

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

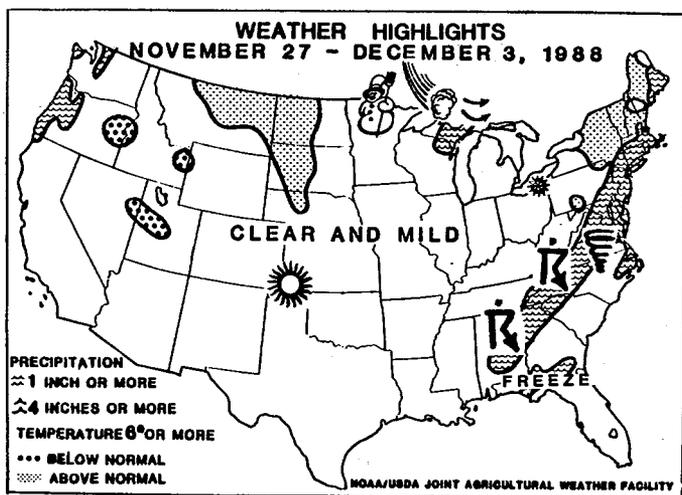
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Dec. 6, 1988

National Weather Summary

November 27 - December 3, 1988



HIGHLIGHTS: Early in the week, a frontal system caused severe weather and heavy rain from the central Gulf coast into New England and snow and gusty winds over the Great Lakes. Powerful tornadoes devastated the Raleigh, North Carolina area. Another frontal system brought continued wet and windy weather to the Northwest. High pressure and clear skies dominated the Nation during the remainder of the week. Unseasonably mild air persisted over the northern Plains and New England while frost and freezing temperatures penetrated the Southeast into northern Florida and the southern San Joaquin Valley of California. Heavy snow remained on the ground in the upper Mississippi Valley.

SUNDAY. An extensive frontal system crossed the Eastern United States producing widespread precipitation. The storm brought heavy snow and gusty winds to the Great Lakes while a line of strong thunderstorms reached from the central Gulf coast to the mid-Atlantic coast. Cold arctic air funneled into the Plains behind the system. Another frontal system brought scattered rainshowers to the northern Pacific seaboard.

MONDAY. Showers and thunderstorms developed along the cold front extending from Florida to New England. Thunderstorms spawned damaging tornadoes which raked Raleigh, North Carolina. Snow continued over the Great Lakes with much colder air invading the Mississippi Valley. Another cold front caused wet and windy conditions in the northwestern States and Rockies.

TUESDAY. Frost and freezing temperatures penetrated the Southeast as far as northern Florida. A weak storm system left snow in the middle Missouri and upper Mississippi Valleys. A large high pressure system brought fair weather to the West.

WEDNESDAY Clear skies were the rule across most of the Nation. Rain, sleet, and snow were widely scattered across the Great Lakes and Corn Belt.

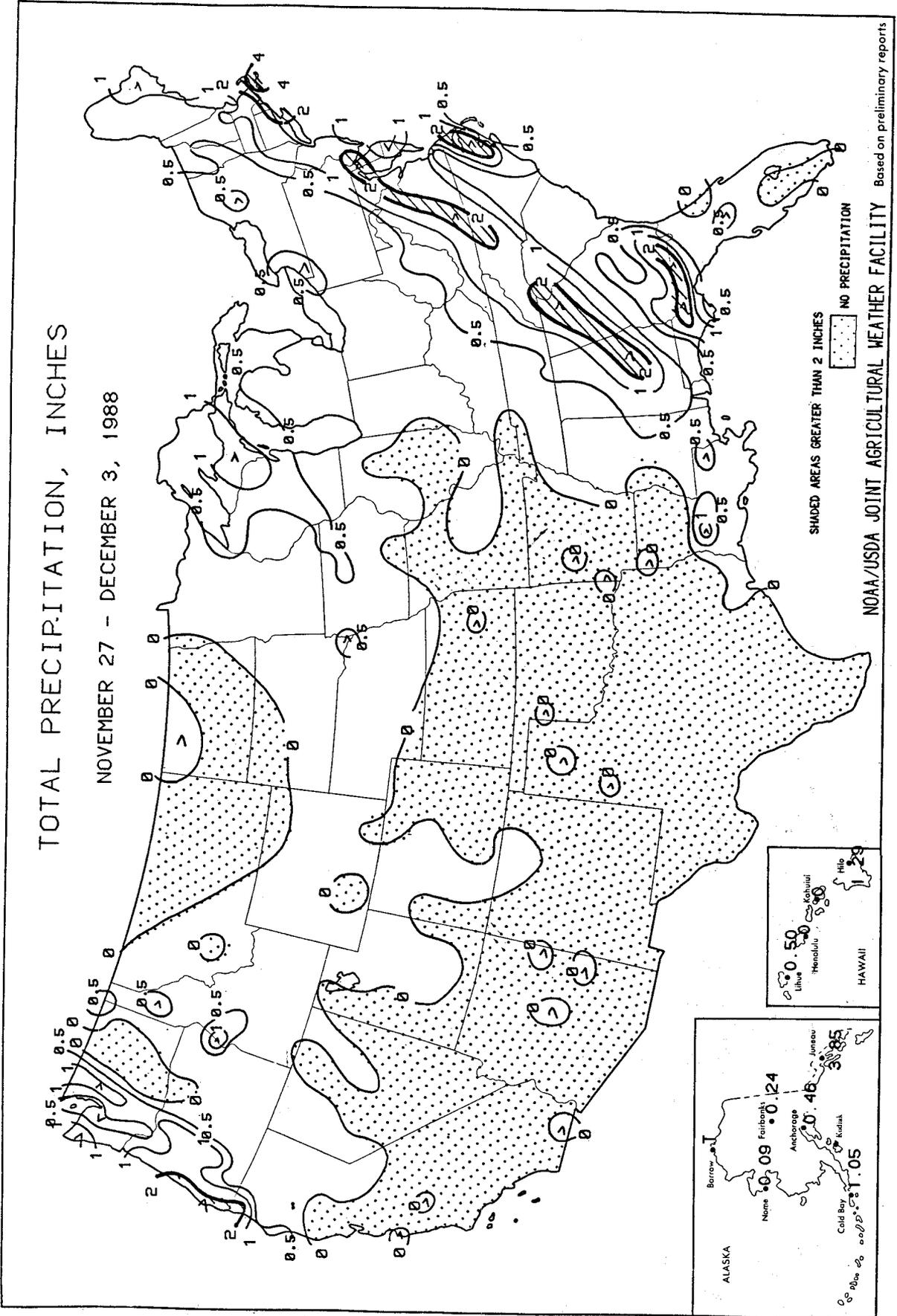
THURSDAY. High pressure and sunny skies dominated most of the Nation as the main storm tracks stayed north of the Canadian border. Lake effect snow fell over the lower Great Lakes.

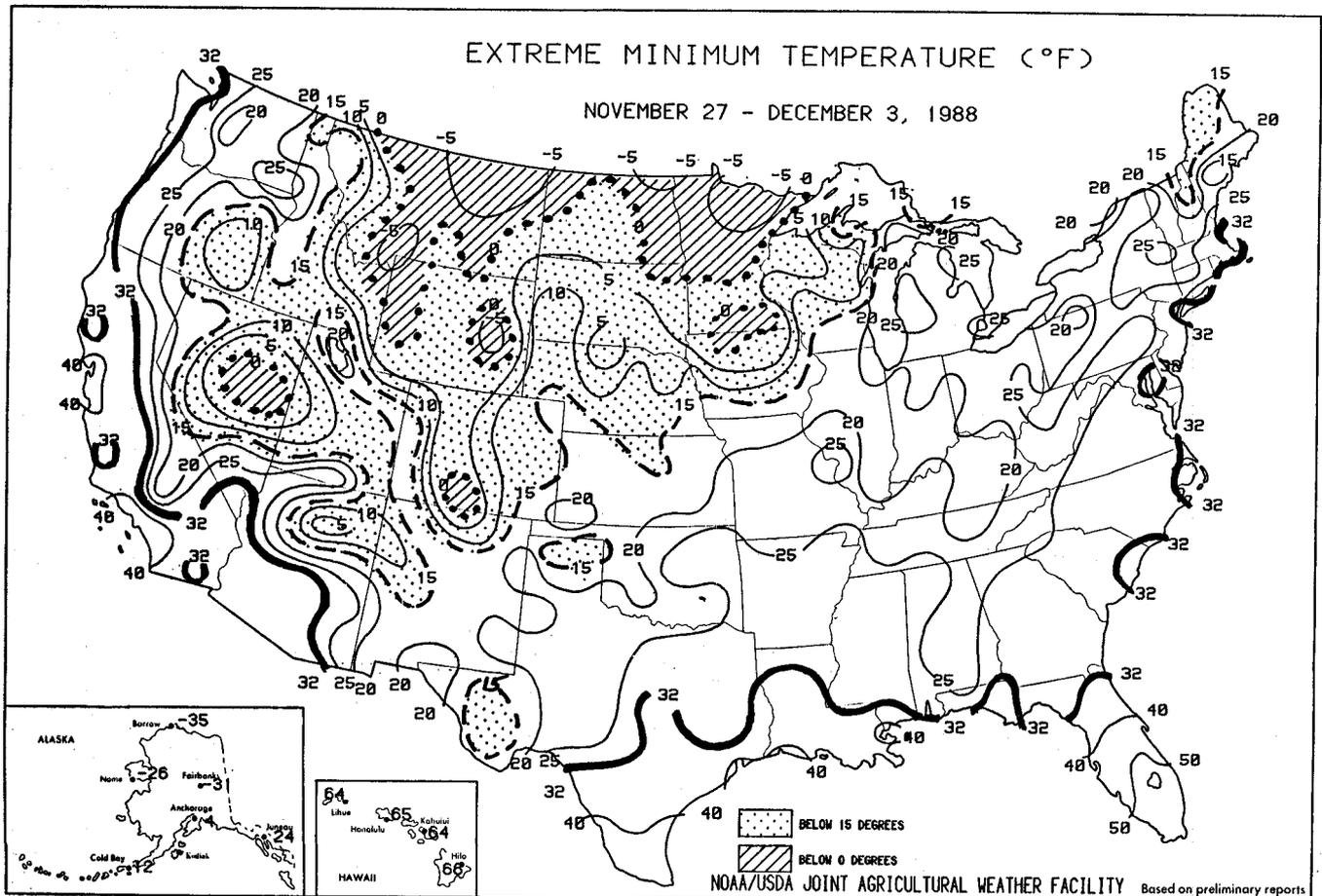
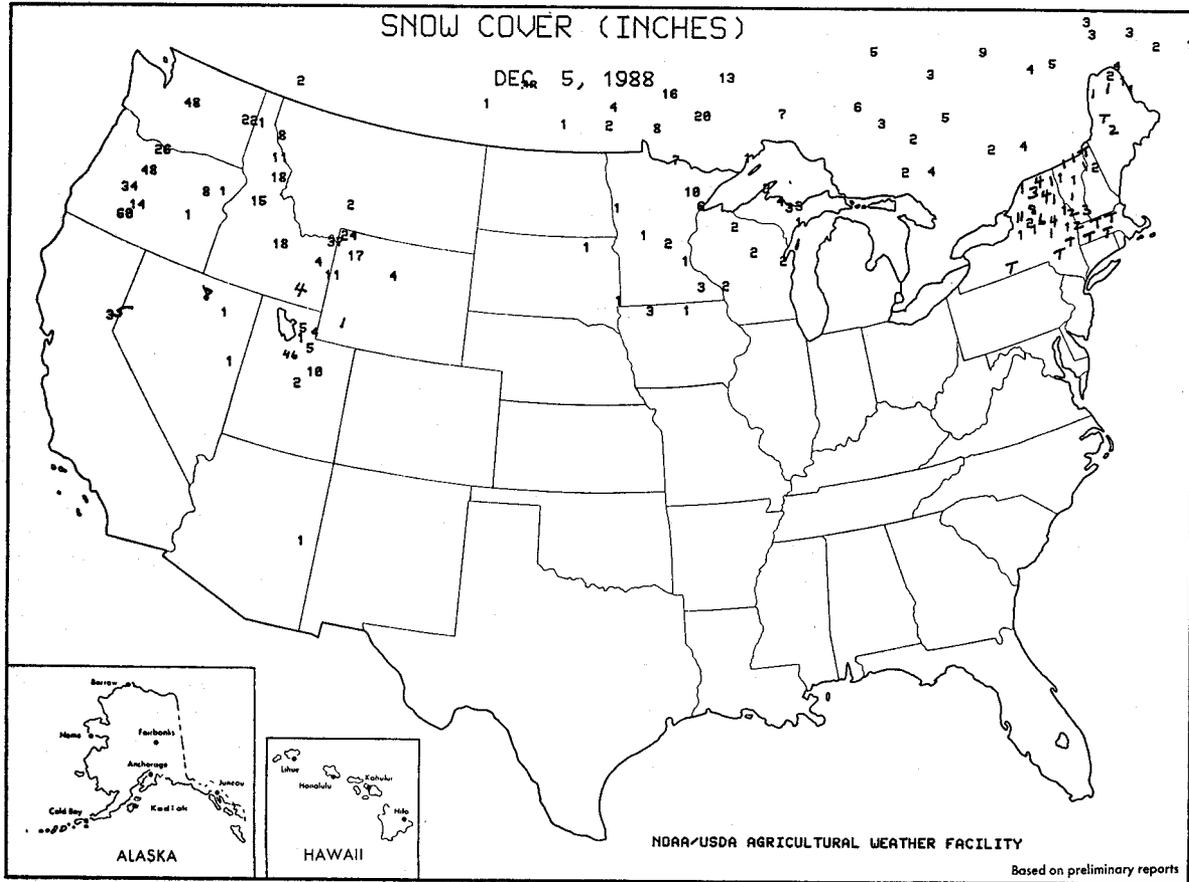
FRIDAY. Skies remained mostly clear across the United States. Warm air was over the Plains while unseasonably low temperatures reached into southern California.

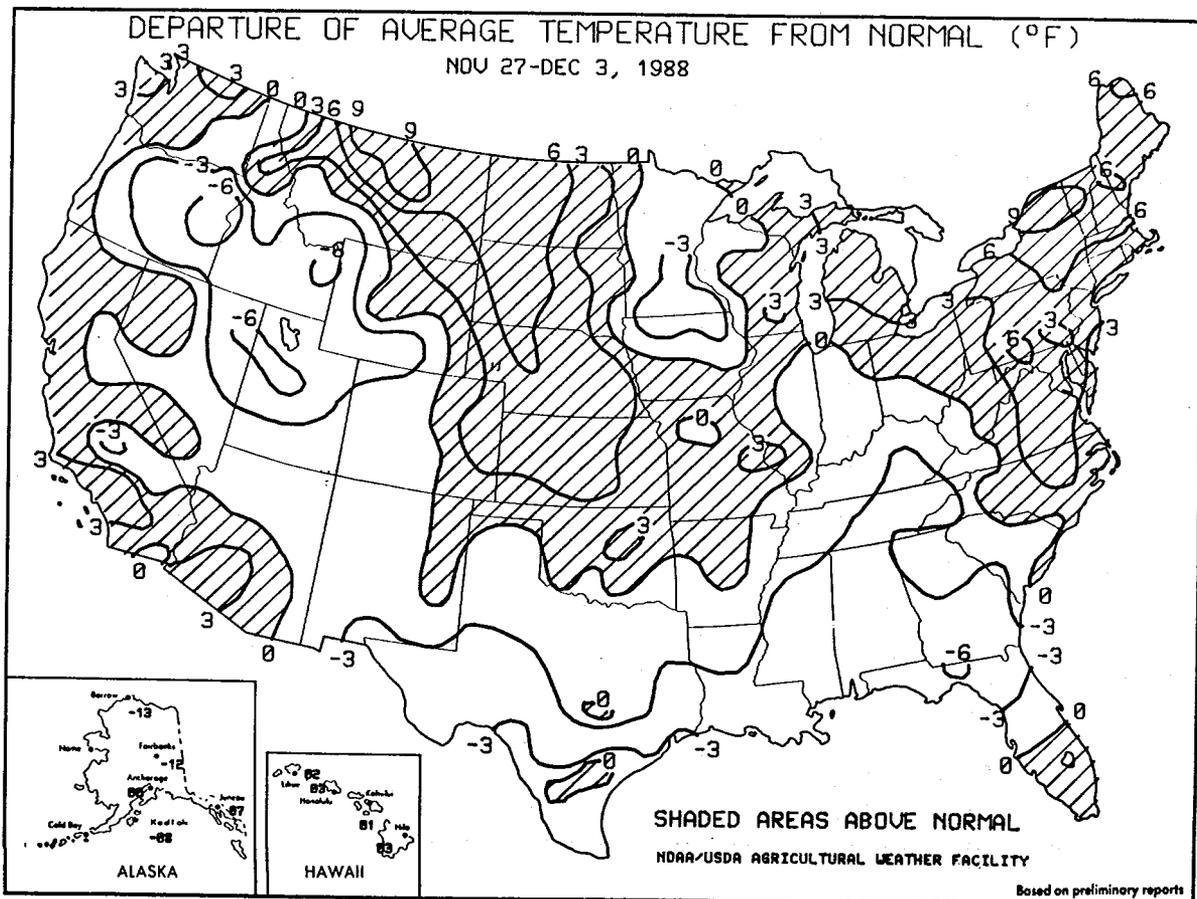
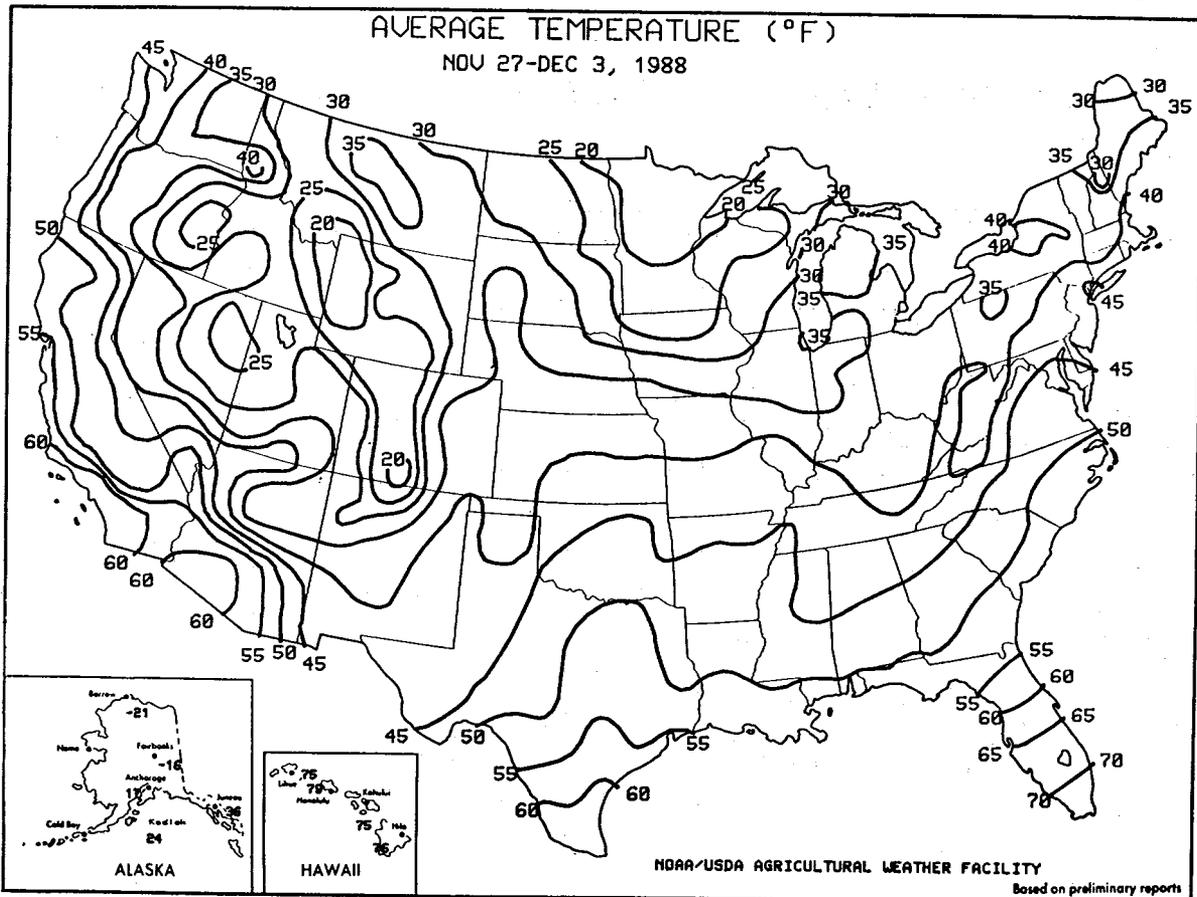
SATURDAY A cold front swung across the Great Lakes into New England producing gusty winds. Snow was scattered behind and rain ahead of the front. The remainder of the Nation continued to enjoy pleasant weather.

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National Weather Data for Selected Cities

Weather Data for the Week Ending December 3, 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	TEMPERA- TURE °F		PRECIPI- TATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	57	31	62	25	44	-4	.7	-.3	.6	0	0	38.1	76	96	36	0	5	2	1
MOBILE	64	37	76	30	50	-5	.4	-.8	.4	0	0	60.5	101	94	35	0	2	1	0
MONTGOMERY	62	33	73	24	47	-4	3.2	2.3	3.2	0	0	61.1	137	95	39	0	4	1	0
AK ANCHORAGE	24	10	33	4	17	0	.5	.2	.1	145	12.8	92	88	64	0	7	6	0	
BARROW	-15	-27	-10	-35	-21	-13	T	-.1	T	0	3.4	76	76	64	0	7	7	0	
FAIRBANKS	-7	-26	17	-31	-16	-12	.2	.1	.1	143	10.1	103	80	64	0	7	4	0	
JUNEAU	40	32	47	24	36	7	4.6	3.5	3.4	174	54.1	111	98	81	0	2	5	2	
KODIAK	31	17	39	5	24	-8	1.1	-.2	.4	104	74.0	132	91	57	0	7	5	0	
NOME	-1	-17	6	-26	-9	-18	.1	-.1	-.1	0	11.7	84	80	69	0	7	3	0	
AZ PHOENIX	73	45	78	40	59	3	0	-.2	0	0	7.1	114	63	19	0	0	0	0	
PRESCOTT	57	22	61	21	39	0	0	-.3	0	0	13.8	79	78	23	0	7	0	0	
TUCSON	71	41	76	34	56	2	0	-.2	0	0	11.6	114	69	20	0	0	0	0	
YUMA	74	50	77	47	62	3	0	-.1	0	0	2.8	129	37	14	0	0	0	0	
AR FORT SMITH	59	30	72	28	44	0	0	-.8	0	0	33.4	90	94	33	0	6	0	0	
LITTLE ROCK	58	37	72	31	47	1	0	-1.0	0	0	44.7	99	67	36	0	2	0	0	
CA BAKERSFIELD	60	36	68	33	48	-3	0	-.2	0	0	3.7	73	98	63	0	0	0	0	
EUREKA	62	43	72	40	53	3	.5	-.9	.4	0	25.3	77	84	60	0	0	2	0	
FRESNO	59	39	65	34	49	1	T	-.3	T	0	6.9	77	99	62	0	0	0	0	
LOS ANGELES	77	50	81	48	63	5	0	0	0	0	5.4	52	71	21	0	0	0	0	
REDDING	66	36	72	31	51	1	T	-1.4	T	0	27.2	78	90	33	0	2	1	0	
SACRAMENTO	58	37	64	34	48	0	0	-.6	0	0	9.1	63	100	57	0	0	0	0	
SAN DIEGO	74	47	79	46	60	1	0	-.3	0	0	8.0	97	76	25	0	0	0	0	
SAN FRANCISCO	63	46	66	44	55	3	T	-.7	T	0	10.0	61	93	50	0	0	0	0	
CO DENVER	53	21	68	13	37	2	T	-.1	T	0	14.0	95	69	19	0	7	1	0	
GRAND JUNCTION	43	19	52	17	31	-2	T	-.1	T	0	7.7	104	82	32	0	7	0	0	
PUEBLO	56	16	68	9	36	0	0	-.1	0	0	10.8	103	80	22	0	7	0	0	
CT BRIDGEPORT	50	35	58	31	43	4	1.0	.1	.7	0	37.2	98	79	51	0	2	2	1	
HARTFORD	50	30	59	24	40	5	1.1	.1	1.0	0	38.5	95	87	43	0	4	2	1	
DC WASHINGTON	56	39	68	34	47	4	1.8	1.4	0	0	30.4	84	77	40	0	0	2	1	
FL APALACHICOLA	65	41	79	32	53	-4	T	-.7	T	0	61.1	118	88	40	0	1	1	0	
DAYTONA BEACH	72	48	84	39	60	-2	T	-.5	T	0	40.0	86	92	51	0	0	0	0	
JACKSONVILLE	67	41	82	31	54	-4	.1	-.3	-.1	0	59.5	121	95	46	0	1	1	0	
KEY WEST	79	69	85	61	74	1	.1	-.4	-.1	.1	24	36.4	96	90	65	0	0	2	0
MIAMI	79	63	88	53	71	1	T	-.4	T	0	44.4	80	86	55	0	0	1	0	
ORLANDO	73	52	85	44	63	-1	.5	.1	.3	T	51.5	108	88	51	0	0	2	0	
TALLAHASSEE	65	34	81	23	50	-6	2.6	1.6	2.6	0	47.4	79	98	36	0	5	1	1	
TAMPA	72	52	83	41	62	-1	.2	-.3	.1	0	50.7	114	90	49	0	0	3	0	
WEST PALM BEACH	77	61	88	51	69	0	.2	-.3	.2	0	63.0	109	87	62	0	0	2	0	
GA ATLANTA	57	35	68	31	46	-2	2.1	1.2	2.1	0	44.6	100	80	37	0	4	2	1	
AUGUSTA	61	32	77	22	47	-3	2.2	-.4	.2	0	39.7	99	98	36	0	5	2	0	
MACON	62	33	72	25	48	-4	.2	-.5	.2	0	41.4	101	94	34	0	5	1	0	
SAVANNAH	65	40	81	30	53	-1	.1	-.4	.1	0	47.2	100	91	33	0	2	2	0	
HI HILO	83	69	86	66	76	4	1.3	-2.1	.6	0	126.8	108	91	64	0	0	4	2	
HONOLULU	87	70	88	65	79	3	0	-.8	0	0	9.8	48	87	53	0	0	0	0	
KAHULUI	84	67	86	64	75	1	0	-.6	0	0	17.7	113	92	62	0	0	0	0	
LIHUE	80	70	82	64	75	2	.5	-.7	.3	.2	45	36.6	94	93	74	0	0	3	0
ID BOISE	39	24	44	18	31	-3	.3	.3	.3	0	10.5	102	93	57	0	7	1	0	
LEWISTON	47	35	52	27	41	4	T	-.3	T	0	8.3	71	77	46	0	2	1	0	
POCATELLO	31	16	34	8	24	-6	.1	-.1	.1	T	6.9	71	93	64	0	7	1	0	
IL CHICAGO	41	23	54	20	32	-1	.1	-.5	0	T	31.0	96	88	60	0	7	3	0	
MOLINE	41	24	53	19	33	1	T	-.4	T	0	24.2	69	83	56	0	7	1	0	
PEORIA	42	25	56	20	33	0	.1	-.4	.1	T	19.9	60	89	54	0	7	1	0	
QUINCY	45	26	58	20	36	1	T	-.4	T	0	17.1	47	81	46	0	7	1	0	
ROCKFORD	40	24	50	18	32	1	.1	-.4	0	T	23.0	66	90	62	0	7	2	0	
SPRINGFIELD	44	27	57	22	36	0	T	-.5	T	0	22.1	69	81	51	0	6	0	0	
IN EVANSVILLE	49	28	63	19	39	-1	T	-.8	T	6	35.7	93	88	48	0	4	1	0	
FORT WAYNE	43	27	55	20	35	1	.1	-.5	0	T	30.9	95	89	59	0	6	3	0	
INDIANAPOLIS	45	26	56	19	35	-1	.1	-.6	.1	T	28.8	79	91	55	0	5	3	0	
SOUTH BEND	42	26	53	20	34	0	.5	-.2	.3	T	35.8	101	89	60	0	7	4	0	
IA DES MOINES	42	22	62	13	32	1	.1	-.2	.1	0	21.2	71	88	51	0	7	2	0	
STIOUX CITY	38	19	48	10	29	0	.4	.2	.3	0	22.7	92	94	69	0	7	3	0	
WATERLOO	35	15	49	3	25	-3	.3	-.1	.2	0	18.5	58	93	68	0	7	2	0	
KS CONCORDIA	51	28	64	17	40	4	T	-.2	T	0	13.9	52	80	37	0	5	0	0	
DODGE CITY	56	25	69	16	41	4	0	-.1	0	0	14.9	75	69	25	0	7	0	0	
GOODLAND	53	23	69	15	38	5	T	-.1	T	0	20.4	129	66	24	0	7	0	0	
TOPEKA	52	25	69	19	39	2	0	-.3	0	0	18.5	57	85	38	0	7	0	0	
WICHITA	55	28	66	19	42	3	0	-.3	0	0	16.6	60	83	32	0	6	0	0	
KY BOWLING GREEN	50	29	61	22	39	-2	.1	-.9	.1	T	40.9	91	94	49	0	5	1	0	
LEXINGTON	47	27	60	19	37	-3	.1	-.7	.1	.1	35.3	83	88	47	0	6	2	0	
LOUISVILLE	50	29	63	20	40	-1	T	-.8	T	0	34.1	85	83	43	0	4	2	0	
LA ALEXANDRIA	64	36	70	34	50	-3	T	-.1	T	0	38.7	81	87	34	0	0	0	0	
BATON ROUGE	64	37	68	33	51	-4	.2	-.9	.2	0	67.9	132	94	38	0	0	0	0	
LAKE CHARLES	67	38	71	36	52	-4	.1	-.1	.1	0	54.3	110	91	34	0	0	2	0	
NEW ORLEANS	64	40	75	33	52	-4	.1	-1.0	-.1	0	69.9	127	99	42	0	0	1	0	

Based on 1951-80 normals

Weather Data for the Week Ending December 3, 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	PRECIPI- TATION	
																		.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	44	27	59	20	36	-1	.1	-6	0	T	0	33.9	105	87	54	0	6	3	0
TOLEDO	43	29	58	23	36	3	.1	-5	.1	T	15	26.7	91	88	58	0	6	4	0
YOUNGSTOWN	43	30	64	24	37	3	.3	-4	.2	T	19	29.8	86	89	53	0	6	4	0
OK OKLAHOMA CITY	60	34	72	26	47	3	0	-3	0	0	0	30.6	103	70	26	0	4	0	0
TULSA	59	34	73	28	46	3	0	-5	0	0	0	31.4	85	76	30	0	3	0	0
OR ASTORIA	55	39	61	34	47	3	.8	-1.8	.7	T	1	47.9	80	94	66	0	0	4	1
BURNS	35	10	38	0	23	5	.8	-3	T	0	0	7.6	86	90	63	0	7	1	0
MEDFORD	45	31	57	26	38	1	.5	-3	T	0	0	12.3	74	99	70	0	4	2	0
PENDLETON	41	30	52	24	36	3	.8	-4	T	0	0	9.9	93	90	71	0	5	1	0
PORTLAND	50	35	53	28	43	3	.4	-1.0	.4	0	0	29.3	93	97	65	0	2	2	0
SALEM	45	33	54	30	39	0	.8	-7	.7	0	0	29.4	87	98	79	0	4	2	1
PA ALLENTOWN	51	31	62	24	41	4	.9	0	.8	0	0	38.4	94	89	43	0	5	2	1
ERIE	44	33	62	28	38	3	.7	-1	.4	T	.3	36.5	99	85	50	0	4	4	0
HARRISBURG	50	30	63	23	40	2	.2	-5	.2	T	0	32.5	90	87	47	0	5	2	0
PHILADELPHIA	54	34	66	29	44	4	1.8	1.0	1.4	0	0	37.4	98	85	49	0	2	2	1
PITTSBURGH	46	31	66	24	39	2	.2	-4	.1	T	.1	25.0	73	92	55	0	6	5	0
SCRANTON	48	33	64	27	41	2	.6	-3	.3	T	0	30.4	93	86	49	0	5	3	0
RI PROVIDENCE	52	32	63	27	42	5	1.4	.4	1.1	0	0	37.4	91	86	50	0	4	2	1
SC CHARLESTON	65	41	77	32	53	1	.1	-5	.1	0	0	41.9	86	89	34	0	1	1	0
COLUMBIA	62	34	77	27	48	-1	.1	-6	0	0	0	42.6	93	92	34	0	5	2	0
FLORENCE	64	36	80	28	50	0	.3	-3	.3	0	0	36.7	89	87	29	0	4	1	0
GREENVILLE	58	33	67	25	45	-1	1.8	1.0	1.8	0	0	36.3	77	89	38	0	5	2	1
SD ABERDEEN	34	12	43	-2	23	1	.1	0	.1	0	0	17.6	102	92	68	0	7	1	0
HURON	40	15	57	5	28	3	T	-1	T	0	0	18.6	103	91	55	0	7	2	0
RAPID CITY	46	24	63	13	35	6	.1	0	.1	0	0	10.5	67	71	34	0	7	1	0
STIOUX FALLS	35	11	44	4	23	4	.2	.4	.2	T	0	18.8	80	97	71	0	7	4	0
TN CHATTANOOGA	55	29	64	23	42	-2	.3	-8	.3	0	0	40.4	84	92	37	0	6	1	0
KNOXVILLE	53	28	71	22	40	-1	.4	.9	-1	T	5	30.8	71	93	45	0	6	3	1
MEMPHIS	56	35	67	28	45	-1	.1	-1.0	.1	0	0	44.3	94	85	42	0	2	1	0
NASHVILLE	53	29	65	22	41	1	T	-9	T	0	0	27.4	62	88	41	0	6	1	0
TX ABILENE	63	32	69	24	47	-2	.3	-2	0	0	0	15.4	68	61	20	0	3	0	0
AMARTILLO	56	23	67	17	39	-1	T	-1	T	0	0	24.6	133	67	20	0	7	1	0
AUSTIN	70	41	75	38	56	1	T	-5	0	0	0	18.1	61	65	20	0	0	0	0
BEAUMONT	67	37	71	33	52	1	T	-1	T	T	2	44.3	87	88	27	0	0	1	0
BROWNSVILLE	75	51	80	44	63	-2	.2	0	0	0	0	23.0	95	93	37	0	0	0	0
CORPUS CHRISTI	73	46	77	41	60	-2	0	-3	0	0	0	18.3	61	79	24	0	0	0	0
DEL RIO	67	38	72	32	53	0	0	-1	0	0	0	15.2	91	58	22	0	1	0	0
EL PASO	60	28	68	23	44	-3	0	-1	0	0	0	10.6	146	67	19	0	6	0	0
FORT WORTH	65	36	74	28	51	0	0	-4	0	0	0	22.6	77	71	24	0	1	0	0
GALVESTON	67	52	71	48	60	0	0	-8	T	0	0	37.0	99	77	31	0	0	1	0
HOUSTON	70	37	74	31	53	1	T	-8	T	0	0	21.7	50	77	20	0	1	1	0
LUBBOCK	59	26	70	20	42	-2	T	-1	T	0	0	12.5	73	63	19	0	7	0	0
MIDLAND	62	25	69	20	44	0	0	-1	0	0	0	17.7	136	66	21	0	7	0	0
SAN ANGELO	65	27	72	21	46	-4	0	-2	0	0	0	13.3	76	78	21	0	7	0	0
SAN ANTONIO	70	36	74	32	53	-2	0	-4	0	0	0	18.4	66	67	19	0	1	0	0
VICTORIA	73	41	76	35	57	-2	0	-5	0	0	0	13.7	39	74	21	0	0	0	0
WACO	66	36	74	31	51	-1	T	-5	T	0	0	22.7	78	85	25	0	1	0	0
WICHITA FALLS	63	31	73	24	47	0	0	-3	0	0	0	22.4	88	73	22	0	3	0	0
UT CEDAR CITY	48	17	54	13	32	-2	0	-2	0	0	0	12.0	124	96	33	0	7	0	0
SALT LAKE CITY	37	23	41	20	30	4	.1	-2	.1	0	0	8.7	62	94	58	0	7	2	0
VT BURLINGTON	46	32	59	26	39	10	.5	-1	.4	T	15	25.9	82	84	48	0	5	2	0
VA NORFOLK	59	39	77	32	49	2	1.4	.8	1.4	0	0	38.0	90	79	40	0	2	2	1
RICHMOND	58	37	70	29	47	4	1.1	.3	.8	0	0	36.5	89	82	38	0	4	2	1
ROANOKE	54	33	64	25	44	2	.4	-2	.4	0	0	30.2	83	76	38	0	4	2	0
WA QUILLYUTE	52	37	63	33	45	3	2.0	-1.7	.7	.8	51	87.6	96	98	69	0	0	5	2
SEATTLE-TACOMA	49	37	51	30	43	0	.3	-1.1	.2	.1	12	29.5	90	99	68	0	2	2	0
SPOKANE	35	22	38	15	28	-3	.1	-5	.1	T	0	14.7	103	99	82	0	7	1	0
YAKIMA	44	24	51	20	34	0	0	-3	0	0	0	4.8	72	98	59	0	7	0	0
WV BECKLEY	47	29	62	22	38	1	.4	-3	.4	T	3	31.4	80	86	43	0	5	3	0
CHARLESTON	50	30	70	25	40	-1	.4	-3	.4	T	0	28.8	73	81	42	0	5	1	0
HUNTINGTON	50	30	68	20	40	-1	.4	-3	.4	0	0	33.0	87	79	42	0	5	1	0
PARKERSBURG	49	32	68	26	40	1	.3	-3	.3	0	0	30.0	85	82	45	0	5	2	0
WI GREEN BAY	35	21	47	9	28	1	.6	.3	.5	T	0	23.2	87	97	74	0	7	4	0
LACROSSE	34	20	43	12	27	-1	.5	-2	.4	T	0	25.5	88	91	64	0	7	2	0
MADISON	38	24	47	17	31	2	.2	-2	.1	T	0	23.0	78	88	62	0	6	3	0
MILWAUKEE	40	25	49	20	33	2	.2	-3	.1	T	0	29.0	100	88	62	0	7	4	0
WAUSAU	33	18	43	6	26	1	.7	-4	.4	0	0	22.7	74	95	75	0	7	3	0
WY CASPER	39	17	50	-7	28	0	.1	-1	.4	0	0	6.0	56	75	42	0	7	2	0
CHEYENNE	45	19	63	7	32	1	.1	-1	.1	0	0	15.2	117	81	33	0	7	2	0
LANDER	41	14	48	3	28	2	.1	-1	.1	0	0	6.9	55	73	29	0	7	1	0
SHERIDAN	43	22	59	0	32	5	0	-2	0	0	0	9.3	65	75	46	0	7	0	0
PR SAN JUAN	84	71	85	70	78	-1	.2	-1.1	.2	.2	40	56.5	112	86	60	0	0	2	0

Heating Degree Days Summary Table

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

LAST DATE OF DATA COLLECTION PERIOD IS 12-3-1988
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK TOTAL, WEEK DEV, WEEK FROM, WEEK TO, CUM TOTAL, CUM DEV, CUM FROM, CUM TO, CUM FROM, CUM TO, CUM FROM, CUM TO. Lists cities from AL BIRMINGHAM to MT KALISPELL.

Table with columns: STATE CITY, CALL WEEK, WEEK TOTAL, WEEK DEV, WEEK FROM, WEEK TO, CUM TOTAL, CUM DEV, CUM FROM, CUM TO, CUM FROM, CUM TO, CUM FROM, CUM TO. Lists cities from MT MILES CITY to WY SHERIDAN.

November Weather and Crop Summary

Weather Summary

HIGHLIGHTS: A series of frontal systems caused substantial precipitation over much of the eastern half of the Nation and the Northwest relieving or ending long-term moisture deficits. These systems brought heavy snow to the mountains of the West, the upper Mississippi Valley and upper Great Lakes. Heavy rain and severe thunderstorms spawned an unusual number of late season tornadoes in the middle and lower Mississippi Valley and the Southeast, with powerful tornadoes raking the Raleigh, North Carolina area. The South Atlantic Coast was relatively dry except for Tropical Storm Keith which drenched Florida with torrential rain. Unseasonably mild weather generally prevailed over the Nation although freezing temperatures penetrated into northern Florida at month's end.

NOVEMBER 1-5...Widespread rain covered the eastern third of the Nation and southern Plains, helping to relieve long-term moisture deficits. Storms brought widespread rain to the Pacific Northwest. Indian summer prevailed over the central portions of the country, and warm dry weather persisted in the Southwest.

NOVEMBER 6-12...A couple of fast moving storm systems caused heavy rain from the southeastern Plains and central Gulf coast to the Great Lakes during the latter half of the week. Dry weather remained over much of the winter wheat areas in the Great Plains. Pacific storm systems brought widespread rain to the Northwest. Much-above-normal temperatures prevailed across the Southwest and southern Plains.

NOVEMBER 13-19...Two major storm systems brought widespread rain from the southern Plains to the northern and mid-Atlantic coasts and to the Pacific Northwest. These systems also brought snow to the higher elevations of the West, northern and central Plains, and upper Mississippi Valley. Severe thunderstorms developed from the first system and spawned numerous tornadoes in the middle Mississippi Valley during the first half of the week. The second storm at week's end drenched the lower Mississippi and lower Ohio Valleys with torrential rain and caused tornadoes from eastern Texas into Tennessee.

NOVEMBER 20-26...A frontal system brought widespread rain to the eastern third of the country at the beginning of the week. Severe thunderstorms produced hail and high winds in the upper Ohio Valley and spawned tornadoes in the Southeast. Late season Tropical Storm Keith drenched central Florida with heavy rain and triggered tornadoes during the middle of the week. Wet and windy conditions persisted in the West. Torrential rain caused flooding along the north-central Pacific coast. At week's end, a storm system triggered severe weather with heavy rain and tornadoes across the South-Central States and caused heavy snow in the upper Mississippi Valley.

NOVEMBER 27-30...Early in the period, a cold front caused heavy rain from the central Gulf coast into New England. Thunderstorms spawned powerful tornadoes that devastated the Raleigh, North Carolina area. Clear and mild weather dominated the Nation at month's end although freezing temperatures reached into northern Florida.

Winter Wheat Seeding

At the beginning of November, seeding was nearly complete except in the Southeast and California. Seeding was 95 percent (%) finished, 5 percentage points ahead of the 5-year average. Condition was mostly good to fair. Lack of moisture slowed crop development in much of the Plains and Pacific Northwest. Russian wheat aphids were a problem in the Northwest. By midmonth, seeding was essentially complete except in the Southeast and California. Condition remained good to fair except in the Pacific Northwest and some Plains States, where it was mostly fair to good. Ninety-two percent of the crop was emerged, 9 points ahead of normal. Warm temperatures increased greenbug populations in portions of Kansas and Texas. Cool temperatures slowed Russian aphid activity in the Northwest. Inadequate moisture continued to limit growth in most of the Plains. Strong winds damaged some of the crop in Colorado. Rain and mild temperatures improved condition in the Corn Belt. Near the end of the month, rain and snow provided needed moisture in portions of the Plains and Pacific Northwest. Greenbugs continued to be a problem in Kansas and Texas. In Texas, central and southern areas remained dry and showed little or no growth. Continued rainfall and mild temperatures benefited the crop in the Corn Belt.

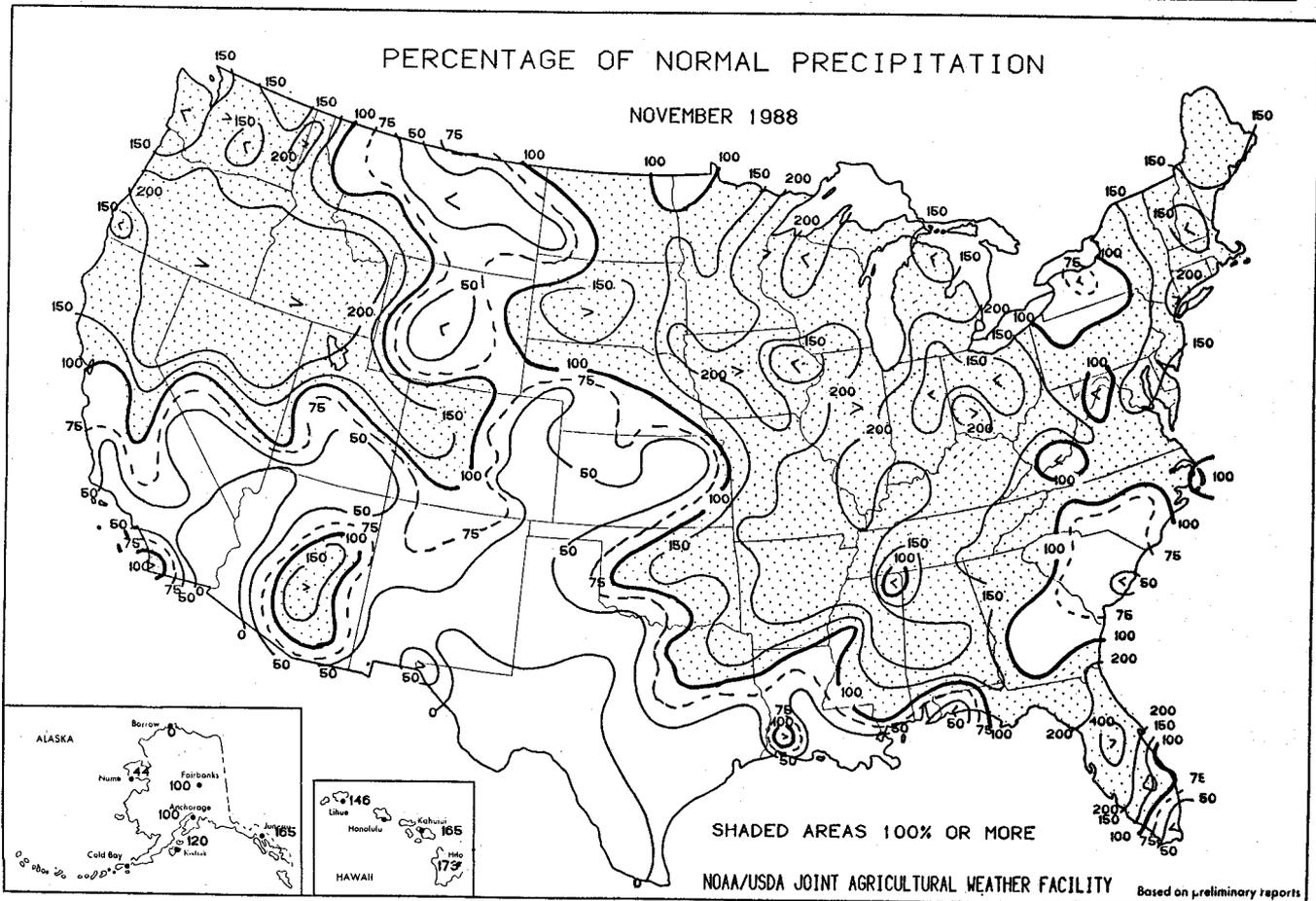
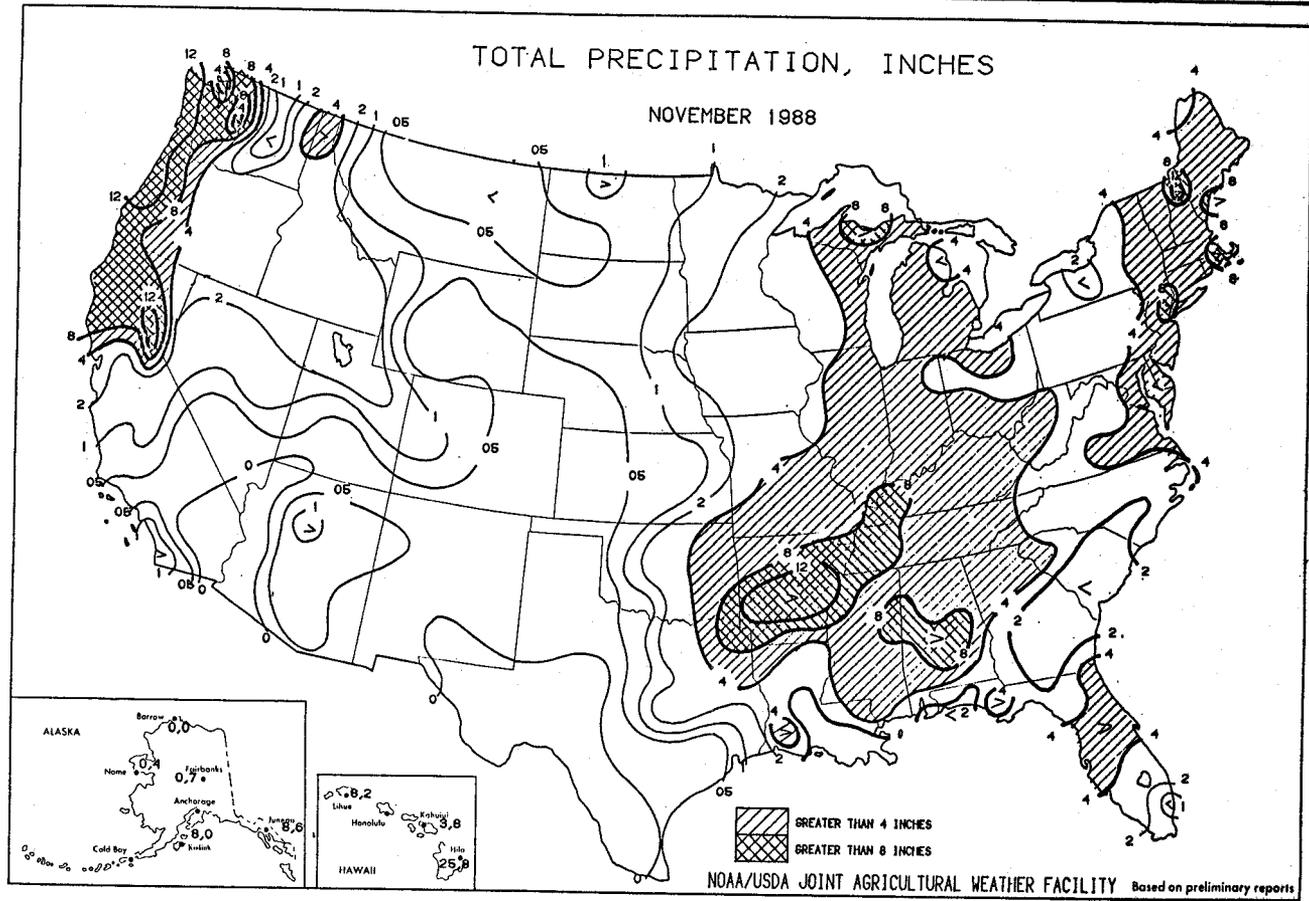
Row Crop Harvest

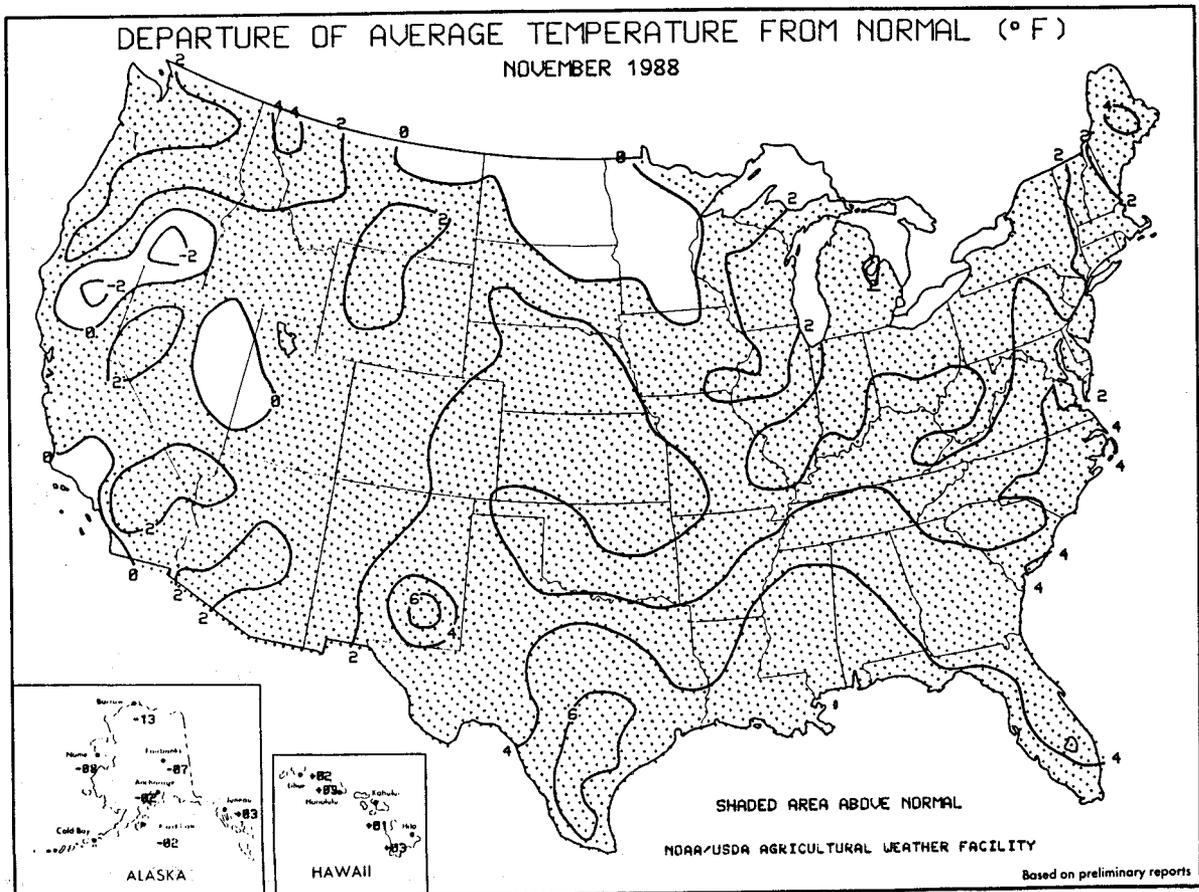
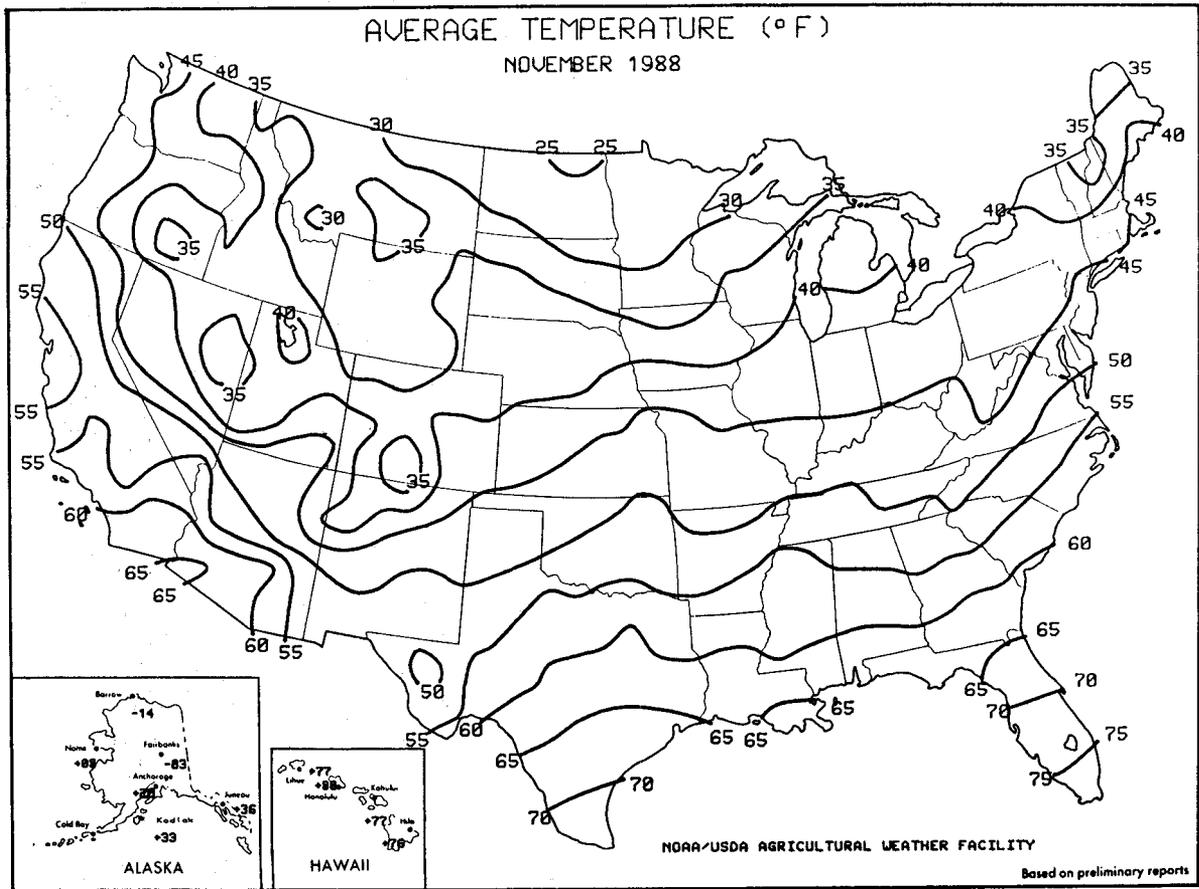
Harvest was nearly complete in the central and northern Plains by mid-November. Rain delayed cotton and soybean harvests in the Delta and eastern Corn Belt the second half of the month. Cotton and soybean harvests were still ahead of normal at month's end.

Corn harvest was 90% complete, 12 points ahead of normal by November 6. Harvest was complete in Iowa and Texas and nearly complete in Georgia, Illinois, Kansas, Minnesota, and Missouri. By mid-month, harvest was complete or nearly complete in most of the 17 major producing States. In Michigan, Ohio, and Pennsylvania, harvest was slowed by rain and was behind normal. Rain continued to slow harvest in the eastern Corn Belt the last half of the month. By month's end, harvest was still behind normal in Michigan and Pennsylvania. On November 27, Michigan's harvest was 85% complete and Pennsylvania's was 76% complete.

By the end of the first week in November, soybean harvest was complete in Iowa, Nebraska, and South Dakota and nearly complete in Illinois, Kansas, and Minnesota. By November 27, harvest in the 19 major producing States was 95% finished, slightly ahead of the 92% average. Rain and wet field conditions slowed harvest in the Delta and eastern Corn Belt the last half of the month. At month's end, Michigan's harvest was 80% finished, 16 points behind normal. In Alabama and Mississippi, harvest was 7 points and 10 points behind normal, respectively. Harvest was ahead of normal in the Southeast. North Carolina's harvest was 63% complete, 8 points ahead of normal. In South Carolina, harvest was 11 points ahead of the 54% average.

(Continued to backcover)





Temperature and Precipitation Data for November 1988

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
AL BIRMINGHAM	55	3	6.1	2.5	LA ALEXANDRIA	61	4	1.7	-2.4	OK COLUMBUS	44	1	3.6	1.0
MOBILE	63	4	2.3	-1.4	BATON ROUGE	64	5	2.9	-1.1	DAYTON	43	1	6.2	3.6
AK ANCHORAGE	59	4	9.4	6.5	LAKE CHARLES	64	4	4.0	-0.2	TOLEDO	42	2	4.3	1.9
BARROW	-14	-13	1.1	0.1	NEW ORLEANS	66	6	1.3	-2.8	YOUNGSTOWN	42	2	3.0	0.2
FAIRBANKS	-3	-7	0.7	0.0	ME SHREVEPORT	59	3	5.4	1.7	OR OKLAHOMA CITY	51	3	2.5	0.9
JUNEAU	36	3	8.6	3.4	ME CARIBOU	34	2	4.1	0.9	TULSA	52	3	4.4	1.8
KODIAK	33	-2	8.0	2.2	MD PORTLAND	41	2	8.8	4.2	OR ASTORIA	47	1	13.1	2.9
NOME	8	-8	0.4	-0.5	MD BALTIMORE	48	2	4.8	1.7	BURNS	33	3	2.6	1.4
AZ FLAGSTAFF	37	1	1.1	-0.6	MA SALISBURY	49	2	3.7	0.6	MEDFORD	46	2	5.1	2.3
PHOENIX	65	4	0.8	0.3	MA BOSTON	47	2	6.6	2.4	PENDLETON	45	3	2.2	0.7
PRESOTT	46	2	0.5	-0.8	MI CHATHAM	47	2	8.1	4.2	PORTLAND	47	2	7.9	2.8
TUCSON	59	1	0.8	0.2	MI ALPENA	37	2	3.5	1.3	SALEM	47	2	9.5	3.8
WINSLOW	47	4	0.7	0.3	MI DETROIT	42	2	4.3	2.0	PA ALLENTOWN	44	2	5.0	1.3
YUMA	66	2	T	-0.2	MI FLINT	41	2	4.9	2.7	ERIE	44	3	3.0	-0.8
AR FORT SMITH	51	1	5.5	2.0	MI GRAND RAPIDS	40	2	4.8	2.0	HARRISBURG	44	0	3.7	0.5
LITTLE ROCK	54	2	14.8	105	MI HOUGHTON LAKE	37	2	5.1	2.8	PHILADELPHIA	48	2	5.2	1.9
CA BAKERSFIELD	55	-1	0.6	-0.1	MI LANSING	40	2	4.2	1.8	PITTSBURGH	44	2	2.8	0.5
EUREKA	53	2	8.9	3.1	MI MARQUETTE	32	2	8.3	5.3	SCRANTON	43	2	3.3	0.4
FRESNO	55	1	1.4	0.2	MI MUSKOGON	41	2	6.6	3.7	RI PROVIDENCE	45	2	7.6	3.4
LOS ANGELES	60	-1	0.7	-0.8	MN SAULT ST. MARIE	37	4	7.7	4.5	SC CHARLESTON	61	4	1.1	-1.1
REDDING	51	-3	10.1	4.6	MN ALEXANDRIA	28	-1	1.4	0.3	COLUMBIA	56	2	1.6	-0.9
SACRAMENTO	54	1	2.0	-0.2	MN DULUTH	29	0	3.4	1.8	FLORENCE	57	2	1.4	-0.8
SAN DIEGO	60	-1	1.4	0.4	MN INT'L FALLS	26	1	1.4	0.1	GREENVILLE	52	1	4.3	1.1
SAN FRANCISCO	57	2	2.3	0.0	MN MINNEAPOLIS	33	0	2.9	1.6	SD ABERDEEN	29	-1	0.7	0.1
STOCKTON	54	1	1.4	-0.4	MN ROCHESTER	33	-1	2.9	1.4	HURON	33	1	1.0	0.3
CO DENVER	41	2	0.5	-0.3	MS ST. CLOUD	29	-1	2.8	1.5	RAPID CITY	36	2	0.8	0.3
GRAND JUNCTION	41	1	1.0	0.4	MS GREENWOOD	58	5	4.5	-0.1	STOUX FALLS	34	1	2.0	1.1
PUEBLO	42	2	0.2	-0.3	MS JACKSON	59	5	5.7	1.7	TN CHATTANOOGA	51	2	4.6	0.5
CT BRIDGEPORT	46	1	7.6	3.8	MO MERIDIAN	59	4	7.6	4.1	BRISTAL	48	2	3.4	0.4
HARTFORD	42	0	7.8	3.8	MO COLUMBIA	45	1	4.4	2.1	KNOXVILLE	50	1	4.8	1.1
DC WASHINGTON	50	1	5.3	2.5	MO KANSAS CITY	45	0	2.0	0.3	MEMPHIS	55	3	10.5	6.4
FL APALACHICOLA	65	4	3.0	0.1	MO SAINT LOUIS	47	3	6.7	4.1	NASHVILLE	51	3	5.5	2.0
DAYTONA BEACH	68	2	6.7	4.1	MT SPRINGFIELD	47	2	5.5	2.6	TX ABILENE	58	4	T	-1.3
FT. MYERS	75	5	3.2	1.8	MT BILLINGS	37	2	0.6	-0.2	AMARILLO	48	2	0.3	-0.3
JACKSONVILLE	65	3	4.3	2.6	GLASGOW	29	0	0.1	-0.2	AUSTIN	65	6	0.3	-1.8
KEY WEST	79	3	0.8	-2.5	GREAT FALLS	36	1	0.3	-0.4	BEAUMONT	64	4	1.1	-3.1
MIAMI	77	4	0.8	-1.9	HAVRE	31	0	0.3	-0.1	BROWNSVILLE	72	5	0.1	-1.3
ORLANDO	70	3	7.4	5.6	HELENA	34	2	0.7	0.2	CORPUS CHRISTI	70	4	0.1	-1.3
TALLAHASSEE	62	3	4.0	0.7	KALISPELL	36	4	1.0	-0.2	DEL RIO	63	3	T	-0.8
TAMPA	71	4	6.0	4.1	MILES CITY	34	2	0.4	-0.2	EL PASO	54	3	0.2	-0.1
WEST PALM BEACH	75	3	3.9	0.5	MISSOULA	35	3	0.7	-0.2	PORT WORTH	58	3	2.3	0.2
GA ATLANTA	55	3	4.9	1.5	NE GRAND ISLAND	39	1	0.7	-0.1	GALVESTON	69	6	0.9	-2.2
AUGUSTA	56	2	1.3	-0.8	LINCOLN	41	3	1.1	0.1	HOUSTON	66	5	0.4	-3.2
MACON	58	2	1.8	-0.5	NORFOLK	38	2	1.0	0.3	LUBBOCK	52	4	0.2	-0.4
SAVANNAH	61	4	1.4	-0.5	NORTH PLATTE	38	3	0.4	-0.1	MIDLAND	55	3	T	-0.6
HI HILO	76	3	25.8	10.9	OMAHA	40	1	1.9	0.6	SAN ANGELO	58	4	0.0	-1.0
HONOLULU	80	3	1.4	-1.8	SCOTT'S BLUFF	37	1	0.5	-0.1	SAN ANTONIO	65	6	T	-2.3
KAHULUI	77	1	3.8	-1.5	VALENTINE	36	2	0.6	0.2	VICTORIA	68	5	0.2	-2.1
LIHUE	77	2	8.2	2.7	NV ELY	33	-1	1.2	0.7	WACO	61	4	1.8	-0.5
ID BOISE	41	1	3.4	2.1	LAS VEGAS	56	3	T	-0.4	WICHITA FALLS	55	3	0.5	-0.9
LEWISTON	43	3	2.0	0.8	RENO	43	3	2.0	1.4	UT CEDAR CITY	39	0	1.0	0.1
POCATELLO	35	0	2.3	1.4	WINNEMUCCA	39	2	1.6	0.9	MILFORD	38	1	0.6	-0.1
IL CAIRO	-	-	7.4	3.4	NH CONCORD	39	2	5.1	1.4	SALT LAKE CITY	41	1	2.2	1.0
CHICAGO	42	1	6.5	4.3	NJ ATLANTIC CITY	46	0	4.7	1.0	VT BURLINGTON	40	3	4.5	1.7
MOLINE	40	1	3.1	-1.2	NM ALBUQUERQUE	46	1	0.2	-0.1	LYNCHBURG	47	0	4.3	1.4
PRORIA	42	2	4.2	2.2	CLAVIS	48	1	0.1	-0.4	VA NORFOLK	54	2	4.0	1.2
QUINCY	43	1	3.1	1.1	ROSWELL	54	6	T	-0.3	RICHMOND	51	2	4.3	1.0
ROCKFORD	40	2	4.3	2.0	NY ALBANY	41	1	4.6	1.6	ROANOKE	47	0	2.4	0.2
SPRINGFIELD	43	1	4.4	2.4	BINGHAMTON	40	2	2.9	-0.1	WA QUILLAYUTE	45	1	155	2.4
IN EVANSVILLE	46	1	8.0	4.6	BUFFALO	43	2	3.4	-0.2	SEATTLE-TACOMA	46	1	8.4	2.9
FORT WAYNE	42	2	3.4	0.9	NEW YORK	49	2	7.8	4.0	SPOKANE	36	2	4.4	2.3
INDIANAPOLIS	44	2	4.4	1.4	ROCHESTER	42	2	1.7	-1.0	WALLA WALLA	48	5	3.0	1.1
SOUTH BEND	42	2	5.7	2.9	SYRACUSE	43	2	4.0	0.5	YAKIMA	40	2	1.1	0.2
IA DES MOINES	40	1	3.4	1.9	NC ASHEVILLE	46	0	3.5	0.4	WV BECKLEY	44	2	2.6	-0.3
DUBUQUE	38	2	2.7	0.2	CHARLOTTE	53	2	2.1	-0.8	CHARLESTON	47	1	5.0	2.1
STOUX CITY	38	1	2.1	1.2	GREENSBORO	49	1	3.6	1.0	ELKINS	42	1	3.6	0.9
WATERLOO	37	1	2.5	0.9	HATTERAS	61	5	4.0	-0.9	HUNTINGTON	47	1	5.5	2.7
KS CONCORDIA	44	3	0.5	-0.5	NEW BERN	57	3	6.0	2.9	PARKERSBURG	46	1	4.4	2.0
DODGE CITY	45	3	0.1	-0.6	RALEIGH	52	2	3.3	0.5	WI GREEN BAY	37	3	4.4	2.7
GOODLAND	41	3	0.4	-0.2	WILMINGTON	58	2	3.1	-0.1	LACROSSE	36	1	3.3	1.8
TOPEKA	45	3	0.9	-0.9	ND BISMARCK	29	0	0.5	0.0	MADISON	39	3	3.6	1.8
WICHITA	48	3	0.8	-0.7	FARGO	28	-1	1.2	0.4	MILWAUKEE	41	3	5.2	3.2
KY BOWLING GREEN	47	1	7.8	4.0	GRAND FORKS	26	0	0.6	-0.2	WAUSAU	35	2	3.8	2.0
JACKSON	49	6	6.1	2.9	WILLISTON	28	-1	0.5	0.0	WY CASPER	34	1	0.5	-0.2
LEXINGTON	46	1	5.4	2.1	OH AKRON-CANTON	43	2	3.9	1.4	CHEYENNE	35	1	0.4	-0.1
LOUISVILLE	48	2	5.8	2.3	CINCINNATI	45	1	4.8	1.7	LANDER	35	4	0.1	-0.6
					CLEVELAND	44	2	4.6	1.9	SHERIDAN	34	1	0.6	-0.2
									PR SAN JUAN	79	0	5.7	0.1	

Based on 1951-80 normals.

Heating Degree Days (Base 65° F.)

November 1988

AL. Birmingham . . .	281	Portland . . .	713	OK. Okla. City . . .	408
Mobile . . .	122	MD. Baltimore . . .	504	Tulsa . . .	393
Montgomery . . .	197	MA. Boston . . .	541	OR. Astoria . . .	520
AK. Anchorage . . .	1331	Chatham . . .	523	Burns . . .	952
Barrow . . .	2277	MI. Alpena . . .	824	Medford . . .	586
Fairbanks . . .	2044	Detroit . . .	679	Pendleton . . .	616
Nome . . .	1711	Flint . . .	700	Portland . . .	518
AZ. Flagstaff . . .	836	Grand Rapids . . .	722	Salem . . .	538
Phoenix . . .	135	Houghton Lake . . .	844	PA. Allentown . . .	607
Tucson . . .	220	Lansing . . .	721	Erie . . .	605
Winslow . . .	550	Marquette . . .	988	Harrisburg . . .	633
Yuma . . .	89	S. Ste. Marie . . .	847	Philadelphia . . .	513
AR. Fort Smith . . .	411	MN. Duluth . . .	1081	Pittsburg . . .	619
Little Rock . . .	345	Internatl Falls . . .	1162	Scranton . . .	643
CA. Bakersfield . . .	308	Minneapolis . . .	963	RI. Providence . . .	584
Eureka . . .	345	Rochester . . .	970	SC. Charleston . . .	145
Fresno . . .	316	St. Cloud . . .	1071	Columbia . . .	274
Los Angeles . . .	145	MS. Jackson . . .	208	Greenville . . .	373
Redding . . .	421	Meridian . . .	223	SD. Aberdeen . . .	1069
Stockton . . .	328	MO. Columbia . . .	583	Huron . . .	946
San Diego . . .	141	Kansas City . . .	599	Rapid City . . .	850
San Francisco . . .	246	St. Louis . . .	528	Sioux Falls . . .	916
CO. Denver . . .	723	Springfield . . .	531	TN. Chattanooga . . .	391
Pueblo . . .	689	MT. Billings . . .	833	Knoxville . . .	454
CO. Bridgeport . . .	569	Glasgow . . .	1072	Memphis . . .	313
Hartford . . .	672	Great Falls . . .	876	Nashville . . .	408
DC. Washington . . .	442	Havre . . .	1021	TX. Abilene . . .	248
FL. Apalachicola . . .	72	Helena . . .	934	Amarillo . . .	517
Jacksonville . . .	79	Kalispell . . .	877	Austin . . .	116
Key West . . .	0	Miles City . . .	920	Beaumont . . .	135
Miami . . .	0	Missoula . . .	915	Brownsville . . .	21
Orlando . . .	11	NE. Grand Island . . .	770	Corpus Christi . . .	59
W. Palm Beach . . .	0	Lincoln . . .	706	Del Rio . . .	131
Tallahassee . . .	133	Norfolk . . .	790	El Paso . . .	337
Tampa . . .	9	North Platte . . .	803	Fort Worth . . .	240
GA. Atlanta . . .	291	Omaha . . .	733	Galveston . . .	61
Augusta . . .	282	Valentine . . .	874	Houston . . .	120
Macon . . .	216	NV. Ely . . .	972	Lubbock . . .	388
Savannah . . .	141	Las Vegas . . .	291	Midland . . .	321
ID. Boise . . .	724	Reno . . .	663	San Angelo . . .	245
Lewiston . . .	666	Winnemucca . . .	791	San Antonio . . .	122
Pocatello . . .	888	NH. Concord . . .	769	Victoria . . .	91
IL. Chicago . . .	693	NJ. Atlantic City . . .	565	Waco . . .	188
Moline . . .	736	NM. Albuquerque . . .	579	Wichita Falls . . .	318
Peoria . . .	698	NY. Albany . . .	714	UT. Milford . . .	801
Rockford . . .	755	Binghamton . . .	739	Salt Lake City . . .	711
Springfield . . .	654	Buffalo . . .	654	VT. Burlington . . .	755
IN. Evansville . . .	548	New York . . .	455	VA. Lynchburg . . .	517
Fort Wayne . . .	684	Rochester . . .	664	Norfolk . . .	324
Indianapolis . . .	618	Syracuse . . .	653	Richmond . . .	425
South Bend . . .	670	NC. Asheville . . .	546	Roanoke . . .	543
IA. Des Moines . . .	749	Charlotte . . .	354	WA. Quillayute . . .	599
Dubuque . . .	813	Greensboro . . .	455	Seattle-Tacoma . . .	583
Souix City . . .	818	Hatteras . . .	150	Spokane . . .	856
KS. Concordia . . .	624	Raleigh . . .	386	Walla Walla . . .	517
Dodge City . . .	589	Wilmington . . .	225	Yakima . . .	762
Goodland . . .	713	ND. Bismark . . .	1075	WV Beckley . . .	606
Topeka . . .	587	Fargo . . .	1118	Charleston . . .	534
Wichita . . .	519	Williston . . .	1114	Huntington . . .	538
KY. Lexington . . .	560	OH. Akron-Canton . . .	659	WI. Green Bay . . .	830
Louisville . . .	510	Cincinnati . . .	595	Madison . . .	777
LA. Baton Rouge . . .	129	Cleveland . . .	629	Milwaukee . . .	720
Lake Charles . . .	123	Columbus . . .	624	WY Casper . . .	924
New Orleans . . .	92	Dayton . . .	635	Cheyenne . . .	884
Shreveport . . .	218	Toledo . . .	691	Lander . . .	905
ME. Caribou . . .	939	Youngstown . . .	675	Sheridan . . .	925

National Agricultural Summary

November 28-December 4, 1988

HIGHLIGHTS Dry weather allowed row crop harvests to progress well in the Southeast and southern Great Plains. Wet field conditions slowed harvest in Michigan. Soil moisture remained mostly short to adequate in the West and mostly adequate in the East. Soil moisture was surplus to adequate in Michigan and Mississippi.

Winter wheat was in need of moisture in most of the Plains area. Greenbugs continued to be a problem in Kansas and Texas. Soybean harvest was 97 percent (%) complete, 2 percentage points behind 1987 but 3 points ahead of the 5-year average. Wet field conditions slowed harvest in Michigan. Harvest was ahead of normal in the Southeast. Cotton harvest was 87% complete, 4 points and 9 points ahead of last year and normal, respectively. Harvest was normal or ahead of normal in all 14 major producing States. Florida's citrus groves were in mostly good condition but needed rain. Livestock was mostly good.

SMALL GRAINS: Wheat fields in western Kansas showed signs of moisture stress. Greenbug problems continued, especially in the southwest. Fields with undeveloped secondary root systems sustained the greatest damage. In South Dakota, wheat was mostly good. A few areas remained critically dry. Nebraska's crop was mostly fair but in need of precipitation. Texas dryland fields remained in need of moisture. Greenbug population continued to increase. Illinois' crop was mostly good. North Carolina and Georgia's crops were good to fair.

SOYBEANS: Harvest was 97% complete, 2 points behind 1987 but 3 points ahead of normal. In Michigan, harvest was 13 points behind the 98% normal. Wet field conditions hampered harvest. Harvest was ahead of normal in the Southeast. South Carolina's harvest advanced 17 points and was 82% finished, 18 points ahead of the 65% average. Georgia's harvest was 89% complete, 8 points ahead of normal. Wet fields slowed harvest in the north. Mississippi's harvest advanced 12 points but was still 3 points behind the 91% average. In Alabama, harvest was 86% complete, 5 points behind normal.

COTTON: Harvest was 87% finished, 4 points ahead of 1987 and 9 points ahead of normal. Harvest was normal or ahead of normal in all of the 14 major producing States. In Texas, favorable weather allowed harvest to advance 20 points. Harvest was 77% finished, 15 points ahead of normal. California's harvest was nearly complete. Producers continued to shred and disc crop residue in compliance with the pink boll worm quarantine. In Oklahoma, harvest advanced 15 points and was 70% complete, 30 points ahead of normal. Arizona's harvest advanced 12 points and was 92% complete, slightly behind last year's 94% but

normal. In New Mexico, harvest advanced 10 points and was 80% finished, 10 points ahead of the average.

OTHER FIELD CROPS: Sorghum harvest was nearly complete in Texas. In Oklahoma, harvest was 85% complete, 5 points behind normal.

In Texas, peanut harvest was 95% complete, 7 points ahead of normal. Production in irrigated fields was fair to good. Some dryland fields were plowed up. Oklahoma's harvest was 95% finished, slightly behind last year's 97% but equal to normal.

In Kentucky, producers were marketing burley tobacco. Color of the crop was better than last year. Quality was mostly good to fair. Prices were improved from opening week.

FRUIT AND NUTS: Florida's citrus groves were mostly good but needed rain. Early citrus fruit color was good. Grapefruit harvest was active. Caretakers prepared for the winter season. In Arizona, pecan harvest and packing was active. Apple harvest continued in the east. Lemon, tangerine and grapefruit harvests and packing were active in the central and western areas. Texas' pecan harvest continued with fair yields and good quality. Citrus harvest increased seasonally. Yields and quality were good. In California, pruning and spraying of orchards and vineyards were active. Desert lemon and grapefruit harvests continued. Emperor table grape packing was nearly complete. Deglet noor date, kiwi, and tangerine harvests continued. Navel orange harvest slowed. Fruit size was smaller than normal.

VEGETABLES: In Florida, light frost caused minimal damage in the central area. Heavy frost ended the season in the Quincy area. Main harvest activities included tomatoes, celery, lettuce, and sweet corn. Carrot harvest began in the Zellwood area. Arizona's lettuce, broccoli, and cabbage harvests continued. In Texas, fall and winter vegetable harvests were active. Some wind damage occurred in the San Antonio-Winter Garden area. Harvest activities included tomatoes, peppers, carrots, and cucumbers. California's fall lettuce harvest was nearly complete. Westside growers were planting the spring crop. Dry onion planting progressed well in the central valley. Broccoli and cauliflower harvests were active. Other harvest activities included carrots, celery, potatoes, and sweetpotatoes.

PASTURES & LIVESTOCK: Pastures were mostly fair to good. Livestock was mostly good. In Iowa, fluctuating temperatures stressed cattle. Snow limited crop residue grazing in the north. In Wyoming, mild winter conditions reduced livestock stress and feed requirements. Rainfall improved range and pasture conditions in California. Reservoir and stock pond levels remained low.

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: No significant rainfall. Temperatures 4 to 7° below normal. First freeze of year most areas central, south.

Days suitable for fieldwork 4.4. Soil moisture 4% short, 81% adequate, 15% surplus. Field activities continued those areas where soils dry enough to support equipment. Soybeans 86% harvested, 98% 1987, 91% avg. Cotton 97% harvested, 100% 1987, 97% avg. Wheat 85% seeded, 91% 1987, 84% avg.; mostly good. Livestock producers provided supplemental feed some areas north. Pastures mostly fair; livestock mostly good. Primary activities: Harvesting soybeans, cotton, fall vegetables, pecans; seeding, fertilizing small grains; turning harvested cropland; pruning fruit trees; soil testing; marketing catfish; routine care livestock, poultry.

ARIZONA: Sunny skies, warming statewide. Lower deserts, afternoon temperatures climbed upper 70s, lower 80s; high country, readings middle 50s. Temperatures 4° below normal to 3° above. No precipitation occurred statewide.

Cotton harvest progressed statewide. Stalk cutting, shredding, disking followed final harvest. Cotton 92% harvested, 94% 1987, 92% avg. Rain delayed cotton harvest weekend southeast. Alfalfa hay harvest virtually complete all areas. Sheeping off beginning to progress. Small grain seedbed preparation progressed; seeding 30% complete for wheat, barley. Harvest, packing lemons, tangerines, grapefruit west, central. Boston, leaf, romaine, head lettuce: broccoli, cauliflower, cabbage, kale, napa, escarole, bok choy, endive harvested west. Harvest, packing pecans statewide. Greens, leaf lettuce, broccoli, cabbage, bok choy, rapini, green onions, parsley, cauliflower, cantaloups harvested central. Apples harvested east. Cattle, calves good statewide. Ranges providing average, above average feed supplies. Higher elevation ranges northwest good; lower elevation ranges fair. Recent rains, upper elevation snows north central provided moisture. Winter grass varieties have germinated south central. Early fall rains begun growth of green winter feed southeast.

ARKANSAS: Cool, dry week. Temperatures slightly below normal. Temperature extremes 21°; 75°. Rains ceased. Rainfall normal to 0.06 in.

Days suitable for fieldwork 5.0. Soil moisture 4% short, 54% adequate, 42% surplus. Major farming activities: Limited cotton, soybean harvest; draining wheat fields, some seeding; dehorning, vaccinating, worming cattle; feeding hay. Soybeans 99% mature, 100% 1987, 100% avg. Oats 99% planted, 100% 1987, 97% avg. Wheat 93% planted, 99% 1987, 94% avg.; 84% emerged, 96% 1987. Hay mostly short. Pasture, range 18% poor, 49% fair, 33% good. Livestock good. Supplemental feeding underway. Stockwater 9% short, 63% adequate, 28% surplus.

CALIFORNIA: Weak front slipped thru north State, first of week; high pressure built rapidly behind, produced gusty north winds. High pressure pushed systems well north of State, allowed fog central valleys. Fog free areas, good radiational nighttime cooling.

Wet soils slowed field activities. Cotton harvest approached completion. Shredding, disking active, compliance pink bollworm quarantine. Seeding winter grains increased dryland areas.

Earlier fields good germination. Sugarbeet, alfalfa harvests seasonally normal. Some new alfalfa seeded. Land preparation winter, spring crops, soil moisture permitting. Packing last emperor table grapes. Pruning, spraying vineyards active. Hass avocado harvest gained momentum. Deglet noor date harvest steady. Packing kiwifruit continued. Navel orange harvest slowed, smaller sizes reported. Tangerine harvest continued. Desert grapefruit, lemon harvests progressed. Normal fall orchard cultural practices continued, with pruning, spraying herbicides, applying fertilizers. Broccoli moderate both Salinas-Watsonville, Santa Maria good quality. Packing central valley active, early planted fields showed good progress; desert production excellent quality. Cauliflower fairly light Salinas-Watsonville, moderate Santa Maria, good to variable quality. Harvest central valley on-going, early planted fields good progress. Carrot digging active desert. Celery fairly light Salinas-Watsonville, moderate Santa Maria, good quality. Harvest ending Salinas, picking continued Westside. Lettuce movement slowing to completion fall harvest areas. Westside growers planting spring crop, early planted fields germinated. Picking desert area continued, improved quality. Melon harvests completed desert. Dry onion plantings progressed well central valley. Pea planting active Westside, some germination early fields. Fall potato movement Tulelake-Butte Valley steady. Winter potato harvest continued Palo Verde Valley area. Strawberry extremely light Salinas-Watsonville, light Santa Maria, variable to poor quality. Sweetpotato harvest continued Westside. Tomato harvest slowed Kings County, other areas preparing soil for next year's crop. Livestock fair to good statewide. Rainfall improved range, pasture conditions. Grasses started valley, foothill areas. Reservoirs, stock ponds remained low, very little run off. Supplemental feeding continued, livestock movement slowed.

COLORADO: Storm system, cold front moved across State early week, bringing snow to mountains, but only light spotty amounts lower elevations. Vail 10 in. on 28th, while rest of State in grip of high pressure aloft, which brought dry, mild weather. Temperatures near to slightly above normal. Departures 6° northeast to 2° below other locations. Precipitation none to .1 in.

FLORIDA: Strong cold front with showers, thunderstorms on 27th, 28th. Rainfall less than 0.50 in. Peninsula. Cool dry air mass reinforced by another dry cold front on 1st. Light freeze north with patchy frost north central on 29th, and 2nd thru 4th. Weekend temperatures 6° below normal north to 2° below extreme south.

Soil moisture southern Peninsula short. Elsewhere, soil moisture generally adequate except for few areas short. Cotton, soybeans harvest about complete. Winter wheat planting, sugarcane harvesting active. Frost slowed pasture growth northern areas. Pastures poor to fair Panhandle, generally fair to good elsewhere. Cattle, calves continued fair to mostly good or better. Groves, trees good, rain needed, good on-tree fruit color for early citrus. Hamlin, navel, grapefruit harvest active all areas. Robinson tangerine movement declining with supplies low. Caretakers completing winterizing groves. Light frosts some central vegetable producing areas caused minimal damage. Heavy frost Quincy, ended season.

Rainfall mostly 0.50 in. or less. Temperatures 2 to 4° above normal. Good volume available: Tomatoes, celery, cucumbers, lettuce, peppers, sweet corn, snap beans, squash. Lesser supply: Okra, eggplant, radishes, carrots, cabbage, escarole, endive. Regular size carrot digging underway Zellwood area.

GEORGIA: Several cold fronts, little rain. Temperatures 4 to 7° below normal. First freeze central, south. Lowest temperatures 20s, some upper teens mountains. Warmest near 60° mountains lower 70s extreme south.

Days suitable for fieldwork 5.5. Soil moisture 29% short, 69% adequate, 2% surplus. Cotton harvest neared completion. Soybean harvest slowed wet soils north, active south. Emerged wheat mostly good; 76% seeded, 74% avg. Rye, other small grain seeding nearly complete. Pecan harvest very active; 69% harvested, 71% 1987, 71% avg. Pastures fair to good, cattlemen feeding hay. Cattle, hogs good.

HAWAII: Generally favorable weather. Showery mornings followed by mostly sunny then cloudy afternoons. Temperatures unusually warm upper 60s to upper 80s. Rainfall none to 1.80 in. Variable winds 5 to 15 mph.

Days suitable for fieldwork 7.0. Shorter daylight hours slowed crop maturity. Crops fair to good, many in improved condition. Chinese cabbage production steady, moderate volume. Head cabbage output steady, good quality. Tomato supplies increased. Banana production steady. Papaya production seasonal decline. Coffee harvest nearly complete lower elevation, improved grade out, better cupping quality. Macadamia nut harvesting active; 50% 1988-89 crop in. Quality normal.

IDAHO: Temperatures 5° below normal. Precipitation slightly above normal southwest, south central; below normal elsewhere.

Fieldwork virtually halted by snow cover, cold temperatures. Farm activities revolved around milking, feeding, moving livestock. Some lambing. Other activities included shipping, marketing products, general shop work, attending seminars, conferences. Most livestock remained good with mostly adequate hay, roughage supplies.

ILLINOIS: Temperatures 1 to 2° either side of normal. Precipitation mostly none, few locations very light amounts.

Winter wheat mostly good. Livestock good to excellent.

INDIANA: Temperatures 3° below normal. Lows, teens to 20s, highs upper 30s to near 60°. Dry week, precipitation less than 0.10 in.

Farmers completing corn, soybean harvest. Corn 98% harvested, 100% 1987, 95% avg. Soybeans 99% harvested, 100% 1987, 98% avg. Other activities: Plowing, tilling, spreading fertilizer, processing tobacco, hauling manure, moving hay, cleaning fence rows, machinery repair. Soils drying out but still wet some areas making harvest difficult.

IOWA: Moderate to heavy snow northern one-third 28th to 29th, little or no precipitation elsewhere. Temperatures 2 to 4° below normal in snow covered north, 1 to 3° above normal south. Temperature extremes -9° Clarion on 1st to 62° Des Moines on 2nd.

Livestock mostly good. Changing temperatures stressing cattle. Grain movement light. Grazing of stubble fields limited north due to heavy snows. Southern half, water shortages for farm, livestock. Poor litter hogs from summer heat.

KANSAS: Temperatures 43°, 3° above normal. Eastern quarter 2.00 in.; 1.25 to 1.50 in. northwest, north central. Rest of State little or none.

Harvest remaining soybean fields little progress. Soybeans left southeast, recent rains left fields muddy, preventing combines entering fields. Wheat western two-thirds State need precipitation, relieve moisture stress. Greenbug infestation continued to plague farmers especially southwest. Wheat has not developed secondary roots due dry to weather sustained greatest greenbug damage.

KENTUCKY: Temperatures 2 to 3° below normal; low temperature 15° Williamstown 2nd, high 70° Buckhorn Lake 28th. Precipitation below normal; especially west, central less than 0.10 in. generally.

Burley prices improved. Belt total marketings first 7 days 240 million pounds, average price \$162.25 per cwt. Tobacco color better than 1987, quality mainly good to fair. Very little tobacco going to government pool. Clean-up harvest corn, soybeans mostly finished, few soybean fields still too soft to support harvesting equipment. Wheat generally good. Livestock mostly good.

LOUISIANA: Temperatures 3 to 5° below normal. Temperature extremes 27°; 76°. Rainfall less than 0.25 in.

Days suitable for fieldwork 5.3. Soil moisture 23% short, 59% adequate, 18% surplus. Sweetpotatoes 100% harvested. Sugarcane good; 82% harvested. Winter wheat fair to good; 89% planted, 79% emerged. Pecans 69% harvested. Hay, roughage 28% short, 70% adequate, 2% surplus. Livestock, pastures, vegetables fair to good. Main activities: Harvesting remaining crops, planting wheat, winter pastures; working feeding livestock; farmstead maintenance; equipment, fence repair.

MARYLAND & DELAWARE: MARYLAND: Precipitation 1.28 in. Temperature 45°, normal 42°. Temperature extremes 20°; 70°.

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

DELAWARE: Precipitation 1.59 in. Temperature 47°, normal 42°. Temperature extremes 27°; 71°.

Main farm activity caring for livestock.

MICHIGAN: Temperatures 2 to 6° above normal. Temperature extremes 15°; 53°. Precipitation 0.08 to 1.36 in.

Days suitable for fieldwork 4.0. Soil moisture 20% adequate, 80% surplus. Soybeans 85% harvested, 100% 1987, 98% avg. Muddy fields continued to hamper harvest. Major activities: Corn for grain, soybean, sugarbeet harvest, moving hay, repairing, winterizing equipment, buildings.

MINNESOTA: Temperatures near normal to 3° below normal. Temperature extremes -11°; 52°. Precipitation normal to 0.35 in. Greatest weekly total 0.82 in. Snowfall trace to 4 in. Snow depth trace to 6 in. Cold, relatively dry weather over State. November turned out to be very snowy.

Normal winter farming activities continued.

MISSISSIPPI: Cold, clear, dry with temperatures 2 to 4° below normal. Extremes 22°; 76°. Greatest 24-hour rainfall 0.61 in.

Days suitable for fieldwork 2.9, 5.6 1987, 2.8 avg. Soil moisture 40% adequate, 55% surplus, 5% excessive. Cotton 97% harvested, 100% 1987, 96% avg. Soybeans 88% harvested, 100% 1987, 91% avg. Wheat good; 83% planted, 86% 1987, 77% avg.; 75% emerged. Pecans 64% harvested, 59% 1987, 69% avg. Pastures good to fair. Livestock good. Hay,

roughage 15% short, 75% adequate, 10% surplus. Activities: Soybean harvest, fall marketings.

MISSOURI: Temperatures 5° below normal southeast, near normal elsewhere. Rainfall very minor.

Topsoil moisture 42% short, 46% adequate, 12% surplus. Subsoil moisture 65% short, 30% adequate, 5% surplus. Northern counties still dry, southeast too much rain. Late crop harvesting virtually complete except some Bootheel soybean, cotton still too muddy. Winter wheat 4% poor, 42% fair, 49% good, 5% excellent. Pasture 8% very poor, 25% poor, 52% fair, 13% good, 2% excellent; northeastern areas poorest. Hay roughage 10% very short, 55% short, 35% adequate. Livestock 2% poor, 25% fair, 66% good, 7% excellent.

MONTANA: Early week Arctic front brought northerly winds across State. Light snow west, south, mountains of south central. Temperatures 4° below normal to 3° above normal west, southwest, south central. Temperatures rest of State 6 to 10° above normal.

Topsoil moisture short, subsoil moisture very short. Winter wheat fair. Wind damage to winter wheat fields light. Three-fourths of cattle, calves; nearly all sheep, lambs receiving supplemental feed.

NEBRASKA: Light precipitation beginning week but only 0.10 to 0.20 in. most places. Temperatures mild 1 to 8° above normal. Extremes 4°; 69°.

Topsoil moisture 70% short, 29% adequate, 1% surplus. Subsoil moisture 91% short, 9% adequate. Winter wheat 2% poor, 69% fair, 29% good. Producers hope there will be more precipitation before crop enters dormancy. Pasture, range feed 3% very short, 35% short, 62% adequate. Hay supplies holding but have been in demand by producers.

NEVADA: Weak frontal system early brought light precipitation northeast, remainder dry with little or no precipitation. Temperatures averaged below normal all areas. Temperature extremes 8° below zero; 72°.

Major ranch, farm activities feeding livestock. Feed requirements increased with colder weather. Movement potatoes to market continued.

NEW ENGLAND: Precipitation (rainfall, water equivalent of snow) less than 0.50 in. to over 1.00 in. northern areas, 0.75 to 1.50 in. south. Most precipitation occurred during heavy rains on 28th to 29th. Temperatures middle 20s northern Maine to mid 40s over parts southern New England. Temperatures still several degrees above normal for this time of year over almost all of New England.

Major farm activities: Seasonal activities including machinery repairs, tending livestock.

NEW JERSEY: Temperatures near normal, 36° north, 40° south, 43° coastal. Extremes 15°; 62°. Precipitation below normal; 0.09 in. north, 0.12 in. south, 0.08 in. coastal. Heaviest 24-hour total 0.20 in. on 28th, 29th.

Activities consisted mainly of combining soybeans, corn for grain; fruit pruning, Christmas tree cutting; selling, caring for livestock.

NEW MEXICO: Temperatures 10° below normal; no precipitation.

Days suitable for fieldwork 6.3. Soil moisture 87% short, 13% adequate. Cotton 80% harvested; 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: Mild temperatures prevailed. Precipitation widespread, mostly in form of rain.

Farmers continued cleaning orchards, preparing for winter, caring for livestock.

NORTH CAROLINA: Temperatures normal to 2° below normal in mountains, 2 to 4° above normal east. Temperature extremes 16°; 78°. Precipitation 0.02 to 3.17 in.

Days suitable for fieldwork 4.0. Soil moisture 3% short, 84% adequate, 13% surplus. Pasture 1% very poor, 5% poor, 32% fair, 62% good. Oat 96% planted, 94% 1987, 91% avg.; 12% fair, 84% good, 4% excellent. Barley 98% planted, 96% 1987, 94% avg.; 13% fair, 83% good, 4% excellent. Rye 92% planted, 90% 1987, 88% avg.; 1% poor, 14% fair, 80% good, 5% excellent. Wheat 89% planted, 89% 1987, 86% avg.; 1% poor, 15% fair, 80% good, 4% excellent; 75% emerged, 76% 1987. Feed grains 7% short, 91% adequate, 2% surplus. Hay, roughage 5% short 91% adequate, 4% surplus. Major farm activities: Harvesting soybeans, seeding small grains. Other activities: Harvesting cotton; tobacco planted preparation; grading, marketing tobacco; cutting firewood; harvesting Christmas trees; tending livestock, general farm maintenance. Tornado damage Halifax, Franklin, Wake Counties.

NORTH DAKOTA: Relatively dry statewide. Precipitation none south central to 0.07 in. southeast. Temperatures varied widely; 1° below normal east central to 6° above normal northwest. Extremes -10° northeast 28th; 59° south central 2nd.

Soil moisture below normal. Inadequate snow cover for winter grains, alfalfa; none southwest, south central to 4 in. northeast. Winter grain seedings poor to fair. Livestock fair to mostly good. Pastures open for grazing 69%. Hay 53% short, 46% adequate, 1% plentiful. Some insects in stored grain.

OHIO: Temperatures near normal to few degrees subnormal. Lows mid to upper 20s, highs upper 30s to low 40s. Precipitation light, spread throughout area. Several inches of snow off Lake Erie. Most areas less than 0.10 in. water equivalent. Soil temperatures low 30s to low 40s.

Minor corn, soybeans remained standing, waiting for frozen soils to provide firm surface for machinery.

OKLAHOMA: Temperatures 3° below normal southeast to 6° above normal southwest. Precipitation none all agricultural areas.

Days suitable for fieldwork 5.8. Topsoil moisture 20% short, 75% adequate, 5% surplus. Subsoil moisture 25% short, 75% adequate. Wheat 35% fair, 65% good; 97% emerged, 97% 1987, 85% avg. Cotton 70% harvested, 50% 1987, 40% avg. Sorghum 85% harvested, 85% 1987, 90% avg. Peanuts 95% harvested, 97% 1987, 95% avg. Soybeans 90% harvested, 85% 1987, 80% avg. Pastures fair, livestock good. Cattle marketings average, prices up from last week.

OREGON: Heavy rain west, light precipitation east first two days. Remainder of week, high pressure covered most of State providing dry, mild days, chilly nights. Coastal areas few degrees above normal; most other locations below normal.

Soil moisture adequate to surplus west, mostly adequate east of Cascades. Northeast mountains, southeastern high desert area mostly snow covered. Last of fall grain seeding Willamette Valley. Wrapping up carrots for processing Umatilla County, Willamette Valley. Livestock mostly good. Range, pasture mostly fair. Late weaning, cattle veterinary work southeastern range country.

PENNSYLVANIA: Temperatures beginning, end of week mild; middle of week cold. Precipitation first three days. Temperature 38°, normal 38°. Temperature extremes 18°; 66°. Precipitation 0.37 in., 0.39 in. below normal.

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

PUERTO RICO: Island rainfall 0.50 in., 0.73 in. below normal. Highest weekly rainfall 2.58 in Pico Del Este-Luquillo, 1.91 in. San Lorenzo, 1.60 in. Sabana Grande. Highest 24-hour 1.46 in. Juncos. Total accumulation since January 1st 61.59 in., 4% above normal. San Juan WSFO mean temperature 78°, 1° below normal. Total rainfall 0.25 in., 0.97 in. below normal. Divisional temperature 77 to 78° on coasts, 71 to 73° interior. Mean station temperature 66° Pico Del Este-Luquillo to 81° Roosevelt Roads. Lowest minimum temperature 57° Lajas, Cayey. Highest maximum temperature 91° several locations.

SOUTH CAROLINA: Rainfall averaged less than 0.50 in. across State with heavier amounts in western part. Temperatures varied sharply, warmer than normal early to 8° below normal late.

Days suitable for fieldwork 5.5. Soil moisture 3% very short, 46% short, 51% adequate. Cotton 97% harvested, 100% 1987, 92% avg.; 1% very poor, 5% poor, 94% fair. Soybeans 82% harvested, 86% 1987, 64% avg.; 5% poor, 51% fair, 44% good. Sorghum fair to good; 89% harvested, 93% 1987, 87% avg. Wheat fair to good; 79% planted, 76% 1987, 67% avg. Pastures fair to good. Livestock good.

SOUTH DAKOTA: Temperatures mostly above normal; -3° below to 10° above. Extremes -4°; 69°. Precipitation above normal, south, east; below normal elsewhere. Precipitation below normal for year; up to 3 in. snow parts of east, 1 in. snow cover in northeast.

Fall sown grains should benefit from precipitation, melted snow. Winter wheat mostly good. Some problems in critically dry areas with open fields, spotty stands.

TENNESSEE: Cool, dry week. Cold front 28th produced light rain, weaker fronts 30th, 3rd with light snow east, Plateau. Otherwise high pressure dominated. Temperatures 5° below normal. Extremes 19° Crossville on 2nd, 68° Jackson on 3rd. Rainfall over 1.00 in. below normal. East light rain, snow 28th, 30th. West, middle no rain.

Soil moisture adequate. Primary activities seeding, fertilizing small grains; turning harvested cropland; soil testing; cleaning; repairing equipment; routine care of livestock, poultry.

TEXAS: Tranquil weather prevailed all growing areas. Dry, cool air mass settled over State early week, became stationary. Result mild afternoon conditions, rather chilly nights. Another surge cool air moved across State late weekend. Almost all areas below normal temperatures, only exception south central. Although mild afternoons prevailed, rapid loss of heat at night pushed morning lows below normal, daily average temperatures below normal. Only precipitation 0.01 in. Trans-Pecos, Upper Coast. All other areas dry.

Crops: Grain sorghum harvest completed late week, conditions allowed good progress. Sorghum for grain 99% harvested, 98%, 1987, 97% avg. Cotton harvest moved ahead under good conditions Plains, Trans-Pecos. Yields very good. Snowfall little harm cotton lint. Dryland small grains much State remained dry, needed moisture. Grazing capacity declined these fields. Irrigated fields

continued good; watering steady. Greenbug populations continued to increase, treatment picked up. Growth improved Blacklands after recent moisture; some stands remained uneven. Growth improved small grains northeast. Wheat 100% emerged, 97%, 1987, 92% avg. Peanut harvest winding down more areas. Production irrigated fields fair to good. Some dryland fields being plowed up. Soybean harvest neared end Upper Coast. Good yields later fields. Other Field Crops: Peanuts 95% harvested, 90% 1987, 88% avg. Pecans 71% harvested, 64% 1987, 64% avg. Soybeans 98% harvested, 97% 1987, 89% avg. Sugarbeets 98% harvested, 96% 1987, 85% avg. Sunflowers 95% harvested, 99% 1987, 93% avg. Oats 93% planted, 98% 1987, 94% avg.

Commercial Vegetables: Rio Grande Valley harvest activity increase fall, winter vegetables. Movement citrus increased seasonally. Quality, yields continued good. San Antonio-Winter Garden fall harvest tomatoes, peppers, carrots, cucumbers, cabbage continued. Some minor wind damage. Pecan harvest continued most parts State, fair yields, good quality.

Range and Pasture: Cool, little help to declining pastures many areas. Small grains producing less grazing drier parts central, High Plains. Supplemental feeding very active. Winter pastures improved northeast with recent rains. Livestock remained good; stockers market lighter weights because lack of grazing.

UTAH: Precipitation light to heavy. Temperatures 1 to 10° below normal.

Livestock fair to good. Winter range feed poor to fair. Major farm activities: Attending seminars, organizational meetings, livestock chores, shipping lambs, calves; equipment maintenance, summarizing tax records, hauling manure.

VIRGINIA: Above normal temperatures, precipitation. Week began wet, ended dry. Temperature 20 to 77°. Rainfall up to 2.21 in.

Days suitable for fieldwork 3.5. Topsoil moisture 11% short, 63% adequate, 26% surplus. Soybeans 79% harvested, 92% 1987, 79% avg. Corn harvest, wheat planting nearly complete. Marketed burley, dark-fire cured tobacco. Fall plowing. Pastures 7% very poor, 13% poor, 38% fair, 41% good, 1% excellent. Winter grains, grazing crops 16% poor, 39% fair, 41% good, 4% excellent. Fall lambing, calving. Hunting active.

WASHINGTON: Pacific frontal systems moved through State first of week. Moderate rainfall western area, light rainfall eastern area. Temperatures near or slightly below normal.

Light rains improved soil moisture. Fieldwork limited most areas. Corn grain, carrot harvests continued Grant County. Orchard pruning underway most fruit growing areas Chelan County, still limited Yakima County. Livestock on winter feed programs.

WEST VIRGINIA: Temperature 37°, 1 to 4° below normal. Extremes 14° Greenbank; 65° Martinsburg. Precipitation 0.02 in., well below normal.

Days suitable for fieldwork 5.1. Soil moisture 38% short, 62% adequate. Corn fair; 95% harvested. Livestock good to fair. Feed 7% very short, 53% short, 40% adequate. Farm activities: Cutting firewood, drying corn, general farm maintenance.

WISCONSIN: Temperatures 27°. Extremes none; 50°. Precipitation trace to 0.50 in. Snow 3 to 6 in. central 29th.

Soils moist 1 to 2 ft. southwest, deeper rest of State.

(Continued to backcover)

International Weather and Crop Summary November 1988

November 27 - December 3, 1988

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

HIGHLIGHTS:

WESTERN USSR ... Snow cover increases in the north, protecting winter grains from extreme cold. Rain covers dormant winter grains in the extreme south.

EUROPE ... Temperatures moderate to near normal across the southwest while the northeast remains colder than normal.

SOUTH ASIA ... A tropical cyclone brings severe winds and flooding to Bangladesh.

EASTERN ASIA ... Unfavorably dry weather continues over eastern China. Heavy rain causes possible flooding in northern Honshu.

SOUTHEAST ASIA ... Heavy showers and flooding persist over portions of the Malay Peninsula. Rain over Indonesia improves irrigation levels but causes local flooding.

SOUTH AMERICA ... Dry, warm weather favors early wheat harvesting and summer crop planting in Argentina. Variable showers in south-central Brazil help early soybeans but planting lags well behind normal in Parana.

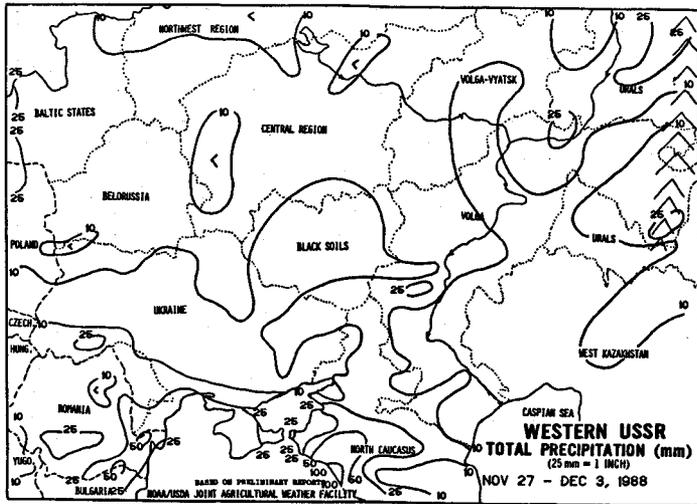
AUSTRALIA ... Scattered, light rainfall in the east causes minor harvest delays but benefits summer crops.

SOUTH AFRICA ... Showers cover the major crop regions, benefiting corn establishment.

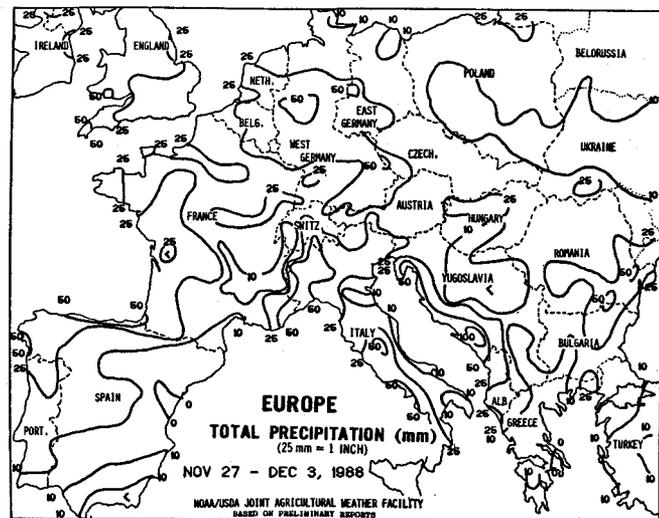
NORTHWESTERN AFRICA ... Rain continues to benefit Moroccan winter grains. Limited moisture in Algeria and Tunisia slows planting.

COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
	AVG	AVG	HI	LO	DPART	TOTAL	F/NRM	
	MAX	MIN	MAX	MIN	AVG			
NORWAY OSLO	-1	-8	9	-20	-4	-3.1	31.1	-61.0
SWEDEN STOCKHOLM	1	-4	6	-16	-1	-4.0	35.4	-15.7
FINLND HELSINKI	-1	-6	5	-18	-4	-4.2	9.9	-57.7
U KING GLASGOW	9	3	13	-7	6	-0.9	69.2	-44.1
EDINBURGH	9	2	14	-6	5	-0.4	40.2	-24.0
BIRMINGHAM	9	1	15	-7	5	-1.7	31.0	-31.2
LONDON	10	2	15	-6	6	-0.8	27.0	-55.5
IRELND DUBLIN	10	5	14	-2	7	0.2	26.8	-42.3
ICELND REYKJAVIK	5	2	9	-6	3	1.7	69.7	-9.1
DENMRK COPENHAGEN	6	1	12	-8	3	-2.1	32.7	-15.3
LUXEMB LUXEMBOURG	6	1	11	-8	3	-0.8	50.3	-23.3
SWITZL ZURICH	6	1	15	-9	3	-0.6	55.3	-24.5
GENEVA	8	2	15	-4	5	-0.1	44.4	-52.1
FRANCE PARIS	10	2	18	-6	6	-0.7	43.4	-11.4
STRASBOURG	7	0	17	-7	4	-1.2	24.6	-23.0
BOURGES	10	2	19	-7	6	-0.3	29.8	-31.8
BORDEAUX	14	4	21	-7	9	0.8	12.0	-84.5
TOULOUSE	15	4	22	-8	9	1.3	8.4	-46.3
MARSEILLE	15	6	21	-5	10	0.1	3.3	-59.9
SPAIN VALLADOLID	14	4	20	-6	9	1.9	22.2	-28.4
MADRID	15	5	21	-7	10	1.0	27.8	-38.2
SEVILLE	21	13	25	6	17	2.7	92.8	14.7
E GRMY LEIPZIG	6	1	15	-7	4	-0.6	37.2	0.7
DRESDEN	5	1	11	-8	3	-1.7	61.1	19.1
W GRMY HAMBURG	7	2	12	-10	5	-0.5	46.1	-17.6
BERLIN	6	1	13	-9	3	-1.4	40.4	-6.7
DUSSELDORF	9	4	15	-8	6	0.2	41.4	-21.6
STUTTGART	7	0	16	-8	3	-0.7	43.1	-4.5
NURNBERG	6	0	11	-11	3	-0.8	41.9	0.7
MUNICH	5	-1	13	-14	2	-1.1	73.4	16.1
AUSTRI VIENNA	4	-2	13	-9	2	-3.0	22.2	-19.7
INNSBRUCK	6	-3	15	-12	2	-1.5	35.3	-23.6
CZECH PRAGUE	3	-2	10	-13	1	-2.5	23.7	-4.0
POLAND WARSAW	3	-3	7	-11	0	-3.2	48.7	8.9
LODZ	2	-3	6	-13	0	-2.5	59.5	20.4
KATOWICE	3	-3	7	-12	0	-2.5	49.3	8.4
PRZEMYSL	2	-3	9	-12	-1	-4.3	35.4	-9.1
HUNGAR BUDAPEST	4	-4	11	-14	0	-5.4	28.5	-26.1
YUGOSL SARAJEVO	4	-4	12	-10	0	-6.0	60.9	-50.1
ROMANI BUCHAREST	4	-3	12	-9	1	-5.1	40.2	-6.9
BULGAR SOFIA	2	-4	15	-12	-1	-7.4	81.9	31.6
ITALY MILAN	9	2	14	-6	6	-1.1	0.1	-110.9
VERONA	10	0	15	-7	5	-2.2	8.1	-71.8
VENICE	9	1	14	-6	5	-3.1	38.0	-58.8
GENOA	14	9	23	1	11	-1.3	0.1	-159.2
ROME	16	6	20	1	11	-1.4	22.5	-84.2
NAPLES	16	6	21	0	11	-1.6	66.2	-87.2
GREECE THESSALONIKA	10	3	20	-3	7	-4.4	95.3	44.0
LARISSA	12	2	21	-9	7	-4.3	122.2	68.2
ATHENS	15	10	20	4	12	-3.4	102.0	45.6
TURKEY ISTANBUL	10	5	19	1	8	-3.8	171.7	83.7
ANKARA	7	-2	13	-10	3	-3.2	51.4	26.4
CYPRUS LARNACA	20	10	24	2	15	-2.8	28.7	-9.4
USSR TALLINN	1	-3	5	-13	-1	-2.3	59.5	2.5
LENINGRAD	-2	-6	4	-16	-4	-3.6	49.7	-2.8
KAUNAS	1	-3	5	-11	-1	-3.4	52.6	2.7
MINSK	0	-5	5	-13	-3	-3.3	80.7	33.0
KAZAN	-6	-12	1	-24	-9	-5.1	41.1	4.4
MOSCOW	-3	-6	3	-15	-5	-3.0	56.3	7.5
SVERDLOVSK	-4	-11	3	-20	-7	-2.3	37.0	9.9
OMSK	-2	-8	6	-15	-5	2.8	14.0	-8.8
KUSTANAY	-3	-10	2	-17	-6	-0.2	23.0	1.6
KRASNOYARSK	1	-5	5	-13	-2	6.5	20.2	-14.5
NOVOSIBIRSK	-1	-6	7	-17	-4	6.0	13.1	-14.8
BARNAUL	-1	-6	6	-14	-3	4.1	15.1	-22.0
KHABAROVSK	-4	-10	3	-19	-7	1.2	27.3	11.5
VLADIVOSTOK	2	-4	13	-11	-1	0.5	11.3	-22.8
KIEV	0	-4	5	-11	-2	-3.9	36.6	-14.7
LVOV	1	-5	6	-16	-2	-4.5	45.1	-3.0
KIROVOGRAD	1	-6	6	-13	-3	-4.5	25.1	-10.2

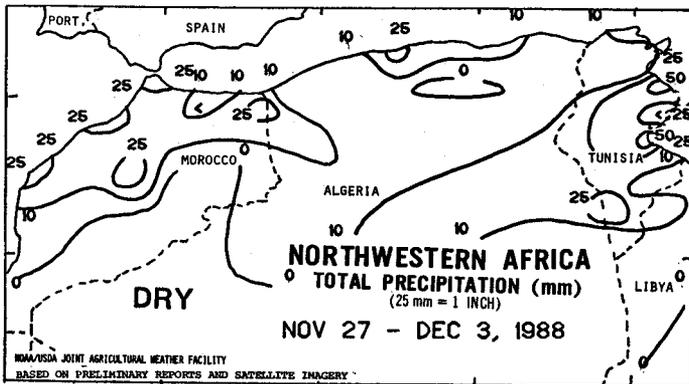
COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)		
November 1988		AVG	AVG	HI	LO	DPART	DPART			November 1988		AVG	AVG	HI	LO	DPART	DPART		
		MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM			MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM
USSR	ODESSA	4	-1	11	-7	1	-4.5	28.5	-20.6	TANZAN	DAR ES SALAAM	32	22	33	21	27	0.5	57.0	-57.8
	YALTA	9	4	17	-4	7	-2.7	85.8	24.8	GABON	LIBREVILLE	29	22	30	20	26	-0.4	506.4	-16.4
	VORONEZH	-2	-8	4	-26	-5	-4.5	28.9	-15.2	TOGO	LOME	32	24	34	22	28	1.5	28.6	6.2
	SARATOV	-2	-7	3	-14	-4	-2.3	59.9	29.4	B FASO	OUAGADOUGOU	35	20	37	17	28	-0.4	9.1	7.6
	KHARKOV	-1	-5	5	-13	-3	-4.2	29.1	-12.0	IVRY C	ABIDJAN	32	25	34	22	28	1.4	159.4	0.3
	VOLGOGRAD	0	-5	12	-12	-3	-2.2	28.8	-4.8	MOZAMB	MAPUTO	29	19	35	16	24	0.0	15.1	-50.2
	ROSTOV	2	-2	13	-10	0	-3.0	79.8	30.9	ZAMBIA	KABWE	29	17	33	13	23	0.5	47.2	-55.1
	ASTRAKHAN	5	-2	12	-10	2	-0.8	27.4	13.6	ZIMBAB	HARARE	27	15	31	11	21	-0.2	68.8	-42.0
	KRASNODAR	6	1	17	-6	4	-2.6	83.5	23.0	S APRI	PRETORIA	27	16	32	8	21	0.9	32.1	-77.3
	ORENBURG	-3	-8	3	-19	-5	-2.9	49.8	11.3		KROONSTAD	26	14	31	8	20	-0.5	96.2	14.2
	TSELINGRAD	-1	-6	9	-16	-4	4.7	11.5	0.0		JOHANNESBURG	24	13	29	6	18	0.5	37.9	-81.6
	KARAGANDA	2	-6	15	-15	-2	3.8	20.1	-1.0		BETHAL	23	11	30	7	17	-0.6	69.8	-57.2
	TBILISI	10	4	17	-3	7	-0.9	28.5	-0.5		DURBAN	25	19	30	13	22	0.3	102.1	-1.3
	TASHKENT	19	7	29	-2	13	6.1	9.4	-38.4		CAPE TOWN	24	13	32	5	19	0.9	7.1	-10.6
	ASHKHABAD	20	6	33	-3	13	4.0	3.8	-17.1	CANADA	TORONTO	8	1	17	-4	5	1.3	58.6	-4.2
SYRIA	DAMASCUS	18	4	25	-8	11	-2.4	7.7	-19.5		MONTREAL	7	-1	19	-8	3	1.2	118.0	36.9
ISRAEL	JERUSALEM	17	8	29	0	13	-3.1	56.1	-2.6		WINNIPEG	-1	-8	7	-21	-5	-0.2	22.0	-3.2
PAKIST	KARACHI	32	17	36	10	25	0.8	0.1	-5.5		REGINA	0	-10	13	-22	-5	0.0	18.7	5.1
INDIA	AMRITSAR	27	9	30	3	18	-0.1	0.1	-6.1		SASKATOON	-1	-9	11	-22	-5	1.0	7.9	-6.4
	NEW DELHI	28	13	32	9	21	0.0	0.1	-4.8		LETHBRIDGE	7	-5	18	-26	1	1.4	6.8	-10.0
	AHMEDABAD	33	15	35	11	24	-0.7	0.1	-8.6		CALGARY	5	-7	16	-19	-1	1.9	7.2	-5.5
	INDORE	30	13	32	7	21	-0.3	3.8	-16.3		EDMONTON	1	-8	11	-18	-3	0.1	5.7	-10.1
	CALCUTTA	29	20	32	15	24	0.9	152.7	136.9		VANCOUVER	10	5	14	0	7	1.2	250.0	100.0
	VERAVAL	33	17	37	13	25	-0.8	0.1	-6.2	MEXICO	GUADALAJARA	26	9	30	5	17	-0.2	1.6	-11.8
	BOMBAY	33	21	36	17	27	0.4	0.1	-7.2		MEXICO CITY	25	8	30	4	17	2.8	7.1	-6.6
	POONA	30	13	32	9	21	-1.3	0.1	-29.7		ACAPULCO	32	22	34	21	27	-0.4	6.7	-46.4
	BEGAMPET	30	17	31	10	23	0.4	0.1	-15.8	BERMUD	ST. GEORGES	25	21	28	14	23	1.8	76.1	-42.8
	MADRAS	29	22	32	19	25	-0.5	487.8	139.3	BAHAMA	NASSAU	29	22	32	19	25	1.9	16.6	-48.4
	MANGALORE	33	22	35	19	27	0.0	1.0	-70.1	CUBA	HAVANA	29	22	31	18	25	1.6	88.2	17.3
H KONG	HONG KONG	22	18	28	14	20	-1.2	26.0	-8.5	JAMAIC	KINGSTON	32	24	34	16	28	1.1	70.6	-2.4
N KREA	PYONGYANG	7	-5	15	-13	1	-2.3	16.0	-33.0	P RICO	SAN JUAN	30	23	33	21	26	-0.2	117.7	-37.8
S KREA	SEOUL	11	2	18	-6	6	-0.3	31.8	-4.3	GUADEL	RAIZET	30	22	32	20	26	0.7	118.1	-19.4
JAPAN	SAPPORO	6	0	15	-5	3	-0.8	150.3	46.6	MARTNQ	LAMENTIN	30	24	32	22	27	1.6	99.8	-75.2
	NAGOYA	15	5	20	1	10	-1.1	52.5	-22.0	BARBAD	BRIDGETOWN	29	25	30	22	27	-0.2	87.0	-58.9
	TOKYO	16	7	23	2	12	-0.8	27.0	-66.2	TRINID	PORT OF SPAIN	31	23	33	21	27	1.3	82.8	-125.6
	YOKOHAMA	16	8	20	3	12	-0.6	36.0	-68.3	COLOMB	BOGOTA	18	9	20	1	14	0.6	154.1	60.6
	KYOTO	15	6	20	1	10	-0.5	52.7	-30.6	VENEZU	CARACAS	31	24	38	21	28	1.1	20.6	-30.8
	OSAKA	16	8	20	3	12	-0.5	41.0	-32.5	F GUIA	CAYENNE	31	23	32	22	27	0.7	98.4	-55.2
THAILN	PHETCHABUN	30	19	32	15	25	-0.6	0.1	-19.0	BRAZIL	FORTALEZA	31	25	32	20	28	0.1	50.4	37.5
	BANGKOK	31	22	33	19	26	-0.6	4.6	-43.2		RECIFE	30	23	31	21	26	0.0	56.5	23.9
MALAYS	KUALA LUMPUR	31	24	33	20	27	1.1	406.3	127.4		BELO HORIZONTE	27	18	33	14	23	0.5	101.9	-145.2
VIETNM	HANOI	25	18	28	14	21	-0.4	27.0	-16.2		CAMPO GRANDE	31	20	37	15	25	1.3	161.1	-3.0
CHINA	HARBIN	0	-9	15	-20	-5	2.5	13.2	6.4		FRANCA	27	16	32	11	22	0.4	105.5	-100.5
	HAMI	9	-4	15	-10	2	2.5	0.1	-1.3		RIO DE JANEIRO	27	21	35	17	24	0.4	198.2	89.1
	LANCHOW	11	-2	18	-6	5	2.8	0.1	-5.4		LONDRINA	30	18	36	12	24	1.7	30.0	-113.3
	BEIJING	13	2	20	-4	7	3.1	0.1	-6.6		SANTA MARIA	28	15	34	10	21	0.1	100.2	-10.8
	TIENTSIN	12	3	19	-3	8	2.2	0.1	-9.5	PERU	LIMA	23	17	30	13	20	1.3	0.1	0.1
	LHASA	12	-5	15	-8	3	0.1	1.0	-0.8	BOLIVI	LA PAZ	17	2	20	-1	9	-1.2	21.8	-28.3
	KUNMING	16	7	20	0	12	0.6	23.5	-15.1	CHILE	SANTIAGO	27	9	34	5	18	1.0	1.0	-6.2
	CHENGCHOW	17	2	25	-5	10	1.9	0.1	-30.5	ARGENT	IGUAZU	31	17	37	9	24	***	52.0	***
	YEHCHANG	20	10	26	4	15	2.3	1.1	-43.6		FORMOSA	31	19	40	13	25	0.5	166.2	28.2
	HANKOW	19	6	25	0	13	1.8	2.0	-48.7		CERES	32	16	42	9	24	1.3	25.9	-79.7
	CHIHKIANG	20	8	26	3	14	2.0	1.2	-68.2		CORDOBA	30	15	38	7	23	1.9	56.0	-53.5
	SHANGHAI	17	7	23	-1	12	-0.4	2.0	-46.8		RIO CUARTO	30	16	39	10	23	3.0	26.0	-90.2
	NANCHANG	19	9	24	3	14	1.1	2.0	-50.2		ROSARIO	29	15	35	5	22	1.8	18.4	-87.5
	TAIPEI	23	18	28	10	20	0.4	61.9	-2.1		BUENOS AIRES	26	14	31	4	20	1.5	53.2	-32.5
	CANTON	24	14	28	10	19	-0.3	105.0	68.1		SANTA ROSA	29	13	36	4	21	1.7	134.3	47.5
	NANNING	24	15	29	10	20	1.3	8.1	-29.7		TRES ARROYOS	26	11	33	3	19	1.7	58.9	-9.0
CNRY I	LAS PALMAS	25	17	28	13	21	1.2	7.1	-21.9	MIDW I	MIDWAY ISLAND	27	23	30	20	25	2.4	32.6	-86.2
MOROCC	CASABLANCA	22	14	27	7	18	2.1	82.8	19.1	N CALD	NOUMEA	29	22	33	21	26	1.9	197.3	139.7
	MARRAKECH	22	13	30	7	17	1.8	73.3	39.3	FIJI	NAUSORI	28	22	31	20	25	0.4	94.7	-163.9
ALGERI	ALGER	22	12	31	5	17	1.9	26.2	-74.7	SAMOA	PAGO PAGO	29	24	31	22	27	-0.2	405.0	120.5
	BATNA	9	2	15	-1	7	-2.8	6.4	-29.7	TAHITI	PAPEETE	31	23	32	21	27	0.7	48.1	-96.9
TUNISI	TUNIS	21	12	26	6	17	1.2	26.7	-37.8	N ZEAL	AUCKLAND	20	14	23	9	17	0.8	86.2	2.3
NIGER	NIAMEY	37	20	39	14	28	0.3	0.1	0.1		WELLINGTON	18	11	24	5	14	1.0	108.3	15.5
MALI	TIMBUKTU	34	17	39	11	25	-1.4	0.1	0.1	PA N G	PORT MORESBY	31	24	33	23	28	0.2	52.3	-15.8
	BAMAKO	35	21	37	17	28	1.5	0.1	-7.0	AUSTRL	DARWIN	32	25	36	22	29	-0.7	347.8	211.7
MAURIT	NOUAKCHOTT	33	20	39	15	26	0.6	0.1	-5.2		MOREE	29	16	35	6	22	-0.3	50.0	1.2
SENEGL	DAKAR	29	23	36	20	26	0.5	4.1	1.4		BRISBANE								



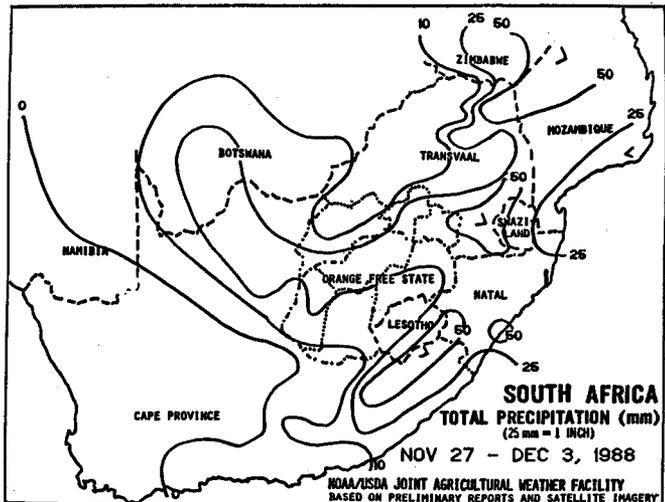
WESTERN USSR ... The seventh consecutive week of unseasonable cold weather covered dormant winter grains over most of the region. An intense storm moved eastward across the northern portion of the region, producing widespread precipitation (10-25mm) mainly in the form of moderate to heavy snow. As a result, snow cover increased substantially in the Baltic States, Belorussia, the Central Region, and the Volga Vyatsk Region. Gusty winds accompanied the storm, causing considerable drifting of snow. Further south, early week rain (25-33mm) covered the extreme southern Ukraine and the western North Caucasus. Extreme cold, temperatures around -20 degrees Celsius (C), covered winter grains as far south as the northern Ukraine and the northern North Caucasus. Although temperatures approached the threshold for winterkill, a sufficient snow cover protected winter grains from widespread damage.



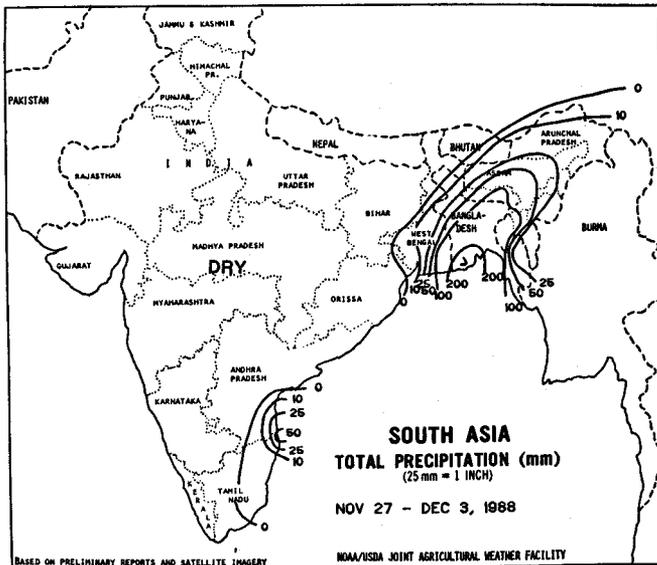
EUROPE ... Temperatures moderated to near normal values over much of the southwestern half of Europe, allowing winter grains to become better established in southern areas and lengthening the period of hardening in the north. Colder-than-normal weather continued across the remainder of the continent, causing winter grains in West and East Germany to become dormant. Moderate to heavy rain and snow (15-40mm, with scattered amounts in excess of 40mm) fell across sections of the United Kingdom and France eastward to Czechoslovakia. In the south, scattered heavy rain (25-50mm, with isolated totals up to 127mm) favored establishing winter crops in sections of Portugal, northwestern Spain, Italy, and western Yugoslavia.



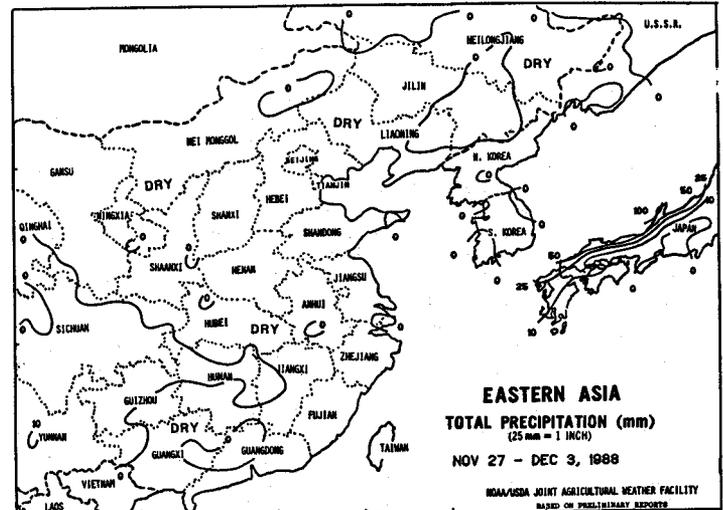
NORTHWESTERN AFRICA ... Widespread rain (10-30mm) continued to cover Moroccan winter grain areas, maintaining favorable conditions for crop emergence and early plant establishment. Dry weather returned to most winter grain areas in Algeria and Tunisia, except for northernmost areas in central Algeria which received significant precipitation (10-25mm). Moderate precipitation in central Tunisia (25-50mm) fell south of the major winter grain producing areas. Topsoil moisture in Algeria and Tunisia continued to be limited for crop emergence and early plant establishment. As a result, winter grain planting is likely progressing slowly in many areas.



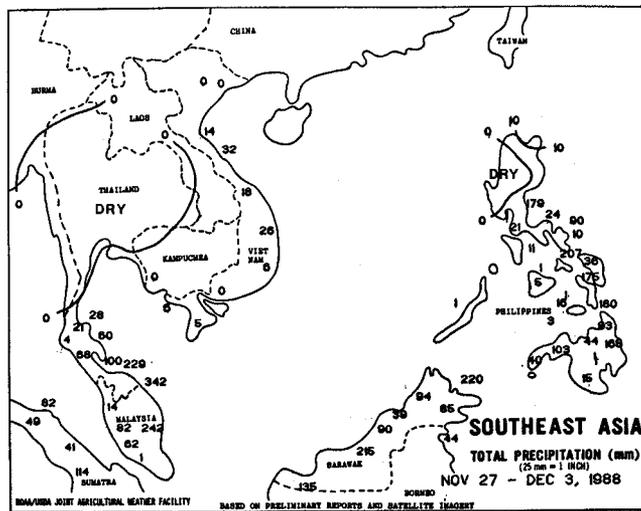
SOUTH AFRICA ... Widespread, variable rain (10-50mm or more) returned to the Maize Triangle and continued over crop regions of Natal and the eastern Cape Province, maintaining favorable moisture reserves for corn establishment. Heaviest rainfall (25-88mm) was across the central Maize Triangle and from the eastern Triangle to the Cape Province. Temperatures averaged from 1 to 2 degrees C below normal over most regions, reflecting this season's trend of cold, wet weather that has slowed crop growth rates.



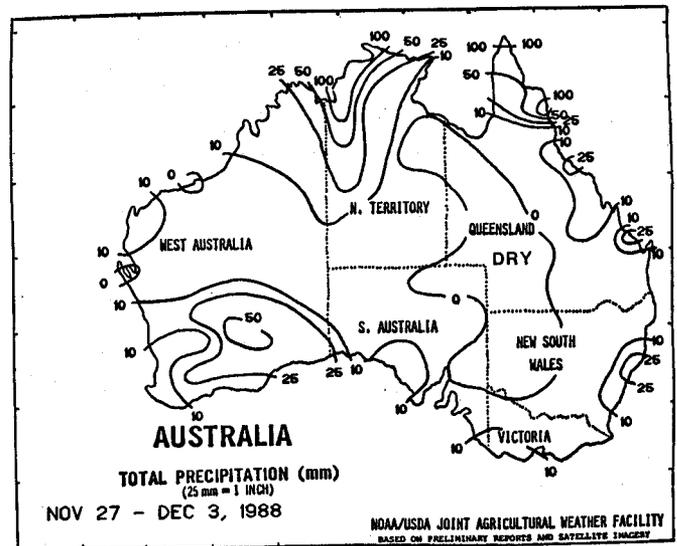
SOUTH ASIA ... A tropical cyclone with sustained winds exceeding 100 knots slammed into Bangladesh, causing flooding and wind damage. Hardest hit areas were coastal regions hit by the associated storm surge. The storm dissipated rapidly over India's eastern states but still brought as much as 90mm of rain to Assam. Light to moderate showers (6-55mm) returned to southeastern India, boosting irrigation reserves for newly planted rice. Dry weather elsewhere promoted summer crop harvesting.



EASTERN ASIA ... Dry weather persisted over much of northern and eastern China, continuing unfavorably dry conditions for winter grains in sections of the North China Plain and Yangtze Valley. Scattered light rain (less than 10mm) fell across sections of Manchuria. In contrast, very heavy rain (50-100mm, with isolated amounts up to 124mm) continued over coastal northern Honshu, likely causing localized flooding. Warmer-than-normal weather continued over all but Japan, South Korea, and southeastern China, where temperatures were below normal. Winter grains in China range from root establishment in the Yangtze Valley to becoming dormant in northern crop areas of Shanxi, Shaanxi, and Hebei.

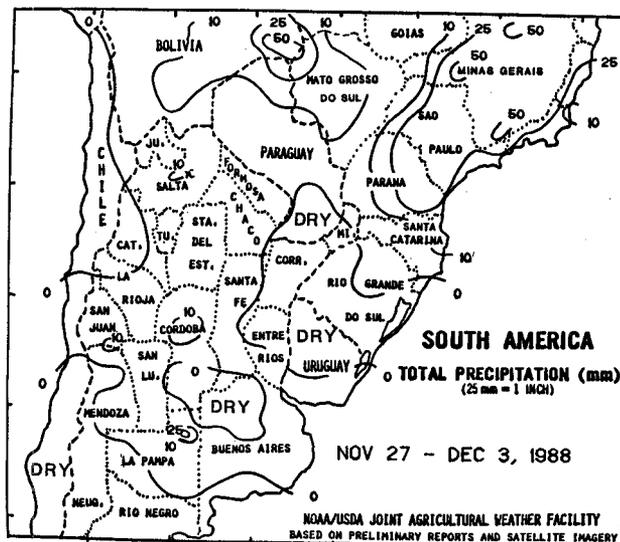


SOUTHEAST ASIA ... Heavy showers (100-300mm or more) and flooding persisted over the Malay Peninsula, though the area of coverage was limited to southeastern peninsular Thailand and eastern portions of west Malaysia. Crops in these regions include copra, rubber, and other plantation crops. Rainfall ranged from 1 to 82mm elsewhere along the peninsula but heavy showers (90-215mm) continued over copra regions of eastern Malaysia, causing local flooding. Variable showers (25-100mm or more) covered Indonesia, improving irrigation levels for rice planting but causing local flooding. In the Philippines, locally heavy rain (50-100mm or more) continued from the east-central islands to northern Mindanao but seasonably drier weather continued elsewhere.



AUSTRALIA ... Scattered light rain (less than 10mm) benefited summer crops and caused only minimal delays in winter grain harvest across crop areas of southeastern Queensland, New South Wales, northwestern Victoria, and southeastern South Australia. Light to moderate rain (10-25mm) brought more substantial harvest delays to growing areas of Western Australia and south central South Australia. Elsewhere, residual tropical moisture transported southward from the Timor Sea caused rare, scattered heavy rainfall (10-50mm, with isolated rainfall greater than 50mm) across interior sections of Western Australia and Northern Territory. Mean temperatures were normal to below normal across most crop areas.

SOUTH AMERICA ... In Argentina, generally dry weather prevailed over the major summer crop areas, with only scattered mostly light showers throughout the region. The dryness favored early wheat harvesting and summer crop planting, which advanced rapidly during the week. However, warmer weather by week's end pushed maximum temperatures into the mid to upper 30's C, rapidly evaporating topsoil moisture. The low soil moisture reserves necessitate frequent showers for crop establishment and growth. In south-central Brazil, mostly dry weather in Rio Grande do Sul favored wheat harvesting and soybean planting. Moisture is adequate for early crop development in the south. Beneficial rain fell late in the week in Parana, where persistent dryness has delayed soybean planting and hampered corn establishment. However, the recent showers were quite variable, leaving Parana's important western crop area still deficient in topsoil moisture. Soybean planting has fallen well behind average. Western Sao Paulo also missed the rain, but significant moisture in southern Minas Gerais benefited late coffee flowering.



CENTRAL AFRICA ... Widespread showers left abundant rainfall totals (25-100mm) across southern areas, providing favorable conditions for germination and growth of maize and other summer crops in Zambia, Zimbabwe, Mozambique, and southern Malawi. These rains were especially timely because of earlier dry weather. Drier weather (10mm or less) was welcome in Kenya's principal growing areas, following several weeks of heavy rains. Second season maize is in the vegetative stage. To the south, however, conditions are unfavorably dry for vegetative maize in northeastern Tanzania, where cumulative rainfall during the past 8 weeks has been about half of normal.

Crop Progress 1/

FOR WEEK ENDING DECEMBER 4, 1988

	SOYBEANS % HARVESTED		
	1988	1987	AVG.
ALA	86	98	91
ARK	92	98	90
GA	89	97	81
ILL	100	100	NA
IND	99	100	98
IOWA	100	100	100
KANS	99	100	92
KY	98	100	93
LA	97	100	96
MICH	85	100	98
MINN	100	100	99
MISS	88	100	91
MO	99	100	86
NEBR	100	100	100
N C	76	85	65
OHIO	100	100	99
S C	82	86	64
S DAK	100	100	100
TENN	100	100	92
19 STATES	97	99	NA
EXCL. STATES WITH NA	97	99	94
THESE 19 STATES PRODUCED 96% OF THE 1987 SOYBEANS CROP.			

	COTTON % HARVESTED		
	1988	1987	AVG.
ALA	97	100	97
ARIZ	92	94	92
ARK	98	100	97
CALIF	98	98	95
GA	93	98	92
LA	99	100	97
MISS	97	100	96
MO	97	100	97
N MEX	80	65	70
N C	91	99	91
OKLA	70	50	40
S C	97	100	92
TENN	100	100	97
TEX	77	68	62
14 STATES	87	83	78

THESE 14 STATES PRODUCED 100%
OF THE 1987 COTTON CROP.

NA - NOT AVAILABLE.

1/ AVERAGES FOR THESE SUMMARIES ARE
FOR THE YEARS 1983 - 1987.

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service/Climate Analysis Center
Managing Editor Douglas Le Comte
Meteorologists Tom Heddinghaus
Vilhelm Bjerknes, Bob Stefanski, Wes Byrd, and Jeff Savadel

Subscriptions (202) 447-7917 . . Jeanette Hill

U.S. DEPARTMENT OF AGRICULTURE
Economics Management Staff
Editor Sharon Lee
National Agricultural Statistics Service
Agricultural Statistician . . . Tom Kurtz
World Agricultural Outlook Board
Agricultural Weather Analysts. . Ray Motha,
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(Continued from p. 18)

WYOMING: Temperatures below normal. Precipitation mostly below normal. Snowpack building higher elevations. Winter wheat fair to good. Livestock fair to good. Mild winter reducing stress, feed requirements. Livestock movement to market, winter pastures continued.

(Continued from p.9)

Cotton harvest was ahead of normal in all the major producing States except Arizona, Georgia, and South Carolina, in early November. In the 14 major producing States, harvest was 64% complete, 6 points ahead of the average on November 13. Arizona and South Carolina's harvests were 5 points behind normal and Georgia's was 4 points behind. During the third week of November, a killing frost accelerated defoliation in Oklahoma and Texas. California's harvest was slowed by rain but was nearly complete. By November 27, harvest in the major producing States was 75% complete, 5 points ahead of normal. The last week of November, rain slowed harvest in central and eastern Arizona. Texas' harvest was 57% finished, 8 points ahead of the average. Snow delayed harvest in the Plains area. Georgia's harvest was slowed by rain and was 3 points behind the 89% normal. Oklahoma's harvest was 55 percent complete, 25 points ahead of the average.

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