

WEEKLY WEATHER AND CROP BULLETIN

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

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

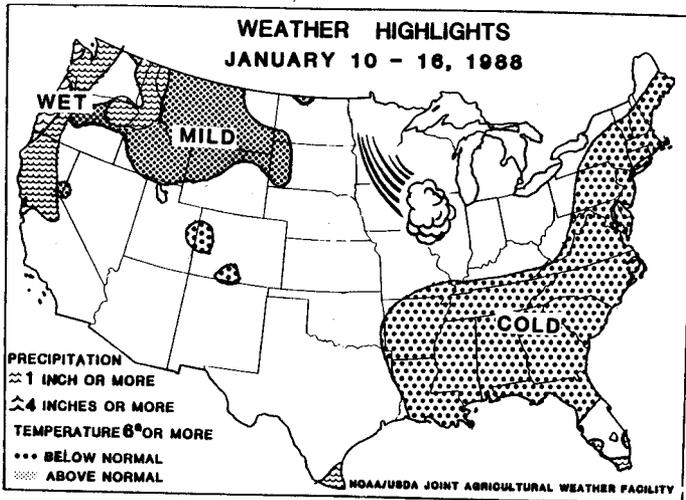
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National Weather Summary

January 10 - 16, 1988



Tennessee Valley to the Ohio Valley. Mild weather spread from the lower Mississippi Valley north-eastward to the Ohio Valley.

WEDNESDAY...A frontal passage brought sharply colder weather to the Great Lakes region and the northern Atlantic Coast States. Blustery north winds produced snow squalls in the Great Lakes region. Rainshowers were scattered across the southern and mid-Atlantic Coast regions. Rain and snow spread across New England. Snow fell at some higher elevations of the Pacific Northwest. Temperatures remained near to below zero across the northern Plains and the northern Great Lakes.

THURSDAY...An intense storm brought rain and high winds to the Pacific Northwest, with snow at higher elevations. Rain from the storm extended into the northern Rocky Mountains. Warm air moved from the northern Rockies and to the northern Plains, ahead of the storm. In the Northeast, strong north-westerly winds exacerbated the bitter cold. A storm off the Atlantic coast produced snow in the eastern Carolinas.

FRIDAY...Rain continued to fall in western Oregon and Washington, snow in the Great Basin and the central and northern Rockies, accompanied by strong winds. Moderating temperatures accompanied light snowfall in the upper Mississippi Valley. Snow ended during the afternoon in the eastern Carolinas. Cold, dry air continued to cover the Northeast, but winds diminished at many locations.

SATURDAY...Southerly winds brought milder weather to the Great Lakes region and the Northeast. Rain developed over eastern Texas and western Louisiana. A cold front brought sharply lower temperatures to the northern and central High Plains. A developing storm system in the Southwest produced rain and snow with high winds over much of the region.

HIGHLIGHTS: A storm system accompanied by snow and strong winds moved from the Northwest to the Northeast from Sunday to Wednesday, followed by very cold weather. A second storm invaded the Northwest late in the week, producing more rain and snow with high winds.

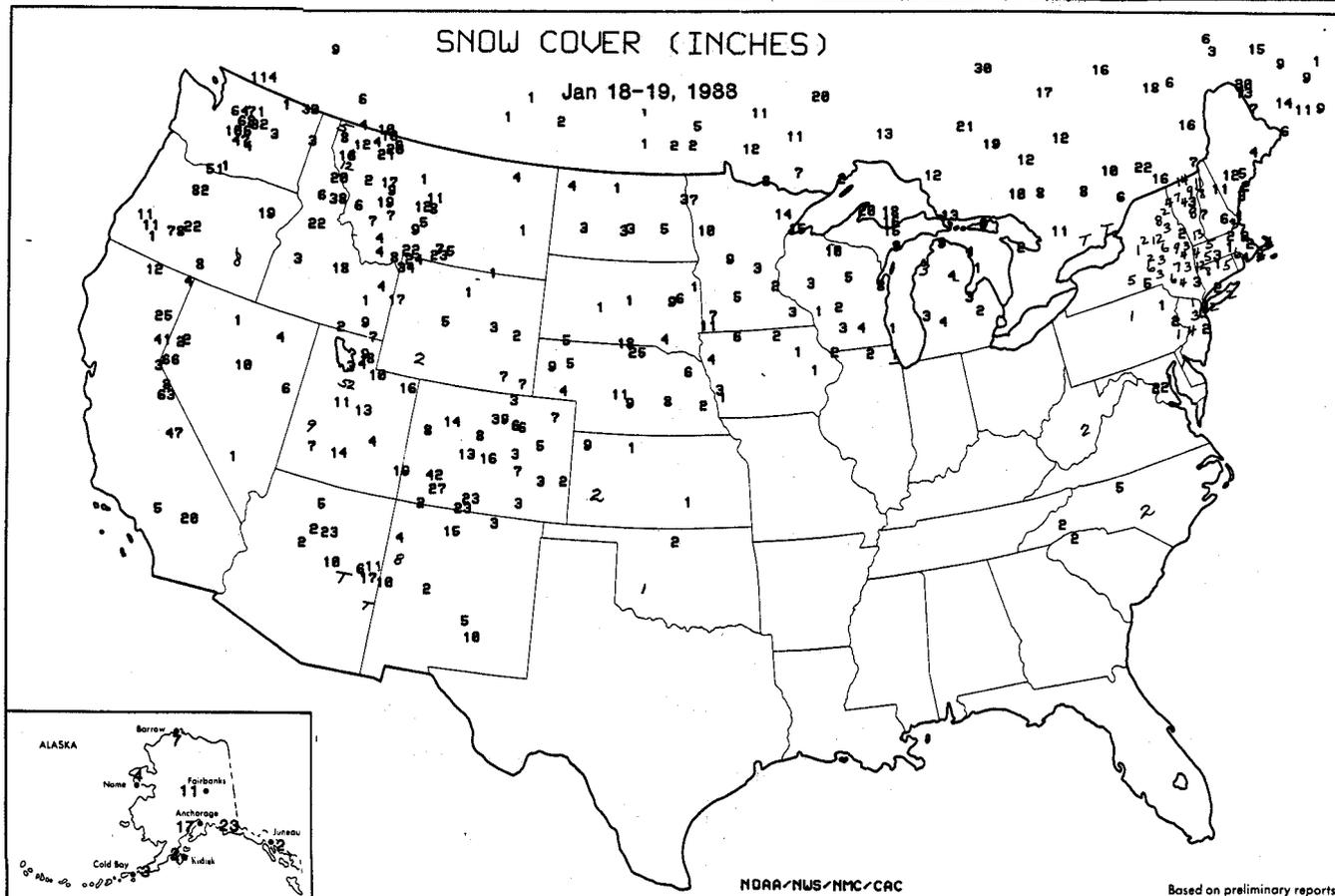
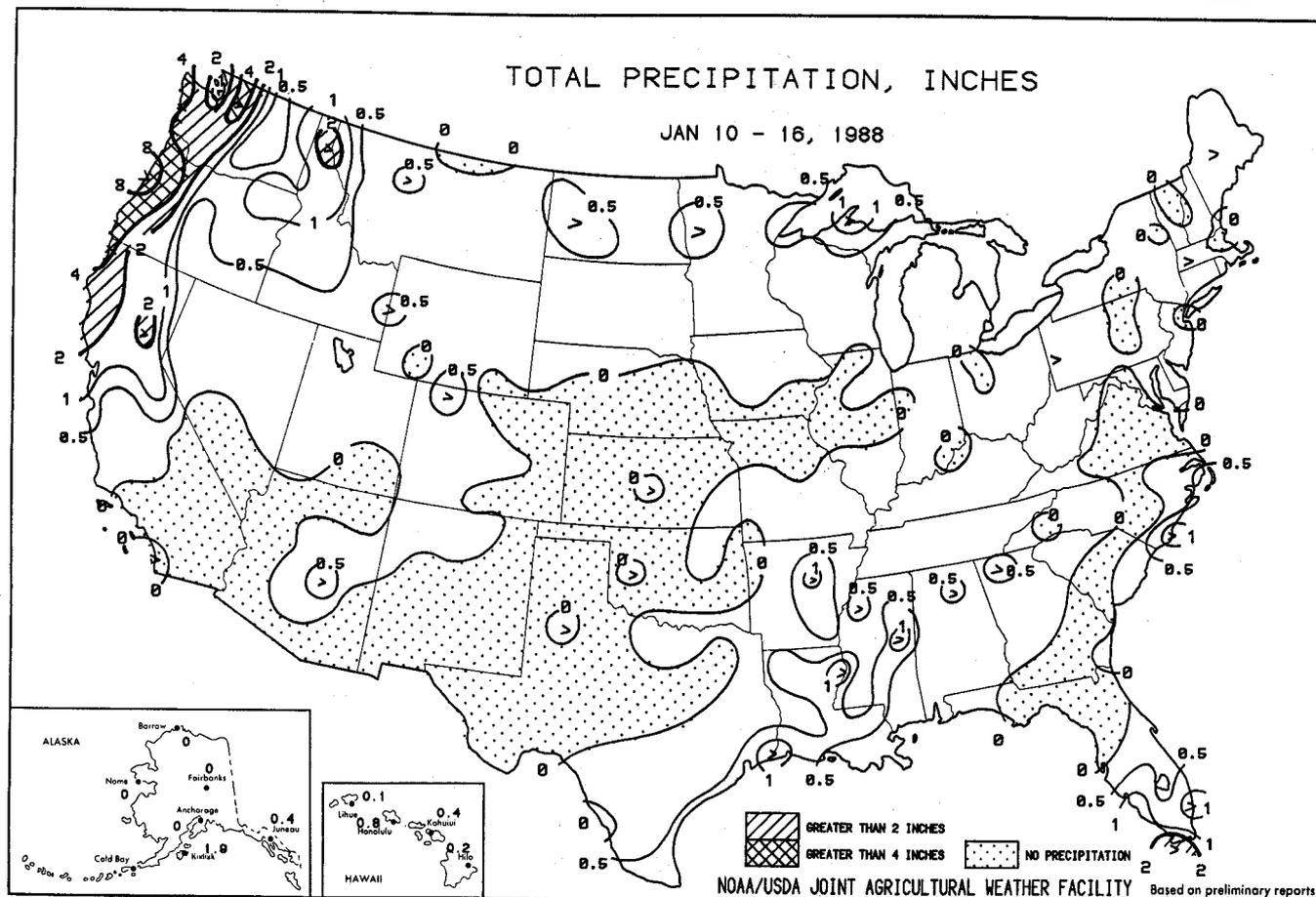
SUNDAY...Most of the Nation was dry, except in southern Florida and in northern Pacific coastal areas where heavy rain fell. The eastern slopes of the Rockies continued to have strong gusty winds, with blowing and drifting snow. Windy conditions extended eastward over the northern and central Plains, the upper Mississippi Valley, and the Great Lakes. Cold weather continued in the deep South.

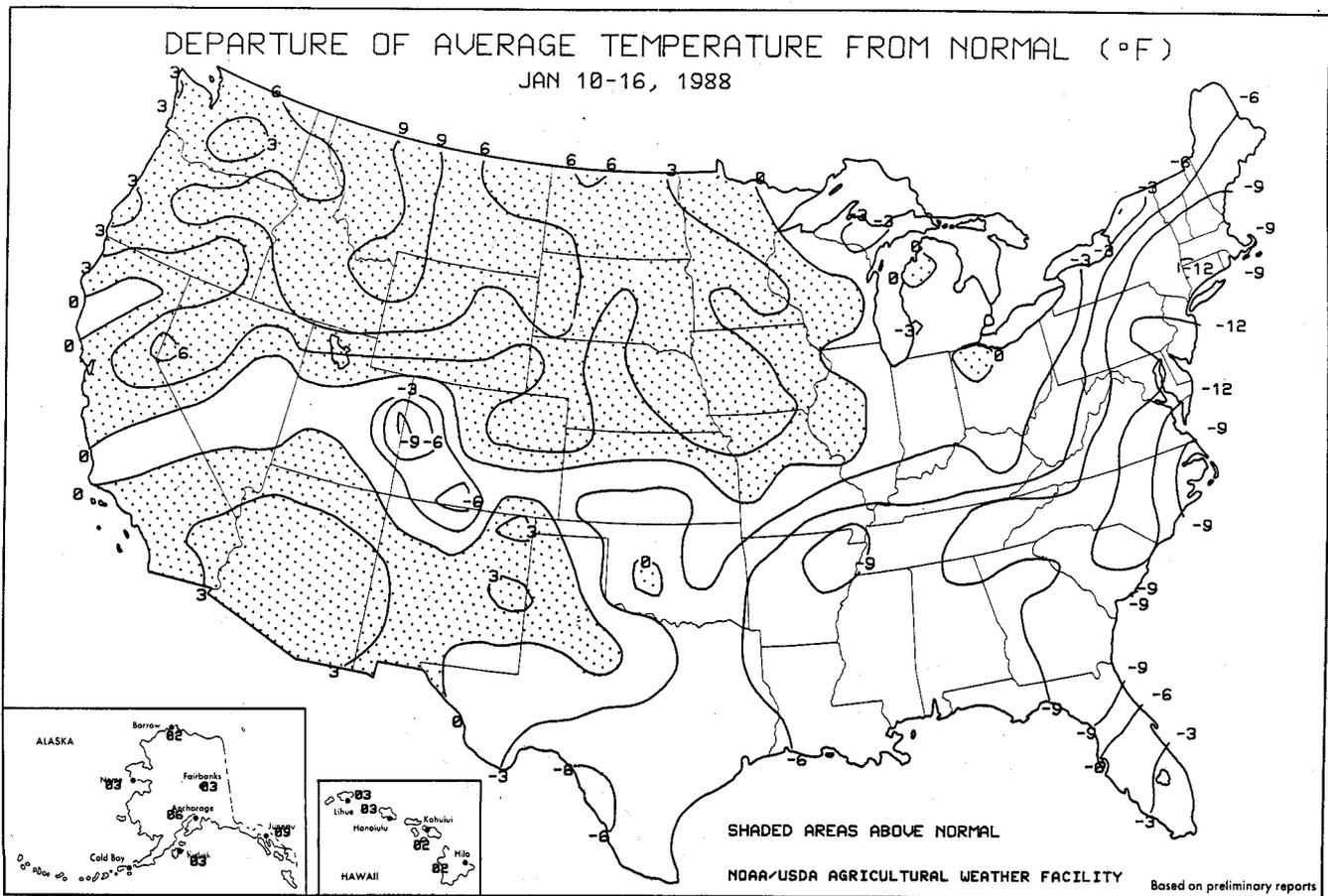
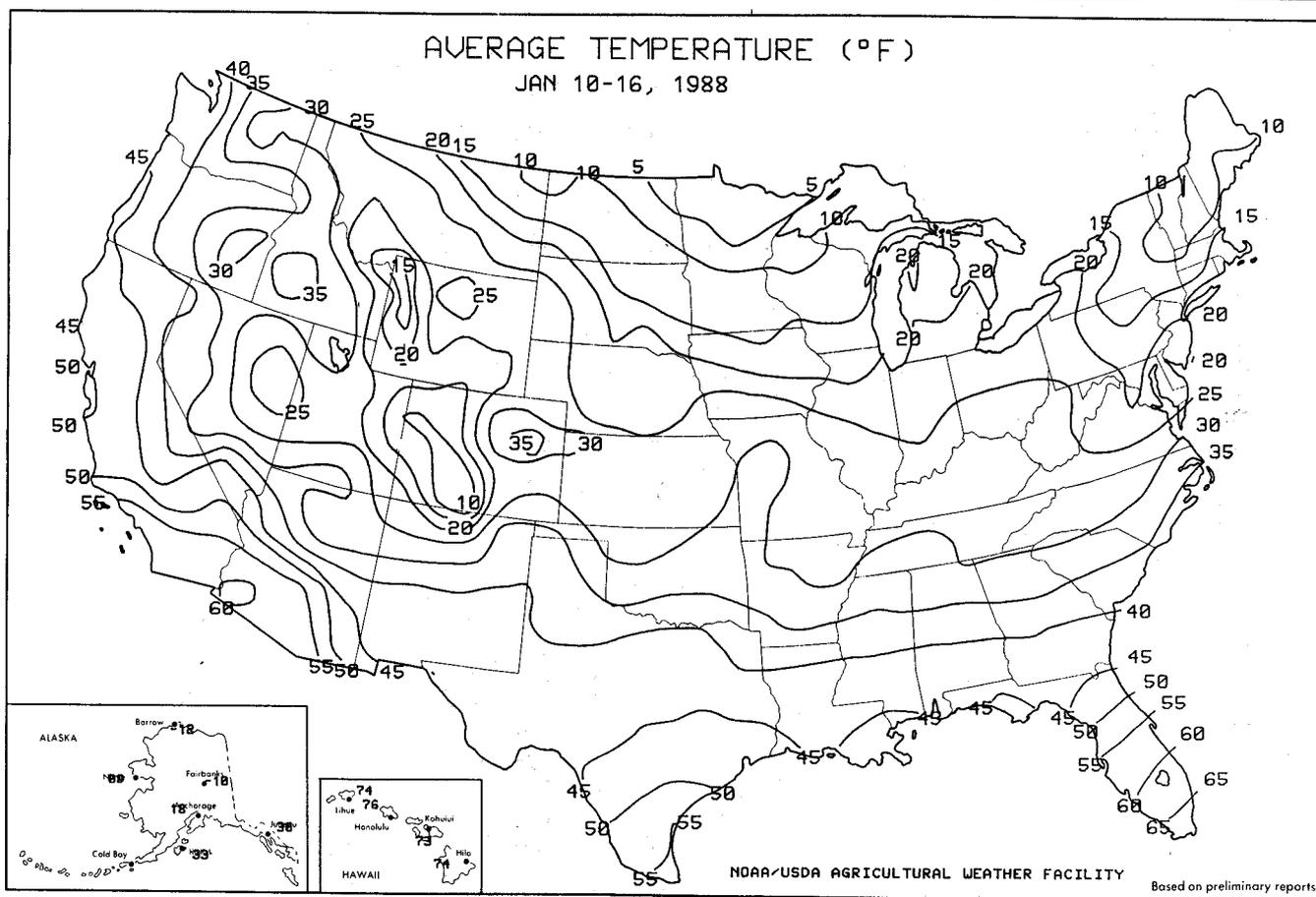
MONDAY...Heavy snow fell in the northern Rockies and spread across the northern Great Plains, where high winds caused blizzard and near-blizzard conditions. Windy conditions also prevailed in southern California. Some rain fell along the northern California and Carolina coasts.

TUESDAY...The storm system that caused heavy snow and blizzard conditions in the northern Plains and the upper Mississippi Valley during the previous 24 hours moved eastward into the Great Lakes region. Heavy snow fell in Minnesota, Wisconsin, and Michigan. Blowing and drifting snow caused blizzard conditions in parts of South Dakota, Minnesota, and Iowa. Rain fell in northern Pacific coastal areas, and snow fell in eastern Washington. A few showers were scattered from southeast Texas and the lower Mississippi Valley across the

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National Weather Data for Selected Cities

Weather Data for the Week Ending January 16, 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		PRECIPITATION	
																		°F	°F	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	48	23	55	18	36	-7	.3	-.9	.3	5.4	70	2.3	85	83	40	0	7	1	0	0	
MOBILE	56	28	62	15	42	-6	.1	-.9	.1	5.1	65	1.5	60	87	33	0	5	2	0	0	
MONTGOMERY	53	25	60	20	39	-8	.2	-.8	.2	7.0	100	2.7	123	88	30	0	7	1	0	0	
AK ANCHORAGE	23	12	27	7	18	-6	.4	-.2	.4	1.1	74	T	0	90	69	0	0	0	0		
BARROW	-8	-15	-4	-18	-12	2	T	T	T	T	T	T	T	82	72	0	7	0	0		
FAIRBANKS	-2	-18	5	-25	-10	3	T	T	T	.5	53	T	10	83	63	0	7	0	0		
JUNEAU	35	26	40	13	30	9	T	T	T	.4	87	T	23	93	55	0	5	4	0		
KODIAK	39	28	50	20	33	3	1.9	.5	1.0	6.9	81	4.6	153	96	76	0	5	4	2		
NOME	17	1	21	-5	9	3	T	T	T	1.5	140	.3	67	80	59	0	7	0	0		
AZ PHOENIX	67	44	72	41	56	4	.1	-.1	.1	1.8	151	.2	49	74	27	0	0	1	0		
PRESCOTT	55	27	59	19	41	5	T	T	T	.8	30	T	7	72	24	0	5	0	0		
TUCSON	72	40	75	35	56	5	0	0	0	1.6	118	.1	27	71	18	0	0	0	0		
YUMA	70	50	73	48	60	5	T	T	T	.6	119	T	0	46	19	0	0	0	0		
AR FORT SMITH	45	18	59	3	31	-6	0	0	0	9.4	246	1.3	128	94	43	0	7	0	0		
LITTLE ROCK	39	23	49	13	31	-9	1.0	.1	1.0	15.4	247	1.7	83	78	54	0	6	1	0		
CA BAKERSFIELD	54	37	60	32	46	-2	T	T	T	1.2	107	.4	77	98	62	0	1	1	0		
EUREKA	56	44	65	36	50	3	4.0	2.4	1.4	17.0	172	6.1	165	84	64	0	0	7	4		
FRESNO	53	37	57	31	45	0	.3	-.2	.1	2.3	87	1.1	106	100	66	0	1	3	0		
LOS ANGELES	66	48	76	47	57	2	0	0	0	2.0	65	.2	14	85	40	0	0	0	0		
REDDING	51	38	56	29	44	-2	1.4	-.6	.4	15.4	134	6.3	142	97	61	0	1	5	0		
SACRAMENTO	55	42	58	32	49	4	1.0	.1	.8	4.9	99	1.8	86	96	59	0	1	1	0		
SAN DIEGO	68	48	77	44	58	2	.1	-.4	.1	2.8	95	.1	9	89	43	0	0	2	1		
SAN FRANCISCO	56	45	60	38	51	2	1.1	0	.7	7.1	119	2.6	106	94	62	0	0	4	0		
CO DENVER	46	21	53	12	33	4	0	0	0	1.4	178	.1	40	69	30	0	7	0	0		
GRAND JUNCTION	26	2	33	-6	14	-11	T	T	T	1.7	187	.8	268	89	61	0	7	1	0		
PUEBLO	43	9	52	-4	26	-3	T	T	T	.8	181	.3	262	92	40	0	7	0	0		
CT BRIDGEPORT	27	9	41	2	18	-12	T	T	T	3.1	56	1.0	56	77	42	0	7	1	0		
HARTFORD	27	-4	40	-14	11	-14	T	T	T	2.9	48	1.4	71	80	39	0	7	1	0		
DC WASHINGTON	33	15	45	10	24	-11	T	T	T	3.6	77	1.0	67	83	43	0	7	0	0		
FL APALACHICOLA	56	35	60	33	46	-7	T	T	T	2.0	38	1.1	62	83	40	0	0	0	0		
DAYTONA BEACH	61	43	73	37	52	-6	.1	-.4	.1	1.7	50	1.4	123	94	62	0	0	1	0		
JACKSONVILLE	55	32	66	29	44	-10	T	T	T	3.0	77	2.8	197	91	55	0	4	0	0		
KEY WEST	73	62	76	58	67	-3	2.4	2.0	2.4	6.2	242	3.4	408	94	71	0	0	1	1		
MIAMI	73	57	79	51	65	-2	1.1	.6	.7	5.8	200	1.5	145	95	61	0	0	4	1		
ORLANDO	64	45	74	42	55	-5	.1	-.1	.1	1.2	40	.7	65	90	56	0	1	0	0		
TALLAHASSEE	57	29	65	21	43	-9	T	T	T	2.4	34	1.3	56	83	33	0	5	0	0		
TAMPA	66	44	72	37	55	-5	T	T	T	.9	29	.4	39	92	56	0	0	0	0		
WEST PALM BEACH	72	56	78	50	64	-1	.6	0	.5	4.2	117	2.7	201	96	64	0	0	4	0		
GA ATLANTA	46	24	51	20	35	-7	.1	-1.0	.1	6.2	91	2.0	80	78	35	0	7	1	0		
AUGUSTA	48	22	55	19	35	-9	0	0	0	4.3	82	2.9	144	91	31	0	7	0	0		
MACON	49	24	55	19	37	-10	T	T	T	4.6	73	2.7	123	87	35	0	7	1	0		
SAVANNAH	50	29	59	25	39	-10	0	0	0	2.9	66	1.5	94	79	34	0	7	0	0		
HI HILO	81	66	83	65	74	2	.2	-1.8	.2	28.1	159	5.9	123	93	66	0	0	1	0		
HONOLULU	84	68	86	65	76	3	.8	0	.7	19.0	350	1.7	84	94	58	0	0	2	1		
KAHULUI	82	65	83	62	73	2	.4	-.6	.4	12.0	249	6.4	309	91	61	0	0	1	0		
LIHUE	79	70	80	66	74	3	.1	-1.4	.1	12.3	140	1.5	44	91	72	0	0	2	0		
ID BOISE	43	30	51	23	37	7	.6	.2	.2	2.1	95	1.0	115	93	52	0	5	5	0		
LEWISTON	41	33	48	29	37	6	.6	.2	.5	1.4	70	.6	82	84	54	0	2	2	0		
POCATELLO	38	24	46	16	31	8	.3	0	.2	2.0	134	.8	137	86	54	0	6	4	0		
IL CHICAGO	30	11	46	-12	20	0	T	T	T	3.8	115	T	2	79	54	0	6	1	0		
MOLINE	33	11	49	-12	22	2	T	T	T	4.5	159	T	0	83	53	0	6	0	0		
PEORIA	36	10	51	-8	23	2	T	T	T	4.2	143	T	1	84	41	0	7	1	0		
QUINCY	38	14	51	-2	26	3	T	T	T	3.8	154	T	0	75	38	0	6	0	0		
ROCKFORD	27	4	41	-21	16	-3	T	T	T	4.0	150	T	0	85	63	0	7	0	0		
SPRINGFIELD	37	14	52	-3	26	2	T	T	T	5.0	168	T	0	77	41	0	6	0	0		
IN EVANSVILLE	37	15	53	1	26	-4	.1	-.6	.1	5.9	117	.2	14	85	42	0	7	2	0		
FORT WAYNE	34	12	52	-4	23	0	.1	-.4	0	3.5	99	.1	5	77	45	0	7	2	0		
INDIANAPOLIS	35	12	53	-1	24	-2	.1	-.5	0	4.9	111	.1	7	82	42	0	7	1	0		
SOUTH BEND	30	13	49	-9	22	-2	.1	-.5	0	4.3	101	.2	14	80	52	0	7	3	0		
IA DES MOINES	34	11	46	-4	23	5	T	T	T	2.6	169	T	2	84	54	0	6	1	0		
SIOUX CITY	34	9	48	-5	21	5	T	T	T	.5	45	T	0	90	63	0	7	0	0		
WATERLOO	28	5	40	-17	17	3	.1	-.1	.1	1.9	120	.1	16	87	61	0	7	1	0		
KS CONCORDIA	36	17	47	-1	26	1	0	0	0	.9	93	.2	48	82	59	0	6	0	0		
DODGE CITY	38	14	44	-1	26	-3	0	0	0	1.5	205	.8	348	86	60	0	7	0	0		
GOODLAND	44	20	58	12	32	5	0	0	0	.6	105	.1	74	80	44	0	7	0	0		
TOPEKA	41	17	55	2	29	3	T	T	T	1.9	108	T	2	84	47	0	6	0	0		
WICHITA	35	14	47	-7	25	-5	T	T	T	2.6	190	.3	81	93	67	0	6	0	0		
KY BOWLING GREEN	38	17	50	2	27	-6	T	T	T	7.2	104	.2	10	87	52	0	6	1	0		
LEXINGTON	39	17	53	6	28	-3	T	T	T	6.3	111	.1	7	76	44	0	7	1	0		
LOUISVILLE	40	19	55	9	30	-3	T	T	T	4.8	93	.1	8	74	38	0	6	0	0		
LA ALEXANDRIA	53	31	66	25	42	-6	.4	-.7	.2	9.2	127	1.4	59	84	46	0	5	3	0		
BATON ROUGE	58	30	66	25	44	-7	.5	-.5	.5	6.0	81	2.1	90	88	31	0	5	2	0		
LAKE CHARLES	56	33	70	24	44	-6	.9	-.1	.6	7.6	101	2.7	107	94	47	0	4	3	1		
NEW ORLEANS	57	35	69	29	46	-7	.2	-.9	.2	4.3	55	1.5	57	90	40	0	3	2	0		

Based on 1951-80 normals.

Weather Data for the Week Ending January 16, 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	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	51	27	61	18	39	-7	.4	-.5	.4	10.0	167	1.9	91	89	42	0	5	2	0
ME CARIBOU	16	-4	33	-20	6	-.5	.1	-.5	.1	3.2	73	.7	53	83	58	0	7	1	0
PORTLAND	25	-4	41	-13	10	-.11	T	-.9	T	2.8	44	.8	41	81	36	0	7	1	0
MD BALTIMORE	34	10	45	3	22	-.11	T	-.7	T	3.1	63	1.1	66	77	38	0	7	1	0
SALISBURY	36	10	44	4	23	-.12	.1	-.7	T	4.3	77	1.1	59	83	43	0	7	1	0
MA BOSTON	29	9	41	-4	19	-.10	T	-.9	T	3.3	49	1.1	54	76	38	0	7	0	0
CHATHAM	29	15	40	4	22	-.9	.1	-.9	.1	5.6	77	1.4	59	80	58	0	7	2	0
MI ALPENA	32	6	45	-11	17	-.1	T	-.4	T	2.2	77	.1	5	89	55	0	7	2	0
DETROIT	28	14	48	0	23	-.1	T	-.4	T	4.6	131	.1	8	76	48	0	7	2	0
FLINT	30	10	47	-5	20	-.1	T	-.3	T	2.6	92	.1	7	79	48	0	7	2	0
GRAND RAPIDS	29	10	45	-6	19	-.3	T	-.4	T	3.7	99	.4	32	87	52	0	7	2	0
HOUGHTON LAKE	25	8	43	-12	16	-.1	.2	-.2	.1	2.6	97	.2	20	84	60	0	7	3	0
LANSING	30	9	47	-13	19	-.1	T	-.4	T	3.5	102	.1	7	83	51	0	7	1	0
MARQUETTE	21	1	37	-18	11	-.6	1.0	-.6	.7	4.6	153	1.0	110	97	68	0	7	3	1
MUSKEGON	28	11	43	-7	20	-.3	.1	-.4	.1	4.6	119	.4	32	85	61	0	7	1	0
SAULT ST. MARIE	23	2	40	-17	13	-.1	.3	-.3	.1	5.1	137	2.1	172	90	62	0	7	3	0
MN ALEXANDRIA	21	-2	35	-16	10	5	.3	.1	.2	1.0	79	.3	59	90	70	0	7	2	0
DULUTH	18	-4	36	-25	7	0	.6	.3	.4	1.2	65	.6	92	88	69	0	7	3	0
INT'L FALLS	12	-10	32	-27	1	1	.2	0	.1	4	27	.2	37	90	67	0	7	5	0
MINNEAPOLIS	25	3	39	-12	14	4	.3	.1	.2	1.5	119	.3	66	90	65	0	7	3	0
ROCHESTER	25	3	37	-18	14	5	.2	0	.2	1.9	143	.2	34	92	70	0	7	1	0
MS GREENWOOD	48	25	63	17	37	-.6	.4	-.8	.4	6.1	75	1.7	63	90	43	0	5	2	0
JACKSON	52	25	61	18	39	-.7	.4	-.8	.2	4.9	61	1.4	51	93	44	0	6	2	0
MERIDIAN	53	23	61	19	38	-.7	.3	-.9	.3	5.9	70	1.4	51	89	40	0	7	1	0
MO CAPE GIRARDEAU	37	17	45	2	27	-.3	.3	-.4	.3	8.7	163	.5	33	86	44	0	6	1	0
COLUMBIA	41	16	55	2	28	0	0	-.4	T	5.6	190	.1	8	80	38	0	6	0	0
KANSAS CITY	41	18	56	3	29	2	0	-.3	0	2.1	100	.1	8	87	43	0	6	0	0
SAINT LOUIS	40	18	53	4	29	0	T	-.4	T	7.5	243	.1	8	68	38	0	6	1	0
SPRINGFIELD	42	16	58	-4	29	-2	T	-.3	T	8.0	235	.5	62	81	42	0	6	1	0
MT BILLINGS	39	19	48	3	29	8	.2	-.1	.1	.6	50	.3	64	74	47	0	6	3	0
GLASGOW	22	2	42	-19	12	4	.2	.1	.1	.2	45	.2	105	90	64	0	7	1	0
GREAT FALLS	37	19	46	0	28	9	.6	.3	.5	.9	73	.7	136	82	58	0	6	4	1
HAVRE	32	10	47	-17	21	10	T	-.1	T	.1	6	T	0	82	55	0	7	0	0
HELENA	38	13	47	-2	25	8	.1	0	.1	.6	62	.2	50	92	51	0	7	2	0
KALISPELL	35	20	41	2	28	8	.4	.1	.1	2.2	90	.6	69	95	70	0	7	6	0
MILES CITY	32	10	41	-6	21	7	.1	-.1	.1	.2	18	.1	29	77	55	0	7	1	0
MISSOULA	35	19	45	11	27	6	.5	.1	.2	1.7	86	.6	72	97	68	0	7	4	0
NE GRAND ISLAND	35	11	44	-9	23	2	0	-.1	0	.9	99	.1	36	88	62	0	7	0	0
LINCOLN	37	12	50	-5	25	5	T	-.1	T	.7	77	T	6	91	54	0	7	0	0
NORFOLK	34	9	46	-6	21	4	T	-.1	T	.8	92	T	4	88	61	0	7	0	0
NORTH PLATTE	38	8	47	-7	23	2	T	-.1	T	.9	153	.1	47	93	53	0	7	1	0
OMAHA	37	14	53	-1	26	6	T	-.2	T	.8	67	T	0	83	56	0	7	0	0
SCOTTSBLUFF	40	12	48	-8	26	2	T	-.1	T	1.1	145	.1	24	84	50	0	6	0	0
VALENTINE	36	5	42	-12	21	3	T	0	T	1.8	482	T	15	90	59	0	7	1	0
NV ELY	39	5	46	-9	22	-2	T	-.2	T	1.7	149	1.0	258	82	42	0	7	1	0
LAS VEGAS	60	34	67	30	47	3	0	-.1	0	1.0	178	.1	29	68	21	0	2	0	0
RENO	51	26	61	16	39	7	.2	0	.1	.9	49	.3	49	86	30	0	7	3	0
WINNEMUCCA	44	24	50	9	34	4	.1	-.1	.1	1.8	140	1.1	255	84	45	0	5	3	0
NH CONCORD	24	-12	41	-23	6	-14	.1	-.6	.1	2.2	44	.6	40	83	37	0	7	1	0
NJ ATLANTIC CITY	34	4	43	-1	19	-13	T	-.7	T	3.6	66	1.4	76	87	38	0	7	1	0
NM ALBUQUERQUE	48	24	51	19	36	1	0	-.1	0	.4	50	T	5	66	26	0	7	0	0
CLOVIS	54	26	66	21	40	3	0	-.1	0	1.9	220	.1	32	65	25	0	7	0	0
ROSWELL	57	24	72	18	40	1	0	-.1	0	1.6	284	.2	105	84	31	0	6	0	0
NY ALBANY	24	-4	36	-13	10	-11	.2	-.4	.2	2.3	53	.6	47	82	43	0	7	1	0
BINGHAMTON	24	3	37	-9	14	-8	T	-.6	T	2.6	61	.4	31	82	46	0	7	0	0
BUFFALO	33	13	49	-2	23	-1	.1	-.6	.1	2.9	58	.2	10	72	41	0	7	1	0
NEW YORK	32	16	44	7	24	-8	T	-.7	T	3.2	61	1.0	58	71	40	0	7	1	0
ROCHESTER	32	7	47	-5	20	-4	.1	-.4	.1	2.2	57	.2	17	81	45	0	7	1	0
SYRACUSE	30	-2	42	-14	14	-9	.1	-.5	.1	2.3	50	.3	23	82	41	0	7	2	0
NC ASHEVILLE	41	10	48	2	25	-11	T	-.7	T	3.8	78	1.4	88	87	35	0	7	0	0
CHARLOTTE	41	19	49	15	30	-10	T	-.8	T	5.6	104	2.2	111	83	38	0	7	1	0
GREENSBORO	37	15	48	8	26	-11	T	-.8	T	4.8	93	1.4	79	79	41	0	7	1	0
HATTERAS	43	34	53	28	38	-7	.8	-.3	.7	5.6	80	3.3	133	90	63	0	3	3	1
NEW BERN	45	27	56	21	36	-8	.3	-.6	.3	7.3	127	3.8	183	83	43	0	7	1	0
RALEIGH	39	16	45	9	27	-12	T	-.8	T	5.0	102	2.0	110	82	36	0	7	0	0
WILMINGTON	45	25	59	16	35	-11	1.0	.2	.5	5.2	98	3.9	204	90	49	0	7	2	1
ND BISMARCK	25	-3	40	-21	11	5	.5	.4	.4	.7	91	.5	216	88	60	0	7	3	0
FARGO	18	-1	36	-16	9	5	.9	.8	.5	1.6	178	.9	310	89	73	0	7	3	0
GRAND FORKS	13	-5	36	-17	4	2	.3	.1	.1	.7	68	.3	79	85	70	0	7	4	0
WILLISTON	21	-3	38	-20	9	3	.5	.4	.5	.6	78	.5	204	88	63	0	7	1	1
OH AKRON-CANTON	34	14	47	5	24	-2	.1	-.5	.1	2.5	62	.2	13	78	48	0	7	2	0
CINCINNATI	38	16	53	5	27	-2	T	-.7	T	3.5	76	.1	4	78	41	0	7	0	0
CLEVELAND	36	16	50	5	26	0	.2	-.4	.2	3.2	78	.2	15	77	45	0	7	1	0
COLUMBUS	37	13	50	4	25	-2	.1	-.6	0	3.0	74	.1	6	81	44	0	7	2	0

Based on 1951-80 normals.

Weather Data for the Week Ending January 16, 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	PRECIPITATION	
																		.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	36	15	53	3	25	-1	T	-6	T	3.0	79	T	2	77	43	0	7	1	0
TOLEDO	34	14	52	-4	24	1	T	-5	T	3.8	102	T	0	77	41	0	7	0	0
YOUNGSTOWN	33	12	47	0	23	-1	T	-5	T	2.9	69	T	11	83	47	0	7	1	0
OK OKLAHOMA CITY	43	21	63	12	32	-4	0	-2	0	4.8	288	1.1	212	90	53	0	6	0	0
TULSA	44	22	58	1	33	-1	T	-3	T	6.7	266	.8	114	79	41	0	6	1	6
OR ASTORIA	50	38	57	32	44	3	3.6	1.1	1.5	13.7	78	4.8	82	95	70	0	0	0	0
BURNS	38	23	44	2	31	5	.6	.2	.2	3.2	119	1.1	106	***	***	0	6	5	2
MEDFORD	48	34	60	29	41	4	1.5	.7	.6	5.7	107	2.0	105	98	66	0	6	5	1
PENDLETON	45	34	59	30	40	8	1.3	.9	.6	3.0	115	1.7	184	88	56	0	3	5	1
PORTLAND	49	38	58	36	43	5	3.1	1.7	1.4	11.9	122	3.9	116	96	71	0	3	5	1
SALEM	49	38	56	35	44	5	4.5	2.9	1.5	16.6	152	5.7	148	94	72	0	0	7	3
PA ALLENTOWN	28	1	42	-7	14	-13	T	-8	T	2.2	40	.7	38	84	44	0	7	1	0
ERIE	34	15	47	8	24	-1	T	-5	T	4.1	89	.7	50	72	48	0	7	1	0
HARRISBURG	29	6	42	-1	17	-12	T	0	T	2.1	43	.3	16	86	47	0	7	0	0
PHILADELPHIA	31	10	43	4	21	-11	T	-7	T	2.4	48	.8	45	80	44	0	7	1	0
PITTSBURGH	35	12	49	3	23	-4	T	-6	T	2.7	65	.2	16	86	45	0	7	2	0
SCRANTON	28	2	39	-6	15	-11	T	-5	T	1.2	32	.2	17	87	46	0	7	1	0
RI PROVIDENCE	30	3	40	-5	16	-12	T	-9	T	3.2	48	1.0	46	83	38	0	7	1	0
SC CHARLESTON	48	28	59	24	38	-9	.4	-4	.3	3.2	66	1.6	93	80	39	0	6	2	0
COLUMBIA	46	21	52	17	33	-11	T	-1.0	T	4.3	75	2.8	126	92	34	0	7	0	0
FLORENCE	44	23	56	17	33	-12	T	-8	T	4.4	93	2.0	111	79	38	0	7	0	0
GREENVILLE	42	18	53	14	30	-11	T	-9	T	6.8	109	2.2	99	86	41	0	7	1	0
SD ABERDEEN	24	2	40	-12	13	6	.1	0	.1	.2	31	.1	56	89	67	0	7	2	0
HURON	26	1	39	-14	14	3	.1	0	.1	1.3	193	.1	26	88	71	0	7	1	0
RAPID CITY	44	14	57	3	29	8	T	-1	T	4	56	T	21	85	38	0	7	2	0
SIOUX FALLS	27	3	39	-15	15	3	.2	.1	.2	1.6	169	.2	88	91	69	0	7	1	0
TN CHATTANOOGA	40	15	49	8	27	-11	.3	-9	.2	5.3	67	2.1	75	93	43	0	7	2	0
KNOXVILLE	40	12	48	3	26	-12	.3	-8	.2	4.9	69	1.4	57	94	50	0	7	2	0
MEMPHIS	42	21	56	7	32	-7	.1	-1.0	.1	12.2	167	.7	30	86	44	0	6	7	0
NASHVILLE	42	19	55	5	30	-6	T	-1.0	T	6.2	89	.8	32	86	42	0	7	1	0
TX ABILENE	57	30	72	18	43	0	0	0	0	4.6	336	.1	10	79	31	0	6	7	0
AMARILLO	51	22	67	14	36	1	0	-1	0	2.1	284	.4	140	88	40	0	7	0	0
AUSTIN	56	34	68	23	45	-4	T	-3	T	1.6	56	.3	35	86	46	0	5	1	0
BEAUMONT	57	36	68	26	46	-6	1.1	.2	.8	9.2	131	3.0	142	92	45	0	2	3	0
BROWNSVILLE	62	49	74	40	56	-5	3.0	2.7	2.3	4.3	252	3.9	663	93	69	0	0	2	2
CORPUS CHRISTI	63	43	75	29	53	-2	.5	.1	.5	1.8	88	.8	105	87	51	0	2	1	1
DEL RIO	55	35	67	25	45	-5	T	-1	T	.7	81	.1	24	78	41	0	3	2	0
EL PASO	61	28	64	19	45	1	0	-1	0	2.9	516	T	11	73	21	0	5	0	0
FORT WORTH	52	28	63	16	40	-4	T	-4	T	3.1	118	.2	19	80	43	0	6	0	0
GALVESTON	55	43	64	31	49	-4	.9	.2	.8	4.7	90	2.9	178	91	60	0	1	2	1
HOUSTON	58	35	69	25	47	-5	.4	-4	.3	5.8	104	1.3	69	88	38	0	3	2	0
LUBBOCK	51	26	64	19	39	0	T	-1	T	1.2	220	.1	74	92	43	0	7	1	0
MIDLAND	61	23	72	14	42	-1	T	-1	T	.4	62	T	5	89	23	0	5	0	0
SAN ANGELO	59	28	69	17	44	-2	0	0	0	2.1	219	T	3	85	33	0	5	0	0
SAN ANTONIO	57	35	67	23	46	-4	.1	.1	.1	2.5	120	.3	43	80	47	0	3	2	0
VICTORIA	59	39	69	24	49	-3	.1	.3	.1	2.2	70	.3	32	92	54	0	2	1	0
WACO	55	31	65	19	43	-3	T	-4	T	3.8	138	.5	57	92	45	0	5	0	0
WICHITA FALLS	51	25	72	18	38	-2	T	-2	T	5.9	353	1.1	222	89	45	0	6	1	0
UT BLANDING	36	15	43	11	26	-1	T	-3	T	1.2	60	.4	60	93	72	0	7	0	0
CEDAR CITY	44	18	49	9	31	2	T	-1	T	1.3	130	.2	61	88	39	0	7	1	0
SALT LAKE CITY	39	20	44	10	30	1	.3	0	.3	2.1	101	1.0	141	88	50	0	6	3	0
VT BURLINGTON	24	-1	38	-16	11	-5	T	-4	T	1.3	37	.1	10	73	41	0	7	0	0
VA NORFOLK	36	25	44	20	30	-10	T	-9	T	4.8	94	2.4	127	76	46	0	7	0	0
RICHMOND	36	11	46	4	24	-13	T	-7	T	3.9	77	1.0	61	84	40	0	7	0	0
ROANOKE	38	12	46	4	25	-10	0	0	0	2.9	66	.7	47	84	40	0	7	0	0
WA QUILLAYUTE	46	36	52	30	41	3	4.9	1.6	2.3	17.5	69	5.8	73	99	80	0	2	7	5
SEATTLE-TACOMA	47	38	54	34	42	4	2.7	1.3	1.7	9.4	98	3.3	100	98	69	0	0	7	1
SPOKANE	35	25	40	16	30	2	1.5	.9	.9	6.6	173	1.7	125	97	82	0	6	6	1
YAKIMA	38	21	47	11	30	5	.3	0	.3	3.9	193	.6	84	95	65	0	7	2	0
WV BECKLEY	37	14	51	5	26	-5	.1	-6	.1	4.9	100	.6	36	75	39	0	7	2	0
CHARLESTON	41	15	54	5	28	-5	.1	-7	.1	4.5	89	.4	21	86	39	0	7	1	0
HUNTINGTON	41	16	53	4	29	-5	T	-7	T	5.2	108	.4	25	79	38	0	7	1	0
PARKERSBURG	39	14	51	0	26	-5	T	-6	T	3.4	81	.2	15	84	44	0	7	1	0
WI GREEN BAY	24	3	38	-18	14	0	.3	0	.2	2.3	113	.3	44	93	69	0	7	3	0
LACROSSE	27	6	42	-11	16	2	.1	-1	.1	1.9	121	.1	22	84	59	0	7	1	0
MADISON	26	5	40	-16	16	0	T	-2	T	4.1	195	T	7	83	62	0	7	1	0
MILWAUKEE	28	8	43	-11	18	-1	.2	-2	.1	5.6	190	.2	18	91	61	0	7	2	0
WAUSAU	23	0	40	-19	11	1	.2	-1	.2	1.6	93	.2	33	87	62	0	7	2	0
WY CASPER	35	19	41	6	27	5	T	-1	T	.7	91	T	16	73	45	0	7	1	0
CHEYENNE	39	17	48	4	28	2	0	0	0	1.0	180	.2	84	68	40	0	6	0	0
LANDER	41	15	54	7	28	8	.1	-1	.1	.8	101	.1	20	86	34	0	7	1	0
SHERIDAN	38	13	50	5	26	6	.1	-1	.1	.5	47	.2	50	86	50	0	6	1	0
PR SAN JUAN	84	69	85	68	77	0	.6	0	.5	9.8	163	2.1	126	94	83	0	0	4	1

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 1-16-1988
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 10% OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK DEV, CUM TOTAL, CUM DEV, CUM DEV, CUM DEV, CUM DEV. Lists 50 states and their major cities with corresponding heating degree day data.

National Agricultural Summary

January 11 to 17, 1988

HIGHLIGHTS: Snow prevented cotton harvest in Oklahoma, but harvest neared completion in Texas and New Mexico. Snow cover virtually vanished in the central Great Plains and southern Corn Belt States, but warmer temperatures kept winter grain damage to a minimum. Warmer temperatures eased livestock stress in most areas.

SMALL GRAINS: Wheat and small grains were mostly good to fair. Small grain seeding progressed well in California. Earlier seeded fields were good and warm days promoted growth. Herbicides were applied where soils permitted. In Arizona, small grain seeding continued in western areas. Wheat and barley seedings were finished in western and central areas, and established stands were good. Small grain seeding continued in Georgia. In Arkansas, damage to wheat from the heavy rains and snow was insignificant. Snow cover provided protection for winter wheat from the cold, windy conditions in eastern Colorado. Illinois wheat was mostly good. In Indiana, frozen soils allowed farmers to topdress wheat. Warm temperatures melted snow in most areas of Kansas. Light snow cover prevailed in southern areas, but wheat showed through. Freeze damage has been minor thus far. Montana's wheat was mostly fair. Wind damage was light to moderate, but snow cover protection was poor. Winter wheat snow cover diminished significantly, but winterkill damage has been light in Nebraska. New Mexico's winter wheat growth was slowed by cold temperatures. Snow cover eased concern for winter grains in North Dakota. Snow insulated small grains and provided beneficial moisture in Oklahoma. Warm weather and moisture improved small grain condition in Texas. Most dryland fields need additional moisture. Small grains suffered considerable foliage burn from the lingering snow and cold temperatures, but plants were not severely damaged because of the insulating effects of the snow. Producers topdress dry fields in the Blacklands. In Washington, winter wheat was mostly good and adequate snow cover remained in most areas.

COTTON: Snow and cold temperatures prevented cotton harvest in Oklahoma. Cotton harvest was virtually finished in Texas except for a few wet fields. Cotton gins were catching up on the backlog. Cotton seedbed preparation was active in California. Cotton harvest was 98% finished in

New Mexico. Preliminary land preparation for cotton was underway in western Arizona. Late stalk shredding and plowdown continued in some areas.

OTHER CROPS: Frozen ground allowed some fertilizer and manure spreading in the Corn Belt.

Tobacco bed seeding was finished in Florida. Tobacco bed preparation was active in the Carolina's and Georgia. In Kentucky, burley tobacco prices were disappointing with over half the recent sales going to government pools.

FRUITS AND NUTS: Florida's citrus groves were excellent. Adequate moisture limited the need for irrigation. Most trees remained dormant. Ideal weather promoted active harvest in all areas. Citrus harvest continued its slow pace in Texas. Fruit size increased and quality was good. Texas peach producers began pruning trees. Seasonal fruit and nut cultural practices continued in California. Wetness slowed orchard floor cleanup in the north-central valley. Some frost damage appeared in navel oranges. Riverside County avocado harvest began. Desert citrus harvest continued and the Fresno County tangelo harvest got underway. Lemons, oranges, and a few minneolas were packed in western Arizona. Navel orange shipment was heavy, while growers concluded orlando tangerine harvest in central areas. In Washington, snow and rain temporarily slowed tree and vineyard pruning.

VEGETABLES: Cooler temperatures prevailed over Florida's vegetable producing areas. Spring crop field activity increased. Winter crop harvest was active with good volume of tomatoes, cabbage, peppers, celery, squash, carrots, snap beans, and sweet corn. Winter vegetable harvest progressed normally in Texas. Some early seeded melons were up in the Rio Grande Valley. Lettuce harvest slowed in Palo Verde, California. Winter truck crop harvest consisted mostly of broccoli, carrots, cauliflower, and celery. Spring lettuce planting ended at Westside. Lettuce, broccoli, and cauliflower shipments were heavy in western Arizona.

PASTURES AND LIVESTOCK: Warmer temperatures eased livestock stress. Supplemental feeding continued in most areas. Slow growth restricted pasture and small grain grazing.

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 ranged 0.50 to 1.50 in. Temperatures averaged 2 to 5° below normal.

Soil moisture mostly adequate. Primary activity: Routine care of livestock, poultry.

ARIZONA: Sunny skies 10th. Weak disturbance, associated cold front 11th; cloudy skies, colder air, no precipitation. Abundant sunshine, above normal temperatures 12th through 14th. Southern portion Pacific storm system spread clouds 15th, morning 16th. Precipitation confined eastern two-thirds State; snow level approached 6,500 ft. with 1 to 4 in. Moisture level, trace to 0.02 in. Average temperatures 1 to 6° above normal.

Planting, stand establishments small grains continued west, established stands good condition. All wheat, barley west, central planted; established stands good. Preliminary land preparation cotton underway west. Some late shredding, plowdown. Some alfalfa fields frost damaged west. Sheeping off continued central. Heavy movement western lettuce, broccoli, cauliflower continued west. Shipments romaine, boston lettuce, bok choy, cabbage, napa, greens, spinach, celery light to moderate west. Shipments of greens, carrots, cauliflower, beets, rapini, other mixed vegetables steady central. Lemons, oranges, grapefruit, few minneolas packed west. Heavy shipments navels, conclusion orlando tangerine shipments central. Some sweets, grapefruit also shipped central. Apples shipped out of cold storage, pecan harvest close to completion central, east.

ARKANSAS: Continued very cold early week with warmer temperatures by weekend. Temperature extremes -2°; 67°. Light to moderate rainfall across State during latter part of week. Rainfall total 0.02 to 1.66 in.

No significant damage to wheat from heavy rains, snow in recent weeks. Cattle being fed grain, hay. Still some shortage of hay.

CALIFORNIA: Early week, Pacific weather front brought rain to north. High pressure followed bringing fair, mild conditions. Late week Pacific rain storm hit, north, central areas. Temperatures above normal, south near 80°; 13th, 14th.

Moist soils limited fieldwork. Herbicide applications active, soil permitting. Seeding small grains progressed. Earlier seeded fields good condition. Warmer days helped growth. Cotton seedbed preparation active. Sugarbeet harvest progressed. Southern alfalfa fields sheeped off, harvested green chop. Seasonal fruit, nut cultural practices continued. Wet conditions slowed orchard floor clean up, northern central valley. Riverside County hass avocado harvest began. Desert citrus picked. Navel orange harvest continued; some frost damage appeared. Fresno County tangelo harvest began. Winter truck crops broccoli, carrots, cauliflower, celery harvested Riverside, Santa Maria, Westside, Salinas, Delta. Palo Verde lettuce harvest slowed, spring lettuce planting completed Westside. Horned larks bothered Westside lettuce plantings. Processing tomato ground preparation continued Westside, Sacramento Valley, between beneficial rains. Livestock fair to good. Melting snow caused muddy conditions northern feedlots. Movement to market light, very light northern districts. Fresno feedlots 50% of capacity. Supplemental feeding full swing. Cattle being grazed some areas weather improved range,

pasture growth. Water supply levels improved, more needed Siskiyou County. Calving, lambing active.

COLORADO: Windy conditions across State throughout week. Snow for most areas during weekend. Moisture most locations 0.20 to 0.50 in. Temperatures ranged 5 to 10° below normal.

Feeding, caring for livestock major activities. Snow cover on eastern plains providing protection for winter wheat from cold, windy conditions.

FLORIDA: Cold front moved offshore, 11th, with showers, clearing central, south. Light rains southeast coast late in period with another front. Rainfall for period averaged 0.25 in. north, 0.50 in. central, 1.00 in. south. Temperatures continued cold averaging about 11° below normal north, 3° below, central, south.

Soil moisture improved to mostly adequate Panhandle, lower half Peninsula; elsewhere, short to adequate. Tobacco bed plantings completed. Small grains generally good. Farmers preparing for next season's crops. Sugarcane harvest good progress. Weather generally favored winter pasture growth. Patchy frosts, cool temperatures northern areas, however, kept permanent pastures short. Grazing lower southern Peninsula mostly good. Elsewhere, conditions varied widely from very poor to good depending on forage type, weather. Supplemental feeding continued. Cattle fair to good. Calving active. Citrus groves excellent. Moisture adequate, very little irrigation. Most trees remain dormant. Good fruit sizes. Droppage not excessive. Harvest active all areas, ideal weather. Temperatures cooler than normal vegetable producing areas. Precipitation minimal. Spring crop field activity increased. Harvest winter crops active. Good volume tomatoes, cabbage, peppers, celery, squash, carrots, snap beans, sweet corn. Lesser supplies strawberries, radishes, escarole, endive. Harvest central area celery resumed.

GEORGIA: Unusually warm week. Temperatures 7 to 10° above normal north, 10 to 14° central, south. Lows upper 20s north, upper 30s south. Highs upper 60s north, low 80s south. Rain 1 or 2 days, some 5 days northeast mountains. Totals between 1.00 to 4.00 in. northern, central counties, mostly under 0.50 in. elsewhere.

Soil moisture mostly adequate. Main activities: Planting small grains, tobacco bed preparation, pecan harvesting, care of livestock, poultry.

HAWAII: Most sunny, daily high temperatures. Light to moderate day long showers late week. Rainfall none to 2.60 in. Temperatures mid 60s to mid 80s. Variable winds 5 to 20 mph.

Days suitable for fieldwork 7.0. Banana, papaya production on seasonal decline. Disease increased on papayas. Chinese cabbage supplies moderate. Head cabbage supplies moderate to heavy. Head lettuce supplies light. Ginger root harvest increased, expected to increase further in coming months. Farmers continued field cleaning, preparation.

IDAHO: Temperatures, precipitation above normal, except southeast. Heavy precipitation in north central prairie.

Isolated winter wheat fields frozen before snow cover. Other winter wheat fields snow covered. Winter chores main farm activity, including feeding, caring for livestock, cleaning corrals, shop work, shipping, marketing products, attending

seminars, planning upcoming season. Livestock remained good. Calving, lambing active. Hay, roughage supplies adequate, some surplus.

ILLINOIS: Temperatures average 5 to 15° below normal for first half of month. Precipitation negligible except 0.25 to 0.50 in. extreme southeast.

Soil moisture 18% short, 77% adequate, 5% surplus. Winter wheat 22% fair, 71% good, 7% excellent. Livestock good to fair. High stress levels north.

INDIANA: Temperatures 4 to 6° above normal. Lows low teens to mid 20s, highs mid 30s to near 40°. Precipitation 1.00 in. north, central; 0.30 in. south.

Frozen soils allowed farmers to haul manure, topdress wheat, spread fertilizer, move grain to elevators. Other activities: Feeding livestock, machinery repair, cutting wood, purchasing supplies, tax preparation, record keeping. Hay supplies adequate. Wheat mostly good. Weekend showers helped soil moisture.

IOWA: Mild, dry week. Cold early week lows to -15° Algon 13th, warming to 50s southeast 16th. Burlington, Ottumwa 53° 16th. Light snow to 2 in. northern half State 12th. Light precipitation mostly rain, late week southeast, central.

Livestock mostly good. Snow cover restricted grazing of stubble fields some areas. Farmers performed daily chores, working on taxes.

KANSAS: Temperatures averaged 29° southwest to 34° east; normal southwest, 10° above normal northeast. Virtually no precipitation during week.

Warming temperatures last half of week, snow melted most areas. Southern areas light snow cover, wheat showing through. No freeze damage to wheat crop. Cattle grazing wheat pasture most areas, coping with muddy conditions.

KENTUCKY: Temperatures cool early, highs in 30s and lows single numbers; warming trend later with highs 40s and 50s, lows mid 20s and 30s. Temperatures averaged near to slightly below normal. Precipitation averaged 0.25 to 0.50 in. occurred as trace of snow early, rain on 17th. Precipitation 0.25 to 1.00 in. below normal.

Agricultural activity minimal. Surface soil moisture mostly adequate. Burley sales disappointing, over 50% recent sales going to government pool. Livestock satisfactory, hay feeding heavy.

LOUISIANA: Temperatures 6 to 8° below normal. Temperature extremes 16°; 71°. Rainfall averaged 0.31 to 0.91 in.

Main activities: Livestock care, routine chores.

MARYLAND & DELAWARE: Maryland: Temperatures averaged 22°, 33° normal for entire State. Low ranged -16 to 2° western areas, from -5 to 10° elsewhere. Highs ranged 47° southern areas to 41° north central part of State. Precipitation averaged 0.02 in. with lows of zero, high of 0.14 in. Oakland.

Farmers caring for livestock, preparing equipment for spring work.

Delaware: Temperatures averaged 21°, 34° normal. Lowest temperature -2° Dover. Lows ranged -2 to 3°. Highest ranged 40 to 44° Wilmington. Precipitation averaged 0.03 in. ranging trace Milford to 0.06 in. Georgetown.

Farmers caring for livestock, preparing equipment for spring work.

MICHIGAN: Temperatures ranged 2° below to 4° above normal. Temperature extremes -17°; 48°.

Precipitation ranged none to 1.02 in. across State. Heavy snow Upper Peninsula during midweek, light snow elsewhere. Above normal temperatures, widespread rainfall significantly reduced snow cover by end of week. Many areas virtually no snow cover but mild temperatures protected winter wheat.

Activities: Marketing grain, hay, fruits and vegetables, preparing tax forms, routine farm maintenance. Livestock good, feed supplies plentiful, movement of feeder cattle active. Warmer temperatures favorable for livestock.

MINNESOTA: Temperatures averaged 1 to 8° above normal for State. Extremes -30°; 44°. Precipitation averaged 0.13 to 0.37 in. above normal northern third, near normal to 0.11 in. below normal elsewhere. Precipitation totals averaged 0.07 to 0.57 in. Greatest weekly total 0.93 in. Snowfall averaged 8 to 12 in. northern third of State, 2 to 5 in. elsewhere. Snow depth weeks end averaged 8 to 15 in. northern third, 2 to 5 in. elsewhere.

Snow cover for alfalfa protection welcomed. Livestock generally doing well. Normal winter activities include chores, attending meetings. Some farmers hauling manure.

MISSISSIPPI: Temperatures 9° below normal; extremes 0°; 68°. Mild afternoon, cool nighttime temperatures. Greatest 24-hour total rainfall 1.60 in. Greatest weekly rainfall 1.67 in.

Days suitable for fieldwork 0.9, 0.7 1987, 2.1 avg. Soil moisture adequate to surplus. Pecans 99% harvested, 100% 1987. Hay, roughage supplies adequate. Feed grain supplies adequate. Livestock mostly fair to good. Wheat fair. Pasture fair to poor.

MISSOURI: Temperatures averaged 8° below normal southeast, near normal central, 5° above normal northwest. Less than 0.50 in. rain southeast, none elsewhere.

Wheat good most areas. Good moisture supply available. Livestock chores main activity.

MONTANA: Subzero temperatures over much of State. Coldest north central, northeast with areas of 20° below. Temperatures averaged 4° above normal northeast, 8 to 10° above normal over remainder of State. Precipitation over all State early week; west, southwest almost daily. Amounts 1.50 to 2.00 in. west, southwest; 0.10 to 0.50 in. over plains.

Winter wheat mostly fair. Wind damage to winter wheat mostly light to moderate. Snow cover protection poor. Livestock general mostly good. Nearly all livestock received supplemental feed. Grazing mostly open.

NEBRASKA: No significant precipitation during week. Average temperatures 5° above normal west, 9° above normal east. Extremes -8°; 53°.

Mild conditions beneficial to livestock management, grain handling, general farm chores, capital improvements, machine maintenance. Snow cover on winter wheat diminished significantly, winterkill damage light. Supplemental feeding of livestock continued.

NEVADA: Light snow northern areas 10th and 12th, late in week rain, snow central areas as well. Southern areas remained dry until late 16th. Average temperatures quite variable but averaged about 2° above normal.

Major farm, ranch activities limited to caring and feeding of livestock. Movement potatoes to market continued.

NEW ENGLAND: Dry week. Average precipitation (rainfall, water equivalent to snow) less than 0.20 in. Average temperatures ranged single digits

Canadian border to teens south. Temperatures below normal.

Major farm activities: Machinery repair, tending livestock.

NEW JERSEY: Temperatures averaged much below normal, averaged 17° north, 21° south, 26° coastal. Extremes -13°; 47°. Precipitation below normal, averaged 0.37 in. north, 0.31 in. south, 0.19 in. coastal. Heaviest 24-hour total 0.45 in. on 17th, 18th. Heaviest 24-hour snowfall 45 in. on 17th, 18th. Depth of snow on ground 18th, 1 to 3 in. north, 3 to 4 in. central, little extreme south.

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

NEW MEXICO: Average weekly temperatures slightly above normal east, southwest; below normal northwest plateau. Snow north at higher elevations over weekend.

Days suitable for fieldwork 4.9. Soil moisture 15% short, 70% adequate, 15% surplus. Cotton 25% poor, 50% fair, 25% good; 98% harvested statewide; wet fields still delaying harvest activity. Barley 50% fair, 50% good. Wheat 10% very poor, 10% poor, 70% fair, 10% good; very cold temperatures delaying growth. Pecans 33% fair, 67% good; harvest nearing 80% completion, quality still variable. Cattle 54% fair, 46% good. Sheep 58% fair, 42% good. Range 8% poor, 75% fair, 17% good. Onions 100% good. Lettuce planting continued where possible; good stands.

NEW YORK: Temperatures warm till midweek, again on 16th. Below normal temperatures prevailed remainder with averaged 5 to 10° below normal eastern areas. Precipitation below normal with water content less than 0.25 in.

Normal winter chores occupied producers much of week.

NORTH CAROLINA: Temperatures averaged 13 to 15° below normal, statewide. Temperature extremes -8°; 60°. Precipitation ranged 0 to 0.99 in. across State.

Days suitable for fieldwork 0.4. Soil moisture 5% short, 46% adequate, 49% surplus. Wheat 4% poor, 29% fair, 65% good, 1% excellent. Oats 5% poor, 31% fair, 64% good. Barley 4% poor, 31% fair, 65% good. Rye 3% poor, 31% fair, 66% good. Pasture 6% very poor, 15% poor, 44% fair, 33% good, 2% excellent. Hay and roughage supplies 6% short, 93% adequate, 1% surplus. Feed grains supplies 8% short, 86% adequate, 6% surplus. Major farm activities: Equipment repair, maintenance; tending livestock; general farm maintenance.

NORTH DAKOTA: Temperatures averaged 1 to 5° above normal. Extremes -25° northeast, west central; 43° southwest, northwest. Precipitation totals averaged 0.17 in. southeast to 0.54 in. east central. Snowfall averaged trace extreme north, 8 to 12 in. west central to east central.

Soil moisture below normal. Snow cover eased concern for winter grain, alfalfa producers. Livestock good. Feed supplies adequate.

OHIO: Average temperatures 1 to 4° above normal except single digit readings midweek. Precipitation 0.25 to 0.50 in., 50% of normal. Mean soil temperatures lower 30s to upper 20s.

No snow cover on winter wheat. Livestock not stressed.

OKLAHOMA: Temperatures averaged 1° below normal north central, west central to 3° above normal northeast. Precipitation averaged none west two-thirds to 0.50 in. east central.

Snow cover insulated crops, provides beneficial moisture. Wheat good. Cattle feeding needs above normal. Cotton remained 90% harvested.

OREGON: Week wet, mild. Temperatures normal or above at all stations; coastal areas averaged 2° above normal, western interior 5° above normal; east 3 to 9° above normal. Coast, coast range received 5.00 to 10.00 in. of rain; other western areas over 3.00 in.; eastside 0.50 to 1.00 in.

Soil moisture mostly adequate east, mostly surplus west. Much of east frozen, snow covered. Western crop growth slowed by cold weather, heavy rains; some fields flooding. Tree, caneberry pruning, training continued. Livestock mostly good. Western pastures poor to fair. Winter ranges east mostly fair. Calving, lambing underway.

PENNSYLVANIA: Cold, dry week. Average temperature 19°, 7° below normal. Temperature extremes -19°; 50°. Average precipitation 0.03 in., 0.64 in. below normal.

Activities: Hauling manure; machinery maintenance; caring for livestock; attending State Farm Show.

PUERTO RICO: Island average rainfall 0.67 in., 0.03 in. below normal. Highest weekly total rainfall 1.50 in. San Lorenzo Farm, 1.42 in. Rio Blanco LWR, 1.38 in. Maunabo. Highest 24-hour total rainfall 0.70 in. Rio Piedras AES. San Juan mean temperature 77°, 2° above normal. Total rainfall 0.63 in., 0.43 in. below normal. Divisional temperature averaged 77° on coast, 70 to 73° interior, mean station temperature ranged 64° Cerro Maravilla to 80° Roosevelt Roads. Lowest minimum temperature 50° Adjuntas. Highest maximum temperature 90° several places.

SOUTH CAROLINA: Precipitation averaged 0.10 in. over most of State except along coast where winter storm dropped 1 to 5 in. of snow on 15th. Temperatures averaged 9 to 12° below normal for week.

Main activities preparing tobacco plantbeds, equipment repair, livestock care, general farm chores.

SOUTH DAKOTA: Average temperatures 6° below to 11° above normal. Extremes -28°; 58°. Largest amount of melted precipitation at Marion 0.50 in. Snow across north, in East.

Winter wheat remains same. Central part of State good snow cover but still dry. Other areas both dry with little snow cover.

TENNESSEE: Temperatures below normal 1 to 3° plateau, east; 7 to 10° middle, west. Extremes 2°; 56°. Precipitation generally 0.50 to 0.75 in. below normal.

Livestock chores, haying cattle, tobacco sales, bookkeeping main activities.

TEXAS: Week began dry, warmer high pressure moved east. Fog, light drizzle developed south, east ahead next cold front which ushered in surge Arctic air. Midweek cold, dry, warming later week. Gulf winds brought moisture back into State, upper air disturbance triggered showers parts south. Some heavy rains Rio Grande Valley. Precipitation below normal except Lower Valley, amounts much above normal. Temperatures above normal Northern Plains, Cross-Timbers, south central, close normal elsewhere.

Crops: Cotton producers got back into fields Plains to resume harvest, few fields too wet. Virtually all cotton harvested scattered fields remained. Gins catching up backlogs. Cotton 100% harvested, 86% 1986, 94% avg. Small grains some relief from past few weeks. Warmer weather, moisture improved conditions Plains. Many dryland fields need additional moisture. Considerable amount foliage burned from lingering snow cover, cold temperatures; plants not severely damaged

because insulating effects snow. Grazing limited because short foliage. Blacklands producers topdress fields dry enough to enter. Grazing also short because slow growth wheat, oats. Moisture needed for further growth south. Cold weather limited insect problems many areas. Other crops harvested: Pecans 98%, 96% 1986, 98% avg.

Commercial Vegetables: Rio Grande Valley harvest winter vegetables continued throughout week. Onions good progress. Some early melon fields up. Citrus harvest continued slow pace. Fruit sizes increased, quality good. San Antonio-Winter Garden all vegetables satisfactory progress. Harvest carrots, cabbage, spinach continued. Pecan harvest winding down. Producers east began pruning peach trees.

Range and Pasture: Ranges, pastures across State show little or no growth. Cold weather, snow northern portions limited forage growth small grains. Weather hard on livestock, poultry. Some poultry houses northern areas have losses. Livestock suffered heavy shrinkage losses many areas. Supplemental feeding remained heavy some hay supplies becoming short. Break in cold weather should help livestock rebound.

UTAH: Precipitation light to moderate. Temperatures 2° above normal northern mountains, north central, extreme southwest. Rest of State 2 to 6° below normal.

Snow cover light to moderate. Livestock feed adequate. Livestock good to excellent. Major farm activities: Summarizing tax records, livestock chores, equipment, building maintenance.

VIRGINIA: Very cold. Temperatures as much as 18° below normal. Snow still remains. Precipitation little or none.

Days suitable for fieldwork less than 1.0. Topsoil moisture 55% adequate, 45% surplus. Winter grains mostly good, some cold weather stress. Calving, lambing progressing normally,

livestock doing well except in extreme cold areas. Feed adequate to good. Burley tobacco marketed.

WASHINGTON: Weather disturbance series moved through State, strongest passed through 14th to 17th. Moderate, heavy precipitation western areas; light, moderate east of Cascades. Temperatures remained above normal west due to prevailing west, southwest flow aloft. Temperatures varied east, below normal readings colder valleys, above normal exposed areas.

Soil moisture 40% short, 60% adequate. Winter wheat mostly fair; adequate snow cover remains most areas. Snow, rain temporarily slowed tree, vineyard pruning. Minor flooding occurred Thurston County. Vegetable growers centering efforts on plans for next year. Winter feeding, lambing, calving in progress.

WEST VIRGINIA: Average temperature 27°; 1 to 5° below normal. Extremes -10° Elkins, 62° Creston. Precipitation averaged 0.40 in., well below normal.

Soil moisture 25% short, 75% adequate. Farm activities: Livestock care, general farm maintenance. Feed supplies adequate to short.

WISCONSIN: Temperatures averaged 14°. Frigid early, above normal weekend. Extremes -34°; 44°. Precipitation trace to 0.50 in. Snowfall 3 to 6 in. north on 12th; 1 to 3 in. southeast on 17th. Average depths on 15th: Frost 10.8 in.; snow 8 in. Topsoil, subsoil mostly moist.

WYOMING: Temperatures above normal, precipitation below normal.

Winter wheat fair to good. Snow cover melting. Livestock fair to good. Early lambing, shearing started. Supplemental feeding underway many areas. Feed supplies adequate. Winter pastures being utilized where possible.

International Weather and Crop Summary

January 10 - 16, 1988

HIGHLIGHTS:

UNITED STATES... Snow prevents cotton harvest in Oklahoma, but harvest nears completion in Texas and New Mexico. Snow cover virtually vanishes in the central Great Plains and southern Corn Belt States, but warmer temperatures keep winter grain damage to a minimum.

WESTERN U.S.S.R.... Light to moderate snow blankets winter grains in Belorussia, the eastern Ukraine, and the northern North Caucasus. Mild weather continues over the region.

EUROPE... Heavy rains cover sections of southern France and northern Italy, possibly causing flooding. Rain persists in the northwest early in the period, followed by drier weather late in the week.

SOUTH ASIA... Light rain covers vegetative to heading wheat in northern and central India. Dry weather in the south favors cotton harvesting.

NORTHWESTERN AFRICA... Wet weather benefits winter grains in Morocco. Adverse dryness continues over winter grain areas in northeastern Algeria and Tunisia.

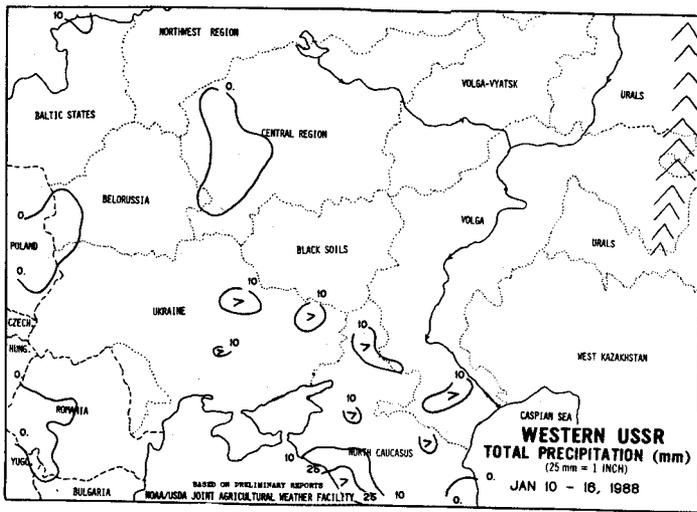
SOUTH AFRICA... Light to moderate rain brings some relief to vegetative to reproductive corn in the primary regions, but temperatures continue above normal, increasing evaporation rates and crop moisture demands.

SOUTHEAST ASIA... Typhoon Roy brings moderate to heavy showers and moderate winds to southeastern Luzon as light rain covers northern grains. Variable showers benefit crops in Malaysia and Indonesia.

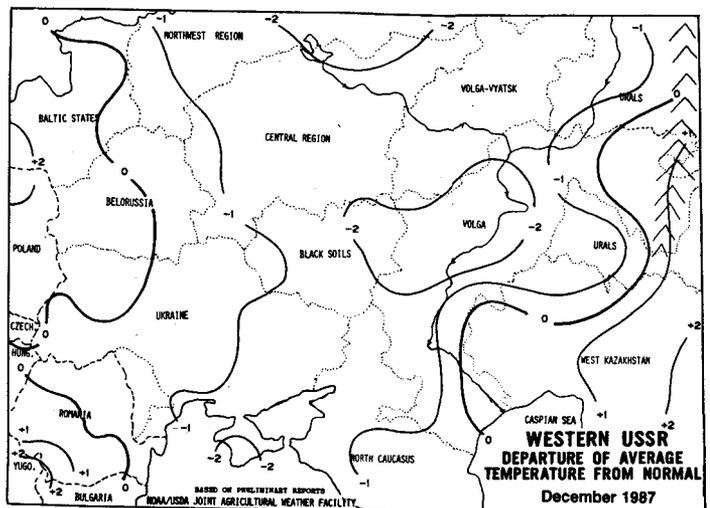
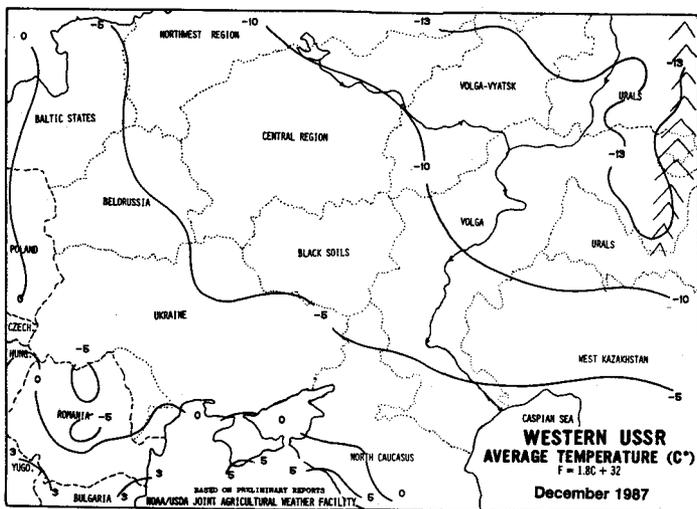
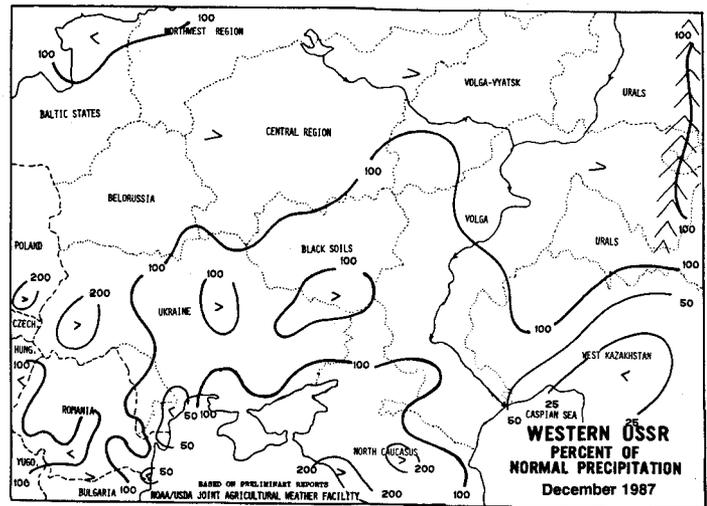
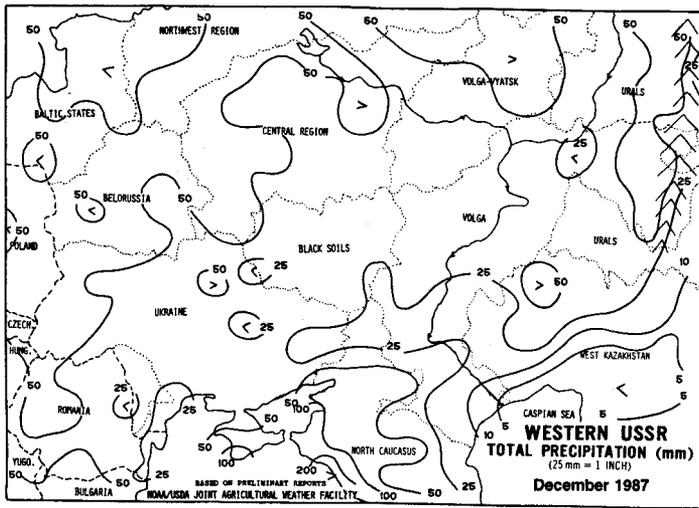
EASTERN ASIA... Heavy rain persists over western Japan. Moderate rain benefits soil moisture levels across central China.

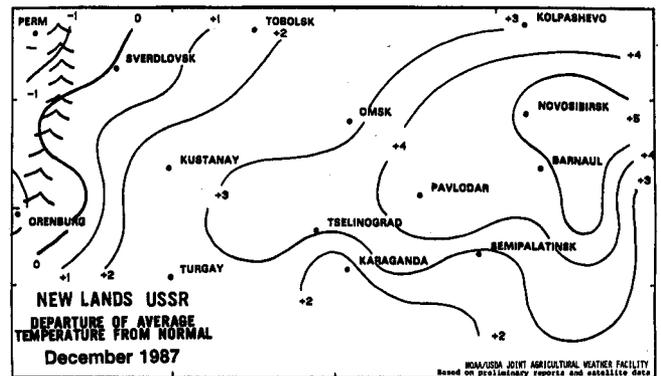
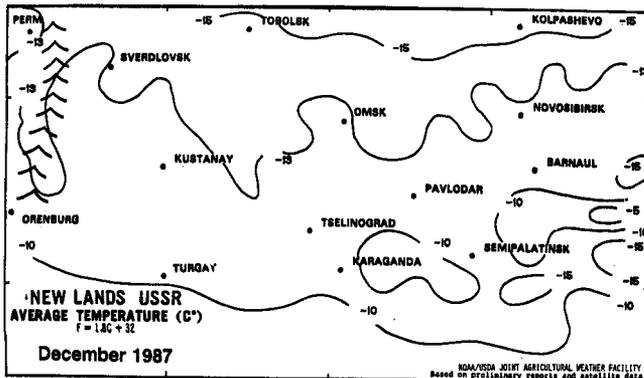
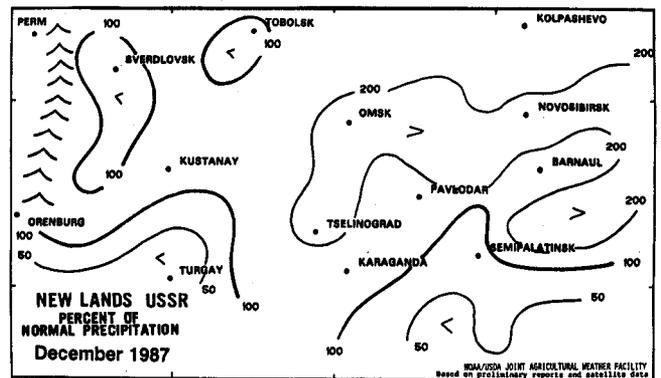
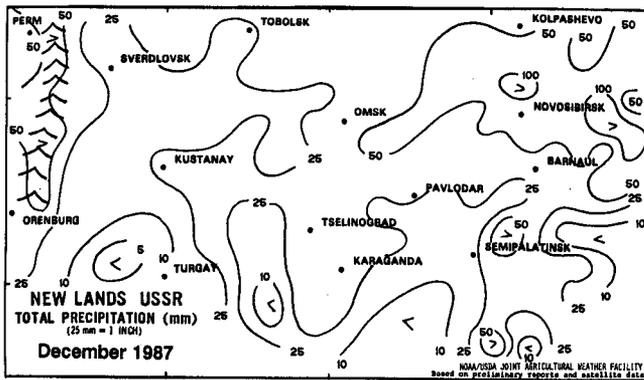
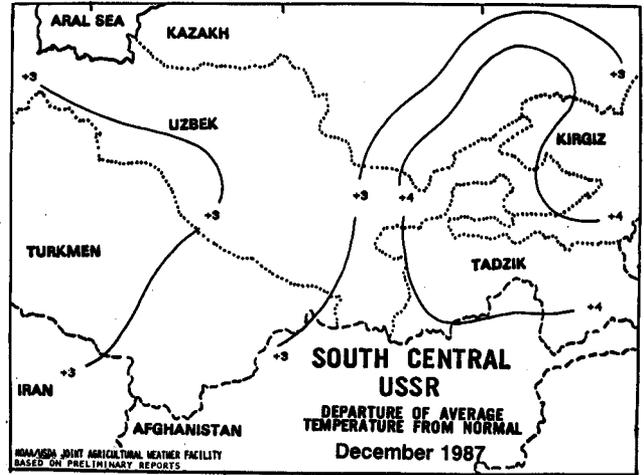
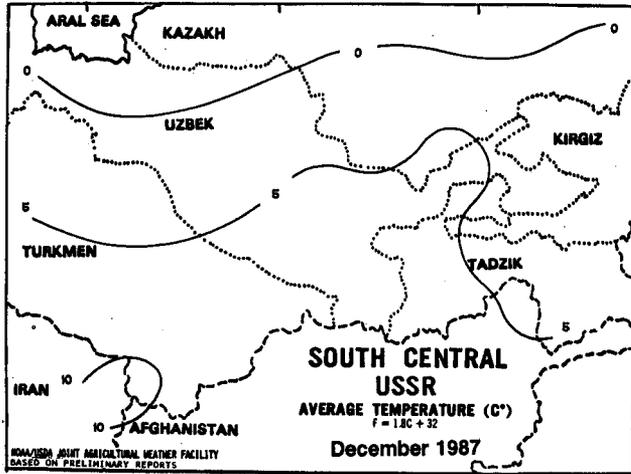
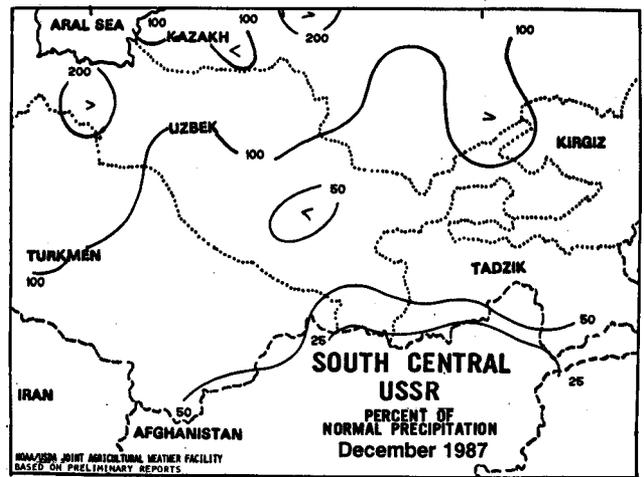
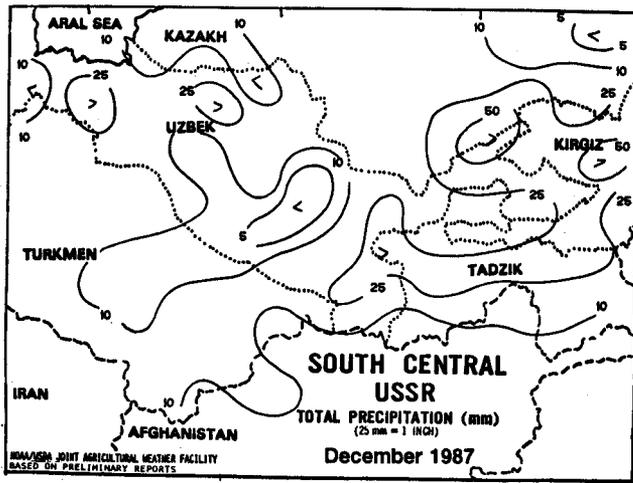
SOUTH AMERICA... Widespread, beneficial rain and cooler weather favor soybean development in southern Brazil. Showers also help crop growth in Argentina.

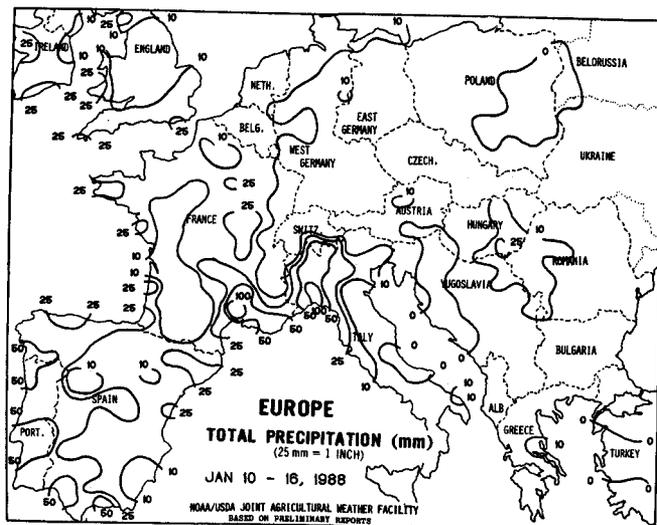
AUSTRALIA... High temperatures stress summer crops across Queensland and New South Wales. Scattered rain causes harvest delays in the south.



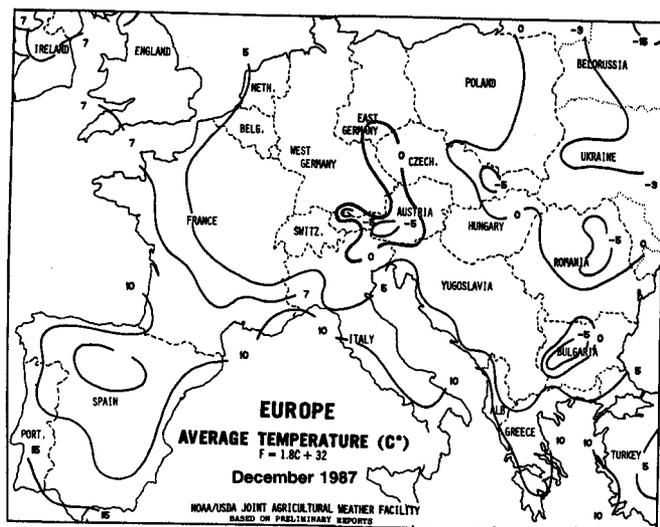
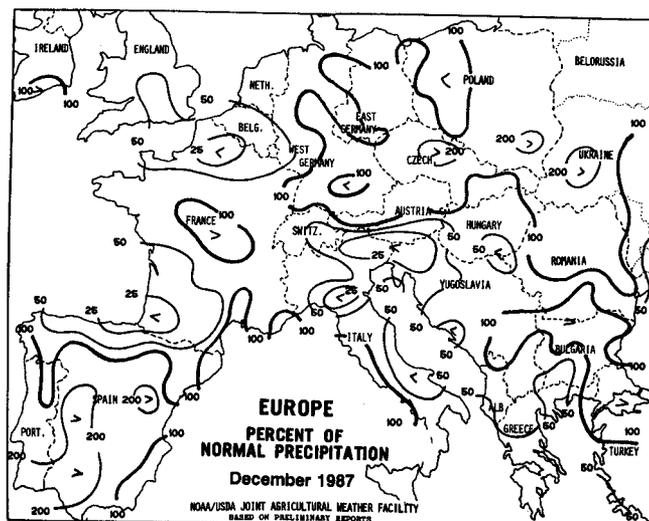
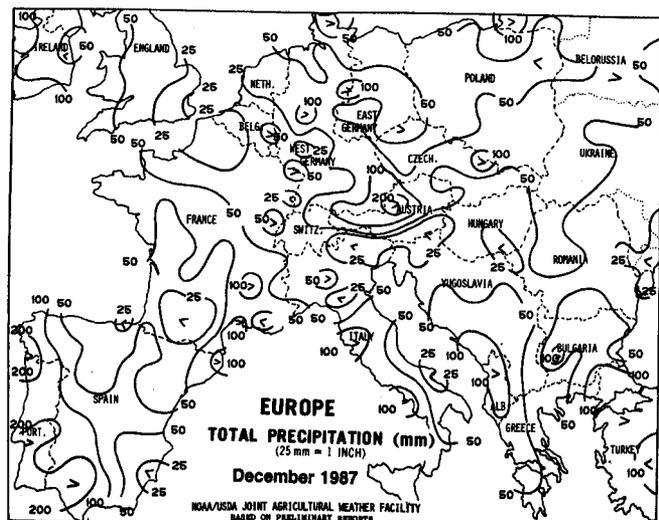
WESTERN U.S.S.R....Light to moderate snow over winter grains in Belorussia, the northern and eastern Ukraine, the North Caucasus, and the lower Volga increased snow cover. Winter grain areas in the western and southern Ukraine and the central North Caucasus were without a protective snow cover. Cooler weather covered the region but average temperatures continued above normal. In December, above-normal precipitation covered winter grain areas in the Baltic States, Belorussia, the Central Region, the western Ukraine, and the north Caucasus, increasing moisture supplies for next spring's growth. Winter grains in the central Ukraine, Volga, and the Black Soils Region received below-normal precipitation. Winter grains remained dormant during the month. Temperatures in early December were below normal but rose to above normal by month's end. Coldest weather during December occurred on December 23 and 24, when minimum temperatures dropped to around -16 degrees C over major winter wheat areas of the Ukraine and North Caucasus. Snow cover was adequate to protect the winter grain crop in these areas.



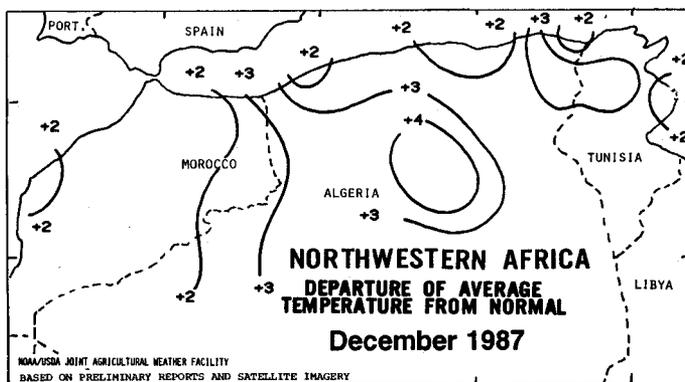
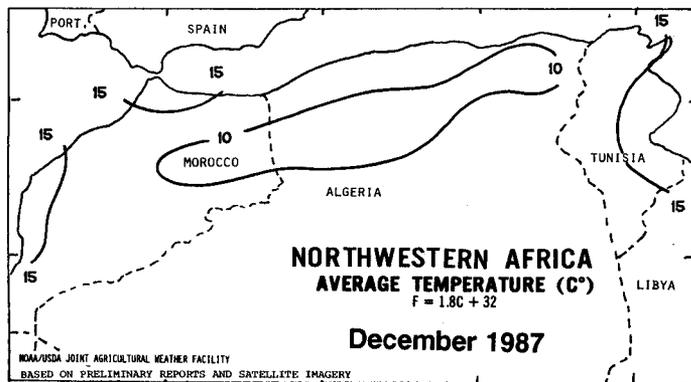
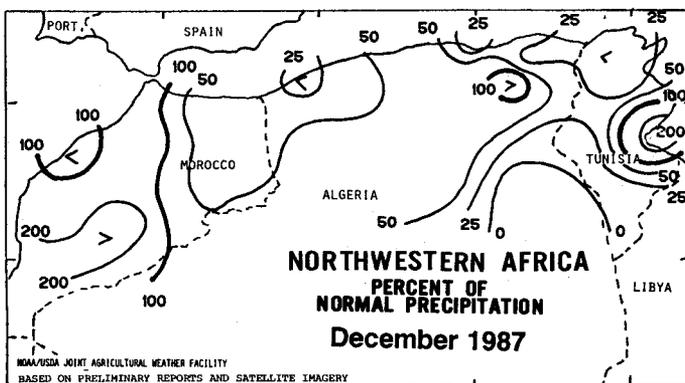
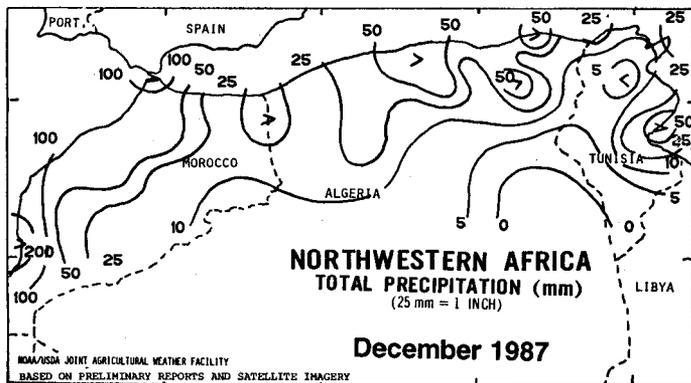
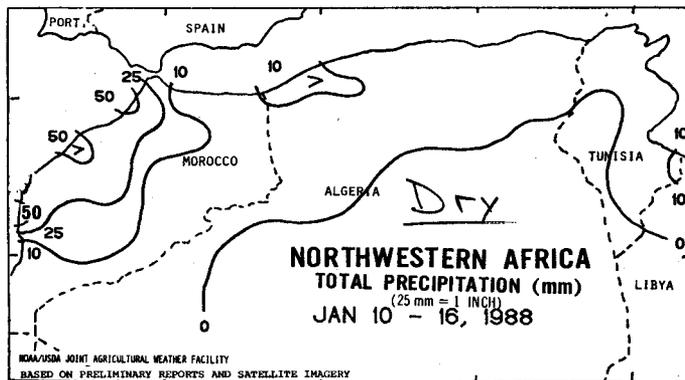


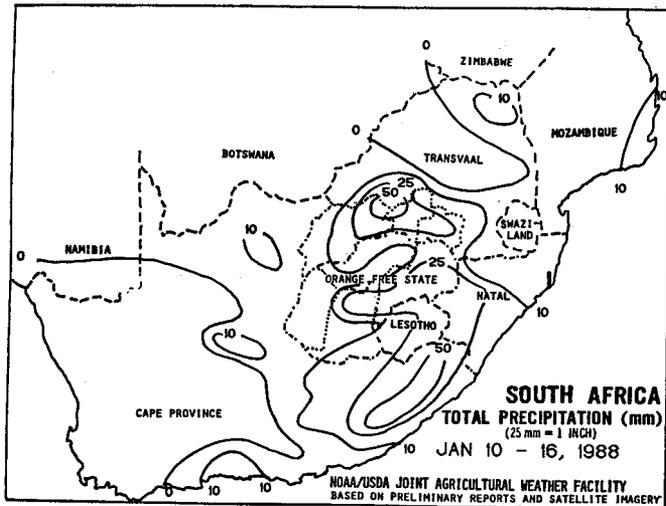


EUROPE...A slow moving storm produced heavy rains (up to 121mm) across sections of southeastern France and northeastern Italy, possibly causing flooding in some areas. Light to moderate rain continued over previously wet northwestern Europe early in the period, followed by drier weather by week's end. Elsewhere, scattered rain favored winter grains across sections of southwestern and east-central Europe, while other areas had little or no precipitation. Temperatures across the continent moderated to more seasonal levels after 3 weeks of warmer-than-normal weather melted snow cover and possibly caused some winter grains to slip out of dormancy. Temperatures in December averaged above normal in nearly all of Europe except for parts of France and the eastern Balkans, where they were near normal. December precipitation was above normal across sections of northeastern Europe, the Iberian Peninsula, and the southern Balkans. Below-normal precipitation fell over much of northwestern and southern Europe, as well as the northern Balkans, which suffered from prolonged drought during much of the past year.

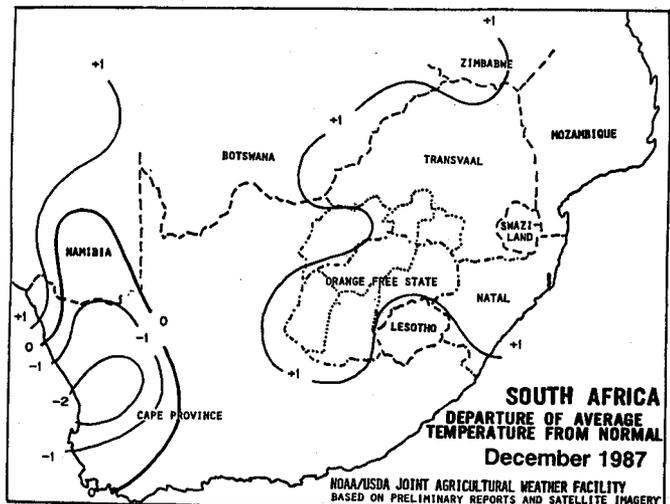
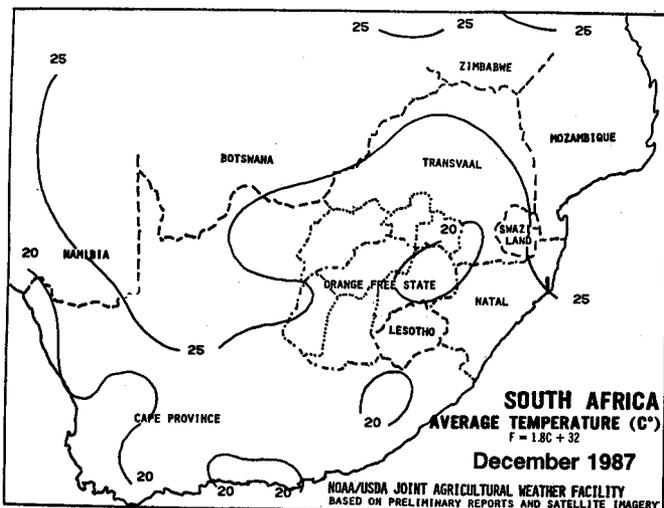
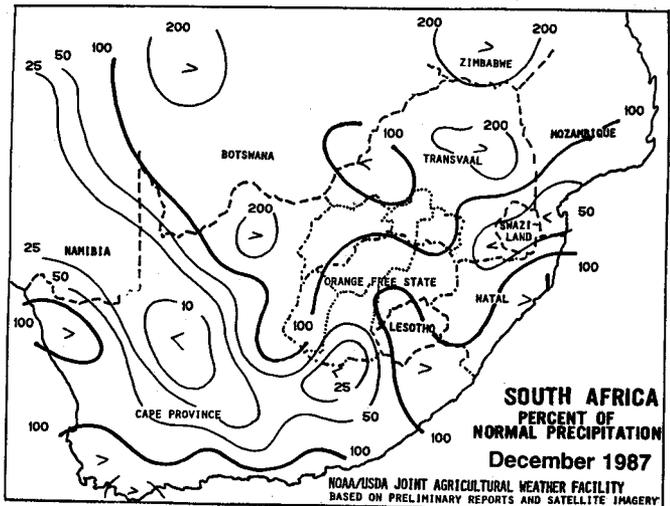
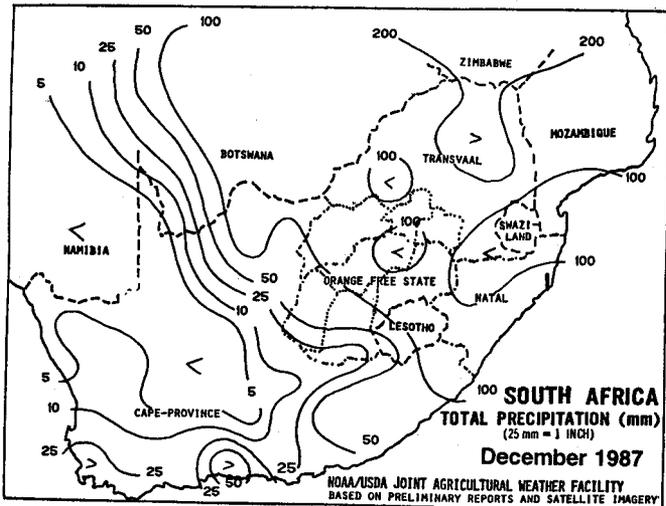


NORTHWESTERN AFRICA...Mostly dry weather over winter grain areas in northeastern Algeria and Tunisia continued an unfavorably dry weather pattern that has persisted since the beginning of the growing season. December precipitation in these areas was less than 25 percent of normal, reducing topsoil moisture to inadequate levels for winter grain emergence and plant establishment. In addition, wheat sowing may have been delayed beyond the normal December planting date. Winter grain areas in central and western Algeria have also received below-normal precipitation since December, although rainfall has been higher than those in northeastern Algeria and Tunisia. In Morocco, wet weather (23-50mm) continued December's above-normal precipitation pattern, maintaining favorable moisture conditions for winter grain establishment.

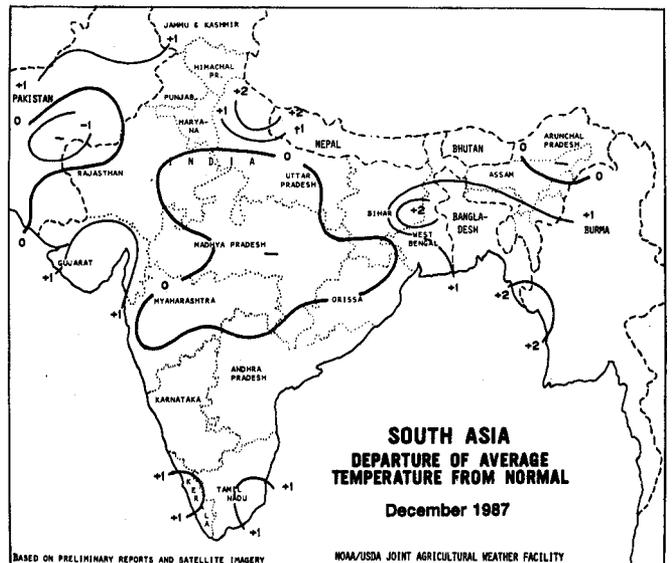
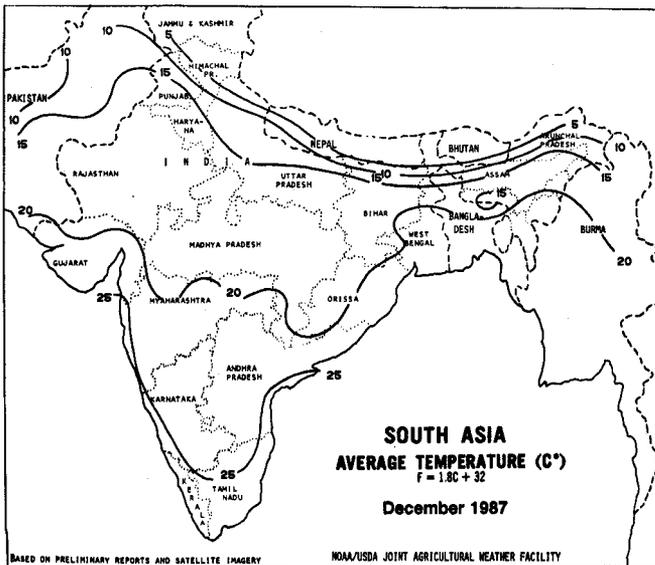
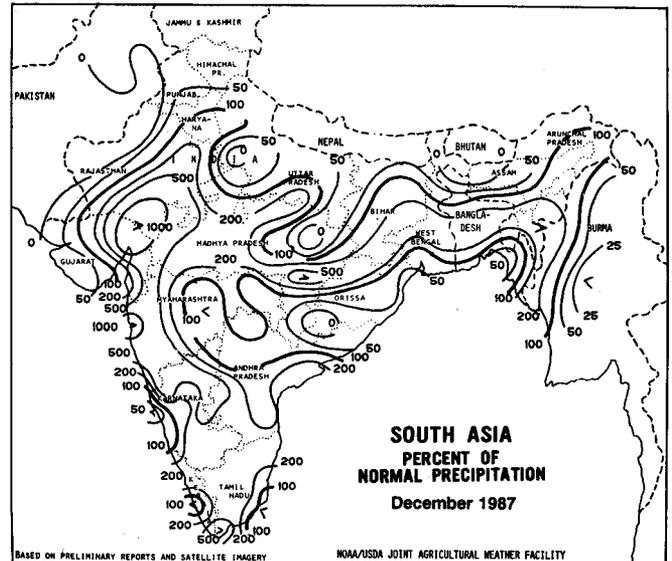
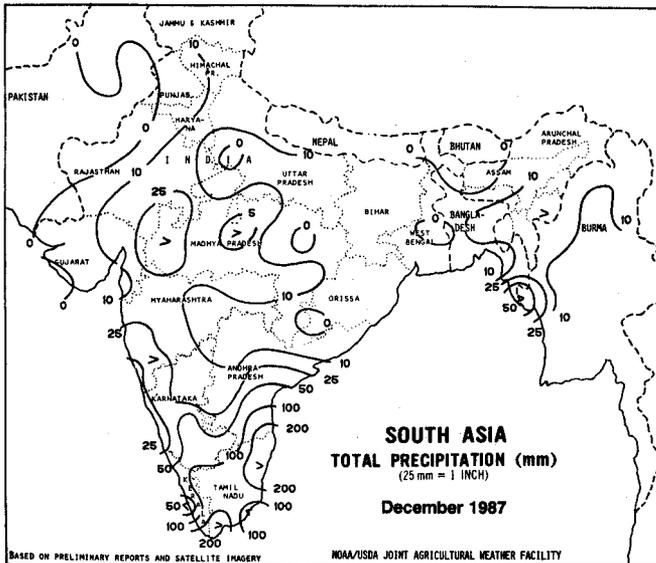
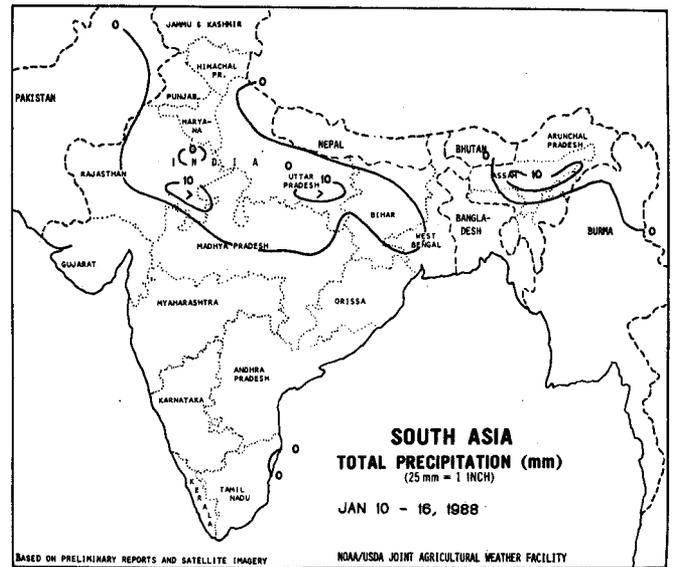




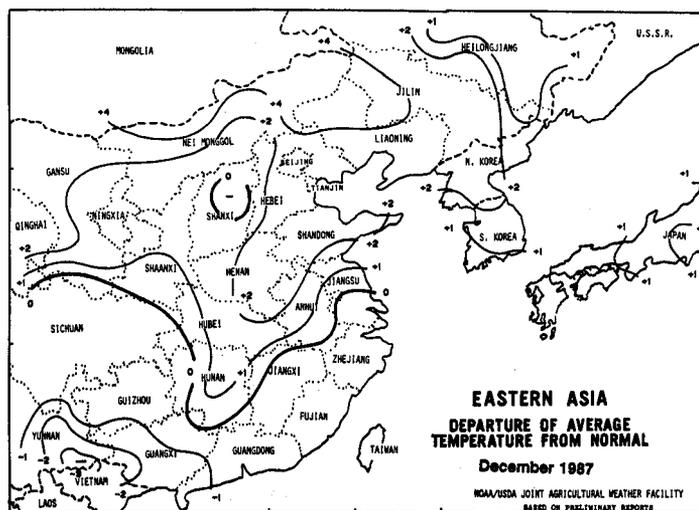
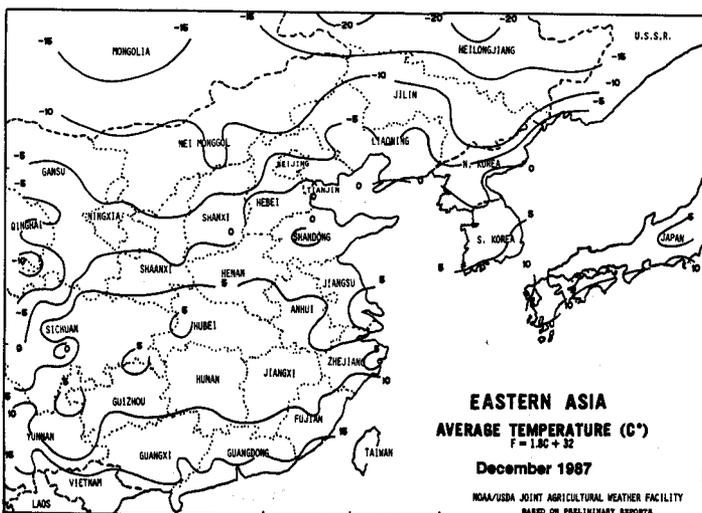
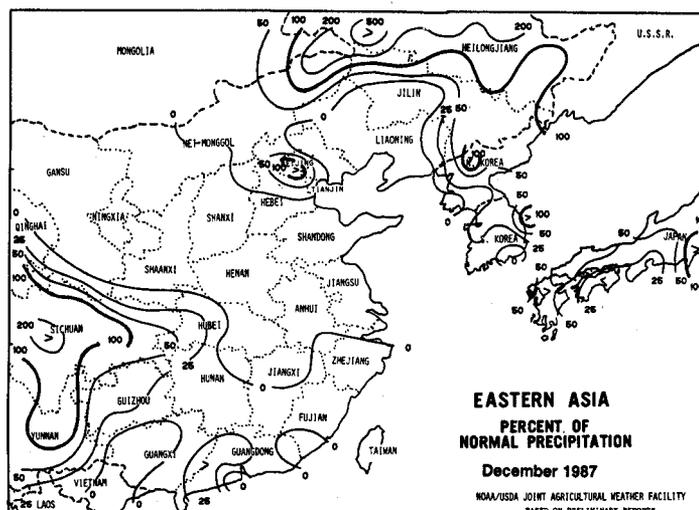
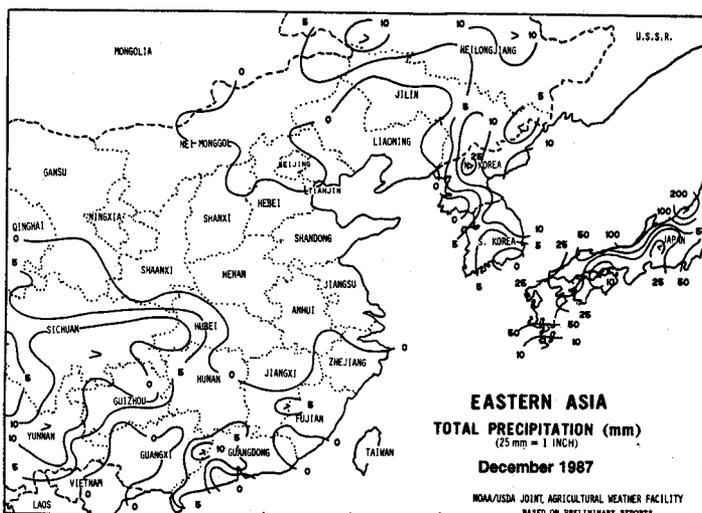
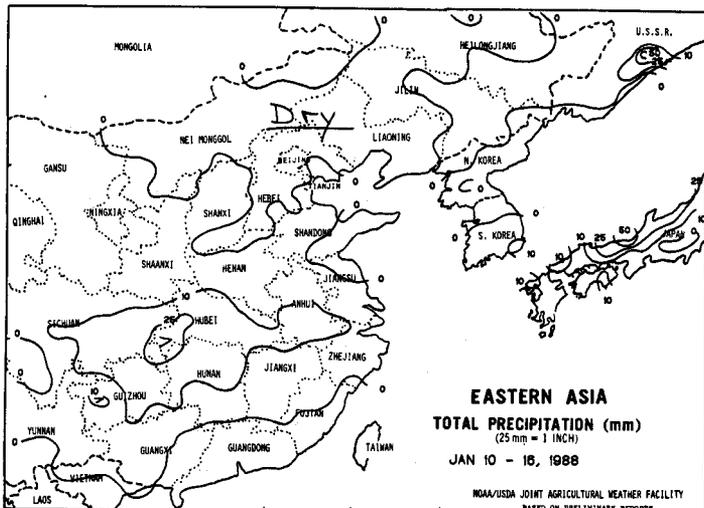
SOUTH AFRICA...Light to moderate showers (10-65mm) covered most regions of the Maize Triangle, bringing some relief to vegetative to reproductive corn stressed by recent periods of hot, dry weather. Temperatures continued above normal, increasing evaporation rates and crop moisture demand. Dry, warm weather covered crops in northern Transvaal as variable rainfall (10-60mm or more) covered Natal and crop regions of eastern Cape Province. In December, below-normal rainfall covered primary corn regions of the central Maize Triangle early in the month, but showers benefited vegetative crops during the latter half. Elsewhere, monthly rainfall was near to above normal in primary crop regions. December temperatures were up to 2 degrees C above normal in the Maize Triangle.

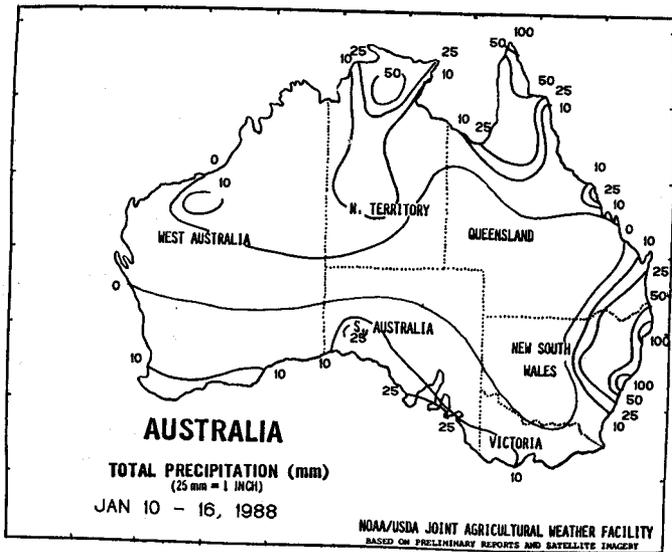


SOUTH ASIA...Light rain (1-12mm) covered vegetative to heading wheat across northern India and parts of central India, with little or no rain over chronically dry regions of Haryana and western Uttar Pradesh. In early December, a tropical cyclone brought light rain to northern grain regions, spurring some late plantings. Dry weather since then has resulted in limited moisture for normal crop development. Dry weather in the south favored cotton harvesting, however, moisture may be limited in some rainfed areas for late-planted crops. Above-normal, December rainfall benefited boll forming to filling cotton and improved conditions for rice, planting and establishment. Generally dry weather since early December in the east favored mature rice, but moisture was limited for late-planted, immature rice.

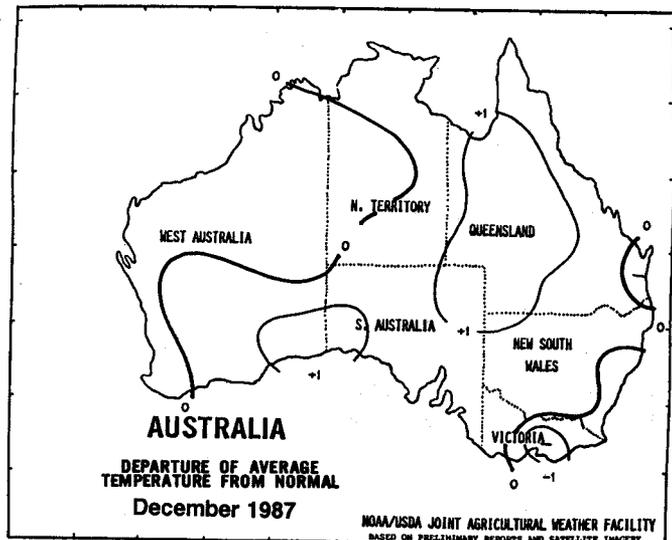
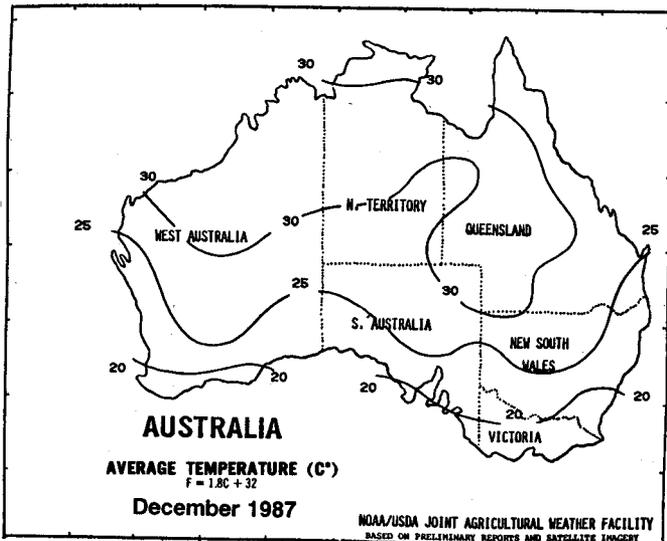
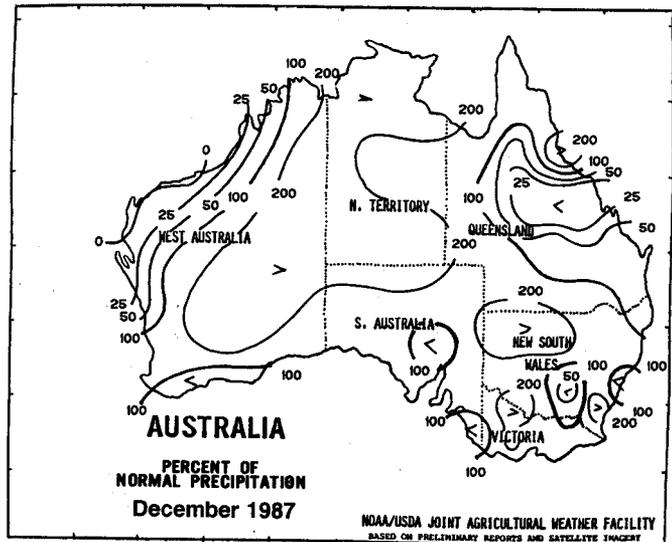
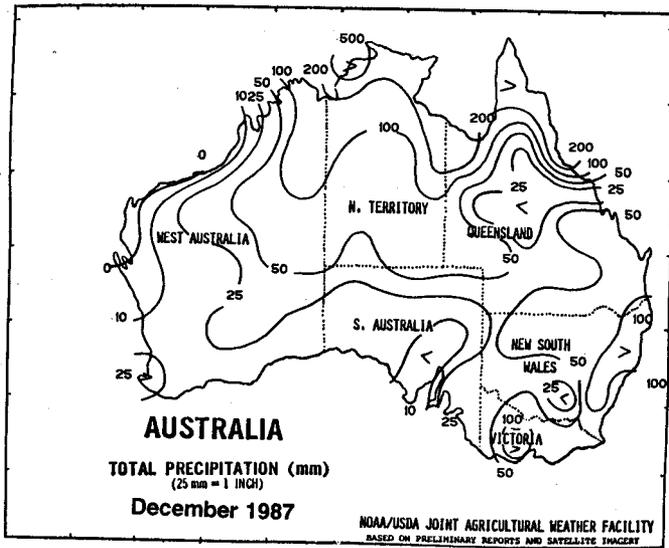


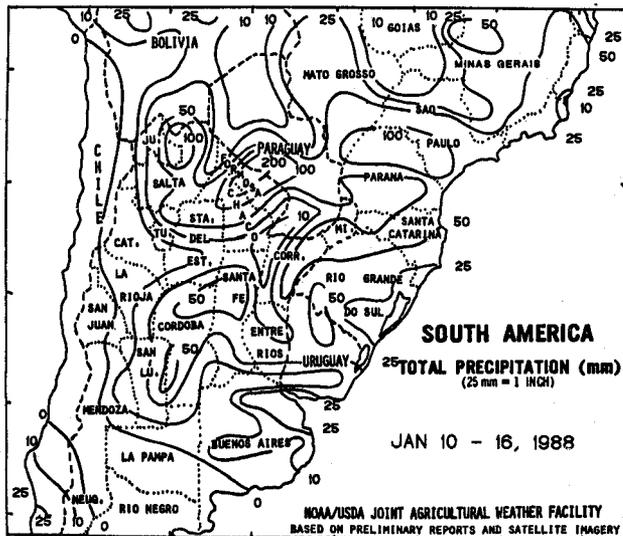
EASTERN ASIA... Moderate rain (10-35mm) fell over growing areas of Sichuan, Guizhou, Hubei, Hunan, Anhui, and Jiangxi, favoring soil moisture levels. Light rain was scattered over other Chinese wheat and rice areas, but rainfall and coverage were not significant. Moderate to heavy rain (20-71mm) persisted over western Japan, where heavy rains saturated soils last week. Cooler weather returned to northern and central China, with freezing temperatures over much of the wheat growing areas by week's end. The cooler weather reversed a trend of above-normal temperatures during December across most of northern China, the Korean Peninsula, and Japan. In contrast, monthly temperatures over much of southern China remained below normal. December precipitation was largely below normal across eastern Asia, with areas of above normal values scattered over western and northern growing areas.



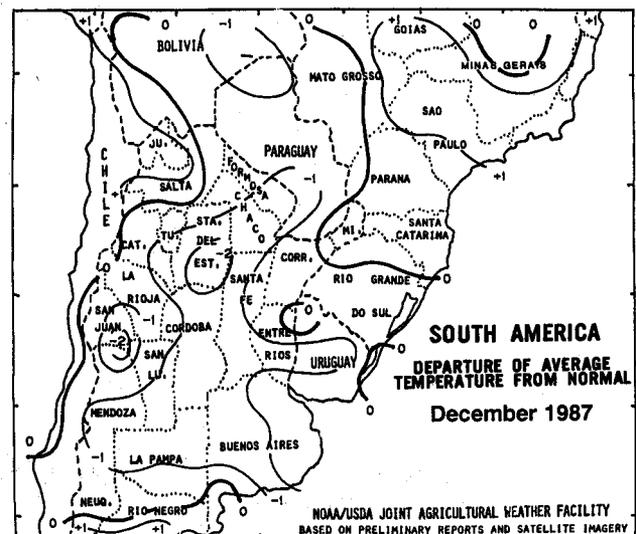
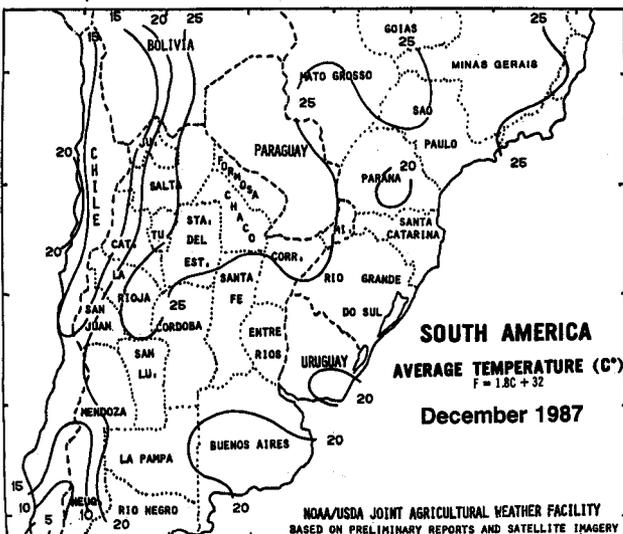
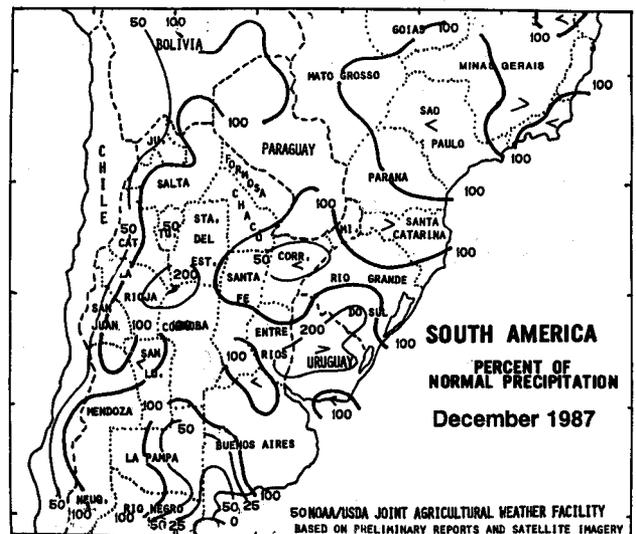
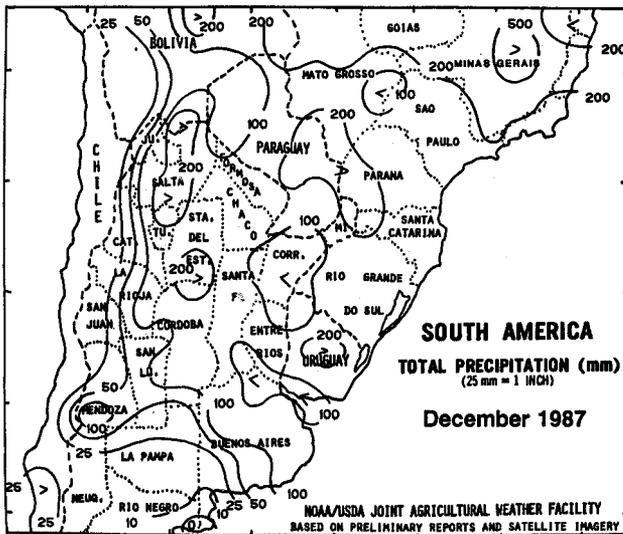


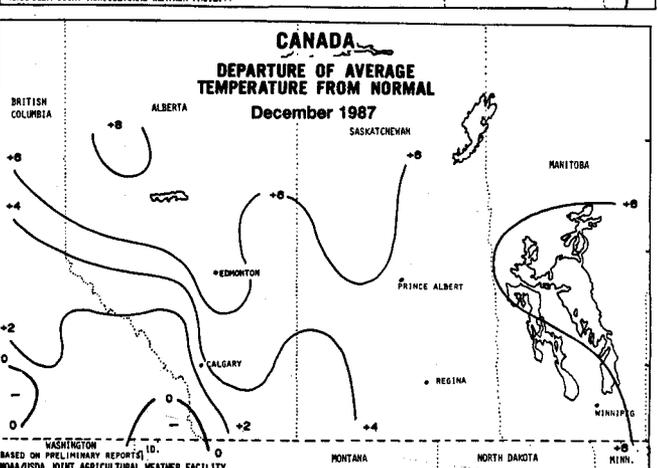
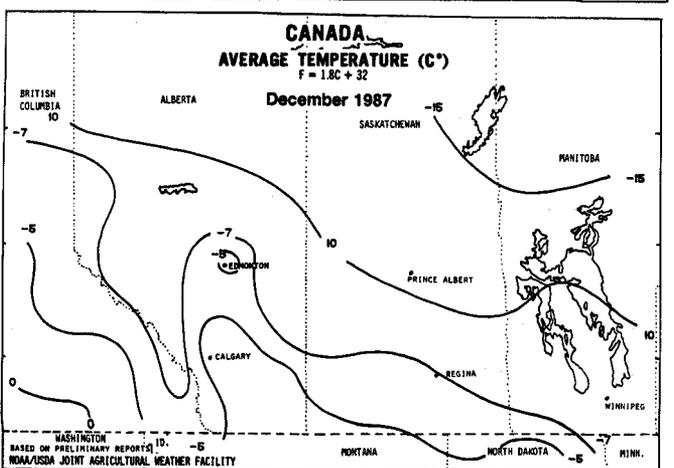
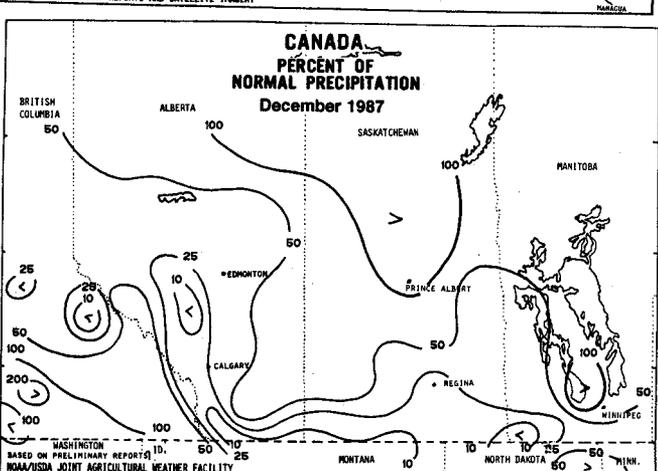
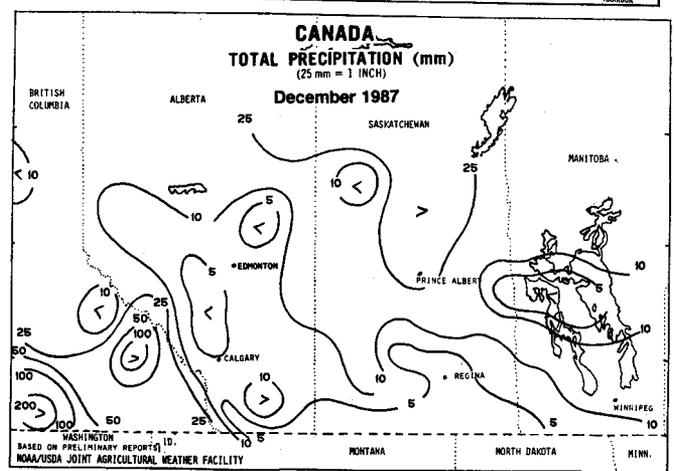
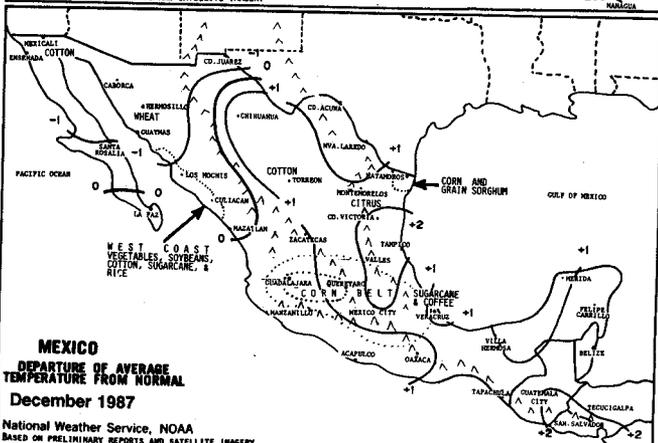
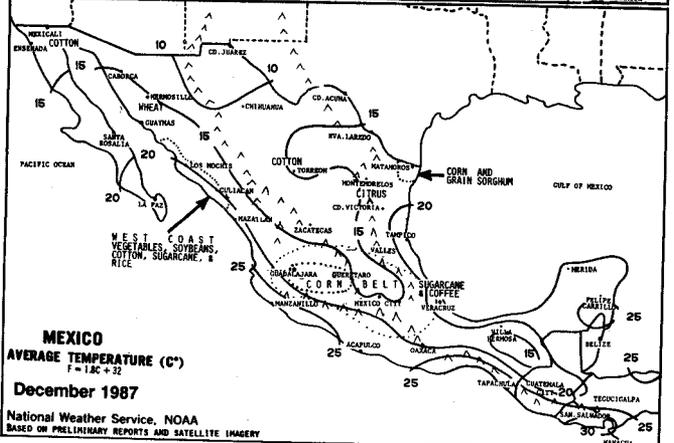
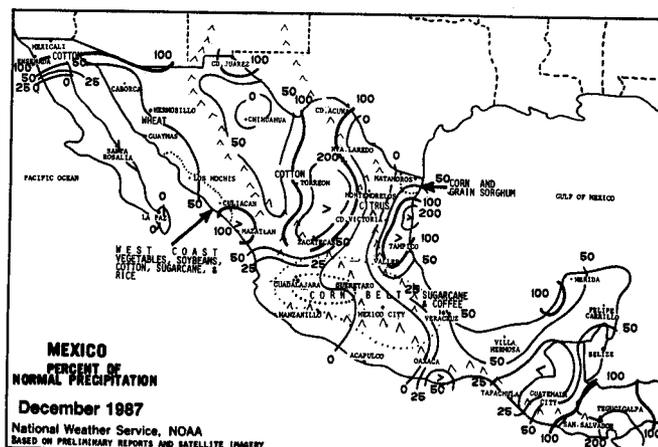
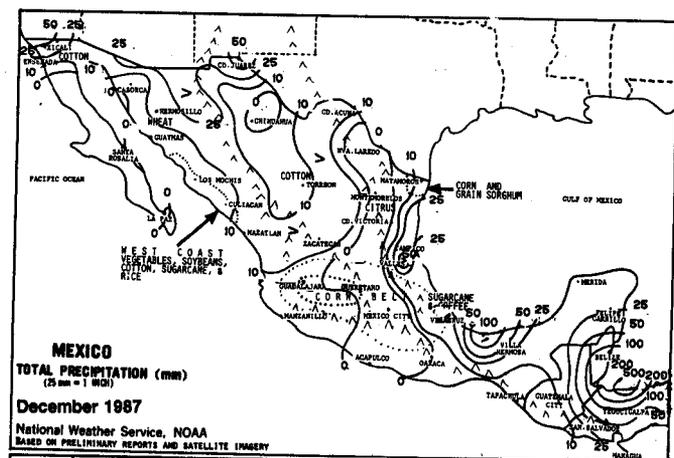
AUSTRALIA...Temperatures near or above 40 degrees C stressed summer crops across southern Queensland and eastern New South Wales early in the period, followed by moderate to heavy rain (up to 133mm) and cooler temperatures by week's end. The rain, caused by remnants of a tropical cyclone, also effected coastal sections of Queensland, favoring vegetative sugar cane. In the south, a weak frontal system spread light to moderate rain over southern wheat areas, causing delays in wheat harvest. December precipitation was highly variable in Australia, with above-normal rainfall over northeast Queensland, southern summer crop areas of New South Wales, and scattered sections of the southern wheat belt. Rainfall was below normal over northern summer crop areas in Queensland and in extreme southern West Australia. Monthly mean temperatures were near normal over most growing areas except southeastern Victoria, where they were below normal, and interior New South Wales and Queensland, where they were above normal.





SOUTH AMERICA...In south-central Brazil, substantial rain (30-81mm) in western Rio Grande do Sul improved soybean growing conditions following well-below-average rainfall in December and early January. Cooler weather accompanied the rain. Early-week maximum temperatures averaged in the middle to upper thirties (degrees C) before the beneficial rain began. Widespread rain covered much of Brazil's primary soybean growing area, favoring crop development. December rainfall was quite variable, with below average amounts over portions of Parana, Sao Paulo, Mato Grosso do Sul, and southern Minas Gerais. In Argentina, substantial showers (25-50mm or more) benefited summer crops in Cordoba, Santa Fe, and northern cotton areas. Scattered, variable rain fell over Buenos Aires and La Pampa, promoting wheat harvesting especially in the drier southwest. The rain also brought cooler weather to Argentina's crop areas. December rainfall was mostly near-to-above average, promoting crop establishment. Below-normal monthly rainfall was confined to extreme northeastern Argentina and the far southwestern wheat area.





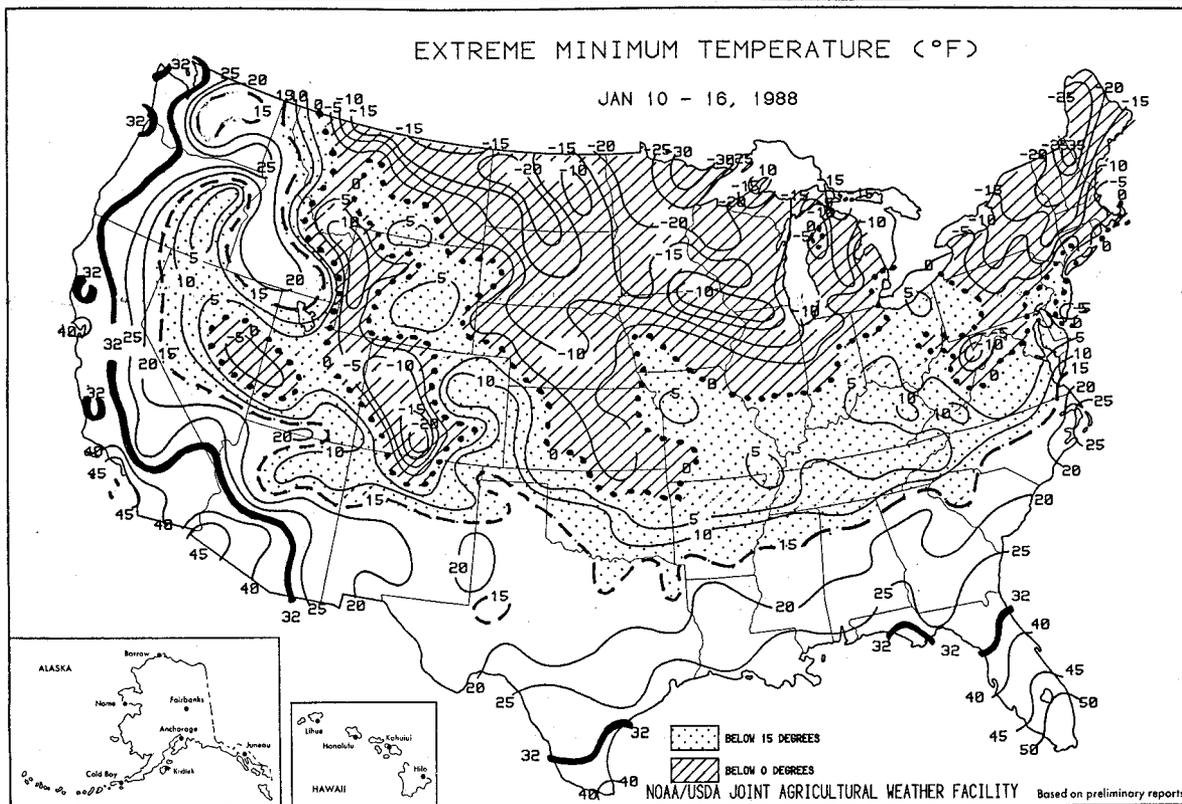
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