

# WEEKLY WEATHER AND CROP BULLETIN

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

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

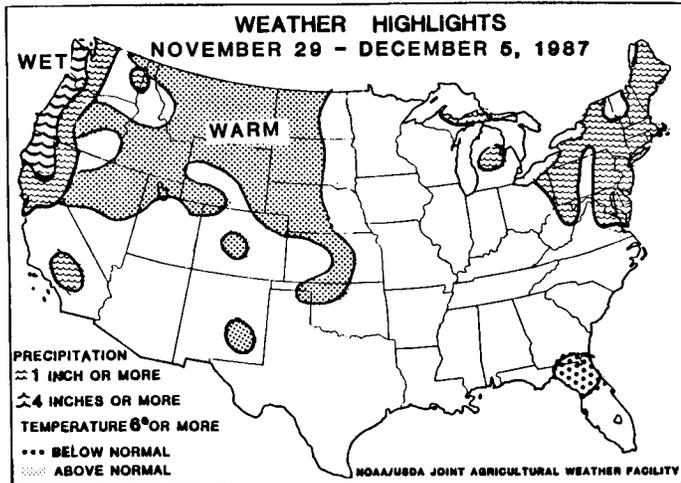
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## National Weather Summary

November 29 - December 5, 1987



**HIGHLIGHTS:** Substantial rains fell over the Great Lakes, the Middle Atlantic States, and the Northeast. Dry weather prevailed in the Great Basin, from the Continental Divide to the Mississippi Valley, and through most of the Southeast. Pacific coastal areas had abundant rains. Beneficial precipitation returned to eastern Washington and northern Idaho.

**SUNDAY...** Heavy rains soaked the Middle Atlantic States, while generally light to moderate rain fell from the Great Lakes region to western New England. Some light rain also fell in Texas and Louisiana. Snow lingered over northern Wisconsin, Minnesota, and Michigan.

**MONDAY...** Rainfall continued across much of the Northeast, with Pennsylvania and New York receiving especially large amounts. Skies continued cloudy in the middle and upper Mississippi Valley, and snowfall continued in upper Michigan. In the Mississippi Valley, temperatures ranged from the twenties (Fahrenheit) in the North to the sixties in the South. Rainshowers were scattered through the Pacific Coast region, where snow fell at higher elevations.

**TUESDAY...** An intense storm, with high winds and thunderstorms, swept into the Pacific Northwest, spreading snow as far east as the mountains of Montana. Snowshowers were scattered across the Great Lakes region, the Ohio Valley, and parts of the Appalachian Mountains. Heavy rain fell in south-central Maine. Lowest temperatures occurred in the Colorado Rockies. Across most of the Nation, temperatures were not far from normal.

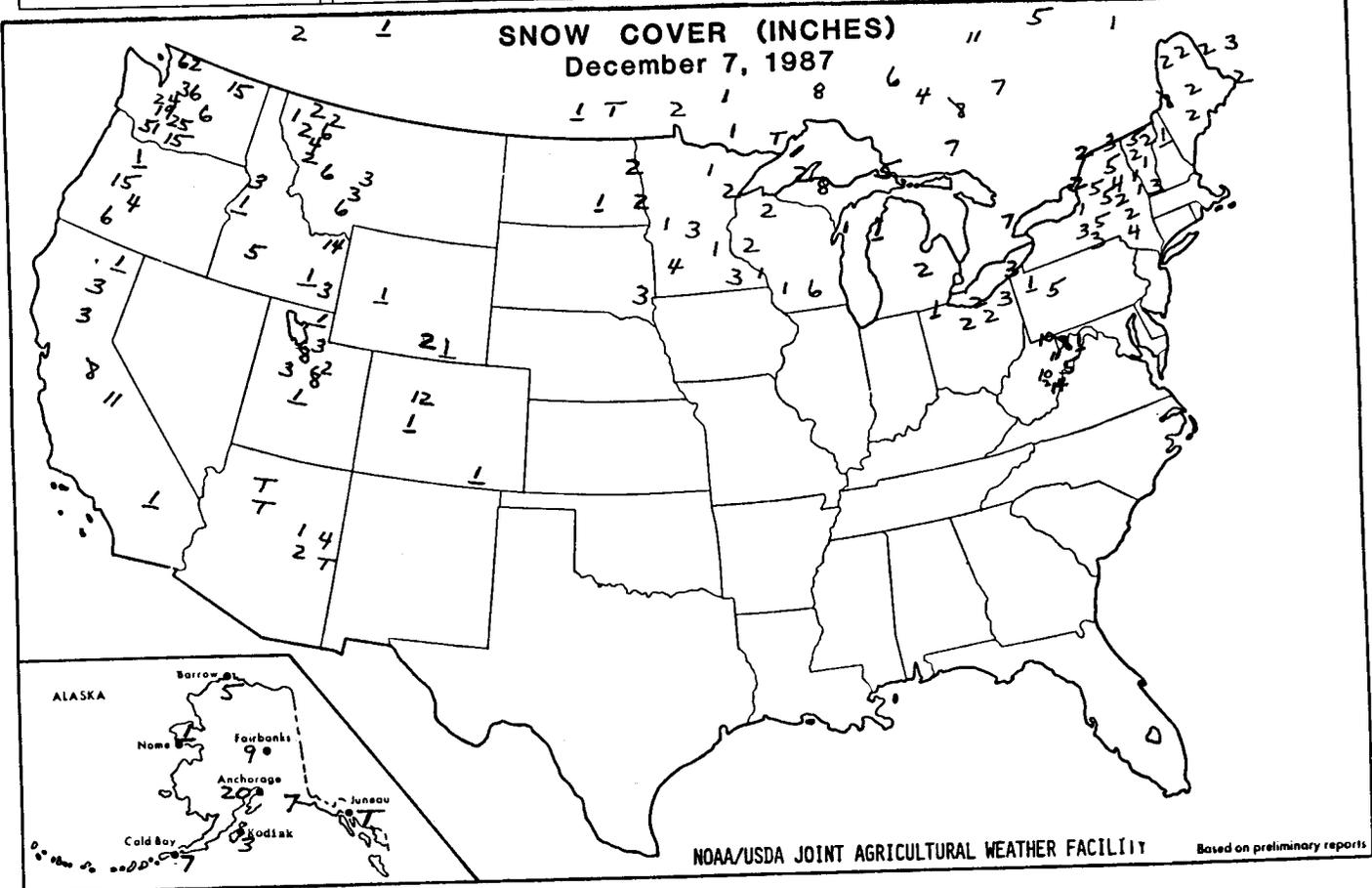
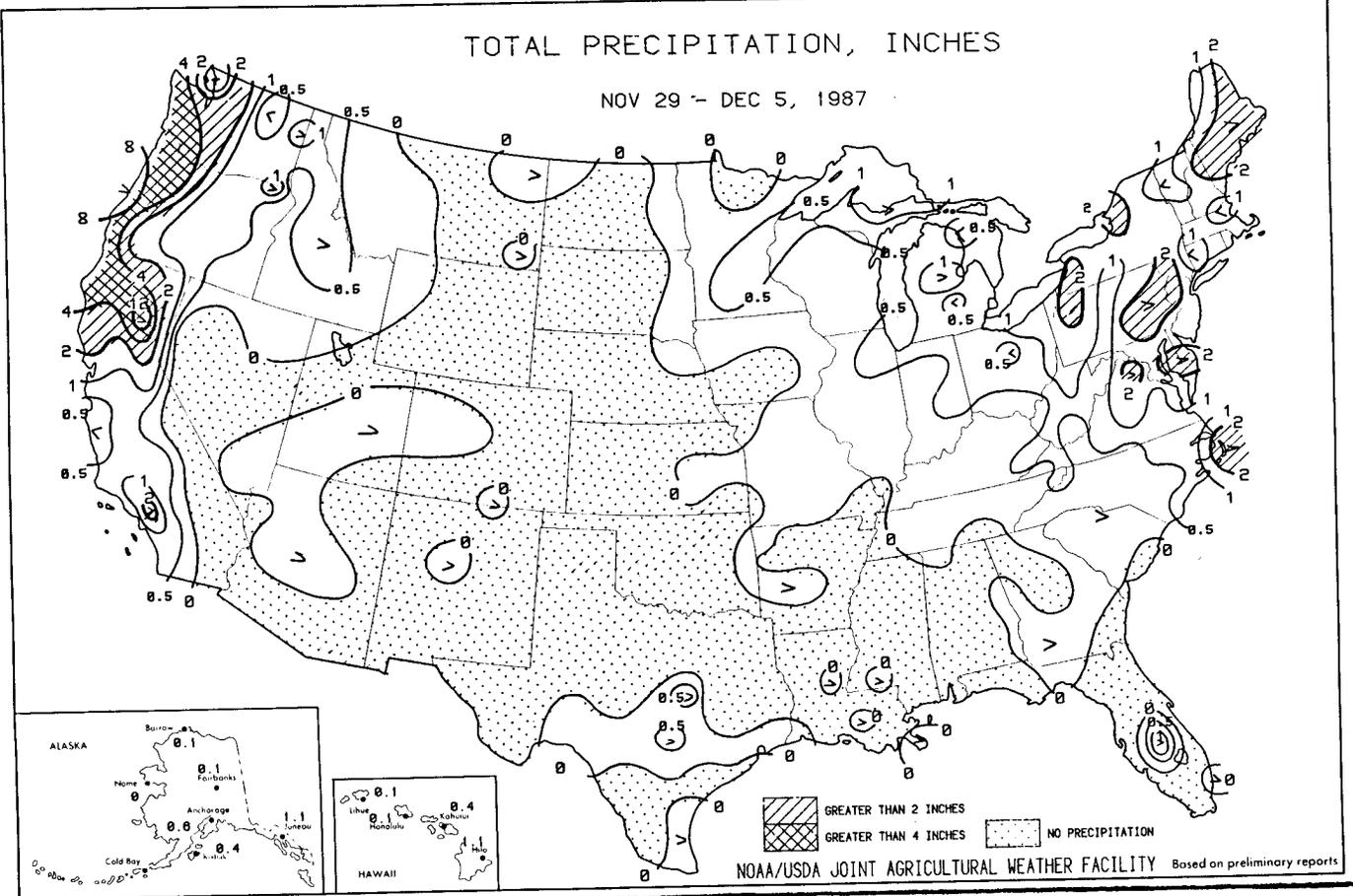
**WEDNESDAY...** Snowshowers lingered from the Great Lakes to the northern and central Appalachians. Some of the snowfall was heavy along the lake shores of Pennsylvania and New York. Rainshowers dotted southern New England and New Jersey. High winds roared down the eastern slopes of the Colorado Rockies as a low pressure system developed over the northern Great Plains. Freezing temperatures occurred as far south as northern Florida.

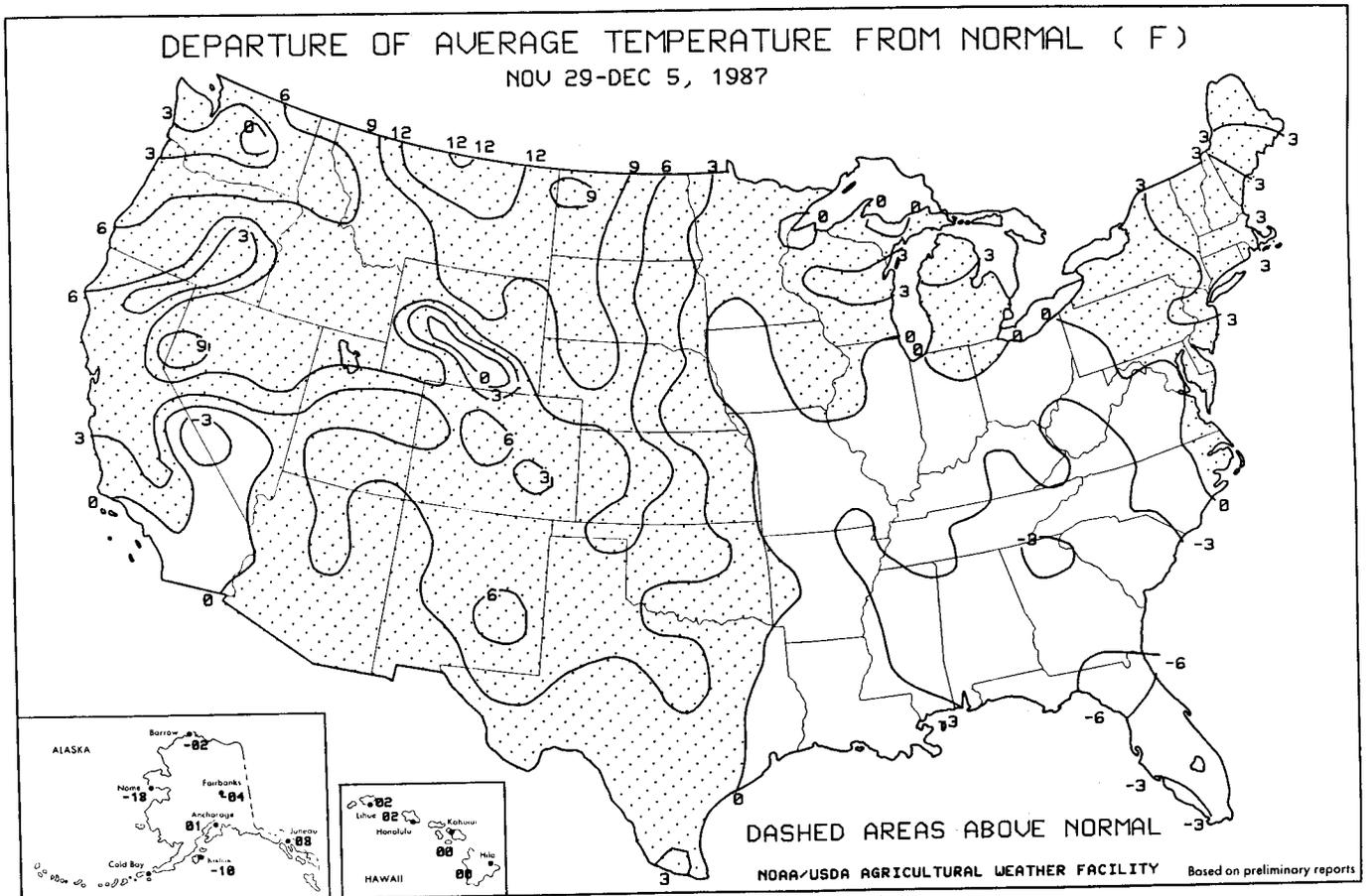
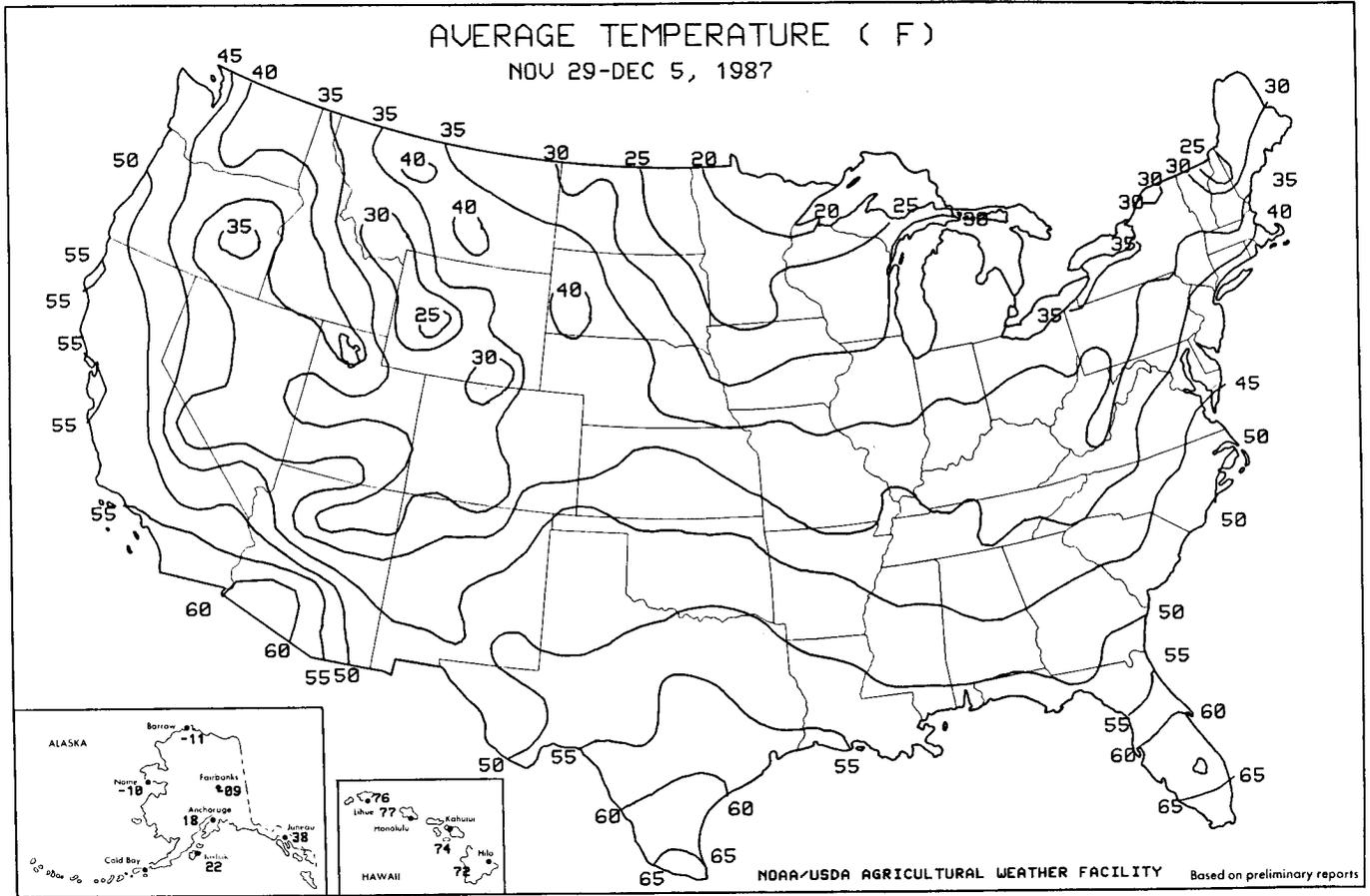
**THURSDAY...** Strong southwesterly winds returned to the Pacific Northwest, accompanied by heavy snow in the Cascades and heavy rain in coastal areas of Oregon. Rain also reached into western Montana. Snow fell from Wisconsin to Indiana. Rain showers and thunderstorms were scattered across Kentucky, Indiana, Ohio, and Michigan. Below-freezing temperatures again extended as far south as northern Florida.

**FRIDAY...** A storm system over the central Appalachians spread snow from the upper Ohio Valley to New York State and Vermont. Rain was mixed with snow in southern New England. Rain fell over the Middle Atlantic States. Six-ten inches of snow blanketed the ground in parts of Ohio. Rain spread across much of the west coast, with snow at higher elevations. Temperatures were generally above normal over the western half of the Nation, near normal over the eastern half.

**SATURDAY...** Clearing occurred gradually along the Atlantic coast from the Carolinas northward, accompanied by cold blustery winds. A ridge of high pressure moved slowly eastward from the Mississippi Valley. Snow showers continued to fall on the shores of the Great Lakes and over the central and northern Appalachians. Rain continued over much of the Pacific Northwest, with snow at higher elevations.

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# National Weather Data for Selected Cities

## Weather Data for the Week Ending December 5, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	53	31	63	23	42	-6	0	-1.0	0	0	0	37.3	74	89	43	0	4	0	0
MOBILE	63	38	67	34	50	-5	0	-1.1	0	0	0	63.7	107	92	35	0	0	0	0
MONTGOMERY	59	33	69	26	46	-5	0	-1.0	0	0	0	50.1	112	90	36	0	4	0	0
AK ANCHORAGE	22	14	26	9	18	1	.6	.3	.3	.3	161	13.9	100	91	76	0	7	6	0
BARROW	-6	-16	2	-25	-11	-2	.1	.1	.1	.1	367	4.9	111	83	67	0	7	3	0
FAIRBANKS	-5	-14	2	-21	-9	-4	.1	.1	.1	.1	67	6.0	62	83	69	0	7	3	0
JUNEAU	42	34	47	28	38	8	1.1	0	.5	.6	70	54.6	111	98	70	0	2	3	0
KODIAK	27	17	40	6	22	-10	.4	.9	.4	.4	40	68.2	122	78	61	0	7	3	0
NOME	-4	-15	1	-22	-10	-18	.1	.2	0	0	0	10.8	77	71	59	0	7	0	0
AZ PHOENIX	70	47	79	42	58	3	.1	0	.1	.1	117	6.9	111	64	26	0	0	2	0
PRESCOTT	58	27	67	22	43	3	.2	.2	.2	.2	64	15.4	89	74	28	0	5	1	0
TUCSON	71	40	81	33	55	1	.2	.2	.2	.2	0	11.1	108	61	25	0	0	0	0
YUMA	72	49	76	44	60	2	.1	.1	.1	.1	0	3.0	141	55	25	0	0	0	0
AR FORT SMITH	59	32	72	24	45	1	0	0	0	0	0	41.1	90	73	48	0	1	0	0
LITTLE ROCK	55	37	70	31	46	0	0	-1.0	0	0	0	41.1	90	73	48	0	1	0	0
CA BAKERSFIELD	68	40	74	33	54	3	.7	.5	.7	.7	650	6.3	125	92	41	0	0	1	1
FUREKA	62	52	63	41	57	8	5.9	4.5	2.5	5.6	572	28.8	87	88	63	0	0	6	3
FRESNO	63	40	69	32	52	4	.4	.1	.4	.4	178	8.5	94	95	51	0	0	1	0
LOS ANGELES	64	50	68	46	57	-2	.7	.4	.6	.7	309	6.1	58	95	57	0	0	2	3
REDDING	55	48	62	28	52	2	4.1	2.6	1.4	2.8	267	26.1	75	95	75	0	1	6	2
SACRAMENTO	59	48	68	38	54	6	1.6	1.0	.8	.8	200	13.4	93	94	67	0	0	3	1
SAN DIEGO	66	52	70	48	59	0	.8	.6	.7	.8	467	9.7	122	88	64	0	0	2	1
SAN FRANCISCO	61	53	66	49	57	6	1.4	.7	.7	1.1	227	12.2	74	94	73	0	0	5	1
CO DENVER	53	26	62	12	39	5	.2	0	0	0	0	18.7	128	79	32	0	4	0	0
GRAND JUNCTION	45	23	53	20	34	2	.2	0	0	0	0	10.8	147	87	44	0	7	1	0
PUEBLO	53	20	66	8	37	2	0	-1.0	0	0	0	9.9	94	87	38	0	6	0	0
CT BRIDGEPORT	47	36	60	31	42	3	.9	0	0	0	0	31.2	82	83	57	0	2	3	1
HARTFORD	43	32	53	29	38	3	1.8	.8	1.4	.1	20	43.4	107	87	54	0	5	4	1
DC WASHINGTON	48	36	62	29	42	-1	1.9	1.2	1.6	.3	68	34.4	95	89	59	0	3	3	1
FL APALACHICOLA	64	43	68	34	53	-4	0	-0.7	0	0	0	47.1	91	93	39	0	0	0	0
DAYTONA BEACH	69	46	78	36	58	-4	0	-0.5	0	0	0	45.4	97	94	44	0	0	0	0
JACKSONVILLE	64	38	73	30	51	-6	0	-0.4	0	0	0	43.3	88	92	39	0	1	0	0
KFY WEST	74	64	79	59	69	-3	.4	-1.1	.3	.3	77	46.6	123	92	61	0	0	2	0
MIAMI	74	58	81	52	66	-4	0	-0.4	0	0	0	46.2	83	88	45	0	0	1	0
ORLANDO	69	50	77	41	60	-4	0	-0.4	0	0	0	56.2	118	89	41	0	0	0	0
TALLAHASSEE	64	33	68	26	49	-6	0	-0.9	0	0	0	66.7	110	95	32	0	3	1	0
FT. LAUDERDALE	70	49	74	39	59	-4	0	-0.5	0	0	0	48.6	109	90	48	0	0	0	0
WEST PALM BEACH	72	55	79	48	64	-5	0	-0.5	0	0	0	57.3	99	89	47	0	0	0	0
GA ATLANTA	54	34	62	29	44	-3	0	-0.9	0	0	0	42.1	94	77	41	0	3	0	0
AUGUSTA	58	34	67	24	46	-4	0	-0.6	0	0	0	39.8	99	84	39	0	3	1	0
MACON	58	35	66	27	46	-5	0	-0.8	0	0	0	36.3	88	90	38	0	3	0	0
SAVANNAH	60	37	65	28	48	-5	0	-0.5	0	0	0	54.9	116	83	39	0	2	0	0
HI HILO	80	64	81	60	72	0	1.1	-2.2	.8	.3	11	119.9	102	93	63	0	0	5	1
HONOLULU	83	71	85	67	77	2	.1	-0.7	.1	.1	2	5.8	29	82	53	0	0	3	0
KAHULUI	80	68	81	63	74	0	.4	-0.2	.2	.1	11	17.6	111	87	58	0	0	1	0
LIHUE	80	72	81	68	76	2	.1	-1.1	.1	.1	16	25.1	64	79	60	0	2	3	0
TD BOISE	50	35	57	21	43	8	.3	0	.1	.2	100	7.7	75	87	52	0	2	4	0
LEWISTON	47	35	54	22	41	4	.4	.1	.2	.4	185	8.5	73	87	61	0	5	2	0
POCATELLO	48	26	58	14	37	7	.1	-1.1	.1	.1	71	9.1	93	93	48	0	5	2	0
IL CHICAGO	37	26	43	16	32	-1	.6	0	.3	.2	56	37.8	117	94	69	0	5	4	0
MOLINE	37	27	40	20	32	0	.1	-0.3	.1	.1	6	33.3	94	94	68	0	6	2	0
PEORIA	37	27	39	19	32	0	.1	-0.3	.1	.1	6	23.3	70	97	72	0	5	3	0
QUINCY	40	29	47	23	34	0	.1	-0.3	.2	.2	10	25.4	70	88	68	0	7	3	0
ROCKFORD	35	25	42	13	30	0	.2	-0.3	.2	.2	45	35.0	100	94	73	0	5	3	0
SPRINGFIELD	40	30	46	24	35	-1	.1	-0.4	.1	.1	0	24.4	76	90	66	0	5	2	0
IN EVANSVILLE	44	32	58	22	38	-1	.1	-0.8	0	0	5	28.8	75	90	62	0	2	3	0
FORT WAYNE	38	30	50	24	34	0	.5	0	.2	.3	61	31.1	96	94	75	0	5	4	0
INDIANAPOLIS	39	30	46	22	35	-1	.4	-0.3	.2	.3	51	28.9	80	93	73	0	5	5	0
SOUTH BEND	38	31	46	29	34	1	.6	0	.2	.3	55	30.7	87	93	73	0	7	0	0
IA DES MOINES	37	25	44	18	31	0	0	-0.3	0	0	0	34.4	116	90	66	0	7	1	0
SIOUX CITY	33	23	40	18	28	-1	0	-0.2	0	0	0	24.0	97	94	76	0	7	0	0
WATERLOO	35	24	42	14	29	2	0	-0.3	0	0	14	30.5	96	94	71	0	6	6	0
KS CONCORDIA	45	29	54	23	37	2	0	-0.2	0	0	0	33.4	126	89	61	0	0	0	0
DODGE CITY	57	29	70	22	43	6	0	-1.1	0	0	0	23.0	115	84	38	0	5	0	0
GOODLAND	51	25	65	13	38	5	0	0	0	0	0	19.3	122	88	48	0	5	0	0
TOPEKA	48	29	58	25	39	2	0	-0.3	0	0	0	35.2	109	90	54	0	6	0	0
WICHITA	52	31	62	26	42	4	0	-0.3	0	0	0	36.3	131	91	54	0	5	0	0
KY BOWLING GREEN	47	32	59	21	40	-2	0	-1.0	0	0	3	36.9	81	89	58	0	2	2	0
LEXINGTON	42	31	53	22	36	-3	.1	-0.8	0	.1	14	30.6	72	91	61	0	4	4	0
LOUISVILLE	44	33	57	24	38	-2	.1	-0.8	0	0	7	28.0	69	86	57	0	3	2	0
LA ALEXANDRIA	65	39	76	33	52	0	0	-1.1	0	0	0	51.5	107	84	39	0	0	0	0
BATON ROUGE	66	40	75	33	53	-2	0	-1.1	0	0	0	58.1	113	90	35	0	0	0	0
LAKE CHARLES	67	42	76	37	55	-2	0	-1.1	0	0	0	57.6	116	93	43	0	0	0	0
NEW ORLEANS	66	43	74	36	55	-2	0	-1.1	0	0	0	57.7	105	92	38	0	0	0	0

Based on 1951-80 normals.

Weather Data for the Week Ending December 5, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS						
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMPERATURE °F		PRECIPITATION	
																		.01 INCH OR MORE	.50 INCH OR MORE		
SHREVEPORT	64	37	75	28	51	-1	0	-9	0	0	0	47.2	117	91	33	0	2	0	0		
ME CARIBOU	34	22	48	11	28	6	2.0	1.3	1.1	.9	175	27.2	80	95	73	0	6	4	2		
PORTLAND	43	28	51	19	35	4	2.2	1.1	2.0	.18	39.0	98	92	58	0	6	4	1			
MD BALTIMORE	47	33	60	26	40	0	1.8	1.0	1.6	.2	35	39.1	101	88	56	0	2	3	1		
SALISBURY	52	35	63	22	44	1	2.5	1.8	1.5	.4	65	35.7	84	92	53	0	2	4	2		
MA BOSTON	46	35	59	29	40	2	.9	-.2	.8	.1	11	43.5	109	88	59	0	3	3	1		
CHATHAM	47	38	54	30	43	3	.9	-.2	.5	.4	55	47.6	112	89	68	0	1	4	0		
MI ALPENA	36	28	49	23	32	3	.4	-.1	.3	.0	22.5	83	93	71	0	6	6	0	0		
DETROIT	38	31	50	27	34	1	.8	-.2	.3	.6	134	34.2	120	93	71	0	5	2	0	0	
FLINT	36	28	51	22	32	1	.8	-.3	.3	.4	114	27.4	101	94	73	0	5	6	0	0	
GRAND RAPIDS	36	29	48	23	33	0	.8	-.2	.4	.3	58	30.1	96	95	73	0	6	5	0	0	
HOUGHTON LAKE	35	28	48	23	32	4	.5	-.1	.4	.4	6	23.5	89	95	73	0	6	3	0	0	
LANSING	36	28	50	19	32	1	.5	-.1	.2	.2	56	27.6	100	94	73	0	5	5	0	0	
MARQUETTE	30	16	37	1	23	-5	1.5	-.9	.8	.1	32	33.0	113	98	75	0	7	4	2	0	
MIRKEGON	38	31	45	25	35	2	.5	-.1	.2	.2	53	31.2	107	90	68	0	5	5	0	0	
SAULT ST. MARIE	33	20	41	7	26	1	1.3	.6	.5	.3	73	28.2	91	94	69	0	6	5	0	0	
MN ALEXANDRIA	28	16	30	5	22	2	.2	.1	.1	.2	107	16.5	69	94	76	0	7	4	0	0	
DULUTH	26	11	34	0	19	-1	.5	.2	.5	T	0	19.0	67	95	71	0	7	1	1	1	
INT'L FALLS	27	10	31	2	19	3	T	-.2	T	T	0	19.2	82	94	69	0	7	0	0	0	
MINNEAPOLIS	31	22	38	11	27	2	.5	.3	.4	.2	94	31.2	123	89	69	0	7	3	0	0	
ROCHESTER	29	19	39	5	24	0	.4	.1	.3	.3	176	26.6	96	96	76	0	7	3	0	0	
MS GREENWOOD	56	34	69	27	45	-4	0	-1.2	0	0	0	39.3	81	92	49	0	3	0	0	0	
JACKSON	61	33	70	27	47	-4	0	-1.1	0	0	0	43.8	93	96	39	0	3	0	0	0	
MERIDIAN	60	31	68	26	46	-4	0	-1.1	0	0	0	50.7	105	96	37	0	4	0	0	0	
MO CAPE GIRARDEAU	49	33	64	24	41	-	T	-.9	T	T	0	34.7	84	87	52	0	3	0	0	0	
COLUMBIA	43	29	54	22	36	-2	.1	-.4	.1	T	0	28.1	80	91	61	0	6	1	0	0	
KANSAS CITY	44	28	55	22	36	-2	T	-.3	T	T	0	31.9	92	95	61	0	7	0	0	0	
SAINT LOUIS	42	31	55	26	37	-2	.1	-.4	.1	T	0	31.0	97	86	59	0	4	3	0	0	
SPRINGFIELD	47	29	60	22	38	-1	T	-.6	T	T	5	48.1	129	89	55	0	5	1	0	0	
MT BILLINGS	52	29	62	16	41	10	0	-.2	0	0	0	12.1	85	69	33	0	3	0	0	0	
GLASGOW	46	21	52	13	33	11	T	-.1	T	T	25	9.3	88	87	48	0	7	1	0	0	
GREAT FALLS	52	32	62	15	42	12	.1	-.1	.1	.1	58	13.9	97	71	33	0	4	1	0	0	
HAVRE	49	19	63	6	34	10	T	-.1	T	T	0	7.8	70	84	44	0	7	0	0	0	
HELENA	48	20	61	8	34	7	.2	0	.2	.2	180	9.8	90	91	47	0	7	1	0	0	
KALISPELL	39	30	47	27	35	8	-.1	-.2	.1	.1	54	14.0	97	93	74	0	4	3	0	0	
MILES CITY	49	23	62	10	36	10	T	-.1	T	T	0	12.1	88	72	38	0	6	0	0	0	
MISSOULA	41	27	57	19	34	7	.2	0	.1	.2	129	9.3	77	93	66	0	5	3	0	0	
NE GRAND ISLAND	41	24	52	19	33	2	0	-.2	0	0	0	25.0	111	94	63	0	7	0	0	0	
LINCOLN	41	25	51	16	33	2	T	-.2	T	T	0	30.9	117	95	62	0	7	0	0	0	
NORFOLK	37	25	47	23	31	2	T	-.1	T	T	0	27.7	120	97	68	0	7	1	0	0	
NORTH PLATTE	52	22	60	15	37	8	0	-.1	0	0	0	19.6	104	93	41	0	7	0	0	0	
OMAHA	35	25	41	19	30	-2	T	-.2	T	T	0	31.8	107	91	74	0	7	0	0	0	
SCOTTSBLUFF	57	22	68	11	39	8	0	-.1	0	0	0	22.7	161	90	32	0	7	0	0	0	
VALENTINE	54	21	64	11	37	9	0	-.1	0	0	0	20.8	125	85	36	0	7	0	0	0	
NV ELY	50	20	58	9	35	6	0	-.2	0	0	0	11.6	140	81	41	0	6	0	0	0	
LAS VEGAS	58	37	63	33	48	0	.2	.1	.2	.2	350	5.9	157	73	35	0	0	1	0	0	
RENO	58	32	64	17	45	10	T	-.2	T	T	0	7.0	114	79	32	0	4	0	0	0	
WINNEVOCCA	52	27	58	8	40	7	0	-.2	0	0	0	8.4	120	78	42	0	4	0	0	1	
NH CONCORD	40	28	47	18	34	4	1.1	.3	1.1	T	7	35.2	104	95	67	0	5	3	1	1	
NJ ATLANTIC CITY	50	34	61	21	42	2	1.1	.3	.5	.1	10	39.2	101	91	58	0	3	4	2	0	
NM ALBUQUERQUE	57	27	64	22	42	4	T	-.1	T	T	13	8.0	107	70	25	0	6	1	0	0	
CLOVIS	62	32	75	22	47	5	0	-.1	0	0	0	22.8	138	55	21	0	4	0	0	0	
ROSWELL	69	30	78	22	50	7	0	-.1	0	0	0	14.6	143	58	19	0	4	0	0	0	
NY ALBANY	41	30	51	25	36	4	1.3	.6	.9	.3	53	37.9	115	92	62	0	6	3	1	1	
BINGHAMTON	37	29	48	23	33	2	1.3	.6	.9	.4	75	32.8	96	98	72	0	4	7	1	1	
BUFFALO	39	33	52	27	36	2	2.1	1.3	1.5	.4	77	39.8	115	95	66	0	5	6	1	1	
NEW YORK	48	39	59	33	44	3	1.2	.4	.9	.1	18	42.1	107	84	59	0	0	3	1	1	
ROCHESTER	38	32	47	26	35	1	1.9	1.3	1.5	.3	79	32.9	113	97	68	0	5	7	1	1	
SYRACUSE	38	31	46	25	35	1	2.0	1.2	1.6	.4	69	32.1	89	97	67	0	4	7	1	1	
NC ASHEVILLE	47	29	59	20	38	-4	.1	-.6	.1	.1	14	41.0	100	85	51	0	5	2	0	0	
CHARLOTTE	52	34	58	26	43	-3	.1	-.7	.1	0	0	36.0	90	85	47	0	3	1	0	0	
GREENSBORO	48	32	55	23	40	-3	.1	-.6	.1	T	0	44.5	113	86	51	0	4	1	0	0	
HATTERAS	57	45	68	33	51	-1	2.1	1.1	2.0	.1	13	58.9	114	90	57	0	0	4	1	1	
NEW BERN	59	41	71	28	50	1	.6	-.1	.6	T	0	48.3	97	83	46	0	1	1	1	1	
RALEIGH	52	34	59	24	43	-2	.3	-.4	.2	T	4	39.3	101	85	48	0	3	2	0	0	
WILMINGTON	59	40	73	31	49	-1	.9	-.1	.9	T	4	49.9	99	88	46	0	1	2	1	1	
ND BISMARCK	38	19	43	11	28	7	T	-.1	T	T	0	17.1	116	99	71	0	7	0	0	0	
FARGO	28	15	34	0	22	2	.3	.2	.2	.3	310	14.7	78	96	81	0	7	2	0	0	
GRAND FORKS	27	15	32	0	21	4	.2	0	.1	.2	160	18.4	103	95	79	0	7	3	0	0	
WILLISTON	41	16	48	10	29	8	T	-.1	T	T	13	11.6	89	95	58	0	7	1	0	0	
OH AKRON-CANTON	37	31	52	27	34	-1	1.0	.4	.4	.8	185	28.0	84	94	78	0	4	3	0	0	
CINCINNATI	41	31	50	21	36	-2	.2	-.5	.1	.2	41	29.5	79	92	64	0	4	5	0	0	
CLEVELAND	38	29	53	10	34	-2	1.2	.6	.4	1.2	256	36.2	110	97	70	0	5	5	0	0	
COLUMBUS	39	31	53	23	35	-1	.6	0	.4	.5	132	24.4	71	95	68	0	4	7	0	0	

Based on 1951-80 normals.

Weather Data for the Week Ending December 5, 1987

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC. 1	PCT. NORMAL SINCE DEC. 1	TOTAL, IN., SINCE JAN. 1	PCT. NORMAL SINCE JAN. 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	PRECIPITATION	
																		.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	39	30	53	23	35	-1	.6	0	.4	.5	124	22.5	69	94	71	0	5	5	0
TOLEDO	38	30	51	19	34	1	.8	.1	.4	.7	153	27.6	94	97	75	0	5	6	1
YOUNGSTOWN	37	31	49	27	34	0	1.3	0	.6	.7	153	36.5	105	98	80	0	5	6	0
OK OKLAHOMA CITY	59	36	67	28	47	4	0	-.3	0	0	0	40.8	137	83	41	0	3	0	0
TULSA	57	35	68	29	46	3	0	-.5	0	0	0	40.2	108	80	40	0	3	0	0
OR ASTORIA	54	40	58	34	47	3	4.1	1.5	1.1	3.6	194	42.0	70	95	65	0	4	7	0
BURNS	44	26	51	8	35	4	.6	.3	.3	.6	235	9.7	97	99	54	0	1	4	0
MEDFORD	56	40	66	22	48	9	1.4	.7	.5	1.4	257	12.4	75	99	54	0	3	6	0
PENDLETON	51	34	62	25	43	5	.6	.2	.2	.6	212	7.0	66	94	61	0	1	4	0
PORTLAND	50	40	56	28	45	3	5.3	3.9	1.6	5.0	514	27.1	85	97	75	0	1	6	0
SALEM	52	41	57	28	47	4	5.4	3.9	1.9	5.3	494	30.7	90	98	76	0	2	3	0
PA ALLENTOWN	47	33	60	28	40	4	2.6	1.7	2.0	7	45.2	110	90	54	0	3	3	2	
ERIE	39	33	50	30	36	1	1.5	.7	.4	1.1	188	42.5	114	95	69	0	5	6	0
HARRISBURG	44	34	51	30	39	1	2.5	1.8	2.3	.2	40	37.6	103	93	59	0	2	5	1
PHILADELPHIA	50	35	61	28	43	3	.8	0	.6	7	31.8	83	85	54	0	3	3	1	
PITTSBURGH	38	32	49	28	35	-1	1.3	.8	.9	.4	113	37.3	110	98	75	0	5	6	1
SCRANTON	42	32	53	26	37	2	1.1	.5	.9	.4	26	38.7	118	95	66	0	4	4	1
RI PROVIDENCE	47	34	60	28	40	4	1.2	.2	.9	.2	28	36.5	93	91	54	0	3	3	1
SC CHARLESTON	59	37	69	29	48	-4	-.6	-.6	-.6	6	54.6	112	88	41	0	2	0	0	0
COLUMBIA	56	33	67	25	44	-5	-.6	-.6	-.6	0	52.7	114	88	41	0	2	0	0	0
FLORENCE	55	36	61	28	46	-4	-.6	-.6	-.6	0	34.9	84	89	46	0	3	1	0	0
GREENVILLE	53	32	59	25	42	-4	-.2	-.7	-.2	25	40.2	85	89	45	0	4	1	0	0
SD ABERDEEN	32	22	37	16	27	5	-.2	-.1	-.1	0	12.2	71	99	84	0	7	7	0	0
HURON	34	23	39	18	29	4	-.1	-.1	-.1	0	18.2	101	96	75	0	7	0	0	0
RAPID CITY	55	26	67	16	40	11	-.1	-.1	-.1	0	12.1	77	73	29	0	6	0	0	0
SIOUX FALLS	30	20	34	13	25	0	.4	.3	.4	0	17.2	74	95	78	0	7	1	0	0
TN CHATTANOOGA	50	33	60	26	42	-3	-.1	-.1	-.1	0	43.4	90	86	45	0	4	0	0	0
KNOXVILLE	48	32	59	24	40	-4	.1	-.9	-.1	.1	7	31.3	72	89	59	0	4	2	0
MEMPHIS	52	35	66	27	43	-3	0	-.1	0	0	40.9	87	78	47	0	3	0	0	0
NASHVILLE	48	33	62	23	40	-3	0	-.1	0	1	24.6	55	84	48	0	3	1	0	0
TX ABILENE	67	37	79	25	52	3	0	-.2	0	0	22.5	100	77	29	0	1	0	0	0
AMARILLO	62	28	75	19	45	4	0	-.1	0	0	20.2	109	73	23	0	4	0	0	0
AUSTIN	70	47	80	38	59	4	0	-.5	0	0	35.4	120	96	47	0	0	1	0	0
BEAUMONT	67	43	78	36	55	-1	0	-.1	0	0	58.9	115	97	43	0	0	1	0	0
BROWNSVILLE	75	56	82	47	65	1	0	-.2	0	0	28.3	117	99	65	0	0	0	0	0
CORPUS CHRISTI	72	49	83	41	60	-1	0	-.3	0	0	29.8	99	94	54	0	0	1	0	0
DEL RIO	71	42	84	35	56	2	.1	-.1	.1	10	22.1	132	87	33	0	2	0	0	0
EL PASO	65	30	73	24	48	1	0	-.1	0	0	8.1	111	53	18	0	6	0	0	0
FORT WORTH	67	40	78	33	53	3	0	-.4	0	0	24.7	84	90	35	0	0	0	0	0
GALVESTON	66	53	74	46	60	0	0	-.8	0	0	33.4	89	92	58	0	0	0	0	0
HOUSTON	69	44	78	34	56	-1	0	-.9	0	0	36.2	84	96	46	0	0	0	0	0
LUBBOCK	66	30	76	21	48	4	0	-.1	0	0	17.9	104	63	21	0	4	0	0	0
MIDLAND	69	32	81	22	51	3	0	-.1	0	0	13.9	106	73	24	0	4	0	0	0
SAN ANGELO	68	35	81	25	52	1	0	-.2	0	0	29.9	171	92	33	0	3	0	0	0
SAN ANTONIO	69	45	82	36	57	2	0	-.4	0	0	35.7	129	95	50	0	0	1	0	0
VICTORIA	70	50	79	40	60	1	0	-.5	0	0	41.2	118	97	59	0	0	0	0	0
WACO	69	41	79	33	55	3	0	-.5	0	0	31.8	109	96	42	0	0	0	0	0
WICHITA FALLS	65	34	73	29	49	2	0	-.3	0	0	29.9	117	88	33	0	6	0	0	0
UT BLANDING	47	25	54	19	36	3	0	-.2	0	0	19.2	181	96	61	0	6	0	0	0
CEDAR CITY	50	25	60	14	38	4	0	-.1	0	.1	42	12.4	127	96	46	0	6	0	0
SALT LAKE CITY	50	30	59	24	40	7	0	-.3	0	0	11.4	81	90	45	0	4	0	0	0
VT BURLINGTON	39	28	49	24	34	5	.5	-.1	.2	.1	30	26.4	84	92	66	0	5	4	1
VA NORFOLK	55	41	67	27	48	1	.6	0	.6	.3	47	37.7	92	90	54	0	3	2	1
RICHMOND	51	35	67	24	43	0	1.0	.2	.7	.6	0	49.5	136	90	54	0	3	1	1
ROANOKE	45	33	53	25	39	-3	.6	-.1	.6	3.6	135	72.9	80	99	71	0	1	7	5
WA QUILLAYUTE	51	39	54	27	45	3	5.0	1.3	1.3	3.0	298	26.8	81	98	72	0	0	4	4
SEATTLE-TACOMA	50	40	54	34	45	3	3.1	1.7	.8	1.6	426	14.3	99	100	85	0	4	6	2
SPOKANE	41	32	48	21	36	5	1.7	1.2	.6	1.1	589	6.1	91	99	78	0	4	6	0
YAKIMA	43	32	50	19	37	3	1.2	.9	.4	1.1	589	6.1	91	99	78	0	4	6	0
WV BECKLEY	38	27	57	20	32	-5	.5	-.2	.1	.3	71	34.6	88	96	70	0	6	6	0
CHARLESTON	41	32	57	23	37	-4	.5	-.2	.2	.4	82	33.5	85	92	63	0	4	3	0
HUNTINGTON	42	31	54	23	36	-4	.3	-.4	.2	.3	63	29.0	76	88	60	0	4	6	0
PARKERSBURG	41	32	56	23	37	-2	.9	-.4	.5	.5	112	23.4	66	90	65	0	4	6	0
WI GREEN HAY	34	25	43	19	30	4	.4	0	.3	.2	90	31.9	110	92	67	0	6	2	0
LACROSSE	34	24	43	15	29	2	.3	0	.3	.3	107	29.6	101	93	69	0	6	4	0
MADISON	34	24	44	10	29	1	.4	0	.4	.4	118	34.2	118	97	73	0	5	4	0
MILWAUKEE	36	27	46	19	32	1	.5	0	.4	.4	8	24.4	80	93	69	0	6	2	0
WAUSAU	31	23	39	16	27	3	.1	-.3	.1	0	0	12.5	116	77	41	0	5	0	0
WY CASPER	47	26	57	9	36	8	0	-.1	0	0	0	14.4	111	68	36	0	3	0	0
CHEYENNE	49	28	57	9	38	7	0	-.1	0	0	0	14.4	115	88	61	0	7	0	0
LANDER	35	14	50	-4	25	-1	0	-.1	0	0	0	14.0	98	86	43	0	7	0	0
SHERIDAN	50	25	62	17	38	10	0	-.2	0	0	0	11.0	98	86	43	0	7	0	0
PR SAN JUAN	86	75	90	74	80	2	1.5	.3	1.3	1.5	180	55.3	109	94	72	1	0	3	1

Based on 1951-80 normals.



## November Weather and Crop Summary

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

**NOVEMBER 1-7...**Unseasonably mild weather prevailed over most of the Nation. Record-high temperatures for this time of year were common. Early in the week, light rain fell over parched regions of the Pacific Northwest. Severe weather continued to plague the Southwest. A tropical depression brought soaking rains to the Florida peninsula. Late in the week, snow fell in New York and New England, and smoke spread northeastward from forest fires in central Appalachia.

**NOVEMBER 8-14...**Abundant rains in the East alleviated dryness and helped to douse forest fires. At midweek, an east coast storm produced 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.

**NOVEMBER 15-21...**Severe thunderstorms with tornadoes, torrential rains, and local flooding invaded the Southeast. Snow blanketed the central and northern Rockies and part of the Great Plains. Dry and mild weather prevailed in most areas west of the Rockies. A late-week Arctic outbreak ushered in bitterly cold and snowy weather to the Great Lakes and the Northeast.

**NOVEMBER 22-28...**A developing storm brought severe weather to the south-central Plains early in the week. At midweek, snow moved into the northern Great Plains, the Upper Mississippi Valley, and the Great Lakes region. Thanksgiving Day storms produced heavy snow in the central and southern Rockies and in northern New England, and rainshowers throughout much of the East. Wetness in the East persisted to the end of the week.

**NOVEMBER 29-30...**A Pacific storm struck Washington and Oregon, bringing rain and high winds. Widespread precipitation occurred over the Midwest and the East.

### Winter Wheat Seeding

Dryness, followed by rain, delayed winter wheat seeding in the Southeast, Delta, and southern Great Plains during most of November. However, the moisture was needed for germination and growth. By midmonth seeding was finished except in these areas and along the west coast. California seeding reached the halfway point at month's end. Seeding was 68 and 86 percent

finished in South Carolina and North Carolina, respectively. Fifty-eight percent of the acreage was seeded in Georgia. Inadequate moisture plagued winter wheat development in the northern and central Great Plains the first half of the month. In Kansas, some wheat had trouble establishing proper root systems before dormancy. By the end of the month wheat streak mosaic disease was at epidemic proportions in Kansas except in the eastcentral and southeastern part. Leaf rust was prevalent statewide. Greenbugs and aphids were active from North Dakota to Texas. Colder temperatures slowed insects in some areas but were not severe enough to eradicate them entirely.

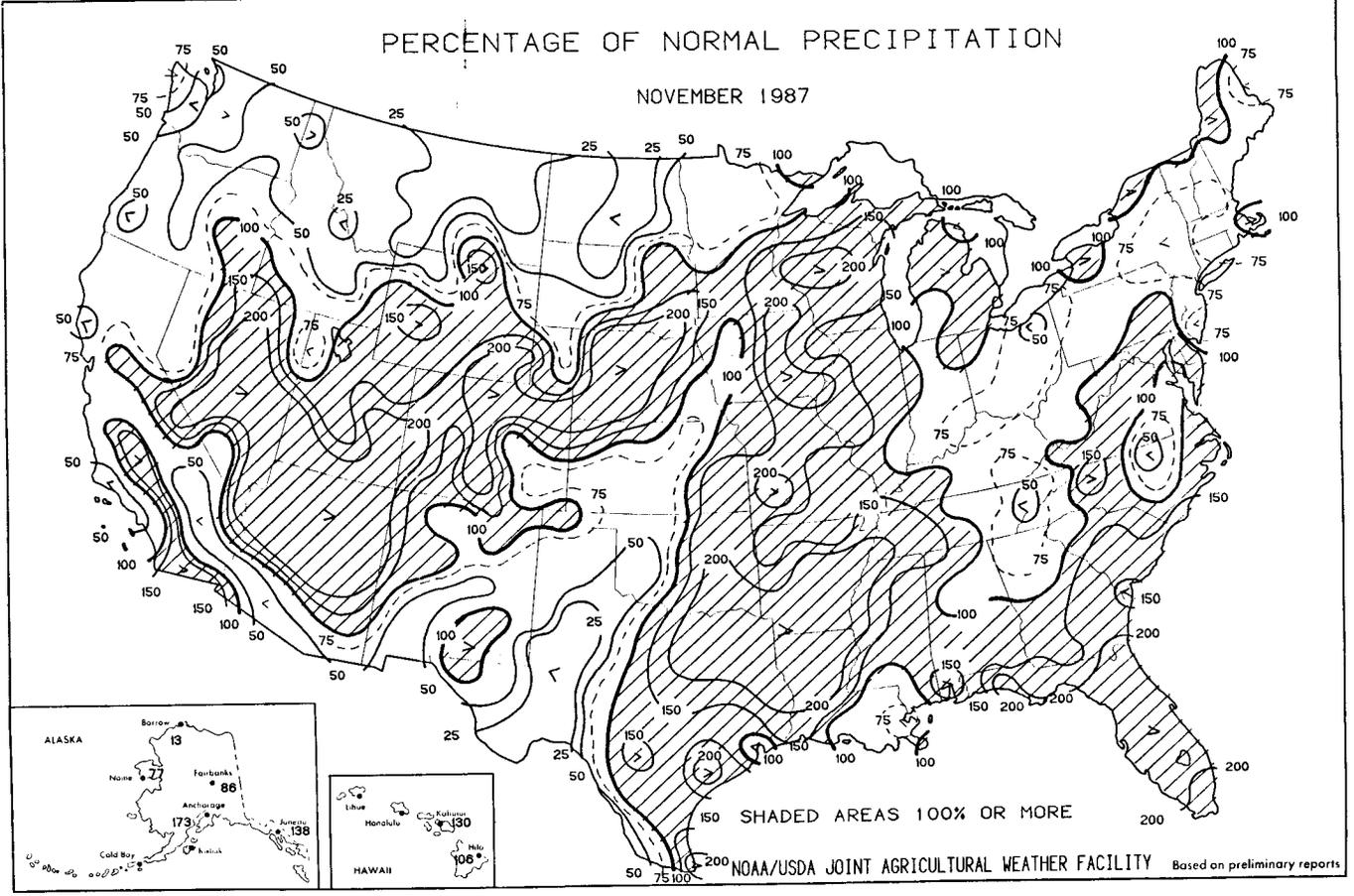
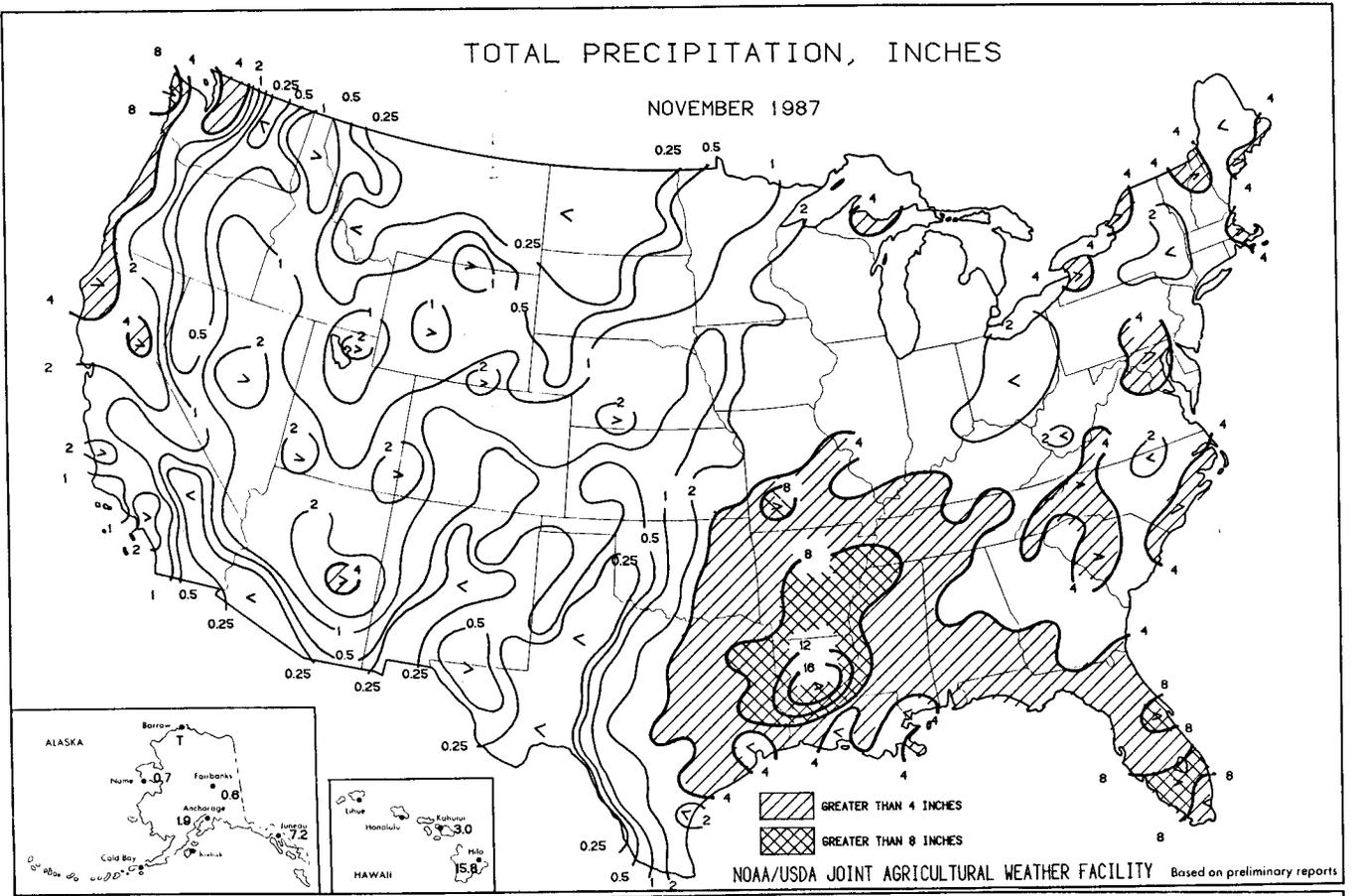
### Row Crop Harvest

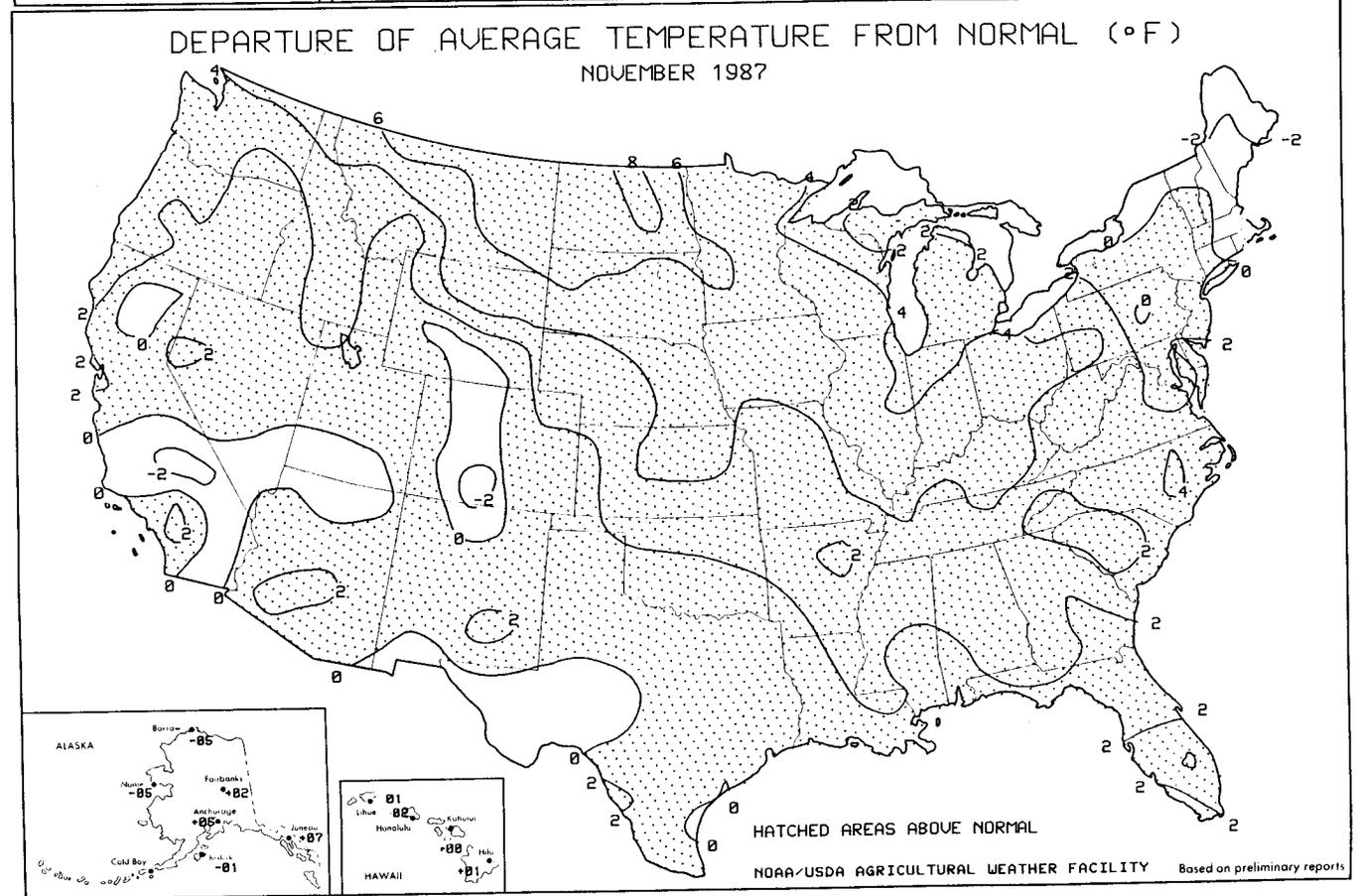
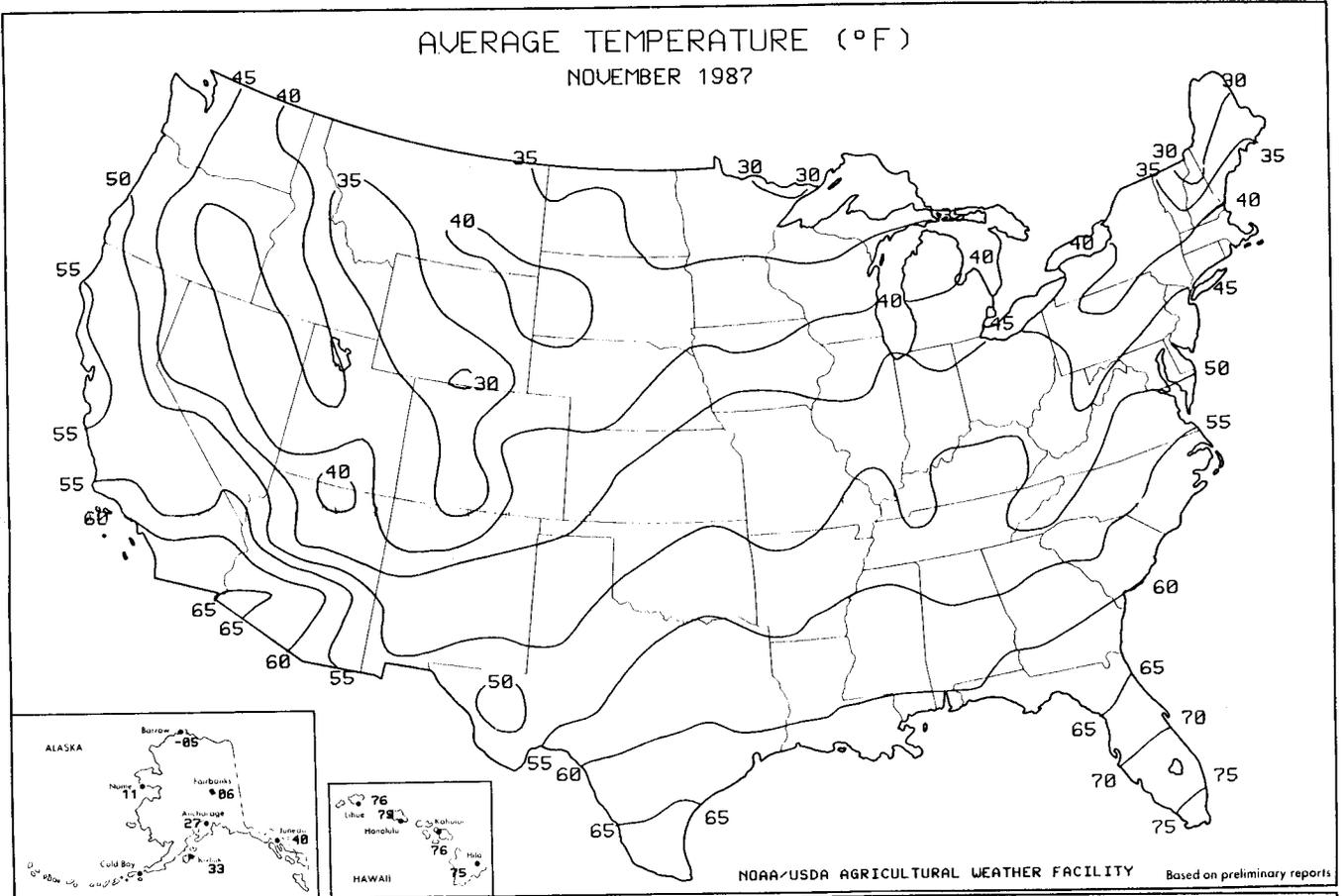
Warm, dry weather pushed row crops near completion in the Corn Belt and northern and central Great Plains by mid-November. Precipitation plagued soybean and cotton harvest in the Delta, southern Great Plains, and Southeast the second half of the month.

Corn harvest was virtually finished by the first week of November. Harvest was finished in the Southeast and neared completion in most other States. On November 8, harvest was less than 90 percent finished in Colorado, Michigan, and Pennsylvania. In the 17 major producing States, 76 percent would normally be harvested by this date, but 97 percent was finished this year. By the end of November, a few acres remained to be harvested in Colorado, Michigan, and Pennsylvania.

In 19 major producing States, soybeans were 96 percent harvested on November 15. Normally 84 percent would be harvested, and last year 83 percent was harvested by this date. Despite the rapid harvest progress, quite a few acres still remained to be harvested in the Southeast. The second half of the month rain interfered with soybean harvest in the Delta and Southeast. On November 29, Georgia's harvest was 91 percent finished compared with 75 percent average. Harvest neared completion in Alabama, Arkansas, and Louisiana. North Carolina harvest ended the month 80 percent finished, 25 points ahead of normal. In South Carolina, harvest reached 78 percent completion compared with 53 percent, normally.

At the end of October, cotton harvest was 11 points ahead of normal but dropped to 2 points ahead of normal by November 29. Wetness impeded cotton harvest in the southern Great Plains and Southeast during most of the month. At the end of the month, harvest was 76 percent finished. Harvest neared completion in California, Georgia, South Carolina, and North Carolina. Oklahoma's harvest surged to 40 percent completion the last week of November and was 5 points ahead of normal. Texas harvest reached 51 percent completion, 2 points behind normal. New Mexico's harvest trailed 8 points behind the 67 percent average.





Temperature and Precipitation Data for November 1987

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	2	3.0	-0.6	LA ALEXANDRIA	59	2	10.3	6.2	COLUMBUS	47	5	1.6	-1.0
MOBILE	59	0	5.5	1.9	BAYON ROUGE	61	2	3.8	-0.2	DAYTON	47	4	2.0	-0.6
MONTGOMERY	58	2	4.4	1.4	LAKE CHARLES	60	1	6.6	2.4	TOLEDO	44	5	2.6	0.2
AK ANCHORAGE	27	5	1.8	0.8	NEW ORLEANS	62	2	2.9	-1.1	YOUNGSTOWN	44	4	1.6	-1.3
BARROW	-5	-5	T	-0.2	SHREVEPORT	56	0	10.8	7.1	OK OKLAHOMA CITY	51	2	1.9	0.4
FAIRBANKS	6	2	0.7	0.0	ME CARIBOU	29	-2	2.4	-0.8	TULSA	52	2	5.2	2.6
JUNEAU	40	7	7.2	-0.5	PORTLAND	38	-1	3.8	-0.9	OR ASTORIA	50	3	4.3	-5.8
KODIAK	33	-2	5.0	-0.8	MD BALTIMORE	48	1	5.1	2.0	BURNS	36	0	1.3	0.1
NOME	12	-5	0.7	-0.3	MA LISBURY	50	2	3.2	0.2	MEDFORD	47	3	1.7	-1.2
AZ FLAGSTAFF	36	0	2.9	-1.2	MA BOSTON	44	-1	3.5	-0.7	PENDLETON	43	2	0.8	-0.7
PHOENIX	63	3	1.0	0.5	CHATHAM	45	0	4.5	0.0	PORTLAND	49	4	2.0	-3.2
PRESCOTT	44	0	1.8	0.5	MI ALPENA	37	2	2.2	0.0	SALEM	47	2	3.0	-2.7
TUCSON	59	0	0.4	-0.2	DETROIT	43	4	3.2	0.9	PA ALLENTOWN	43	1	4.0	0.3
WINSLOW	41	-2	1.4	0.9	FLINT	41	3	3.3	1.0	ERIE	45	3	2.3	-1.5
YUMA	65	1	0.3	0.1	GRAND RAPIDS	41	2	2.5	-0.4	HARRISBURG	44	0	5.0	1.8
AR FORT SMITH	52	2	4.7	1.2	HOUGHTON LAKE	38	3	2.6	0.3	PHILADELPHIA	48	2	2.1	-1.2
LITTLE ROCK	53	2	10.2	5.8	LAUSING	41	3	2.9	0.5	PITTSBURGH	46	4	2.0	-0.3
CA BAKERSFIELD	54	-3	1.4	0.8	MARQUETTE	33	-2	4.1	1.5	SCRANTON	41	0	2.2	-0.7
EUREKA	55	4	4.2	-1.7	MUSKOGON	41	2	3.2	0.3	RI PROVIDENCE	43	-1	3.5	-0.7
FRESNO	53	-1	0.5	-0.7	SAULT ST. MARIE	33	1	3.4	0.2	SC CHARLESTON	60	3	3.7	1.5
LOS ANGELES	62	0	0.6	-0.9	MN ALEXANDRIA	35	6	0.8	-0.3	COLUMBIA	55	1	4.6	2.0
REDDING	52	-1	3.5	-2.0	DULUTH	32	4	1.2	-0.4	FLORENCE	57	2	2.4	0.2
SACRAMENTO	54	0	2.5	0.3	INT'L FALLS	31	6	0.7	-0.5	GREENVILLE	53	1	2.8	-0.3
SAN DIEGO	62	0	1.3	0.3	MINNEAPOLIS	38	5	2.1	0.8	SC ABERDEEN	35	5	0.8	0.2
SAN FRANCISCO	57	3	1.6	-0.7	ROCHESTER	37	4	1.9	0.5	HURON	37	5	0.7	0.1
STOCKTON	53	0	1.3	-0.5	ST. CLOUD	35	5	1.6	0.3	RAPID CITY	40	6	0.3	-0.2
CO DENVER	40	1	1.6	0.8	MS GREENWOOD	56	3	7.2	2.7	SIoux FALLS	38	5	1.7	0.8
GRAND JUNCTION	40	0	1.9	1.3	JACKSON	56	2	4.2	0.3	TN BRISTOL	49	3	2.1	-0.9
PUEBLO	40	0	0.5	0.0	MERIDIAN	56	2	4.1	0.6	TN CHATTANOOGA	52	3	2.4	-1.8
CT BRIDGEPORT	45	-1	2.9	-0.9	MO COLUMBIA	46	2	3.4	1.1	KNOWVILLE	50	1	1.2	-2.6
HARTFORD	41	0	3.7	-0.4	KANSAS CITY	47	2	1.9	0.2	MEMPHIS	54	3	10.5	6.3
DC WASHINGTON	50	1	4.5	1.7	SAINT LOUIS	49	4	4.1	1.6	NASHVILLE	52	4	3.4	-0.1
FL APALACHICOLA	63	2	5.5	2.7	SPRINGFIELD	47	2	9.2	6.3	TX ABILENE	54	1	1.2	-0.2
DAYTONA BEACH	67	1	5.9	3.3	MT BILLINGS	40	5	0.3	-0.5	AMARILLO	45	0	0.4	-0.1
FT. MYERS	72	2	9.6	8.2	GLASGOW	37	8	T	-0.3	AUSTIN	60	1	3.1	0.9
JACKSONVILLE	62	1	5.0	3.4	GREAT FALLS	41	6	0.3	-0.4	BEAUMONT	60	0	6.7	2.4
KEY WEST	76	1	5.8	2.6	HAVRE	36	5	T	-0.5	BROWNSVILLE	68	0	3.8	2.4
MIAMI	75	2	4.9	2.2	HLENA	35	3	0.1	-0.4	CORPUS CHRISTI	64	-1	1.8	0.3
ORLANDO	69	2	10.3	8.4	KALISPELL	35	4	0.5	-0.8	DEL RIO	59	-1	0.5	-0.3
TALLAHASSEE	61	2	6.4	3.1	MILES CITY	39	7	0.1	-0.5	EL PASO	52	0	0.3	0.0
TAMPA	69	2	4.3	2.5	MISSOULA	34	2	0.3	-0.6	FORT WORTH	56	0	4.6	2.5
W. PALM BEACH	74	2	9.4	6.0	NE GRAND ISLAND	41	4	1.2	0.4	GALVESTON	64	1	2.9	-0.2
GA ATLANTA	56	4	2.4	-1.1	LINCOLN	44	5	0.8	-0.1	HOUSTON	61	0	3.4	-0.2
AUGUSTA	56	2	4.1	2.0	NORFOLK	41	5	1.2	0.5	LUBBOCK	50	1	0.1	-0.5
MACON	57	2	3.4	1.0	NORTH PLATTE	38	3	1.3	0.7	MIDLAND	51	-1	T	-0.6
SAVANNAH	60	3	2.1	0.2	OMAHA	43	4	1.0	-0.4	SAN ANGELO	54	-1	0.8	-0.2
HI HILO	75	1	15.8	1.0	SCOTTSBLUFF	39	3	1.0	0.4	SAN ANTONIO	61	1	2.5	0.2
HONOLULU	79	2	0.9	-2.3	VALENTINE	38	4	2.0	1.6	SANTO DOMINGO	63	0	5.9	3.7
KAHULUI	76	0	3.0	0.7	NV ELKO	36	1	2.0	1.2	WACO	57	0	4.4	2.2
LIHUE	76	1	2.5	-3.1	ELY	35	1	1.6	1.1	WICHITA FALLS	53	1	1.7	0.3
ID BOISE	41	1	1.0	-0.3	LAS VEGAS	53	0	1.8	1.4	UT BLANDING	38	0	2.7	1.8
LEWISTON	44	4	0.3	-0.9	RENO	42	2	0.4	-0.2	CEDAR CITY	38	-1	2.5	1.5
POCATELLO	37	1	0.4	-0.5	WINNEMUCA	39	1	0.9	0.1	MILFORD	35	-2	1.5	0.8
IL CHICAGO	44	4	2.8	0.6	NH CONCORD	37	0	2.5	-1.2	SALT LAKE CITY	41	1	1.2	0.0
MOLINE	44	5	3.3	1.4	NJ ATLANTIC CITY	47	1	2.2	-1.5	VT BURLINGTON	37	0	2.2	-0.5
PEORIA	45	5	2.9	0.9	NM ALBUQUERQUE	45	1	0.4	0.1	VA NORFOLK	54	2	4.0	1.1
QUINCY	46	4	2.3	0.3	CLOVIS	48	1	0.2	-0.2	RICHMOND	51	2	3.1	-0.2
ROCKFORD	42	4	2.6	0.3	ROSWELL	49	2	0.4	0.1	ROANOK	50	3	5.0	2.4
SPRINGFIELD	46	4	3.3	1.3	ALBANY	40	1	1.8	-1.2	WA QUILLYAYUTE	48	4	11.3	-1.7
IN EVANSVILLE	50	4	3.4	0.0	BINGHAMTON	39	1	1.8	-1.2	SEATTLE-TACOMA	49	4	3.2	-2.4
FORT WAYNE	44	4	3.7	1.2	BUFFALO	42	2	4.4	0.8	SPOKANE	38	3	1.4	-0.7
INDIANAPOLIS	46	4	2.6	-0.5	NEW YORK	48	0	2.6	-1.2	WALLA WALLA	45	3	0.9	-0.9
SOUTH BEND	44	3	2.1	-0.7	ROCHESTER	41	0	2.7	0.0	YAKIMA	41	2	0.7	-0.3
IA DES MOINES	43	5	3.3	1.8	SYRACUSE	41	0	3.0	-0.4	WV BECKLEY	46	4	1.7	-1.2
DUBUQUE	41	5	3.4	0.9	NC ASHEVILLE	47	0	3.1	0.0	CHARLESTON	49	3	2.7	-0.2
STOIX CITY	42	5	0.9	0.0	CHARLOTTE	53	2	4.1	1.2	ELKINS	43	2	3.2	0.5
WATERLOO	41	5	2.7	1.0	GREENSBORO	51	2	3.7	1.1	HUNTINGTON	50	3	2.5	-0.3
KS CONCORDIA	45	4	0.7	-0.3	HATTERAS	58	1	5.2	0.3	PARKERSBURG	49	4	2.0	-0.4
DODGE CITY	45	3	0.5	-0.2	NEW BERN	58	3	3.3	0.2	WI GREEN BAY	38	3	3.1	1.3
GOODLAND	40	2	1.0	0.4	RALEIGH	53	3	1.4	-1.5	LACROSSE	40	5	2.7	1.2
TOPEKA	47	5	1.9	0.2	WILMINGTON	58	2	5.7	2.5	MADISON	40	5	3.2	1.4
WICHITA	48	3	1.5	0.1	ND BISMARCK	35	6	T	-0.5	MILWAUKEE	42	4	2.7	0.8
KY BOWLING GREEN	50	4	3.8	0.0	FARGO	33	5	0.5	0.0	WAUSAU	36	4	3.5	1.8
JACKSON	52	7	3.2	0.0	GRAND FORKS	32	6	0.1	-0.7	WY CASPER	36	3	0.8	0.1
JACKSON	50	5	2.7	-0.6	WILLISTON	34	6	0.2	-0.3	CHEYENNE	37	2	0.8	0.2
LEXINGTON	50	5	2.7	-0.6	OH AKRON-CANTON	45	3	1.4	-1.1	LANDER	30	-1	1.2	0.5
LOUISVILLE	51	5	2.6	-0.9	CINCINNATI	48	4	1.8	-1.3	SHERIDAN	37	5	1.2	0.4
					CLEVELAND	46	4	1.0	-1.7	PR SAN JUAN	81	1	7.4	1.8

Based on 1951-80 normals.

## Heating Degree Days (Base 65° F.)

## November 1987

ALA. Birmingham . . .	293	MAINE, Caribou . . .	1070	OKLA. Okla. City . . .	442
Mobile . . . . .	194	Portland . . . . .	798	Tulsa . . . . .	416
Montgomery . . . .	246	MD. Baltimore . . . .	511	OREG. Astoria . . . .	455
ALASKA, Anchorage . .	1141	MASS. Boston . . . .	626	Burns . . . . .	879
Barrow . . . . .	2114	Chatham . . . . .	606	Medford . . . . .	540
Fairbanks . . . . .	1768	MICH. Alpena . . . .	805	Pendleton . . . . .	668
Nome . . . . .	1592	Detroit . . . . .	639	Portland . . . . .	479
ARIZ. Flagstaff . . . .	859	Flint . . . . .	695	Salem . . . . .	536
Phoenix . . . . .	98	Grand Rapids . . . .	712	PA. Allentown . . . .	637
Tucson . . . . .	188	Houghton Lake . . . .	813	Erie . . . . .	592
Winslow . . . . .	657	Lansing . . . . .	700	Harrisburg . . . . .	627
Yuma . . . . .	70	Marquette . . . . .	964	Philadelphia . . . .	504
ARK. Fort Smith . . . .	390	S. Ste. Marie . . . .	938/	Pittsburgh . . . . .	560
Little Rock . . . . .	358	MINN. Duluth . . . .	977	Scranton . . . . .	706
CALIF. Bakersfield . .	331	Internatl Falls . . . .	1018	R.I. Providence . . . .	653
Eureka . . . . .	302	Minneapolis . . . . .	804	S.C. Charleston . . . .	188
Fresno . . . . .	374	Rochester . . . . .	837	Columbia . . . . .	298
Los Angeles . . . . .	111	St. Cloud . . . . .	905	Greenville . . . . .	356
Red Bluff . . . . .	368	MISS. Jackson . . . .	271	S. DAK. Aberdeen . . . .	892
Stockton . . . . .	357	Meridian . . . . .	282	Huron . . . . .	828
San Diego . . . . .	9	MO. Columbia . . . .	560	Rapid City . . . . .	736
San Francisco . . . .	232	Kansas City . . . . .	552	Sioux Falls . . . . .	801
COLO. Denver . . . . .	743	St. Louis . . . . .	490	TENN. Chattanooga . . . .	384
Grand Junction . . . .	754	Springfield . . . . .	540	Knoxville . . . . .	437
Pueblo . . . . .	754	MONT. Billings . . . .	734	Memphis . . . . .	325
CONN. Bridgeport . . . .	596	Glasgow . . . . .	833	Nashville . . . . .	376
Hartford . . . . .	700	Great Falls . . . . .	701	TEX. Abilene . . . . .	347
D.C. Washington . . . .	448	Havre . . . . .	872	Amarillo . . . . .	584
FLA. Apalachicola . . .	129	Helena . . . . .	901	Austin . . . . .	203
Ft. Myers . . . . .	---	Kalispell . . . . .	885	Beaumont . . . . .	179
Jacksonville . . . . .	147	Miles City . . . . .	784	Brownsville . . . . .	53
Key West . . . . .	0	Missoula . . . . .	918	Corpus Christi . . . .	126
Miami . . . . .	3	NEBR. Grand Island . .	708	Del Rio . . . . .	220
Orlando . . . . .	39	Lincoln . . . . .	626	El Paso . . . . .	405
W. Palm Beach . . . . .	8	Norfolk . . . . .	726	Fort Worth . . . . .	297
Tallahassee . . . . .	171	North Platte . . . . .	796	Galveston . . . . .	110
Tampa . . . . .	46	Omaha . . . . .	640	Houston . . . . .	185
GA. Atlanta . . . . .	279	Valentine . . . . .	811	Lubbock . . . . .	456
Augusta . . . . .	266	NEV. Ely . . . . .	902	Midland . . . . .	427
Macon . . . . .	240	Las Vegas . . . . .	342	San Angelo . . . . .	354
Savannah . . . . .	185	Reno . . . . .	690	San Antonio . . . . .	194
IDAHO, Boise . . . . .	722	Winnemucca . . . . .	772	Victoria . . . . .	148
Lewiston . . . . .	635	N.H. Concord . . . . .	837	Waco . . . . .	270
Pocatello . . . . .	854	N.J. Atlantic City . . .	542	Wichita Falls . . . . .	370
ILL. Cairo . . . . .	---	N. MEX. Albuquerque . .	589	UTAH, Milford . . . . .	880
Chicago . . . . .	629	N.Y. Albany . . . . .	741	Salt Lake City . . . . .	719
Moline . . . . .	627	Binghamton . . . . .	373	VT. Burlington . . . . .	833
Peoria . . . . .	609	Buffalo . . . . .	665	VA. Lynchburg . . . . .	450
Rockford . . . . .	694	New York . . . . .	508	Norfolk . . . . .	322
Springfield . . . . .	565	Rochester . . . . .	722	Richmond . . . . .	409
IND. Evansville . . . .	456	Syracuse . . . . .	717	Roanoke . . . . .	455
Fort Wayne . . . . .	620	N.C. Asheville . . . . .	532	WASH. Colville . . . . .	---
Indianapolis . . . . .	553	Charlotte . . . . .	339	Quillayute . . . . .	510
South Bend . . . . .	638	Greensboro . . . . .	422	Seattle-Tacoma . . . .	485
IOWA, Des Moines . . . .	648	Hatteras . . . . .	226	Spokane . . . . .	799
Dubuque . . . . .	718	Raleigh . . . . .	361	Walla Walla . . . . .	---
Souix City . . . . .	693	Wilmington . . . . .	230	Yakima . . . . .	739
KANS. Concordia . . . .	586	N. DAK. Bismarck . . . .	909	W. VA. Beckley . . . . .	552
Dodge City . . . . .	585	Fargo . . . . .	940	Charleston . . . . .	473
Goodland . . . . .	749	Williston . . . . .	920	Huntington . . . . .	458
Topeka . . . . .	531	OHIO. Akron-Canton . . .	606	WIS. Green Bay . . . . .	815
Wichita . . . . .	523	Cincinnati . . . . .	505	Madison . . . . .	743
KY. Lexington . . . . .	447	Cleveland . . . . .	562	Milwaukee . . . . .	686
Louisville . . . . .	423	Columbus . . . . .	521	WYO. Casper . . . . .	880
LA. Baton Rouge . . . .	181	Dayton . . . . .	551	Cheyenne . . . . .	841
Lake Charles . . . . .	176	Toledo . . . . .	611	Lander . . . . .	1038
New Orleans . . . . .	149	Youngstown . . . . .	611	Sheridan . . . . .	825
Shreveport . . . . .	279				

## National Agricultural Summary

November 30 to December 6, 1987

**HIGHLIGHTS:** Dry weather pushed row crop harvest closer to completion in the Southeast and southern Great Plains. Cotton harvest advanced significantly in Oklahoma and Texas. Inadequate moisture and snow cover concerned northern and central Great Plains wheat producers. Soil moisture was becoming short in the Delta and Southeast. Rain alleviated much of the dryness in the West Coast States.

Winter wheat was mostly good to fair. Dryness spurred seeding in the Southeast. Cotton harvest climbed 9 percentage points ahead of the previous week to 85 percent (%) completion. This compared with 74% harvest in 1986 and 81% normally. Soybean harvest neared completion in Georgia. Harvest progressed rapidly in the Carolinas. Sorghum harvest crept toward completion in Oklahoma and Texas. Burley tobacco stripping increased, but much of the crop remained dry. Livestock was mostly good.

**SMALL GRAINS:** Winter wheat and small grains were mostly good to fair. Most of the wheat in the northern producing areas lacked snow cover, but above-normal temperatures kept damage at a minimum. Winter wheat planting continued in the Southeast. Seeding climbed 22 points ahead of the previous week in Georgia to 80% completion. This compares with 70% seeded in 1986 and 73% normally. Alabama's seeding reached 93% completion, 13 points ahead of 1986 and 8 points above the 5-year average. Seeding was 78 and 90% finished in South Carolina and North Carolina, respectively. California seeding progress fell 2 points behind the 57% average. Dryness slowed planting in Texas. Rain benefited small grains in the Blacklands and central and eastern areas, but more is needed to carry the crop through winter. In Oklahoma, warm temperatures promoted growth but increased greenbugs. Winter wheat stands were mostly uniform in Arkansas. Excessive wetness caused some yellowing. Warm soil temperatures supported slow growth in southern Indiana. More moisture is needed in western Kansas for good root development. Wheat streak mosaic continued in all areas except east-central and southeast Kansas. Wind damage was mostly light in Montana. South Dakota's winter wheat needed a good soaking rain or snow to reduce potential winterkill. Cool temperatures and precipitation provided good snow cover for winter wheat in Douglas County, Washington.

**SOYBEANS:** Georgia's soybean harvest reached 97% completion, compared with 72% in 1986 and 79% normally. Eighty-eight percent of North Carolina's acreage was harvested, 23 points above average. South Carolina's harvest jumped 11 points ahead of the previous week and was 27 points ahead of the 63% average. Harvest was virtually finished in Arkansas and Alabama.

**COTTON:** Cotton was 85% harvested, compared with 74% in 1986 and the 81% average. Harvest surged 9 points ahead of the previous week. Cotton harvest neared completion in California, Georgia, and South Carolina. Arizona's harvest was 95% finished, 2 points ahead of normal. Cotton residue was active in western areas and harvest neared completion. Farmers actively plowed under stalks in central and southeastern areas. Harvest conditions were near ideal in New Mexico, but harvest still lagged 10 points behind the 75%

average. Oklahoma's harvest reached 55% completion, up 15 points from the previous week. Cotton harvest progressed rapidly in the Plains and Trans-Pecos areas of Texas. Yields were excellent and quality good. Most gins were operating 24-hours a day, but many still have stockpiles. Harvest leaped 21 points ahead of the previous week to 71% completion. Harvest ended the week 6 points ahead of normal.

**OTHER CROPS:** Sorghum harvest was ending in Texas, with 99% of the acreage combined. Dryland and irrigated yields were good. Ninety percent of Oklahoma's sorghum acreage was harvested, compared with 95% normally. Sorghum harvest progressed little in Kansas. Grain moisture was still too high to cut in the southwest and south-central districts.

In Kentucky, several days were favorable for stripping burley tobacco, but much of the crop remained dry. Additional precipitation is needed in all areas.

Peanut harvest neared completion in southern Texas. Harvest was 92% finished, 2 points below 1986 but 3 points above normal. Grades continued improving. Oklahoma's peanuts were 97% harvested.

**FRUIT AND NUTS:** Soil moisture was adequate despite the lack of precipitation in Florida's citrus producing areas. Cool temperatures slowed tree foliage growth. Orange and grapefruit harvests for processing increased in all areas. Fresh white and colored grapefruit harvests were active mainly at coastal locations. Caretakers prepared for the winter season. Arizona's citrus groves were good. Grapefruit, lemons, tangerines, and navel oranges were shipped from western and central areas. Vineyards and orchards were pruned in California's central valley. The remaining emperors and raisin grapes were harvested. Navel orange harvest was 10% finished, with large fruit size and rough, coarse-textured rinds. Desert grapefruit, tangerines, and lemons were picked and packed. Deglet noor date, persimmon, and avocado harvests continued.

**VEGETABLES:** Land preparation, planting, and harvesting were active in Florida vegetable producing areas. Tomato, pepper, cucumber, squash, celery, sweet corn, snap bean, and lettuce volumes were good. Lesser volume of cabbage, carrots, eggplant, escarole, radishes, and watermelon were harvested. Lettuce harvest increased in the Rio Grande Valley. Cabbage and tomatoes were harvested in the Rio Grande Valley and the San Antonio-Winter Garden area. Fall lettuce harvest neared completion, while spring lettuce stands were established in central Arizona. Winter vegetable harvest continued in western areas with heavy lettuce shipments. California's broccoli harvest was moderate to fairly light in Salinas but light in Santa Maria. Cauliflower volume was light in Salinas and Santa Maria. Vegetable volume was good from the desert. Fall potato movement increased along with prices in the Tulalake-Butt Valley.

**PASTURES AND LIVESTOCK:** Pasture growth suffered from the lack of moisture in most southern areas of the Nation. Supplemental feeding continued but was less than normal in most areas. Livestock was mostly good.

## 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 averaged 3 to 4° below normal.

Days suitable for fieldwork 5.7. Soil moisture 60% short, 40% adequate. Conditions favorable for seeding small grains, harvesting remaining field crops. Soybeans 99% harvested, 87% 1986, 91% avg. Wheat 93% seeded, 80% 1986, 85% avg. Pastures mostly poor to fair; livestock fair to good. Primary activities: Harvesting soybeans, pecans, catfish; planting small grains, winter grazing crops; turning harvested cropland; pruning fruit trees; repairing fences, machinery; routine care of livestock, poultry.

**ARIZONA:** Cold front 29th caused cooling, few mountain snow flurries. Sunny skies morning, increased high cloudiness afternoon, night 30th. High pressure system, variable high cloudiness, sunshine 1st through 3rd, clouds increased late 3rd. Scattered light showers west 4th. Storm system, cold front brought rain to lower elevations, snow showers above 6,500 ft. 5th. Northeast 2.00 in. snow; east central, 4 ins. Moisture mostly between 0.10 to 0.50 in.; very little southeast. Dry air cleared skies late 5th. Temperatures varied from 3° below to 4° above normal.

Cotton residue disposal active west; harvest nearly completed. Harvest winding down southeast; stalk shredding, plowdown active. Plowdown active central. Early plantings wheat, barley good progress west; seedbed preparation, planting, stand establishment progressed. Seedbed preparation, planting east. Alfalfa harvest complete southeast; sheeping off active. Light harvest, stand renovation central. Crop generally good. Winter vegetable harvest continued west; lettuce shipment heavy. Bok choy, broccoli, cauliflower, cabbage, napa harvested west; asparagus harvest expected soon. Fall lettuce harvest neared completion; spring lettuce stands established central. Grapefruit, lemons, tangerines, navel oranges shipped west, central. Citrus groves good condition. Apple packing, pecan harvest active; pistachio harvest complete southeast.

**ARKANSAS:** Week started with warming trend followed by cooler weather weekend. Temperature extremes 17°; 71°. Rainfall total none to 0.36 in.

Fieldwork limited. Soil moisture adequate. Surplus east portion. Winter wheat mostly uniform stands. Excessive moisture caused some yellowing. Pastures short, Hay supplies good. Livestock good, limited feeding necessary.

**CALIFORNIA:** Weak high pressure over State weakened as week progressed, allowed series of low pressure areas to move through State. Rainfall mainly confined to coastal, central valleys, northern mountains. Temperatures above normal except over southern third of State.

Rain curtailed fieldwork northern half. Seeding small grains increased southern half. Winter wheat 55% seeded, 60% 1986, 57% avg.; 40% emerged, 40% 1986, 45% avg. Cotton harvest wrapped up. Land preparation behind cotton, beans, corn active, good soil conditions. Sorghum grain, sugarbeet harvests progressed. Some alfalfa, mixed forage, cover crops seeded. Central valley vineyards, orchards pruned. Weed control measures taken. Deglet noor date harvest continued Coachella Valley. Last few emperors, raisins harvested. Persimmon, avocado

harvests continued. Desert grapefruit, tangerines, lemons picked and packed. Navel orange 10% harvested; large individual fruit sizes, rough, coarse-textured rinds. Artichokes fairly light, good quality Castroville. Broccoli moderate to fairly light, Salinas; fairly light, Santa Maria, good quality. Harvest active central valley, desert. Carrot moderate Salinas, variable quality. Production from desert active. Cauliflower very light Salinas; light Santa Maria; variable quality. Harvest active desert, Eastside. Celery moderate but decreasing both Salinas-Watsonville, Santa Maria-Oceano, variable quality. Lettuce harvest completed Huron District, fair quality. Planting spring crop 65% done. Palo Verde Valley harvest continued, excellent market conditions. Red, yellow onions planted Westside. Movement of fall potatoes from cellars Tulelake-Butte Valley increased as prices strengthened. Light amounts red, white variety winter potatoes, dug Hemet. Processing tomato growers fumigating soil, preparation for planting 1988 crop. Livestock good, statewide. Movement to market light, northern districts. Supplemental feeding heavy Shasta, Calaveras Counties. Fresno feedlots, slightly more than 50% capacity. Range, pasture normal or above normal due to heavy rains. Water supply levels improved most areas. Calving active.

**COLORADO:** Very little precipitation statewide. Mountain areas received up to 6 in. of snow. Lower elevations little to no rain or snow. Average temperatures 2 to 3° below normal southern portions, 2 to 4° above normal other areas.

Major activities feeding, care of livestock, harvesting few remaining fields of corn and sorghum.

**FLORIDA:** Mostly dry, cool. Successive cold fronts promoted progressive cooling trend. Some scattered frost across north, 3rd, 4th followed on 5th, 6th by light freeze, frost north with patchy frost cold locations into central, portions of northern Everglades. Temperatures averaged 4 to 8° below normal. Rain less than 0.10 in. extreme south, 1st.

Soil moisture mostly adequate. Winter wheat planting good progress. Cotton harvest nearly complete. Sugarcane harvest good progress; planting cane continued. Winter grazing crops, Panhandle through central Peninsula, continued good progress; generally favorable moisture levels. Scattered frost further reduced grazing many permanent pastures upper Peninsula. Grazing seasonally fair to mostly good Panhandle, fair most of upper Peninsula, good to excellent lower Peninsula where low lying areas continued drying from earlier rains. Cattle, calves continued fair to mostly good. No rain citrus areas; however, moisture adequate. Cold temperatures helpful in slowing tree, foliage growth. Orange, grapefruit harvest for processing increased all areas. Fresh white, colored grapefruit movement active, mainly east coast locations. Caretakers very busy preparing for winter season. Cooler temperatures, extremely limited rainfall vegetable producing areas. Land preparation, planting, harvest active. Good volume tomatoes, peppers, cucumbers, squash, celery, sweet corn, snap beans, lettuce. Lesser volume cabbage, carrots, eggplant, escarole, radishes, watermelon harvested. Regular carrots dug Zellwood area.

**GEORGIA:** Temperatures 5° below normal. Extremes 16° Clayton on 5th to 68° Bainbridge on 3rd. Rainfall limited to northeast corner, weekly totals under 0.33 in.

Days suitable for fieldwork 5.6. Soil moisture 9% very short, 52% short, 39% adequate. Sorghum grain 99% harvested, 95% 1986. Soybeans 2% very poor, 17% poor, 63% fair, 15% good, 3% excellent; 97% harvested, 72% 1986, 79% avg. Wheat 3% poor, 51% fair, 42% good, 4% excellent; planting active 80%, 70% 1986, 73% avg.; 51% emerged, 60% 1986. Pecans 71% harvested, 66% 1986, 73% avg. Stick tights continued to cause problems. Pasture helped by rain some areas. Cattle fair to good. Hogs fair to mostly good. Main activities: Planting wheat, rye oats; harvesting cotton, pecans, soybeans.

**HAWAII:** Improved weather. Mostly cloudy, light showers windward areas at night. Trade winds 10 to 25 mph gusts to 30 mph. Temperatures low 70s to mid-80s. Rainfall none to 3.10 in.

Days suitable for fieldwork 7.0. Banana, papaya production steady. Chinese, head cabbage supplies steady, good quality. Tomato production higher. Head lettuce output light, serious disease problem. Vine, bush, tree crops hampered by winds. Most vegetables improved. Overall crop fair to good.

**IDAHO:** Temperatures above normal. Precipitation below normal southeast, above normal rest of State.

Field activity slow due to weather. Activities included shop work, movement of grain, preparing machinery for winter. Livestock remained good. Activities included feeding hay to supplement pastures, pregnancy testing, some lambing.

**ILLINOIS:** Temperatures averaged 1 to 2° of normal. Precipitation totals 0.50 to 0.75 in. few locations, mostly 0.25 to 0.50 in.

Winter wheat mostly good, again helped by good rains.

**INDIANA:** Temperatures averaged normal to 4° above normal for lows, 3 to 10° below normal for highs. Lows in mid to upper teens to low 20s, highs upper 30s to upper 50s. Precipitation widespread 1.25 in. north to 0.10 in. south.

Soil temperatures warm enough to support slow growth of winter wheat, pastures south. Rain halted field activities. Other activities: Machinery repair, livestock chores, selling grain, processing tobacco, record keeping. Recent showers helped wheat condition, relieved dry soils many areas.

**IOWA:** Near seasonal temperatures, below normal precipitation. Temperature extremes 46° Lamoni 2nd to 10° Decorah 4th. Early week snow cover primarily western areas some northeast counties, diminished to little or none on weekend.

Scattered rains over weekend slowed field activities. Livestock mostly good. Major activities feeding, care of livestock, machinery repair, spreading manure.

**KANSAS:** Temperatures averaged well above normal. District averages 39° north central to 45° southwest. Readings 5° above normal north central, northeast, southeast; 9° above normal northwest. Precipitation rather sparse across State. Trace amounts over western third. District averages less than 0.10 in. through central, east.

Harvest remaining sorghum fields, only crop with acreage left to be harvested, made limited progress. Grain moisture levels continued too high to cut southwest, south central districts where few fields left to cut. Wheat streak mosaic continued all areas except east central, southeast, expected to cause above normal loss 1988. More moisture needed western areas for good root development.

**KENTUCKY:** Cool, mostly dry. Daytime lows around 30s, 2° below normal; highs averaged mid 40s, 5° below normal. Precipitation near normal west, 0.50 to 0.75 in.; elsewhere 0.25 in., about 0.50 in. below normal.

Several days favorable for stripping burley. Much burley continued dry, dryness reduced quality. All areas would benefit from additional precipitation. Livestock continued to glean fields, most cattle received some supplemental feed.

**LOUISIANA:** Temperature 1 to 4° below normal. Temperature extremes 28°; 78°. Rainfall averaged none to 0.01 in.

Days suitable for fieldwork 5.0. Soil moisture 14% short, 77% adequate, 9% surplus. Winter wheat fair to good; 95% planted, 82% avg. Sugarcane good; 90% harvested, 77% avg. Pecans 79% harvested. Livestock good. Pastures, vegetables fair to good. Main activities: Harvesting sugarcane, pecans; planting winter wheat; topdressing pastures.

**MARYLAND & DELAWARE:** Maryland: Average temperature 42°, normal 40°. Precipitation averaged 2.01 in.

Main farm activities harvesting soybeans, fall vegetables, caring for livestock.

Delaware: Average temperature 44°, normal 41°. Precipitation averaged 1.90 in.

Main farm activities harvesting soybeans, fall vegetables, caring for livestock.

**MICHIGAN:** Temperatures ranged 2 to 6° above normal. Temperature extremes 1°; 51°. Precipitation 0.32 to 1.45 in. across State. Rain, wet snow most areas. Snowfall totals 2 to 3 in. common Lower Peninsula, heavier amounts Upper Peninsula.

Winter wheat good to excellent. Activities: Machinery maintenance, spreading manure, marketing hay, grain, fruits, vegetables, attending farm organization meetings; livestock very good, some still on pasture, feed supplies adequate.

**MINNESOTA:** Temperatures averaged near normal to 6° above normal. Extremes -10°; 44°. Precipitation averaged 0.26 in. below normal to 0.13 in. above normal. Precipitation totals averaged 0.03 to 0.31 in. Greatest weekly total 0.55 in. Snowfall averaged 3 to 5 in. southeast, south central; trace to 2 in. elsewhere. Snow depth weeks end averaged trace or less north central, northeast; 1 to 3 in. elsewhere.

Livestock remained good.

**MISSISSIPPI:** Temperatures 1 to 6° below normal; extremes 19°; 75°. Fair skies, cool temperatures; almost no precipitation. Greatest 24-hour rainfall 0.01 in.; greatest weekly total 0.01 in.

Days suitable for fieldwork 5.6, 1.5 1986, 2.0 avg. Soil moisture short to adequate. Soybeans 100% harvested, 88% 1986, 88% avg. Cotton 100% harvested, 100% 1986, 95% avg. Wheat 89% planted, 84% 1986, 80% avg. Pecans 60% harvested, 82% 1986, 75% avg. Hay supply mostly adequate. Feed grain supply adequate. Livestock fair to good. Wheat mostly good. Pastures poor to fair.

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

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

**MONTANA:** Mild week, temperatures 5 to 15° above normal. Precipitation west, southwest. Southwest received 0.10 in. West precipitation 0.10 in. south to over 2.00 in. extreme northwest.

Topsoil moisture supply mostly short. Subsoil moisture short to adequate. Winter wheat fair to good. Wind damage to winter wheat fields mostly light. Number livestock receiving supplemental feed less than average. Winter range, pastures fair to good.

**NEBRASKA:** Week dry, only trace amounts of precipitation. Temperatures averaged above normal across State ranging 3° east to 10° above normal west. Extremes 6°; 69°.

**NEVADA:** Split flow jet pattern produced light precipitation north midweek. Second Pacific storm end of period mostly southern half. Precipitation most stations. Temperatures averaged near normal south, 4 to 9° above north. Temperature extremes 4°; 67°.

Major ranch, farm activities caring for, feeding livestock. Feeding requirements increased by colder weather. Movement potatoes to market slowed by inclement weather.

**NEW ENGLAND:** Average precipitation (rain or equivalent of snow) ranged 1.00 to 1.50 in. over Vermont, New Hampshire, Massachusetts, Rhode Island. Amounts between 1.50 to 2.00 in. from northern Maine, interior Connecticut. Highest amounts 2.00 to 2.50 in. over southern Maine, coastal Connecticut. Average temperature 30° near Canadian border to near 40° along south coast. Temperatures slightly above normal for this time of year.

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

**NEW JERSEY:** Temperatures near normal, averaged 37° north, 40° south, 42° coastal. Extremes 21°; 59°. Precipitation below normal, averaged 0.07 in. north, 0.12 in. south, 0.17 in. coastal. Heaviest 24-hour total 0.23 in. on 3rd, 4th.

Farm activities consisted mainly of fruit pruning, marketing crops from storages, caring for livestock.

**NEW MEXICO:** Temperatures 0° Quemado to 79° Carlsbad. Temperatures 10° above normal east, central areas. Light precipitation scattered areas.

Days suitable for fieldwork 6.7. Soil moisture 86% short, 14% adequate. Cotton 11% fair, 78% good, 11% excellent; 65% harvested, statewide. Harvest conditions near ideal; good to above average yields continued. Barley 50% fair, 50% good. Wheat 9% poor, 63% fair, 28% good; moisture still needed statewide. Irrigated grain sorghum 22% fair, 67% good, 11% excellent. Dryland sorghum 33% fair, 50% good, 17% excellent. Harvest 90% to 95% statewide. Corn 20% fair, 60% good, 20% excellent. Pecans 20% fair, 80% good; harvest continued. Red chile fair to good; harvest continued. Cattle 14% fair, 86% good. Sheep 9% fair, 91% good. Range 7% poor, 64% fair, 29% good.

**NEW YORK:** Widespread snow on 3rd, 4th left 1 to 4 in. Precipitation above normal. Mild weather, night time cloudiness resulted in temperatures several degrees above normal.

Producers busy maintaining machinery, doing end of year chores.

**NORTH CAROLINA:** Temperatures averaged 3° below normal mountains; 1° below normal piedmont; 2° above normal coast. Temperature extremes 15°; 73°. Precipitation 0.08 to 2.12 in. across State.

Days suitable for fieldwork 4.0. Soil moisture 22% short, 70% adequate, 8% surplus. Soybeans 88% harvested, 48% 1986, 65% avg. Wheat 90% planted, 89% 1986, 86% avg.; 77% emerged, 79% 1986. Oats 95% planted, 94% 1986, 92% avg. Barley 97% planted, 95% 1986, 97% avg. Rye 92% planted, 90%

1986, 90% avg. Small grains fair to mostly good. Pasture 2% very poor, 11% poor, 43% fair, 41% good, 3% excellent. Hay, roughage supplies 3% short, 91% adequate, 6% surplus; feed grains 10% short, 87% adequate, 3% surplus. Major farm activities: Harvesting soybeans, cotton; seeding small grains; digging, tagging Christmas trees; tending livestock; fall plowing; preparing tobacco plantbeds; marketing peanuts, soybeans, cotton; general farm maintenance.

**NORTH DAKOTA:** Cloudy, varied precipitation. Temperatures near normal east, 6 to 10° above normal west. Extremes -1° east central 4th; 58° southwest 4th. Precipitation heaviest east central, northeast, 0.57 to 0.64 in.; trace, west.

Soil moisture below normal. Inadequate snow cover for winter grains, alfalfa; 2 to 3 in. east, none west. Winter grains fair to good. Livestock mostly good, pneumonia in dusty feedlots. Pastures open for grazing 74%. Feed supplies adequate. Insects in stored grain.

**OHIO:** Temperatures averaged 6° below normal. Greatest departures southwest areas. Soil temperatures at depth of 4.00 in. came close to freezing mark but bottomed out in lower 30s. Precipitation near to above normal across northern areas, below normal over southern areas. Weekly totals most areas close to 0.50 in.

Cold, wet weather limited outdoor activity. Precipitation aided soil moisture supplies for winter wheat growth. Weather conditions better for getting tobacco in case; markets open. Livestock not stressed.

**OKLAHOMA:** Temperatures averaged 3° above normal north central, southeast to 10° above normal southwest. Precipitation averaged none northwest two-thirds to 0.72 in. south central.

Days suitable for fieldwork 5.4. Topsoil moisture 30% short, 62% adequate, 8% surplus. Subsoil moisture 5% short, 95% adequate. Wheat 15% fair, 80% good, 5% excellent. Warm temperatures boosted growth. Greenbugs increased. Cattle grazing 45% wheat acreage. Cotton 55% harvested, 15% 1986, 50% avg. Sorghum 90% harvested, 80% 1986, 95% avg. Soybeans 85% harvested, 70% 1986, 85% avg. Peanuts 97% harvested, 97% 1986, 95% avg. Pastures, livestock good. Cattle marketings, prices stable.

**OREGON:** Temperatures across State averaged above normal; highest departure 13° above normal. Precipitation all stations. Coastal locations received from 4.00 to over 10.00 in. of rain; other stations generally received less than 4.00 in.

Soil moisture mostly adequate west, short to adequate east. Snow high elevations. Western winter wheat fields good, eastern fields behind normal. Pruning of caneberries, tree fruit continued. Livestock good to excellent; range, pasture poor to fair.

**PENNSYLVANIA:** Seasonably cold, wet. Average temperature 35°, normal 35°. Temperature extremes 20°; 61°. Average precipitation 1.41 in., 0.68 in. above normal.

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

**PUERTO RICO:** Island average rainfall 3.19 in., 2.03 in. above normal. Highest weekly total rainfall 9.37 in. Toro Negro, 8.13 in. Yauco, 7.48 in. Lajas Aes. Highest 24-hour total 9.26 in. Toro Negro. San Juan mean temperature 81°, 2° above normal. Total rainfall 0.18 in., 1.03 in. below normal. Divisional temperature averaged 79 to 82° on coasts, 69 to 78° interior, mean station temperature 69° Pico Del Este-Luquillo to 82° San

Juan City. Lowest minimum temperature 57° Adjuntas Aes. Highest maximum temperature 92° San Juan City.

SOUTH CAROLINA: Rainfall statewide less than 0.10 in., temperatures 6 to 8° below normal.

Days suitable for fieldwork 5.1. Soil moisture 52% short, 48% adequate. Cotton 99% harvested, 87% 1986, 90% avg. Soybeans 89% harvested, 64% 1986, 63% avg.; 2% very poor, 6% poor, 64% fair, 28% good. Wheat 78% planted, 68% 1986, 66% avg.; fair to good.

SOUTH DAKOTA: Average temperatures 0 to 12° above normal. Extremes 4°; 69°. Black Hills low -1°. Precipitation extreme east 0.25 to 0.75 in. Snow cover 1 to 3 in. southeast corner. 1 in. or less northeast. Rest of State snow free.

Mild dry fall weather hard on winter wheat. Winter wheat acres little or no precipitation after planting in early September. Need good soaking rain or snow that melts in place prior to freeze to reduce potential winterkill. Dry fall also favored development of greenbugs, aphids which added to drought stress. Need freeze to kill them off. Outlook for winter wheat survival below average this fall.

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

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

TEXAS: Very warm, dry conditions prevailed. Dry breezes from south, southwest kept humidities low. Weekend low pressure system moved southeastward, thunderstorms eastern, southern. Almost all areas below normal rainfall, except east, Blacklands. Temperatures all areas at or above normal.

Crops: Grain sorghum producers Plains winding down harvest operations with good weather. Yields good dryland, irrigated. Sorghum 99% harvested, 95% 1986, 98% avg. Cotton harvest rapid pace Plains, Trans-Pecos. Yields continued excellent, quality good because favorable weather during harvest. Most gins running 24-hours day, many still have stockpiles. Cotton 97% open bolls, 92% 1986, 97% avg. Small grains Blacklands, central, east benefited from rain; more rain needed carry crop through winter. Plains many fields declined under dry conditions. Forage grazing decreased. Many stands thin. Irrigation continued, fields good. Dry conditions slowed planting few remaining fields to be planted. Some replanting started. Deer caused problems some southern areas, Hill Country. Wheat 99% planted, 100% 1986, 98% avg.; 97% emerged, 96% 1986, 91% avg. Soybean harvest Upper Coast slowed by wet fields; average yields. Peanut harvest some progress Cross-Timbers, central. Grades continued to improve. Harvest almost complete southern areas. Other crops planted: Oats 98%, 94% 1986, 94% avg. Other crops harvested: Peanuts 92%, 94% 1986, 89% avg. Pecans 66%, 83% 1986, 69% avg. Soybeans 97%, 92% 1986, 89% avg. Sugarbeets 97%, 66% 1986, 87% avg. Sunflowers 99%, 93% 1986, 94% avg.

Commercial Vegetables: Rio Grande Valley good weather allowed harvest cabbage, tomatoes, celery. Harvest increased lettuce. Onions good progress. San Antonio-Winter Garden harvest cabbage, carrots, peppers, tomatoes, spinach continued. Growth onions, other vegetables good. Harvest pecans good

progress. Quality fair to good. Harvest increased Trans-Pecos. Predators losses scattered areas.

Range and Pasture: Ranges showed some improvement wetter areas; many portions remained dry. Small grains provided some grazing, forage declined many dryland fields. Supplemental feeding increased. Livestock good. Marketings steady.

UTAH: Precipitation light north, none rest of State. Temperatures 2° below to 3° above normal. Snow cover light.

Major farm activities: Attending commodity organization, extension meetings, livestock chores, marketing feeder calves, lambs, equipment maintenance, year end records. Livestock good to excellent. Feed supply adequate.

VIRGINIA: Period began with rain. Variably cloudy mid period. Brisk winds, then cold rain end period. Temperatures averaged normal, range 15 to 71°. Precipitation averaged 1.00 in.

Days suitable for fieldwork 2.9. Topsoil moisture 12% short, 51% adequate, 37% surplus. Soybeans 94% harvested, 68% 1986, 79% avg. Pastures, winter grains, livestock good to excellent. Normal winter chores active. Marketed burley, dark fire-cured tobacco. Livestock care, feeding active.

WASHINGTON: Early week high pressure temporarily provided dry weather statewide. Northwest flow kept temperatures cool. Series of weather disturbances moved through State bringing significant rainfall to all counties. Snow levels in Cascades generally stayed between 3,000 to 5,000 ft.

Days suitable for fieldwork 5.2. Soil moisture 60% short, 40% adequate. Cool temperatures, precipitation provided good snow cover for winter wheat Douglas County. Winter wheat, other counties mostly fair. Winter meetings began for farmers. Most field activity completed. Winter feeding of livestock in progress. Apple, concord grape pruning major activities for orchardists.

WEST VIRGINIA: Average temperature 34°; 1° above northeast, 1° below north central, 4 to 8° below elsewhere. Extremes 12° Greenbank; 53° Moorefield. Precipitation averaged 0.53 in.; 0.01 to 0.05 in. above north central, northwest; 0.04 to 0.30 in. below elsewhere.

Days suitable for fieldwork 3.4. Soil moisture 40% short, 60% adequate. Farm activities: Livestock care, farm maintenance, plowing, harvesting corn. Wheat, barley good to fair. Feed supplies adequate to short.

WISCONSIN: Temperatures slightly above normal. Extremes 5°; 41°. Snow 8 to 10 in. far north on 30th; trace to 4 in. on 6th. Average snow depth 1 in., average frost depth 0.50 in. on 4th.

Topsoil moist. Subsoil dry to moist north, mostly moist central, south.

WYOMING: Temperatures mostly above normal. Very dry week.

Winter wheat fair to good. Livestock mostly good. Winter pastures being utilized. Supplemental feeding in areas with snow cover. Hay supplies adequate or better. Marketing of livestock continued.

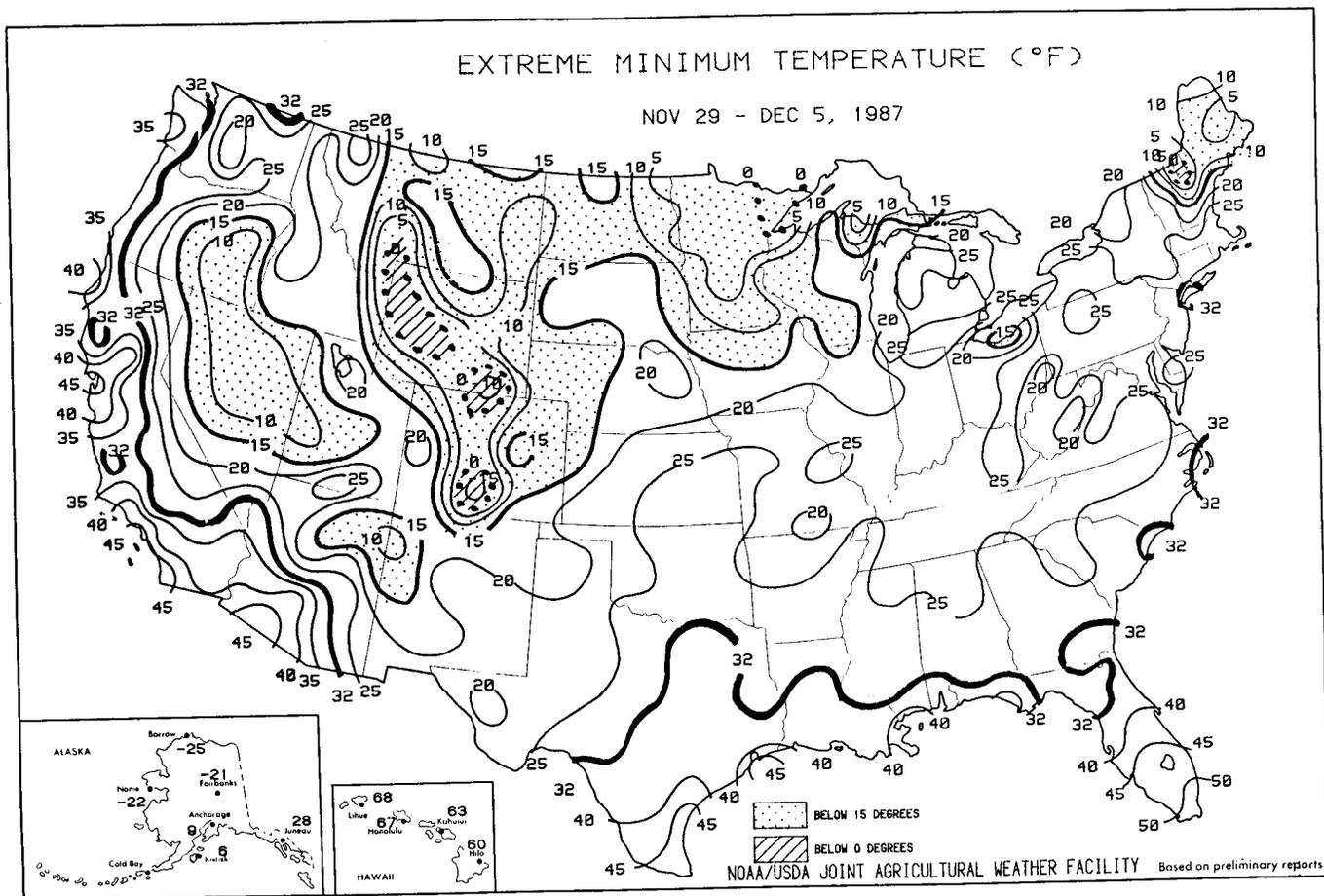
Crop Progress

FOR WEEK ENDING DECEMBER 6, 1987

	COTTON % HARVESTED		
	1987	1986	AVG.
ALA	100	97	97
ARIZ	95	94	93
ARK	100	99	97
CALIF	98	97	94
GA	98	85	91
LA	100	100	97
MISS	100	100	95
MO	100	99	98
N MEX	65	53	75
N C	100	91	87
OKLA	55	15	50
S C	99	87	90
TENN	100	96	99
TEX	71	51	65

14 STATES                    85    74    81

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



International Weather and Crop Summary

November 1987

MONTHLY DATA FROM SELECTED FOREIGN CITIES  
CLIMATE ANALYSIS CENTER-NMC-MAS-NOAA

\*\*\* = DATA NOT AVAILABLE

Nov. 29 - Dec. 5, 1987

HIGHLIGHTS:

UNITED STATES...Dry weather pushes row crop harvest closer to completion in the Southeast and Southern Great Plains. Cotton harvest advances significantly in Oklahoma and Texas.

WESTERN U.S.S.R....Rain changes to snow over winter wheat areas. Crop areas in the Baltic States, the southern and eastern Ukraine, and the North Caucasus lack a protective snow cover.

EUROPE...Rain continues to delay winter grain planting in the south. Dry, cool weather favors cold hardening of crops in the north.

SOUTH ASIA...Rain in southeastern India boosts irrigation for rice planting. Most cotton areas are dry.

NORTHWESTERN AFRICA...Rain benefits winter grain emergence and early growth.

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

SOUTHEAST ASIA...Frequent, heavy rain causes flooding along the Malay peninsula and in the Philippines. Dry weather covers filling to maturing Thai rice.

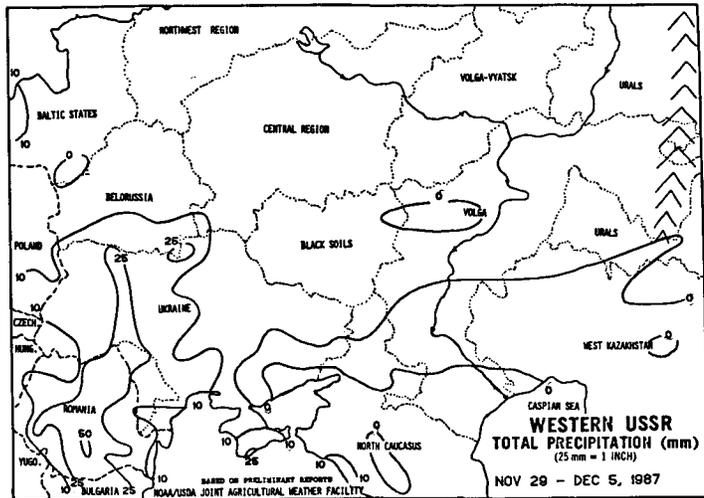
EASTERN ASIA...Scattered showers continue to delay late rice harvest along the southeast coast.

SOUTH AMERICA...Beneficial rain provides favorable topsoil moisture for crop establishment in Argentina and south-central Brazil.

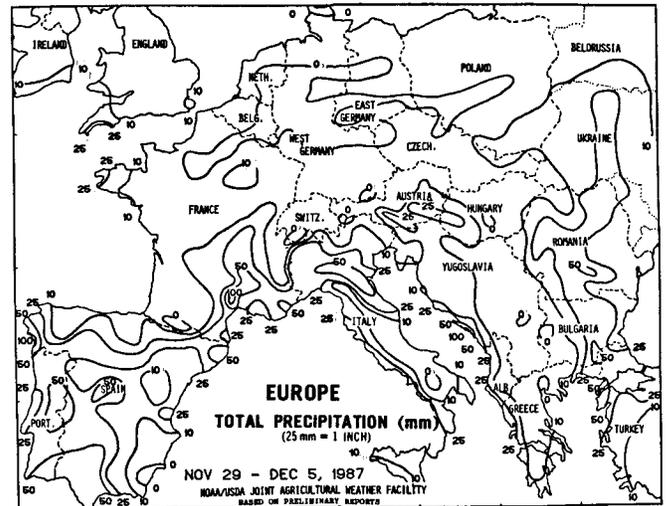
AUSTRALIA...Moderate to heavy rain causes harvest delays across southern production areas.

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG MAX	AVG MIN	HI	LO	DPART	F/NRM	TOTAL	F/NRM
NORWAY	OSLO	0	-3	8	-18	-2	-0.3	113.3	21.2
SWEDEN	STOCKHOLM	4	1	10	-11	3	-0.1	70.9	19.8
FINLAND	HELSINKI	1	-2	9	-15	0	-0.9	57.3	-10.3
U KING	GLASGOW	9	5	14	-5	7	0.0	69.0	-44.3
	EDINBURGH	9	4	14	-4	6	0.6	24.6	-39.6
	BIRMINGHAM	9	4	12	-5	6	0.1	56.4	-5.8
	LONDON	10	4	13	-6	7	0.5	69.8	-12.7
IRELAND	DUBLIN	10	5	14	0	7	0.3	47.8	-21.3
ICELAND	REYKJAVIK	6	3	10	-5	4	2.6	86.4	7.6
DENMRK	COPENHAGEN	7	4	11	0	6	0.2	70.4	22.4
LUXEMB	LUXEMBOURG	6	3	12	-1	5	0.4	93.1	19.5
SWITZL	ZURICH	8	4	16	-1	6	1.7	60.8	-19.0
	GENEVA	9	4	14	-2	7	1.4	59.4	-37.1
FRANCE	PARIS	9	4	16	-1	7	0.3	43.6	-11.2
	STRASBOURG	8	4	14	-2	6	1.3	34.6	-13.0
	BOURGES	10	4	16	-1	7	0.4	67.0	5.4
	BORDEAUX	13	6	20	-1	9	0.9	97.0	0.5
	TOULOUSE	13	6	22	-1	9	1.2	40.9	-13.8
	MARSEILLE	14	7	19	-2	11	0.2	57.4	-5.8
SPAIN	VALLADOLID	12	5	20	-3	8	1.3	14.1	-36.5
	MADRID	15	4	21	-4	10	0.7	54.1	-11.9
	SEVILLE	19	10	23	3	15	0.4	49.7	-28.4
E GRMY	LEJPCZIG	7	3	12	-4	5	0.7	52.3	15.8
	DRESDEN	7	4	12	0	5	1.1	78.2	36.2
W GRMY	HAMBURG	8	5	12	1	7	1.8	77.6	13.9
	BERLIN	8	5	12	1	6	1.4	70.0	22.9
	DUSSELDORF	8	5	14	-1	7	0.4	89.2	26.2
	STUTTGART	8	2	14	-4	5	1.0	61.9	14.3
	NURNBERG	7	3	12	-3	5	1.0	44.0	2.8
	MUNICH	7	1	12	-4	4	0.7	57.4	0.1
AUSTRI	VIENNA	8	3	13	-4	5	0.7	29.7	-12.2
	INNSBRUCK	9	1	14	-3	5	1.7	87.4	28.5
CZECH	PRAGUE	6	2	11	-3	4	1.1	20.9	-6.8
POLAND	WARSAW	6	2	11	-5	4	0.7	42.2	2.4
	LODZ	6	3	12	-2	4	2.0	61.3	22.2
	KATOWICE	7	3	14	-3	5	2.5	57.0	16.1
	PRZEMYSL	6	3	13	-3	4	0.8	39.2	-5.3
HUNGAR	BUDAPEST	8	3	14	-3	5	0.2	50.5	-4.1
YUGOSL	SARAJEVO	10	2	18	-5	6	0.1	221.2	110.2
ROMANI	BUCHAREST	11	3	18	-3	7	1.2	63.6	16.5
BULGAR	SOFIA	10	4	20	-10	7	0.5	89.7	39.4
ITALY	MILAN	11	6	17	0	8	1.8	62.8	-48.2
	VERONA	12	6	17	2	9	1.8	82.4	2.5
	VENICE	12	5	17	-1	8	0.2	69.6	-27.2
	GENOA	16	10	22	5	13	0.7	107.0	-52.3
	ROME	18	10	22	5	14	1.5	202.2	95.5
	NAPLES	18	9	23	3	14	1.2	261.9	108.5
GREECE	THESSALONIKA	14	8	20	1	11	-0.4	130.7	79.4
	LARJSSA	15	6	20	-1	10	-1.0	89.1	35.1
	ATHENS	18	12	22	6	15	-1.1	92.9	36.5
TURKEY	ISTANBUL	15	10	19	5	12	0.8	48.6	-39.4
	ANKARA	11	-1	17	-5	5	-0.7	27.3	2.3
CYPRUS	LARNACA	22	11	25	7	17	-1.1	8.1	-30.0
USSR	TALLINN	2	-1	9	-9	1	0.0	49.8	-7.2
	LENINGRAD	-1	-4	5	-13	-2	-2.2	54.5	2.0
	KAUNAS	4	0	9	-6	2	0.3	41.6	-8.3
	MINSK	3	-1	7	-14	1	0.3	73.3	25.6
	KAZAN	-7	-12	7	-25	-9	-5.4	19.0	-17.7
	MOSCOW	-2	-6	5	-20	-4	-2.0	52.9	4.1
	SVERDLOVSK	-9	-16	6	-33	-12	-7.3	15.2	-11.9
	OMSK	-12	-18	3	-35	-15	-6.7	23.6	0.8
	KUSTANAY	-6	-14	7	-30	-10	-4.1	25.1	3.7
	KRASNOYARSK	-9	-16	3	-39	-13	-4.0	12.2	-22.5
	NOVOSIBIRSK	-12	-19	4	-40	-16	-5.9	28.4	0.5
	BARNAUL	-12	-18	5	-39	-15	-7.3	29.5	-7.6
	KHABAROVSK	-8	-16	3	-27	-12	-3.6	26.7	10.9
	VLADIVOSTOK	0	-7	11	-19	-4	-2.5	29.5	-4.6
	KIEV	4	0	11	-5	2	0.1	52.7	1.4
	LVOV	6	2	10	-3	4	1.2	43.9	-4.2
	KIROVOGRAD	5	1	12	-9	3	0.7	34.9	-0.4

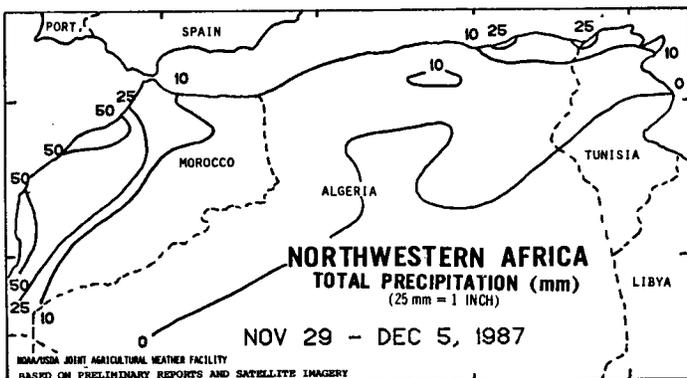
COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			
November 1987		AVG	AVG	HI	LO	DPART	DPART		DPART	November 1987		AVG	AVG	HI	LO	DPART	DPART		DPART	
		MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM			MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM	
USSR	ODESSA	8	5	15	1	6	0.3	52.3	3.2	KENYA	NAIROBI	26	14	30	11	20	1.0	61.2	-70.6	
	YALTA	12	8	21	4	10	0.6	57.9	-3.1	TANZAN	DAR ES SALAAM	33	22	35	19	27	0.8	9.6	-05.2	
	VORONEZH	0	-5	6	-13	-3	-2.3	40.3	-3.8	GABON	LIBREVILLE	29	24	30	22	27	0.8	453.9	-68.9	
	SARATOV	-4	-8	6	-19	-6	-3.7	50.5	20.0	TOGO	LOME	33	25	34	24	29	2.2	0.1	-22.3	
	KHARKOV	2	-2	9	-9	0	-1.6	41.2	0.1	E FASO	OUAGADOUGOU	37	19	39	12	28	0.0	0.1	-1.4	
	VOLGOGRAD	1	-5	12	-14	-2	-1.7	20.8	-12.8	IVRY C	ABIDJAN	32	25	34	23	29	1.8	74.4	-84.7	
	ROSTOV	5	1	17	-6	3	-0.6	33.2	-15.7	MOZAMB	MAPUTO	28	21	35	17	24	0.4	48.2	-17.1	
	ASTRAKHAN	5	-1	12	-11	2	-0.7	33.5	19.7	ZAMBIA	KABWE	29	19	32	18	24	1.4	27.3	-75.0	
	KRASNODAR	10	4	21	-2	7	0.5	92.9	32.4	S AFRI	PRETORIA	28	17	33	13	23	2.1	157.7	48.3	
	ORENBURG	-5	-11	7	-23	-8	-5.4	46.2	7.7		JOHANNESBURG	26	15	31	11	20	2.3	208.0	88.5	
	TSELINOGRAD	-9	-17	12	-35	-13	-4.7	47.4	35.9		BETHAL	24	14	30	11	18	0.4	225.0	98.0	
	KARAGANDA	-8	-15	8	-38	-12	-5.6	48.1	27.0		DURBAN	25	19	33	15	22	0.7	129.7	26.3	
	TBILISI	11	4	19	0	8	-0.3	9.3	-19.7		CAPE TOWN	22	12	29	8	17	-0.4	10.0	-7.7	
	TASHKENT	13	3	26	-13	8	1.0	8.0	-39.8	CANADA	TORONTO	8	-1	22	-13	4	0.2	83.7	20.9	
	ASHKHABAD	15	4	29	-6	10	0.7	6.6	-14.3		MONTREAL	5	-4	18	-15	1	-1.1	111.5	30.4	
SYRIA	DAMASCUS	21	3	24	-1	12	-1.2	5.9	-21.3		WINNIPEG	4	-6	15	-15	-1	3.4	11.6	-13.6	
ISRAEL	JERUSALEM	20	9	25	5	15	-1.0	16.3	-42.4		REGINA	6	-8	17	-15	-1	4.2	0.9	-12.7	
PAKIST	KARACHI	33	15	37	-2	24	0.3	0.1	-5.5		SASKATOON	5	-7	14	-17	-1	4.8	1.3	-13.0	
INDIA	AMRITSAR	28	7	30	3	17	-0.5	0.1	-6.1		LETHBRIDGE	10	-3	19	-16	4	4.3	3.8	-13.0	
	NEW DELHI	30	12	33	8	21	0.5	0.1	-4.8		CALGARY	9	-5	19	-19	2	4.5	5.6	-7.1	
	AHMEDABAD	35	19	38	15	27	2.0	0.1	-8.6		EDMONTON	6	-4	13	-11	1	4.6	3.6	-12.2	
	INDORE	31	14	35	11	22	0.8	18.0	-2.1		VANCOUVER	11	6	15	-2	8	2.5	137.0	-13.0	
	CALCUTTA	30	20	32	14	25	1.2	17.2	1.4	MEXICO	GUADALAJARA	26	8	29	4	17	-0.3	3.0	-10.4	
	VERAVAL	35	21	40	19	28	1.7	0.1	-6.2		MEXICO CITY	23	9	25	6	16	2.4	7.5	-6.2	
	BOMBAY	34	23	37	19	29	2.0	1.2	-6.1		ACAPULCO	34	23	36	14	29	0.9	26.2	-26.9	
	POONA	31	16	33	11	23	0.8	8.6	-21.2		BERMUD	ST. GEORGES	23	20	26	16	22	0.2	31.1	-87.8
	BEGAMPET	28	19	31	15	24	1.3	238.0	222.1		BAHAMA	NASSAU	28	22	32	20	25	1.8	24.0	-41.0
	NADRAS	31	24	38	20	27	1.2	257.9	-90.6		CUBA	HAVANA	28	22	32	20	25	1.3	129.4	58.5
	MANGALORE	32	23	34	19	27	0.1	118.9	47.8		JAMAIC	KINGSTON	32	25	34	21	28	1.4	84.9	11.9
H KONG	HONG KONG	24	20	29	8	22	0.5	76.8	42.3		P FICO	SAN JUAN	30	24	32	22	27	0.7	228.0	72.5
N KREA	PYONGYANG	8	-1	17	-14	4	-0.1	55.1	6.1		GUADAL	RAIZET	31	23	33	20	27	1.5	114.9	-22.6
S KREA	SEOUL	12	4	19	-9	8	1.6	68.9	32.8		MARTIN	LAMENTIN	30	24	32	22	27	1.6	87.7	-87.3
JAPAN	SAPPORO	7	1	14	-8	4	-0.4	82.5	-21.2		BARBAD	BRIDGETOWN	30	25	30	24	27	0.6	68.3	-77.6
	NAGOYA	17	9	22	2	13	1.5	41.0	-33.5		TRINID	PORT OF SPAIN	31	24	33	21	27	1.7	128.0	-80.4
	TOKYO	16	10	26	3	13	0.5	45.5	-47.7		COLOMB	BOGOTA	20	7	27	1	14	0.7	76.3	-17.2
	YOKOHAMA	16	9	26	4	13	0.5	58.1	-46.2		VENEZU	CAPACAS	32	25	35	23	28	1.6	29.4	-22.0
	OSAKA	17	8	23	2	13	1.9	50.5	-32.8		F GUIA	CAYENNE	32	24	33	23	28	2.1	8.7	-144.9
	KYOTO	18	10	25	4	14	1.3	42.0	-31.5		BRAZIL	FORTALEZA	31	25	33	21	28	0.4	1.1	-11.8
THAILN	PHETCHABUN	32	23	34	18	28	2.6	60.0	40.4		RECIFE		30	23	38	21	27	0.8	12.2	-20.4
	BANGKOK	32	25	34	21	29	1.5	121.2	73.9		BELO HORIZONTE	29	19	33	14	24	1.8	175.4	-71.7	
MALAYS	KUALA LUMPUR	31	24	36	20	28	1.5	169.0	-109.9		CAMPO GRANDE	32	21	35	16	26	2.3	97.8	-66.3	
VIENTNA	HANOI	25	20	32	13	22	0.4	132.0	88.8		FRANCA		27	19	32	17	23	2.1	113.2	-92.8
CHINA	HARBIN	-3	-13	7	-27	-8	-0.8	23.9	17.1		RIO DE JANEIRO	28	22	33	19	25	1.0	45.7	-63.4	
	HAMI	5	-6	13	-22	-1	-0.3	4.6	3.2		LONDRI	NA	29	19	34	16	24	1.8	301.1	157.8
	LANCHOW	11	-2	20	-12	4	2.5	0.1	-5.4		SANTA MARIA	26	17	32	11	21	0.1	97.0	-14.0	
	BEIJING	9	0	18	-11	4	0.3	25.8	19.1		PORTO ALEGRE	27	18	32	10	23	1.2	150.0	75.1	
	TIENTSIN	9	2	18	-9	5	0.0	15.3	5.7	PERU	LIMA	23	17	28	12	20	2.0	1.4	1.4	
	LHASA	14	-4	18	-8	5	1.8	0.1	-1.7	BOLIVI	LA PAZ	14	4	18	2	9	-1.5	29.5	-20.6	
	KUMMING	20	9	24	5	14	3.0	43.1	4.5	CHILE	SANTIAGO	27	11	33	8	19	1.3	1.0	-6.2	
	CHENGCHOW	13	2	23	-11	8	-0.1	16.0	-14.6	ARGENT	IGUAZU	31	19	35	14	25	***	254.6	***	
	YEHCHANG	16	9	24	-1	13	0.6	28.4	-16.3		FORMOSA	31	21	37	16	26	1.5	163.9	25.9	
	HANKOW	16	7	24	-3	11	0.3	80.7	30.0		CERES	28	17	35	9	22	-0.4	241.2	135.6	
	CHIH-KIANG	17	9	27	-1	13	0.9	95.1	25.7		CORDOBA	27	16	37	8	21	0.7	111.5	2.0	
	SHANGHAI	17	11	25	-1	14	1.8	32.0	-16.8		RIO CUARTO	26	15	39	8	21	1.2	244.4	128.2	
	NANCHANG	17	11	29	0	14	0.8	75.4	23.2		ROSARIO	26	15	36	5	21	0.7	92.1	-13.8	
	TAIPEI	25	21	33	15	23	2.9	82.4	18.4		BUENOS AIRES	25	14	34	7	20	0.9	176.7	91.0	
	CANTON	24	17	32	5	21	1.4	43.7	6.8		SANTA ROSA	25	13	38	7	19	-0.4	159.9	73.1	
	NANNING	22	16	31	7	19	0.5	86.8	49.0		TRES ARROYOS	23	12	33	5	17	0.5	129.3	61.4	
CNRY I	LAS PALMAS	24	18	29	16	21	1.4	23.5	-5.5	MIDW I	MIDWAY ISLAND	26	21	27	18	23	1.0	64.4	-54.4	
MOROCC	CASABLANCA	20	13	24	7	16	0.6	113.2	49.5	N CALD	NOUMEA	27	20	31	18	23	-0.3	45.3	-12.3	
	MARRAKECH	22	12	28	8	17	1.5	17.3	-16.7	FIJI	NAUSORI	28	22	31	18	25	0.5	124.4	-134.2	
ALGERI	ALGER	21	11	31	3	16	1.0	94.3	-6.6	SAMOA	PAGO PAGO	30	25	32	23	28	0.8	102.1	-182.4	
	BATNA	14	5	25	-1	9	-0.2	24.2	-11.9	TAHITI	PAPEETE	31	23	32	21	27	0.6	108.1	-36.9	
TUNISI	TUNIS	21	12	27	5	16	1.0	46.2	-18.3	N ZHAL	AUCKLAND	20	13	22	9	16	0.3	80.3	-3.6	
NIGER	NIAMEY	37	21	39	18	29	1.0	0.1	0.1		WELLINGTON	18	11	22	5	14	0.9	100.1	7.3	
MALI	TIMBUKTU	36	18	39	11	27	0.0	0.1	0.1		MOREE	28	18	32	11	23	0.1	39.6	-9.2	
	BAMAKO	36	22	38	19	29	2.3	0.1	-7.0		BRISBANE	26	18	35	15	22	-1.0	84.0	-12.3	
MAURIT	NOUAKCHOTT	35	21	41	15	28	2.3	0.1	-5.2		PERTH	24	14	34	8	19	0.3	53.1		



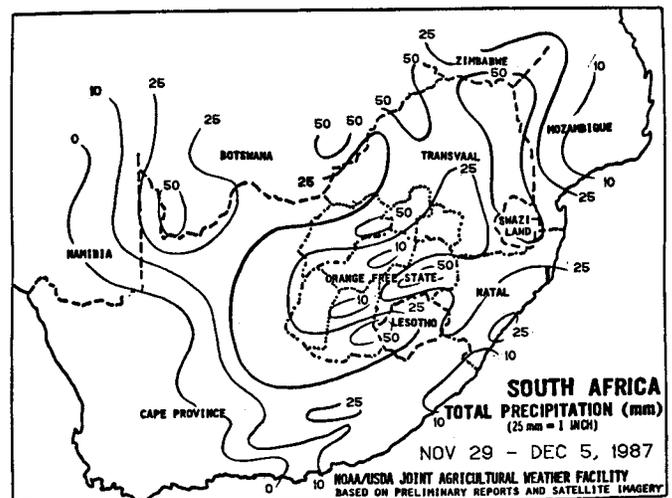
WESTERN U.S.S.R....A southward surge of unseasonable cold air caused rain to briefly change to wet snow over the western and southern Ukraine, and parts of the western North Caucasus. Precipitation amounts ranged from 10-31mm in the western Ukraine, and 2-15mm in the southern Ukraine and North Caucasus. Dry weather generally covered crop areas over the remainder of the region. Coldest weather occurred on December 5, when minimum temperatures over major winter wheat producing areas of the Ukraine and North Caucasus ranged from -5 to -13 degrees C. Crop areas in the Baltic States, the southern and eastern Ukraine, and the North Caucasus still lack a protective snow cover. In south-central U.S.S.R. cotton areas, light snow accompanied unseasonable cold weather over eastern Uzbekistan and southern Tadzhikistan, hampering final harvest efforts already delayed by previous cold, wet weather.



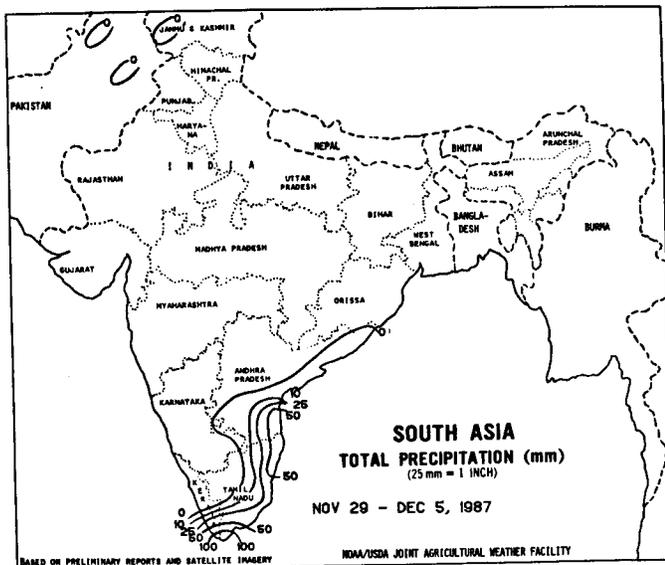
EUROPE...Moderate to heavy rain (20-127mm) continued over much of southern Europe from Portugal eastward to Greece, causing delays in winter grain planting but benefiting soil moisture levels. Rain and some snow also fell over eastern Europe, favoring vegetative to near-dormant winter crops. Mostly dry weather covered northern Europe, allowing soils to dry after an extended wet period earlier in November. Sunny skies and daily mean temperatures between 0 and 5 degrees C were favorable for cold hardening of winter grains from the United Kingdom eastward to Poland. Near-normal daily mean temperatures from 5 to 12 degrees C allowed germination and favored establishment of winter grains in the south.



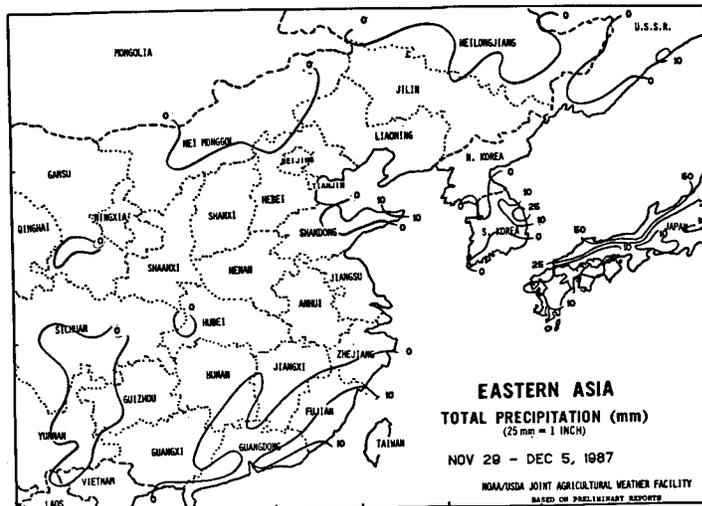
NORTHWESTERN AFRICA...Normally, winter grain planting was well underway across the region. Widespread precipitation (25-50mm) over Morocco continued to provide abundant moisture for winter grain planting and early plant establishment. In Algeria and Tunisia, although light showers (6-20mm) moistened topsoils for planting, additional rain is needed to ensure a good start for this year's growing season.



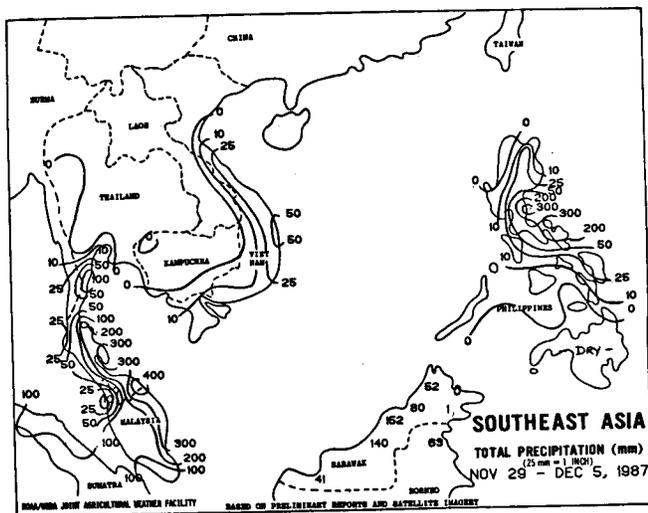
SOUTH AFRICA...Widespread showers (15-67mm) boosted moisture levels for corn planting and establishment in the western Maize Triangle, and maintained favorable conditions for crop establishment in the east. Pockets of dry weather, however, persisted over small areas of Orange Free State. Heavy showers (29-72mm) swept through the northern half of Transvaal, reaching chronically dry minor crop regions along the borders with Zimbabwe and Mozambique. Moderate to heavy showers (10-43mm) maintained mostly favorable conditions in Natal and the eastern half of the Cape Province for crop establishment.



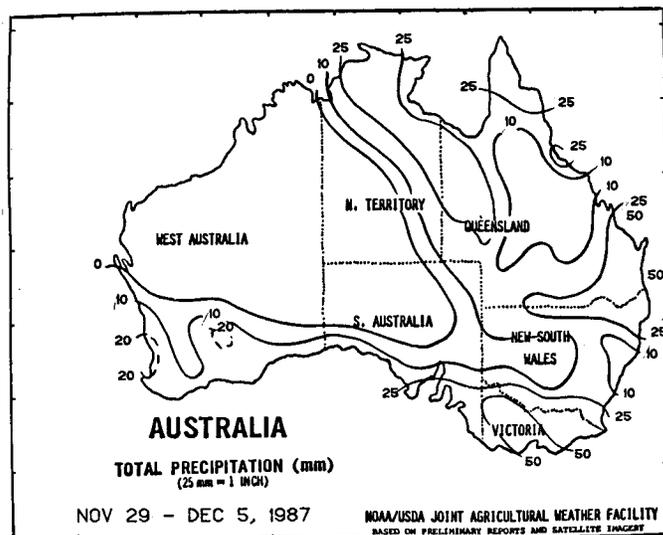
**SOUTH ASIA...** Showers (10-50mm or more) continued along India's southeastern coast from central Andhra Pradesh to southern Kerala, boosting irrigation levels for early summer rice planting. Most cotton regions were dry, however, increasing the need for post-monsoon rain over southern India's non-irrigated regions. The late-planted crop is mostly in the boll filling stage of development. Except for isolated, light rain in northern Pakistan, northern wheat regions remained dry.



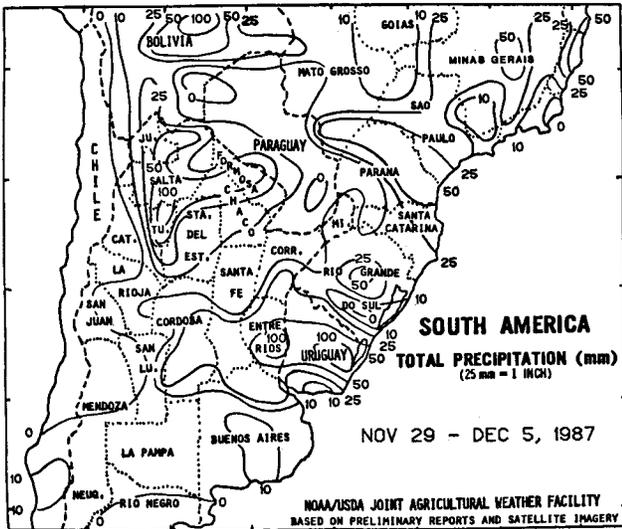
**EASTERN ASIA...** Scattered, mainly light showers (less than 23mm) persisted along China's southern and eastern coast from Guangdong to Jiangsu, causing further late rice harvest delays. Drier weather developed over interior production areas, however, allowing for a resumption of the rice harvest after an extended wet period. Cold temperatures early in the period caused winter wheat to go dormant across northern growing areas, while moderating temperatures late in the week improved conditions for cold hardening. Soil moisture levels for winter crops have been favorable thus far.



**SOUTHEAST ASIA...** Seasonable dry weather covered Thailand's grain regions, including recently wet areas near Bangkok. Late-planted rice is filling to maturing. Most other areas in Indochina continued dry, except for coastal areas from southern Kampuchea to central Vietnam which received light to moderate rain (10-59mm). Moderate to heavy tropical showers continued throughout Malaysia and Indonesia, with frequent, heavy rain (200mm or more) flooding areas along the eastern half of the Malay peninsula. In the Philippines, heavy showers (100-300mm or more) covered areas of southeastern Luzon already too wet from the recent passages of tropical storm Maury and Typhoon Nina. Flooding continued in many areas hardest hit by Nina. Moderate rain continued in northern Luzon's Cagayan Valley, where secondary corn planting is usually underway.

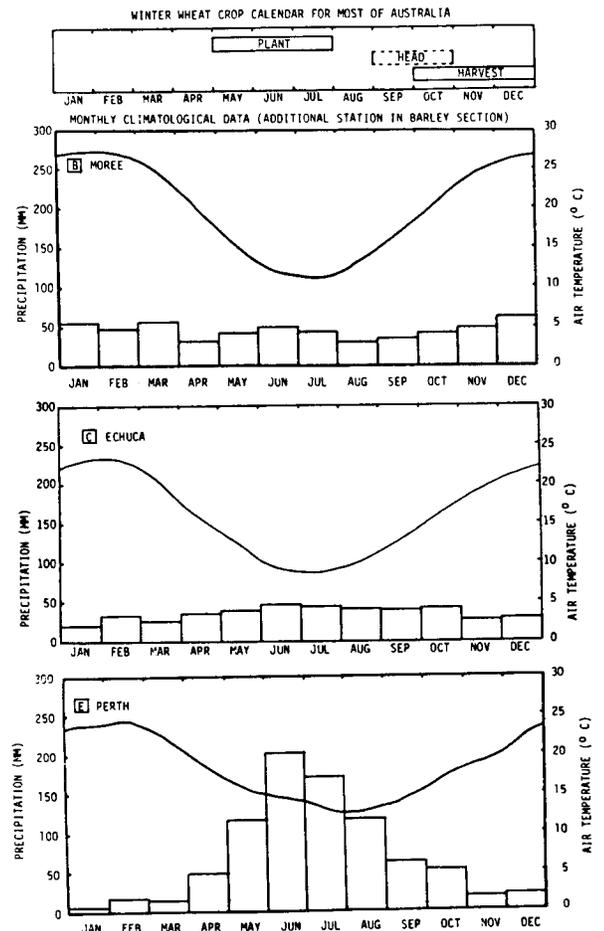
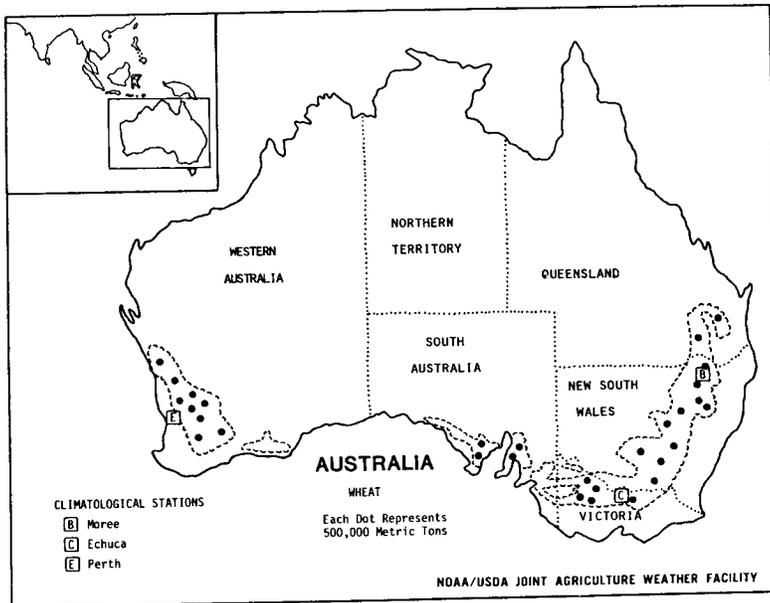


**AUSTRALIA...** Moderate to heavy rain (greater than 20mm) fell over much of southern and eastern Australia, causing delays in wheat and barley harvests. Heaviest rainfall was in Victoria (up to 79mm), where some mature grains may have suffered a deterioration in quality. Wheat harvest continued across central production areas and began in the south. Rain was also widespread across southern Queensland and New South Wales, benefiting summer crops. Warm temperatures over the period favored development of cotton, which is mostly vegetative.



**SOUTH AMERICA...**In Argentina, hot weather early in the week pushed maximum temperatures into the upper 30's (C), rapidly depleting topsoil moisture. Showers developed over the region by midweek, relieving heat stress on emerging grains and oilseeds. Weekly rainfall averaging 25-50mm in southern portions of Cordoba and Santa Fe, and extreme northern Buenos Aires replenished topsoil moisture. Light showers (2-15mm) fell over La Pampa and the remainder of Buenos Aires, allowing early wheat harvesting. Variable showers fell over northern cotton areas. Widespread showers covered Brazil's soybean areas, maintaining favorably moist topsoils for crop establishment. Soybean planting pushed over 80 percent complete, which is about average. Beneficial rain (10-25mm) fell in western Rio Grande do Sul where topsoils were becoming dry. Substantial showers (25-86mm) covered much of Parana, Sao Paulo, southern Mato Grosso do Sul, and southern Minas Gerais.

**AUSTRALIAN WHEAT AREAS AND CLIMATIC PROFILES**



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