

# WEEKLY WEATHER AND CROP BULLETIN

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

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National Agricultural Statistics Service and World Agricultural Outlook Board

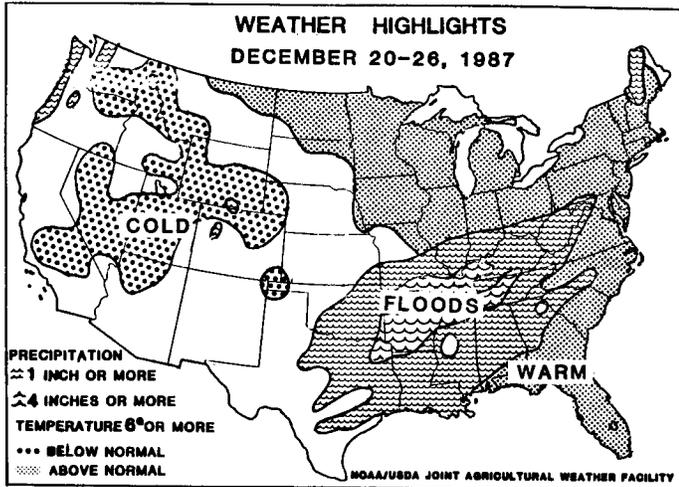
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## National Weather Summary

December 20 - 26, 1987



**HIGHLIGHTS:** Winter storms brought cold, snowy weather to the West. A slow-moving frontal system produced torrential rains with widespread flooding in the lower Mississippi Valley and the Tennessee Valley. The eastern Gulf States had unseasonably mild weather.

**SUNDAY...**Snow fell over northern New England, rain and drizzle over southern New England. Strong, gusty winds developed along the eastern slopes of the Rockies, and extended into the Great Plains. A storm in the Pacific Northwest brought rain to western Washington and snow to eastern Washington, Idaho, and western Montana. Mild weather prevailed from the Great Lakes southward to the gulf coast.

**MONDAY...**High winds continued over the eastern slopes of the Rockies and adjacent areas of the Plains but diminished late in the day. Temperatures were near normal or above normal over most of the Nation. Rain fell along a band from the Carolinas to Louisiana. Rain was scattered along the coasts of Washington, Oregon, and northern California.

**TUESDAY...**A strong winter storm developed over the Great Basin, spreading snow from the Sierra Nevada of California to Utah, Colorado, and Wyoming. Utah had the heaviest snowfall. Strong winds developed during the day over southern California, while rainshowers and a few thunderstorms dotted the Pacific coastal regions. Scattered light snow fell from lower Michigan to Ohio and western Pennsylvania.

**WEDNESDAY...**The winter storm in the West moved across Colorado, producing snow in the central Rockies, the Great Plains, and the Mississippi Valley. High winds in the Southwest ushered cold air into the region.

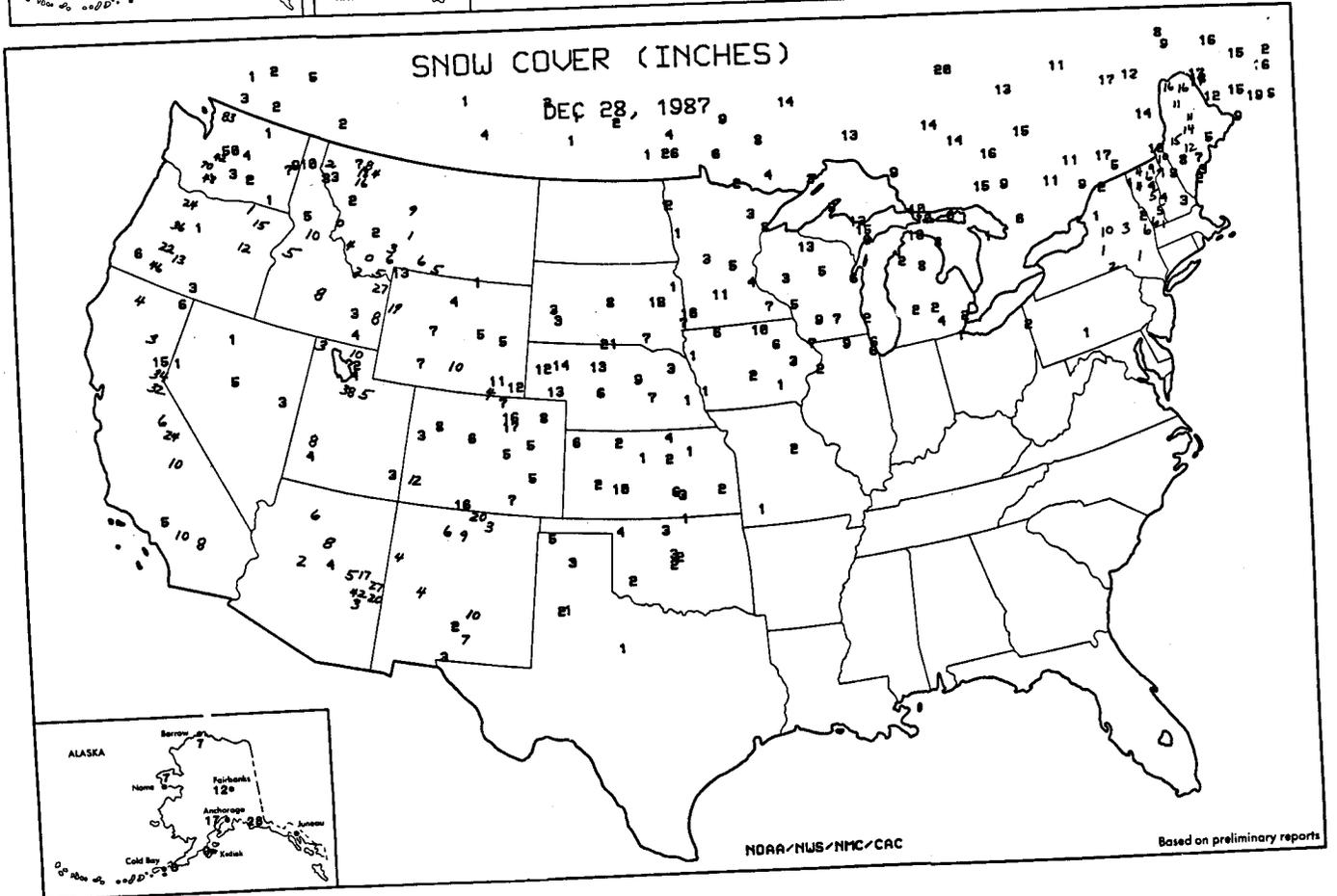
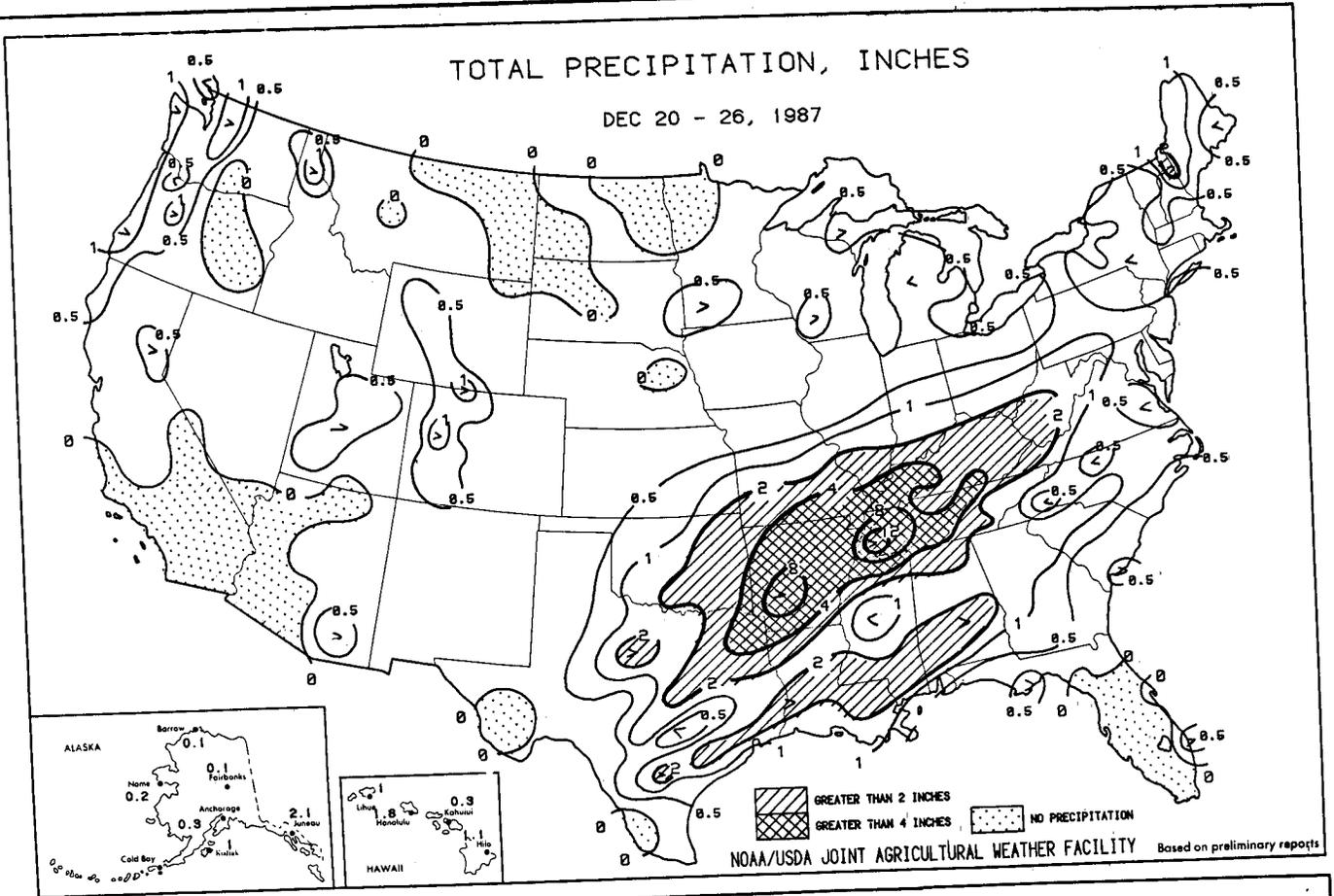
**THURSDAY...**A second winter storm developed over the southern Rockies, producing snow in Arizona, New Mexico, Utah, and Colorado. The earlier storm moved into the upper Mississippi Valley, spreading snow across the northern Plains, as far west as Montana and as far east as Wisconsin and Michigan. Thunderstorms produced torrential rains in the lower Mississippi Valley and in the Tennessee Valley. While cold weather continued in the West and in the North, unseasonably mild weather persisted in the Southeast.

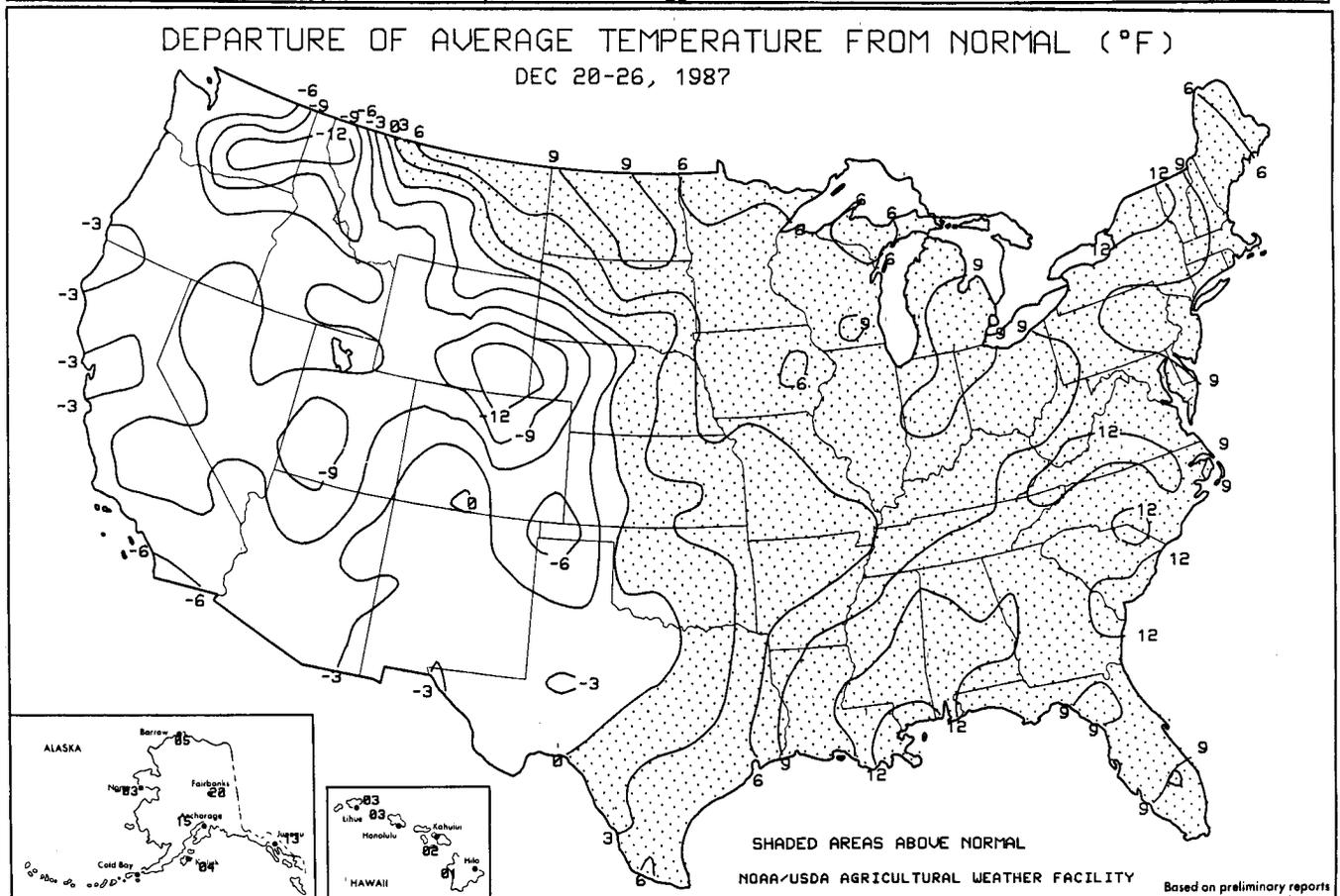
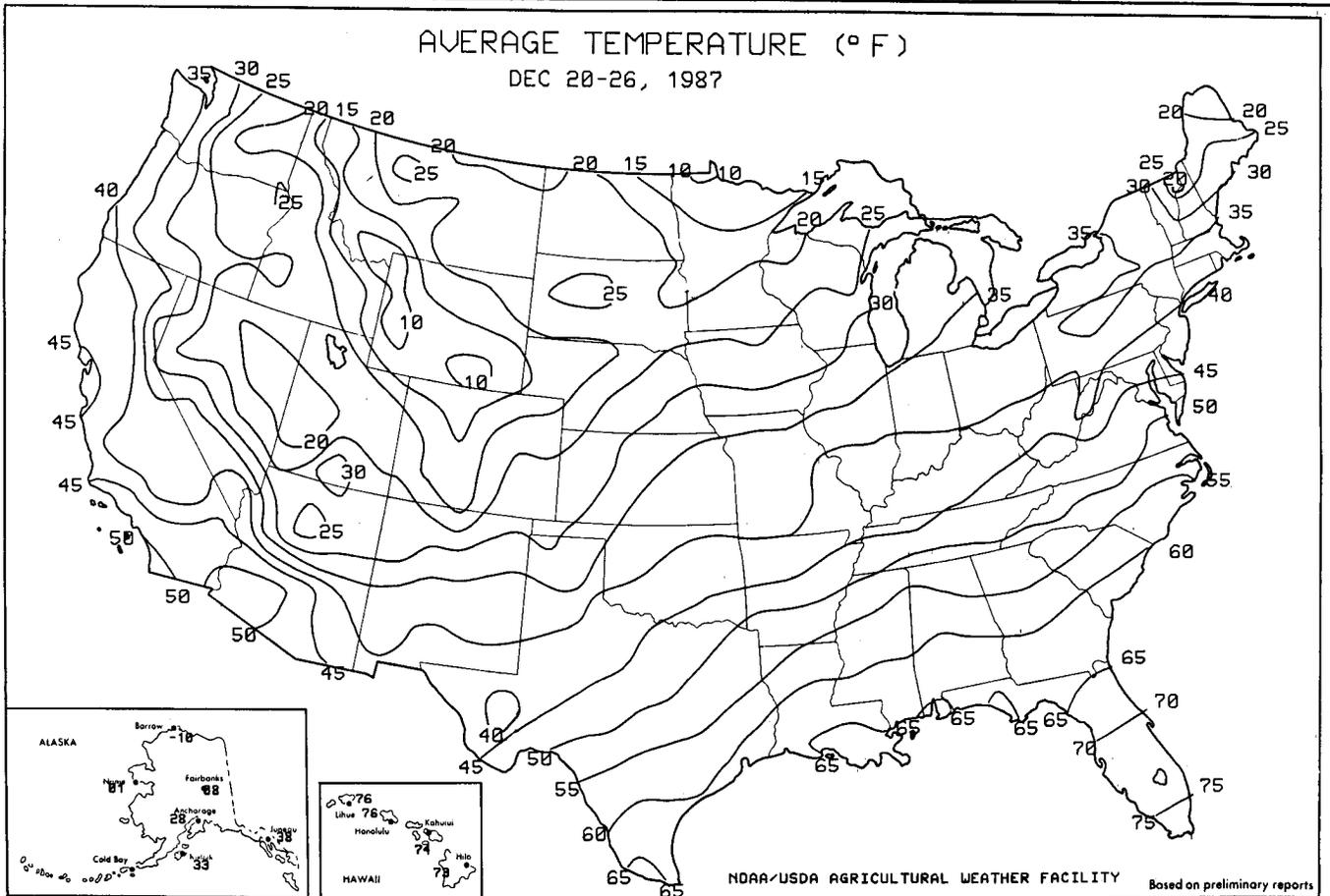
**FRIDAY...**Cold weather continued to advance eastward, reaching the Ohio Valley and the lower Mississippi Valley. Snow extended from Arizona across New Mexico, Colorado, Kansas, Oklahoma, Texas, Kansas, Missouri, and Illinois. Rain fell across eastern Texas, Arkansas, northern Louisiana, western Tennessee, the Ohio Valley, northern Virginia, and western Maryland. Unseasonably warm weather persisted in the Gulf States. Arizona and southern California experienced widespread below-freezing temperatures.

**SATURDAY...**Heavy rains continued in Arkansas, southern Missouri, Alabama, Tennessee, Louisiana, and northeastern Texas, causing widespread flooding. Freezing weather returned to much of the Southwest, including the interior valleys of California. Freezing rain fell in west-central and northwestern Missouri, eastern and southern Kansas, north-central Texas, and much of Oklahoma. Rain was scattered over North Carolina and West Virginia. Snow fell from the Texas Panhandle, across northeastern New Mexico, Colorado, southern Wyoming, western Kansas, and western Nebraska.

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# National Weather Data for Selected Cities

Weather Data for the Week Ending December 26, 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	52 AND BELOW	PRECIPI- TATION		
																		.01 INCH OR MORE	.50 INCH OR MORE	OR MORE
AL BIRMINGHAM	64	48	74	32	56	12	1.1	-.1	.5	2.6	63	39.9	75	100	64	0	1	4	1	
MOBILE	70	58	77	44	64	12	.9	-.3	.8	2.5	56	66.3	104	100	77	0	0	4	1	
MONTGOMERY	71	50	81	36	61	13	2.4	1.3	2.1	3.6	90	53.7	112	96	61	0	0	3	0	
AK ANCHORAGE	34	22	41	10	28	15	.3	.1	.3	1.1	118	14.6	100	96	70	0	7	2	0	
BARROW	-5	-15	3	-24	-10	5	.1	0	0	.2	173	5.0	111	82	68	0	7	1	0	
FAIRBANKS	21	-4	36	-20	9	20	.1	-.1	.1	.4	59	6.4	62	93	73	0	1	7	1	
JUNEAU	40	36	41	32	38	13	2.1	1.1	1.1	5.3	134	59.3	114	92	61	0	5	4	0	
KODIAK	39	28	45	18	33	4	1.0	-.3	.4	2.1	44	69.9	117	81	58	0	7	3	0	
NOME	11	-10	27	-19	1	-3	.2	0	0	1.6	238	8.4	124	83	34	0	7	1	0	
AZ PHOENIX	57	40	67	32	48	-4	.4	-.2	.2	.7	50	16.0	86	85	44	0	2	4	0	
PRESCOTT	43	18	59	4	31	-6	.2	-.2	.2	2.4	309	13.5	124	93	40	0	1	4	0	
TUCSON	57	36	75	25	46	-5	.6	-.4	.8	2.78	3.8	159	62	26	0	1	0	0	0	
YUMA	60	42	69	31	51	-4	0	-.1	0	8.3	338	42.8	109	99	67	0	3	3	3	
AR FORT SMITH	54	34	63	26	44	4	4.3	3.7	2.0	8.3	283	51.2	106	89	75	0	0	4	0	
LITTLE ROCK	55	39	67	34	47	5	6.5	5.6	2.4	10.1	142	6.4	117	93	51	0	5	1	0	
CA BAKERSFIELD	51	30	58	21	40	-7	.1	-.1	.1	.7	142	6.4	90	83	58	0	1	3	0	
EUREKA	54	39	60	32	47	-1	.5	-.9	.2	10.3	199	33.5	77	85	59	0	6	0	0	
FRESNO	48	28	54	20	38	-6	T	-.4	T	.5	40	8.6	61	67	29	0	0	1	0	
LOS ANGELES	60	43	66	34	51	-5	.5	0	-.4	0	1.6	128	7.1	61	98	59	0	4	0	
REDDING	52	32	57	25	42	-5	.2	-.1	.1	7.9	136	31.2	79	83	37	0	2	2	0	
SACRAMENTO	51	34	54	28	43	-5	.2	-.1	.1	10.7	15.2	93	88	54	0	2	2	0	0	
SAN DIEGO	59	42	64	34	51	-2	.3	-.4	.3	2.5	107	15.2	131	70	41	0	0	0	0	
SAN FRANCISCO	53	40	56	36	46	-2	.2	-.3	0	2.8	257	11.7	131	70	41	0	0	2	0	
CO DENVER	30	11	47	-2	20	-11	.5	-.1	-.1	3.6	124	14.6	78	81	47	0	7	2	0	
GRAND JUNCTION	30	14	36	4	22	-4	.2	0	.1	.7	142	11.4	146	91	61	0	7	2	0	
PUEBLO	35	16	53	4	26	-6	.2	-.2	.2	1.4	144	10.3	96	96	56	0	3	3	0	
CT BRIDGEPORT	45	34	48	29	40	7	.3	-.5	.2	1.9	62	32.9	81	85	55	0	6	2	0	
HARTFORD	45	29	55	25	37	10	.6	-.6	.3	1.3	36	44.6	102	88	48	0	1	4	0	
DC WASHINGTON	55	38	60	31	46	9	.3	-.1	.2	2.2	82	36.2	95	96	58	0	0	2	1	
FL APALACHICOLA	71	57	74	49	64	10	.8	0	.8	.9	31	46.9	86	100	73	0	0	0	0	
DAYTONA BEACH	79	58	82	54	68	10	T	-.5	T	.3	14	45.6	95	98	59	0	0	0	0	
JACKSONVILLE	75	54	83	43	65	10	T	-.6	T	.2	9	43.4	85	98	59	0	0	0	0	
KEY WEST	80	73	81	70	76	6	T	-.3	T	2.7	179	49.0	126	92	76	0	0	0	0	
MIAMI	82	69	84	66	76	8	T	-.4	T	4.3	278	50.4	88	87	60	0	0	0	0	
ORLANDO	79	61	82	57	70	10	T	-.4	T	.5	32	56.8	116	97	58	0	0	2	0	
TALLAHASSEE	73	51	79	37	62	10	.1	-.9	.1	1.0	25	67.8	107	96	61	0	0	0	0	
TAMPA	79	64	82	58	71	11	.8	-.5	0	.5	28	49.1	106	92	62	0	0	2	1	
WEST PALM BEACH	81	67	85	61	74	8	.6	.1	.6	1.4	76	58.7	99	92	68	0	0	4	1	
GA ATLANTA	62	48	72	36	55	12	1.5	.5	1.0	3.1	88	45.2	95	99	68	0	0	5	0	
AUGUSTA	67	48	76	33	58	12	.5	-.3	.3	1.2	46	41.0	97	100	66	0	1	4	1	
MACON	68	49	77	32	58	11	.7	-.3	.6	1.6	47	37.8	86	100	67	0	0	2	0	
SAVANNAH	72	53	79	38	63	13	.2	-.5	.2	.9	37	55.8	113	93	59	0	0	6	0	
HI HILO	80	67	82	65	73	2	1.1	-1.6	.3	16.5	150	136.2	108	96	68	0	0	4	1	
HONOLULU	83	70	84	67	76	3	1.8	1.0	1.7	14.2	499	20.0	88	92	63	0	0	2	0	
KAHULUI	82	66	86	62	74	2	.3	-.4	.3	3.0	138	20.6	117	90	59	0	0	4	0	
LIHUE	80	71	80	65	76	3	1.0	-.2	.6	10.7	238	36.0	84	91	73	0	7	0	1	
ID BOISE	34	18	42	8	26	-5	T	-.3	T	.8	73	8.3	68	83	61	0	7	1	0	
LEWISTON	32	22	43	16	27	-7	T	-.3	T	.5	44	8.6	68	83	61	0	7	2	0	
POCATELLO	27	10	41	-4	18	-9	.3	-.3	.3	.9	117	9.9	95	94	63	0	6	2	0	
IL CHICAGO	40	29	48	23	34	8	.2	-.2	.2	3.0	148	40.6	120	91	68	0	6	2	0	
MOLINE	37	27	45	22	32	8	.2	-.2	.2	3.3	204	36.5	100	94	69	0	6	2	0	
PEORIA	40	29	51	23	34	9	.2	-.2	.2	3.4	198	26.7	77	94	69	0	5	1	0	
QUINCY	42	30	53	26	36	8	T	-.3	T	2.6	181	28.0	75	87	63	0	6	2	0	
ROCKFORD	36	26	40	19	31	8	.3	-.2	.2	2.7	167	37.6	104	90	67	0	6	2	0	
SPRINGFIELD	44	31	56	26	37	9	.4	-.1	.2	4.3	239	28.7	85	93	65	0	4	3	2	
IN EVANSVILLE	52	33	58	27	42	8	2.8	2.0	2.0	4.6	156	33.3	81	98	67	0	6	3	0	
FORT WAYNE	44	30	51	25	37	10	.3	-.3	.1	3.1	148	33.9	99	91	68	0	6	3	0	
INDIANAPOLIS	46	31	54	25	39	9	.9	-.3	.6	4.8	189	33.5	87	93	68	0	4	4	0	
SOUTH BEND	40	29	50	25	35	7	.4	-.3	.2	3.4	138	33.9	90	92	63	0	5	1	0	
IA DES MOINES	36	23	42	16	29	6	T	-.2	T	1.9	215	36.2	119	92	62	0	7	1	0	
SIOLK CITY	38	17	45	4	28	7	T	-.2	T	.3	41	24.3	96	91	48	0	7	2	0	
WATERLOO	34	18	37	10	26	7	.2	-.1	.2	1.3	136	31.8	97	92	70	0	7	1	0	
KS CONCORDIA	41	26	51	21	33	4	.2	-.1	.2	.6	105	34.1	126	84	47	0	6	1	0	
DOYSE CITY	38	23	51	18	31	-2	.2	-.2	.2	.7	167	23.7	117	88	51	0	7	2	0	
GOODLAND	33	16	50	10	25	-4	.2	-.1	.1	1.6	150	36.9	111	89	57	0	6	3	0	
TOPEKA	44	28	53	24	36	6	.2	-.1	.1	2.2	256	38.5	135	95	63	0	3	4	2	
WICHITA	43	28	58	22	35	2	.6	-.4	.4	5.9	156	42.7	88	99	63	0	4	4	1	
KY BOWLING GREEN	53	34	58	24	43	7	4.2	3.2	3.1	5.1	163	35.7	79	94	67	0	3	4	1	
LEXINGTON	49	32	58	21	41	6	3.3	2.4	2.4	3.8	130	31.8	74	95	64	0	0	4	3	
LOUISVILLE	51	33	59	24	42	6	2.7	1.9	2.1	7.2	176	57.6	112	91	76	0	0	2	2	
LA ALEXANDRIA	67	55	78	47	61	12	3.4	2.3	2.1	3.5	83	61.6	112	97	76	0	0	4	1	
BATON ROUGE	71	59	81	43	65	13	2.6	1.5	1.5	4.8	112	62.4	117	99	84	0	0	4	1	
LAKE CHARLES	69	59	78	50	64	11	1.1	-.1	.9	4.8	56	60.2	103	99	77	0	0	3	0	
NEW ORLEANS	72	59	80	45	66	12	1.9	.7	1.9	2.5	56	60.2	103	99	77	0	0	3	0	

Based on 1951-80 normals.

Weather Data for the Week Ending December 26, 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		PRECIPITATION	
																90 AND ABOVE	52 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	62	46	75	39	54	6	3.3	2.4	2.8	7.0	213	54.2	126	98	72	0	0	4	1
ME CARIBOU	25	12	35	-5	18	5	.7	0	.3	2.5	94	28.8	80	98	71	0	7	5	0
PORTLAND	40	24	42	13	32	8	.6	-.3	.5	1.8	48	40.6	95	90	58	0	7	2	1
MD BALTIMORE	54	34	59	25	44	9	.9	-.1	.3	1.7	59	40.2	98	95	53	0	3	4	0
SALISBURY	58	35	63	26	46	9	.7	-.1	.3	2.7	85	37.9	85	96	47	0	3	4	0
MA BOSTON	45	33	54	28	39	8	.1	-.9	.1	1.9	50	45.3	106	90	52	0	3	2	0
CHATHAM	45	34	47	30	39	6	.2	-.9	.1	2.9	70	50.1	109	92	64	0	2	3	0
MI ALPENA	36	23	38	19	29	7	.7	.3	.5	1.8	109	24.3	85	96	68	0	7	2	0
DETROIT	43	30	50	25	37	10	.8	.2	.4	3.9	183	37.5	124	89	61	0	6	3	0
FLINT	42	30	49	22	36	11	.4	0	.2	2.5	148	29.5	103	92	64	0	4	2	0
GRAND RAPIDS	38	30	45	24	34	8	.4	-.2	.3	3.0	135	32.8	99	92	67	0	6	3	0
HOUGHTON LAKE	34	24	37	16	29	9	.4	0	.3	1.9	117	24.8	90	94	77	0	7	4	0
LANSING	40	29	48	24	34	10	.6	.1	.3	2.6	124	30.0	102	92	65	0	7	2	0
MARQUETTE	30	14	32	0	22	1	.7	.3	.5	3.5	195	36.3	119	96	73	0	7	2	0
MUSKEGON	39	32	46	24	36	9	.4	-.1	.2	5.0	230	35.9	116	91	70	0	1	3	0
SAULT ST. MARIE	33	22	36	9	28	10	.6	-.1	.4	2.9	134	30.8	94	95	67	0	7	4	0
MN ALEXANDRIA	27	10	29	-3	18	7	T	-.1	T	.6	86	16.9	69	93	68	0	7	1	0
DULUTH	26	9	31	0	17	6	T	-.2	T	.5	49	19.6	67	94	67	0	7	2	0
INT'L FALLS	22	0	31	-10	11	6	T	-.2	T	.1	12	19.3	81	94	73	0	7	1	0
MINNEAPOLIS	31	15	36	-2	23	6	.3	.1	.2	1.2	162	32.3	124	91	62	0	7	3	0
ROCHESTER	30	14	33	-1	22	7	.1	-.1	.1	1.5	195	27.8	98	95	76	0	7	3	0
MS GREENWOOD	66	44	77	36	55	10	.9	-.4	.6	1.9	41	41.1	79	94	67	0	0	4	1
JACKSON	68	50	76	36	59	12	1.0	-.3	.5	2.8	62	46.6	91	99	75	0	0	3	0
MERIDIAN	70	51	80	36	60	13	2.1	.8	1.1	3.7	78	54.4	104	98	66	0	0	3	2
MO CAPE GIRARDEAU	52	34	57	28	43	13	3.7	2.9	2.9	7.1	222	41.7	95	96	64	0	4	4	2
COLUMBIA	44	29	54	24	37	5	.6	.2	.4	4.4	260	32.5	89	93	62	0	4	3	0
KANSAS CITY	43	28	53	24	36	4	.1	-.3	0	1.7	137	33.6	94	96	60	0	6	3	0
SAINT LOUIS	48	33	61	28	41	8	1.3	.8	.8	5.8	305	36.7	110	87	59	0	4	2	2
SPRINGFIELD	47	29	56	22	38	4	2.7	2.1	1.4	7.1	322	55.2	141	93	63	0	6	3	3
MT BILLINGS	31	17	45	6	24	-2	T	-.2	T	T	2	12.1	82	74	37	0	7	1	0
GLASGOW	33	11	40	-3	22	8	T	-.1	T	T	8	9.3	87	80	47	0	7	0	0
GREAT FALLS	33	17	40	5	25	0	T	-.2	T	.2	28	14.0	94	77	38	0	7	1	0
HAVRE	34	14	40	2	24	7	T	-.1	T	T	0	7.8	68	80	44	0	7	0	0
HELENA	28	10	37	-3	19	-3	T	-.1	T	.4	75	10.0	88	89	51	0	7	0	0
KALISPELL	25	2	33	-9	14	-10	T	-.2	.1	1.3	98	15.2	98	93	72	0	7	2	0
MILES CITY	36	12	44	-3	24	5	T	-.1	T	T	6	12.1	86	72	39	0	7	0	0
MISSOULA	24	7	37	-4	15	-9	.2	-.1	.1	1.0	106	10.1	79	96	65	0	7	3	0
NE GRAND ISLAND	38	18	47	7	28	3	.3	.1	.3	.5	86	25.4	111	87	46	0	7	1	0
LINCOLN	40	22	51	9	31	7	T	-.1	T	.4	69	31.3	117	91	46	0	6	1	0
NORFOLK	38	18	46	4	28	6	T	-.1	T	.5	94	28.2	120	87	47	0	7	0	0
NORTH PLATTE	34	12	49	3	23	-1	.1	0	.1	.4	129	20.0	105	90	47	0	7	2	0
OMAHA	38	23	47	12	31	6	T	-.1	T	.5	71	32.1	107	90	57	0	6	1	0
SCOTT'SBLUFF	28	2	47	-14	15	-11	.4	.3	.2	.5	110	24.1	166	88	57	0	7	3	0
VALENTINE	32	5	47	-12	19	-4	.2	.1	.2	.5	205	21.3	126	87	44	0	7	1	0
NV ELY	32	5	48	-7	18	-7	.3	.2	.2	.7	110	12.3	140	86	50	0	7	3	0
LAS VEGAS	48	32	55	23	40	-4	T	-.1	T	.9	387	6.6	167	71	32	0	4	0	0
RENO	35	16	43	6	25	-6	.1	-.3	.1	.5	48	7.4	107	88	50	0	7	1	0
WINNEMUCA	34	9	48	-3	22	-8	.5	.3	.5	.7	96	9.0	120	86	55	0	6	1	0
NH CONCORD	40	19	45	15	29	7	.5	-.3	.4	1.5	50	36.6	101	97	56	0	6	2	0
NJ ATLANTIC CITY	53	32	58	22	42	8	.7	-.1	.3	1.9	63	41.0	100	91	55	0	4	4	0
NM ALBUQUERQUE	42	24	56	13	33	-1	.1	-.1	0	.4	85	8.4	107	85	40	0	6	2	0
CLOVIS	46	26	68	9	36	-2	.3	.1	.2	1.8	361	24.6	145	75	42	0	5	2	0
ROSWELL	48	25	71	4	37	-3	.3	.2	.1	1.1	368	15.8	150	88	47	0	5	2	0
NY ALBANY	42	28	49	22	35	11	.4	-.3	.3	1.4	56	39.0	111	88	57	0	6	2	0
BINGHAMTON	39	28	49	23	33	9	.5	-.1	.5	1.7	68	33.9	94	90	60	0	6	2	0
BUFFALO	45	32	51	26	39	11	.7	-.1	.4	2.5	86	41.8	114	88	56	0	3	4	0
NEW YORK	49	38	54	34	44	9	.4	-.4	.3	1.8	58	43.8	104	87	54	0	0	3	0
ROCHESTER	43	31	51	25	37	10	.5	-.1	.4	1.8	84	34.4	111	85	58	0	4	2	0
SYRACUSE	44	32	53	26	38	12	.4	-.3	.4	1.8	67	33.5	87	85	54	0	4	3	0
NC ASHEVILLE	59	42	65	29	50	12	.4	-.3	.3	2.0	74	42.9	99	96	68	0	2	5	1
CHARLOTTE	59	43	72	32	51	10	1.0	-.2	.6	2.6	93	38.4	91	99	68	0	1	5	1
GREENSBORO	58	40	70	30	49	10	.4	-.4	.2	2.5	91	47.0	113	97	71	0	2	5	0
HATTERAS	63	45	70	35	54	6	.6	-.4	.6	1.1	29	59.9	109	97	73	0	0	2	1
NEW BERN	68	45	77	37	56	11	.4	-.5	.2	2.1	70	50.4	96	92	61	0	0	4	0
RALEIGH	61	42	73	31	51	11	.9	-.1	.4	2.1	82	41.4	101	98	68	0	1	4	0
WILMINGTON	68	47	75	37	57	10	.4	-.4	.3	.8	26	50.7	96	93	58	0	0	2	0
ND BISMARCK	33	9	42	-3	21	9	T	-.1	T	.1	22	17.2	114	83	48	0	7	0	0
FARGO	25	10	32	1	18	8	T	-.1	T	.4	84	14.8	77	90	70	0	7	0	0
GRAND FORKS	24	4	33	-6	14	6	T	-.1	T	.2	45	18.4	102	89	72	0	7	0	0
WILLISTON	30	10	41	2	20	7	T	-.1	T	.1	15	11.7	87	88	56	0	7	3	0
OH AKRON-CANTON	43	29	51	23	36	8	.4	-.2	.2	2.1	95	29.3	83	93	64	0	5	4	0
CINCINNATI	48	31	56	21	40	7	1.1	.4	.7	2.5	100	31.8	81	94	59	0	4	4	1
CLEVELAND	44	30	52	25	37	8	.4	-.3	.3	2.5	108	37.5	108	94	62	0	5	3	0
COLUMBUS	46	31	55	21	38	8	.9	-.3	.5	2.2	104	26.1	72	94	62	0	4	5	0

Based on 1951-80 normals.

Weather Data for the Week Ending December 26, 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	.01 INCH OR MORE	.50 INCH OR MORE	
DAYTON	45	30	54	24	38	8	.9	.3	.5	2.8	136	24.8	73	92	65	0	5	5	0	0
TOLEDO	44	29	52	24	37	10	.4	-.2	.3	3.4	152	30.3	98	92	68	0	6	2	1	0
YOUNGSTOWN	43	29	52	24	36	9	.1	-.5	.1	2.0	86	37.8	103	94	63	0	5	2	1	0
OK OKLAHOMA CITY	49	32	61	25	40	2	1.4	1.2	1.1	3.7	378	44.6	146	93	62	0	4	2	2	0
TULSA	49	33	58	27	41	3	2.3	2.0	1.2	5.7	365	45.7	119	91	55	0	3	3	2	0
OR ASTORIA	44	29	51	24	37	-6	-3	-1.5	.4	8.7	89	47.1	70	96	71	0	5	3	0	0
BURNS	31	12	39	-2	22	-6	0	-.4	0	1.7	119	10.7	96	**	**	0	7	0	0	0
MEDFORD	42	27	47	19	34	-3	.1	-.7	.1	3.7	129	14.7	77	97	60	0	5	3	0	0
PENDLETON	31	19	44	11	25	-10	.1	-.3	.1	.9	69	7.4	63	96	74	0	7	1	0	0
PORTLAND	41	30	45	27	36	-4	.3	-1.2	.2	7.9	147	29.8	83	98	72	0	5	3	0	0
SALEM	42	29	47	20	35	-5	.3	-1.4	.2	9.5	161	34.9	90	98	74	0	4	3	0	0
PA ALLENTOWN	46	30	51	23	38	8	.4	-.4	.4	1.3	42	46.4	107	97	58	0	5	5	0	0
ERIE	45	33	52	30	39	10	.4	-.3	.2	2.8	99	44.2	112	89	57	0	4	3	0	0
HARRISBURG	50	31	54	22	40	9	.8	.1	.4	1.5	55	38.9	101	94	56	0	2	2	0	0
PHILADELPHIA	51	35	57	29	43	9	.6	-.2	.3	1.5	53	33.3	82	97	60	0	4	5	0	0
PITTSBURGH	46	30	55	21	38	8	.5	-1.1	.3	2.0	95	38.9	109	95	57	0	4	5	0	0
SCRANTON	43	30	48	24	37	9	.4	-.2	.3	.8	36	39.3	114	91	56	0	5	3	0	0
RI PROVIDENCE	47	29	54	22	38	7	.2	-.8	.2	2.1	55	40.4	91	95	49	0	6	2	0	0
SC CHARLESTON	70	53	77	41	61	12	.2	-.5	.2	1.2	45	55.7	110	97	61	0	0	1	0	0
COLUMBIA	67	48	76	33	58	12	.6	-.3	.3	1.3	47	54.0	111	98	66	0	0	4	0	0
FLORENCE	69	49	76	36	59	13	.5	-.2	.3	1.7	70	36.6	84	97	60	0	0	3	0	0
GREENVILLE	59	43	70	31	51	9	1.1	-.2	.6	3.4	102	43.5	87	99	74	0	1	5	0	0
SD ABERDEEN	34	11	42	-1	22	9	T	-.1	T	T	7	12.2	70	88	46	0	7	1	0	0
HURON	30	8	44	-12	19	2	.3	.2	.2	.3	79	18.5	101	91	53	0	7	3	0	0
RAPID CITY	35	10	47	3	22	-2	.1	0	.1	.1	19	12.2	76	83	40	0	7	2	0	0
SIoux FALLS	32	12	41	-7	22	5	.5	.4	.3	.8	134	18.1	76	92	61	0	4	4	1	0
TN CHATTANOOGA	61	43	67	28	52	12	1.3	.2	.9	2.5	59	45.9	89	97	63	0	2	4	1	0
KNOXVILLE	59	38	72	25	49	9	1.2	.1	.9	2.1	55	35.0	76	99	74	0	1	4	3	0
MEMPHIS	57	40	67	32	49	7	7.3	6.2	3.7	8.8	217	49.7	98	96	74	0	1	4	2	0
NASHVILLE	56	38	63	29	47	7	3.8	2.8	2.4	4.7	123	29.3	62	98	66	0	3	4	1	0
TX ABILENE	53	35	68	24	44	-1	2.3	2.1	2.2	4.7	637	27.2	117	91	62	0	2	3	1	0
AMARILLO	40	23	69	8	31	-6	.2	.1	.1	1.8	429	22.0	117	93	57	0	7	3	0	0
AUSTIN	60	44	76	36	52	1	.2	-.2	.1	1.2	71	36.6	118	97	71	0	0	5	0	0
BEAUMONT	68	57	78	47	62	9	1.9	.8	1.3	5.0	120	63.9	117	97	83	0	0	3	1	0
BROWNSVILLE	73	57	82	44	65	3	.4	.1	.2	.4	41	28.7	115	98	78	0	0	2	0	0
CORPUS CHRISTI	67	52	80	42	60	2	.7	.4	.6	.9	93	30.7	100	98	80	0	0	1	0	0
DEL RIO	60	44	71	34	52	0	.1	0	.1	.6	132	22.4	131	85	51	0	0	1	0	0
EL PASO	53	28	70	15	41	-3	.3	.2	.2	3.5	11.6	155	94	48	0	4	2	0	0	0
PORT WORTH	55	39	70	32	47	1	1.3	.9	.9	2.9	197	27.6	90	100	81	0	0	2	1	0
GALVESTON	66	56	72	44	61	6	.8	0	.7	1.6	54	35.0	88	100	80	0	0	6	2	0
HOUSTON	65	52	78	39	58	4	1.8	.9	1.0	3.6	113	39.8	87	99	80	0	6	3	0	0
LUBBOCK	49	28	72	14	39	-2	.2	.2	.2	1.1	348	18.9	109	96	56	0	6	3	0	0
MIDLAND	55	29	77	17	42	-3	.3	.2	.3	.4	100	14.2	196	95	47	0	6	2	1	0
SAN ANGELO	55	34	68	25	44	-3	.6	.2	.2	2.2	190	37.9	132	95	68	0	0	5	0	0
SAN ANTONIO	63	46	74	36	55	3	.5	.2	.2	1.6	88	42.8	117	100	81	0	0	4	1	0
VICTORIA	65	51	75	40	58	3	1.3	.8	1.0	3.3	202	35.0	115	97	74	0	0	4	2	0
WACO	57	41	70	33	49	1	2.3	1.9	1.2	3.3	479	34.7	132	97	61	0	5	2	1	0
WICHITA FALLS	52	33	67	27	42	0	2.0	1.7	2.0	4.8	479	34.7	132	97	61	0	7	2	0	0
UT BLANDING	33	16	42	7	25	-3	.2	-.1	.1	.8	72	19.9	173	95	77	0	7	2	0	0
CEDAR CITY	32	5	47	-12	18	-11	.8	.6	.7	1.0	180	13.3	131	98	59	0	7	2	1	0
SALT LAKE CITY	32	16	42	0	24	-5	.5	.2	.4	1.1	94	12.5	84	85	47	0	6	3	0	0
VT BURLINGTON	40	26	48	21	33	13	.4	-.1	.2	1.1	55	27.4	83	86	59	0	0	3	0	0
VA NORFOLK	61	43	71	36	52	10	.4	-.3	.3	1.6	60	44.4	100	91	56	0	1	4	0	0
RICHMOND	59	39	66	32	49	11	.4	-.4	.2	2.3	82	39.8	92	97	49	0	1	4	0	0
ROANOKE	59	38	71	27	48	11	.5	-.1	.3	1.5	62	51.0	133	88	53	0	6	3	2	0
WA QUILLAYUTE	44	29	52	24	36	-4	1.5	-2.6	.6	11.2	76	80.3	78	99	77	0	6	4	0	0
SEATTLE-TACOMA	41	30	44	25	35	-5	.7	-.8	.3	6.0	114	29.9	80	95	65	0	5	4	0	0
SPOKANE	24	7	30	1	15	-13	.5	-.1	.3	4.9	237	17.7	110	94	86	0	7	3	0	0
YAKIMA	27	11	33	5	19	-11	T	-.3	T	3.3	309	8.2	109	94	77	0	7	0	0	0
WV BECKLEY	53	36	62	30	45	12	2.2	1.5	1.1	3.4	133	37.7	90	91	54	0	4	5	2	0
CHARLESTON	53	34	64	22	44	8	2.4	1.7	1.4	3.7	137	36.7	88	92	59	0	3	5	2	0
HUNTINGTON	51	32	60	20	42	6	3.2	2.4	1.9	4.3	166	33.0	82	95	59	0	3	5	1	0
PARKERSBURG	49	32	60	21	41	7	1.5	.8	.9	2.6	113	25.5	68	93	55	0	7	2	0	0
WI GREEN BAY	31	18	35	4	24	6	.4	.1	.3	2.0	168	23.2	84	97	77	0	6	1	0	0
LACROSSE	34	21	41	5	27	8	.2	0	.2	1.5	162	33.2	112	94	67	0	6	4	0	0
MADISON	35	25	38	13	30	10	.4	.1	.2	3.3	255	32.7	107	91	68	0	6	3	0	0
MILWAUKEE	36	27	40	21	32	8	.5	0	.4	4.8	280	38.6	127	94	64	0	7	2	0	0
WAUSAU	31	17	35	-2	24	9	.3	0	.2	1.4	129	25.8	82	94	64	0	7	3	0	0
WY CASPER	25	4	42	-10	14	-10	.4	.3	.2	.6	146	13.1	118	87	56	0	7	3	0	0
CHEYENNE	25	2	37	-13	14	-15	.3	.3	.3	.5	165	14.9	113	86	53	0	7	4	1	0
LANDER	25	3	41	-18	14	-17	.7	.5	.6	.7	165	15.1	117	87	53	0	7	1	0	0
SHERIDAN	31	12	42	2	21	-2	.1	0	.1	.2	34	14.3	96	84	47	0	0	6	1	0
PR SAN JUAN	85	74	87	72	79	2	2.9	2.0	1.8	7.4	193	61.2	114	91	72	0	0	0	0	1

Based on 1951-80 normals.

Heating Degree Days Summary

HEATING DEGREE DAY DATA WEEKLY SUMMARY
CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NEOSIS-NOAA

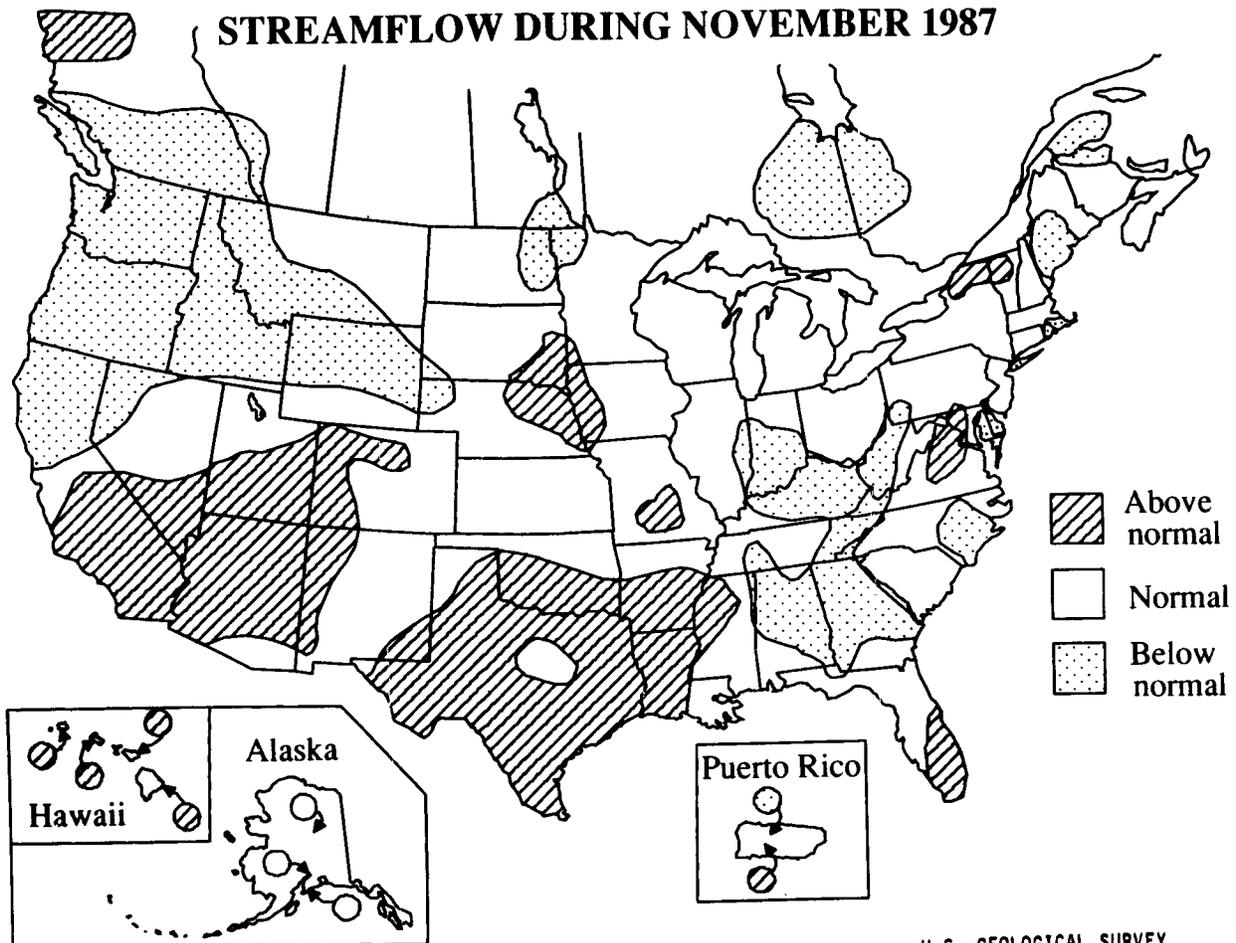
LAST DATE OF DATA COLLECTION PERIOD IS 12-26-1987
ACCUMULATIONS ARE FROM JULY 1
\*\* = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

Table with columns for STATE CITY, CALL WEEK, WEEK TOTAL, WEEK FROM, WEEK TO, CUM TOTAL, CUM FROM, CUM TO, CUM FROM, CUM TO, CUM FROM, CUM TO, CUM FROM, CUM TO, CUM FROM, CUM TO. Rows list various cities and their corresponding heating degree day data.

# National Water Conditions

UNITED STATES  
Department of the Interior  
Geological Survey

CANADA  
Department of the Environment  
Water Resources Branch



U.S. GEOLOGICAL SURVEY

Below-normal streamflow persisted in Washington and Oregon, most of Idaho, parts of Montana, Wyoming, Nevada, and California, parts of the Southeast, and several small areas in southern Canada and the northern United States.

Streamflow was in the normal to above-normal range at 73.2 percent of the 190 reporting index stations in southern Canada, the United States, and Puerto Rico, compared with the 66.3 percent in those ranges for October. This is the lowest percentage of stations with flow in the normal to above-normal range for November in the last 6 years. Total November flow of 1,116,280 cubic feet per second (cfs) was 13.6 percent below median, 17.8 percent below October's total, and the lowest for November in the last 6 years and about 464,000 cfs or 20 percent below that of November 1982, the second lowest November during the period.

Mean November elevations for the Great Lakes (provisional National Ocean Service data) were below those for October and November 1986 at the master gages on all four lakes.

The level of Utah's Great Salt Lake did not change during November, remaining at 4,209.45 feet above National Geodetic Vertical Datum of 1929 throughout the month.

Contents of 70 percent of reporting reservoirs were near or above average for the end of November, compared with 76 percent for the end of October.

The combined flow of the 3 largest rivers in the lower 48 States--Mississippi, St. Lawrence, and Columbia--averaged a below-normal 561,100 cfs, about 15 percent below median, during November after decreasing about 2 percent from October to November.

**National Agricultural Summary**

December 21 to 27, 1987

**HIGHLIGHTS:** Snow cover was inadequate for protecting winter wheat in the northern Great Plains, but no severe damage was reported. Wet conditions continued to slow or delay cotton harvest in the South. Precipitation across the eastern half of the Nation limited field activity. Below-normal temperatures in the West stressed livestock as supplemental feeding increased. Low temperatures damaged some fruit and vegetable crops in California and Arizona.

**SMALL GRAINS:** Precipitation slowed small grain seeding in the South and Southeast. Wheat fields in low lying areas experienced some localized flooding. Winter wheat in North Carolina was 95% emerged. In Texas, small grains benefited from moisture and moderate temperatures. Snow and rain improved the dryland fields in the Plains. Grazing has been light because of wet conditions. Snow cover was adequate for some of the wheat-producing areas. Kansas had snow cover in the west and central areas and ice in the east. Both Colorado and Nebraska have sufficient snow cover. Montana's crop had little snow cover, but wind damage has been light. Snow cover in North Dakota and parts of South Dakota was inadequate, troubling growers. Ice covered winter wheat in southwestern Missouri. Some winter wheat has not emerged in Oregon's Columbia Basin counties as dry conditions have delayed development.

**COTTON:** Harvest in Texas was 96% complete, a 3-point gain from last week. Progress in the Plains and Trans Pecos area was slowed by wet conditions from snow and rain. An ice storm delayed Oklahoma's harvest, which was 90% complete. Harvest in Arizona, delayed by rains, was limited to stalk shredding in the central area and stopped final harvest in the west. Snow stopped harvest in New Mexico.

**OTHER FIELD CROPS:** Soybean harvest continued in the Southeast as wet conditions limited progress. North Carolina harvest was 98% complete, a 1-point gain from last week. Tobacco bed preparation continued in the South as weather conditions permitted. Wet field conditions and holiday activities slowed most fall field preparations in the eastern portion of the Nation.

**FRUITS AND NUTS:** Citrus in Florida was very good to excellent. Warm temperatures have caused

unwanted new growth, and growers are concerned that cold temperatures could do severe damage. In Arizona, temperatures were below freezing as farmers used wind machines and warm irrigation to protect citrus. The extent of damage is not known. Grapefruit, lemon, tangerine, and orange harvests advanced in the west and central areas. California's avocados and citrus were threatened by low temperatures, but damage to the current avocado crop was minimal. Citrus damage was light to moderate. Damaged fruit will be picked, but quality will be downgraded. Possible stem freezing could result in droppage in 2 weeks. Pecan harvest continued in the South but was slowed by precipitation.

**VEGETABLES:** Florida shippers moved good volumes of tomatoes, peppers, celery, cucumbers, squash, snap beans, cabbage, lettuce, radishes, and sweet corn. Some escarole, endive, carrots, eggplant, and strawberries were also harvested. Mild, dry weather in the vegetable-producing area allowed land preparation and planting of spring vegetable crops. Wet weather slowed Texas vegetable harvests. Quality of vegetables harvested was good. In Arizona, lettuce, cauliflower, and broccoli harvests were active with some frost damage reported. Mixed vegetable movement was light in the central valley. Artichoke harvest in California was light and of variable quality from Salinas. Broccoli harvest was light in Salinas and moderate to light and of variable quality in Santa Maria. Picking continued in the Westside and Merced-Atwater areas. Carrot harvest ended in Salinas. Cauliflower and celery harvests were moderate to light in Santa Maria. Harvest continued active at Westside but was virtually over at Salinas. Lettuce for spring harvest was 80% planted at Westside. Processing-tomato growers prepared land. Frost damage hurt the 1988 early strawberry crop, but the impact on other vegetables was less.

**PASTURES AND LIVESTOCK:** Below-normal temperatures in the western half of the Nation stressed livestock. Supplemental feedings increased in many areas as cold weather limited pasture growth. Livestock remained in mostly good condition. Some Kansas and Missouri areas experienced power outages, causing problems for dairies and other livestock operations.

## State Summaries of Weather and Agriculture

**ALABAMA:** Rainfall 2.00 to 6.00 in. over north; 1.00 to 2.00 in. over central, south. Temperatures 9 to 12° above normal. Primary activity: Routine care of livestock, poultry.

**ARIZONA:** Skies mostly sunny, slight warming 20th through 22nd. Scattered rain, snow showers, gusty winds 23rd, 24th. Snow level 1,500 ft. 25th. Snowfall statewide, except southwest. Heaviest east central, southeast; conditions improved 26th. Skies clear 27th, temperatures plunged, zero 5,000 ft., 20s lower deserts, coldest this season. Snowfall 2 to 8 in. central basins, Mogollon Rim, southeast; 8 to 25 in. White Mountains. Temperatures 1 to 10° below normal.

Temperatures below freezing west; wind machines, warm irrigation used, citrus. Extent freeze damage not known. Grapefruit, lemon, tangerine, orange harvest advanced west, central. Navel orange movement active central valley; grapefruit, minneolas shipped. Lettuce, cauliflower, broccoli shipments active west; some frost damage. Bok choy, endive harvested. Broccoli, cauliflower, green onions, rapini, greens shipments heavy. Mixed vegetable movement central valley light. Lettuce harvested central; winding down south central. Spring lettuce plantings complete central. Cotton harvest delayed by rains central; activity limited to stalk shredding. Muddy conditions stopped final harvest west. Plowing, disking active. Durum wheat seedings completed on schedule, winter wheat seedings slow west. No adverse affects from cold weather. Irrigation active central. Sheeping off alfalfa active west. Moderate to heavy frost damage. Irrigation central.

**ARKANSAS:** Warm week. Dry first half, heavy rainfall statewide second half. Widespread flooding from above normal amounts. Temperature extremes 21°; 75°. Rainfall total 1.74 to 10.75 in. Soil moisture excessive, low areas flooded. Wheat fields flooded in low-lying areas, otherwise good. Pastures good, some growth. Cattle good, feeding hay.

**CALIFORNIA:** Pacific cold front 21st, brought light rain, snow. Behind front cold north winds 23rd, 24th; freezing temperatures many areas.

Seeding small grains normal pace. Good emergence, growth, timely moisture. Weed controls, fertilizer applied small grains, alfalfa. Meadow vole populations increased some alfalfa, weather prevented control applications. Herbicides applied cotton fields. Sugarbeet harvest continued. Low temperatures threatened avocado, citrus. Avocado damage minimal, current crop. Citrus damage light to moderate. Damaged fruit down grade in quality, will pick. Possible stem freezing, result droppage in 2 weeks. Artichokes light, variable quality Salinas. Broccoli light Salinas, moderate to light Santa Maria, variable quality. Picking continued Westside, Merced-Atwater. Carrot harvesting completed Salinas. Cauliflower, celery moderate to light Santa Maria, variable quality. Harvesting active Westside virtually over Salinas. Lettuce for spring harvest 80% planted Westside. Fall potato movement Tulelake-Butte Valley full-time, good quality. Processing tomato growers prepared land for planting. Frost damage, early strawberry harvest impacted. Other vegetables less impact. Livestock good statewide. Movement to market active northern districts. Snow conditions made supplemental feeding difficult Tulelake-Butte Valley. Feedlots Westside excess of 50% capacity.

Range, pastures good, growth slowed by cold weather. Water supply levels still less than adequate Siskiyou. Calving active.

**COLORADO:** Dry conditions early week on eastern plains, heavy snow, blizzard conditions weekend. Western slope received snow midweek. Average temperatures below normal for period.

Winter wheat adequate snow cover at present time. Major activities livestock care, feeding.

**FLORIDA:** Weak cold front with few showers moved down State 21st through 23rd then dissipated. Spotty rainfall amounts mostly less than 0.25 in. Unseasonably warm, dry 24th through 27th. Temperatures averaged 6 to 8° above normal.

Soil moisture lower half Peninsula mostly adequate; other areas, short to adequate. Cotton harvest complete. Sugarcane harvest good progress. Panhandle pastures fair to poor. Central areas mostly fair, southern areas mostly excellent. Cattle fair to good. Citrus very good to excellent, very little rain, some irrigating. Warm temperatures caused concern, new growth unwanted, cold temperatures could do severe damage to new growth. Grove activities slow due to Christmas. Mild, dry weather throughout vegetable producing areas. Land preparation, planting spring crops active. Good volume tomatoes, peppers, celery, cucumbers, squash, snap beans, cabbage, lettuce, radishes, sweet corn available. Lesser supplies escarole, endive, carrots, eggplant, strawberries available. Fall ruskin tomato deal nearly complete.

**GEORGIA:** Unusually warm week. Temperatures 7 to 10° above normal north, 10 to 14° central, south. Lows upper 20s north, upper 30s south. Highs upper 60s north, low 80s south. Rain 1 or 2 days, some 5 days northeast mountains. Totals between 1.00 to 4.00 in. northern, central counties, mostly under 0.50 in. elsewhere.

Soil moisture mostly adequate. Main activities: Planting small grains, tobacco bed preparation, pecan harvesting, care of livestock, poultry.

**HAWAII:** Weather conditions generally favorable. Light showers mainly over windward, mountain areas. Days mostly sunny. Winds variable 5 to 15 mph. Temperatures low 60s to mid 80s. Rainfall ranged none to 1.90 in.

Days suitable for fieldwork 7.0. Fieldwork limited to harvesting, light operations due to very wet soil conditions. Banana, papaya orchards fair to good; output steady. Spray schedules resumed to control disease. Tomato, green peppers sustained fruit cracking, losses light to moderate. Leafy vegetables, vine crops, losses vary farm location. Severity light, extremely heavy.

**IDAHO:** Temperatures ranged 3 to 12° below normal. Precipitation slightly below normal south, north much below normal.

Fieldwork slow. Isolated plowing. Other activities included marketing products, repairs, maintenance on machinery, attending seminars, attending to paper work. Livestock remained good. Livestock activities included isolated calving, isolated lambing, cleaning corrals, barns, hauling manure, feeding hay to supplement pastures.

**ILLINOIS:** Temperatures average 6 to 8° above normal. Precipitation totals ranged greater than 1.00 in. central and south, 4.00 in. extreme south and less than 0.50 in. north.

Winter wheat mostly good. Livestock good to excellent, hampered by muddy feedlots.

**INDIANA:** Temperatures 4 to 10° above normal. Lows upper 20s to mid 30s, highs upper 30s to upper 40s. Rainfall amounts under 0.25 in. north, 1.00 in. plus south.

Wet weather halted field activities. Other activities: Moving grain, stripping tobacco, repair and maintenance of equipment, caring for livestock, working on taxes. Livestock mostly good. Hay supplies adequate. Wheat good, except for standing water low areas.

**IOWA:** Temperatures averaged 6 to 8° above normal, precipitation exceeded seasonal normals with greatest amounts north, east. Precipitation 26th to 28th with snowfall amounts 4 to 12 in. over northern one-third State.

Main farm activities fall machinery work, working on taxes, caring for livestock, other usual farm chores. Fieldwork limited due to rain, snow. Livestock mostly good.

**KANSAS:** Warm, wet east, cold, dry west. Rain southeastern areas 1.50 in., melting most of 1 ft. deep snow cover week before. Temperatures eastern districts averaged mid 30s, 5 to 10° above normal. Snow central, western areas along with ice eastern areas, provided precipitation over most State.

Increased feeding cattle necessary. Pastures, wheat fields covered with snow central, western areas; ice eastern districts. Electric power lost from downed power lines southeast caused problems obtaining water for livestock. Some dairies without power for milking.

**KENTUCKY:** Light rain first part, substantial rain Christmas Eve, weekend. Rainfall totals 1.00 to 2.00 in. far north, 4.00 to 6.00 in. many western areas. Temperature wise normal early, then milder midweek. Temperatures returned to normal by weekend. Low temperature averaged 30°, highs averaged around 50°. Extreme lows upper teens and lower 20s.

Recent rains replenished soil moisture. Some low-lying areas have standing water, localized flooding. Rainy weather brought late tobacco into case, considerable burley should be ready when markets reopen 4th. All day rains refilling ponds and beneficial for trees, shrubs, pasture ground. Wet conditions caused light stress to livestock, but moderate temperatures limited problems.

**LOUISIANA:** Temperatures 6 to 12° above normal. Temperature extremes 35°; 81°. Rainfall averaged 0.19 to 5.22 in.

Main activities: Pecan harvest, winter wheat planting, livestock care, routine chores.

**MARYLAND & DELAWARE:** Maryland: Temperatures averaged 42°, 35° normal over State; lowest temperatures low to mid 20s; highest temperatures high 50s to low 60s. Precipitation averaged 0.68 in., ranging 0.22 in. Snow Hill to 1.47 in. Cumberland.

Days suitable for fieldwork 3.0. Topsoil, subsoil moisture adequate. Small grains good. Farmers caring for livestock, marketing crops.

Delaware: Temperatures averaged 44°, 36° normal over State; lowest temperatures mid to high 20s, highest temperatures high 50s to low 60s. Precipitation averaged 0.41 in., ranging 0.38 in. Wilmington, Milford to 0.46 in. Dover.

Days suitable for fieldwork 2.0. Topsoil, subsoil moisture adequate. Small grains good. Farmers working on machinery, caring for livestock.

**MICHIGAN:** Temperatures ranged 6 to 11° above normal. Temperature extremes 0°; 49°.

Precipitation 0.06 to 0.75 in. across State.

Precipitation above normal. Good snow cover northern areas, little or none south. Activities: Farm, equipment maintenance; routine livestock care. Hay, straw tight some areas, feed supplies adequate.

**MINNESOTA:** Temperatures averaged 3 to 8° above normal. Extremes -11°; 40°. Precipitation averaged 0.80 in. above normal southwest, south central, near normal central, east central; 0.10 to 0.20 below normal west central, north. Precipitation totals averaged near 1.00 in. southwest, south central; near 0.25 in. central, east central; less than 0.10 in. elsewhere. Snowfall averaged trace northern one-third, 1 to 4 in. central one-third and Southeast, 8 to 12 in. south central, southwest. Snow depth weekend averaged 1 to 3 in. northern one-third, 3 to 9 in. central one-third, southeast; 10 to 15 in. south central, southwest.

First significant snow of season. Livestock remained good, no indications of supplementary feeding necessary.

**MISSISSIPPI:** Temperatures 9° above normal; extremes 24°; 82°. Slow-moving low pressure system approached from west circulated warm Gulf air into areas produced unseasonably warm weather. Gulf air also produced rain over northern counties. Greatest 24-hour total rainfall 4.52 in. Greatest weekly total rainfall 8.11 in.

Days suitable for fieldwork 3.0, 0.5 1986, 1.3 avg. Soil moisture adequate. Wheat 100% planted, 88% 1986. Pecans 85% harvested, 91% 1986, 92% avg. Anticipate short harvest season for pecans. Hay, roughage supplies adequate. Feed grain supplies adequate. Livestock fair to good. Wheat fair. Pastures fair. Need freezing temperatures to reduce insect populations.

**MISSOURI:** Mild temperatures, wet weather; heaviest precipitation south, east central section. Flooding most small rivers southern half. Devasting ice storm Christmas Day crippled parts of southwest caused widespread damage to trees, power outage in Joplin, Springfield, to near Rolla areas.

Moisture plentiful for winter wheat, ice over southwest potentially damaging. Loss of electric power in southwest making care of livestock, especially dairy cattle, difficult.

**MONTANA:** Cold over west, southwest, south central where temperatures 2 to 9° below normal. North central, northeast 2 to 8° above normal. Continued dry over plains. West, southwest received about 0.10 in.

Winter wheat 15% poor, 70% fair, 15% good. Wind damage to winter wheat 90% light, 10% moderate. Snow cover protection 90% poor, 10% fair. Cattle, calves 80% good, 20% excellent. Sheep, lambs 85% good, 15% excellent. Cattle receiving hay 70%, sheep 75%. Grazing 90% open, 5% difficult, 5% closed.

**NEBRASKA:** Temperatures averaged 11° below normal northwest to 7° above eastern half of State. Extremes 14°; 51°. Precipitation averaged 0.50 in. across State.

Farm, ranch activity centered around grain handling, livestock management, general farm chores. Snow cover over most of State good cover for winter wheat, but caused supplemental hay feeding for livestock.

**NEVADA:** Jet stream moved south early allowed cold low pressure trough, accompanying lower than normal temperatures. Cold air mass remained entire period

with temperatures ranging 7 to 10° below normal north, central to 3° below normal south. Extremes 17° below zero; 55°. Most precipitation snow north, central sections. Only trace amounts extreme south.

Livestock feeding operations continued unfavorable ranchers due snow, extremely cold weather. Icy roads slowed movement potatoes to market.

**NEW ENGLAND:** Average temperatures ranged from around 20° northern Maine to 40° along southern coast, 5 to 10° warmer than average for this time of year. Water equivalent precipitation in most areas fairly uniform at about 0.50 in. Southern coast received less than 0.25 in.

Major farm activities: Limited to normal chores for holiday season.

**NEW JERSEY:** Temperatures above normal, averaged 35° north, 38° south, 41° coastal. Extremes 14°; 59°. Precipitation below normal, averaged 0.09 in. north, 0.32 in. south, 0.49 in. coastal. Heaviest 24-hour total 0.66 in. on 25th, 26th.

Farm activities consisted mainly of fruit pruning, caring for livestock, retailing of Christmas items such as trees, turkeys, cider, sweetpotatoes.

**NEW MEXICO:** Winter snow storm began Christmas Eve, continued Christmas Day; heavy snow most of central, western areas. Temperatures from 5 to 10° below normal.

Days suitable for fieldwork 1.1. Soil moisture 13% short, 74% adequate, 13% surplus. Cotton 33% fair, 67% good; harvest virtually halted due to snow, rainfall. Barley 100% fair. Wheat 10% poor, 90% fair; most under snow cover, being utilized for livestock grazing. Irrigated, dryland grain sorghum 100% fair. Pecans 100% fair; harvest nearly shutdown due to weather. Cattle 44% fair, 56% good. Sheep 29% fair, 71% good. Range 11% poor, 56% fair, 33% good.

**NEW YORK:** Temperatures averaged 10° above normal. Only rainfall occurred 20th, with 0.25 to 0.50 in.

Farmers busy tending livestock, normal winter chores.

**NORTH CAROLINA:** Temperatures averaged 9 to 11° above normal. Temperature extremes 24°; 80°. Precipitation 0.31 to 2.15 in. across State.

Days suitable for fieldwork 2.9. Soil moisture 4% short, 77% adequate, 19% surplus. Soybeans 98% harvested, 81% 1986, 91% avg. Wheat 95% emerged, 94% 1986. Small grains fair to mostly good. Pasture 2% very poor, 11% poor, 44% fair, 43% good. Hay, roughage supplies; feed grain supplies mostly adequate. Major farm activities: Harvesting soybeans; tending livestock; fall plowing; preparing tobacco plantbeds; marketing peanuts, soybeans, burley tobacco; general farm maintenance.

**NORTH DAKOTA:** Dry, mild week. Temperatures averaged 3 to 8° above normal. Extremes -10° northeast; 44° south central.

Soil moisture below normal. Inadequate snow cover caused concern for winter grain, alfalfa producers. Livestock mostly good, pneumonia, foot rot caused problems for some producers. Feed supplies adequate, cattle on pastures with supplemental hay, west.

**OHIO:** Average temperatures 3 to 9° above normal. Lows averaged in high 20s to 30s, highs averaged in 40s. Precipitation 0.05 to 2.10 in. Soil temperatures above freezing.

Winter wheat got additional soil moisture. Livestock not stressed.

**OKLAHOMA:** Temperatures ranged 6° below normal Panhandle to 2° above southeast district. Precipitation averaged mostly above normal statewide, departures from normal ranged 3.50 in. southeast to minus 0.28 in. south central.

Christmas ice storm further delayed harvest completion, many fields still wet from first major winter storm previous week. Wheat good. Soybean harvest virtually complete. Cotton 90% harvested, 35% 1986, 70% avg. Livestock stressed from continued cold.

**OREGON:** Temperatures at coast averaged 5 to 6° below normal, except extreme south only slightly below normal. Western interior ranged from 2 to 5° below normal. East of Cascades 2 to 10° below normal. Coldest spots northeast where several stations had overnight lows below zero on 24th to 25th. Precipitation over all of State during week. Coastal areas received greatest amounts. East of Cascades precipitation generally light, mostly snow.

Soil moisture adequate east, adequate to surplus west. Fields frozen, mostly snow covered east. Some late winter wheat seedings in Columbia Basin counties not germinated yet. Fall crop plantings developed behind normal west due to late rains, cold temperatures. Spraying halted by freezing weather. Fruit, nut tree pruning continued. Livestock good. Ranges, pastures fair to good.

**PENNSYLVANIA:** Mild, dry. Average temperature 37°, 8° above normal. Temperature extremes 13°; 57°. Average precipitation 0.34 in., 0.35 in. below normal.

Activities: Hauling manure, machinery maintenance, caring for livestock.

**PUERTO RICO:** Island average rainfall 2.06 in., 1.16 in. above normal. Highest weekly total rainfall 5.99 in. Pico Del Este-Luquillo, 3.46 in. San Juan, 3.44 in. Gurabo. Highest 24-hour total 2.10 in. Pico Del Este-Luquillo. San Juan mean temperature 79°, 2° above normal. Total rainfall 3.50 in., 2.57 in. above normal. Divisional temperature averaged about 77 to 78° on coasts, 71 to 74° interior, mean station temperature ranged 62° Pico Del Este-Luquillo to 80° Roosevelt Roads. Lowest minimum temperature 55° Pico Del Este-Luquillo. Highest maximum temperature 90° several places.

**SOUTH CAROLINA:** Temperatures averaged 12° above normal, cooler temperatures midweek but temperatures soared to 25° above normal over Christmas, giving State warmest Christmas since 1984. Light rain on and off throughout week, averaged 1.00 to 2.00 in. upstate to 0.25 in. or less in south.

Holiday combined with rainy weather held fieldwork to minimum.

**SOUTH DAKOTA:** Average temperatures 5° below to 11° above normal. Extremes -13°; 49°. Black Hills low -24°. Melted precipitation 0.25 to 0.75 in. south central, southeast; less than 0.10 in. rest of State. Snow from southwest corner to east central; none northern areas.

Some winter wheat growing areas now snow covered; northwest lacks snow cover. Winter wheat generally poor to fair over much of State. Livestock good, normal supplemental feeding.

**TENNESSEE:** Rainfall 1.00 in. east, 3.00 in. middle, nearly 10.00 in. west. Rivers flooded

middle, west. Temperatures averaged 5 to 10° above normal. Lows 30s, highs 70s.

Soil moisture adequate to surplus. Livestock chores, haying cattle main activities.

**TEXAS:** Early week upper level disturbance moved across State, light rain much eastern half. Cold front stalled over northeast 24th, brought much colder air, numerous showers, thunderstorms, freezing rain, snow Panhandle. Cloudiness, showers finally decreased weekend. Temperatures below normal, except East, Upper Coast above normal. Precipitation above normal. Some areas south below normal.

**Crops:** Cotton harvest little progress Plains, Trans-Pecos, fields remained wet from snow, rain. Gins running again. Cotton 96% harvested, 65% 1986, 82% avg. Small grains benefited from moisture, moderate temperatures, growth improved many areas. Snow, rain Plains improved dryland fields. Grazing light many areas because wet conditions. Producers Blacklands prepared topdress fields dry out, diseases increased. Cooler temperatures weekend slowed growth slightly. Wheat 100% emerged, 99% 1986, 99% avg. Peanut harvest virtually completed. Few fields remained because wet conditions. Sugarcane harvest continued, despite some wet fields. Other crops harvested: Peanuts 100%, 99% 1986, 98% avg. Pecans 91%, 91% 1986, 90% avg.

**Commercial Vegetables:** Rio Grande Valley harvest most vegetables slowed by holidays, wet fields; quality good. Land preparation melons underway. San Antonio-Winter Garden harvest slowed wet conditions; producers progressed during week. Quality vegetables good. Pecan harvest slow northern, western areas because wet grounds; quality good. Prices low.

**Range and Pasture:** Range, pasture conditions slowly improved with recent moisture, warmer temperatures. Small grain fields too wet many areas for much grazing. Native pastures provide low protein forage. Supplemental feeding hay, protein increased. Livestock recovering Plains from bitter cold, snow 2 weeks ago. Livestock recovered some weight lost. Marketing stockers increased, wet fields provided little grazing.

**UTAH:** Precipitation light extreme southwest, moderate rest of State. Temperatures 2 to 4° below normal most State, 2° above normal east central, normal southeast.

Snow cover moderate. Livestock good to excellent. Feed supply adequate. Major farm

activities: Care of livestock, summarizing farm tax records, equipment maintenance, checking grain in storage, holidays with friends, family.

**VIRGINIA:** Mild temperatures 5 to 10° above normal. Moderate precipitation except heavy southwest.

Days suitable for fieldwork 4.6. Topsoil moisture 6% short, 81% adequate, 13% surplus. Winter grain pastures good to excellent. Feeding livestock, supplies tight some areas. Livestock good to excellent. Calving, lambing normal.

**WASHINGTON:** Moderate, weak disturbances moved through region early week, brought mix of rain, snow to west side of State, snow to east side. High pressure prevailed through remainder of week bringing cold, dry conditions. Under high pressure ridge stagnant fog regime settled over eastern areas. Snow flurries at times in thicker fog situations.

Days suitable for fieldwork 1.1. Soil moisture 40% short, 60% adequate. Good snow cover insulated winter grain from cold temperatures most areas. Winter wheat, barley mostly fair, poor. Pasture, aftermath feed under snow cover most areas. Most livestock on winter feed programs. Fruit tree pruning in progress; activity expected to increase after 1st. Christmas tree growers replanting where soil not frozen.

**WEST VIRGINIA:** Average temperature 40°; ranged 5° above normal northwest to 10° above southern district. Extremes 12° Elkins to 70° Gary. Precipitation averaged 1.73 in.; ranged 0.17 in. above normal northeast to 1.73 in. above southwest. Greatest amount 3.25 in. Huntington.

Days suitable for fieldwork 3.5. Soil moisture 50% short, 50% adequate. Farm activities: General farm maintenance, livestock care, tobacco stripping. Wheat, barley fair to good. Feed supplies adequate to short.

**WISCONSIN:** Temperatures near normal, averaged 26°. Extremes -20°; 43°. Precipitation 0.10 to 0.40 in. Snowfall 1 to 4 in. north on 24th.

**WYOMING:** Temperatures below normal. Precipitation mostly above normal.

Winter wheat fair to good. Winter storms continued to increase livestock stress. Supplemental feeding continued across State. Feed supplies remained adequate.

## International Weather and Crop Summary

December 19-26, 1987

### HIGHLIGHTS:

**UNITED STATES...** Snow cover is insufficient for protecting winter wheat in the northern Great Plains but no severe damage is reported. Precipitation slows fieldwork in the eastern half of the Nation.

**WESTERN U.S.S.R....** Weather conditions continue favorable for dormant winter grains.

**EUROPE...** Drier weather covers northern crop areas.

**SOUTH ASIA...** Dry weather stresses northern wheat.

**NORTHWESTERN AFRICA...** Moisture conditions remain adequate for Moroccan winter grains. Rain is

needed for crop establishment in Algeria and Tunisia.

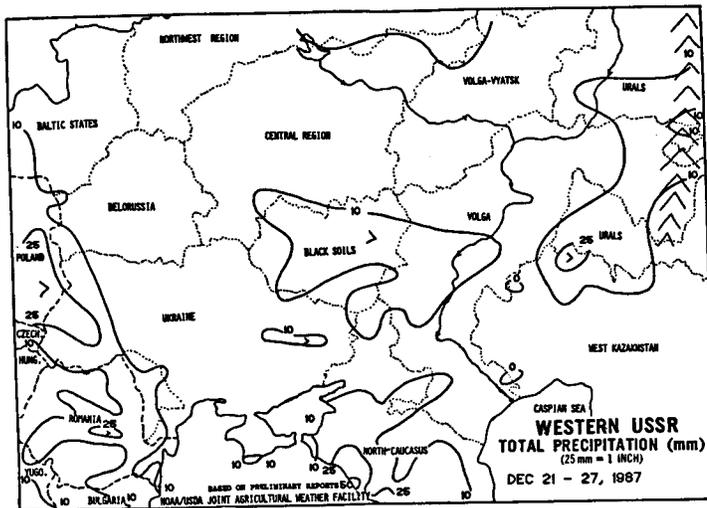
**SOUTH AFRICA...** Showers favor corn growth but above-normal temperatures increase evaporation rates.

**SOUTHEAST ASIA...** Seasonably dry weather benefits rice maturation in Thailand.

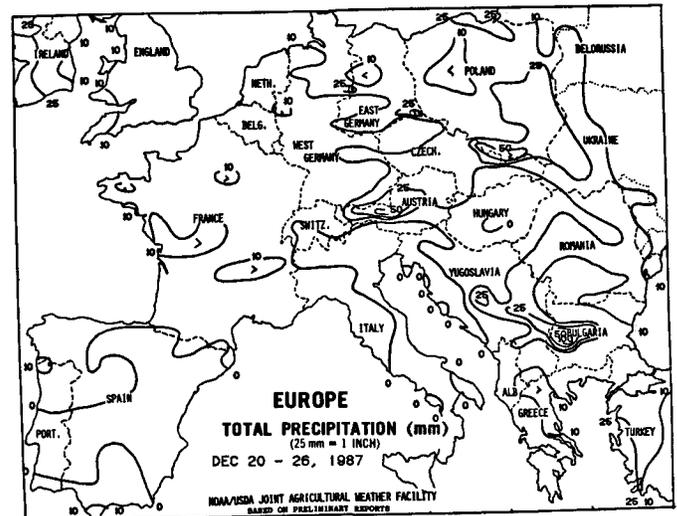
**EASTERN ASIA...** Unseasonably warm weather over the North China Plain diminishes snow cover and may have caused some wheat to slip out of dormancy.

**SOUTH AMERICA...** Late-week wet weather benefits crops in Argentina. In Brazil, frequent rain provides ample moisture in most areas.

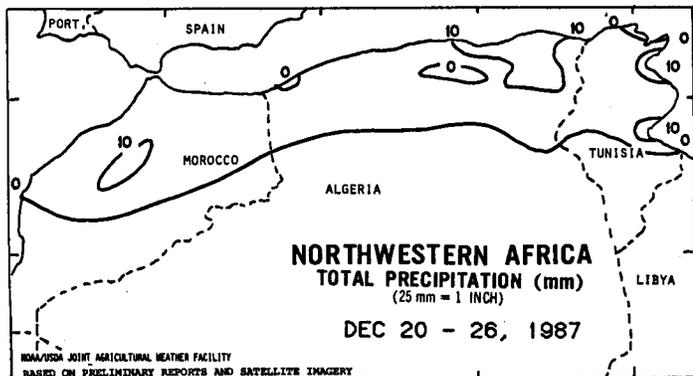
**AUSTRALIA...** The wheat harvest progresses under mostly favorable weather.



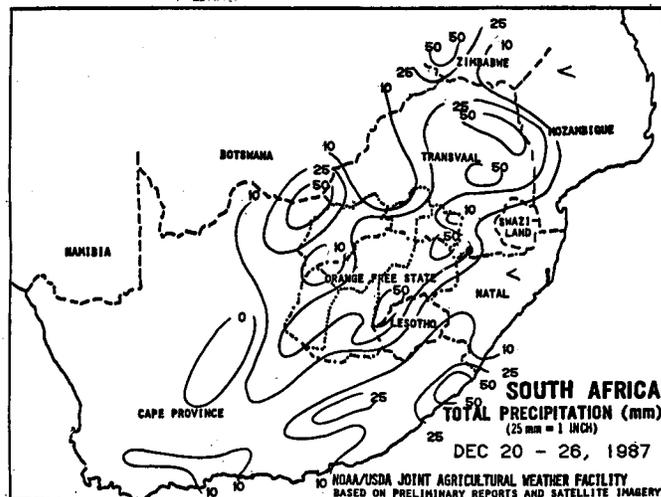
**WESTERN U.S.S.R....** Cold weather and light precipitation, mostly snow, persisted over winter grain areas. Most crop areas have a protective snow cover, blanketing the dormant winter crops from temperatures averaging somewhat below normal. The frequent periods of mostly light snow have helped sustain an adequate snow cover, except in the southern Ukraine and North Caucasus where rain, or mixed snow and rain, have left the dormant crops with minimal snow cover. The coldest weather, with minimum temperatures dropping below -15 degrees C, was concentrated mostly in the Volga, the Volga Vyatsk, the Black Soils Region, and the eastern Ukraine where abundant snow has fallen. Crop areas of the extreme south continue to be most vulnerable to freeze/thaw conditions.



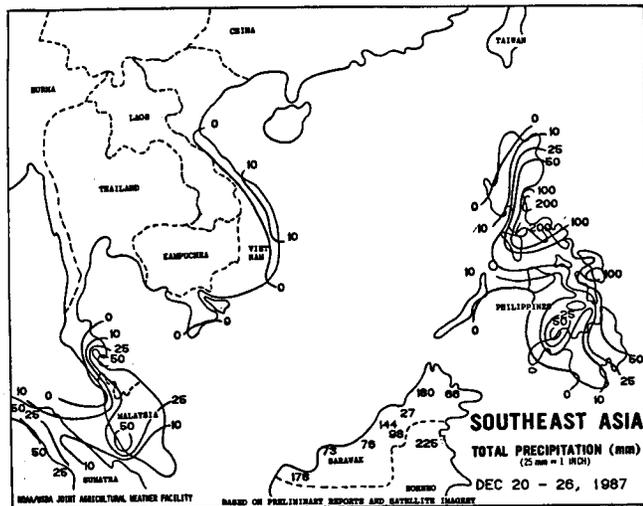
**EUROPE...** A strong ridging pattern in upper levels of the atmosphere brought maritime air and above-normal temperatures to much of the continent, with a storm track through northwestern sections. Drier weather over northern areas was beneficial, following moderate to heavy precipitation the previous week. In eastern Europe, wet weather (25-30mm) covered southern Poland, while light precipitation fell over Hungary, Romania, Yugoslavia, and Bulgaria. Warm weather favored germination and establishment of winter grains in the south but reduced protective snow cover over dormant winter grains in the east.



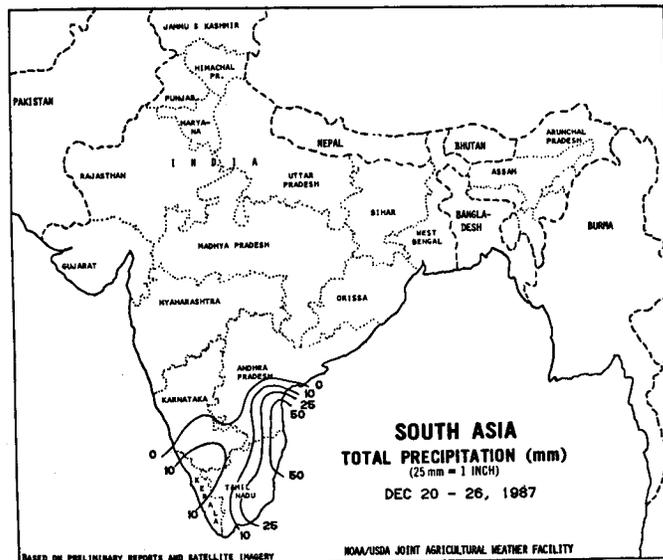
NORTHWESTERN AFRICA...Light showers continued to provide adequate moisture for winter grain emergence and establishment in Morocco. Winter grain planting continues throughout the grain areas of northwestern Africa. Mostly dry weather prevailed again for the second week over crop areas of Algeria and Tunisia. The dryness favored fieldwork, but moisture is limited for crop growth, especially in southern portions of the primary crop areas.



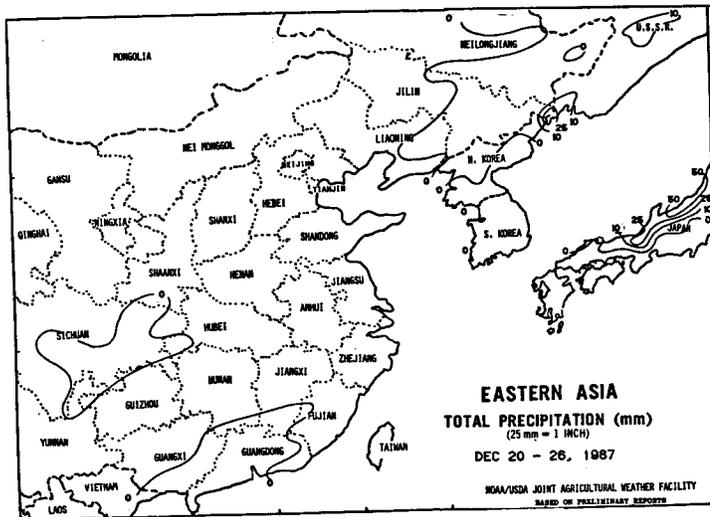
SOUTH AFRICA...Widespread, beneficial showers (25-50mm) swept through grain regions, maintaining adequate to abundant soil moisture for corn emergence and establishment. Rainfall averaged 25mm over previously dry areas of the southern Maize Triangle, bringing some relief to early vegetative corn. Average weekly temperatures were 1 to 2 degrees C. above normal throughout the primary corn regions, increasing crop moisture demands.



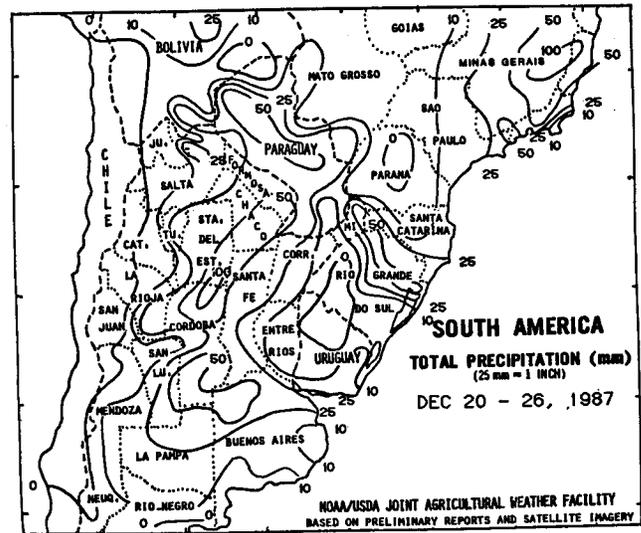
SOUTHEAST ASIA...Dry weather benefited Thailand's mature, late-planted rice. Much-needed drier weather brought relief to flooded regions of the Malay Peninsula, as rainfall averaged only 10-25mm over the eastern half of the region, which was hardest hit by inundating rains in early December. Moderate to heavy showers (50-100mm) continued in eastern Malaysia and Indonesia, further increasing moisture levels for rice planting. In the Philippines, early-week showers from the remnants of Typhoon Phyllis maintained favorable soil moisture levels for corn emergence and establishment. Midweek dry weather helped central Philippine crop areas, too wet from recent typhoon activity, but rain returned to the eastern half of the islands by week's end.



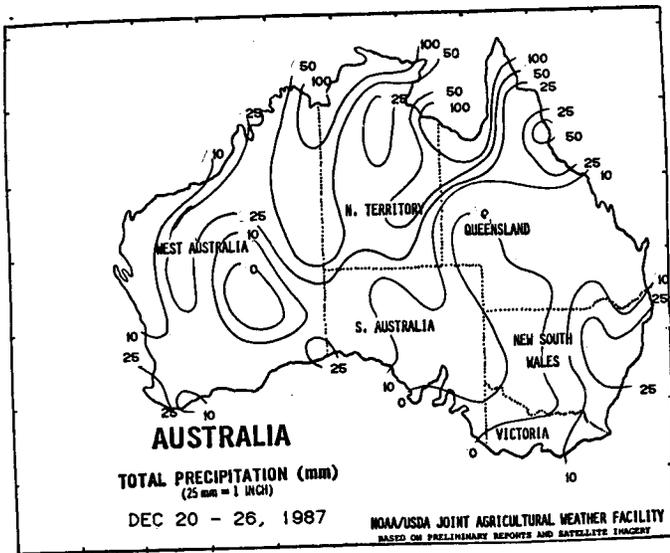
SOUTH ASIA...Scattered showers continued over India's southernmost cotton regions and spread through southeast coastal rice regions, maintaining favorable conditions for boll-forming cotton and rice planting and emergence. Dry weather returned to central and eastern India, where limited moisture continues in many areas for late-filling rice and early-vegetative wheat. Dry weather persisted over northern wheat areas. Winter wheat planting is usually completed by the end of December, but many regions remain unplanted following this summer's monsoon failure and subsequent lack of irrigation reserves.



**EASTERN ASIA...**A large area of high pressure continued to dominate eastern Asia with dry and warmer than normal weather over most crop areas. Scattered, mainly light rainfall (less than 5mm) was confined to interior areas of China and parts of South Korea. Unseasonably high daytime temperatures, above 10 degrees C., were common across China's winter wheat areas, favoring establishment of late-planted crops but possibly bringing other crops in northern and central sections out of dormancy. The warm weather also reduced snow cover over the region, with area coverage limited to the northern tier of provinces, as indicated by satellite imagery.



**SOUTH AMERICA...**In Argentina, moisture has been adequate for emergence and establishment of corn, sunflowers, sorghum, and first-crop soybeans. Second-crop soybeans, nearly one-half of the total crop, follow the wheat harvest, which is about 50 percent complete. The weather was mostly favorable for fieldwork and crop development, with periodic showers followed by several days of sunny weather. Significant late-week rain benefited corn, cotton, and soybeans. Rainfall amounts ranged from 25-50mm, with some locations in southern Cordoba, northern Buenos Aires, and Chaco receiving rainfall in excess of 50mm. Early-planted summer crops are advancing into the weather-sensitive reproductive stages. In Brazil, episodes of hot weather and dryness were confined to western Rio Grande do Sul, a leading soybean-growing area. Sporadic showers recently eased the moisture deficiency, but water is limited for vegetative growth. Elsewhere, frequent rain has provided ample moisture for corn and soybean growth in western Parana, Sao Paulo, Mato Grosso do Sul, and Minas Gerais.

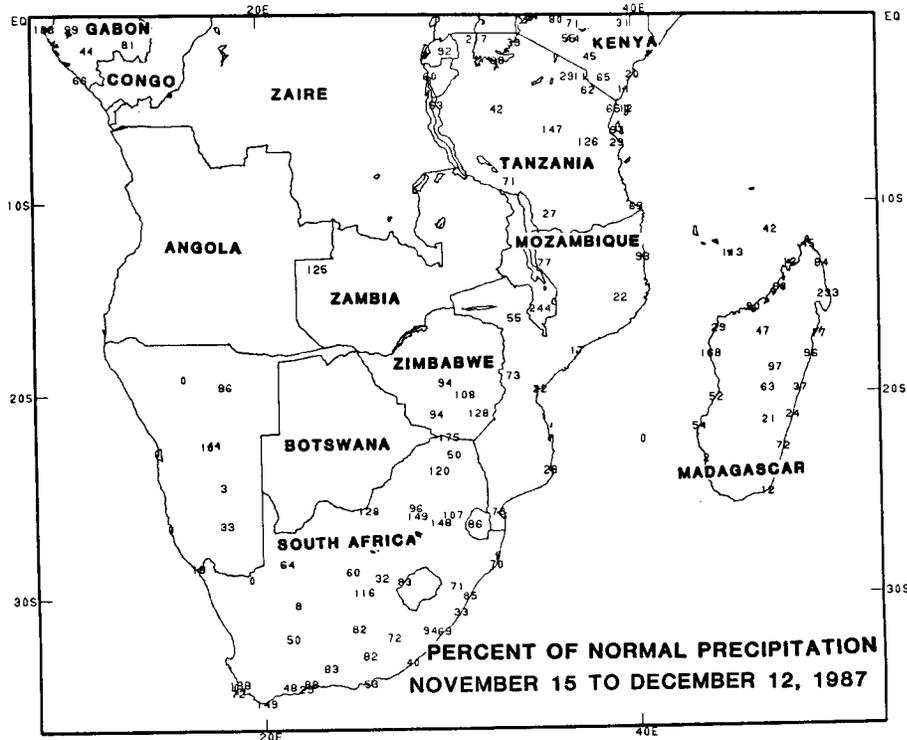
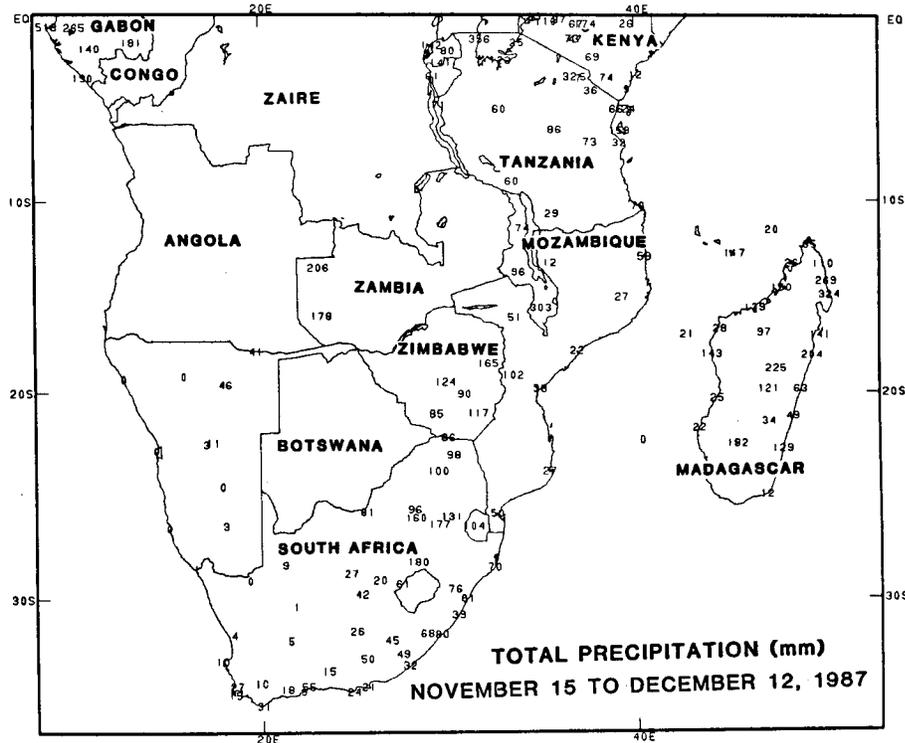


**AUSTRALIA...**Scattered rain continued in southwestern Australia, causing some delays in the wheat harvest. Scattered light rain caused only minor delays in South Australia and Victoria, where the wheat harvest is in full swing. In the eastern crop areas, wet weather early in the week benefited soil moisture levels but may have caused fieldwork delays. Daytime temperatures in the east moderated to more seasonal levels after 2 consecutive weeks of unseasonably warm weather, which may have temporarily stressed vegetative summer crops.

# African Agricultural Weather Summary

In Southern Africa, recent, beneficial showers covered major crop areas in southern and northwestern Tanzania, Zambia, Zimbabwe, and finally reached chronically dry regions in southern Mozambique. However, northeastern Mozambique and northeastern Tanzania received only minimal rain (less than 3 mm). Chronic dry weather throughout the season in northern

Mozambique has restricted crop planting, but recent rainfall in southern and western parts of the country spurred fieldwork. Moisture levels elsewhere in southern Africa continue adequate to abundant for recently planted corn, except for parts of Tanzania which received below-normal rainfall since early December. Planting normally lasts from mid-November to the end of December.



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\* w = weekly, m = monthly, s = seasonal (seasonal summaries are published every March, June, September, and December for the prior 3 months)

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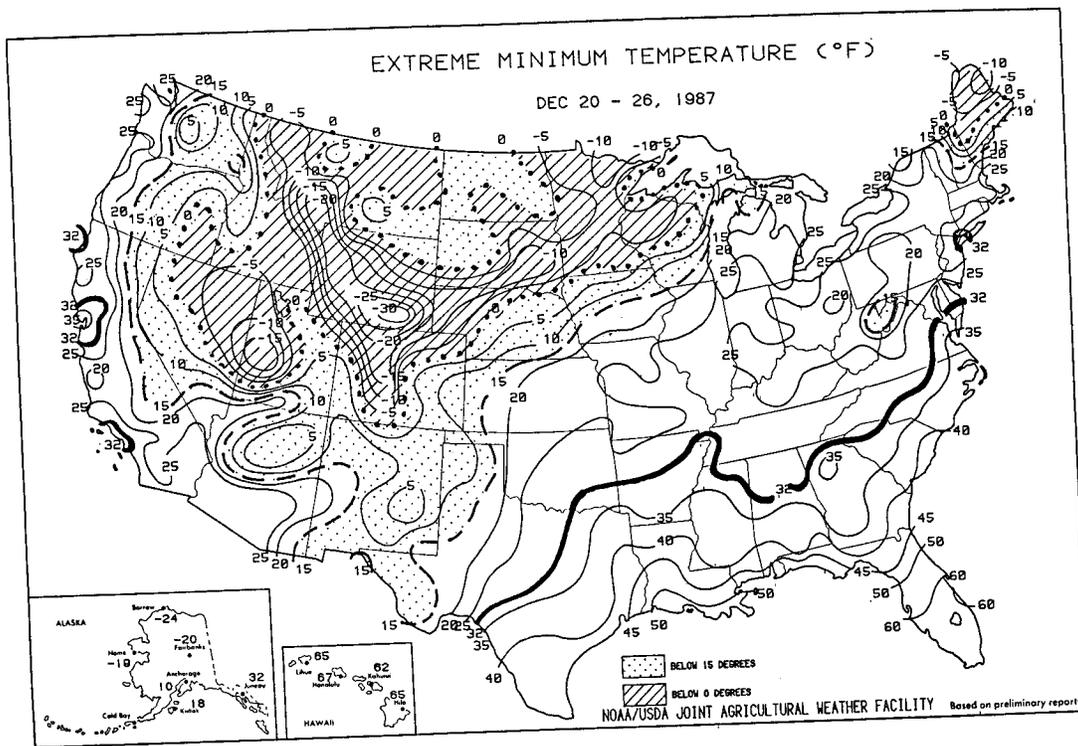
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