

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

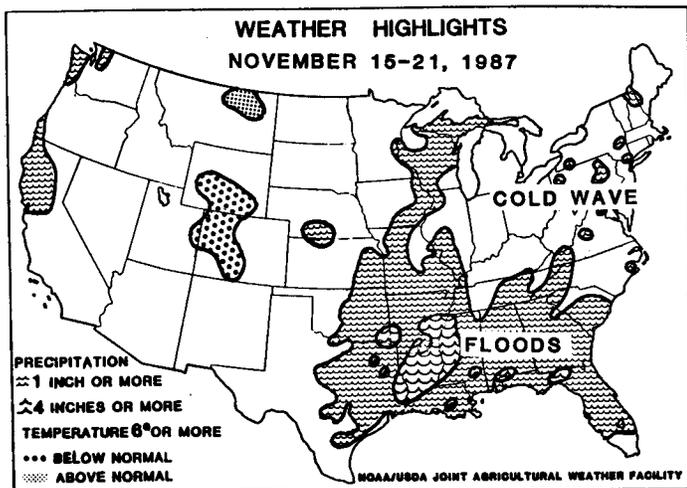
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National Weather Summary

November 15-21, 1987



into the Northeast. Rainshowers and thunderstorms spread into the Carolinas and Virginia late in the day. In the far West, a storm brought rain to the northern California coast and snow to the Sierra Nevada Mountains.

WEDNESDAY...As a frontal system moved eastward across the eastern seaboard, rainshowers lingered over New England, coastal North Carolina, and southern Florida. Strong gusty winds followed the frontal passage in the Northeast. A minor weather disturbance over northeastern Texas brought the first snowfall of the year to Arkansas, as night temperatures fell to below freezing from the High Plains to the Ohio Valley. Light snow also fell in Oklahoma, Texas, and Kansas.

THURSDAY...Accompanied by strong northwesterly winds and snow showers, a fast-moving Arctic front swept southward across the northern Plains and Great Lakes early in the day, causing temperatures to plummet. Some scattered showers and thunderstorms occurred across the middle and southern Atlantic States.

FRIDAY...Bitter cold and strong winds followed the eastward passage of the Arctic front across the Northeast. Snow showers continued over the Great Lakes region and invaded most of the Ohio Valley and the middle Atlantic States. New England received significant snowfall, especially in mountainous regions. Southeastern shores of the Great Lakes also had substantial snowfall. By contrast, unseasonably mild weather prevailed from the Great Plains westward. Rain fell along the California-Oregon coast.

SATURDAY...A record-breaking cold wave gripped the Northeast, exacerbated by strong gusty northwesterly winds. Gales raked the Atlantic coast from Maine to Delaware. Heavy snowfalls were common in the Northeast, especially in mountainous regions and along lake shores. Unseasonably mild weather prevailed in the Nation's midsection.

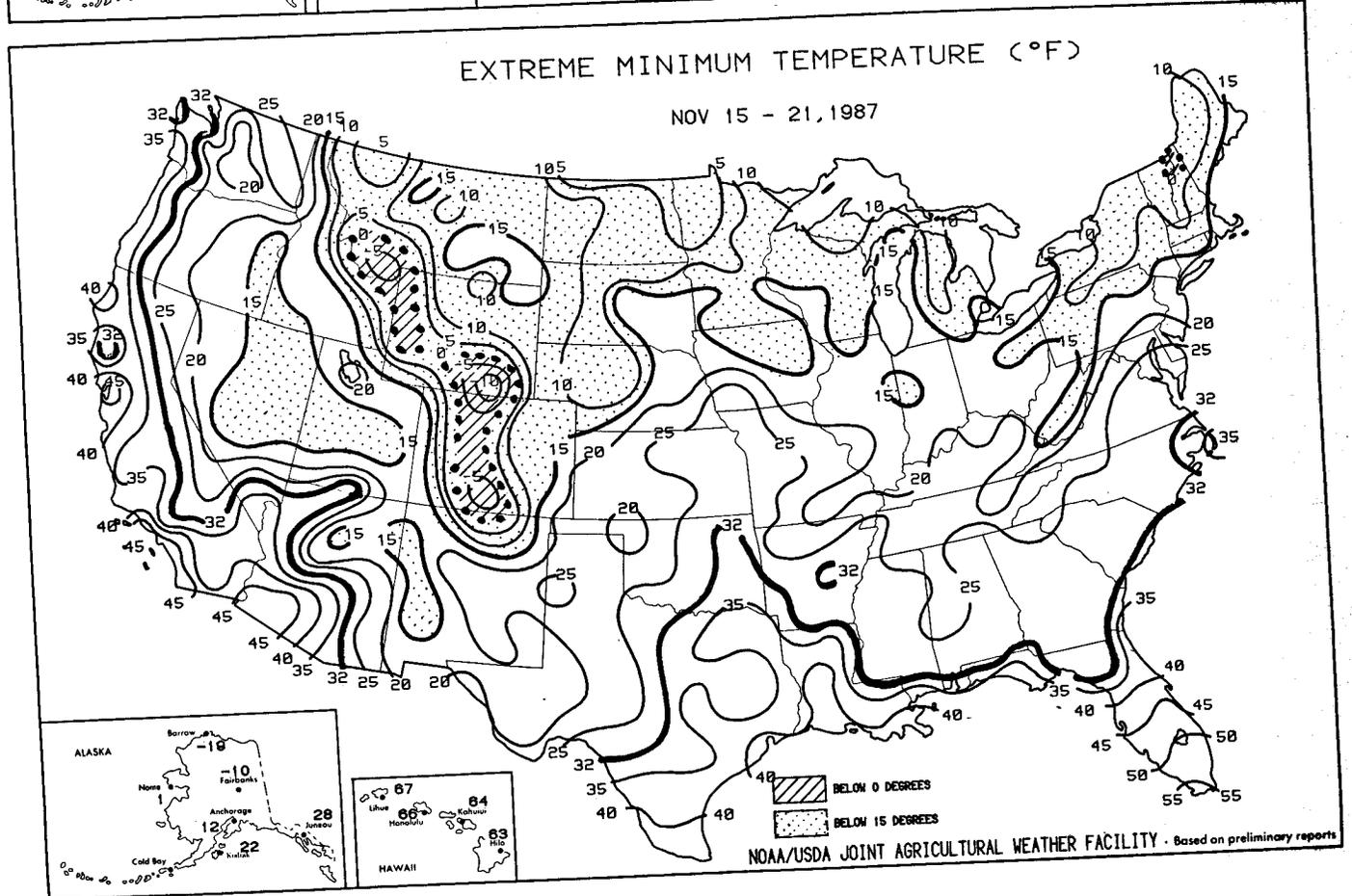
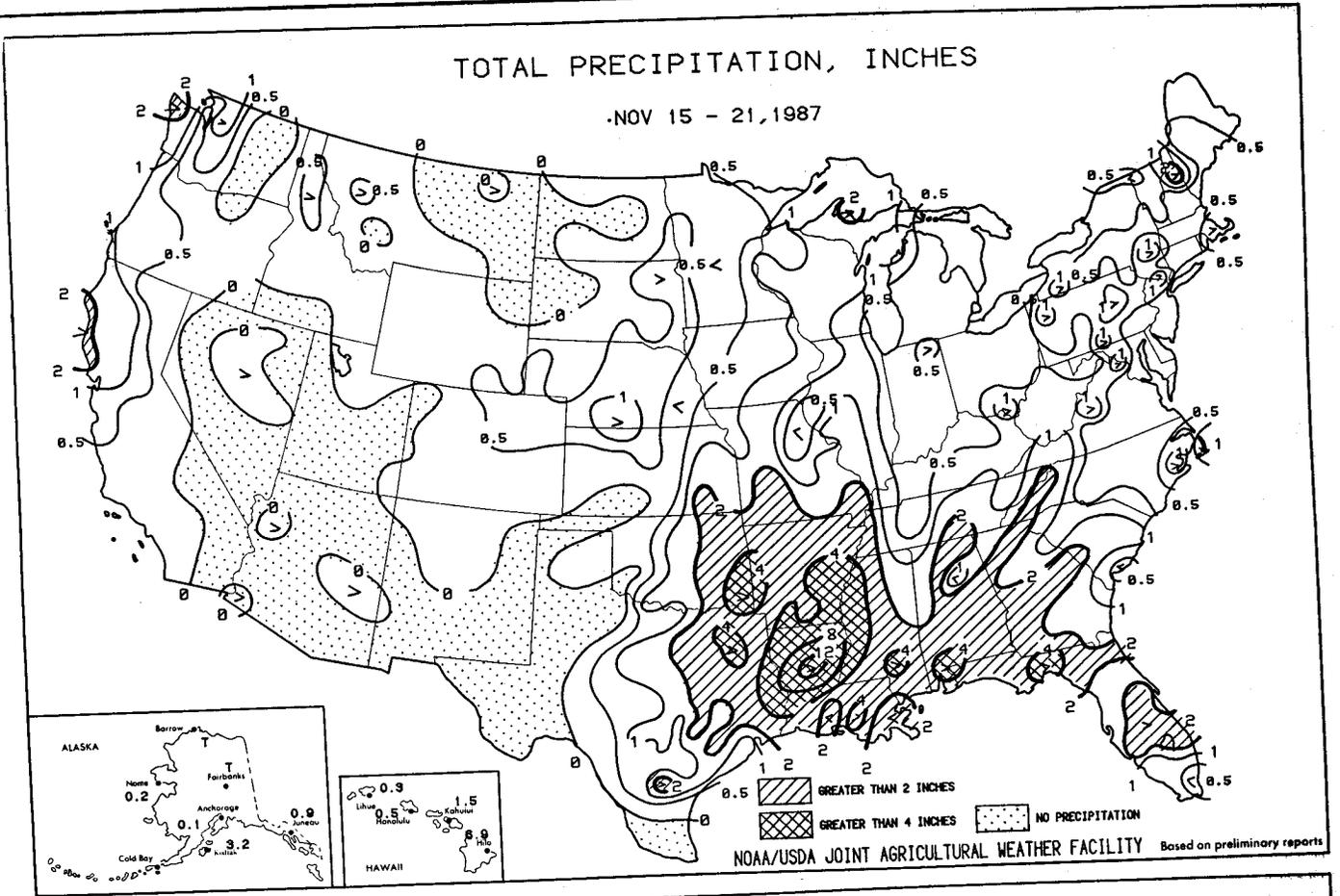
HIGHLIGHTS: Severe thunderstorms brought torrential rains with local flooding across much of the Southeast, from Texas to Georgia and Florida. Tornadoes also caused widespread damage. Snow blanketed the central and northern Rockies and part of the Great Plains. Dry and mild weather prevailed in most areas west of the Rockies. A late-week, Arctic outbreak brought bitter cold temperatures and snow to the Great Lakes and the Northeast.

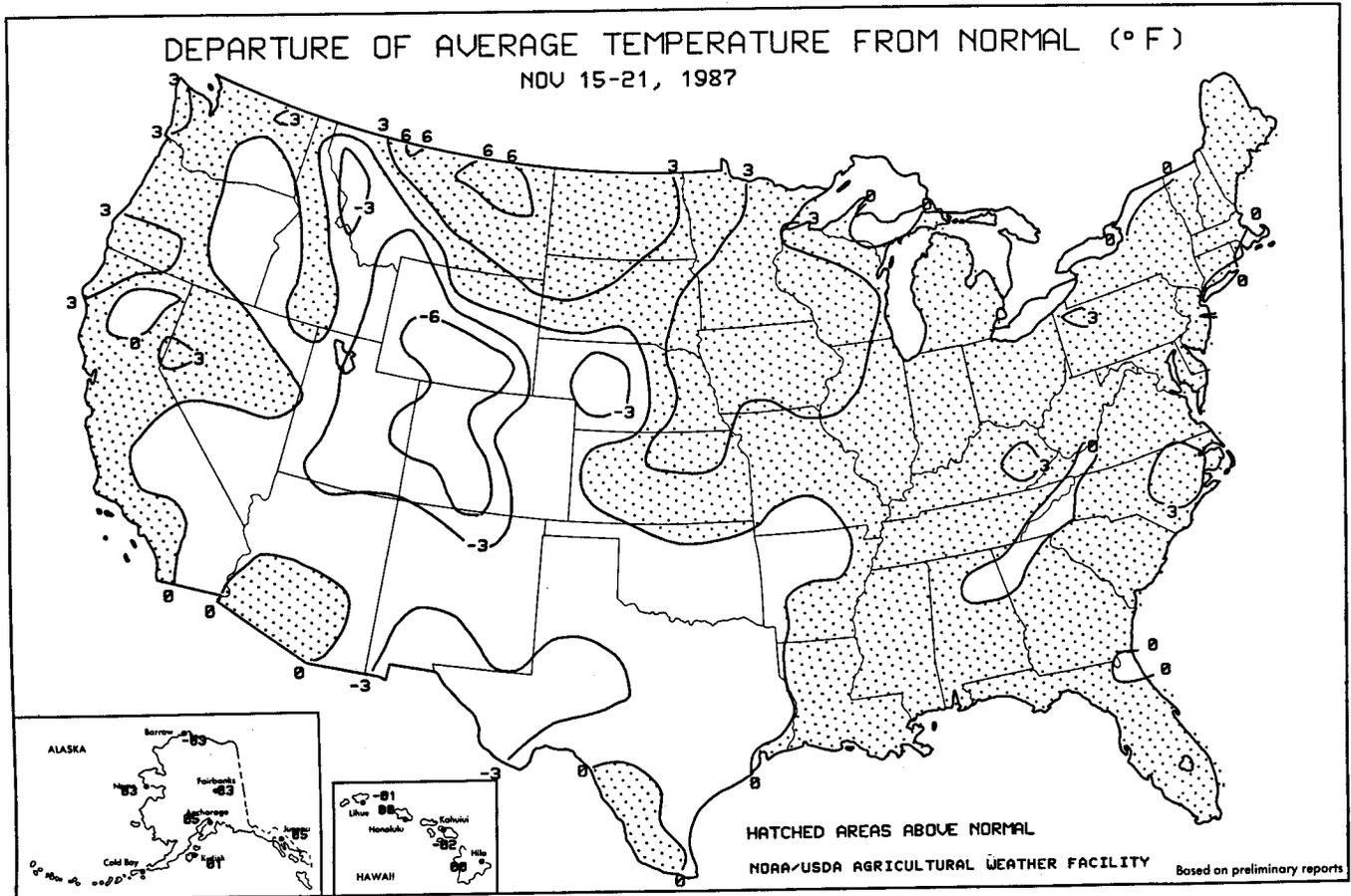
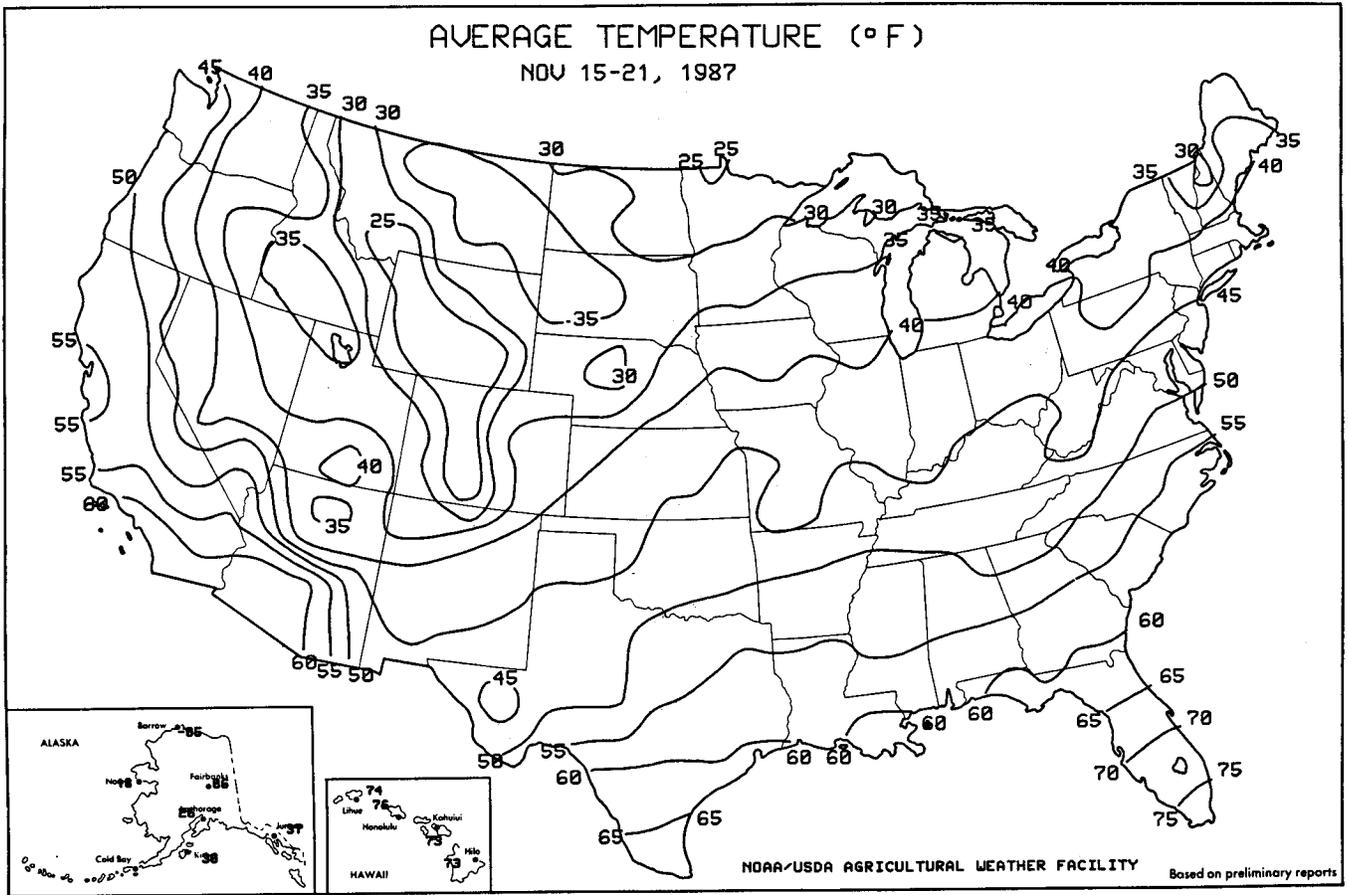
SUNDAY...An intense low-pressure system, centered over the southern High Plains, caused severe thunderstorms in Texas, Oklahoma, Louisiana, Arkansas, and Kansas. Heavy snow began to fall in the central Rockies. Light snow spread across the plains of Colorado, Wyoming, Nebraska, and western Kansas.

MONDAY...Severe thunderstorms occurred in the Mississippi Delta. Tornadoes and torrential rain caused widespread damage in Texas, Louisiana, Mississippi, and Alabama. Farther north, snow blanketed the Dakotas, Nebraska, and parts of Minnesota, while another storm system spread snow across the northern Rockies.

TUESDAY...Severe thunderstorms with high winds and heavy rain continued throughout the Southeast, but the center of most intense activity shifted eastward to Alabama, Georgia, and northwestern Florida. Thunderstorms also developed in Indiana and Kentucky. A secondary storm system brought more snow to the northern and central Rockies, including Colorado, Wyoming, Montana, and Utah. Snowfall was scattered across eastern Minnesota and northern Iowa. Southwesterly gales swept across the Great Lakes and the upper Ohio Valley, bringing warm air

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National Weather Data for Selected Cities

Weather Data for the Week Ending November 21, 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	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
AL BIRMINGHAM	62	39	74	25	51	-1	1.0	.1	.8	6.1	66	35.9	75	93	36	0	2	2	1	
MOBILE	69	46	76	31	58	0	3.5	2.6	3.2	8.5	74	63.0	109	85	42	0	1	2	1	
MONTGOMERY	69	42	82	28	56	1	3.3	2.6	1.9	8.0	91	49.3	115	90	34	0	1	2	0	
AK ANCHORAGE	32	21	41	12	26	5	1.1	-1.1	.1	5.3	109	12.6	93	94	72	0	7	1	0	
BARROW	0	-9	4	-19	-5	5	5.5	0	0	1.6	120	4.8	111	85	76	0	7	2	0	
FAIRBANKS	13	-2	22	-10	6	5	5.5	-2.2	4	1.3	55	5.7	60	90	73	0	3	6	0	
JUNEAU	40	33	43	28	37	5	5.9	1.9	1.4	23.9	134	51.6	110	97	77	0	3	5	0	
KOOTAIK	40	32	43	22	36	1	3.2	0	1.4	18.9	109	66.8	125	92	70	0	7	2	0	
NOME	24	13	33	1	19	3	2.2	0	0	4.9	115	10.8	79	91	68	0	3	5	0	
AZ PHOENIX	74	49	83	44	62	2	2.2	-1.1	0	2.1	132	6.8	114	44	14	0	0	0	0	
PRESCOTT	58	26	67	19	42	-1	0	-3.3	0	5.9	164	15.3	91	72	22	0	6	0	0	
TUCSON	72	44	80	33	58	0	0	-1.1	0	3.1	119	11.1	112	43	15	0	0	1	0	
YUMA	75	52	78	47	63	1	1	0	1.1	2.0	321	3.1	150	41	15	0	1	3	1	
AR FORT SMITH	59	38	72	29	49	0	0	1.4	1.9	7.3	82	33.2	93	97	50	0	1	2	2	
LITTLE ROCK	57	43	71	33	50	0	4.5	3.4	3.8	13.7	137	38.0	88	77	48	0	0	0	0	
CA BAKERSFIELD	66	43	76	38	54	-1	1.6	.1	1.3	1.6	192	5.7	121	97	47	0	0	5	1	
EUREKA	64	49	78	41	57	6	1.6	.1	1.3	4.5	60	22.5	74	90	63	0	0	2	0	
FRESNO	63	41	72	34	52	0	1.4	.1	.3	1.4	102	8.1	97	99	51	0	0	2	0	
LOS ANGELES	72	54	82	49	63	2	1.2	-3.3	2.4	176	5.5	56	77	33	0	0	2	2	1	
REDDING	59	42	66	35	51	-2	1.2	-2.2	2.6	38	21.9	68	92	60	0	0	0	2	2	
SACRAMENTO	61	46	66	37	54	2	1.0	.5	2.7	105	11.5	87	96	63	0	0	0	2	0	
SAN DIEGO	72	53	79	50	63	3	1	-2	1.1	3.8	312	8.9	120	85	50	0	0	2	0	
SAN FRANCISCO	63	51	66	44	57	3	1	.4	.5	2.2	82	10.8	71	95	63	0	0	2	1	
CO DENVER	47	21	59	14	34	-3	1	.6	.4	3.2	116	18.3	128	85	39	0	7	1	1	
GRAND JUNCTION	41	22	47	17	32	-6	1	-1	0	2.7	134	10.6	150	89	45	0	7	2	0	
PUEBLO	55	18	73	9	36	-2	1	-1	.4	19	9.5	80	84	44	0	1	2	0	0	
CT BRIDGEPORT	52	36	65	18	44	-1	1	.2	.1	6.1	67	29.2	80	86	43	0	5	3	0	
HARTFORD	53	30	69	13	41	0	0	-1	-8	12.8	126	41.6	107	94	45	0	2	1	0	
DC WASHINGTON	57	39	69	26	48	0	1	-4	.2	10.1	126	32.0	92	94	45	0	0	2	1	
FL APALACHICOLA	70	54	75	36	62	2	3.2	2.5	2.9	9.6	70	45.8	91	92	57	0	0	4	1	
DAYTONA BEACH	73	56	82	37	65	0	1.4	.8	1.2	12.1	92	43.3	95	98	63	0	0	4	1	
JACKSONVILLE	71	51	79	32	61	0	1.6	1.3	1.3	12.4	108	43.2	89	97	56	0	1	4	0	
KEY WEST	80	72	85	61	76	1	1.5	.8	1.2	21.0	153	46.1	125	90	67	0	0	2	1	
MIAMI	81	70	85	52	75	3	1	-1	.2	19.4	112	45.9	83	88	61	0	0	4	2	
ORLANDO	77	60	84	43	69	2	3.5	3.1	1.9	20.2	188	54.0	115	93	57	0	0	4	2	
TALLAHASSEE	71	47	84	29	59	1	4.4	3.6	4.4	10.2	87	66.6	113	97	45	0	1	3	1	
TAMPA	77	59	87	43	68	2	1.2	.8	1.0	9.6	99	47.7	109	92	56	0	0	3	1	
WEST PALM BEACH	80	68	84	50	74	3	2.0	1.3	1.8	25.6	130	56.7	100	88	61	0	0	3	1	
GA ATLANTA	61	45	72	29	53	2	1.6	.8	1.4	6.0	75	42.0	98	81	40	0	1	3	1	
AUGUSTA	67	43	77	26	55	2	2.6	2.2	2.6	4.9	72	38.4	99	95	41	0	2	2	1	
MACON	68	43	79	29	55	1	2.3	1.8	2.3	3.9	57	35.3	89	96	42	0	1	2	1	
SAVANNAH	69	47	79	32	58	2	1.6	.2	.6	10.5	121	54.9	118	93	48	0	0	4	2	
HI HILO	80	67	82	63	74	0	6.9	3.4	4.9	36.5	136	114.6	104	93	70	0	1	2	0	
HONOLULU	83	69	85	66	76	0	1	.5	.4	2.1	46	5.7	30	90	54	0	0	3	2	
KAHULUI	79	68	84	64	74	-2	1.5	1.0	.8	3.2	126	16.0	109	90	66	0	0	4	0	
LIHUE	79	70	81	67	74	-1	1	-3	-1.0	1.2	9.8	93	24.6	67	87	59	0	1	0	
ID BOISE	47	27	53	20	37	-1	1	-3	-3	.8	39	7.4	76	86	40	0	6	1	0	
LEWISTON	50	34	55	25	42	3	1	-3	-3	.2	8	8.2	73	72	39	0	3	1	0	
POCATELLO	43	18	52	11	31	-4	1	-1	.1	.6	29	9.0	95	94	44	0	7	2	0	
IL CHICAGO	49	32	64	16	41	1	1	.5	.3	3.5	46	35.7	115	84	45	0	3	2	0	
MOLINE	49	33	64	15	41	3	1.0	.6	.7	3.7	47	31.7	92	83	47	0	4	4	1	
PEORIA	50	32	67	15	41	3	1	.9	.9	3.4	45	21.4	66	87	46	0	4	2	0	
QUINCY	51	34	66	18	43	2	1	.2	.2	3.3	37	23.7	67	79	48	0	4	2	1	
ROCKFORD	48	30	63	13	39	3	1.0	.5	1.0	4.4	53	33.4	98	89	52	0	4	1	0	
SPRINGFIELD	48	30	63	13	39	3	1	.2	.8	3.5	49	22.4	71	82	46	0	4	2	0	
IN EVANSVILLE	51	34	65	18	43	1	1.2	.8	1.2	3.5	49	22.4	71	82	46	0	4	2	0	
FORT WAYNE	56	33	72	16	45	0	1	-7	0	3.3	45	25.6	69	90	56	0	5	2	0	
INDIANAPOLIS	50	30	67	16	40	1	1	-3	.2	4.0	58	28.0	90	86	44	0	4	2	0	
SOUTH BEND	52	30	69	17	41	0	0	-6	.1	3.2	44	26.5	76	88	49	0	4	4	0	
IA DES MOINES	49	32	66	20	41	2	1	.3	.1	7.3	87	28.9	85	88	49	0	5	3	1	
SIOUX CITY	48	32	58	20	40	3	1	.9	.6	3.6	56	32.3	111	88	52	0	5	2	0	
WATERLOO	50	30	62	19	40	4	1	.3	.1	2.2	44	23.4	96	89	46	0	5	3	0	
KS CONCORDIA	47	29	61	12	38	4	1	.9	.5	4.0	58	29.1	93	90	54	0	5	3	0	
DODGE CITY	54	33	62	25	43	3	1	-2	0	3.5	62	32.7	125	80	41	0	4	1	0	
GOODLAND	56	29	70	21	42	1	0	-2	0	2.3	62	22.7	116	86	30	0	5	0	0	
TOPEKA	50	24	64	19	37	0	0	.3	.1	3	2.1	77	18.8	121	89	42	0	7	2	0
WICHITA	53	36	60	28	45	3	1	.6	.8	4.7	62	34.3	108	87	48	0	4	3	1	
KY BOWLING GREEN	55	34	62	23	44	1	1	.4	.3	3.4	48	35.2	129	88	45	0	4	2	0	
LEXINGTON	57	34	73	22	46	1	1	.5	-4	5	6.2	72	35.4	82	91	45	0	4	1	0
LOUISVILLE	56	35	74	18	45	1	1	.5	-3	5	3.0	39	29.3	72	81	40	0	4	2	0
LA ALEXANDRIA	57	35	74	22	46	1	1	.5	-3	5	3.0	39	29.3	72	81	40	0	4	2	0
BATON ROUGE	68	50	73	41	59	3	1	.2	-6	2	2.7	26.6	69	85	35	0	3	2	0	
LAKE CHARLES	71	48	82	35	60	2	1	2	7	4.8	11.9	137	50.3	109	87	48	0	0	2	2
NEW ORLEANS	70	50	78	40	60	1	1	3.4	2.4	11.7	95	55.7	117	89	40	0	0	1	1	
	70	52	81	39	61	2	1	1.5	.5	1.5	4.4	40	57.2	108	87	47	0	0	1	1

Based on 1951-80 normals.

Weather Data for the Week Ending November 21, 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
SHREVEPORT	65	44	74	35	55	0	6.4	5.5	3.4	14.6	172	44.5	115	96	49	0	0	2	2
ME CARIBOU	40	25	61	14	32	2	.6	-.2	.4	7.9	89	25.2	78	85	61	0	6	4	0
PORTLAND	48	30	70	14	39	2	.3	-.8	.3	8.2	80	36.0	96	94	55	0	5	1	0
MD BALTIMORE	55	37	69	24	46	1	.1	-.6	.1	12.0	139	36.3	97	88	46	0	2	1	0
SALISBURY	60	37	73	26	49	2	.2	-.5	.2	7.9	80	33.0	81	88	43	0	1	1	0
MA BOSTON	51	36	70	16	44	-1	.4	-.6	.3	12.5	131	42.5	112	85	51	0	1	3	0
CHATHAM	50	38	57	17	44	-1	.6	-.5	.3	14.5	139	46.6	115	82	62	0	1	2	0
MI ALPENA	44	26	65	12	35	1	.1	-.4	.1	6.4	96	21.4	82	95	57	0	5	3	0
DETROIT	49	31	64	14	40	2	.3	-.3	.2	5.7	95	31.5	115	87	49	0	3	4	0
FLINT	48	29	65	12	39	1	.3	-.3	.3	8.6	143	24.6	94	89	50	0	4	2	0
GRAND RAPIDS	48	30	64	14	39	1	.1	-.5	.1	7.6	96	28.1	94	89	50	0	4	2	0
HOUGHTON LAKE	42	29	61	8	36	2	.3	-.3	.2	7.2	109	21.5	85	87	61	0	5	2	0
LANSING	49	30	63	9	40	2	.1	-.4	.1	7.5	116	25.3	95	87	49	0	6	2	0
MARQUETTE	37	23	53	7	30	-3	2.0	1.4	1.5	9.4	113	31.2	111	95	65	0	6	5	1
MUSKEGON	47	33	63	19	40	2	.2	-.4	.1	8.4	109	28.9	104	86	57	0	3	4	0
SAULT ST. MARIE	39	24	61	7	31	0	.5	-.2	.2	8.9	99	26.4	89	88	63	0	5	4	0
MN ALEXANDRIA	40	23	52	10	32	4	.4	.2	.3	3.7	73	16.1	68	93	57	0	6	2	0
DULUTH	37	23	52	11	30	3	.5	.1	.2	4.6	69	18.5	67	91	60	0	5	3	0
INT'L FALLS	35	21	44	10	28	5	.7	.4	.5	2.7	47	19.2	84	91	58	0	5	2	1
MINNEAPOLIS	43	27	58	16	35	4	.6	.3	.3	2.6	49	29.6	119	86	58	0	5	3	0
ROCHESTER	42	25	56	11	34	2	.7	.4	.5	4.6	68	25.3	93	89	63	0	5	3	0
MS GREENWOOD	64	40	79	26	52	0	3.5	2.3	3.5	6.8	74	37.3	81	90	35	0	2	1	1
JACKSON	67	41	81	26	54	0	2.2	1.3	2.2	4.6	54	42.4	94	97	37	0	2	1	1
MERIDIAN	68	40	79	24	54	1	2.2	1.4	2.2	7.5	90	49.7	107	96	35	0	1	3	1
MD CAPE GIRARDEAU	56	38	70	20	47	-1	2.1	1.2	2.0	6.9	80	32.4	82	84	39	0	2	2	1
COLUMBIA	52	34	65	22	43	0	.4	-.1	.4	5.1	59	25.3	74	87	48	0	4	2	0
KANSAS CITY	52	35	61	27	44	0	.8	.4	.5	6.0	68	31.0	91	90	49	0	3	3	1
SAINT LOUIS	52	36	62	21	44	1	.9	.4	.9	4.6	68	28.1	91	81	42	0	3	4	1
SPRINGFIELD	51	35	60	24	43	-1	2.3	1.6	1.9	9.9	104	41.5	115	90	48	0	3	4	1
MT BILLINGS	47	27	60	17	37	3	.2	0	.2	.9	29	12.0	86	65	31	0	5	1	0
GLASSBORO	47	22	61	12	35	7	T	0	T	.7	43	9.3	89	80	36	0	7	1	0
GREAT FALLS	45	30	60	19	37	4	.2	.1	.2	1.7	73	13.8	99	71	39	0	4	2	0
HAVRE	49	22	60	13	35	6	T	-.1	T	.8	40	7.8	71	82	40	0	6	0	0
HELENA	41	17	49	11	29	-1	.1	-.1	.1	1.0	51	9.6	90	85	45	0	7	1	0
KALISPELL	34	23	40	4	29	-2	.3	0	.2	1.1	36	13.8	101	96	70	0	7	3	0
MILES CITY	49	23	57	15	36	5	T	-.1	T	.9	38	12.0	90	72	29	0	6	0	0
MISSOULA	34	18	39	9	26	-5	.1	-.1	.1	-.3	12	9.0	77	99	76	0	7	1	0
NE GRAND ISLAND	48	28	57	21	38	2	.5	.4	.5	2.5	62	24.4	110	90	47	0	6	2	1
LINCOLN	53	31	63	20	42	5	.3	.1	.2	4.7	87	30.4	117	90	42	0	5	3	0
NORFOLK	49	29	59	19	39	4	.8	.6	.8	5.1	129	27.3	120	88	47	0	5	2	1
NORTH PLATTE	40	18	48	7	29	-5	.6	.5	.5	3.7	127	19.3	103	97	64	0	6	2	0
OMAHA	49	32	57	23	41	3	.3	0	.2	3.6	55	31.2	107	83	55	0	4	3	0
SCOTTSBLUFF	46	19	62	11	32	-2	.6	.5	.6	2.5	113	22.7	163	92	46	0	7	1	1
VALENTINE	43	18	62	8	31	-2	.1	0	.1	1.4	53	19.3	117	90	52	0	7	1	0
NV ELY	48	19	58	13	34	1	.1	-.1	0	3.0	176	11.6	145	85	38	0	7	2	0
LAS VEGAS	61	39	66	36	50	-2	0	-.1	0	2.3	269	5.7	160	60	21	0	0	0	0
RENO	54	32	61	20	43	4	.1	-.1	.1	.9	100	7.0	121	92	46	0	5	1	0
WINNEMUCCA	50	26	55	18	38	1	T	-.2	T	1.4	99	8.3	126	90	44	0	6	1	0
NH CONCORD	49	26	69	11	37	1	.2	-.7	.1	9.1	104	33.6	105	89	49	0	6	2	0
NJ ATLANTIC CITY	56	34	70	19	45	0	.3	-.6	.3	7.3	86	38.1	103	93	48	0	4	2	0
NM ALBUQUERQUE	54	28	62	25	41	-2	.1	0	.1	1.1	55	8.0	110	69	27	0	6	1	0
CLOVIS	60	30	70	27	45	0	T	-.1	T	4.1	100	22.8	139	62	18	0	5	0	0
ROSWELL	62	28	75	20	45	-1	0	-.1	0	1.5	49	14.6	145	66	21	0	6	0	0
NY ALBANY	50	29	66	12	40	1	.1	-.6	.1	14.6	177	36.6	116	86	47	0	4	2	0
BINGHAMTON	46	30	60	8	38	1	.4	-.4	.2	8.0	94	31.4	96	93	54	0	3	3	0
BUFFALO	50	32	68	13	41	1	.8	0	.5	9.7	111	36.5	111	89	48	0	3	4	1
NEW YORK	55	39	70	20	47	0	.1	-.8	.1	9.1	98	40.8	108	78	43	0	1	2	0
ROCHESTER	50	30	68	11	40	0	.5	-.1	.3	7.2	102	29.6	106	90	49	0	4	3	0
SYRACUSE	51	31	69	9	41	1	.4	-.4	.2	10.4	118	29.9	87	87	49	0	3	4	0
NC ASHEVILLE	54	34	64	21	44	-2	1.1	.4	1.0	9.8	108	40.5	102	92	41	0	4	3	1
CHARLOTTE	61	44	71	29	53	3	.4	-.3	.3	9.5	115	33.7	87	87	40	0	1	2	0
GREENSBORO	59	39	72	24	49	1	.2	-.4	.2	10.2	119	43.0	113	89	43	0	3	2	0
HATTERAS	65	50	76	35	58	2	1.5	.3	.7	10.8	77	55.6	112	90	58	0	0	3	2
NEW BERN	68	45	78	33	57	3	1.1	.4	.8	5.6	50	47.2	97	89	47	0	0	3	1
RALEIGH	62	41	76	29	52	2	.2	-.4	.2	8.1	102	38.6	103	88	41	0	1	2	0
WILMINGTON	68	46	78	31	57	2	.4	-.4	.2	8.9	82	46.2	94	93	45	0	7	1	0
ND BISMARK	44	15	55	4	29	2	T	-.1	T	.4	16	17.1	118	90	40	0	6	2	1
FARGO	37	18	51	2	27	0	.8	-.6	.7	2.7	73	14.7	79	93	66	0	6	2	0
GRAND FORKS	37	17	50	4	27	2	.1	-.1	.1	2.1	57	18.2	104	92	60	0	C	2	0
WILLISTON	44	17	58	10	31	4	T	-.1	T	.9	39	11.6	91	89	37	0	7	0	0
OH AKRON-CANTON	50	33	67	14	42	2	.4	-.3	.2	4.7	69	26.5	82	90	51	0	3	4	0
CINCINNATI	54	31	74	17	43	0	.2	-.6	.2	3.1	40	27.8	77	82	39	0	4	2	0
CLEVELAND	52	36	67	19	44	3	.2	-.5	.1	6.0	83	34.6	109	85	47	0	3	2	0
COLUMBUS	53	33	71	15	43	2	.2	-.4	.2	3.7	57	22.8	69	89	45	0	4	3	0

Based on 1951-80 normals.

Weather Data for the Week Ending November 21, 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	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	52	31	73	16	42	-1	.2	-.5	.1	1.9	31	20.3	65	82	44	0	4	3	0
TOLEDO	51	30	69	15	41	0	.1	-.5	.1	5.1	84	25.0	89	91	48	0	5	3	0
YOUNGSTOWN	51	33	66	14	42	0	.3	-.4	.1	7.0	92	34.9	104	90	48	0	3	2	1
OK OKLAHOMA CITY	56	37	65	28	47	-1	1.1	-.8	.9	7.6	104	40.1	137	90	45	0	1	2	1
TULSA	55	40	62	33	47	-1	2.1	1.5	1.7	7.3	76	37.6	104	88	45	0	0	3	1
OR ASTORIA	57	42	64	37	49	3	1.1	-1.4	.7	4.2	26	36.9	67	93	58	0	0	4	1
BURNS	43	22	48	16	32	-3	.1	-.2	.1	1.1	48	9.1	98	**	**	0	7	2	1
MEDFORD	57	39	66	30	48	5	.6	-.1	.3	1.4	32	10.8	71	98	56	0	1	4	0
PENDLETON	47	29	50	24	38	-2	.7	-.4	.7	.7	28	6.3	64	86	51	0	5	0	0
FORTLAND	55	41	59	33	48	3	.2	-1.0	.1	2.0	25	21.5	74	88	51	0	0	2	0
SALEM	54	37	59	31	46	2	.2	-1.2	.2	2.9	33	24.7	79	96	64	0	1	1	0
PA ALLENTOWN	53	33	69	18	43	1	.5	-.4	.4	13.5	141	43.2	110	90	42	0	4	2	0
ERIE	52	35	66	19	43	3	.5	-.4	.3	12.5	122	40.4	114	83	49	0	2	4	0
HARRISBURG	52	34	69	20	43	0	.4	-.4	.4	13.2	154	34.8	100	94	47	0	4	2	0
PHILADELPHIA	57	36	72	20	47	2	.1	-.7	.1	6.6	78	31.0	84	84	40	0	1	1	0
PITTSBURGH	53	34	69	15	43	2	.6	-.1	.3	5.7	83	35.7	108	91	50	0	3	3	0
SCRANTON	50	32	65	14	41	1	.4	-.3	.3	12.0	148	37.4	119	86	45	0	3	2	0
RI PROVIDENCE	52	31	69	16	42	-1	.6	-.4	.3	12.1	119	37.3	95	88	48	0	5	3	0
SC CHARLESTON	69	48	80	32	59	3	.5	0	.5	17.6	190	53.5	112	96	50	0	1	1	1
COLUMBIA	67	41	79	26	54	1	1.3	.8	1.3	8.2	96	50.0	112	96	39	0	2	1	1
FLORENCE	68	45	80	29	56	2	.8	.8	.8	6.5	82	33.9	84	91	38	0	1	1	1
GREENVILLE	61	42	70	27	51	1	1.1	.3	.9	5.9	58	39.6	86	88	38	0	1	2	1
SD ABERDEEN	38	21	52	7	29	1	.6	.5	.6	2.2	75	12.0	71	94	62	0	6	2	0
HURON	42	24	54	15	33	2	.4	.3	.2	2.5	78	18.2	102	91	58	0	6	2	0
RAPID CITY	50	22	67	12	36	3	.7	-.1	.2	1.3	58	12.1	78	75	27	0	6	0	0
SIOUX FALLS	46	26	58	15	36	4	.7	.5	.6	3.1	62	16.3	71	91	49	0	5	2	1
TN CHATTANOOGA	60	37	71	27	49	1	1.1	.1	1.1	7.2	72	43.0	93	87	35	0	2	1	1
KNOXVILLE	60	35	73	22	47	0	.5	-.4	.5	3.7	45	31.1	75	89	43	0	1	1	1
MEMPHIS	60	42	74	27	51	1	3.8	2.8	3.8	9.4	109	36.8	82	83	37	0	1	1	1
NASHVILLE	59	38	75	24	49	1	.8	-.1	.6	4.5	52	23.5	55	86	33	0	2	2	1
TX ABILENE	65	36	75	27	51	-2	1.1	-.8	.8	3.5	54	22.5	102	88	27	0	3	2	1
AMARILLO	57	27	70	20	42	-3	.6	-.1	.7	4.9	139	20.2	110	78	28	0	6	1	0
AUSTIN	71	44	82	37	58	0	.6	.1	.6	7.4	87	34.4	120	93	39	0	0	2	1
BEAUMONT	69	48	76	37	58	-1	3.1	2.1	1.8	14.9	125	55.4	113	94	50	0	0	2	2
BROWNSVILLE	77	55	84	45	66	-1	0	-.3	0	10.7	109	26.1	110	95	50	0	0	0	0
CORPUS CHRISTI	74	52	85	36	63	-2	.1	-.3	.1	4.1	39	29.6	101	88	45	0	0	2	0
DEL RIO	70	42	80	31	56	-2	.5	-.1	.5	9	21.8	132	71	22	0	1	1	0	0
EL PASO	62	29	72	20	46	-5	0	-.1	0	1.3	57	8.0	113	60	20	0	5	0	1
FORT WORTH	64	41	71	36	53	-2	2.3	1.9	1.6	4.6	58	23.3	81	87	52	0	0	1	1
GALVESTON	69	56	77	49	63	0	1.0	.3	1.0	5.8	54	31.8	89	87	52	0	0	2	1
HOUSTON	69	56	77	37	59	-2	.9	-.1	.7	4.9	43	34.0	82	94	48	0	0	1	1
LUBBOCK	70	47	77	21	46	-1	0	-.1	0	3.5	83	17.9	105	76	21	0	5	0	0
MIDLAND	61	30	71	21	46	-4	0	-.1	0	1.8	47	13.9	107	69	18	0	6	0	0
SAN ANGELO	64	28	70	18	46	-4	.6	.4	.5	4.9	85	29.8	174	89	22	0	4	2	1
SAN ANTONIO	67	32	77	24	49	-4	.8	-.2	.4	4.2	51	34.8	129	88	33	0	0	2	0
VICTORIA	73	43	84	33	58	-1	.8	.2	.4	5.1	46	36.9	108	95	49	0	0	2	1
WACO	73	48	82	35	60	-1	.9	.4	.9	5.1	46	36.9	108	95	49	0	0	2	1
WICHITA FALLS	66	40	73	34	53	-3	2.1	1.6	1.4	10.5	134	31.0	110	97	53	0	0	2	2
UT BLANDING	62	35	72	27	49	-2	1.0	.7	1.0	3.6	52	29.6	118	93	39	0	3	2	1
CEDAR CITY	46	21	52	16	33	-4	0	-.2	0	5.6	187	19.0	187	86	57	0	7	0	0
SALT LAKE CITY	48	22	58	18	35	-3	.7	-.2	.7	4.6	197	12.0	129	95	39	0	7	0	0
VT BURLINGTON	45	24	50	21	35	-4	.4	-.3	.1	2.4	84	11.4	85	86	35	0	4	5	0
VA NORFOLK	47	27	63	9	37	1	.4	-.3	.1	7.9	99	25.1	83	88	47	0	1	1	0
RICHMOND	61	45	76	30	53	2	.1	-.5	.1	10.2	105	40.3	98	86	49	0	1	2	0
ROANOKE	60	38	73	22	49	1	.1	-.7	.1	7.4	78	36.1	91	90	41	0	1	3	0
WA QUILLAYUTE	55	36	64	24	46	0	.3	-.3	.3	14.4	171	46.7	132	89	43	0	2	3	2
SEATTLE-TACOMA	55	40	66	26	48	4	2.3	-.8	1.2	9.7	38	64.6	76	95	65	0	1	3	1
SPOKANE	54	41	64	32	48	4	.8	-.5	.7	3.8	42	23.3	77	89	52	0	1	3	1
YAKIMA	41	28	47	22	35	1	.1	-.4	.1	1.0	32	12.3	92	97	67	0	7	0	0
WV BECKLEY	49	24	56	16	37	-1	.5	-.1	.3	5.6	68	34.1	89	86	43	0	4	3	0
HUNTINGTON	50	33	62	12	42	0	.5	-.1	.7	7.3	97	32.9	87	87	40	0	4	3	1
PARKERSBURG	56	35	71	19	46	1	.8	-.1	.5	4.7	65	28.3	77	84	40	0	4	2	1
WI GREEN BAY	57	34	74	20	45	0	.6	-.1	.5	4.5	65	22.2	65	86	41	0	4	1	0
LACROSSE	55	33	73	19	44	0	.4	-.2	.4	5.1	78	19.8	76	94	59	0	4	3	2
MADISON	46	29	58	12	38	3	1.3	.9	.7	4.0	61	30.4	107	85	49	0	4	2	1
MILWAUKEE	46	31	61	16	38	4	1.0	.6	.9	6.6	100	27.8	97	90	46	0	5	5	1
WAUSAU	45	33	60	17	39	3	.4	0	.4	4.2	64	31.9	113	88	55	0	3	2	0
WY CASPER	40	28	57	14	34	3	1.4	1.0	.9	7.2	97	23.8	80	94	60	0	6	1	0
CHEYENNE	37	19	50	8	28	-1	.2	0	.2	1.9	92	12.5	119	77	50	0	7	2	0
LANDER	45	21	62	11	33	-1	.3	-.2	.3	1.8	86	14.3	112	91	37	0	7	2	0
SHERIDAN	31	10	37	6	21	-9	.3	-.2	.2	2.2	86	14.2	116	91	57	0	7	1	0
PR SAN JUAN	44	18	52	8	31	0	.1	-.1	.1	3.1	105	13.9	99	91	49	0	7	1	0
	87	74	89	72	81	1	1.3	-.2	.8	6.0	38	48.0	99	88	69	0	0	3	1

Based on 1951-80 normals.

Heating Degree Days Summary

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

LAST DATE OF DATA COLLECTION PERIOD IS 11-21-1987
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

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

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

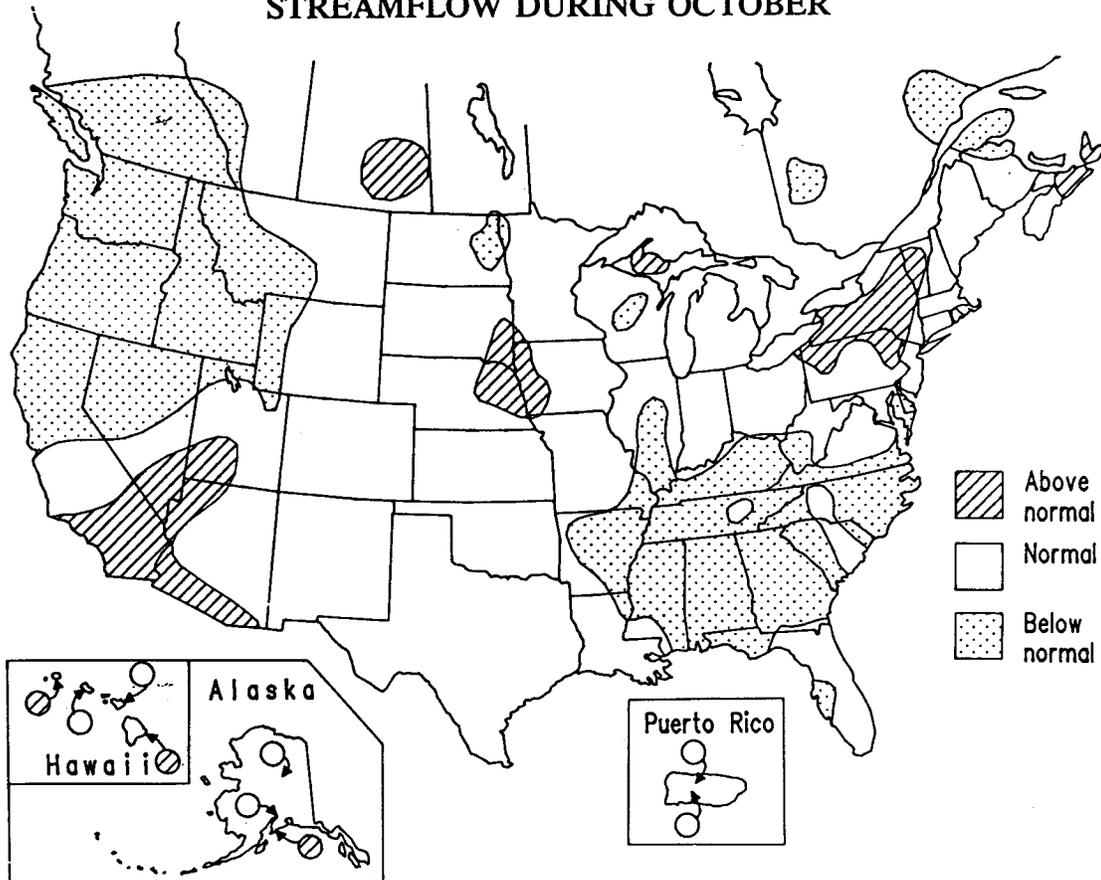
National Water Conditions

UNITED STATES
Department of the Interior
Geological Survey

CANADA
Department of the Environment
Water Resources Branch

OCTOBER 1987

STREAMFLOW DURING OCTOBER



National Agricultural Summary

November 16 to 22, 1987

HIGHLIGHTS: Precipitation hampered cotton and soybean harvests in the Delta, southern Great Plains, and some of the Southeast. Moisture benefited winter wheat and small grains but prolonged seeding. Rain restricted fieldwork to less than 5 days in the Delta, Southeast, and southern Great Plains. Soil moisture remained short, despite rain in the Southeast.

Winter wheat was mostly good to fair except in the Southeast and Rocky Mountain States, where condition was mostly fair to good. Disease and insect infestation reached epidemic proportions in some areas of the central Great Plains. Rain slowed soybean harvest in the Delta and Southeast. A few acres remained to be harvested in the Corn Belt. Cotton harvest increased 5 percentage points above the previous week to 69 percent(%) completion. The lack of rain in the Delta, Southeast, Oklahoma, and Texas slowed harvest to only 1 point above normal. Harvest did not progress in Oklahoma. Sorghum harvest continued lagging behind normal in Oklahoma and Texas. Livestock was mostly good.

SMALL GRAINS: Winter wheat was mostly good to fair except in the Southeast and Rocky Mountain States where condition was mostly fair to good. Rain prolonged seeding in the Southeast, Delta, and southern Great Plains but provided much needed moisture for emergence and growth. Arkansas seedings were unchanged from the previous week at 88% completion but were 23 points above normal. Heavy rain damaged wheat in some areas. Seeding reached 30% completion in Georgia, compared with 54% in 1986 and 52% normally. Iowa's wheat was mostly good. Inadequate moisture concerned south-central and western Kansas wheat producers. Some wheat was still experiencing difficulty establishing root system before winter. Wheat streak mosaic reached epidemic proportions except in east-central and southeastern areas. Severely affected wheat was chlorotic and stunted. Leaf rust was present statewide but was mostly active in the eastern third of the State. Greenbugs were in many areas, but younger wheat was most susceptible to attack. Fall seeded crops benefited greatly from rain in Kentucky. Missouri's wheat needed rain. Recent rain improved wheat in Nebraska. Russian wheat aphid development was monitored. Winter grain producers in North Dakota were concerned about inadequate snow cover. Winter wheat seeding was nearly completed in Oregon. Some winter wheat planting intentions were changed to spring wheat planting in the Columbia Basin. In Washington, cooler temperatures slowed the movement of Russian wheat aphids. Wheat seeding was mostly finished, but emergence remained behind normal. Small grains improved in Texas after recent rain, but many dryland fields needed moisture in the Plains. Planting drew to a close in the Blackland and central areas, but rain briefly delayed it. Winter wheat seeding lagged 2 points behind normal in California at 45% completion. South Dakota's winter wheat was good to fair, but many areas still need moisture. Greenbugs and aphids were still a problem. Some areas were spraying to control infestation.

SOYBEANS: Rain slowed harvest in the Delta and Southeast, but sizeable gains were attained in some States. North Carolina's harvest climbed 15 points ahead of the previous week, reaching 70% completion. Normally only 45% of the acreage would be harvested by now. Soybeans were 85% harvested in Georgia, compared with 63% in 1986

and the 67% average. Soybean combining reached 66% completion in South Carolina, 16 points above the previous week and 21 points above the average. Harvest was virtually finished in Tennessee, Michigan, Mississippi, and Arkansas.

COTTON: Cotton picking advanced 5 points from the previous week to 69% completion. Despite heavy rain in the Delta and Southeast, harvest stayed 1 point ahead of normal. Harvest was finished in Alabama, Louisiana, Mississippi, Missouri, and Tennessee and neared completion in California, Georgia, Arkansas, and South Carolina. Rain held harvest at a standstill in Oklahoma at 20% completion, increasing the departure from normal to 10 points. Cotton harvest gained momentum in the Plains as the freeze killed plants. Rain slowed harvest progress in western Texas. Texas harvest gained 8 points but trailed 9 points behind the 45% average. Pima cotton harvest was active in south-central Arizona. Precipitation slowed harvest in central areas.

OTHER CROPS: Oklahoma's sorghum harvest reached 65% completion, equaling 1986 but trailed 15 points behind normal. Light snow slowed harvest in Texas. Harvest increased 5 points but was still 5 points behind normal. In Kansas, sorghum harvest lagged behind normal in southwestern and south-central areas.

Moisture slowed peanut harvest in Texas. Freeze and frost damaged some peanuts at Cross-Timbers, but grades improved slightly. Peanut harvest neared completion in Oklahoma.

In Kentucky, burley producers have stripped very little if any of their 1987 crop and their stripping was running 18 points behind normal. Tennessee stripping continued.

FRUIT AND NUTS: Rain and wet conditions slowed citrus harvest in Florida. New growth slowed, and early citrus colored well. Caretakers prepared young trees for winter. In Texas, citrus harvest continued and fruit size improved. Tangerines, lemons, and assorted oranges were shipped from the Salt River Valley. California fruit and nut growers were pruning, applying herbicides, and fertilizing major orchards. Navel orange, desert tangerine, lemons, and grapefruit harvests progressed well. Fall copper sprays were applied to filbert and cherries in western Oregon. Fruit tree pruning began in central Washington.

VEGETABLES: California lettuce harvest was seasonally depressed in all areas except Riverside. Horned larks plagued lettuce at Westside. Spring lettuce was planted at Westside. Carrot, cauliflower, broccoli, and celery volume were moderate. Frost caused minor damage to leafy vegetables in the San Antonio-Winter Garden area. Vegetable harvest was mostly finished at Trans-Pecos. Tomato, cabbage, peppers, onion, and lettuce harvests progressed well in the Rio Grande Valley. Fall planting and harvesting was active in Florida. Tomatoes, cucumbers, peppers, sweet corn, squash, snap bean, eggplant, and radish volume were good.

PASTURES AND LIVESTOCK: Livestock was mostly good. Farmers delayed moving livestock onto small grain pastures because of slow growth. Supplemental feeding continued in most areas. Pasture growth improved slightly but provided very little forage for grazing.

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 to 2.00 in. north; 2.00 to 3.00 in. central, south. Temperatures averaged 1 to 3° below normal.

Days suitable for fieldwork 4.6. Soil moisture 45% short, 55% adequate. Showers slowed small grain seedings; helped promote growth, emergence. Sorghum 98% harvested, 97% 1986, 97% avg. Soybeans 94% harvested, 81% 1986, 81% avg. Wheat 75% seeded, 68% 1986, 71% avg. Pastures poor to fair; livestock fair to good. Primary activities: Harvesting soybeans, sorghum, pecans, late fall vegetables; planting small grains, winter annuals; soil testing; providing supplemental feed to livestock; general care of livestock, poultry.

ARIZONA: Clear skies, cool dry air, warmer temperatures prevailed 15th, 16th; 40s high country, 50s 5,000 ft., 60s, lower 70s southwestern deserts. Minimums 30s, lower 40s lower deserts, 20s 5,000 ft., teens above 7,000 ft. Weather disturbance brought partly cloudy skies, light showers 17th, 18th. High pressure system 18th through 20th brought sunny skies, dry air, warmer temperatures; 80s southwestern deserts. Weak weather system 21st brought clouds, winds, cooler temperatures. Temperatures 4° below to 3° above normal.

New crop wheat, barley plantings underway west; emergence, stand establishment satisfactory. Early plantings utilized for green manure south central. Cotton harvest continued west; scraping, stalk shredding, disking constitute major activities. Selective 2nd picking northwest; stalk shredding, plowdown active. Pima cotton harvest active south central; yields good. Harvest slowed central areas by earlier rains; quality, yields hurt. Growers concerned about reduced grades. Picking active southeast. Alfalfa harvest continued west; new, renovated stands growing well. No severe frost damage west. Drying conditions adequate, baling continued; sheeping off heavy. Late alfalfa cuttings east. Last cuttings Pinal County; sheeping off, green chopping dominated. Winter vegetable harvest progressed west; lettuce, cauliflower, broccoli, asparagus, rapini, bok choy shipped. Planting, weeding, thinning continued. Mixed vegetable movement Salt River Valley. Lettuce, rapini harvested Marana-Eloy. Lemon, grapefruit harvested west. Honeydew shipments light Parker, Aguila. Tangerines, lemons, assorted oranges shipped Salt River Valley; watermelon movement light. Apples shipped southeast; pecans picked.

ARKANSAS: Cold weather continued across State as temperatures averaged below normal. Temperature extremes 20°; 70°. Heavy rain early week. Rainfall total 1.80 to 7.83 in.

Days suitable for fieldwork 4.0. Soybeans 96% harvested, 70% 1986, 78% avg. Cotton 9% poor, 14% fair, 48% good, 29% excellent. Wheat 88% planted, 70% 1986, 65% avg. Some damage to wheat from recent heavy rains. Pecan harvest continued; good quality, fair yields. Farmers continued to feed livestock which were in good condition.

CALIFORNIA: Series of Pacific weather systems moved through State bringing beneficial rain north, central portions. Some snow in mountains above 5,000 ft. elevation.

Open weather between rains permitted normal field activity. Rice stubble burning good progress. Cotton harvest neared completion. Shredding,

discing, preparing fields next year's crop active. Seeding small grains progressed. Winter wheat 45% planted, 50% 1986, 47% avg.; 30% emerged, 25% 1986, 28% avg. Sorghum grain harvest neared completion. Sugarbeet harvest seasonally active. Alfalfa hay harvest warmer areas. Some new alfalfa seedings. Harvesting fall varieties avocados. Date harvest continued. Kiwi, persimmon harvests winding down. Navel orange, desert tangerine, lemon, grapefruit harvests progressed. Pruning, applying herbicide, fertilizer major orchard activities. Artichokes moderate Salinas good quality. Broccoli fairly heavy good quality Salinas, moderate good quality Santa Maria. Broccoli harvest remained active Westside, Merced-Atwater, desert. Cauliflower harvest continued desert, supplies moderate good quality both Salinas, Santa Maria. Carrot supplies moderate good quality Salinas, Santa Maria; harvest active desert. Celery movement moderate both Salinas, Santa Maria good quality. Lettuce harvest seasonally depressed in all but Riverside, volume light. Westside young lettuce plagued by horned larks, spring lettuce planted. Pepper harvest seasonally declined all areas but Westside. Fall potatoes being harvested Riverside. Sweetpotato harvest completed Clovis, Selma Districts. Tomato harvest finished Merced-Atwater, continued Westside. Livestock good condition statewide. Movement to market active northern districts. Numbers of cattle on feed Westside slightly more than half capacity. Northern districts ranges, pastures germinate but more rain needed for growth, stock pond levels. Foothill grasses growing rapidly, rainfall, warm daytime temperatures received. Supplemental feeding necessary most areas. Calving, lambing active.

COLORADO: Temperatures 4 to 7° below normal except for Kansas border area, 10 to 15° below normal. Precipitation amounts mostly less than 0.25 in. lower elevations.

Wheat emergence complete. Corn, sorghum harvests neared completion. Continued mild weather favorable for livestock.

FLORIDA: Partly cloudy, mild 14th to 17th. Cold front 18th, 19th 2.00 to 4.00 in. rains followed by temperatures into upper 20s north to 50s south. Temperatures modified on 22nd to middle 40s north to low 60s south. Daily winds nearly 25 mph statewide; gusts of 40 mph followed cold front.

Soil moisture mostly adequate. Planting small grains good progress following rains. Cotton harvest active when weather permitted. Peanut, soybean harvest nearly complete. Sugarcane harvest made good progress; cane planting continued. Pastures north, Panhandle areas improved with needed moisture. Central, southern pastures mostly good, some flooding low areas. Cattle, calves mostly good. Rain 2 days citrus areas beginning near midweek; groves wet. New growth slowed. Early citrus coloring well. Rain, wet conditions slowed harvest. Caretakers cultivating, preparing young trees for winter. Weather vegetable areas warm, dry early week, cool showers late week. Fall harvest, planting winter crops active. Good volume tomatoes, cucumbers, peppers, sweet corn, squash, snap beans, eggplant, radishes. Lesser volume carrots, escarole, endive, specialty lettuce. First harvest belle glade iceberg lettuce delayed.

GEORGIA: Temperatures 1 to 3° below normal. Low to mid 80s extreme south, highs mid 60s mountains. Morning lows, below 32°, on 2 to 4 days northern

half, 1 to 3 days central, south. Low teens mountains, around 30s Florida border. Rain 2 to 3 days over entire State, 1.00 to 3.00 in. western half, 1.00 to 2.00 in. east, southeast.

Days suitable for fieldwork 4.3. Soil moisture 15% very short, 42% short, 41% adequate, 2% surplus. Cotton harvest continued rapid progress. Sorghum grain 96% harvested, 93% 1986. Peanut harvest virtually complete. Soybeans 1% very poor, 27% poor, 55% fair, 12% good, 5% excellent; 85% harvested, 63% 1986, 67% avg. Wheat 30% planted, 54% 1986, 52% avg. Wheat planted, emerged remained behind due to delayed planting, dry soils. Conditions improved due to recent rains. Rye 65% planted, 79% 1986, 83% avg. Rye, small grain plantings remained behind due to dry weather. Other small grains 47% planted, 75% 1986, 75% avg. Pecans 44% harvested, 53% 1986, 56% avg. Pastures improved some due to recent rains. Cattle mostly fair to good. Supplemental feeding where pastures short. Hogs fair to mostly good.

HAWAII: Cooler temperatures, rain, wind typified weather. Rainfall all islands, very heavy windward coast 21nd. Temperatures near or below normal. Gusty trade winds all week 15 to 30 mph. Temperatures high 60s to mid 80s. Rainfall 0.01 to 11.90 in.

Days suitable for fieldwork 7.0. Papaya production steady, heavy. Sugarcane harvesting continued to wind down some operations for annual mill cleaning. Crops mostly fair. Wet conditions fostered increased incidence disease some crops. Wind hampered yields vine crops. Irrigation requirements lessened, still necessary some leeward agricultural areas.

IDAHO: Temperatures 1 to 4° below normal. Precipitation ranged 0.10 to 0.50 in. below normal.

Winter wheat fair to good. Fall harvest winding up. 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, some selling of cattle.

ILLINOIS: Temperatures averaged 4 to 6° above normal first half of November. Precipitation scattered, totals 0.04 to 1.35 in., mostly 0.30 to 0.50 in.

Soil moisture 68% short, 32% adequate.

INDIANA: Temperatures averaged 1 to 2° above normal. Lows in teens, highs upper 60s to low 70s. Precipitation below normal. Totals statewide 0.10 to 0.20 in.

Farmers completing corn, soybean harvest. Corn 99% harvested, 94% 1986, 89% avg. Soybeans 100% harvested, 96% 1986, 95% avg. Fall tillage complete some areas. Other activities: Soil testing, hauling manure, spreading fertilizer, processing tobacco, tilling, machinery repair, caring for livestock, cutting wood.

IOWA: Mild week, temperatures 1 to 4° above average. Temperature extremes 64° Muscatine, 12° Mason City 21st. Precipitation 0.30 in. west to 1.38 in. east.

Days suitable for fieldwork 4.3. Topsoil moisture 28% short, 70% adequate, 2% surplus; subsoil moisture 32% short, 67% adequate, 1% surplus. Winter wheat stands generally good. Fall tillage 67%, 22% 1986, 36% avg.; fall fertilizer application 50%, 14% 1986, 31% avg. Corn still piled on ground 33% none, 48% limited, 18% moderate, 1% extensive. Livestock mostly good. Cattle replacements slow due to prices.

KANSAS: Temperatures averaged 39° northwest to 46° southeast; 1° above normal southwest, 5° above normal northeast. Precipitation averaged 0.07 in.

southwest, south central, 0.14 in. west central, central, 0.59 in. northeast, 1.22 in. east central, 1.61 in. southeast.

Days suitable for fieldwork 5.0. Soil moisture 53% short, 37% adequate, 10% surplus. Moisture concerns remained south central and west, trouble establishing wheat root system before winter. Wheat streak mosaic epidemic proportions except east central, southeast. Severely affected plants chlorotic, stunted. Leaf rust present statewide, most active eastern third. Greenbugs many areas, younger wheat most susceptible. Conditions improve west to east. Sorghum harvest southwest, south central lagging behind, other districts virtually complete. Pastures good for State, poor west, good elsewhere. Cattle moving from pasture to row crop stubble. Some supplemental feeding where row crop stubble not available, wheat pasture not established. Approximately 20% of wheat being pastured, 10% 1986, 10% avg.

KENTUCKY: Temperatures varied average highs mid 50s, but extreme highs lower to mid 70s. Low temperatures averaged mid 30s. Extreme lows 12 to 20°. Average temperatures normal to 5° above normal. Rain occurred 17th, average amounts 0.20 in. southwest to 1.00 in. east. All stations some rain, most less than normal. Precipitation accumulation for season well below normal, soil moisture short.

Pastures, fall seeded crops would greatly benefit from rain. Burley markets 23rd, many farmers stripped little, if any, 1987 crop. Statewide about 32% stripped, compared to 60% 1986, about 50% avg. Baled tobacco very dry, hard to handle. Need several seasons to get proper color into burley leaf.

LOUISIANA: Temperature 1° below to 2° above normal. Temperature extremes 29°; 84°. Rainfall averaged 2.16 to 11.33 in.

Days suitable for fieldwork 3.5. Soil moisture 2% very short, 6% short, 46% adequate, 46% surplus. Winter wheat fair; 82% planted, 66% emerged, both far ahead of average. Pecans 68% harvested, 56% avg. Sugarcane good; 68% harvested, 55% avg. Livestock, vegetables fair to good. Pastures fair. Main activities: Harvesting sugarcane, pecans; planting winter wheat, pastures; fertilizing pastures.

MARYLAND & DELAWARE: Maryland: Average temperature 51°, normal 44°. Lowest temperature 22°, highest temperature 74°. Precipitation averaged 0.20 in.

Days suitable for fieldwork 5.8. Topsoil moisture adequate. Subsoil moisture short to adequate. Soybeans fair to poor, mostly fair. Soybeans 85% harvested, 75% avg. Corn 98% harvested, 97% avg. Small grains good to fair, mostly good. Wheat 97% planted, 97% avg. Barley 100% planted, 100% avg. Tobacco 20% stripped, 20% avg.

Delaware: Average temperature 53°, normal 46°. Precipitation averaged 0.20 in.

Days suitable for fieldwork 5.3. Topsoil moisture short to adequate, mostly short. Subsoil moisture very short to short. Soybeans poor to fair, mostly poor. Soybeans 75% harvested, 80% avg. Corn 99% harvested, 99% avg. Small grains fair. Wheat 90% planted, 95% avg. Barley 100% planted, 100% avg.

MICHIGAN: Temperatures 1 to 4° above normal. Temperature extremes 7°; 65°. Precipitation 0.12 to 1.99 in. across State.

Days suitable for fieldwork 5.0. Soil moisture 75% adequate, 25% surplus. Corn 98% harvested, 85% 1986, 85% avg. Soybeans 99% harvested, 95% 1986, 95% avg. Winter wheat 100% emerged, 75% 1986, NA

avg.; 1% very poor, 4% poor, 15% fair, 50% good, 30% excellent. Major activities: Corn for grain, soybean, sugarbeet harvesting, fall tillage, fertilizer application, deer hunting.

MINNESOTA: Temperatures averaged 2 to 4° above normal. Extremes 0°; 60°. Precipitation averaged 0.06 to 0.56 in. above normal. Precipitation totals averaged 0.31 to 0.90 in. Greatest weekly total 1.11 in. Snowfall averaged trace to 3 in. Snow depth weeks end averaged 1 in. northwest, trace or less elsewhere.

Seasons first minor snowfall all stations. Virtually no field activities while normal livestock activities continued.

MISSISSIPPI: Temperatures 3° below to 5° above normal; extremes 16°; 82°. Squall line ahead of cold front caused severe thunderstorms, gusty winds, heavy rain, tornadoes. Greatest 24-hour rainfall 6.64 in.; greatest weekly total 9.04 in.

Days suitable for fieldwork 3.3, 2.2 1986, 2.8 avg. Soil moisture 2% very short, 34% short, 54% adequate, 10% surplus. Soybeans 97% harvested, 78% 1986, 78% avg. Pasture 17% very poor, 34% poor, 42% fair, 7% good. Livestock 12% poor, 50% fair, 47% good, 1% excellent. Pecans 47% harvested, 62% 1986, 53% avg.; 8% very poor, 20% poor, 57% fair, 15% good. Wheat 75% planted, 70% 1986, 67% avg.; 7% very poor, 40% poor, 48% fair, 5% good.

MISSOURI: Temperatures near normal. Precipitation 2.00 to 3.50 in. southern one-third of State, 0.75 to 1.00 in. northern two-thirds.

Topsoil moisture short to adequate. Wheat, pastures need rain.

MONTANA: Western third cool, temperatures little below normal, elsewhere temperatures near or above normal. Northeast, southeast dry; elsewhere some moisture received.

Soils remained mostly dry statewide. Wind damage to winter wheat mostly light. Grazing open. Very little hay being fed.

NEBRASKA: Temperatures ranged 5° below normal southwest to 5° above normal east. Extremes 7°; 65°. Precipitation 0.10 in. east central to 1.10 in. south central.

Days suitable for fieldwork 5.5. Topsoil moisture 32% short, 59% adequate, 9% surplus. Subsoil moisture 29% short, 62% adequate, 9% surplus. Early fall conditions too dry for winter wheat, recent precipitation improved condition. Russian wheat aphid development monitored. Fall harvest wrap up during week. Fall tillage active. Main farm activities moving grain, machine repair, livestock marketing, general farm chores. Range, pasture feeds adequate. Crop residue still supporting cattle. Weaning calves, moving hay continued.

NEVADA: Pacific storms hit beginning, end. Only light precipitation resulted north, central, south remained dry. Low temperatures recorded, parts south first hard freeze. Most precipitation towards end western areas. Lowest temperature 3°.

Low night temperatures not favorable newborn lambs, calves. Feed requirements increased with freezing temperatures.

NEW ENGLAND: Rainfall, water equivalent of snow ranged 0.25 to 0.50 in. across region. Temperatures averaged around 30° near Canadian border to low 40s southern coast. Temperatures normal north, slightly below normal south.

Major farm activities: Repairing machinery, general farm cleanup.

NEW JERSEY: Temperatures much below normal, averaging 38° north, 43° south, 46° coastal.

Extremes 70; 72°. Precipitation below normal, averaging 0.32 in. north, 0.14 in. south, 0.29 in. coastal. Heaviest 24-hour total 0.56 in. on 17th, 18th.

Field corn for grain, soybean harvest clean-up stage. Fruit tree pruning progressed. Fall crops moved from storages. Cider making active. Fall sown grain generally good to excellent.

NEW MEXICO: Temperatures 2° Chama to 77° Carlsbad. Negligible precipitation north central mountains, northeast.

Days suitable for fieldwork 6.5. Soil moisture 54% short, 46% adequate. Cotton 13% fair, 87% good; 70 to 75% harvested Mesilla, Hatch Valleys; gaining momentum other areas; harvest conditions remained very good. Barley 34% fair, 33% good, 33% excellent. Wheat 42% fair, 50% good, 8% excellent; moisture needed statewide. Irrigated grain sorghum 29% fair, 42% good, 29% excellent. Harvest nearly complete High Plains. Dryland sorghum 25% fair, 50% good, 25% excellent. Corn 80% good, 20% excellent; harvest nearly complete. Pecans 100% good; limited harvest continued. Lettuce harvest complete. Red chile harvest slowed; crop fair to good. Cattle 23% fair, 69% good, 8% excellent. Sheep 17% fair, 75% good, 8% excellent. Range 8% poor, 31% fair, 61% good.

NEW YORK: Temperatures seasonable early week. Warmer air midweek. Precipitation light, most in Adirondacks, Great Lakes region. Arctic air moved in 20th, remained. Temperatures as low as 0 degrees.

Producers finishing grain corn harvest, doing end of year chores.

NORTH CAROLINA: Temperatures averaged 2 to 4° above normal Piedmont, Coastal Plain Regions; 1 to 3° below normal Mountain Region. Temperature extremes 2°; 81°. Precipitation 0.02 to 4.25 in. across State, heavy in Mountain Region.

Days suitable for fieldwork 4.9. Soil moisture 5% very short, 57% short, 36% adequate, 2% surplus. Sorghum 96% harvested, 84% 1986, 89% avg. Oats 89% planted, 87% 1986, 85% avg. Barley 91% planted, 90% 1986, 85% avg. Rye 82% planted, 84% 1986, 82% avg. Small grains fair to mostly good. Pasture 13% poor, 39% fair, 48% good. Major farm activities: Harvesting soybeans, cotton, peanuts, apples, sorghum; seeding small grains; digging, tagging Christmas trees; tending livestock; fall plowing; preparing tobacco plantbeds; general farm maintenance.

NORTH DAKOTA: Cool, rain, snow early week; warming trend followed. Temperatures averaged 1 to 4° above normal. Extremes 0° south central, northeast; 62° west central. Heaviest precipitation extreme east, 0.25 to 0.50 in.

Soil moisture below average. Inadequate snow cover caused concern to winter grain producers. Livestock good. Adequate feed supplies. General yard work, repair primary activities.

OHIO: Average temperatures 3° above to 3° below normal; ranging from teens to low 70s. Precipitation below normal; mostly 0.10 to 0.20 in.

Winter wheat received much needed rainfall; most stands need more moisture prior to winter.

OKLAHOMA: Temperatures averaged 4° below normal north central to 4° above normal southwest. Precipitation averaged none west central to 1.34 in. southeast.

Days suitable for fieldwork 4.0. Topsoil moisture 30% short, 55% adequate, 15% surplus. Subsoil moisture 10% short, 90% adequate. Wheat 10% fair, 60% good, 30% excellent; 97% emerged, 80% 1986, 80% avg. Recent rains improved growth. Cattle grazing 35% wheat acreage. Sorghum 65%

harvested, 65% 1986, 80% avg. Cotton 20% harvested, 5% 1986, 30% avg. Peanuts 95% harvested, 90% 1986, 85% avg. Soybeans 65% harvested, 45% 1986, 65% avg. Pastures, livestock good. Cattle marketings stable, prices up from preceding week.

OREGON: Record breaking maximum temperatures north coast latter half of week. Average temperatures above normal southern Willamette Valley, southwest interior, south central area, along coast. Weekly averages below normal east, some lows in single digits. Rainfall over all of west. Over 2.00 in. along south coast; over 0.50 in. north coast; western interior from 0.20 in. north to over 0.50 in. southwest. Scattered rainfall east of Cascades, greatest amount 0.20 in. LaGrande. Snow higher elevations Cascade Range.

Soil moisture short to adequate west, remained mostly short east. Winter wheat seeding winding down; some planting intentions changed to spring wheat Columbia Basin; concern that late seedings with limited growth could be damaged by cold winter. Recent moisture improved sprouting progress. Fall planted grasses, clovers also susceptible to winter damage due to late emergence Willamette Valley. Fall copper sprays applied to filberts, cherries west. Potato harvest completed Wallawa County. Livestock good. Cattle moved from high elevation ranges to crop aftermath or winter range areas. Most operators weaned calves. Rangeland poor to fair, drier than normal.

PENNSYLVANIA: Mild most of week. Arctic air towards end of week, record low temperatures. Average temperature 41°, 1° above normal. Temperature extremes 4°; 72°. Average precipitation 0.53 in., 0.24 in. below normal.

Days suitable for fieldwork 4.0. Soil moisture 8% short, 73% adequate, 19% surplus. Corn 88% harvested, 76% 1986, 78% avg. Soybean 92% harvested, 81% 1986, 81% avg. Fourth cutting alfalfa 96%, 100% 1986. Quality of hay poor to fair. Amount of feed being obtained from pastures average to below average. Activities: Harvesting hay, haylage, corn for grain, soybeans, hauling manure; spreading lime, fertilizer; installing conservation practices; machinery maintenance; caring for livestock.

PUERTO RICO: Island average rainfall 1.58 in., 0.26 in. above normal. Highest weekly total rainfall 4.13 in. Pico Del Este-Luquillo, 3.64 in. Manati, 3.58 in. Barceloneta. Highest 24-hour total 2.30 in. Toa Baja. San Juan mean temperature 81°, 1° above normal. Total rainfall 1.50 in., 0.17 in. above normal. Divisional temperature averaged about 80 to 81° on coasts, 75 to 77° interior, mean station temperature ranging 84° Fajardo to 67° Pico Del Este-Luquillo. Lowest minimum temperature 57° Adjuntas. Highest maximum temperature 93° Mayaguez.

SOUTH CAROLINA: Temperatures averaged 15° above normal beginning week; 15° below normal end week. Rainfall 0.50 to 3.00 in.

Days suitable for fieldwork 4.8. Soil moisture 63% short, 37% adequate. Cotton 98% harvested, 71% 1986, 89% avg.; soybeans 66% harvested, 44% 1986, 45% avg.; 1% very poor, 4% poor, 65% fair, 30% good. Wheat 51% planted, 43% 1986, 36% avg.; fair to good. Pasture fair; livestock fair to good.

SOUTH DAKOTA: Average temperatures 1 to 7° above normal. Extremes 3°; 67°. Some scattered rainfall across State.

Winter wheat good to fair; many areas still need moisture. Greenbugs, aphids still problem, areas with bad infestations spraying. More cattle being moved to stubble fields, dry lots, few still left in pastures.

TENNESSEE: General rainfall early week. Precipitation averaged above normal. Temperatures averaged below normal.

Soybeans 99% harvested, 70% 1986, 75% avg. Other activities: Stripping tobacco, land preparation, finalizing winter wheat seeding, farm chores.

TEXAS: Cold front, low pressure system triggered severe weather central, east 15th, several deadly tornadoes. Heavy rains eastern two-thirds State early week. Showers north central counties midweek. Warming underway late week with increased flow of Gulf moisture. Rainfall below normal except east, Upper Coast. Temperatures below normal. Readings south central slightly above normal.

Crops: Grain sorghum harvest progressed Plains without major delays. Light snow early week only factor slowing harvest. Additional cold weather further dry down later fields. Yields good. Sorghum 99% mature, 99% 1986, 100% avg. Sorghum 88% harvested, 83% 1986, 93% avg. Cotton harvest gained momentum Plains as latest freeze helped kill plants. Most gins busy trying to keep up with harvest. Rains west slowed progress. Harvesting continued Trans-Pecos. Yields dryland, irrigated good. Cotton 90% open bolls, 83% 1986, 93% avg. Small grain conditions improved after recent rains; many dryland fields Plains need moisture. Irrigation operations steady. Planting operations winding down Blacklands, central. Some rain delayed planting briefly. Movement stockers onto fields Plains slowed because poor forage growth. Wheat 98% planted, 98% 1986, 94% avg. Soybean harvest progressed without delay Plains. Harvest wind down Upper Coast. Peanut harvest minor delays some areas because showers. Some freeze, frost damage Cross-Timbers. Grades improved slightly. Sugarbeet harvest good progress. Rio Grande Valley sugarcane harvest continued without delays. Other crops planted: Oats 92%, 91% 1986, 89% avg. Other crops harvested: Peanuts 77%, 78% 1986, 74% avg. Pecans 45%, 64% 1986, 48% avg. Soybeans 86%, 80% 1986, 74% avg. Sugarbeets 85%, 50% 1986, 73% avg. Sunflowers 89%, 80% 1986, 86% avg.

Commercial Vegetables: Rio Grande Valley harvest cabbage, tomatoes, peppers. Onions, lettuce good progress. Citrus harvest continued, improved sizes. Quality good. San Antonio-Winter Garden carrot, spinach, cabbage, pepper harvest continued. Light frost caused minor damage leafy vegetables. Trans-Pecos most vegetable harvest over except some fields chili peppers. Pecan harvest increased, cold weather aided maturing, falling of nuts.

Range and Pasture: Many ranges, native pastures improved with additional rain. Some areas still need moisture. Small grain fields providing varied amounts forage depending on rain. Livestock good. Supplemental feeding increased. Markets steady.

UTAH: Precipitation moderate to heavy. Temperature minimums 3° below to 3° above normal. Maximums 4 to 6° above normal.

Soil moisture 15% short, 85% adequate. Fall harvest complete. Corn for grain yields 2% below avg., 41% avg., 41% above avg., 14% much above avg. Corn silage yields 46% avg., 41% above avg., 13% much above avg. Range feed 22% poor, 45% fair, 33% good. Cattle good to excellent, sheep mostly good. Feed supplies adequate. Major farm activities: Working livestock, marketing feeder calves and lambs, farm maintenance, winterizing, fall tillage.

VIRGINIA: Warm beginning, rain mid, very cold end period. Temperature 5 to 10° above normal beginning, 10 to 20° below normal end period; range 18 to 77°. Precipitation range 0.10 to 1.11 in.

Days suitable for fieldwork 4.1. Topsoil moisture 16% short, 79% adequate, 5% surplus. Grain corn 96% harvested, 92% 1986, 93% avg. Soybeans 76% harvested, 54% 1986, 66% avg. Wheat 88% seeded, 79% 1986, 83% avg. Pastures good, winter grains good to excellent. Clear weather allowed rapid advancement all activities.

WASHINGTON: Weather disturbances moved through region early, late in period bringing light, moderate rainfall to western, extreme eastern sections of State. Central areas remained dry due to rain shadow effect of Cascades. High pressure ridge midweek brought warm afternoon temperatures, cold nights.

Soil moisture 80% short, 20% adequate. Light rains improved soil moisture conditions, some areas. More rain needed to recharge soil moisture deficits. Winter wheat seeding mostly completed; emergence continued behind normal. Winter wheat 89% emerged, 100% 1986, 98% avg. Winter wheat 5% very poor, 10% poor, 35% fair, 50% good. Twenty degree temperatures following rain showers hurt germinating winter barley, Garfield County. Cooler temperatures slowed movement of Russian wheat aphid. As of November 13th no Russian wheat aphids in State. Crop conditions for winter grain crops on irrigated land mostly good. Fruit tree pruning began in most fruit producing areas central. Orchard clean up continued as major activity. Growers King, Pierce Counties continued pruning, tying caneberries, blueberries. Range, pasture conditions continued mostly short. Most stockmen

now feeding supplemental feed to livestock, hay roughage feed supplies mostly adequate to surplus. Fresh market carrot harvest continued Franklin County. Late cabbage, celery, carrots being harvested King, Pierce Counties.

WEST VIRGINIA: Average temperature 41°; near normal. Extremes 1° Greenbank; 76° Creston, Williamson. Precipitation averaged 0.16 in.; 0.23 in. below normal northeast; 0.21 in. above normal south.

Days suitable for fieldwork 4.4. Soil moisture 67% short, 33% adequate. Farm activities: Livestock care, general farm maintenance, harvesting hay, corn. Corn good to fair, 94% harvested. Wheat, barley good.

WISCONSIN: Temperatures averaged 35°, 4° above normal. Extremes 0°; 60°. Precipitation 0.38 to 1.24 in. Snow 1 to 2 in north, central on 17th.

Farm activities: Applying fertilizer, wood cutting, repairs.

WYOMING: Temperatures colder than normal. Precipitation above normal.

Corn harvest neared completion most areas. Winter wheat fair to good. Additional moisture needed for good development. Livestock good to excellent. Movement to winter pastures, market continued. Colder temperatures, snow increased stress. Supplemental feeding many areas with snow cover. Hay supplies adequate or better.

Crop Progress

FOR WEEK ENDING NOVEMBER 22, 1987

	WINTER WHEAT % EMERGED		
	1987	1986	AVG.
ARK	87	67	NA
CALIF	30	25	28
COLO	100	97	96
GA	15	42	NA
IDAHO	94	100	100
ILL	100	92	88
IND	97	93	94
KANS	99	95	95
MICH	100	75	NA
MO	95	55	64
MONT	100	82	88
NEBR	100	100	100
N MEX	100	100	NA
N C	62	68	NA
OHIO	98	86	95
OKLA	97	80	80
OREG	85	95	93
S DAK	100	100	100
TEX	93	93	83
WASH	89	100	98

20 STATES	94	89	NA
EXCL. STATES WITH NA	96	90	89

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

NA - NOT AVAILABLE.

	COTTON % HARVESTED		
	1987	1986	AVG.
ALA	100	94	91
ARIZ	86	86	80
ARK	99	97	91
CALIF	95	90	84
GA	95	79	83
LA	100	100	93
MISS	100	99	91
MO	100	98	93
N MEX	44	42	58
N C	92	85	78
OKLA	20	5	30
S C	98	71	89
TENN	100	93	92
TEX	36	28	45
14 STATES	69	63	68

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

Crop Condition

FOR WEEK ENDING NOVEMBER 22, 1987

STATE	WINTER WHEAT				
	VP	P	F	G	EX
ARK	0	2	21	68	9
CALIF	0	0	20	55	25
COLO	0	2	15	73	10
GA	4	23	57	16	0
IDAHO	0	20	38	30	12
ILL	0	0	25	56	19
KANS	0	7	28	29	36
MICH	1	4	15	50	30
MO	0	7	49	40	4
MONT	1	14	45	40	0
NEBR	0	6	38	56	0
N MEX	0	0	42	50	8
N C	0	2	33	65	0
OKLA	0	0	10	60	30
OREG	0	25	50	25	0
S DAK	0	7	21	63	9
TEX	2	10	38	40	10
WASH	5	10	35	50	0

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

International Weather and Crop Summary

November 15 - 21, 1987

HIGHLIGHTS:

UNITED STATES... Precipitation hampers cotton and soybean harvests in the Delta, southern Great Plains, and some of the Southeast. Moisture benefits winter wheat and small grains but prolongs seeding.

WESTERN U.S.S.R.... Mild weather covers dormant winter grains.

EUROPE... Widespread rain causes fieldwork delays in the north but brings some relief to winter grains in the southeast.

SOUTH ASIA... Showers throughout India's southern half benefit cotton, rice, and some early vegetative wheat.

NORTHWESTERN AFRICA... Winter grain planting progresses under mostly favorable weather.

SOUTH AFRICA... Showers in the eastern Maize Triangle maintain favorable conditions for corn emergence and establishment.

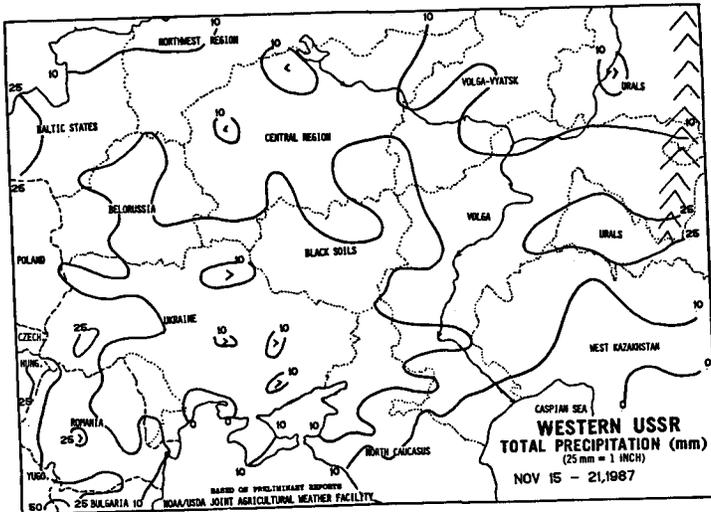
SOUTHEAST ASIA... Tropical Storm Maury brings heavy rain to the Philippines and coastal Vietnam. Mostly light rain covers filling Thai rice.

EASTERN ASIA... Rain delays late rice harvest in the south. Mild, dry weather promotes vegetative growth of winter grains in the north.

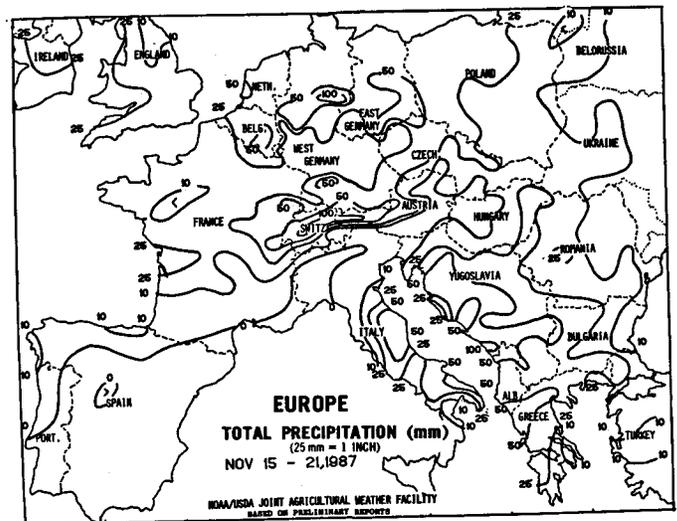
SOUTH AMERICA... Rain covers all crop areas, benefiting crop establishment in Argentina and south-central Brazil.

AUSTRALIA... Scattered rain causes minor delays in the wheat harvest.

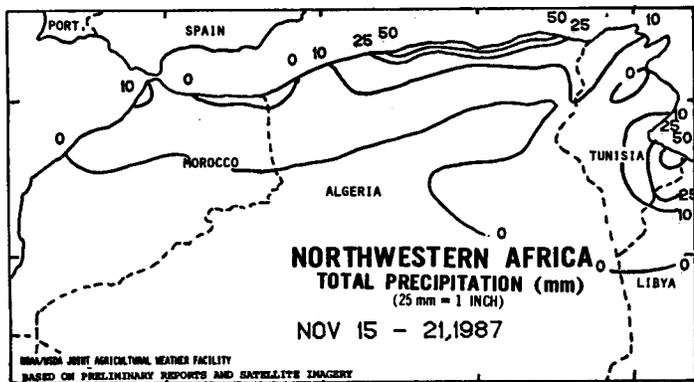
MEXICO... Mostly dry weather favors crop harvesting.



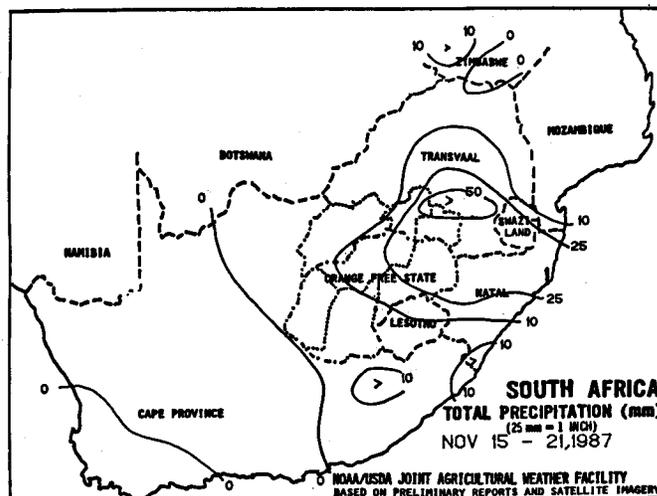
WESTERN U.S.S.R.... Widespread, light precipitation covered winter grains over much of the region. Precipitation amounts generally ranged from 5 to 15mm, with isolated locations receiving rainfall in excess of 25mm. The precipitation fell as snow in the Central Region, Black Soils Region, Volga Vyatsk, and the upper Volga, while rain covered the Baltic States, Belorussia, the Ukraine, and the North Caucasus. Weekly average temperatures in most winter grain areas were 2-4 degrees C above normal, except in the Volga Vyatsk Region where temperatures were 3-6 degrees C below normal. Winter grains were dormant everywhere except for crop areas adjacent to the Black Sea where growth occurred.



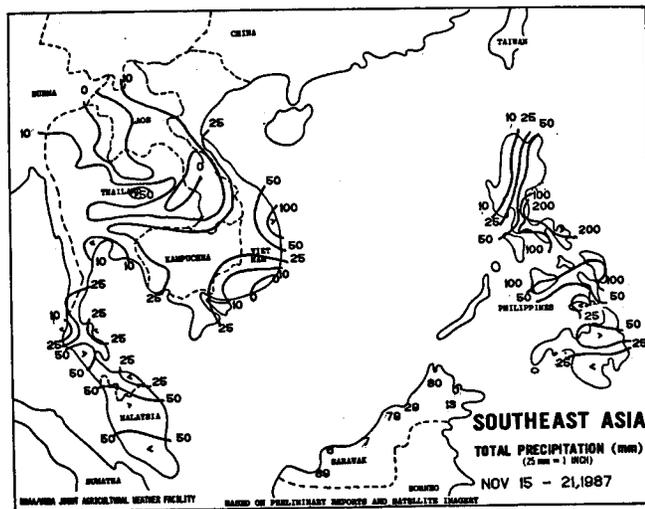
EUROPE... An active storm track through northwestern sections brought moderate to heavy rain (greater than 20mm) to most of Europe except for the southwest. The rain hampered late fieldwork and caused some winter grains to be unfavorably wet during establishment in the north. Heavy rains locally over 100mm caused some flooding across northern West Germany and western East Germany. In the southeast, the rain favored establishment of winter grains, which have been hindered by persistent dryness and low soil moisture reserves. The precipitation was the heaviest in more than 2 months across the region, although much more is needed to bring soil moisture to normal levels. Elsewhere, mostly dry weather benefited planting of winter grains across production areas of Spain, Portugal, southern France, and northern Italy. Temperatures over eastern Europe moderated during the period, allowing further vegetative growth of winter crops after a prolonged cold period.



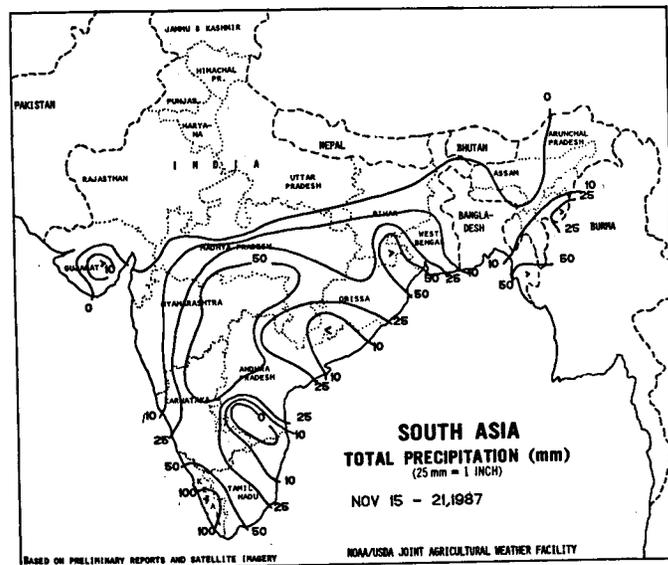
NORTHWESTERN AFRICA... Winter grain planting progressed under mostly favorable weather conditions. Dry weather covered Morocco, where soil moisture was adequate for crop emergence and early establishment. Dry weather followed early-week, light showers (10-25mm) over northern wheat and barley producing areas in Algeria and Tunisia, allowing planting to progress without delay. Minimal rain has covered southern crop areas in Algeria and Tunisia since October, and widespread precipitation is needed before planting can begin.



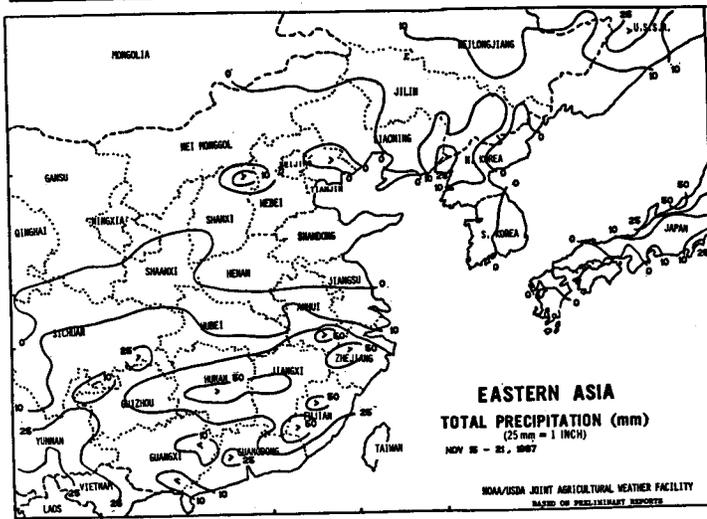
SOUTH AFRICA... Moderate to heavy showers (10-50mm or more) continued in major corn regions of southern and central Transvaal, eastern Orange Free State, and northern Natal. Dry weather early in the week, however, allowed some planting activities in recently wet areas of southern Transvaal. Drier weather (less than 10mm) returned to the western and southern Maize Triangle following last week's much needed rainfall and persisted in minor corn regions of northern Transvaal. Moisture levels throughout South Africa's primary maize regions favor emergence and establishment.



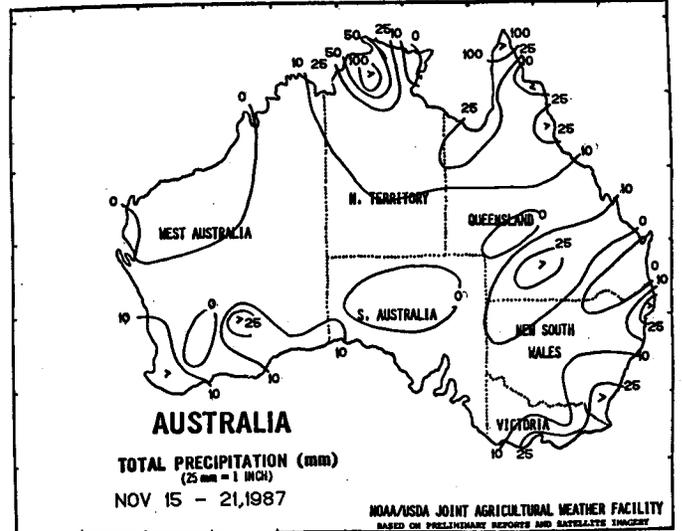
SOUTHEAST ASIA... Tropical Storm Maury brought heavy showers (50-100mm or more) to the Philippines from northern Mindanao to southern and eastern Luzon. The storm was positioned to the southwest and west of the islands after intensifying, so wind damage was likely minimal. Before dissipating, Maury moved into Indochina, bringing moderate to heavy showers (25-147mm) and high winds to Vietnam's central coast. Satellite imagery suggests heavy showers from the storm over central Vietnam and eastern Kampuchea. Mostly light rain (less than 10mm) covered most Thai rice regions, including recently wet areas just to the north and south of Bangkok which benefited from the drier weather. Moisture continued limited in easternmost grain regions for filling rice. Moderate to heavy tropical showers (25-100mm or more) continued throughout Malaysia and Indonesia, including drought stricken southern and eastern areas from Java eastward, boosting irrigation levels for rice planting.



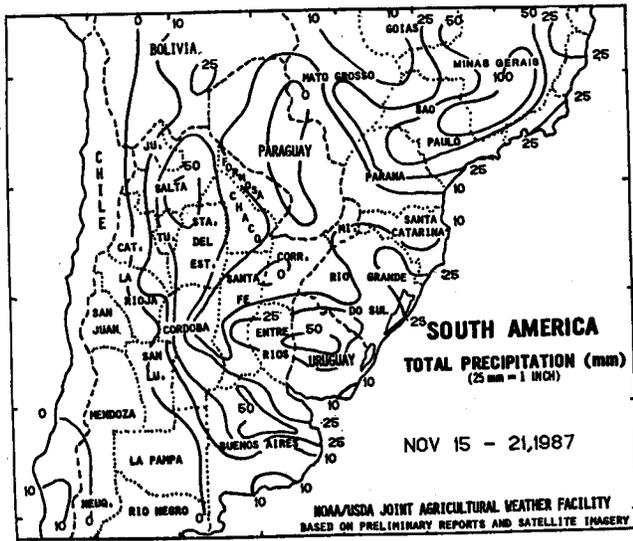
SOUTH ASIA... Beneficial showers (10-73mm) continued throughout India's southern half, spreading as far north as central Madhya Pradesh and eastward to southern West Bengal. The rainfall in central India boosted moisture levels for boll forming to filling cotton and brought some relief to early vegetative wheat. Moisture levels continued adequate to abundant in the south and in southeast coastal areas for the normal development of cotton and rice, but some areas of Andhra Pradesh are likely too wet following increased tropical cyclone activity over the past 2 weeks. Except for brief, isolated, light rain in Gujarat and Bihar, northern wheat regions were persistently dry.



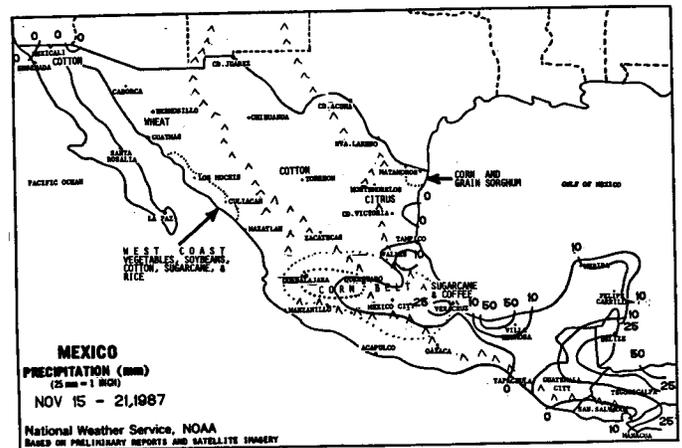
EASTERN ASIA...Residual tropical moisture over Indochina brought moderate to heavy showers (up to 84mm) to much of southern China for the second straight week, causing harvest delays for late rice. In the north, mostly dry weather covered winter wheat production areas. Above-normal temperatures over the region have lengthened the fall vegetative season, with the onset of dormancy normally occurring by the end of November in northern areas. Soil moisture levels for fall establishment are generally favorable.



AUSTRALIA...Light to moderate showers (up to 20mm) fell over most wheat and barley production areas, causing temporary delays in harvest. The wheat harvest is mostly complete across northern crop areas and in full swing in central sections. Wheat in the south is advancing toward maturity. Mild weather favored early vegetative growth of cotton in Queensland and New South Wales. Soil moisture is generally adequate for summer crops in eastern production areas, although sections of southeastern Queensland and northeastern New South Wales would benefit from further rains due to a dry winter and early spring.



SOUTH AMERICA...Periodic showers continued to cover Argentina's major crop areas, providing adequate topsoil moisture for crop emergence but slowing planting somewhat. Corn planting was nearly complete in Santa Fe where weekly rainfall generally averaged 10-20mm. Heavier showers (25-50mm) fell over Cordoba and northern Buenos Aires where corn planting as well as sorghum, sunflower, and soybean planting are still underway. Light showers (1-10mm) in southern Buenos Aires caused minimal delays in early wheat harvesting. In south-central Brazil, some rain fell in all soybean areas. Soybean planting progressed in Rio Grande do Sul and southern Parana, where weekly rainfall averaged about 10mm. Heavier rain (25-100mm) fell in northern Parana, southeastern Mato Grosso do Sul, Sao Paulo, and Minas Gerais. Moisture is adequate in all areas for soybean emergence.



MEXICO...Dry weather continued over much of northern Mexico and along the west coast. Generally light showers covered east-coastal regions extending into the Yucatan peninsula. Weekly rainfall was mostly 10mm or less except for widely-scattered, heavier rain (14-89mm) along the east-central coast. The minimal rain over the eastern Southern Plateau caused little, if any, interference with the corn harvest. Early sugarcane harvesting likely began throughout the region. Light rain (5-20mm) provided some beneficial moisture for corn growth in the Yucatan peninsula.

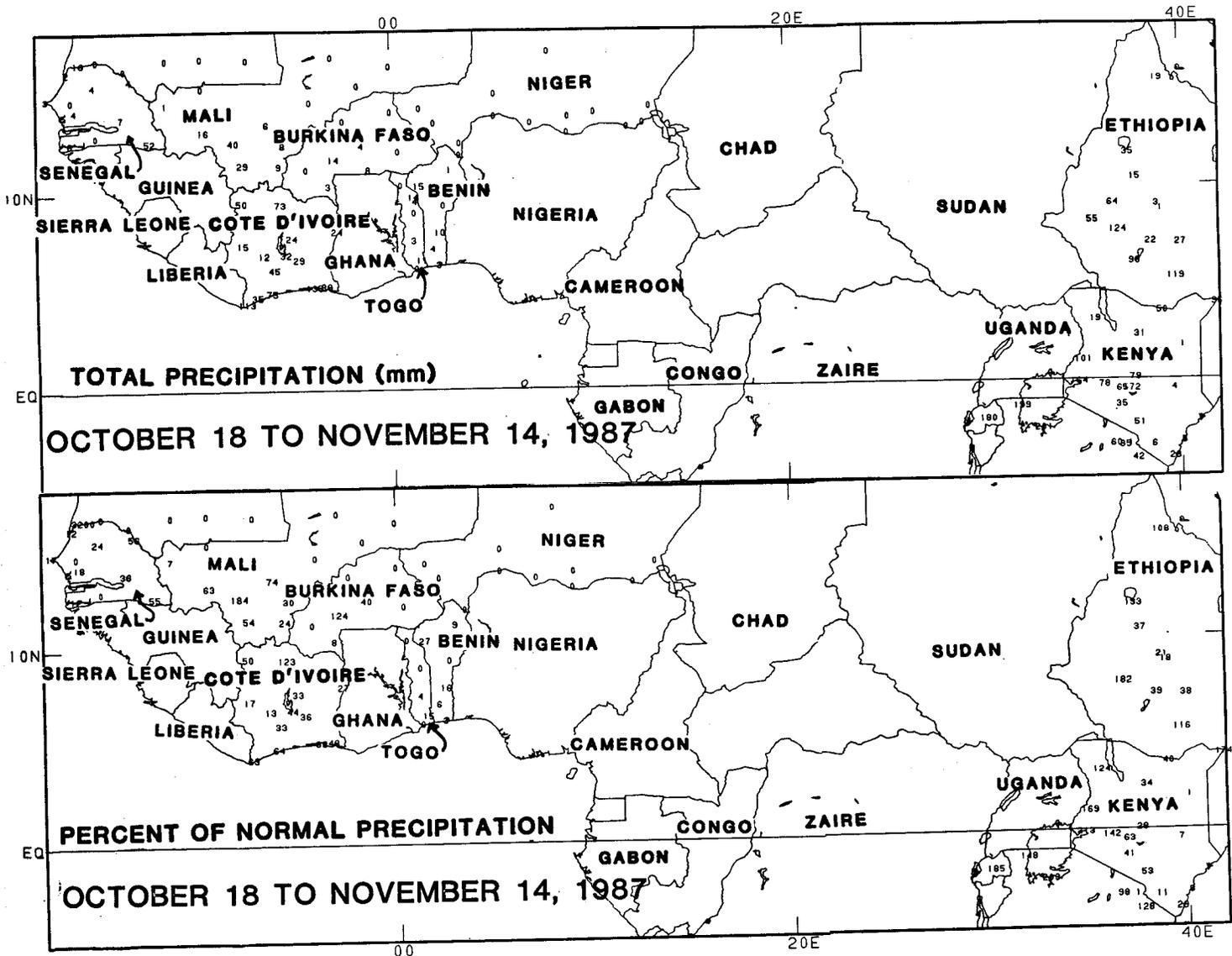
African Agricultural Weather Summary

This overview summarizes the conditions in crop areas where the migratory rainy season and coincident crop growing season are underway. The growing season is ending in Africa, north of the equator, and the planting season is underway south of the equator.

In western Africa, mostly dry, warm weather continued throughout the Sahel as the Intertropical Convergence Zone (ITCZ) continued its southerly withdrawal. The seasonable dry weather stressed late-planted crops still in the filling stage of development but favored harvesting to the south. Periodic showers in coastal areas benefited vegetative second season crops.

In eastern Africa, late-October showers caused harvest delays in Ethiopia and Kenya, but recent periods of drier weather favored fieldwork. As indicated by satellite imagery, periodic, scattered showers in Somalia benefited second season crop emergence and establishment. Sudan was mostly dry, favoring mature crops but stressing late-planted crops still in the filling stage of development.

In southern Africa, Mozambique was mostly dry, but scattered showers occurred in Tanzania, Zambia, and Zimbabwe. The ITCZ continues to be weak. Maize planting normally takes place in November and December in response to the onset of the rainy season.



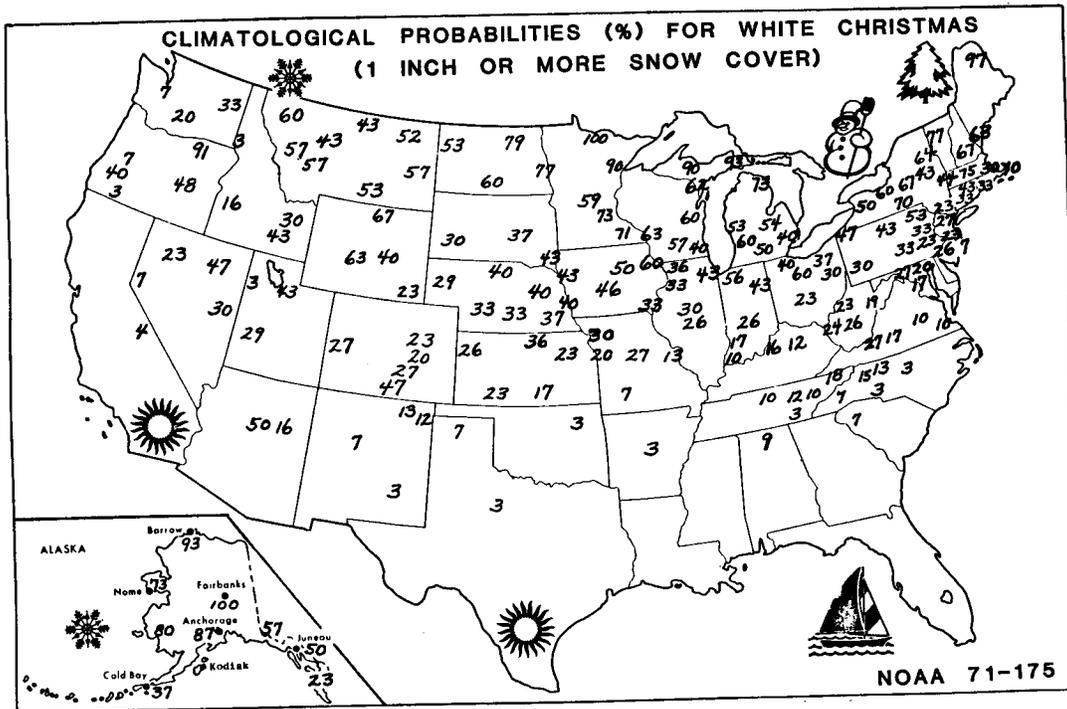
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Managing Editor (Acting) Tom Heddinghaus
Meteorologists Ray McInturff,
Jim Williams, Wes Byrd, and Randy Taylor

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