

WEEKLY WEATHER AND CROP BULLETIN

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

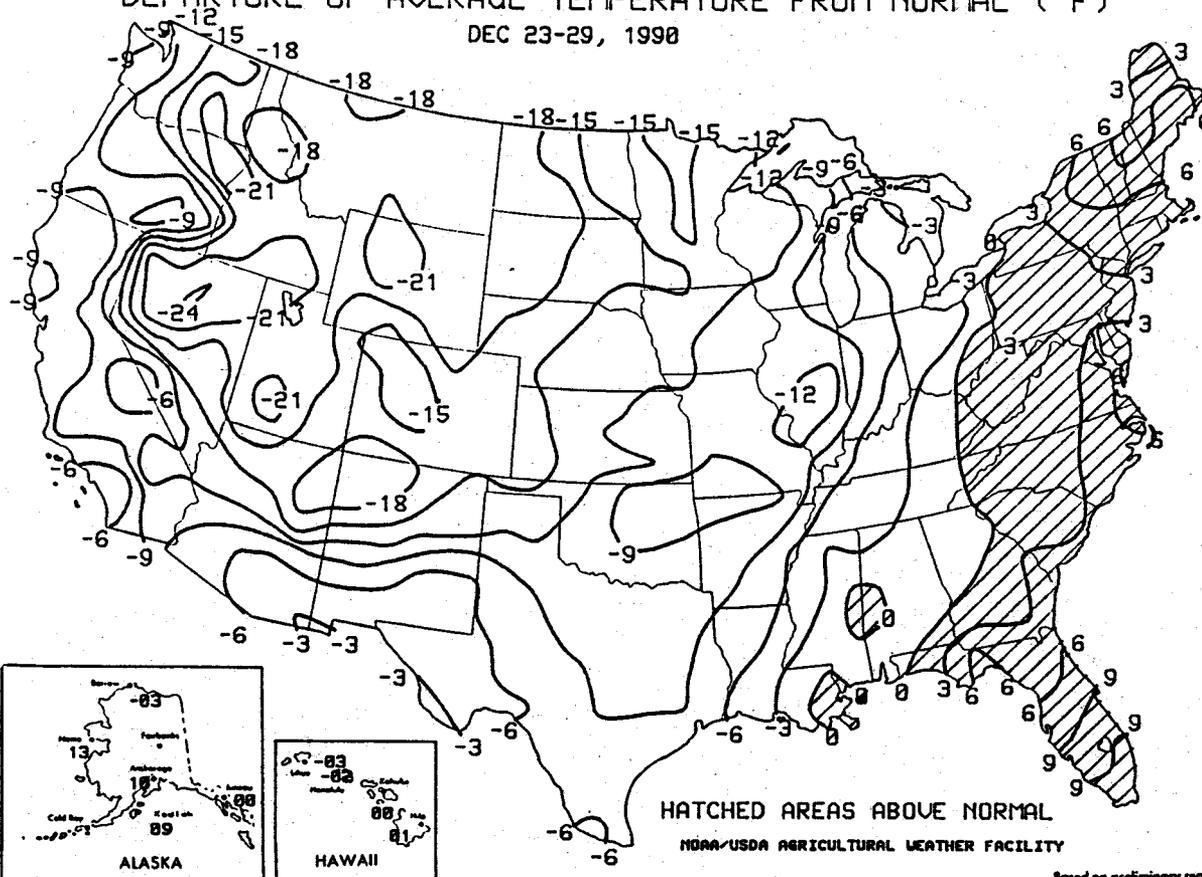
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DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
DEC 23-29, 1990



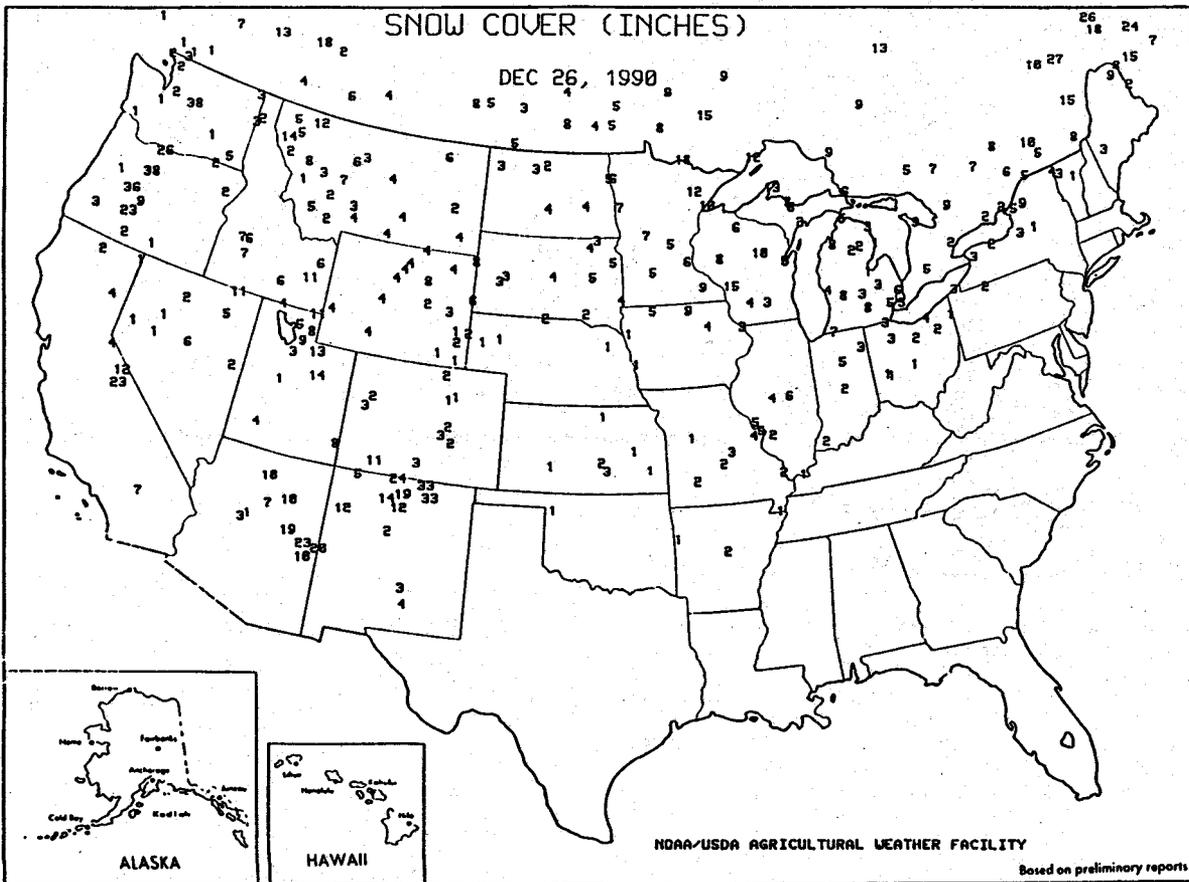
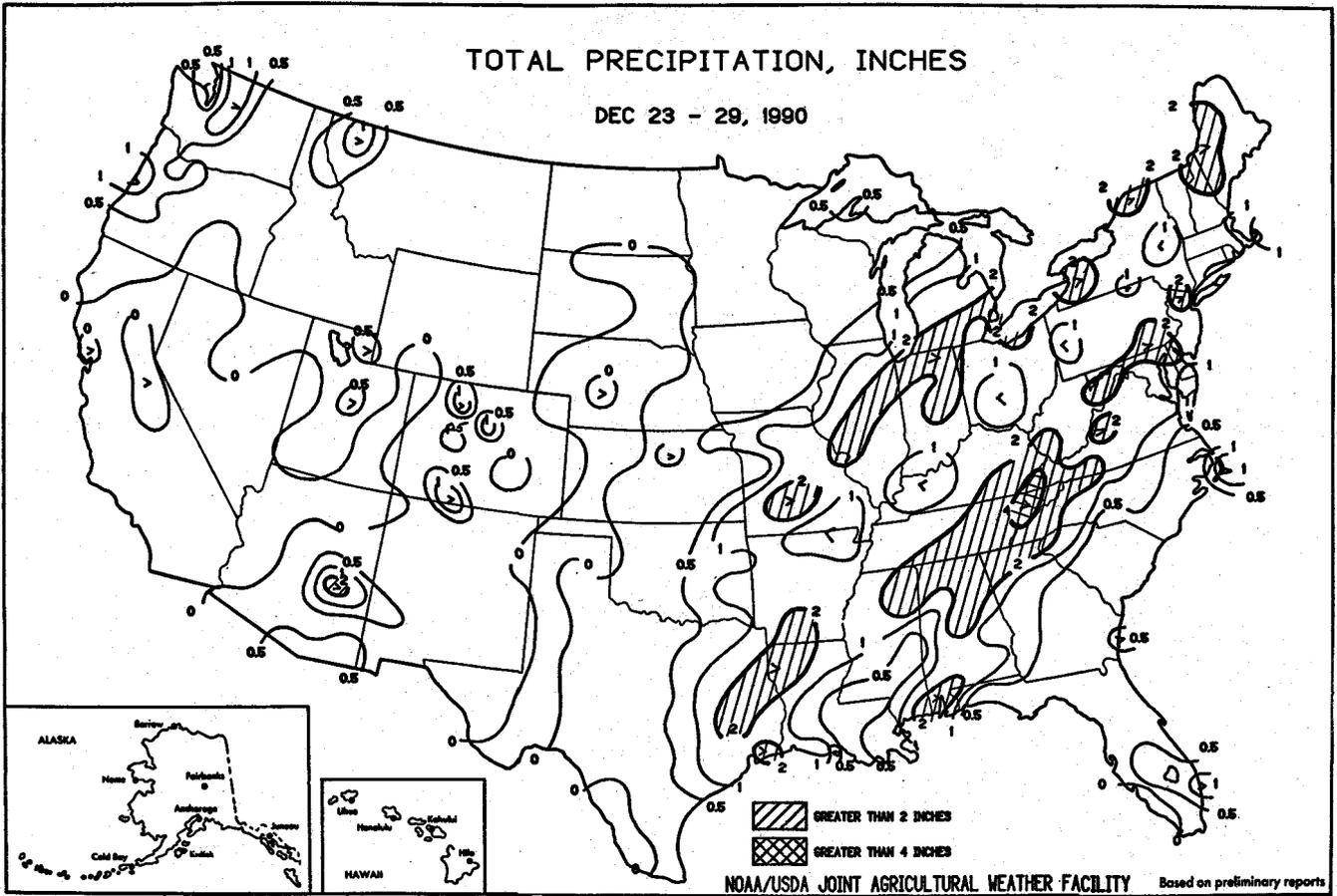
HIGHLIGHTS

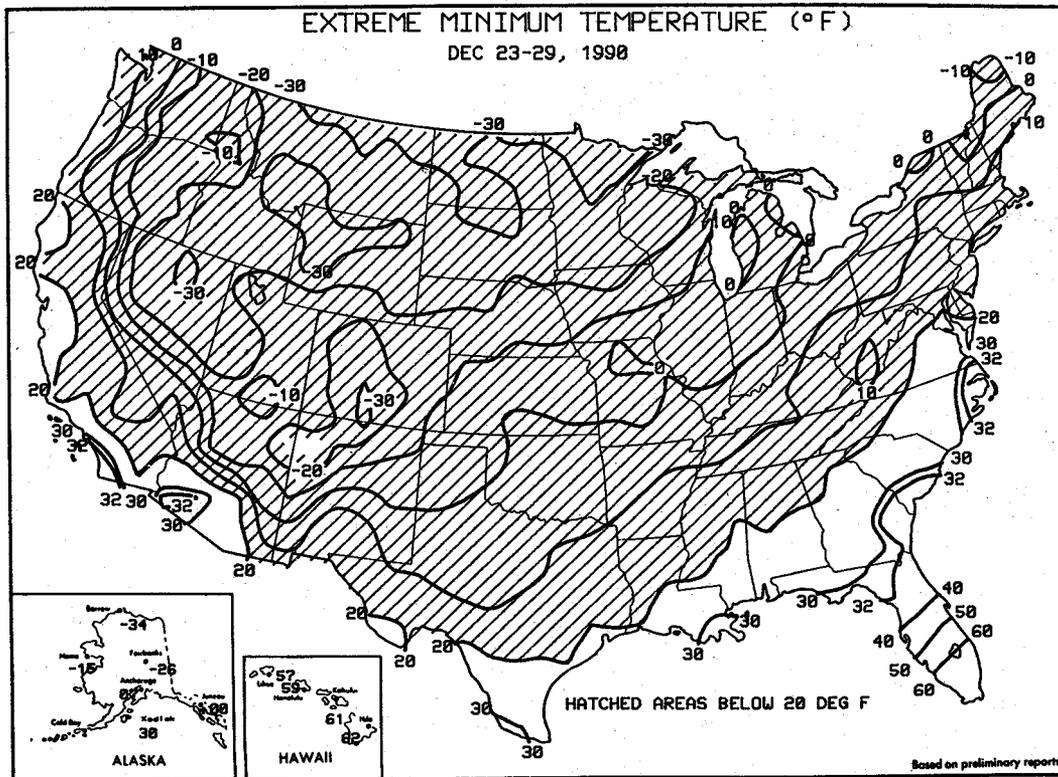
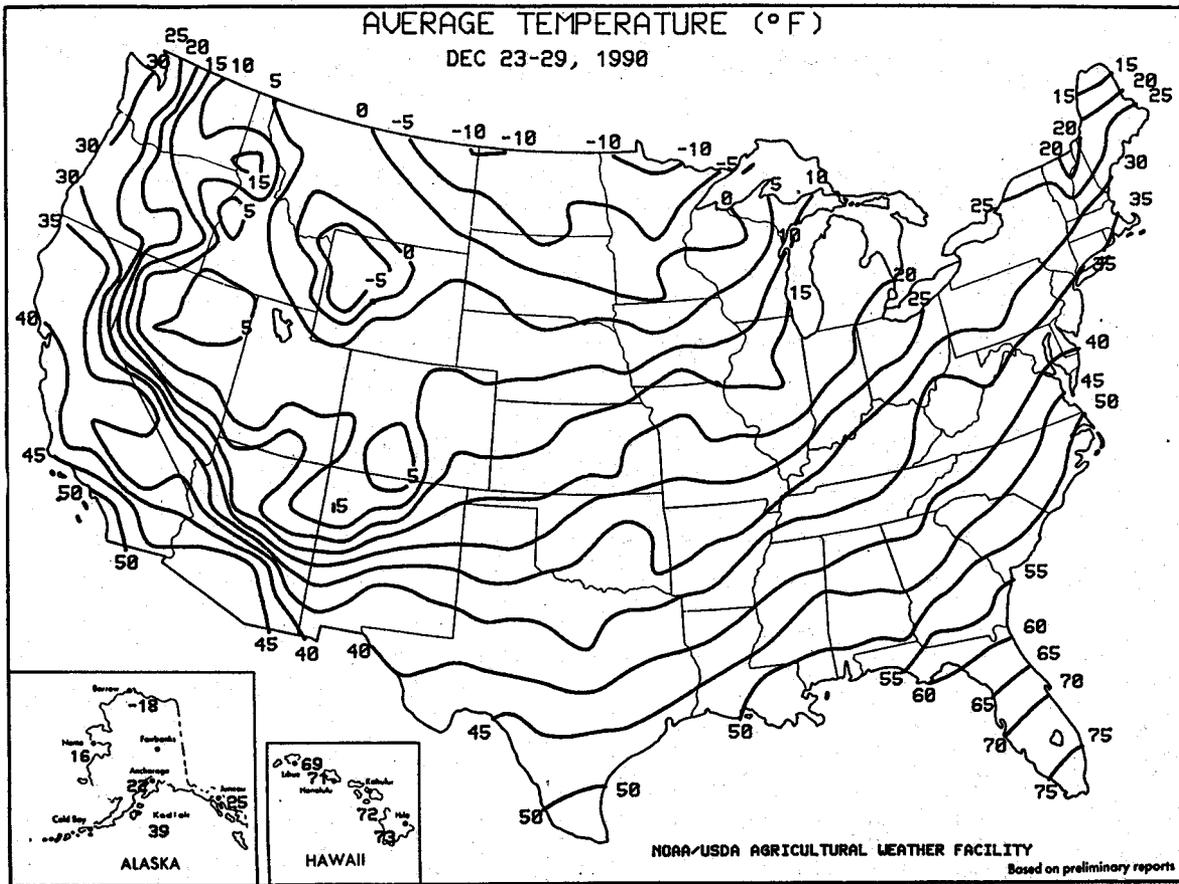
December 23-29, 1990

A frigid regime gripped the **West** during the start and end of the week, while seasonably cool weather and wintry precipitation prevailed in the **East**. Widespread river flooding persisted for much of the week in wake of last week's heavy rains in the **Ohio and Tennessee River Valleys**. An arctic cold front pushed off the **eastern seaboard** Monday, changing heavy rain to snow over the **Appalachians** and ending a stretch of mild weather in the **East**. In the **West**, crop-threatening cold continued early in the week in **southern California**. Christmas Day proved to be rather tranquil, except for snow squalls around the **Great Lakes** and light precipitation in the **Northwest**. On Christmas morning, **Eugene, OR** tallied its seventh consecutive record-low, while **Sacramento, CA** reported its (Continued to back cover)

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National Weather Data for Selected Cities

Weather Data for the Week Ending December 29, 1990

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	MINIMUM	90 AND ABOVE	32 AND BELOW	OR MORE	
													.01 INCH								.50 INCH	OR MORE
AL BIRMINGHAM	52	32	71	16	42	-2	2.5	1.3	2.2	4.9	108	46.4	86	91	59	0	0	0	4	2	1	
MOBILE	60	42	74	25	51	-1	2.3	1.1	2.2	5.1	100	55.9	87	89	60	0	0	0	2	1	1	
MONTGOMERY	56	37	78	22	47	-1	.6	-6	.5	3.2	71	53.3	110	88	55	0	0	0	2	3	1	
AK ANCHORAGE	29	16	34	7	23	10	1.3	1.0	.7	1.8	176	18.2	124	98	81	0	0	0	7	6	1	
BARRROW	-11	-25	-6	-34	-18	-3	T	T	T	.1	85	4.6	102	78	54	0	0	0	7	0	0	
FAIRBANKS	18	-4	24	-26	7	19	1.8	1.6	1.0	3.0	429	18.5	179	94	80	0	0	0	7	6	1	
JUNEAU	30	20	37	0	25	0	1.3	.3	.4	5.5	127	59.0	112	94	77	0	0	0	6	4	0	
KODIAK	44	33	49	30	39	9	.1	-1.2	.0	4.9	95	65.9	109	90	64	0	0	0	3	2	0	
NOME	25	7	33	-15	16	12	.9	.7	.3	1.3	221	22.4	155	93	67	0	0	0	7	2	0	
AZ PHOENIX	56	35	61	26	46	-6	.2	.0	.2	.5	61	7.7	113	68	27	0	0	0	2	2	0	
PRESCOTT	37	9	42	-9	23	-13	T	T	T	.3	17	15.6	83	80	38	0	0	0	7	0	0	
TUCSON	58	33	64	21	45	-5	.3	.1	.2	1.5	177	14.9	136	87	35	0	0	0	5	1	0	
YUMA	56	39	65	32	48	-8	T	T	T	.1	13	2.3	93	38	19	0	0	0	1	2	1	
AR FORT SMITH	38	21	65	9	30	-10	1.0	.5	.6	4.3	161	60.7	154	96	70	0	0	0	6	3	1	
LITTLE ROCK	38	25	68	11	31	-10	1.1	.2	.7	7.3	184	62.9	129	86	74	0	0	0	6	4	1	
CA BAKERSFIELD	50	24	60	19	37	-10	.0	.2	.0	.2	37	3.4	62	92	38	0	0	0	6	0	0	
EUREKA	46	33	50	27	40	-8	.2	-1.3	.1	2.9	50	29.3	77	88	63	0	0	0	7	2	0	
FRESNO	48	23	54	18	35	-9	.0	.0	.0	.7	46	8.7	85	94	39	0	0	0	5	2	0	
LOS ANGELES	63	42	68	35	53	-4	.0	-.4	.0	.0	2	5.2	45	38	14	0	0	0	7	0	0	
REDDING	53	24	60	20	39	-8	.0	-1.7	.0	.6	8	24.6	61	73	22	0	0	0	0	0	0	
SACRAMENTO	49	24	54	19	36	-8	.0	-.7	.0	1.2	45	13.3	79	89	31	0	0	0	0	0	0	
SAN DIEGO	61	41	65	36	51	-6	.0	-.5	.0	1.8	32	7.2	62	62	29	0	0	0	0	0	0	
SAN FRANCISCO	51	34	55	28	42	-6	.0	-.9	.0	1.8	55	10.4	54	84	39	0	0	0	3	0	0	
CO DENVER	28	-1	53	-17	14	-18	T	T	T	.3	50	16.7	111	84	37	0	0	0	7	2	0	
GRAND JUNCTION	22	-3	33	-17	10	-17	.1	-1.1	.1	.8	141	8.1	104	82	46	0	0	0	7	1	0	
PUEBLO	31	-6	56	-25	13	-18	T	T	T	.3	71	15.6	144	85	43	0	0	0	7	0	0	
CT BRIDGEPORT	41	30	57	20	35	4	1.0	.2	.5	3.5	99	43.7	106	90	61	0	0	0	5	3	0	
HARTFORD	40	25	61	15	33	6	1.5	.6	.7	4.7	119	53.0	121	79	51	0	0	0	6	4	2	
DC WASHINGTON	47	31	71	20	39	2	1.8	1.1	.7	4.4	147	40.5	105	91	59	0	0	0	5	4	2	
FL APALACHICOLA	67	50	79	32	59	5	.2	-.6	.1	1.4	43	37.9	69	90	64	0	0	0	1	3	0	
DAYTONA BEACH	77	54	84	37	66	7	.1	-.4	.1	.3	16	36.1	75	98	60	0	0	0	0	1	0	
JACKSONVILLE	70	49	83	31	60	5	.2	-.6	.1	.9	39	30.1	59	92	54	0	0	0	1	1	0	
KEY WEST	81	71	82	68	76	6	.2	-.1	.2	1.3	82	36.5	93	91	68	0	0	0	3	0	0	
MIAMI	82	70	86	66	76	8	.5	.1	.3	1.0	60	51.7	90	93	59	0	0	0	0	3	0	
ORLANDO	79	57	82	42	68	8	T	-.4	T	.8	46	31.7	64	99	56	0	0	0	1	0	0	
TALLAHASSEE	69	49	80	28	59	7	.4	-.7	.4	4.4	105	45.8	71	92	56	0	0	0	1	1	0	
WEST PALM BEACH	80	59	85	40	69	9	.1	-.4	.1	.2	10	34.4	74	98	54	0	0	0	0	2	0	
GA ATLANTA	49	33	73	20	41	-2	.9	-.4	.5	1.9	93	55.8	94	94	65	0	0	0	3	1	0	
AUGUSTA	56	41	79	27	48	3	.6	-.4	.5	2.7	70	57.3	119	92	59	0	0	0	2	4	0	
MACON	55	40	77	26	48	0	.2	-.6	.1	1.9	65	40.6	95	90	54	0	0	0	1	3	0	
SAVANNAH	62	45	80	33	54	4	.5	-.5	.5	3.3	87	35.7	80	89	60	0	0	0	2	2	0	
HI HILO	81	64	83	62	73	1	1.6	-1.0	1.6	29.0	239	210.2	165	93	60	0	0	0	0	2	1	
HONOLULU	78	64	80	59	71	-2	1.8	1.0	1.0	5.0	156	19.6	85	89	60	0	0	0	5	1	1	
KAHULUI	80	65	82	61	72	0	4.7	4.0	4.4	6.0	237	29.0	162	96	61	0	0	0	4	1	0	
LIHUE	77	62	79	57	70	-3	1.9	.7	.7	2.9	57	37.1	85	90	57	0	0	0	4	3	0	
ID BOISE	12	-8	30	-20	2	-28	.4	.1	.2	.9	76	12.0	105	88	69	0	0	0	7	4	0	
LEWISTON	27	12	45	-3	20	-14	.1	-.2	.1	.4	35	11.0	87	64	40	0	0	0	7	1	0	
POCATELLO	13	-7	28	-29	3	-22	.3	.1	.1	1.1	123	10.1	96	83	59	0	0	0	7	5	0	
IL CHICAGO	25	7	41	-6	16	-8	.8	.3	.5	1.9	83	42.6	125	86	51	0	0	0	7	3	0	
MOLINE	23	3	38	-5	13	-10	.9	.5	.8	3.0	169	50.4	137	85	59	0	0	0	7	2	1	
PEORIA	25	6	41	-2	16	-9	1.4	.9	.7	3.2	168	54.9	158	88	66	0	0	0	7	3	2	
QUINCY	26	7	46	2	17	-10	.8	.4	.5	1.7	106	39.0	104	87	62	0	0	0	7	3	0	
ROCKFORD	22	3	36	-9	12	-9	.9	.5	.7	2.4	133	44.9	123	87	59	0	0	0	7	2	1	
SPRINGFIELD	25	5	48	-8	15	-13	2.1	1.6	1.6	4.8	243	52.5	155	89	71	0	0	0	7	4	1	
IN EVANSVILLE	34	18	63	4	26	-7	.6	-.2	.4	6.9	214	52.0	126	95	72	0	0	0	5	3	0	
FORT WAYNE	28	11	55	-4	20	-7	2.5	2.0	1.9	6.7	291	53.6	156	91	69	0	0	0	6	3	1	
INDIANAPOLIS	30	14	60	-2	22	-7	2.2	1.5	1.5	6.1	217	48.8	126	91	69	0	0	0	6	4	1	
SOUTH BEND	26	11	45	-3	18	-8	2.8	2.1	2.4	4.7	173	55.1	146	86	64	0	0	0	6	6	1	
IA DES MOINES	23	2	35	-9	12	-10	.2	-.1	.1	1.7	175	43.5	142	85	61	0	0	0	7	2	0	
STOUC CITY	20	-4	31	-14	8	-12	T	-.1	T	.7	96	24.6	97	81	59	0	0	0	7	2	0	
WATERLOO	19	-4	32	-16	8	-11	.1	-.2	.1	1.2	114	41.5	127	85	66	0	0	0	7	1	0	
KS CONCORDIA	27	3	40	-7	15	-13	T	-.1	T	.4	56	25.6	95	85	55	0	0	0	7	2	0	
DODGE CITY	27	5	48	-3	16	-15	.1	.0	.1	.6	123	21.0	103	89	60	0	0	0	7	3	0	
GOODLAND	24	2	46	-10	13	-16	.1	.0	.0	.1	39	19.4	121	84	51	0	0	0	7	3	0	
TOPEKA	31	10	40	-3	21	-9	.4	.1	.3	.8	69	34.3	103	89	56	0	0	0	6	2	0	
WICHITA	30	9	48	1	19	-13	.1	-.1	.1	.8	85	19.4	68	88	65	0	0	0	7	3	0	
KY BOWLING GREEN	40	24	63	8	32	-4	.8	-.3	.7	9.2	216	51.1	105	98	76	0	0	0	5	3	1	
LEXINGTON	39	24	63	10	32	-2	1.2	.4	.8	7.9	226	49.9	110	94	75	0	0	0	5	2	1	
LOUISVILLE	38	23	65	8	31	-4	1.0	.3	.8	7.1	218	55.7	129	94	72	0	0	0	5	3	1	
LA ALEXANDRIA	50	36	77	18	43	-6	.7	-.4	.3	8.2	180	60.6	117	88	65	0	0	0	3	3	0	
BATON ROUGE	59	42	78	25	51	-1	.4	-.7	.3	4.7	101	65.4	118	88	53	0	0	0	3	3	0	
LAKE CHARLES	55	39	77	20	47	-5	.9	-.3	.8	4.0	85	53.7	100	92	68	0	0	0	3	3	1	
NEW ORLEANS	64	45	77	30	54	1	.8	-.4	.8	8.8	179	60.2	102	88	56	0	0	0	2	1	1	

Based on 1951-80 normals

Weather Data for the Week Ending December 29, 1990

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS								
	AVERAGE	MAXIMUM	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	MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP.	
																				.01 INCH OR MORE	.50 INCH OR MORE	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	46	31	73	14	13	-8	2.5	1.6	1.6	3.6	98	65.3	150	96	66	0	0	0	3	3	3	2	
ME CARIBOU	23	3	41	-17	13	1	1.6	.9	.7	5.2	174	46.0	127	86	67	0	0	0	6	4	4	2	
PORTLAND	38	23	66	13	30	7	1.9	.9	1.4	7.8	184	52.6	122	85	51	0	0	0	6	4	4	2	
MD BALTIMORE	44	30	69	19	37	3	2.1	1.3	.9	4.4	139	41.4	100	91	59	0	0	0	6	4	4	1	
SALISBURY	50	32	71	19	41	4	.9	.1	.6	4.1	117	41.2	91	93	61	0	0	0	4	4	3	1	
MA BOSTON	44	28	67	18	36	5	.9	.1	.4	3.0	72	46.3	107	81	51	0	0	0	6	4	4	0	
CHATHAM	44	33	57	22	39	6	1.1	.1	.7	3.7	80	42.7	92	85	68	0	0	0	4	4	5	1	
MI ALPENA	25	12	39	1	19	-3	.4	.1	.2	1.7	92	31.1	108	83	55	0	0	0	7	3	3	0	
DETROIT	29	13	53	3	21	-5	1.9	1.4	1.3	4.4	187	42.7	140	88	67	0	0	0	6	5	2	2	
FLINT	25	11	46	-3	18	-6	1.0	.6	.7	2.2	118	32.8	114	88	66	0	0	0	6	4	1	1	
GRAND RAPIDS	25	12	41	-1	19	-7	1.7	1.1	1.3	2.9	117	42.5	127	92	69	0	0	0	7	5	1	0	
HOUGHTON LAKE	21	9	36	-1	15	-5	.5	.2	.4	1.6	88	31.0	111	88	64	0	0	0	7	4	0	0	
LANSING	25	10	45	-11	18	-6	1.1	.6	.9	2.6	112	37.4	127	87	68	0	0	0	7	6	1	0	
MARQUETTE	13	-5	27	-18	4	-11	.2	-.3	.1	1.7	74	32.7	88	88	70	0	0	0	7	4	0	0	
MUSKOGON	26	13	40	7	20	-6	1.5	.9	1.0	2.5	103	37.1	119	88	62	0	0	0	7	5	1	0	
SAULT ST. MARIE	21	4	34	-9	13	-4	.5	.1	.2	2.5	102	35.1	106	87	60	0	0	0	7	5	0	0	
MN ALEXANDRIA	7	-15	19	-24	-4	-14	.2	.1	.1	.5	75	21.0	86	83	61	0	0	0	7	3	0	0	
DULUTH	8	-14	23	-25	-3	-14	.1	-.2	.0	.5	41	33.5	114	83	56	0	0	0	7	3	0	0	
INT'L FALLS	3	-24	22	-38	-11	-15	.1	.1	.1	1.2	144	20.3	85	81	62	0	0	0	7	5	0	0	
MINNEAPOLIS	15	-9	30	-24	3	-13	.1	.1	.0	1.0	128	33.1	127	83	60	0	0	0	7	3	0	0	
ROCHESTER	14	-10	29	-25	2	-12	.1	.1	.0	1.7	196	44.0	155	85	66	0	0	0	7	3	0	0	
MS GREENWOOD	48	32	78	19	40	4	1.5	.3	1.1	8.7	172	54.2	103	93	61	0	0	0	4	4	1	1	
JACKSON	53	35	79	19	44	-3	1.7	-.6	-.3	5.4	107	53.0	103	94	56	0	0	0	4	4	0	0	
MERIDIAN	57	38	75	20	47	1	.4	-.9	.4	3.1	59	62.0	117	90	56	0	0	0	3	3	0	0	
MO CAPE GIRARDEAU	34	19	62	8	26	-	1.1	.3	.5	8.0	227	53.5	121	92	73	0	0	0	6	4	1	1	
COLUMBIA	30	10	53	-1	20	-11	1.5	1.0	1.2	3.3	176	53.6	146	83	58	0	0	0	7	4	1	0	
KANSAS CITY	30	9	44	-2	19	-11	.5	.2	.5	1.1	79	40.6	113	85	61	0	0	0	7	2	0	0	
SAINT LOUIS	30	11	57	0	20	-11	2.1	1.7	1.7	5.8	279	44.4	132	86	66	0	0	0	7	4	1	0	
SPRINGFIELD	35	15	57	0	25	-8	2.6	2.1	2.2	5.5	228	62.6	159	92	68	0	0	0	7	4	1	0	
MT BILLINGS	15	-7	36	-23	4	-21	.2	.0	.1	.5	70	11.3	76	75	49	0	0	0	7	3	0	0	
GLASGOW	8	-20	35	-30	-6	-19	.2	.1	.1	.6	183	6.9	64	62	65	0	0	0	7	3	0	0	
GREAT FALLS	16	-9	34	-29	4	-20	.2	.0	.1	.7	100	14.0	94	80	57	0	0	0	7	6	0	0	
HAVRE	10	-15	33	-32	-2	-18	T	.1	T	.3	67	6.2	53	82	60	0	0	0	7	0	0	0	
HELENA	11	-12	30	-29	-1	-22	.1	.0	.1	.5	84	8.4	74	83	62	0	0	0	7	3	0	0	
KALISPELL	10	-5	30	-22	2	-20	1.4	1.0	.8	3.6	250	23.1	148	88	65	0	0	0	7	7	1	1	
MILES CITY	11	-13	36	-28	-1	-19	T	.1	T	.1	23	8.8	62	81	51	0	0	0	7	1	0	0	
MISSOULA	14	-4	33	-28	5	-18	.5	.2	.3	.9	83	13.3	102	83	65	0	0	0	7	6	0	0	
NE GRAND ISLAND	23	-1	33	-11	11	-13	.1	.1	.1	.7	115	26.6	116	85	57	0	0	0	7	2	0	0	
LINCOLN	23	-1	34	-11	11	-12	.1	.1	.1	.7	116	26.4	98	83	57	0	0	0	7	2	0	0	
NORFOLK	21	-4	31	-16	8	-13	T	.1	T	.5	86	26.8	114	83	56	0	0	0	7	0	0	0	
NORTH PLATTE	23	-4	35	-16	9	-15	T	.1	T	.1	24	15.8	83	87	55	0	0	0	7	1	0	0	
OMAHA	20	-2	32	-17	9	-16	T	.1	T	.7	99	23.9	79	71	42	0	0	0	7	2	0	0	
SCOTTSBLUFF	19	-6	42	-23	8	-18	T	.1	T	.3	72	17.7	122	81	50	0	0	0	7	1	0	0	
VALENTINE	19	-10	38	-25	4	-17	T	.1	T	.3	74	17.1	100	81	47	0	0	0	7	0	0	0	
NV ELI	26	-12	41	-28	7	-18	T	.2	T	.3	45	8.8	99	75	32	0	0	0	7	0	0	0	
LAS VEGAS	44	19	50	11	32	-12	.0	.1	.0	T	0	3.8	94	53	20	0	0	0	7	0	0	0	
RENO	27	1	42	-11	14	-17	.0	-.3	.0	.5	41	5.3	74	89	43	0	0	0	7	0	0	0	
WINNEMUCCA	19	-7	33	-28	6	-23	T	.2	T	.6	76	6.4	84	80	51	0	0	0	7	0	0	0	
NH CONCORD	37	21	66	6	29	7	1.5	.7	1.1	4.0	124	41.2	113	93	52	0	0	0	6	4	1	1	
NJ ATLANTIC CITY	45	27	60	14	36	2	1.5	.7	1.0	3.3	97	36.5	88	99	64	0	0	0	5	4	1	0	
NM ALBUQUERQUE	31	7	51	-7	19	-15	.2	.1	.2	.6	130	10.2	130	84	45	0	0	0	7	2	0	0	
CLOVIS	46	14	59	-2	30	-8	T	.1	T	.4	75	13.3	78	69	37	0	0	0	7	1	0	0	
ROSWELL	49	21	67	5	35	-4	.1	.1	.1	.3	94	7.6	72	73	27	0	0	0	5	1	0	0	
NY ALBANY	36	21	64	10	29	5	.8	.1	.4	3.2	116	45.7	129	85	57	0	0	0	6	5	0	0	
BINGHAMTON	34	17	59	8	26	2	1.4	.7	.6	4.3	160	45.1	124	92	61	0	0	0	6	5	1	1	
BUFFALO	36	18	61	7	27	0	3.0	2.3	1.5	6.3	196	48.5	131	89	62	0	0	0	6	7	2	1	
NEW YORK	44	31	66	22	38	4	1.4	.6	.6	4.8	138	51.1	121	84	58	0	0	0	5	4	1	1	
ROCHESTER	37	17	61	6	27	1	1.2	.7	.7	3.2	129	39.2	126	87	55	0	0	0	6	6	1	1	
SYRACUSE	38	21	60	12	29	4	1.4	.7	.7	4.4	148	48.7	126	82	59	0	0	0	5	4	1	1	
NC ASHEVILLE	50	31	63	14	40	2	2.7	2.0	2.2	4.3	144	59.4	136	97	62	0	0	0	5	3	1	1	
CHARLOTTE	51	36	73	23	43	2	.8	.0	.4	3.2	100	49.6	116	94	53	0	0	0	5	4	0	0	
GREENSBORO	48	33	69	21	41	2	.8	.0	.5	3.5	111	42.9	102	92	58	0	0	0	5	3	0	0	
HATTERAS	66	50	75	42	58	10	1.2	.2	1.0	5.1	124	47.7	86	91	65	0	0	0	0	4	1	0	
NEW BERN	58	41	78	31	50	5	.2	-.7	.2	1.9	56	50.6	96	88	57	0	0	0	1	1	0	0	
RALEIGH	51	35	76	22	43	3	.5	-.2	.5	3.0	104	37.5	91	90	51	0	0	0	4	4	0	0	
WILMINGTON	60	42	78	29	51	5	.2	-.6	.1	2.6	81	53.3	100	84	55	0	0	0	1	2	0	0	
ND BISMARCK	7	-23	31	-37	-8	-20	.1	.1	.0	.5	109	12.7	84	84	62	0	0	0	7	2	0	0	
FARGO	6	-15	24	-25	-5	-13	.1	.0	.1	.8	133	17.0	88	77	64	0	0	0	7	3	0	0	
GRAND FORKS	4	-17	25	-27	-6	-13	T	.1	T	.5	88	15.9	88	78	59	0	0	0	7	1	0	0	
WILLISTON	7	-23	34	-33	-8	-20	.1	.0	.0	.4	80	9.3	70	81	61	0	0	0	7	3	0	0	
OH AKRON-CANTON	34	17	59	4	25	-3	1.3	.7	.9	5.2	208	64.1	181	94	70	0	0	0	6	4	1	1	
CINCINNATI	35	20	64	5	28	-4	1.0	.4	.6	6.3	226	55.9	141	94	69	0	0	0	6	4	1	1	
CLEVELAND	34	15	60	3	25	-4	2.7	2.1	1.3	7.0	273	52.3	149	92	66	0	0	0	6	4	1	2	
COLUMBUS																							

Weather Data for the Week Ending December 29, 1990

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						.50 INCH OR MORE
DAYTON	33	17	62	2	25	-4	.9	.3	.6	7.6	328	57.3	167	94	75	0	0	6	5	1
TOLEDO	29	12	55	1	21	-5	1.9	1.3	1.2	5.0	204	37.8	120	92	72	0	0	6	4	2
YOUNGSTOWN	35	17	60	5	26	-1	1.0	.4	.6	4.9	191	45.1	122	94	68	0	0	6	4	2
OK OKLAHOMA CITY	41	19	58	4	30	-8	.2	-.1	.1	1.5	133	40.5	132	85	55	0	0	6	4	2
TULSA	41	20	60	7	31	-7	1.0	.7	.9	2.9	169	38.8	101	86	58	0	0	6	4	2
OR ASTORIA	36	26	45	16	31	-11	.6	-2.1	-2	4.9	45	72.5	105	92	66	0	0	5	5	0
BURNS	20	-1	41	-17	9	-17	T	T	T	.2	12	4.7	46	79	46	0	0	7	1	0
MEDFORD	39	17	46	7	28	-9	T	-.8	T	1.1	35	13.5	70	97	57	0	0	7	1	0
PENDLETON	23	4	44	-13	14	-21	.3	-.1	-.2	.7	48	9.3	78	91	69	0	0	6	1	0
PORTLAND	32	22	44	14	27	-13	.3	-1.2	.1	2.4	40	32.9	90	84	61	0	0	6	1	0
SALEM	34	22	46	10	28	-12	.3	-1.3	.2	2.8	43	35.9	91	89	67	0	0	5	1	0
PA ALLENTOWN	40	25	64	14	32	3	1.8	.9	.5	5.5	157	44.0	100	93	62	0	0	6	1	0
ERIE	36	21	61	8	28	0	1.8	1.1	1.0	5.2	169	50.2	126	91	62	0	0	6	1	0
HARRISBURG	41	25	65	15	33	2	2.1	1.4	.6	5.6	183	43.6	112	93	57	0	0	6	1	0
PHILADELPHIA	43	30	66	19	37	3	1.4	.6	.4	3.6	114	35.6	87	93	66	0	0	5	1	0
PITTSBURGH	40	21	63	8	30	1	.9	.2	.4	5.8	242	49.5	137	94	61	0	0	5	1	0
SCRANTON	38	22	64	14	30	3	1.3	.8	.5	3.9	165	45.7	132	87	56	0	0	5	1	0
RI PROVIDENCE	43	28	62	18	35	5	1.7	.7	1.2	5.4	130	44.7	100	86	55	0	0	5	1	0
SC CHARLESTON	60	45	80	34	53	4	.4	-.3	-.4	2.7	94	43.8	86	89	58	0	0	0	3	1
COLUMBIA	54	40	79	27	47	2	.3	-.6	-.2	1.5	47	43.3	89	93	51	0	0	1	4	0
FLORENCE	55	41	81	28	48	2	.3	-.4	-.3	2.4	88	33.6	77	85	52	0	0	1	4	0
GREENVILLE	51	34	68	20	42	0	1.1	-.2	.8	3.0	79	49.1	97	94	58	0	0	4	4	0
SD ABERDEEN	7	-16	26	-30	-5	-17	T	T	T	.4	93	20.9	119	78	61	0	0	7	1	0
HURON	13	-13	30	-30	0	-15	T	T	T	.1	91	23.0	125	84	62	0	0	7	2	0
RAPID CITY	17	-9	38	-26	4	-20	T	-.0	T	.3	80	16.5	103	82	53	0	0	7	2	0
SIoux FALLS	14	-12	26	-28	1	-15	T	-.1	T	.6	91	19.2	80	85	64	0	0	7	1	0
TN CHATTANOOGA	46	31	67	19	39	-1	3.3	2.1	2.1	9.6	199	67.8	130	91	61	0	0	4	4	2
KNOXVILLE	45	29	65	16	37	-4	4.1	3.1	2.5	8.1	190	54.3	116	97	66	0	0	4	4	3
MEMPHIS	45	29	71	12	37	-4	1.1	.0	1.0	8.9	196	58.0	114	90	66	0	0	4	4	3
NASHVILLE	42	26	64	11	34	-5	1.8	.8	1.2	9.6	223	45.9	96	98	63	0	0	5	4	1
TX AMARILLO	47	23	64	6	35	-10	T	-.2	T	.8	96	31.3	135	87	51	0	0	6	2	0
AUSTIN	49	33	71	15	41	-13	T	-.1	T	.2	48	17.5	93	87	44	0	0	6	1	0
BEAUMONT	54	38	77	19	46	-9	.5	.1	.5	.7	37	28.5	91	85	60	0	0	3	4	0
BROWNSVILLE	61	46	83	29	54	-6	1.8	.7	1.4	3.7	81	66.5	121	93	70	0	0	3	3	1
CORPUS CHRISTI	57	42	79	25	50	-7	T	-.3	T	.1	5	18.9	75	88	57	0	0	2	1	0
DEL RIO	54	36	62	19	45	-6	.3	.0	.2	.3	30	21.0	68	84	59	0	0	2	3	0
EL PASO	50	29	63	17	39	-4	.1	.0	.1	.4	103	12.9	171	63	29	0	0	5	2	0
FORT WORTH	44	25	68	10	35	-11	.7	.3	.4	1.4	88	45.2	146	87	59	0	0	5	4	0
GALVESTON	54	41	70	24	47	-8	1.3	.5	.7	1.9	58	38.3	95	93	73	0	0	2	2	2
HOUSTON	51	37	79	19	44	-10	1.2	.4	1.2	1.7	49	41.2	89	91	62	0	0	3	3	1
LUBBOCK	46	18	61	3	32	-8	T	-.1	T	.4	118	15.9	91	80	37	0	0	6	0	0
MIDLAND	51	25	64	8	38	-7	T	-.1	T	.7	168	14.1	105	83	34	0	0	5	0	0
SAN ANGELO	52	25	68	9	39	-8	T	-.1	T	.2	37	28.8	161	83	44	0	0	4	3	0
SAN ANTONIO	52	35	71	16	43	-8	.2	-.1	.1	.2	13	38.3	133	87	54	0	0	3	3	0
VICTORIA	55	38	77	20	46	-8	.6	.1	.6	.8	37	35.7	97	94	60	0	0	3	1	1
WACO	46	28	68	11	37	-11	.6	.2	.5	1.3	75	38.4	125	88	63	0	0	4	2	0
WICHITA FALLS	43	21	61	6	32	-10	.2	-.1	.1	1.0	85	37.8	143	87	57	0	0	6	3	0
UT CEDAR CITY	23	-7	36	-23	8	-22	.1	-.1	.0	1.1	174	10.7	104	83	48	0	0	7	3	0
SALT LAKE CITY	20	-2	29	-11	9	-20	.1	-.2	.0	.6	45	10.7	71	91	58	0	0	7	4	0
VT BURLINGTON	35	19	58	7	27	8	1.8	1.3	.8	3.3	143	41.2	124	94	61	0	0	6	4	2
VA NORFOLK	55	40	77	31	48	6	.5	-.3	.4	2.6	89	45.5	102	88	56	0	0	2	3	0
RICHMOND	49	33	73	22	41	3	1.2	.5	.6	3.4	107	42.8	98	93	58	0	0	4	4	1
ROANOKE	47	29	66	14	38	2	1.9	1.3	1.0	3.5	130	43.4	112	95	56	0	0	5	4	2
WA QUILLAYUTE	37	28	44	16	32	-8	.7	-3.2	.3	15.4	94	115.8	110	96	73	0	0	6	4	0
SEATTLE-TACOMA	34	24	43	12	29	-11	.4	-1.1	-.2	3.7	63	45.0	118	92	64	0	0	5	4	0
SPOKANE	16	1	35	-16	8	-19	.1	-.5	-.1	1.2	52	18.4	113	88	64	0	0	7	2	0
YAKIMA	21	-1	46	-16	10	-20	T	-.3	T	.2	18	6.2	80	86	51	0	0	7	1	0
WV BECKLEY	45	24	64	6	35	3	1.7	1.0	1.1	4.4	151	40.9	97	95	61	0	0	5	5	1
CHARLESTON	46	27	68	13	37	2	1.7	.9	.8	5.3	174	42.4	101	96	67	0	0	4	5	2
HUNTINGTON	45	28	66	17	36	1	1.9	1.2	1.1	6.3	215	50.2	124	91	65	0	0	5	5	2
PARKERSBURG	43	27	65	16	35	2	1.4	.7	1.0	5.4	213	49.4	131	93	64	0	0	4	2	1
WI GREEN BAY	18	-2	33	-15	8	-10	.3	.0	.3	2.1	156	35.9	130	85	61	0	0	7	3	0
LACROSSE	16	-6	30	-19	5	-13	.1	-.2	.0	2.8	274	38.0	127	85	58	0	0	7	2	0
MADISON	20	-1	35	-11	10	-10	.5	.1	.4	3.3	231	36.4	119	79	56	0	0	7	2	0
MILWAUKEE	24	5	37	-7	15	-8	.8	.4	.5	2.6	134	40.8	133	80	51	0	0	7	2	0
WAUSAU	12	-10	29	-24	1	-14	.2	.0	.1	2.0	146	35.4	112	89	67	0	0	7	5	0
WY CASPER	15	-5	28	-25	5	-19	T	-.1	T	.7	154	12.7	114	74	52	0	0	7	1	0
CHEYENNE	21	-2	40	-16	9	-19	.1	.0	.1	4	115	19.7	148	73	41	0	0	7	1	0
LANDER	11	-12	27	-29	-1	-22	T	-.1	T	.4	73	11.5	89	82	53	0	0	7	1	0
SHERIDAN	15	-8	38	-29	4	-19	.1	-.1	.1	.3	48	13.2	89	83	55	0	0	7	1	0

Based on 1951-80 normals

National Agricultural Summary

December 24-30, 1990

HIGHLIGHTS: Extremely cold temperatures again hit the California citrus and vegetable growing areas, causing additional damage to the already hard hit crop. Citrus tree damage was not fully known. Arizona and Texas fruit and vegetable crops again escaped major damage. Snow cover provided insulation to fall seeded crops in the central and northern Plains. The Ohio Valley had excessive moisture.

SMALL GRAINS: Winter wheat in Arkansas and Tennessee was in mostly good condition but it was too early to determine any cold weather damage. Nebraska winter wheat was mostly fair to good, with spotty snow cover across the State. Needed snow cover arrived in Montana but was accompanied by bitter cold temperatures. Snow preceded the second arctic front in Oklahoma and provided insulation for the wheat crop. Some wheat fields in the High Plains of Texas sustained light freeze damage, but dry conditions were more of a concern for producers. Winter wheat in central and eastern Washington and parts of Idaho had been damaged by strong winds and cold temperatures. Snow provided insulation for the Kansas winter wheat crop, while the cold weather was detrimental to the greenbug population. Treatment for armyworms was necessary in south-central Kansas. Snow cover for wheat was mostly adequate in North Dakota and Utah.

SOYBEANS: Texas soybean harvest was virtually complete, with poor yields in the Blackland area due to hot, dry weather during the growing season.

COTTON: Cotton harvest in Arizona was complete in most areas with limited second pickings. Texas cotton harvest was 98 percent (%) complete, 7 points behind the 5-year average. Cold weather delayed the completion of harvest in the Low Plains.

OTHER FIELD CROPS: Tobacco bed preparation in Georgia was slowed by wet soil. Texas peanut harvest was virtually complete, with some good yields. Burley stripping continued in Kentucky.

FRUIT AND NUTS: Major citrus fruit damage was sustained in the central valleys of California, with tree damage still being assessed. In the southern areas, the temperatures were less extreme,

with damage varied by area. Most fresh citrus had been picked. Very little fresh fruit will be available for the rest of the year. Ten to twenty percent of the avocado crop was lost. Arizona citrus was in fair to good condition despite cold temperatures. Light frost damage was reported in selected groves. Apple shipping continued in eastern Arizona, while pecan harvest continued statewide. Texas growers reported only minor leaf burn on citrus trees. Pecan harvest was almost complete with yields poor to good. Mississippi pecans were 98% harvested. Georgia pecan harvest was virtually complete. Citrus grove irrigation continued in Florida, but the trees were in very good condition.

VEGETABLES: California broccoli, cauliflower, and celery harvests were significantly reduced due to the cold temperatures. The strawberry crop will be delayed until new blooms develop. Florida vegetable harvest was slowed by the holidays. The first watermelons were planted in the Immokalee area. Vegetable harvest in Arizona was slowed by the cold temperatures, with harvest limited to the afternoon hours. Mixed vegetable harvest continued in the west and central areas. The Rio Grande Valley of Texas had only minor leaf damage due to the freeze. The San Antonio Winter Garden area had no major freeze damage; however, the fall planted onions and other leafy vegetables were set back slightly.

PASTURES AND LIVESTOCK: Pasture and livestock were in mostly good to fair condition. Cold weather in the upper High Plains, Wyoming, and Montana caused stress in livestock and increased feed requirements. Winter pastures in Texas were strained by freezing temperatures. Hay supplies were adequate in Idaho.

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 1.00 to 3.00 in. north; 1.00 in. central; less than 0.25 in. south. Temperatures 2° above normal.

Wet conditions limited field activities north. Previous week heavy rainfall north caused localized flooding; some fences, farm equipment damaged. Freezing temperatures south damaged few vegetable crops. Primary activities: General care of livestock, poultry, catfish, including providing supplemental feed.

ARIZONA: Frigid air mass moved across State, record low temperatures 23rd. Mixture sunshine, high clouds, very slow warming trend prevailed 24th through 27th. Snow, rain, fog covered State 28th, 29th. Moderate to heavy snow north, central mountains. Snowfall 1.00 to 8.00 in.; rain 0.25 to 1.00 in. Skies gradually cleared evening 29th. Temperatures 3 to 19° below normal.

Cotton harvest is complete most producing areas, harvest activity limited second pickings; stalk shredding, disking, plow down activities progressed normally. Sheep grazing alfalfa fields moderate to active; new stands, stand renovation activities mostly normal except Maricopa, Pima, Santa Cruz counties, progress reported below normal; crop fair condition due to frost damage west. Wheat, barley good; to date, 85% acreage seeded, same 1989; 65% stands established, 60% 1989; stands rated mostly good. Citrus, vegetable crops fair, good despite cold temperatures; frost damage reported selected citrus groves, vegetable fields; vegetable harvest progress slowed due to freezing temperatures; harvest limited to afternoon hours. Damage to citrus crop reported light; groves frost protected; growers optimistic no significant damage occurred. Mixed vegetable, citrus harvest continued west, central. Apple shipping continued east. Pecan harvest, packing continued statewide.

ARKANSAS: Very cold week, except for a brief warm spell early part of weekend. Precipitation mainly rain in extreme south central, southeast; elsewhere much of the precipitation fell as freezing rain, sleet, or snow. Extremes 5°; 77°. Rainfall 0.74 to 4.58 in.

Wheat crop good, to early to determine any cold weather damage. Poultry fair to good, heavy demand placed on fuel for heating. Livestock fair to good.

CALIFORNIA: Arctic air gripped State, brought record low temperatures, little or no precipitation most areas. Some warming mid week, second Arctic express moved in late week. Temperatures dropped nearly as low as early week. All time record lows broken many areas. Gusty northeasterly winds aided in destruction. High pressure prevailed off coast.

Field activities slowed, cold weather. Ground preparation, seeding small grains continued. Pre irrigation, field preparation 1991 cotton crop progressed. Newly emerged alfalfa, oats, wheat showed cold stress. Freeze damage possible over wintered sugarbeets. Newly planted crop also frozen some areas. Damage extent too early to assess. Alfalfa received herbicide applications. Ten nights below freezing temperatures. Major citrus fruit damage central valley, very little fresh use rest of season. Tree damage being assessed. Normal winter cultural practices non citrus fruit slowed due to cold weather. Southern

areas temperatures less extreme. Damage varied by area. Fresh citrus picked. Avocado crop 10 to 20% loss. Broccoli, cauliflower, celery harvest much reduced due to extremely cold temperatures. Strawberry crop curtailed until new blooms develop.

Cattle on supplemental feed, average to good. Range poor to very poor southern two thirds of State, poor to good northern third. Water supplies short some pastures. Sheep continued grazing, crop residues.

COLORADO: Light snow in mountains early in the week. Temperatures warmed at mid week with gusty winds along eastern foothills. The second Arctic blast of the season moved across the State on 28th, 29th. Some light snow accompanied the Front, no significant accumulations occurred outside the mountain areas.

FLORIDA: Temperatures 3 to 7° above normal, north, 7 to 10° above, central, south. Warmest readings 80° north to mid, upper 80s central, south. Coolest lows mid 20s, Panhandle to around 40° central; low, mid 50s southern interior. Scattered rains during week generally under 0.10 in. north. Most totals central, south under 0.50 in.; over 1.00 in. only isolated areas.

Soil moisture remained short, most of State, except parts of eastern Panhandle, few Peninsula areas mostly along south central coasts. Previous weeks rains parts of Panhandle, upper northern Peninsula gave fall, winter seeded grains much needed boost. Light rains during week beneficial, but more rain needed, most areas. Pastures 20% poor, 55% fair, 25% good. Panhandle, upper Peninsula cattle very poor to good; southern Peninsula fair to good. Citrus trees very good. Rain needed, irrigation continued. Temperatures warm. Lakes, ponds, streams low. Christmas slowed all harvesting. Caretakers very active cutting cover crops. Mild temperatures continued over vegetable producing areas. Rainfall again limited. Harvest many crops slowed by Holiday. Volume leaders: Tomatoes, peppers, celery, cucumbers, cabbage, squash. Also lettuce, sweet corn, snap beans, radishes, carrots available. First spring watermelons planted Immokalee area.

GEORGIA: Week of temperature change. Highs on 24th mid 30s north, upper 40s south. Clouds and fog kept temperatures 40s north, 60s south through 28th; by 30th highs upper 60s north, 80 south. Lows 25th teens north, upper 20s south. Lows 40s north, 50s central, south. Temperatures normal north, central; above normal south. Extreme highs 70 north, 80 south. Coldest lows teens north, mid, upper 20s central, south. Showers northern half of State. Amounts 1.00 to 2.00 in. near Tennessee border, under 0.50 in. elsewhere north. Only scattered showers southern half, amounts under 0.10 in.

Soil moisture adequate to surplus. Rain and fog limited fieldwork. Pecan harvest virtually complete. Wet soils hampered wheat seeding, onion planting. Condition fair. Tobacco bed preparation slowed. Pastures fair. Cattle and hogs good.

HAWAII: Improvement in weather. Showery early in the week. Clear conditions from mid week. Winds 10 to 25 mph. gusty during second half of week. Temperatures upper 50s to low 80s, cooler

temperatures late in week. Rainfall 0.03 to 3.00 in.

Days suitable for farm work 7.0. Papaya production steady, disease a problem. Sugar production on limited scale. Ginger root harvest began, heavy volume expected.

IDAHO: No weather data available.

Adequate amounts of soil moisture reported in north; rest of State short. Cold weather may have damaged some winter wheat in North. Farm activities included feeding livestock, financial planning, shop work. Hay, roughage supplies adequate. Livestock condition good to excellent. Cold weather conditions hard on livestock.

ILLINOIS: Temperatures 5 to 10° below normal north, central; 5 to 8° below normal south. Precipitation generally 1.00 to 2.50 in., isolated areas more than 3.00 in.

Soil moisture mostly adequate to surplus. Winter wheat mostly good to excellent.

INDIANA: Temperatures 3 to 9° below normal. Lows single digits to upper 20s, highs mid 20s to mid 30s. Precipitation 1.00 to 4.00 in.

Almost no field activity do to cold wet weather. The first major winter storm occurred leaving snow covered fields. Other activities: Celebrating the holidays, hauling manure, machinery repair, purchasing supplies, tax preparation, care of livestock. Livestock good. Wheat mostly good condition. Heavy rain some areas, ponding, flooding in some fields.

IOWA: Temperatures 9 to 15° below normal. Extremes 29°; 39°. Precipitation 0.03 to 0.93 in.; average 0.21 in. Snow cover 410 in. north; 0.01 in. central, south. Livestock mostly good. Snow cover limiting wind erosion.

Main activities include: Tending livestock, working on taxes, machinery repair, planning next spring's crops.

KANSAS: Temperatures 15° below normal west, 12° below central, east. Precipitation average 0.01 in. northwest to 0.08 in. east central, southeast.

Snow provided additional snow cover, moisture. Cold weather aids in keeping greenbug populations down. Treatment army worms south central necessary as weather permits, to prevent loss of wheat, seedling alfalfa.

KENTUCKY: Weather data not available due to holiday.

Heavy rains, snow limited agricultural activity across the State. Soil moisture surplus with ponding, flooding most areas. Snow mostly gone. Temperatures swings 60s to teens stressed livestock. Burley market to reopen 7th. Burley stripping continued.

LOUISIANA: Temperatures 0.6° above normal to 8.9° below normal. Extremes 13°; 79°. Rainfall 0.22 to 2.40 in.

Main activities: Caring for livestock, crawfishing, general farm maintenance.

MARYLAND & DELAWARE: **MARYLAND:** Precipitation 1.62 in. Temperature 39.4°, normal 34.4°. Extremes 12°; 72°.

Activities for the week: Repairing fence; hauling manure; spreading fertilizer; maintaining machinery; caring for livestock.

DELAWARE: Precipitation 1.48 in. Temperature 40.7°, normal 35.5°. Extremes 18°; 70°.

Activities for the week: Repairing fence; hauling manure; spreading fertilizer; maintaining machinery; caring for livestock.

MICHIGAN: Temperatures 4 to 9° below normal. Extremes -18°; 55°. Precipitation 0.18 to 1.83 in. across the State. State experienced freezing rain, snow during the first part of the week. By late week warmer temperatures with rain melted most of the snow cover. Snow, colder temperatures returned by the end of the weekend. With the cold weather most of the livestock remained indoors.

Major activities included: removing snow, purchasing seed for spring planting, caring for the livestock, making winter repairs on equipment.

MINNESOTA: Extremes 30°; 39°. Snow fall traces to 4.00 in. Precipitation near normal in west to 0.19 below normal in the east. Precipitation total 0.03 to 0.22 across the State. Greatest weekly total 0.22 in. at Alexandria.

MISSISSIPPI: Temperatures 4° below normal. Extremes 10°; 79°. Rainfall averaged near normal. Rainfall 1.06 in., 0.20 in. below normal. Soil temperatures 46°.

Days suitable for fieldwork 1.2, 1.5 1989, 2.5 avg. Soil moisture 11% adequate, 61% surplus, 28% excessive. Pecans 98% harvested. Pasture 59% poor, 22% fair, 19% good. Livestock 31% fair, 69% good. Hay, roughage 63% short, 37% adequate. Feed grain 25% short, 75% adequate. Activities: Taking care of livestock, farm planning.

MISSOURI: Temperatures several degrees below normal all areas. Precipitation 0.50 to 1.00 in. northern, west central districts, mostly 2.00 to 3.00 in. southern districts.

Colder weather and snow causing more care and feeding of livestock. Outside work limited due to weather and holiday season.

MONTANA: Arctic air dropped temperatures 15 to 24° below normal statewide. Snowfall wide spread with largest amounts west.

Winter wheat condition remains mostly fair to good. Much needed snow cover arrived, accompanied by bitter cold temperatures. Very little protective snow cover was available prior to the storm. Livestock were under extreme stress during the week, nearly all herds receiving supplemental feed as grazing becomes difficult.

NEBRASKA: Temperatures 10 to 15° below normal. Extremes -30°; 41°. Light precipitation mostly in form of snow fall throughout the week. Heaviest amounts in eastern third of State where up to four in. fell.

Winter wheat 5% poor, 53% fair, 42% good. Snow cover spotty across State, greatest amounts west, north, northeast, east. Difficult to tell at this time if crop was damaged by cold. High winds caused blowing of hilltops, Panhandle. Lack of subsoil moisture still a major concern. Light snow over weekend will give added cover. Pasture, range 31% poor, 52% fair, 17% good. Feed grain supplies average to above average. Hay, forage supplies average. Snow depths not great enough to prevent stalk grazing, although supplemental feeding was required. Weight gains reduce, weather death losses very small. Most farm stored grain in good condition, some reports of grain heating, spoiling. Main activities: Livestock care; bookwork; equipment maintenance; moving hay, grain; some tillage, fertilizer application first half of month.

NEVADA: Temperatures below normal. Extremes -37°; 59°. Precipitation none to 0.28.

Record cold temperatures continued across much of the State during the week. High temperatures were frequently below zero in some northern areas. Major farm, ranch activities include livestock feeding, ice chopping, general maintenance.

NEW ENGLAND: Precipitation 0.30 to 2.40 in. Temperatures teens northern Maine, low 20s to low 30s rest of north, high 20s to mid 30s south. Maximum temperatures low 40s north to mid 60s south; minimum temperatures -24° north to 20° south. Major farm activities: Tending livestock, general repairs, maintenance.

NEW JERSEY: Temperatures near normal, 30° south, 34° north, 40° coastal. Extremes 14°; 69°. Precipitation above normal, averaged 1.09 in. north, 1.23 in. south, 1.56 in. coastal. Heaviest 24 hour total 1.21 in. on 27th, 28th.

Farmers caring for livestock, tending to other normal winter chores.

NEW MEXICO: For the second consecutive week temperatures were well below normal for the State. Anomalies 15° below normal in the north, 5° below normal in the south. Extremes -33°; 71°. Most areas of the State received some precipitation. Higher amounts included 0.46 in. at Deming, 0.43 in. at Chama.

NEW YORK: Unseasonably mild the eastern Plateau eastward with temperatures in the 50s, 60s. During the day a leading edge of colder air moved east through New York State. Snowfall affected the areas downwind of the Great Lakes on the 24th as temperature became seasonable. The 25th was cold, dry as high pressure dominated. More cold air filtered in on the 26th bringing flurries, snow squalls south of Buffalo on Watertown. Temperatures on 27th were sub normal. The northern Plateau, St. Lawrence, Champlain Valley division had widespread sub zero lows. Several spots were below -10°. The 28th brought 3.00 to 7.00 in. snowfall to the eastern half of New York as warm air overrode colder air. On the 29th a third of an inch or less of rainfall occurred across the State as a moist southerly flow was established over the region.

Major activities included general farm maintenance, celebrating the holidays.

NORTH CAROLINA: Temperatures 1 to 2° below normal in the Mountains, 2 to 4° above in the Piedmont, 10° above at the Coast. Extremes 6°; 78°. Precipitation none to 6.05 in.

Days suitable for fieldwork 2.9. Soil moisture 8% short, 69% adequate, 23% surplus. Pasture 2% very poor, 13% poor, 36% fair, 47% good, 2% excellent. Livestock feed from pasture 42%. Crop condition: Wheat 22% fair, 76% good, 2% excellent; oats 24% fair, 74% good, 2% excellent; barley 30% fair, 67% good, 2% excellent; rye 2% poor, 24% fair, 72% good, 2% excellent. Hay and roughage supplies 9% short, 85% adequate, 6% surplus. Feed grain supplies 2% short, 94% adequate, 4% surplus.

NORTH DAKOTA: Temperatures 15° below normal east central to 19° below normal southwest, south central. Extremes -44° north central; 35° southwest. Mostly dry statewide. Precipitation 0.02 in. south central to 0.10 in. northwest, north central.

Soil moisture below normal. Snow cover mostly adequate to protect winter seedlings and alfalfa. Cattle mostly good, snow cover has reduced dust pneumonia in feedlots. Hay supplies adequate.

OHIO: Daily high temperatures low 30s to low 40s; 2° above normal. Lows mid teens to upper 20s. Precipitation mostly in excess of 1.00 in. to 0.50 in. around the State. Some rain accumulation was over 2.00 in.

Livestock fared well over the last period with a little snow in parts of the State on the 25th. Farm activities included machinery repair, mending fences.

OKLAHOMA: Temperatures 8° below normal southeast to 14° below normal panhandle. Precipitation 0.01 in. panhandle to 1.57 in. east central.

Snow preceded second arctic front providing insulation for wheat crop. Wheat remained mostly good. Hay feeding active. Cattle mostly good. Cold weather, holidays essentially slowed auction markets to insufficient volumes.

OREGON: Temperatures 10 to 15° below normal west, 15 to 26° below normal east. Precipitation mostly snow, moisture equivalent 1.50 in. at Laurel Mountains in coast range, about 0.50 in. rest of northwest. Remainder of State had light precipitation except northeast water equivalents 0.30 to 0.70 in.

Soil moisture adequate west; short east, except northeast mountains adequate. Wheat mostly snow covered, some concern about winterkill from temperatures below 10° Columbia Basin. Fieldwork halted by snow, rain Willamette Valley. Some freeze damage to tree fruit west. Greenhouse vegetables frosted Willamette Valley. Cold spell challenging potato, onion storage operators. Livestock mostly fair to good. Range, pasture poor to fair, mostly snow covered east. Range, pasture poor to fair; mostly snow covered east. Ranchers broke ice for stockwater several times a day southeast.

PENNSYLVANIA: Wet week, started out cold, ended up mild. Temperature 29°, at normal. Extremes 4°; 66°. Precipitation 1.55 in, 0.86 in. above normal.

Activities: Spreading fertilizer; maintaining machinery, caring for livestock.

PUERTO RICO: No Data Available.

SOUTH CAROLINA: Temperatures 3 to 4° above normal along the coast to near normal northwest. Rainfall 1.00 in. mountain to 0.50 in. elsewhere.

SOUTH DAKOTA: Week remained very cold with a little warming mid week. Extremes -42°; 41°. Temperatures 12 to 25° below normal. Light snow in Black Hills. Melted precipitation generally less than 0.10 in.

TENNESSEE: Mid week, late week showers caused flood damage many areas. Rainfall 1.00 to 2.00 in. above normal. Most rainfall 3.89 in. Dyersburg. Temperatures below normal. Lows teens. Early week highs 30s; late week highs 60s, 70s. Tobacco markets closed for holidays. Primary activities: Bookkeeping; livestock, farm chores. Winter wheat good. Adequate hay supplies.

TEXAS: Two arctic cold fronts responsible for weather patterns during past week. First front moved across before Christmas, cold air remained much of Christmas week. Moisture rode over top of shallow dome of cold air, bringing variety of precipitation. Heavier showers with an upper air disturbance occurred in eastern areas day after Christmas. Second arctic front passed over the weekend reinforcing very cold air. Temperatures below normal statewide with readings of 10 to 12° below normal in High Plains, north. Precipitation significantly above normal over eastern areas because of heavy rains after Christmas. Precipitation 0.75 to 1.50 in. above normal. Elsewhere, amounts near or slightly below normal.

Crops: Cotton harvest near complete. Weather conditions delaying factor, some fields in Low Plains remain unharvested. Yields grades continue good. Cotton harvested 98%, 100% 1989, 91% avg. Cold weather essentially stopped small grain growth. Some wheat oat fields in Plains received light freeze damage, cold, dry conditions concern

most producers. Insects continue problem in Low Plains, Cross Timbers, Blacklands. Cold weather should help control populations. Statewide wheat condition is rated at 74% of normal compared with 40% 1989. Wheat 100% emerged, 100% 1989, 99% avg. Soybean harvest virtually complete throughout growing areas. Producers in Blacklands contribute poor yields hot, dry weather poor conditions during growing season. Poor growing conditions whitefly damage combined lower yields in Rio Grande Valley. Peanut harvest virtually complete. Statewide yields for 1990 crop have been very good. Other field crops: Peanuts 100% harvested, 100% 1989, 99% avg. Pecans 90% harvested, 94% 1989, 92% avg. Soybeans 98% harvested, 100% 1989, 98% avg. Sugarbeets 100% harvested, 100% 1989, 96% avg. Sunflowers 97% harvested, 100% 1989, 99% avg. Oats planted 98%, 99% 1989, 98% avg.

Commercial Vegetables: Rio Grande Valley, most vegetable fields escaped freeze with only minor leaf damage. Growers reported only minor leaf burn citrus trees. San Antonio Winter Garden, fall planted onions set back slightly freezing weather as other leafy vegetables. However, no major damage reported. Pecan harvest wind down most areas except Plains. Yields remained good Plains, grades varied poor good.

Range and Livestock: Livestock remained good condition spite cold winter air. Ranges pastures continue deteriorate. Winter pastures strained by freezing temperatures. Supplemental feeding heavy during cold spell. Moisture is needed most areas except eastern areas. Range, pasture 3% very poor, 11% poor, 47% fair, 33% good, 6% excellent.

UTAH: Light precipitation few areas. Temperatures 25 to 15° below normal.

Snow cover good for fall seeded crops. Extreme cold temperatures slowed farm activities, causes concern for survival of fruit trees. Major farm activities: Care, feeding livestock; maintenance of farm equipment, buildings; year end tax reports, financial planning, attending meetings.

VIRGINIA: Temperatures slightly above normal. Extremes 9°; 74°. Precipitation was above normal across the State.

Days suitable for fieldwork 1.9. Topsoil moisture 1% short, 84% adequate, 15% surplus. Winter grains, grazing crops condition 7% poor, 45%

fair, 48% good. Forage from pastures, winter grazing crops dairy cattle 11%, beef cattle 35%, sheep 36%. Producers were busy with livestock care, equipment repair, tax preparations, tobacco grading.

WASHINGTON: Temperatures 18 to 22° below normal, east; 10 to 16° below normal, west. Precipitation none to 0.41 in. east; 0.37 to 1.18 in. west.

Days suitable for fieldwork 0.1. Soil moisture 50% short, 45% adequate, 5% surplus. Range, pasture 10% very poor, 32% poor, 30% fair, 28% good. Hay, other roughage 4% short, 96% adequate. Winter wheat 3% very poor, 27% poor, 25% fair, 45% good. Barley 3% very poor, 30% poor, 42% fair, 25% good. Weather continued cold during the week. Crop damage has occurred to fruits, berries, winter wheat. Winter wheat has been damaged by strong winds, extreme cold temperatures in central, eastern areas. The extent of the damage is unknown at this time. Livestock producers continue to supplement winter feeding programs. Frozen pipes in western areas increased the difficulty of animal care.

WEST VIRGINIA: Temperature 34°. Extremes 4°; 73°. Precipitation avg. 2.18 in., well above normal with some flooding in the northwestern, north central, central, southwestern parts of the State.

Days suitable for fieldwork 1.4. Soil moisture 12% short, 13% adequate, 75% surplus. Wheat 36% fair, 64% good. Barley good. Cattle, sheep good condition. Hay feed supplies 65% adequate, 35% surplus. Other feed supplies adequate. Farm activities: Feeding livestock, general maintenance.

WISCONSIN: Temperature 8°. Extremes -30°; 38°. Very cold week. Light snow 1.00 to 2.00 in. 26th northern, central areas. Freezing rain on 28th, 29th mainly south. Snow 30th 1.00 to 3.00 in. central, southern areas. Frost depth 6.50 in., 7.60 in. 29 year average. Snow depths 5.60 in., 6.30 in. average.

WYOMING: Bitterly cold weather continued with temperatures 12 to 26° below normal. Precipitation mostly below normal.

Winter wheat fair to good. Freeze, wind damage reported. Additional moisture, snow cover needed. Livestock mostly good. Cold temperatures causing stress, increasing feed requirements.

DECEMBER 1990

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

*** = DATA NOT AVAILABLE

International Weather and Crop Summary
HIGHLIGHTS

December 23-29, 1990

WESTERN USSR ... Light precipitation, mainly snow, covers dormant winter grains.

NORTHWESTERN AFRICA ... Soaking rain benefits winter grains in Tunisia. Minimal rain covers Moroccan winter grain areas.

EUROPE ... Widespread light to moderate precipitation accompanies a warming trend, favoring winter grains.

EASTERN ASIA ... Beneficial showers cover the Yangtze Valley. Moderate to heavy rain soaks western Japan.

SOUTH ASIA ... Seasonably dry, warm weather benefits vegetative winter wheat and allows summer crop harvests.

SOUTHEAST ASIA ... Heavy rain over Java increases reservoirs but possibly damages some newly planted rice.

SOUTH AFRICA ... Light to moderate rain covers the Maize Triangle. Hot weather stresses emerging corn in the west.

SOUTH AMERICA ... In Argentina, periodic showers and intervals of dry weather favor crops. In south-central Brazil, adequate moisture promotes soybean growth.

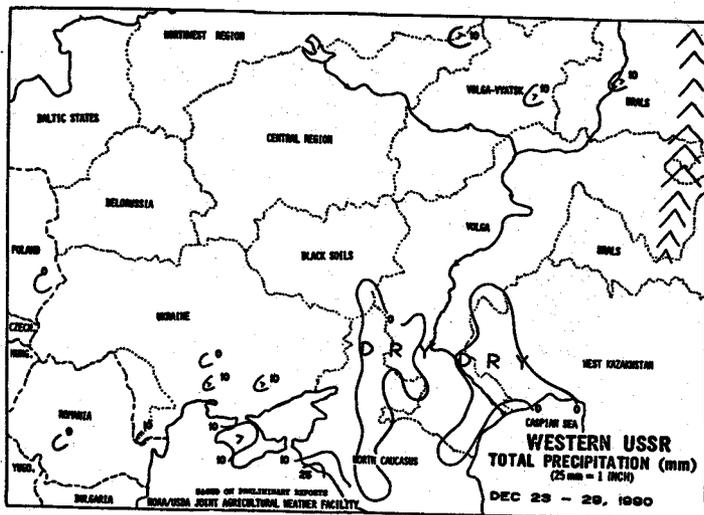
AUSTRALIA ... Tropical Cyclone Joy inundates Queensland's east-central coast.

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG	AVG	HI	LO	DPART	F/NRMM	TOTAL	DPART
		MAX	MIN	MAX	MIN	AVG	F/NRMM	TOTAL	F/NRMM
NORWAY	OSLO	-1	-6	9	-15	-3	1.7	85	17
SWEDEN	STOCKHOLM	2	-1	9	-10	1	0.9	37	-9
FINLND	HELSINKI	1	-3	6	-12	-1	2.1	59	3
U KING	GLASGOW	7	2	12	-6	4	-0.4	140	23
	EDINBURGH	6	2	13	-4	4	0.1	75	16
	BIRMINGHAM	7	3	13	-4	5	0.1	68	3
	LONDON	7	2	12	-5	5	0.2	64	-13
IRELND	DUBLIN	7	3	13	-2	5	-0.7	79	0
ICELND	REYKJAVIK	2	-2	8	-10	0	-0.4	107	31
DENMRK	COPENHAGEN	4	1	9	-6	2	-0.1	23	-27
LUXEMB	LUXEMBOURG	2	-1	11	-7	1	-0.4	97	21
SWITZL	ZURICH	2	-2	11	-7	0	-0.3	65	-10
	GENEVA	4	-1	11	-8	1	-0.6	41	-40
FRANCE	PARIS	6	2	14	-5	4	-0.4	28	-23
	STRASBOURG	3	-1	15	-9	1	-0.4	19	-14
	BOURGES	5	1	14	-6	3	-1.1	37	-24
	BORDEAUX	8	2	20	-5	5	-1.4	43	-61
	TOULOUSE	6	1	15	-5	3	-2.6	22	-37
	MARSEILLE	8	1	15	-4	5	-2.6	24	-39
SPAIN	VALLADOLID	8	-1	12	-8	4	-0.6	20	-21
	MADRID	10	0	15	-7	5	-1.1	10	-36
	SEVILLE	16	6	20	1	11	-0.2	37	-41
GERMNY	LEIPZIG	3	0	10	-5	1	0.0	32	-6
	DRESDEN	3	-1	9	-8	1	0.5	26	-11
	HAMBURG	4	1	9	-5	3	0.5	60	-11
	BERLIN	3	-1	9	-7	1	-0.4	68	19
	DUSSELDORF	5	2	11	-3	4	0.5	93	35
	STUTTGART	2	-2	13	-10	0	-0.5	66	20
	NURNBERG	2	-2	9	-11	0	-0.3	30	-20
	MUNICH	2	-4	14	-14	-1	-0.9	50	-2
AUSTRI	VIENNA	2	-2	7	-9	0	-0.8	43	6
	INNSBRUCK	2	-5	12	-14	-2	-0.8	31	-21
CZECH	PRAGUE	1	-3	10	-12	-1	-0.2	24	-1
POLAND	WARSAW	2	-2	9	-9	0	0.3	20	-12
	LODZ	1	-2	8	-10	-1	0.3	31	-11
	KATOWICE	2	-3	9	-13	-1	0.2	27	-17
	PRZEMYSL	1	-3	9	-12	-1	-0.8	35	-5
HUNGAR	BUDAPEST	3	-1	6	-7	1	0.0	38	-3
YUGOSL	SARAJEVO	2	-2	13	-9	0	0.5	112	8
ROMANI	BUCHAREST	4	-1	13	-12	2	1.4	35	-12
BULGAR	SOFIA	4	-1	10	-7	2	1.5	88	25
ITALY	MILAN	4	-4	12	-7	1	-1.7	31	-35
	VERONA	7	-3	13	-7	2	0.4	53	2
	VENICE	7	1	11	-3	4	0.2	39	-27
	GENOA	10	5	14	2	7	-1.9	94	-13
	ROME	12	4	16	-1	8	-1.1	126	39
	NAPLES	12	5	17	-1	9	-0.6	126	7
GREECE	THESSALONIKA	10	5	18	-1	8	0.4	101	46
	LARISSA	10	4	16	-1	7	0.3	71	15
	ATHENS	15	10	18	5	13	0.1	81	13
TURKEY	ISTANBUL	12	8	16	-1	10	1.8	139	48
	ANKARA	7	-2	16	-10	2	0.7	59	30
CYPRUS	LARNACA	20	10	24	4	15	0.9	16	-88
USSR	TALLINN	1	-3	8	-11	-1	1.1	58	11
	LENINGRAD	0	-4	6	-12	-2	2.3	25	-18
	KAUNAS	0	-3	4	-14	-2	0.7	48	4
	MINSK	-1	-4	3	-11	-3	1.2	51	8
	KAZAN	-5	-9	1	-18	-7	2.1	22	-12
	MOSCOW	-2	-5	3	-11	-3	2.7	18	-26
	SVERDLOVSK	-7	-12	2	-27	-10	2.0	21	-1
	OMSK	-11	-17	2	-29	-14	0.6	26	10
	KUSTANAY	-8	-14	2	-30	-11	2.1	20	2
	KRASNOYARSK	-10	-16	3	-32	-13	1.2	30	6
	NOVOSIBIRSK	-11	-16	1	-31	-13	3.0	20	-3
	BARNAUL	-8	-13	2	-26	-11	3.5	35	3
	KHABAROVSK	-11	-18	1	-31	-14	3.4	35	17
	VLADIVOSTOK	-4	-9	7	-19	-7	2.8	43	27
	KIEV	-1	-4	5	-14	-2	-0.1	41	-3
	LVOV	0	-4	6	-13	-2	-0.1	44	-10
	KIROVOGRAD	-1	-4	5	-13	-2	0.0	73	36

Based on Preliminary Reports

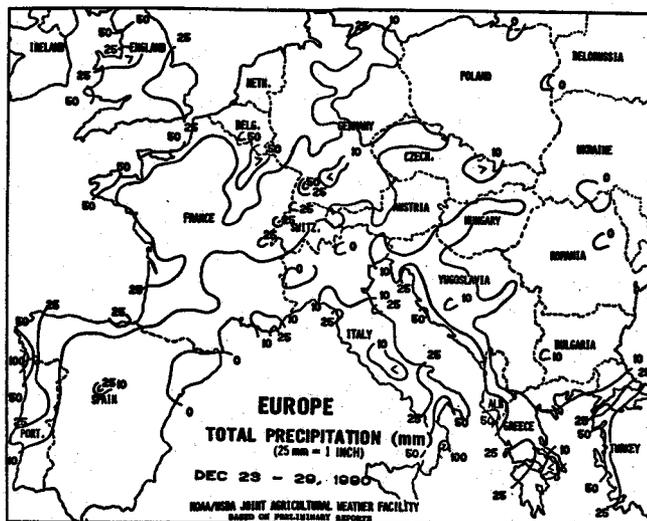
DECEMBER 1990

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG	HI	LO	DPART	F/NRM	TOTAL	DPART	F/NRM
USSR	ODESSA	4	1	11	-5	3	1.2	57	12
	YALTA	9	5	18	-1	7	0.9	69	-11
	VORONEZH	-3	-6	4	-16	-4	0.7	17	-31
	SARATOV	-4	-7	2	-18	-5	2.0	37	6
	KHARKOV	-1	-4	6	-12	-3	0.6	19	-26
	VOLGOGRAD	-1	-5	8	-13	-3	1.9	28	-17
	ROSTOV	1	-3	16	-11	-1	0.7	49	-14
	ASTRAKHAN	1	-4	11	-16	-2	0.6	25	9
	KRASNODAR	5	-1	16	-8	2	0.2	43	-32
	ORENBURG	-5	-10	6	-20	-8	2.2	20	-12
	TSELINGRAD	-10	-16	3	-31	-13	2.1	25	15
	KARAGANDA	-8	-14	4	-26	-11	1.1	43	26
	TBILISI	7	2	19	-4	5	1.0	32	9
	TASHKENT	7	0	23	-15	4	1.3	52	0
	ASHKHABAD	8	-1	27	-13	4	-0.2	28	6
SYRIA	DAMASCUS	17	1	24	-8	9	1.2	6	-40
ISRAEL	JERUSALEM	17	8	27	1	12	1.7	5	-106
PAKIST	KARACHI	27	12	32	5	19	-0.3	0	-8
INDIA	AMRITSAR	20	5	25	1	12	-0.6	0	-15
	NEW DELHI	22	9	26	4	15	-0.5	0	-7
	AHMEDABAD	28	14	32	4	21	-0.1	0	-2
	INDORE	27	12	30	4	19	0.4	7	-2
	CALCUTTA	27	14	29	11	21	0.3	0	-3
	VERAVAL	31	16	34	9	23	-0.1	0	-1
	BOMBAY	32	20	35	17	26	1.3	0	-1
	POONA	29	13	32	9	21	0.0	0	-4
	BEGAMPET	28	17	30	13	23	1.6	0	-6
	MADRAS	29	22	31	14	25	0.7	4	-136
	MANGALORE	33	22	36	19	27	0.6	0	-18
H KONG	HONG KONG	21	17	26	11	19	1.5	0	-26
N KREA	PYONGYANG	1	-9	11	-23	-4	0.5	37	15
S KREA	SEOUL	5	-2	14	-13	1	2.6	25	-7
JAPAN	SAPPORO	5	-1	13	-7	2	3.5	161	56
	NAGOYA	13	4	20	-1	8	2.1	19	-30
	TOKYO	14	7	24	3	10	2.7	39	-17
	YOKOHAMA	14	6	23	2	10	2.4	45	-14
	KYOTO	12	5	19	-1	8	2.7	35	-18
	OSAKA	13	6	18	2	10	2.1	18	-24
THAILN	PHETCHABUN	32	17	35	13	24	0.0	0	-2
	BANGKOK	33	21	35	17	27	1.1	0	-11
MALAYS	KUALA LUMPUR	32	23	34	22	27	1.5	262	32
VIETNM	HANOI	24	18	28	12	21	2.5	15	-6
CHINA	HARBIN	-7	-16	4	-29	-11	6.1	5	0
	HAMI	-3	-15	1	-20	-9	-1.2	0	0
	LANCHOW	4	-7	8	-10	-1	3.9	0	-1
	BEIJING	5	-5	13	-10	-1	1.9	0	-2
	TIENTSIN	4	-4	13	-9	0	1.4	1	-3
	LHASA	9	-9	12	-12	0	0.8	0	0
	KUNMING	15	4	20	-1	9	1.1	4	-9
	CHENGCHOW	9	-3	20	-8	3	2.6	5	-5
	YEHCHANG	12	4	22	-1	8	0.9	8	-15
	HANKOW	11	3	22	-3	7	1.7	37	6
	CHIHKIANG	12	4	24	0	8	0.6	37	1
	SHANGHAI	11	3	22	-6	7	0.8	51	10
	NANCHANG	11	5	23	1	8	0.1	73	25
	TAIPEI	21	17	28	13	19	2.0	7	-67
	CANTON	23	13	29	6	18	2.6	1	-26
	NANNING	22	14	29	7	18	2.7	6	-20
CNRY I	LAS PALMAS	22	17	27	13	19	1.6	65	35
MOROCC	CASABLANCA	18	11	26	7	15	1.7	103	5
	MARRAKECH	19	8	28	3	14	2.0	21	-11
ALGERI	ALGER	17	6	22	3	12	-0.1	50	-72
	BATNA	10	-1	16	-6	4	-1.7	6	-24
TUNISI	TUNIS	15	7	19	1	11	-1.3	173	121
NIGER	NIAMEY	36	20	39	15	28	2.9	0	0
MALI	TIMBUKTU	30	16	37	10	23	0.8	0	0
	BAMAKO	33	21	38	17	27	2.5	0	0
MAURIT	NOUAKHOTT	30	16	39	11	23	1.6	0	-6
SENEGL	DAKAR	25	20	33	15	23	0.0	0	0
CHAG A	DIEGO GARCIA	29	26	32	21	28	0.4	292	28
LIBYA	TRIPOLI	17	8	26	4	12	-1.2	24	-42
	BENGHAZI	18	11	21	8	15	0.5	13	-52
EGYPT	CAIRO	22	12	28	8	17	1.8	0	-7
	ASWAN	28	16	31	11	22	4.5	0	0
ETHIOP	ADDIS ABABA	23	7	25	1	14	-1.6	0	-18
KENYA	NAIROBI	24	14	28	10	19	-0.1	60	-12
	TANZAN DAR ES SALAAM	31	23	33	21	27	0.0	55	-46
GABON	LIBREVILLE	29	24	30	17	26	0.0	203	-133
TOGO	LOME	32	24	33	22	28	1.0	32	23
B FASO	OUAGADOUGOU	35	20	38	17	27	1.9	0	0
IVRY C	ABIDJAN	31	25	32	21	28	1.0	97	-5
MOZAMB	MAPUTO	28	22	35	19	25	-0.6	110	19
ZAMBIA	KAWE	28	18	32	17	23	1.8	187	-64
ZIMBAB	HARARE	27	17	30	14	22	1.8	50	-135
S AFRI	PRETORIA	29	17	31	15	23	1.8	103	-8
	KROONSTAD	30	16	34	9	23	1.2	99	25
	JOHANNESBURG	26	14	30	11	20	1.1	105	-3
	BETHAL	25	13	30	9	19	0.2	192	72
	DURBAN	26	20	31	17	23	0.4	120	15
	CAPE TOWN	25	15	34	12	20	0.7	17	1
CANADA	TORONTO	3	-5	13	-16	-1	2.2	113	48
	MONTREAL	0	-9	8	-19	-4	2.5	149	62
	WINNIPEG	-12	-21	6	-36	-16	-2.5	20	1
	REGINA	-11	-23	10	-40	-17	-4.6	14	-3
	SASKATOON	-13	-24	6	-39	-19	-4.6	9	-10
	LETHBRIDGE	-4	-16	10	-37	-10	-4.8	24	2
	CALGARY	-5	-17	11	-34	-11	-3.0	13	-4
	EDMONTON	-8	-18	9	-34	-13	-2.9	28	3
	VANCOUVER	4	-2	10	-14	1	-3.1	202	20
MEXICO	GUADALAJARA	21	7	27	2	14	-1.5	0	-17
	MEXICO CITY	23	8	28	3	15	3.0	12	-4
	ACAPULCO	32	23	33	21	27	0.5	1	-6
BERMUD	ST. GEORGES	22	18	32	14	20	1.6	55	-61
BAHAMA	NASSAU	27	19	29	12	23	1.4	6	-42
CUBA	HAVANA	27	20	30	16	24	1.5	37	-12
JAMAIC	KINGSTON	31	23	33	21	27	1.0	8	-30
P RICO	SAN JUAN	29	22	31	19	25	-0.2	128	16
GUADEL	RAIZET	30	21	31	17	25	1.0	55	-47
MARINO	LAMENTIN	30	23	31	18	27	2.2	12	-134
BARBAD	BRIDGETOWN	29	23	29	19	26	0.1	34	-69
TRINID	PORT OF SPAIN	31	22	33	14	27	1.5	49	-86
COLOMB	BOGOTA	19	8	21	3	13	0.5	53	-6
VENEZU	CARACAS	31	24	33	22	27	1.9	27	-32
F GUIA	CAYENNE	31	23	32	22	27	1.4	63	-274
BRAZIL	FORTALEZA	30	24	31	22	27	-0.4	33	-4
	RECIFE	30	22	30	16	26	-0.4	30	-23
	BELO HORIZONTE	29	19	31	15	24	1.4	199	-82
	CAMPO GRANDE	31	21	35	19	26	1.7	240	49
	FRANCA	28	19	31	15	23	2.3	171	-99
	RIO DE JANEIRO	28	24	32	21	26	0.4	51	-86
	LONDRINA	30	20	34	16	25	1.8	77	-159
	SANTA MARIA	28	18	36	12	23	-0.7	119	-4
	PORTO ALEGRE	27	17	34	11	22	-1.2	139	51
PERU	LIMA	24	18	27	17	21	1.0	1	0
BOLIVI	LA PAZ	15	4	19	1	9	-0.4	58	-43
CHILE	SANTIAGO	29	10	35	6	20	-0.2	0	-2
ARGENT	IGUAZU	31	20	36	15	26	***	117	**
	FORMOSA	32	22	39	16	27	0.0	89	-30
	CERES	29	18	36	12	24	-1.0	252	127
	CORDOBA	28	17	36	11	23	0.0	127	-11
	RIO CUARTO	27	17	33	12	22	0.0	78	-63
	RCSARIO	26	17	32	9	21	-1.4	255	146
	BUENOS AIRES	26	15	33	8	21	-0.7	69	-16
	SANTA ROSA	30	16	38	8	23	0.9	32	-42
	TRES ARROYOS	26	17	31	6	22	2.5	69	-1
MIDW I	MIDWAY ISLAND	23	19	25	15	21	0.6	78	-126
N CALD	NOUMEA	29	23	32	19	26	1.1	9	-56
FIJI	NAUSORI	28	23	31	20	26	0.1	212	-146
SAMOA	PAGO PAGO	30	25	32	22	28	0.5	226	-141
TAHITI	PAPEETE	31	24	33	21	28	1.0	65	-190
N ZEAL	AUCKLAND	22	16						

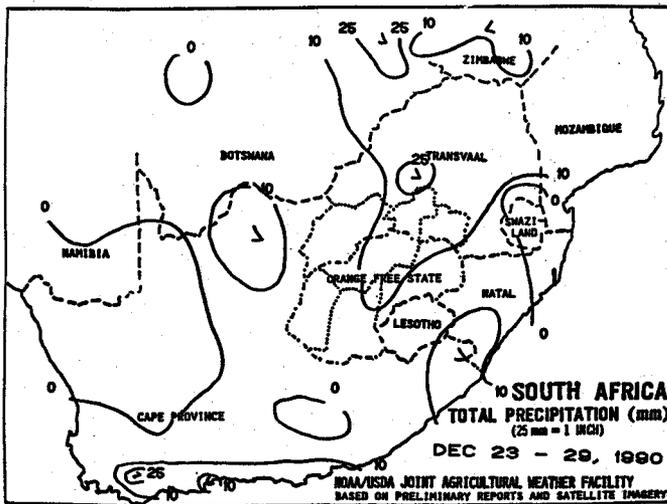
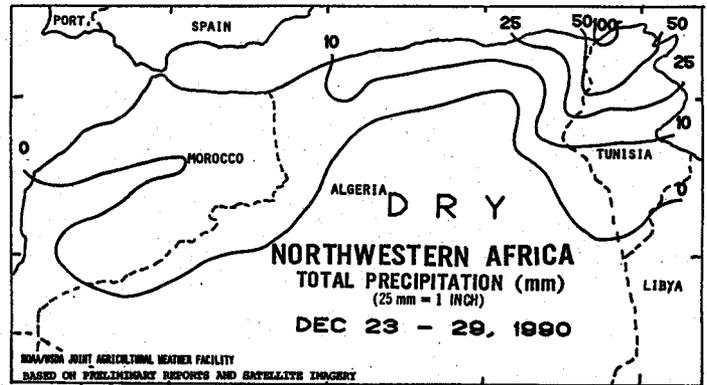


WESTERN USSR ... Light precipitation (generally less than 10mm) fell mainly as snow early in the week. The early-week precipitation ushered in colder weather, with minimum temperatures on the 26th dropping as low as -9 degrees Celsius (C) as far south as the Black Sea coast. Temperatures moderated on the 28th. The combination of a shallow snow cover and short duration of extreme cold reduced the potential for damage to dormant winter grains. Weekly average temperatures ranged 1-3 degrees C above normal in the north and 1-3 degrees C below normal in the extreme south.

EUROPE ... Winter grains remained dormant everywhere, except for Mediterranean areas where the crop was in the early growth stages. Widespread light to moderate precipitation (10-50mm), mainly rain, covered England, France, and Germany, increasing moisture reserves. Light, scattered precipitation (generally less than 5mm) over Poland, Romania, and Bulgaria was accompanied by seasonable temperatures. Widespread precipitation over southern Italy and Greece benefitted vegetative winter grains. Minimal rain (precipitation less than 10mm) covered vegetative winter grains in southern Spain. A warming trend spread eastward across the region, with weekly average temperatures ranging from 2 to 4 degrees above normal in the west and near normal in the east.

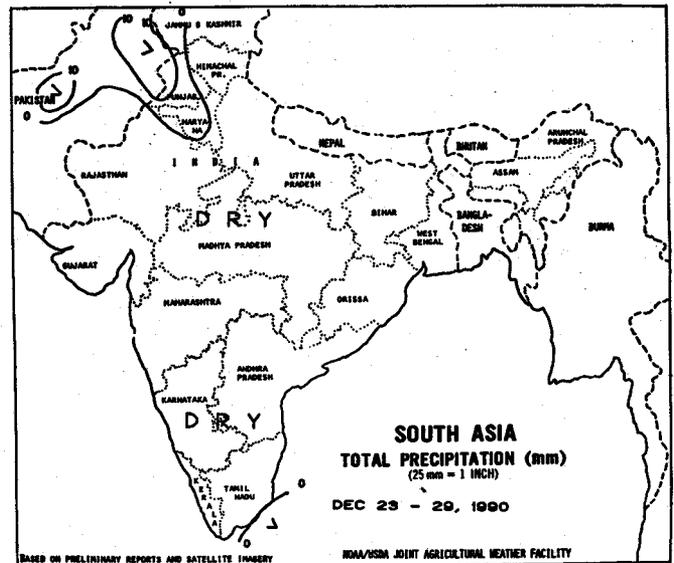


NORTHWESTERN AFRICA ... Soaking rain covered winter grain areas in Tunisia. The precipitation (50-100mm) provided abundant moisture for early growth of winter grains. However, the heavy showers created the potential for local flooding, especially in northern areas where above-normal rainfall since early December has saturated topsoils. Minimal rain (less than 9mm) covered Moroccan winter grain areas. In Algeria, station reports were sporadic during the week. Satellite imagery indicated the likelihood of widespread precipitation on the 26th over most winter grain areas.

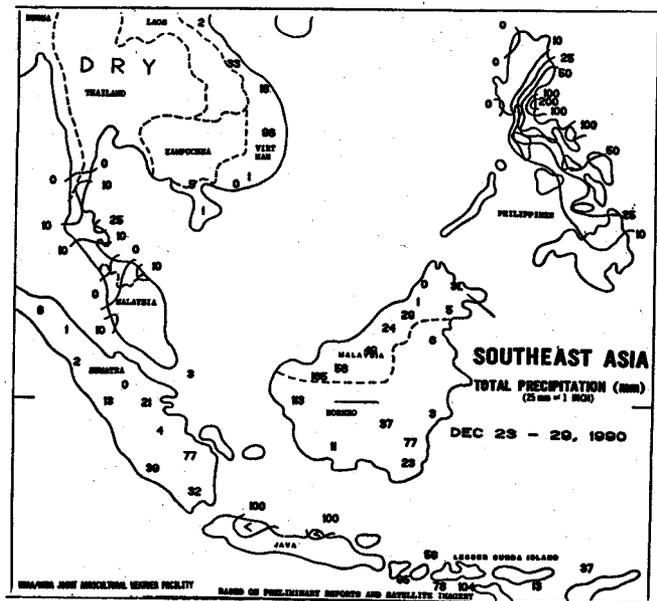
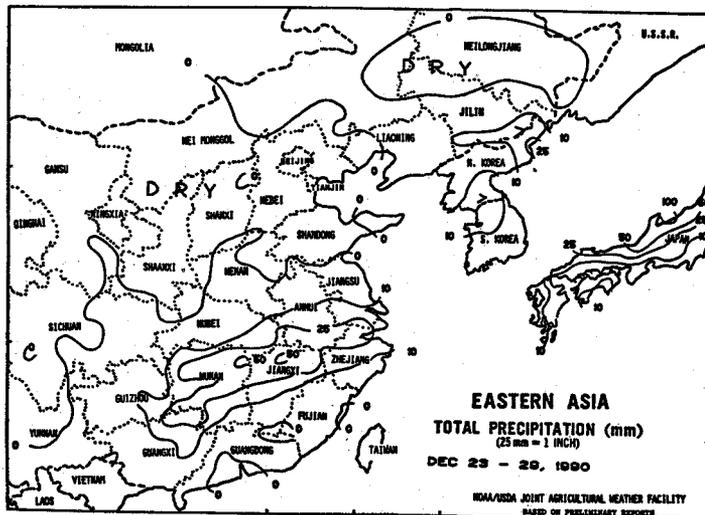


SOUTH AFRICA ... Light to moderate rain (9-34mm) covered corn areas from the west-central to eastern Maize Triangle, but temperatures averaged 1-2 degrees C above normal over the region, maintaining high evaporative losses. Temperatures reached 35-37 degrees C locally in the west, stressing early vegetative crops. Elsewhere, light to moderate rain (5-28mm) stretched across crop regions from the southern Cape Province to Natal.

SOUTH ASIA ... Seasonably dry, warm weather favored summer crop harvests across the region, and benefitted early vegetative growth of winter wheat in the north. Light showers (5-25mm) in northern Pakistan and north-central India improved local reservoir levels. Weekly coverage of South Asia will be suspended until next spring, coinciding with the onset of the southwest monsoon.

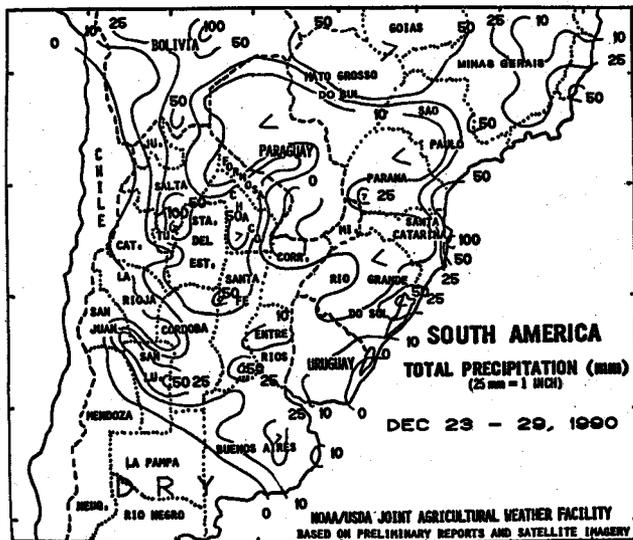
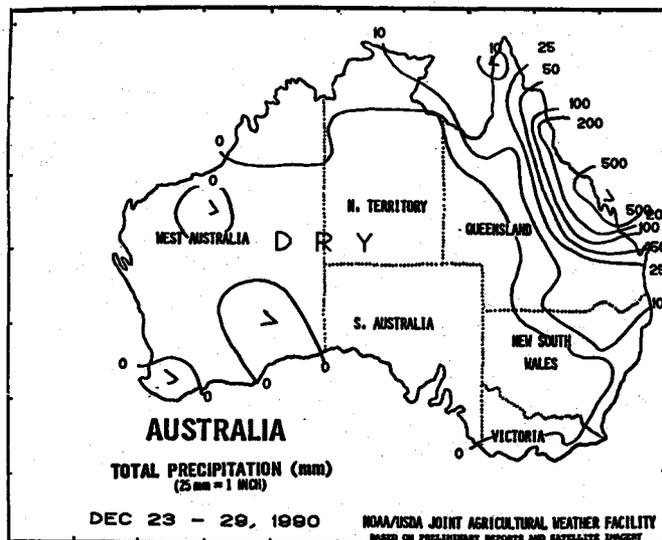


EASTERN ASIA ... Light to moderate rain continued over the Yangtze Valley, with 10-50mm of rainfall covering most areas from Hunan to southern Jiangsu and northern Zhejiang. Scattered, mostly light rain (1-15mm) fell elsewhere in southern China. Further north, dry weather covered winter wheat areas of the North China Plain and western China. Temperatures across China's wheat regions continued to average 1-3 degrees C above normal, but average temperatures were sufficiently cool to keep northern crops dormant. Light to moderate rain and snow (1-25mm, water equivalent) covered much of southern Manchuria and the Korean Peninsula as temperatures averaged 1-4 degrees C below normal. Moderate to heavy showers (25-100mm) continued to soak western Japan.



SOUTHEAST ASIA ... Rainfall tapered off over the Malay Peninsula, with most areas of peninsular Thailand and western Malaysia receiving less than 25mm. In contrast, rainfall ranged from 24 to 165mm in eastern Malaysia. Seasonable showers continued over Indonesia, with heavy rain (50-192mm) over most of southern Indonesia greatly increasing reservoir levels but possibly washing out newly planted rice in local areas. In the Philippines, light to moderate rain (10-50mm) covered most eastern crop regions, although rainfall continued to be light (10mm or less) over northeastern Luzon and most of southern Mindanao. Heavier showers (50-146mm) were again concentrated over crop regions of southern Luzon.

AUSTRALIA ... Tropical cyclone Joy lingered off Queensland's east coast during the week, producing showers from the Cape York Peninsula to the State's southeastern summer crop area. Beneficial rainfall (7-21mm), extending into northern New South Wales, helped summer crops which have been stressed by unfavorably dry weather. Coastal sugarcane areas of eastern Queensland had also been unseasonably dry until the recent tropical storm. While the moisture generally benefitted sugarcane, heavy downpours (over 200mm) inundated new crop sugarcane. In fact, weekly rainfall totals reached 500-696mm along the east-central coast, causing extensive flooding. Mostly dry weather across the south favored late wheat harvesting.



SOUTH AMERICA ... In Argentina, dryness improved field conditions for wheat harvesting in western Buenos Aires and La Pampa. Intervals of dry weather, with periodic showers, kept most corn and soybean areas sufficiently moist for crop development. Corn is reaching the weather-sensitive reproductive phase. Isolated heavy showers (50-83mm) were scattered throughout the corn and cotton areas. High temperatures reached the middle 30's C early in the week but dropped into the middle to upper 20's C late in the week. In south-central Brazil, light showers (less than 10mm) covered most southern soybean areas, although heavier showers (10-26mm) fell in southwestern Rio Grande do Sul and southern Parana. Widespread rain (25-83mm) helped northern soybeans and coffee bean development from northern Mato Grosso do Sul to southern Minas Gerais. Early-planted soybeans have reached flowering, while the late-planted crop is still emerging with mostly adequate moisture.

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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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U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
National Weather Service/Climate Analysis Center
Managing Editor **Douglas Le Comte**
Meteorologists **Brad Rippey (202) 382-1444**
Vilhelm Bjerknes, Bob Stefanski, and Wes Byrd.

Subscriptions (202) 447-7917 . . . **Joyce Houston**

U.S. DEPARTMENT OF AGRICULTURE

Economics Management Staff
Editor **Sharon Lee**
National Agricultural Statistics Service
Agricultural Statistician . . . **Dave Abbe (202) 447-2157**
World Agricultural Outlook Board
Agricultural Weather Analysts . . **Ray Motha (202) 447-5716**
Tom Puterbaugh, Mark Brusberg, and Jeff Andresen.

(Continued from front cover)
ninth in a row on the 28th. Early-week temperatures dropped to as low as -39 degrees Fahrenheit (F) in **Craig, CO**, and a reinforcing shot of cold at midweek sent **Embarrass, MN** into the ice-box with a -45 degree F reading. Rain, sleet, freezing rain, and snow developed Wednesday in **eastern Texas** and spread rapidly northeastward. The **Ohio Valley, mid-Atlantic region, and Northeast** endured their first significant snowfall of the winter on Thursday and Friday. **Altoona, PA** reported an 11-inch snow cover, and **Martinsburg, WV** had a 10-inch accumulation. A new Siberian-origin airmass began its plunge into the **Pacific Northwest, northern Rockies, and northern Plains** on Friday. By Saturday night, the cold air stretched from the **Great Lakes** southward to **Texas** and westward to **southern California**. Wind chill temperatures on Saturday afternoon dropped to -69 degrees F at **Bemidji, MN** and -70 degrees F at **Pierre, SD**. Heavy rain and rapid snowmelt at week's end produced severe flooding in portions of **Ohio and Indiana**, and exacerbated flood conditions throughout the **Ohio and Tennessee River Valleys**.

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