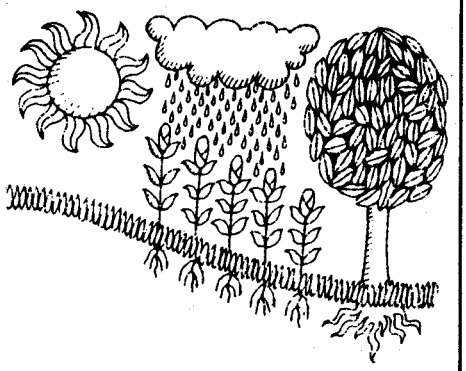

WEEKLY WEATHER AND CROP BULLETIN

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

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

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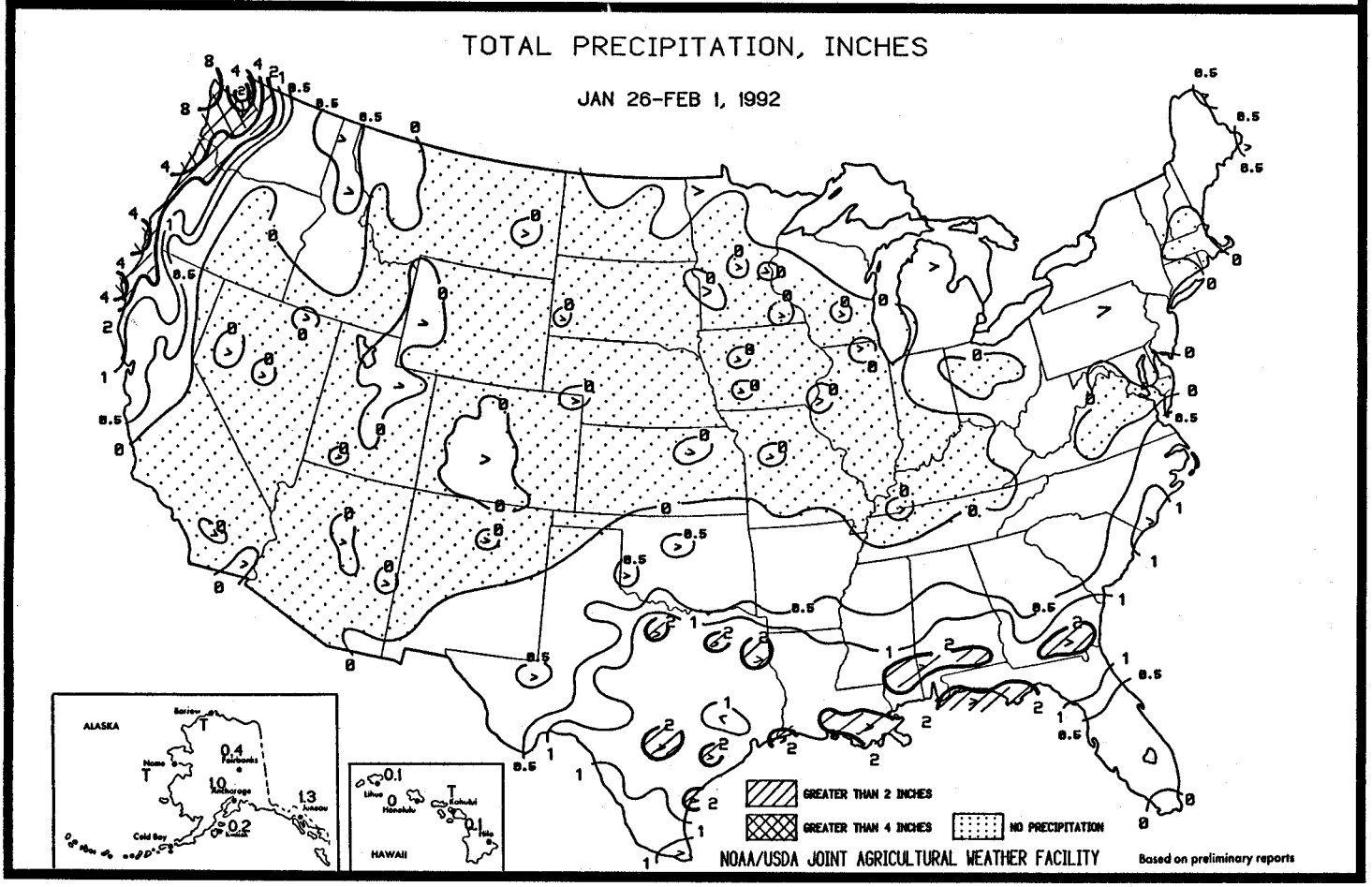

HIGHLIGHTS

January 26 - February 1, 1992

Weekly average temperatures soared to nearly 30° F above normal in **northern Montana**, and more than 40 daily record highs were toppled in the **Northwestern** and **North Central States**. Significant precipitation was confined to the **Gulf Coast States** and the **Pacific Northwest**. During the first half of the week, a storm edged across the **South**, dumping 1 to 3 inches of rain from **central Texas** to **southern Georgia**. Flash flooding was reported in parts of **eastern Texas** and in **southern portions of Louisiana** and **Mississippi**. Meanwhile, wind gusts above 60 mph battered the **northern Pacific coast**, and runoff from heavy rain raised rivers to near or above flood stage west of the **Washington Cascades**. After midweek, a second storm approached the **Northwest**, bringing another round of rain and wind. Rain pushed as far south as **northern California**. **Red Bluff, CA**, received nearly 2 inches of rain. Farther east, temperatures skyrocketed. Friday's high of 67° F in **Great Falls, MT**, set their January record. Saturday's 68° F reading in **Dickinson, ND**, set their February high temperature record. Temperatures of 72° F in **Miles City, MT**, and 73° F in **Grand Island, NE**, topped former daily records by 10° F or more. At week's end, storminess diminished in the **Northwest**, but a new surge of moisture reached **southern Texas**. A storm east of **Maine** dumped several inches of snow on **Cape Cod, MA**, and raked the **Northeast** with gusty winds. Elsewhere, mild, dry weather continued.

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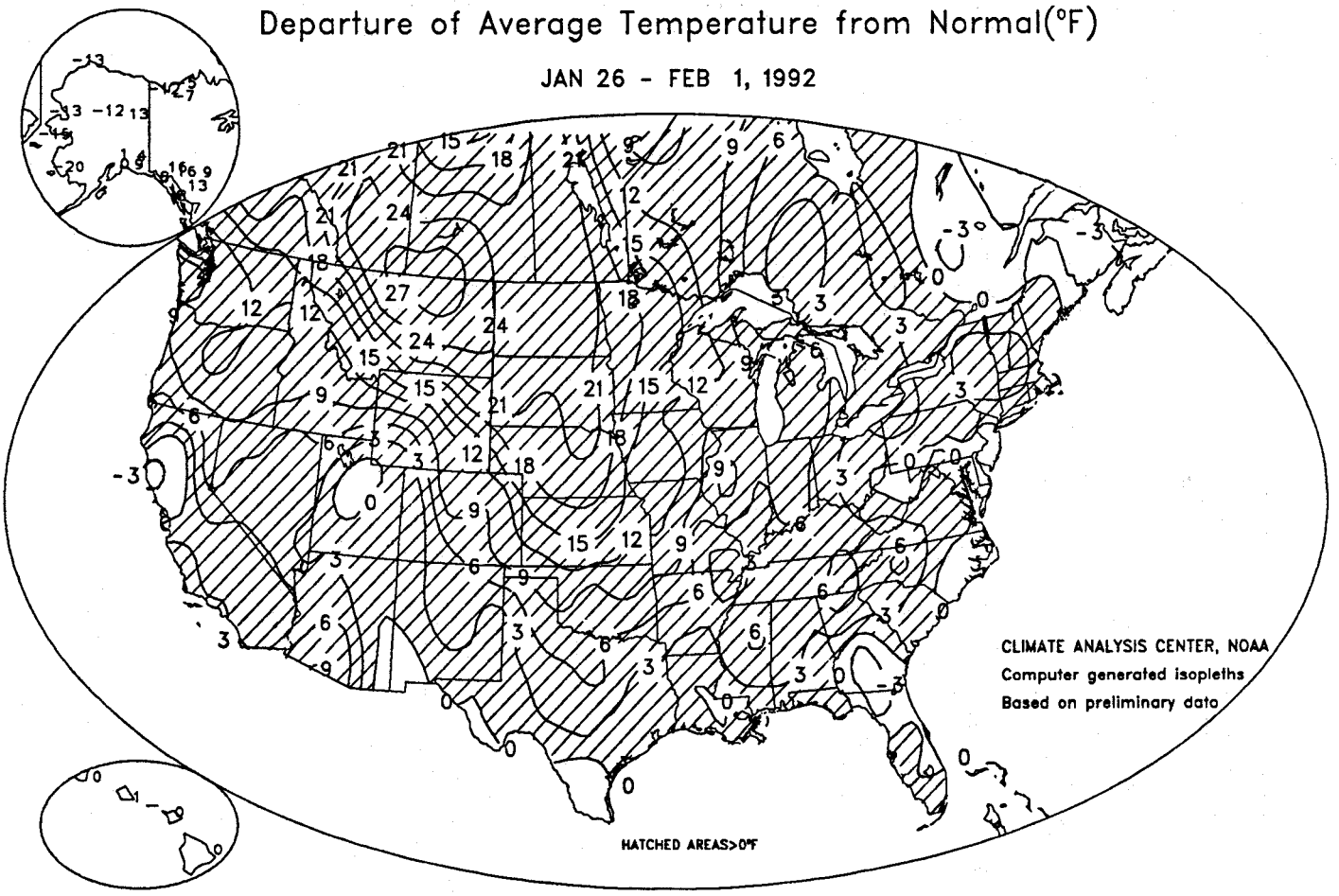
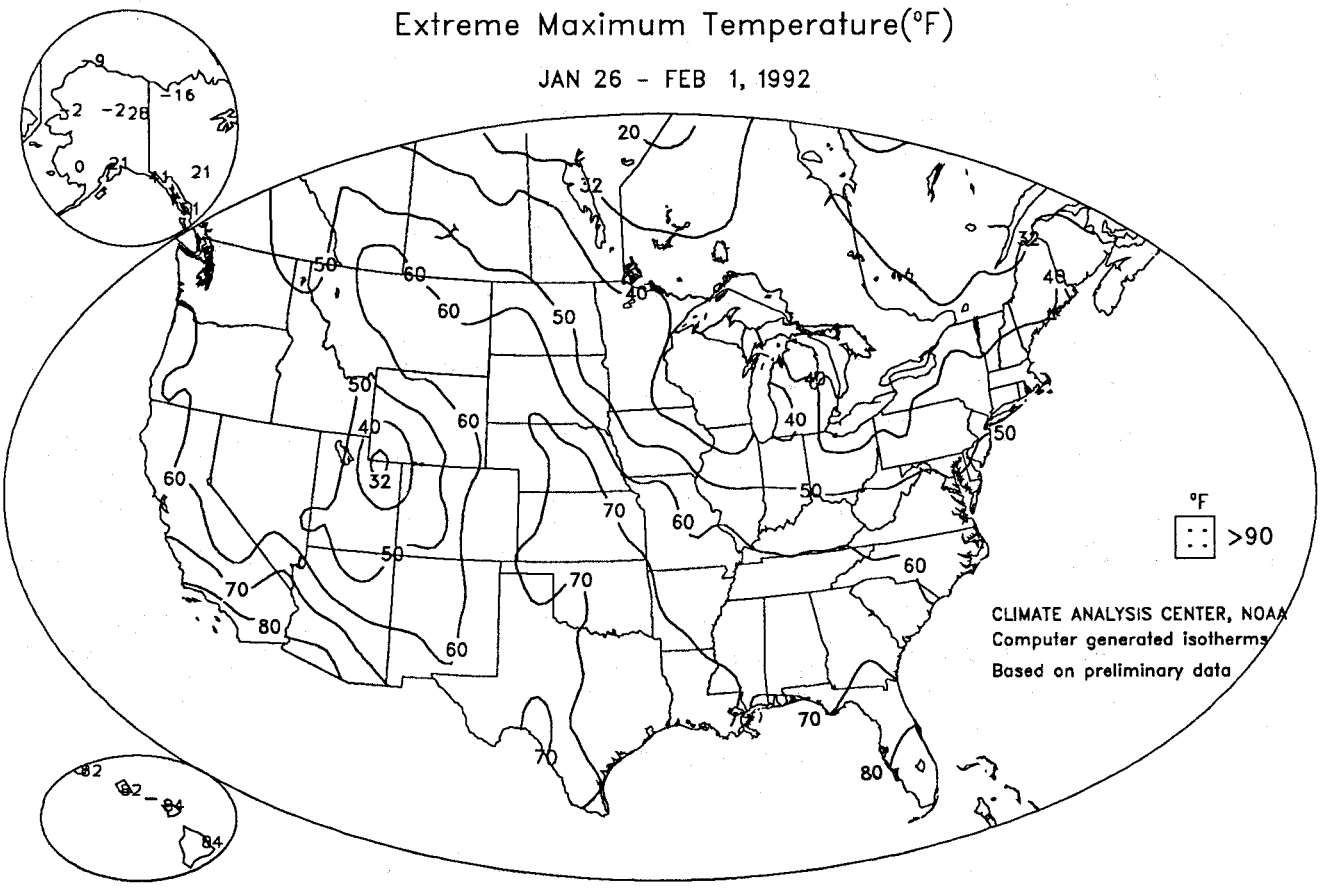
Departure of Average Temperature from Normal(°F)

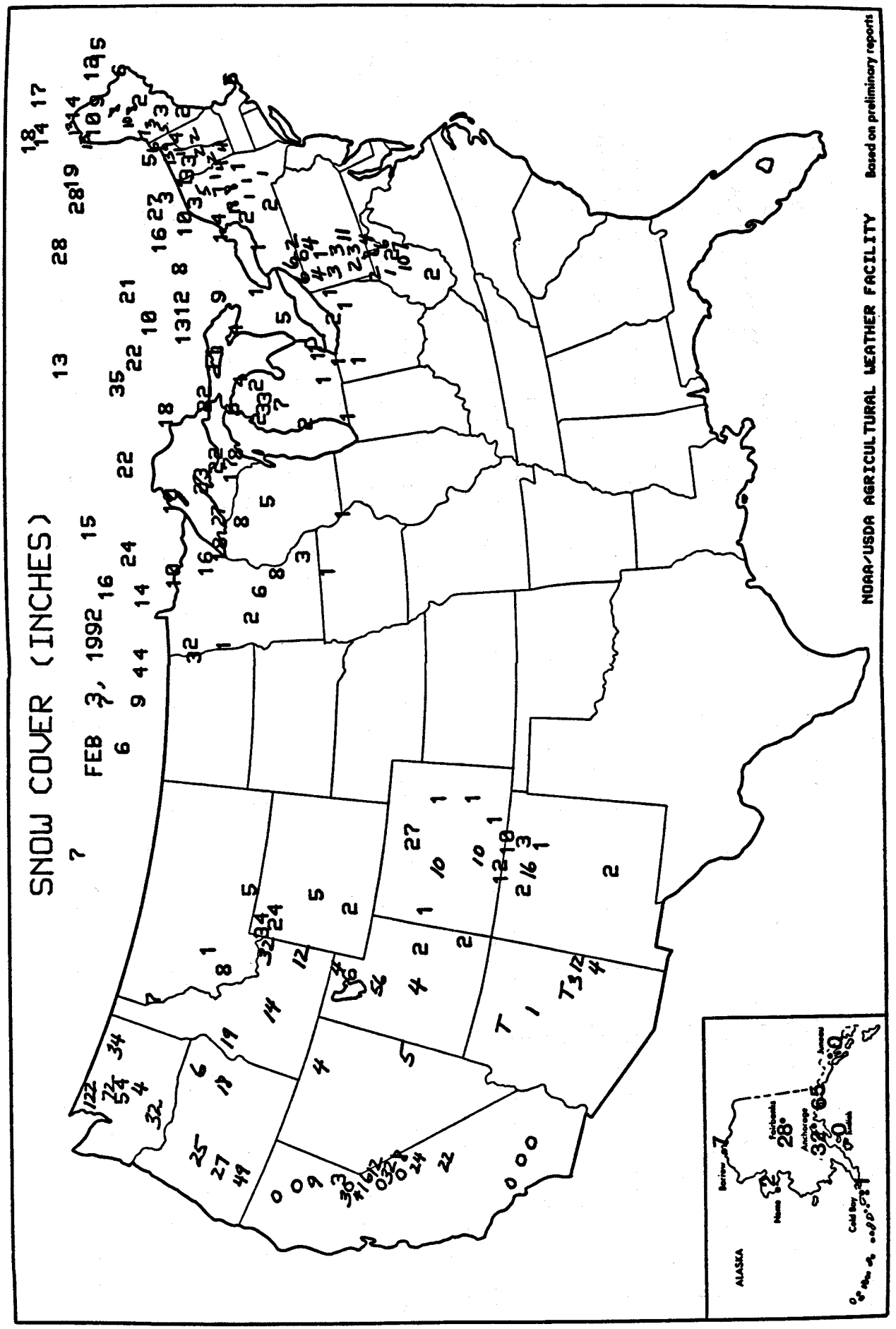
JAN 26 - FEB 1, 1992



Extreme Maximum Temperature(°F)

JAN 26 - FEB 1, 1992




SNOW COVER (INCHES)
FEB 3, 1992
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA

National Weather Data for Selected Cities

Weather Data for the Week Ending February 1, 1992

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMP. °F		PRECIP.	
	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	59	40	64	30	49	6	.5	-.6	.4	7.4	72	3.8	70	91	46	0	2	2	0
MOBILE	61	47	70	38	54	3	1.3	.3	.9	13.0	128	9.9	210	99	64	0	0	4	1
MONTGOMERY	60	44	66	34	52	5	1.4	.4	.5	13.3	146	7.8	180	94	57	0	0	4	1
AK ANCHORAGE	19	10	21	3	14	0	1.0	.8	.5	3.0	162	1.2	148	95	79	0	7	4	1
BARROW	-23	-36	-9	-44	-30	-14	T	-.1	T	.1	18	T	16	75	66	0	7	0	0
FAIRBANKS	-4	-18	4	-31	-11	-1	.4	.3	.2	1.9	148	.9	156	81	70	0	7	7	0
JUNEAU	39	32	44	28	36	12	1.9	1.1	.9	16.5	195	7.4	196	98	84	0	4	4	2
KODIAK	32	24	37	12	28	-2	.2	-1.1	.1	14.9	130	9.1	152	91	70	0	7	4	0
NOME	-1	-18	16	-24	-10	-15	T	-.2	T	.8	59	.4	46	79	55	0	7	0	0
AZ PHOENIX	75	51	77	48	63	10	.0	-.1	.0	3.2	210	1.6	225	54	20	0	0	0	0
PRESCOTT	58	27	62	23	42	3	.0	-.2	.0	3.1	146	1.3	133	77	29	0	7	0	0
TUCSON	73	47	74	39	60	8	.0	-.2	.0	2.7	151	1.2	146	62	21	0	0	0	0
YUMA	79	52	81	51	66	8	.0	-.1	.0	1.1	156	.5	134	38	15	0	0	0	0
AR FORT SMITH	57	34	69	28	46	7	.1	-.3	.1	5.9	124	1.4	75	96	53	0	3	1	0
LITTLE ROCK	55	39	65	33	47	7	.1	-.8	.1	5.7	69	1.9	46	78	50	0	0	1	0
CA BAKERSFIELD	59	37	77	31	48	-2	.0	-.3	.0	1.9	115	1.6	154	92	59	0	2	0	0
EUREKA	63	48	67	44	55	8	2.3	.8	1.7	6.1	45	4.0	56	87	55	0	0	4	1
FRESNO	59	40	70	36	49	2	T	-.5	T	3.2	85	1.9	92	91	59	0	0	0	0
LOS ANGELES	72	51	83	47	62	5	.0	-.7	.0	4.5	95	1.6	51	81	36	0	0	0	0
REDDING	50	38	64	27	44	-4	1.5	-.3	1.1	9.3	59	4.2	48	99	76	0	1	3	1
SACRAMENTO	50	41	61	36	48	1	.3	-.5	.2	3.0	43	1.4	35	100	76	0	0	3	0
SAN DIEGO	72	48	80	47	60	3	.0	-.5	.0	3.5	101	1.8	84	83	39	0	0	0	0
SAN FRANCISCO	59	46	61	43	52	3	.6	-.4	.4	5.2	62	2.5	52	99	62	0	0	3	0
CO DENVER	54	27	66	21	40	10	.0	-.1	.0	1.4	134	1.2	233	80	27	0	6	0	0
GRAND JUNCTION	40	11	44	7	25	-2	.0	-.1	.0	.8	65	.2	38	93	49	0	7	0	0
PUEBLO	60	16	72	14	38	7	.0	-.1	.0	.6	104	T	16	87	19	0	7	0	0
CT BRIDGEPORT	38	23	44	17	31	2	T	-.7	T	6.2	88	1.9	57	87	51	0	6	1	0
HARTFORD	37	20	46	11	28	3	T	-.7	T	5.7	73	2.7	75	90	48	0	6	1	0
DC WASHINGTON	44	28	49	21	36	1	T	-.6	T	7.9	131	2.8	98	92	55	0	6	0	0
FL APALACHICOLA	59	48	69	34	54	0	2.6	1.8	1.7	7.8	109	6.3	171	97	73	0	0	5	2
DAYTONA BEACH							.3	-.3	.2	3.9	84	2.4	98	98	68	0	1	4	0
JACKSONVILLE	63	46	72	33	55	1	1.2	.5	1.1	6.4	116	5.8	190	98	62	0	0	3	1
KEY WEST	76	66	80	63	71	1	T	-.4	T	1.0	29	.3	16	92	71	0	0	0	0
MIAMI	78	63	83	55	71	4	.1	-.4	.1	2.0	50	1.8	85	92	58	0	0	1	0
ORLANDO	73	54	82	41	63	3	T	-.5	T	1.6	38	1.4	60	97	57	0	0	2	0
TALLAHASSEE	64	45	71	28	55	3	1.8	.8	1.1	8.1	87	6.5	136	98	60	0	1	4	2
TAMPA	72	54	77	39	63	3	T	-.5	T	2.2	49	1.5	66	96	61	0	0	1	0
WEST PALM BEACH	77	61	84	52	69	4	.2	-.5	.2	3.0	60	1.7	60	95	56	0	0	1	0
GA ATLANTA	56	42	63	34	49	7	.2	-.9	.1	6.3	68	3.6	71	88	51	0	0	2	0
AUGUSTA	61	39	67	28	50	4	.1	-.9	.0	7.1	98	4.6	111	97	47	0	2	3	0
MACON	60	44	67	32	52	5	.5	-.5	.3	9.6	113	6.0	136	94	59	0	1	4	0
SAVANNAH	60	45	67	36	52	3	1.4	.7	.6	8.3	139	6.6	206	93	55	0	0	3	2
HI HILO	82	63	85	60	72	1	.1	-2.3	.1	16.4	72	1.5	14	86	51	0	0	1	0
HONOLULU	82	65	83	60	74	1	.0	-.8	.0	1.7	23	.4	11	80	50	0	0	0	0
KAHULUI	81	62	84	57	71	0	T	-.9	T	3.9	56	2.4	58	86	53	0	0	0	0
LIHUE	78	64	83	57	71	0	.1	-1.2	.0	8.2	69	1.1	18	83	58	0	0	2	0
ID BOISE	54	30	61	24	42	10	.1	-.2	.1	.7	24	.4	22	88	38	0	5	1	0
LEWISTON	48	35	54	28	41	7	.2	.0	.1	1.1	41	.7	50	88	58	0	3	4	0
POCATELLO	50	17	56	13	34	9	T	-.3	T	.4	21	.2	19	94	37	0	7	0	0
IL CHICAGO	34	24	37	8	29	9	T	-.3	T	4.5	111	.9	53	95	73	0	7	0	0
MOLINE	37	21	43	2	29	9	T	-.3	T	3.0	85	1.2	71	94	69	0	7	0	0
PEORIA	39	24	44	10	32	9	.0	-.3	.0	3.1	85	1.1	65	93	69	0	7	0	0
QUINCY							T	-.3	T	2.4	78	.5	32	87	58	0	7	0	0
ROCKFORD	32	20	36	3	26	7	.1	-.2	.1	2.9	88	1.1	78	94	77	0	6	1	0
SPRINGFIELD	43	25	50	17	34	10	T	-.3	T	2.4	64	1.0	64	95	67	0	7	0	0
IN EVANSVILLE	47	27	57	22	37	6	.0	-.6	.0	4.6	70	.9	28	92	55	0	7	0	0
FORT WAYNE	35	23	40	12	29	6	T	-.4	T	3.7	81	1.7	78	94	66	0	7	0	0
INDIANAPOLIS	40	28	48	25	34	8	T	-.6	T	2.9	50	1.4	52	91	68	0	7	0	0
SOUTH BEND	34	26	38	19	30	7	T	-.5	T	3.3	61	1.6	65	91	69	0	7	1	0
IA DES MOINES	45	24	56	16	35	15	T	-.2	T	3.2	155	1.0	96	95	57	0	7	0	0
SIOUX CITY	48	23	56	16	35	18	T	-.2	T	1.5	107	.6	94	96	50	0	7	0	0
WATERLOO	35	16	41	-3	25	11	T	-.2	T	2.6	133	1.1	131	95	79	0	7	0	0
KS CONCORDIA	59	30	72	24	44	18	T	-.1	T	2.4	178	.7	116	90	37	0	6	0	0
DODGE CITY	62	29	72	25	46	15	.0	-.1	.0	2.5	267	.4	93	88	30	0	7	0	0
GOODLAND	56	30	67	25	43	15	.0	-.1	.0	1.5	203	.2	54	85	35	0	6	0	0
TOPEKA	57	27	67	22	42	15	.0	-.2	.0	3.3	153	.9	97	94	45	0	7	0	0
WICHITA	59	31	67	26	45	14	T	-.1	T	2.7	165	.7	99	95	45	0	6	0	0
KY BOWLING GREEN	49	28	58	24	38	4	T	-1.0	T	9.3	101	2.2	47	95	49	0	7	0	0
LEXINGTON	46	27	56	25	37	5	.0	-.8	.0	10.8	146	3.6	99	90	51	0	6	0	0
LOUISVILLE	48	30	58	24	39	6	.0	-.7	.0	7.2	104	2.0	57	82	48	0	6	0	0
LA ALEXANDRIA	54	44	71	29	49	0	1.4	.4	1.1	13.9	147	6.9	150	93	72	0	1	4	1
BATON ROUGE							1.9	.8	1.4	12.1	124	9.7	204	94	73	0	1	4	1
LAKE CHARLES	63	49	75	44	56	6	1.9	1.0	1.7	13.2	135	11.1	235	98	71	0	0	3	1
NEW ORLEANS	61	48	70	39	55	2	2.0	.9	1.2	12.6	121	9.9	194	98	71	0	0	3	2

Based on 1951-80 normals.

Weather Data for the Week Ending February 1, 1992

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMP. °F		PRECIP.	
	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
SHREVEPORT	60	43	73	35	52	5	1.2	.4	.7	12.1	151	4.6	112	95	55	0	0	5	1
ME CARIBOU	15	2	29	-17	8	-2	.5	.0	.2	6.1	109	4.0	164	81	61	0	7	3	0
PORTLAND	32	16	44	1	24	3	.2	-.7	.2	9.0	108	5.0	128	84	45	0	7	1	0
MD BALTIMORE	41	24	51	14	33	0	T	-.6	T	5.4	83	1.3	41	87	50	0	6	1	0
SALISBURY	46	26	56	16	36	1	T	-.8	T	6.1	85	1.9	53	94	51	0	6	0	0
MA BOSTON	36	24	44	12	30	1	T	-.8	T	5.7	67	3.1	76	79	49	0	6	2	0
CHATHAM	36	26	42	17	31	0	1.4	.4	1.1	5.3	56	2.1	47	85	67	0	7	3	1
MI ALPENA	31	17	38	1	24	7	.1	-.3	.1	3.1	85	1.7	98	89	66	0	7	2	0
DETROIT	35	24	38	15	29	6	T	-.3	T	3.7	84	1.8	94	87	62	0	7	2	0
FLINT	33	22	37	10	27	6	T	-.3	T	3.3	92	1.2	71	92	63	0	7	2	0
GRAND RAPIDS	33	24	38	15	28	6	T	-.4	T	4.2	90	1.5	75	90	63	0	7	1	0
HOUGHTON LAKE	31	17	37	-1	24	8	.1	-.2	.1	3.1	89	1.3	84	91	68	0	7	3	0
LANSING	35	23	45	8	29	9	T	-.3	T	3.5	85	1.4	81	91	68	0	6	1	0
MARQUETTE	27	7	35	-7	17	5	.3	-.1	.2	2.8	62	1.3	62	94	71	0	7	4	0
MUSKEGON	34	24	38	16	29	7	T	-.5	T	3.2	63	1.4	56	90	69	0	6	0	0
SAULT ST. MARIE	26	5	34	-8	15	2	.5	.0	.2	5.4	112	2.9	128	91	69	0	7	5	0
MN ALEXANDRIA	34	18	44	6	26	20	T	-.2	T	1.6	95	.9	108	96	73	0	7	0	0
DULUTH	31	15	38	0	23	16	.1	-.2	.1	1.2	49	.6	50	91	66	0	7	1	0
INT'L FALLS	29	9	41	-15	19	18	.2	.0	.2	1.7	96	.8	89	90	65	0	7	3	0
MINNEAPOLIS	33	17	40	5	25	14	T	-.2	T	1.7	103	.7	80	94	68	0	7	0	0
ROCHESTER	29	16	35	3	23	12	T	-.2	T	2.5	145	1.0	124	97	78	0	7	1	0
MS GREENWOOD	57	42	66	32	50	5	.4	-.7	.3	9.9	92	1.5	29	95	52	0	1	3	0
JACKSON	59	43	69	34	51	5	.9	-.1	.8	9.6	91	4.3	83	98	62	0	0	4	1
MERIDIAN	59	44	67	35	52	6	.7	-.3	.4	11.9	110	5.1	99	96	60	0	0	4	0
MO CAPE GIRARDEAU	46	29	62	25	37	--	T	-.6	T	7.4	110	2.3	79	94	62	0	6	0	0
COLUMBIA	51	27	58	18	39	10	T	-.4	T	3.2	85	.5	29	92	47	0	6	0	0
KANSAS CITY	54	27	62	21	40	12	.0	-.3	.0	3.3	122	1.2	98	94	51	0	7	0	0
SAINT LOUIS	49	31	59	24	40	10	T	-.4	T	3.2	81	1.1	63	86	52	0	5	0	0
SPRINGFIELD	56	32	66	23	44	12	.0	-.4	.0	4.3	102	.9	53	86	43	0	3	0	0
MT BILLINGS	57	36	67	28	47	24	.0	-.2	.0	.4	23	.1	9	50	21	0	2	0	0
GLASGOW	48	25	57	12	37	27	.0	-.1	.0	.4	57	.3	66	82	44	0	6	0	0
GREAT FALLS	56	37	67	28	47	25	T	-.2	T	.6	31	.5	48	54	27	0	1	0	0
HAVRE	58	28	66	14	43	29	.0	-.1	.0	.1	5	T	3	71	30	0	4	0	0
HELENA	49	27	62	21	38	18	T	-.1	T	1.1	84	.3	42	86	43	0	7	1	0
KALISPELL	44	30	52	26	37	16	.1	-.2	.1	1.8	57	1.2	71	94	67	0	5	2	0
MILES CITY	53	27	61	16	40	25	T	-.1	T	.1	11	.1	11	73	36	0	6	1	0
MISSOULA	43	27	53	24	35	12	T	-.3	T	1.3	51	.4	28	93	63	0	6	0	0
NE GRAND ISLAND	58	27	73	22	43	21	.0	-.1	.0	3.5	300	1.4	275	90	41	0	7	0	0
LINCOLN	51	28	64	23	39	19	.0	-.2	.0	3.4	257	1.4	206	93	54	0	6	0	0
NORFOLK	54	24	66	17	39	20	T	-.1	T	1.4	125	.6	120	94	43	0	7	0	0
NORTH PLATTE	59	23	67	19	41	18	.0	-.1	.0	1.6	200	.9	234	94	29	0	7	0	0
OMAHA	48	26	57	22	37	16	T	-.2	T	3.0	197	1.3	171	89	67	0	7	0	0
SCOTTSBLUFF	53	22	61	16	38	12	.0	-.1	.0	.8	88	.8	180	83	34	0	7	0	0
VALENTINE	51	25	72	20	38	19	.0	-.1	.0	.5	84	.5	193	90	45	0	7	0	0
NV ELY	51	16	60	11	34	8	.0	-.2	.0	.8	54	.5	70	82	31	0	7	0	0
LAS VEGAS	64	38	68	34	51	5	.0	-.1	.0	.7	87	.5	90	50	20	0	0	0	0
RENO	56	26	60	19	41	7	T	-.3	T	1.0	42	.1	10	84	24	0	5	0	0
WINNEMUCCA	51	25	55	18	38	6	.0	-.2	.0	.7	42	.1	10	83	38	0	7	0	0
NH CONCORD	34	15	44	0	24	4	T	-.6	T	5.6	89	2.0	69	87	50	0	7	0	0
NJ ATLANTIC CITY	43	19	52	6	31	-1	.1	-.7	.1	4.7	65	.9	26	92	52	0	6	1	0
NM ALBUQUERQUE	54	27	57	25	41	4	.0	-.1	.0	2.1	237	.6	150	83	30	0	7	0	0
CLOVIS	48	32	61	25	40	2	.4	.3	.4	4.7	449	1.8	398	91	57	0	4	1	0
ROSWELL	54	33	64	27	44	3	.2	.1	.1	3.5	471	.9	237	94	49	0	3	2	0
NY ALBANY	33	17	39	7	25	4	.1	-.4	.0	4.8	89	1.9	78	89	58	0	7	2	0
BINGHAMTON	31	18	41	9	25	4	.1	-.4	.1	4.5	81	1.7	65	89	61	0	7	3	0
BUFFALO	31	21	36	11	26	3	T	-.6	T	5.9	90	2.0	66	94	68	0	7	1	0
NEW YORK	41	28	49	22	34	3	T	-.6	T	4.9	71	1.4	44	80	45	0	6	1	0
ROCHESTER	32	19	38	10	25	2	T	-.5	T	4.4	88	1.5	62	93	68	0	7	3	0
SYRACUSE	32	15	38	2	23	1	.1	-.5	.0	5.7	98	2.6	98	92	60	0	7	3	0
NC ASHEVILLE	54	32	61	29	43	6	T	-.7	T	7.9	123	3.1	94	85	40	0	3	1	0
CHARLOTTE	57	37	63	31	47	6	.2	-.6	.2	6.3	86	3.3	84	83	36	0	1	2	0
GREENSBORO	54	33	60	29	44	6	.1	-.7	.1	6.3	91	3.5	98	84	41	0	3	1	0
HATTERAS	53	39	59	33	46	1	.4	-.6	.4	8.9	94	4.4	89	87	61	0	0	2	0
NEW BERN	50	33	57	24	42	-2	.9	.0	.8	9.9	126	7.0	170	88	55	0	3	4	1
RALEIGH	55	32	61	28	44	4	.3	-.5	.2	6.4	95	3.8	104	85	39	0	4	2	0
WILMINGTON	55	37	60	31	46	0	1.4	.6	1.0	7.9	110	5.8	153	90	54	0	1	3	1
ND BISMARCK	44	17	60	-5	30	22	T	-.1	T	.5	47	.3	62	93	56	0	7	0	0
FARGO	32	19	43	0	25	20	T	-.1	T	1.2	106	.9	159	95	76	0	7	0	0
GRAND FORKS	31	17	43	-6	24	21	T	-.2	T	.9	66	.6	79	93	76	0	7	1	0
WILLISTON	43	17	55	-8	30	22	T	-.1	T	.7	67	.5	94	89	55	0	6	0	0
OH AKRON-CANTON	32	22	37	14	27	2	.1	-.4	.1	5.3	101	2.0	76	94	70	0	7	3	0
CINCINNATI	42	26	51	22	34	5	T	-.7	T	8.1	131	3.0	93	93	62	0	6	0	0
CLEVELAND	35	23	42	17	29	4	.1	-.4	.1	5.6	107	3.4	134	92	65	0	7	2	0
COLUMBUS	37	24	43	17	30	3	T	-.5	T	5.6	104	1.8	64	91	63	0	6	1	0

Based on 1951-80 normals.

Weather Data for the Week Ending February 1, 1992

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMP. °F		PRECIP.	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	36	23	43	14	29	3	T	-.5	T	6.7	131	3.1	116	94	69	0	7	0	0
TOLEDO	34	23	38	15	29	5	.1	-.3	.1	3.2	69	1.7	82	89	64	0	7	1	0
YOUNGSTOWN	33	23	39	15	28	4	.1	-.5	.0	4.8	87	2.3	82	90	67	0	7	2	0
OK OKLAHOMA CITY	59	38	73	32	48	11	.3	.0	.2	6.5	299	1.2	114	94	56	0	1	2	0
TULSA	60	36	73	28	48	12	.1	-.3	.1	5.1	158	.5	34	89	48	0	1	1	0
OR ASTORIA	56	46	61	39	51	10	5.1	2.9	1.6	16.4	72	9.8	88	93	67	0	0	7	4
BURNS	44	23	53	16	34	4	T	-.3	T	.2	7	.1	5	89	51	0	7	0	0
MEDFORD	58	37	64	32	48	8	.3	-.4	.2	2.1	30	1.0	30	95	51	0	1	2	0
PENDLETON	57	39	64	31	48	14	.1	-.3	.1	1.1	32	.4	23	77	42	0	1	1	0
PORTLAND	55	45	59	39	50	10	2.2	.9	.6	8.9	70	4.6	73	95	69	0	0	6	1
SALEM	57	45	63	34	51	11	2.0	.6	.8	8.6	60	4.9	68	89	61	0	0	7	1
PA ALLENTOWN	38	20	45	10	29	2	T	-.7	T	5.2	73	1.7	50	88	51	0	6	1	0
ERIE	35	25	45	12	30	6	.1	-.4	.0	5.8	101	2.6	107	90	68	0	6	2	0
HARRISBURG	39	24	48	15	32	2	T	-.6	T	5.0	79	2.1	69	81	46	0	6	1	0
PHILADELPHIA	41	25	49	18	33	2	T	-.6	T	4.7	71	.9	27	85	48	0	6	1	0
PITTSBURGH	35	22	41	14	29	2	.1	-.5	.1	5.8	106	2.1	73	92	66	0	7	2	0
SCRANTON	33	18	39	12	26	1	.1	-.4	.0	4.0	83	1.3	55	91	61	0	7	3	0
RI PROVIDENCE	39	23	47	12	31	3	T	-.9	T	8.0	93	4.8	116	82	45	0	6	0	0
SC CHARLESTON	58	44	66	37	51	3	.8	.1	.3	6.6	102	5.0	146	93	53	0	0	4	0
COLUMBIA	60	38	66	30	49	4	T	-1.0	T	5.8	72	3.1	70	93	42	0	2	1	0
FLORENCE							.5	-.3	.4	5.6	85	3.6	99	89	52	0	2	3	0
GREENVILLE	57	35	64	30	46	4	.1	-.9	.1	5.4	64	2.5	57	89	43	0	1	2	0
SD ABERDEEN	41	21	48	4	31	22	T	-.1	T	.8	79	.7	129	96	64	0	7	0	0
HURON	45	23	51	16	34	22	T	-.1	T	.8	86	.7	173	91	48	0	7	0	0
RAPID CITY	59	29	68	20	44	22	.0	-.1	.0	.3	39	.3	71	62	26	0	4	0	0
SIOUX FALLS	42	23	51	16	33	20	T	-.1	T	1.0	77	.8	144	95	66	0	7	0	0
TN CHATTANOOGA	58	36	64	31	47	8	.1	-1.0	.1	12.4	117	4.3	81	88	41	0	2	2	0
KNOXVILLE	55	36	62	30	46	7	T	-1.0	T	14.1	151	3.9	81	82	38	0	1	0	0
MEMPHIS	57	37	64	30	47	7	T	-1.0	T	8.9	93	1.8	38	93	49	0	1	1	0
NASHVILLE	55	33	63	28	44	7	.0	-1.0	.0	10.2	111	3.0	64	92	48	0	3	0	0
TX ABILENE	56	42	69	35	49	5	.8	.5	.7	8.2	434	1.9	185	92	61	0	0	2	1
AMARILLO	55	32	70	30	44	7	.2	.1	.2	2.7	277	.5	100	88	49	0	4	2	0
AUSTIN	61	49	74	45	55	5	1.8	1.3	1.6	19.0	514	4.8	291	93	65	0	0	4	1
BEAUMONT							2.0	1.1	1.4	22.6	247	11.0	262	99	74	0	1	4	2
BROWNSVILLE	65	54	73	47	60	-1	1.6	1.3	1.1	5.1	211	3.9	305	97	71	0	0	4	1
CORPUS CHRISTI	65	53	75	50	59	4	1.9	1.5	1.1	15.7	542	5.9	350	96	68	0	0	3	2
DEL RIO	63	46	72	41	55	3	1.3	1.1	.6	5.2	475	2.2	386	86	51	0	0	3	1
EL PASO	61	35	67	32	48	3	.1	.0	.1	4.5	593	1.2	303	87	37	0	2	2	0
FORT WORTH	60	44	71	40	52	7	1.5	1.1	1.0	12.0	343	3.3	184	96	59	0	0	3	1
GALVESTON	61	52	73	50	57	3	1.1	.5	.9	10.8	162	8.5	276	95	71	0	0	2	1
HOUSTON	62	48	75	41	55	3	1.0	.2	.7	17.0	231	7.7	214	96	67	0	0	2	1
LUBBOCK	54	36	68	31	45	6	.4	.3	.3	3.6	475	1.3	347	96	60	0	2	2	0
MIDLAND	56	37	69	31	47	3	.5	.3	.5	3.4	404	1.2	293	93	55	0	1	1	0
SAN ANGELO	58	42	70	35	50	4	1.2	1.0	1.1	5.9	460	2.0	295	98	67	0	0	3	1
SAN ANTONIO	62	47	76	41	55	4	2.8	2.4	2.5	19.9	675	5.9	370	95	64	0	0	2	1
VICTORIA	65	51	78	47	58	6	1.4	1.0	1.0	11.2	275	5.0	258	94	65	0	0	2	1
WACO	61	46	74	40	54	7	2.0	1.6	1.7	12.9	356	4.5	258	96	65	0	0	3	1
WICHITA FALLS	59	40	72	37	50	8	.5	.3	.3	8.7	411	1.8	191	95	58	0	0	2	0
UT CEDAR CITY	49	26	53	22	37	6	.0	-.2	.0	.8	60	.4	65	88	44	0	6	0	0
SALT LAKE CITY	36	17	43	12	26	-4	.1	-.3	.0	1.2	44	.8	57	96	72	0	7	4	0
VT BURLINGTON	27	11	39	-2	19	3	.1	-.3	.1	3.0	70	1.7	88	90	68	0	7	3	0
VA NORFOLK	48	32	57	27	40	0	.8	.0	.6	6.9	99	4.5	118	85	55	0	5	2	1
RICHMOND	50	29	56	23	39	3	T	-.7	T	6.1	91	1.6	47	86	41	0	5	0	0
ROANOKE	50	30	59	26	40	4	T	-.7	T	5.0	86	2.5	86	72	37	0	5	0	0
WA QUILLAYUTE	52	46	54	40	49	9	9.0	6.1	3.1	35.3	109	24.6	166	100	87	0	0	7	7
SEATTLE-TACOMA	54	45	60	37	50	9	4.4	3.2	1.5	13.3	106	8.0	129	96	66	0	0	7	5
SPOKANE	48	34	54	27	41	14	.9	.4	.5	3.3	66	2.1	84	94	63	0	1	3	1
YAKIMA	50	33	56	24	42	11	T	-.3	T	1.5	56	.3	19	96	61	0	3	2	0
WV BECKLEY	43	27	52	20	35	5	.1	-.7	.0	8.4	127	2.0	56	86	45	0	7	2	0
CHARLESTON	43	25	54	20	34	1	T	-.7	T	7.9	115	2.0	54	95	54	0	6	2	0
HUNTINGTON	45	25	54	21	35	2	T	-.7	T	7.0	109	1.7	50	90	50	0	6	1	0
PARKERSBURG	39	23	48	15	31	0	.1	-.6	.1	6.3	111	1.2	41	94	62	0	6	2	0
WI GREEN BAY	32	17	39	8	24	10	.1	-.2	.0	2.2	82	.7	60	95	67	0	6	2	0
LACROSSE	31	17	37	6	24	9	T	-.2	T	2.5	125	.9	91	92	71	0	7	0	0
MADISON	32	20	38	8	26	10	T	-.2	T	2.5	94	.8	69	94	71	0	7	0	0
MILWAUKEE	34	24	40	16	29	10	T	-.3	T	3.0	82	1.1	66	90	68	0	7	0	0
WAUSAU	30	17	37	6	23	12	T	-.2	T	1.9	84	.5	48	96	72	0	7	1	0
WY CASPER	48	27	54	15	38	14	.0	-.1	.0	.5	52	.2	34	64	31	0	5	0	0
CHEYENNE	54	27	62	20	41	14	.0	-.1	.0	.5	62	.3	89	66	23	0	5	0	0
LANDER	41	19	46	16	30	9	T	-.1	T	.8	76	.5	98	81	49	0	7	0	0
SHERIDAN	53	27	66	22	40	19	.0	-.2	.0	.8	50	.2	26	75	32	0	6	0	0

Based on 1951-80 normals.

HEATING DEGREE DAYS (Base 65° F)
January 26 - February 1, 1992

(Cumulative totals and departures from normal are for the period July 1, 1991 - February 1, 1992)

STATES AND STATIONS	WEEKLY TOTAL	WEEKLY DEPARTURE	CUMULATIVE TOTAL	CUMULATIVE DEPARTURE	CUMULATIVE DEP fm 90-91
AL BIRMINGHAM	108	-44	1732	-106	193
MOBILE	73	-31	1209	76	318
MONTGOMERY	90	-40	1499	10	267
AK ANCHORAGE	352	0	5878	-603	-723
BARROW	659	89	11452	261	400
FAIRBANKS	527	1	8394	-507	-156
JUNEAU	204	-88	4569	-767	-654
KODIAK	255	19	4670	-258	-257
NOME	520	103	7382	-602	-239
AZ FLAGSTAFF	216	-36	3719	-301	-201
PHOENIX	11	-70	627	-318	-60
PRESCOTT	148	-47	2557	-227	-143
TUCSON	35	-57	975	-105	14
WINSLOW	214	-2	3215	216	-29
YUMA	1	-59	416	-258	-154
AR FORT SMITH	132	-54	2024	-205	-171
LITTLE ROCK	124	-46	1869	-164	-73
CA BAKERSFIELD	117	13	1499	125	-9
EUREKA	65	-54	2237	-357	-119
FRESNO	108	-15	1589	-88	-58
LOS ANGELES	28	-35	500	-301	-61
REDDING	134	9	1560	-74	-122
SACRAMENTO	118	-6	1578	-97	-82
SAN DIEGO	23	-32	446	-217	-147
SAN FRANCISCO	89	-19	1405	-347	-19
STOCKTON	114	-10	1613	-50	-50
CO DENVER	170	-72	3489	12	46
GRAND JCT.	276	17	3768	216	-253
PUEBLO	186	-49	3385	84	33
CT BRIDGEPORT	238	-14	2814	-197	163
HARTFORD	255	-23	3287	-302	185
DE WILMINGTON	226	-12	2593	-304	100
DC WASHINGTON	202	-8	2252	-211	199
FL APALACHICOLA	53	-38	916	4	321
DAYTONA BEACH	42	-20	503	-61	245
FORT MYERS	7	-28	160	-127	105
JACKSONVILLE	69	-15	906	-23	283
KEY WEST	0	-14	12	-62	09
MIAMI	1	-20	49	-76	42
ORLANDO	22	-27	358	-67	184
TALLAHASSEE	71	-27	1101	16	319
TAMPA	24	-31	379	-94	211
W. PALM BEACH	5	-22	114	-48	83
GA ATLANTA	108	-52	1654	-252	114
AUGUSTA	106	-33	1555	-96	191
MACON	91	-35	1422	-66	143
SAVANNAH	87	-18	1106	-158	204
ID BOISE	159	-73	3296	-170	-593
LEWISTON	148	-69	2897	-392	10
POCATELLO	216	-61	4077	-88	-308
IL CHICAGO	250	-52	3655	-103	-14
MOLINE	248	-65	3635	-246	-226
PEORIA	233	-66	3482	-249	-150
QUINCY	207	-77	3260	-225	-146
ROCKFORD	271	-52	3885	-224	-186
SPRINGFIELD	215	-63	3176	-220	-146
IN EVANSVILLE	194	-42	2697	-208	47
FORT WAYNE	247	-46	3449	-237	48
INDIANAPOLIS	215	-56	3083	-291	-45
SOUTH BEND	243	-50	3496	-187	59
IA DES MOINES	211	-108	3697	-233	-239
DUBUQUE	284	-56	4211	-158	-151
SIOUX CITY	204	-127	3925	-286	-291
WATERLOO	279	-72	4232	-272	-248
KS CONCORDIA	143	-129	3051	-349	-236
DODGE CITY	134	-106	2911	-162	-164
GOODLAND	151	-105	3381	-218	-136
TOPEKA	160	-103	2886	-398	-245
WICHITA	140	-101	2680	-279	-241
KY BOWLING GREEN	173	-43	2452	-208	135
LEXINGTON	198	-35	2681	-216	129
LOUISVILLE	181	-44	2437	-315	54
LA ALEXANDRIA	85	-33	1251	-47	-16
BATON ROUGE	71	-34	1071	-55	75
LAKE CHARLES	62	-36	1033	-23	13
NEW ORLEANS	71	-22	1033	44	219
SHREVEPORT	90	-42	1423	-66	-81
ME CARIBOU	393	12	5399	-113	109
PORTLAND	285	-23	3941	-257	330
MD BALTIMORE	226	2	2662	-106	290
SALISBURY	208	-2	2392	-170	196
MA BOSTON	242	-10	2981	-132	261
CHATHAM	236	-9	2884	-238	214
MI ALPENA	294	-48	4428	-234	34
DETROIT	247	-47	3455	-323	47
FLINT	264	-44	3834	-168	07
GRAND RAPIDS	254	-49	3803	-141	59
HOUGHTON LAKE	285	-58	4387	-292	-102
LANSING	264	-44	3920	-65	71
MARQUETTE	335	-36	5373	-8	-62
MUSKEGON	249	-52	3680	-191	28
SAULT ST MARIE	348	-23	4970	-197	-60
MN ALEXANDRIA	274	-136	5116	-298	-42
DULUTH	292	-114	5603	-130	-36
INT'L FALLS	321	-124	5908	-368	-193
MINNEAPOLIS	277	-93	4713	-55	95
ROCHESTER	294	-79	4856	-36	19
SAINT CLOUD	287	-112	5154	-168	-36
MS GREENWOOD	102	-44	1613	-159	71
JACKSON	95	-43	1484	-73	90
MERIDIAN	92	-42	1493	-127	193
MO CAPE GIRARDEAU	177	-53	2472	-275	-83
COLUMBIA	178	-79	2934	-227	-115
KANSAS CITY	171	-94	3019	-212	-174
SAINT LOUIS	173	-75	2613	-410	-94
SPRINGFIELD	145	-83	2592	-254	-119
MT BILLINGS	125	-170	3617	-605	-473
GLASGOW	198	-190	4473	-828	-734
GREAT FALLS	128	-182	3795	-725	-674
HAVRE	154	-211	4260	-911	-699
HELENA	185	-128	4506	-324	-33
KALISPELL	197	-110	4463	-522	-430
MILES CITY	149	-195	3916	-821	-655
MISSOULA	207	-86	4266	-412	-347
NE GRAND ISLAND	154	-147	3483	-456	-294
LINCOLN	173	-135	3403	-477	-324
NORFOLK	182	-142	3766	-474	-368
NORTH PLATTE	165	-131	3638	-502	-356
OMAHA	194	-109	3577	-206	-309
SCOTTSBLUFF	169	-105	3696	-278	-332
VALENTINE	166	-150	4018	-325	-357
NV ELY	219	-57	4141	-221	-150
LAS VEGAS	97	-33	1517	-150	-144
RENO	166	-49	2867	-653	-478
WINNEMUCCA	185	-46	3399	-356	-653
NH CONCORD	284	-31	4021	-279	155
NJ ATLANTIC CITY	235	0	2733	-141	154
NM ALBUQUERQUE	170	-31	2712	-47	-26
CLOVIS	154	-37	2698	182	306
ROSWELL	144	-13	2303	222	337
NY ALBANY	278	-30	3743	-247	189
BINGHAMTON	280	-28	3766	-373	-41
BUFFALO	272	-22	3568	-220	177
NEW YORK	213	-20	2418	-355	175
ROCHESTER	276	-18	3678	-78	170
SYRACUSE	290	-11	3663	-152	147
NC ASHEVILLE	153	-43	2347	-252	168
CAPE HATTERAS	132	-11	1235	-264	151
CHARLOTTE	122	-46	1699	-384	96
GREENSBORO	147	-42	2063	-314	145
NEW BERN	137	-17	1510	-254	161
RALEIGH-DURHAM	146	-29	1901	-270	168
WILMINGTON	121	-12	1450	-86	276
ND BISMARCK	242	-157	4775	-632	-538
FARGO	276	-143	5149	-390	-99
GRAND FORKS	289	-143	5385	-461	-191
WILLISTON	244	-155	4822	-694	-544
OH AKRON-CANTON	263	-17	3406	-177	178
CLEVELAND	250	-30	3230	-283	36
COLUMBUS	241	-25	3062	-295	110
CINCINNATI	212	-40	2917	-222	156
DAYTON	247	-21	3225	-131	157
TOLEDO	252	-42	3432	-372	00
YOUNGSTOWN	258	-29	3450	-293	154
OK OKLAHOMA CITY	115	-81	2134	-218	-155
TULSA	118	-83	2044	-327	-170
OR ASTORIA	92	-69	2634	-235	-150
BURNS	201	-45	3958	-97	-575
MEDFORD	120	-59	2362	-452	-521
PENDLETON	118	-94	2866	-319	-407
PORTLAND	104	-69	2167	-527	-416
SALEM	97	-76	2311	-486	-411
PA ALLENTOWN	252	-14	3039	-343	42
ERIE	257	-33	3198	-509	141
HARRISBURG	232	-20	2862	-271	83
PHILADELPHIA	222	-16	2519	-360	165
PITTSBURGH	253	-17	3171	-304	178
SCRANTON	273	-7	3396	-261	173
RI PROVIDENCE	236	-23	2943	-363	105
SC CHARLESTON	97	-22	1180	-189	222
COLUMBIA	110	-30	1573	-113	168
FLORENCE	105	-35	1457	-166	180
GREENVILLE	132	-32	1860	-166	108
SD ABERDEEN	237	-151	4634	-489	-310
HURON	214	-154	4312	-533	-419
RAPID CITY	145	-157	3761	-479	-497
SIOUX FALLS	224	-137	4354	-369	-329
TN CHATTANOOGA	124	-57	2030	-223	207
KNOXVILLE	134	-50	2204	-95	222
MEMPHIS	125	-48	1857	-188	76
NASHVILLE	145	-50	2165	-178	154
TX ABILENE	112	-33	1835	108	60
AMARILLO	149	-52	2686	81	-6
AUSTIN	69	-39	1101	-83	-49
BEAUMONT	58	-39	971	-25	09
BROWNSVILLE	38	-5	485	58	37
CORPUS CHRISTI	39	-31	651	-15	-13
DEL RIO	71	-20	1005	-75	30
EL PASO	115	-21	1745	-62	34
FORT WORTH	91	-45	1505	-6	-131
GALVESTON	58	-26	781	-24	31
HOUSTON	67	-31	1042	0	-8
LUBBOCK	136	-42	2292	61	134
MIDLAND-ODESSA	127	-16	2000	243	201
SAN ANGELO	101	-29	1655	104	-11
SAN ANTONIO	70	-34	1057	-38	-70
VICTORIA	45	-39	818	-41	-62
WACO	77	-49	1327	-73	-127
WICHITA FALLS	106	-60	1875	-85	-119
UT BLANDING	214	-39	3335	-287	-297
CEDAR CITY	188	-49	3408	-67	-434
SALT LAKE CITY	258	25	3488	17	-210
VT BURLINGTON	320	-23	4302	-218	292
VA LYNCHBURG	168	-42	2331	-284	100
NORFOLK	176	-3	1811	-207	255
RICHMOND	178	-18	2102	-312	182
ROANOKE	173	-30	2317	-303	215
WA COLVILLE	184	-88	3886	-433	-395
QUILLAYUTE	112	-65	2886	-420	-243
SEATTLE-TACOMA	106	-67	2338	-569	-414
SPOKANE	166	-95	3639	-462	-447
YAKIMA	163	-78	3227	-481	-542
WV BECKLEY	205	-40	3380	77	669
CHARLESTON	214	-10	2586	-256	289
HUNTINGTON	209	-15	2616	-222	225
PARKERSBURG	243	5	2894	-64	283
WI GREEN BAY	283	-73	4423	-266	-60
LA CROSSE	281	-70	4396	-85	59
MADISON	271	-70	4171	-321	-134
MILWAUKEE	249	-71	3713	-438	-33
WAUSAU	292	-82	4928	-74	67
WY CASPER	191	-100	4103	-282	-306
CHEYENNE	169	-99	3928	-169	-230
LANDER	239	-68	4643	6	28
SHERIDAN	173	-135	4123	-452	-330

Based on 1951-80 normals.

National Agricultural Summary

January 27 - February 2, 1992

HIGHLIGHTS: Temperatures continued to average much higher than normal in the Central United States, and very little precipitation was received in non-coastal States. Accumulations of snow cover for the protection of overwintering crops remained scarce. Rainfall improved soil moisture supplies in the Pacific Northwest, while additional rains in the recently drenched Gulf region stressed crops and prevented seasonal field activity.

SMALL GRAINS: Small grain seeding was nearly completed in Arizona and California under mostly dry weather conditions. Prolonged exposure to excessive moisture, meanwhile, continued to cause yellowing and leaf rust in Gulf region wheat fields. Lack of protective snow cover due to recent dry and mild weather left fall-seeded grains vulnerable to freeze, although the same weather conditions kept grain acreage in mostly fair-to-good condition. Applications of topdressing fertilizer to small grains continued in the Southwest and Southeast. Fog and low temperatures hampered growth of California's small grains.

COTTON: Cotton harvest advanced despite light rains in Oklahoma, and drier weather during midweek allowed movement of cotton modules to gins in west Texas. Cotton quality had deteriorated in many modules. Stalk shredding continued in Arizona.

OTHER FIELD CROPS: Sugarcane harvest and planting remained active in Florida and Hawaii. Winter potato digging was underway in the Perris-Hemet area of California. Delays to planting in Texas threaten 1992 corn and sorghum crops, as much field work remains to be done before the crops can be planted, particularly in the eastern half of the State. Tobacco bed preparation neared completion in the Southeast, and Kentucky burley markets were active.

FRUIT AND NUTS: Arizona and California citrus harvests continued. One-third of California's Navel orange crop was picked, despite wet ground and fog in the Fresno-Tulare area. California's avocado and date harvests were also active. Florida citrus trees were in very good to excellent condition and surface moisture was adequate. Early and midseason orange harvests were slowing in Florida, while the grapefruit harvest continued and tangerine harvest increased. Grape growers across the country continued pruning and tying vines. Extended warmer-than-normal weather caused some concern over winter hardiness of fruits in many regions. Pecan harvest remained active in Arizona.

VEGETABLES: Lettuce harvest remained active in central and western Arizona. Broccoli and cauliflower supplies were light in central California, while harvests were peaking in the Imperial Valley. Head lettuce harvest in California's desert area was in full swing, while crop development in the Westside area was slow due to cool weather. Harvest of Florida's winter vegetables was steady, with tomatoes, cabbage, peppers, celery, squash, carrots, and lettuce leading in volume. Onion planting was virtually complete in Georgia. Few lettuce and cabbage fields were harvested in Texas' Rio Grande Valley because fields were too wet.

PASTURES AND LIVESTOCK: Hay and roughage supplies for the remainder of the season appeared adequate in most parts of the Nation, as continued mild weather has reduced demand for supplemental feeds. Hay supplies remain low, however, in Indiana and parts of western Missouri, and fields across much of Texas were too wet for grazing. Calving and lambing have been benefiting from the mild temperatures and lack of precipitation across much of the country.

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 mostly 1.00 to 2.50 in. south; 0.50 in. central; 0.25 in. or less north. Temperatures 6 to 8° above normal north; 2 to 4° above normal south.

Wet conditions continued to limit field activities. Winter wheat conditions 10% poor, 44% fair, 46% good; excess moisture delaying growth; disease pressure light to none. Livestock 59% fair, 41% good; losses minimal; movement normal to light; feed, water supplies adequate. Pastures 11% very poor, 34% poor, 40% fair, 15% good; heavily used areas damaged due to soggy conditions; winter grazing poor. Hay, roughage supplies for remainder of season 15% short, 82% adequate, 3% surplus. Activities: Soil testing; applying lime; nitrating wheat; pruning fruit trees; repairing equipment, fences; making crop plans; feeding cattle; general care of livestock, poultry, catfish.

ARIZONA: Sunny, mild days; clear, cold nights, statewide, 26th to 1st, partly cloudy, few showers far southeast 1st. Temperatures 6° below normal to 10° above. Extremes 10°; 70° higher elevations, 28°; 81° deserts.

Cotton stalk shredding light statewide. Alfalfa condition good; sheeping off, moderate west. Small grains seeded 99%, 98% 1991, 98% avg.; small grains established, 95%, 95% 1991, 93% avg. Lemons, grapefruit, oranges, tangerines, mixed vegetables, lettuce harvested central, west. Pecans harvested, central. Pasture, range condition 73% of normal. Cattle, calves fair to good; stock water, soil moisture mostly adequate, range, pasture feed supplies average, statewide. Insect damage, light.

ARKANSAS: Temperatures well above normal, scattered light showers first of week. Extremes 21°; 72°. Rainfall none to 0.72 in.

All farming activities normal. Some fieldwork northeast; land leveling, fertilizing wheat. No fieldwork southeast, southwest, soil too wet. Continued to graze wheat in southwest. Fruit needs colder weather for dormant period. Livestock good, feeding hay, range cubes continued.

CALIFORNIA: Three cold fronts brought light rains, mostly to northern areas. Valley fog prevailed between showers.

Open weather permitted progress field activities until late week. Fog, cold temperatures hampered growth of small grains, new alfalfa, fall planted sugarbeets. Seeding small grains, forages winding down most areas. Alfalfa, winter forages green chopped, southern counties. Herbicide applications ongoing, wheat, alfalfa. Bermuda, rye grass cut for hay, Imperial Valley. General activities included pre irrigation, herbicide spraying, fertilization, spring planted crops. Ground work included pruning, weed control, fumigating, bare root tree, vine, planting young trees, dormant spraying. Grape growers continued pruning, tying vines, shredding vine clippings, french plowing, control of nematodes. Harvesting Navel oranges, lemons, desert grapefruit, tangelos, tangerines, minneolas, avocados, Deglet Noor dates. Navel orange quality, demand high. Navel, Valencia oranges sizes small, growth progressing. One-third of Navel oranges picked Statewide. Lemon harvest: desert near completion, one fourth south coast picked. Wet ground, fog slowed Fresno Tulare Navel harvest. Exports shipped: Japan, United Kingdom, Korea, Mexico, New Zealand, Australia, Hong Kong, Malaysia, Singapore. Kiwifruit, apples, Ruby Seedless grapes held in cold storage. Asparagus normal progress Sacramento Valley, Delta areas. Broccoli light good quality Salinas Watsonville, Santa Maria areas. Harvest in full swing Imperial Valley, movement continued central valley areas, good quality. Cauliflower fairly light good quality Santa Maria. Harvest at peak Imperial Valley, continued central valley areas good quality. Celery very light good quality Santa Maria. Head lettuce harvest desert area in full swing, crop development westside area slow due to cool weather. Fall potato movement Tulelake Butte Valley light generally good quality. Winter potato digging continued Perris Hemet area. Garlic, onion, progress slowed central valley due to cool weather. Other vegetables harvested include: Broccoflower, cabbage, green onions various oriental vegetables. Planting in progress for melons, peas, peppers, processing tomatoes, other spring vegetables. Range, pasture conditions fair to good. Light rains helped, more needed. Water supplies short, little runoff. Branding active. Sheep grazing alfalfa. Movement to irrigated pasture.

COLORADO: Dry statewide with almost no moisture until late on the 2nd when a few light rain, snow showers fell in the mountains, southeast. Less the 0.10 in. of precipitation fell in the major river basins. San Luis Valley temperatures were warmer and winds lighter than last week. Temperatures mostly 7 to 10° above normal east of the Continental Divide except for the San Luis Valley where they were generally 10° below normal. West of the Divide temperatures 2 to 5° above normal.

Unusually warm, dry conditions across eastern plains continued to reduce snow cover, deplete top soil moisture. Winds have been calm; wheat remains in mostly good. Ranchers preparing for calving, lambing season. Some localized hay shortages in Northwest, San Luis Valley where prolonged frigid weather has increased needs. Potato movement good, prices depressed. Dry bean market poor, movement slow.

FLORIDA: Temperatures 1 to 3° above normal Panhandle, Big Bend, 3 to 5° above normal Peninsula, 1 to 2° below normal northeast. Extreme highs: around 70°, northwest, middle 80s central, south. Lows: lower 30s across north, lower 40s central, middle 40s interior south. Rain reported on 3 to 5 days except south where rain noted 1 to 3 days. Weekly totals; 1.00 to 2.00 in. north, less than 0.35 in. central, under 0.20 in. south.

Soil moisture adequate to surplus Panhandle, northern Peninsula; short central Peninsula, adequate southern Peninsula. Tobacco growers maintaining tobacco beds. Ground preparation underway spring planted crops. Sugarcane harvest, planting active. Citrus trees, groves very good to excellent condition. Surface moisture adequate, irrigation continues. Very

little new growth or bloom statewide. Early mid orange harvest slowing. Grapefruit for fresh and process use active. Temple, Honey tangerine harvest increasing. Tangelo, Dancy tangerine movement almost over for the season. Caretakers cutting cover crops, hedging, and fertilizing most areas. Warmer than normal temperatures turned cool by weekend over major vegetable producing areas. Crop development continued slow most areas. Planting spring crops active. Harvest winter crops steady. Volume leaders: tomatoes, cabbage, peppers, celery, squash, carrots, lettuce. Also available: snap beans, sweet corn, cucumbers, eggplant, escarole, potatoes, radishes, strawberries. Planting watermelons underway west central area. State's pastures poor to good. Pasture ratings 10% poor, 50% fair, 40% good. Moisture levels short to adequate. State's cattle herds poor to good condition.

GEORGIA: Temperatures 4 to 8° above normal north, 1 to 4° above normal central, south. Warmest temperatures generally 60s, ranging from low 60s north to low 70s extreme south. Coldest temperatures mostly 20s north, 30s south, a few teens colder mountain locations. Rain totals heaviest south, 1.00 to 2.50 in. common. Elsewhere totals 0.50 central, 0.25 in. or less north. Rain on 4 days across southern half, only 1 or 2 days north.

Soil moisture adequate north, surplus elsewhere. Wet soils delayed most fieldwork. Activities limited to care of livestock and poultry, pruning peach trees. Onions fair to mostly good, planting virtually complete. Small grains fair to good, nitrogen top dressing about one-third complete. Tobacco bed preparation nearly finished, plants good condition. Little progress in land preparation, about one-fifth complete statewide. Pastures variable, poor to good. Cattle, hogs fair to good.

HAWAII: Sunny weather returned to the State, allowing farmers to resume normal routines. Trade winds light, with some gusts over weekend. Persistent dry weather in some areas hampered crop condition output. Heavy irrigation necessary. Temperatures high 50s to mid 80s. Rainfall none to 4.10.

Days suitable for fieldwork 7.0. Dry weather continued to affect cucumber plantings. Cool season crops made good progress. Papaya harvesting steady. Sugar planting, harvesting operations normal.

IDAHO: Temperatures as much as 14° above normal. Precipitation fell mainly in the north, southwest with Sandpoint receiving the most with 2.05 in.

Soil moisture varied across State. Short in south central; rest of State adequate. Activities: marketing potatoes, shipping grain and hay, attending meetings, repairing equipment. Hay, roughage supplies adequate to surplus. Hay was continuing to be fed. Livestock reported in good to excellent condition.

ILLINOIS: It was a mild, dry week across the State. Two fronts came through last week, producing very little precipitation. Temperatures averaged 5 to 11° F above normal; extremes 19°, 53°. Precipitation was zero at every weather station across the State.

INDIANA: Temperatures 6 to 10° above normal. Highs mid 30s to 40s. Lows, mid 20s to near 30. Precipitation was virtually non-existent with only 0.01 in. reported across the State.

Muddy conditions limited field activities. Other activities: Hauling manure, selling grain, soil testing, machinery repair, cleaning fence rows, building maintenance, attending workshops, purchasing supplies, tax preparation, planning spring work, care for livestock. Winter wheat varies, mostly poor to good. Hay supplies tight most areas. Livestock mostly good condition.

IOWA: A very mild, dry week. Temperatures 11° above normal east to 19° above normal west. Extremes, -2°, Decorah, Fayette (28th); 66° Lamoni (2nd). There was no measurable precipitation (weekly normal 0.21 inch).

Besides livestock care, mild weather allowed farmers to clean lots, repair machinery, get ready for Spring. Farmers busy preparing taxes.

KANSAS: Temperatures 10 to 16° above normal. Precipitation extremely light; north central 0.01 in.; east central 0.03 in.; none elsewhere.

Mild weather allowed modest secondary root growth on wheat crop; no top growth noted. Livestock feeding requirements reduced by weather. Little or no disease problems noted.

KENTUCKY: Average temperature 39°; average highs upper 40s, average lows upper 20s. No precipitation.

Warmer, drier weather reduced livestock stress. Mild temperatures favorable for winter crops, accomplishing routine chores. Hay and other winter feed usage lessened by mild conditions. Soil moisture adequate. Burley prices, marketings held fairly steady. Ten Kentucky burley markets open with most scheduled to hold at least one sale this week.

LOUISIANA: Temperatures 1 to 6° above normal. Extremes 26°, 75°. Rainfall 0.87 in. north central to 2.69 in. southeast.

Main activities: Mainly wet conditions continued. Some wheat was yellowing due to prolonged wet conditions. Drainage work in fields active. Farmers continue to attend various crop production meetings across the State. Farm equipment maintenance, repair, livestock care, feeding also continued. Crawfishing active.

MARYLAND & DELAWARE: Maryland: Precipitation 0.18 in. Temperature 33.7°, normal 32.8°. Extremes -6°; 55°.

Activities for week: Reading seed catalogues, planning for spring planting; caring for and feeding livestock; checking on newborn livestock; cutting firewood.

DELAWARE: Precipitation 0.02 in. Temperatures 33.7°, normal 33.5°. Extremes 16°; 50°.

Activities for week: Marketing and caring for livestock; choosing seed varieties for spring planting; checking on newborn livestock; cutting firewood; attending organizational meetings.

MICHIGAN: Temperatures 8 to 11° above normal. Extremes -8°; 39°. Precipitation none to 0.50 in. across the State. Week ended with unseasonably warm weather and clear, sunny skies. Most of the week's accumulated snowfall had melted by 1st.

Livestock good condition with plentiful feed supplies. One reporter commented, "livestock never had a better winter for good health." Activities: Filing taxes; hauling manure; trimming trees; marketing crops; farm cleaning.

MINNESOTA: Temperatures 13 to 21° above normal for the State. Extremes -13°; 53°. Precipitation none to 0.05 in.; 0.08 to 0.19 in. below normal. Greatest weekly total 0.15 in. at Hallock.

Snowfall less than 1 in. for the State. Snow depth at weekend 10 to 20 in. in the north central, northeast, none to 7 in. elsewhere.

MISSISSIPPI: Temperature 50°, 4.7° above normal. Extremes 23°; 72°. The southern part of the state received above average rainfall. Rest of State received light rain. Rainfall was 0.93 in., 0.22 below normal. Soil temperature 49°.

Days suitable for fieldwork 0.8, 0.2 1991, 1.6 avg. Soil moisture 40% adequate, 40% surplus, 20% excessive. Wheat 50% fair, 50% good. Hay supply 100% adequate. Feed grain 100% adequate. Livestock 60% fair, 40% good. Activities: Feeding livestock, shop work.

MISSOURI: Temperatures 10° above normal except Bootheel 4° above normal. Virtually no precipitation.

Topsoil moisture 6% short, 82% adequate, 12% surplus. Subsoil moisture 27% short, 68% adequate, 5% surplus. West central district most significant area with moisture shortage. Wheat 5% very poor, 26% poor, 60% fair, 9% excellent. Reporters still concerned about possible wheat acreage losses, too early to determine. Livestock 1% poor, 29% fair, 66% good, 4% excellent. Hay supply 9% very short, 21% short, 65% adequate, 5% surplus. West central, southwest areas reporting hay shortages. Livestock water supply 2% critically short, 13% short, 85% adequate, west central area showing most significant shortage.

MONTANA: Very dry, warm week across State. Temperatures 15 to 25° above normal or greater. Most of state reported no precipitation; west received about 0.20 in.

Winter wheat snow cover protection 90% poor. Cattle, calves on supplemental feed 91%, sheep, lambs 89%. Grazing 92% open.

NEBRASKA: Temperatures 14° above normal in the Panhandle; up to 21° above normal elsewhere. Trace of precipitation in the eastern half.

Winter wheat 2% very poor, 13% poor, 54% fair, 27% good, 4% excellent. Lack of snow cover, above normal temperatures during January was a concern to wheat producers. Soil moisture supplies improved. Cattle, calves 9% fair, 74% good, 17% excellent. Cattle gleaning stalks, winter grazing requiring only limited supplemental feeding. Calving, lambing has started.

NEVADA: High pressure system continued to hold weather systems at bay during period. Light amounts of precipitation northern half. Temperatures above normal statewide. Extremes 8°; 72°.

Calving, lambing benefiting from mild temperatures and no precipitation. Mild weather also easy on livestock feeding requirements.

NEW ENGLAND: Precipitation 0.25 to 0.80 in. northern Maine, none to 0.15 in. elsewhere north; trace amounts south. Temperatures 7° to mid 20s north, low 20s to low 30s south. Maximums high 20s north to high 40s south; minimum temperatures -27° north to high teens south.

Activities: General repairs, maintenance, tending livestock, moving crops from storage.

NEW JERSEY: Temperatures near normal, 29° north, 32° south, 34° coastal. Extremes 10°; 52°. Precipitation below normal; averaged none north, south, coastal. Heaviest 24 hour total 0.03 in. on 30th, 31st.

Farmers attending meetings, trade shows; caring for livestock; repairing equipment; preparing taxes.

NEW MEXICO: Mild temperatures with scant precipitation was the trend for much of State. Only a few stations in the central highlands, southwestern mountains had below average temperatures. Average temperatures ranged from 3° below to 9° above normal. Precipitation was limited to far south, far northeast sections with greatest weekly total being 0.24 in.

NEW YORK: Temperatures near normal. Week started cold, warmed during midweek, turned cold again late in the week. Week was very dry. Precipitation was 0.25 in. or less at all locations, and under 0.10 in. at many spots. No precipitation fell in the southern Catskills, and from the Lower Hudson Valley southward to Long Island.

Major activities: Caring for livestock, winter chores, maintenance work, attending meetings. Cold weather at beginning, end of week made outside activities difficult.

NORTH CAROLINA: Temperatures above normal. Extremes 18°; 65°. Precipitation none to 1.35.

Days suitable for fieldwork 3.6. Soil moisture 9% short, 75% adequate, 16% surplus. Crop condition: Wheat 17% fair, 83% good; Oats 20% fair, 80% good; Barley 19% fair, 81% good; Rye 21% fair, 79% good; Pasture 2% very poor, 16% poor, 48% fair, 34% good. Hay, roughage supplies 92% adequate, 8% surplus. Feed grain supplies 5% short, 92% adequate, 3% surplus. Livestock feed from pastures 29%. Activities: tending livestock; cutting wood; preparing and seeding tobacco plant beds; pruning fruit trees; land preparation; equipment repair; general farm maintenance.

NORTH DAKOTA: Temperatures 19° above normal east central to 26° above normal southwest. Extremes -15° northeast to 69° southwest. Precipitation none most of State to 0.18 in. northeast.

Snow depth 1.4 in. Snow cover sufficient to protect 4% winter wheat, 14% rye, 10% alfalfa. Winter wheat seedings none very poor, 15% poor, 53% fair, 29% good, 3% excellent. Rye seedings none very poor, 12% poor, 49% fair, 36% good, 3% excellent. Hay, forage supplies are none short, 90% adequate, 10% plentiful. Pastures open for grazing 65%; 97% cattle, 98% sheep receiving supplemental feed.

OHIO: Milder, drier than normal weather prevailed. Passage of a weak Arctic cold front brought some light snow to parts of the State on 31st and 1st. Daytime high temperatures slightly above normal: 30s in the north to the mid 40s in the south. Lows slightly above normal: ranging from the low to mid 20s. Soils became muddy at times as air temperatures warmed slightly in mid day and snow cover melted. Four-inch depth soil temperatures remained in the 30s. Precipitation less than normal. Water equivalent was generally less than 0.15 in. across the State.

OKLAHOMA: Temperatures 8° above normal southeast to 15° above normal northeast. Precipitation 0.02 in. southeast to 0.22 in. west central.

Topsoil moisture 49% adequate, 51% surplus. Subsoil moisture 6% short, 94% adequate. Pasture, range 82% normal. Wheat 47% grazed; wheat 43% fair, 57% good. Livestock 36% fair, 64% good. Cotton harvest continues. Cattle prices mixed; marketings average.

OREGON: Temperatures abnormally mild, setting a few daily record highs. Western areas 9° above normal, eastern areas 11° above. Heavy precipitation high winds coast, coastal mountains, causing minor flooding. Coast 5.00 in., northern Coastal Range 7.00 to 10.00 in., interior western

areas 1.00 to 2.00 in., northern Cascades 3.00 in., eastern areas 0.10 to 0.20 in.

Soil moisture, mostly adequate western areas; short to adequate eastern areas. Winter wheat fair to good. Herbicide, fertilizer application have begun, grain crops. Orchard pruning continued. Livestock condition mostly good. Pastures dry eastern areas; out of dormancy western areas. Calving, lambing underway. Range, pasture, fair to good in most of State.

PENNSYLVANIA: Temperature 28°, 2° above normal. Extremes -2°; 49°. Precipitation 0.03 in., 0.61 in. below normal.

Activities: Repairing fence; hauling manure; maintaining machinery; caring for livestock.

PUERTO RICO: Rainfall 0.27 in. was 0.34 in. below normal. Highest rainfall 2.08 in. at Pico Del Este Luquillo, 0.65 in. at Maricao, 0.60 in. at Patillas. Highest 24 hour 0.75 in. at Pico Del Este Luquillo. Divisional temperatures 74 to 75° on the coasts, 67 to 69° in the interior. Extremes 45°; 89°.

SOUTH CAROLINA: Temperatures 3 to 4° above normal. Statewide rainfall was 0.50 in.

Activities: Tobacco seed beds maintaining good condition; small grain good; land preparation continues; pastures good; livestock good.

SOUTH DAKOTA: Temperatures 20 to 25° above normal in the west, central parts of the State while in the east temperatures 15 to 20° above normal. Extremes -2°; 75°. Started out cold, then rose to record highs late in the week. There was no measurable precipitation observed.

TENNESSEE: State influenced by high pressure most of week. Temperatures 5 to 7° above normal. Precipitation 1.00 in. below normal Statewide. Only recording stations measuring precipitation were Chattanooga, 0.06 in.; Memphis 0.03 in.

Statewide topsoil moisture averaged short to adequate. Winter wheat good. Pastures fair. Hay, roughage supplies remained adequate most areas. Livestock good. Main activities: record keeping, preparing taxes, preparing tobacco plant beds, pruning fruit trees, preparing land, hauling manure, maintaining equipment.

TEXAS: Cool, wet conditions triumphed over much of State, open weather returned midweek and was a welcomed sight. Rainfall at weekend added to previous moisture problems Central Texas, Hill Country. Most field activity halted; delayed plantings threaten 1992 corn, sorghum crops. Much field work needed before crops can be planted, particularly eastern half of State. Supplemental feeding as winter pastures are too wet for adequate grazing.

Crops: Drying conditions allowed movement of cotton modules to gins in West Texas. Cotton quality deteriorating many modules. Small grain fields plagued by wet conditions throughout week. Some fields responded well to sunshine, warm temperatures midweek, plants in low lying areas suffering from severe stress. Excess moisture has waterlogged most pastures, small grain fields Central Texas. Leaf rust, yellowing a problem many fields. Statewide wheat 79% normal compared 65% 1991.

Commercial Vegetables: Rio Grande Valley: few lettuce, cabbage fields harvested because of wet fields. East Texas land activity minimal. Some onions set out. High Plains, adverse weather limited land preparation.

Range and Livestock: Livestock conditions good despite wet conditions. Wet, cool conditions decreased grazing quality many areas. Spring calving started. Supplemental feeding, since most fields too wet for grazing.

UTAH: Temperature maximums nearly normal; minimums 2° less than normal. No precipitation was recorded anywhere in the State.

Major farm activities include: preparing for next year's crops, care of livestock, filing taxes, purchasing supplies, hauling manure.

VIRGINIA: Temperatures near normal at the beginning of the week, fell to slightly below normal by weekend. Extremes 9°; 62°. Precipitation was below normal except in southeastern areas where amounts were close to normal.

Days suitable for fieldwork 3.5. Topsoil moisture supplies 17% short, 64% adequate, 19% surplus. Winter grains, grazing crops 5% very poor, 23% poor, 46% fair, 26% good. Forage from pastures, winter grazing crops dairy cattle 5%, beef cattle 16%, sheep 14%. Spreading lime, fertilizer, top dressing small grains, plowing, pruning fruit trees, preparing tobacco plantbeds, repairing machinery.

WASHINGTON: Temperatures 9 to 13° above normal west; 11 to 17° above normal east. Precipitation 0.62 to 5.89 in. west; 0.04 to 0.87 in. east.

Days suitable for fieldwork 1.3. Soil moisture 29% short, 61% adequate, 10% surplus. Hay, other roughage 16% short, 71% adequate, 13% surplus. Range, pasture 8% very poor, 26% poor, 19% fair, 47% good. Winter wheat 20% fair, 80% good. Winter barley 7% fair, 93% good. Above normal seasonal temperatures continued to dominate the state. This is the third straight week that no below normal temperatures were reported. Overall, good conditions existed for winter cereal crops. Gentle rains continued to fall throughout the Eastern portion of the State with most of the moisture generally moving into the ground. Warm dry weather continued to dominate the central portions of the State where pruning of vineyards, orchards continued. The extended warm weather (near 50°) has caused some concern for winter hardiness. A cold spell could mean severe damage to vineyards, orchards. Early calving started throughout the state. Lambing was in progress in other parts of the state. Temperatures were good for the newborn, however muddy conditions caused some problems.

WEST VIRGINIA: Temperature 33°. Extremes -1°, 55°. Precipitation 0.09 in.

Days suitable for fieldwork 2.0. Soil moisture, 19% short, 75% adequate, 6% surplus. Wheat, good. Barley, good. Hay feed supplies, 85% adequate, 15% surplus. Other feed supplies, 19% short, 73% adequate, 8% surplus. Cattle, 11% poor, 3% fair, 86% good. Sheep, 37% poor, 63% good. Farm activities: general maintenance, fencing, calving, lambing.

WISCONSIN: Temperature 27°. Extremes -10°; 55°. Temperatures 10 to 18° above normal; there was very little precipitation for the week. Patchy flurries or freezing drizzle over northern areas. Scattered showers on 30th with snowfall up to 2 in. northeast.

WYOMING: Warm, relatively dry throughout Wyoming last week. Temperatures above normal statewide. Very little precipitation throughout the State.

1992 Winter wheat fair to good. Additional moisture, snowcover needed. Livestock mostly good. Supplemental feeding continuing. Some producers report calving, lambing beginning.

International Weather and Crop Summary
HIGHLIGHTS

January 26 - February 1, 1992

FORMER USSR ... Above-normal temperatures return to winter grain areas.

EUROPE ... Dry weather continues across the region, with winter grains dormant.

EASTERN ASIA ... Rain aids soil moisture for winter wheat in north-central China.

SOUTHEAST ASIA ... Rainfall is sporadic, reaching normal levels only in local crop regions.

SOUTH ASIA ... Widespread showers benefit vegetative to heading winter wheat.

SOUTH AMERICA ... Rain benefits corn and soybeans in southern Brazil, but dryness stresses soybeans in Parana. In Argentina, moderate showers aid soybeans, but aggravate already wet conditions in some areas.

AUSTRALIA ... Showers and cooler temperatures benefit eastern summer crops.

NORTHWESTERN AFRICA ... Drought continues to plague Moroccan winter grains. Moderate to heavy rain reverses a drying trend in Algeria and Tunisia.

SOUTH AFRICA ... Hot, dry weather reduces yield potential for reproductive corn.

January 1992
MONTHLY DATA FROM SELECTED FOREIGN CITIES
CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
****** = DATA NOT AVAILABLE***

COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
NORWAY	OSLO	1	-5	10	-17	-2	4.9	13	-45
SWEDEN	STOCKHOLM	3	-2	10	-13	1	3.1	14	-26
FINLND	HELSINKI	0	-5	8	-21	-2	3.8	50	6
U KING	GLASGOW	7	2	12	-7	4	0.5	128	-5
	EDINBURGH	7	1	13	-8	4	0.6	63	14
	BIRMINGHAM	6	1	13	-9	4	0.2	71	13
	LONDON	7	1	13	-8	4	0.4	12	-63
IRELND	DUBLIN	8	4	13	-2	6	1.4	34	-34
ICELND	REYKJAVIK	4	1	9	-9	2	2.7	128	53
DENMRK	COPENHAGEN	5	0	8	-7	2	2.2	22	-28
LUXEMB	LUXEMBOURG	4	-1	11	-8	2	1.1	14	-51
SWITZL	ZURICH	2	-3	10	-10	-1	-0.2	16	-52
	GENEVA	3	-2	11	-8	1	-0.1	12	-65
	STRASBOURG	4	-1	14	-9	2	0.7	37	2
	BOURGES	5	-1	11	-8	2	-1.0	5	-55
	BORDEAUX	7	0	15	-5	4	-1.7	25	-75
	TOULOUSE	7	1	13	-4	4	-1.0	24	-32
	MARSEILLE	11	2	14	-3	7	0.5	18	-27
SPAIN	VALLADOLID	7	-2	12	-6	3	-1.4	18	-31
	MADRID	10	-2	16	-7	4	-1.7	2	-49
GERMNY	LEIPZIG	3	-1	12	-9	1	1.7	45	11
	DRESDEN	4	0	13	-10	2	2.8	47	9
	HAMBURG	4	0	9	-9	2	1.9	38	-17
	BERLIN	4	0	12	-10	2	2.0	37	-4
	DUSSELDORF	5	1	12	-8	3	1.3	31	-32
	STUTTGART	4	-2	14	-9	1	1.3	20	-29
	NURNBERG	3	-1	10	-9	1	2.0	27	-16
	MUNICH	3	-3	12	-12	0	1.3	16	-36
AUSTRI	VIENNA	5	-1	13	-9	2	3.3	15	-13
	INNSBRUCK	3	-6	11	-15	-2	0.0	7	-44
CZECH	PRAGUE	3	-2	11	-12	1	3.2	17	-5
POLAND	WARSAW	1	-3	8	-16	-1	2.2	12	-11
	LODZ	1	-3	8	-12	-1	1.4	16	-23
	KATOWICE	2	-4	8	-16	-1	1.4	46	4
	PRZEMYSL	0	-4	7	-18	-2	0.8	22	-10
HUNGAR	BUDAPEST	4	-1	11	-10	1	3.1	7	-24
YUGOSL	SARAJEVO	1	-6	9	-16	-2	-0.6	13	-58
ROMANI	BUCHAREST	2	-5	8	-12	-1	0.9	5	-42
BULGAR	SOFIA	3	-4	12	-11	0	1.8	9	-18
ITALY	MILAN	4	-1	14	-5	1	0.3	19	-45
	VERONA	5	-1	16	-6	2	0.8	17	-35
	VENICE	6	1	14	-3	3	0.6	11	-44
	GENOA	12	7	15	1	10	2.0	36	-53
	ROME	13	4	16	-1	9	0.5	59	-20
	NAPLES	13	4	16	-1	9	0.6	74	-39
GREECE	THESSALONIKA	10	1	18	-4	6	0.4	4	-43
	LARISSA	10	-2	15	-9	4	-1.1	5	-35
	ATHENS	13	6	16	1	9	-1.3	4	-47
TURKEY	ISTANBUL	7	3	12	-3	5	-0.2	10	-76
	ANKARA	-3	-11	3	-22	-7	-7.3	1	-31
CYPRUS	LARNACA	15	6	19	1	10	-1.7	16	-78
USSR	TALLINN	2	-2	9	-10	0	4.9	69	32
	LENINGRAD	-1	-5	5	-15	-3	4.7	44	8
	KAUNAS	1	-3	8	-13	-1	4.0	29	-5
	MINSK	-1	-5	6	-20	-3	4.1	29	-5
	KAZAN	-7	-12	3	-27	-10	3.7	48	21
	MOSCOW	-3	-7	6	-24	-5	4.7	68	27
	SVERDLOVSK	-10	-17	3	-31	-13	1.7	42	20
	OMSK	-8	-15	3	-28	-12	6.7	32	16
	KUSTANAY	-8	-15	2	-32	-11	6.1	27	13
	KRASNOYARSK	-5	-11	1	-23	-8	8.2	10	-6
	NOVOSIBIRSK	-7	-12	0	-28	-9	9.9	39	18
	BARNAUL	-6	-11	1	-19	-9	7.4	11	-12
	KHABAROVSK	-14	-23	-8	-31	-18	3.2	5	-5
	VLADIVOSTOK	-6	-12	2	-18	-9	4.5	0	-15
	KIEV	0	-3	7	-14	-2	3.4	20	-24
	LVOV	0	-6	7	-19	-3	1.6	32	-6
	KIROVOGRAD	-1	-5	6	-15	-3	2.3	12	-23
USSR	ODESSA	3	-2	10	-9	0	1.5	6	-38
	YALTA	6	1	13	-3	4	-0.2	69	3

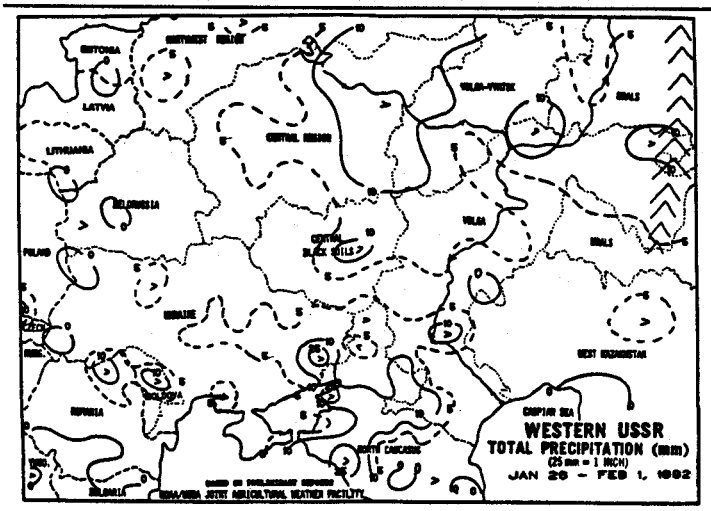
Based on Preliminary Reports

January 1992

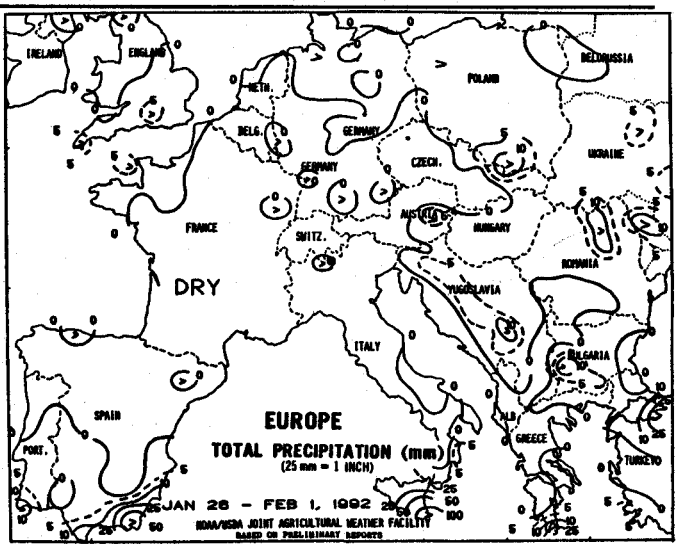
COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
USSR	VORONEZH	-3	-7	3	-20	-5	4.1	57	21
	SARATOV	-4	-9	3	-24	-6	4.8	32	-3
	KHARKOV	-2	-5	2	-13	-3	3.8	15	-27
	VOLGOGRAD	-3	-7	3	-17	-5	3.6	32	-4
	ROSTOV	0	-5	9	-15	-3	2.3	52	5
	ASTRAKHAN	1	-5	9	-16	-2	3.9	21	6
	KRASNODAR	3	-4	11	-11	-1	-0.5	69	3
	ORENBURG	-5	-12	2	-31	-9	5.3	35	11
	TSELINOGRAD	-7	-14	1	-26	-11	6.8	21	14
	KARAGANDA	-6	-12	1	-21	-9	5.2	35	18
	TBILISI	4	-3	9	-5	1	-0.7	5	-16
	TASHKENT	7	0	17	-7	4	2.7	41	-10
	ASHKHABAD	7	-1	17	-7	3	1.2	50	25
SYRIA	DAMASCUS	10	-2	14	-8	4	-2.9	19	-25
ISRAEL	JERUSALEM	8	2	11	-4	5	-4.0	199	77
PAKIST	KARACHI	23	12	29	7	18	-0.3	12	3
INDIA	AMRITSAR	18	6	22	0	12	0.2	67	39
	NEW DELHI	21	9	27	3	15	0.5	24	4
	AHMEDABAD	29	12	34	5	20	0.3	0	-2
	INDORE	28	10	39	4	19	1.0	0	-9
	CALCUTTA	25	13	29	10	19	-0.8	8	-4
	VERAVAL	28	17	31	12	22	1.0	5	5
	BOMBAY	32	17	35	13	25	1.0	0	0
	POONA	30	10	34	5	20	-0.9	0	0
	BEGAMPET	29	14	31	10	22	-0.1	0	-3
	MADRAS	29	20	32	17	24	-0.1	47	26
	MANGALORE	34	18	36	1	26	-0.7	0	-5
H KONG	HONG KONG	18	14	23	9	16	0.5	40	13
N KREA	PYONGYANG	-1	-13	3	-21	-7	2.0	32	23
S KREA	SEOUL	4	-3	8	-9	0	5.2	16	-1
JAPAN	SAPPORO	1	-5	6	-11	-3	2.2	73	-41
	NAGOYA	11	2	14	-2	7	3.0	27	-23
	TOKYO	10	4	15	1	7	2.3	45	-9
	YOKOHAMA	10	4	16	0	7	2.0	58	-3
	KYOTO	11	3	15	-2	7	3.4	35	-16
	OSAKA	11	4	15	0	8	2.6	32	-20
THAILN	PHETCHABUN	30	18	33	13	24	-0.9	32	21
	BANGKOK	31	21	33	16	26	-0.3	8	-2
MALAYS	KUALA LUMPUR	33	23	36	21	28	1.8	82	-86
VIETNM	HANOI	18	14	25	11	16	-0.8	87	69
CHINA	HARBIN	-10	-21	-4	-27	-16	4.8	1	-2
	HAMI	-3	-16	8	-21	-9	2.1	1	-1
	LANCHOW	2	-10	8	-15	-4	2.4	0	-1
	BEIJING	4	-6	11	-9	-1	3.9	1	-2
	TIENTSIN	3	-8	10	-16	-2	1.5	3	-1
	LHASA	6	-9	11	-13	-2	0.2	1	1
	KUNMING	12	2	18	-2	7	-0.8	22	10
	CHENGCHOW	8	-4	15	-8	2	1.1	1	-8
	YEHCHANG	10	3	17	-2	6	1.7	9	-12
	HANKOW	10	1	20	-4	6	2.7	18	-17
	CHIHKIANG	11	4	20	-3	7	2.3	9	-28
	NANCHANG	11	3	25	-2	7	2.0	47	-12
	TAIPEI	18	14	28	9	16	1.0	90	0
	CANTON	18	10	25	4	14	1.1	42	5
	NANNING	16	10	25	3	13	0.2	80	42
CNRY I	LAS PALMAS	21	14	23	12	18	0.4	2	-18
MOROCC	CASABLANCA	18	7	26	3	12	-0.5	0	-74
	MARRAKECH	19	6	26	1	13	1.0	0	-29
ALGERI	ALGER	16	4	23	-2	10	-0.9	154	57
	BATNA	10	-2	15	-8	4	-0.6	29	-11
TUNISI	TUNIS	16	5	19	1	10	-0.8	55	-8
NIGER	NIAMEY	30	18	35	14	24	-0.8	0	0
MALI	TIMBUKTU	22	**	28	**	**	***	16	16
	BAMAKO	30	19	36	14	25	-0.5	36	36
MAURIT	NOUAKCHOTT	31	18	38	12	24	2.7	1	0
SENEGL	DAKAR	27	20	35	18	24	2.7	0	0
CHAG A	DIEGO GARCIA	30	26	33	23	28	0.6	124	-204
LIBYA	TRIPOLI	17	6	23	3	11	-1.2	7	-45
	BENGHAZI	15	8	16	1	11	-1.2	31	-33
EGYPT	CAIRO	17	9	19	4	13	-1.1	5	2
	ASWAN	19	8	25	3	14	-2.4	0	0
ETHIOP	ADDIS ABABA	22	9	25	2	16	-0.8	37	12
KENYA	NAIROBI	27	13	29	9	20	0.1	2	-47
TANZAN	DAR ES SALAAM	32	25	33	22	28	0.6	1	-67
GABON	LIBREVILLE	27	25	29	23	27	0.7	71	-216

COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	PRECIPITATION (MM) TOTAL	DPART F/NRM
TOGO	LOME	32	22	35	18	27	0.2	0	-14
B FASO	OUAGADOUGOU	30	18	35	14	24	-0.9	0	0
IVRY C	ABIDJAN	31	24	37	18	28	0.9	1	-21
MOZAMB	MAPUTO	31	23	41	20	27	1.2	44	-129
ZAMBIA	KABWE	28	17	31	14	23	1.6	146	-94
ZIMBAB	HARARE	28	17	32	14	23	2.1	63	-136
S AFRI	PRETORIA	31	19	35	15	25	3.4	54	-95
	KROONSTAD	33	16	37	11	24	1.8	18	-87
	JOHANNESBURG	28	15	31	11	22	2.4	99	-29
	BETHAL	28	14	30	10	21	1.4	66	-68
	DURBAN	28	21	31	16	25	0.8	90	-37
	CAPE TOWN	26	17	35	11	21	0.9	1	-11
CANADA	TORONTO	-1	-8	7	-22	-4	2.2	38	-13
	MONTREAL	-7	-16	5	-28	-11	-1.1	94	22
	WINNIPEG	-7	-16	4	-31	-11	7.6	14	-7
	REGINA	-4	-15	5	-32	-9	8.3	10	-7
	SASKATOON	-5	-16	2	-32	-10	8.8	18	0
	LETHBRIDGE	7	-5	15	-23	1	10.8	11	-12
	CALGARY	5	-7	14	-16	-1	10.7	3	-14
	EDMONTON	-1	-10	6	-21	-5	9.5	21	-4
	VANCOUVER	9	3	15	-4	6	3.4	282	128
MEXICO	GUADALAJARA	19	9	24	1	14	-1.9	245	233
	MEXICO CITY	19	9	23	6	14	1.5	32	26
	ACAPULCO	31	23	34	21	27	0.2	10	0
BERMUD	ST. GEORGES	21	17	27	11	19	1.1	121	-4
BAHAMA	NASSAU	25	18	29	12	22	0.9	3	-41
CUBA	HAVANA	26	19	31	16	23	0.9	58	-4
JAMAIC	KINGSTON	31	22	33	15	27	1.1	1	-18
P RICO	SAN JUAN	29	22	31	20	25	0.2	102	29
GUADEL	RAIZET	30	21	31	17	25	1.7	20	-48
MARTNQ	LAMENTIN	28	22	30	18	25	1.5	30	-84
BARBAD	BRIDGETOWN	29	24	29	19	26	0.6	27	-34
TRINID	PORT OF SPAIN	30	21	33	19	26	1.3	40	-33
COLOMB	BOGOTA	19	8	22	2	14	1.1	5	-30
VENEZU	CARACAS	29	22	31	21	26	1.0	47	4
F GUIA	CAYENNE	29	23	29	21	26	0.4	147	-276
BRAZIL	FORTALEZA	30	25	31	23	27	-0.3	43	-95
	RECIFE	29	23	30	21	26	-0.8	153	85
	BELO HORIZONTE	26	19	30	18	23	-0.1	513	229
	CAMPO GRANDE	31	21	34	19	26	1.7	194	-35
	FRANCA	27	19	30	13	23	1.3	491	241
	RIO DE JANEIRO	**	**	**	**	**	***	**	**
	LONDRINA	31	20	34	17	26	1.8	49	-185
	SANTA MARIA	29	19	35	10	24	-0.6	82	-59
PERU	LIMA	28	21	31	20	24	2.6	0	-1
BOLIVI	LA PAZ	13	4	16	1	8	-1.0	208	64
CHILE	SANTIAGO	31	12	36	10	22	0.6	0	-1
ARGENT	IGUAZU	33	20	36	14	27	***	16	**
	FORMOSA	33	22	37	15	27	-0.3	59	-65
	CERES	30	19	35	11	25	-1.1	91	-35
	CORDOBA	29	18	33	12	23	0.0	150	33
	RIO CUARTO	28	18	34	11	23	-0.1	63	-52
	ROSARIO	30	18	33	10	24	0.0	131	3
	BUENOS AIRES	29	18	33	7	23	0.0	87	-24
	SANTA ROSA	29	17	37	8	23	-0.5	147	80
	TRES ARROYOS	27	15	33	8	21	-0.5	106	54
N CALD	NOUMEA	30	23	35	20	27	1.3	97	-17
FIJI	NAUSORI	29	23	31	19	26	-0.5	255	-81
SAMOA	PAGO PAGO	30	26	32	23	28	0.8	383	61
TAHITI	PAPEETE	31	24	33	22	28	1.2	247	-95
N ZEAL	AUCKLAND	23	16	26	12	20	0.4	132	71
PA N G	PORT MORESBY	32	23	34	22	28	0.2	128	-77
AUSTRL	DARWIN	32	25	33	23	29	0.4	295	-115
	MOREE	33	20	37	15	26	-0.2	46	-37
	BRISBANE	29	22	33	18	26	0.6	146	-35
	PERTH	32	19	39	13	26	1.4	6	0
	CEDUNA	24	12	37	8	18	-3.5	1	-9
	ADELAIDE	23	14	37	10	19	-3.6	1	-36
	MELBOURNE	21	12	40	7	16	-3.4	17	-21
	WAGGA	29	14	41	8	21	-2.1	33	-17
	CANBERRA	25	13	37	9	19	-1.0	94	34
PHILIP	MANILA	31	21	32	19	26	0.2	4	-9

Based on Preliminary Reports

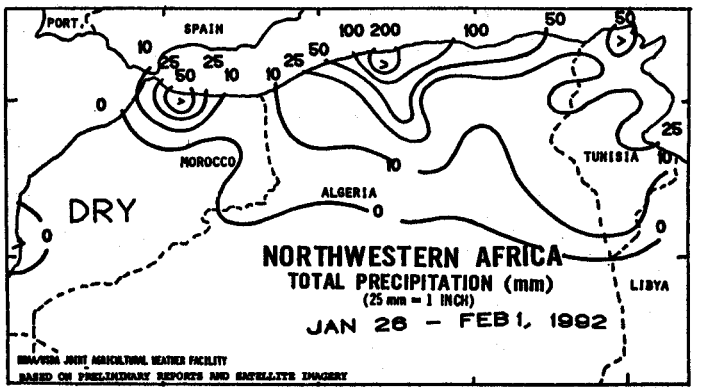


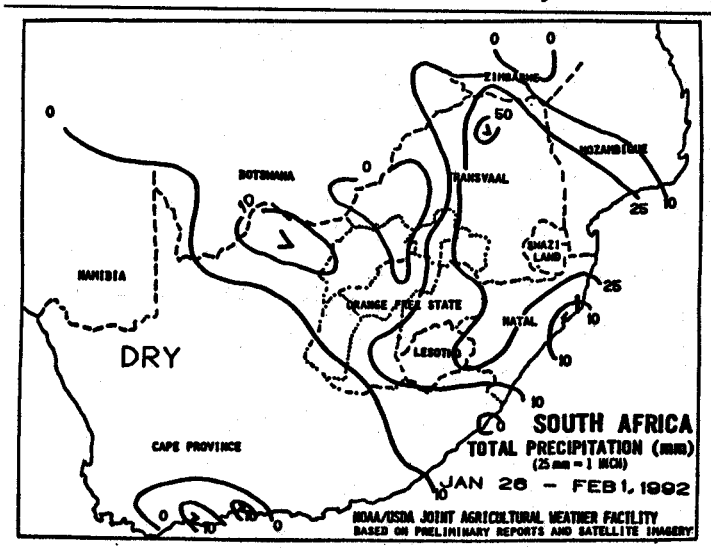
FORMER USSR ... Above-normal temperatures returned to winter grain areas. Weekly average temperatures ranging from -2 to -4 degrees Celsius (C) kept winter grains dormant and diminished the threat of potential winterkill caused by freezing. Lowest temperatures for the week ranged from -10 to -14 degrees C, while highest temperatures ranged from 2 to 4 degrees C. Weekly precipitation remained light (less than 10mm) with greatest amounts of moisture (10-25mm) confined to western North Caucasus and the eastern portion of Central Region.



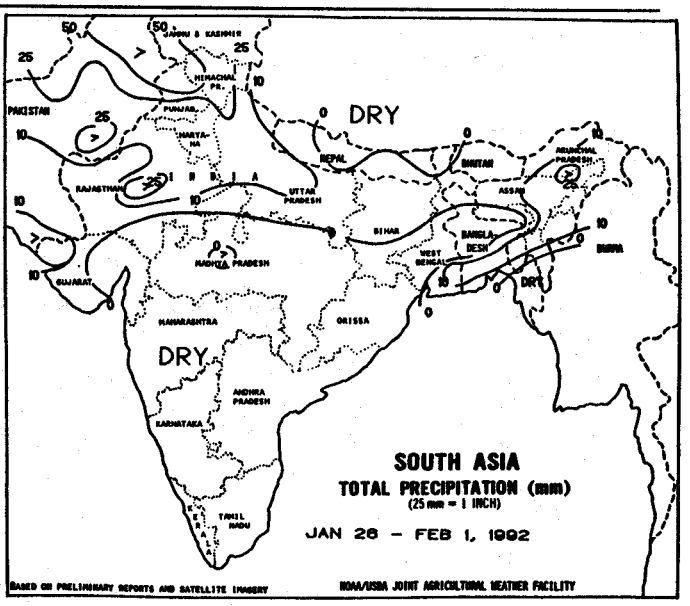
EUROPE ... Dry weather prevailed across much of the region, with very light showers (mostly less than 5mm) in eastern Europe and southern Spain. Winter precipitation has been significantly below average throughout Europe. The dryness has no immediate impact on dormant winter grains, except to leave crops more vulnerable to any cold air outbreak. However, concerns are raised about the impact of persistent dryness as crops begin active spring growth. The need for topsoil moisture will increase as the pace of spring fieldwork increases and winter crops break dormancy. Vegetative growth will begin soon across the Mediterranean region, although average weekly temperatures remained below 5 degrees C except in southern Spain and southern Italy.

NORTHWESTERN AFRICA ... Drought continued over Moroccan winter grain areas. Continued dryness over Morocco since November has depleted moisture reserves, creating unfavorable growing conditions for wheat and barley. As a result, crop conditions continued to deteriorate and significant rain is needed to halt declining yield prospects. In Algeria and Tunisia, moderate to heavy rain (25 to 50mm, with local amounts in excess of 100mm) reversed a drying trend, bringing much needed moisture to winter grains in the vegetative stage. Although this past week's rain in Algeria was mostly beneficial, local flooding in parts of central Algeria may have caused some crop damage.

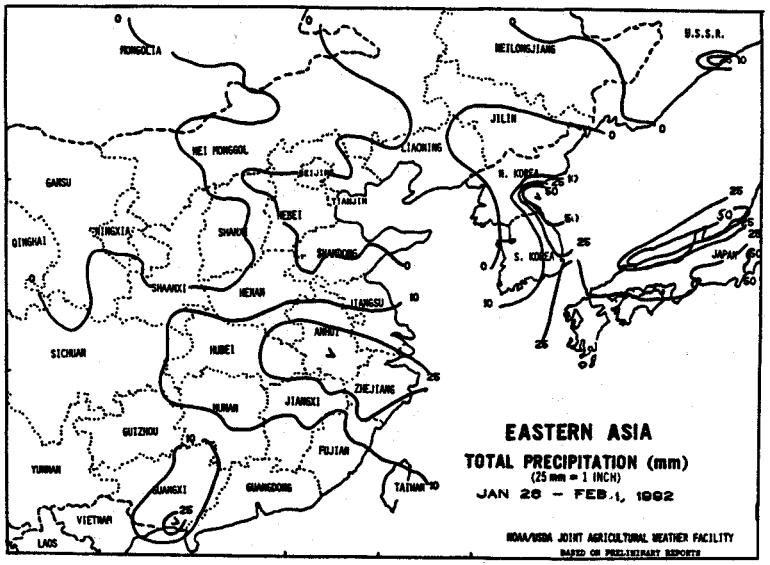




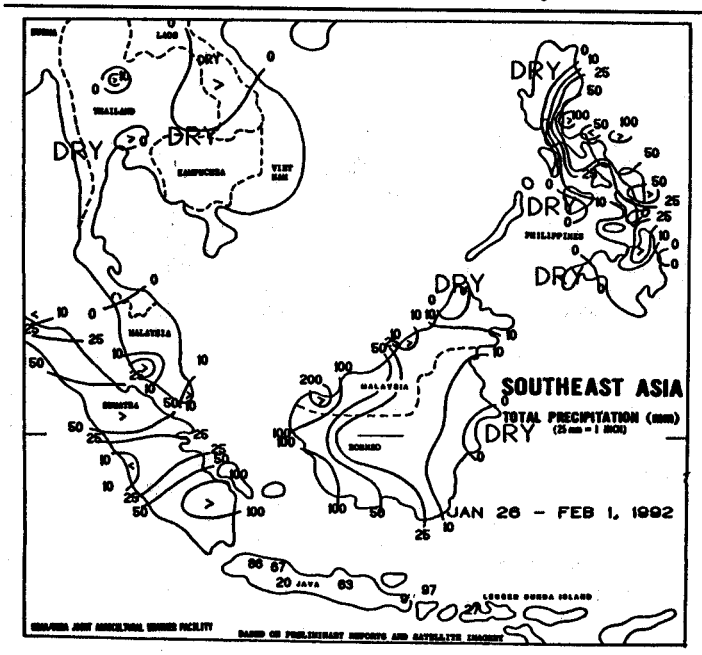
SOUTH AFRICA ... Hot, mostly dry conditions prevailed again in South Africa's western corn areas, reducing yield potential of crops advancing through reproduction. High temperatures (35-39 degrees C) accompanied only light rain (12mm or less) in corn areas of southwestern Transvaal and central and southern Orange Free State that historically account for over 50 percent of the total crop. Light to moderate showers (10-48mm) and more seasonable temperatures from Johannesburg and Bethlehem eastward benefited reproductive crops over the remainder of South Africa's corn belt, although dry pockets (10mm or less) persisted in Natal. Lighter-than-normal rainfall (5-17mm) also returned to Natal's sugarcane region.



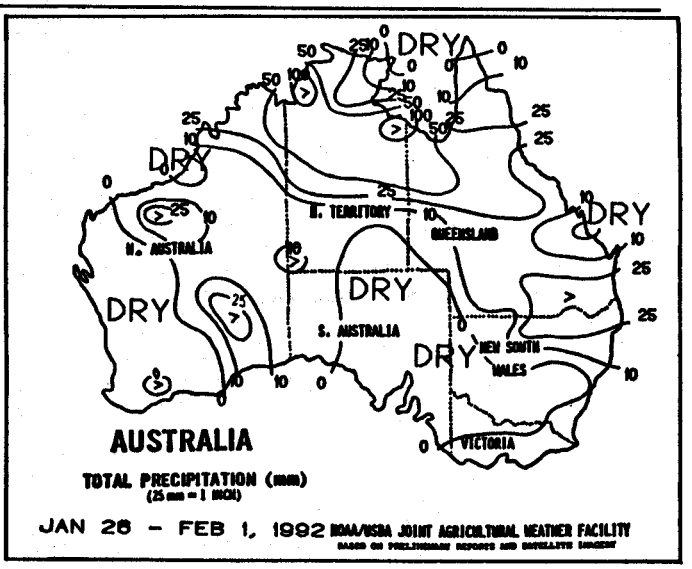
SOUTH ASIA ... Widespread showers swept across winter grain and oilseed areas of Pakistan and northern India, benefiting vegetative to heading wheat. Heaviest amounts (29-70mm) were reported in northern Pakistan and India's Punjab state, while lighter rain (2-29mm) fell from southern Pakistan across northern India to Assam. Weekly temperatures averaged near to above normal, enhancing crop growth. Warmer weather, accompanied by scattered showers, is expected this time of year in northern winter wheat and oilseed areas of both India and Pakistan.



EASTERN ASIA ... Moderate rain (15-45mm) covered crop areas north of the Yangtze Valley in central China, aiding soil moisture for spring growth of presently dormant winter wheat. Weekly temperatures averaged 3-5 degrees above normal across north-central China.

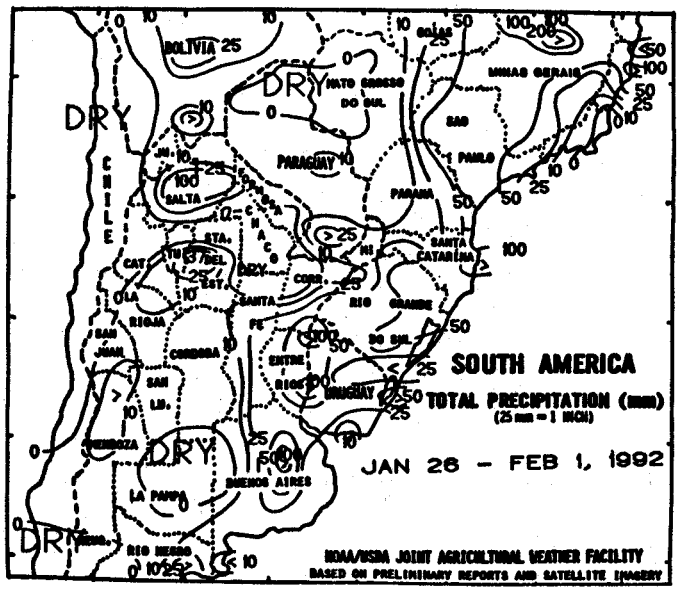


SOUTHEAST ASIA ... Rainfall activity continued to be sporadic across Malaysia and Indonesia, with only local crop regions of Java and eastern Malaysia receiving moderate to heavy amounts (30-100mm or more). Mostly dry weather persisted in palm oil regions of western Malaysia. In the Philippines, moderate to heavy showers (25-50mm or more) fell from southern Luzon to northern Mindanao, benefiting fall grains and plantation crops experiencing a recent drying trend.



AUSTRALIA ... Beneficial moderate showers (10-46mm) and cooler temperatures later in the week, favored vegetative cotton and sorghum across eastern Australia. South-central Queensland received light to moderate rain (10-21mm), aiding pastures. However, only scattered light to moderate rain continued to fall across Queensland's northeast coast, stressing sugarcane. Monsoonal moisture was abundant across northern Australia last week, but has still not reached the sugarcane areas. Weekly temperatures averaged near normal across the major eastern crop areas.

SOUTH AMERICA ... In southern Brazil, moderate to heavy rain (10-94mm) fell across Santa Catarina and Rio Grande do Sul, favoring vegetative soybeans. Western Parana and southern Mato Grosso do Sul received only light rain (less than 10mm), while northeastern Parana, Sao Paulo, and Minas Gerais received substantial showers (37-80mm) which aided vegetative to reproductive soybeans. Limited soil moisture in western Parana and, to a lesser degree, in Mato Grosso do Sul stressed vegetative to reproductive soybeans. Rain is needed for adequate crop development in these areas. In Argentina, moderate to heavy rain (34-105mm) covered eastern Buenos Aires and southeastern Santa Fe, favoring topsoil moisture for soybeans, but aggravating wet conditions in northern Buenos Aires and southern Santa Fe. The rains also delayed winter wheat harvesting and late soybean planting, both of which should be nearing completion. Scattered heavy rain (44-137mm) fell in northwestern Argentina, causing some local flooding. Weekly temperatures averaged 1-2 degrees C above normal across the major crop areas of Argentina and southern Brazil.



Review of the 1991 Western Pacific Cyclone Season

During the 1991 Western Pacific tropical cyclone season, 31 tropical cyclones developed, compared to the 1959-85 average of 30.9 cyclones. The classification of the 31 tropical cyclones is as follows: 2 tropical depressions (TD, maximum sustained winds < 34 knots), 9 tropical storms (TS, max. sust. winds 34-63 knots), 15 typhoons (TYP, max. sust. winds > 63 knots), and 5 super typhoons (STYP, max. sust. winds > 129 knots). Table 1 lists all cyclones that occurred in 1991 by name, number, type of cyclone, maximum wind attained (knots), date of occurrence, area(s) of direct landfall, and other areas indirectly affected by the cyclone, if any. Cyclones are named only if they reach tropical storm strength.

Figures 1 and 2 depict cyclone tracks from March to August and September to December, respectively. All tracks are from unofficial teletype reports. During the first half of the season (Mar.-Aug.), the tracks followed a typical pattern. In terms of impacts, southern China was hit by five cyclones but none were significant. The Philippines saw normal cyclone activity, which usually provides ample moisture for rice development. Typhoon Yunya crossed central Luzon during the eruption of Mount Pinatubo, causing mudslides. However, the second half of the season (Sept.-Dec.), saw most of the cyclones track northeast of the Philippines, which is somewhat atypical. No significant cyclones affected the Philippines from mid-August to late October, which resulted in a drying trend across most of the secondary grain areas. With the tracks shifting eastward, Japan saw an unusual number of cyclones, resulting in flooding and some rice damage.

—Bob Stefanski

Table 1. Western Pacific Cyclones in 1991

Name	No.	Type	Wind	Date	Area of landfall	Other areas affected
Sharon	1	TS	60	Mar. 5-14	C. Phil., Vietnam	Thailand
Tim	2	TYP	65	Mar. 21-25	N/A	
Vanessa	3	TS	45	Apr. 23-28	S. Phil.	S. China
Walt	4	STYP	135	May 6-16	N/A	Phil.
Yunya	5	TYP	110	June 13-17	C. & N. Phil., Taiwan	
Zeke	6	TYP	75	July 9-14	C. Phil., S. China, N. Vietnam	
Amy	7	TYP	125	July 15-20	S. China	
Brendan	8	TYP	65	July 21-24	N. Phil. & S. China	
Caitlan	9	TYP	90	July 23-30	N/A	Korea & Japan
Doug	10	TS	35	Aug. 9-11	N/A	
Ellie	11	TYP	80	Aug. 11-19	Taiwan & S. China	
Fred	12	TYP	100	Aug. 11-18	N. Phil., S. China & Vietnam	
unnamed	13	TD	25	Aug. 13-13	N/A	
Gladys	14	TYP	65	Aug. 16-22	S. Japan	
unnamed	15	TD	30	Aug. 26-29	S. Korea	S. Japan
Harry	16	TS	45	Aug. 29-31	C. Japan	
Ivy	17	TYP	115	Sept. 2-10	N/A	C. Japan
Joel	18	TS	50	Sept. 3-7	S. China	
Kinna	19	TYP	90	Sept. 10-14	Japan	
Luke	20	TS	50	Sept. 14-19	N/A	C. Japan
Mireille	21	STYP	130	Sept. 9-28	S. & C. Japan	
Nat	22	TYP	115	Sept. 16-Oct 2	Taiwan & S. China	N. Phil.
Orchid	23	TYP	120	Oct. 4-13	N/A	Japan
Pat	24	TYP	120	Oct. 5-13	N/A	
Ruth	25	STYP	140	Oct. 20-30	N. Phil.	
Seth	26	STYP	130	Nov. 1-14	N. Phil.	
Thelma	27	TS	45	Nov. 1-8	C. Phil.	
Verne	28	TS	55	Nov. 5-12	N/A	
Wilda	29	TS	50	Nov. 14-18	C. Phil.	
Yuri	30	STYP	145	Nov. 23-Dec. 1	N/A	
Zelda	31	TYP	80	Nov. 27-Dec. 4	N/A	

N/A is not applicable.

FIGURE 1.

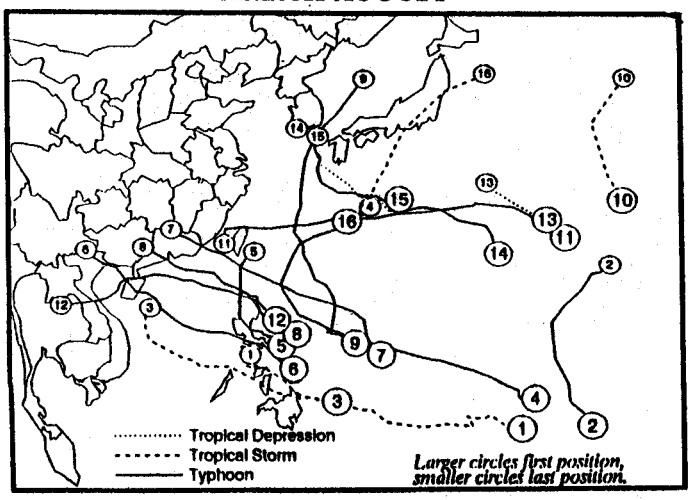
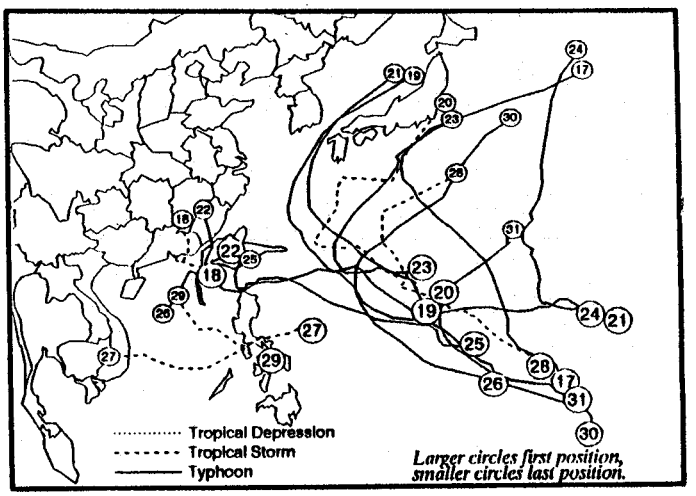


FIGURE 2.



El Niño: Background, Mechanisms, and Impacts

Background: The original definition of El Niño goes back to the 18th and 19th centuries when Peruvian sailors coined the term to describe a warm southward current that appeared annually near Christmas off the Peruvian coast. Hence the name El Niño, Spanish for "Christ Child." Throughout the year, a northward cool current prevails due to southeast trade winds causing upwelling of cool and nutrient-rich water. However, during late December, the upwelling relaxes, causing warmer and nutrient-poor water to appear, which signals the end of the local fishing season.

Over the years, the warm, southward current sometimes seemed more intense than usual and was associated with periods of extreme wetness along the normally very dry Peruvian coast. These events were called "years of abundance." In the early 20th century, researchers found a strong inverse correlation, called the Southern Oscillation, between surface pressure over the Pacific and Indian Oceans, hence the saying, "When pressure is high in the Pacific Ocean it tends to be low in the Indian Ocean." Researchers tried but failed to correlate the Southern Oscillation with Indian monsoon failures. In 1958-59, a strong "years of abundance" occurred in which a large area of warm water in the Pacific Ocean extended from the South American coast westward to the dateline. Coinciding with the extensive warm water was wetness along the Peruvian coast, low surface pressure in the eastern Pacific and high pressure in the western tropical Pacific. Consequently, scientists in the early 1960's concluded that these events were associated and occurred interannually. Since then, the term El Niño describes not a local warm current but a warming of the tropical Pacific surface waters occurring every 2-7 years, and is associated with changes in the atmospheric circulation in the tropical Pacific and worldwide.

Mechanisms: Figure 1 depicts the typical atmospheric and oceanic circulations that exist in the tropical Pacific. The prevailing easterlies, northeast (NE) and southeast (SE) trades, converge over Indonesia in conjunction with the Asian monsoon, producing widespread convection. Additionally, warm water "piles up" in the western Pacific, due to the easterly winds. In fact, studies have shown that the sea level normally rises in the west. As described above, the SE trades produce upwelling of cool water along the Peruvian coast. As an El Niño develops, the SE trades weaken causing less upwelling. Warmer water then starts to appear off the Peruvian coast. This usually occurs from March to May. The maximum warming occurs from the central to eastern Pacific from December to February after the warming starts off the Peruvian coast. Typical events end in May to July, with the winds and upwelling returning to normal. At the same time, warm water begins to flow eastward from the western Pacific, causing the convection to shift eastward near the dateline (fig. 2). In addition to the above atmospheric changes, the Inter-Tropical Convergence Zone (ITCZ) moves farther south across Ecuador and northern Peru, producing the "years of abundance."

In determining the atmospheric status of the tropical Pacific, climatologists devised the Southern Oscillation Index (SOI). The SOI is the standardized sea level pressure difference between Darwin, Australia and Tahiti in the central Pacific (Tahiti-Darwin). Thus, when the surface pressure is high at Darwin and low at Tahiti, the SOI is negative (El Niño), and conversely, when surface pressure is low at Darwin and high at Tahiti, the SOI is positive. This stage is sometimes called La Niña, "Little Girl," in which cooler-than-normal water spreads out into the central and eastern Pacific. Most climate anomalies associated with El Niño are reversed during La Niña. A term preferred by climatologists that encompasses the atmospheric and oceanic perturbations of the tropical Pacific is ENSO (El Niño/Southern Oscillation).

Impacts: The current El Niño event probably started in April or May, and can be considered to be a moderate event. From now until March, several significant weather impacts typically occur in important agricultural areas. Wetter-than-normal conditions can be expected in eastern Argentina and southern Brazil, and northeastern Mexico to the southeastern United States (Ropelewski and Halpert, 1987). Drier-than-normal conditions are expected in southern Africa, Indonesia, Philippines, and northern Australia (for map, see WWCB, 1991). In regards to the upcoming summer season in the U.S. Corn Belt and Great Plains, and the current rainy season in California, **no** significant correlations with rainfall or temperature have been directly attributed to the El Niño event.

(Continued to back cover)

FIGURE 1.

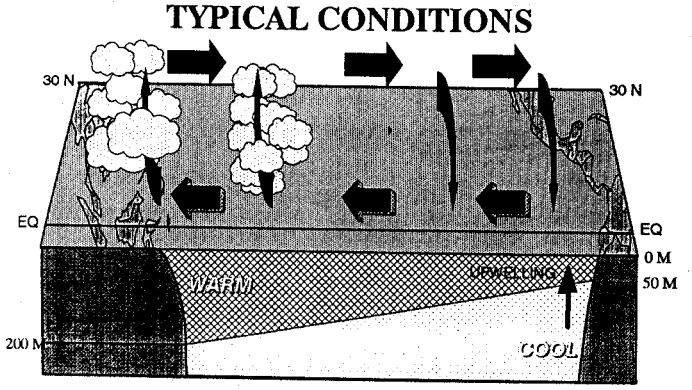
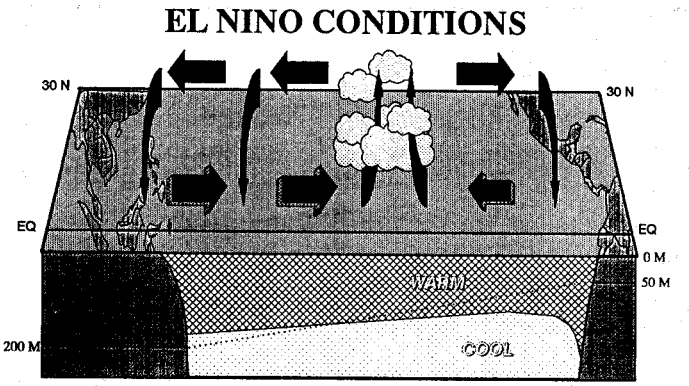


FIGURE 2.



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– Bob Stefanski

Editor's Note: The value of the Southern Oscillation Index plunged to -3.4 in January, the lowest reading since March 1983, when the last major El Niño occurred. Though too much weight should not be put on month-to-month fluctuations, the reading suggests the current El Niño shows no signs of weakening and should persist at least for the next few months.

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