

# 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

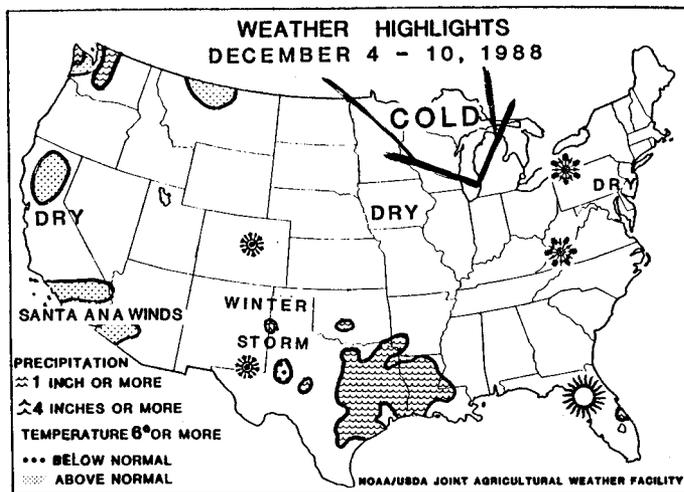
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## National Weather Summary

December 4-10, 1988



**WEDNESDAY:** The cold front stretched from Texas to New England as bitter arctic air continued to push southward out of Canada into the Central United States. Heavy snow and high wind spread over the central and southern Rockies into the High Plains. Showers and thunderstorms moved across the southern Plains into the lower Mississippi Valley.

**THURSDAY:** Heavy snow and high wind continued over the southern Rockies and moved into the southern Plains. Rain, sleet, and freezing rain spread from Texas into the Southeast. Temperatures in the single digits gripped the North-Central United States. The cold air flowing across the Great Lakes produced lake effect snow. Strong Santa Ana winds blew across southern California and Arizona.

**FRIDAY:** Light precipitation covered the Southeast to the southern Atlantic coast and the Northwest to the northern Plains. Snow spread from Tennessee and Kentucky to the Middle Atlantic Coast States and from the Great Lakes to the Northeast. The Santa Ana winds diminished over southern California and Arizona.

**SATURDAY:** Snow continued over the Great Lakes and Northeast. Rain showers remained across the Gulf Coast States, with heavier amounts in east Texas and Louisiana. Blustery north winds continued to usher below-normal temperatures into the eastern third of the Nation.

**HIGHLIGHTS:** Cold, arctic air replaced the mild weather which prevailed over the eastern half of the Nation during the first part of the week. At midweek, a major winter storm brought snow and high wind to the southern Rockies and southern Plains, while Santa Ana winds fanned fires in southern California. Lake effect snow fell across the Great Lakes into the Northeast. Little or no precipitation fell over the Corn Belt, northern and central Plains, and the Southwestern States. Substantial rain fell across the western Gulf coast at week's end.

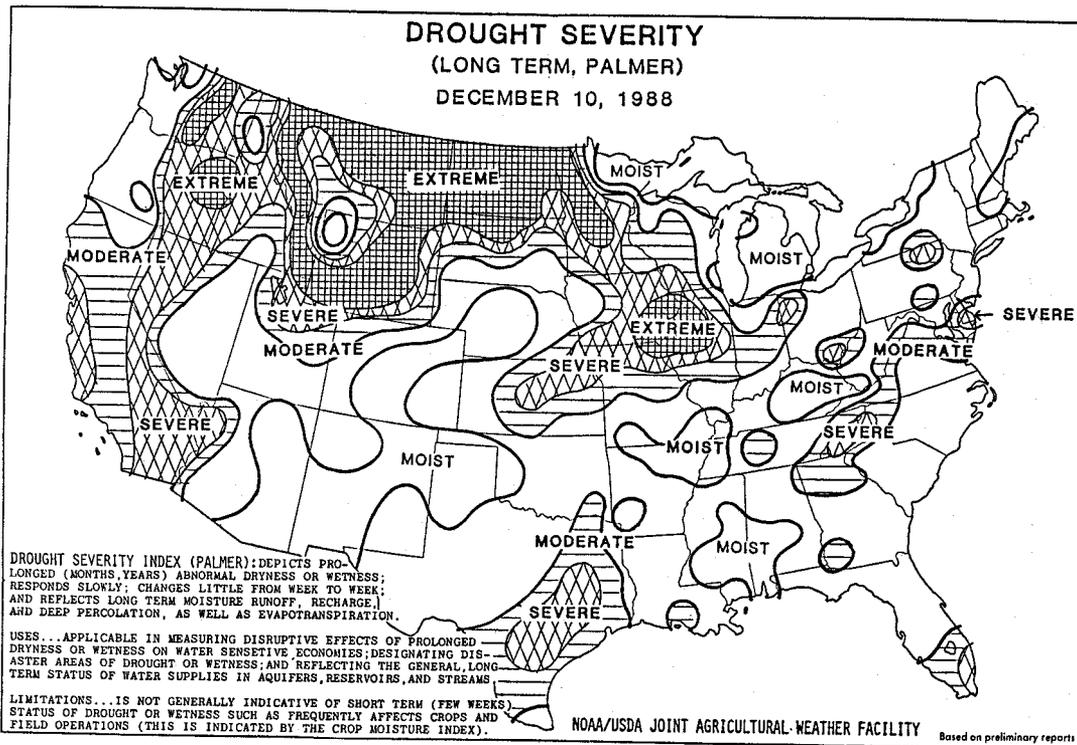
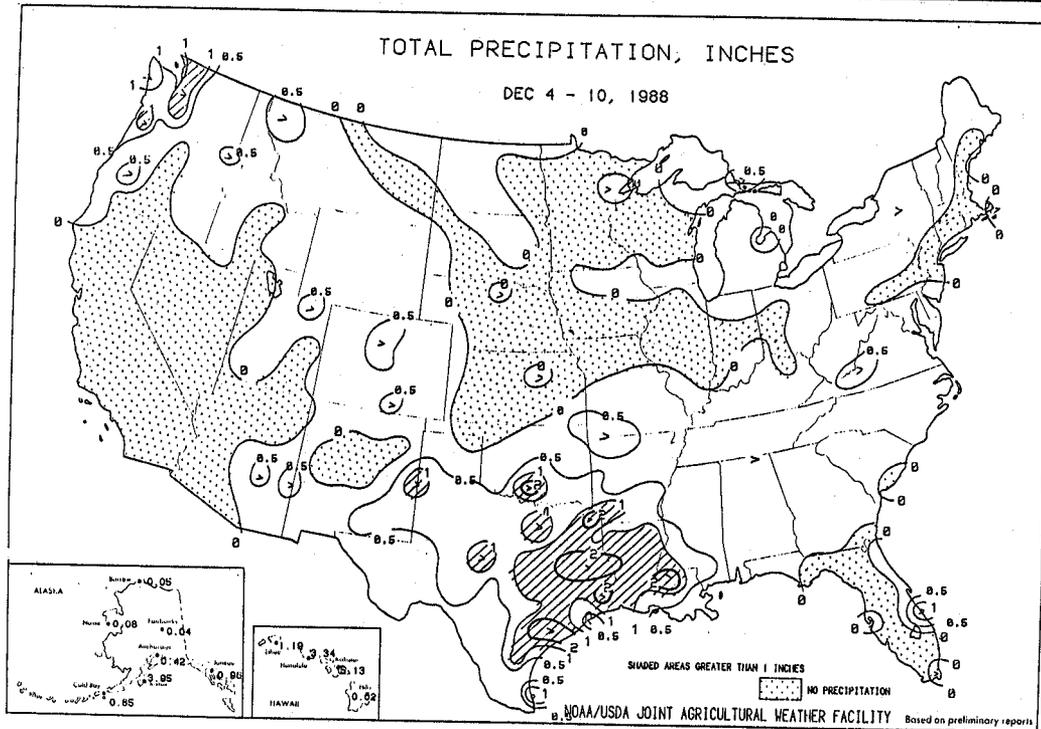
**SUNDAY:** High pressure continued to prevail, providing fair weather for most of the Nation. A cold front brought scattered precipitation and lower temperatures to the Northeast. Snow fell in the Appalachians.

**MONDAY:** Fair and mild weather continued across the Nation. Subfreezing temperatures were primarily confined to northern New England. Temperatures were abnormally high across the North-Central States. Rain was scattered along the northern Pacific coast.

**TUESDAY:** A cold front dropped into the middle portion of the Nation, substituting the warm weather with frigid air. Rain continued along the northern Pacific coast. Snow fell over the northern Rockies into the northern High Plains. Light rain reached from the southern Plains into the lower Ohio Valley. The abnormally warm air shifted from the Plains to the Great Lakes.

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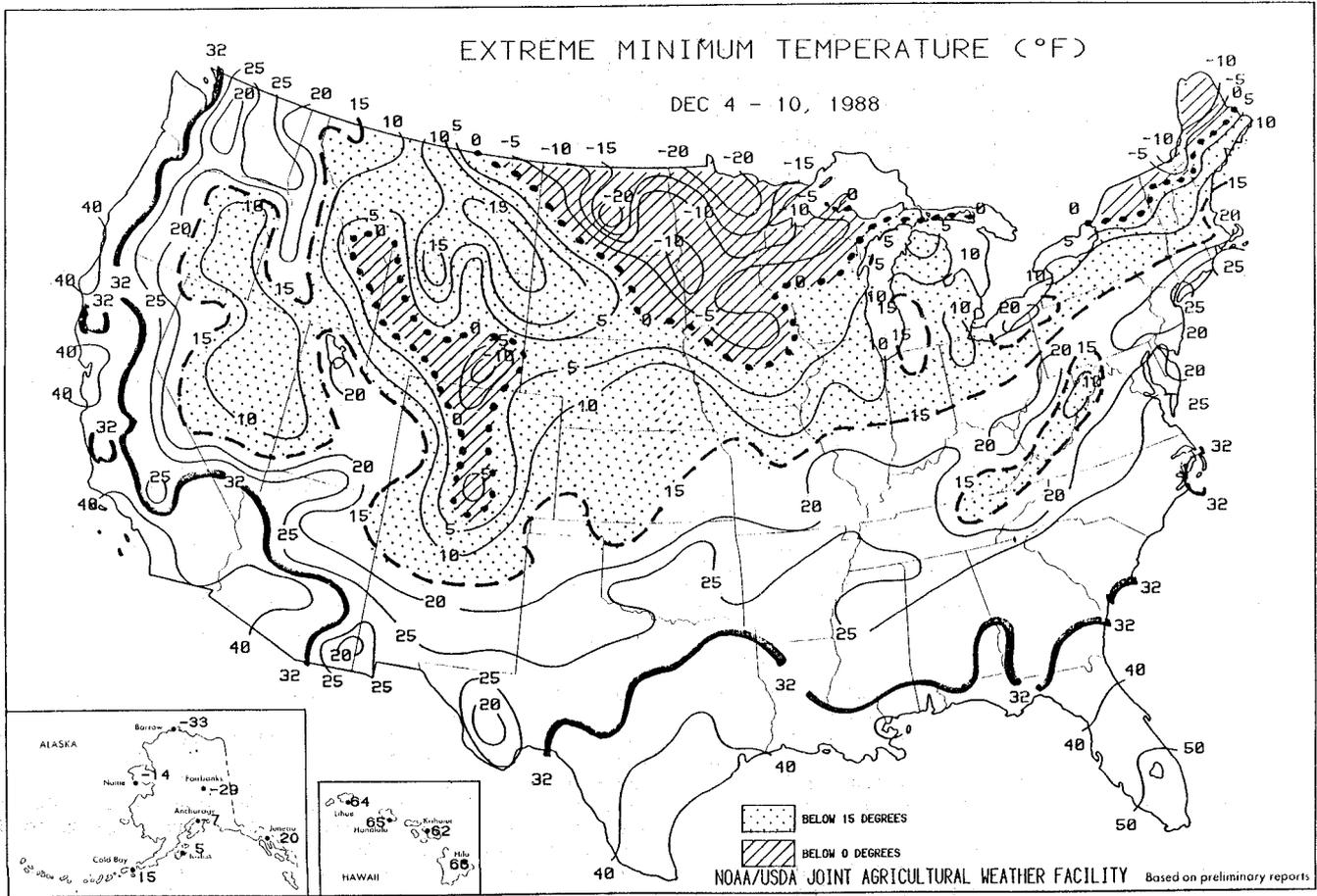
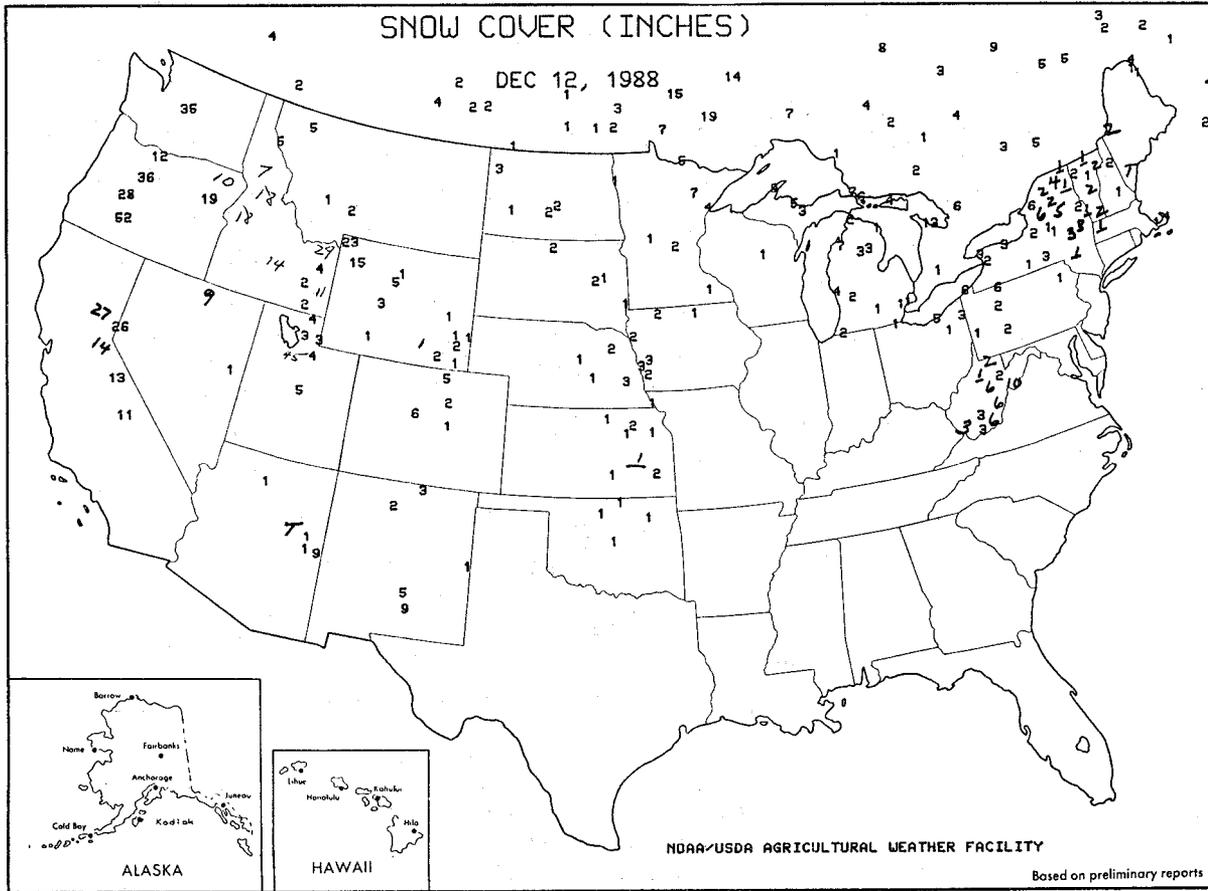


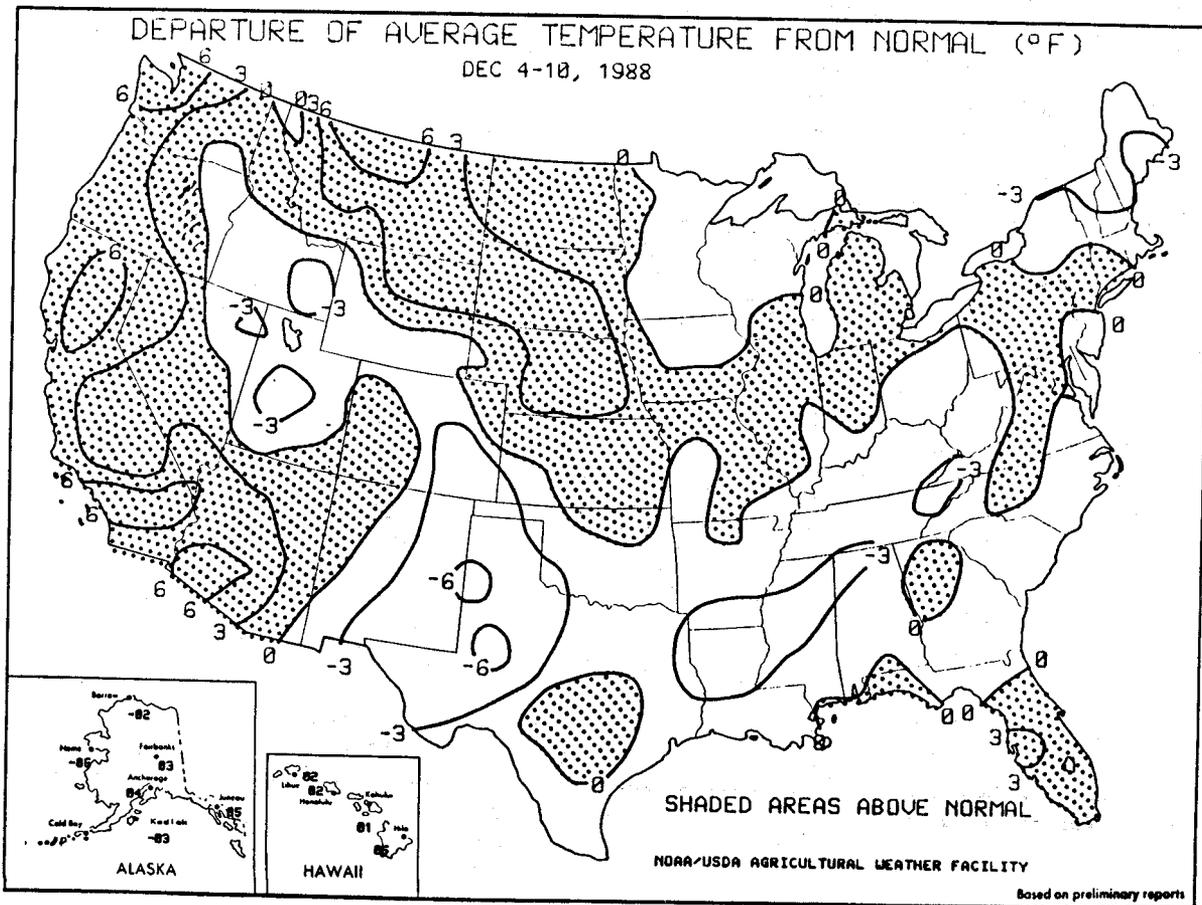
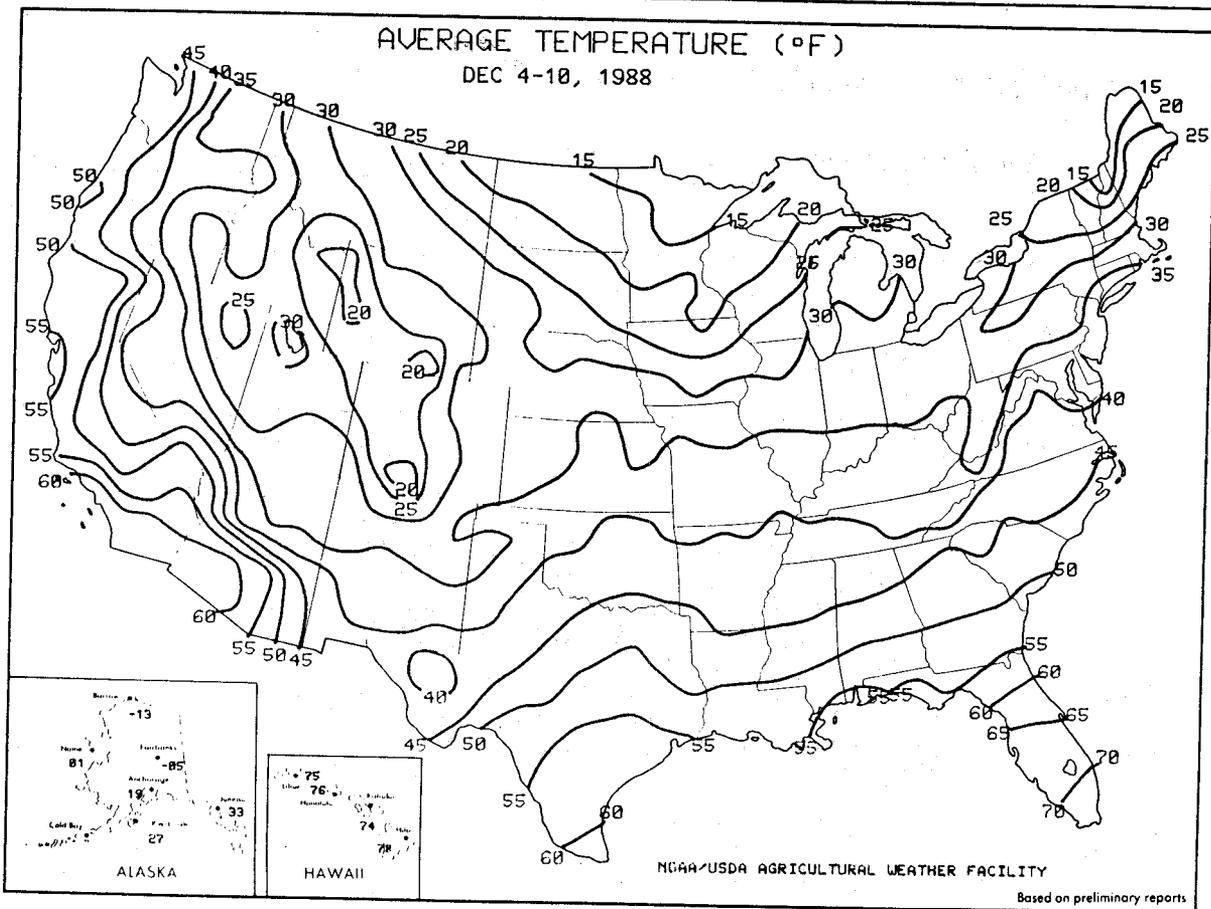
CURRENT LONG-TERM DROUGHT CONDITIONS

Since the drought peaked last summer, rain and snowfall from numerous storm systems have improved moisture conditions throughout most of the country. Significant long-term rainfall deficits, however, continue in the Pacific States, northern Rockies, Midwest, and the southern Appalachians. In addition, drought has worsened in central Kansas and southeast Texas.

The current long-term Drought Severity Index shows that drought continues in the areas most affected last summer,

though the severity of the drought has lessened. The slow progress in eliminating the last vestiges of the drought is due to the huge rainfall deficits which accumulated earlier. Year-to-date rainfall totals in western Illinois, southeastern Iowa, northern Missouri, and central and eastern Kansas are still 10-15 inches below normal. Similar deficits exist in the Tennessee Valley and range up to 23 inches in east Texas. At least several months of above-normal precipitation are required to end the long-term drought in these areas.





# National Weather Data for Selected Cities

Weather Data for the Week Ending December 10, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	57	31	64	26	44	-2	.1	-1.0	.1	.1	3	38.2	75	96	39	0	5	1	0
MOBILE	65	42	73	33	54	-1	.5	-.7	.5	.5	28	60.9	100	95	50	0	0	1	0
MONTGOMERY	64	34	73	29	49	-1	.2	-.8	.2	.2	16	61.4	134	98	46	0	2	2	0
AK ANCHORAGE	26	11	39	-7	19	4	.4	.2	.2	.6	188	13.2	93	88	63	0	7	4	0
BARROW	-5	-22	-2	-33	-13	-2	.1	0	0	.1	100	3.4	78	81	68	0	7	3	0
FAIRBANKS	7	-16	33	-29	-5	3	T	-1.1	T	.1	58	10.1	102	85	72	0	7	2	0
JUNEAU	37	29	43	20	33	5	2.9	1.9	1.0	3.8	241	57.0	114	100	84	0	5	6	3
KODIAK	34	21	42	5	27	-3	4.0	2.7	1.7	4.5	254	77.9	137	92	71	0	5	4	4
NOME	8	-5	20	-14	1	-4	.1	-.1	.1	.1	40	11.8	83	77	56	0	7	2	0
AZ PHOENIX	71	51	78	47	61	7	.1	-.1	.1	.1	33	7.2	113	82	24	0	0	1	0
PRESCOTT	56	26	61	21	41	3	0	-.4	0	0	0	13.8	78	69	25	0	7	0	0
TUCSON	65	44	74	38	55	2	T	-.2	T	T	7	11.6	112	85	31	0	0	1	0
YUMA	75	54	78	48	64	7	0	-.1	0	0	0	2.8	125	36	17	0	0	0	0
AR FORT SMITH	51	30	58	22	41	-2	.4	-.3	.4	.4	39	33.8	89	97	53	0	5	2	0
LITTLE ROCK	53	35	62	30	44	-1	-.2	-.8	.1	.2	13	44.9	97	69	47	0	2	4	0
CA BAKERSFIELD	64	35	74	32	50	3	0	-.1	0	0	0	3.7	72	97	42	0	1	0	0
EUREKA	58	45	62	42	52	1	.1	-1.2	.1	.1	7	25.5	74	92	76	0	0	1	0
FRESNO	58	35	65	32	47	0	0	-.3	0	0	0	6.9	75	100	59	0	1	0	0
LOS ANGELES	76	53	79	49	65	7	0	-.3	0	0	0	5.5	51	55	16	0	0	0	0
REDDING	68	41	73	31	54	6	0	-1.5	0	0	0	27.2	75	79	33	0	1	0	0
SACRAMENTO	65	41	71	35	53	6	0	-.6	0	0	0	9.1	61	94	39	0	0	0	0
SAN DIEGO	73	52	76	46	62	3	0	-.4	0	0	0	8.0	92	63	24	0	0	0	0
SAN FRANCISCO	65	46	69	44	55	5	0	-.7	0	0	0	10.0	59	88	47	0	0	0	0
CO DENVER	46	16	60	2	31	-3	.4	.2	.4	.4	175	14.3	97	79	35	0	7	1	0
GHAND JUNCTION	47	22	51	18	34	4	T	-.1	T	T	12	7.7	103	84	36	0	7	2	0
PUEBLO	45	14	62	2	30	-5	.3	.2	.2	.3	225	11.1	104	84	40	0	7	1	0
CT BRIDGEPORT	43	29	59	23	36	0	T	-.9	T	T	0	37.2	96	68	36	0	5	0	0
HARTFORD	42	23	58	18	33	1	T	-1.0	T	T	0	38.5	93	74	31	0	7	0	0
DC WASHINGTON	50	34	58	26	42	1	.2	-.5	.2	.2	19	30.6	83	70	32	0	3	1	0
FL APALACHICOLA	68	46	76	39	57	1	T	-.8	T	T	0	61.1	116	95	51	0	0	0	0
DAYTONA BEACH	73	51	79	41	62	2	.2	-.3	.2	.2	24	40.1	85	95	51	0	0	1	0
JACKSONVILLE	70	42	74	33	56	-1	T	-.5	T	T	6	59.5	119	98	47	0	0	1	0
KEY WEST	77	66	80	63	71	0	T	-.4	T	.1	8	36.4	95	90	62	0	0	0	0
MIAMI	81	63	83	56	72	3	0	-.4	0	0	0	44.4	79	87	47	0	0	0	0
ORLANDO	74	55	80	49	65	2	T	-.4	T	T	0	51.5	107	95	54	0	0	0	0
TALLAHASSEE	69	35	74	27	52	-2	T	-1.0	T	T	0	47.4	77	99	47	0	2	0	0
TAMPA	75	55	81	45	65	3	.1	-.4	.1	.1	12	50.8	113	96	49	0	0	1	0
WEST PALM BEACH	79	60	83	54	70	2	T	-.5	T	T	0	63.0	108	91	52	0	0	0	0
GA ATLANTA	60	37	68	29	48	3	T	-.9	T	T	1	44.6	98	84	37	0	2	1	0
AUGUSTA	61	29	69	25	45	-3	.2	-.5	.2	.2	19	39.9	98	98	42	0	6	1	0
MACON	64	33	70	28	49	-1	.1	-.8	.1	.1	8	41.5	99	94	38	0	3	1	0
SAVANNAH	65	37	74	29	51	-1	.1	-.5	.1	.1	16	47.3	99	88	42	0	2	1	0
HI HILO	86	70	88	66	78	5	T	-3.1	T	T	0	126.8	106	84	56	0	0	1	0
HONOLULU	85	68	87	65	76	2	3.3	2.6	2.9	3.3	315	13.1	62	92	59	0	0	3	1
KAHULUI	83	65	86	62	74	1	5.1	4.6	2.6	5.1	658	22.9	141	95	61	0	0	2	2
LIHUE	82	69	84	64	75	2	1.2	0	.9	1.4	84	37.8	94	94	65	0	0	2	1
ID BOISE	34	27	39	20	31	-2	T	-.3	T	T	3	10.5	99	98	78	0	6	1	0
LEWISTON	45	33	49	28	39	3	T	-.3	T	T	5	8.3	70	94	68	0	2	1	0
POCATELLO	31	17	37	8	24	-4	.2	0	.1	.2	61	7.1	71	98	76	0	7	5	0
IL CHICAGO	39	22	53	8	31	0	.1	-.5	.1	.1	8	31.0	95	84	44	0	7	1	0
MOLINE	40	20	55	6	30	1	T	-.4	T	T	0	24.2	68	87	51	0	7	0	0
PEORIA	41	22	55	11	32	1	0	-.5	0	T	0	19.9	59	86	44	0	7	0	0
QUINCY	44	22	59	10	33	1	0	-.4	0	0	0	17.1	47	86	42	0	6	0	0
ROCKFORD	37	20	53	7	28	1	T	-.5	T	T	0	23.0	65	87	47	0	7	0	0
SPRINGFIELD	42	24	57	14	33	0	0	-.5	0	0	0	22.1	67	82	43	0	6	0	0
IN EVANSVILLE	47	27	60	20	37	-1	T	-.8	T	T	2	35.7	91	81	41	0	5	0	0
FORT WAYNE	39	23	53	13	31	0	T	-.6	T	T	2	30.9	94	86	53	0	7	1	0
INDIANAPOLIS	43	25	56	13	34	0	T	-.7	T	T	0	28.8	78	80	44	0	7	0	0
SOUTH BEND	38	25	53	17	32	0	.1	-.6	.1	.1	7	35.8	99	86	51	0	6	2	0
IA DES MOINES	40	18	55	2	29	1	T	-.3	T	T	0	21.2	71	88	42	0	7	0	0
STOUX CITY	38	18	53	4	28	2	T	-.2	T	T	0	22.7	91	93	52	0	7	0	0
WATERLOO	33	14	47	-2	24	-1	T	-.3	T	T	2	18.5	58	93	59	0	7	1	0
KS CONCORDIA	47	24	62	19	36	2	0	-.2	0	0	0	13.9	52	76	34	0	6	0	0
DODGE CITY	49	21	63	14	35	0	0	-.1	0	0	0	14.9	74	81	32	0	7	0	0
GOODLAND	47	21	63	15	34	2	.1	0	.1	.1	62	20.5	129	82	38	0	7	1	0
TOPEKA	47	21	62	13	34	0	T	-.3	T	T	0	18.5	57	83	34	0	7	0	0
WICHITA	49	26	65	15	38	1	0	-.2	0	0	0	16.6	59	83	34	0	6	0	0
KY BOWLING GREEN	49	27	60	20	38	-2	T	-1.0	T	T	1	40.9	89	91	41	0	5	1	0
LEXINGTON	45	27	55	19	36	-2	T	-.8	T	.1	5	35.4	82	76	33	0	6	1	0
LOUISVILLE	48	28	58	20	38	-1	T	-.8	T	T	1	34.1	83	72	31	0	4	1	0
LA ALEXANDRIA	59	39	69	32	49	-2	1.4	.3	1.2	1.4	88	40.0	82	90	54	0	1	3	1
BATON ROUGE	64	42	73	32	53	-1	3.0	1.9	3.0	3.0	191	70.9	135	93	51	0	1	2	1
LAKE CHARLES	64	44	74	35	54	-1	1.3	.1	1.2	1.3	78	55.5	110	93	53	0	0	2	1
NEW ORLEANS	64	44	72	35	54	-1	.1	-1.1	.1	.1	3	69.9	125	99	57	0	0	1	0

Based on 1951-80 normals

Weather Data for the Week Ending December 10, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	56	37	69	30	47	-3	1.2	.3	.6	1.2	93	32.8	80	96	55	0	0	0	0
ME CARIBOU	22	7	42	-5	14	-5	T	T	T	T	0	29.7	86	87	60	0	1	7	3
PORTLAND	35	17	53	11	26	-5	T	T	T	T	1	42.5	105	79	36	0	0	0	0
MD BALTIMORE	49	29	59	19	39	1	.1	-1.0	.1	.1	9	31.4	80	65	30	0	0	0	0
SALISBURY	48	28	59	19	38	1	.1	-1.0	.1	.1	7	42.4	99	82	32	0	0	0	0
MA BOSTON	42	26	57	19	34	1	.1	-1.0	.1	.1	0	33.8	83	69	33	0	0	0	0
CHATHAM	41	28	50	22	35	1	.1	-1.1	.1	.1	1	38.9	89	78	54	0	0	0	0
MI ALPENA	36	20	57	7	28	1	.1	-1.1	.1	.1	5	25.9	94	89	51	0	0	0	0
DETROIT	37	24	51	11	31	0	.1	-1.1	.1	.1	10	25.0	86	86	46	0	0	0	0
FLINT	36	23	53	12	30	0	.1	-1.1	.1	.1	10	26.4	95	88	51	0	0	0	0
GRAND RAPIDS	36	24	53	11	30	0	.1	-1.1	.1	.1	9	34.5	108	90	57	0	0	0	0
HOUGHTON LAKE	32	22	50	8	27	0	.1	-1.1	.1	.1	23	28.1	105	88	57	0	0	0	0
LANSING	36	23	52	10	29	0	.1	-1.1	.1	.1	11	30.2	107	88	54	0	0	0	0
MARQUETTE	27	10	50	-5	18	-2	.2	-1.1	.1	.1	20	39.6	111	92	61	0	0	0	0
MUSKOGON	36	27	47	17	32	1	.1	-1.1	.1	.1	22	33.5	113	86	57	0	0	0	0
SAULT ST. MARIE	31	15	48	-7	23	0	.6	0	.4	.6	65	33.8	107	91	56	0	0	0	0
MN ALEXANDRIA	25	10	43	-9	17	-2	T	T	T	T	0	22.3	93	90	65	0	0	0	0
DULUTH	23	7	44	-12	15	-2	T	T	T	T	2	31.1	109	88	57	0	0	0	0
INT'L FALLS	21	1	45	-20	11	-1	T	T	T	T	0	24.1	102	95	60	0	0	0	0
MINNEAPOLIS	30	14	44	-2	22	-1	T	T	T	T	0	18.4	72	87	56	0	0	0	0
ROCHESTER	26	11	39	-5	19	-3	T	T	T	T	0	20.3	73	90	64	0	0	0	0
MS GREENWOOD	56	31	67	24	44	-4	.2	-1.0	.2	.2	14	34.8	80	89	38	0	0	0	0
JACKSON	60	34	70	26	47	-3	.4	-1.0	.4	.4	25	39.6	72	99	47	0	0	0	0
MERIDIAN	61	33	71	25	47	-2	.4	-1.0	.4	.4	22	49.8	101	96	43	0	0	0	0
MO CAPE GIRARDEAU	48	30	58	23	39	-1	.1	-1.0	.2	.4	4	35.4	84	87	44	0	0	0	0
COLUMBIA	46	24	63	14	35	0	T	T	T	T	1	27.2	76	84	39	0	0	0	0
KANSAS CITY	46	25	59	16	36	0	T	T	T	T	0	23.4	67	82	38	0	0	0	0
SAINT LOUIS	48	31	65	20	39	3	.1	-1.0	.1	.1	8	30.8	95	70	36	0	0	0	0
SPRINGFIELD	48	26	65	17	37	-1	.4	-1.0	.4	.4	47	45.8	121	86	42	0	0	0	0
MT BILLINGS	42	25	56	12	34	4	.2	0	.4	.2	63	10.0	69	79	45	0	0	0	0
GLASGOW	33	15	51	4	24	4	.2	0	.4	.4	50	7.1	67	86	52	0	0	0	0
GREAT FALLS	44	24	58	7	34	5	.4	0	.4	.4	146	11.1	77	78	49	0	0	0	0
HAVRE	40	22	58	13	31	9	.4	0	.4	.4	0	5.9	52	78	47	0	0	0	0
HELENA	42	17	47	9	29	4	T	T	T	T	10	9.8	88	97	59	0	0	0	0
KALISPELL	34	24	39	15	29	2	T	T	T	T	0	4.8	34	71	39	0	0	0	0
MILES CITY	41	22	55	18	32	7	.8	0	.5	.8	167	13.4	91	98	85	0	0	0	0
MISSOULA	34	22	37	10	28	1	.2	-1.0	.2	.2	57	10.5	86	100	82	0	0	0	0
NE GRAND ISLAND	46	19	62	13	33	4	T	T	T	T	0	20.8	92	91	39	0	0	0	0
LINCOLN	46	19	62	14	32	3	T	T	T	T	0	17.8	67	90	36	0	0	0	0
NORFOLK	43	18	65	11	30	4	T	T	T	T	0	23.8	103	90	38	0	0	0	0
NORTH PLATTE	47	16	63	10	31	3	T	T	T	T	0	18.8	99	94	38	0	0	0	0
OMAHA	41	21	56	10	31	1	T	T	T	T	0	20.6	69	83	48	0	0	0	0
SCOTTSBLUFF	44	14	62	1	29	-1	.2	0	.2	.2	144	15.2	107	89	47	0	0	0	0
VALENTINE	45	13	64	2	29	2	T	T	T	T	0	19.8	118	79	40	0	0	0	0
NV ELY	41	14	49	9	28	0	T	T	T	T	0	7.8	92	87	48	0	0	0	0
LAS VEGAS	64	40	66	35	52	5	0	-1.0	0	0	0	2.2	58	38	17	0	0	0	0
RENO	51	24	55	22	37	4	0	-1.0	0	0	0	4.5	71	88	40	0	0	0	0
WINNEMUCCA	48	21	52	18	35	3	0	-1.0	0	0	0	6.2	87	90	49	0	0	0	0
NH CONCORD	36	11	53	5	24	-3	T	T	T	T	2	32.3	94	89	42	0	0	0	0
NJ ATLANTIC CITY	47	23	65	16	35	-3	T	T	T	T	3	32.9	84	83	33	0	0	0	0
NM ALBUQUERQUE	45	25	54	14	35	-2	T	T	T	T	0	13.1	173	74	36	0	0	0	0
CLOVIS	44	25	57	16	34	-6	1.4	1.3	1.1	1.4	783	20.9	126	87	50	0	0	0	0
ROSWELL	48	29	62	24	38	-3	.5	.4	.2	.5	417	13.7	133	84	50	0	0	0	0
NY ALBANY	38	20	52	13	29	0	.1	-1.0	.1	.1	9	28.6	85	87	42	0	0	0	0
BINGHAMTON	35	21	50	12	28	0	.1	-1.0	.1	.1	16	32.6	93	87	50	0	0	0	0
BUFFALO	38	26	51	9	32	0	.1	-1.0	.1	.1	12	36.6	104	81	46	0	0	0	0
NEW YORK	46	35	59	28	40	0	.1	-1.0	.1	.1	8	39.3	98	59	32	0	0	0	0
ROCHESTER	39	23	53	9	31	0	.1	-1.0	.1	.1	23	32.8	89	82	46	0	0	0	0
SYRACUSE	38	20	55	11	29	-2	.2	-1.0	.1	.1	8	25.3	61	84	31	0	0	0	0
NC ASHEVILLE	54	24	63	19	39	-2	.1	-1.0	.1	.1	13	32.7	81	81	32	0	0	0	0
CHARLOTTE	57	32	67	27	45	1	.1	-1.0	.1	.1	19	34.3	86	78	29	0	0	0	0
GREENSBORO	55	27	63	21	41	-1	.2	-1.0	.1	.1	3	41.6	79	76	45	0	0	0	0
HATTERAS	55	42	65	34	48	-2	T	T	T	T	6	50.1	99	87	34	0	0	0	0
NEW BERN	58	32	68	25	45	-3	.1	-1.0	.1	.1	29	36.9	93	86	30	0	0	0	0
RALEIGH	56	31	64	23	44	0	.3	-1.0	.1	.1	1	57.6	113	86	32	0	0	0	0
WILMINGTON	60	33	69	26	47	-3	T	T	T	T	38	9.5	64	85	49	0	0	0	0
ND BISMARCK	33	6	60	-22	20	1	.1	-1.0	.1	.1	0	13.4	71	88	63	0	0	0	0
FARGO	25	10	40	-9	17	1	.1	-1.0	.1	.1	0	11.8	66	86	51	0	0	0	0
GRAND FORKS	27	9	50	-10	18	4	T	T	T	T	0	10.0	76	87	56	0	0	0	0
WILLISTON	29	10	49	-9	19	1	.2	0	.2	.2	106	31.6	93	84	49	0	0	0	0
OH AKRON-CANTON	38	24	52	11	31	-2	.1	-1.0	.1	.1	13	37.1	98	76	40	0	0	0	0
CINCINNATI	44	26	55	19	35	-1	T	T	T	T	2	37.1	98	76	40	0	0	0	0
CLEVELAND	39	28	56	20	33	0	.2	0	.2	.2	35	27.5	82	82	49	0	0	0	0
COLUMBUS	41	23	54	12	32	-2	T	T	T	T	5	34.1	97	84	41	0	0	0	0

Weather Data for the Week Ending December 10, 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
DAYTON	40	24	54	14	32	-2	T	-1.6	T	T	0	33.9	103	77	43	0	6	0	0
TOLEDO	39	23	53	5	31	0	.1	-1.5	.1	.1	13	26.8	90	86	49	0	5	1	0
YOUNGSTOWN	37	24	53	11	31	-1	.1	-1.6	.1	.1	14	29.9	85	83	48	0	4	2	0
OK OKLAHOMA CITY	50	32	61	24	41	-1	.3	.1	.3	.3	85	30.9	103	86	48	0	4	2	0
TULSA	50	33	62	25	42	0	.3	.1	.3	.3	51	31.7	85	82	43	0	4	2	0
OR ASTORIA	53	42	57	34	48	4	1.0	-1.6	.7	1.0	28	48.9	79	98	82	0	4	5	1
BURNS	39	21	45	9	30	1	.1	-1.3	.1	.1	17	7.7	84	90	71	0	6	1	0
MEDFORD	52	33	58	25	43	4	T	-1.8	T	T	0	12.3	71	98	63	0	3	0	0
PENDLETON	41	32	53	27	37	-1	.1	-1.3	.1	.1	16	9.9	91	96	83	0	3	3	0
PORTLAND	51	40	60	33	45	4	.4	-1.1	.2	.4	18	29.7	90	97	75	0	0	4	0
SALEM	51	39	60	29	45	3	.2	-1.4	.1	.1	7	29.6	83	99	85	0	1	3	0
PA ALLENTOWN	44	25	56	21	34	1	T	-1.9	T	T	0	38.4	92	77	36	0	7	0	0
ERIE	38	30	54	20	34	1	.5	-1.3	.4	.8	66	37.0	98	81	48	0	4	3	0
HARRISBURG	45	28	57	21	37	1	T	-1.7	T	T	0	32.5	88	68	32	0	7	0	0
PHILADELPHIA	47	27	62	20	37	-1	T	-1.7	T	T	3	37.5	96	76	33	0	6	1	0
PITTSBURGH	41	26	56	18	33	-1	.1	-1.5	.1	.1	15	25.1	72	84	48	0	6	1	0
SCRANTON	40	26	50	18	33	1	T	-1.6	T	T	5	30.4	92	74	40	0	6	1	0
RI PROVIDENCE	42	25	57	18	33	-1	T	-1.0	T	T	0	37.4	88	71	33	0	6	0	0
SC CHARLESTON	63	37	71	31	50	-1	T	-1.7	T	T	0	41.9	85	90	39	0	2	0	0
COLUMBIA	61	30	70	24	46	-2	.1	-1.7	.1	.1	5	42.7	91	92	36	0	6	1	0
FLORENCE	61	31	69	26	46	-3	.1	-1.6	.1	.1	8	36.7	88	86	30	0	5	1	0
GREENVILLE	58	31	67	25	44	-1	.1	-1.1	.1	.1	9	36.4	76	84	34	0	5	1	0
SD ABERDEEN	29	13	48	-7	21	2	T	-1.1	T	T	13	17.6	102	87	58	0	7	1	0
HURON	37	13	61	-4	25	3	T	-1.1	T	T	12	18.6	103	89	47	0	7	1	0
RAPID CITY	44	20	62	11	32	4	.1	0	.1	.1	69	10.6	67	87	49	0	7	3	0
SIoux FALLS	33	14	46	1	23	1	T	-1.2	T	T	0	18.8	80	88	60	0	5	1	0
TN CHATTANOOGA	55	28	65	23	42	-1	.2	-1.0	.2	.2	9	40.5	82	96	38	0	5	1	0
KNOXVILLE	52	25	62	19	39	-4	.1	-1.0	.1	.1	5	30.8	70	95	42	0	7	1	0
MEMPHIS	54	33	66	27	44	-1	.1	-1.0	.1	.1	9	44.5	92	81	41	0	3	2	0
NASHVILLE	52	28	64	21	40	-2	.2	-1.9	.2	.2	11	27.6	61	87	36	0	5	1	0
TX ARILENE	54	35	69	28	45	-3	.8	.6	.4	.8	269	16.2	71	85	50	0	3	3	0
AMARILLO	46	25	63	16	36	-4	.1	0	.1	.1	88	24.7	133	88	43	0	7	2	0
AUSTIN	63	46	79	37	55	1	1.0	.5	.4	1.0	142	19.1	64	84	58	0	0	4	0
BEAUMONT	63	43	74	36	53	-2	1.4	.3	.8	1.4	88	45.7	88	97	56	0	0	2	2
BROWNSVILLE	71	50	83	43	61	-2	.1	-1.2	.1	.1	20	23.1	94	96	60	0	0	1	0
CORPUS CHRISTI	67	49	81	43	58	-2	.3	.1	.3	.3	92	18.6	62	95	63	0	0	1	0
DEL RIO	60	45	71	35	53	-1	.3	.2	.1	.3	145	15.5	92	84	52	0	0	3	0
EL PASO	52	34	64	30	43	-3	.4	.3	.2	.4	325	11.0	150	89	52	0	2	3	0
FORT WORTH	57	39	67	30	48	-1	1.3	.9	.7	1.3	228	23.9	80	88	57	0	1	3	1
GALVESTON	63	52	72	46	58	-1	.3	-1.5	.1	.3	24	37.3	98	93	66	0	0	4	0
HOUSTON	65	44	77	36	54	-2	.8	0	.4	.8	68	22.5	51	92	58	0	0	4	0
LUBBOCK	50	30	66	22	40	-3	.5	.4	.3	.5	433	13.0	75	85	48	0	5	3	0
MIDLAND	52	30	69	25	41	-6	.5	.4	.3	.5	331	18.3	138	90	53	0	4	2	0
SAN ANGELO	57	36	71	29	46	-3	.8	.7	.3	.8	376	14.0	80	95	53	0	3	5	0
SAN ANTONIO	66	46	79	39	56	1	.6	.3	.4	.6	123	19.0	68	84	55	0	0	2	0
VICTORIA	67	47	82	43	57	-1	2.1	1.6	2.1	2.1	294	15.8	44	94	58	0	0	2	1
WACO	60	42	75	37	51	0	1.4	.9	1.1	1.4	219	24.1	81	92	61	0	0	4	1
WICHITA FALLS	54	34	70	24	44	-2	.5	.2	.4	.5	118	22.9	89	83	44	0	3	3	0
UT CEDAR CITY	44	16	51	12	30	-2	T	-1.1	T	T	9	12.0	122	98	46	0	7	1	0
SALT LAKE CITY	36	25	39	21	31	-1	.1	-1.3	0	.1	12	8.7	61	97	67	0	7	3	0
VT BURLINGTON	31	15	45	0	23	-3	.1	-1.5	.1	.1	14	26.0	81	80	49	0	7	2	0
VA NORFOLK	53	32	64	27	43	-2	.5	-1.2	.5	.5	49	38.5	90	76	32	0	5	1	0
RICHMOND	52	28	63	22	40	-2	.4	-1.4	.4	.4	38	36.9	88	79	34	0	5	1	0
ROANOKE	52	32	62	23	42	2	.7	0	.6	.7	71	30.9	83	63	29	0	4	2	1
WA QUILLAYUTE	52	44	58	33	48	7	1.9	-2.0	.9	2.8	50	89.5	94	100	84	0	0	6	2
SEATTLE-TACOMA	52	43	54	33	47	6	.6	-1.8	.6	.6	32	30.1	88	99	76	0	0	1	1
SPOKANE	33	28	35	18	30	0	.3	-1.3	.1	.3	33	15.0	101	100	92	0	7	5	0
YAKIMA	37	30	43	19	34	0	T	-1.2	T	T	10	4.8	70	96	81	0	5	3	0
WV BECKLEY	43	25	56	13	34	-1	.3	-1.4	.3	.3	33	31.7	79	76	36	0	6	2	0
CHARLESTON	47	27	60	19	37	-2	.1	-1.7	.1	.1	5	28.9	72	82	32	0	5	1	0
HUNTINGTON	47	29	60	21	38	-1	T	-1.7	T	T	1	33.0	85	71	28	0	5	1	0
PARKERSBURG	44	27	55	17	36	-2	T	-1.6	T	T	5	30.0	83	70	32	0	5	2	0
WI GREEN BAY	30	16	42	2	23	-1	T	-1.3	T	T	0	23.2	86	87	62	0	7	0	0
LACROSSE	30	16	47	1	23	-2	.1	-1.2	.1	.1	18	25.6	87	87	53	0	7	1	0
MADISON	35	18	53	3	27	1	T	-1.4	T	T	2	23.0	78	85	46	0	7	1	0
MILWAUKEE	37	22	53	8	29	1	T	-1.5	T	T	3	29.0	98	81	44	0	6	1	0
WAUSAU	28	13	44	-2	20	-1	T	-1.3	T	T	0	22.7	74	89	50	0	7	0	0
WY CASPER	38	19	50	4	29	2	.1	0	.1	.1	63	6.1	56	83	49	0	7	1	0
CHEYENNE	43	19	60	6	31	0	.2	.2	.2	.2	192	15.4	118	82	36	0	7	1	0
LANDER	36	13	47	7	25	0	.3	.2	.3	.3	167	7.2	57	81	46	0	7	1	0
SHERIDAN	44	18	60	3	31	4	.2	.1	.2	.2	96	9.5	65	89	50	0	7	1	0
PR SAN JUAN	83	71	85	69	77	-1	.5	-1.7	.3	.7	40	57.0	110	88	61	0	0	3	0

## National Agricultural Summary

December 5-11, 1988

**HIGHLIGHTS:** Dry weather allowed row crop harvests to progress well in most of the Delta and the Southeast. Rain and snow slowed harvest in portions of the southern Plains. Soil moisture was mostly adequate to short except in the Delta, where it was mostly adequate. There were 4-6 days suitable for fieldwork in the South.

In the southern Plains, winter wheat fields showed signs of moisture stress and insect damage. Fields lacked protective snow cover in the northern Plains. Soybean harvest continued in the Delta, Southeast, and portions of the eastern Corn Belt. Cotton harvest was 92 percent (%) complete, 1 percentage point behind 1987 but 7 points ahead of the 5-year average. Harvest was complete or nearly complete except in New Mexico, Oklahoma, and Texas. Florida's citrus groves were mostly good. Livestock was mostly good.

**SMALL GRAINS:** Winter wheat fields in central and western Kansas continued to show signs of moisture stress. Mild December weather has allowed greenbug populations to continue increasing. The crop shows signs of insect damage statewide. Fields in Oklahoma and the Texas Plains showed signs of moisture stress and greenbug damage. Some fields in central Texas have died from lack of moisture. Recent rains have improved growth in eastern Texas and the Blacklands. Producers in Colorado and South Dakota were concerned about lack of protective snow cover and dry soil moisture. Montana's crop was fair to good and has suffered only light wind damage. Illinois' crop was mostly good but needed snow cover. Georgia's crop was fair to good but needed rain in the southern area. North Carolina's seeding was 92% complete, 3 points ahead of normal. Condition of the emerged crop was good. In Oregon and Washington, winter wheat was mostly good but signs of Russian wheat aphid damage were evident in many fields.

**SOYBEANS:** Harvest continued in the Delta, the Southeast, and portions of the eastern Corn Belt. Michigan's harvest advanced 10 points and was 95% complete, 3 points behind normal. Harvest in North Carolina was 13 points ahead of the 74% average. South Carolina's harvest was 91% complete, 15 points ahead of normal. Harvest progress in Alabama, Arkansas, and Mississippi was near normal.

**COTTON:** Harvest progress was normal or ahead of normal in all 14 major producing States. Harvest was 92% finished, slightly behind last year's 93% but 7 points ahead of normal. Harvest was complete in Louisiana and Tennessee and nearly complete in all the other States except New Mexico, Oklahoma, and Texas. Snow and rain slowed harvest progress in those States. Texas' harvest was 86% complete, 13 points ahead of normal. Snow, ice, and blowing sand slightly reduced the quality of the crop. Oklahoma's harvest was 15 points ahead of the 60% average. New Mexico's harvest was 82% complete, slightly ahead of the

81% normal. California producers continued shredding and discing crop residue in compliance with the pink bollworm quarantine. Arizona's harvest was in its final stages. Producers were actively shredding and plowing crop residue.

**OTHER FIELD CROPS:** Texas peanut harvest was 97% complete, 5 points ahead of normal. Kentucky burley tobacco marketing continued but with lighter volume. More humidity was needed to work the crop. Only small amounts were going into the government pool.

**FRUIT AND NUTS:** Florida's citrus groves were generally good but needed rain in the southern area. Some groves were losing fruit from splitting and blue mold. Fresh fruit harvests of early oranges, grapefruit, tangelos, and tangerines were active. Most processing plants were open and were receiving early oranges. Caretakers continued to prepare groves for winter. Arizona's groves were in good condition. Harvest and packing of lemons, grapefruit, and tangerines continued in the western and central areas. Apple packing was almost complete in the east. Georgia's pecan harvest was 80% finished, 3 points ahead of normal. Texas' citrus harvest continued. Quality of the crop was excellent. Pecan harvest was 82% complete, 6 points ahead of normal. Short moisture supplies during the growing season have reduced native variety yields in some areas. California's desert grapefruit and lemon harvests were active. Quality of the fruit was good. Pecan harvest continued. Tangerine and navel orange harvests gained momentum. Date harvest was nearly complete. Orchard and vineyard pruning as well as herbicide and fertilizer applications were active.

**VEGETABLES:** Florida's vegetable harvest was active. Main harvest activities included tomatoes, peppers, cucumbers, lettuce, and sweet corn. The volume of strawberries harvested in the Plant City area increased. Vegetable harvest continued active in Arizona. Texas' fall and winter vegetable harvests continued in the Rio Grande Valley. Carrot and cabbage harvests were active in the San Antonio-Winter Garden area. Volume of spinach harvested increased. California's broccoli, lettuce, and cauliflower harvests continued with light to moderate supplies available. Quality of the crops was good. Celery harvest activity declined seasonally. Potato packing sheds operated at full capacity in the Tulelake-Butte Valley. Sweetpotato harvest continued in the Westside area. Central valley activities included garlic and onion plantings and harvest of cabbage, celery, and sugar peas.

**PASTURES & LIVESTOCK:** Pastures were mostly fair to good in the Southeast and Delta. Livestock was mostly good. In California, wind and lack of rain have slowed range and pasture growth. Stock water supplies were very low in most areas.

## State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service.

**ALABAMA:** Rainfall mostly under 0.20 in. northern half; under 0.50 in. central, south. Temperatures 2 to 5° below normal northwest half; 1 to 3° below normal elsewhere.

Days suitable for fieldwork 5.7. Soil moisture 13% short, 78% adequate, 9% surplus. Continued dry weather allowed favorable progress for harvest, small grain seeding. Soybeans 94% harvested, 100% 1987, 95% avg. Cotton 99% harvested, 100% 1987, 99% avg. Winter wheat 94% seeded, 95% 1987, 90% avg. Pastures mostly fair; livestock mostly good. Primary activities: Harvesting soybeans, cotton, pecans; seeding, fertilizing small grains; turning harvested cropland; pruning fruit trees; soil testing; marketing catfish, building fish ponds; providing supplemental feed to livestock; general care of livestock, poultry.

**ARIZONA:** Sunny skies, occasional high cloudiness, mild temperatures 4th to 6th. Upper level low pressure system north 7th; wind, snow, rain. Moisture spread southeast, east central 8th; snow 3,500 to 4,000 ft. southeast evening 8th, 3 to 9 in. White Mountains. Partly cloudy, windy west; scattered rain, snow southeast 9th. Sunny skies northwest, 10th. Precipitation from storm mostly 0.10 to 0.75 in. White Mountains, southeast; very little remainder of State. Temperatures 1° below to 7° above normal.

Cotton harvest final stages; stalk shredding, disking, plowing following harvest. Cotton 96% harvested. Planting, irrigation wheat, barley progressed normally, 50% seeded, 29% stands established. Sheep grazing alfalfa fields increased west. New, renovated alfalfa stands progressing well. Harvest activity alfalfa very light, crop dormant. Harvest, packing lemons, grapefruit, tangerines west, central. Groves good. Boston, leaf, romaine, head lettuce; broccoli, cauliflower, cabbage, kale, napa, escarole, bok choy, endive harvest west, central. Harvest, packing pecans west, central, east. Harvest, packing navels, mineolas, central. Fall lettuce, greens, rapini, green onions, parsley harvested central. Apple packing almost complete east.

**ARKANSAS:** Much colder, widespread light rainfall or snow latter part of week. Temperature extremes 16°; 69°. Rainfall none to 1.52 in.

Soil moisture mostly adequate. Major farming activities: Cotton scraping; soybean harvest; wheat seeding; pecan harvest; routine livestock chores. Cotton 99% harvested, 100% 1987, 99% avg. Soybeans 95% harvested, 100% 1987 94% avg. Wheat 96% planted, 100% 1987; 90% emerged, 100% 1987. Pecan yields up; quality, quantity reduced some due drought stress. Pastures providing adequate forage. Water adequate. Livestock good, supplemental feeding continued.

**CALIFORNIA:** Strong high pressure dominated, producing gusty north, east winds around middle weekend. Skies clear except frequent persistent valley fog which produced drizzle Merced area. Temperatures warmed well above normal, set records some areas late week.

Fields dried, fieldwork increased. Winter grain seeding increased. Rice stubble burning increased. Shredding, discing cotton stubble active, bringing fields compliance State pink bollworm quarantine. Sugarbeet, alfalfa harvests normal. Sheep grazed seed alfalfa fields. Some alfalfa seeded. Grain sorghum harvest. Southern seed corn drying.

Preparation spring seeding active. Dry conditions allowed pruning, floor clean-up orchards. Spraying, fertilizing, fumigating replants active. Harvesting emperor table grapes virtually completed. Hass avocado harvest progressed. Date harvest wound down. Kiwifruit packing active. Tangerine, navel orange harvests gained momentum. Desert grapefruit, lemon harvests continued, good quality fruit. Pecan harvest continued. Broccoli harvest moderate, fairly light supply, good quality Salinas-Watsonville, Santa Maria; fields Merced-Atwater continued developing. Lettuce light supplies Santa Maria area. Growers Westside continued plant fields next year's crop. Earlier planted fields plagued by horned larks. Cauliflower movement remained fairly light supply Salinas-Watsonville area, moderate supply, good quality Santa Maria. Celery seasonally decreased, generally good quality. Potato packing sheds Tulelake-Butte Valley operated full capacity. Sweetpotato harvest continued Westside, hot bed preparations underway Merced-Atwater. Strawberry volume remained light, variable quality Santa Maria. Activities central valley included planting garlic, onion fields, harvesting cabbage, celery, sugar peas. Livestock fair to good statewide. Wind action lack of rain caused drying range, pasture grasses, slowed development of new emergence. Supplemental feeding continued, water supplies very low most areas. Livestock movement slowed, fall calving, lambing continued.

**COLORADO:** Clear, dry early week. Snow 7th mostly northern mountains, front range Foothills; trace west slope, 2 to 4 in. many areas, up to 6 in. mountains. Upslope northeast brought 10 to 15 in. to Ft. Collins area. Cold, dry until 11th mountains received 1 to 2 in. of new snow and 1 in. or less northeast. Temperatures most areas 1 to 3° below normal except Grand Valley area where temperatures 1 to 3° above normal.

Virtually no snow cover on eastern plains wheat, topsoil dry. Major farm activities include feed, care of livestock.

**FLORIDA:** Temperatures 3° below normal north, near normal central, south; rainfall 1.00 to 1.50 in. northern half of State.

Soil moisture mostly adequate except few scattered areas remained short. Some scraping, cotton fields. Soybean harvest completed. Winter wheat planting, sugarcane harvest active. Seed corn harvest started southern Peninsula. Weekend rains central, northern areas benefited forage growth. Winter pastures good progress, but cooler temperatures slowed permanent pasture growth. Rains early week along lower east coast especially beneficial. Grazing varied widely from poor to excellent statewide, but mostly fair to good. Cattle, calves fair to generally good. Rains up to 1.00 in. central citrus producing areas, northward 11th. Showers early week widely scattered eastern, southern areas; more rain needed. Trees generally good, but some groves losing fruit to splitting, blue mold. Fresh fruit harvest active with navels, early oranges, grapefruit, tangelos, tangerines increasing weekly. Most processing plants also open, receiving early oranges. Cultivation practices limited to clean disking sand hill groves for winter air drainage; ditch maintenance, mowing flat woods areas. Mild days, cool nights vegetable producing areas. Minimal rainfall. Planting, harvesting active. Good volume available tomatoes, peppers, cucumbers, celery, lettuce, snap beans,

sweet corn, squash, cabbage, radishes. Lesser supply escarole, eggplant, carrots. Volume strawberries Plant City area increased.

**GEORGIA:** Cool, temperatures 1 to 3° below normal. Lows teens, low 20s mountains, 30s central, south. Highs mid 60s mountains, 70s central, low 70s south. Rain 1 to 2 days northern half, 2 to 3 days southern half. Under 0.10 in. northern half, under 0.25 in. central, less than 0.75 in. south.

Days suitable for fieldwork 5.9. Soil moisture 9% very short, 42% short, 49% adequate. Harvest of all crops neared completion, ahead of average. Pecans 80% harvested, 83% avg. Harvest very active with favorable weather. Small grains seeding ahead of average. Emerged wheat fair to good, need rain south. Pastures fair to good. Cattle, hogs mostly good; routine care of livestock major activity.

**HAWAII:** Mostly unfavorable weather. Heavy rain, gusty winds midweek. Bulk of rain Oahu, Maui, Molokai. Many areas over 4 in. rain in 24-hours. Temperatures above normal; upper 60s to mid 80s. Rainfall 0.06 to 8.49 in. Winds variable 10 to 30 mph, gusts up to 40 mph.

Days suitable for fieldwork 6.0 to 7.0. Planting, harvesting slowed; halted some areas 6th. Overall damage light to moderate. Complete recovery expected. Crop poor to good. Chinese cabbage production steady, moderate volume. Head cabbage output steady, good quality. Tomato supplies to decrease due to weather. Banana harvesting active. Papaya production seasonal decline. Ginger root harvesting expected to begin soon; crop fair to good.

**IDAHO:** Temperatures below normal most of State. Precipitation below normal statewide.

Very little fieldwork completed. Most farm activities revolved around livestock feeding, milking. Other activities included shipping, marketing products, shopwork, cleaning corrals, attending meetings, tax planning. Some lambing. Livestock remained good. Adequate supplies of hay, roughage available to most farmers.

**ILLINOIS:** Temperatures 1 to 5° below normal. Precipitation not significant less than 0.10 in. Light snow not enough to provide protective blanket to fields.

Winter wheat mostly good. Livestock good to excellent.

**INDIANA:** Temperatures 1 to 4° below normal. Lows, single digits to teens, highs in 50s. Dry, precipitation less than 0.10 in. with snow flurries.

Farmers finishing up corn, soybean harvest. Other activities: Plowing, tilling, spreading fertilizer, hauling manure, ditching, processing tobacco, cleaning fence rows, machinery repair, caring of livestock. Good field activities.

**IOWA:** Temperatures 6 to 8° below normal snow covered northern one-third State 1 to 2° subnormal elsewhere. Extremes -9; 57°. Negligible precipitation except extreme west, 1 to 4 in. snow 11th.

Livestock mostly good. Good weather for livestock, calving. Activities: Machinery, building maintenance, working on taxes.

**KANSAS:** Most State no moisture. Only northwest, southeast precipitation. Northwest few hundredths, St. Francis to Sharon Springs. Southeast 0.64 in. Columbus decreased to few hundredths 50 to 100 miles. Temperatures middle 30s. Northwest 3° above normal, rest within 1° normal.

Harvest few remaining fields soybeans continued southeast. Some fieldwork, mostly fertilizing. Wheat central, western areas continued to need moisture, relieve stress. Mild December allowed greenbugs to continue increasing, damaging wheat most area.

**KENTUCKY:** Temperatures near normal, lows mid to upper 20s, highs 40s. Precipitation below normal; many stations no rainfall, no station over 0.25 in. Departure 0.75 to 1.00 in.

Burley volume became light, higher humidity needed to work tobacco. Less than 1% going government pool. Livestock satisfactory. Supplemental feeding greatly increased with cold temperatures.

**LOUISIANA:** Temperatures 2 to 5° below normal. Temperature extremes 26°; 74°. Rainfall 1.00 to 2.00 in.

Days suitable for fieldwork 5.2. Soil moisture 4% very short, 21% short, 65% adequate, 10% surplus. Sugarcane 91% harvested. Winter wheat fair to good; 94% planted, 87% emerged. Pecans 78% harvested. Hay, roughage 29% short, 67% adequate, 4% surplus. Livestock, pastures, vegetables fair to good. Spraying strawberries. Main activities: Harvesting remaining crops, planting wheat, winter pastures; working feeding livestock; farmstead maintenance; equipment, fence repair.

**MARYLAND & DELAWARE:** MARYLAND: Precipitation 0.07 in. Temperature 42°, normal 40°. Temperature extremes 20°; 66°.

Topsoil moisture 100% adequate. Subsoil moisture 100% adequate. Main farm activity caring for livestock.

DELAWARE: Precipitation 0.04 in. Temperature 40°, normal 39°. Temperature extremes 22°; 62°. Main farm activity caring for livestock.

**MICHIGAN:** Temperatures 1° below to 3° above normal. Temperature extremes -14°; 57°. Precipitation none to 0.58 in.

Days suitable for fieldwork 4.5. Soil moisture 20% adequate, 80% surplus. Soybeans 95% harvested, 100% 1987, 98% avg. Corn 95% harvested, 100% 1987, 95% avg. Dry bean, sugarbeet harvest virtually complete. Major activities: Wrapping up fall harvest for corn for grain, soybeans, dry beans, sugarbeets; repairing, winterizing equipment, buildings.

**MINNESOTA:** Temperatures 2 to 5° below normal. Temperature extremes -25°; 53°. Precipitation none to 0.02 in. Greatest weekly total 0.05 in. Snow none to 5 in.

Extremely cold required livestock farmers to use extra feed, bedding.

**MISSISSIPPI:** Cool, dry; temperature 3° below normal. Extremes 20°; 72°. Rainfall 0.76 in. below normal. Maximum weekly rainfall 2.22 in.

Days suitable for fieldwork 3.9, 5.3 1987, 2.5 avg. Soil moisture 2% short, 63% adequate, 30% surplus, 5% excessive. Cotton 99% harvested, 100% 1987, 97% avg. Soybeans 94% harvested, 100% 1987, 94% avg. Wheat good; 93% planted, 94% 1987, 86% avg.; 85% emerged. Pecans 73% harvested, 67% 1987, 79% avg. Pastures good. Livestock good. Hay 15% short, 85% adequate. Feed grain 25% short, 75% adequate. Activities: Finishing soybean, cotton harvest, fall tillage.

**MISSOURI:** Temperatures near normal, slightly below normal southeast. No precipitation northern half, southern half 0.25 in.

Late harvesting being completed southeast. Wheat mostly fair to good. Livestock water shor'

northern counties, run-off needed for ponds. Weather permitting grazing where available.

**MONTANA:** Rain, snow mid week mountains of western, southwestern, south central areas. Temperatures above normal 1 to 3° western, southwestern areas 8 to 11° above normal southeastern, north central.

Topsoil moisture mostly short, subsoil moisture very short. Winter wheat fair to good. Wind damage to winter wheat light. Stock water mostly adequate. Livestock feed adequate to short. Nearly all livestock receiving supplemental feed.

**NEBRASKA:** Scattered snow midweek west, over weekend east produced water equivalents 0.10 to 0.30 in. Temperatures near normal. Extremes 1°; 65°.

**NEVADA:** Weak frontal system midweek produced light snow, gusty winds, mainly mountains northeast. Remainder including west, south remained dry but cold. Temperatures near normal except extreme south where below. Temperature extremes 3°; 71°.

Low night temperatures increased livestock feeding requirements. Movement potatoes to market continued.

**NEW ENGLAND:** Dry, precipitation (rainfall and water equivalent of snow) less than 0.10 in. across area. Temperatures teen's near Canadian border to low 30s southern coast. Temperatures below normal.

Major farm activities: Tending livestock, machinery repair.

**NEW JERSEY:** Temperatures below normal, 30° north, 33° south, 36° coastal. Extremes -2°; 65°. Precipitation below normal; none north, 0.02 in. south, coastal. Heaviest 24-hour total 0.05 in. 9th to 10th.

Farmers busy deer hunting; cutting, digging Christmas trees; pruning fruit; combining soybeans, grain corn; caring for livestock.

**NEW MEXICO:** Temperatures below normal. Midweek winter storm snow most areas.

Days suitable for fieldwork 3.6. Cotton 82% harvested; slowed by slow moving rain, snow storm; 17% fair, 83% good. Wheat 10% poor, 80% fair, 10% good; precipitation needed. Cattle 44% fair, 56% good. Sheep 38% fair, 62% good. Ranges 78% fair, 22% good.

**NEW YORK:** Week began, ended on seasonable note. Temperatures much of week around normal, midweek quite mild with readings in 40s and 50s. Rain, snowfall light. Bulk of higher precipitation east central area in form of flurries, light snow.

Christmas tree growers continued cutting, marketing trees. Farmers caring for livestock, doing other normal winter chores.

**NORTH CAROLINA:** Temperatures normal mountains, on Coast; 2° above normal Piedmont. Temperature extremes 13°; 70°. Precipitation 0.01 to 0.55 in.

Days suitable for fieldwork 5.6. Soil moisture 16% short, 82% adequate, 2% surplus. Pasture 9% poor, 36% fair, 55% good. Soybeans 87% harvested, 92% 1987, 74% avg. Oat 98% planted, 99% 1987, 99% avg.; 1% poor, 12% fair, 84% good, 3% excellent. Barley 99% planted, 99% 1987, 99% avg.; 12% fair, 85% good, 3% excellent. Rye 94% planted, 98% 1987, 92% avg.; 3% poor, 15% fair, 78% good, 4% excellent. Wheat 92% planted, 93% 1987, 89% avg.; 1% poor, 15% fair, 78% good, 6% excellent; 82% emerged, 82% 1987. Feed grains 4% short, 94% adequate, 2% surplus. Hay, roughage 5% short, 91% adequate, 4% surplus. Major farm activities: Harvesting soybeans, seeding small grains. Other activities: Harvesting cotton; tobacco plant bed preparation; grading, marketing tobacco; fall

plowing; harvesting Christmas trees; tending livestock, general farm maintenance.

**NORTH DAKOTA:** Near record warm temperatures early week, near normal west central, 3° above normal east central. Extremes -24° west central; 63° south central. Light, scattered snowfall late week. None northeast, east central, 0.04 in. south central. Heaviest 0.07 in. south central.

Soil moisture short. Hay, feed short to adequate. Most snow cover melted. Insects in stored grain caused concern to some producers. Limited farm activity included feeding cattle, grain hauling.

**OHIO:** Subfreezing temperatures dominated readings late week. Lows dropped to single digits, some below zero. Highest readings early week 50s; replaced by 20s. Temperatures 2 to 5° subnormal. Precipitation below 0.10 in. except snow Lake Erie 5 in. contained 0.25 in. water.

Soil surfaces froze giving farmers chance to finish corn, soybean harvest. Soil temperature minimums upper 20s to low 30s.

**OKLAHOMA:** Temperatures 6° below normal south central to normal southwest. Precipitation none Panhandle to 1.32 in. south central.

Snowfall hampered row crop harvest except northwest. Precipitation not enough to reduce greenbug populations in small grains. Cotton 75% harvested, 85% 1987, 60% avg. Cattle prices stable to slightly lower than last week.

**OREGON:** Temperatures well above normal most locations, departure 4°. About 0.50 to 1.00 in. rain along coast; up to 1.33 in. coastal area, north Cascades. Remainder State 0.10 to 0.20 in. except south central less than 0.10 in.

Soil moisture adequate to surplus west, mostly adequate east of Cascades. Mild weather promoted growth of cereal grains Columbia Basin, northeast; snow cover practically gone; Russian wheat aphid still present. Winter grains look mostly good southeast, but show some signs of cold stress. Some plowing of wheat stubble Willamette Valley. Main orchard activity pruning. Potato, onion packing continued, good movement of potatoes. Livestock good. Some cattle remained on fall pasture, grain stubble Klamath Basin. Range, pasture mostly good. Higher elevations east snow covered. Southwest ranges still fair, drier than normal.

**PENNSYLVANIA:** Temperature 32°, 3° below normal. Temperature extremes 3°; 62°. Precipitation 0.06 in., 0.67 in. below normal.

Activities: Harvesting corn grain, soybeans; baling fodder; spreading manure, fertilizer; caring for livestock; maintaining machinery; fixing fence; grading potatoes.

**PUERTO RICO:** Island rainfall 0.40 in., 0.76 in. below normal. Highest weekly total rainfall 2.66 in. Pico Del Este-Luquillo, 1.82 in., Rio Blanco, 0.84 in. Lares. Highest 24-hour total 1.25 in. Pico Del Este-Luquillo. Total rainfall since January 1st 61.99 in., 3% above normal. San Juan WSFO temperature 78°, 1° below normal. Total rainfall 0.47 in., 0.66 in. below normal. Divisional temperature 76° on coasts, 68 to 69° interior. Station temperature 63° Pico Del Este-Luquillo to 79° San Juan City. Lowest minimum temperature 54° Pico Del Este-Luquillo. Highest maximum temperature 89° Ponce.

**SOUTH CAROLINA:** Precipitation light less than 0.10 in. Temperatures 1 to 2° below normal.

Days suitable for fieldwork 5.7. Soil moisture 7% very short, 67% short, 26% adequate. Cotton 99% harvested, 100% 1987, 98% avg. Soybeans 91%

harvested, 93% 1987, 76% avg.; 7% poor, 50% fair, 43% good. Winter wheat good.

**SOUTH DAKOTA:** Temperatures none to 9° above normal. Extremes -12°; 69°. Snow on ground 1 to 4 in. southeast. Light rainfall mostly southwest.

Throughout most of State rainfall still below normal. Winter wheat going into winter dry, with little snow cover many areas.

**TENNESSEE:** Warm high pressure dominated early week. Cold front 7th ushered cooler, wetter weather. Widespread light snow 8th, 9th. Cold front over weekend brought much colder air but no precipitation. Temperatures colder than normal, coldest northeast. Precipitation much below normal, 0.35 in. northeast to 0.02 in. northwest.

Soil moisture adequate. Routine chores, care of livestock main activities.

**TEXAS:** Weather dominated by high pressure areas. Early week fair, mild conditions prevailed. Strong cold front entered midweek bringing some rain, snow. Milder, rainy east. Remainder week dominated by new cold high. Warm air over ran dome resulting much needed rain. Northwest snow; temperatures dipped well below freezing. Temperatures colder than average across area. Precipitation generally above normal, lower valley drier than normal.

**Crops:** Grain sorghum harvest completed Plains before snow arrived. Yields remained good throughout latter part season. Sorghum 100% harvested for grain, 99%, 1987, 98% avg. Cotton harvest increased Plains, Trans-Pecos until midweek front, snow interrupted activities. Quality declined slightly because snow, ice, blowing sand. Yields better than expected many areas. Small grains continued to be stressed for moisture many areas, even areas with rainfall. Dryland fields Plains minimal benefit from snow, providing little grazing. Irrigated fields better condition. Greenbug activity moderate to high, treatment increased as weather permits. Blacklands, east recent good rains improved growth. Isolated greenbug damage. Central some stands died because lack of rainfall. Stands that survived should benefit from rains. Additional moisture needed soon to ensure good survival remaining fields. Peanut harvest continued completed many areas. Yields average. Soybean harvest continued Upper Coast, neared completion rains halted further progress. Weather will allow producers to complete operations by next week. Sugarbeet harvest virtually completed before snowfall Plains. Yields average to above average. Sugarcane harvest continued Rio Grande Valley. Other Field Crops: Peanuts 97% harvested, 95% 1987, 92% avg. Pecans 82% harvested, 78% 1987, 76% avg. Soybeans 99% harvested, 100% 1987, 93% avg. Sugarbeets 100% harvested, 99% 1987, 90% avg. Sunflowers 95% harvested, 100% 1987, 95% avg. Oats 97% planted, 99% 1987, 96% avg.

**Commercial Vegetables:** Rio Grande Valley supplies most fall, winter vegetables good as harvest continued. Shipments citrus remained steady as holidays neared. Quality excellent. San Antonio-Winter Garden harvest carrots, cabbage continued. Spinach harvest increased. Irrigation steady. Pecan harvest moved ahead steadily. Yields

good improved varieties; native yields poor some areas because lack of rainfall this summer. Prices below 1987.

**Range and Pasture:** Ranges, pastures short central despite some moisture. Small grain pastures improved Blacklands, east. Dryland fields provided less forage Plains because lack of rainfall. Supplemental feeding hay left supplies short parts central. Livestock many areas began losing weight, market lighter than normal weights.

**UTAH:** Precipitation very light. Temperatures 8° below to 3° above normal.

Livestock fair to good. Winter range feed poor to fair. Major farm activities: Attending farm meetings, livestock chores, care of stored grain, equipment maintenance, summarizing tax records.

**VIRGINIA:** Fair beginning, middle week. Sharply colder, widespread snow weekend. Snowfall 4 to 6 in. western mountains, lesser amounts elsewhere.

Days suitable for fieldwork 4.9. Topsoil moisture 32% short, 53% adequate, 15% surplus. Soybeans 90% harvested, 95% 1987, 84% avg. Some wheat planted. Marketed burley, dark fire-cured tobacco. Fall plowing. Pastures 7% poor, 54% fair, 37% good, 2% excellent. Winter grains, grazing crops 13% poor, 33% fair, 46% good, 8% excellent. Fall lambing, calving. Christmas tree sales. Meetings active.

**WASHINGTON:** Ridge of high pressure located over Pacific seaboard directed most weather systems north, south. Few systems brushed State mainly northern area early week. Temperatures few degrees above normal westside, slightly below normal eastside.

Subsoil moisture still short some areas east; light snow, rain intermittently. Overall, condition of winter wheat appeared to be normal. Signs of Russian wheat aphid evident many fields. Carrots still being dug western area, rains made pastures soggy. Winter pruning of trees continued as tree, vine condition improved with cooler weather. Rodent control activities neared completion Kittitas County. Livestock across State on winter feeding programs. Cutting of Christmas trees continued rapid pace.

**WEST VIRGINIA:** Temperature 33°, 4° below normal. Extremes 4° Greenbank; 66° Moorefield. Precipitation 0.22 in., 0.05 to 0.66 in. below normal.

Days suitable for fieldwork 4.8. Soil moisture 36% very short, 46% short, 18% adequate. Corn 100% harvested. Wheat fair to poor. Barley mostly fair. Livestock good to fair. Feed 7% very short, 40% short, 53% adequate. Farm activities: Livestock care.

**WISCONSIN:** Cold, temperatures 20°. Extremes -16°; 55°. Precipitation trace. Snow flurries.

**WYOMING:** Above seasonal temperatures northeast, below normal elsewhere. Precipitation near normal. Winter wheat fair to good. Livestock fair to good. Winter pastures, fields with crop residue being utilized. Colder temperatures, snow increased stress, feed requirements. Livestock marketing continued.

## International Weather and Crop Summary

December 4-10, 1988

### HIGHLIGHTS

**WESTERN USSR** ... Widespread precipitation covers the region. A warming trend with snow changing to rain erodes snow cover in the south, while snow cover increases in the north.

**EUROPE** ... Moderate to heavy rain continues across much of central and northern Europe, possibly causing flooding in sections of West Germany.

**SOUTH ASIA** ... Dry, warm weather favors maturing cotton across southern India.

**EASTERN ASIA** ... Dryness continues across the North China Plain.

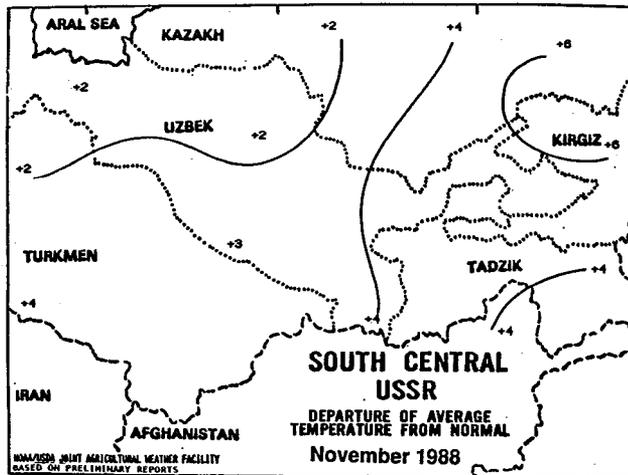
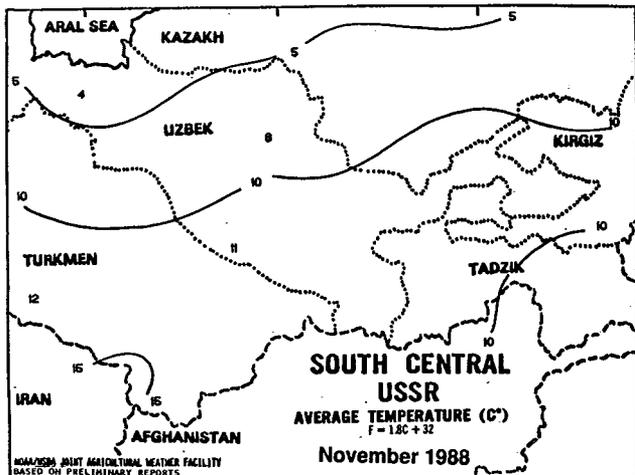
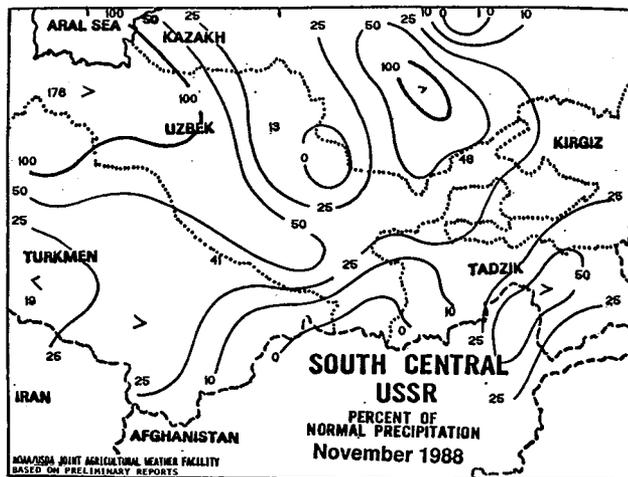
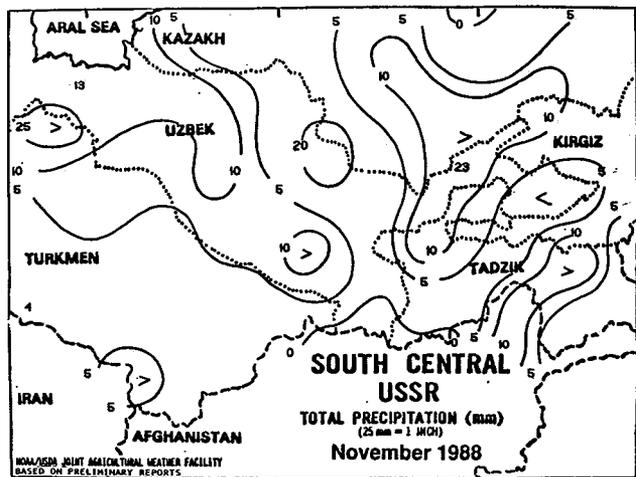
**SOUTHEAST ASIA** ... Much needed dry weather brings relief to flooded areas of the Malay Peninsula, but heavy showers persist in eastern Malaysia. Widespread rain over Indonesia favors planting.

**SOUTH AMERICA** ... Much needed rain eases stress on Argentina's emerging crops, but in Brazil, hot, dry weather hampers soybean planting in Parana and surrounding states.

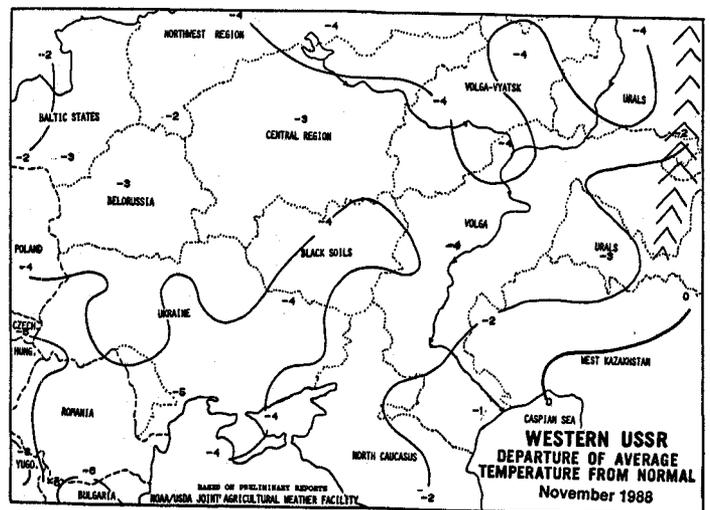
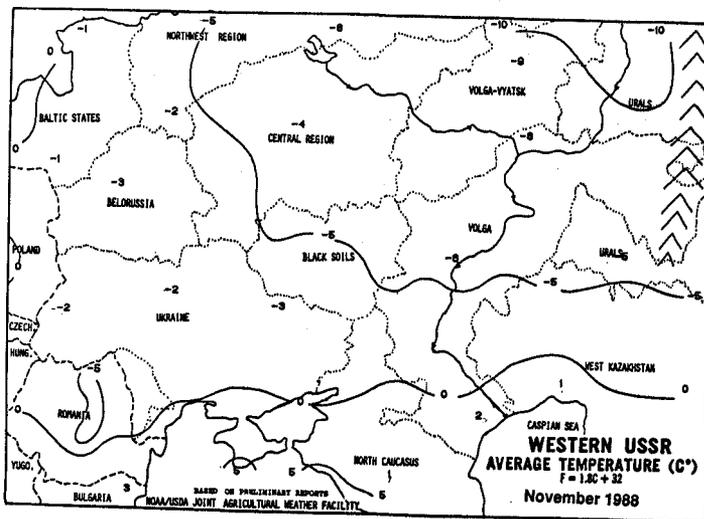
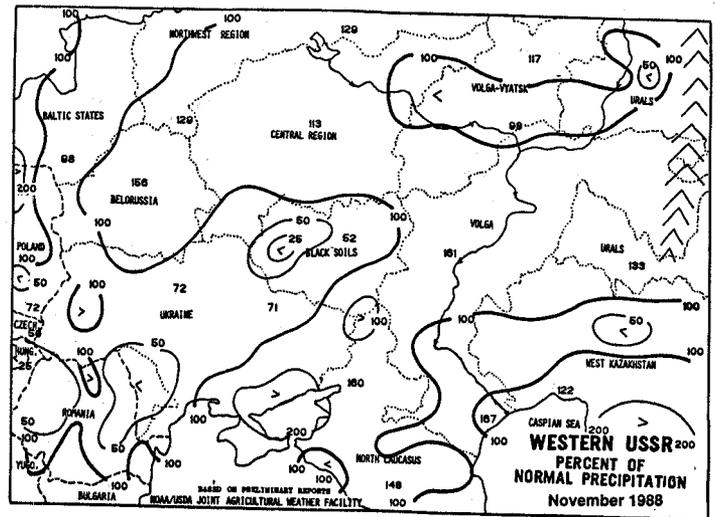
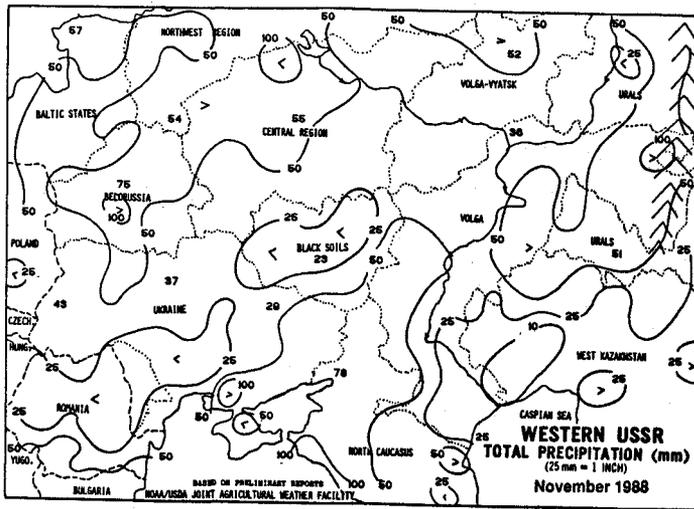
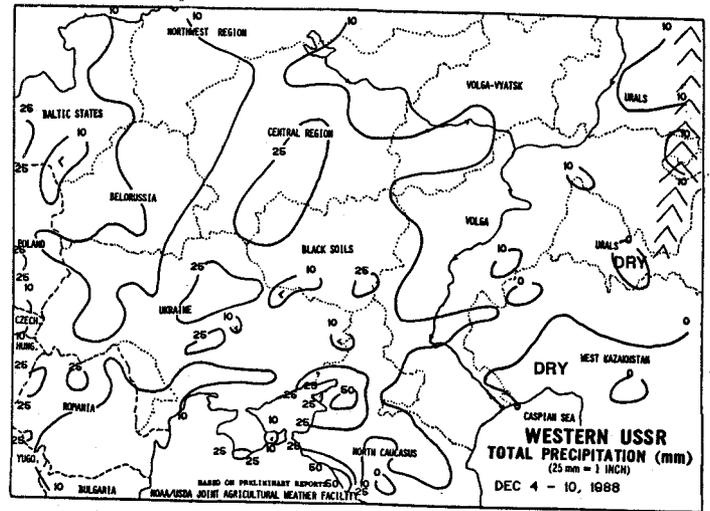
**AUSTRALIA** ... Heavy rain continues harvest delays in the southeast. Hot weather returns to eastern Queensland and northern New South Wales.

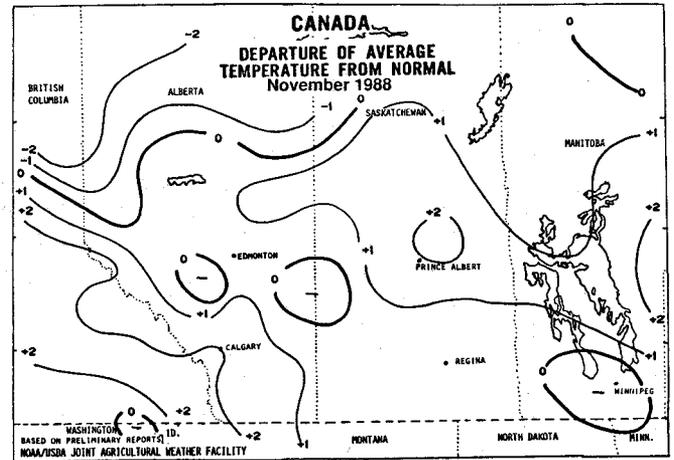
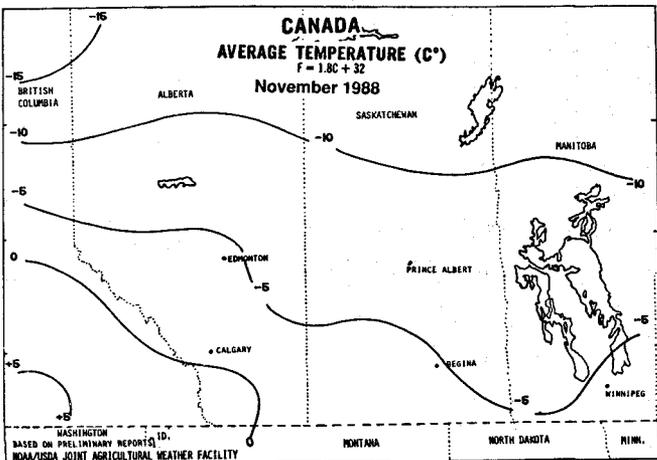
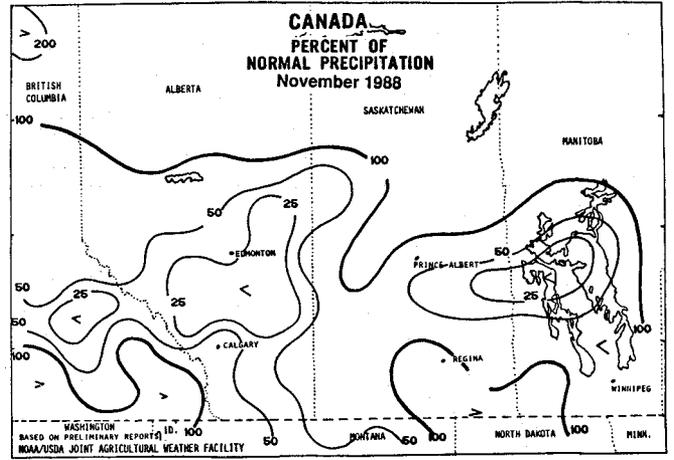
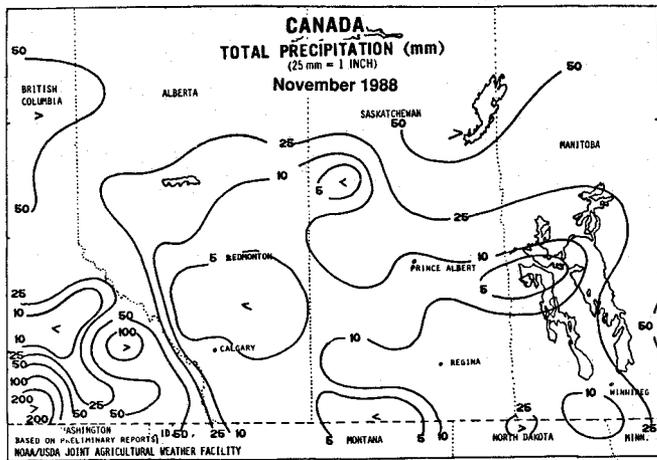
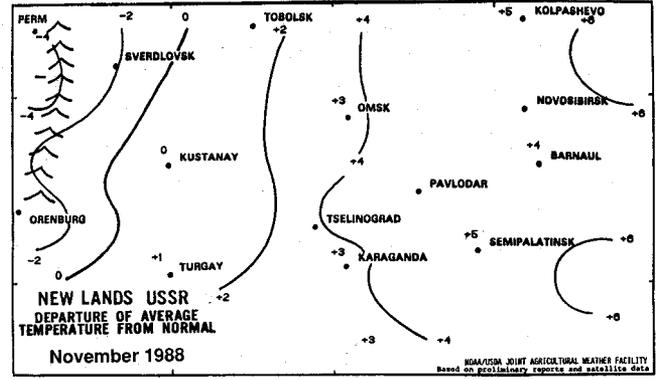
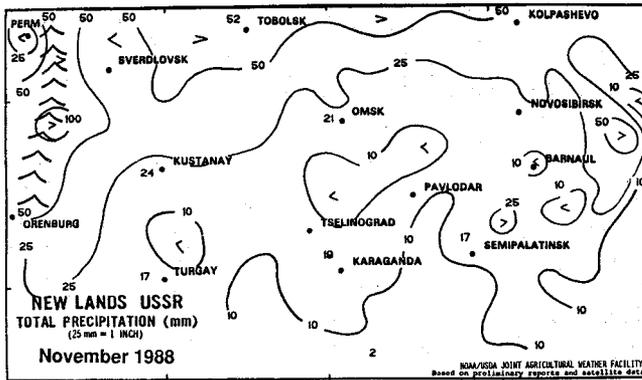
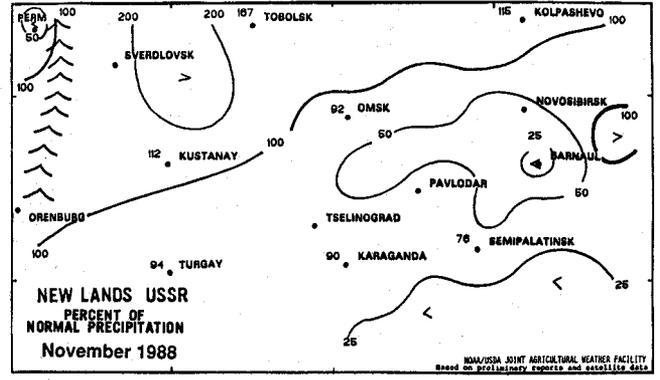
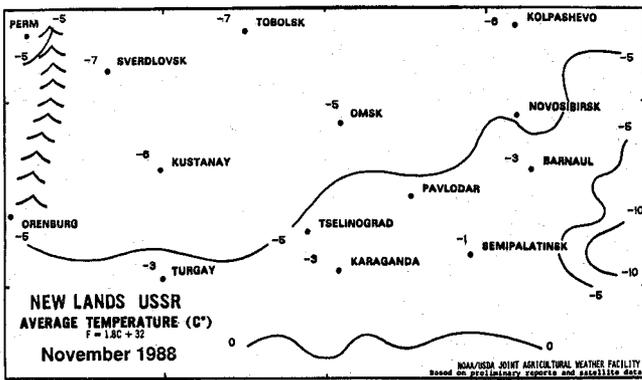
**SOUTH AFRICA** ... Widespread rain benefits early vegetative corn. Cool weather, however, slows crop growth rates.

**NORTHWESTERN AFRICA** ... Dry weather prevails in Morocco, while beneficial rain in Algeria and Tunisia favors grain planting.

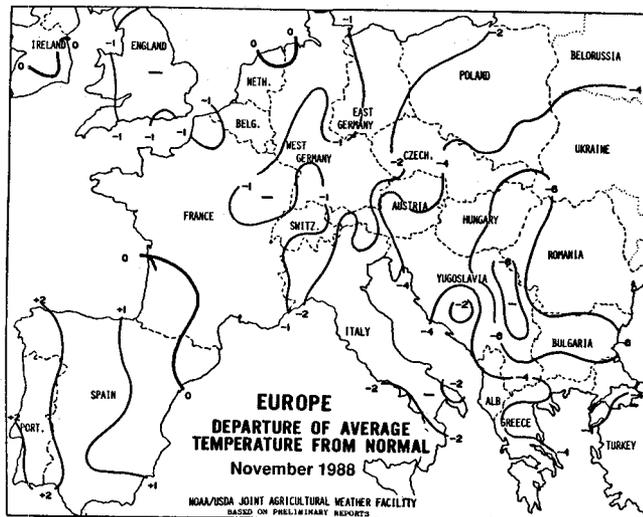
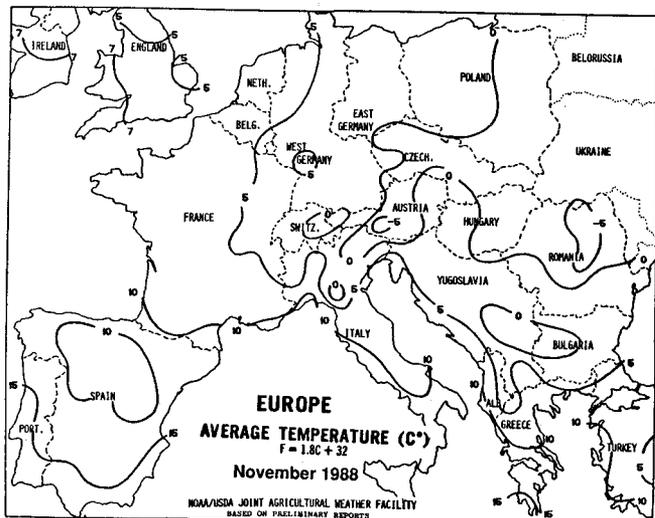
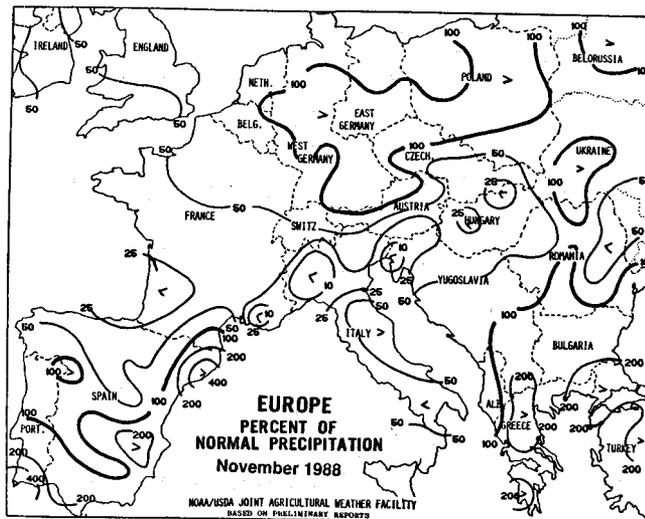
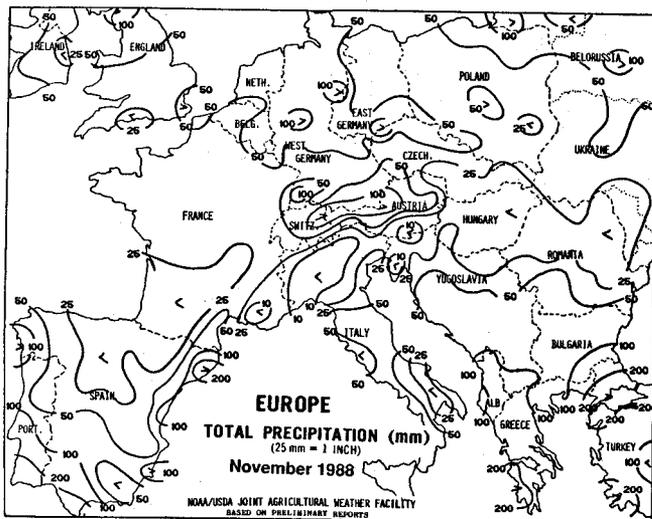
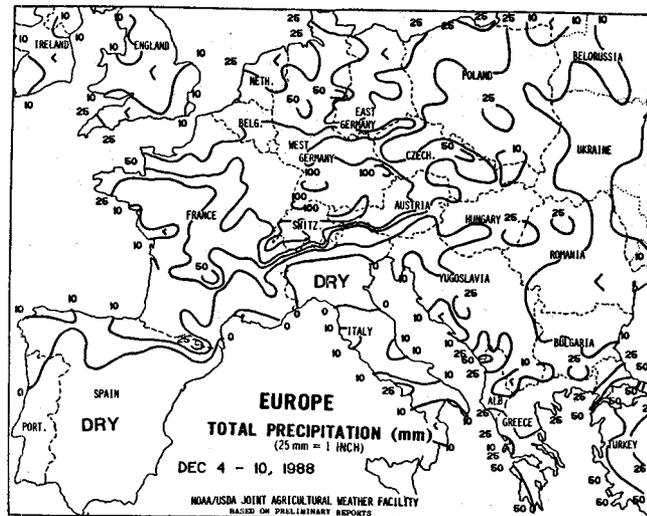


**WESTERN USSR** ... An early-week warming trend occurred over most of the Ukraine and the North Caucasus, accompanied by a mixture of snow, sleet, and freezing rain which turned to all rain by midweek. Although the mixed precipitation eroded the snow cover, it increased moisture reserves. Further north, snow cover increased in eastern Belorussia, the Central Region, the northern Black Soils Region, the upper Volga, and the Volga Vyatsk. Widespread but variable precipitation (5-37mm) occurred throughout the region. In November, unseasonable cold weather kept winter grains dormant. Above-normal precipitation covered Belorussia, the Central Region, the northern and eastern Ukraine, the North Caucasus, and the Volga, increasing moisture reserves. Below-normal precipitation covered the western and northern Ukraine and the Black Soils Region. Snow cover was sufficient to protect winter grains from periodic extreme cold weather during the month.



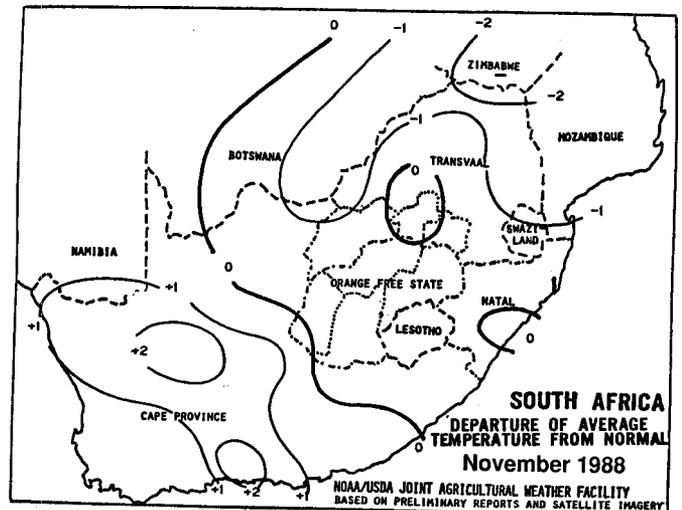
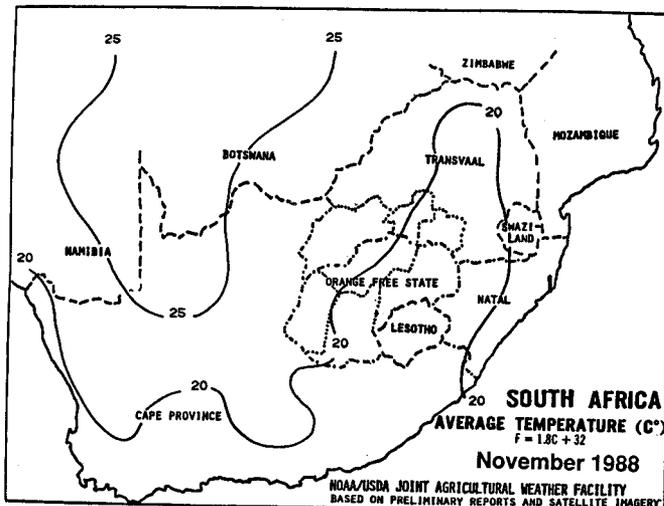
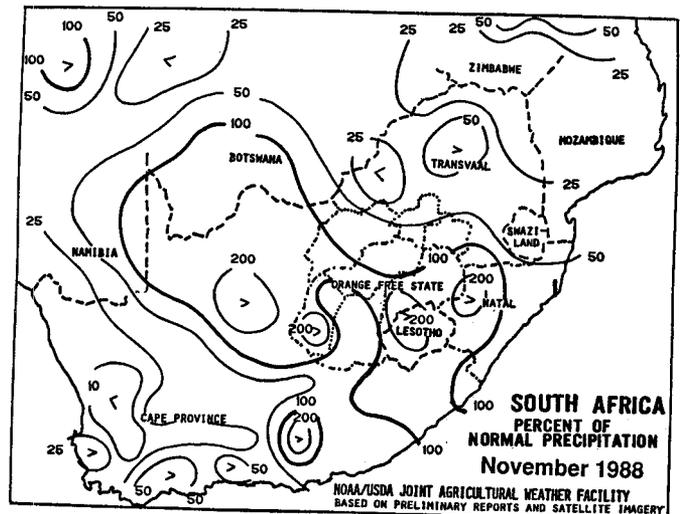
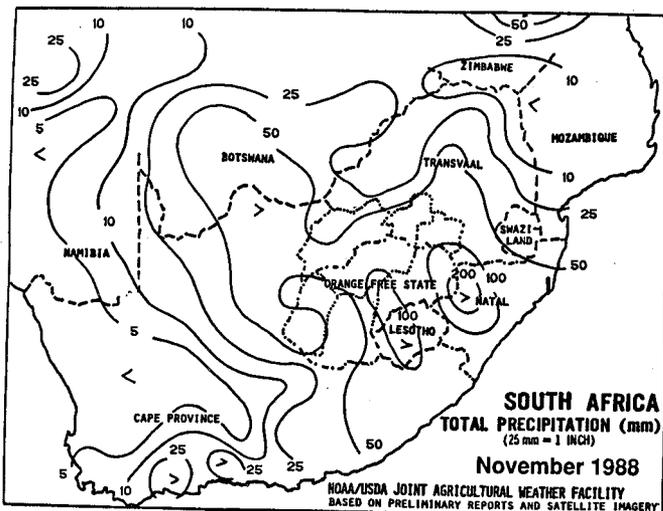
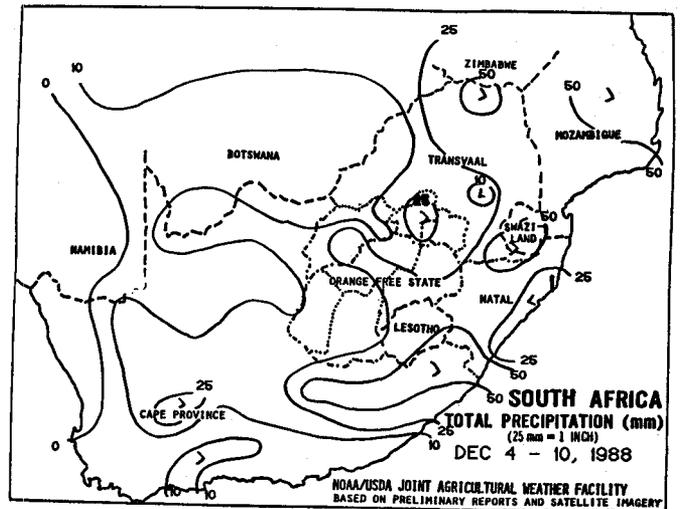


**EUROPE** ... Moderate to heavy rain (25-75mm) continued across much of central and northern Europe, keeping soils saturated. Very heavy rainfall (in excess of 100mm) likely caused flooding in sections of southern West Germany. The rain followed drier-than-normal weather across northwestern crop areas during November. Elsewhere, light to moderate rain and snow (5-20mm) covered southern and eastern crop areas except for central and southern Spain, which were mostly dry. Warmer-than-normal temperatures returned to all but southwestern crop areas, reducing or eliminating snow cover over the north and east. During November, below-normal temperatures covered all but the southwest, causing winter grains to go dormant in northern and eastern growing areas.

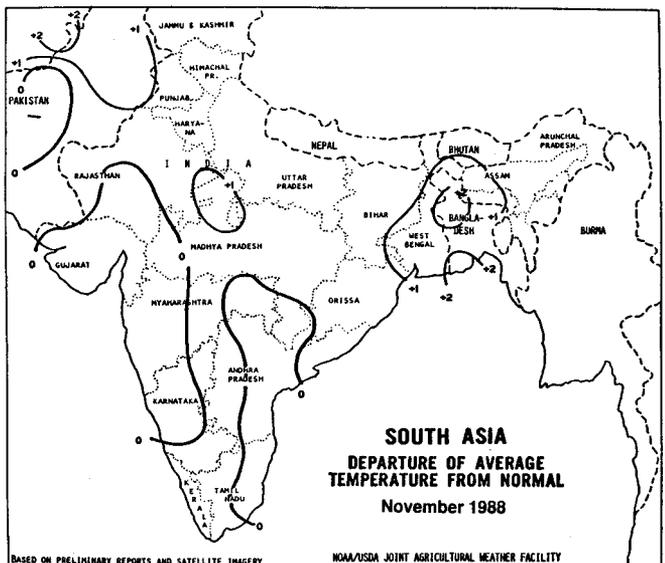
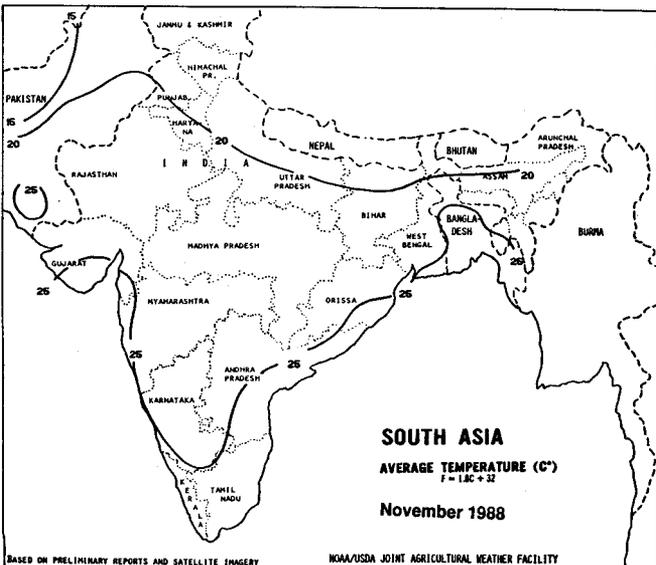
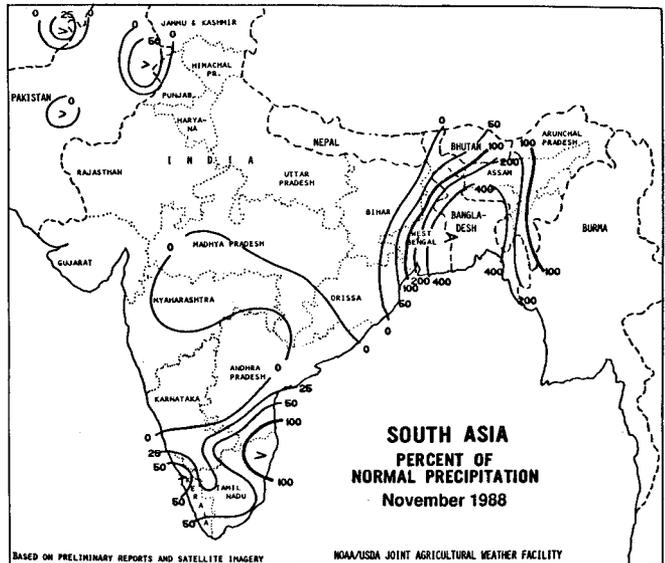
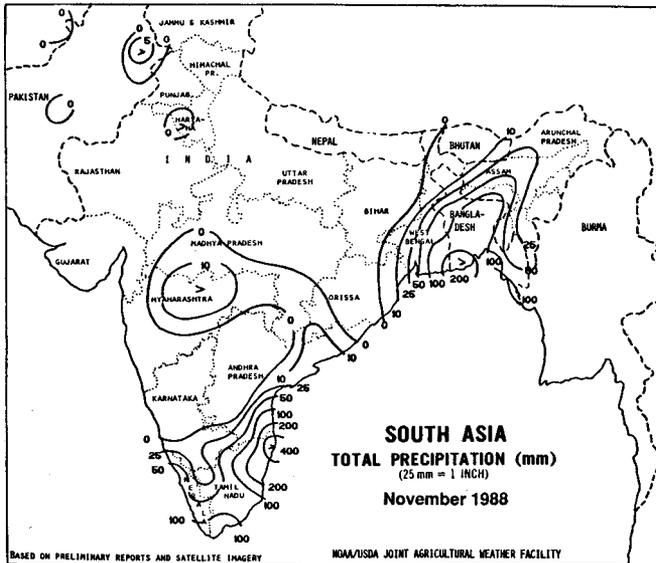
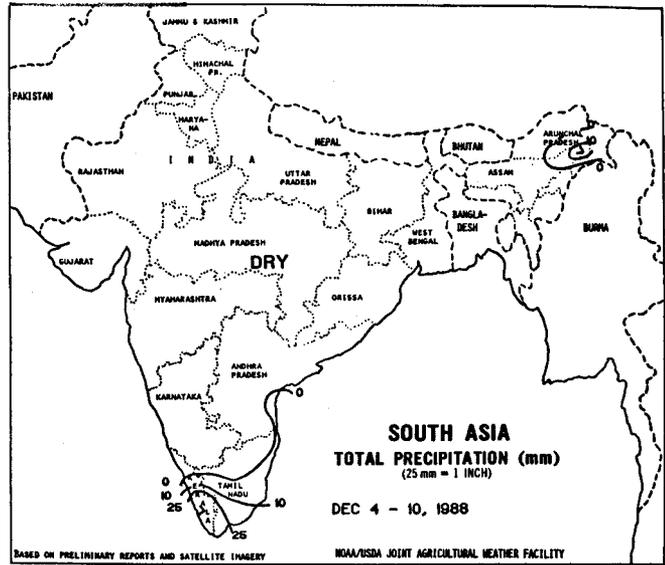




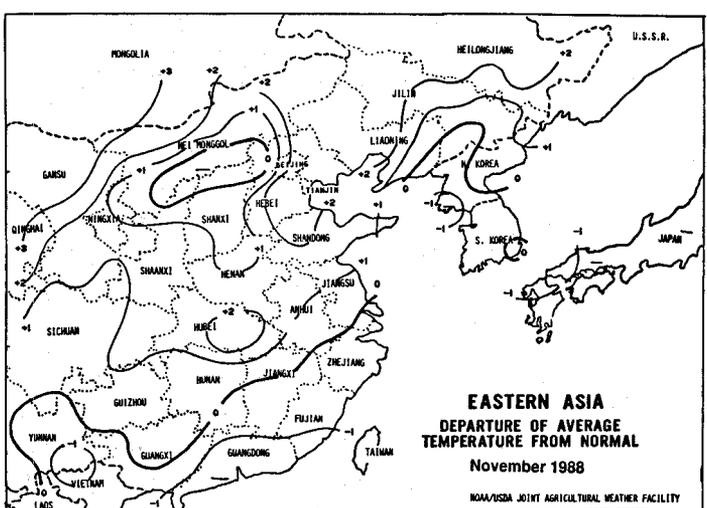
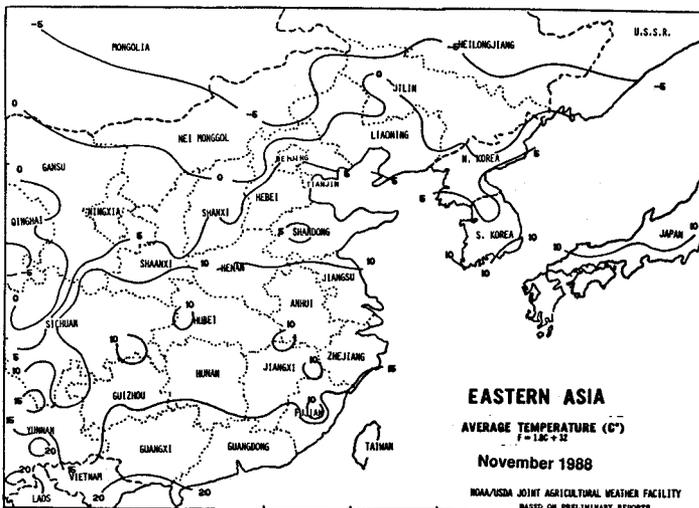
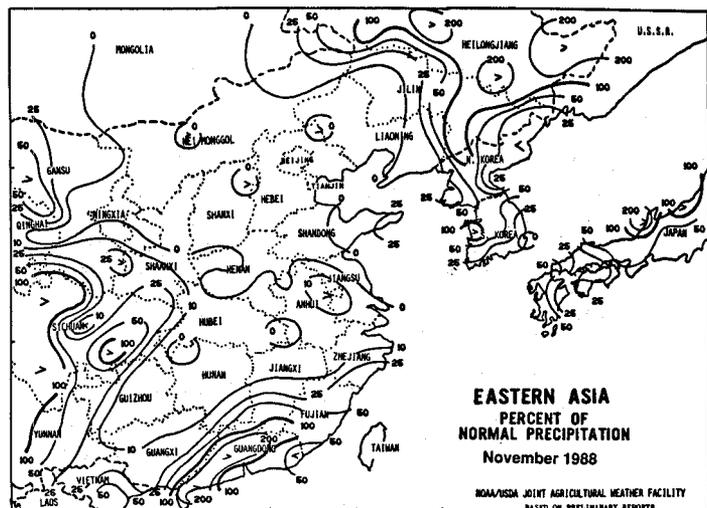
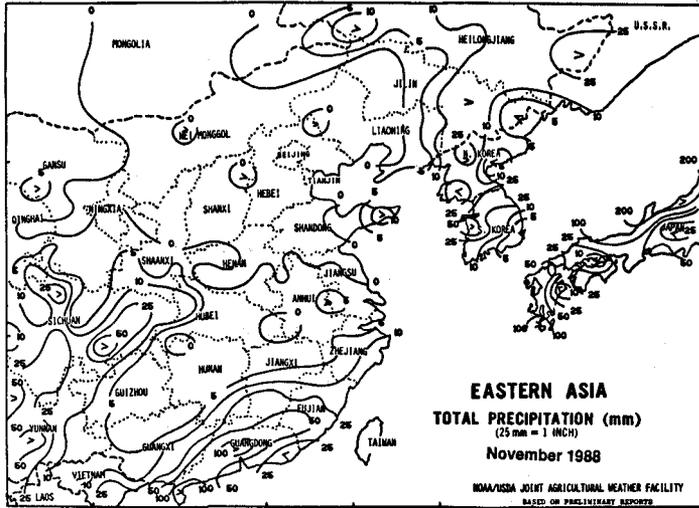
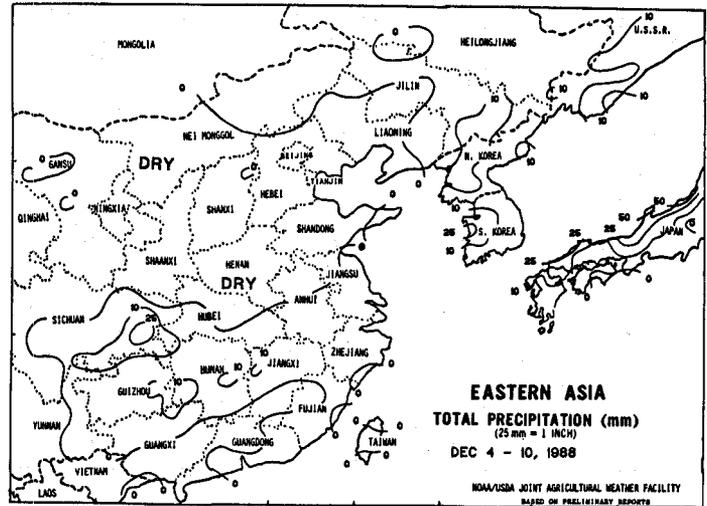
**SOUTH AFRICA** ... Widespread showers (10-39mm) continued across the Maize Triangle, with locally heavier amounts (45-78mm) from the eastern Cape Province to Natal and in the northern Transvaal. The rainfall maintained generally favorable moisture conditions for early vegetative corn, but temperatures over the primary corn regions averaged 3-4 degrees C below normal, slowing growth rates. In November, rainfall was below normal over minor growing regions of the northern Transvaal and the southernmost Maize Triangle but near to above normal elsewhere, maintaining mostly favorable conditions for corn planting and establishment. Periods of dry weather during the month favored fieldwork. Monthly temperatures averaged near to slightly below normal over most grain regions. Temperatures were as much as 4 degrees C below normal, however, during the first 3 weeks of the month.



**SOUTH ASIA** ... Dry weather continued across South Asia, with scattered, mostly moderate showers (10-46mm) limited to India's southernmost tip. Temperatures continued seasonably warm across southern India, benefiting maturing cotton. Late fall grain planting progressed, with early planted winter wheat in or nearing the jointing stage. In November, mostly dry weather persisted over crop regions of India's southern interior, limiting moisture for flowering cotton. To the east, however, excessive rainfall over rice regions of northeastern Tamil Nadu and southeastern Andhra Pradesh slowed harvesting but provided favorable irrigation reserves for summer rice planting. Winter wheat planting progressed across the north, but late in the month, a tropical cyclone with sustained winds exceeding 100 knots hit Bangladesh, causing coastal flooding and damage to unharvested rice. Temperatures across South Asia generally averaged above normal in north-central and eastern areas and near to slightly below normal over most central and southern areas.



**EASTERN ASIA** ... Dry weather continued across much of the North China Plain and parts of the Yangtze Valley, which were also drier than normal during November. Light to moderate rain (5-20mm) fell across sections of Sichuan, Guizhou, Hunan, and the western Korean Peninsula, while light snow (less than 10mm) covered sections of Manchuria. In Japan, seasonal heavy rain (25-100mm) continued over western sections of Honshu. Mean weekly temperatures were above normal in all crop areas except southeastern China, Taiwan, and southeastern Japan, continuing a trend that persisted during much of November. Recent colder weather has caused many winter grains to slip into dormancy across the North China Plain.



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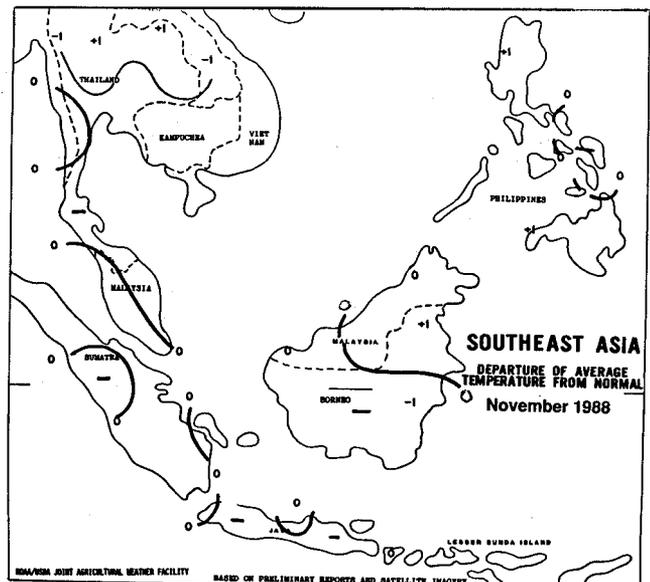
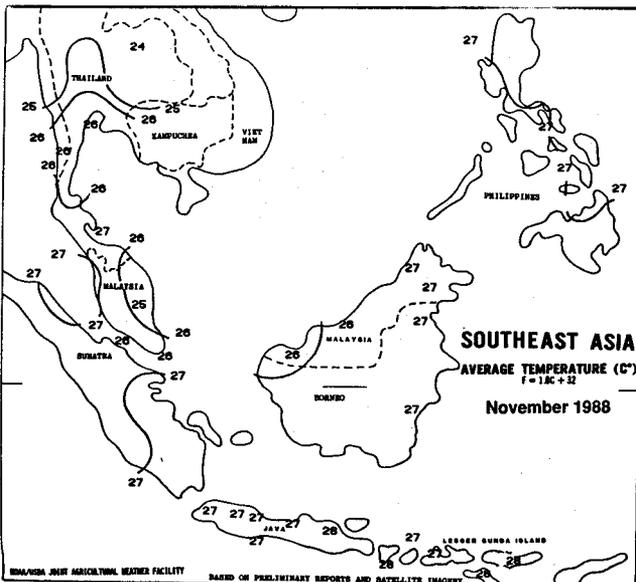
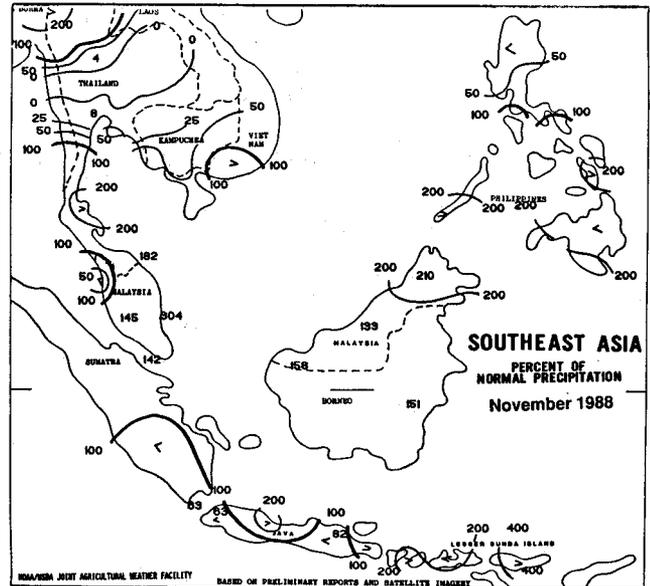
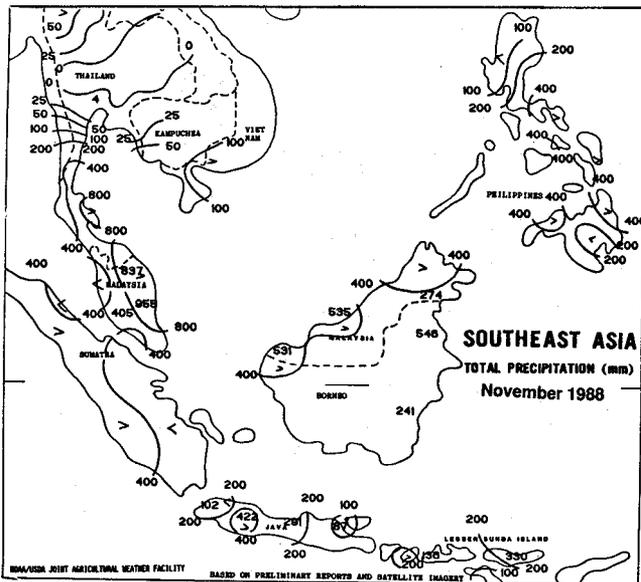
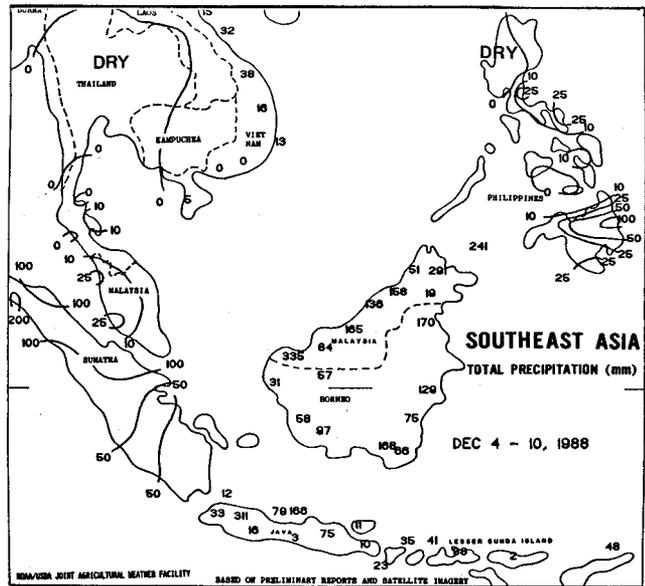
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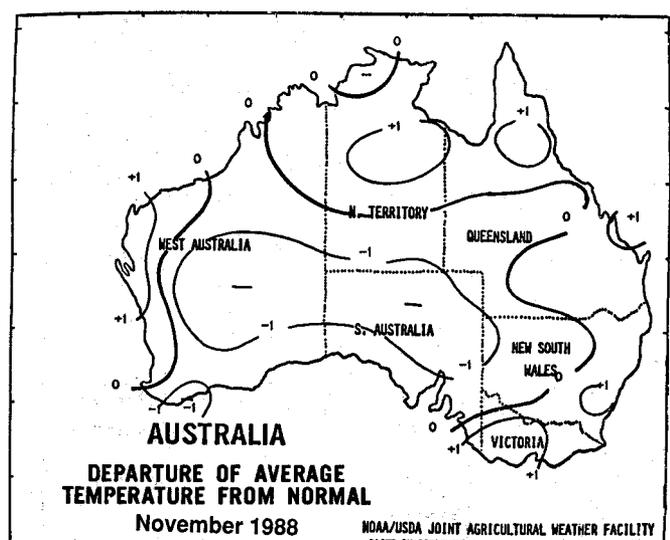
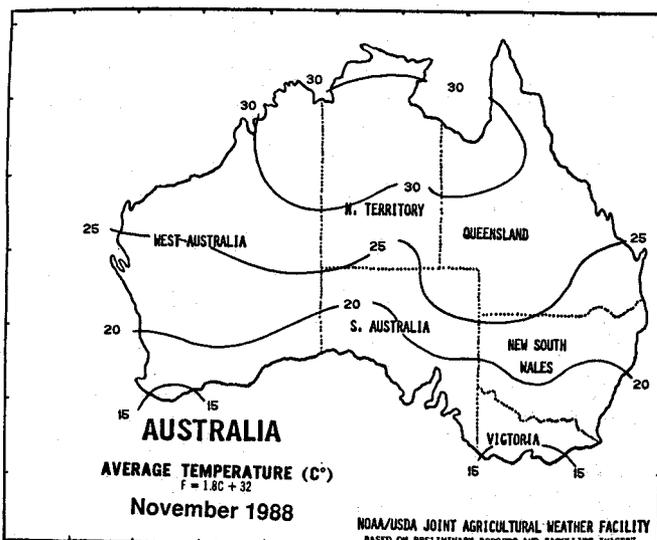
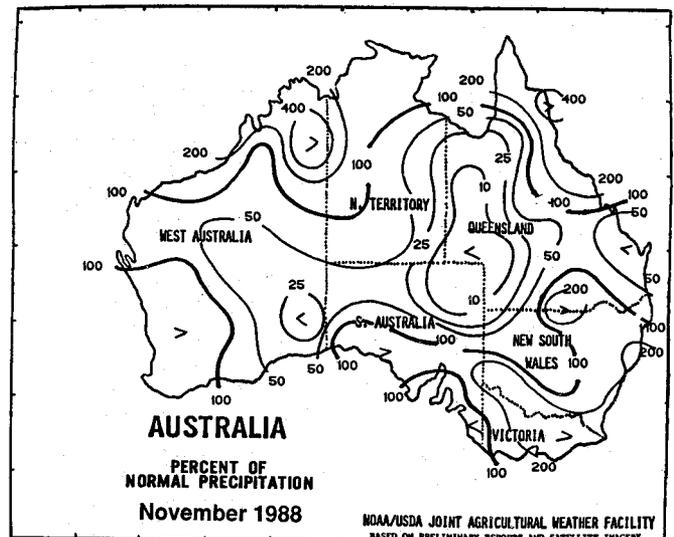
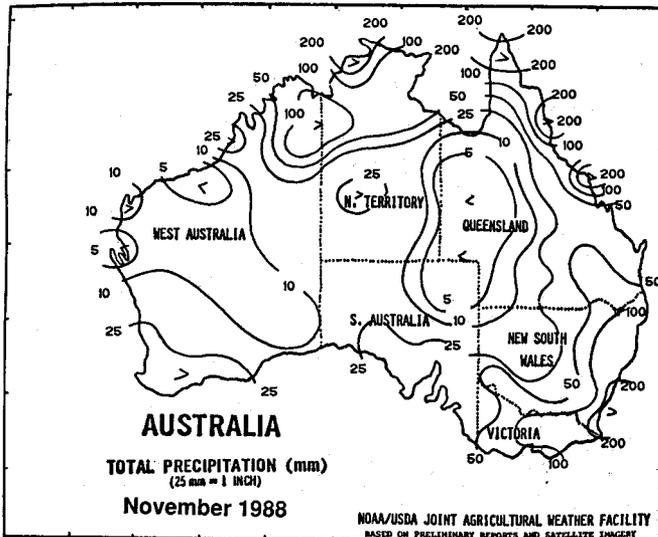
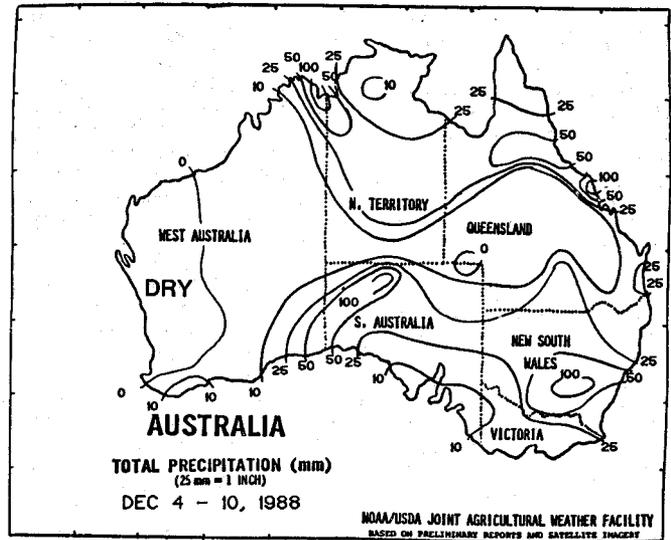
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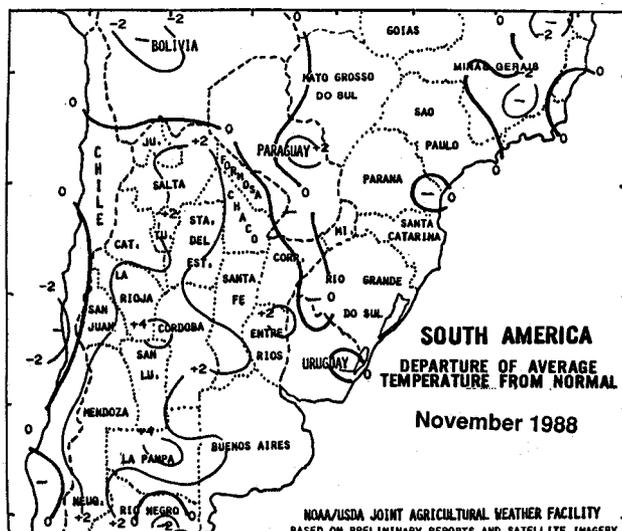
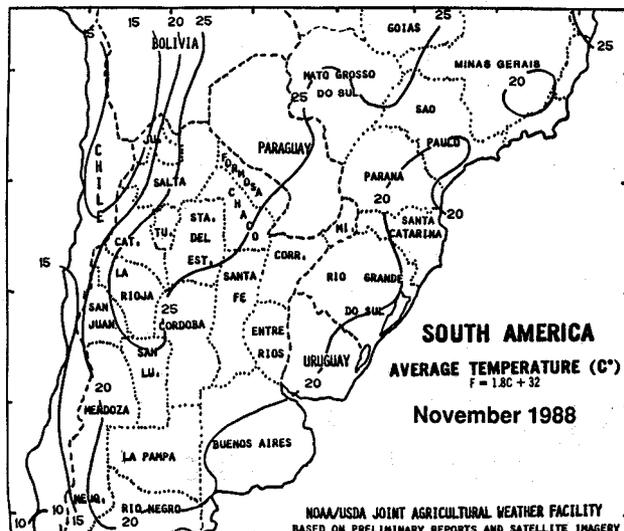
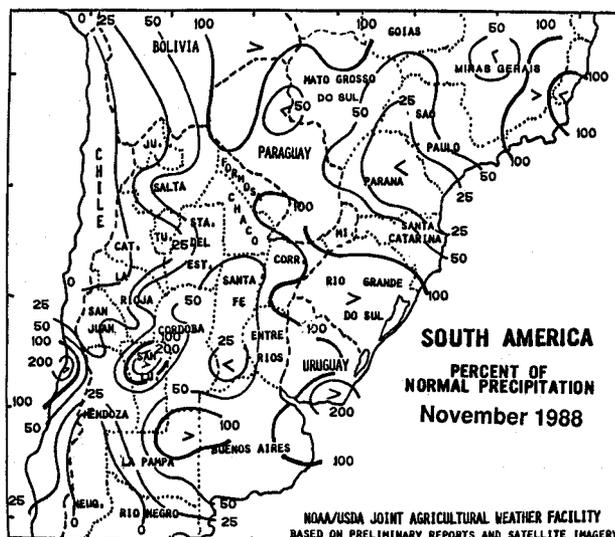
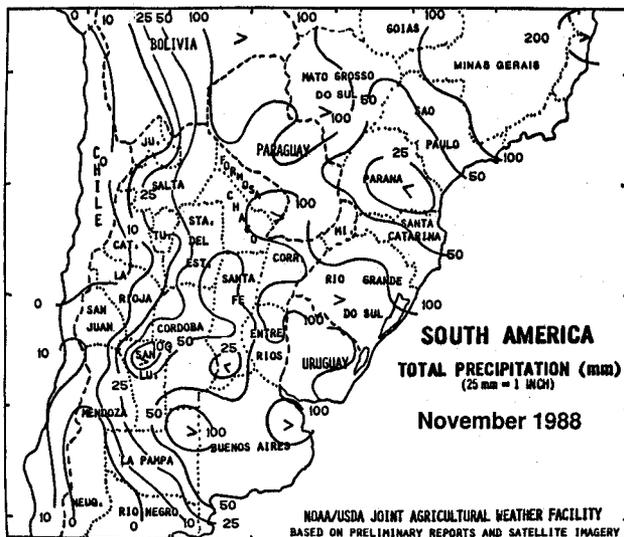
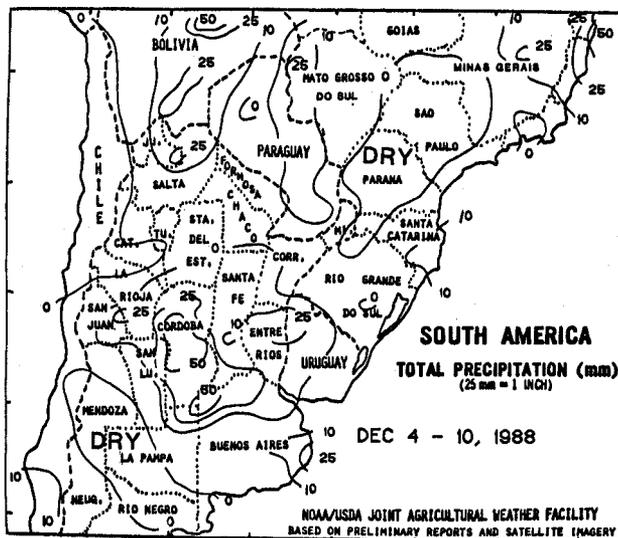
**SOUTHEAST ASIA** ... Much needed, drier weather brought relief to recently flooded regions of the Malay Peninsula, with rainfall amounts ranging from 1 to 27mm. Heavy rain (84-335mm) and flooding, however, persisted over copra and palm oil areas of eastern Malaysia. Locally heavy rain (100-311mm) fell over northern Java, but elsewhere in Indonesia, rainfall ranged from 25-100mm, maintaining favorable irrigation reserves for rice planting. In the Philippines, variable showers (10-108mm) continued over the eastern half of the islands as seasonably dry weather covered most of the west. In November, mostly dry weather benefited maturing Thai crops north of Bangkok, but inundating rains caused flooding and some crop damage over copra, palm oil, and tropical fruit regions of the Malay Peninsula and eastern Malaysia. November rainfall was near to above normal over Indonesia, causing some local flooding but generally improving conditions for rice planting which usually begins in December. Typhoon Skip hit grain, copra, and sugarcane regions of the central Philippines early in the month.



**AUSTRALIA** ... Moderate to heavy rain (15-75mm, with isolated amounts in excess of 100mm) continued across crop areas in New South Wales and Victoria, benefiting vegetative summer crops but causing extensive delays in the winter grain harvest. Light to moderate rain (5-20mm) also fell across growing areas in southeastern Queensland, South Australia, and Western Australia. The rainfall followed drier-than-normal weather in November, which covered all winter grain areas. Maximum temperatures reached 35 degrees C or greater in Queensland and northern New South Wales during the week, causing mean weekly temperatures to average 3-6 degrees C above normal. Mean temperatures were normal to below normal across most other crop areas.



**SOUTH AMERICA** ... In Argentina, much needed rain fell over the primary summer crop areas, easing stress conditions on emerging grains and moistening topsoils for planting. Weekly rainfall averaged 25-50mm, with isolated heavier amounts, in southern Cordoba and northwestern Buenos Aires, while 8-15mm of rain brought some relief to most of Santa Fe's emerging crops. Scattered light rain (less than 10mm) fell in northern cotton areas. Weekly temperatures averaged above normal, with hot weather again pushing daytime highs into the middle to upper 30's Celsius (C) prior to the rain. Thus, growing conditions improved marginally by week's end from the previous week. November rainfall averaged well below normal in many growing areas. In south-central Brazil, hot, dry weather prevailed over most soybean, citrus, and coffee areas, with only scattered showers confined mostly to the fringes of the major growing areas. Heat and dryness continued to stress emerging crops and hampered planting in Parana, Sao Paulo, and Mato Grosso do Sul. Much below-normal November rainfall delayed early soybean planting in Parana and surrounding states. Recent unseasonable hot weather reduced topsoil moisture in Rio Grande do Sul, where earlier favorable conditions promoted grain and oilseed plantings.



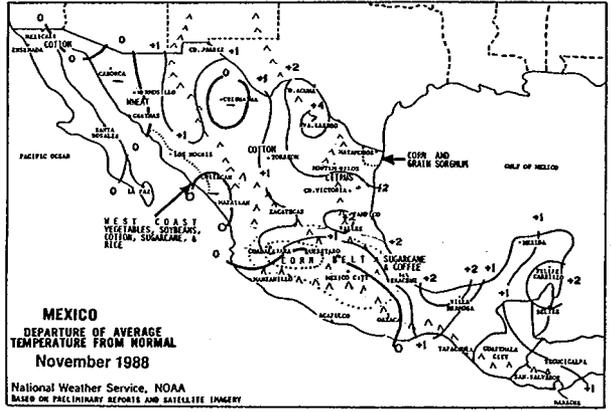
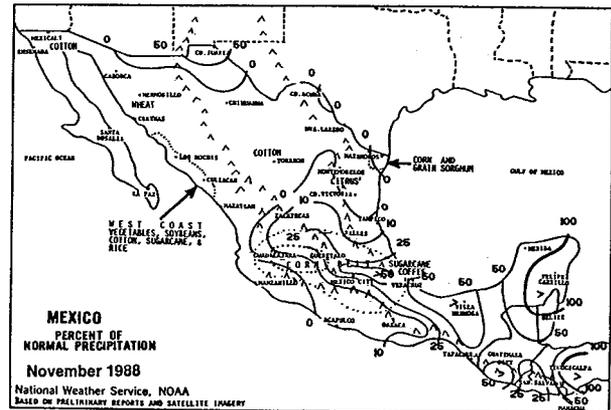
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