

WEEKLY WEATHER AND CROP BULLETIN

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

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

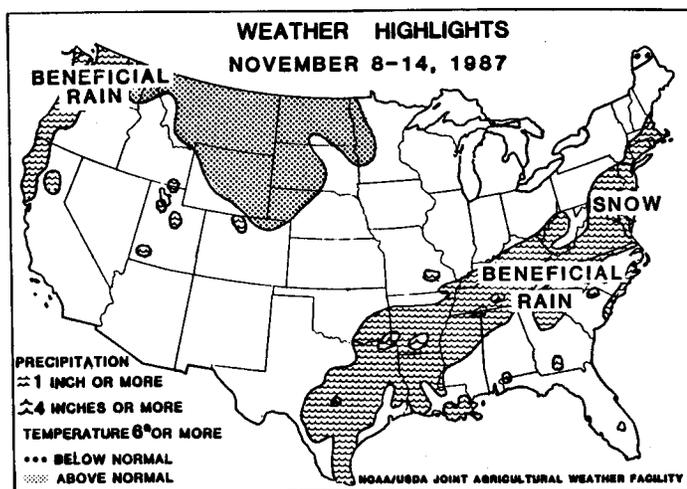
Volume 74, No. 46

Washington, D.C.

Nov. 17, 1987

National Weather Summary

November 8-14, 1987



HIGHLIGHTS: Abundant rains in the East alleviated dryness and helped to douse forest fires. At mid-week, an east coast storm brought large snowfalls to the Middle Atlantic States and the Northeast, including coastal areas. Late in the week, rain benefited dry areas of the Pacific Northwest.

SUNDAY... Showers and thunderstorms extended across much of Texas and the lower Mississippi Valley and were scattered along a frontal zone, stretching from the Great Lakes to Texas. Smoke spread from Kentucky and West Virginia into the Ohio Valley, lower Great Lakes, northern Appalachians, and into New England.

MONDAY... Moderate to heavy rain helped to douse forest fires in the Tennessee Valley and Appalachian Mountains as a major storm developed over the Southeast. Cold air invaded the Great Plains and the Midwest. High pressure dominated most of the West, but some rain fell in the western parts of Washington and Oregon and northern California.

TUESDAY... Strong northeasterly winds developed north of an intense low-pressure system over the Southeast. Heavy rain spread across the Tennessee Valley and the Middle Atlantic States. Severe thunderstorms caused some local damage in North Carolina. Temperatures dropped below freezing as far south as central Texas. Snow fell in the Ohio Valley, the northern Appalachians, parts of New York State, and southern New England.

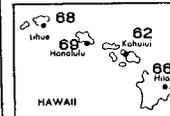
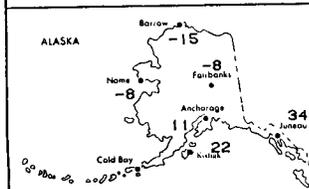
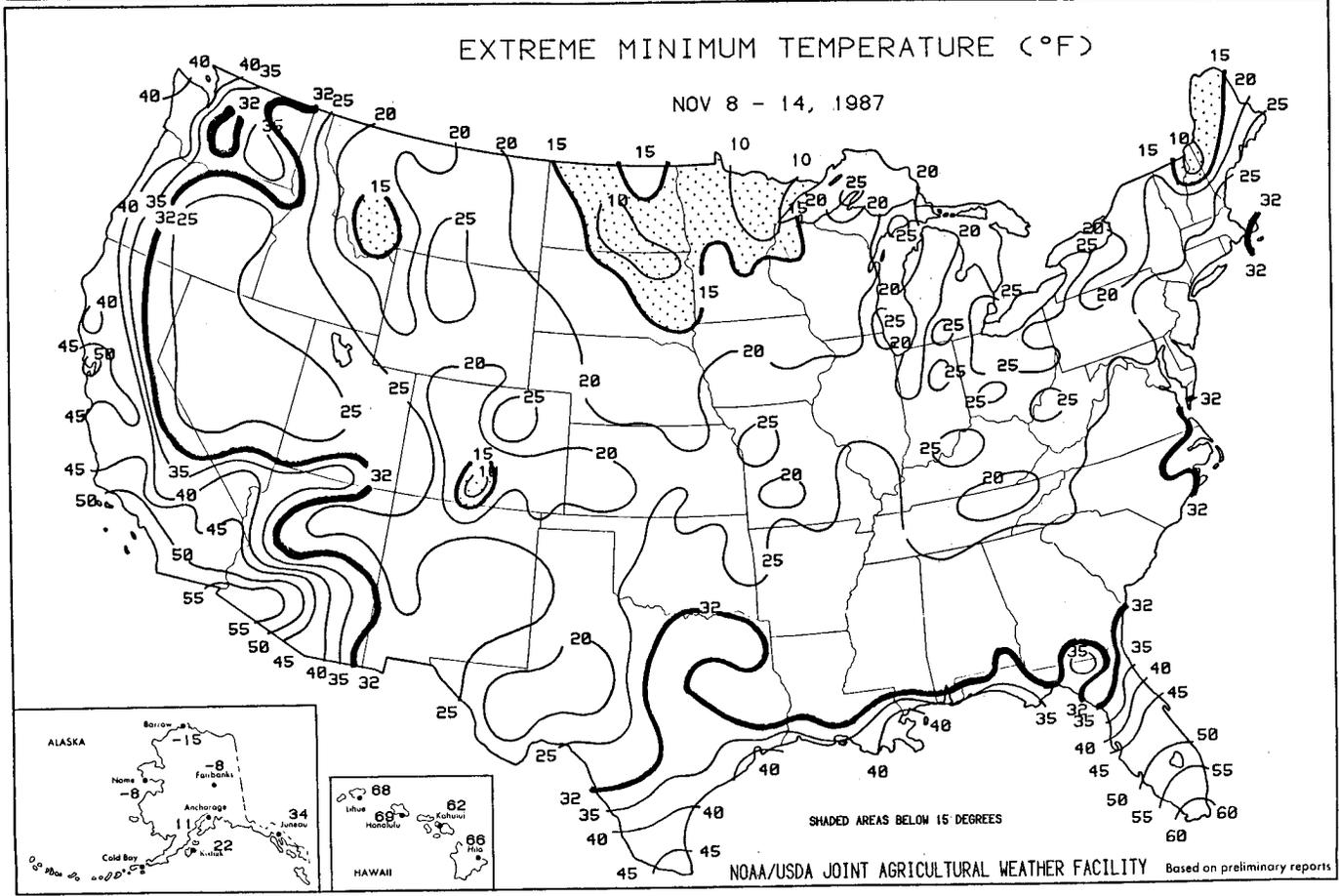
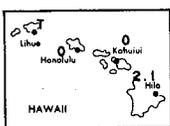
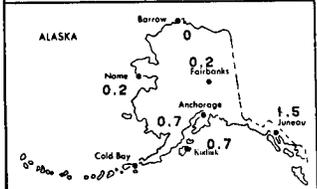
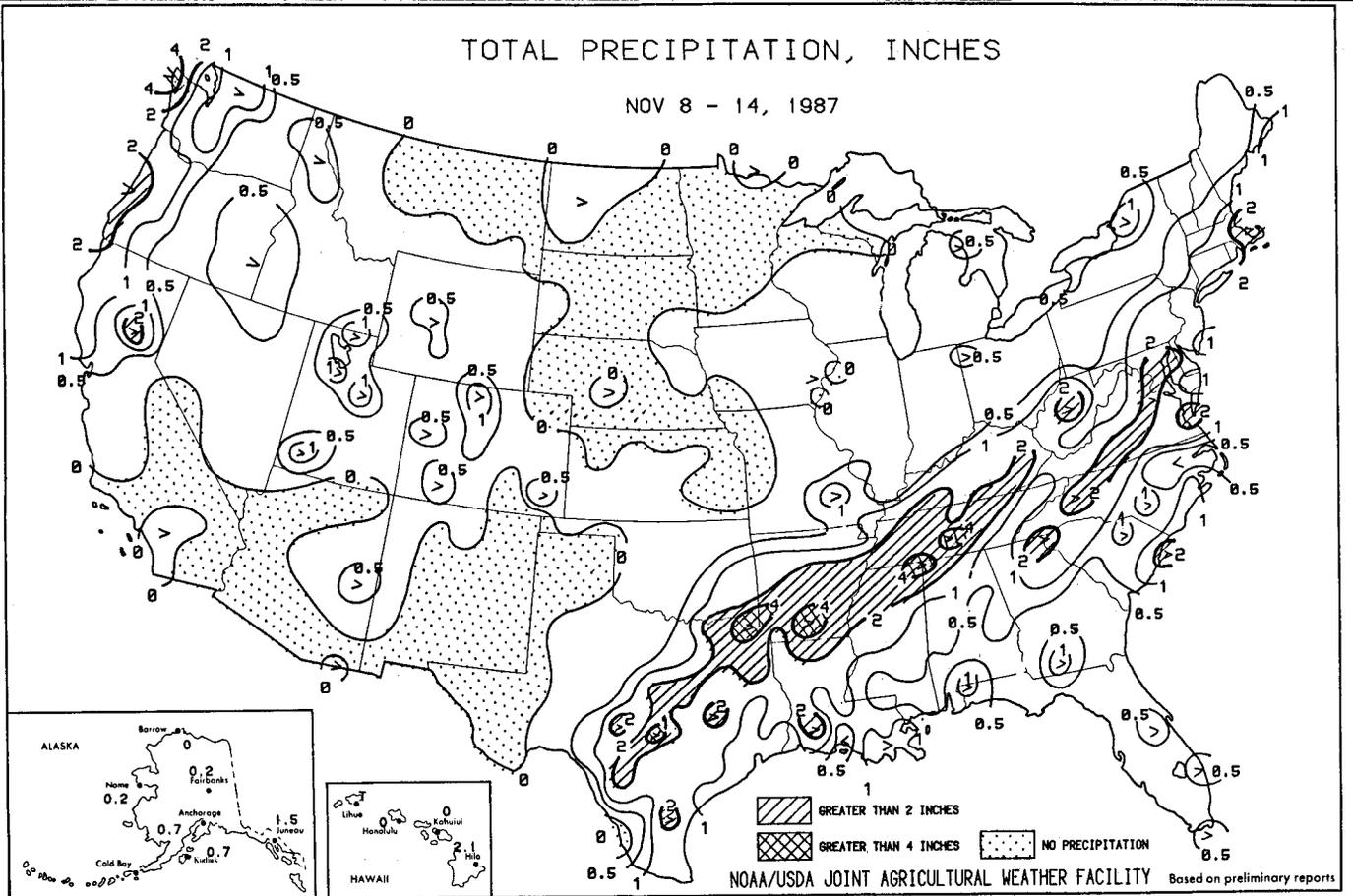
WEDNESDAY... An intensifying storm moved northeastward along the Atlantic Coast, causing moderate to heavy snowfall over the Middle Atlantic States and, later in the day, over much of the Northeast. Thunderstorms accompanied the snowfall in the Washington, D.C. area, where November records for snowfall were broken (see page 4). Rainshowers extended across western Oregon in the evening. Dry weather generally prevailed elsewhere in the West.

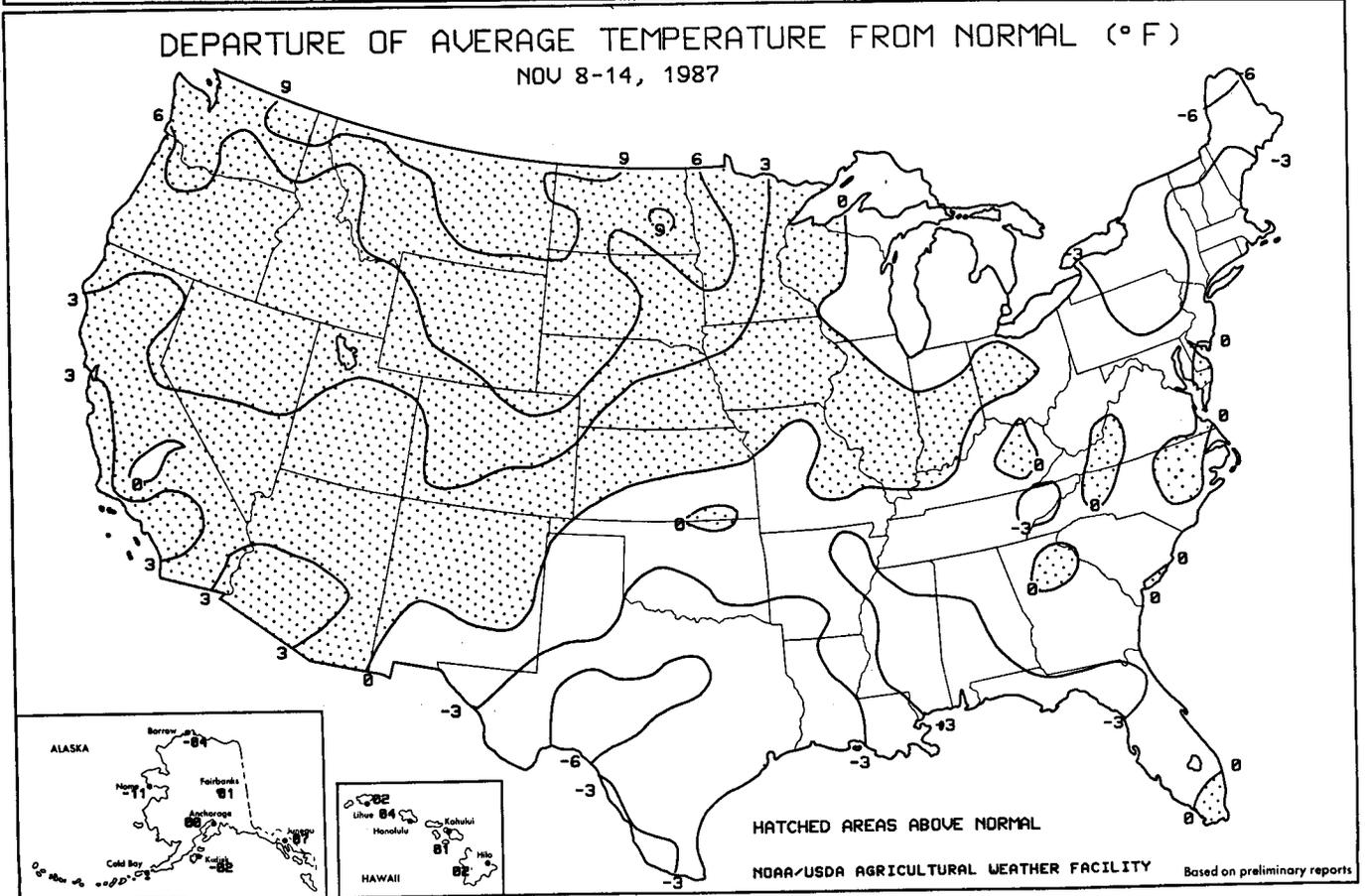
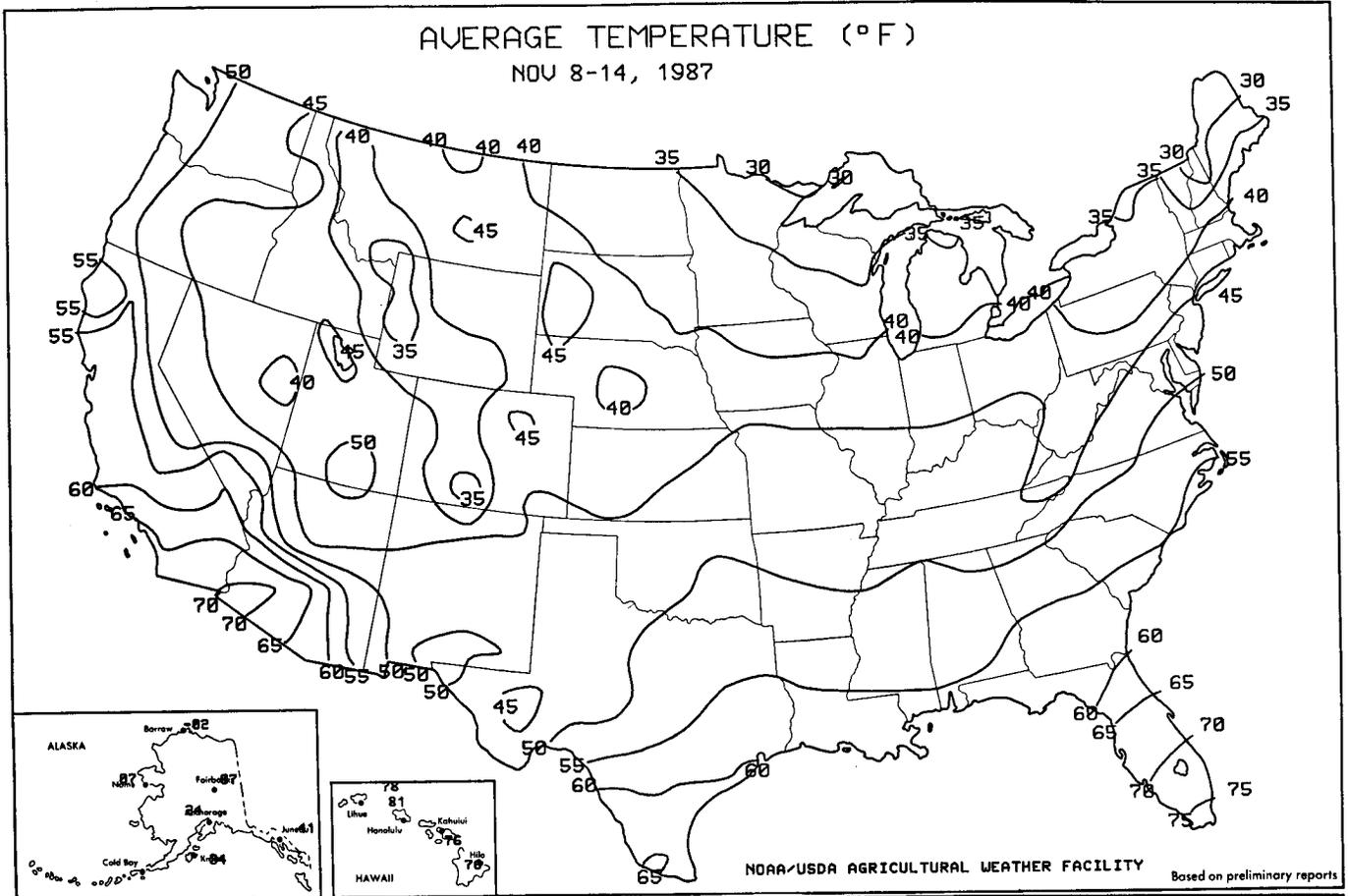
THURSDAY... The east coast storm continued moving northeastward, with the area of maximum snowfall shifting to New England. Snowfall at Boston, Massachusetts and Providence, Rhode Island was the largest ever for November. By evening, the snowfall ended over New England. Showers were scattered across southern Texas and coastal areas of the Pacific Northwest.

FRIDAY... Frost and freezing temperatures were commonplace from the southern Appalachians to northern Florida. In the Pacific Northwest, showers and thunderstorms penetrated into eastern Washington, eastern Oregon, and Idaho. Snow fell in the western Montana mountains.

SATURDAY... A winter storm intensified as it moved across the central Rockies. Heavy snow fell in the Utah, Wyoming, and Colorado mountains. Rain continued in the Pacific Northwest, with snow at higher elevations. Temperatures climbed above 60 degrees from the southern Great Plains to the southern and middle Atlantic coast.

Contents	Page
National Weather Summary	1
Total Precipitation & Extreme Minimum Temperature . . .	2
Average Temperature & Departure	3
Record November Snowfall in the Northeast & North American Satellite Image	4
National Weather Data for Selected Cities	5
Heating Degree Days Summary Table	8
National Agricultural Summary	9
Crop Progress & Condition Tables	10
State Summaries of Weather and Agriculture	11
International Weather and Crop Summary Includes Monthly Maps	16
Subscription and Mailing Permit Information	28





RECORD-BREAKING NOVEMBER SNOWSTORM BATTERS EAST COAST

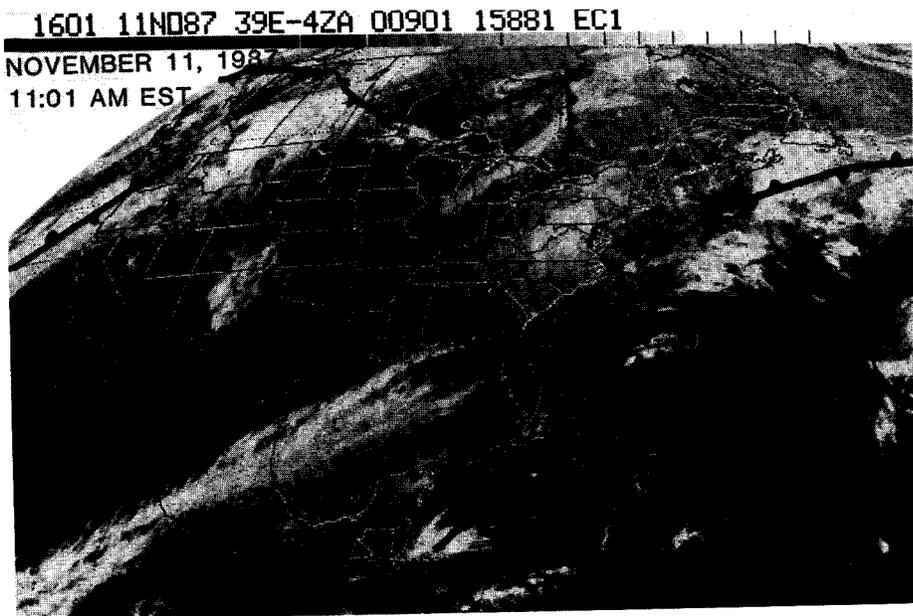
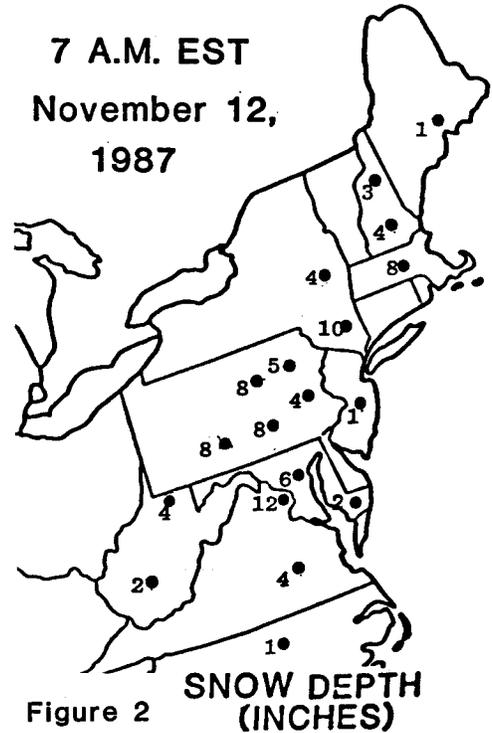
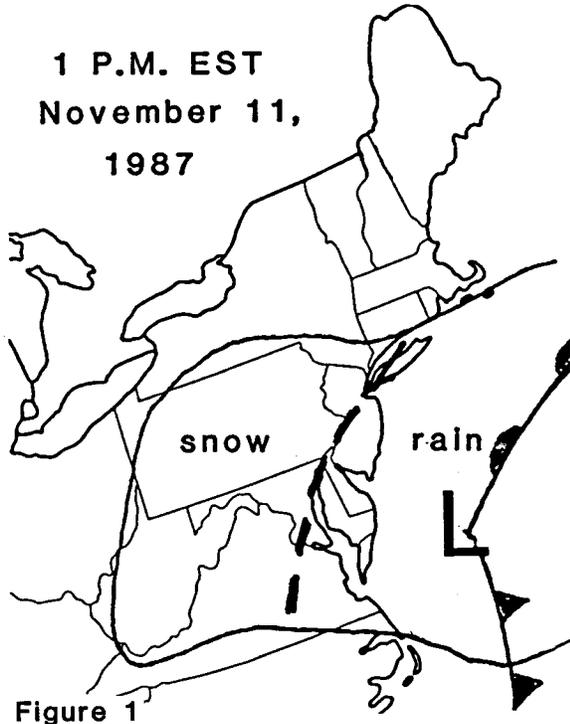
An east coast storm dumped 12 inches of snow on Washington, D.C., Wednesday, November 11, 1987. The Washington metropolitan area received amounts as great as 15 inches. This storm broke the record for the greatest November snowfall. Similar records were broken at Boston, Massachusetts and at Providence, Rhode Island as the storm moved up the coast Wednesday night and Thursday.

Figure 1 shows the low-pressure area with the associated frontal system when the storm was at its peak over the Middle Atlantic States. The broken line divides the rainfall and snowfall areas. At

the time of this map, a thunderstorm with snow was over Washington.

Figure 2 shows snow depth in inches at 19 stations in the Northeast at 7 a.m. Eastern Standard Time, November 12. Amounts were highly variable, and only a sample of stations is shown. At this maptime, snow was still falling in New England. Massachusetts and Maine received much more before the storm ended.

The storm greatly benefited agriculture, bringing substantial moisture to parts of the Southeast and Middle Atlantic regions which has been afflicted with drought.



A VETERANS DAY STORM MOVES UP THE EASTERN SEABOARD AND DUMPS HEAVY SNOW AND RAIN ON THE MIDDLE ATLANTIC STATES. THE IMAGERY SHOWS THE SUB-TROPICAL JET STREAM ACROSS MEXICO AND INTO THE GULF, WHICH SUGGESTS THAT MOISTURE FROM THE STORM CAME FROM THE PACIFIC AND GULF AS WELL AS THE ATLANTIC.

A FRONTAL SYSTEM BRINGS RAIN TO THE PACIFIC NORTHWEST.

National Weather Data for Selected Cities

Weather Data for the Week Ending November 14, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE SEPT. 1	PCT. NORMAL SINCE SEPT. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	65	36	78	25	51	-3	.7	-.1	.7	5.2	61	34.9	74	91	36	0	4	2	1
MOBILE	67	42	76	30	55	-5	.5	-.3	.5	5.0	47	59.5	105	94	51	0	1	1	0
MONTGOMERY	69	38	80	26	54	-3	.3	-.4	.3	4.7	57	46.0	109	89	35	0	3	2	0
AK ANCHORAGE	29	19	34	11	24	0	.7	.4	.3	5.2	112	12.5	94	92	66	0	7	2	0
BARROW	1	-5	4	-15	-2	-4	T	-.1	T	1.6	124	4.8	112	87	79	0	7	0	0
FAIRBANKS	12	2	18	-8	7	1	.2	0	.1	1.3	58	5.6	61	88	74	0	7	6	0
JUNEAU	44	38	49	34	41	7	1.5	.3	.5	23.0	138	50.6	111	98	81	0	0	7	1
KODIAK	38	30	45	22	34	-2	.7	-.7	.6	15.8	99	63.6	122	85	58	0	5	3	1
NOME	16	-2	21	-8	7	-11	.2	0	.1	4.7	115	10.5	78	84	69	0	7	3	0
AZ PHOENIX	78	56	81	54	67	5	0	-.1	T	5.9	179	15.3	93	78	29	0	4	1	0
PRESCOTT	62	32	64	29	47	2	T	-.3	T	5.9	179	15.3	93	78	29	0	4	1	0
TUCSON	76	49	80	44	62	2	0	-.1	0	3.1	126	11.1	113	59	20	0	0	0	0
YUMA	82	58	85	56	70	5	0	0	0	1.9	330	3.0	150	57	21	0	0	2	1
AR FORT SMITH	64	35	70	24	49	-2	1.2	.4	.8	5.1	63	31.0	89	95	37	0	3	2	1
LITTLE ROCK	60	40	66	31	50	-3	2.6	1.6	2.0	9.3	103	33.5	79	75	46	0	2	3	0
CA BAKERSFIELD	65	49	73	46	57	-1	T	-.1	T	1.4	204	5.5	120	98	68	0	0	0	0
EUREKA	64	51	69	45	58	6	1.3	-.1	.9	3.0	49	20.9	73	90	67	0	0	5	1
FRESNO	65	48	73	45	56	1	.1	-.2	.1	1.0	98	7.7	96	99	61	0	0	0	0
LOS ANGELES	75	57	84	52	66	4	0	-.3	0	2.4	239	5.4	58	94	45	0	0	0	0
REDDING	67	43	72	36	55	0	.8	-.4	.5	1.4	26	20.7	68	93	40	0	0	3	1
SACRAMENTO	67	47	71	42	57	0	.4	-.1	.4	1.7	83	10.5	82	99	57	0	0	2	0
SAN DIEGO	73	56	81	54	65	2	.1	-.2	.1	3.7	396	8.9	123	80	55	0	0	1	0
SAN FRANCISCO	67	52	72	48	59	4	.4	-.1	.4	1.3	61	9.8	68	94	55	0	0	0	0
CO DENVER	59	32	65	27	45	5	.3	-.2	.3	2.6	101	17.7	125	82	26	0	2	2	0
GRAND JUNCTION	54	33	59	30	44	2	.5	.4	.5	2.6	141	10.6	152	89	45	0	2	1	1
PUEBLO	62	25	68	16	44	2	T	-.1	T	.3	18	9.4	92	77	22	0	6	0	0
CT BRIDGEPORT	50	37	61	29	44	-3	1.0	-.2	.9	6.0	72	29.1	82	82	61	0	2	4	1
HARTFORD	51	31	66	27	41	-3	1.8	-.9	.8	12.7	137	41.4	110	93	53	0	6	4	2
DC WASHINGTON	58	37	73	29	48	-3	2.3	1.6	1.5	9.9	134	31.8	93	93	52	0	4	2	0
FL APALACHICOLA	69	47	77	36	58	-4	.2	-.4	.2	6.5	49	42.6	85	93	47	0	0	1	0
DAYTONA BEACH	75	54	86	42	65	-2	.1	-.6	.1	10.8	85	41.9	93	95	56	0	0	1	0
JACKSONVILLE	73	45	83	31	59	-4	.4	0	.4	10.8	97	41.6	86	96	46	0	1	1	0
KEY WEST	81	71	87	63	76	0	.5	-.4	.4	19.5	150	44.5	124	89	72	0	0	4	0
MIAMI	82	67	88	56	74	1	.1	-.6	.1	18.9	113	45.5	83	92	60	0	0	1	0
ORLANDO	77	57	86	47	67	-1	.6	-.2	.6	16.7	162	50.6	109	92	50	0	0	1	0
TALLAHASSEE	72	42	80	28	57	-3	.5	-.3	.5	5.8	53	62.2	107	94	37	0	2	1	1
TAMPA	78	55	86	44	67	-1	.2	-.2	.2	8.4	90	46.4	107	93	52	0	0	2	0
WEST PALM BEACH	80	65	88	53	73	0	.7	-.2	.6	23.6	124	54.7	98	91	61	0	0	3	1
GA ATLANTA	67	41	74	32	54	0	.7	-.1	.6	4.4	62	40.4	96	75	33	0	1	2	1
AUGUSTA	72	34	84	23	53	-2	.1	-.4	0	2.3	36	35.8	93	86	27	0	4	2	0
MACON	72	38	81	27	55	-2	T	-.5	T	1.6	25	32.9	84	98	29	0	2	1	0
SAVANNAH	72	44	83	30	58	-1	T	-.4	T	9.9	119	54.2	118	90	37	0	1	2	0
HI HILO	84	68	86	66	76	2	2.1	-1.3	1.2	29.6	127	107.7	101	94	64	0	0	6	0
HONOLULU	89	72	90	69	81	3	T	-.7	T	1.6	42	5.2	29	83	49	1	0	0	0
KAHULUI	86	66	89	62	76	0	T	-.5	T	1.7	83	14.5	102	85	52	0	0	0	0
LIHUE	83	73	85	68	78	2	T	-1.3	T	9.6	103	24.3	69	88	69	0	0	1	0
ID BOISE	51	38	59	30	45	4	.7	.4	.2	.8	45	7.4	78	95	62	0	1	3	0
LEWISTON	56	41	61	34	48	7	.2	-.1	.2	.2	8	8.2	75	78	47	0	0	2	0
POCATELLO	52	31	59	24	41	4	.1	-.1	.1	.6	28	8.9	97	97	57	0	5	3	0
IL CHICAGO	52	32	61	24	42	0	T	-.5	T	3.0	42	35.3	115	83	40	0	4	1	0
MOLINE	54	31	63	21	42	1	T	-.5	T	2.6	35	30.7	90	89	40	0	5	0	0
PEORIA	54	31	66	21	43	1	.1	-.3	.1	2.5	35	20.6	65	90	38	0	4	1	0
QUINCY	55	34	65	24	45	1	.3	-.3	.3	3.1	36	23.4	67	78	39	0	3	1	0
ROCKFORD	51	28	60	19	39	-1	.1	-.5	.1	3.4	44	32.5	97	92	50	0	6	1	0
SPRINGFIELD	56	32	66	20	44	0	T	-.4	T	2.3	35	21.2	69	83	32	0	4	1	0
IN EVANSVILLE	60	35	72	21	48	1	.1	-.7	.1	3.3	49	25.5	70	74	32	0	3	2	0
FORT WAYNE	52	31	61	21	47	0	.4	-.2	.4	3.7	58	27.6	90	90	46	0	4	1	0
INDIANAPOLIS	56	32	68	21	44	0	.3	-.4	.3	3.1	47	26.4	77	86	42	0	3	1	0
SOUTH BEND	50	30	59	19	40	-2	T	-.6	T	7.0	91	28.6	85	86	46	0	4	1	0
IA DES MOINES	55	31	64	24	43	2	.1	-.3	.1	2.7	45	31.4	109	82	44	0	4	1	0
SIOUX CITY	56	27	65	17	41	3	T	-.2	T	1.9	40	23.1	96	83	35	0	5	1	0
WATERLOO	52	25	61	16	39	1	T	-.4	T	3.1	48	28.3	92	89	47	0	7	1	0
KS CONCORDIA	57	31	71	21	44	1	T	-.3	T	3.5	65	32.7	126	78	36	0	3	0	0
DODGE CITY	58	30	71	19	44	0	.1	-.1	.1	2.3	65	22.7	116	84	35	0	4	1	0
GOODLAND	55	28	66	22	42	2	T	-.1	T	1.8	70	18.6	120	87	40	0	5	1	0
TOPEKA	61	31	72	22	46	1	0	-.4	0	3.7	51	33.3	107	84	36	0	4	0	0
WICHITA	60	31	70	22	46	0	T	-.4	T	3.0	46	34.9	129	83	36	10	5	0	2
KY BOWLING GREEN	59	35	72	24	47	-1	1.9	1.1	1.3	5.7	74	34.9	82	84	46	0	3	2	1
LEXINGTON	56	35	72	25	46	-1	1.1	.3	.7	2.5	36	28.9	72	85	39	0	2	3	1
LOUISVILLE	58	37	73	26	48	0	1.0	-.2	.6	2.5	34	26.4	70	86	49	0	1	2	0
LA ALEXANDRIA	67	43	79	30	55	-4	.8	-.2	.5	3.5	45	41.9	93	86	49	0	1	2	1
BATON ROUGE	70	44	78	31	57	-3	.7	-.2	.5	3.0	34	55.0	113	94	49	0	0	2	1
LAKE CHARLES	69	46	80	34	57	-4	1.3	-.3	.9	8.3	74	52.3	112	95	54	0	0	2	1
NEW ORLEANS	69	49	80	39	59	-2	.8	-.1	.6	2.9	29	55.7	107	93	55	0	0	2	1

Based on 1951-80 normals.

Weather Data for the Week Ending November 14, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE SEPT. 1	PCT. NORMAL SINCE SEPT. 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	
ME SHREVEPORT	66	40	78	29	53	-4	1.7	.9	1.2	8.2	108	38.1	101	97	46	0	3	3	1	0
ME CARIBOU	33	21	40	16	27	-7	.2	-.6	.1	7.3	90	24.6	78	92	65	0	7	3	0	0
ME PORTLAND	47	29	61	22	38	-2	.6	-.5	.3	7.9	86	35.7	99	86	49	0	5	4	2	0
MD BALTIMORE	57	36	72	22	46	-2	2.3	1.6	1.3	11.9	149	36.2	99	91	51	0	3	2	0	0
MD SALISBURY	61	37	73	28	49	0	.7	0	.4	7.6	84	32.8	82	91	48	0	3	2	0	0
MA BOSTON	51	35	66	29	43	-4	2.1	1.2	.8	12.1	141	42.1	114	86	58	0	3	4	3	0
MA CHATHAM	51	40	58	33	45	-1	3.4	2.4	1.9	14.0	148	46.0	117	91	67	0	0	3	3	0
MI ALPENA	45	25	54	15	35	-2	.5	0	.5	6.3	102	21.3	83	93	52	0	6	1	1	0
MI DETROIT	50	33	59	26	41	0	.1	-.4	.1	5.4	100	31.2	116	89	51	0	4	1	0	0
MI FLINT	47	30	54	24	38	-2	.2	-.3	.1	8.3	151	24.3	94	93	52	0	4	2	0	0
MI GRAND RAPIDS	46	28	55	18	37	-3	.1	-.6	.1	7.5	104	28.0	95	93	59	0	4	2	0	0
MI HOUGHTON LAKE	43	28	51	16	36	-1	.1	-.4	.1	6.9	114	21.3	86	90	58	0	5	1	0	0
MI LANSING	47	30	53	21	38	-2	.1	-.5	.1	7.3	123	25.1	97	92	52	0	4	1	0	0
MI MARQUETTE	42	23	50	19	33	-4	.1	-.5	.1	7.4	96	29.2	106	90	52	0	7	1	0	0
MI MUSKOGON	47	29	53	17	38	-3	.2	-.5	.1	8.1	116	28.6	105	92	59	0	4	2	0	0
MI SAULT ST. MARIE	40	24	48	15	32	-3	.4	-.4	.4	8.4	102	25.9	89	98	57	0	7	2	0	0
MN ALEXANDRIA	50	27	58	17	39	7	T	-.3	T	3.2	68	15.6	67	82	37	0	5	0	0	0
MN DULUTH	45	21	56	9	33	2	0	-.4	0	4.1	65	18.0	66	83	39	0	7	0	0	0
MN INT'L FALLS	44	20	55	9	32	4	T	-.3	T	2.0	37	18.5	82	87	41	0	7	1	0	0
MN MINNEAPOLIS	51	27	60	19	39	3	T	-.3	T	2.0	41	29.0	118	86	36	0	6	0	0	0
MN ROCHESTER	49	24	60	17	36	1	.1	-.3	.1	3.9	61	24.6	92	89	43	0	7	1	0	0
MS GREENWOOD	65	38	79	26	51	-3	1.8	.8	1.6	3.3	41	33.9	75	95	38	0	3	3	1	1
MS JACKSON	67	38	79	25	52	-4	.6	-.3	.6	2.4	32	40.2	91	99	42	0	4	2	1	1
MS MERIDIAN	67	35	81	25	51	-4	.9	-.1	.8	5.3	70	47.5	104	95	41	0	4	2	1	1
MO CAPE GIRARDEAU	59	37	68	27	48	-1	.1	-.8	.1	4.9	63	30.3	78	90	31	0	4	1	0	0
MO COLUMBIA	57	33	69	23	45	-1	T	-.5	T	4.7	57	24.8	74	77	36	0	4	1	0	0
MO KANSAS CITY	58	33	66	24	46	-1	0	-.4	0	5.2	61	30.2	89	80	38	0	4	0	0	0
MO SAINT LOUIS	58	38	71	25	48	2	.1	-.4	.1	3.6	59	27.2	90	73	31	0	2	1	0	0
MO SPRINGFIELD	58	32	67	18	45	-1	.2	-.5	.2	7.6	86	39.2	111	84	33	0	4	1	0	0
MT BILLINGS	56	35	61	26	45	9	T	-.2	T	.7	25	11.8	86	69	36	0	2	1	0	0
MT GLASGOW	54	28	61	21	41	10	0	-.1	0	.7	44	9.2	89	86	37	0	5	0	0	0
MT GREAT FALLS	57	33	66	25	45	9	T	-.2	T	1.5	68	13.6	98	66	29	0	2	0	0	0
MT HAVRE	54	24	60	16	39	7	0	-.1	0	.8	43	7.8	72	82	37	0	6	0	0	0
MT HELENA	53	25	58	20	39	6	0	-.1	0	.9	50	9.5	91	89	38	0	7	0	0	0
MT KALISPELL	49	29	55	20	39	6	.1	-.2	.1	.8	30	13.5	101	93	61	0	5	1	0	0
MT MILES CITY	58	31	65	20	44	10	0	-.1	0	.9	40	12.0	91	73	31	0	5	0	0	0
MT MISSOULA	49	28	57	19	39	6	.1	-.1	0	.2	8	8.9	78	95	53	0	5	3	0	0
NE GRAND ISLAND	55	26	66	15	41	1	0	-.2	0	2.0	51	23.8	108	84	35	0	5	0	0	0
NE LINCOLN	58	26	69	16	42	2	T	-.2	T	4.3	85	30.1	116	86	35	0	6	0	0	0
NE NORFOLK	56	26	68	15	41	3	T	-.2	T	4.3	113	26.5	117	89	33	0	6	1	0	0
NE NORTH PLATTE	55	26	64	19	40	4	T	-.1	T	3.2	112	18.7	101	92	40	0	5	0	0	0
NE OMAHA	55	31	63	24	43	2	T	-.3	T	3.3	53	30.9	107	70	46	0	6	1	0	0
NE SCOTTSBLUFF	59	30	63	24	44	7	T	-.1	T	1.9	90	22.1	160	90	33	0	5	0	0	0
NE VALENTINE	56	29	66	18	42	7	T	-.1	T	1.3	50	19.2	117	84	37	0	5	0	0	0
NV ELY	52	26	60	22	39	4	.2	.1	.2	2.9	188	11.5	147	96	46	0	7	2	0	0
NV LAS VEGAS	69	46	72	45	58	2	T	-.1	T	2.3	309	5.7	165	83	34	0	0	0	0	0
NV RENO	61	31	70	27	46	5	.2	.1	.2	.8	109	6.9	123	87	28	0	5	1	0	0
NV WINNEMUCCA	56	30	63	25	43	4	.4	.2	.3	1.4	110	8.3	129	92	39	0	5	2	0	0
NH CONCORD	47	28	63	22	38	-1	.7	-.2	.4	8.9	113	33.4	107	95	51	0	6	4	0	0
NJ ATLANTIC CITY	58	37	70	29	47	-1	.9	0	.7	6.9	91	37.8	105	92	53	0	2	2	1	1
NM ALBUQUERQUE	61	35	63	32	48	3	T	-.1	T	.9	51	7.9	109	70	22	0	2	0	0	0
NM CLOVIS	62	33	69	26	48	0	T	-.1	T	4.1	102	22.8	140	66	21	0	4	0	0	0
NM ROSWELL	66	33	76	26	50	1	0	-.1	0	1.5	50	14.6	145	74	23	0	4	0	0	0
NY ALBANY	47	30	57	24	38	-3	.5	-.2	.3	14.4	192	36.4	118	90	53	0	5	2	0	0
NY BINGHAMTON	45	29	58	20	37	-3	.3	-.4	.1	7.7	98	31.1	97	95	59	0	4	5	0	0
NY BUFFALO	46	33	57	26	40	-3	.7	-.1	.5	8.8	112	35.7	112	86	54	0	4	2	1	1
NY NEW YORK	54	39	67	30	47	-2	1.3	.5	.9	9.0	108	40.7	110	83	52	0	1	3	1	0
NY ROCHESTER	47	30	61	23	39	-4	.2	-.5	.1	6.7	103	29.1	107	90	53	0	5	2	0	0
NY SYRACUSE	48	29	60	21	38	-4	.3	-.5	.2	10.0	125	29.5	87	88	56	0	5	3	0	0
NC ASHEVILLE	60	30	70	21	45	-3	1.5	.8	1.4	8.7	104	39.4	101	90	36	0	6	3	1	1
NC CHARLOTTE	65	37	76	27	51	-1	1.4	.8	1.3	9.1	120	33.4	88	86	30	0	3	2	1	1
NC GREENSBORO	63	35	75	26	49	-1	2.0	1.5	1.9	10.0	125	42.8	114	85	38	0	3	2	1	1
NC HATTERAS	66	44	75	37	55	-3	.4	-.7	.4	9.3	72	54.2	111	95	52	0	0	2	0	0
NC NEW BERN	71	40	81	32	56	0	1.1	.4	.7	4.4	42	46.0	96	91	43	0	1	2	1	1
NC RALEIGH	65	37	76	27	51	-1	.4	-.2	.3	7.8	108	38.3	104	90	43	0	3	3	0	0
NC WILMINGTON	71	41	78	32	56	-1	1.3	.5	1.3	8.5	84	45.8	95	93	41	0	1	1	1	1
ND BISMARCK	52	22	66	9	37	6	T	-.1	T	.4	16	17.1	118	91	43	0	6	0	0	0
ND FARGO	51	25	60	11	38	7	0	-.2	0	1.9	54	13.9	76	76	39	0	5	0	0	0
ND GRAND FORKS	51	22	62	12	36	7	T	-.2	T	2.0	57	18.1	105	80	37	0	6	0	0	0
ND WILLISTON	51	23	58	15	37	7	.2	0	.2	.9	41	11.6	91	88	47	0	6	1	0	0
OH AKRON-CANTON	50	33	64	24	41	-1	.3	-.3	.2	4.4	70	26.1	83	85	48	0	3	2	0	0
OH CINCINNATI	56	34	70	21	45	0	.1	-.7	.1	2.9	43	27.6	78	80	38	0	3	2	0	0
OH CLEVELAND	51	35	64	27	43	-1	.4	-.3	.3	5.9	89	34.4	111	87	47	0	2	2	0	0
OH COLUMBUS	54	33	68	23	44	0	.3	-.3	.3	3.5	60	22.6	69	83	45	0	3	2	0	0

Based on 1951-80 normals.

Weather Data for the Week Ending November 14, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE SEPT. 1	PCT. NORMAL SINCE SEPT. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	54	34	68	24	44	0	.1	-.5	.1	1.7	31	20.2	66	77	44	0	4	1	0
TOLEDO	50	33	61	25	41	0	.4	-.1	.4	5.0	91	24.9	90	84	47	0	4	1	0
YOUNGSTOWN	49	32	64	24	41	-1	.2	-.4	.2	6.7	96	34.6	105	84	52	0	4	2	0
OK OKLAHOMA CITY	59	37	68	26	48	-2	T	-.4	T	6.5	93	39.0	135	83	38	0	2	0	0
TULSA	62	39	71	27	50	0	.4	-.2	.4	5.2	58	35.5	100	78	38	0	2	1	0
OR ASTORIA	58	47	62	43	53	5	1.4	-.9	.5	3.1	22	35.8	68	95	67	0	0	6	1
BURNS	52	32	55	23	42	5	.9	.6	.4	1.0	50	8.9	100	**	**	0	4	5	0
MEDFORD	58	41	65	34	49	5	.7	.1	.4	.8	21	10.2	70	95	56	0	0	5	0
PENDLETON	57	40	62	32	48	6	.5	.1	.3	.7	33	6.3	66	91	60	0	1	4	0
PORTLAND	59	47	65	41	53	7	.6	-.5	.3	1.8	26	21.3	77	95	64	0	0	5	0
SALEM	58	45	64	38	52	6	1.6	.3	.5	2.7	37	24.6	83	98	62	0	0	5	1
PA ALLENTOWN	50	33	65	29	42	-3	1.6	.8	1.1	13.0	150	42.8	112	90	54	0	5	3	1
ERIE	49	35	63	30	42	-1	.4	-.4	.4	12.0	128	39.9	115	79	48	0	2	2	0
HARRISBURG	52	32	68	24	42	-4	2.0	1.2	1.3	12.7	164	34.4	101	93	50	0	5	3	1
PHILADELPHIA	57	37	67	30	47	-1	1.2	.5	.9	6.6	85	30.9	86	79	45	0	2	2	1
PITTSBURGH	52	33	68	25	42	-1	.1	-.4	.1	5.1	80	35.0	108	85	48	0	3	2	0
SCRANTON	46	30	58	25	38	-5	.7	0	.4	11.6	156	37.0	121	93	58	0	4	4	0
RI PROVIDENCE	52	33	68	25	42	-3	1.9	.9	.8	11.5	126	36.7	96	94	50	0	4	4	2
SC CHARLESTON	72	44	80	30	58	0	1.0	.6	.6	17.1	195	52.9	112	95	42	0	1	2	1
COLUMBIA	71	35	82	26	53	-2	.6	0	.5	6.8	86	48.7	110	96	29	0	4	2	1
FLORENCE	72	38	80	29	55	-1	.6	-.1	.6	5.7	77	33.2	83	93	37	0	2	2	1
SD GREENVILLE	66	37	76	27	52	-1	1.2	.5	1.2	4.8	51	38.5	85	85	30	0	2	2	1
ABERDEEN	53	20	64	5	36	4	0	0	-1	1.6	56	11.4	68	81	31	0	7	0	0
HURON	54	24	66	13	39	5	0	0	-2	0	2.1	17.7	100	80	32	0	5	0	0
RAPID CITY	58	32	67	20	45	8	.1	-.1	.1	1.3	61	12.1	79	80	34	0	4	1	0
SIoux FALLS	55	25	64	15	40	4	T	-.2	T	2.4	51	15.6	69	86	33	0	5	1	1
TN CHATTANOOGA	63	34	73	25	48	-2	.9	0	.5	6.1	68	41.9	93	94	39	0	4	2	1
KNOXVILLE	61	31	75	20	46	-4	.6	-.3	.4	3.1	43	30.6	76	91	36	0	4	2	0
MEMPHIS	61	39	75	29	50	-3	2.6	1.7	2.0	5.6	73	33.0	75	89	43	0	2	3	2
NASHVILLE	60	35	76	21	48	-2	1.5	.8	1.1	3.7	48	22.7	55	88	35	0	4	2	1
TX ABILENE	63	38	74	24	50	-4	T	-.3	T	2.4	39	21.4	98	80	30	0	3	2	0
AMARILLO	59	30	68	21	45	-2	0	-.2	0	4.9	143	20.2	111	75	29	0	4	0	0
AUSTIN	66	45	75	34	55	-5	1.4	-.9	1.4	6.8	84	33.8	120	91	49	0	0	3	1
BEAUMONT	69	46	78	35	58	-3	.1	-.9	.1	11.7	108	52.3	109	93	51	0	0	1	0
BROWNSVILLE	74	55	82	46	64	-4	1.6	1.2	1.5	10.7	112	26.1	111	96	56	0	0	3	1
CORPUS CHRISTI	71	51	80	40	61	-5	1.6	1.2	1.5	4.0	40	29.6	102	92	52	0	0	3	1
DEL RIO	64	42	72	30	53	-7	.1	-.1	T	.5	9	21.8	133	83	39	0	1	2	0
EL PASO	67	36	74	29	52	-1	T	-.1	T	1.3	58	8.0	114	77	25	0	3	0	0
FORT WORTH	63	39	70	30	51	-6	.8	-.3	.8	2.3	31	21.0	74	91	47	0	2	2	1
GALVESTON	68	55	79	45	61	-3	.3	-.4	.3	4.8	48	30.8	88	85	52	0	0	2	0
HOUSTON	70	46	82	32	58	-4	.4	-.5	.4	4.0	38	33.1	82	97	45	0	1	1	0
LUBBOCK	63	34	72	24	49	-1	T	-.1	T	3.5	84	17.9	106	80	25	0	3	1	0
MIDLAND	65	31	76	20	48	-5	T	-.2	T	1.8	48	13.9	108	90	28	0	4	0	0
SAN ANGELO	64	34	75	18	49	-7	.1	-.2	.1	4.3	77	29.2	172	90	34	0	4	1	1
SAN ANTONIO	67	45	76	31	56	-5	.8	-.2	.8	3.5	45	34.0	129	87	47	0	2	2	1
VICTORIA	71	47	80	35	59	-5	.7	-.1	.6	4.2	39	36.0	107	96	49	0	0	3	1
WACO	64	41	74	30	52	-6	1.5	1.0	1.4	8.4	115	28.9	104	95	54	0	2	2	1
WICHITA FALLS	63	36	72	27	50	-4	.3	0	.3	2.6	39	28.5	116	88	35	0	4	1	0
UT BLANDING	53	33	58	29	43	3	0	-.2	0	5.6	200	19.0	191	98	60	0	2	0	0
CEDAR CITY	55	29	59	26	42	1	1.0	.8	1.0	4.6	218	12.0	132	97	50	0	6	1	1
SALT LAKE CITY	54	36	62	32	45	3	.7	.4	.4	2.3	91	11.3	86	93	45	0	1	3	0
VT BURLINGTON	43	29	51	21	36	-3	.1	-.6	.1	7.5	103	24.7	83	83	51	0	5	1	0
VA NORFOLK	65	41	78	30	53	0	1.2	.6	.8	10.1	111	40.2	100	84	41	0	1	2	1
RICHMOND	62	36	78	20	49	-1	1.7	.9	1.0	7.4	84	36.0	93	85	44	0	3	2	2
ROANOKE	61	39	77	30	50	1	1.8	1.2	1.7	14.0	179	46.3	133	75	38	0	2	2	1
WA COLVILLE	56	47	60	35	51	6	4.3	1.4	1.8	7.4	34	62.3	76	98	78	0	0	7	3
QUILLAYUTE	57	47	64	40	52	6	1.7	.4	1.0	3.0	38	22.5	78	97	66	0	0	5	2
SEATTLE-TACOMA	52	37	57	31	45	8	.6	.1	.5	.9	33	12.1	94	96	63	0	1	2	1
SPOKANE	56	34	63	26	45	6	.2	0	.2	.5	45	4.8	81	96	53	0	3	1	0
YAKIMA	52	34	68	21	43	0	1.0	.3	-.9	5.1	67	33.6	89	78	44	0	4	2	1
WV BECKLEY	56	34	71	25	45	-2	1.8	1.2	1.0	6.6	95	32.2	86	87	42	0	4	3	2
CHARLESTON	57	35	73	24	46	-1	1.6	.9	.9	4.2	64	27.8	77	79	38	0	3	2	2
HUNTINGTON	55	35	71	24	45	-2	.8	.3	.5	4.2	65	21.8	65	81	43	0	3	2	1
PARKERSBURG	46	24	53	19	35	-2	.2	-.2	.2	3.8	62	18.5	73	96	53	0	7	1	0
WI GREEN BAY	49	27	59	20	38	0	.1	-.2	.1	3.0	49	29.4	105	94	42	0	7	1	0
LACROSSE	48	25	57	18	37	-1	.1	-.3	.1	5.6	91	26.8	95	92	46	0	5	2	0
MADISON	48	30	56	26	39	-1	.1	-.4	.1	3.8	62	31.5	114	89	60	0	7	1	0
MILWAUKEE	46	24	54	17	35	1	.1	-.3	.1	5.8	83	22.4	76	91	43	0	5	2	0
WAUSAU	53	31	57	23	42	8	.2	0	.1	1.7	90	12.3	119	90	37	0	7	1	0
WY CASPER	56	29	62	24	42	6	.1	-.1	.1	1.6	77	14.0	110	75	24	0	6	1	1
CHEYENNE	51	28	53	25	39	7	.5	.3	.5	1.9	78	13.9	115	84	41	0	6	1	0
LANDER	56	28	61	24	42	8	.2	0	.2	3.0	108	13.8	99	90	41	0	6	1	0
SHERIDAN	56	28	61	24	42	8	.2	0	.2	3.0	108	13.8	99	90	41	0	6	1	0
PR SAN JUAN	89	76	90	75	83	3	.2	-.2	.2	4.7	33	46.7	100	89	75	1	0	2	0

Based on 1951-80 normals.

Heating Degree Days Summary

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

LAST DATE OF DATA COLLECTION PERIOD IS 11-14-1987
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns: STATE CITY, CALL WEEK, WEEK WEEK, CUM CUM CUM CUM CUM, DEV DEV DEV DEV DEV, FROM FROM FROM FROM FROM, NORM L YR, PRCT, PRCT, PRCT, PRCT, PRCT. Lists cities from AL BIRMINGHAM to MT HELENA.

Table with columns: STATE CITY, CALL WEEK, WEEK WEEK, CUM CUM CUM CUM CUM, DEV DEV DEV DEV DEV, FROM FROM FROM FROM FROM, NORM L YR, PRCT, PRCT, PRCT, PRCT, PRCT. Lists cities from MT KALISPELL to WY SHERIDAN.

National Agricultural Summary

November 9 to 15, 1987

HIGHLIGHTS: Colder temperatures hastened crop maturity in Oklahoma and Texas, but rain slowed harvest from the southern Great Plains, through the Delta, and into the Southeast. Rain provided much needed moisture for small grain germination and growth in the Delta, portions of the Southeast, and Oregon. Rain relieved some of the drought stress in the Southeast and Delta, but soil moisture still remained short. Fieldwork averaged 5 to 6 days except in the Southeast and Delta where farmers were able to work 4 days or less.

Winter wheat seeding was limited mostly to the Delta, Southeast, and along the west coast. Crop condition was mostly good to fair except in the Southeast where it was mostly fair to good. Corn harvest was virtually finished. Soybeans were 96 percent (%) harvested, compared with the 84%, 5-year average. Harvest was virtually finished except in the Southeast. Cotton harvest reached 64% completion, 2 percentage points above normal. Wetness caused delays in Texas, Oklahoma, Arizona, and the Southeast. Ninety-two percent of the sorghum acreage was combined, compared with 88% normally. Colder weather pushed harvest near completion in Kansas. Livestock was mostly good.

SMALL GRAINS: Winter wheat was mostly good to fair except in the Southeast and some Pacific Northwest States. Crop condition was fair to good in the Southeast but was fair to poor in Georgia. Seeding was virtually finished except in the southern half of the Nation and in Oregon and Washington. Emergence was 94% finished, compared with 86% in 1986 and 85% normally. Rain provided much needed moisture for small grain germination and seeding in the Delta and parts of the Southeast. Dryness continued plaguing small grain seeding, germination, and growth in southern Georgia and Alabama. Rain improved growth and emergence in Texas but slowed planting in central areas. Cooler temperatures slowed growth in some areas. Colorado's wheat was virtually all emerged but needed moisture. Winter damage to Montana's wheat was mostly light. Nebraska's wheat received much needed precipitation. Russian wheat aphid development was monitored in western counties. Wheat seedlings needed moisture to promote prewinter growth in Ohio. Greenbug infestation increased in northern Oklahoma. Rain aided seeding and germination, especially in western Oregon. Small grain seeding progressed normally in California. In Washington, winter wheat improved, but rain is still needed to bring the crop to par.

SOYBEANS: Soybeans were 96% harvested, 2 points above the previous week and 12 points above normal. Rain impeded harvest in the Delta and Southeast, but sizeable gains were reached in Georgia, North Carolina, and South Carolina. Harvest increased 14, 20, and 18 points from the previous week, respectively. Alabama's harvest was 90% finished, compared with 73% normally. Producers nearly finished harvest in Kansas, Louisiana, Michigan, Mississippi, and Tennessee.

COTTON: Rain slowed harvest from the southern Great Plains, through the Delta, and into the Southeast. Harvest reached 64% completion, up 4 points from the previous week and only 2 points ahead of normal. In Texas, harvest was 28% finished, trailing 10 points behind normal.

Harvest was virtually finished except in the Plains and Trans-Pecos. Many producers are still waiting for a major killing freeze. Rain reduced the quality of unharvested cotton in Arizona. Oklahoma's harvest equaled the average at 20% completion. Light frost promoted harvest in most areas. Cotton harvest was nearing its end in California. Growers shredded and disced cotton stubble to comply with pink bollworm quarantine. New Mexico's cotton harvest trailed 11 points behind the 46% average.

SORGHUM: Sorghum harvest climbed 5 points to 92% completion. Last year 81% was harvested, while 88% is harvested by this date, normally. Kansas' harvest reached 95% completion, 10 points ahead of the previous week and average. Oklahoma's harvest trailed 15 points behind normal. In Texas, harvest gained 5 points, reaching 83% completion but lagged 7 points behind normal. The colder weather helped to dry fields for harvest. Favorable weather should increase harvest dramatically after the week's hard freeze in the Plains.

OTHER CROPS: A few acres of peanuts remained to be threshed in Georgia and South Carolina. Rain delayed peanut harvest in Texas. Grades began improving in late-harvested fields. Sixty-six percent of Texas acreage was harvested, 1 point below average.

Burley stripping fell 11 points behind normal in Kentucky. Early stripped and hung tobacco remained low in moisture. Half of Tennessee burley tobacco was stripped, compared with 60% normally. Markets are scheduled to open November 23.

FRUIT AND NUTS: Florida's citrus groves were very good to excellent. Moisture was adequate but some producers irrigated. Fruit remained small but droppage was not excessive. Harvest increased in all areas. Wetness slowed citrus harvest in Texas. Lemon and grapefruit harvests were active in western Arizona. Navel orange and grapefruit movements were heavy in the central valley. California's navel orange harvest gained momentum. Kiwi, persimmon, desert grapefruit, lemon, and tangerine harvests continued. A few walnuts and pecans were harvested, but almond harvest was finished. Pruning, spraying, and removal of dead trees were active in most areas.

VEGETABLES: Winter vegetable planting was active in Florida. Harvest increased seasonably. Good volume of tomatoes, cucumbers, peppers, sweet corn, squash, snap beans, radishes, and eggplant were available. The first celery crop of the season was cut. Rain slowed vegetable harvest in the Rio Grande Valley. Frost hurt some peppers and burned leaves on other vegetables in the San Antonio-Winter Garden area. The cold weather ended pepper harvest in the High Plains and at Trans-Pecos. Lettuce harvest began at Riverside, California. Vegetable harvest consisted mostly of carrots, cauliflower, celery, lettuce, broccoli, sweet corn, and tomatoes.

PASTURES AND LIVESTOCK: Pastures began greening in some Delta and Southeast States from rain. However, very little forage was available for livestock grazing. Livestock was mostly good. Supplemental feeding continued in most areas.

Crop Progress

FOR WEEK ENDING NOVEMBER 15, 1987

GRAIN SORGHUM
% HARVESTED

	1987	1986	AVG.
ARK	100	100	98
ILL	100	93	86
KANS	95	75	85
LA	100	100	100
MISS	100	100	99
MO	100	78	82
NEBR	100	88	92
OKLA	55	55	70
S DAK	100	93	87
TENN	100	98	91
TEX	83	79	90

11 STATES 92 81 88

THESE 11 STATES PRODUCED 96%
OF THE 1986 GRAIN SORGHUM CROP.

COTTON
% HARVESTED

	1987	1986	AVG.
ALA	99	92	88
ARIZ	76	80	75
ARK	99	95	87
CALIF	90	85	78
GA	89	74	77
LA	100	98	86
MISS	99	99	86
MO	100	97	89
N MEX	35	40	46
N C	83	79	70
OKLA	20	3	20
S C	97	70	86
TENN	100	90	90
TEX	28	23	38

14 STATES 64 59 62

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

SOYBEANS
% HARVESTED

	1987	1986	AVG.
ALA	90	76	73
ARK	93	64	67
GA	81	55	58
ILL	100	95	94
IND	100	94	92
IOWA	100	95	95
KANS	99	60	80
KY	95	70	68
LA	97	82	79
MICH	95	90	90
MINN	100	98	97
MISS	95	73	66
MO	100	60	72
NEBR	100	91	96
N C	55	32	33
OHIO	100	94	92
S C	50	41	33
S DAK	100	98	98
TENN	95	60	65

19 STATES 96 83 84

THESE 19 STATES PRODUCED 96%
OF THE 1986 SOYBEANS CROP.

WINTER WHEAT
% EMERGED

	1987	1986	AVG.
ARK	78	55	NA
CALIF	20	21	20
COLO	98	94	95
GA	14	30	NA
IDAHO	89	100	98
ILL	95	82	81
IND	94	88	89
KANS	98	90	90
MICH	95	65	NA
MO	89	47	54
MONT	100	78	88
NEBR	100	100	100
N MEX	100	100	NA
N C	50	52	NA
OHIO	93	78	91
OKLA	95	75	75
OREG	75	93	90
S DAK	100	100	100
TEX	90	90	77
WASH	86	99	96

20 STATES 92 85 NA

EXCL. STATES WITH NA 94 86 85

THESE 20 STATES PRODUCED 91%
OF THE 1986 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

Crop Condition

FOR WEEK ENDING NOVEMBER 15, 1987

WINTER WHEAT

STATE	VP	P	F	G	EX
ARK	2	4	13	64	17
CALIF	0	0	20	55	25
COLO	0	2	17	72	9
GA	22	16	58	4	0
IDAHO	1	21	22	33	23
KANS	3	6	24	25	42
MICH	0	4	13	54	29
MO	0	7	49	40	4
MONT	1	14	45	40	0
NEBR	0	6	48	46	0
N MEX	0	0	40	50	10
N C	0	6	52	40	2
OKLA	0	0	2	83	15
OREG	0	30	50	20	0
S DAK	0	7	21	63	9
TEX	1	10	36	44	9
WASH	0	10	30	60	0

VP - VERY POOR P - POOR F - FAIR
G - GOOD EX - EXCELLENT

State Summaries of Weather and Agriculture

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

ALABAMA: Rainfall totals 1.00 in. north; 2.00 to 3.00 in. Tennessee Valley; 0.50 in. or less elsewhere. Temperatures averaged 1 to 2° below normal.

Days suitable for fieldwork 5.7. Soil moisture 89% short, 11% adequate. Scattered showers relieved drought conditions some areas; more rain needed. Sorghum 96% harvested, 95% 1986, 94% avg. Soybeans 90% harvested, 76% 1986, 73% avg. Cotton 99% harvested, 92% 1986, 88% avg. Wheat 71% seeded, 64% 1986, 61% avg. Pastures mostly poor to very poor; livestock mostly fair. Primary activities: Harvesting sorghum, soybeans, pecans, collards, greens; planting, fertilizing small grains, annual forage crops; soil testing; cleaning, repairing equipment; general care of livestock, poultry.

ARIZONA: Mostly sunny skies, dry air, slightly above normal temperatures 8th through 12th. Afternoon readings mostly 80s lower western deserts, 60s 5,000 ft., 50s higher elevations. High cloudiness increased 13th; numerous scattered showers north, east sections 14th; snow level 6,000 ft. Snow 5 in. north rim Grand Canyon, 8 in. Hawley Lake. Moisture mostly traces to 0.50 in. Afternoon temperatures 14th down 4 to 16° from previous day; 30s to low 40s mountains, low to mid 70s southwestern deserts. Clearing conditions spread eastward late 14th except Mogollon Rim, White Mountains northward, where snow showers continued. Temperatures 1 to 5° above normal.

Fieldwork resumed favorable conditions west; cotton harvest progressed. Unharvested cotton quality reduced due to rain. Land preparation small grains active. Rainfall caused minimal affect cotton quality, harvest southeast; yields normal. New, renovated fields alfalfa hay good condition west; some established stands cut. Leaf, boston lettuce, cauliflower, asparagus harvested west; broccoli, celery progressed normally. Lettuce movement heavy Eloy-Marana; rapini harvested. Cabbage shipped central. Lettuce movement light, vegetables, watermelons shipped Salt River Valley. Honeydews shipped from west, central. Lemon, grapefruit harvest active west; groves good. Navel orange, grapefruit movement heavy central valley.

ARKANSAS: Cold front passed through State bringing rain, cooler temperatures first part of week. First statewide frost. Temperature extremes 19°; 81°. Rainfall total 0.19 to 7.73 in.

Days suitable for fieldwork 4.0. Soybeans 11% poor, 48% fair, 41% good. Wheat 88% planted, 70% 1986, 65% avg. Oats 83% planted, 78% 1986, 75% avg. Pastures much improved after recent rains. Livestock remained good.

CALIFORNIA: Series of weak Pacific storms started delivering good, early precipitation to State. Temperatures 2 to 4° above normal. Rainfall northern areas remained 65 to 80% of normal.

Relatively open weather, good progress harvest, preplant activities. Rice harvest completed. Stubble burning good progress. Cotton harvest winding down. Shredding, discing active, growers complying pink bollworm quarantine. Small grain seeding progress normal. Dry bean, corn, sorghum grain, alfalfa harvests winding down. Sugarbeet harvest active. Some alfalfa seeded. Avocado harvest continued. Date harvest progressed. Table

grape harvest complete. Kiwi, persimmon harvests continued. Valencia orange harvest virtually complete. Navel orange harvest gained momentum. Desert grapefruit, tangerine, lemon harvests continued. Few walnuts, pecans being harvested. Almond harvest completed. Pruning, spraying, removal of dead trees continued. Artichokes fairly light, good quality Salinas. Broccoli moderate, good quality Santa Maria; variable quality Salinas. Harvest active Westside, Merced-Atwater. Carrot supplies moderate, good quality Salinas. Harvest continued Westside. Cauliflower fairly light, good quality Santa Maria. Harvest continued Westside. Celery fairly heavy, good quality Santa Maria. Supplies heavy, variable quality Salinas. Lettuce harvest nearly complete light movement, variable quality Santa Maria. Lettuce harvest wound down Salinas, San Joaquin Valley. Harvest continued Westside variable quality. Lettuce harvest began Riverside good quality. Palo Verde melon harvest completed, poor yields throughout season. Onions planted Delta, Westside. Pepper supplies fairly light, good quality Santa Maria. Harvest completed Salinas; continued Delta. Sweet corn harvest continued Westside. Sweetpotato harvest Clovis, Selma ongoing. Vine-ripe, green-pack tomatoes harvested Westside. Livestock good statewide. Movement to market active northern districts. Cattle on feed Westside feedlots increased to near capacity. Winter grasses started to germinate, more rain needed to improve grass growth, stock pond levels. Light supplemental feeding necessary most areas. Calving, lambing continued.

COLORADO: Temperatures 1 to 9° above normal. Scattered showers, snow early week and on weekend. Precipitation none to 1.90 in. Eastern plains averaged 0.20 to 0.40 in. northeast, less than 0.10 in. southeast.

Days suitable for fieldwork 5.8. Soil moisture 16% very short, 40% short, 44% adequate. Corn, sorghum harvest neared completion. Winter wheat virtually all emerged, needs moisture. Livestock, pastures good.

FLORIDA: Strong cold front accompanied by showers, thunderstorms 9th, 10th; rainfall mostly 0.50 in. or less, isolated heavier amounts. Dry, much cooler 11th through 13th with first widespread frost Panhandle, Big Bend areas; patchy frost northeast. Dry warming trend 14th, 15th. Temperatures averaged 2° below normal north to near or slightly above normal south. Soil moisture generally adequate Peninsula; mostly short Panhandle, limited rain. Small grain planting active where soil moisture permitted. Rain slowed cotton harvest. Sugarcane harvest good progress; all mills now open. Sugarcane planting continued. Central, southern pastures mostly good. North, Panhandle pastures poor to fair; drought conditions prevailed, winter grazing crops late. Cattle, calves fair to mostly good. Citrus groves very good to excellent. Moisture adequate, some irrigation. Fruit sizes continued small. Droppage not excessive. Harvest active, increased all areas. Caretakers preparing for winter. Drying conditions prevailed over most vegetable producing areas. Planting winter crop active. Harvest increased seasonally. Good volume available tomatoes, cucumbers, peppers, sweet corn, squash, snap beans, radishes, eggplant. Lesser volume escarole, lettuce, cabbage, carrots. First celery cut.

GEORGIA: Temperatures averaged near normal. Extremes 86° Jesup, 16° Blairsville. Rain mostly 1.00 in. range north, under 0.25 in. east, 0.50 in. or less elsewhere.

Days suitable for fieldwork 5.9. Dry soils limited small grain seeding. Soil moisture 55% very short, 30% short, 15% adequate. Cotton 1% very poor, 4% poor, 51% fair, 44% good. Sorghum grain 95% harvested, 87% 1986, 90% avg. Peanuts 99% threshed, 94% 1986, 97% avg. Soybeans 4% very poor, 26% poor, 53% fair, 12% good, 5% excellent. Rye 16% very poor, 33% poor, 46% fair, 5% good; 60% planted, 72% 1986, 76% avg. Other small grains 39% planted, 69% 1986, 66% avg. Pecans 6% very poor, 12% poor, 70% fair, 12% good; 34% harvested, 40% 1986, 41% avg.; hulls sticking due to dry weather. Pasture 16% very poor, 50% poor, 29% fair, 5% good; insufficient winter grazing. Cattle 1% poor, 59% fair, 40% good; extra hay required. Hogs 35% fair, 64% good, 1% excellent. Main activities: Harvesting late season crops. Some small grains planted in dusty soils in hopes of rain.

HAWAII: Variable weather. Mostly sunny, record high temperatures early week. Frontal band brought heavy weekend rains. Brisk winds, cool temperatures followed. Irrigation mostly normal reduced over weekend. Crops fair to good. Temperatures upper 60s to high 80s. Rainfall none to 4.40 in.

Days suitable for fieldwork 7.0. Banana production steady. Papaya production steady, heavy. Chinese, head cabbage supplies steady, good quality. Tomato production to increase.

IDAHO: Temperatures above normal. Precipitation below normal north, above normal southwest, near normal elsewhere.

Winter wheat fair to good. Sugarbeet harvest winding up. Corn harvested for grain continued. Other activities included fall plowing, disking, preparing machinery for winter storage. Livestock good. Livestock activities included movement of cattle to winter pastures, weaning calves, vaccinating, pregnancy testing, some selling of cattle.

ILLINOIS: Temperatures averaged 2 to 4° above normal north, normal south. Precipitation scattered, totals less than 0.25 in.

Harvest corn, soybeans, sorghum virtually complete.

INDIANA: Temperatures 1 to 3° below normal. Lows 20s, highs 50s. Only slight precipitation southeast, none elsewhere.

Soils dry central, southern areas. Farmers completing corn, soybean harvest. Corn 99% harvested, 90% 1986, 83% avg. Soybeans 100% harvested, 94% 1986, 92% avg. Other activities: Plowing, tilling, spreading fertilizer, processing tobacco, cleaning fence rows, machinery repair.

IOWA: Warm, dry. Temperatures 4° above normal east central; 9° northwest. Extremes 14° Cresco 10th, 66° Jefferson 12th.

Days suitable for fieldwork 6.1. Topsoil moisture 46% short, 54% adequate; subsoil moisture 32% short, 68% adequate. Corn still piled on ground 25% none, 54% limited, 16% moderate, 5% extensive. Utilization of corn stalk fields for grazing; 23% extensive, 55% moderate, 22% limited. Fall tillage 65%, 22% 1986, 34% avg.; fall fertilizer application 45%, 13% 1986, 29% avg. Livestock mostly good, excellent gains. Feeder calf placements picked up with slight drop in prices.

KANSAS: Temperatures averaged 44° northwest to 41° east central; 1 to 2° above normal southeast, south

central, 3 to 5° above normal elsewhere. Precipitation light, typically under 0.50 in.

Days suitable for fieldwork 6.5. Soil moisture 60% short, 38% adequate, 2% surplus. Lack of moisture concern south central, west. Trouble establishing wheat root system before winter. Wheat streak mosaic present, heaviest western third. Leaf rust statewide, most prevalent early seeded wheat. Greenbugs many areas, younger wheat most susceptible. Sorghum harvest virtually completed south central, southwest, most acreage to be cut. Soybean harvest virtually completed, far ahead of normal. Pasture good for State, poor west, good central, good to excellent east. Hay, forage, feed grains surplus east, adequate elsewhere. Cattle moved from pastures to corn, sorghum stubble. Approximately 15% wheat being pastured, 10% 1986, 5% avg. Some areas western areas feeding cattle until wheat pasture established.

KENTUCKY: Warm, dry early; then cold front midweek dropped temperatures, provided much needed rainfall. Precipitation averaged 0.90 in. over west, north; 1.50 in. over south, east. Temperatures averaged 45 TO 46°, 3 TO 4° below normal.

Days suitable for fieldwork 4.2. Very beneficial precipitation received; soil moisture 57% very short, 33% short, 10% adequate. Soybean harvest nearly finished, progressed record pace. Burley 29% stripped, 51% 1986, 40% avg. Early stripped, hanging tobacco low in moisture. Need stripping weather before opening market date Nov. 23. Winter wheat 92% seeded, 87% 1986, 78% avg. Wheat poor to fair, showing improvement. Pastures mostly poor; some greening after rain, snow.

LOUISIANA: Temperatures 2 to 5° below normal. Temperature extremes 27°; 82°. Rainfall averaged 0.36 to 2.25 in.

Days suitable for fieldwork 4.7. Soil moisture 5% very short, 30% short, 60% adequate, 4% surplus. Winter wheat fair; 68% planted, well ahead of average. Sweetpotatoes 99% harvested. Pecans poor to fair; 47% harvested, 43% avg. Sugarcane good; 55% harvested. Livestock, vegetables fair to good. Pastures fair. Main activity harvesting sugarcane, pecans, soybeans; planting winter wheat, pastures.

MARYLAND & DELAWARE: Maryland: Average temperature 47°, normal 47°. Lowest temperature 18°, highest temperature 76°. Precipitation averaged 1.70 in.

Days suitable for fieldwork 3.5. Topsoil moisture adequate. Subsoil moisture short to adequate. Soybeans fair. Soybeans 75% harvested, 65% avg. Corn 97% harvested, 95% avg. Small grains good to fair, mostly good. Wheat 95% planted, 95% avg. Barley 99% planted, 99% avg. Rye 95% planted, 95% avg. Oats 98% planted, 98% avg.

Delaware: Average temperature 49°, normal 48°. Precipitation averaged 1.87 in.

Days suitable for fieldwork 3.9. Topsoil moisture adequate. Subsoil moisture short. Soybeans poor to fair, mostly poor. Soybeans 70% harvested, 75% avg. Corn 98% harvested, 98% avg. Small grains good to fair, mostly good. Wheat 85% planted, 85% avg. Barley 99% planted, 99% avg.

MICHIGAN: Temperatures ranged 4° below to 1° above normal. Temperature extremes 15°; 59°. Precipitation none to 0.39 in. across State.

Days suitable for fieldwork 5.5. Soil moisture 75% adequate, 25% surplus. Corn 95% harvested, 75% 1986, 75% avg. Soybeans 95% harvested, 90% 1986, 90% avg. Winter wheat 95% emerged, 65% 1986, NA avg.; 4% poor, 13% fair, 54% good, 29% excellent. Major activities: Corn for grain, soybean, dry

bean, sugarbeet harvesting, fall tillage, fertilizer application.

MINNESOTA: Temperatures averaged 4 to 9° above normal. Temperature extremes 8°; 66°. Precipitation averaged 0.07 to 0.33 in. below normal. Precipitation totals averaged 0.05 to 0.25 in. for State. Greatest weekly total rainfall 0.78 in.

Fall weather continued to be favorable for tillage operations, other end of year activities.

MISSISSIPPI: Temperatures 8° below to 1° above normal; extremes 20°; 83°. Cool, damp weather some heavy rains northern counties. Greatest 24-hour rainfall 3.71 in.; greatest weekly total 3.76 in.

Days suitable for fieldwork 4.8, 2.2 1986, 3.7 avg. Soil moisture 25% very short, 55% short, 20% adequate. Rain barely slowed harvest progress. Freeze on 11th should accelerate pecan harvest. Wheat 68% planted, 58% 1986, 57% avg.; 25% very poor, 50% poor, 20% fair, 5% good. Pecans 30% harvested, 54% 1986, 42% avg.; 10% very poor, 20% poor, 60% fair, 10% good. Pasture conditions better, cattlemen still feeding hay. Livestock 15% poor, 45% fair, 40% good. Soybeans 95% harvested, 73% 1986, 66% avg.

MISSOURI: Temperatures about normal. Precipitation generally below 0.25 in. except isolated southern areas 0.50 to 1.00 in.

Late crops all harvested. Topsoil moisture short to adequate. Pasture, wheat need rain.

MONTANA: Warm dry trend continued. Temperatures 6 to 12° above normal. West, southwest, south central 0.10 to 0.50 in. moisture at lower levels, 4 to 6 in. snow in mountains. Rest of State dry.

Topsoil moisture 86% short, 14% adequate. Subsoil moisture 49% short, 51% adequate. Wind damage to winter wheat fields 27% none, 61% light, 12% moderate. Cattle, calves received supplemental feed 16%. Sheep, lambs received supplemental feed 15%. Grazing 100% open. Livestock feed grain supplies 2% short, 64% adequate, 34% surplus. Livestock hay, roughage supplies 2% short, 52% adequate, 46% surplus. Stockwater supplies 15% short, 79% adequate, 6% surplus.

NEBRASKA: Temperatures 3 to 8° above normal. Extremes 13°; 69°. Precipitation 0.20 to 0.75 in.

Days suitable for fieldwork 6.0. Topsoil moisture 52% short, 48% adequate. Subsoil moisture 36% short, 64% adequate. Weather favorable for final fall harvest of corn, sorghum, millet, sunflowers. Few isolated corn fields remained unharvested lowland areas. Fall tillage, stalk shredding, anhydrous ammonia applications active. Winter wheat received much needed precipitation on weekend. Russian wheat aphid development monitored in western counties. Range, pasture feeds adequate. Cattle on crop residue, calves weaned, winter preparations made.

NEVADA: Pacific weather systems brought wet weather most areas. Tail end weak frontal system dropped light rain northern, central sections early. Strong Pacific cold front delivered rain all areas, some snow mountains central, north. Most precipitation recorded north half. Temperatures generally mild, only slightly above normal except extreme south. Temperature extremes 21°; 79°.

Marketing potatoes active north. Rain made some feedlots muddy. Cattle mostly good.

NEW ENGLAND: Following two early season snowfalls, average rainfall or water equivalent of snow 1.50 to 2.00 in. coastal Massachusetts, Rhode Island, central Connecticut; 0.50 to 1.50 in. remainder south; 0.25 to 0.50 in. north. Average

temperatures 30° near Canadian border to low 40s south. Temperatures near normal north, below normal south.

Major farm activities: Fall cleanup, machinery maintenance, preparations for winter.

NEW JERSEY: Temperatures much below normal, averaging 38° north, 42° south, 45° coastal. Extremes 21°; 74°. Precipitation above normal, averaging 1.67 in. north, 1.78 in. south, 1.10 in. coastal. Heaviest 24-hour total rainfall 1.57 in. on 10th, 11th. Heaviest 24-hour snowfall 7 in. on 10th, 11th. Depth of snow on ground 16th, trace amounts north.

Hardy vegetables continued to move in light volume. Wet soil, snow cover delayed harvest of soybeans, corn for grain. Apples, potatoes, sweetpotatoes, squash moved from storages. Cider making active. Warmer temperatures on weekend advanced grain, cover crop growth.

NEW MEXICO: Temperatures near normal north, 5° below normal south. Lows freezing or below all stations. Snow many northern locations.

Days suitable for fieldwork 6.7. Soil moisture 40% short, 60% adequate. Cotton 33% fair, 67% good; harvest continued in Mesilla, Hatch Valleys; harvest conditions near ideal most locations. Barley 17% fair, 66% good, 17% excellent. Wheat 40% fair, 50% good, 10% excellent; rains needed in wheat areas; most areas livestock grazing activity. Irrigated grain sorghum 25% fair, 62% good, 13% excellent. Harvest activity continued. Dryland sorghum 20% fair, 60% good, 20% excellent; good to excellent yields continued. Corn 33% fair, 50% good, 17% excellent; harvest slowed. Pecans 20% fair, 80% good; limited hand harvest. Lettuce 100% good; harvest 95% complete statewide. Red chile harvest continued, crop fair to good. Cattle 22% fair, 78% good. Pace of cattle sales slowed. Sheep 100% good. Range 40% fair, 60% good; additional precipitation needed most areas.

NEW YORK: Mild temperatures early week. Midweek brought several inches of snow to eastern areas. Precipitation light west. Temperatures returned to normal late week. Lows in teens, highs in 60s.

Grain corn harvest neared completion. Harvest of other crops complete.

NORTH CAROLINA: Temperatures averaged 2 to 3° below normal coastal, mountain regions; 1 to 3° above normal in piedmont. Temperature extremes 17°; 82°. Precipitation 0.04 to 3.04 in. across State.

Days suitable for fieldwork 4.7. Soil moisture 9% very short, 41% short, 46% adequate, 4% surplus. Sorghum 92% harvested, 79% 1986, 85% avg. Oats 83% planted, 78% 1986, 78% avg. Barley 89% planted, 81% 1986, 77% avg. Rye 79% planted, 73% 1986, 75% avg. Pasture 2% very poor, 15% poor, 60% fair, 23% good. Major farm activities: Harvesting corn, cotton, sweetpotatoes, hay, peanuts, soybeans, apples, sorghum; seeding small grains; digging, tagging Christmas trees; tending livestock; general farm maintenance.

NORTH DAKOTA: Dry, mild statewide. Temperatures averaged 4° above normal southeast to 7° above normal north central. Extremes 8° south central 9th; 68° south central 11th.

Soil moisture below average. Dry conditions limited fall tillage some areas. Some cattle remained on pasture, majority of calves weaned. Many calves being marketed. Good hay supply statewide.

OHIO: Average temperatures lower 40s ranging from upper 20s to lower 50s. Precipitation scattered, less than 0.20 in. Some snow. Soil temperatures mid 40s.

Another good week for fieldwork. Only minor amount of precipitation. Winter wheat seedings need more soil moisture to promote pre-winter growth. No stress to livestock; weather mild.

OKLAHOMA: Temperatures averaged normal northeast to 5° above normal south central. Precipitation averaged none Panhandle, west central to 2.95 in. southeast.

Days suitable for fieldwork 5.9. Topsoil moisture 40% short, 60% adequate. Subsoil moisture 15% short, 85% adequate. Wheat 2% fair, 83% good, 15% excellent; 95% emerged, 75% 1986, 75% avg.; nearly 30% grazed. Greenbugs increased north. Sorghum 55% harvested, 55% 1986, 70% avg. Cotton 20% harvested, 3% 1986, 20% avg. Light frost promoted harvest. Pastures, livestock good. Supplemental feeding began.

OREGON: Temperature 5° above normal across State. Heavy precipitation over most of State; measurable rains all stations. Heaviest precipitation along coast, coast range; Cascades 3.00 to 3.50 in.; western interior valleys 1.00 to 2.00 in. Even normally dry eastern region 0.50 to 1.00 in. most locales; portions of northeast, north central about 0.10 in. First significant snowfall of season Cascades weekend.

Soil moisture short to adequate west, mostly short east. Winter wheat 90% planted, 98% 1986, 97% avg. Rain aided fieldwork, seeding, germination particularly west. Need 1.00 to 2.00 in. more east to end drought conditions. Established grass seed, hay could use more moisture west. Marketing storage onions Willamette Valley, high cullage due to rot from August rain. Processing vegetable crops all off with completion of squash harvest west. Livestock fair to good, excellent weaning weights east. Western pastures mostly fair, starting to grow. Eastern rangeland mostly poor. Hay movement picking up east.

PENNSYLVANIA: Snow, mid-winter conditions early week replaced by Indian Summer for weekend. Average temperature 40°, 2° below normal. Temperature extremes 17°; 70°. Average precipitation 0.84 in., 0.08 in. above normal.

Days suitable for fieldwork 3.0. Soil moisture 11% short, 68% adequate, 21% surplus. Corn 24% mature, 29% 1986, 32% avg.; 76% harvested, 71% 1986, 68% avg. Soybeans 84% harvested, 70% 1986, 68% avg. Fourth cutting alfalfa 90%, 100% 1986. Quality of hay fair to poor. Amount of feed being obtained from pastures average to below average. Apples 98% harvested, 100% 1986. Fall plowing 98%, 99% 1986. Winter wheat 99% planted, 100% 1986. Activities: Harvesting hay, haylage, corn for grain, soybeans, fruit; seeding wheat; hauling manure; spreading lime, fertilizer; installing conservation practices; machinery maintenance; caring for livestock.

PUERTO RICO: Island average rainfall 0.58 in., 0.84 in. below normal. Highest weekly total rainfall 2.61 in. Dos Bocas, 1.97 in. Lares, 1.90 in. Sabana Grande. Highest 24-hour total 2.45 in. Dos Bocas. San Juan mean temperature 82°, 2° above normal. Total rainfall 0.05 in., 1.28 in. below normal. Divisional temperature averaged about 80 to 82° on coasts, 74 to 79° interior. Mean station temperature 74° Adjuntas to 82° San Juan. Lowest minimum temperature 59° Adjuntas. Highest maximum temperature 94° Corozal.

SOUTH CAROLINA: Temperatures averaged much below normal. Rainfall 0.50 to 2.00 in. Most areas received first hard freeze of year on 12th.

Days suitable for fieldwork 5.3. Soil moisture 19% very short, 68% short, 13% adequate. Cotton 97% harvested, 70% 1986, 86% avg. Soybeans 96% mature, 91% 1986, 87% avg.; 50% harvested, 41%

1986, 33% avg.; 2% very poor, 5% poor, 64% fair, 29% good. Peanuts 97% harvested, 86% 1986, 90% avg. Wheat fair; planting resumed 42%, 30% 1986, 25% avg. Pasture, livestock fair.

SOUTH DAKOTA: Average temperatures 2 to 11° above normal. Extremes 5°; 68°. Precipitation across south central, southeast early week; spotty rain west end of week.

Winter wheat good to fair. Main problem is lack of moisture. Some stands didn't emerge; some spotty. Producers hope for eventual snow cover during winter. Some greenbug, aphid problems; infested areas began spraying. Some livestock still in pasture, many moved to lots or stubble fields and being fed supplements.

TENNESSEE: Precipitation averaged above normal west, middle; normal, below normal east. Amounts over 2.00 in. west, middle; less than 1.00 in. east. Temperatures averaged 3 to 6° below normal.

Days suitable for fieldwork 4.1. Soil moisture 27% very short, 44% short, 29% adequate. Burley 50% stripped, 65% 1986, 60% avg. Winter wheat 85% seeded, 70% 1986, 70% avg.

TEXAS: Weather varied as week went on. Rains early east, central as low pressure system left State. Temperatures began to warm late week as return flow set up back side of high. Strong upper level low set off heavy showers Plains, moved east triggering heavy showers, thunderstorms east, central areas. Temperatures below normal. Precipitation below normal. East, north central above.

Crops: Favorable weather grain sorghum harvest increased dramatically next week after hard freeze Plains. Cold weather helped drying greener fields down for harvest. Some harvest occurred, yields very good. Cotton harvest should also increase after recent freezing weather. Harvest continued, good yields Plains, Trans-Pecos. Killing freeze what many producers waiting for. Harvest virtually complete all areas except Plains, Trans-Pecos. Cotton 83% open bolls, 73% 1986, 89% avg. Small grains benefited from rain ahead of cold front. Many fields being stressed for moisture, some need additional rain. Growth, emergence improved with rain. Cooler temperatures slowed growth certain areas. Rain slowed planting operations slightly central. Movement livestock onto wheat pastures increased. Wheat 95% planted, 95% 1986, 90% avg. Rain slowed soybean harvest along Upper Coast, operations continued Plains minimal delays. Peanut harvest delayed from rain. Yields good, grades improving later fields. Sugarbeet harvest continued Plains, good yields. Cold weather did not affect crop. Sugarcane harvest delayed by rain. Other crops planted: Oats 89%, 88% 1986, 86% avg. Other crops harvested: Peanuts 66%, 69% 1986, 67% avg. Pecans 35%, 53% 1986, 37% avg. Soybeans 77%, 72% 1986, 66% avg. Sugarbeets 52%, 41% 1986, 64% avg. Sunflowers 83%, 69% 1986, 80% avg.

Commercial Vegetables: Rio Grande Valley harvest peppers, tomatoes continued slow pace after rain. Cabbage, cucumbers, greens harvested. Onions, lettuce good progress. Citrus harvest slowed by wet conditions. San Antonio-Winter Garden frost hurt some peppers, leaves on some other vegetables. Spinach progressed well. Onions good growth, development. High Plains peppers, carrots harvested; cold weather ended pepper harvest. Trans-Pecos bell pepper harvest ended with cold weather. Chili harvest continued. Cold temperatures caused pecans to fall increased rate. Harvest increased where ground conditions permit, quality good. Harvest south virtually complete.

Range and Pasture: Range, pasture conditions improved with rain. Small grains providing fair grazing Plains. Movement stockers onto small

grains increased. Livestock remained good. Supplemental feeding increased with cooler weather. Livestock markets up slightly from previous weeks.

UTAH: Precipitation heavy extreme southwest, light to moderate elsewhere. Temperature maximums 1° below to 2° above normal. Minimums 3 to 8° above normal.

Major farm activities: Care of livestock, marketing feeder calves, lambs; cull cows, ewes; winterizing equipment, fence repair, updating records, care of stored grain, cutting firewood.

VIRGINIA: Mild early period. Rain, snow mid period. Snow totals averaged 5 to 7 in. central, north; 1 in. southeast. Temperatures fell well below normal during snow, moderating end period. Temperatures varied widely, range 16° to low 70s. Warm, dry end period.

Days suitable for fieldwork 2.9. Topsoil moisture 15% short, 78% adequate, 7% surplus. Rain, snow midweek slowed fieldwork, increased livestock care, feeding. Grain corn 94% harvested, 88% 1986, 89% avg. Soybeans 64% harvested, 48% 1986, 55% avg. Flue-cured tobacco markets closed 12th. Stripped, graded burley tobacco. Wheat 82% seeded, 73% 1986, 78% avg. Late hay harvest almost complete. Pastures, winter grains mostly good, some fair. Marketed cattle.

WASHINGTON: Weather more typical for this time of year prevailed over State. Several disturbances moved through region, brought seasons first significant rainfall. Temperatures generally above normal from southwesterly flow off ocean.

Days suitable for fieldwork 5.5. Showers interrupted fieldwork, improved moisture conditions. Soil moisture continued low; 80% short, 20% adequate. Winter wheat 97% seeded, 100% 1986, 100% avg. Winter wheat 86% emerged, 99% 1986, 96% avg. Winter wheat condition improved, rain still needed to bring winter grain up to par. Russian wheat aphid discovered south of Walla

Walla. First appearance in State expected soon. Conservation Reserve Program (CRP) seeding completed Douglas County. Apple, grape harvests completed. Orchard cleanup, rodent control major activities central. Dry orchard soils caused concern that cold temperatures without snow cover could result in winter damage. Raspberry growers fumigating land for next years plantings King, Pierce Counties. Training, pruning caneberries continued. Range, pastures 90% short, 10% adequate. Rain, cooler temperatures helped bring livestock down from mountain ranges, Klickitat County. Hay, other roughage feed supplies continued adequate, surplus. Carrot, celery, other late vegetable harvest continued King, Pierce Counties. Most growers turned attention to preparations for next years crop.

WEST VIRGINIA: Average temperature 41°. Temperatures 1 to 3° below normal, except north central 3° above normal. Extremes 15° Circleville; 75° Creston, Williamson. Precipitation averaged 1.41 in.; 0.28 to 1.62 in. above normal.

Days suitable for fieldwork 2.8. Soil moisture 7% very short, 64% short, 29% adequate. Farm activities: Farm maintenance including fencing, livestock care, harvesting corn. Corn good to poor; 92% harvested. Barley, wheat good.

WISCONSIN: Temperatures averaged 37°, 3° above normal. Extremes 8°; 62°. Rainfall trace to 0.16 in.

Harvest activities nearly over. Farmers making repairs, applying fertilizer, cutting wood.

WYOMING: Temperatures above normal. Precipitation generally below normal.

Winter wheat fair to good. Russian aphid infestations southern, northern areas. Additional moisture needed for good development. Livestock good to excellent. Movement to winter pastures, market continued. Hay supplies adequate or better.

International Weather and Crop Summary

November 8 - 14, 1987

HIGHLIGHTS:

UNITED STATES...Colder temperatures hasten crop maturity in Oklahoma and Texas, but rain slows harvest from the southern Great Plains, through the Delta, and into the Southeast. Rain provides much needed moisture for small grain germination and growth in the Delta, portions of the Southeast, and Oregon.

WESTERN U.S.S.R...Light precipitation and below-normal temperatures cover dormant winter grains.

EUROPE...Wet weather returns to much of the west and north-favoring establishment of winter grains.

SOUTH ASIA...A tropical cyclone brings heavy rain and high winds to India's southeastern coast, likely damaging some immature rice.

NORTHWESTERN AFRICA...Rain spreads across most production areas, favoring wheat and barley crops.

SOUTH AFRICA...Beneficial showers continue throughout the major grain areas, maintaining adequate to abundant moisture for corn planting and emergence.

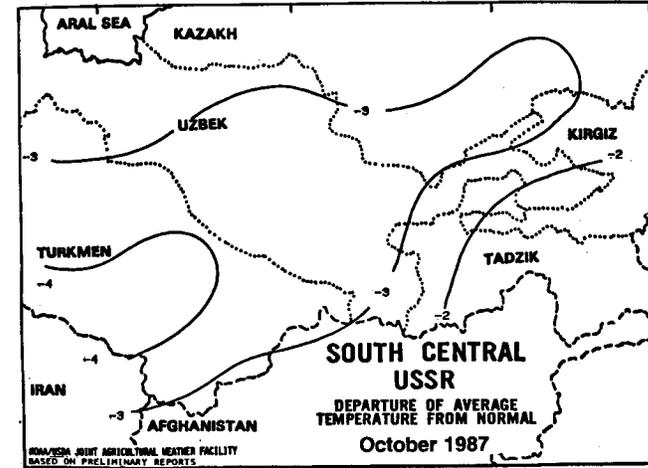
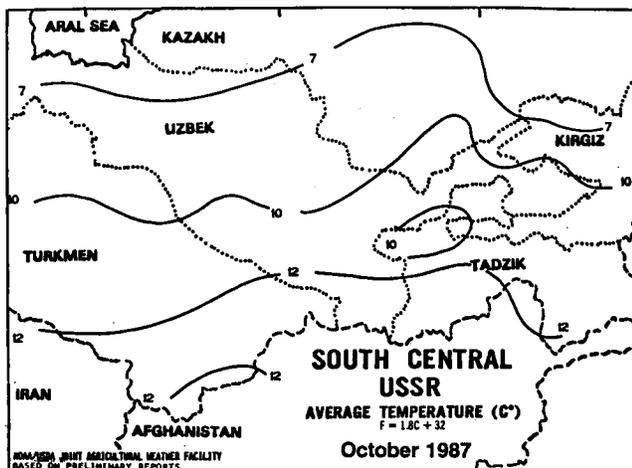
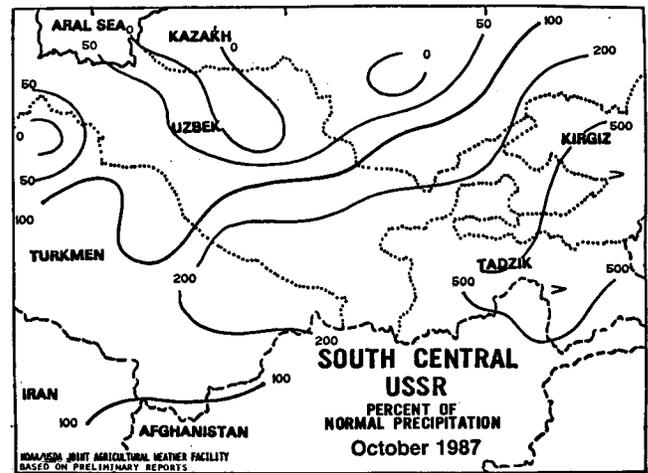
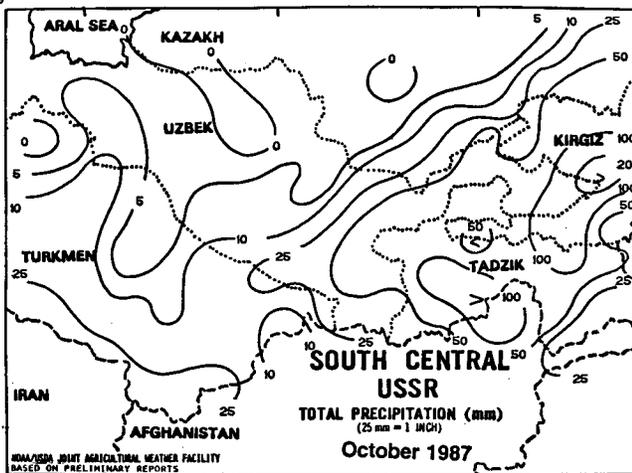
SOUTHEAST ASIA...Showers benefit filling rice in most Thai grain areas. Beneficial showers continue in southern Indonesia.

EASTERN ASIA...Mild weather allows continued winter wheat growth in the North China Plain.

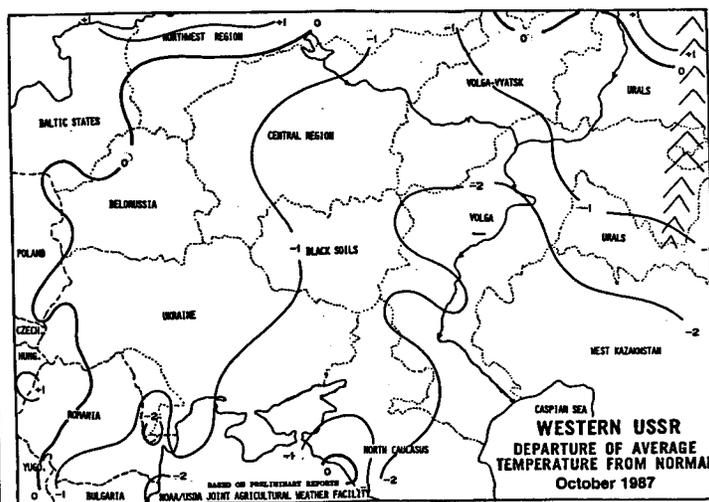
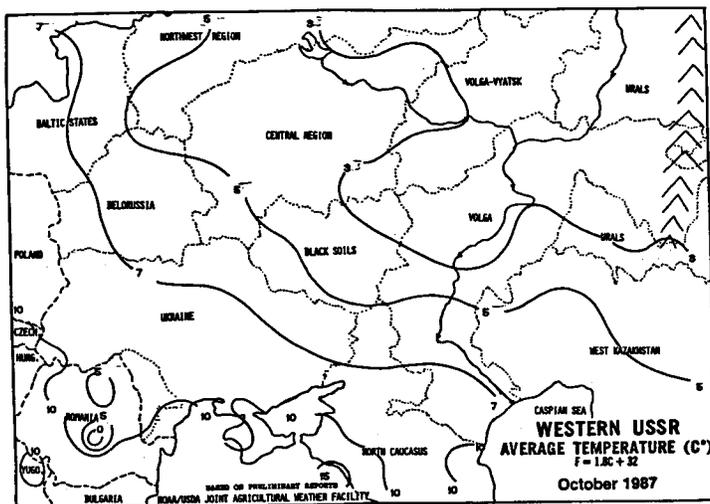
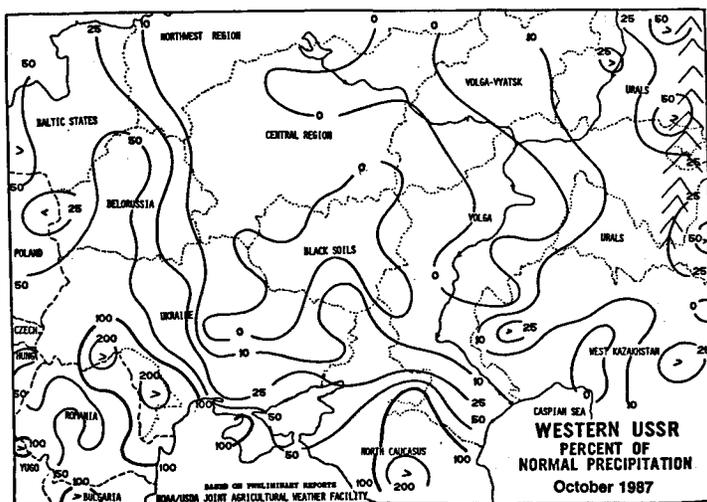
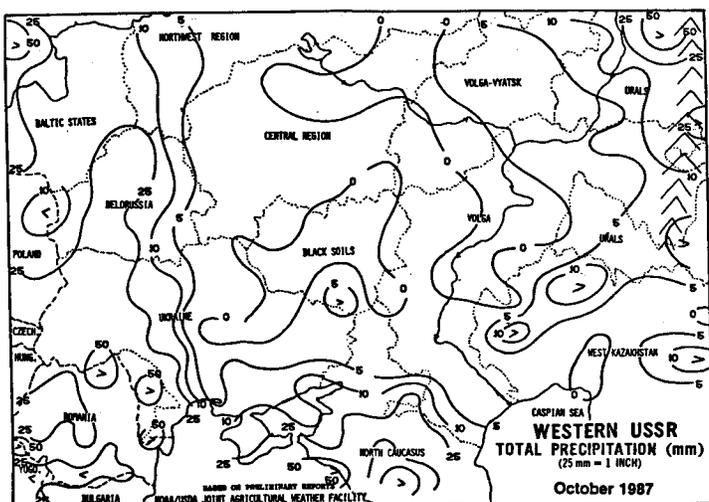
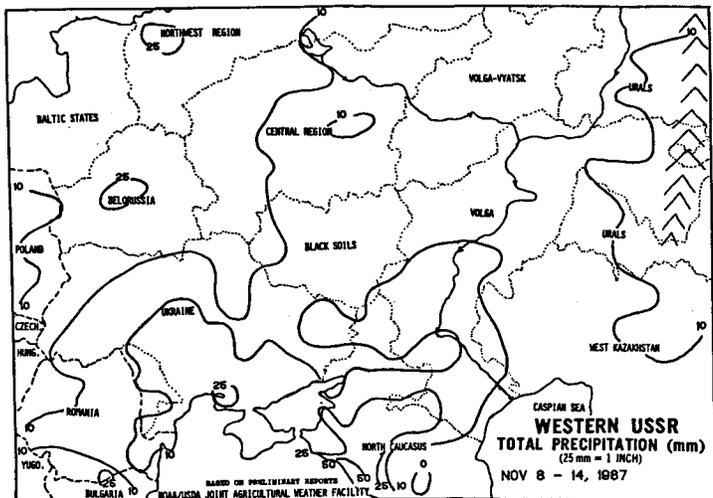
SOUTH AMERICA...Rain slows crop planting but favors crop establishment in Argentina and south-central Brazil.

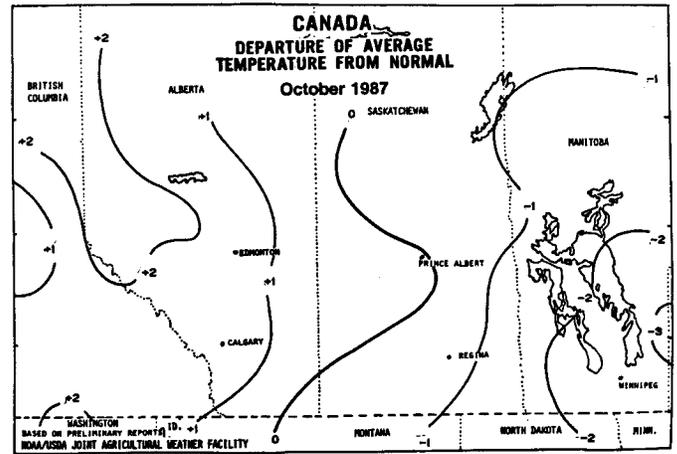
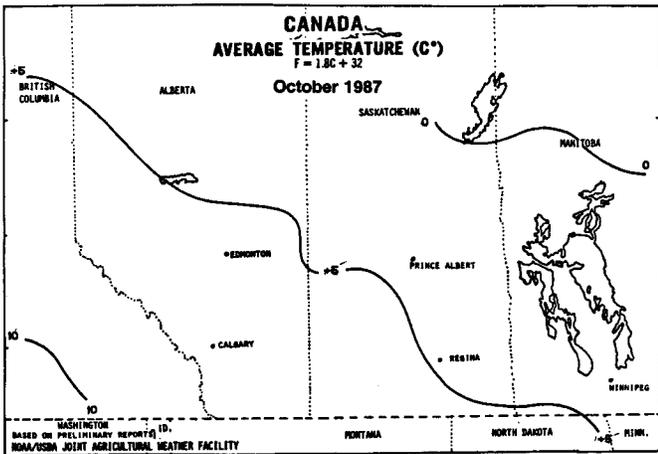
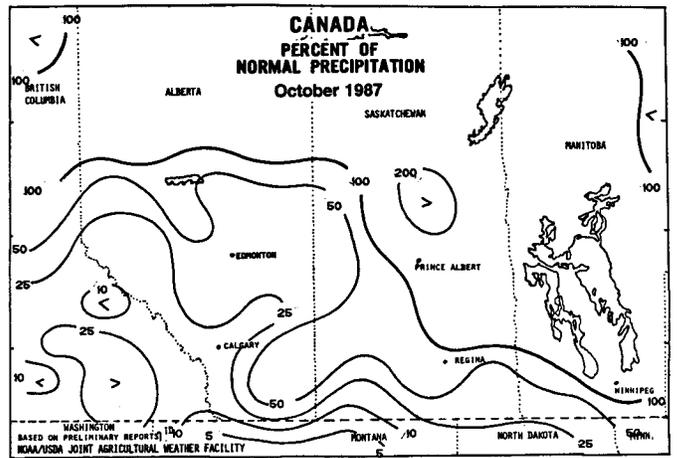
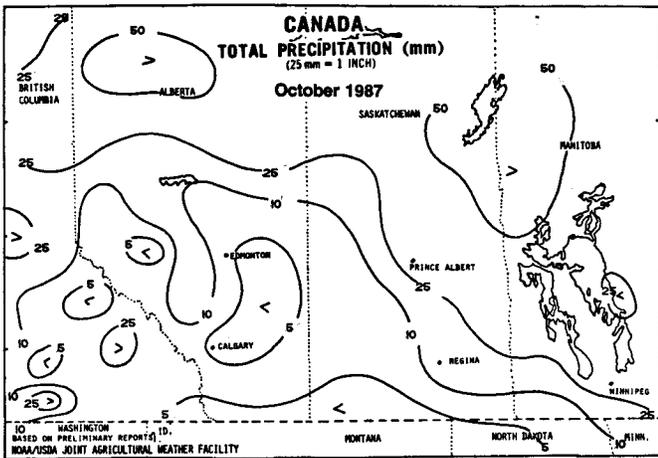
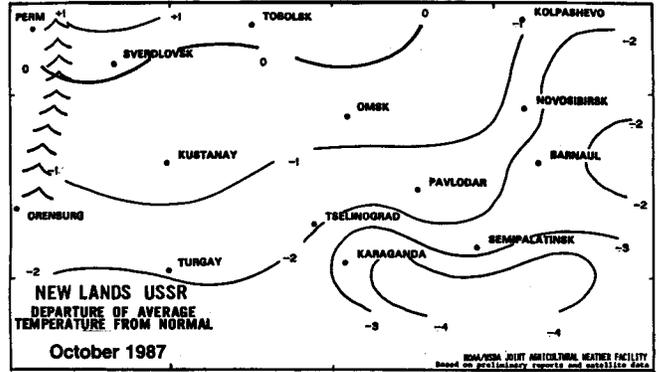
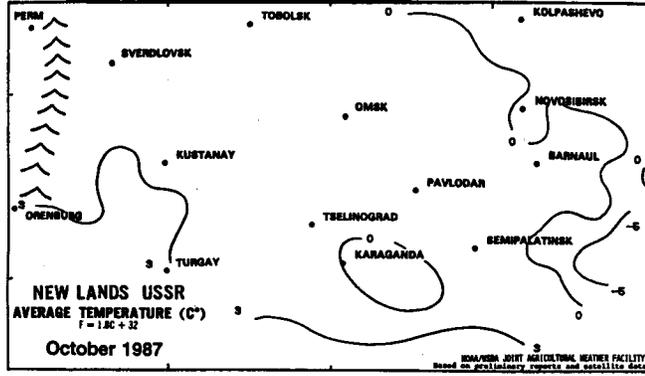
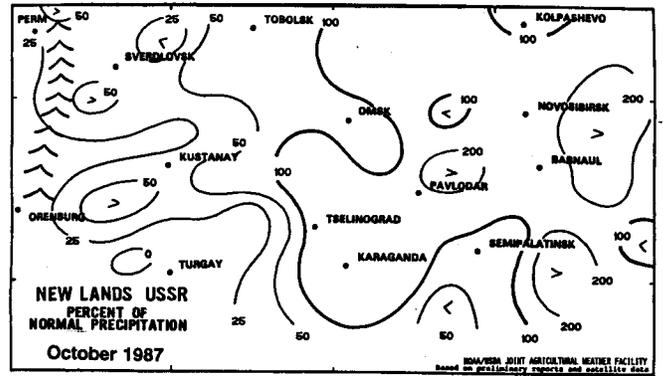
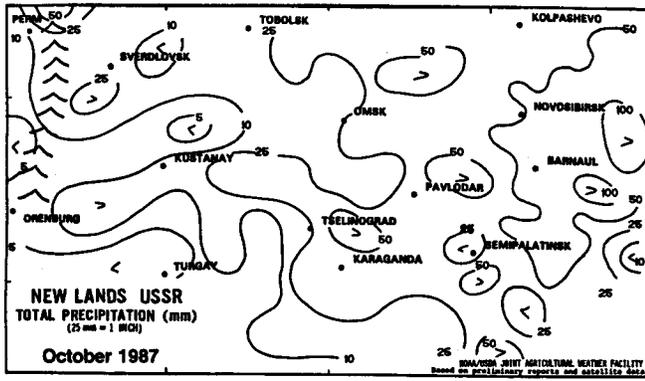
AUSTRALIA...Scattered rains cause harvest delays in the east and west, while other production areas remain dry.

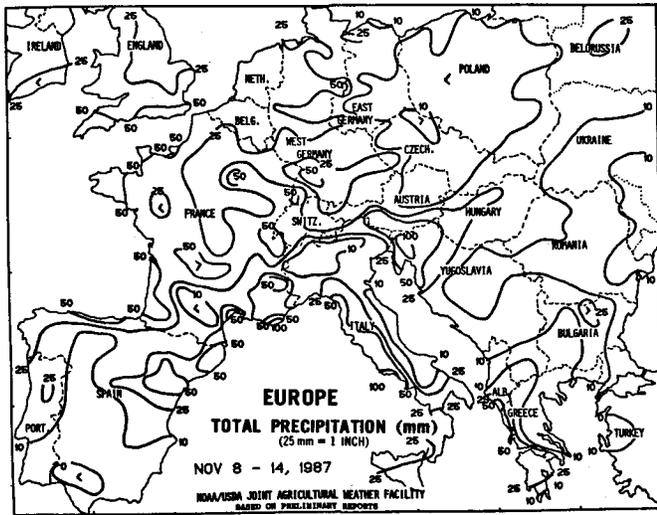
MEXICO...Mostly dry weather favors crop harvests.



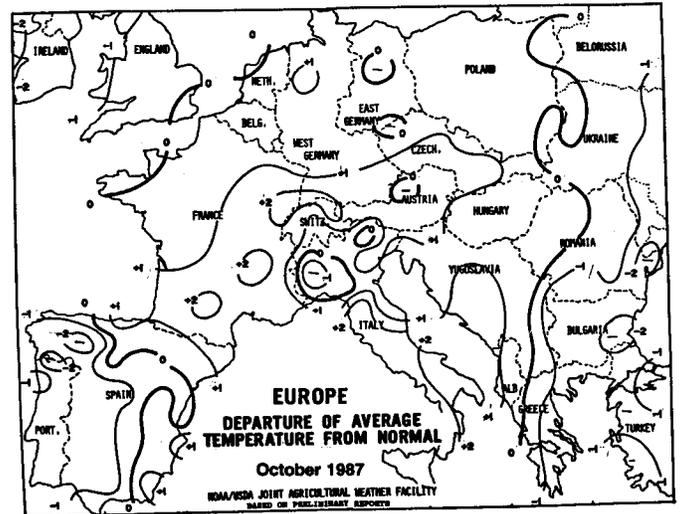
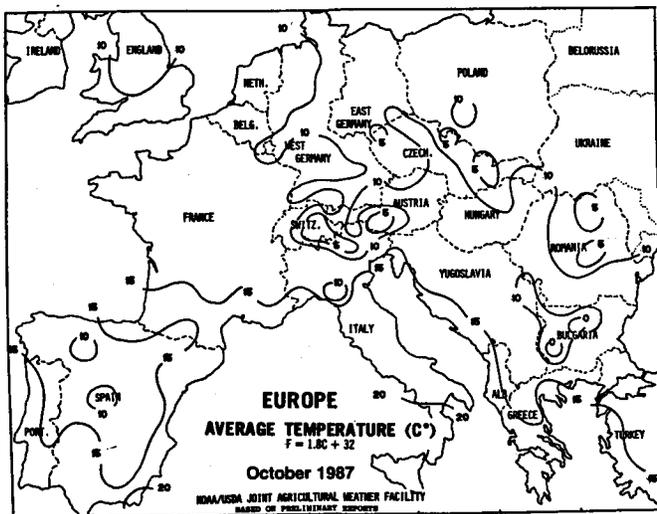
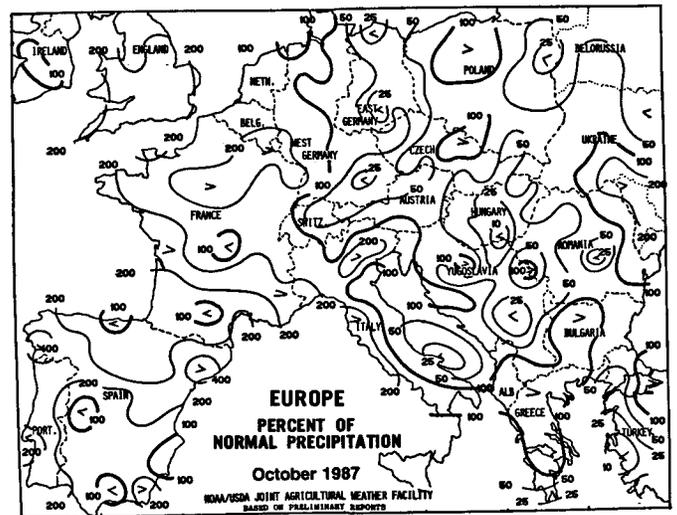
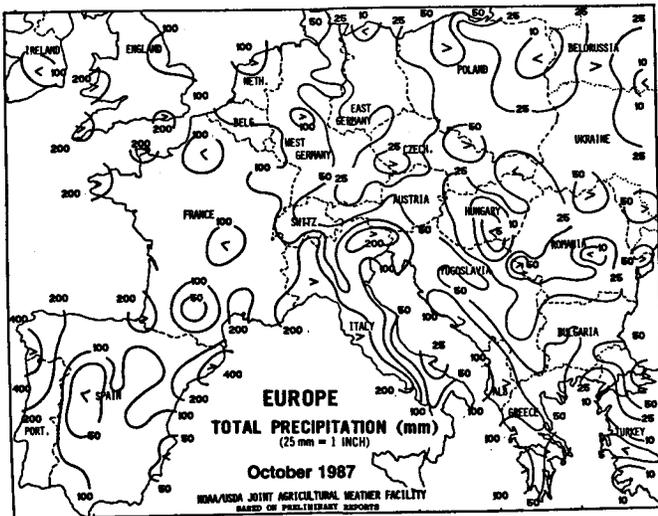
WESTERN U.S.S.R....Corn harvesting progressed during October, and winter grain planting advanced. Most crop areas received below-normal October precipitation, with dry weather covering the Volga Vyatsk Region, the Volga, the Black Soils Region, and the northeastern Ukraine. Infrequent but significant rain over crop areas in Moldavia and the extreme eastern North Caucasus produced above-normal precipitation, causing only brief delays in corn harvesting. Below-normal October precipitation over the Ukraine and the western North Caucasus helped corn harvesting but limited moisture conditions for winter grain establishment in parts of the southeastern Ukraine. Following a mild weather pattern in early October, unseasonably cold weather began over northern crop areas on October 18 and spread as far south as the North Caucasus on October 25. As a result, winter wheat in major producing areas of the Ukraine and North Caucasus began cold hardening about 1-2 weeks earlier than usual. This past week, below-normal temperatures accompanied light precipitation over much of the region.



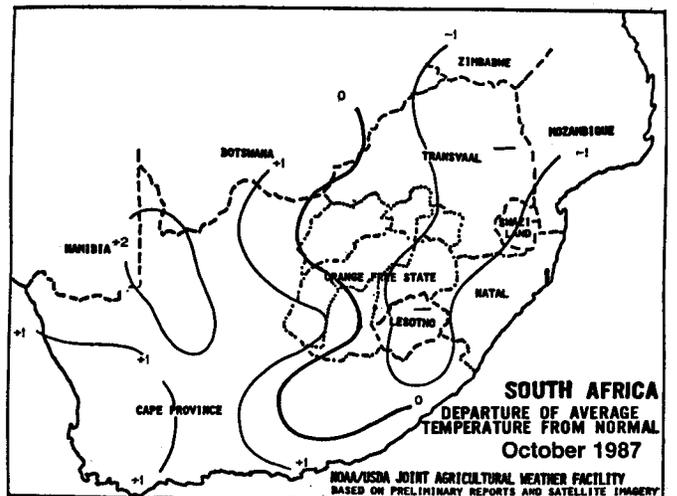
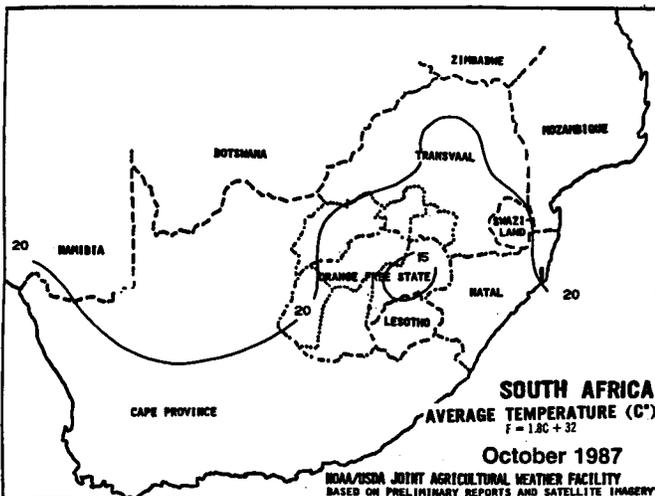
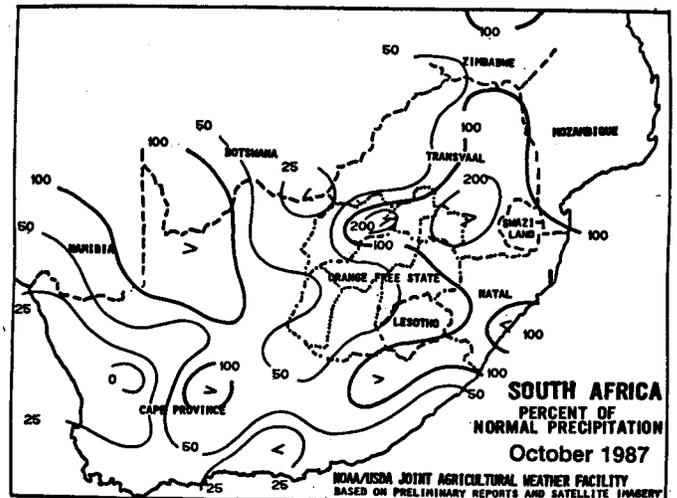
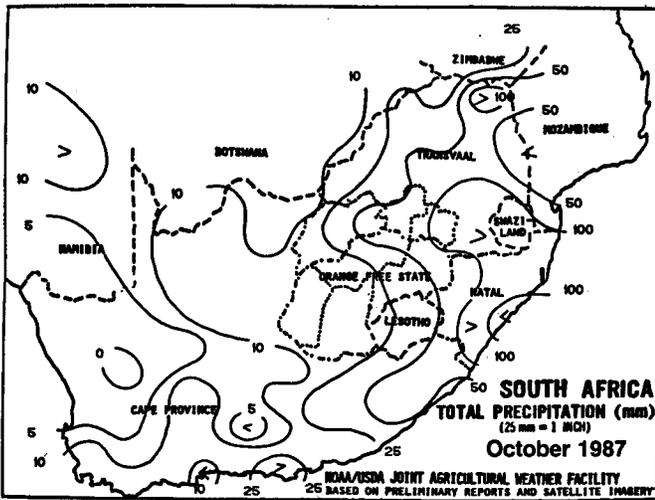
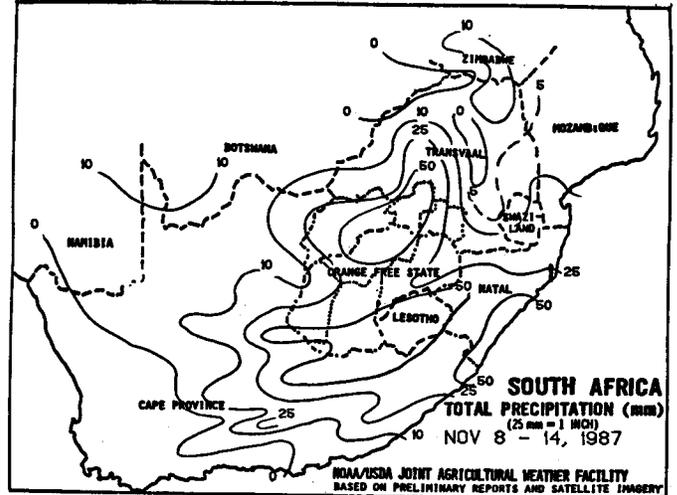




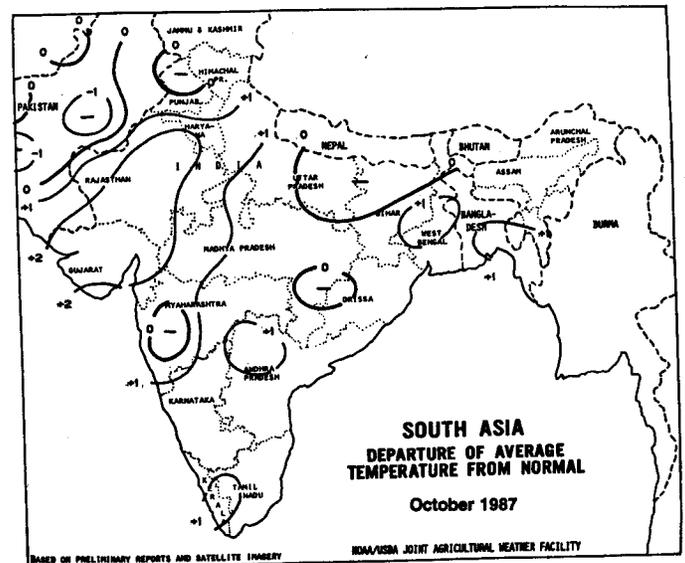
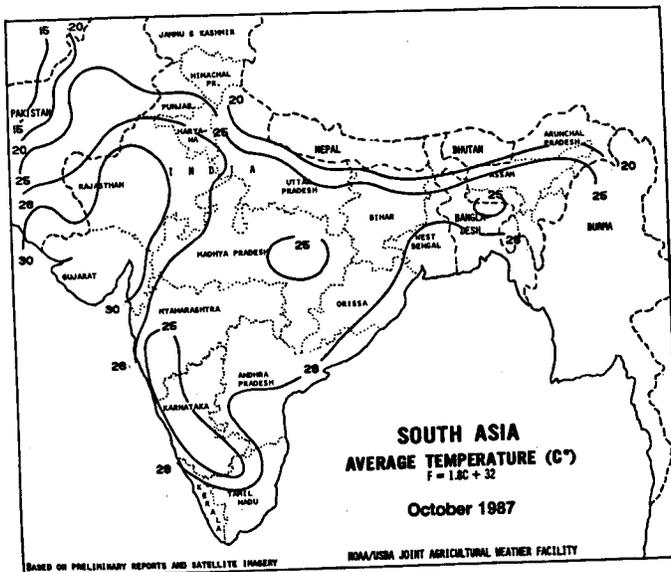
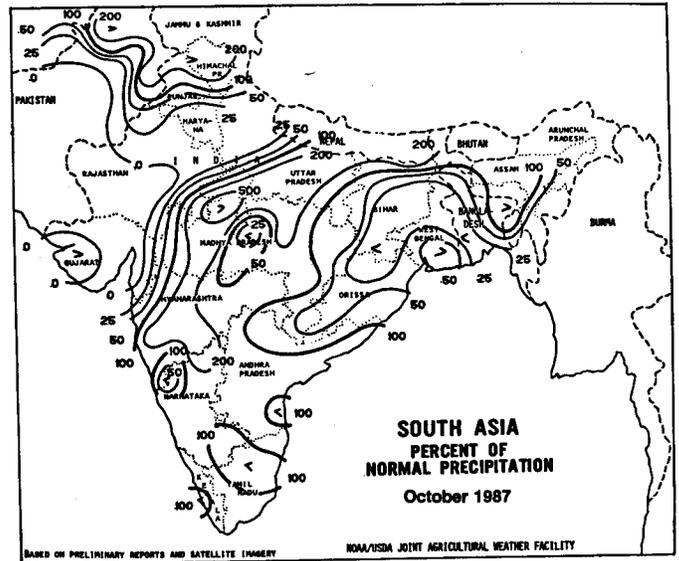
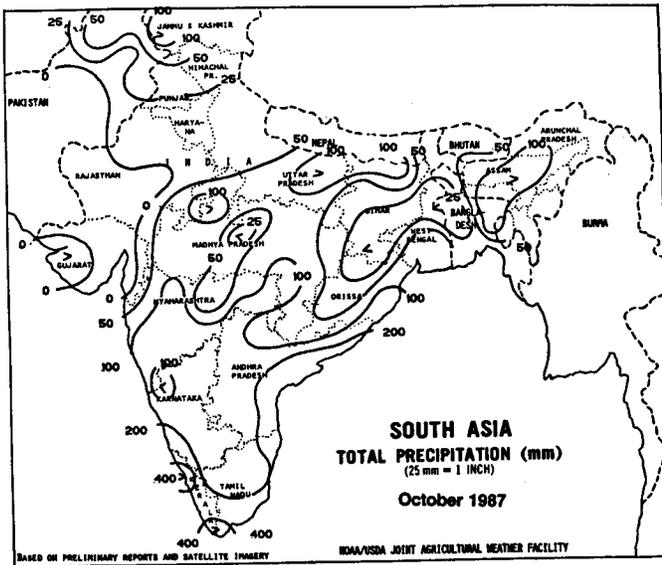
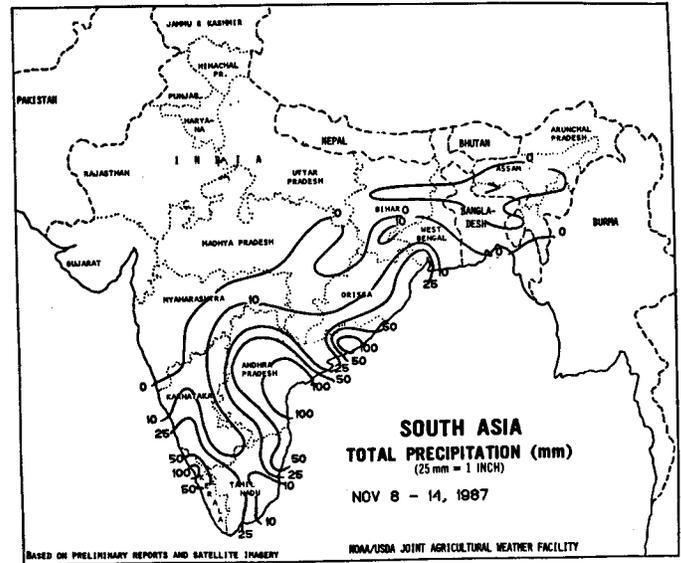
EUROPE...Wet weather returned to much of Europe, with moderate to heavy rain (greater than 20mm) across northwestern sections. Lighter precipitation fell over eastern and southern areas, although heavy amounts (up to 137mm) were scattered across sections of southern France, Italy, and Yugoslavia. The rain favored establishment of winter grains in all but northeastern areas, where some of the precipitation fell as snow and crops are becoming dormant. Drier weather returned to southeastern Spain, where excessive rain and flooding caused damage to vegetable and citrus crops last week. Wet weather caused harvest and planting delays over much of Europe during October, resulting in a deterioration of grain quality in many western and northern production areas. Above-normal rain fell over most of western Europe, with significantly below-normal rainfall in parts of East and West Germany, Hungary, and the Balkans. Temperatures in October were below normal in the extreme west and east sections, above normal in the south, and near to above normal over the north and central.



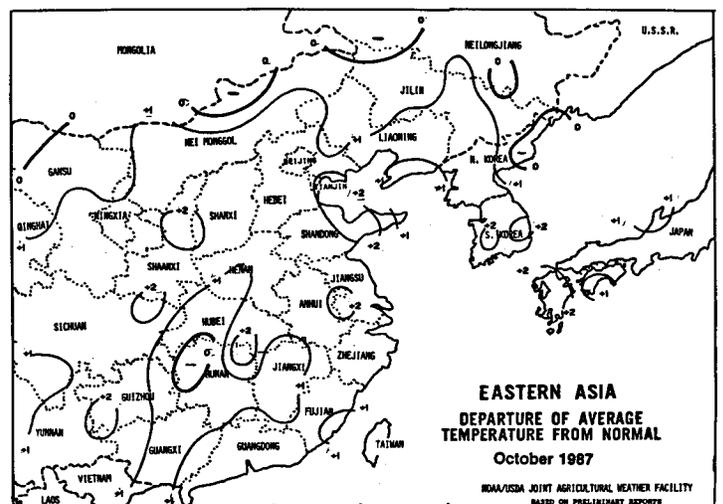
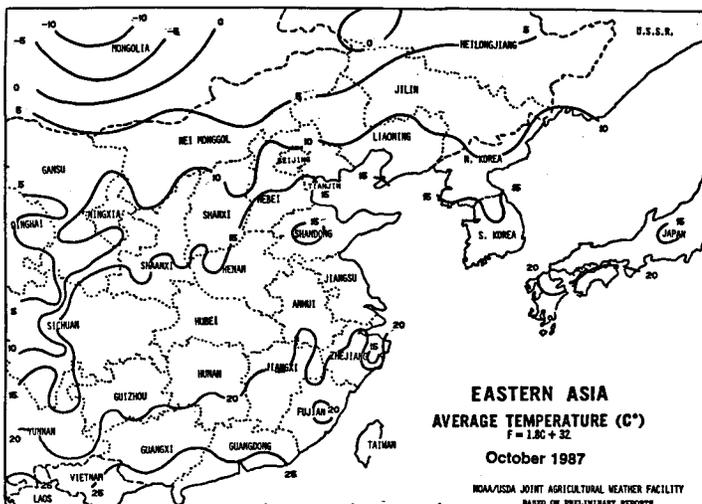
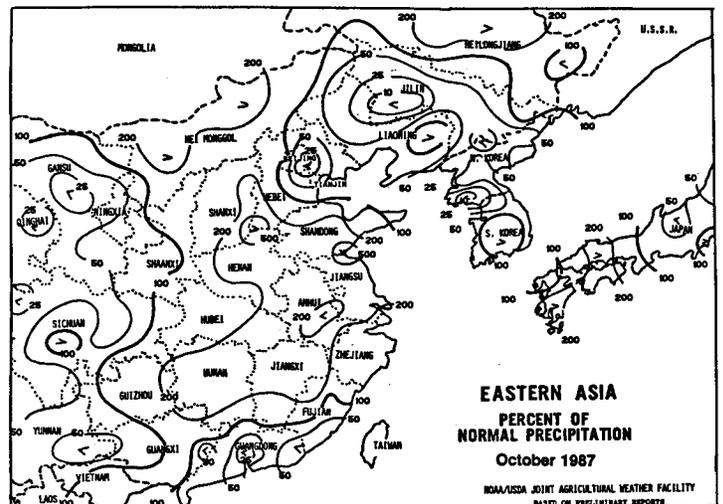
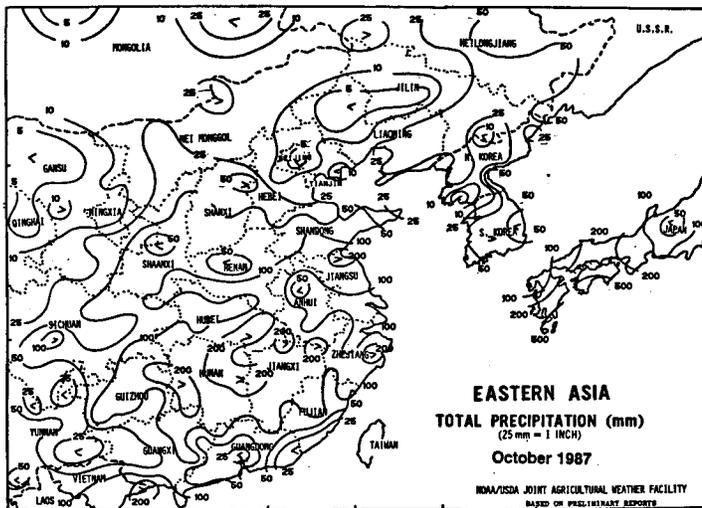
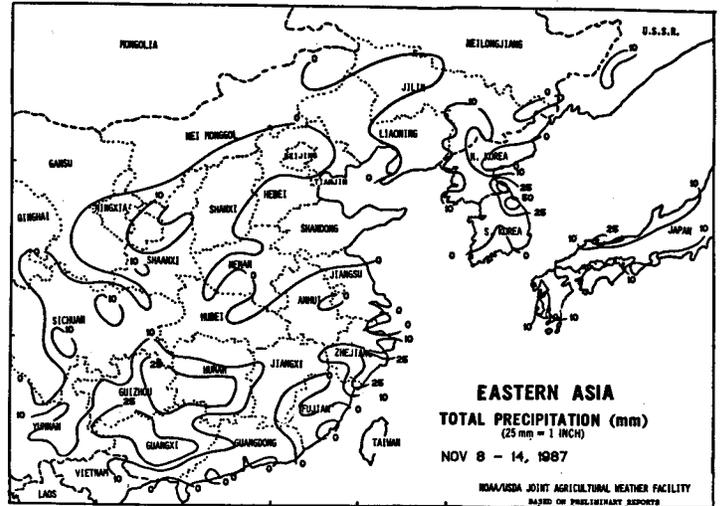
SOUTH AFRICA..Moderate to heavy showers (10-90mm) continued throughout South Africa's maize regions, maintaining adequate to abundant moisture for maize planting and emergence. Except for western Orange Free State and parts of northern Transvaal, early-season rainfall favored corn planting and emergence through the end of October, with some areas too wet to plant from southeastern Transvaal through Natal. Recent rainfall has improved conditions in western Orange Free State, but dry pockets persist in northern Transvaal.

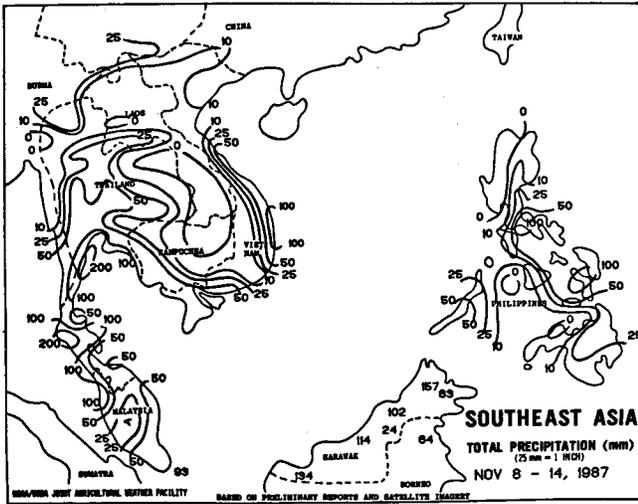


SOUTH ASIA...For the second week, a tropical cyclone brought heavy rain (49-147mm) and high winds to India's southeastern coast, likely damaging some immature rice. Further inland, highly variable rain (1-69mm) fell from Maharashtra to Bihar southward, with heaviest rain benefiting cotton and rice from northern Andhra Pradesh to the southern tip. Northern wheat areas remained dry, as did most areas of Bangladesh and the eastern states. In October, the monsoon withdrew from central India, but unseasonable showers around the 18th swept through wheat areas from Maharashtra to eastern Uttar Pradesh and from Punjab to northern Pakistan, boosting irrigation reserves for wheat planting and emergence. The rains missed chronically dry wheat areas from Gujarat to western Uttar Pradesh which continue too dry for planting. Showers benefited cotton, rice, and groundnuts throughout the month in southern India as much needed dry weather developed over the eastern states by month's end.

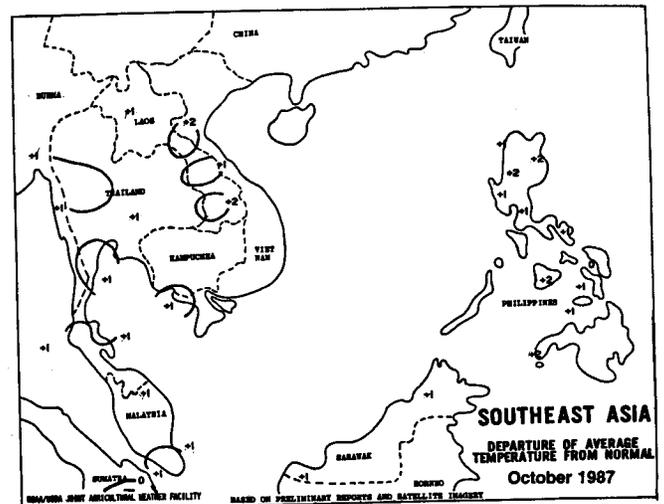
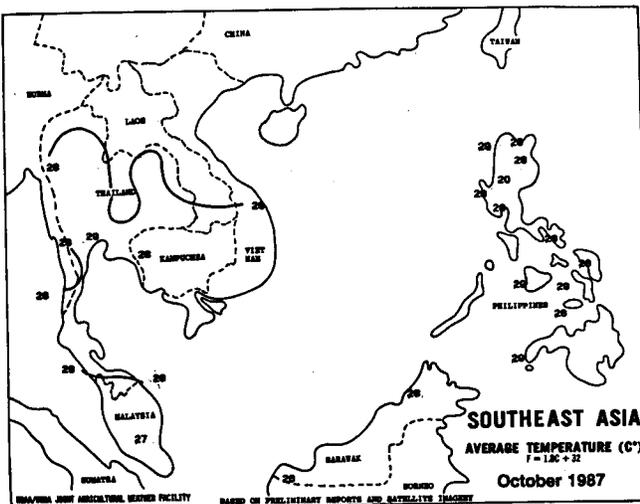
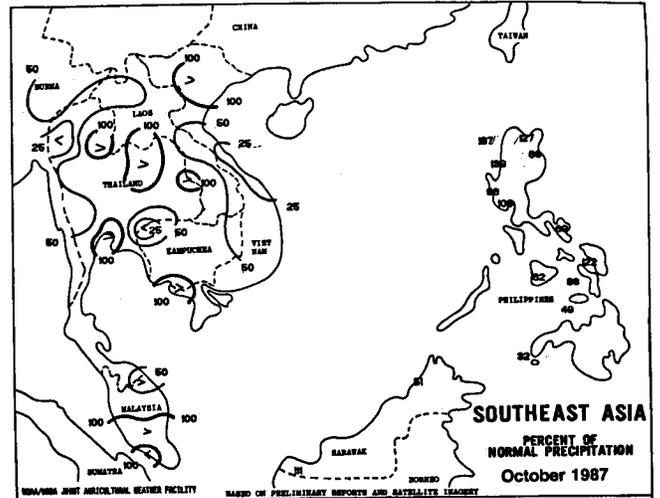
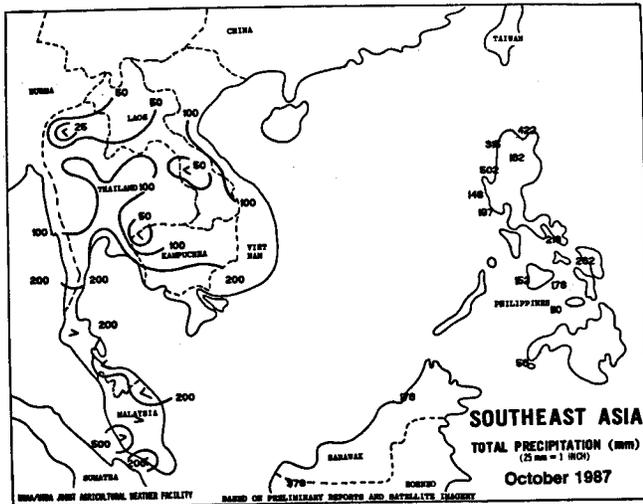


EASTERN ASIA... Dry weather covered winter wheat areas in the North China Plain, where above-normal temperatures allowed continued vegetative growth. Usually, winter wheat enters dormancy in northern producing areas of Shanxi, Hebei, Shandong, and northern Henan by late November. In southern producing areas of southern Henan, Anhui, and Jiangxi, winter wheat usually becomes dormant by mid-December. Mild weather accompanied above-normal October precipitation in the North China Plain and South Korea, benefiting winter wheat emergence and early plant establishment. Widespread showers over late rice areas in Guizhou, Guangxi, and Hunan continued October's above-normal rainfall pattern, causing some harvest delays. Dry weather since October in Guangdong has favored late rice maturation and harvesting.

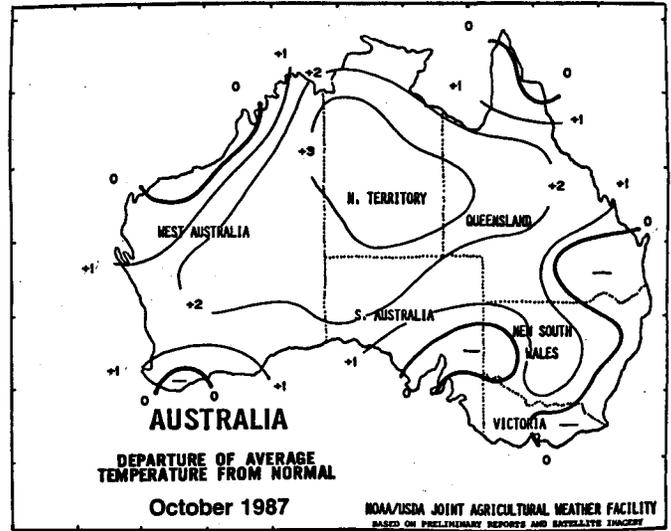
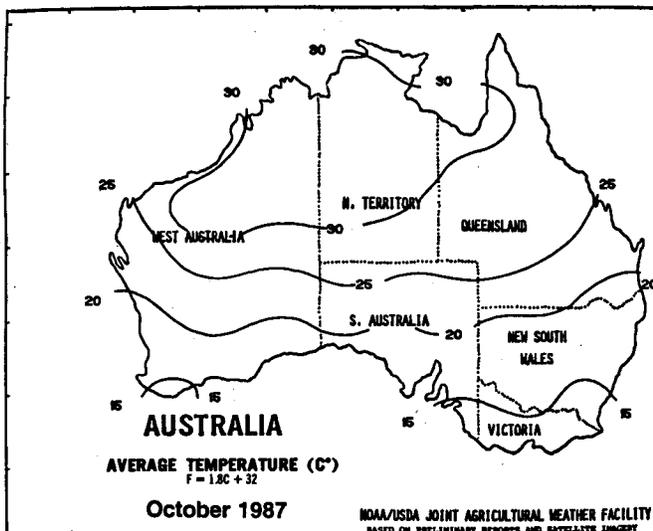
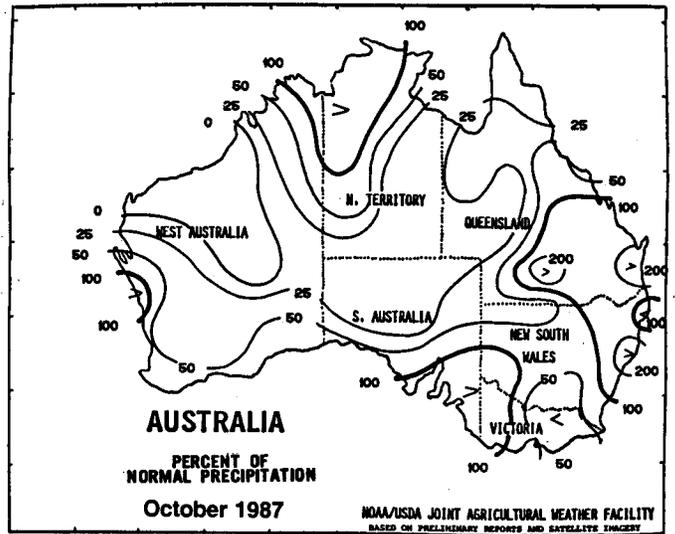
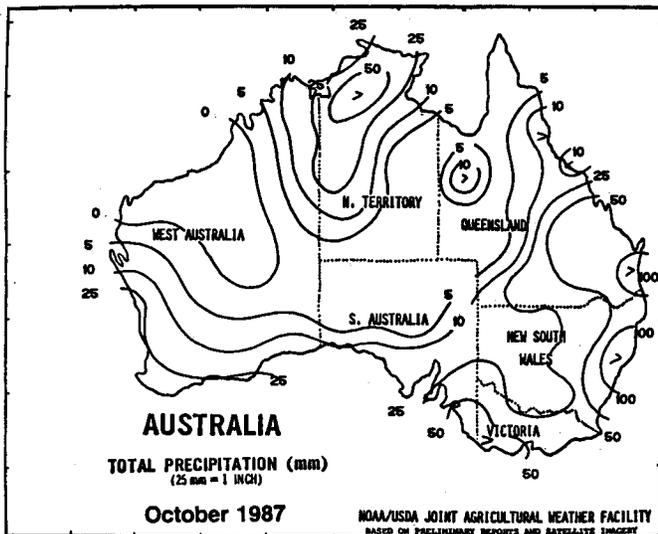
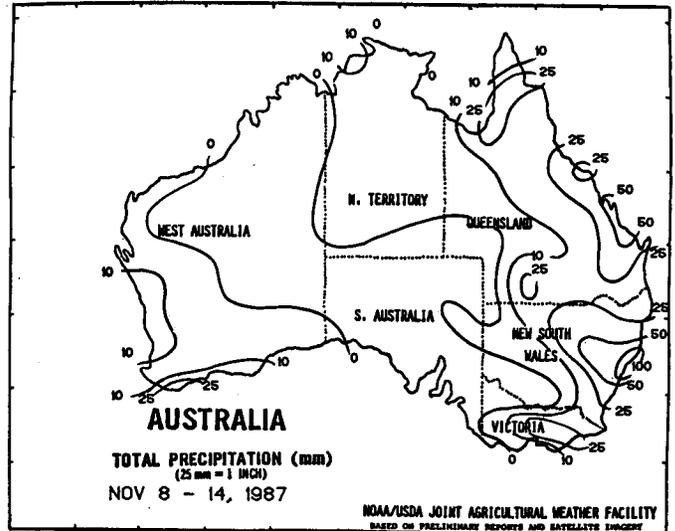


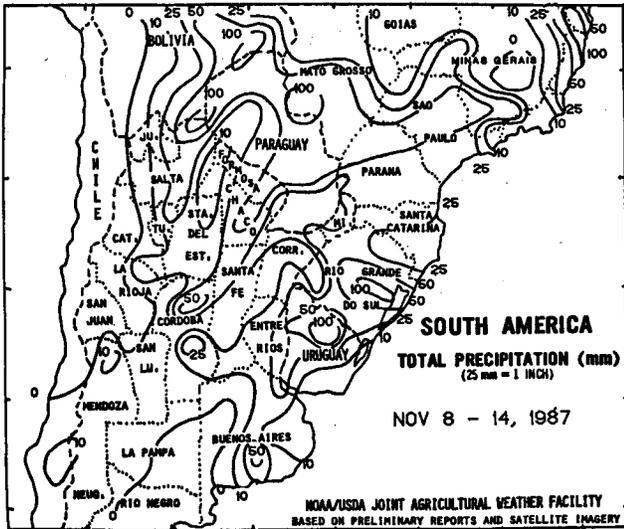


SOUTHEAST ASIA... Moderate to heavy showers (10-77mm) covered most Thai grain areas, benefiting filling rice from the Northern Hills through central Thailand to areas near Bangkok. Minimal rain (less than 10mm) persisted, however, from the northeast to the easternmost Khorat Plateau where moisture is limited for filling rice. October rainfall was near to above normal in most grain regions, benefiting heading rice. The crop was planted late due to earlier dryness, however, and seasonable dryness in the east since late October has threatened the normal development of rice currently in the filling stage of development. Except for coastal areas, mostly dry weather dominated elsewhere in Indochina, reflecting October's weather pattern. Moderate to heavy showers (50-100mm or more) continued throughout Malaysia and northern Indonesia, reflecting October's seasonable rain pattern. Lighter rain (3-28mm) covered southern Indonesia except for western Java, which received heavy rain for the second week. In the Philippines, a tropical depression brought moderate to heavy showers (22-164mm) and moderate winds from eastern Mindanao to southern Luzon but failed to affect northern Luzon, which was dry. Except for some areas of western Mindanao and southern Luzon, October rainfall was near to above normal. The passage of Typhoon Lynn brought heavy rain and high winds to northern grain areas in late October, hampering rice harvesting and likely causing some damage. Drier weather after the storm improved harvest conditions.

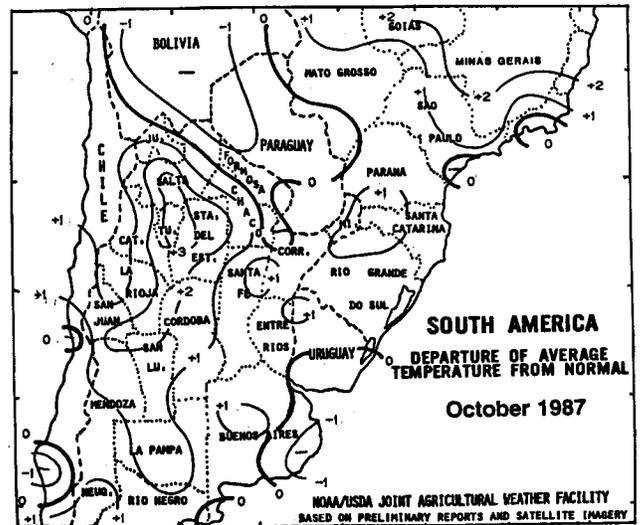
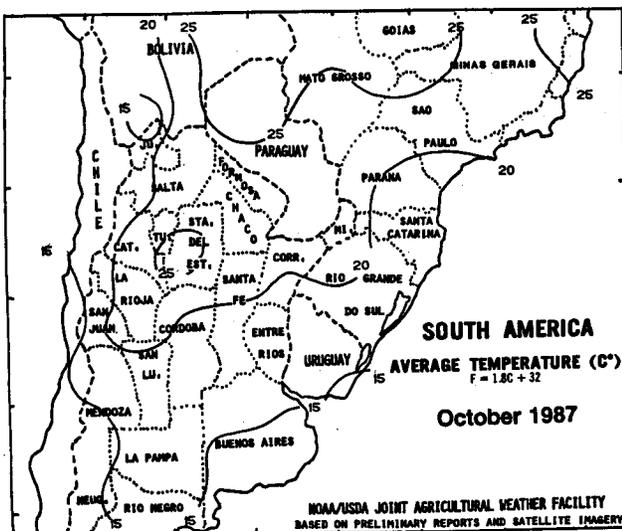
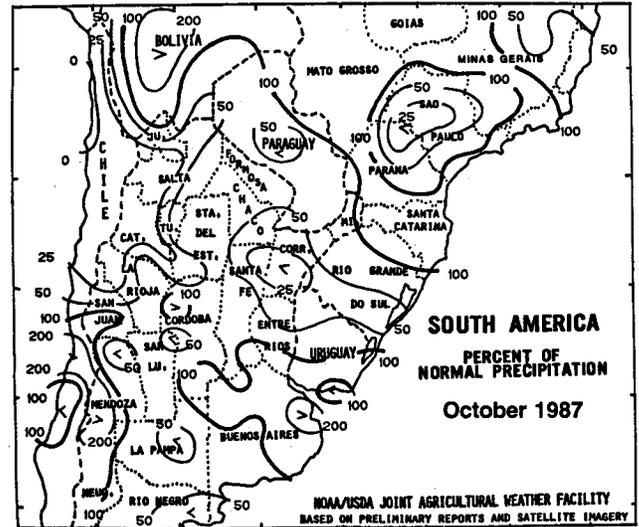
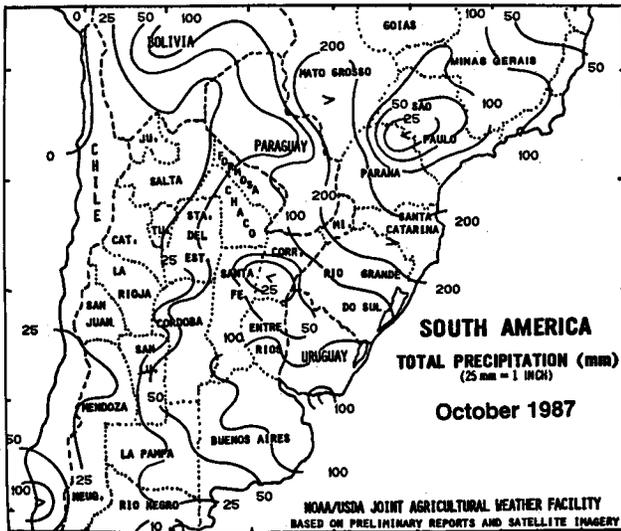


AUSTRALIA...A weather pattern more typical of summer than spring brought moderate to heavy rain (greater than 25mm) to production areas of Queensland and New South Wales, causing delays in grain harvesting, but favoring establishment of cotton. Scattered rain also caused harvest delays in Western Australia. Mostly dry weather favored grain drydown and harvesting in southwestern New South Wales, western Victoria, and South Australia, although some wheat is still filling in parts of Victoria. Rainfall in October was above normal over much of eastern Queensland, western Victoria, and western areas of Western Australia. Below-normal rain fell over production areas of central New South Wales, northern Victoria, and South Australia. Rainfall elsewhere was near normal. Temperatures in October were generally near normal.

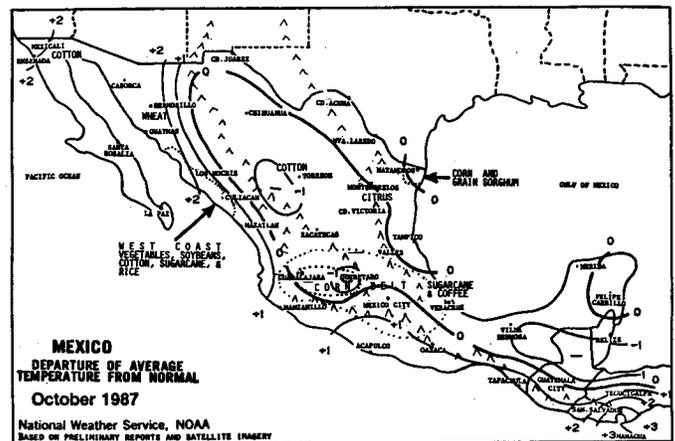
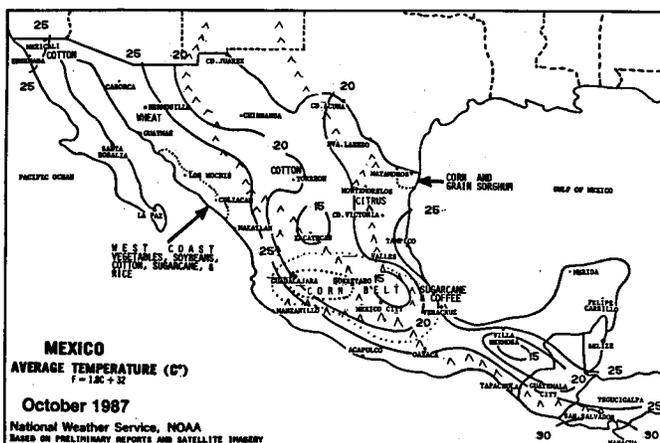
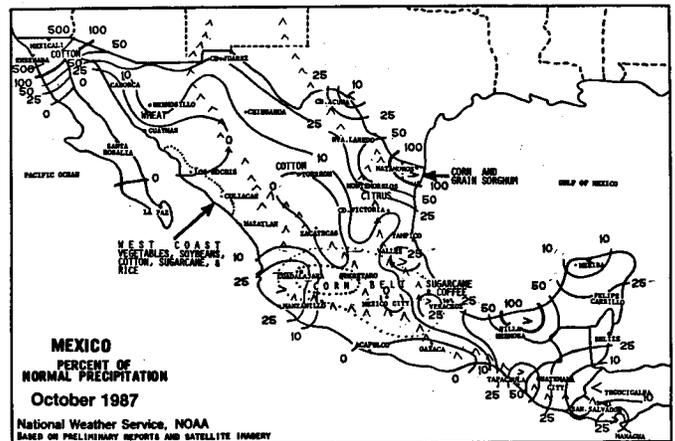
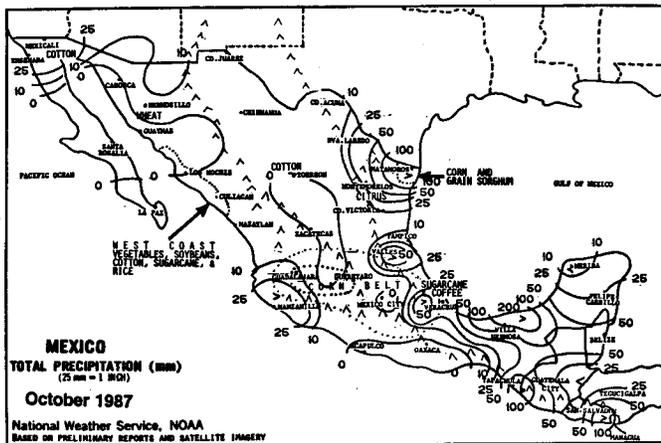


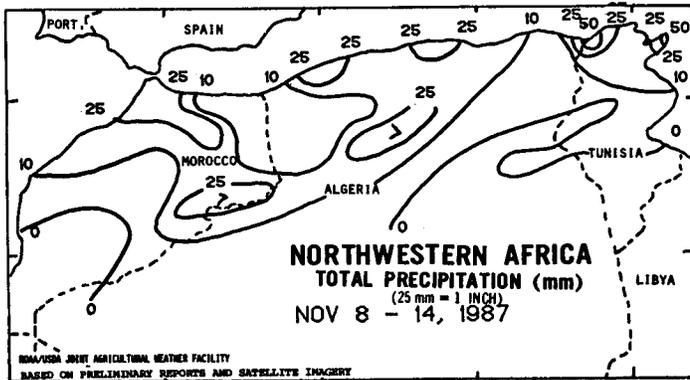


SOUTH AMERICA...In Argentina, showers generally diminished from the previous week's soaking rain in the major summer crop areas. Corn planting was delayed as was the start of soybean planting and early wheat harvesting. October finished with near to slightly above normal rainfall in much of Buenos Aires and extreme southern portions of Cordoba and Santa Fe. Below-normal October rainfall for the third consecutive month in central Cordoba began to raise concern for summer crops, but early November rainfall replenished topsoil moisture for crop establishment. In south-central Brazil, substantial rain (25-80mm) fell over most soybean areas where planting is well underway. The moisture likely slowed planting progress but continued to provide favorable topsoil moisture for crop emergence and early growth. Beneficial rain fell for the second consecutive week in northern Parana, improving moisture reserves following below-normal October rainfall.

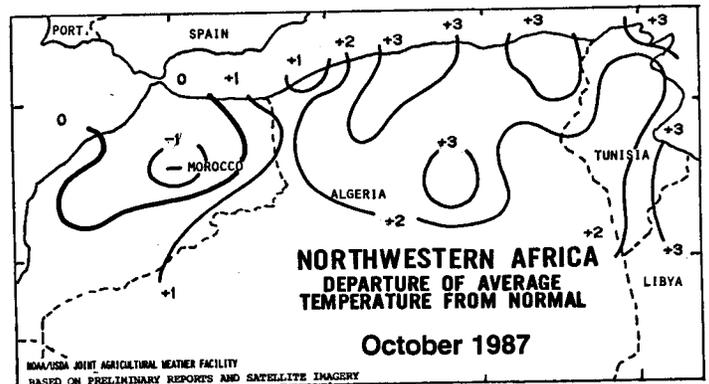
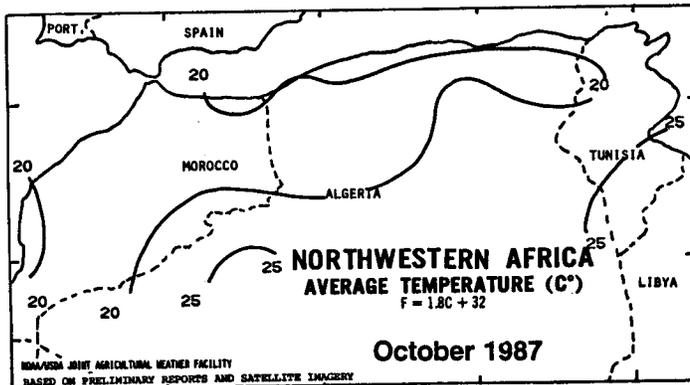
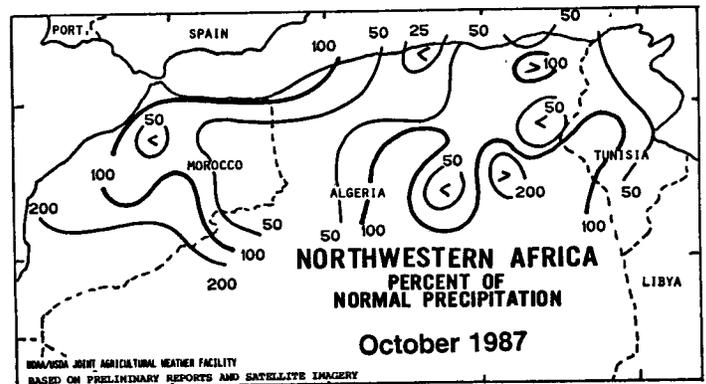
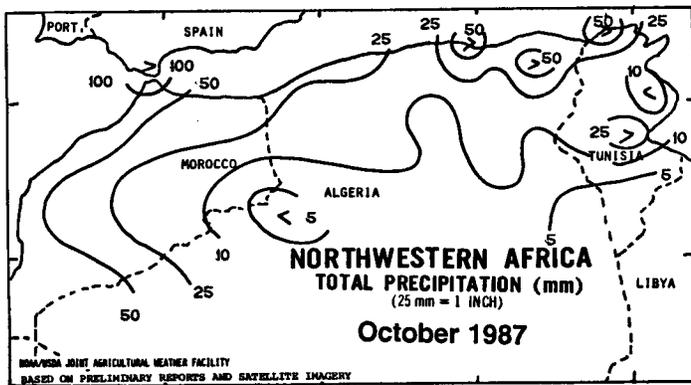


MEXICO... Dry weather covered northwestern wheat areas and the west coast farming region where crops required irrigation. Virtually no rain fell in the west during October. Dry October weather favored rapid cotton harvesting in the north-central region. Near-normal October rainfall was confined to extreme northeastern Mexico promoting vegetable planting. Mostly dry weather in the Southern Plateau corn belt favored harvesting. Shower activity increased recently over central and southeastern Mexico, with scattered, isolated rainfall ranging from 25 to over 100mm. Early sugarcane harvesting may have been delayed in the southeast. Generally, rainfall averaged less than 10mm, however, over most of the region. Mostly dry weather over the Yucatan peninsula limited topsoil moisture for corn growth.





NORTHWESTERN AFRICA... Moderate to heavy rain (greater than 20mm) continued over northern coastal sections of Morocco, spreading east across northern Algeria and Tunisia. The rainfall benefited establishment of wheat and barley in most production areas, although sections of Algeria and Tunisia still remain too dry. In October, rainfall was above normal in much of Morocco, while largely below normal in Algeria and Tunisia. Grain planting was later than normal over most eastern production areas as a result. Clouds associated with the rainfall kept October temperatures slightly below normal in Morocco, while temperatures were above normal across the remainder of the region.



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

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

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

Subscriptions (202) 447-7917 . . Andrea Kuiper

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

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

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

WEEKLY NEWS BULLETIN
SECOND CLASS

SECOND CLASS MAIL
POSTAGE AND FEES PAID
NOAA PERMIT NO.
ISSN 0043 1974