

# 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

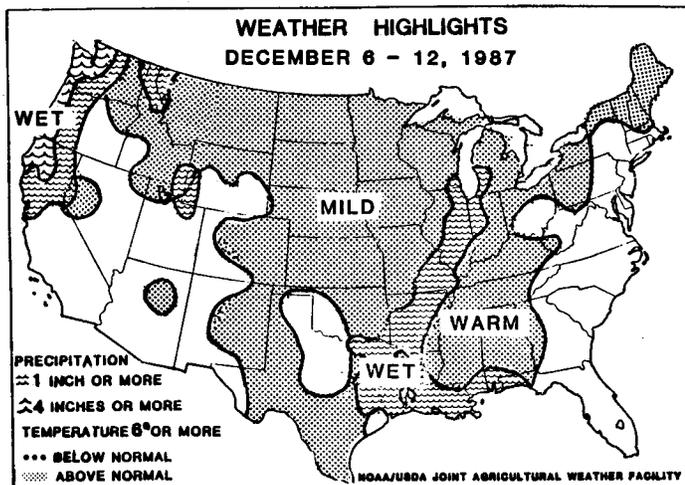
Volume 74, No. 50

Washington, D.C.

Dec. 15, 1987

## National Weather Summary

December 6 - 12, 1987



**HIGHLIGHTS:** Temperatures were generally above normal across the Nation. A series of storms brought inundative rains to much of the Pacific Northwest, with snow at higher elevations. High winds swept the Great Plains. Severe thunderstorms were mainly confined to east Texas, the Mississippi Delta, southern Florida, and the Middle Atlantic region. Cold air moved into southern California and Arizona at week's end.

**SUNDAY...**Windy wet weather invaded the Pacific Coastal States. Snow fell in the Cascades and the Sierra Nevada. Temperatures were below freezing over much of the north-central and eastern United States. Scattered, light snow showers lingered across the northern Atlantic Coast States. Severe thunderstorms developed in east Texas.

**MONDAY...**Freezing rain extended from northwestern West Virginia across central Ohio, southeastern lower Michigan, and from northwestern Iowa across eastern portions of the Dakotas. Snow was scattered over central and east-central Wisconsin and across southern lower Michigan. Rain reached from Iowa across much of central and lower Mississippi Valley. Rain continued over the northern and central Pacific Coast and southeast Idaho. A weather disturbance crossing the Mississippi Valley produced showers and a few thunderstorms along the central Gulf coast, with flooding in Texas and Arkansas.

**TUESDAY...**High winds struck north-central California and western Nevada, with heavy snow in the Sierra Nevada. Freezing rain extended over northern Minnesota, changing to rain over southern Minnesota, eastern South Dakota, southern Nebraska, and northwestern Kansas, then becoming mixed rain

and snow over central Colorado. Rain and drizzle also reached across southern Wisconsin, northern Illinois, northern Indiana, and lower Michigan. High winds swept across Kansas, Oklahoma, and Texas. Two to five inches of rain fell in the Florida Keys.

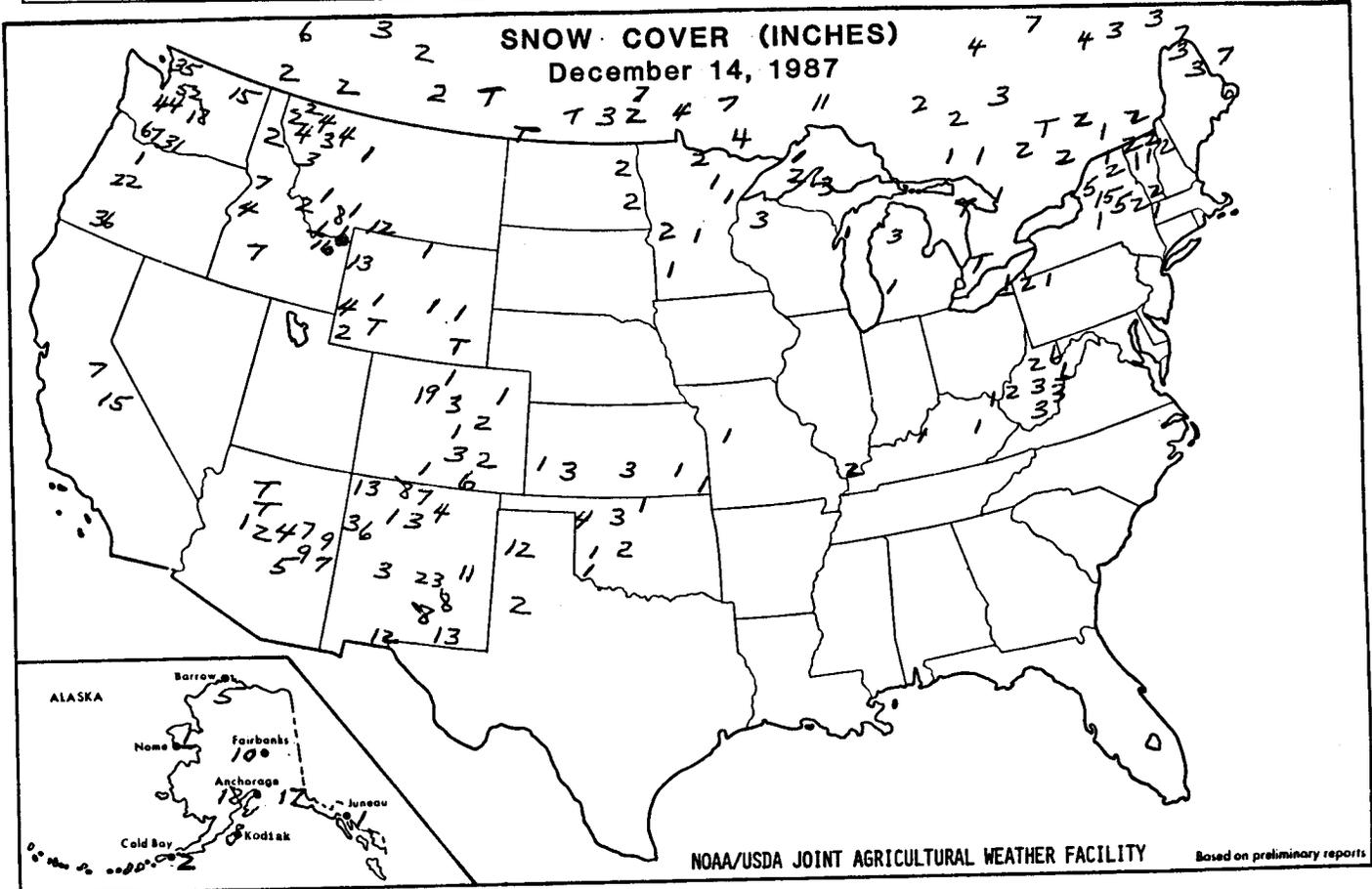
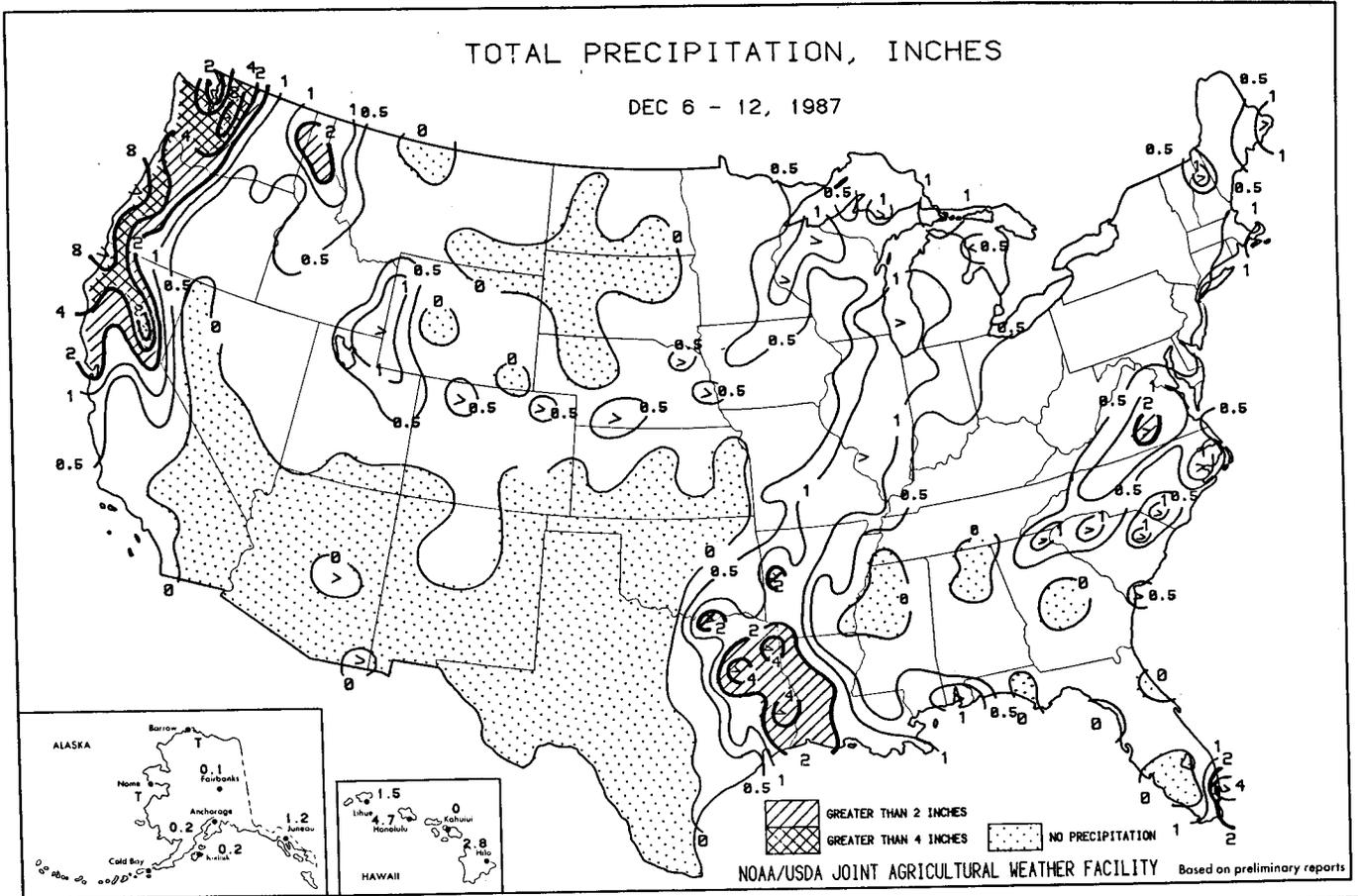
**WEDNESDAY...**A cold front pushing through the Pacific Northwest caused rain along the northern and central Pacific coast, and rain mixed with snow over the northern half of the Plateau region and the northern Rockies. High winds developed over the east slopes of the Rockies. Rain and freezing rain and snow were scattered over northeastern Minnesota. Rain extended over the Great Lakes and the Ohio Valley.

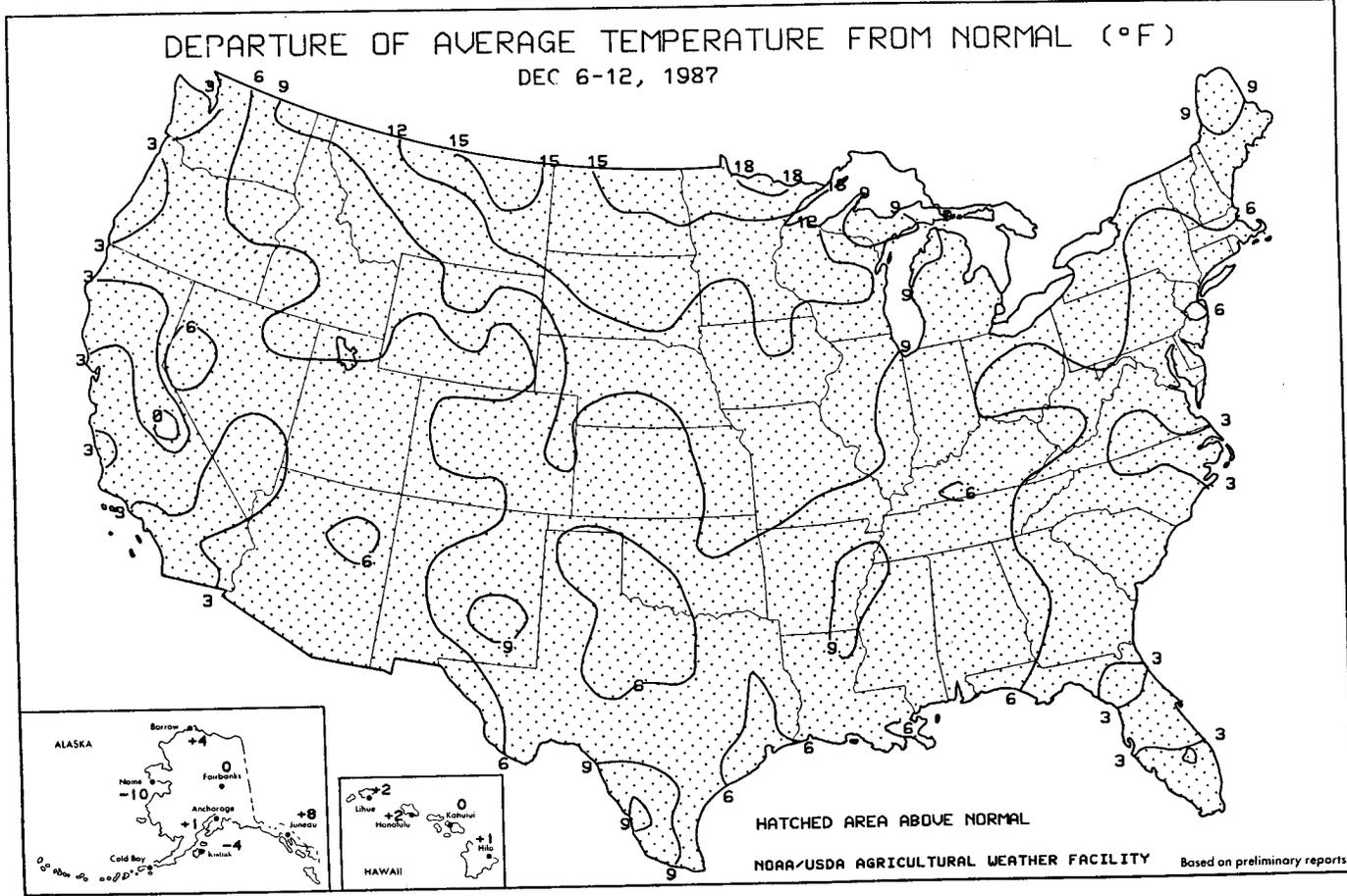
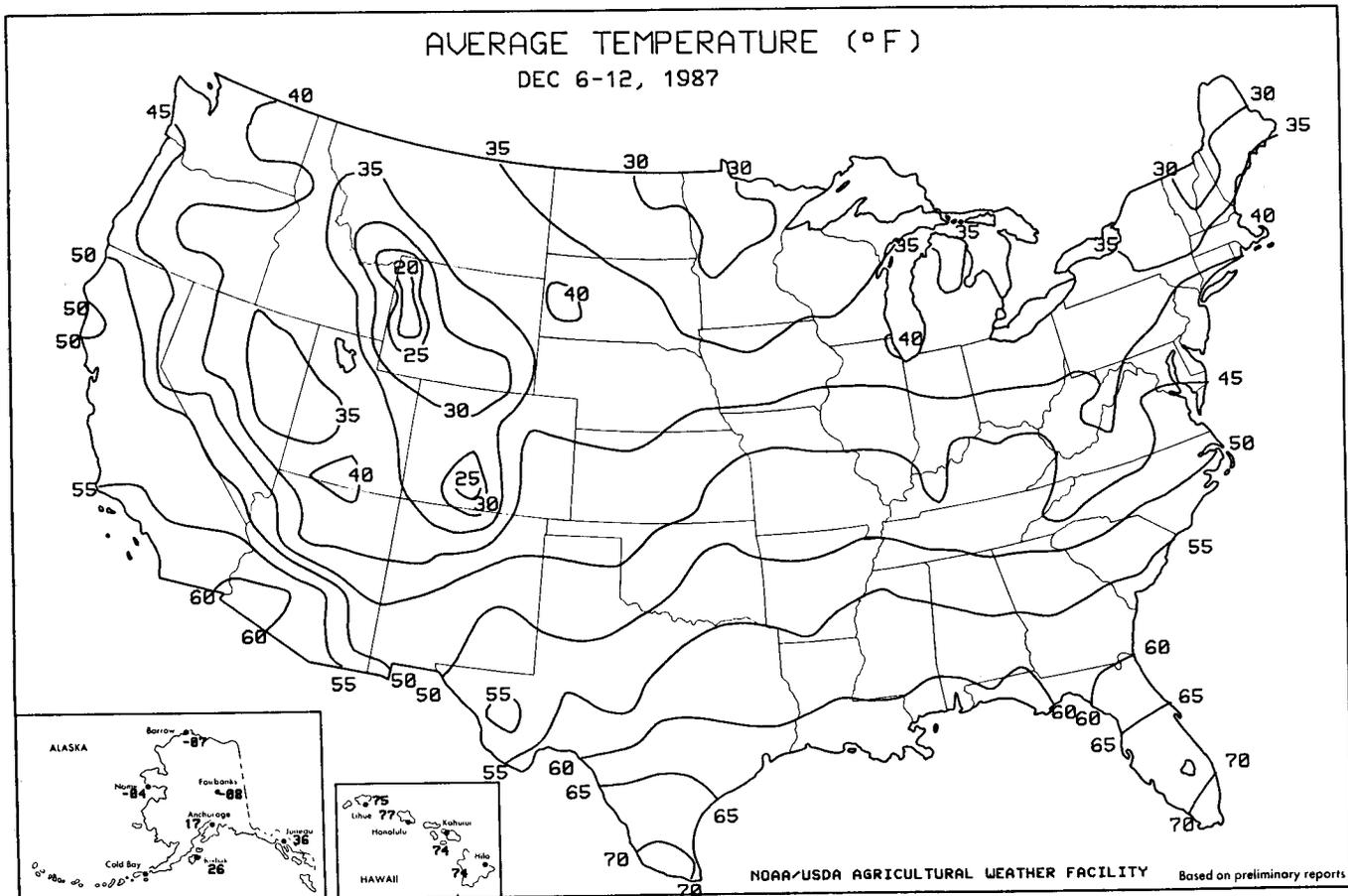
**THURSDAY...**Light freezing rain was scattered over northern New England by dawn, with rain scattered across New York State and upper Michigan. Rains diminished over the Pacific Northwest. Snow continued to fall over the Intermountain region and the northern Rockies. Strong winds on the east slopes of the northern Rockies caused unseasonably high temperatures. Storm development over the Southeast brought showers and widely scattered thunderstorms to the Middle Atlantic region and the southern Atlantic coast.

**FRIDAY...**A storm system over eastern Canada brought high winds, snow, and blowing snow from the northern Plains into the upper Mississippi Valley. Wintry weather also came to eastern Maine. Strong northerly winds ushered cooler weather into the Southwest.

**SATURDAY...**Temperatures dipped below freezing in parts of southern California. A storm system developed over Arizona, New Mexico, and Colorado. Light snow continued from the northern Plains into the Great Lakes and parts of New England, owing to a stalled storm system over eastern Canada. The Southeast had generally fair weather.

Contents	Page
National Weather Summary . . . . .	1
Total Precipitation & Snow Cover Map . . . . .	2
Average Temperature & Departure . . . . .	3
National Weather Data for Selected Cities . . . . .	4
Heating Degree Days Summary Table . . . . .	7
Normal Total Precipitation, January . . . . .	8
Fall Weather Review . . . . .	9
Fall Precipitation & Percent of Normal . . . . .	10
Fall Temperature & Departure . . . . .	11
National Agricultural Summary . . . . .	12
State Summaries of Weather and Agriculture . . . . .	13
International Weather and Crop Summary	
Includes Monthly Maps . . . . .	16
Crop Progress Table . . . . .	20
Subscription and Mailing Permit Information & Extreme Minimum Temperature . . . . .	28





# National Weather Data for Selected Cities

## Weather Data for the Week Ending December 12, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	65	42	71	30	53	7	0	-1.1	0	0	0	37.3	73	87	38	0	1	0	0
MOBILE	70	51	76	40	60	6	1.4	.2	1.1	1.4	69	65.1	107	97	59	0	0	3	1
MONTGOMERY	70	44	73	30	57	7	T	-1.0	T	T	2	50.2	109	87	39	0	1	1	0
AK ANCHORAGE	22	11	25	1	17	1	.2	-.1	.1	.5	105	14.0	99	91	74	0	7	4	0
BARROW	0	-14	15	-25	-7	4	T	T	0	.1	200	4.9	111	85	75	0	7	1	0
FAIRBANKS	0	-14	2	-22	-8	0	.1	-.1	0	.2	54	6.1	62	84	71	0	7	3	0
JUNEAU	40	33	43	32	36	8	1.2	.1	.5	1.7	91	55.7	111	96	74	0	4	5	1
KODIAK	31	21	37	8	26	4	.2	-1.0	.1	.6	27	68.4	119	83	56	0	7	3	0
NOME	3	-12	13	-20	-4	-10	T	T	T	T	4	10.8	76	83	68	0	7	1	0
AZ PHOENIX	70	46	75	44	58	4	0	0	0	.1	47	6.9	108	74	25	0	0	0	0
PRESCOTT	58	27	70	22	42	4	0	0	0	.2	26	15.4	87	77	31	0	7	0	0
TUCSON	73	39	79	33	56	3	T	T	T	T	0	0	11.1	106	71	0	0	0	0
YUMA	73	50	76	44	62	4	0	0	0	-.1	0	3.0	138	52	24	0	0	0	1
AR FORT SMITH	61	39	70	29	50	8	.7	0	.7	.7	57	35.2	93	98	48	0	2	2	1
LITTLE ROCK	60	46	67	41	53	9	.4	-.6	.3	.4	23	41.5	89	79	54	0	0	1	0
CA BAKERSFIELD	62	44	71	41	53	4	T	-.1	T	.7	279	6.3	123	95	61	0	0	5	3
EUREKA	58	46	63	41	52	3	4.1	2.7	1.7	9.6	409	32.9	95	83	61	0	0	0	0
FRESNO	58	41	63	34	50	4	.1	-.3	0	.5	88	8.5	92	99	64	0	0	2	0
LOS ANGELES	68	52	75	49	60	2	.1	-.2	.1	.8	147	6.2	58	89	40	0	0	4	3
REDDING	56	45	65	39	50	2	4.1	2.6	2.1	6.9	272	30.2	83	86	52	0	0	4	3
SACRAMENTO	58	48	65	42	53	6	.8	.2	.5	1.6	158	14.2	95	85	58	0	0	3	0
SAN DIEGO	67	52	74	49	60	1	T	-.3	T	.9	189	9.8	118	90	64	0	0	1	0
SAN FRANCISCO	60	50	63	45	55	5	2.0	1.3	1.1	3.1	259	14.2	83	88	60	0	0	4	2
CO DENVER	52	28	65	21	40	6	.1	0	.1	.1	52	18.8	128	68	22	0	5	2	0
GRAND JUNCTION	44	25	49	21	35	5	.1	0	.1	.3	150	11.0	147	90	45	0	7	1	0
PUEBLO	56	24	71	17	40	6	T	-.1	T	T	0	9.9	93	93	28	0	7	0	0
CT BRIDGEPORT	49	34	57	25	41	5	.5	-.4	.2	.2	4	31.7	81	82	50	0	3	3	0
HARTFORD	46	27	57	16	37	5	.3	-.7	.2	.7	25	43.7	105	88	52	0	5	3	0
DC WASHINGTON	54	37	64	29	45	5	.5	-.2	.5	.9	71	34.9	95	94	47	0	1	2	0
FL APALACHICOLA	70	51	76	38	60	4	T	-.7	T	T	3	47.2	89	92	62	0	0	1	0
DAYTONA BEACH	75	52	79	40	64	3	0	-.5	0	T	0	45.4	96	93	55	0	1	2	0
JACKSONVILLE	72	47	79	30	60	3	.1	-.4	.1	.1	14	43.4	87	97	53	0	1	2	0
KEY WEST	77	65	79	60	71	-1	2.4	2.0	2.3	2.7	347	49.0	128	92	66	0	0	2	1
MIAMI	79	63	82	50	71	2	4.2	3.8	2.1	4.2	592	50.3	89	89	57	0	0	2	2
ORLANDO	76	55	81	41	65	3	T	-.4	T	T	3	56.4	117	92	49	0	1	1	0
TALLAHASSEE	74	44	81	29	59	5	.1	-.9	0	.1	4	66.9	109	95	47	0	1	2	0
TAMPA	76	56	82	40	66	4	.1	-.4	.1	.1	14	48.7	108	95	55	0	0	1	0
WEST PALM BEACH	77	62	80	48	70	2	.8	-.3	.7	.8	97	58.1	100	88	60	0	0	2	1
GA ATLANTA	62	43	69	32	53	7	.1	-.8	.1	.1	5	42.2	92	78	38	0	1	1	0
AUGUSTA	67	41	76	27	54	6	T	-.6	T	T	3	39.8	98	94	38	0	2	2	0
MACON	68	41	75	27	55	5	0	-.9	0	0	0	36.3	86	92	40	0	1	0	0
SAVANNAH	68	46	76	30	57	5	.2	-.4	.2	.2	23	55.1	115	91	56	0	1	1	0
HI HILO	79	68	82	65	74	1	2.8	-.3	.8	3.1	56	122.7	102	96	68	0	0	6	3
HONOLULU	84	70	86	67	77	2	4.7	3.9	4.7	4.7	366	10.5	50	87	53	0	0	2	1
KAHILAI	81	67	85	63	74	0	T	-.6	T	T	4	17.6	107	91	57	0	0	0	1
LIHUE	80	70	83	66	75	2	1.5	.3	1.3	1.7	82	26.9	67	88	65	0	0	3	1
ID BOISE	47	30	63	22	38	5	.6	-.3	.3	.8	166	8.3	78	86	46	0	6	3	0
LEWISTON	49	36	56	29	42	6	.1	-.2	.1	.4	91	8.6	72	79	44	0	3	2	0
POCATELLO	44	28	56	16	36	8	.4	-.3	.4	.5	164	9.6	96	86	53	0	6	3	0
IL CHICAGO	47	34	59	27	40	10	1.2	-.6	.6	1.4	147	39.0	119	94	69	0	3	5	1
MOLINE	45	34	53	26	40	11	.6	-.1	.3	.6	78	33.8	95	91	66	0	3	5	0
PRORIA	46	35	54	28	40	10	1.0	-.5	.7	1.0	124	24.3	72	90	66	0	2	4	1
QUINCY	49	37	56	31	43	11	.3	-.1	.1	.3	47	25.7	70	93	60	0	2	4	0
ROCKFORD	44	32	52	22	38	10	.7	-.3	.4	.9	110	35.7	101	91	70	0	4	5	0
SPRINGFIELD	48	35	56	30	42	9	1.2	-.7	1.0	1.2	146	25.6	78	90	61	0	2	4	1
IN EVANSVILLE	55	35	59	28	45	8	.4	-.4	.2	.4	29	29.2	74	90	46	0	4	3	0
FORT WAYNE	45	31	55	22	38	7	.8	-.3	.4	1.1	109	31.9	97	94	69	0	4	5	0
INDIANAPOLIS	48	34	56	25	41	7	.9	-.2	.3	1.1	95	29.8	80	94	64	0	3	5	0
SOUTH BEND	44	34	55	30	39	8	.8	-.1	.4	1.1	94	31.5	87	93	69	0	3	4	0
IA DES MOINES	46	31	53	23	38	10	.4	-.2	.4	.4	98	34.8	116	97	63	0	3	4	0
STOIX CITY	43	31	51	24	37	11	.2	0	.2	.2	70	24.2	97	94	66	0	3	2	0
WATERLOO	42	31	50	26	37	12	.3	.1	.3	.4	73	30.8	96	94	71	0	4	3	0
KS CONCORDIA	50	34	58	28	42	8	.1	-.1	.1	.1	20	33.5	125	86	54	0	3	1	0
DODGE CITY	56	29	65	22	42	7	0	-.1	0	0	0	23.0	115	85	34	0	4	0	0
GOOPLAND	52	28	68	17	40	8	.2	-.1	.2	.2	100	19.4	123	83	33	0	5	1	0
TOPIKA	54	36	58	26	45	11	T	-.3	T	T	0	35.2	108	86	48	0	3	0	0
WICHITA	53	34	57	24	43	7	T	-.2	T	T	0	36.4	130	92	54	0	3	0	0
KY BOWLING GREEN	57	32	64	27	45	5	.1	-.9	0	.1	6	36.9	80	93	46	0	4	3	0
LEXINGTON	56	35	66	25	45	8	.2	-.7	.1	.3	19	30.8	71	86	44	0	2	3	0
LOUISVILLE	56	37	65	28	47	8	.1	-.7	0	.1	7	28.1	68	80	42	0	1	3	0
LA ALEXANDRIA	67	50	75	40	59	7	2.1	1.0	1.4	2.1	112	53.6	109	91	58	0	0	2	2
BATON ROUGE	71	51	78	42	61	7	.5	-.7	.5	.5	24	58.6	111	97	56	0	0	1	0
LAKE CHARLES	70	52	74	42	61	6	3.1	1.9	2.8	3.1	159	60.7	119	99	59	0	0	2	1
NEW ORLEANS	70	52	76	45	61	6	.5	-.7	.5	.5	25	58.2	104	98	65	0	0	1	1

Based on 1951-80 normals.

Weather Data for the Week Ending December 12, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERA- TURE °F		PRECIPI- TATION		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
SHREVEPORT	66	47	74	37	57	7	2.3	1.4	2.2	2.3	150	49.5	120	98	53	0	0	2	1	
ME CARIBOU	32	25	38	16	28	10	.4	-.4	.2	1.3	103	27.6	80	95	73	0	7	4	0	
PORTLAND	44	27	53	16	35	8	.4	-.7	.3	.5	28	39.3	97	92	54	0	5	2	0	
MD BALTIMORE	54	34	65	25	44	6	.3	-.5	.2	.4	33	38.9	98	88	43	0	4	1	0	
SALISBURY	56	33	68	26	44	4	.4	-.4	.4	.8	54	36.0	84	89	45	0	4	2	0	
MA BOSTON	48	34	58	25	41	6	.9	-.5	.4	.9	54	44.4	109	83	49	0	3	2	1	
CHATHAM	45	36	51	29	40	3	1.0	-.2	.4	1.4	73	48.6	111	88	60	0	3	2	1	
MI ALPENA	41	27	53	13	34	8	.5	.1	.2	.5	67	23.0	83	97	72	0	5	4	0	
DETROIT	44	31	54	23	38	7	.8	.2	.4	1.3	134	35.0	120	93	67	0	5	5	0	
FLINT	43	29	53	16	36	7	.5	0	.2	.9	111	27.9	101	96	69	0	5	5	0	
GRAND RAPIDS	42	31	53	20	37	7	1.1	.5	.3	1.4	127	31.1	97	94	72	0	5	5	0	
HOUGHTON LAKE	38	29	50	16	34	9	.8	.3	.3	.8	104	24.3	91	97	80	0	5	5	0	
LANSING	43	29	53	15	36	7	.9	.3	.3	1.1	110	28.5	101	93	72	0	5	5	0	
MARQUETTE	37	24	39	8	31	5	1.0	.5	.9	1.1	130	34.0	114	97	79	0	7	5	1	
MUSKEGON	42	33	50	20	37	7	1.6	1.0	.5	1.8	173	32.6	110	92	69	0	2	5	0	
SAULT ST. MARIE	36	27	45	6	32	10	1.3	.7	.6	1.6	155	29.5	93	98	81	0	4	5	2	
MN ALEXANDRIA	33	25	37	19	29	12	.4	.2	.3	.5	161	16.8	70	98	84	0	7	4	0	
DULUTH	33	28	35	24	31	14	.1	-.2	.1	.1	21	19.2	67	97	78	0	7	4	0	
INT'L FALLS	34	28	36	23	31	19	.1	-.2	.1	.1	16	19.3	82	95	78	0	7	2	0	
MINNEAPOLIS	38	30	45	25	34	12	.6	.4	.4	.8	208	31.8	124	92	73	0	4	3	0	
ROCHESTER	36	29	44	25	33	12	.7	.5	.5	1.0	258	27.3	98	95	81	0	6	6	1	
MS GREENWOOD	66	44	71	33	55	8	0	-1.2	0	0	0	39.3	90	84	0	0	0	0	0	
JACKSON	68	45	72	34	57	7	0	-1.2	0	0	1	43.8	79	96	52	0	0	1	0	
MERIDIAN	69	45	75	35	57	8	0	-1.2	0	0	1	50.7	102	95	45	0	0	1	0	
MO CAPE GIRARDEAU	56	39	62	32	47	--	.9	0	.8	.9	57	35.5	84	89	42	0	1	2	1	
COLUMBIA	52	38	58	29	45	10	.3	-.2	.2	.3	35	28.4	80	88	50	0	1	3	0	
KANSAS CITY	52	36	57	27	44	8	0	-.3	0	0	0	31.9	91	92	51	0	2	0	0	
SAINT LOUIS	52	40	58	32	46	10	1.0	.5	.8	1.1	114	32.0	99	83	54	0	1	2	1	
SPRINGFIELD	55	39	62	31	47	9	.4	-.2	.3	.4	40	48.6	128	88	47	0	1	4	0	
MT BILLINGS	47	31	61	23	39	10	0	-.2	0	0	0	12.1	84	57	26	0	5	0	0	
GLASGOW	46	26	57	15	36	17	0	-.1	0	0	22	9.3	88	82	40	0	5	1	0	
GREAT FALLS	47	31	61	22	39	11	0	-.2	0	0	29	13.9	96	67	34	0	4	1	0	
HAVRE	48	24	62	18	36	14	0	-.1	0	0	0	7.8	69	82	36	0	5	0	0	
HELENA	46	26	60	20	36	11	.2	0	.1	.4	150	10.0	90	83	42	0	6	2	0	
KALISPELL	42	31	49	23	36	10	.4	.1	.2	.5	90	14.4	98	91	56	0	4	3	0	
MILES CITY	50	27	60	17	38	15	0	-.1	0	0	13	12.1	88	71	33	0	5	1	0	
NE GRAND ISLAND	41	28	49	24	34	8	.6	.4	.3	.8	205	9.9	81	96	58	0	7	1	0	
MISSOULA	46	28	55	22	37	8	.2	.1	.2	.2	82	25.2	111	91	55	0	6	3	0	
NE GRAND ISLAND	48	33	54	25	40	11	.3	.2	.3	.3	118	31.2	118	92	56	0	3	1	0	
LINCOLN	48	33	54	25	40	11	.5	.3	.4	.5	196	28.1	121	93	61	0	4	2	0	
HORFOLK	43	30	51	25	37	11	.3	.3	.4	.5	196	28.1	121	93	61	0	4	2	0	
NORTH PLATTE	49	24	62	18	37	9	.4	.3	.4	.4	211	20.0	105	94	46	0	7	1	0	
OMAHA	45	33	51	27	39	9	.4	.2	.4	.4	125	32.1	108	90	70	0	2	3	0	
SCOTTSBLUFF	51	21	66	13	36	7	0	-.1	0	0	21	22.8	160	85	29	0	7	1	0	
VALENTINE	53	22	66	19	37	11	0	-.1	0	0	9	20.8	124	84	32	0	7	1	0	
NV ELY	45	19	58	9	32	5	.3	.1	.2	.3	104	11.9	141	91	50	0	7	2	0	
LAS VEGAS	58	38	64	34	48	2	0	-.1	0	0	191	5.9	154	76	33	0	0	0	0	
RENO	50	31	63	16	40	7	.2	0	.2	.2	56	7.2	113	79	37	0	5	2	0	
WINNEMUCCA	47	27	63	13	37	5	.2	0	.1	.2	66	8.6	120	87	45	0	5	5	0	
NH CONCORD	44	21	54	7	32	6	.2	-.6	.1	.2	17	35.4	102	93	54	0	7	2	0	
NJ ATLANTIC CITY	54	32	65	22	43	5	.5	-.3	.3	.6	40	39.7	100	93	44	0	3	2	0	
NM ALBUQUERQUE	57	29	67	24	43	7	0	-.1	0	0	11	8.0	106	72	26	0	6	1	0	
CLOVIS	63	33	74	28	48	8	0	-.1	0	0	0	22.8	137	52	20	0	3	0	0	
ROSWELL	70	33	79	26	52	10	0	-.1	0	0	0	14.6	142	54	19	0	3	0	0	
NY ALBANY	42	26	51	14	34	5	.1	-.6	.1	.4	31	38.0	113	91	61	0	6	2	0	
BINGHAMTON	41	29	48	22	35	7	.2	-.5	.1	.5	46	32.8	94	89	59	0	4	3	0	
BUFFALO	46	34	58	23	40	8	.3	-.5	.2	.8	57	40.1	114	87	58	0	2	2	0	
NEW YORK	50	39	58	34	44	6	.4	-.5	.2	.5	35	42.5	105	76	45	0	0	3	0	
ROCHESTER	45	30	54	19	37	6	.2	-.4	.1	.5	49	33.1	111	91	60	0	4	2	0	
SYRACUSE	44	28	54	17	36	5	.3	-.4	.2	.7	54	32.4	88	93	61	0	4	2	0	
NC ASHEVILLE	56	32	62	22	44	3	.4	-.3	.3	.5	39	41.4	99	92	45	0	4	3	0	
CHARLOTTE	59	38	66	25	48	4	.6	-.1	.6	.6	50	36.4	89	83	39	0	1	1	1	
GREENSBORO	56	32	64	21	44	2	1.4	.7	1.4	1.4	116	45.9	114	91	43	0	3	1	1	
HATTERAS	60	41	72	32	51	1	.4	-.6	.4	.5	27	59.3	112	98	60	0	1	2	0	
NEW BERN	64	38	76	28	51	3	1.5	.6	1.5	1.5	107	49.7	98	92	45	0	2	1	1	
RALEIGH	59	34	71	21	46	3	.4	-.3	.4	.4	37	39.7	100	92	43	0	3	1	0	
WILMINGTON	65	41	75	27	53	4	0	-.8	0	0	2	50.0	98	94	45	0	2	1	0	
ND BISMARCK	40	24	55	17	32	14	.1	0	0	-.1	42	17.2	116	93	62	0	7	2	0	
FARGO	35	27	38	24	31	15	.1	0	0	-.4	171	14.7	78	97	81	0	7	3	0	
GRAND FORKS	35	25	41	18	30	16	0	-.1	0	0	2	96	18.4	103	94	76	0	7	2	0
WILLISTON	41	21	54	10	31	13	0	-.1	0	-.2	16	11.6	89	85	52	0	7	1	0	
OH AKRON-CANTON	46	32	58	24	39	7	.2	-.5	.1	.9	89	28.1	83	89	59	0	4	2	0	
CINCINNATI	51	32	60	20	41	6	.2	-.5	.1	.4	34	29.7	78	89	51	0	4	3	0	
CLEVELAND	46	32	58	23	39	6	.3	-.4	.2	1.4	131	36.5	109	90	56	0	4	3	0	
COLUMBUS	48	31	60	19	40	6	.4	-.2	.2	.9	90	24.8	71	91	58	0	4	4	0	

Based on 1951-80 normals.

Weather Data for the Week Ending December 12, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT., NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT., NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE		.50 INCH OR MORE	
																		0	1	2	3
DAYTON	48	32	59	19	40	6	.4	-.2	.3	.9	94	22.9	69	91	58	0	3	4	0	0	
TOLEDO	45	29	54	14	37	6	.6	0	.3	1.3	125	28.3	94	96	69	0	4	4	0	0	
YOUNGSTOWN	45	31	57	20	38	7	.1	-.5	.1	.8	76	36.7	104	92	58	0	4	4	0	0	
OK OKLAHOMA CITY	59	40	62	33	50	8	.8	-.3	T	T	0	40.8	136	83	43	0	0	0	0	0	
TULSA	60	43	65	35	51	10	T	-.4	T	T	0	40.1	107	80	43	0	0	0	0	0	
OR ASTORIA	54	40	60	30	47	3	3.6	1.0	1.2	7.2	162	45.6	73	91	62	0	1	1	7	3	
BURNS	43	27	55	17	35	5	1.8	.5	.5	1.4	232	10.5	102	***	***	0	5	5	6	1	
MEDFORD	51	35	66	28	43	4	1.8	-.1	.6	3.2	243	14.2	81	96	59	0	2	2	6	2	
PENDLETON	52	35	65	27	44	7	.3	-.1	.1	.8	136	7.2	66	80	43	0	1	0	4	0	
FORTLAND	50	40	60	34	45	4	2.3	.8	1.4	7.3	305	29.2	88	91	67	0	0	2	2	2	
SALEM	51	38	59	28	44	3	3.2	1.7	1.5	8.5	323	34.0	95	94	69	0	2	6	2	0	
PA ALLENTOWN	49	29	52	26	39	6	.6	-.8	T	.1	5	45.2	108	91	48	0	7	2	6	0	
ERIE	46	34	58	28	40	7	.3	-.5	.3	1.4	104	42.8	113	82	55	0	1	5	3	0	
HARRISBURG	49	32	55	29	40	5	5	-.7	T	.3	20	37.6	101	91	46	0	0	3	2	0	
PHILADELPHIA	53	35	62	26	44	5	.3	-.5	.1	.3	22	32.1	82	89	45	0	0	3	2	0	
PITTSBURGH	48	31	60	23	39	6	.2	-.4	.1	.6	62	37.5	108	93	53	0	6	4	2	0	
SCRANTON	44	29	49	25	37	5	.5	-.5	T	.2	15	38.7	116	91	54	0	0	6	2	0	
RI PROVIDENCE	48	31	58	19	40	5	.7	-.3	.5	.9	51	39.3	93	89	50	0	4	4	1	1	
SC CHARLESTON	67	45	76	31	56	5	.1	-.6	.1	.1	9	54.6	111	94	47	0	1	2	2	0	
COLUMBIA	64	39	75	24	52	4	.2	-.6	.2	.2	16	52.8	113	93	40	0	2	2	1	1	
FLORENCE	65	40	77	23	53	4	.7	-.1	.7	.7	68	35.6	85	91	43	0	2	2	1	1	
GREENVILLE	58	37	64	26	47	3	.7	-.2	.7	.8	55	40.9	85	88	38	0	2	2	1	1	
SD ABERDEEN	39	28	45	21	34	15	T	-.1	T	T	0	12.2	70	91	70	0	6	6	0	0	
HURON	43	27	53	21	35	13	T	-.1	T	T	0	18.1	100	89	61	0	6	6	0	0	
RAPID CITY	52	26	68	20	39	11	T	-.1	T	T	0	12.1	76	70	30	0	6	6	0	0	
SIOUX FALLS	39	28	48	17	34	11	.2	0	.1	.2	63	17.4	74	93	71	0	5	4	0	0	
TN CHATTANOOGA	60	36	64	25	48	6	0	-.1	.1	.1	8	43.4	88	91	39	0	2	4	0	0	
KNOXVILLE	60	33	64	23	47	4	.1	-.9	.1	.1	8	33.0	75	94	58	0	4	1	0	0	
MEMPHIS	64	46	67	34	55	10	T	-.1	T	T	0	40.9	85	73	40	0	0	0	0	0	
NASHVILLE	61	38	66	28	49	7	.1	-.1	.0	.1	4	24.7	54	83	40	0	2	2	0	0	
TX ABILENE	66	38	73	31	52	5	0	-.2	0	0	0	22.5	99	77	25	0	1	0	0	0	
AMARILLO	60	30	73	24	45	6	0	-.1	0	0	0	20.2	109	62	22	0	4	0	0	0	
AUSTIN	75	51	82	44	63	10	T	-.5	T	T	0	35.4	118	88	35	0	0	0	1	1	
BEAUMONT	70	53	74	42	61	6	2.4	1.2	2.4	2.4	124	61.3	118	98	61	0	0	1	1	0	
BROWNSVILLE	80	59	84	52	70	7	0	-.3	0	0	0	28.3	116	100	55	0	0	0	0	0	
CORPUS CHRISTI	77	55	89	51	66	6	0	-.3	0	0	0	29.8	99	88	47	0	0	0	0	0	
DEL RIO	77	44	89	39	61	7	0	-.1	0	0	4	22.1	131	76	20	0	0	0	0	0	
EL PASO	68	32	76	25	50	4	0	-.1	0	0	0	8.1	111	57	20	0	4	0	0	0	
FORT WORTH	66	44	74	37	55	6	T	-.4	T	T	4	24.8	83	88	46	0	0	1	1	0	
GALVESTON	67	57	72	54	62	4	.6	-.3	.6	.6	40	34.0	89	96	67	0	0	1	1	0	
HOUSTON	72	51	79	42	61	6	.4	-.4	.4	.4	28	36.6	83	95	52	0	3	0	0	0	
LUBBOCK	64	34	75	28	49	7	0	-.1	0	0	0	17.9	104	60	22	0	0	1	0	0	
MIDLAND	72	36	83	28	54	7	0	-.1	0	0	0	13.8	104	64	15	0	3	0	0	0	
SAN ANGELO	72	38	78	29	55	6	0	-.1	0	0	0	29.9	170	83	20	0	1	0	0	0	
SAN ANTONIO	76	48	88	44	62	8	0	-.3	0	T	0	35.7	127	89	32	0	0	0	0	0	
VICTORIA	76	53	85	50	65	7	.1	-.4	.1	.1	8	41.3	116	99	48	0	0	1	0	0	
WACO	69	45	77	39	57	6	T	-.4	T	T	4	31.7	107	94	43	0	0	1	0	0	
WICHITA FALLS	64	37	67	31	51	5	0	-.3	0	0	0	29.9	116	88	36	0	2	0	0	0	
UT BLANDING	45	24	50	16	34	4	0	-.3	0	T	0	19.2	176	92	55	0	7	0	0	0	
CEDAR CITY	48	24	65	16	36	4	T	-.1	T	.1	25	12.4	125	97	50	0	7	1	0	0	
SALT LAKE CITY	47	30	60	19	38	7	.6	.3	.5	.6	113	12.0	84	90	43	0	5	3	0	0	
VT BURLINGTON	40	25	51	9	33	7	.1	-.5	0	.2	20	26.4	82	92	63	0	5	3	0	0	
VA NORFOLK	59	38	73	29	48	3	.4	-.2	.4	.5	42	43.3	101	93	46	0	2	2	0	0	
RICHMOND	56	34	70	24	45	4	1.2	.4	.9	1.4	108	38.9	93	88	49	0	3	2	1	1	
ROANKE	54	36	68	25	45	6	.6	-.1	.6	.6	51	50.1	135	85	43	0	3	1	1	1	
WA OUILAYUTE	49	37	52	24	43	2	5.6	1.7	1.8	9.3	139	78.4	82	98	70	0	0	1	6	4	
SEATTLE-TACOMA	49	40	55	33	44	3	2.2	.8	1.4	5.1	213	29.0	84	95	66	0	0	5	2	2	
SPOKANE	43	31	50	23	37	7	2.5	1.9	1.3	4.1	440	16.8	112	90	65	0	5	4	4	2	
YAKIMA	49	33	53	23	41	8	1.8	1.5	1.4	2.9	635	7.9	113	88	56	0	5	3	1	1	
WV BECKLEY	51	33	62	14	42	7	.1	-.6	.1	.4	33	34.7	86	85	48	0	3	1	0	0	
CHARLESTON	55	36	66	21	46	6	T	-.7	T	.5	37	33.5	83	85	41	0	3	2	0	0	
HUNTINGTON	54	35	68	20	45	6	.1	-.6	.1	.4	33	29.1	75	85	42	0	2	2	0	0	
PARKERSBURG	52	31	65	18	42	5	.2	-.4	.1	.7	64	23.6	66	90	48	0	4	3	0	0	
WI GREEN BAY	41	30	47	19	36	12	.5	-.2	.3	.7	151	32.4	111	91	70	0	3	4	0	0	
LACROSSE	39	32	48	28	36	11	.5	-.2	.2	.7	208	30.7	103	94	77	0	4	5	0	0	
MADISON	41	31	48	20	36	11	1.0	.7	.3	1.3	208	25.1	120	98	78	0	2	5	1	0	
MILWAUKEE	43	35	53	32	39	12	1.4	.9	.7	1.8	219	35.5	120	98	79	0	5	4	0	0	
WAUSAU	36	29	43	19	33	12	.7	.4	.3	.7	124	25.1	81	97	79	0	5	3	0	0	
WY CASPER	42	24	55	11	33	6	.2	-.1	.1	.2	89	12.7	116	87	39	0	7	0	0	0	
CHEYENNE	43	24	54	8	34	3	T	-.1	T	T	0	14.4	110	76	27	0	7	0	0	0	
LANDER	39	19	52	11	29	5	T	-.1	T	T	0	14.4	114	79	36	0	7	0	0	0	
SHERIDAN	47	26	61	21	36	10	T	-.2	T	T	0	14.1	97	81	35	0	7	0	0	0	
PR SAN JUAN	86	75	91	71	80	2	1.7	.6	1.3	3.2	167	57.0	110	91	74	1	0	3	1	1	

Based on 1951-80 normals.

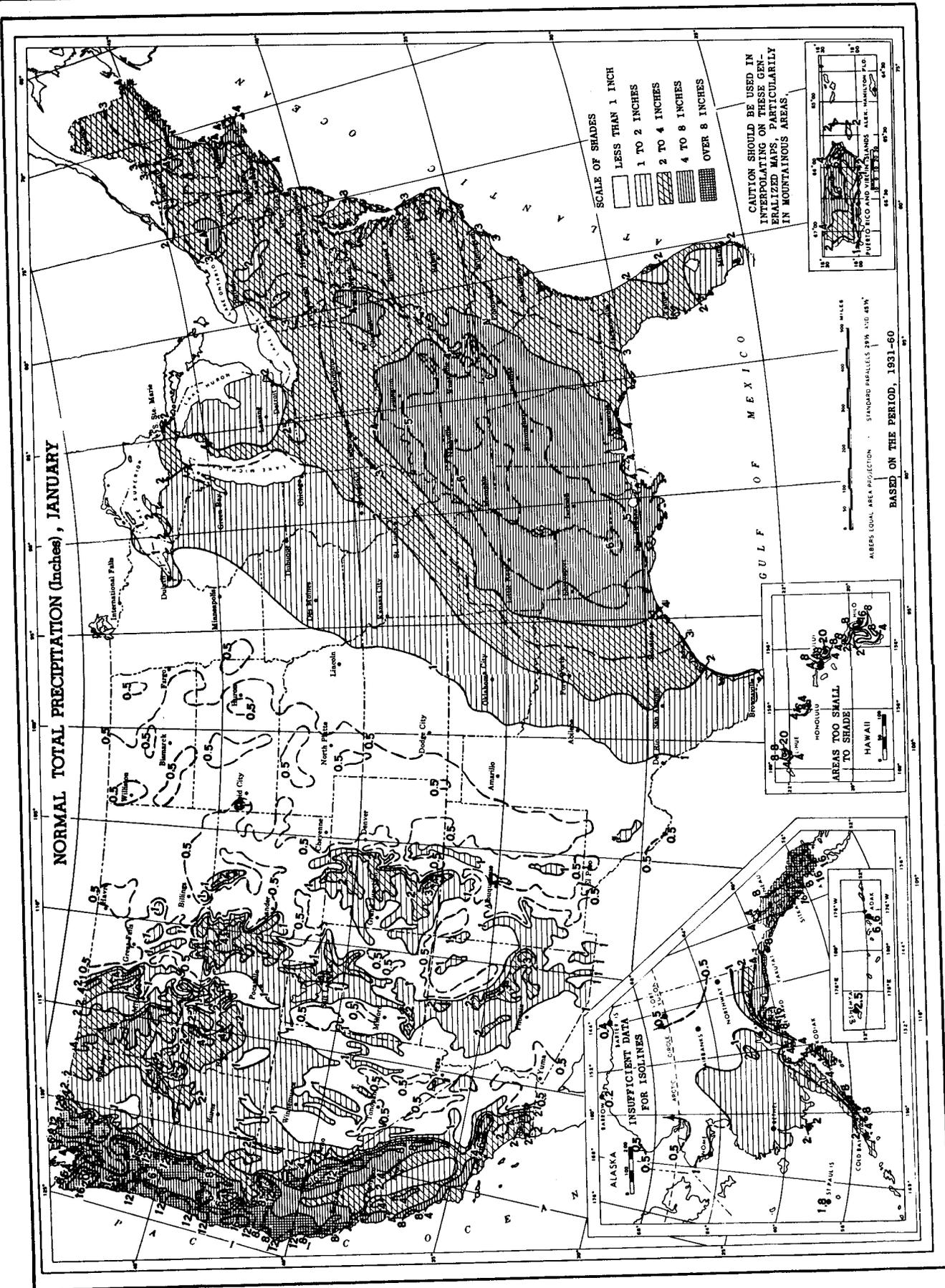
Heating Degree Days Summary

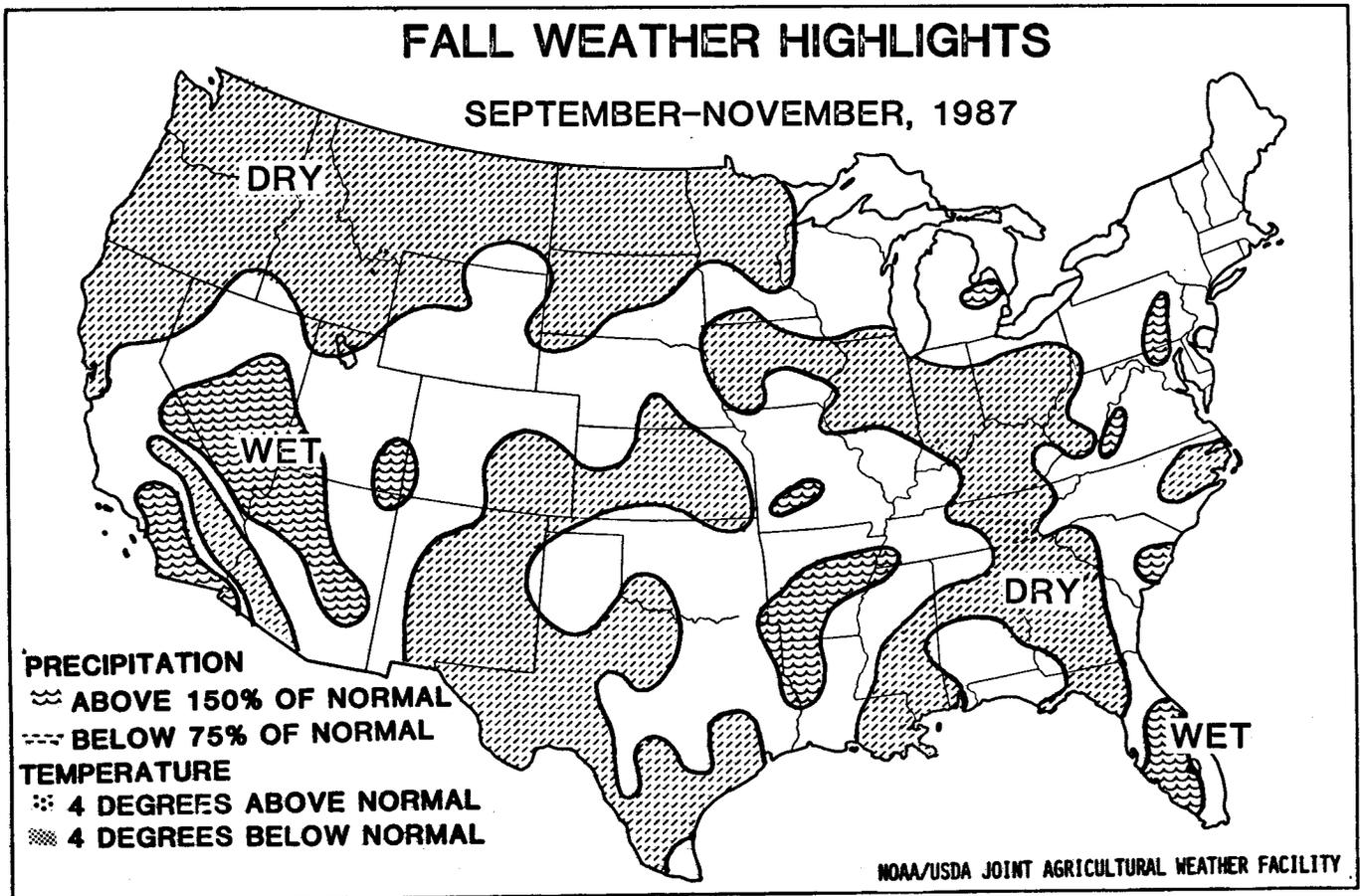
CLIMATE ANALYSIS CENTER-NC-NWS-NOAA  
ASSESSMENT AND INFORMATION SERVICES CENTER-NESDIS-NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 12-12-1987  
ACCUMULATIONS ARE FROM JULY 1  
\*\* = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK DEV, WEEK DEV, CUM TOTAL, CUM DEV, CUM DEV, CUM DEV, CUM DEV. Lists cities from AL BIRMINGHAM to MT HELENA with corresponding heating degree day data.

Table with columns: STATE CITY, CALL WEEK, WEEK DEV, WEEK DEV, CUM TOTAL, CUM DEV, CUM DEV, CUM DEV, CUM DEV. Lists cities from MT KALISPELL to WY SHERIDAN with corresponding heating degree day data.





## Fall Weather Review

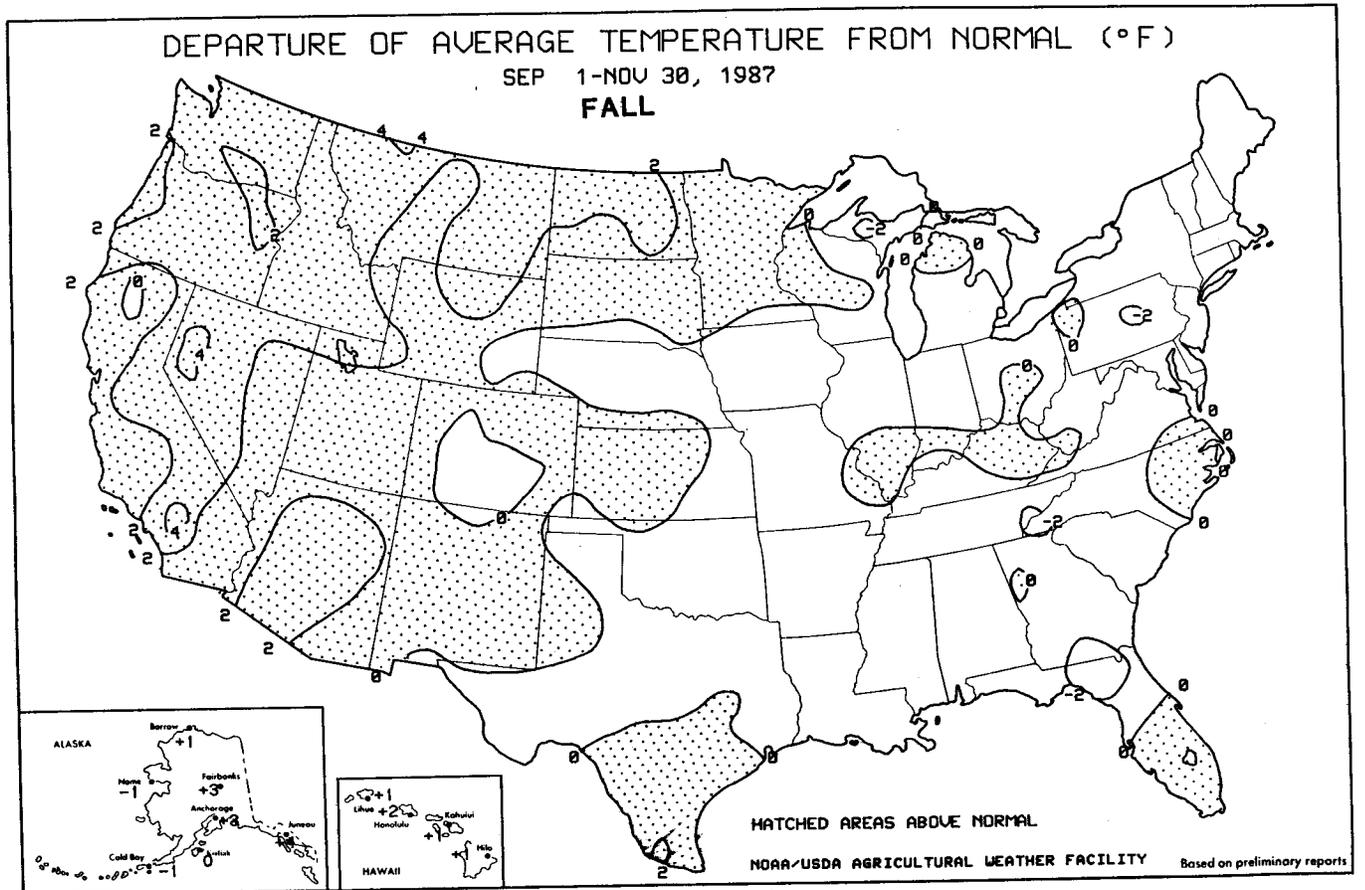
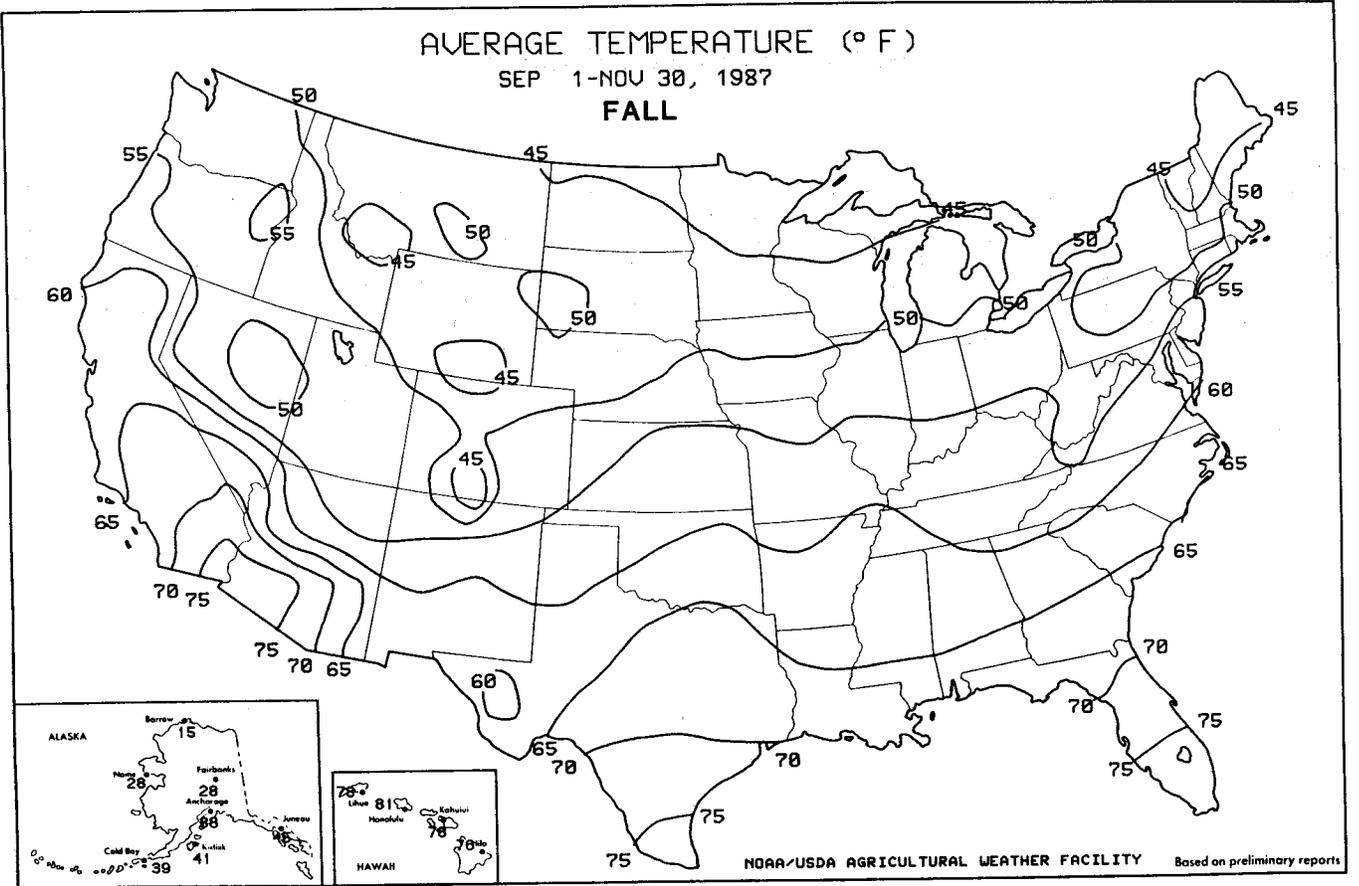
**HIGHLIGHTS:** From the Rockies westward, warm, dry weather prevailed during September. About half the area east of the Rockies had above-normal September precipitation, the east coast being especially wet. In October, widespread thunderstorms brought unusual wetness to much of the desert Southwest, while the Pacific Northwest remained very dry. October was mostly cool and dry in the East. In November, seasonal rains started moving into the Pacific Northwest, and above-normal precipitation returned to the Plateau region of the West, the Mississippi Valley, and the Southeast, while temperatures were near normal or above normal over most of the Nation.

**SEPTEMBER...**A heat wave in the West contributed to the spread of forest fires in California, Oregon, and Nevada. Temperatures were above normal in the West, the northern Great Plains, the Ohio Valley, along the Atlantic seaboard, and along most of the gulf coast. Above-normal rainfall for the month occurred in most regions from the Great Lakes eastward to New England and southward to Florida. Other areas of above-normal precipitation were in Texas, Oklahoma, and Arkansas. Late in the month, southern California and southern Arizona experienced above-normal thunderstorm activity.

**OCTOBER...**In the western third of the Nation, temperatures were above normal, with averages more than 6 degrees above normal at many locations. In the eastern two-thirds of the Nation, temperatures were below normal, with many stations reporting the coolest October on record. Above-normal thunderstorm and shower activities resulted in wet conditions over much of the Southwest. The Pacific Northwest was very dry. In the eastern two-thirds of the Nation, precipitation was mostly below normal, except in Florida, parts of the Midwest, the Mississippi Delta, the Great Lakes, and parts of the Northeast.

**NOVEMBER...**Recurrent rains benefited drought-stricken areas of the Southeast and the Pacific Northwest. A Veterans Day snowstorm battered the Middle Atlantic States and the Northeast. Severe weather occurred in the Southwest during the first week, then in the Southeast the last 2 weeks. Thanksgiving Day storms produced heavy snow in the central and southern Rockies and in northern New England as well as rain showers through much of the East. Wetness in the East persisted to the end of the month.





## National Agricultural Summary

December 7 to 13, 1987

**HIGHLIGHTS:** Cotton harvest surged toward completion in Oklahoma, Texas, and New Mexico. Freezing temperatures plunged into Texas and the Southwest late last week, but the extent of crop damage was unknown. Winter wheat lacked proper snow cover as temperatures began falling in northern and central Great Plains. Soil moisture was becoming increasingly short in most of the Southeast. Farmers were able to work 4-6 days in the Southeast and Delta.

Cotton was 95 percent (%) harvested, compared with 78% finished in 1986 and 86% finished normally. Harvest was virtually finished in California, Arizona, and Georgia. California growers began preparing for seeding the 1988 crop. Soybean harvest neared completion in the Southeast. Dryness slowed winter wheat seeding in some southeast States. Seeding was near completion in most States. Dryness and disease continued hampering small grains in the central and northern Great Plains. Freezing temperatures stressed livestock in some areas.

**SMALL GRAINS:** Small grains were mostly good to fair except in the Delta and Southeast, where condition was mostly fair. Winter wheat seeding approached completion in Georgia, Alabama, and Mississippi. Georgia's seeding jumped 10 percentage points ahead of the previous week to 90% completion. Dry soils slowed planting, emergence, and development in Georgia. In South Carolina, seeding was 87% finished, 4 points ahead of the 5-year average and 9 points above the previous week. Small grain seeding progressed well in southern California. Rain curtailed seeding in the northern half. Intermittent rain provided moisture for good germination. Dryland, small grains suffered from the lack of moisture in Texas. Rust and greenbugs spread in dry areas. Some producers applied herbicides to prevent yellowing from dryness. Planting was virtually finished. In Oklahoma, warm temperatures boosted wheat growth most of the week. Snow halted growth and greenbug activity late in the week. Rain and above-normal temperatures improved Indiana's wheat. Wheat streak mosaic disease remained a problem in all areas except east-central and southeast Kansas. Wheat needed more moisture for root development in the western part of the State. In Montana, wind damage was light to moderate. North Dakota wheat lacked proper snow cover. Precipitation helped winter wheat, but many areas were still dry in South Dakota.

**SOYBEANS:** Soybean harvest reached 98% completion in Georgia, 15 points above normal. Harvest climbed 6 points ahead of the previous week to 95% completion in South Carolina. Harvest was running 18 points ahead of the 75% average in North Carolina. Texas soybean harvest was virtually finished.

**COTTON:** In the 14 major producing States, cotton harvest was 95% finished, 9 points ahead of the 86% average. Harvest advanced 10 points ahead of

the previous week. Oklahoma's harvest surged 30 points ahead of the previous week to 85% completion. Harvest ended the week 25 points ahead of normal. Snow halted harvest at the end of the week. Cotton harvest progressed rapidly in Texas. Gins operated 24 hours but stockpiles increased. Harvest reached 90% completion, up 19 points from the previous week and 17 points above normal. New Mexico's harvest gained 20 points but was still 4 points behind normal. Cotton harvest was virtually finished in Arizona, California, and Georgia. In California, some producers began preparation for seeding the 1988 cotton crop.

**OTHER CROPS:** Peanut harvest advanced in many areas of Texas. Harvest began declining at Cross-Timbers and central areas. Ninety-six percent of the acreage was harvested, just slightly ahead of average.

Burley tobacco marketing continued. Markets are expected to close December 17 for the holiday season.

**FRUIT AND NUTS:** Florida's citrus trees were excellent with very little new growth. Little or no rain caused some irrigating. Early oranges colored well and grapefruit harvest increased. Tangelo harvest was very active. Caretakers prepared groves for winter. Texas citrus harvest increased as demand rose. Navel orange and grapefruit harvests were active in Arizona. California fruit growers were concerned about low, weekend temperatures, but no damage was reported. Wind damaged avocado trees in Riverside County. Orchard and vineyard pruning as well as herbicide and fertilizer applications continued. Large, good quality, and good color dominated the navel orange harvest. Grapefruit, lemon, and tangerine volumes were good in the desert. Persimmon and kiwifruit harvests neared completion.

**VEGETABLES:** Land preparation was active in Florida's vegetable producing areas. Tomato, pepper, sweet corn, snap bean, celery, specialty lettuce, cabbage, eggplant, escarole, radishes, and carrot volumes were good. Celery, lettuce, and cabbage harvests continued in Rio Grande Valley. Land was prepared for seeding melons. Vegetables progressed well in the San Antonio-Winter Garden area. Spring lettuce was planted in central Arizona. Lettuce, broccoli, and cauliflower movements were heavy. Fall lettuce harvest was finished. Cooler weather improved lettuce quality at Palo Verde, California. Wind damaged lettuce late in the week. Head lettuce planting was finished on the Westside. Cauliflower movement was fairly light, declining seasonally in Salinas and Santa Maria. Strawberries bloomed in Orange and Los Angeles Counties, but wind may have caused some damage. Broccoli and celery volumes were light.

**PASTURES AND LIVESTOCK:** Pastures were mostly fair to good in the Southeast and Delta. Livestock was mostly good. Supplemental feeding was necessary in most areas.

## State Summaries of Weather and Agriculture

**ALABAMA:** Rainfall totals averaged under 0.33 in.; 3.00 in. near coast. Temperatures averaged 10° above normal.

Days suitable for fieldwork 6.4. Soil moisture 85% short, 15% adequate. Row crop harvest completed most areas. Wheat 96% seeded, 84% 1986, 92% avg. Pastures poor to fair; livestock fair to good. Primary activities: Planting small grains, winter annuals; applying fertilizer, lime; pruning fruit trees; storing hay; harvesting pecans, catfish; soil testing; routine care of livestock, poultry.

**ARIZONA:** Skies mostly sunny 6th. Mild cold front crossed State 7th; partly cloudy skies north, south sunny. Sunshine, light winds, seasonal temperatures 8th. High pressure system 9th caused warming higher elevations. Further warming, abundant sunshine 10th, afternoon readings 4 to 10° higher than 9th. Readings reached low 60s high country, upper 70s southwestern deserts. Winter storm continued to develop southwestern United States 12th; cold, windy, partly cloudy conditions spread over north, west sections of State. Wind gusts 20 to 30 mph, temperatures 5 to 20° lower than previous day. Precipitation north, east 13th. Snow level 3,500 ft., 1 to 3 in. Mogollon Rim, White Mountains 13th. Precipitation traces to 0.02 in. Temperatures 2° below normal to 5° above.

Lettuce deal active; leaf, romaine shipments heavy. Broccoli, cauliflower movement heavy. Bok choy, cabbage harvest progressed west. Fall lettuce harvest complete, spring lettuce planted central. Grapefruit harvest active; lemon, navel orange, tangerines harvests limited west. Navel orange harvest active central valley. Minneola harvest west. Pecan harvest statewide. Cotton harvest, residue disposal practically complete west. Plow down active, above average yields central. Alfalfa harvest good statewide, sheeping off west. Early stands small grains good.

**ARKANSAS:** Warm weather continued through week. Temperature extremes 25°; 73°. Rainfall light to moderate early week. Rainfall total none to 3.08 in.

Soil moisture adequate, some portions surplus. Farming activities included: Working cattle; repairing combines; harvesting pecans. Winter wheat good. Livestock good. Pastures short, limited supplemental feeding continued.

**CALIFORNIA:** Several active Pacific storms, moved over northern areas. Sacramento Valley averaged 3.50 in. of rain, north coast received 4.10 in. San Joaquin Valley received 0.70 in. Temperatures well above normal, San Joaquin Valley 5° above normal.

Rain curtailed field activity northern half. Seeding small grain good progress southern half, soil conditions good for cultivations, seeding. Warm weather, intermittent rains resulted good germination small grains. Only very few cotton acres remain to be harvested. Most fields shredded, disced. Many fields prepared for 1988 cotton seeding. Sugarbeet harvest good progress. Some alfalfa green-chopped southern areas. Orchard, vineyard pruning and herbicide, fertilizer applications continued. Apple harvest completed Sonoma County. Desert grapefruit, lemons, tangerines packed, good volume. Few pecans harvested. Persimmon, kiwifruit harvests neared completion. Hass avocado harvest full swing, last fall variety picked. Some wind damage avocado trees Riverside County. Large sizes predominate navel oranges; good quality, color. Concern about low weekend temperatures, no damage. Broccoli supplies light variable quality Salinas, Santa Maria. Harvest continued Westside, Riverside,

Cutler-Orosi, Merced-Atwater. Carrots harvested Salinas, Riverside, moderate quality. Cauliflower movement fairly light seasonally declined Salinas, Santa Maria, variable quality. Harvest continued Riverside, Orange-Los Angeles, Cutler-Orosi. Celery movement light decreased Salinas, Santa Maria, variable quality. Harvest underway Orange-Los Angeles. Lettuce harvest active Palo Verde, quality improved with cooler weather. However, wind damage to lettuce occurred late week. Westside, planting spring head lettuce completed, red, yellow onions planted, processing tomato growers continued to fumigate land. Strawberries began to bloom Orange-Los Angeles, but some wind damage possible. Rains beneficial San Mateo-Santa Cruz areas, while slowing harvest Salinas. Livestock good statewide. Movement to market light, northern districts. Supplemental feeding heavy Shasta, Calaveras. Little supplemental feeding required Tulare due to improved rangeland. Westside feedlots near capacity. Range, pasture showed significant improvement due to rains. Water levels improved, most areas. Calving, lambing active.

**COLORADO:** Weather dry early week, snow during weekend. Precipitation 0.10 to 0.30 in. snow eastern plains. Average temperatures 2 to 4° above normal.

Major activities livestock maintenance, machinery repair.

**FLORIDA:** Ideal weather; sunshine, light winds 7th to 13th. Heavy down pour extreme south Miami and vicinity evening, 13th, exceeded 4.00 in. in few hours.

Soil moisture lower half Peninsula adequate; elsewhere, short to adequate. Cotton farmers finishing 2nd pick remaining fields. Sugarcane harvest good progress; cane planting continued. Pastures declined to mostly fair Panhandle, upper Peninsula. More rain needed to stimulate late planted winter grazing crops. Pastures mostly good lower Peninsula. Grazing continued to be curtailed, some low lying, west central, southwestern Peninsula areas drying out from earlier rains. Cattle fair to good. Citrus trees excellent. Little or no rain, some irrigating. Very little new growth. Early oranges well colored. Grapefruit harvest increased. Dancy tangerines moved for Christmas trade. Tangelo harvest very active. Caretakers prepared groves for winter. Warm, dry vegetable producing areas. Fieldwork active. Good volume tomatoes, peppers, sweet corn, snap beans, celery, specialty lettuce, cabbage, eggplant, escarole, endive, radishes, regular carrots. Lesser volume cucumbers, mini carrots, squash, cherry tomatoes, iceberg lettuce, strawberries.

**GEORGIA:** Warm week. Temperatures 7 to 10° above normal. Extreme lows freezing in mountains to 40s central, south. Extreme highs low 60s in mountains to mid 70s central, near 80s south. Rain on 1 or 2 days. Amounts mostly under 0.33 in. except 1.00 in. extreme northeast mountains.

Days suitable for fieldwork 5.9. Soil moisture 12% very short, 68% short, 20% adequate. Cotton harvest virtually complete. Sorghum grain 99% harvested, 95% 1986. Soybeans 98% harvested, 79% 1986, 83% avg. Wheat 7% poor, 71% fair, 22% good; 90% planted, 80% 1986, 82% avg.; 67% emerged, 69% 1986. Wheat planting slowed some by dry soils; development, emergence also slowed. Other small grains mostly fair to good. Pecans 10% very poor, 15% poor, 58% fair, 17% good; 83% harvested, 78% 1986, 84% avg. Cattle fair to good. Hogs fair to mostly good. Fall grazing being utilized some areas, short others. Supplemental feeding of cattle still necessary some areas.

**HAWAII:** Heavy weekend rains, thundershowers, gusty winds unfavorable conditions. Flooding low-lying areas. Damage from inclement weather unknown, but expected light to moderate. Winds southerly, 10 to 35 mph gusts up to 70 mph. Temperatures mid 60s to mid 80s. Rainfall 0.10 to 18.90 in.

Days suitable for fieldwork 7.0. Banana, papaya production steady. Chinese, head cabbage will tolerate weather, supplies steady. Tomato production higher, fruit cracking expected. Some macadamia nuts on ground washed away. Peak season some macadamia areas.

**IDAHO:** Temperatures 5 to 10° above normal. Precipitation above normal.

Fieldwork slow. Isolated plowing, deep ripping. Other activities included marketing products, repairs, maintenance on machinery. Livestock remained good. Calving, lambing took place. Farmers feeding hay to supplement pastures.

**ILLINOIS:** Temperatures average 6 to 12° above normal. Precipitation totals 0.50 to 1.00 in. northeast, east to 0.33 or less elsewhere.

Winter wheat mostly good.

**INDIANA:** Temperatures 4 to 14° above normal. Lows upper teens to upper 20s, highs mid 50s to upper 60s. Precipitation widespread 0.50 to 1.00 in. north, west central; 0.10 to 0.25 east central, south.

Wet soils limited field activities most areas. Other activities: Plowing, hauling manure, moving grain, building repair, stripping tobacco and care of livestock. Hay supplies adequate. Wheat improved from recent showers, above normal temperatures. Livestock mostly good.

**IOWA:** Unseasonable week, moderate precipitation. Temperatures averaged 11° above normal, highs to 53° 8th Ottumwa. Precipitation early week averaged 0.50 in. north central.

Livestock mostly good; some respiratory problems. Cattle feedlots muddy. Movement of grain from elevators heavy.

**KANSAS:** Above normal temperatures continued. Average temperatures 38° northwest, 45° southeast, 5 to 10° warmer than normal. Northeast district 44°, 11° above normal, precipitation light. Most districts averaged trace, northwest quadrant averaged 0.23 in., north central averaged not quite 0.10 in.

Limited harvest few remaining sorghum fields, only crop with acreage left to harvest. Moisture levels in grain continued too high cut southwest, south central districts where small acreage left to cut. Wheat streak mosaic remained problem all districts except east central, southeast. Western areas need more moisture root development.

**KENTUCKY:** Temperatures averaged 10 to 15° above normal. Cold front on weekend, temperatures dropped to more normal. Most areas light rain with several fronts, greatest rain 9th 0.25 to 0.50 in. over east.

Precipitation last several weeks relieved extremely dry topsoil conditions, but most areas well below normal precipitation. Condition fall seeded wheat poor to good. Burley sales little stronger than 1986, markets will close for Holiday Season after sale 17th. Pastures limited. Livestock generally satisfactory.

**LOUISIANA:** Temperature 5 to 8° above normal. Temperature extremes 33°, 79°. Rainfall averaged 0.07 to 2.22 in.

Days suitable for fieldwork 4.5. Soil moisture 2% very short, 16% short, 65% adequate, 17% surplus. Winter wheat fair to good; 98% planted, 90% avg. Sugarcane good; 94% harvested, 87% avg.

Pecans 96% harvested, 83% avg. Livestock, pastures fair to good. Vegetables fair. Main activities: Harvesting sugarcane, pecans; planting winter wheat; topdressing pastures.

**MARYLAND & DELAWARE Maryland:** Average temperature 42°, normal 38°. Precipitation averaged 0.55 in.

Main farm activities fall machinery work, caring for livestock.

**Delaware:** Average temperature 43°, normal 39°. Precipitation averaged 0.65 in.

Main farm activities fall machinery work, caring for livestock.

**MICHIGAN:** Temperatures 7 to 12° above normal. Temperature extremes 13°; 54°. Precipitation 0.50 to 1.55 in. across State. Widespread rains, warm temperatures caused most of snow cover to melt.

Some remaining corn acreage harvested early week. Wet, muddy fields kept tillage operations to a minimum. Activities: Machinery and building maintenance, spreading manure, marketing crops, wood chopping. Livestock good; weather favorable for calving; marketing, feed supplies plentiful.

**MINNESOTA:** Temperatures averaged 10 to 16° above normal. Extremes 11°; 48°. Precipitation averaged 0.23 to 0.46 in. above normal south central, southeast; 0.16 in. below normal northeast, near normal elsewhere. Precipitation totals averaged 0.08 to 0.69 in. Greatest weekly total 0.86 in. Snowfall averaged 1 to 2 in. northern third, trace or less elsewhere. Snow depth weeks end averaged 1 to 2 in. northern third, trace or less elsewhere.

Mild winter conditions helped livestock remain good to excellent.

**MISSISSIPPI:** Temperatures 3 to 11° above normal; extremes 22°; 75°. Mild daytime, cool nighttime temperatures resulted in pleasant weather. Greatest 24-hour total rainfall 1.91 in.; greatest weekly total 1.95 in.

Days suitable for fieldwork 5.3, 0.4 1986, 1.8 avg. Soil moisture short to adequate. Cotton 100% harvested, 100% 1986, 96% avg. Wheat 96% planted, 86% 1986, 86% avg. Pecans 70% harvested, 87% 1986, 84% avg. Hay, roughage supply mostly adequate. Feed grain supply adequate. Livestock fair to good. Wheat fair. Pastures fair.

**MISSOURI:** Temperatures averaged 1° above normal except Bootheel 3° below normal. Rainfall less than 0.10 in. northern half, virtually none south.

Farmers fertilizing, caring for livestock, making preparation for winter.

**MONTANA:** Mild first of week, cooler end of week. Temperatures 10 to 17° above normal north central, northeast; 5 to 12° above normal elsewhere. Dry over plains, light precipitation southwest; moderate to heavy amounts up to 2.00 in. west.

Topsoil moisture 75% short, 25% adequate. Subsoil moisture 70% short, 30% adequate. Winter wheat 15% poor, 65% fair, 20% good. Wind damage to winter wheat fields 5% none, 65% light, 30% moderate. Cattle, calves received supplemental feed 45%. Sheep, lambs received supplemental feed nearly 50%. Winter range, pastures 2% poor, 44% fair, 51% good, 3% excellent.

**NEBRASKA:** Week mild, mostly dry. Precipitation trace to 0.20 in. Average temperatures 3 to 12° above normal. Extremes 9°; 67°.

Farm activity centered around chores, bookkeeping, livestock management.

**NEVADA:** Cold arctic air dropped temperatures well below normal, produced gusty winds all areas. Warming trend midweek short lived as blustery north

winds remainder plunged temperatures further downward. Most north below freezing with isolated snow showers. Southern areas also felt cooling trend.

Cold weather increased livestock feeding requirements. Chopping ice common. Movement potatoes to market slowed by freezing temperatures.

**NEW ENGLAND:** Average precipitation (rain or equivalent of snow) less than 0.25 in. over Vermont to between 0.50 to 0.75 in. over coastal Massachusetts, Rhode Island. Amounts between 0.25 to 0.50 in. elsewhere. Average temperatures above normal ranged from around 30° near Canadian border to around 40° along south coast.

Major farm activities: Tending livestock and poultry, preparing for winter.

**NEW JERSEY:** Temperatures averaged above normal, averaged 39° north, 42° south, 44° coastal. Extremes 20°; 65°. Precipitation below normal, averaged 0.10 in. north, 0.46 in. south, 0.66 in. coastal. Heaviest 24-hour total 0.73 in. on 10th, 11th.

Farmers deer hunting, caring for livestock, marketing crops from storages, cutting, selling Christmas trees, making preparations for winter.

**NEW MEXICO:** Winter snow storm began late 12th; heavy accumulations many areas. Temperatures 5° Carrizozo to 81° Carlsbad.

Days suitable for fieldwork 7.0. Soil moisture 67% short, 33% adequate. Cotton 60% good, 40% excellent; 85% harvested statewide. Harvest conditions excellent. Barley 67% fair, 33% good. Wheat 66% fair, 34% good; moisture still needed statewide. Irrigated grain sorghum 50% fair, 50% good. Dryland sorghum 100% good. Harvest virtually complete statewide. Pecans 25% poor, 50% fair, 25% good; harvest continued. Red chile harvest continued; crop fair to good. Cattle 40% fair, 60% good. Sheep 20% fair, 80% good. Range 80% fair, 20% good.

**NEW YORK:** Temperatures averaged in 30s; 5 to 15° above normal. Precipitation generally below normal. Flurries early week, rain midweek, snow again late week.

Normal winter chores continued.

**NORTH CAROLINA:** Temperatures averaged 2 to 6° above normal across State. Temperature extremes 18°; 76°. Precipitation 0.01 to 1.42 in. across State.

Days suitable for fieldwork 4.7. Soil moisture 2% very short, 21% short, 66% adequate, 11% surplus. Soybeans 94% harvested, 61% 1986, 75% avg. Wheat 95% planted, 91% 1986, 89% avg.; 84% emerged, 84% 1986. Oats 98% planted, 96% 1986, 97% avg. Barley 100% planted, 96% 1986, 96% avg. Rye 96% planted, 94% 1986, 93% avg. Small grains fair to mostly good. Pastures fair to mostly good. Hay, roughage supplies, feed grains supplies mostly adequate. Major farm activities: Harvesting soybeans; seeding small grains; tending livestock; fall plowing; preparing tobacco plantbeds; marketing peanuts, soybeans, cotton; general farm maintenance.

**NORTH DAKOTA:** Warm, below normal precipitation. Temperatures averaged 10° above normal southwest, 14° above normal northwest. Extremes 4° west central 9th; 58° south central 10th. Precipitation heaviest northeast, 0.24 in.; none to 0.04 in. west central, northwest.

Soil moisture below normal. Snow cover remained inadequate. Winter grains fair, warm fall weather caused greenbug infestations some areas. Livestock good. Feed supplies adequate, many pastures remained open. Main activities: Marketing grain, caring for livestock, income tax preparation.

**OHIO:** Average temperatures 5 to 10° above normal. Lows averaged in 30s, highs averaged mid 40s to mid 50s. Mostly cloudy but subnormal precipitation 0.33 to 0.75 in. Soil temperatures above freezing.

Winter wheat got some additional soil moisture. Livestock not stressed.

**OKLAHOMA:** Temperatures averaged 2° above normal north central to 5° above normal east central. Precipitation averaged 0.10 in. Panhandle to 0.72 in. south central.

Warm temperatures most of week boosted wheat growth. Snow 13th halted wheat growth, greenbug activity. Cotton 85% harvested, 25% 1986, 60% avg. Harvest accelerated with good weather, stopped by recent snow. Livestock cold stress severe.

**OREGON:** Temperatures near normal central, south coast; 4° above normal north coast; 6° above normal interior areas. Heavy precipitation over State, mostly before 11th. Western interior received 3.00 to 5.00 in.; coast range received up to 10.00 in.; east of Cascades 0.50 to 1.00 in. most locations.

Soil moisture adequate to surplus west, short to adequate east. Winter wheat fields good west; improved but variable east, with spotty emergence. Tree fruit, caneberry pruning continued. Livestock good to excellent; range, pasture poor to fair.

**PENNSYLVANIA:** Fairly mild, dry week. Average temperature 38°, 6° above normal. Temperature extremes 14°; 62°. Average precipitation 0.13 in., 0.59 in. below normal.

Activities: Hauling manure, spreading lime, fertilizer; machinery maintenance; caring for livestock; grading potatoes.

**PUERTO RICO:** Island average rainfall 3.91 in., 2.85 in. above normal. Highest weekly total rainfall 15.42 in. Juncos, 13.52 in. Pico Del Este-Luquillo, 13.34 in. Canovanas. Highest 24-hour total 14.40 in. Juncos. San Juan mean temperature 80°, 2° above normal. Total rainfall 3.02 in., 1.93 in. above normal. Divisional temperature averaged about 79 to 80° on coasts, 75 to 78° interior. Mean station temperature ranged 68° Pico Del Este-Luquillo to 82° Fajardo. Lowest minimum temperature 64° Arecibo Observatory. Highest maximum temperature 92° Lajas.

**SOUTH CAROLINA:** Rainfall statewide 0.10 to 0.80 in., temperatures 4 to 6° above normal.

Days suitable for fieldwork 5.0. Soil moisture 3% very short, 30% short, 67% adequate. Cotton 100% harvested, 92% 1986, 94% avg. Soybeans 95% harvested, 74% 1986, 70% avg.; 2% very poor, 6% poor, 66% fair, 26% good. Wheat 87% planted, 73% 1986, 71% avg.

**SOUTH DAKOTA:** Average temperatures 10 to 16° above normal. Extremes 9°; 68°. Black Hills low 6°. Scattered precipitation throughout State, most snow cover melted.

Precipitation helped winter wheat but many areas still dry. Need more rain or melting snow cover.

**TENNESSEE:** Cold, dry week. Precipitation less than 0.20 in. Temperatures 5 to 10° below normal.

Major activities: Marketing tobacco, livestock chores, general maintenance.

**TEXAS:** Series cool fronts moved across State, rain amounts generally light. Storm southwest United States brought heavy snow, strong winds Panhandle westward to El Paso area. Showers, thunderstorms central, east. Temperatures above normal. Week dry, southern areas received little rain. Northern, western areas received scattered showers.

**Crops:** Grain sorghum harvest virtually complete Plains. Good yields throughout season.

Sorghum 99% harvested, 97% 1986, 99% avg. Cotton good harvesting weather Plains, Trans-Pecos; progress rapid. Gins continued 24-hours a day, stock piles increased. Many producers winding down activities. Cotton 98% open bolls, 96% 1986, 99% avg.; 90% harvested, 58% 1986, 73% avg. Dryland small grains many areas suffered from lack of moisture. Exceptions portions Blacklands, east where scattered rain, warm temperatures. Rust, greenbug problems increased dry areas. Irrigated fields good shape, providing adequate forage. Plantings virtually completed. Some producers applied herbicides to prevent yellowing from dry conditions. Wheat 100% planted, 100% 1986, 99% avg.; 98% emerged, 98% 1986, 95% avg. Soybean harvest virtually complete Upper Coast, average late crop. Early yields lower. Peanut harvest advanced many areas, winding down central. Harvest decreased Cross-Timbers. Sugarbeet harvest virtually complete High Plains. Sugar content high. Sugarcane harvest Rio Grande Valley progressed well. Other crops planted: Oats 99%, 95% 1986, 96% avg. Other crops harvested: Peanuts 96%, 97% 1986, 94% avg. Pecans 80%, 87% 1986, 78% avg. Soybeans 100%, 78% 1986, 94% avg. Sugarbeets 100%, 73% 1986, 91% avg. Sunflowers 100%, 95% 1986, 97% avg.

Commercial Vegetables: Rio Grande Valley harvest continued cabbage, celery, lettuce. Onions good progress. Land preparations melons underway. Harvest citrus continued to increase, demand good. San Antonio-Winter Garden harvest operations continued. Quality spinach very good. Other vegetables good progress. Harvest native pecans slow because low prices. Harvest improved varieties continued many areas. Most nuts smaller, quality good.

Range and Pasture: Range, pasture condition continued decline. Growth grasses, small grains slow, forage reduced. Livestock good, more supplemental feeding necessary. Eastern areas better condition because recent rain, warmer temperatures.

UTAH: Precipitation light to moderate. Temperatures 4 to 10° above normal.

Snow cover light. Livestock good to excellent. Feed supply adequate. Major farm activities: Attending farm meetings, livestock chores, care of stored grain, equipment maintenance, summarizing tax records.

VIRGINIA: Average temperatures, precipitation light to moderate. Temperatures cool early, rapidly warming late period. Range 19 to 73%. Precipitation 0.10 to 2.18 in. Average under 1.00 in.

Days suitable for fieldwork 3.6. Topsoil moisture 3% short, 65% adequate, 32% surplus. Soybeans 96% harvested, 77% 1986, 85% avg. Pastures, winter grains, livestock good to excellent. Normal winter chores active. Marketed dark fire-cured tobacco. Livestock care, feeding active.

WASHINGTON: Series of strong Pacific frontal systems moved through area, dominating weather. Moderate, heavy rain over large portions of State, especially west. Moist southwest flow aloft helped keep temperatures above normal, most areas.

Days suitable for fieldwork 3.6. Soil moisture 60% short, 30% adequate, 10% surplus. Light rains improved subsoil moisture levels. Dryland wheat 10% poor, 60% fair, 30% good. Orchard pruning ongoing. Carrot harvest continued, Franklin County. Livestock feeding underway. Recent rainfall significant factor in pasture regrowth.

WEST VIRGINIA: Average temperature 42°; 5° above normal. Extremes 11° Greenbank to 70° Creston. Precipitation averaged 0.16 in.; 0.50 in. below normal. Precipitation 0.03 in. northeast to 0.32 in. southwest.

Days suitable for fieldwork 3.9. Soil moisture 50% short, 50% adequate. Primary farm activities included livestock care, farm maintenance, plowing. Wheat, barley good to fair. Feed supplies adequate to short.

WISCONSIN: Temperatures above normal, averaged 35°. Extremes 20°; 53°. Precipitation 0.30 to 1.10 in. Snowfall 1 to 4 in, south on 7th, 2 to 6 in. north on 8th, 9th. Most snow melted.

WYOMING: Temperatures above normal. Above normal precipitation far west, elsewhere very dry.

Winter wheat fair to good. High wind gusts to 80 mph damaged buildings, caused soil erosion in southeastern areas. Livestock mostly good. Winter pastures, fields with crop residue being utilized. Supplemental feeding in areas with snow cover. Hay supplies continued to be adequate or better most areas.

## International Weather and Crop Summary

Dec. 6 - 12, 1987

### HIGHLIGHTS:

UNITED STATES...Cotton harvest surges toward completion in Oklahoma, Texas, and New Mexico. Freezing temperatures plunge into Texas and the Southwest late in the week, but the extent of damage is unknown.

WESTERN U.S.S.R....Snow covers winter grains as far south as the Black Sea.

EUROPE...Cold weather covers much of northern and eastern Europe, causing winter grains to go dormant.

SOUTH ASIA...Light rain in northern and central India brings some relief to vegetative wheat and likely spurs some late planting. Showers in the south benefit boll filling cotton and maintain favorable conditions for rice planting.

NORTHWESTERN AFRICA...Winter grain planting is well underway in Morocco, Algeria, and Tunisia. Moisture is adequate to abundant for planting in

most areas except southernmost areas in eastern Algeria and Tunisia where moisture is limited.

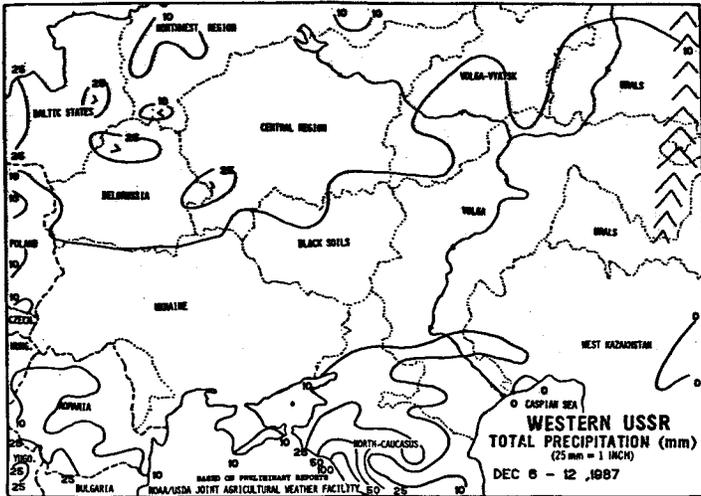
SOUTH AFRICA...Widespread showers benefit corn emergence and establishment.

SOUTHEAST ASIA...Seasonable, dry weather in Indochina benefits maturing rice. Inundating rain along the Malay Peninsula causes flooding and crop damage.

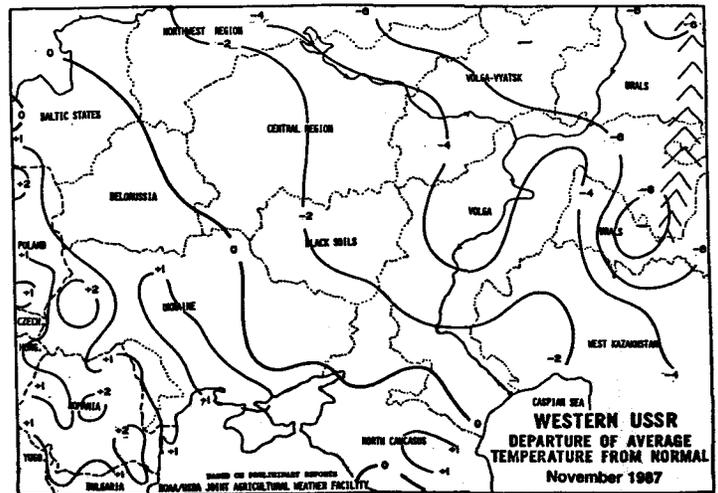
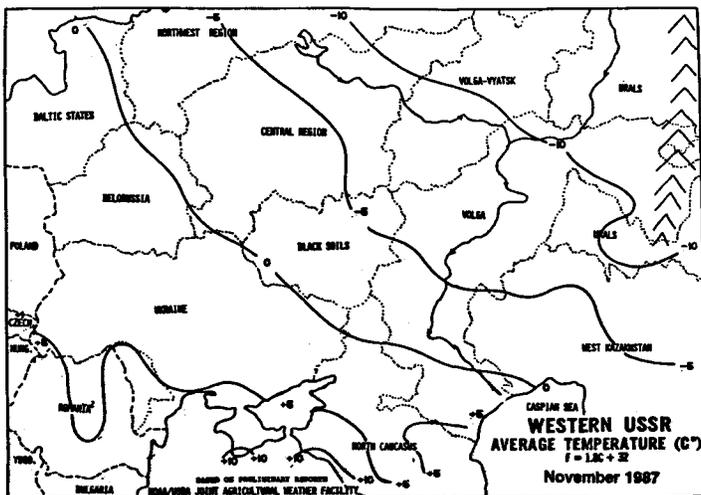
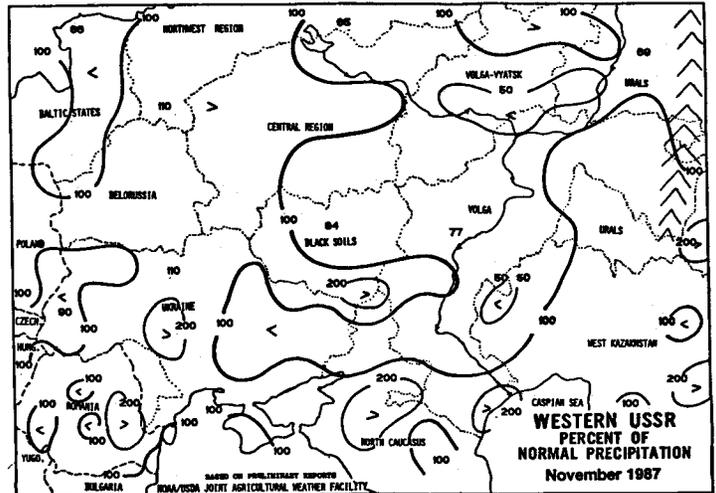
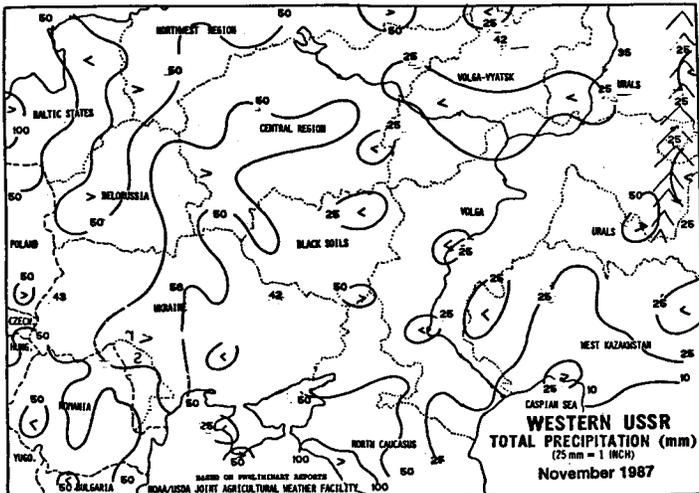
EASTERN ASIA...Dry weather allows late rice harvest to progress toward completion.

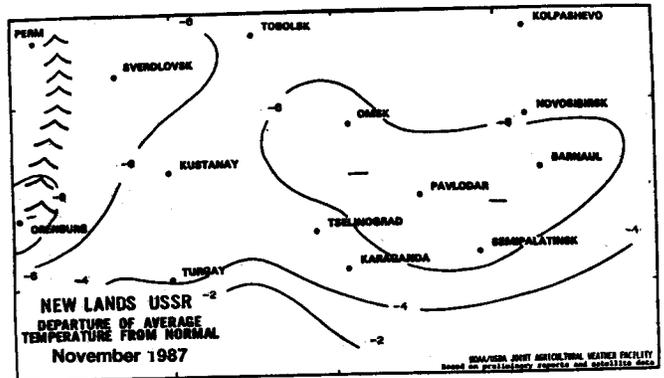
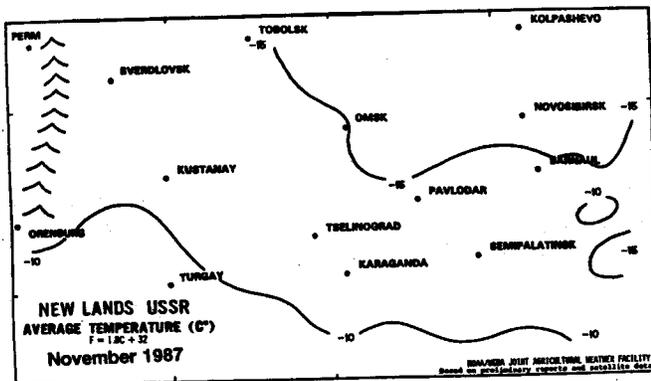
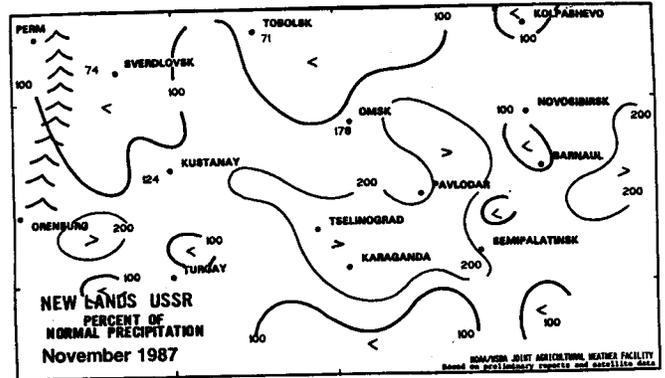
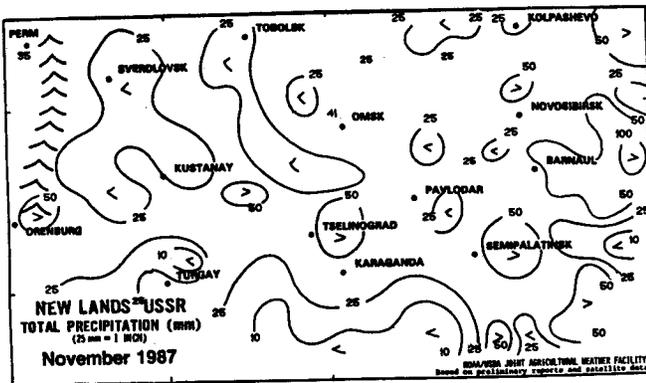
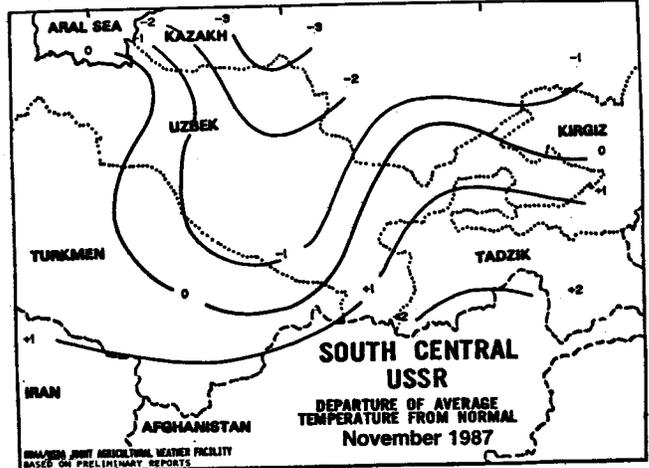
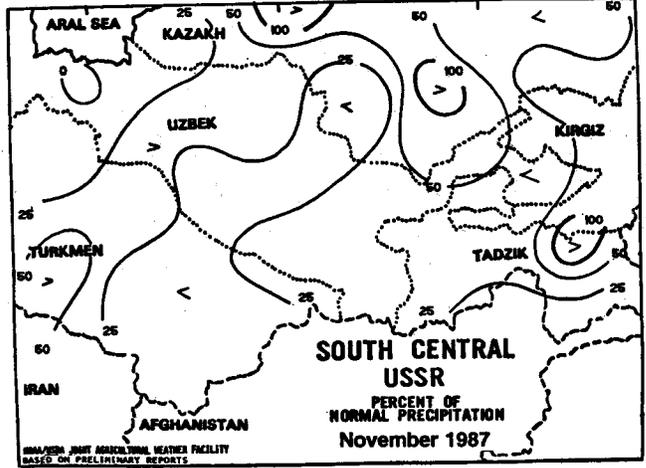
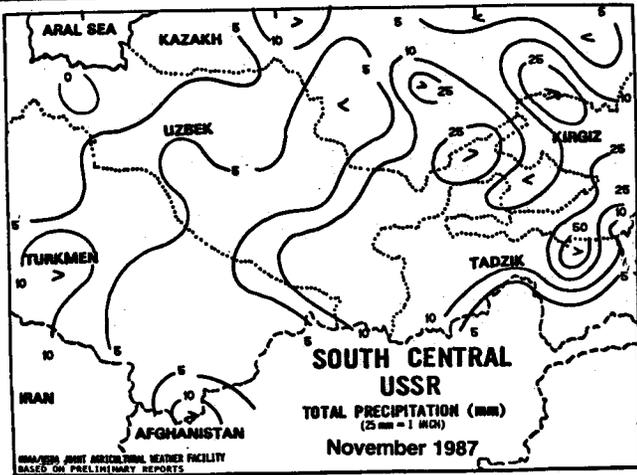
SOUTH AMERICA...Periodic showers maintain favorable moisture conditions for crop establishment in Argentina and Brazil's center-south. However, a drying trend in Brazil's extreme southwest is unfavorable for late soybean planting.

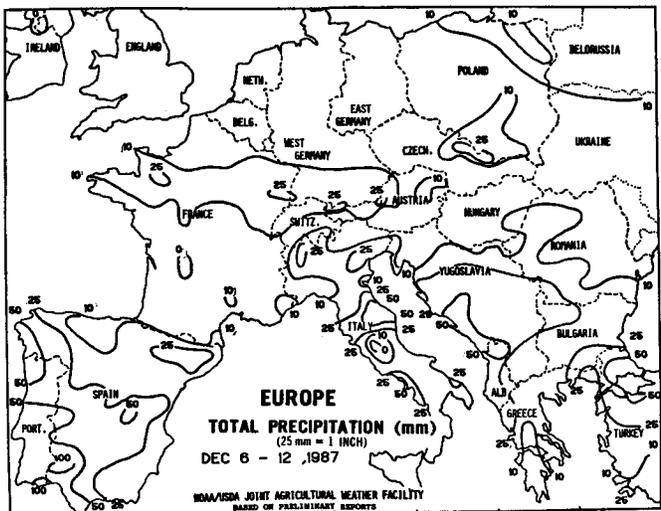
AUSTRALIA...Rain causes further delays in the wheat harvest across the south. Hot weather causes temporary stress in summer crops in Queensland and New South Wales.



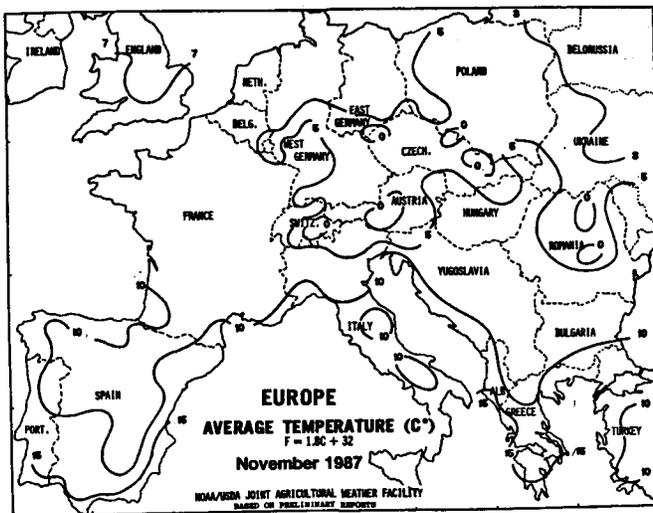
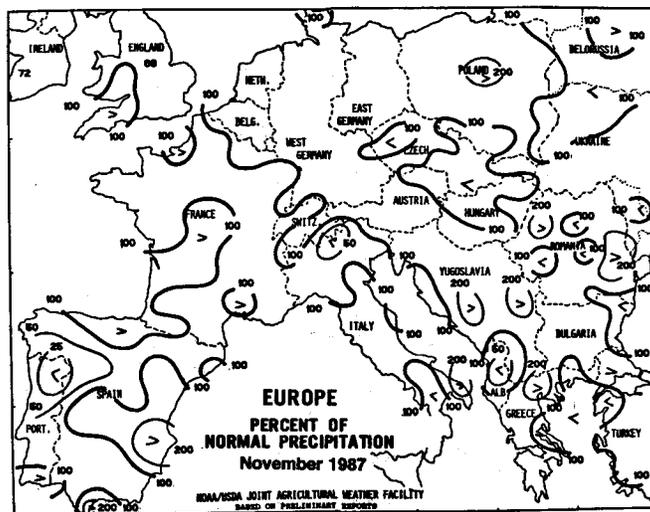
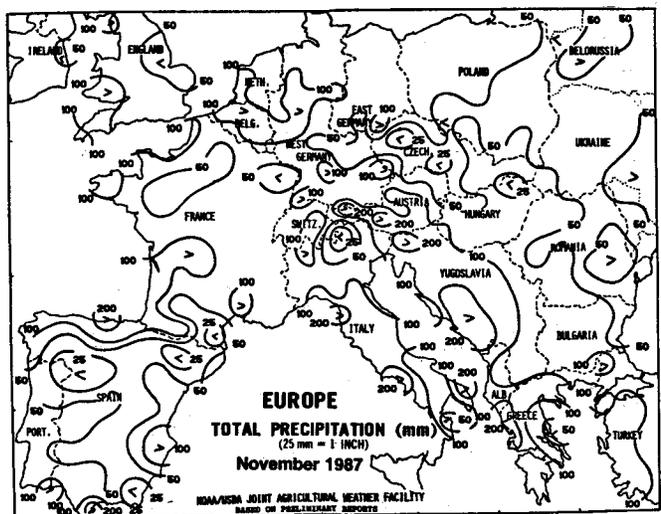
WESTERN U.S.S.R....Snow covered winter grain areas as far south as the Black Sea. Moderate to heavy snow blanketed the Baltic States and Belorussia, with precipitation amounts ranging from 12 to 28mm. Widespread precipitation (17-63mm) over the central North Caucasus began as rain which changed to snow later in the week. Weekly average temperatures over much of the region were 1-3 degrees C below normal. In November, precipitation was near to above normal over most winter grain areas except for those in the southern Volga Vyatsk and the Upper Volga, where precipitation was much below normal. Winter grains in the Baltic States, Belorussia, the Ukraine, and the North Caucasus entered dormancy after moderate hardening. Winter grains over the remainder of the region remained dormant. On November 22-23, bitter cold Siberian air covered the Central Region, the Volga Vyatsk, and the Upper Volga, with minimum temperatures dropping to around -20 degrees C. While temperatures reached the winterkill threshold, a protective snow cover minimized the potential for winterkill.



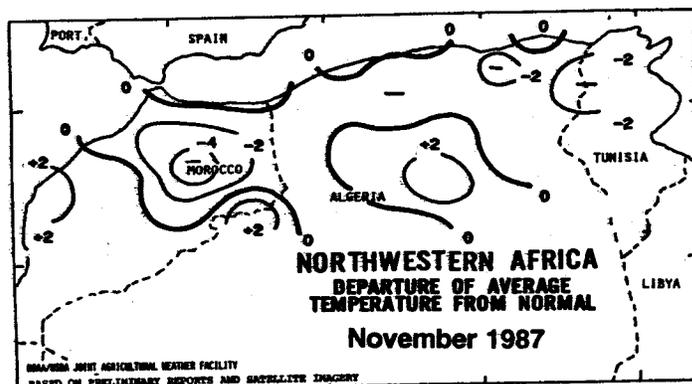
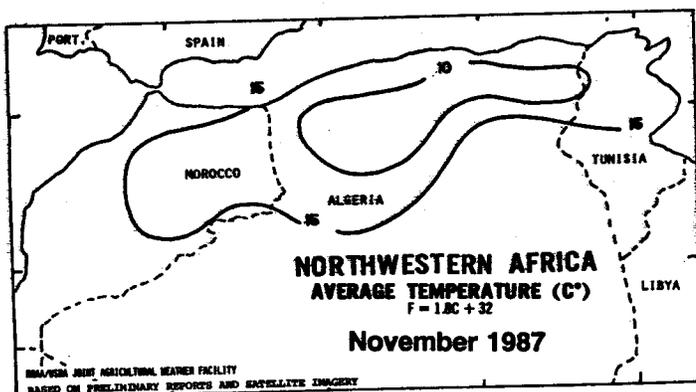
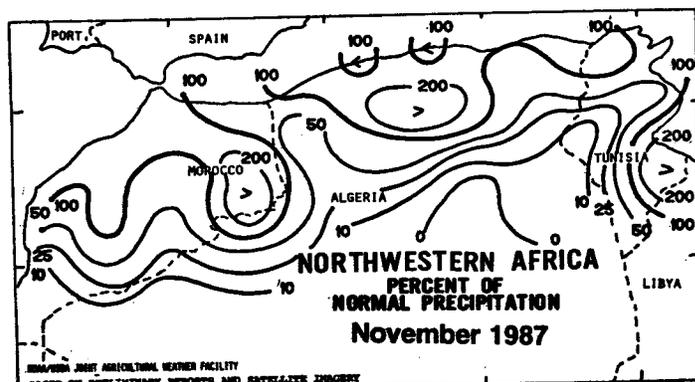
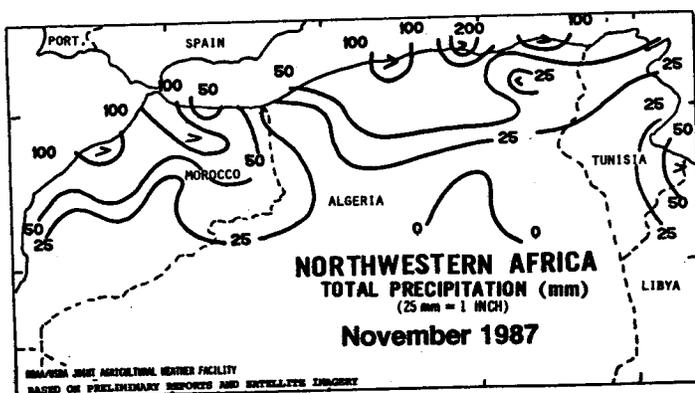
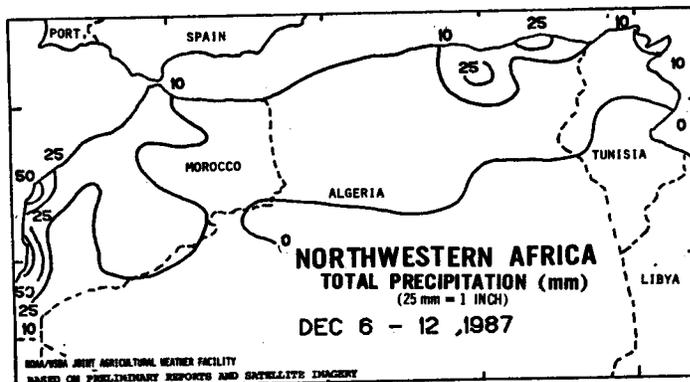




EUROPE...Strong northwesterly upper air flow brought the coldest temperatures of the season to much of northern and eastern Europe, causing winter grains to go dormant. Weekly average temperatures remained below freezing from northern France eastward to Romania. Scattered snow accompanied the cold weather, although snow cover in most production areas remains light. In the south, winter rains continued with moderate to heavy totals across much of Spain, Portugal, Italy, and Yugoslavia. Persistent wet weather has delayed fall planting across southern Europe since November, although soil moisture levels in southeastern Europe have benefited after a dry summer and early fall. Precipitation in November was above normal across much of northeastern Europe and in scattered areas of the southwest. Below-normal precipitation fell over parts of England, France, Italy, and the Iberian Peninsula. November temperatures were above normal over much of the north and east, and near normal elsewhere.



**NORTHWESTERN AFRICA...** Winter grain planting was well underway in Morocco, Algeria, and Tunisia. Widespread light showers (10-25mm) over Morocco continued to provide abundant moisture for winter grain establishment. Mostly dry weather over crop areas in western and eastern Algeria, and northern Tunisia allowed planting to advance without delay. Light to moderate showers (13-34mm) in central Algeria increased topsoil moisture for planting. In November, above-normal precipitation over Morocco, western Algeria, central Algeria, and northern areas in eastern Algeria and Tunisia provided adequate to abundant soil moisture for winter grain planting and early plant establishment. Southernmost crop areas in eastern Algeria and Tunisia continued to receive limited moisture for planting, and rain is needed to ensure a good start to this year's growing season.

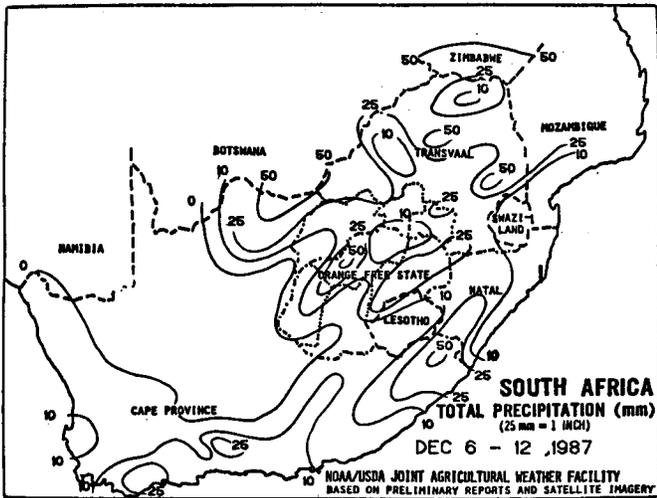


**Crop Progress**

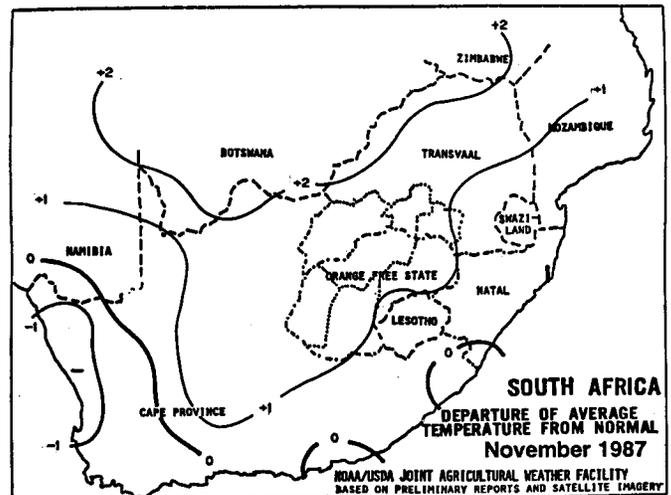
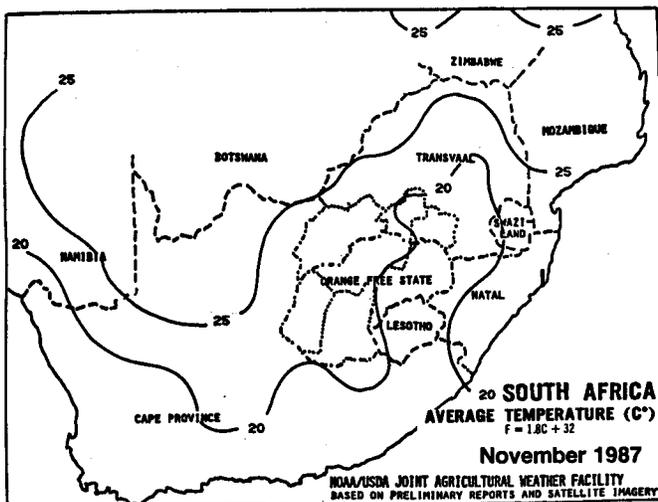
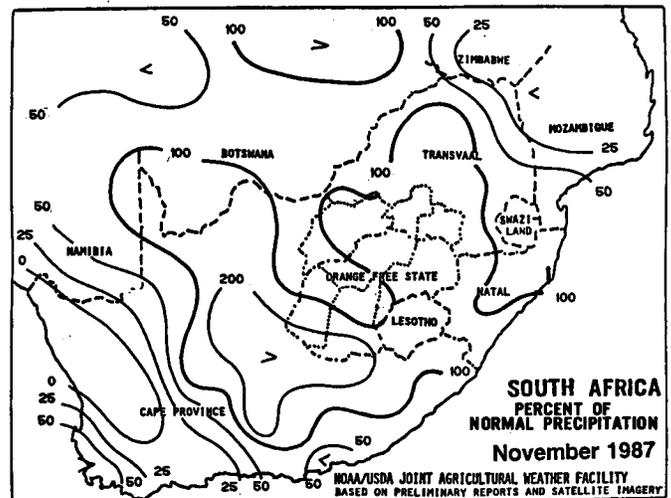
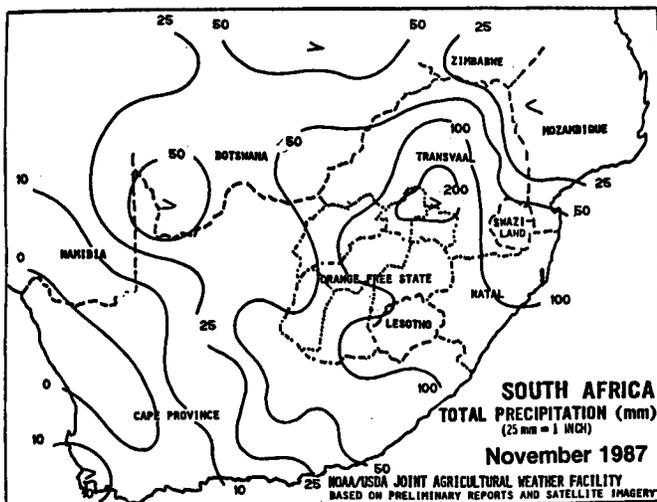
FOR WEEK ENDING DECEMBER 13, 1987

THESE 14 STATES PRODUCED 100% OF THE 1986 COTTON CROP.

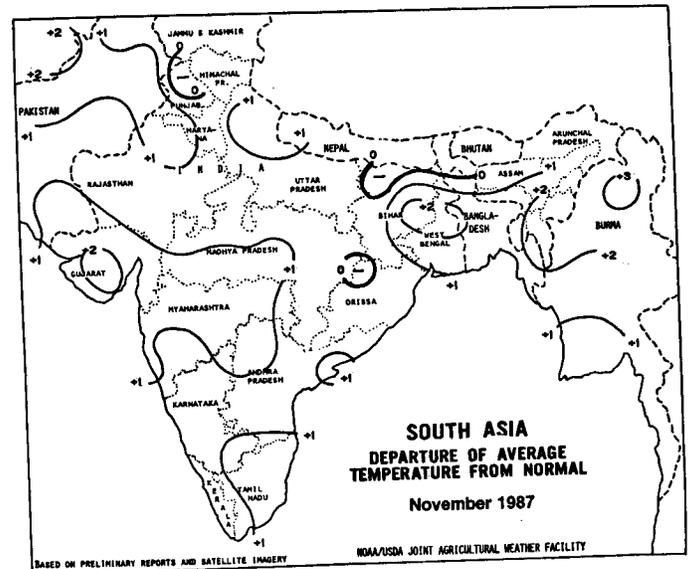
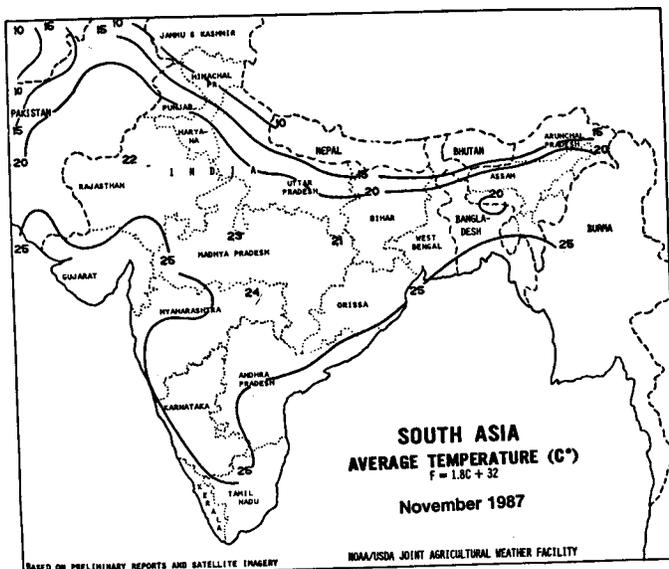
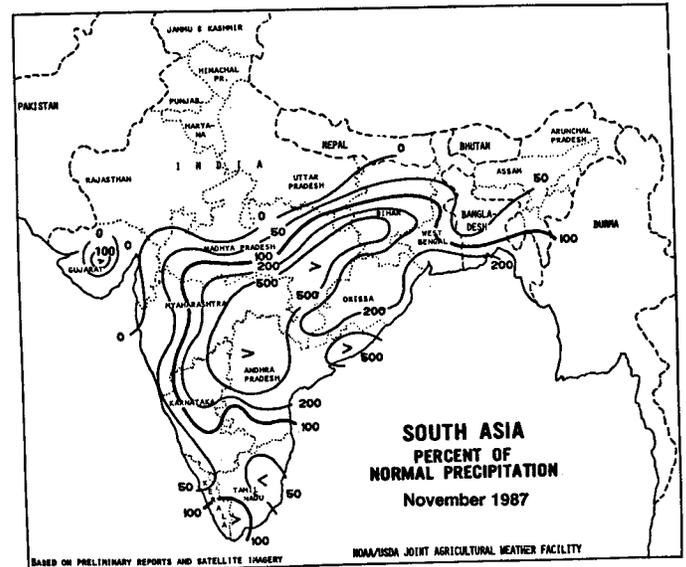
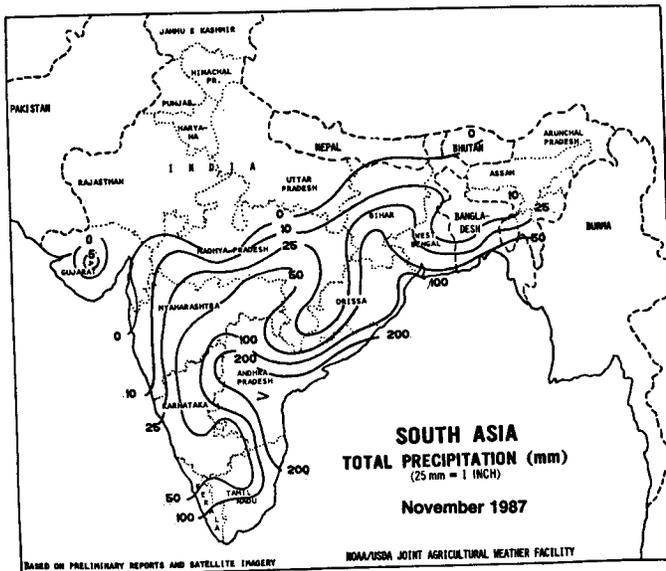
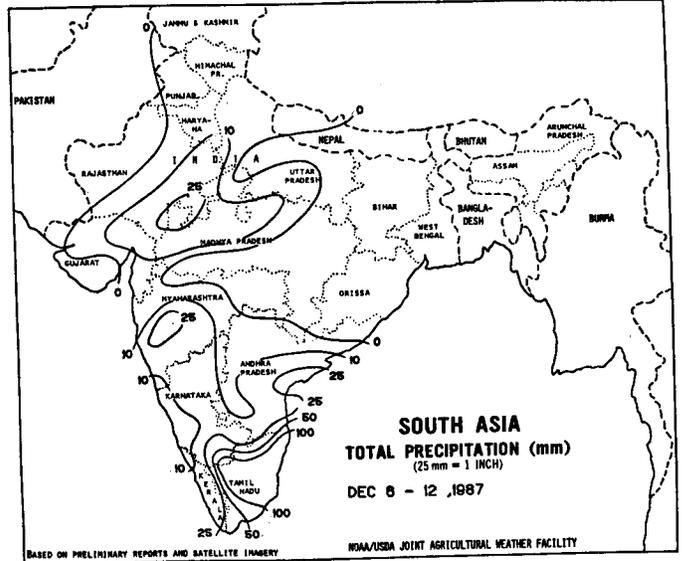
	COTTON		
	% HARVESTED		
	1987	1986	AVG.
ALA	100	98	99
ARIZ	98	97	97
ARK	100	99	99
CALIF	99	98	96
GA	99	88	93
LA	100	100	98
MISS	100	100	96
MO	100	100	99
N MEX	85	65	89
N C	100	94	92
OKLA	85	25	60
S C	100	92	94
TENN	100	98	100
TEX	90	58	73
14 STATES	95	78	86

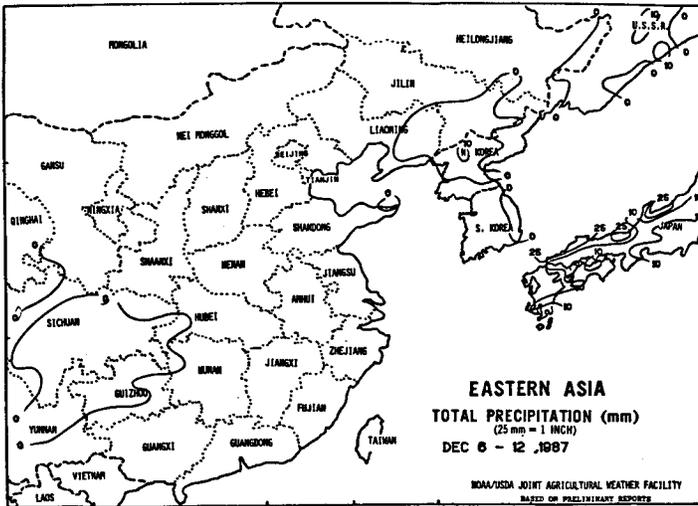


SOUTH AFRICA...Variable rain (10-50mm or more) continued throughout South Africa's primary grain regions, maintaining favorable moisture levels for corn emergence and establishment. Throughout November, frequent showers in South Africa's eastern half maintained favorable moisture levels for corn planting and emergence, though some areas were too wet at times, necessitating replanting. Periodic, dry weather occurred in minor production areas of the western and southern Maize Triangle and northeastern Transvaal, but recent rainfall in most regions has improved conditions for planting and early vegetative growth. Planting usually takes place through the end of December.

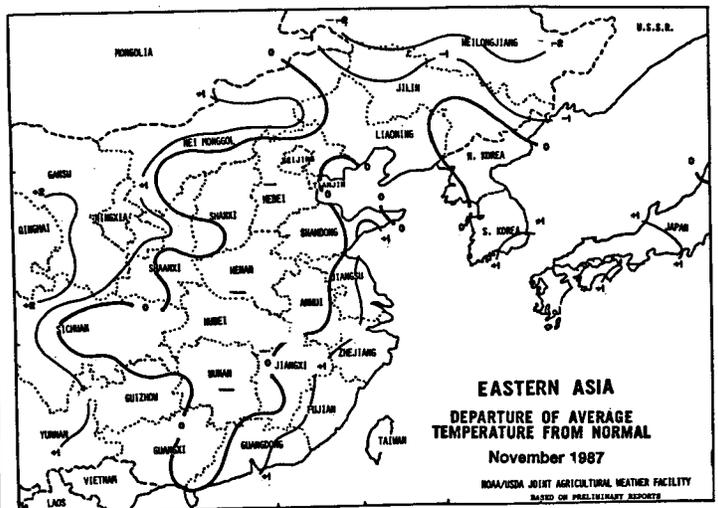
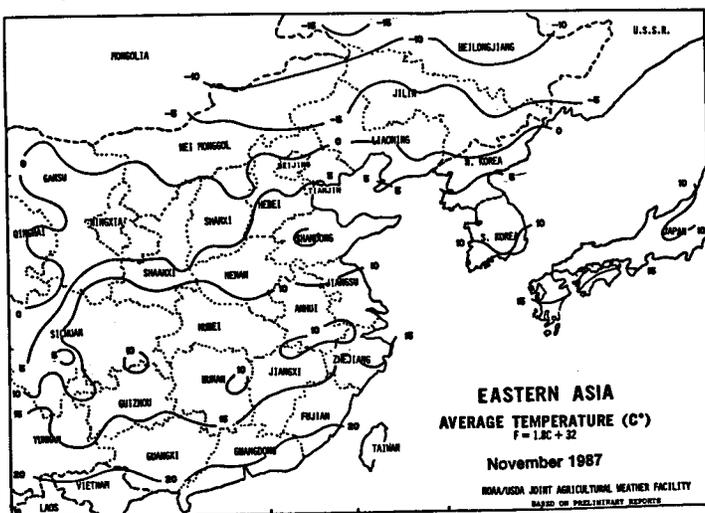
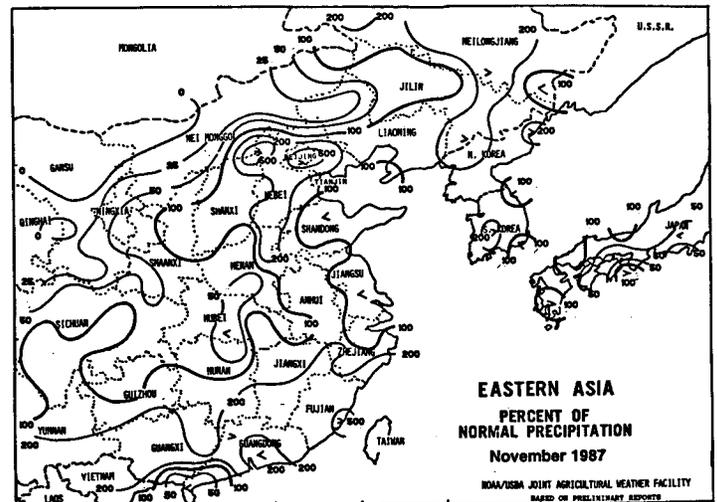
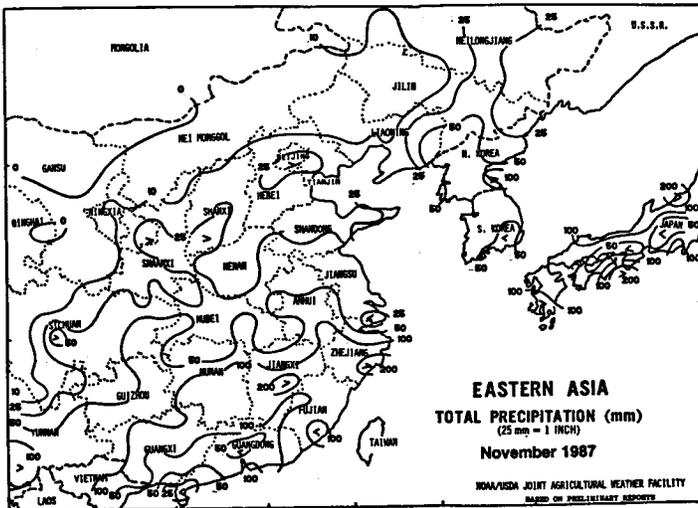


**SOUTH ASIA...**A tropical cyclone brought light to moderate rain (1-29mm) to most winter grain regions of northern and central India, including chronically dry western Uttar Pradesh. The rainfall helped wheat establishment and likely spurred some late plantings, though more rain is needed for normal establishment and early vegetative growth throughout the northwest. Moderate to heavy showers (10-100mm or more) covered southern India's boll forming cotton and maintained favorable conditions for rice planting. Dry weather in the northeast from eastern Madhya Pradesh to Bangladesh benefited maturing rice, but more rain is needed for late-planted, filling rice in some rainfed areas that have been dry since mid-November. In early November, two tropical cyclones brought beneficial rainfall to cotton and rice throughout southern India, but flooding and wind damage to immature rice likely occurred in some coastal areas. Light rain benefited heading to filling rice in the northeast. Mid-November showers brought relief to central India's early vegetative wheat, but most major winter grain regions in the north were dry.

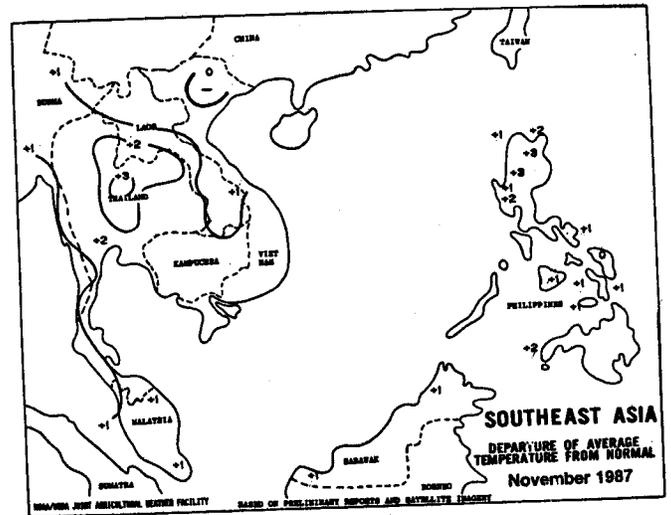
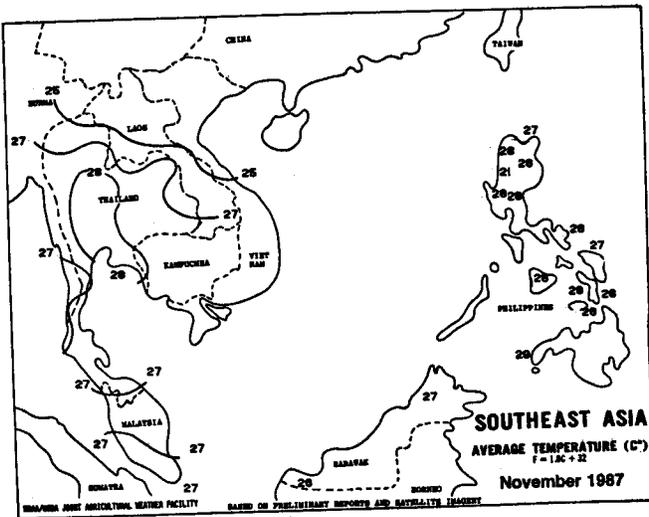
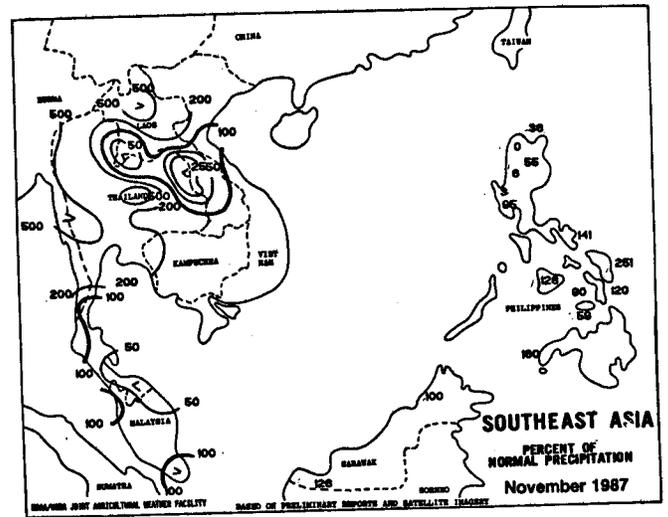
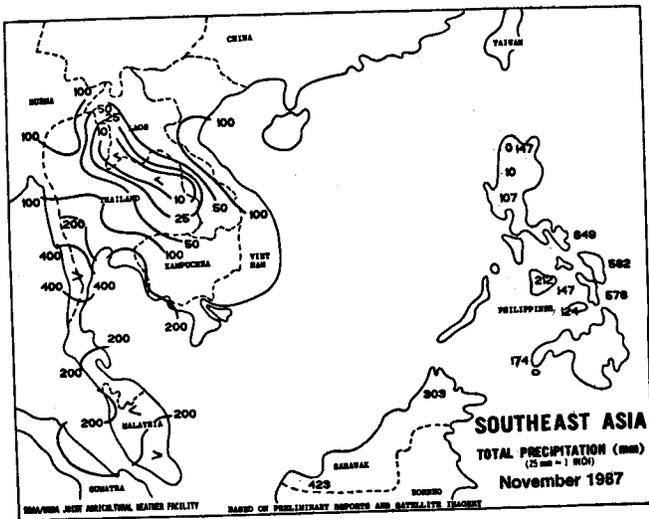
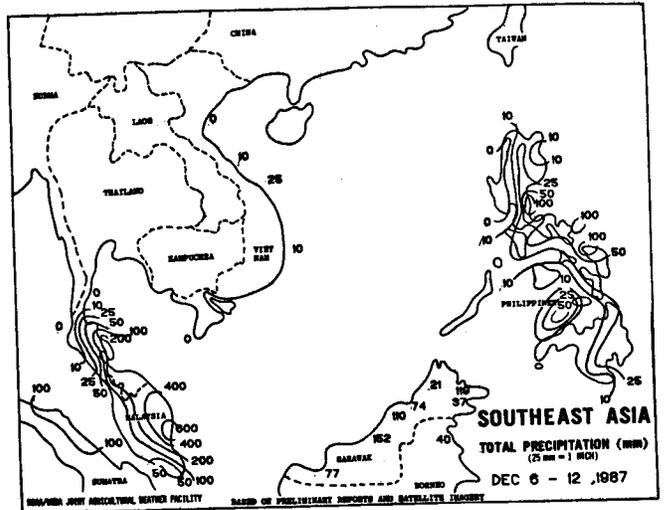


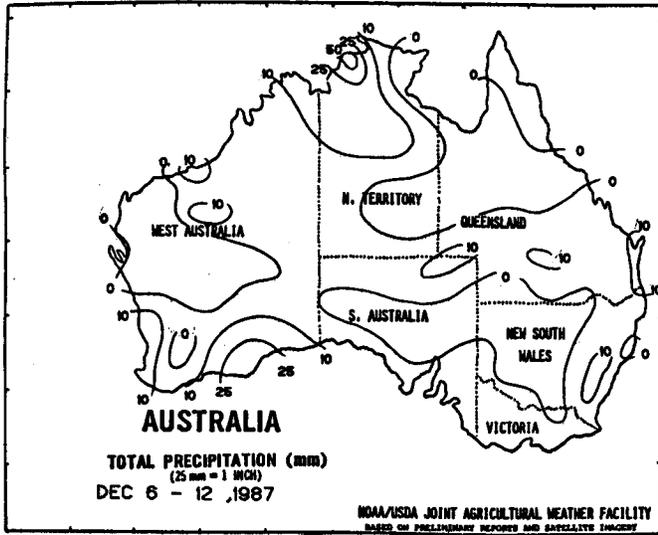


**EASTERN ASIA...** Dry weather covered much of China, allowing the late rice harvest to progress toward completion. The harvest was later than normal this year due to persistent wet weather during November and early December. Near-seasonal temperatures returned to winter wheat areas, allowing further cold hardening of crops. Snow cover over the North China Plain was reduced and confined to northern areas. Above-normal precipitation fell over much of China during November, with below-normal rainfall scattered in interior central sections, and in the northwest. Much of the precipitation in northern China fell as snow. Temperatures were above normal along China's east coast and in the far west and northwest, below normal in the northeast, and near normal elsewhere.

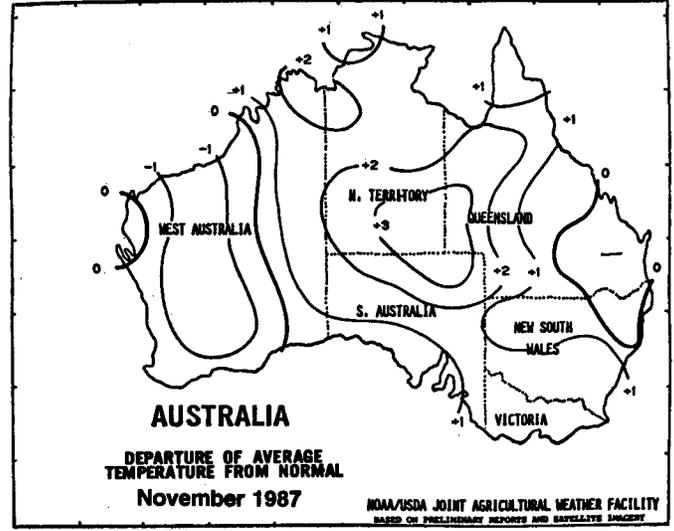
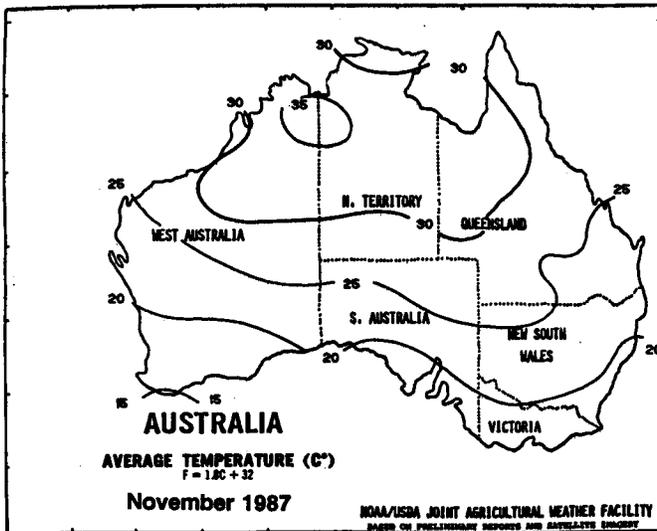
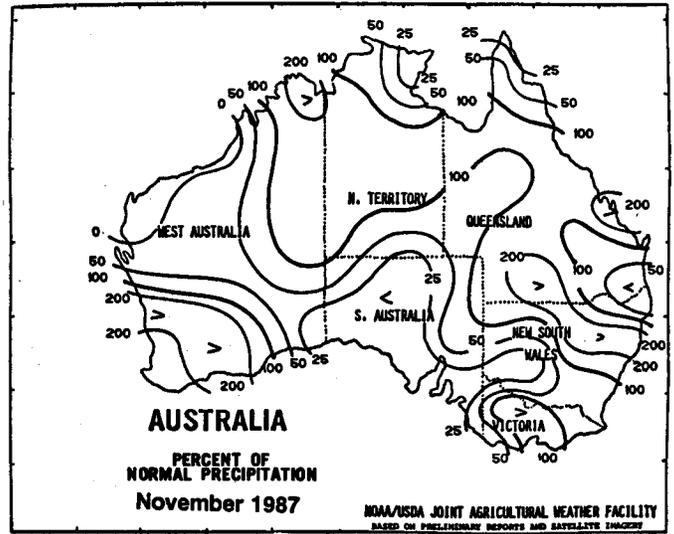
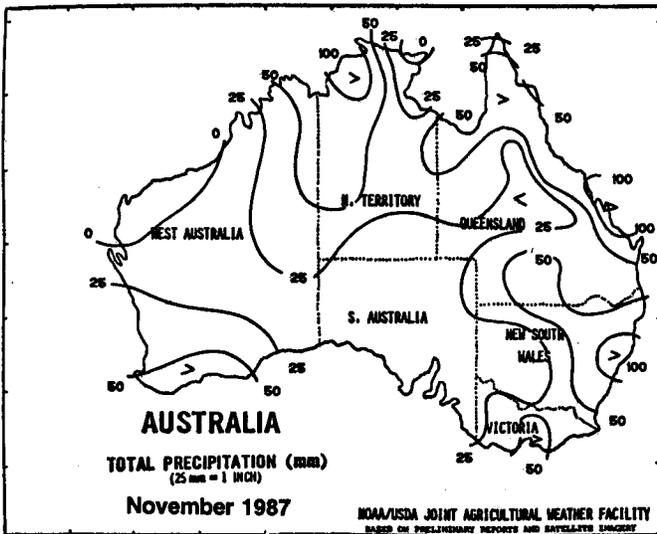


**SOUTHEAST ASIA...** Seasonable, dry weather benefited maturing rice in Indochina, with light rain continuing along Vietnam's coast. Near- to above-normal November rainfall from Bangkok to the Northern Hill's region benefited late-planted, heading to filling Thai rice, but dry weather throughout the month in the Northeast and eastern Khorat Plateau limited moisture for normal crop development. Inundating rain (100-300mm or more) continued along the eastern half of the Malay Peninsula, causing flooding and crop damage in rice, rubber, copra, and fruit regions. Moderate to heavy showers (25-100mm) continued throughout eastern Malaysia and Indonesia, reflecting November's return to beneficial showers following a drought which delayed rice planting. In the Philippines, light to moderate rain (11-23mm) continued in northern Luzon, maintaining favorable conditions for corn planting. Variable showers fell elsewhere with pockets of heavy rain (50mm or more) in southeastern Luzon and in the south-central Philippines. In November, Tropical Storm Maury brought locally heavy rain to the Philippines, disrupting northern rice harvests. The following week, Typhoon Nina swept through the central Philippines, causing flooding and wind damage in rice, copra, and sugarcane regions.

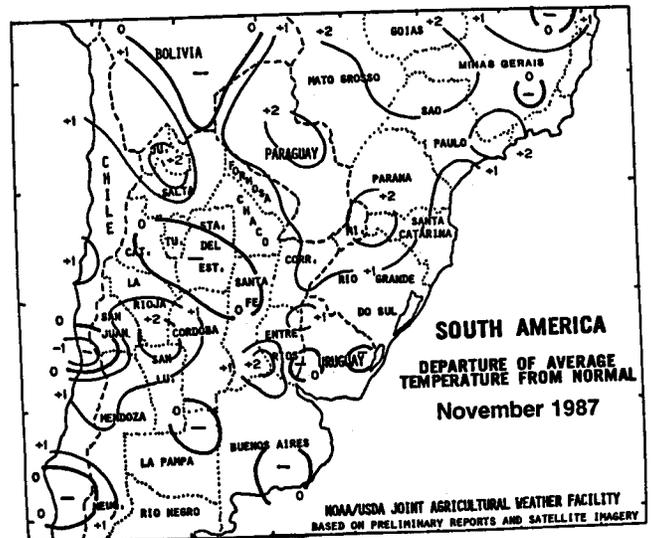
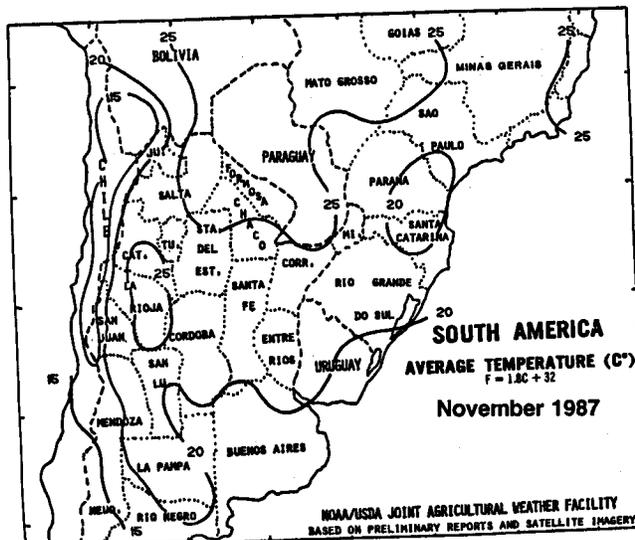
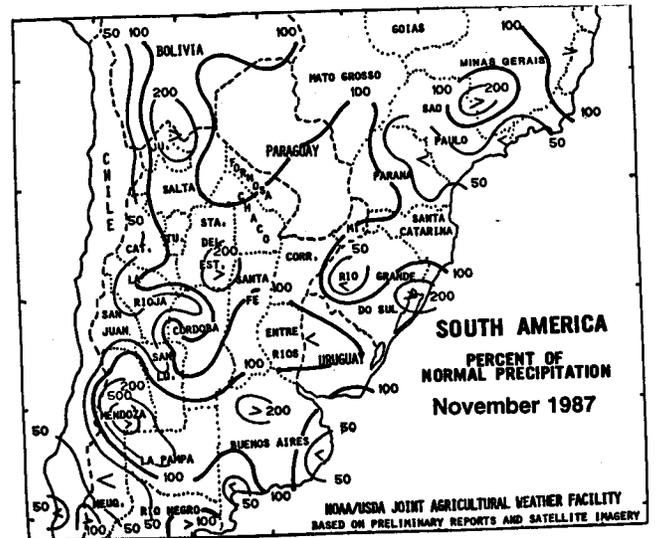
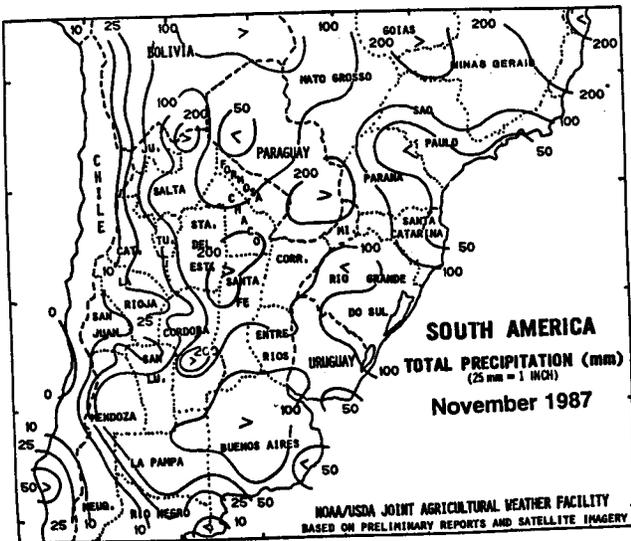
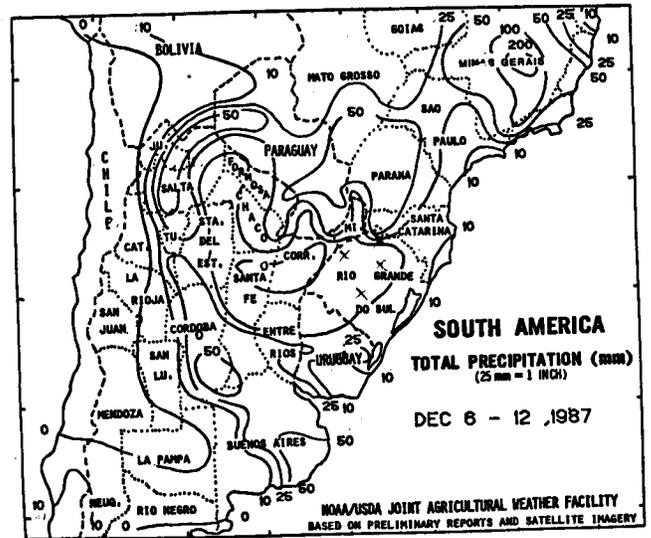


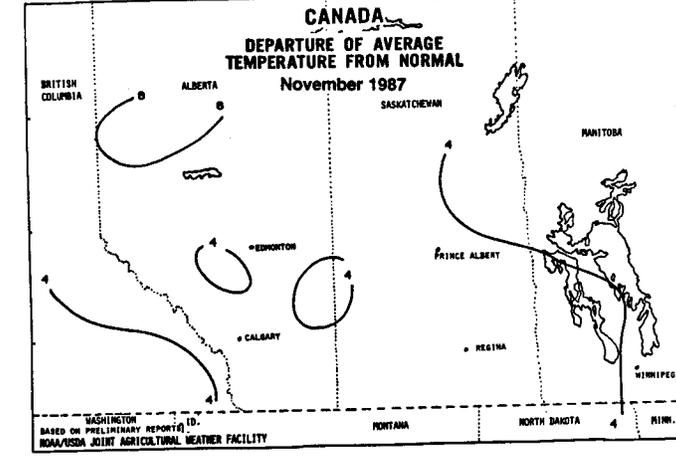
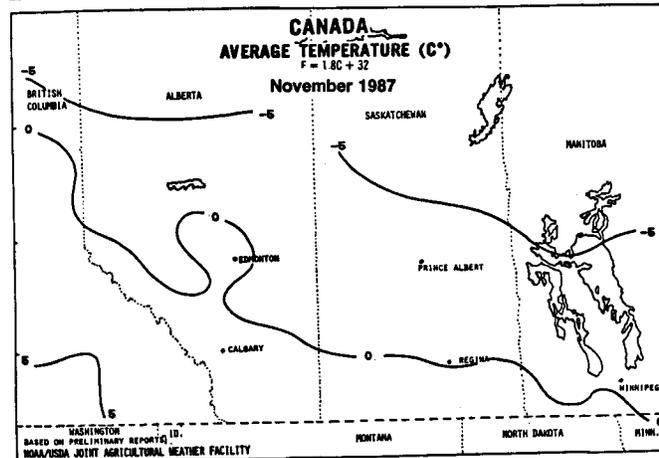
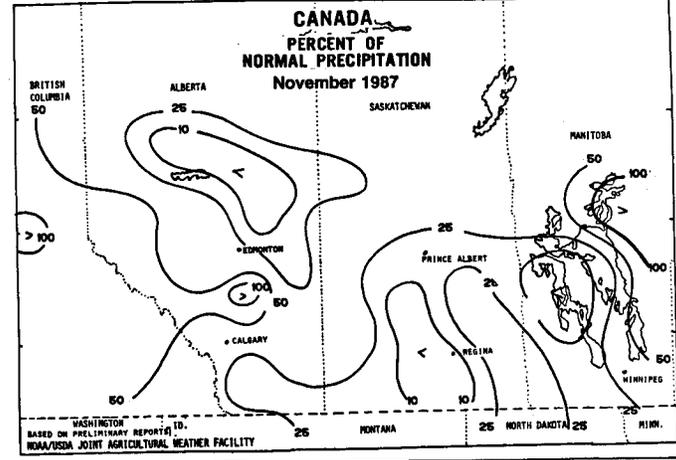
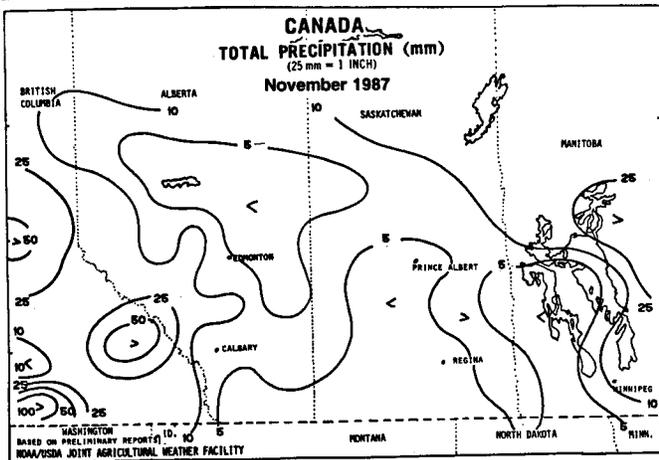
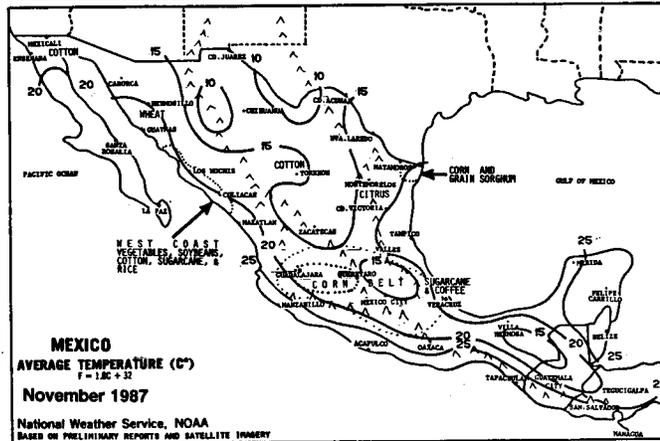
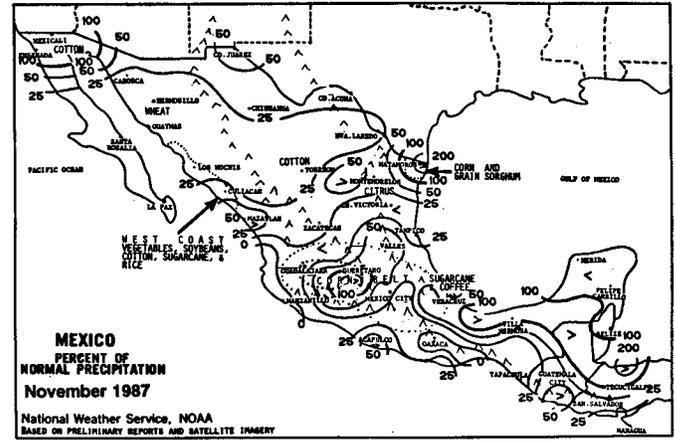
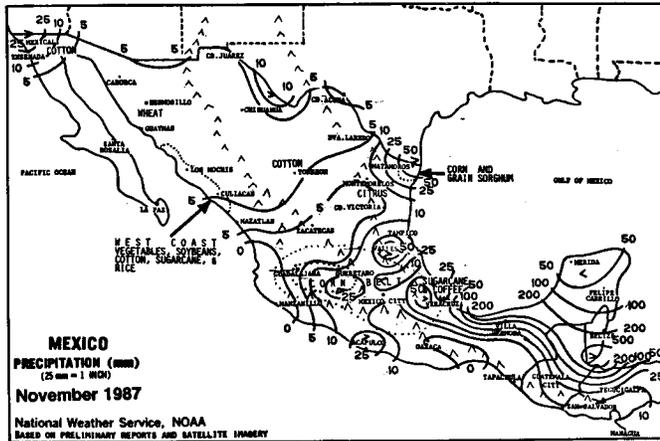


**AUSTRALIA...** Scattered rain (up to 44mm) continued over southern Australia, delaying wheat harvest, which has begun in southern production areas. Mostly light rain (less than 11mm) also fell over eastern growing areas, benefiting summer crops. Maximum temperatures greater than 30 degrees C may have caused stress in vegetative crops across southeastern Queensland and northeastern New South Wales, although soil moisture generally remains at favorable levels. Precipitation in November was above normal in production areas of Western Australia, southern Victoria, and Queensland, while below-normal rain fell in South Australia, northern Victoria, and northeast New South Wales. Temperatures were below normal in Western Australia and northeastern New South Wales, and above normal across South Australia, Victoria, and southern New South Wales.



**SOUTH AMERICA**...In Argentina, periodic showers brought substantial weekly rainfall (25-72mm) to most of Buenos Aires, southern Santa Fe, and Cordoba. Very light rain (1-6mm) fell in southwestern Buenos Aires and La Pampa, while some beneficial showers (10-34mm) covered northern cotton areas. Argentina's wheat harvest reached 25 percent while corn, sorghum, sunflower, and soybean plantings advanced to 92, 60, 87 and 45 percent, respectively. November's near- to above-average rainfall benefited early planting and emergence. Early December rain relieved a brief episode of unseasonably hot weather in late November. In south-central Brazil, widespread beneficial rain (25-90mm or more) favored corn and soybean establishment from extreme northern Rio Grande do Sul through western Parana into northern soybean areas. Soybean planting pushed over 80 percent completion. Near-normal November rainfall in these areas provided adequate soil moisture for early crop development. However, light rain in western Rio Grande do Sul continued November's below-normal pattern. Diminishing moisture reserves will hamper late soybean establishment. About 85 percent of Rio Grande do Sul's crop has been planted.





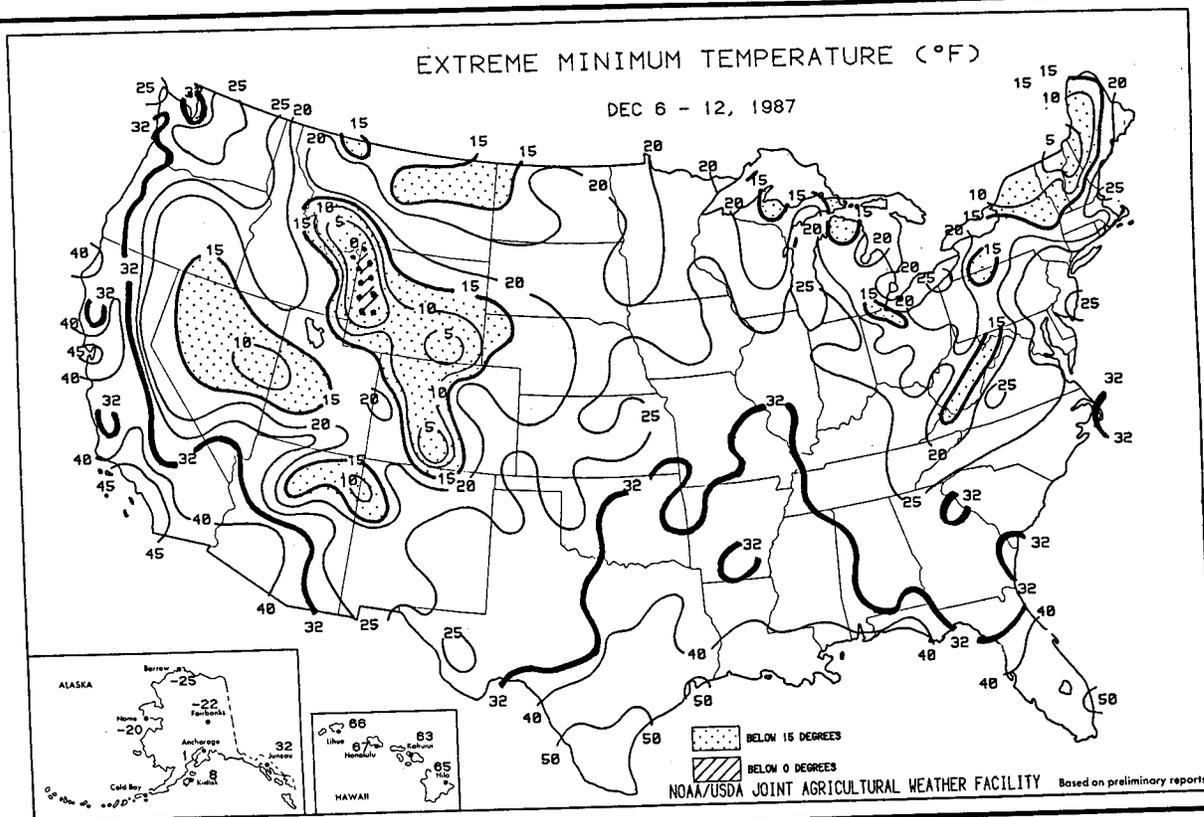
The Weekly Weather and Crop Bulletin (ISSN 0043-1974) is published weekly and jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the Weekly Weather Chronicle. It is issued under general authority of the Act of January 12, 1895 (44-USC 213), 53d Congress, 3d Session. NOAA is responsible for managing, printing, and distributing the bulletin. The contents may be reprinted freely, with proper credit.

Annual subscriptions: domestic \$25, foreign \$33 (in U.S. funds by international money order or check drawn on U.S. bank) payable to U.S. Department of Commerce, NOAA. POSTMASTER: Send address changes to Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington, D.C. 20250. Order subscriptions from the office and address listed above. Second class postage paid at Washington, D.C. and additional mailing offices.

U.S. DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 National Weather Service/Climate Analysis Center  
 Managing Editor (Acting) . . . . . Tom Heddinghaus  
 Meteorologists . . . . . Ray McInturff,  
 Jim Williams, Wes Byrd, and Randy Taylor

Subscriptions (202) 447-7917 . . Andrea Kuiper

U.S. DEPARTMENT OF AGRICULTURE  
 Economics Management Staff  
 Editor . . . . . Sharon Lee  
 National Agricultural Statistics Service  
 Agricultural Statistician . . . . . Clif James  
 World Agricultural Outlook Board  
 Agricultural Weather Analysts. . . . . Ray Motha,  
 Tom Puterbaugh, Mark Brusberg,  
 and Jeff Andresen



NOAA/USDA Joint Agricultural  
 Weather Facility  
 Room 5844 USDA South Building  
 Washington, D.C. 20250

OFFICIAL BUSINESS  
 PENALTY FOR PRIVATE USE, \$300

**WEEKLY NEWS BULLETIN**  
**SECOND CLASS**

SECOND CLASS MAIL  
 POSTAGE AND FEES PAID  
 NOAA PERMIT NO.

ISSN 0043 1974