benefit winter grains in northern Morocco. Chronic dryness continues over most winter grain areas in central and eastern Algeria and Tunisia.

**SOUTH AFRICA ...** Light to moderate rain brings relief to reproductive to filling corn in the Maize Triangle, with heavier rain in most minor corn regions.

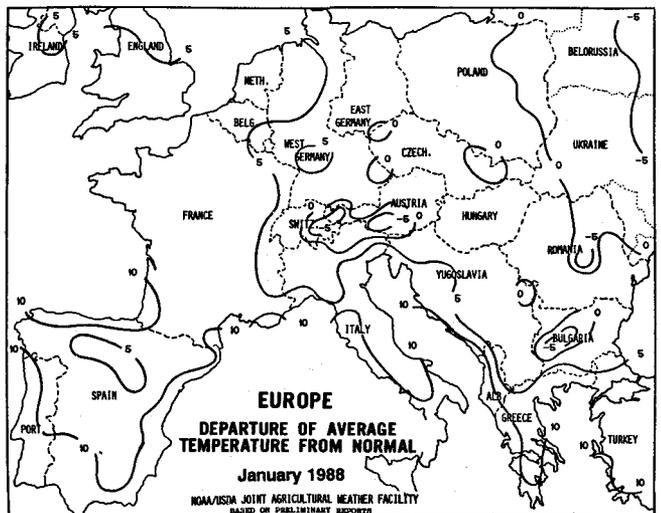
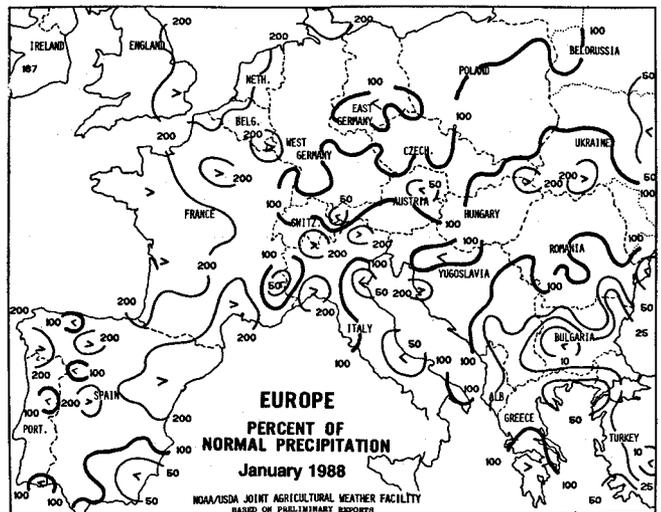
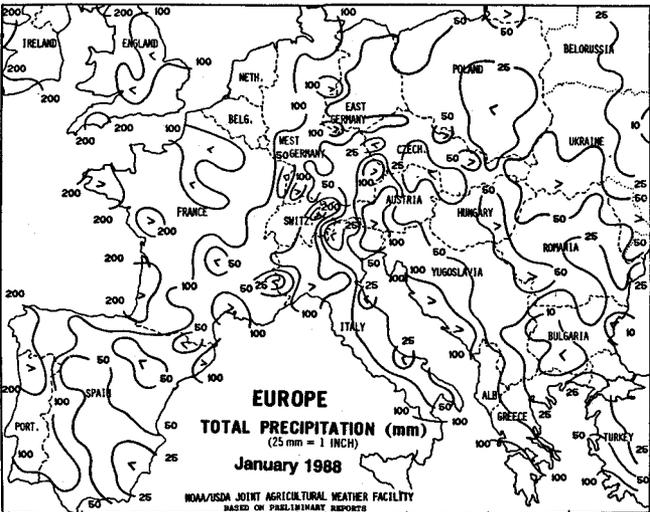
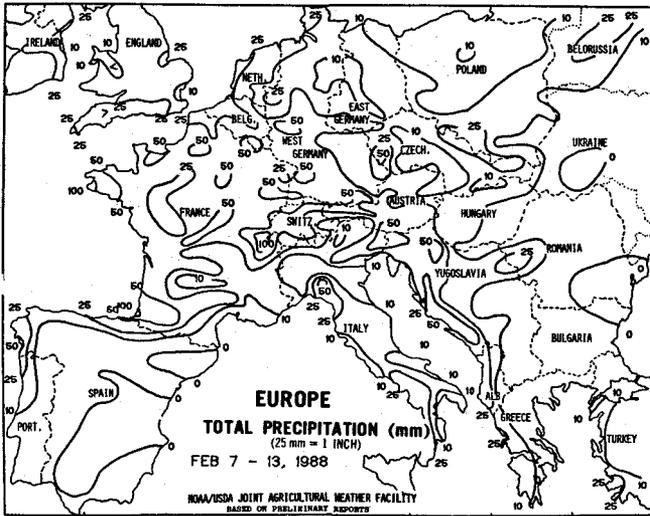


**WESTERN U.S.S.R.** ... Unseasonably warm weather covered much of the region. Weekly average temperatures in the Baltic States, Belorussia, the western two-thirds of the Ukraine, the Central Region, Black Soils Region, and the upper Volga were 5-7 degrees C above normal. The western edge of the Siberian high re-established itself in the lower Volga and the North Caucasus. As a result, temperatures were 1-3 degrees C below normal. Above-freezing temperatures accompanied rain showers in the Baltic States, Belorussia, and the western Ukraine, melting snow cover. Snow cover increased in the Central Region. In January, precipitation was below normal over much of European U.S.S.R., with above-normal precipitation limited to the western Baltic States, southwestern Ukraine, and Moldavia. While January began with above-normal temperatures, they steadily dropped to much below normal by month's end. Although winter grains were stressed, the extreme cold was of short duration and there was sufficient snow cover in most areas to provide protection from potential winterkill. However, some crop damage was possible in the extreme eastern Ukraine and the northern North Caucasus, where snow cover was shallow.

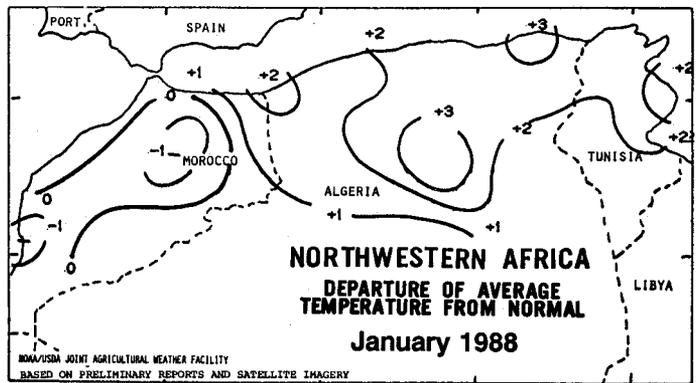
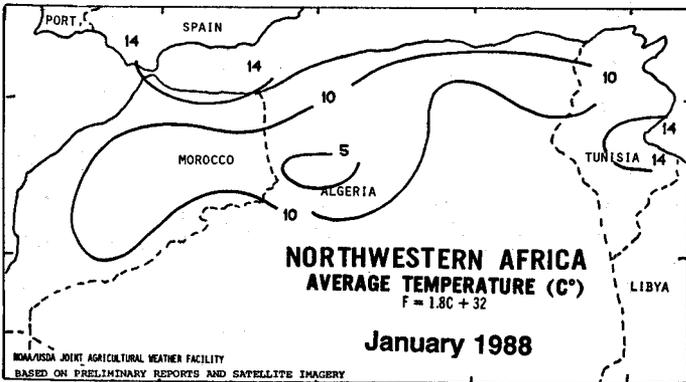
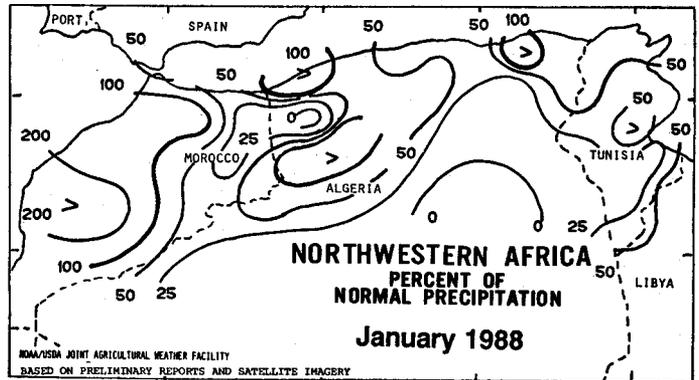
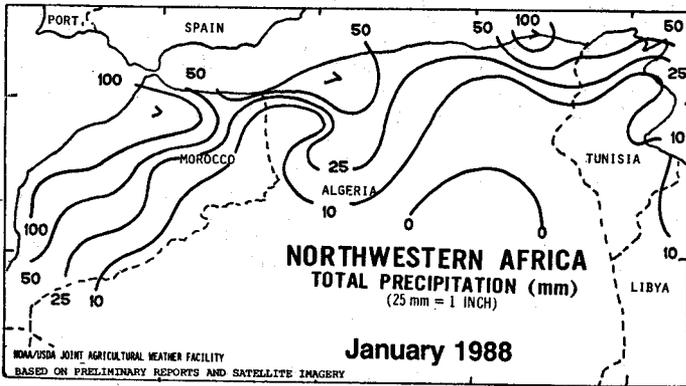
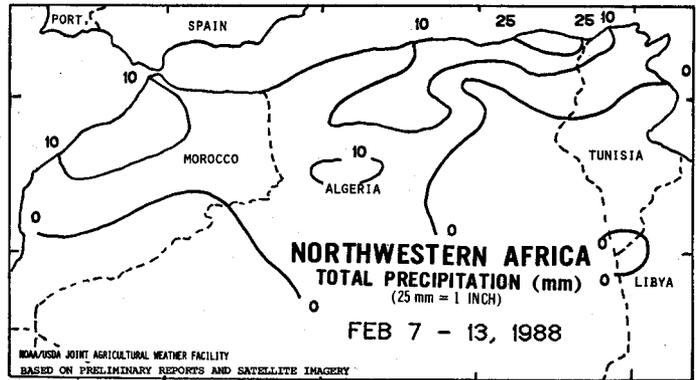


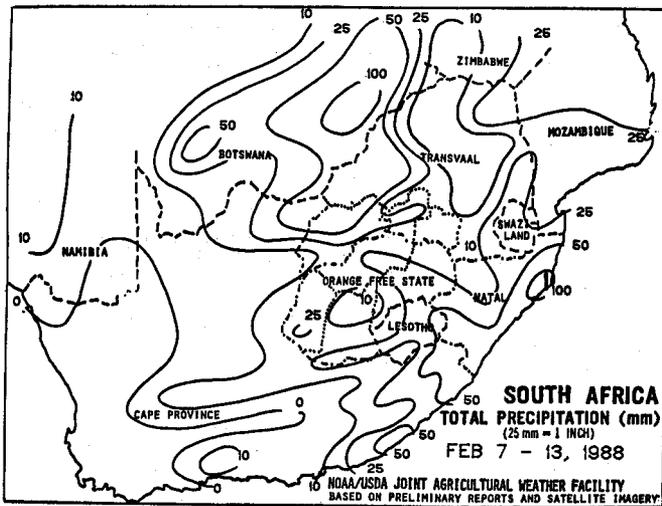


**EUROPE ...** An intense center of low pressure moved through northwestern Europe early in the period, with widespread precipitation and wind gusts over 40 meters per second. Sustained high winds with the storm reportedly caused structural damage and power outages in Ireland and northern sections of the United Kingdom, although damage was not as widespread as that associated with the storm of October 11-13, 1987. Moderate-to-heavy rainfall (greater than 25mm) from the storm and a system later in the week kept soils saturated and may have caused some flooding from northwestern Spain to northern West Germany. Moderate-to-heavy precipitation also fell over sections of northern Italy, western Yugoslavia, and eastern Czechoslovakia. Drier-than-normal weather returned to southeastern Europe, however, with only scattered light rain and snow over most growing areas. Normal to above-normal precipitation in January led to improvements in soil moisture levels over northern areas of the Balkans, while below-normal totals in southern areas kept soils dry. In contrast, much above-normal precipitation fell over the northwestern one-third of Europe, with most soils becoming unfavorably wet. Normal to above-normal temperatures persisted across nearly all of Europe, with mean January temperatures as much as 5 degrees C above normal across some northern growing areas.

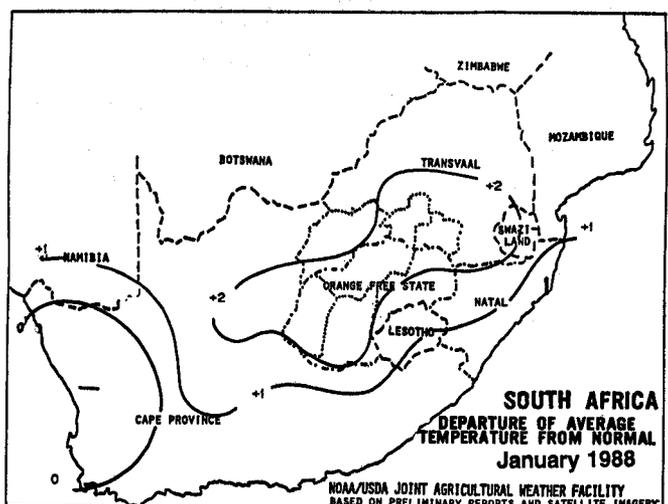
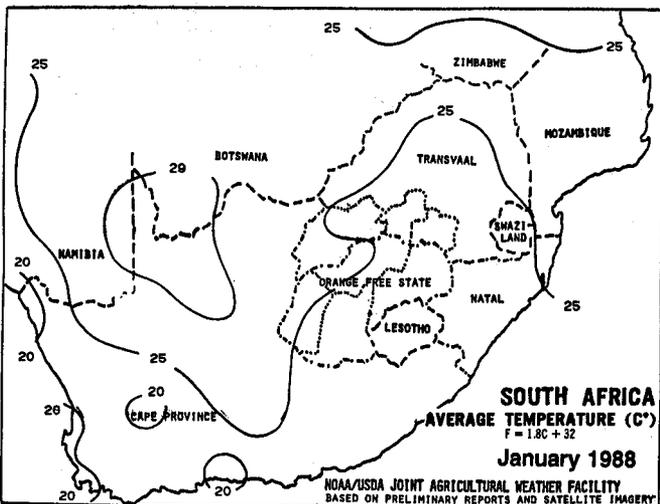
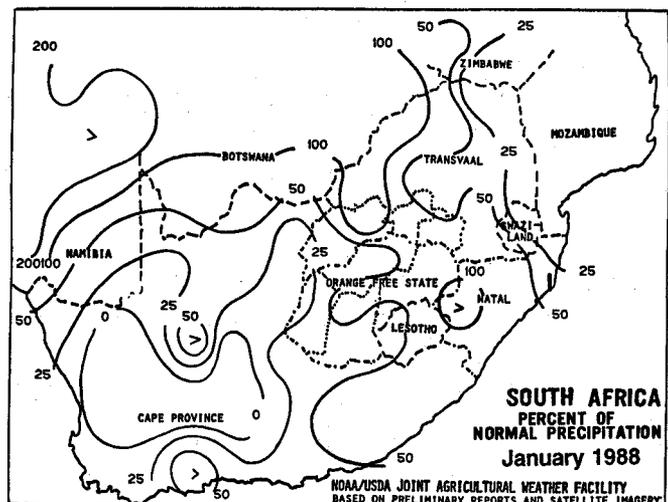
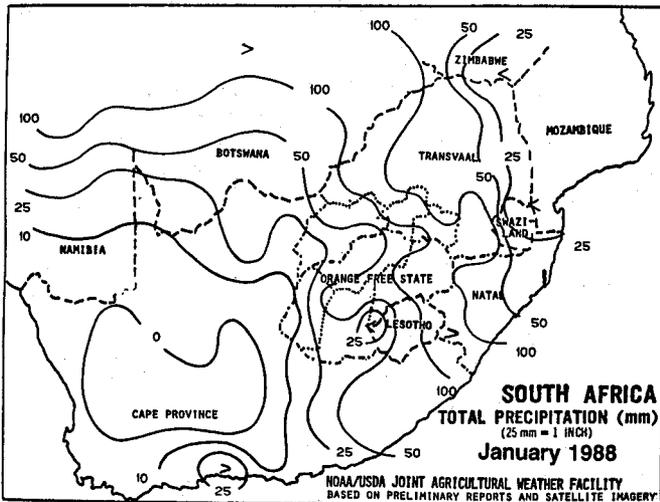


**NORTHWESTERN AFRICA** ... Chronic dryness continued over winter grain areas in central and eastern Algeria and Tunisia. January precipitation in these areas was mostly less than 50 percent of normal. Southernmost winter grain areas in eastern Algeria and Tunisia have not received substantial precipitation since the beginning of the growing season, resulting in significant planting delays. Further west, light showers (10-23mm) benefited winter grains in northern Morocco and parts of western Algeria. Minimal rain has covered southern winter grain areas in Morocco since January 22, and rain is needed soon to halt developing stress. Normally, winter grains over the region enter the highly moisture sensitive heading stage in mid-March, and timely widespread rain is needed to meet increasing crop-moisture demands.

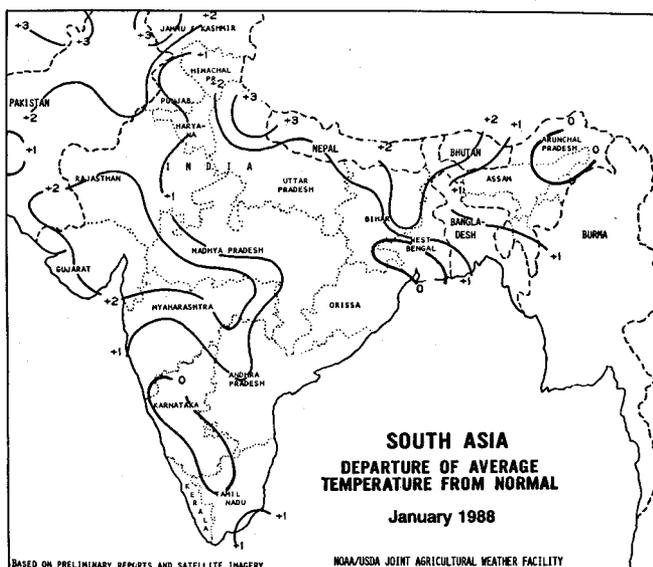
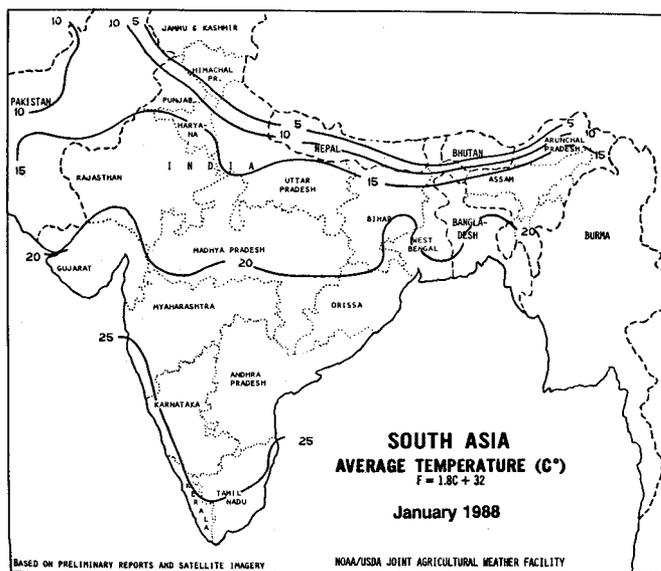
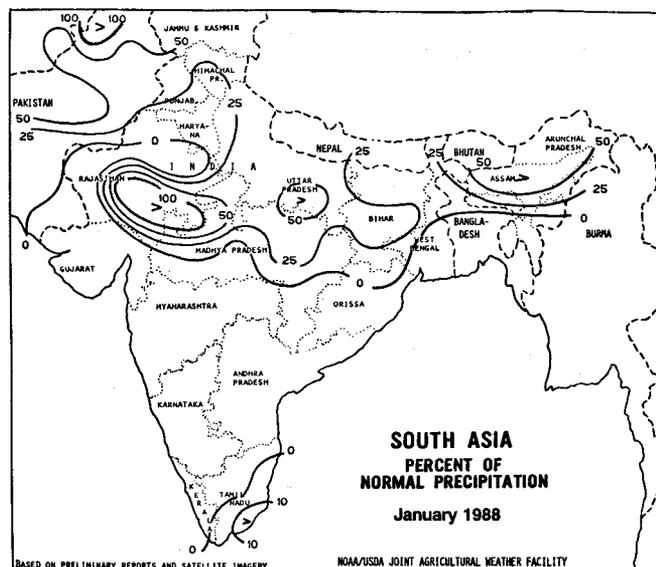
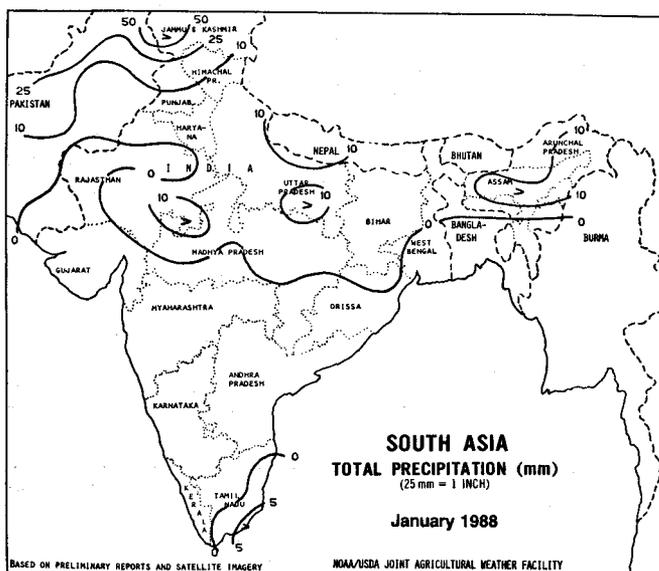
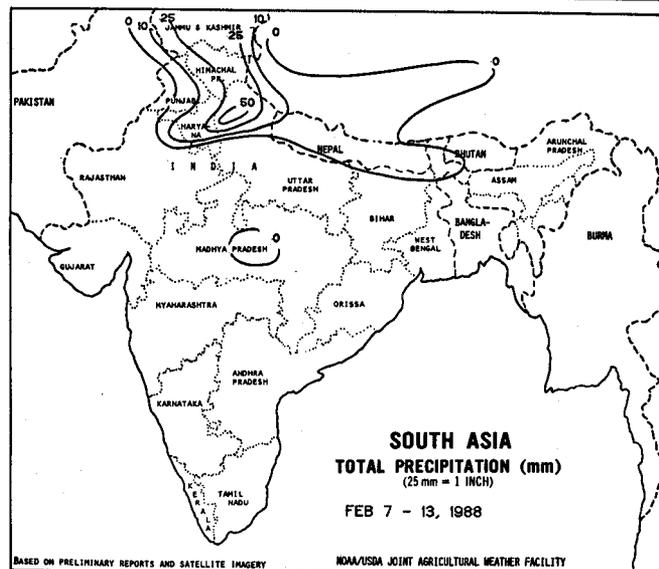


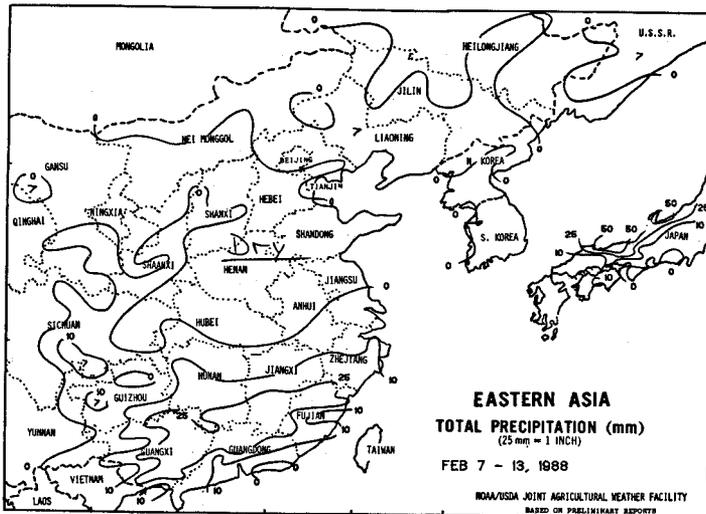


**SOUTH AFRICA ...** Light-to-moderate rain (10-33mm) and less stressful temperatures brought some relief to reproductive to filling crops in most primary corn areas of the Maize Triangle. Heavier rain (25-100mm or more) reached recently dry regions in northwestern Transvaal and spread through eastern Cape Province and Natal, causing flooding in some coastal regions. In January, temperatures averaged 1-3 degrees C above normal in the primary crop areas, increasing crop moisture usage and evaporation rates. Monthly rainfall was below normal in primary corn regions of the central and eastern Maize Triangle, as well as minor areas of the western and southern Triangle and easternmost Transvaal. In particular, a brief period of hot, dry weather in early January stressed corn in or nearing reproduction in the central Maize Triangle and late planted vegetative corn elsewhere. Hot, dry weather in late January and early February stressed reproductive to filling crops throughout the Orange Free State and Transvaal. Conditions were unfavorable in the western and parts of the southern Maize Triangle throughout January.

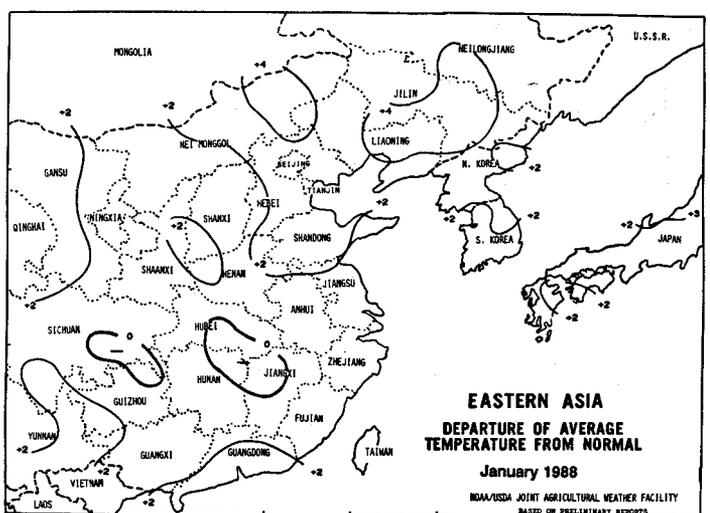
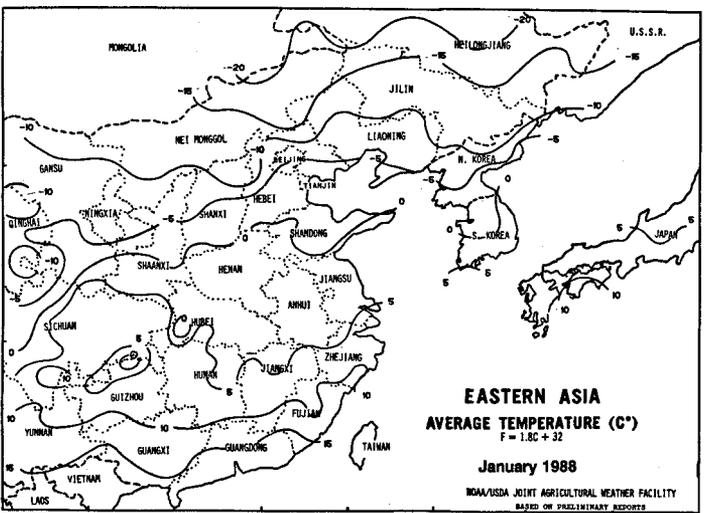
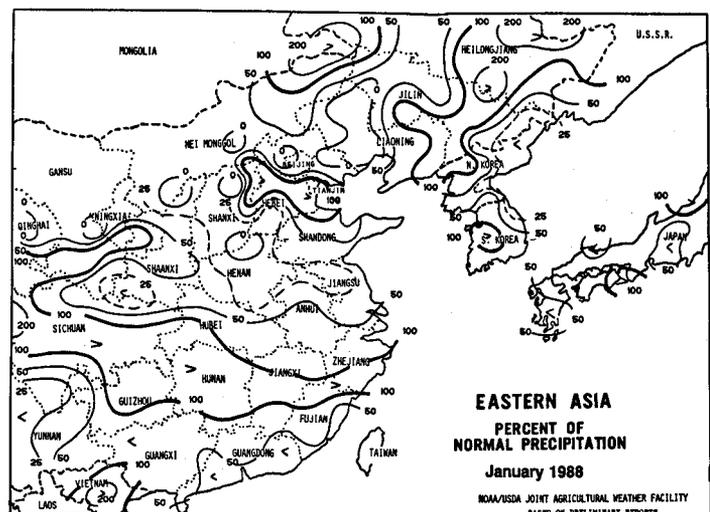
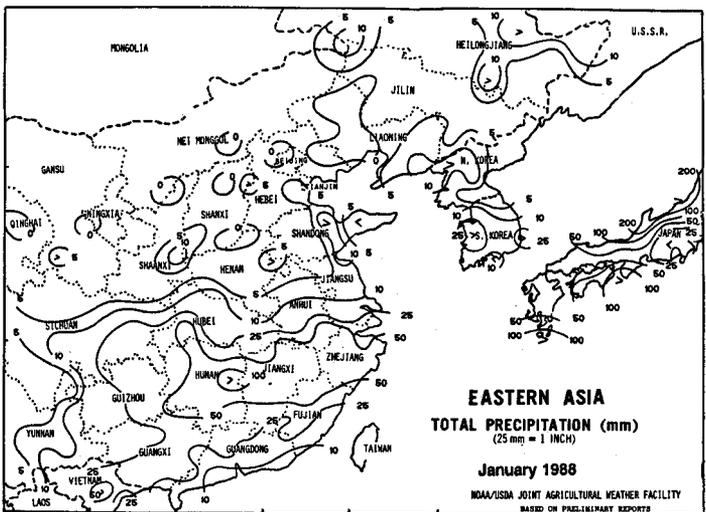


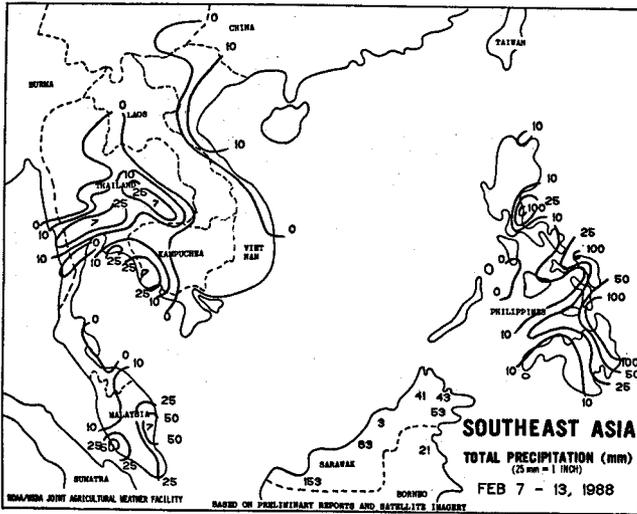
**SOUTH ASIA ...** Beneficial rain (10-25mm or more) brought some relief to vegetative to heading wheat in northwestern Uttar Pradesh, northern Haryana, and the eastern half of India's Punjab state. Dry weather continued elsewhere in India and all but northernmost Pakistan. In January, scattered, light rain fell over northern Pakistan and occasionally reached northern India's chronically dry wheat regions, but moisture continued limited for the Indian crop's normal development. Dry, warm weather throughout January in the southern growing regions limited moisture for immature crops but helped mature cotton and spurred vegetative growth of irrigated summer rice.



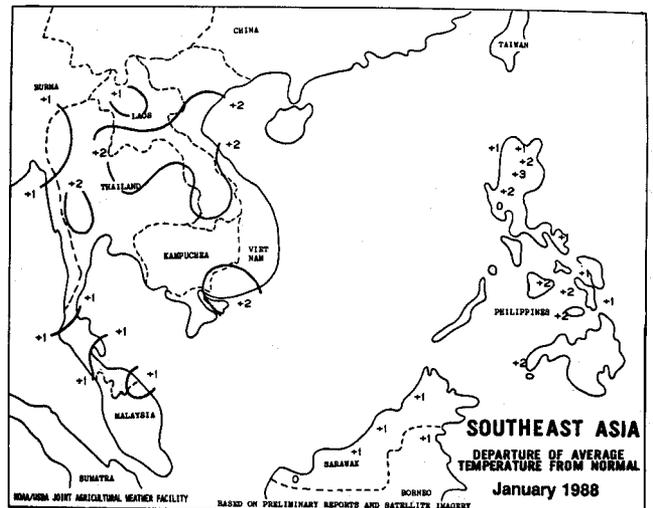
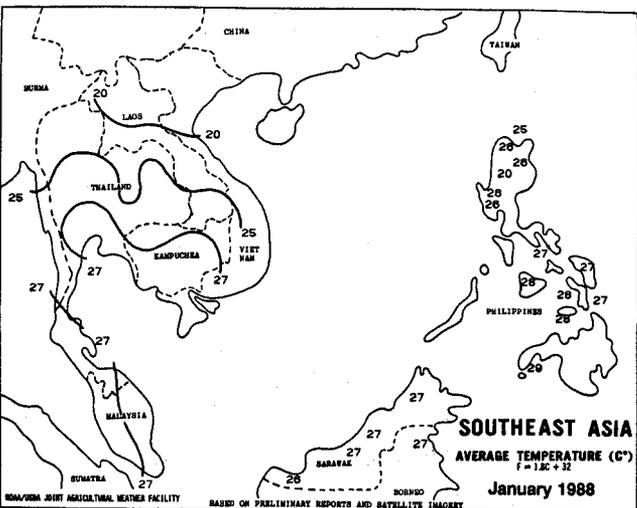
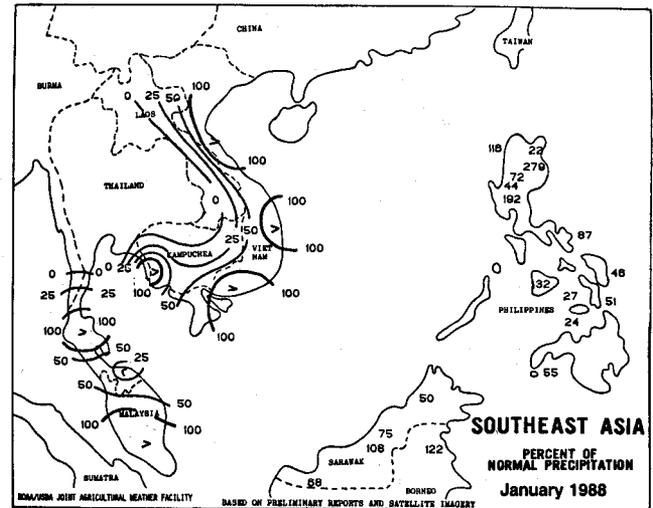
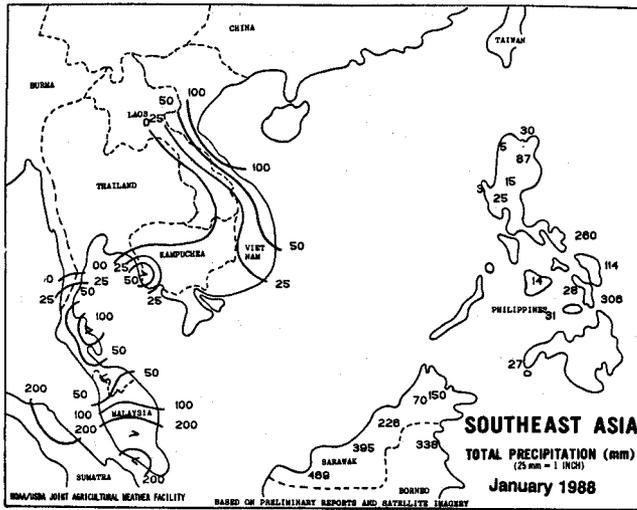


**EASTERN ASIA ...** Widespread rain (10-46mm) continued across southeastern China, benefitting pre-planting soil moisture levels for early double-cropped rice. Scattered light rain and snow fell over northern and western Chinese growing areas, although most winter wheat areas remained seasonably dry. In Japan, heavy rain and snow (greater than 25mm) persisted in western sections, continuing a wetter-than-normal trend there since January. Above-normal January precipitation also fell over southern portions of the Yangtze River Valley and in the North China Plain, as well as scattered sections of the Korean Peninsula and Taiwan. January precipitation was below normal over most Chinese and Korean winter wheat growing areas and across the southeastern coast of China. Average temperatures for the month were normal to above normal over nearly all of eastern Asia, with some northern Chinese growing areas as much as 5 degrees C above normal.

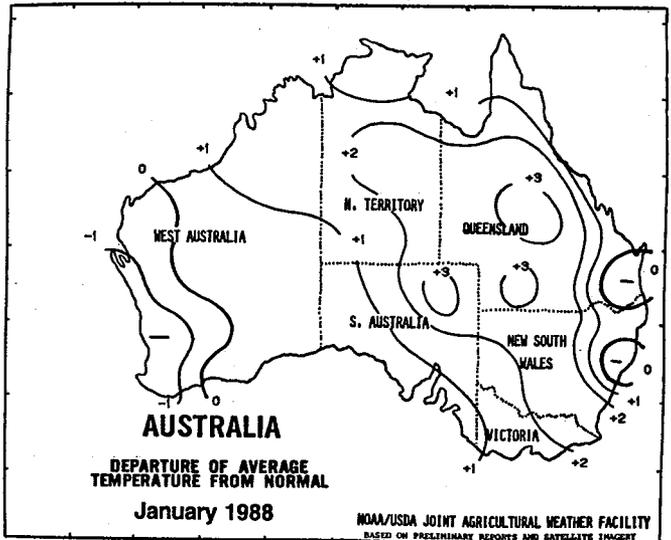
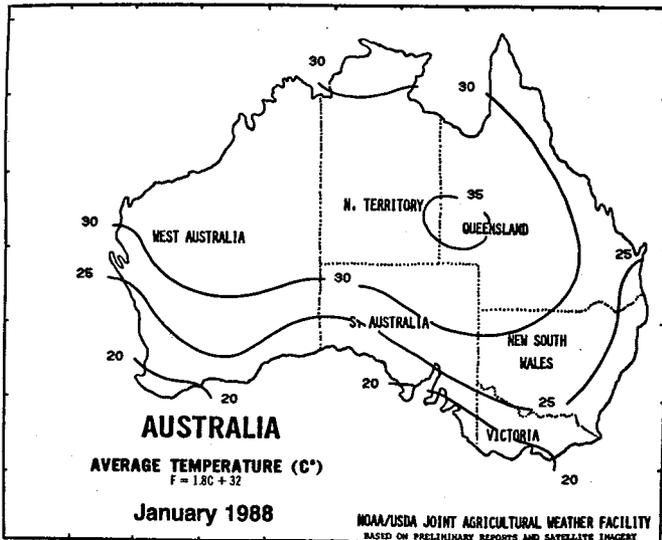
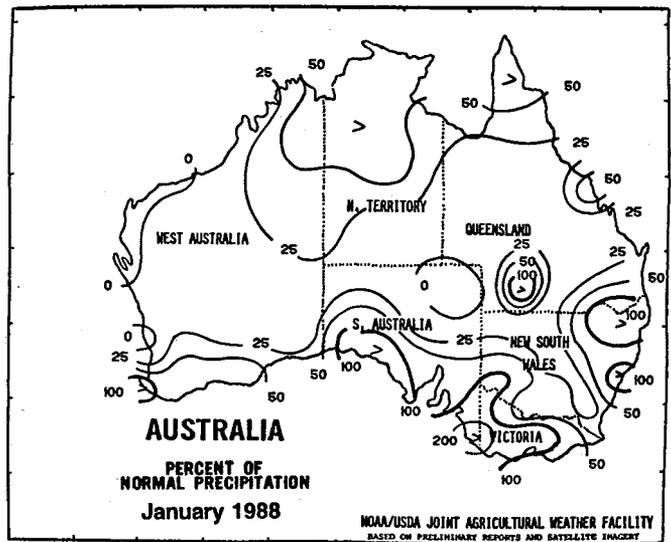
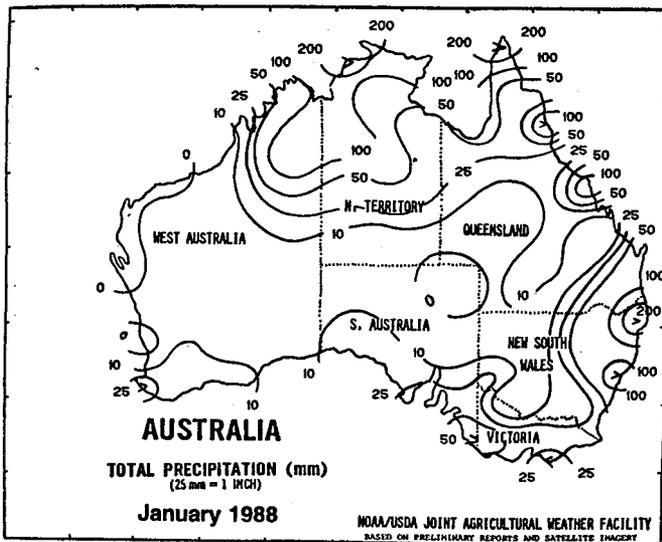
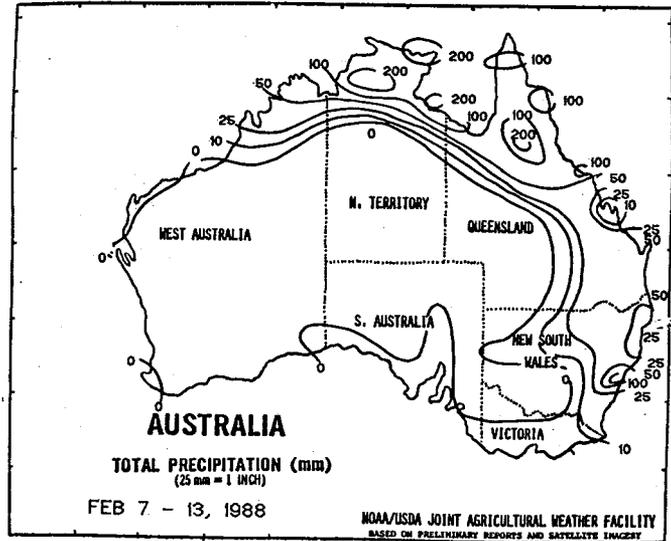


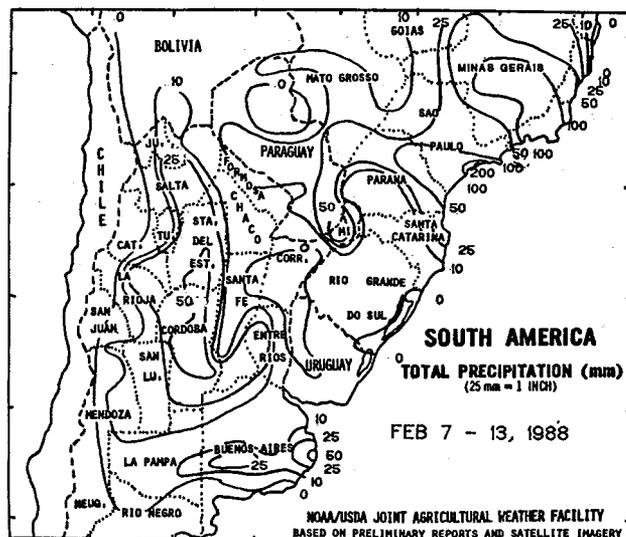


**SOUTHEAST ASIA ...** Widespread, locally heavy showers (25-100mm or more) continued throughout Indonesia and eastern Malaysia, reflecting January's generally beneficial rainfall pattern. However, rainfall in parts of northern Java has exceeded 100mm a week since mid-January, causing local flooding, while rainfall over parts of southern Java has trended below normal. Moderate-to-heavy showers (25-66mm) returned to the eastern coast of western Malaysia, improving irrigation levels. In January, rainfall was near normal from peninsular Thailand southward, except for portions of western Malaysia which were much below normal. Unseasonable, heavy rain (25-47mm) covered central Thailand as generally light rain continued along Vietnam's coast. In the Philippines, moderate-to-heavy showers (25-141mm) continued over eastern crop regions, except for northern Luzon, which received only light rain (7-15mm). In January, rainfall was below normal over the southern half and generally above normal in the north, although dry pockets persisted in northern Luzon.

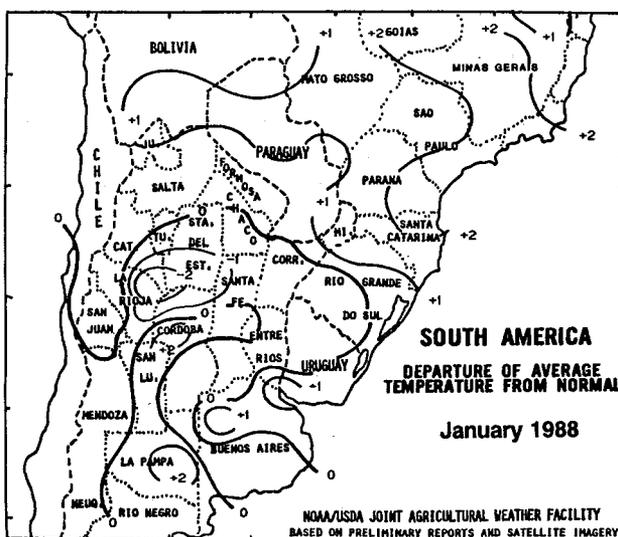
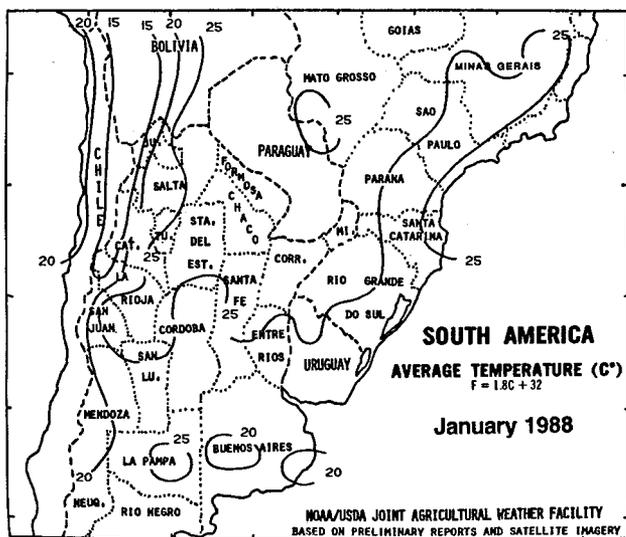
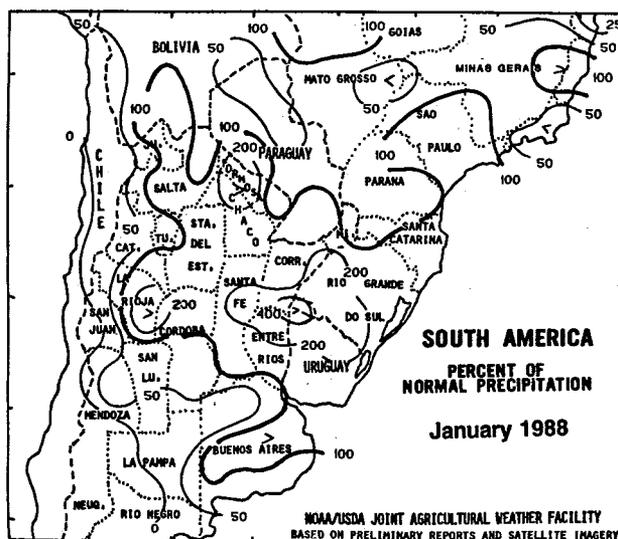
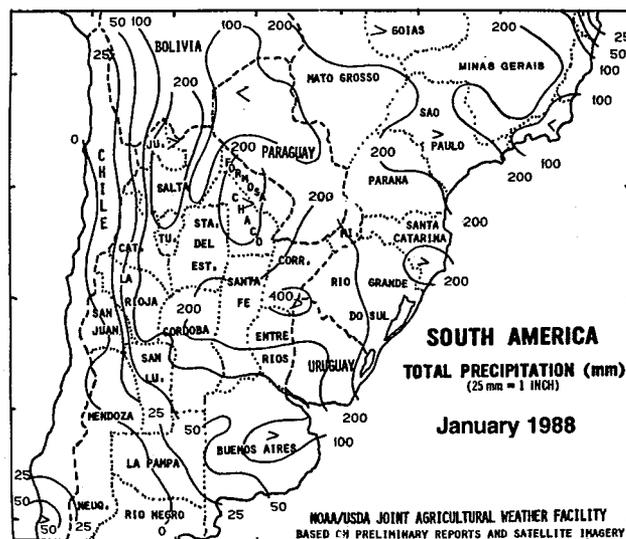


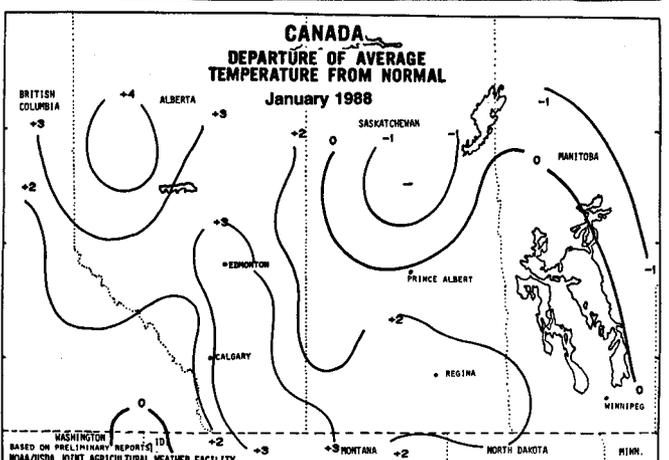
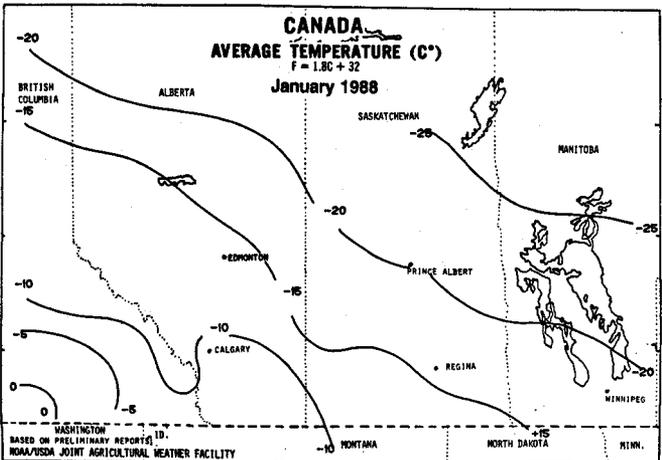
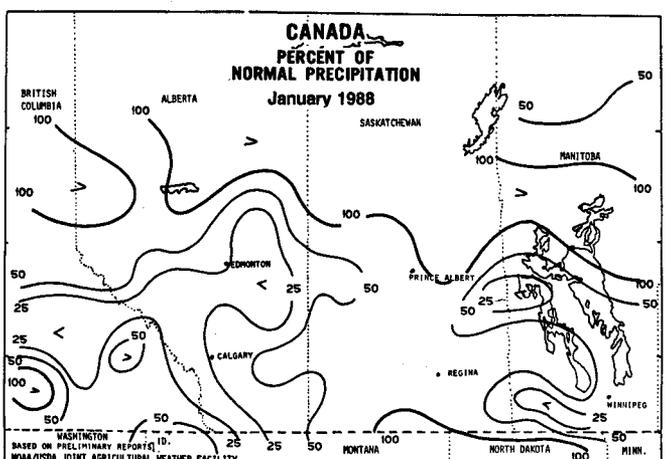
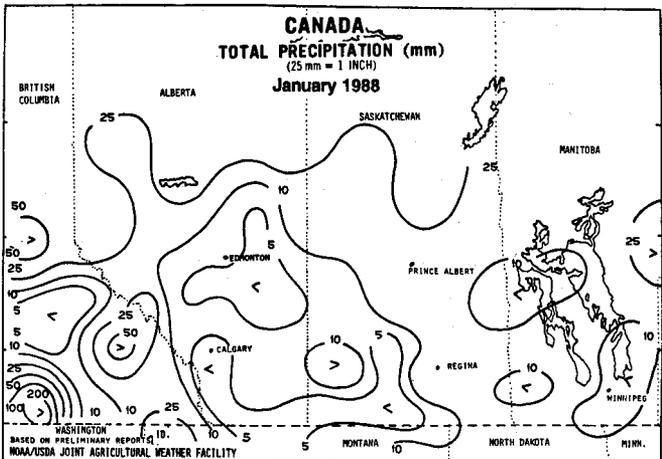
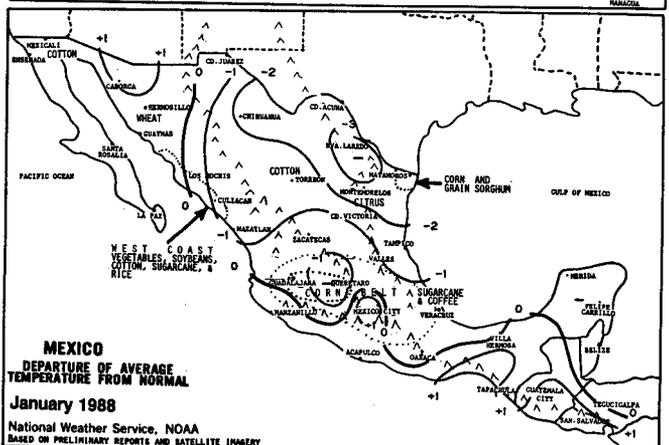
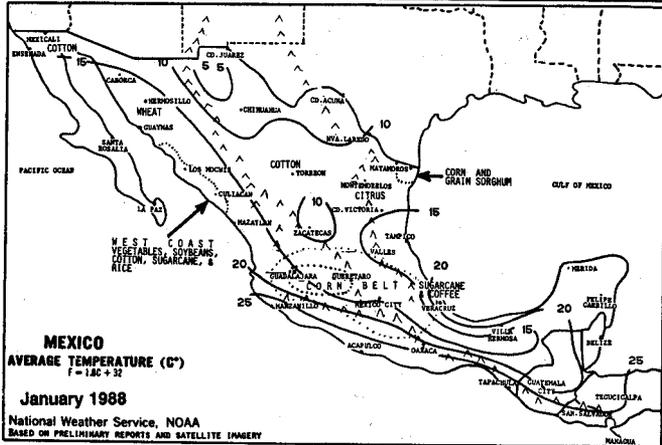
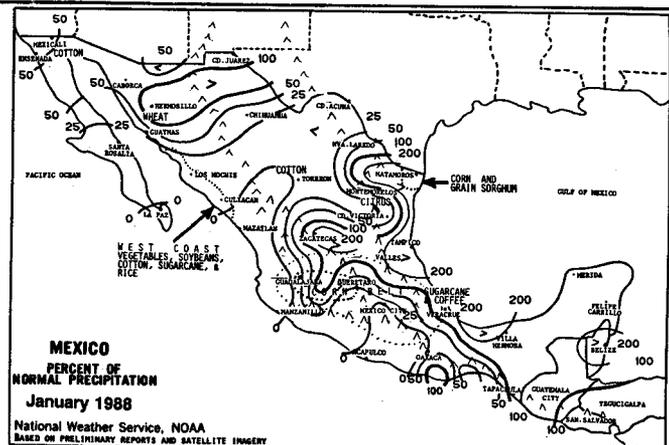
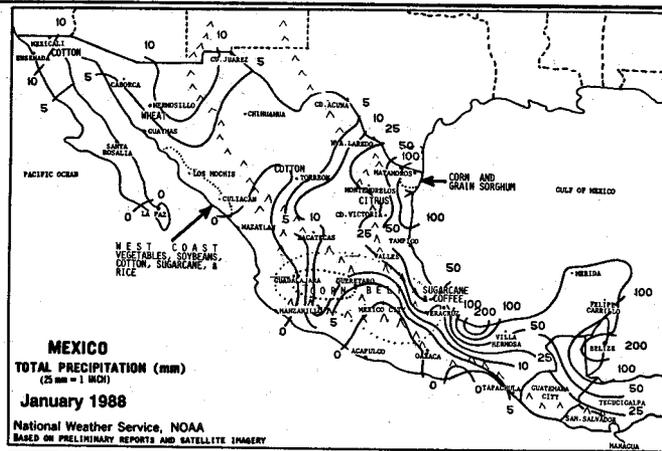
**AUSTRALIA ...** Heavy rain (up to 205mm) fell along Queensland's northeastern coast, bringing further relief to vegetative sugarcane. The rainfall was spotty in some southern sugar areas, however, with soils remaining unfavorably dry. Rainfall was widespread across summer crop areas of Queensland and New South Wales, and soil moisture remains favorable for most crops. In the south, seasonably warm and dry weather covered most wheat areas, with scattered light showers over parts of the southeast. In January, average temperatures were normal to above normal over all growing areas except for southwestern Western Australia, where they were below normal. January precipitation was below normal over growing areas in Queensland, Western Australia, and interior sections of New South Wales and Victoria. Normal to above-normal precipitation fell over eastern summer crop areas and coastal wheat areas of South Australia and Victoria.





**SOUTH AMERICA ...** In Argentina, late-week showers brought beneficial moisture (12-93mm) to northwestern Buenos Aires, Cordoba, and southern Santa Fe. The rain and mild weather favored grain-filling corn and pod-setting soybeans, following below-average January rainfall in the primary summer crop areas. While a trend toward below-normal rainfall had developed in recent weeks, periodic showers and seasonably mild temperatures have maintained favorable growing conditions. Above-normal January rainfall in the north favored cotton development. In south-central Brazil, light, scattered rain (2-8mm) fell in Rio Grande do Sul where above-normal January rainfall alleviated earlier dryness. Substantial showers (10-55mm) covered soybean areas of Parana, southern Mato Grosso do Sul, and Sao Paulo, while locally heavy rain (50-184mm) fell again in Minas Gerais. The rain favored pod-filling soybeans following mostly below-average January rainfall across northern soybean areas.





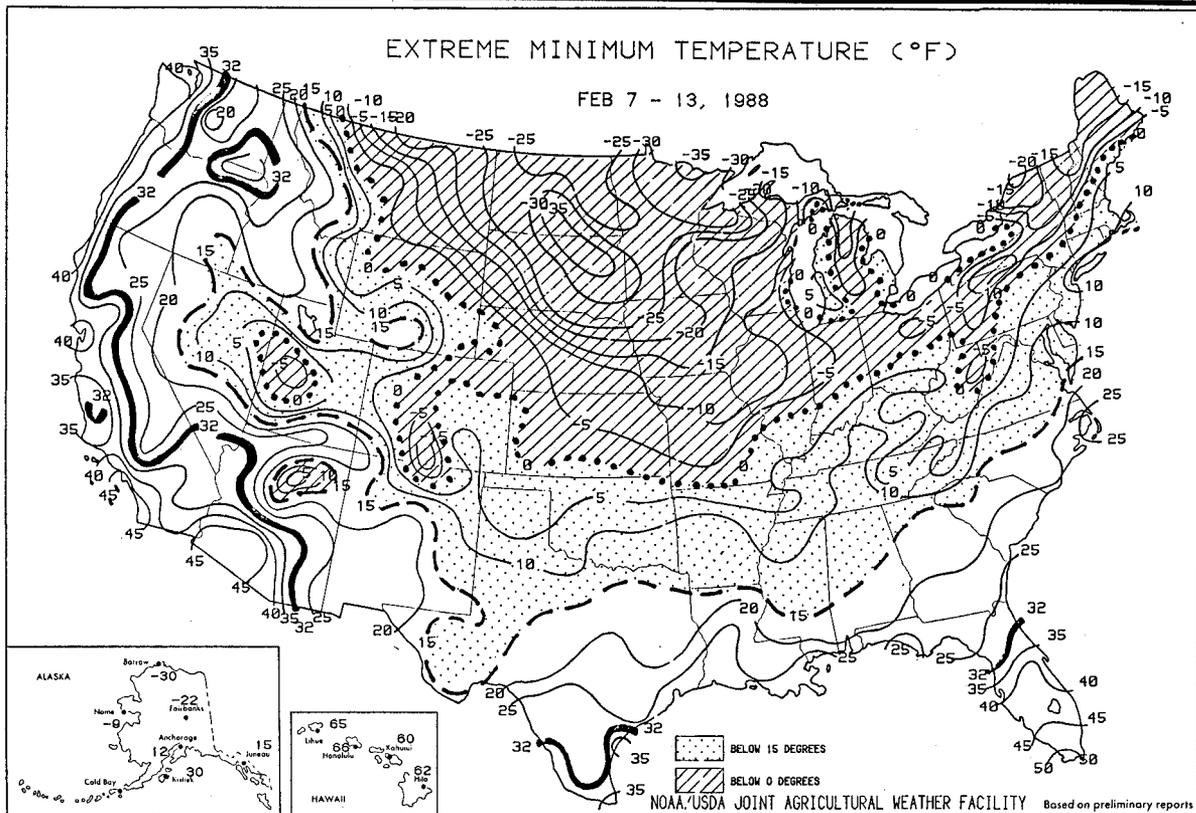
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