

# WEEKLY WEATHER AND CROP BULLETIN

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

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

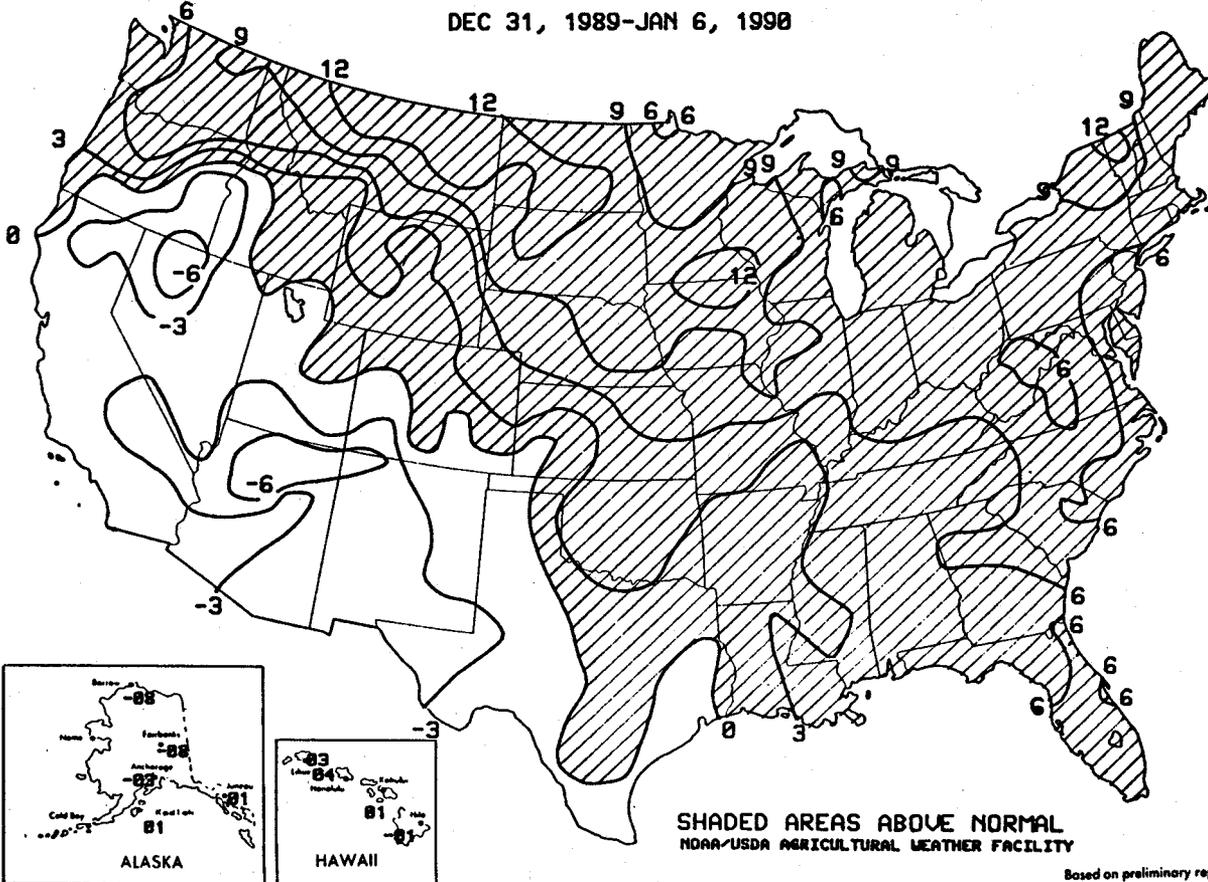
Volume 77, No. 1

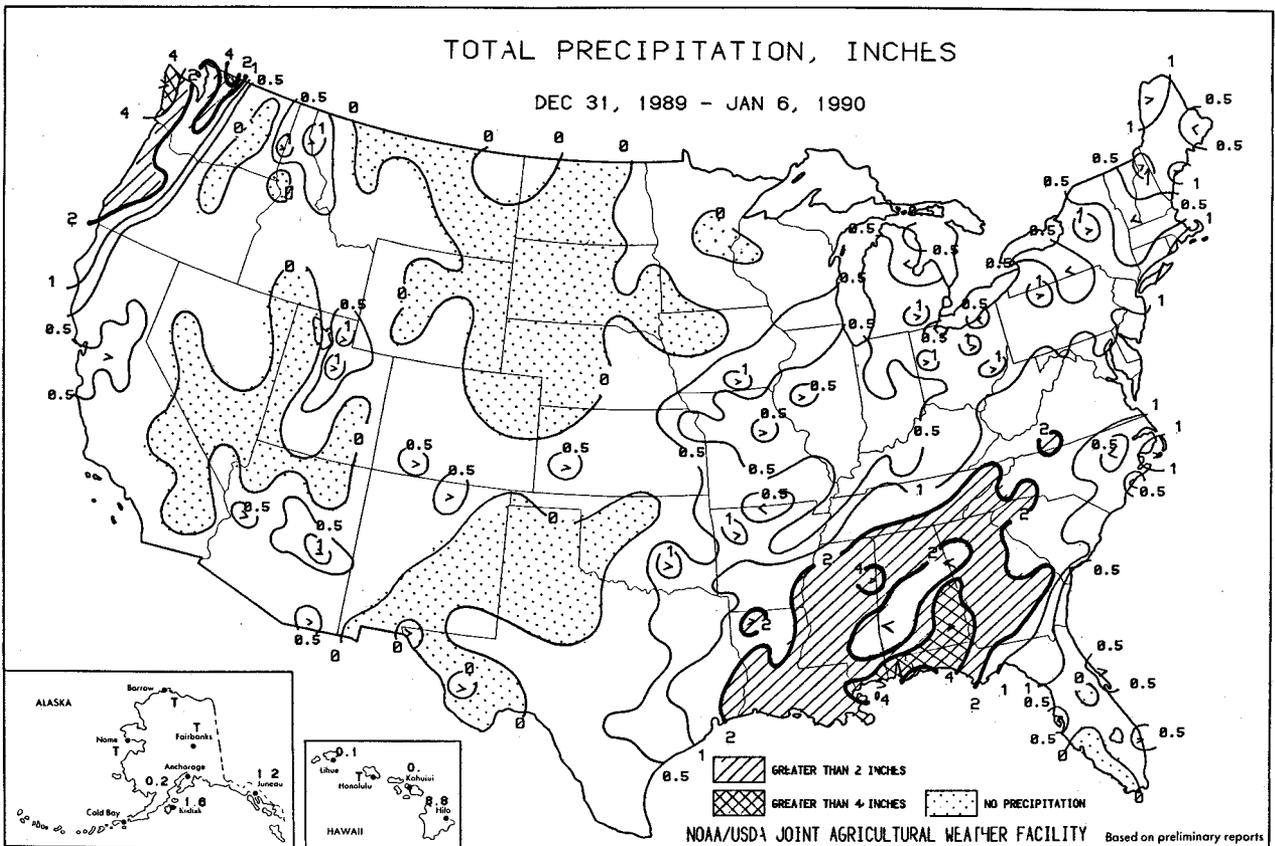
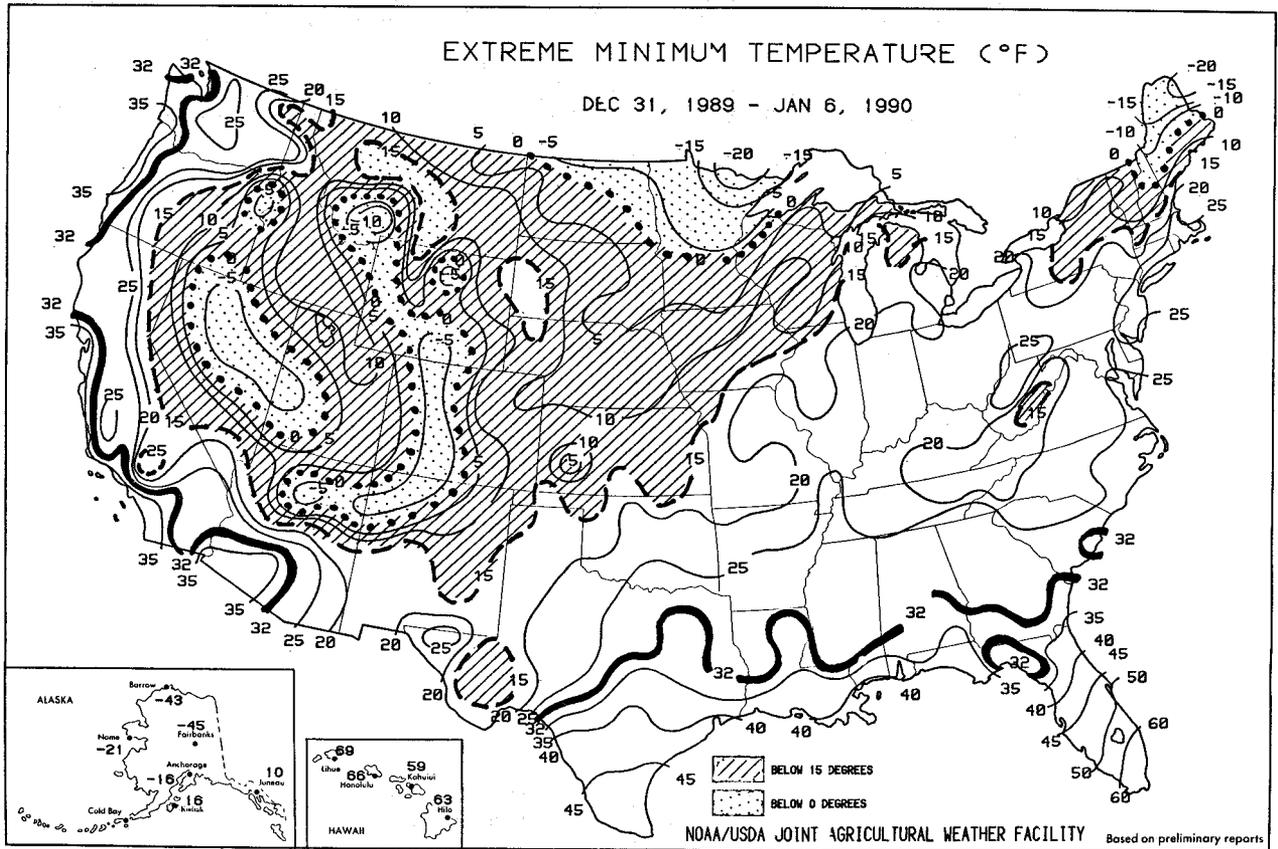
Washington, D.C.

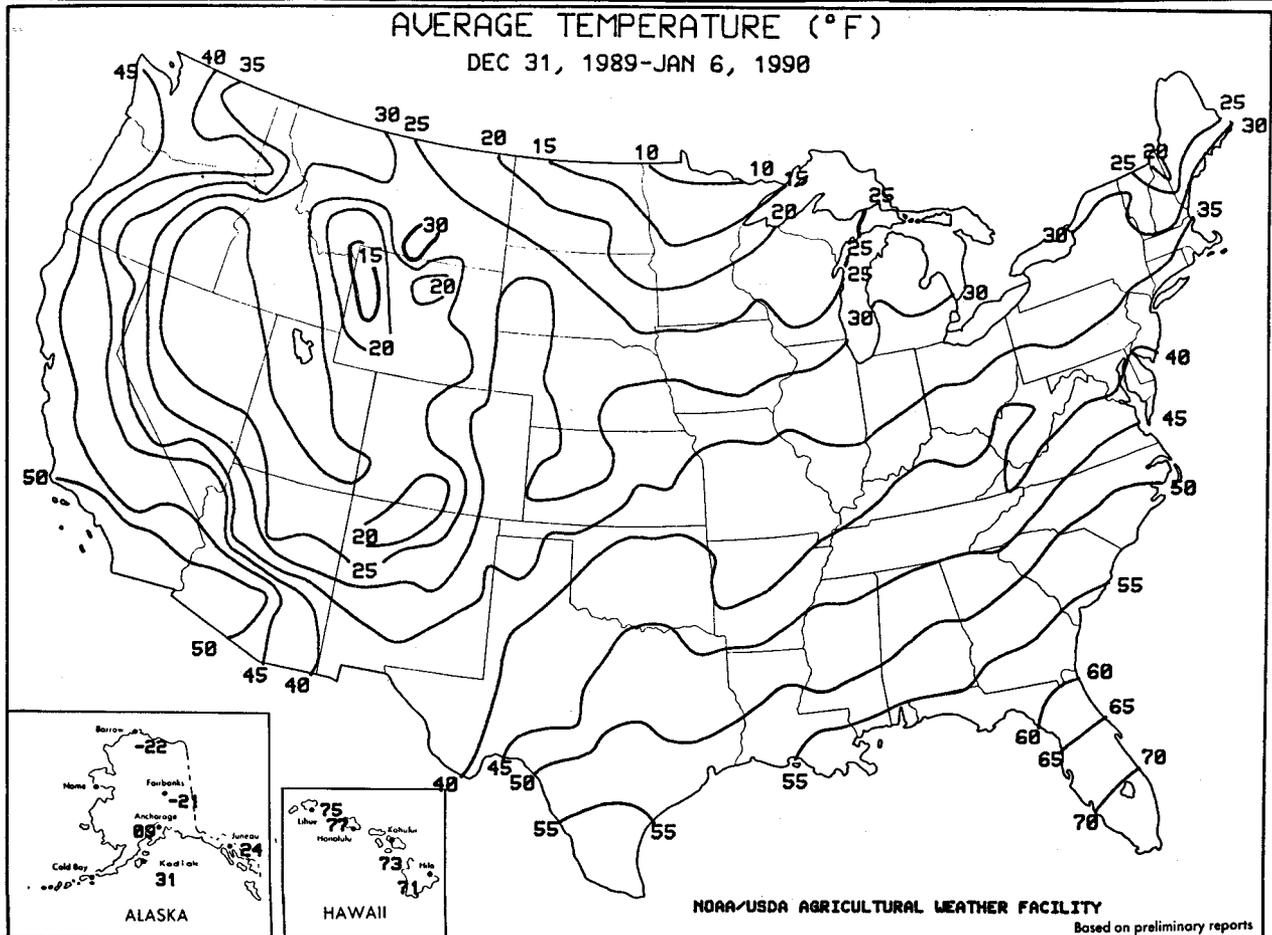
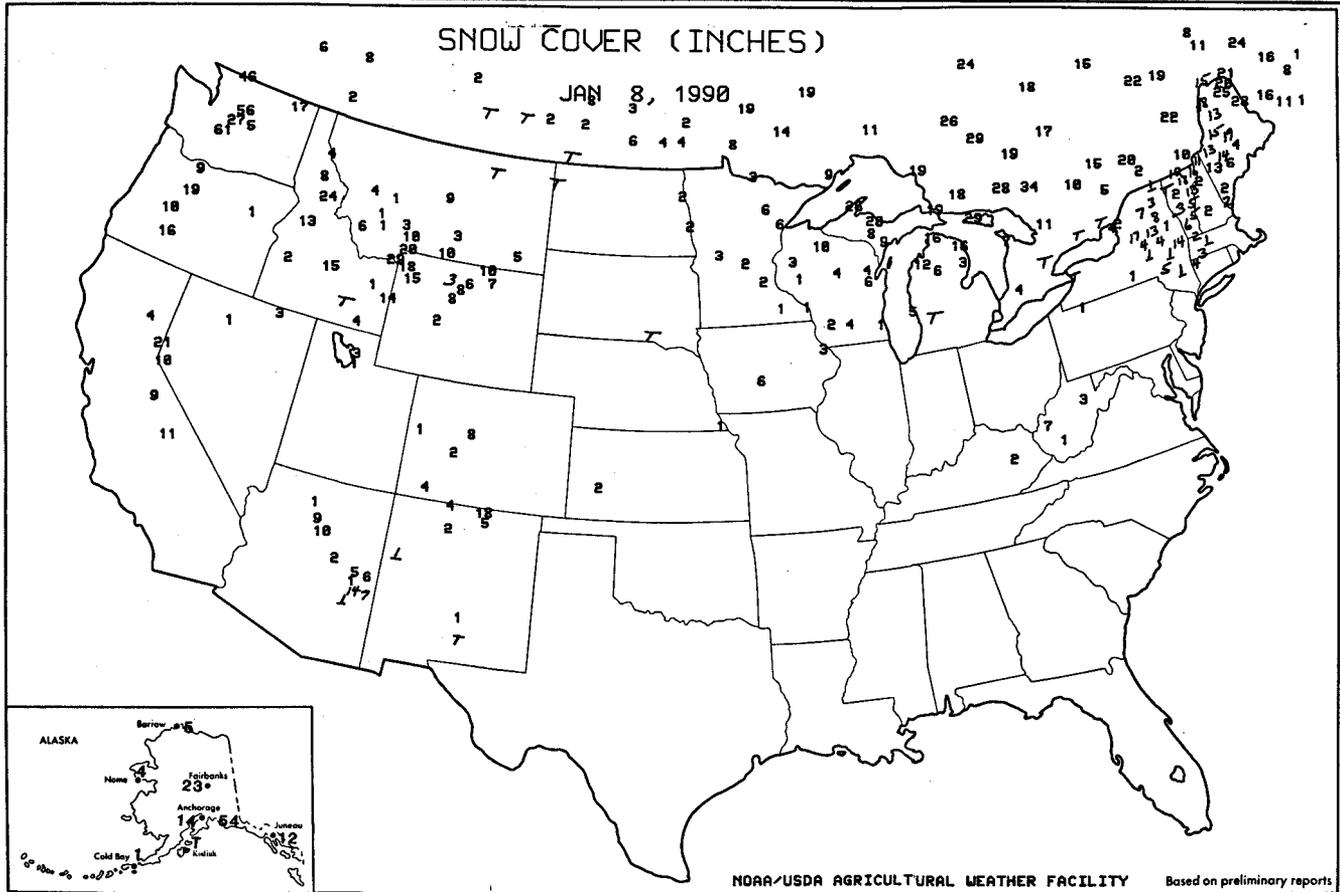
Jan. 10, 1990

## DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)

DEC 31, 1989-JAN 6, 1990







# National Weather Data for Selected Cities

## Weather Data for the Week Ending January 6, 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
AL BIRMINGHAM	57	40	65	30	48	5	2.1	.9	1.2	5.2	87	1.5	145	94	64	0	3	5	2
MOBILE	62	48	70	37	55	4	5.7	4.6	2.7	10.3	161	3.0	321	95	71	0	4	4	3
MONTGOMERY	60	43	71	30	51	4	3.6	2.6	2.0	10.8	193	1.7	195	94	62	0	2	4	3
AK ANCHORAGE	14	4	22	-16	9	-3	.2	0	.2	1.8	146	.2	112	88	72	0	7	2	0
BARROW	-15	-28	-10	-43	-22	-8	T	-1.1	T	.2	111	T	0	79	63	0	7	0	0
FAIRBANKS	-14	-29	1	-45	-22	-8	T	-1.1	T	.6	67	T	0	79	55	0	7	0	0
JUNEAU	29	18	40	10	24	1	1.5	.6	.7	8.1	151	1.4	180	95	74	0	7	3	2
KODIAK	35	26	39	16	31	1	1.6	.3	.7	13.9	209	1.6	145	91	71	0	6	6	2
NOME	7	-11	17	-21	-3	-8	.2	.1	.2	1.0	125	.2	153	83	56	0	1	1	1
AZ PHOENIX	63	40	68	36	51	0	.2	0	.1	.4	39	.2	127	75	24	0	0	0	0
PRESCOTT	43	18	55	10	31	-5	.1	0	.1	.4	22	.1	36	80	40	0	2	2	0
TUCSON	59	32	67	28	45	-5	.4	-.3	.3	.6	52	.4	224	88	26	0	3	2	0
YUMA	65	43	72	39	54	0	.1	0	.1	.1	20	.1	114	46	17	0	7	1	0
AR FORT SMITH	53	26	60	23	40	2	.3	-.1	.3	1.1	34	.3	87	94	45	0	0	0	0
LITTLE ROCK	50	35	57	30	42	2	.5	-.5	.4	2.0	39	.4	55	84	53	0	2	2	0
CA BAKERSFIELD	56	32	64	30	44	-3	.2	.1	.2	.2	30	.2	141	96	51	0	5	1	0
EUREKA	54	42	59	32	48	1	1.4	-.2	.7	2.1	27	1.3	93	91	72	0	1	5	2
FRESNO	54	30	62	27	42	-2	.1	-.4	.1	.1	5	.1	24	99	57	0	6	2	0
LOS ANGELES	66	45	72	43	55	0	.2	-.4	.2	.2	7	.2	29	85	32	0	0	1	0
REDDING	52	30	59	26	41	-5	.2	-1.7	.2	.2	3	.2	15	96	51	0	6	2	0
SACRAMENTO	55	33	57	27	44	0	.7	-.2	.7	.7	18	.7	87	97	56	0	4	1	1
SAN DIEGO	65	45	71	42	55	-1	.4	-.1	.4	1.4	62	.4	105	78	37	0	0	1	0
SAN FRANCISCO	55	40	57	37	48	0	.6	-.5	.6	.6	13	.6	64	98	68	0	0	1	0
CO DENVER	46	20	57	13	33	3	.3	T	T	.8	132	T	0	79	28	0	7	0	0
GRAND JUNCTION	38	11	47	5	24	-1	.3	T	T	.4	52	.3	233	78	38	0	7	1	0
PUEBLO	44	14	53	8	29	-1	.1	T	T	.9	265	T	60	91	40	0	7	0	0
CT BRIDGEPORT	43	30	46	27	36	6	.6	-.1	.5	1.0	22	.2	22	87	55	0	6	3	0
HARTFORD	42	26	47	24	34	8	.4	-.5	.3	1.6	32	.1	11	84	47	0	7	2	0
DC WASHINGTON	49	32	55	28	41	5	1.5	.8	1.3	2.3	61	.2	32	96	52	0	5	4	1
FL APALACHICOLA	66	50	77	37	58	5	1.8	1.0	1.5	7.4	177	.3	39	96	70	0	0	3	1
DAYTONA BEACH	76	53	81	43	65	6	1.0	.5	.6	4.9	186	1.0	221	96	55	0	0	3	1
JACKSONVILLE	73	48	81	35	60	6	.4	-.3	.3	3.7	126	.4	67	96	56	0	0	3	0
KEY WEST	80	68	82	63	74	4	T	-.4	T	1.7	81	T	0	96	74	0	0	0	0
MIAMI	82	69	86	65	75	8	.1	-.4	.1	1.7	30	.1	16	93	63	0	0	1	0
ORLANDO	78	55	84	45	66	6	T	-.4	T	4.5	198	T	0	95	53	0	0	0	0
TALLAHASSEE	70	45	76	29	57	6	1.8	.7	1.0	5.4	99	.8	89	98	59	0	2	3	1
TAMPA	77	57	83	44	67	7	.5	.1	.4	5.2	207	.5	132	94	60	0	0	2	0
WEST PALM BEACH	81	67	87	62	74	8	.8	.2	.8	2.7	100	.8	157	90	61	0	0	2	1
GA ATLANTA	56	43	65	31	49	7	1.9	.8	.7	5.7	110	1.2	124	89	64	0	1	4	2
AUGUSTA	63	40	73	26	52	7	1.3	.5	.7	5.3	135	.6	80	96	57	0	2	4	1
MACON	62	43	69	28	52	6	2.5	1.5	1.6	9.8	201	.9	113	94	59	0	2	3	2
SAVANNAH	67	46	74	33	56	7	.4	-.3	.2	5.4	160	.2	29	92	54	0	0	3	0
HI HILO	78	64	81	63	71	-1	8.8	6.6	4.7	11.1	75	7.5	404	93	62	0	0	6	4
HONOLULU	83	71	85	66	77	4	T	-.8	T	1.4	33	T	0	79	54	0	0	1	0
KAHULUI	81	66	84	59	73	1	.1	-.7	.1	4.8	139	.1	16	92	63	0	0	3	0
LIHUE	78	72	79	69	75	3	.1	-1.4	.1	3.0	45	.1	4	80	64	0	0	1	0
ID BOISE	34	17	43	6	26	-4	.2	-.2	.1	.3	17	.2	55	97	69	0	7	3	0
LEWISTON	46	35	53	30	41	9	T	-.3	T	.3	19	T	0	72	48	0	4	0	0
POCATELLO	34	16	41	11	25	1	.2	-.1	.1	.2	19	.2	71	91	58	0	7	2	0
IL CHICAGO	38	26	46	21	32	10	.3	-.1	.2	.7	27	.3	67	92	67	0	6	3	0
MOLINE	38	24	46	18	31	11	.8	.4	.5	1.5	67	.8	223	95	66	0	6	3	0
PEORIA	39	25	49	19	32	9	.3	-.1	.2	1.2	49	.3	80	98	73	0	7	3	0
QUINCY	42	27	52	21	35	10	.2	-.1	.2	.9	45	.2	75	88	60	0	6	1	0
ROCKFORD	34	21	40	17	27	8	.7	-.3	.4	1.1	50	.6	200	97	74	0	7	3	0
SPRINGFIELD	41	26	52	19	34	8	.2	-.2	.1	.8	31	.2	53	92	65	0	6	2	0
IN EVANSVILLE	47	30	57	24	39	7	.2	-.5	.1	1.6	38	.2	28	96	64	0	3	3	0
FORT WAYNE	38	27	48	23	33	8	.8	-.3	.6	1.8	62	.6	140	93	74	0	6	3	1
INDIANAPOLIS	42	27	51	21	35	7	.6	-.1	.4	2.6	73	.5	83	93	68	0	6	3	0
SOUTH BEND	36	26	43	22	31	7	.7	0	.5	2.4	69	.5	98	96	73	0	6	3	0
IA DES MOINES	37	18	48	11	28	8	.6	.4	.3	1.2	98	.6	326	91	61	0	7	3	0
SIoux CITY	39	16	50	7	28	10	T	-.1	T	.4	45	T	0	89	51	0	7	0	0
WATERLOO	36	19	46	12	28	12	.1	-.2	0	.2	18	T	12	92	60	0	7	2	0
KS CONCORDIA	43	22	54	12	33	6	.1	0	.1	.5	67	.1	100	89	48	0	6	2	0
DODGE CITY	44	19	58	14	32	2	.2	.1	.2	.8	126	.2	244	86	46	0	7	1	0
GOODLAND	48	18	61	11	33	5	T	-.1	T	.2	53	T	0	85	28	0	7	0	0
TOPEKA	45	23	56	14	34	7	.3	0	.3	.9	60	.3	137	91	53	0	6	2	0
WICHITA	48	23	55	11	36	5	.2	0	.2	.7	58	.2	143	87	43	0	5	1	0
KY BOWLING GREEN	49	32	62	20	40	6	.4	-.7	.3	2.6	48	.4	45	97	68	0	3	3	0
LEXINGTON	47	31	58	22	39	6	.9	.1	.7	2.0	44	.2	26	92	63	0	4	4	1
LOUISVILLE	49	32	60	22	41	7	.3	-.5	.2	1.6	38	.1	17	87	52	0	3	4	0
LA ALEXANDRIA	57	44	68	31	51	2	1.7	.7	.7	3.6	63	1.7	185	86	56	0	1	5	2
BATON ROUGE	62	48	70	36	55	4	3.8	2.8	1.9	8.6	147	2.3	258	99	78	0	0	5	2
LAKE CHARLES	59	46	69	36	53	2	2.5	1.3	1.2	4.5	74	2.3	241	97	68	0	0	7	2
NEW ORLEANS	64	48	72	39	56	4	3.3	2.1	2.8	9.2	148	2.9	299	97	76	0	0	5	1

Based on 1951-80 normals

Weather Data for the Week Ending January 6, 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	TEMPERATURE °F			
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	53	41	61	32	47	1	1.4	.4	.6	4.7	100	1.4	169	92	53	0	1	4	2
ME CARIBOU	30	9	37	-21	20	8	.6	.0	.2	2.8	78	.4	82	86	60	0	7	5	0
PORTLAND	41	22	44	18	32	9	.8	-.1	.8	2.3	44	.1	6	88	49	0	7	2	0
MD BALTIMORE	49	30	54	24	39	6	1.0	.3	.8	3.9	58	.2	26	93	54	0	5	3	1
SALISBURY	54	29	62	24	41	6	1.5	-.7	.6	3.9	88	1.3	188	95	55	0	5	4	1
MA BOSTON	47	29	53	26	38	8	.3	-.7	.2	.9	17	.1	7	88	53	0	6	2	0
CHATHAM	43	31	49	26	37	5	1.8	.8	.9	2.7	46	.9	102	89	62	0	4	3	2
MI ALPENA	33	18	39	11	26	6	.5	0	.4	2.0	85	.4	120	94	65	0	7	2	0
DETROIT	38	25	46	22	32	7	.7	.2	.4	1.7	57	.4	102	97	73	0	7	3	0
FLINT	35	25	42	22	30	7	.9	.5	.5	1.5	66	.6	167	92	66	0	7	3	1
GRAND RAPIDS	35	25	42	20	30	7	.6	0	.5	1.5	49	.5	111	88	64	0	7	3	0
HOUGHTON LAKE	31	20	37	11	26	7	.5	.1	.4	1.4	62	.4	138	93	72	0	7	3	0
LANSING	36	25	42	20	30	8	.7	.2	.5	1.3	46	.5	115	92	71	0	7	2	0
MARQUETTE	27	15	37	2	21	7	.2	-.3	.1	2.7	94	.1	21	94	75	0	7	2	0
MUSKOGON	35	27	40	17	31	7	.6	0	.5	2.4	77	.5	94	94	71	0	7	3	0
SAULT ST. MARIE	30	19	37	6	25	10	.3	-.3	.1	1.9	63	.2	33	91	68	0	7	4	0
MN ALEXANDRIA	26	5	37	-4	16	9	T	-.2	T	.2	21	T	0	93	72	0	7	1	0
DULUTH	25	7	32	-12	16	8	T	-.3	T	.6	42	T	8	94	71	0	7	1	0
INT'L FALLS	22	-3	30	-21	10	8	T	-.2	T	.4	39	T	0	89	66	0	7	1	0
MINNEAPOLIS	31	15	36	3	23	10	T	-.2	T	.4	43	T	0	88	64	0	7	1	0
ROCHESTER	31	16	37	9	24	13	T	-.2	T	.4	37	T	0	90	68	0	7	1	0
MS GREENWOOD	54	40	65	30	47	3	2.8	1.6	1.3	5.0	77	1.5	147	96	65	0	1	4	2
JACKSON	56	40	67	28	48	2	3.4	2.2	1.4	7.5	118	3.3	321	97	67	0	1	5	3
MERIDIAN	57	40	66	30	49	3	1.7	.5	.8	8.2	122	1.5	141	96	67	0	3	4	2
MO CAPE GIRARDEAU	46	29	56	25	37	-	.5	-.2	.3	2.1	47	.5	80	98	61	0	6	4	0
COLUMBIA	46	25	60	20	35	7	.5	.1	.4	1.2	51	.4	114	90	53	0	6	3	0
KANSAS CITY	43	25	53	14	34	6	.4	.1	.3	1.0	58	.4	165	90	54	0	6	2	0
SAINT LOUIS	47	29	59	24	38	9	.2	-.2	.2	.8	31	.2	49	88	48	0	6	2	0
SPRINGFIELD	48	25	60	18	37	5	.7	-.3	.7	1.5	53	.7	209	89	44	0	6	1	1
MT BILLINGS	36	24	44	18	30	8	.1	-.2	.1	1.4	149	.1	26	72	47	0	7	1	0
GLASGOW	32	11	47	0	21	12	.1	0	0	.4	108	.1	86	92	66	0	7	2	0
GREAT FALLS	40	25	49	15	32	12	T	-.2	T	1.4	143	T	16	77	51	0	6	1	0
HAVRE	36	18	41	5	27	14	0	-.1	0	1.9	298	0	0	89	66	0	7	0	0
HELENA	38	20	49	18	29	10	T	-.2	T	.5	64	T	0	84	48	0	7	0	0
KALISPELL	37	26	43	14	31	11	.2	-.2	.1	2.4	126	.1	42	87	65	0	6	5	0
MILES CITY	35	18	44	11	27	12	T	-.1	T	1.3	181	T	0	86	58	0	7	0	0
MISSOULA	36	21	47	14	29	7	T	-.3	T	.6	43	T	4	95	67	0	7	1	0
NE GRAND ISLAND	45	17	51	7	31	10	T	-.1	T	.4	55	T	11	88	38	0	7	1	0
LINCOLN	44	17	51	8	31	10	T	-.1	T	.6	79	T	17	91	44	0	7	2	0
NORFOLK	41	16	50	7	28	10	T	-.1	T	.8	109	0	0	91	47	0	7	1	0
NORTH PLATTE	46	11	55	6	29	7	0	-.1	0	.3	62	0	0	91	33	0	7	0	0
OMAHA	41	21	50	12	31	10	T	-.2	T	.5	56	T	0	81	56	0	7	1	0
SCOTTSBLUFF	43	16	51	10	30	5	T	-.1	T	.7	112	T	0	87	42	0	7	0	0
VALENTINE	44	13	56	5	28	9	0	-.1	0	.3	83	0	0	65	33	0	7	0	0
NV ELY	41	6	55	-6	24	-1	.1	-.1	.1	.1	11	.1	57	82	33	0	7	1	0
LAS VEGAS	54	31	60	21	43	-1	T	-.1	T	.3	3	T	11	48	21	0	5	1	0
RENO	45	16	52	11	31	0	.1	-.2	.1	.1	4	.1	23	89	36	0	7	2	0
WINNEMUCCA	38	5	48	-7	22	-7	-.1	-.1	.1	.2	20	.1	47	90	51	0	7	1	0
NH CONCORD	40	16	45	12	28	7	.4	-.3	.3	.9	23	T	7	94	53	0	7	2	0
NJ ATLANTIC CITY	50	27	54	21	38	5	1.4	.6	.8	2.2	51	.6	81	94	57	0	6	4	1
NM ALBUQUERQUE	40	19	47	13	29	-5	.1	0	.1	.4	62	.1	89	83	40	0	7	1	0
CLOVIS	49	21	57	18	35	-2	T	-.1	T	.5	78	T	0	83	27	0	7	0	0
ROSWELL	52	21	62	14	37	-2	T	-.1	T	.1	16	0	0	78	25	0	7	0	0
NY ALBANY	42	21	46	16	32	9	.2	-.4	.1	.8	24	.1	16	89	48	0	7	3	0
BINGHAMTON	37	24	43	20	31	9	.4	-.3	.3	1.6	48	T	4	87	56	0	6	3	0
BUFFALO	38	28	47	22	33	8	.6	-.2	.4	2.5	62	.2	29	87	62	0	6	2	0
NEW YORK	48	34	51	31	41	8	.7	-.1	.6	.9	21	.1	17	83	46	0	2	3	1
ROCHESTER	39	25	48	15	32	7	.3	-.3	.2	1.6	53	.1	13	87	60	0	6	2	0
SYRACUSE	41	22	50	14	31	7	.8	.1	.7	2.2	59	.1	11	90	53	0	6	4	1
NC ASHEVILLE	51	32	58	19	42	4	1.5	.8	.8	4.0	106	.7	116	98	58	0	3	4	1
CHARLOTTE	57	40	62	23	49	8	2.0	1.1	1.2	4.4	108	.8	106	92	53	0	2	4	1
GREENSBORO	56	35	61	22	45	8	1.8	1.0	1.0	4.3	106	.8	109	93	54	0	3	5	1
HATTERAS	58	40	68	29	49	3	1.1	0	.6	7.4	139	1.0	104	99	66	0	2	4	1
NEW BERN	63	37	70	25	50	6	1.1	.2	.5	7.0	158	.9	124	95	50	0	3	3	1
RALEIGH	58	38	64	22	48	8	.8	0	.3	3.5	92	.5	67	91	46	0	3	4	0
WILMINGTON	64	39	69	26	51	5	.5	-.3	.2	7.4	179	.3	48	96	53	0	2	3	0
ND BISMARCK	33	9	48	1	21	13	T	-.1	T	.3	53	T	0	91	61	0	7	0	0
FARGO	26	3	39	-2	15	9	T	-.1	T	.3	34	T	0	94	75	0	7	1	0
GRAND FORKS	26	0	43	-6	13	9	.1	-.1	.1	.3	36	.1	43	90	68	0	7	2	0
WILLISTON	30	10	44	6	20	12	.1	0	.1	.5	81	.1	78	94	66	0	7	1	0
OH AKRON-CANTON	39	28	51	24	34	7	.6	-.1	.4	2.2	67	.2	35	89	67	0	6	3	0
CINCINNATI	46	30	57	22	38	8	.6	-.1	.4	2.1	59	.1	23	88	60	0	5	4	0
CLEVELAND	41	29	54	23	35	8	.5	-.1	.3	1.9	80	.2	42	89	65	0	5	3	0
COLUMBUS	44	29	56	24	37	8	.6	0	.5	2.0	63	.2	30	95	67	0	5	4	0

Weather Data for the Week Ending January 6, 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	TEMPERATURE °F		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	42	28	52	24	35	7	.5	-.1	.3	2.0	68	.2	31	96	69	0	6	4	0
TOLEDO	38	26	49	19	32	8	.5	0	.3	1.6	54	.3	77	92	68	0	7	3	0
YOUNGSTOWN	40	27	52	21	34	8	.6	-.1	.4	1.6	50	.2	33	88	61	0	6	3	0
OK OKLAHOMA CITY	53	30	59	22	41	5	T	-.2	T	.3	24	T	0	81	33	0	5	0	0
TULSA	52	29	58	21	41	5	.4	.1	.3	.7	32	.4	139	86	36	0	6	2	0
OR ASTORIA	52	41	55	37	47	6	3.9	1.3	1.2	10.9	79	3.6	159	97	79	0	0	7	3
BURNS	38	14	48	7	26	0	T	-.3	T	.1	6	T	12	97	58	0	7	1	0
MEDFORD	43	29	54	20	36	-1	.2	-.6	.2	.9	21	.2	28	99	74	0	5	4	0
PENDLETON	48	34	58	26	41	8	T	-.4	T	.2	12	T	9	85	52	0	4	2	0
PORTLAND	51	41	56	33	46	7	1.8	.3	.7	4.5	58	1.4	109	96	75	0	0	6	1
SALEM	51	40	55	31	45	6	1.8	.1	.8	5.4	64	1.5	103	97	75	0	1	6	1
PA ALLENTOWN	42	26	47	20	34	6	1.0	.2	.9	1.4	31	.1	12	90	55	0	7	2	1
ERIE	40	28	50	24	34	8	.6	0	.5	3.3	88	.1	13	91	65	0	5	2	1
HARRISBURG	44	28	49	23	36	6	.9	.2	.8	1.4	37	.1	23	89	53	0	6	2	1
PHILADELPHIA	47	28	50	24	37	5	1.3	.6	1.2	1.4	34	.2	28	97	55	0	6	3	1
PITTSBURGH	43	29	54	22	36	8	.7	0	.5	2.6	83	.2	34	88	58	0	5	3	0
SCRANTON	41	27	46	23	34	8	.6	.1	.5	1.0	33	T	9	87	50	0	7	2	1
RI PROVIDENCE	46	28	50	27	37	8	.9	-.1	.6	1.9	36	.3	32	86	46	0	7	3	1
SC CHARLESTON	65	47	71	33	56	8	1.0	.3	.9	5.7	151	.9	145	96	61	0	0	3	1
COLUMBIA	64	42	72	25	53	8	1.1	.1	.5	5.9	137	.6	78	98	59	0	2	4	0
FLORENCE	64	42	71	25	53	8	.6	-.2	.3	4.8	132	.4	66	93	50	0	1	3	0
GREENVILLE	56	39	61	23	47	6	2.1	1.1	1.2	5.7	116	.9	110	94	59	0	3	4	1
SD ABERDEEN	30	9	45	1	19	10	T	-.1	T	.2	26	T	0	94	73	0	7	0	0
HURON	35	10	48	5	23	10	T	-.1	T	.2	35	0	0	89	58	0	7	1	0
RAPID CITY	46	21	60	17	33	12	T	-.1	T	.8	164	0	0	81	34	0	7	0	0
STOUX FALLS	35	13	45	5	24	11	T	-.1	T	.2	30	0	0	91	60	0	7	0	0
TN CHATTANOOGA	55	38	65	27	46	7	3.1	1.9	1.5	5.3	86	1.6	157	98	61	0	3	5	3
KNOXVILLE	52	34	60	21	43	5	2.2	1.1	1.1	3.9	71	.1	124	97	61	0	3	5	1
MEMPHIS	52	35	60	26	44	4	1.0	-.1	.7	2.8	49	.7	76	94	58	0	2	2	1
NASHVILLE	52	33	64	23	43	5	1.0	0	.6	2.6	47	.6	69	89	58	0	3	2	1
TX ABILENE	56	32	66	22	44	0	0	-.2	0	.2	20	0	0	81	33	0	5	0	0
AMARILLO	51	21	62	17	36	0	T	-.1	T	.5	84	T	0	86	24	0	7	0	0
AUSTIN	58	46	74	41	52	3	.4	.1	.4	.6	24	.4	133	79	47	0	0	3	0
BEAUMONT	58	47	67	36	53	1	3.6	2.6	1.4	6.7	117	3.5	420	94	64	0	0	5	3
BROWNSVILLE	66	53	83	48	59	-1	.1	-.2	.1	1.8	135	.1	38	93	65	0	0	2	0
CORPUS CHRISTI	62	51	80	46	57	1	.1	-.3	.1	1.6	105	.1	25	94	57	0	0	2	0
DEL RIO	56	43	69	37	50	-1	.5	.3	.2	.8	117	.5	500	76	46	0	0	3	0
EL PASO	51	25	58	20	38	-5	.1	0	.1	.2	50	.1	86	88	34	0	7	1	0
FORT WORTH	55	38	65	28	47	2	.3	-.1	.3	.6	29	.3	82	86	42	0	1	2	0
GALVESTON	56	47	66	42	52	-2	1.2	.5	.5	1.7	40	1.2	184	97	72	0	0	5	0
HOUSTON	57	45	68	37	51	-2	1.5	.7	.6	2.3	51	1.5	216	96	62	0	0	5	1
LUBBOCK	52	23	59	19	38	-1	T	-.1	T	.3	73	T	0	87	27	0	7	0	0
MIDLAND	54	27	63	20	41	-3	T	-.1	T	.1	27	0	0	88	32	0	5	1	0
SAN ANGELO	55	33	66	24	44	-2	T	-.1	T	.2	31	T	0	88	37	0	5	1	0
SAN ANTONIO	57	46	71	37	52	1	.6	.3	.4	.9	58	.6	223	85	49	0	0	3	0
VICTORIA	59	48	73	41	53	0	.9	.4	.5	2.0	79	.8	237	95	62	0	0	5	0
WACO	56	41	69	31	49	2	.1	-.3	.1	.5	24	T	0	85	49	0	1	1	0
WICHITA FALLS	56	32	68	23	44	3	T	-.2	T	.3	22	T	5	87	33	0	5	1	0
UT CEDAR CITY	38	10	48	-4	24	-5	.3	.1	.3	.3	36	.3	233	94	44	0	7	1	0
SALT LAKE CITY	38	16	47	7	27	-1	.2	-.1	.2	.3	20	.2	73	93	49	0	7	2	0
VT BURLINGTON	39	22	43	13	30	12	.1	-.3	.1	1.3	46	T	10	88	57	0	6	3	0
VA NORFOLK	58	33	64	24	46	5	1.6	.8	.9	5.3	137	1.4	199	91	57	0	3	4	1
RICHMOND	56	33	62	23	44	7	1.3	.6	.7	3.3	83	.7	108	93	55	0	4	4	1
ROANOKE	53	32	59	24	43	7	1.2	.6	.9	2.9	85	.3	57	89	43	0	4	4	1
WA QUILLAYUTE	48	39	52	31	44	5	6.9	3.2	1.6	14.7	71	5.9	192	99	78	0	1	7	5
SEATTLE-TACOMA	48	40	54	33	44	5	2.2	.7	.7	6.6	88	1.9	153	97	74	0	0	6	2
SPOKANE	38	28	43	20	33	7	.5	-.1	.2	1.4	46	.4	83	97	77	0	6	6	0
YAKIMA	45	26	57	22	36	8	.1	-.2	.1	.4	22	.1	43	95	56	0	7	1	0
WV BECKLEY	47	29	57	14	38	7	1.1	.3	.9	2.6	69	.2	29	89	53	0	5	4	1
CHARLESTON	49	33	61	26	41	8	1.1	.3	.7	2.2	55	.3	48	91	56	0	4	3	1
HUNTINGTON	48	32	60	22	40	6	1.3	.5	.9	2.6	69	.3	52	86	54	0	4	4	1
PARKERSBURG	46	31	59	25	39	6	.8	.1	.6	1.8	55	.2	33	94	57	0	5	2	1
WI GREEN BAY	30	17	39	10	24	8	.1	-.2	.1	.6	35	T	12	87	62	0	7	2	0
LACROSSE	34	20	43	14	27	12	T	-.2	T	.5	39	0	0	91	62	0	7	1	0
MADISON	33	17	42	6	25	8	.6	.3	.6	.9	49	.6	238	94	70	0	7	3	1
MILWAUKEE	35	23	41	18	29	9	.7	.3	.7	1.2	50	.7	200	94	69	0	7	3	1
WAUSAU	30	17	39	10	23	11	.1	-.2	.1	.4	28	T	0	91	72	0	7	1	0
WY CASPER	33	18	40	8	25	3	.1	0	.1	.4	76	.1	133	77	49	0	7	1	0
CHEYENNE	41	18	51	12	30	3	T	-.1	T	.7	161	T	0	72	33	0	7	0	0
LANDER	36	12	43	7	24	5	0	0	0	.4	64	0	0	74	37	0	7	0	0
SHERIDAN	35	12	45	5	24	4	T	-.1	T	2.4	280	T	29	83	51	0	7	1	0

Weekly and Seasonal Heating Degree Day Table

LAST DATE OF DATA COLLECTION PERIOD IS 1-6-1990

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

ACCUMULATIONS ARE FROM JULY 1  
\*\* = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

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

## December Weather and Crop Summary

## WEATHER

**HIGHLIGHTS:** December 1989 was marked by brutally cold weather east of the Rockies and extreme dryness in the West. Brownsville, TX, and at least 27 cities in the northeastern quarter of the Nation reported their coldest December ever. During Christmas week, the unprecedented cold air in the Central States, spread southward and eastward, causing severe damage to the winter vegetable crops and citrus groves in the lower Rio Grande Valley and central and southern Florida. At month's end, temperatures rose rapidly over the eastern half of the country and melted much of the snow cover.

West of the Rockies, Pocatello, ID, and Sacramento and San Francisco, CA, had their driest December on record. Dry conditions also generally prevailed from the Plains and Mississippi Valley to the northern and middle Atlantic coast. Syracuse, NY, however, did receive their greatest amount of snowfall ever on record during December. Powerful frontal systems throughout the month brought heavy rain and some rare amounts of snow along the Gulf and Southern Atlantic Coast States.

DECEMBER 1-2: A powerful storm system swept across the Great Lakes into the Northeast as strong northerly winds ushered arctic air into the East behind the system. Light to moderate rain fell across Texas.

DECEMBER 3-9: At the first of the week, the winter storm struck New England with high wind and heavy snow. Arctic air plunged into the East behind the storm as 18 low-temperature records were set, and temperatures dropped below freezing into central Florida. The low of 31 degrees Fahrenheit at Lakeland, FL, smashed their previous record for the date by 8 degrees. At the same time, a Pacific storm spread rain with snow in the higher elevations over the Northwest. During the latter half of the week, a storm system developed over the central Gulf coast and edged northeastward, spreading heavy rain across the Southeast and snow up the Middle Atlantic Coast States. Rain and snow showers gave needed moisture to the central and southern Plains, while another Pacific storm caused more precipitation in the Northwest. Mild weather prevailed over the western half of the Nation, but a cold front brought much cooler air into the North Central States at week's end.

DECEMBER 10-16: Bitter polar air invaded the eastern two-thirds of the Nation, where freezing temperatures reached into the lower Rio Grande Valley, southern California, and northern Florida. Temperatures averaged as much as 24 degrees Fahrenheit below normal in the Missouri Valley, as much of the central United States remained in a deep freeze. At the first of the week, a frontal system spread beneficial snow over the winter wheat in the central Plains and middle Mississippi Valley. The system then brought heavy rain across the Southeast and additional snow over the Appalachians and Middle Atlantic States. Arctic air plunged into the eastern half of the country behind the system. On Wednesday morning, Brownsville, TX, had a record-low temperature of 30 degrees Fahrenheit.

During the latter half of the week, another frontal system spread snow from the northern and central Rockies to the middle and northern Atlantic coast, and rain, freezing rain, and snow across the Southeast. At week's end, more snow fell across the central Plains and northern portions of the southern Plains, while bitter polar air settled over much of the country. Fifty-nine stations reported record-low temperatures in the eastern half of the Nation. Cool, dry conditions prevailed over the far West.

DECEMBER 17-23: A brutal blast of polar air struck the eastern two-thirds of the country and brought in the coldest air of the season and, in some cases, the coldest on record. Friday morning temperatures of -23 at Kansas City, MO, -26 at Concordia, KS, and -27 at Goodland, KS, were the lowest ever reported for these cities. Saturday morning temperatures of 11 at New Orleans, LA, -2 at San Angelo, TX, -26 at Topeka, KS, were also all-time records. At week's end, the unprecedented cold weather covered vegetables and citrus fruit in the Rio Grande Valley and was penetrating into central and southern Florida. A total of 253 daily record-low temperatures were established east of the Rockies on Friday and Saturday, with 40 cities setting new records for the month of December. During the first half of the week, bitter arctic air remained settled over the central and northeastern States, while southern Florida experienced record-warm weather. Moderate to heavy rain spread from the Delta into the Southeast. During the latter half of the week, the bitter cold pushed southward and triggered rare snow across northern Florida and up the south Atlantic coast and heavy rain over central Florida. Heavy lake-effect snow fell over the Great Lakes, while light snow fell from the northern and southern Rockies to the Northeast throughout the week. Snow blanketed most winter wheat except in the southern Plains, where subzero temperatures occurred on Friday and Saturday.

DECEMBER 24-30: Record-breaking low temperatures continued over the eastern half of the country on Sunday and Monday, although temperatures rose rapidly as the week progressed. The warm weather following freezing temperatures raised concerns of spoilage for the freeze-damaged citrus crop in Florida and Texas. Snow cover across the winter wheat regions in the Great Plains decreased as maximum temperatures rose into the 40's and 50's. In addition, little or no rain fell in the Plains, continuing a drier-than-normal trend since fall. Most of California was dry, with only extreme southern California receiving significant rainfall. A low-pressure system brought a white Christmas to the eastern Carolinas as 8-15 inches of snow fell. Snow persisted all week around the Great Lakes. Late in the week, a frontal system brought significant rain to the lower and middle Mississippi Valley and freezing rain and sleet from the Great Lakes to the Mid-Atlantic States.

DECEMBER 31: The frontal system spread heavy rain along the eastern seaboard. While another system caused showers along the northern Pacific coast.

## HARVESTING PROGRESS

Rain slowed cotton harvest in the Southeast in early December. By mid-month, harvest was complete in Arizona and California. In the Plains area of Texas, light snow slowed harvest during the third week of December. By the end of December, cotton harvest was complete in Texas and the Southeast. Corn harvest continued in the eastern Corn Belt early in December and was complete by mid-month. Rain slowed soybean harvest in the Delta and Southeast early in the month, but the harvest was virtually complete by mid-December.

## WINTER WHEAT

Lack of moisture stressed winter wheat in the central and southern Great Plains during December. Some reseeding occurred in the Blacklands area of Texas early in December. Seeding was still underway in California and the Southeast as the month began. In mid-to-late December, cold weather stressed

(Continued to back cover)

## December in Historical Perspective

December 1989 was the 4th coldest December since 1895 based on a preliminary value with a standard error of estimate of 0.26 degrees, indicated by the + in figure 1. The coldest December occurred in 1983. The standardized national precipitation also indicates that December 1989 was the 3rd driest on record (fig. 2).

The temperature and precipitation rankings for December 1989 for the nine climatically homogeneous regions (see Weekly Weather and Crop Bulletin, Dec. 12, 1989, p. 8, Vol. 76, No. 49 for the regions) are listed in table 1. The Northeast, Central, and Southeast regions were the coldest on record, while the East North Central and South were the 2nd coldest. The western regions were relatively warm. Much of the Nation was dry during December, with only the Southeast and West North Central being relatively wet and ranking as more than the 12th driest. The West ranked as the driest ever.

In the Northwest region, the October through December period has been unusually dry for the last five consecutive years, in contrast to the first half of the 1980's (fig. 3). Combined October-December precipitation averaged across the Hard Red Winter wheat region in the central and southern Plains ranks 1989 as the 6th driest such period on record (fig. 4). The dryness of the last 2 years contrasts with the unusually wet October through December periods of the mid-1980's.

Figure 1

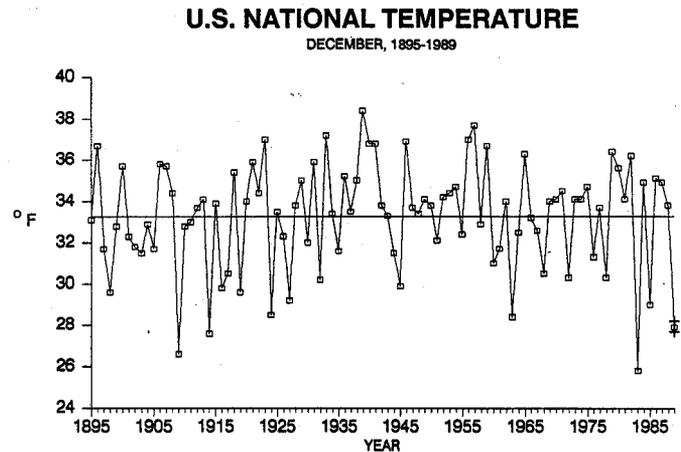


TABLE 1. TEMPERATURE AND PRECIPITATION RANKINGS FOR DEC 1989, BASED ON THE PERIOD 1895-1989. 1 = DRIEST/COLDEST, 95 = WETTEST/HOTTEST.

REGION	PRECIPITATION	TEMPERATURE
NATIONAL	3	4
NORTHEAST	8	1
EAST NORTH CENTRAL	6	2
CENTRAL	8	1
SOUTHEAST	69	1
WEST NORTH CENTRAL	51	22
SOUTH	12	2
SOUTHWEST	11	49
NORTHWEST	7	55
WEST	1	58

Figure 2

### U.S. NATIONAL MEAN PRECIP INDEX

DECEMBER, 1895-1989

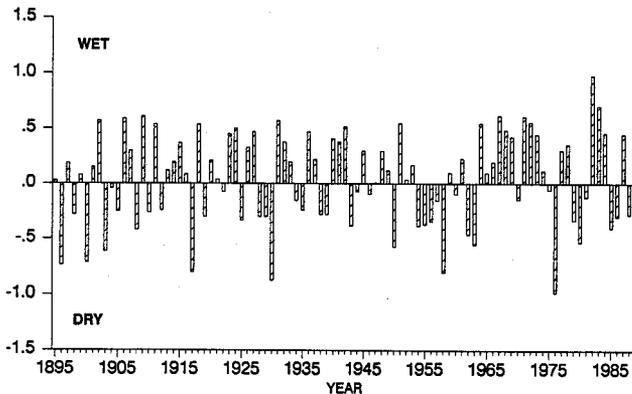


Figure 3

### NORTHWEST U.S. PRECIPITATION

OCTOBER-DECEMBER, 1895-1989

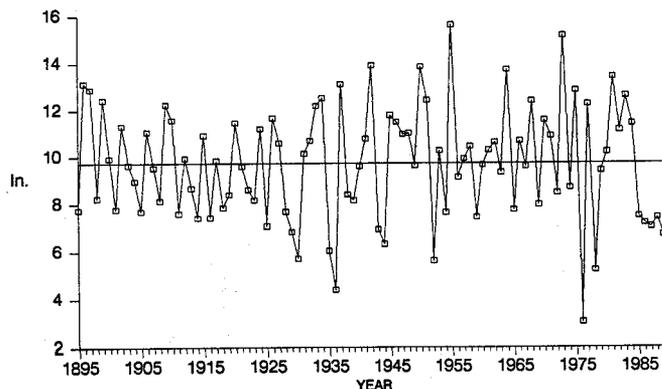
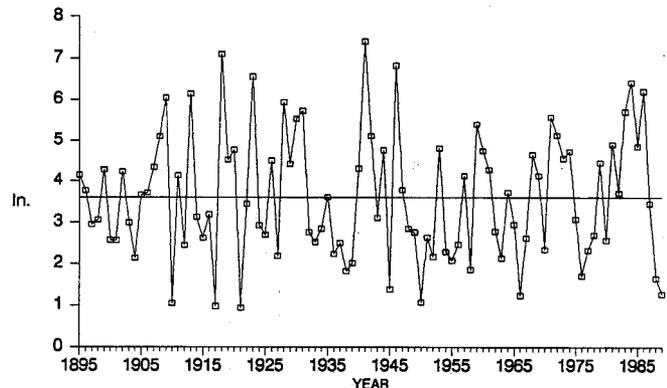
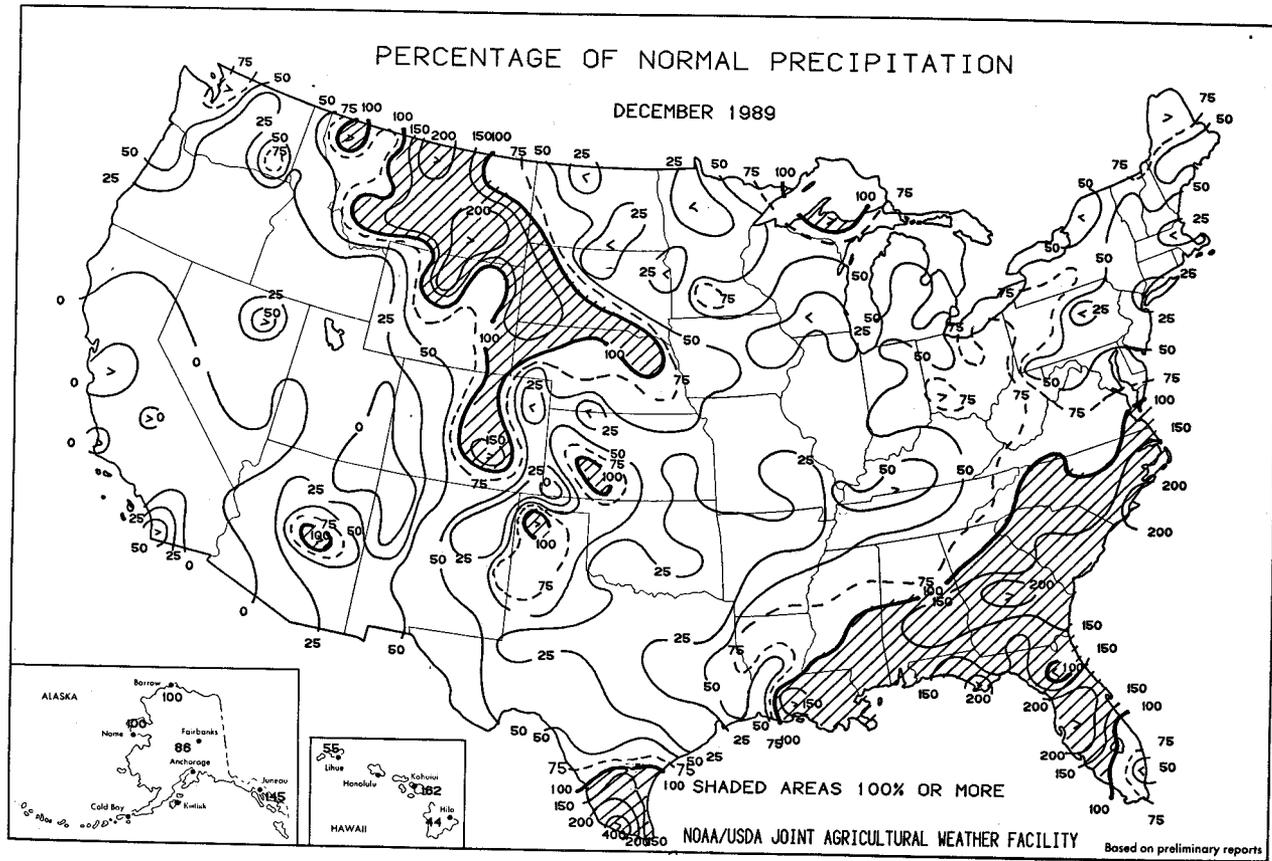
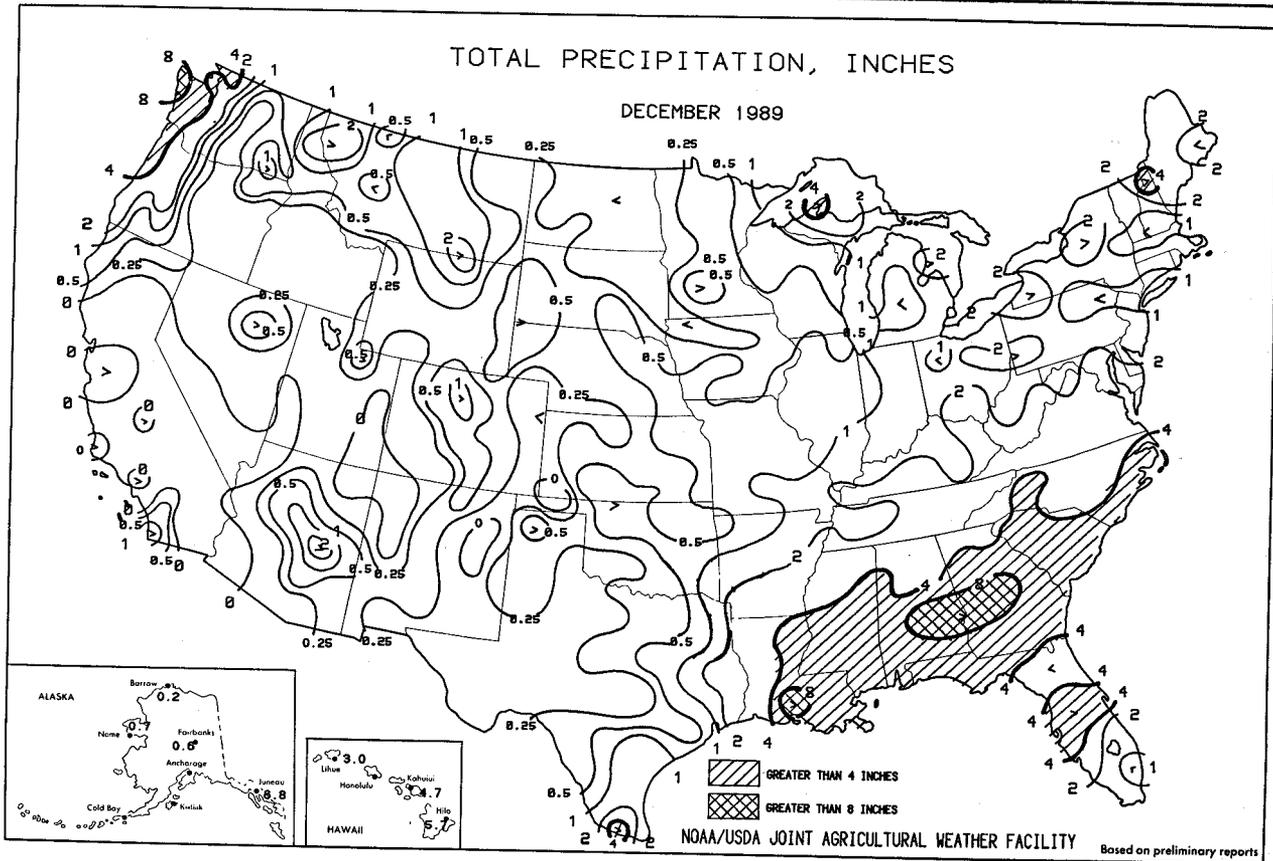


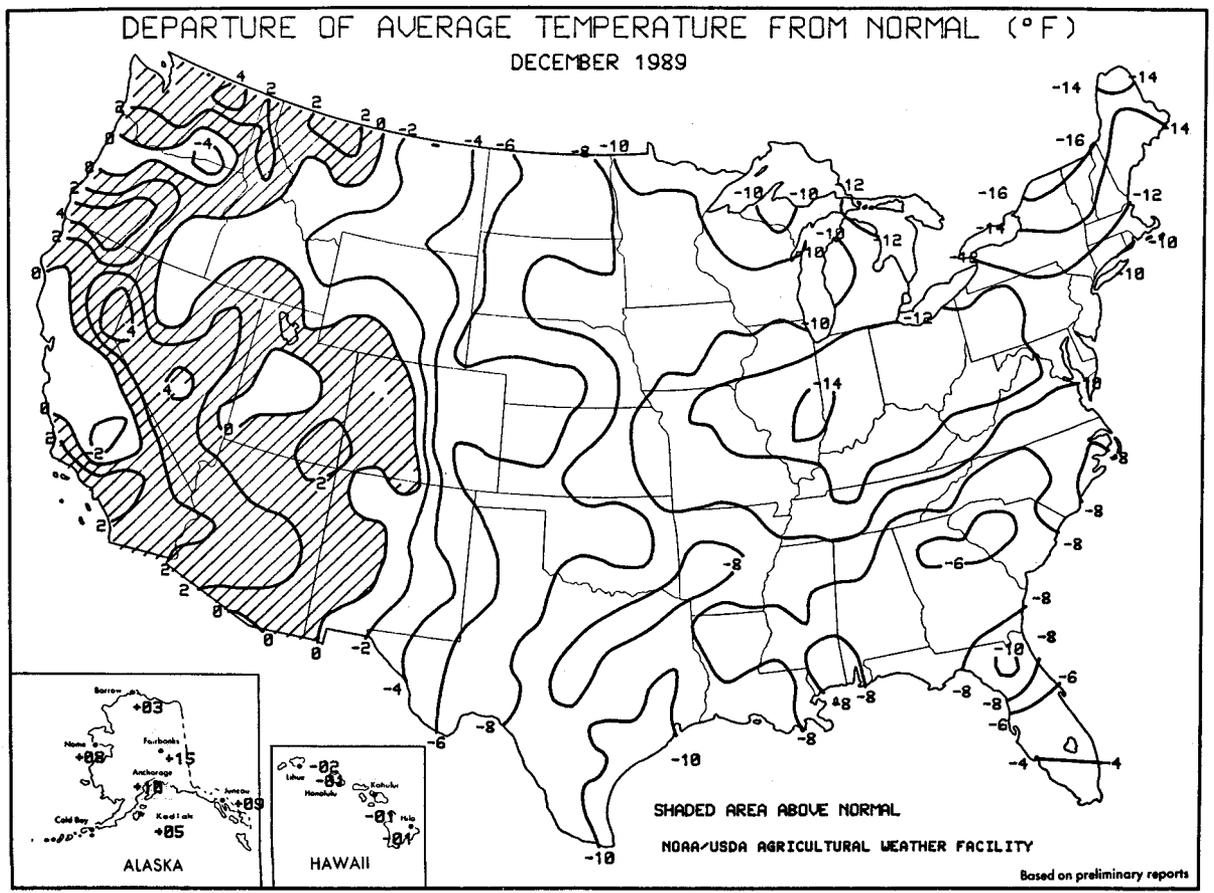
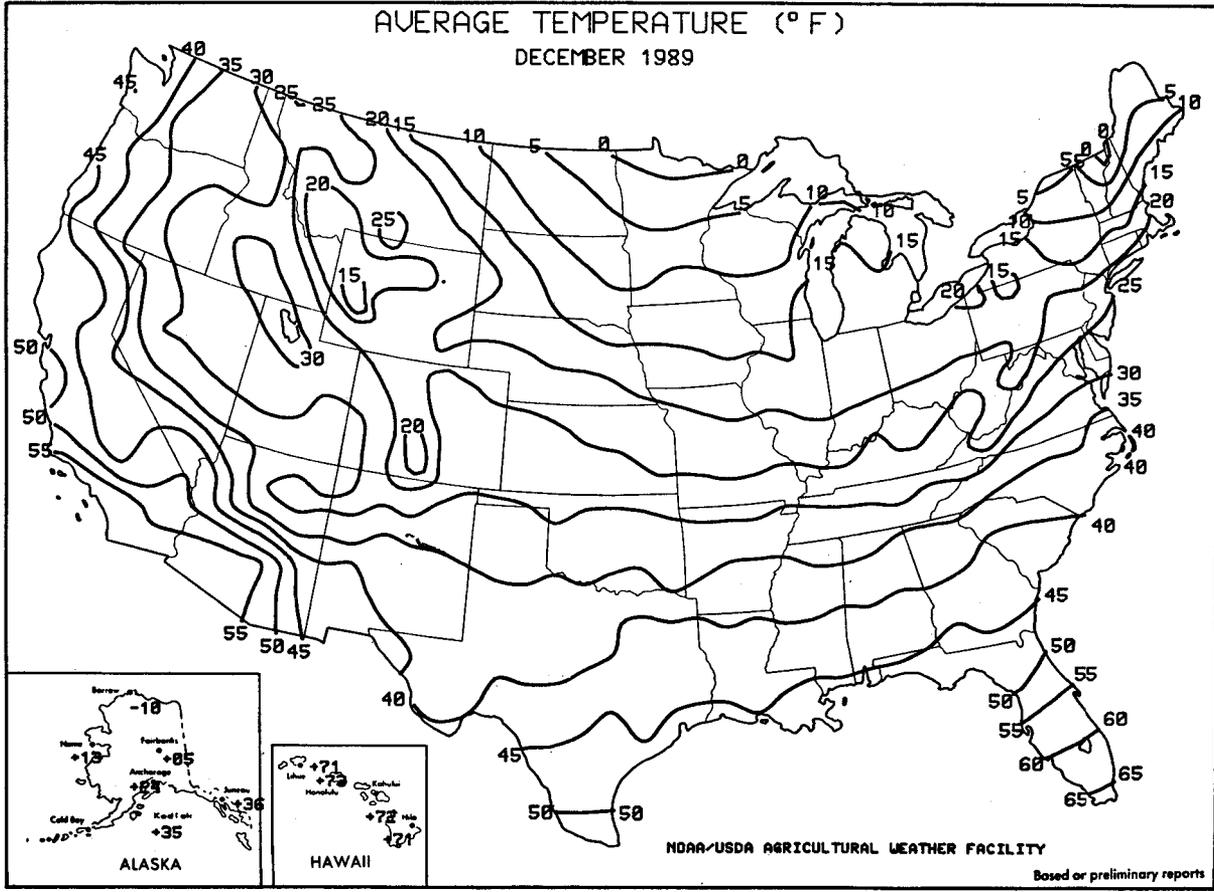
Figure 4

### PRIMARY HARD RED WINTER WHEAT REGION

OCT-DEC PRECIPITATION, 1895-1989







Temperature and Precipitation December 1989

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
AL BIRMINGHAM	38	-8	3.7	-1.2	LA ALEXANDRIA	43	-7	2.0	-2.9	MA MANSFIELD	17	-13	2.1	-0.3
AL HUNTSVILLE	34	-9	3.6	-1.8	LA BATON ROUGE	45	-8	6.3	1.3	MA TOLEDO	17	-12	1.3	-1.3
AL MOBILE	45	-9	7.2	1.8	LA LAKE CHARLES	45	-9	2.2	-2.9	MA YOUNGSTOWN	18	-11	1.5	-1.3
AL MONTGOMERY	41	-8	9.2	4.4	LA NEW ORLEANS	47	-8	6.3	1.0	OK OKLAHOMA CITY	33	-7	0.3	-0.9
AK ANCHORAGE	24	10	1.6	0.6	LA SHREVEPORT	41	-8	3.3	-0.6	OR ASTORIA	32	-8	0.3	-1.5
AK BARROW	-10	22	0.2	0.0	ME CARIBOU	3	-13	2.4	-0.8	OR BURNS	44	1	7.4	-4.2
AK FAIRBANKS	5	15	0.6	-0.2	ME PORTLAND	14	-12	2.2	-2.3	OR EUGENE	27	0	0.1	-1.5
AK JUNEAU	36	9	6.8	2.1	MD BALTIMORE	25	-11	2.1	-1.3	OR MEDFORD	41	0	2.7	-5.8
AK KODIAK	35	5	12.2	6.7	MA SALISBURY	28	-11	2.6	-1.2	OR PENDLETON	36	-2	0.7	-2.8
AK NOME	13	8	0.7	0.1	MA BOSTON	22	-12	0.8	-3.7	OR PORTLAND	33	-3	0.2	-1.4
AZ FLAGSTAFF	32	2	1.1	-1.2	MI CHATHAM	25	-10	1.8	-3.2	OR SALEM	40	0	3.1	-3.3
AZ PHOENIX	57	4	0.2	-0.6	MI DETROIT	18	-11	1.2	-1.3	PA ALLENTOWN	40	-1	4.0	-3.1
AZ PRESCOTT	40	2	0.3	-1.3	MI FLINT	16	-11	1.0	-1.0	PA ERIE	21	-11	1.3	-2.4
AZ TUCSON	53	1	0.2	-0.7	MI GRAND RAPIDS	17	-11	1.0	-1.6	PA HARRISBURG	22	-9	3.1	-0.1
AZ WINSLOW	34	1	0.4	-0.2	MI HOUGHTON LAKE	13	-10	0.9	-1.0	PA PHILADELPHIA	25	-10	1.2	-2.3
AZ YUMA	59	3	T	-0.3	MI LANSING	16	-11	0.9	-1.3	PA PITTSBURGH	19	-13	2.4	-0.2
AR FORT SMITH	33	-8	0.7	-2.1	MI MARQUETTE	8	-10	2.6	0.1	PA SCRANTON	19	-12	1.0	-1.5
AR LITTLE ROCK	36	-8	1.5	-2.7	MI MUSKOGEE	20	-8	1.9	-0.7	RI WILLIAMSPORT	20	-11	0.7	-2.6
CA BAKERSFIELD	44	-4	0.0	-0.6	MN SAULT ST. MARIE	7	-12	1.7	-0.8	RI PROVIDENCE	22	-11	1.7	-2.8
CA BISHOP	-	-	0.0	-0.7	MN ALEXANDRIA	6	-8	0.2	-0.6	SC CHARLESTON	43	-7	4.7	1.6
CA EUREKA	49	1	0.8	-5.4	MN DULUTH	4	-10	0.6	-0.7	SC COLUMBIA	41	-8	5.3	1.8
CA FRESNO	44	-1	0.0	-1.6	MN INT'L FALLS	-2	-10	0.5	-0.4	SC FLORENCE	39	-8	4.4	1.4
CA LOS ANGELES	61	3	0.0	-1.6	MN MINNEAPOLIS	11	-9	0.4	-0.4	SD GREENVILLE	37	-7	4.8	0.7
CA REDDING	47	-1	0.0	-7.0	MN ROCHESTER	10	-8	0.4	-0.5	SD ABERDEEN	9	-8	0.2	-0.3
CA SACRAMENTO	44	-1	0.0	-2.9	MN ST. CLOUD	8	-7	0.3	-0.6	SD HURON	11	-8	0.2	-0.3
CA SAN DIEGO	59	1	1.0	-0.9	MS GREENWOOD	38	-8	3.5	-1.9	SD RAPID CITY	20	-7	0.8	0.4
CA SAN FRANCISCO	50	1	T	-3.5	MS JACKSON	40	-8	4.2	-1.2	SD SIOUX FALLS	12	-8	0.3	-0.4
CO ALAMOSA	20	2	0.2	-0.2	MO MERIDIAN	40	-8	6.7	1.0	TN BRISTOL	28	-10	3.2	-0.3
CO CO. SPRINGS	27	-4	0.4	0.1	MO TUPELO	35	-9	2.9	-2.7	TN CHATTANOOGA	35	-7	3.7	-1.4
CO DENVER	28	-5	0.8	0.3	MO COLUMBIA	21	-12	0.8	-1.2	TN KNOXVILLE	32	-9	2.7	-1.8
CO PUEBLO	26	-7	0.9	0.6	MO KANSAS CITY	21	-12	0.6	-0.9	TN MEMPHIS	34	-10	2.1	-2.7
CO GRAND JUNCTION	29	1	0.1	-0.5	MO SAINT LOUIS	24	-10	0.6	-1.6	TN NASHVILLE	30	-11	2.0	-2.6
CT BRIDGEPORT	23	-11	1.0	-2.8	MO SPRINGFIELD	26	-10	0.8	-1.8	TX ABILENE	38	-8	0.2	-0.6
CT HARTFORD	18	-11	1.5	-2.6	MT BILLINGS	25	-2	1.4	0.6	TX AMARILLO	31	-7	0.5	0.0
DC WASHINGTON	28	-11	2.1	-1.1	MT GLASGOW	14	-2	0.4	0.0	TX AUSTIN	44	-8	0.1	-1.9
FL APALACHICOLA	48	-7	7.1	3.6	MT GREAT FALLS	28	1	1.3	0.5	TX BEAUMONT	46	-8	3.3	-1.6
FL DAYTONA BEACH	53	-6	3.9	1.7	MT HAVRE	18	-2	1.9	1.4	TX BROWNSVILLE	52	-10	1.7	0.5
FL JACKSONVILLE	48	-8	3.4	0.8	MT HELENA	24	0	0.5	-0.1	TX CORPUS CHRISTI	48	-11	1.5	0.3
FL KEY WEST	67	-4	1.7	0.0	MT KALISPELL	27	2	2.2	0.6	TX DEL RIO	44	-8	0.3	-0.3
FL MIAMI	65	-4	0.6	-1.2	MT MILES CITY	18	-4	1.3	0.7	TX EL PASO	42	-3	0.2	-0.2
FL ORLANDO	55	-6	4.5	2.6	MT MISSOULA	24	-1	0.6	-0.6	TX FORT WORTH	39	-9	0.3	-1.4
FL TALLAHASSEE	45	-8	4.6	0.0	NE GRAND ISLAND	21	-6	0.4	-0.3	TX GALVESTON	47	-10	0.5	-3.1
FL TAMPA	56	-5	4.7	2.6	NE LINCOLN	19	-8	0.6	-0.1	TX HOUSTON	44	-10	0.8	-3.0
GA WEST PALM BEACH	62	-5	1.9	-0.3	NE NORFOLK	16	-9	0.8	0.1	TX LAREDO	50	-8	1.8	0.9
GA ATHENS	38	-7	5.3	1.2	NE NORTH PLATTE	21	-6	0.3	-0.1	TX LUBBOCK	36	-6	0.3	-0.1
GA ATLANTA	39	-6	4.5	0.3	NE OMAHA	18	-10	0.5	-0.3	TX MIDLAND	39	-7	0.1	-0.3
GA AUGUSTA	41	-6	4.7	1.5	NE SCOTTSBLUFF	20	-7	0.7	0.2	TX SAN ANGELO	39	-9	0.2	-0.4
GA MACON	41	-7	8.8	4.8	NV VALENTINE	16	-8	0.3	-0.0	TX SAN ANTONIO	43	-10	0.4	-1.0
GA SAVANNAH	44	-7	5.2	2.4	NV ELKO	28	2	0.5	-0.5	TX VICTORIA	46	-10	1.1	-1.0
HI HILO	71	-1	5.7	-7.2	NV ELY	28	2	T	-0.7	TX WACO	41	-9	0.5	-1.4
HI HONOLULU	73	-1	1.3	-2.1	NV LAS VEGAS	48	3	T	-0.3	TX WICHITA FALLS	35	-9	0.3	-0.9
HI KAHULUI	72	-1	4.7	1.8	NV RENO	36	3	0.0	-1.2	UT BLANDING	-	-	0.0	-1.3
HI LIHUE	71	-2	3.0	-2.5	NH WINNEMUCA	31	0	0.1	-0.7	UT CEDAR CITY	32	1	0.0	-0.7
ID BOISE	30	-2	0.1	-1.2	NH CONCORD	12	-13	0.9	-2.5	UT SALT LAKE CITY	31	1	0.1	-1.2
ID LEWISTON	38	3	0.3	-1.0	NJ ATLANTIC CITY	25	-12	1.6	-2.0	VT BURLINGTON	8	-15	1.3	-1.1
ID POCATELLO	27	0	0.1	-0.9	NM ALBUQUERQUE	35	0	0.3	-0.2	VA LYNCHBURG	29	-9	3.0	-0.2
IL CAIRO	-	-	2.7	-1.5	NM CLOVIS	35	-4	0.5	-0.1	VA NORFOLK	35	-9	3.9	0.7
IL CHICAGO	17	-10	0.5	-1.9	NM ROSWELL	37	-3	0.1	-0.2	VA RICHMOND	31	-9	2.6	-0.8
IL MOLINE	16	-11	0.7	-1.2	NY ALBANY	14	-13	0.8	-2.2	VA ROANOKE	29	-9	2.6	-0.3
IL PEORIA	16	-12	0.9	-1.1	NY BINGHAMTON	14	-12	1.6	-1.3	VA COLVILLE	27	-1	0.8	-1.7
IL QUINCY	18	-12	0.7	-1.0	NY BUFFALO	17	-12	2.3	-1.1	VA QUILLAYUTE	44	3	8.8	-8.7
IL ROCKFORD	14	-11	0.5	-1.4	NY NEW YORK	26	-10	0.8	-2.9	WA SEATTLE-TACOMA	43	2	4.7	-1.6
IL SPRINGFIELD	19	-12	0.6	-1.5	NY ROCHESTER	17	-12	1.6	-1.0	WA SPOKANE	31	2	1.0	-1.5
IN EVANSVILLE	23	-13	1.4	-2.1	NC SYRACUSE	14	-14	2.1	-1.1	WA WALLA WALLA	34	-3	1.7	-0.5
IN FORT WAYNE	17	-13	1.2	-1.2	NC ASHEVILLE	31	-8	3.3	0.1	WA YAKIMA	31	0	0.2	-1.1
IN INDIANAPOLIS	19	-13	1.9	-1.1	NC CHARLOTTE	36	-6	3.7	0.4	WV BECKLEY	23	-11	2.4	-0.7
IN SOUTH BEND	18	-12	1.8	-1.1	NC GREENSBORO	33	-8	3.5	0.1	WV CHARLESTON	26	-11	1.8	-1.5
IA DES MOINES	17	-9	0.6	-0.5	NC HATTERAS	41	-8	6.5	2.2	WV ELKINS	18	-14	2.7	-0.6
IA DUBUQUE	13	-10	0.4	-1.5	NC NEW BERN	37	-10	6.1	2.4	WV HUNTINGTON	25	-12	2.3	-0.6
IA SIOUX CITY	14	-9	0.4	-0.3	NC RALEIGH	34	-7	3.0	-0.1	WI PARKERSBURG	21	-15	1.6	-1.1
IA WATERLOO	13	-9	0.2	-0.9	NC WILMINGTON	38	-10	6.8	3.4	WI GREEN BAY	11	-10	0.6	-0.9
KS CONCORDIA	23	-8	0.4	-0.3	ND BISMARCK	8	-7	0.3	-0.2	WI LA CROSSE	12	-10	0.5	-0.6
KS DODGE CITY	27	-7	0.6	0.1	ND FARGO	4	-9	0.2	-0.4	WI MADISON	14	-9	0.3	-1.2
KS GOODLAND	26	-5	0.2	-0.2	ND GRAND FORKS	3	-8	0.2	-0.4	WI MILWAUKEE	17	-9	0.5	-1.5
KS TOPEKA	21	-11	0.6	-0.7	ND LILLISTON	11	-5	0.4	-0.1	WI WAUSAU	8	-10	0.4	-0.6
KS WICHITA	25	-9	0.4	-0.5	OH AKRON-CANTON	18	-12	2.0	-0.6	WI CASPER	24	-2	0.3	-0.2
KY BOWLING GREEN	26	-12	2.2	-2.3	OH CINCINNATI	22	-12	2.0	-1.0	WI CHEYENNE	24	-6	0.7	0.3
KY JACKSON	27	-7	2.4	-1.1	OH CLEVELAND	19	-12	1.7	-1.0	WI LANDER	22	-1	0.4	-0.2
KY LEXINGTON	23	-13	1.8	-2.0	OH COLUMBUS	20	-12	1.8	-0.8	WI SHERIDAN	21	-4	2.4	1.7
KY LOUISVILLE	25	-12	1.5	-2.0	OH DAYTON	19	-13	1.9	-0.6	PR SAN JUAN	81	3	2.5	-2.0
KY PADUCAH	27	-11	1.8	-2.4										

Based on 1951-80 normals.

## National Agricultural Summary

January 1-7, 1990

**HIGHLIGHTS:** Snow cover was needed in the central and northern Great Plains and most of the Corn Belt. The Great Plains and most of the West remained dry. Heavy rains improved soil moisture in western Oregon and Washington and portions of California and Idaho. Rain fell in the Delta and the East, where soil moisture was mostly surplus to adequate. Above-normal temperatures eased livestock stress.

**SMALL GRAIN:** Lack of snow cover continued to cause concern for winter wheat producers in the central and northern Great Plains, except for Montana, where snow cover was mostly good. Montana's winter wheat was mostly good to fair. In the Corn Belt, winter wheat was mostly good but lacked snow cover except in northern Michigan. Inadequate soil moisture stressed winter wheat in the central and southern Great Plains. In Texas, continued lack of moisture combined with wind and freezing nighttime temperatures stressed small grains in the High Plains. In eastern Texas, small grains were slowly recovering from the earlier freeze. Georgia's winter wheat was mostly good. Warmer weather improved growth. Crop condition was fair to good in North Carolina and mostly good in Arkansas. Seeding continued in Arizona and California. Rain improved germination in portions of California. Rain improved winter wheat condition in western Oregon. Condition was good in the west and fair to good in the north-central area. Washington's winter wheat was good to fair.

**OTHER FIELD CROPS:** Cotton stalk shredding and disking was active in Arizona and California. Florida's sugarcane harvest was over half finished. Warm weather caused further deterioration in previously frozen sugarcane. Tobacco bed preparation was 65 percent (%) complete in Georgia.

**FRUIT AND NUTS:** Florida's citrus groves continued to recover from the earlier freeze. Southern areas had minimal damage, but other areas had varying amounts of foliage and fruit damage. Harvest was very active, with most of the fruit going to processing plants rather than fresh market. Hedging and topping of harvested groves began. Peach tree pruning began in Georgia. In Alabama, light bud

damage from the earlier freeze was evident in some fruit varieties. In Texas, pecan harvest was virtually complete in most areas. In the Rio Grande Valley, citrus tree damage from the earlier freeze was still unknown. In Arizona, harvest and packing of lemons, oranges, grapefruit, and tangerines continued. Orange, lemon, grapefruit, and mandarin harvests were active in California. Date harvest was nearly complete and avocado harvest slowed. In Oregon, producers were spraying and pruning dormant orchards.

**VEGETABLES:** Warm weather prevailed over Florida's major vegetable producing area. Planting and replanting was active under nearly ideal weather conditions. Harvest continued, but supplies of most crops were reduced. The first spring crop watermelons were planted in the Immokalee area. In Georgia, onion transplanting was nearly complete. In Texas, damage from the earlier freeze became more evident in the Rio Grande Valley. Lettuce and celery were severely damaged and onions also suffered some loss. Vegetable harvests continued in Arizona and California. In California, artichoke and broccoli supplies were light to moderate. Desert lettuce harvest continued. In Oregon, winter cabbage was heading.

**PASTURES AND LIVESTOCK:** Mild temperatures eased livestock stress. Variable temperatures caused pneumonia in parts of Iowa. In Florida, pastures were showing new growth after earlier freeze damage in the southern peninsula. In Texas, heavy supplemental feeding continued due to freezing nighttime temperatures and continued dry weather. Rain improved range conditions in portions of California.

## 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 2.00 to 3.00 in.; near 5.00 in. isolated areas. Temperatures 3 to 6° above normal.

Continued wet conditions hampered all fieldwork. Light bud damage to some fruit tree varieties from earlier freeze. Damaged small grains, pastures recovering favorably with recent mild temperatures. Livestock producers continued providing hay, other supplemental feeds. Primary activities: Routine care of livestock, poultry.

**ARIZONA:** Period began sunny, warm; falling temperatures, rain, snow 2nd; mostly dry, clear remainder of period. Snow levels 1.00 to 12.0 in., rainfall 0.02 to 0.73 in. Temperatures 1 to 8° below normal. Extremes 9°; 73°.

Wheat, barley good, 90% seeded, 88% 1989, 81% avg.; stands established 76%, 73% 1989, 45% avg.; growth slowed by low temperatures, rain. Alfalfa fair southwest, southeast; good elsewhere; growth slowed by weather; light frost damage west; grazing, green chop activities light. Cotton stalk shredding, disking, plow down active central. Harvest, packing lemons, oranges, grapefruit, tangerines continued west, central. Boston, leaf, romaine, head lettuce harvests continued west. Mixed vegetable harvests continued west, central. Apple shipping east; pecan harvest slowing.

**ARKANSAS:** Temperatures slightly above normal. Scattered showers statewide mid week, continued southeast through end of week. Extremes 14°; 64°. Rainfall 0.22 to 2.44 in.

Soil moisture short northwest, adequate elsewhere. Winter wheat good. Land preparation ahead of schedule. Pastures below normal. Livestock good, feeding normal. Hay supply good.

**CALIFORNIA:** Pacific cold front brought rain as far south as the southern deserts on 1st. Rainfall 0.50 to 0.75 in. common. Another cold front brought rain to northern areas late in the week. Temperatures were generally near seasonal normals.

General rains early interrupted field activities. Seeding winter grains active. Rain improved germination earlier seeded field. Growth slow, cold weather. Fertilization, irrigation, weed control active. Russian wheat aphid movement volunteer to seeded fields increased. Land preparation spring crops active. Sheep grazing dormant alfalfa fields. Pruning, grafting, weed control continued. Kiwifruit, grapes, Minneola tangelos shipped domestic and export markets. Navel, lemon, grapefruit, Orlando, Dancy, Royal mandarins harvested. Apple crop to market. Date harvest winding down. Avocado harvest slow. Artichokes light to moderate supply. Broccoli light to moderate supply, variable quality central coast. Desert broccoli, cauliflower supplies moderate. Celery moderate supply, variable quality. Desert lettuce harvest continued steady. Livestock good. Seasonal movement to market. Pastures improved areas receiving rain. Supplemental feeding continued. Water supplies low.

**COLORADO:** Dry, warm weather on 1st, 2nd gave way to colder temperatures, mountain snows on 3rd. Although 2.00 to 5.00 in. of new snow was reported in the mountains, precipitation at lower levels

was spotty, light. Grand Junction 0.28 in., Alamosa with 0.21 in. had the greatest totals. Westerly winds aloft on 4th, 5th brought isolated snow showers to mountain locations, almost none at lower elevations. Dry weather, warming temperatures prevailed statewide over the weekend. Temperatures for the period were within a degree or two of normal at most locations.

**FLORIDA:** Warm week temperatures 4 to 8° above normal north; 7 to 9° above, central, south. Warmest maximum temperatures around 70° western Panhandle to mid to upper 80s south. Coldest lows around 30° Panhandle to low, mid 40s central; low, mid 60s southeast coast. Rainfall mostly 1.00 to 2.00 in. north; some 3.00 in. extreme western Panhandle. Central, southern Peninsula totals mostly under 0.10 in.

Soil moisture Panhandle adequate to surplus; Peninsula short to adequate. Sugarcane harvest active; 50% plus harvested. Warm temperatures contributed to deterioration of freeze damaged sugarcane. Warm temperatures promoted recovery winter grazing crops from Christmas freeze. Freeze browned permanent pastures southern Peninsula began showing some new growth. Panhandle pastures varied very poor to excellent; mostly poor to fair. Northern Peninsula severe to fair; southern Peninsula, poor to good. Supplemental feeding continued heavy most areas. Herds remained generally fair to good except upper northern Peninsula mostly fair. Citrus freeze recovery continued. South part of citrus belt had minimum damage, other areas varying amounts of foliage, fruit damage. Harvest very active, most fruit going to processing plants. Hedging, topping of harvested groves began. Warm temperatures prevailed over major vegetable producing areas. Planting, replanting active under near ideal conditions. Supplies reduced most crops except cabbage. Fair supply tomatoes available. Less volume available peppers, celery, carrots, cucumbers, eggplant, radishes, squash, strawberries. First spring crop Immokalee watermelons planted.

**GEORGIA:** Warm, wet. Rain 1.00 in., local 3.00 to 5.00 in. Exception coastal islands less than 1.00 in. Rain 3 to 5 days. Temperatures 4 to 8° above normal. Extremes 19°; 77°.

Soil moisture adequate to mostly surplus. Wet weather continues to delay fieldwork. Tobacco bed preparation 65% complete. Pecan harvest nearing completion. Wheat, other small grains fair to mostly good, warmer temperatures improved growth. Transplanting onions nearly complete. Peach tree pruning began. Cattle, hogs good.

**HAWAII:** Generally fair weather continued over islands. Sunny days with cool, cloudy periods prevailed. Evening showers were light to moderate. Winds variable 5 to 30 mph, temperatures low 60s to low 80s. Rainfall none to 4.56 in.

Days suitable for farm work 7.0. Papaya production declining seasonally. Pineapple harvesting continuous.

**IDAHO:** Temperatures slightly above normal north, east, south central; below normal southwest. Precipitation fell across State, below normal levels statewide.

Cold, wet weather brought activity to virtual standstill. Main activities were feeding, general care of livestock. Other activities: Marketing products, repairing equipment, financial planning. Calving, lambing picked up in some areas. Livestock good. Hay, roughage supplies mostly adequate.

**ILLINOIS:** Temperatures 8 to 12° above normal north, 4 to 9° above normal south. Precipitation generally 0.20 to 0.70 in. across State. Winter wheat mostly good. Livestock good.

**INDIANA:** Temperatures 5 to 10° above normal. Lows mid to upper 20s, highs upper 30s, 40s. Precipitation 0.20 in. to 0.50 in. Snow cover disappeared.

Minimal field activities. Other activities: Moving grain to market, tax preparation, spreading fertilizer, hauling manure, cutting wood, machinery repair, care of livestock. Wheat mostly good. Hay supplies adequate.

**IOWA:** Temperatures 9 to 15° above normal. Extremes 0°; 53°. Precipitation none northwest half to 1.07 in.; average 0.22 in.

Snow cover southern one half limited field grazing of cattle. Variable temperatures caused some pneumonia in livestock. Machine repair, tending livestock, planning for spring planting main activities.

**KANSAS:** Temperatures 7° above normal across State. Range 1° above southwest to 12° above southeast. Precipitation none northwest to 0.52 in. northeast.

Lack snow cover leaving wheat vulnerable possible freeze damage. More moisture needed raise soil moisture levels near normal. Warmer temperatures reduced supplemental feeding livestock.

**KENTUCKY:** Mild temperatures, light precipitation. Daytime highs upper 40s, 5° above normal. Lows lower 30s, 7° warmer than normal. Precipitation around 0.25 in. Deficits 0.75 in.

Soil moisture adequate. Wet fields limited activity. Seasonally temperatures lessened stress on livestock. Burley market resumed activity.

**LOUISIANA:** Temperatures 1 to 2° above normal in north to 2° to 5° above normal in the south. Extremes 27°; 79°. Rainfall 1.59 to 3.14 in.

Main activities: Crawfishing; livestock care; routine chores.

**MARYLAND & DELAWARE; MARYLAND:** Precipitation 1.13 in. Temperature 38°, normal 33°. Extremes 14°; 62°.

**DELAWARE:** Precipitation 1.26. Temperature 40°, normal 35°. Extremes 25°; 61°.

**MICHIGAN:** Temperatures 8 to 10° above normal. Extremes 2°; 49°. Precipitation 0.14 to 0.93 in. across the State. Warmer temperatures, rain reduced snow depth. Snow cover virtually eliminated southern districts.

Major activities: Caring for livestock, pruning orchards, marketing grain, chopping wood, attending farm meetings. Moderating temperatures good for livestock. Feed, roughage supplies adequate.

**MINNESOTA:** Temperatures 9 to 15° above normal. Extremes -20°; 50°. Precipitation 0.01 to 0.08 in. northern areas, none elsewhere.

**MISSISSIPPI:** Days suitable for fieldwork 0.3, 1.1 1989, 2.4 avg. Soil moisture surplus. Wheat fair. Pastures, livestock good. Hay supply

adequate. Recent cold temperatures forcing cattlemen to use hay faster than normal. Winter grazing moderately damaged by freezes. Farm activities: Livestock chores, shop work.

**MISSOURI:** Temperatures 4° above normal in Boothell to 8° above normal north. Precipitation up to 1.25 in. southeast, near 0.50 in. elsewhere.

Farmers caring for livestock, doing maintenance work, planning for coming season. No snow cover, some open grazing where available.

**MONTANA:** Temperatures 10° above normal north. South above normal. Little precipitation in north central, southeast. Some locations northwest received significant moisture.

Winter wheat 2% poor, 31% fair, 55% good, 12% excellent. Snow cover protection 12% poor, 24% fair, 40% good, 24% excellent. About 95% livestock on supplemental feed. Grazing 16% open, 68% difficult, 16% average.

**NEBRASKA:** Temperatures 6 to 14° above normal. Precipitation only amounted to 0.01 to 0.02 in. southeast. Extremes 5°; 63°.

**NEVADA:** Week began with Pacific storm system spreading widely scattered snow showers north. Snowfall 1.00 to 6.00 in. Gusty winds, light rain occurred south. Warmer temperatures returned mid week. Remainder of period had a few snow showers north border.

Rain, snow, below normal temperatures early hard on newborn calves, lambs. Sloppy conditions end of period hampered feeding operations.

**NEW ENGLAND:** Precipitation (rainfall and water equivalent of snow) 0.75 to 1.00 in. coastal Maine, 0.25 to 0.75 in. remainder. Temperatures near 20° Canadian border to mid 30s south coast. Temperatures near normal.

Major farm activities: Tending livestock, machinery repair.

**NEW JERSEY:** Temperatures above normal; 33° north, 36° south, 38° coastal. Extremes 17°; 57°. Precipitation below normal; none north, 0.03 in. south, 0.11 in. coastal. Heaviest 24 hour total 0.19 in. on 5th, 6th.

Farmers performed machinery maintenance, repair; livestock tending; normal winter chores.

**NEW MEXICO:** Extremes -11°; 67°. Few inches of snow fell at the lower elevations of the north. Snow fell 10.0 in. at higher elevations in mid week storm.

**NEW YORK:** Unseasonably mild week after a record breaking cold December. Temperatures well above normal. Warmest day was 4th when all areas reached the 40s. Rain fell over the States on 31st. Adirondacks picked up several inches of snow before changing to rain.

Warm weather melted snow cover in many areas. Outside chores, caring for livestock made easier by break in cold weather. Fruit grading, packing continued active.

**NORTH CAROLINA:** Temperatures 5° to 8° above normal across State. Extremes 13°; 70°. Precipitation 0.50 to 2.50 in.

Days suitable for fieldwork 1.8. Soil moisture 1% short, 42% adequate, 57% surplus. Pasture 2% very poor, 17% poor, 49% fair, 32% good. Livestock feed from pasture 39%. Crop condition: Wheat, 1% very poor, 4% poor, 52% fair, 43% good; oats 3% very poor, 4% poor, 53% fair, 40% good; barley 4% poor, 57% fair, 39% good; rye 2% poor, 49% fair, 49% good; Hay, roughage supplies 2% short, 91% adequate, 7% surplus. Feed grain supplies 4%

short, 94% adequate, 2% surplus. Activities: Cutting wood; tending livestock, general farm maintenance.

**NORTH DAKOTA:** Temperatures 10 to 12° above normal. Extremes -10° northeast, 5th; 52° south central, 6th. Precipitation none to 0.05 in. Soil moisture below normal. Snow cover inadequate to protect winter seedings, alfalfa. Livestock mostly good, receiving supplemental forages. Hay, roughage supplies mostly adequate.

**OHIO:** High temperatures high 30s to mid 40s. Low temperatures mid to upper 20s. Temperatures well above normal. Precipitation subnormal 0.10 to 0.30 in.

Milder temperatures produced less stress on livestock. No snow cover on winter wheat. Soil temperatures at 4 in. depth averaged near to just above freezing.

**OKLAHOMA:** Temperatures 2° above normal southeast to 6° above normal northeast. Precipitation none north central to 0.63 in. southeast.

Prolonged dryness concerned wheat farmers. Pasture growth needed. Supplemental feeding active in areas with insufficient forage. Cattle prices mixed from preceding week.

**OREGON:** The recent dry spell in western area of the last few weeks ended last week. Precipitation 3.00 to 3.50 in. along the coast, north Cascades, 1.50 in. in the Willamette Valley, high plateau, 0.50 in. in southwest valleys. In addition to the heavy rainfall, north Cascades received 2 to 3 feet of snow. East of the mountains much less precipitation fell - 0.10 to 0.20 in. Temperatures for the period 4 to 6° above normal along the coast, Willamette Valley, 6 to 7° in north central area, Columbia Basin. Remainder slightly below normal. Portions of northeast mountains very cold with a minimum of 6° below in Baker, Enterprise on 3rd with rest of minimum temperatures never climbing higher than teens in Baker. Portions of south central area had single digit low temperatures mid period, with 20s first, latter part of week.

Soil moisture adequate in valley, short to adequate east side. Wheat good in valley, fair to good north central. Some dormant sprays on fruit, some winter pruning. Winter cabbage heading, selling onions. Ranges, livestock fair to good east side, rain needed.

**PENNSYLVANIA:** Abnormal warm week to begin the new year. Temperature 34°, 7° above normal. Extremes 12°; 55°. Precipitation 0.64 in., 0.03 in. below normal.

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

**SOUTH CAROLINA:** Temperatures 5 to 8° above normal. Rainfall 0.75 in. in northeastern parts of the State to 2.50 in. the mountains.

**SOUTH DAKOTA:** Temperatures 7 to 13° above normal. Extremes -2°; 60°. Precipitation mostly below normal statewide with only a trace most places. Maximum melted precipitation 16.0 for the week. Precipitation for the year below normal statewide. Rainfall 0.05 to 0.38 in. below normal. Snow cover mostly absent. Maximum 12.0 in.

**TENNESSEE:** High pressure dominated early week. Cold front moved across State late week. Temperatures slightly above normal statewide. Precipitation above normal east, below normal

elsewhere. Ranged 0.65 in. middle, 1.50 in. east. Rains most numerous mid week, weekend.

Livestock chores, record keeping, meetings main activities.

**TEXAS:** Cloudy, damp most growing areas, State under the influence of moist, southwesterly flow. Cooler surface air overrun by tropical moisture, long periods of cloudiness, light, persistent rain many coastal, central locations. Temperatures slightly above normal eastern sections; slightly below normal elsewhere. Precipitation totals below normal western, far southern areas, above normal central, eastern areas.

**Crops:** Small grains across State affected by continued dry weather. Windy conditions, freezing nighttime temperatures further aggravated poor condition of small grains High Plains. East, south small grain stands not severely damaged by freeze slowly recovering. Other crops: Pecans 95%, 95% 1988, 92% avg.

**Commercial Vegetables:** Rio Grande Valley, celery, lettuce crops severely damaged by freeze. At this time, producers expect smaller onion crop. Pecan harvest virtually complete most areas. Most areas improved prices, poor yield, quality.

**Range and Livestock:** Heavy supplemental feeding most areas because freezing weather, persistent dry conditions. Livestock producers relying heavily on hay reserves. More producers moving cattle off small grain pastures into feedlots, sale barns.

**UTAH:** Precipitation moderate to heavy northern mountains, light to moderate southeast, along Wasatch Front, light elsewhere. Maximum temperatures 4° above normal northeast, Uinta Basin, 2° below northwestern two thirds of State. Minimums 4° below normal southwestern half, 1° above northeastern half of State.

Snow cover on fall seeded crops improved, still more snow is needed. Winter activities such as maintenance, repair, planning continued. Feed supplies continued short. Some cattle being moved to winter range. Range poor to fair.

**VIRGINIA:** Warm, wet week. Temperatures 5° above normal. Extremes 15°; 64°. Precipitation 0.19 to 1.80 in.

Days suitable for fieldwork 0.5. Topsoil 32% adequate, 68% surplus. Winter grains, grazing crops 2% very poor, 14% poor, 50% fair, 34% good. Forage from pastures dairy cattle 11%, beef cattle 20%, sheep 21%. Calving, equipment repair, income tax preparation.

**WASHINGTON:** Temperatures 1 to 7° above normal, east; 1 to 6° above normal, west. Precipitation none to 0.50 in., east; 0.70 to 2.50 in., west.

Days suitable for fieldwork 1.7. Soil moisture 55% short, 44% adequate, 1% surplus. Range, pasture 85% short, 15% adequate. Hay, other roughage 25% short, 75% adequate. Fieldwork was limited in most areas due to weather conditions. Orchard, vineyard pruning activities continued. Other activities included feeding livestock, some plowing, discing, fertilizing in east central counties as conditions permitted. Winter wheat conditions were 25% fair, 75% good.

**WEST VIRGINIA:** Temperature 37°, 5 to 8° above normal. Extremes 6°; 61°. Precipitation 0.24 in., 0.16 to 0.54 in. below normal.

Days suitable for fieldwork 1.3. Soil moisture 52% adequate, 48% surplus. Livestock good to fair. Feed supplies adequate to surplus. Wheat, barley good to fair. Farm activities: Feeding

(Continued to back cover)

International Weather and Crop Summary

HIGHLIGHTS

December 31, 1989 - January 6, 1990

**WESTERN USSR** ... A cooling trend over most winter grain areas accompanies light snow. Overwintering conditions continue mostly favorable.

**NORTHWESTERN AFRICA** ... Substantial rain in Algeria and Tunisia prompts widespread winter grain planting, delayed by previous dryness.

**EUROPE** ... Heavy rain and flooding persist in sections of Spain and Portugal. Snow and below-normal temperatures return to northern and eastern crop areas.

**SOUTH ASIA** ... Scattered showers linger over central India, benefiting vegetative to reproductive crops. Much cooler-than-normal weather covers the north.

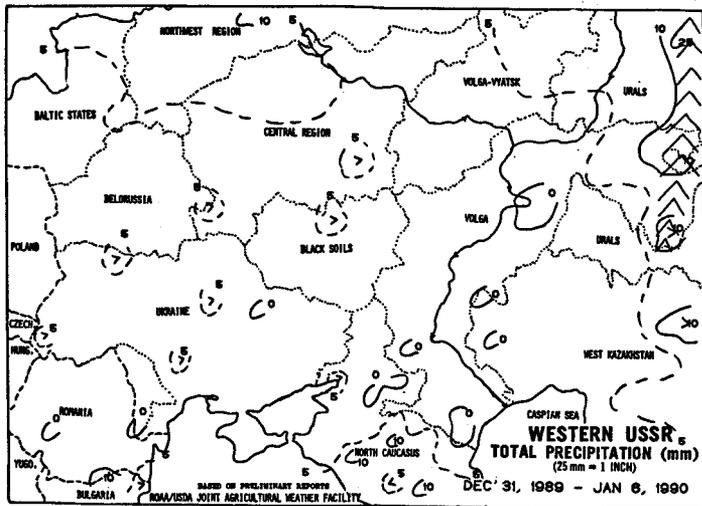
**EASTERN ASIA** ... Moderate to heavy rain continues across the south.

**SOUTHEAST ASIA** ... Seasonable showers continue over the eastern Philippines, eastern Malaysia, and Java.

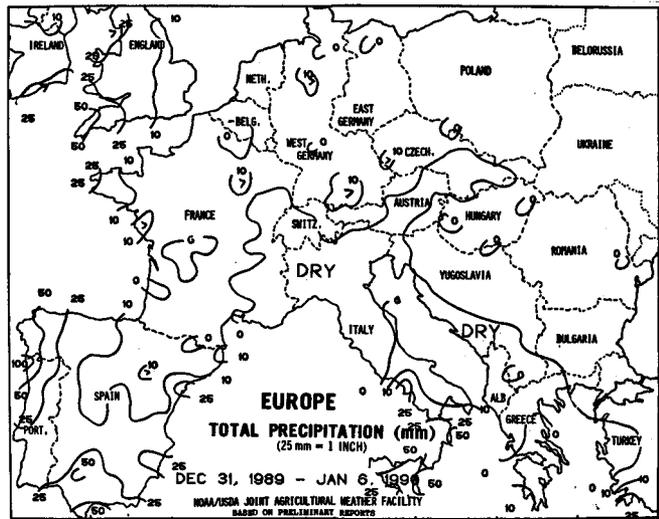
**SOUTH AFRICA** ... Light rain and warm weather dominate most crop areas, but local areas receive timely rain for reproduction.

**SOUTH AMERICA** ... Widespread heavy rain inundates much of south-central Brazil. Beneficial rain helps Argentina's crops but unseasonably warm weather continues.

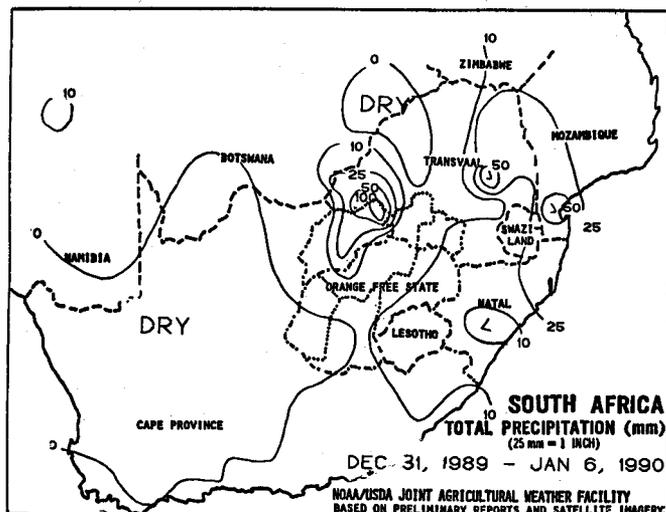
**AUSTRALIA** ... Intense heat stresses crops in the east.



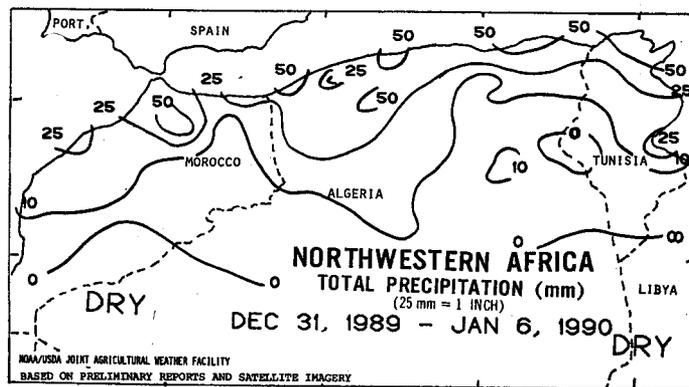
**WESTERN USSR** ... Following 2 weeks of unseasonable warm weather, a cooling trend covered most of the region. Light precipitation (1-10mm), mainly snow, over most winter grain areas helped to provide some protective snow cover, especially in western and southern areas. Weekly average temperatures were 0-2 degrees Celsius (C) below normal in the north and 3-5 degrees C below normal in the extreme south. Lowest minimum temperatures ranged from -13 to -20 degrees C over most of the region, approaching the threshold for potential winterkill. The combination of a light snow cover and the short duration of extreme cold weather, however, reduced the threat of significant winterkill.



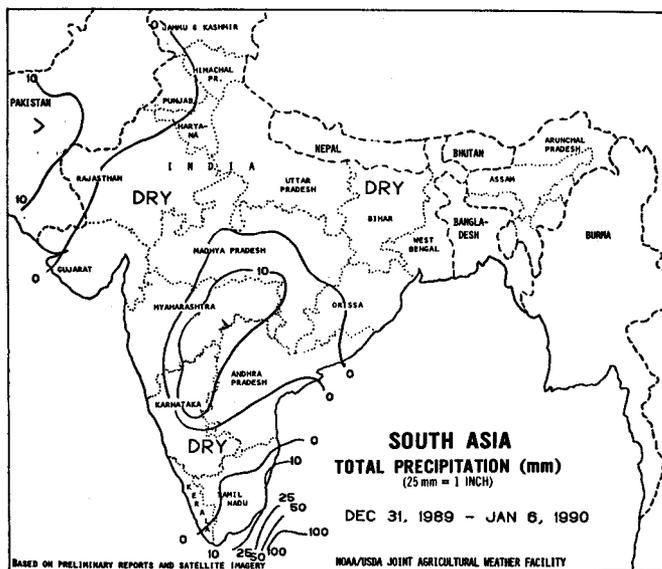
**EUROPE** ... Moderate to heavy seasonable rain (15-50mm, with scattered amounts in excess of 50mm) persisted across all but northeastern sections of the Iberian Peninsula, continuing field work delays for winter sown grains, citrus, and vegetable crops. Very heavy rain (75-115mm) in sections of northern Portugal and northwestern and south-central Spain likely caused further localized flooding. Heavy rain (25-60mm, with isolated rainfall greater than 60mm) also fell in sections of Great Britain and in southern Italy. Elsewhere, mostly light snow and rain (less than 10mm) fell across much of northern and eastern Europe as below-normal temperatures (1-4 degrees C below normal) returned for the first time since mid-December. In contrast, above-normal temperatures (1-3 degrees above normal) covered extreme western crop areas.



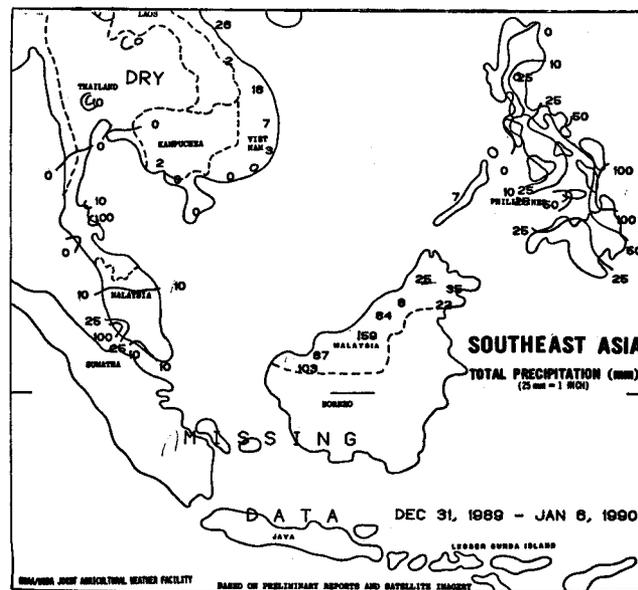
**SOUTH AFRICA** ... Mostly light rain (1-11mm) and seasonably warm weather dominated the Maize Triangle, reducing moisture reserves for crops in or approaching reproduction. Moderate rain (25mm or more), however, fell over local areas of the north. The rain brought some relief to chronically dry portions of the northwestern Maize Triangle, but more widespread rain is needed throughout the west as corn advances through reproduction. Light rain (4-27mm) continued over Natal and the eastern Cape Province. Rainfall was below normal over most of Natal's coastal sugar cane region for the third consecutive week.



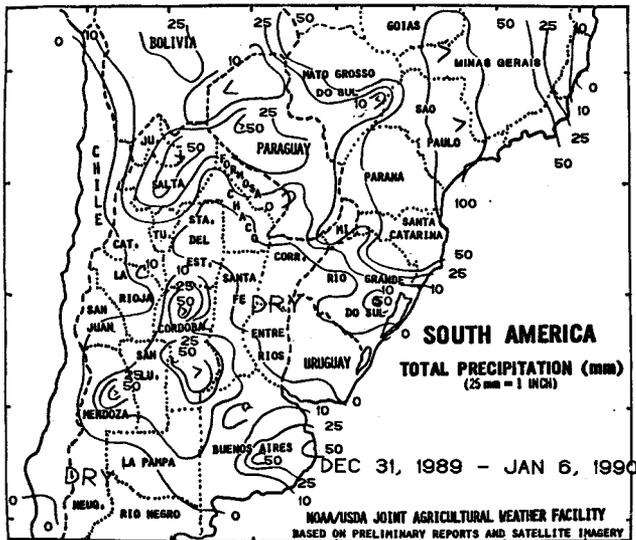
**NORTHWESTERN AFRICA** ... The first substantial precipitation since the beginning of the growing season covered winter grain areas in Algeria and Tunisia. Rainfall amounts ranging from 16 to 70mm will likely prompt widespread planting, delayed by previous dryness. Widespread showers (17-25mm) over Morocco continued to provide ample moisture for winter grains, normally in the early vegetative stage. Although this past week's rain in Algeria and Tunisia increased topsoil moisture to favorable levels for winter grain planting, most areas lack adequate subsoil moisture. Therefore, frequent timely rains will be needed throughout the remainder of the growing season to meet increasing crop-moisture requirements and to prevent the occurrence of crop stress.



**SOUTH ASIA** ... Unseasonable rain (9-19mm) from western Madhya Pradesh to northern Karnataka benefited rainfed winter wheat, ranging from the vegetative to heading stages of development. Scattered, light rain (1-22mm) in southeastern India boosted local irrigation reserves. Dry, cooler-than-normal weather (temperatures averaging 1-8 degrees C below normal) covered India's northern states and Bangladesh, slowing growth of vegetative grains. Local minimum temperatures from 0 to 2 C occurred from India's Punjab state to Bihar and reached as far south as northern Madhya Pradesh. In Pakistan, light showers (3-14mm) boosted irrigation reserves in central and southern wheat regions as drier weather returned to the north.

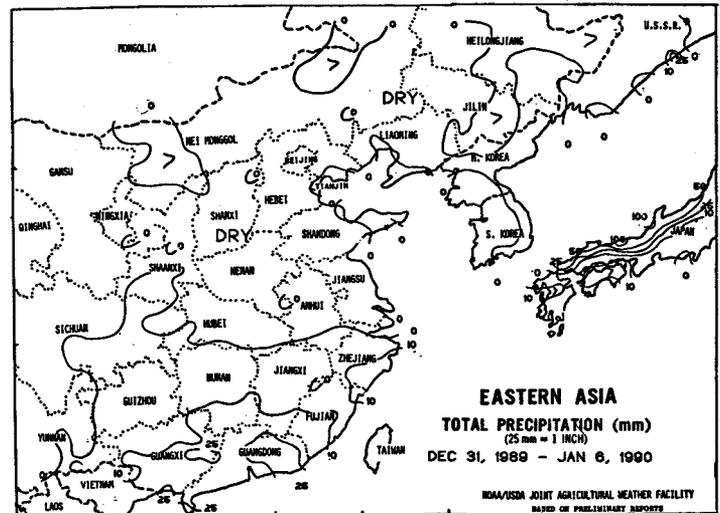


**SOUTHEAST ASIA** ... Moderate to heavy rain (50-100mm or more) continued over eastern Malaysia but, except for a local area in the southwest, diminished over western Malaysia. Rainfall remained light (1-11mm) over peninsular Thailand. Data continued to be missing over Indonesia, but satellite imagery depicted frequent shower activity over most areas, including Java. Further north, unseasonable rain dotted Indochina, with heavy rain (26-52mm) covering rice areas of northern Vietnam. In the Philippines, widespread moderate to heavy showers (25-50mm or more) returned from southern Luzon southward.

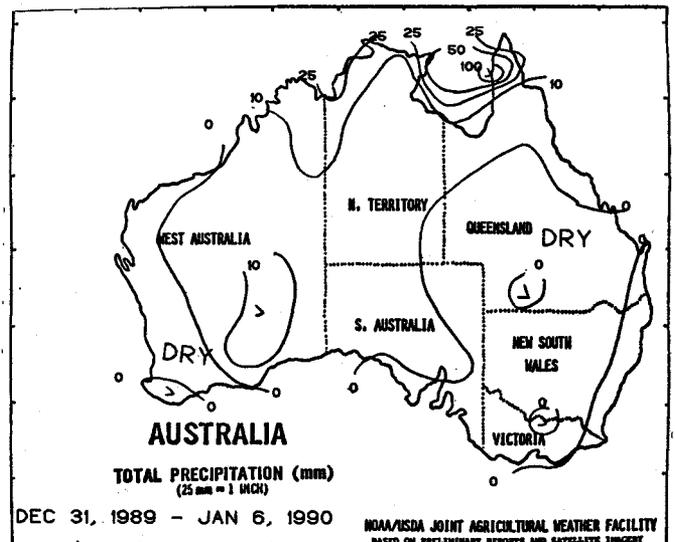


**SOUTH AMERICA** ... In south-central Brazil, widespread, locally heavy rain fell again from northern Rio Grande do Sul northward into Minas Gerais. Weekly rainfall averaged 50-100mm over most areas, with more inundating amounts of 100-137mm in eastern Sao Paulo, southwestern Minas Gerais, and southeastern Goias. Excessive rainfall and flooding in northern soybean areas hampered crop establishment. Rainfall diminished to 10mm or less in southern Mato Grosso do Sul and southern Rio Grande do Sul. Growing conditions were more favorable in the south. In Argentina, showers (25-76mm) in Cordoba and southeastern Buenos Aires slowed wheat harvesting but provided soil moisture for summer crop growth. Light showers (1-12mm) covered most other wheat and corn areas, causing minimal interference to late wheat harvesting. Moisture is generally adequate in the topsoils for summer crops, but high temperatures in the mid to upper 30's increased evapotranspiration rates as corn advances into reproduction.

**AUSTRALIA** ... Intense heat covered much of Australia, with maximum temperatures of 38-45 degrees C in crop areas of Western and South Australia, and 35-41 degrees C in summer crop areas of Queensland and New South Wales. The heat, combined with drier-than-normal weather during the past 3-5 weeks over most summer crop areas, stressed vegetative sorghum, cotton, and corn crops, some of which are nearing reproductive stages. A cool front moving west to east across southern crop areas brought relief in the form of cooler temperatures and scattered, mostly light showers (less than 10mm) beginning on the 2nd to all but eastern crop areas by week's end. Mean weekly temperatures ranged from below normal in the extreme southwest to much above normal (3-6 degrees C above normal) in the east.



**EASTERN ASIA** ... Moderate to heavy rain (10-30mm, with isolated rainfall in excess of 30mm) continued for the second consecutive week across southern and southeastern coastal China and Taiwan, while mostly light rain (less than 10mm) fell in southern sections of the Yangtze Valley. The rain continued to improve soil moisture and irrigation reservoir levels following persistent dryness during the fall. Heavy rain (25-75mm, with isolated amounts greater than 75mm) also fell across western sections of Honshu in Japan, while mostly light snow (less than 10mm) covered sections of Manchuria, the Korean Peninsula, and northern Japan. Temperatures were above normal in all but northeastern sections, where they were near normal to below normal.



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(Continued from p. 8)

winter wheat in the southern Great Plains, Delta, and Southeast. Adequate snow cover protected winter wheat in the central and northern Great Plains, and the Corn Belt. Warm weather during the last week of December melted snow cover in most of the Great Plains and portions of the Corn Belt, leaving winter wheat vulnerable to freeze damage. Seeding was complete in the Southeast at the end of the month.

(Continued from p. 16)

livestock, preparing for calving, lambing, stripping tobacco, building fence.

**WISCONSIN:** Temperature 25°. Extremes -12°; 48°. Precipitation trace to 0.60 in. Snow 1.00 to 6.00 in., 3rd, 4th.

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

Winter wheat fair to good. Snow cover northeastern areas protecting crop from cold temperatures, improving moisture conditions. Livestock mostly good. Warmer weather reducing stress. Supplemental feeding continues most areas.

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