

# 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

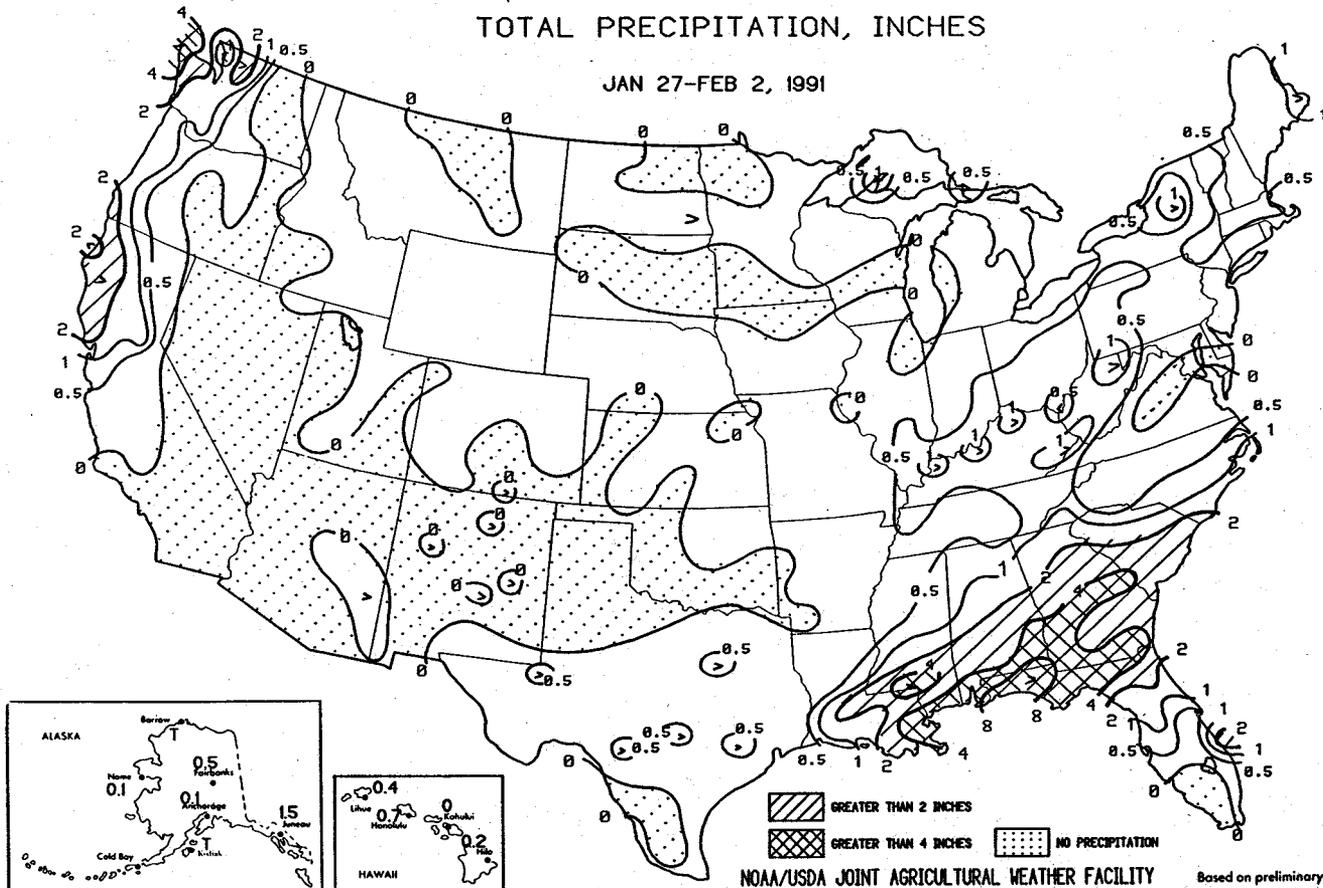
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February 5, 1991

## TOTAL PRECIPITATION, INCHES

JAN 27-FEB 2, 1991



NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports

## HIGHLIGHTS

January 27-February 2, 1991

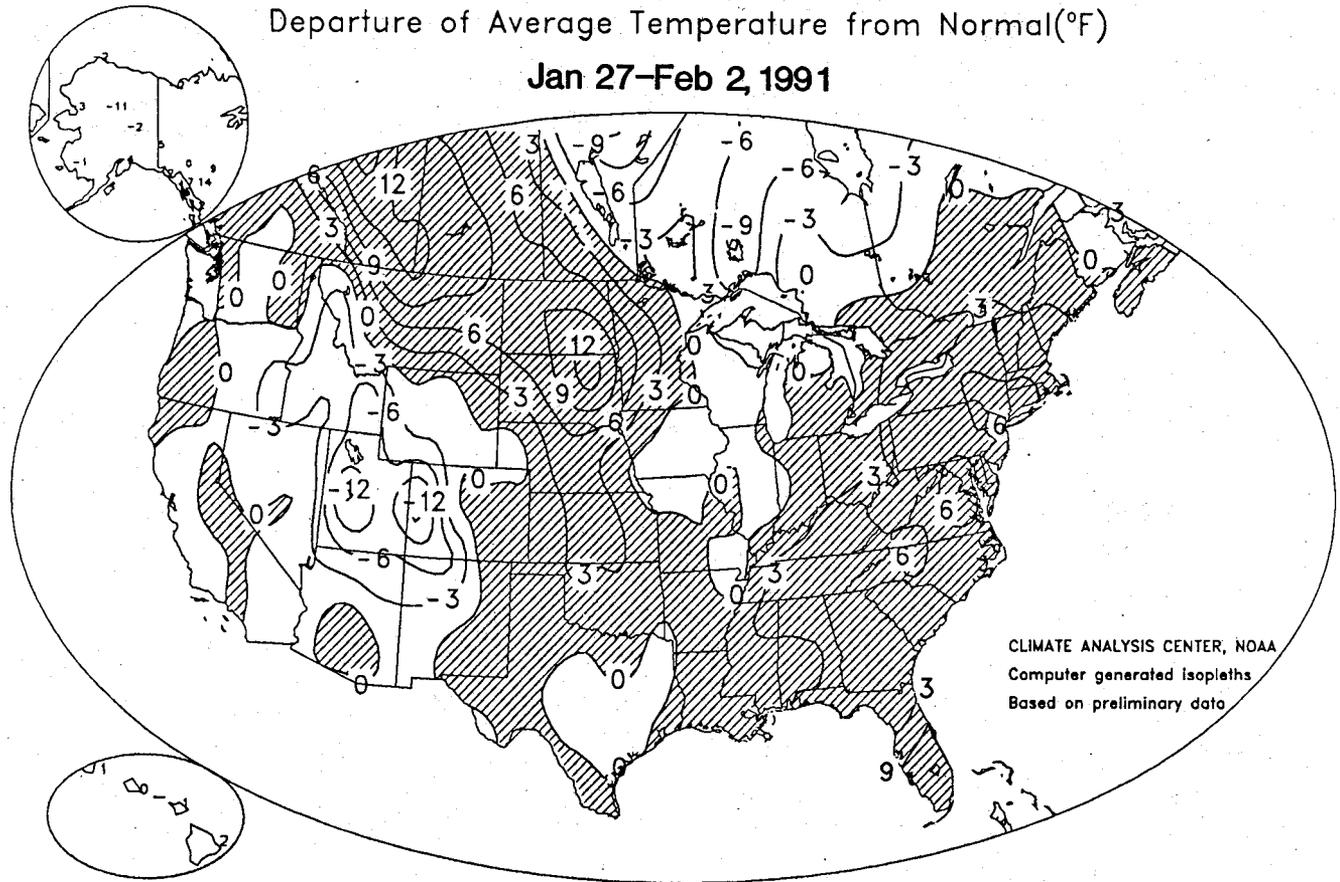
The **Southeast** absorbed two more heavy rains, winter bared its teeth at midweek before hastily retreating, and the **Pacific Northwest** saw a damp start to the new month. A stationary front draped across **northern Florida** provided the focus for heavy rain through Wednesday from **southern Louisiana** to the **Georgia coast**. Up to 9 inches of rain fell in the **Panhandle of Florida**. South of the front, nearly 20 record-high temperatures were notched in **peninsular Florida**. A weak disturbance touched off light precipitation in the **Ohio Valley** on Sunday. **Columbus, OH** noted an inch of snow. An arctic front punched into the **northern Plains** on Monday, sweeping off the **east coast** by midweek. Heavy snow and high winds buffeted the **northern Rockies** and **Great Lakes**. The temperature dipped to  $-31^{\circ}$  F in **Butte, MT**. Snowbelt regions of **Michigan, Ohio, and New York** collected a foot or more of snow.  
(Continued to back cover)

## Contents

	Page
Highlights & Total Precipitation .....	1
Temperature Departure &	
Extreme Minimum Temperature Maps .....	2
Average Temperature & Snow Cover Maps .....	3
National Weather Data for Selected Cities .....	4
<b>January Weather and Crop Summary .....</b>	<b>7</b>
January Precipitation & Temperature Maps .....	8
January Weather Data for Selected Cities .....	10
January Heating Degree Day Table .....	11
<b>January Weather in Historical Perspective .....</b>	<b>12</b>
<b>California: Anatomy of a Drought .....</b>	<b>13</b>
National Agricultural Summary &	
State Summaries of Weather and Agriculture .....	15
International Weather and Crop Summary &	
<b>January Temperature/Precipitation Table .....</b>	<b>20</b>
Subscription and Mailing Permit Information ..	24

Departure of Average Temperature from Normal(°F)

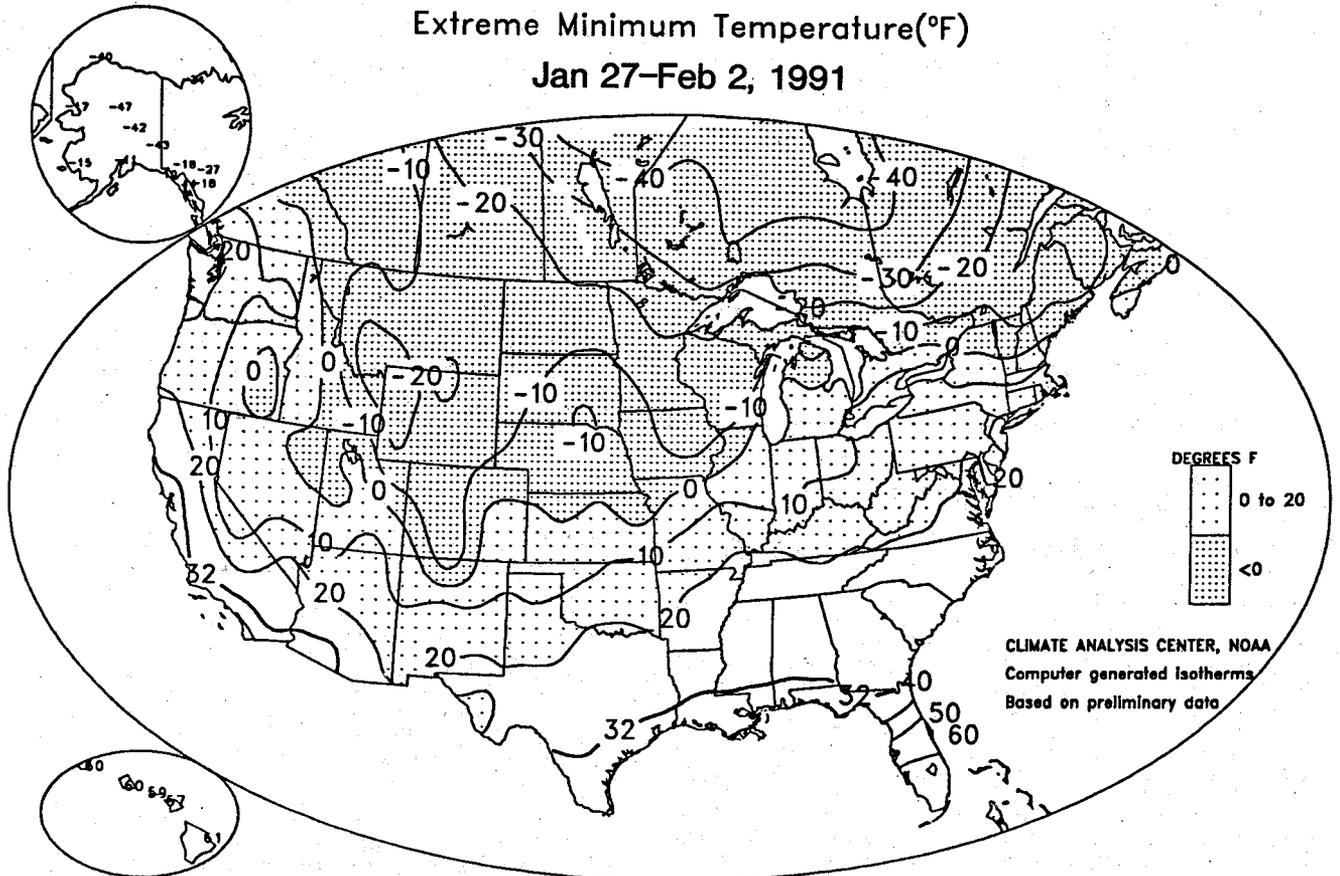
Jan 27-Feb 2, 1991



CLIMATE ANALYSIS CENTER, NOAA  
Computer generated isopleths  
Based on preliminary data

Extreme Minimum Temperature(°F)

Jan 27-Feb 2, 1991

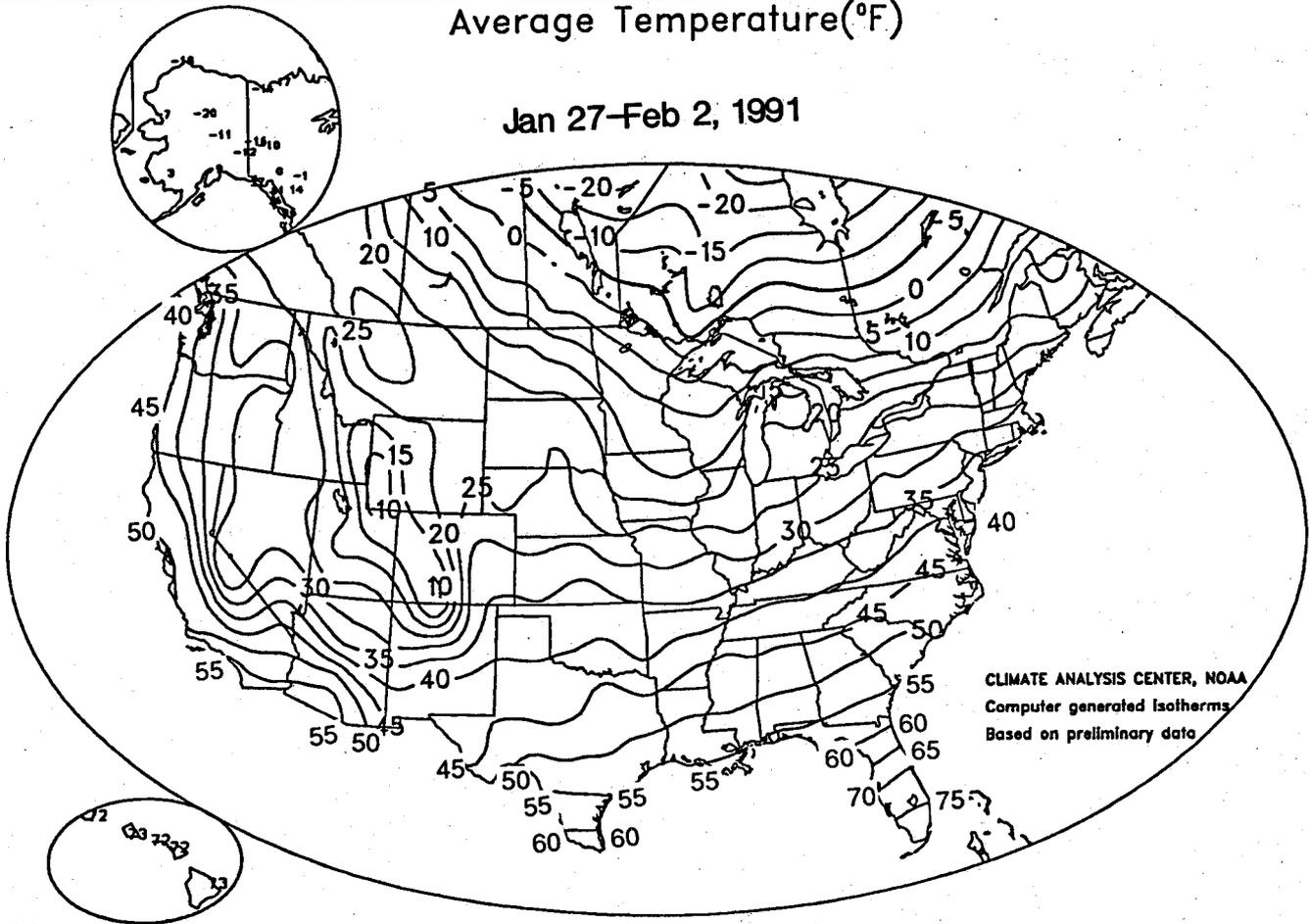


DEGREES F  
0 to 20  
<0

CLIMATE ANALYSIS CENTER, NOAA  
Computer generated isotherms  
Based on preliminary data

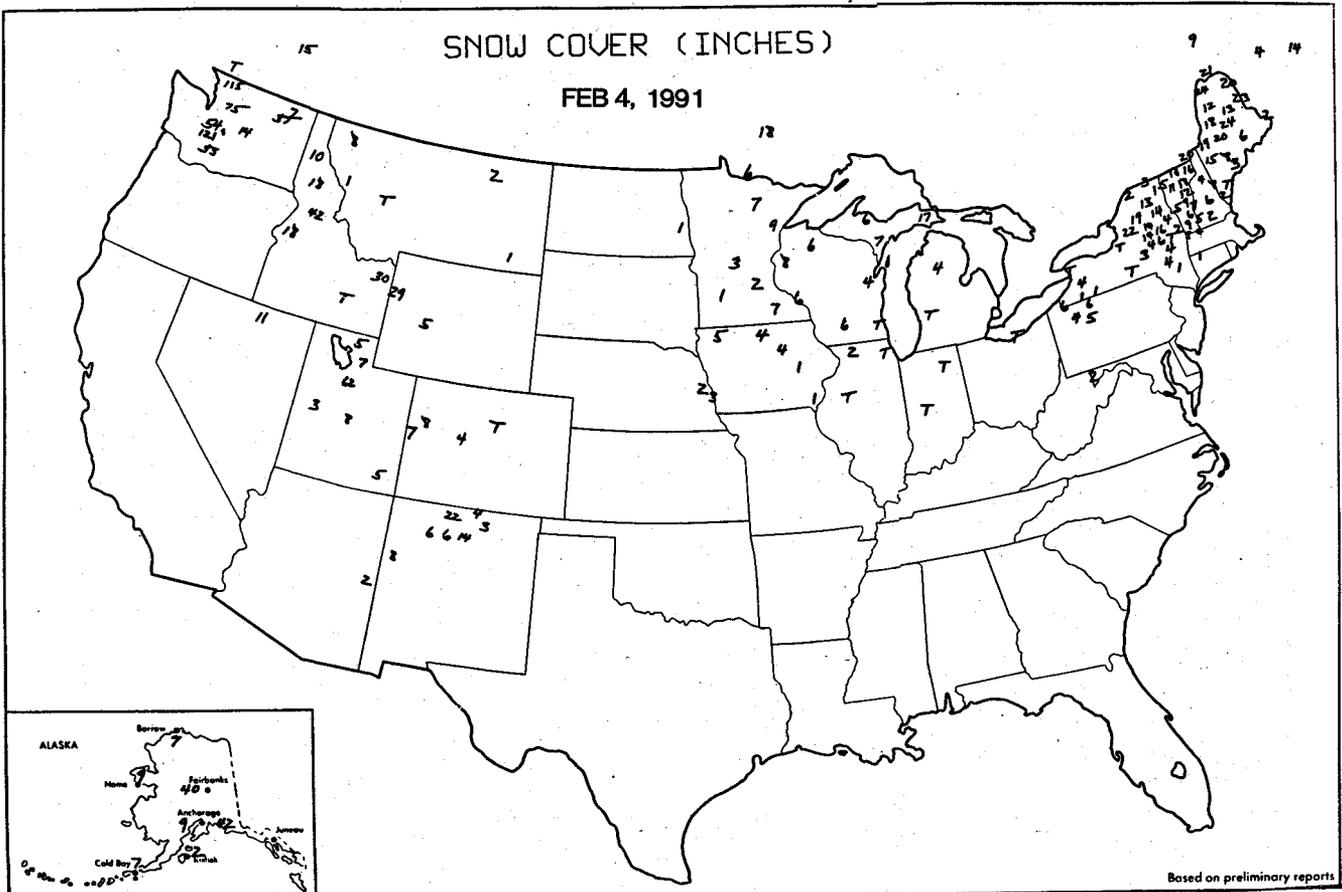
Average Temperature(°F)

Jan 27-Feb 2, 1991



SNOW COVER (INCHES)

FEB 4, 1991



# National Weather Data for Selected Cities

## Weather Data for the Week Ending February 2, 1991

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	TEMP. °F		PRECIP.	
																		.01 INCH OR MORE	.50 INCH OR MORE	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	59	36	66	25	47	4	1.1	-0.1	0.8	8.7	83	3.2	58	87	45	3	0	2	1	3	
AL MOBILE	63	45	70	33	54	3	4.5	3.5	2.9	21.3	207	16.1	185	89	59	0	0	4	1	1	
AL MONTGOMERY	60	39	67	27	50		2.4	1.4	1.9	11.6	125	8.9	83	91	68	0	0	1	0	0	
AK ANCHORAGE	17	3	32	-12	10		0.1	-0.1	0.1	2.5	130	0.7	83	77	54	7	7	0	0	0	
AK BARRROW	-13	-25	-6	-40	-19		0.0	-0.1	0.0	0.2	51	0.1	27	77	54	7	7	0	0	0	
AK FAIRBANKS	-0	-23	27	-42	-11		0.5	0.4	0.5	4.1	321	1.2	211	81	61	0	0	1	1	0	
AK JUNEAU	37	25	43	14	31		0.1	-0.8	0.1	9.6	112	4.1	104	97	65	6	6	0	0	0	
AK KODIAK	29	16	41	5	23		0.0	-1.3	0.0	15.6	134	10.7	174	85	58	7	7	0	0	0	
AK NOME	7	-12	31	-21	-2		0.1	0.0	0.1	2.4	165	1.1	134	85	61	7	7	0	0	0	
AZ PHOENIX	70	45	79	36	57	4	0.0	-0.1	0.0	0.8	24	0.6	85	43	13	0	0	0	0	0	
AZ PRESCOTT	55	20	64	14	37	0	0.0	-0.4	0.0	0.8	70	0.6	85	43	13	0	0	0	0	0	
AZ TUCSON	69	38	78	26	53	2	0.0	-0.2	0.0	2.7	151	1.2	135	57	14	2	2	0	0	0	
AZ YUMA	71	44	79	38	57	0	0.0	-0.1	0.0	0.9	118	0.8	215	40	12	0	0	0	0	0	
AR FORT SMITH	52	24	65	18	38	0	0.0	-0.4	0.0	7.1	147	2.2	112	96	49	7	7	0	0	0	
AR LITTLE ROCK	51	34	63	26	42	2	0.0	-0.8	0.0	13.7	164	5.7	136	75	55	4	4	0	1	0	
CA BAKERSFIELD	64	35	71	32	50	-1	0.0	-0.3	0.0	0.9	53	0.6	60	87	33	1	0	1	0	0	
CA EUREKA	56	42	68	34	49	2	1.6	-0.1	1.2	6.1	45	3.2	43	90	64	0	0	2	1	1	
CA FRESNO	63	33	73	30	48	0	0.2	-0.3	0.2	1.0	27	0.3	16	89	34	5	0	1	0	0	
CA LOS ANGELES	66	46	75	45	56	0	0.0	-0.7	0.0	1.4	29	1.4	43	90	46	0	0	0	0	0	
CA REDDING	59	29	69	22	44	-4	2.0	0.2	2.0	0.0	0	2.9	32	84	32	6	6	1	1	1	
CA SACRAMENTO	59	35	61	29	47	0	1.3	0.5	1.3	3.2	44	1.7	40	93	40	3	0	1	1	1	
CA SAN DIEGO	66	48	69	45	57	1	0.0	-0.4	0.0	1.6	40	1.1	48	88	44	0	0	0	0	0	
CA SAN FRANCISCO	58	43	61	39	50	1	0.8	-0.2	0.8	2.9	34	1.1	22	93	53	0	0	1	1	1	
CO DENVER	47	16	63	0	31	1	0.1	0.0	0.1	1.0	98	0.8	143	75	24	7	0	2	0	0	
CO GRAND JUNCTION	28	-2	31	-7	13	-15	0.1	0.0	0.1	1.9	157	0.9	142	81	47	7	0	1	0	0	
CO PUEBLO	55	12	67	2	33	2	0.0	-0.1	0.0	0.3	55	0.1	31	68	15	7	0	0	0	0	
CT BRIDGEPORT	42	28	49	23	35	6	0.5	-0.2	0.4	6.4	89	2.8	82	85	47	6	0	4	0	0	
CT HARTFORD	42	22	51	15	32	7	0.5	-0.3	0.3	7.3	93	2.5	66	81	36	6	0	3	0	0	
DC WASHINGTON	53	33	58	24	43	8	0.0	-0.6	0.0	7.6	126	2.9	99	79	38	4	0	0	0	0	
FL APALACHICOLA	68	51	76	40	59	6	5.6	4.7	2.4	25.1	344	23.5	620	94	65	0	0	5	2	0	
FL DAYTONA BEACH	73	60	87	55	67	9	1.3	0.6	0.5	3.3	69	3.0	115	97	70	0	0	4	2	0	
FL JACKSONVILLE	68	49	83	30	59	4	2.9	2.2	1.4	12.3	218	10.3	325	96	69	1	0	6	2	0	
FL KEY WEST	83	74	86	72	79	9	0.2	-0.3	0.2	3.7	104	2.4	130	94	66	0	0	1	0	0	
FL MIAMI	84	68	87	64	76	9	0.1	-0.4	0.1	2.7	66	1.6	75	95	57	0	0	1	0	0	
FL ORLANDO	77	61	87	55	69	9	0.4	-0.2	0.3	3.5	83	2.7	116	99	67	0	0	3	0	0	
FL TALLAHASSEE	68	47	82	28	57	6	5.0	3.9	2.2	23.4	245	18.9	380	93	62	1	0	5	3	0	
FL TAMPA	77	60	81	56	69	9	0.4	-0.2	0.3	2.6	58	2.4	103	96	71	0	0	2	0	0	
FL WEST PALM BEACH	83	67	87	62	75	10	0.2	-0.5	0.2	12.5	244	10.6	366	96	55	0	0	1	0	0	
GA ATLANTA	57	39	63	31	48	6	1.6	0.6	1.5	7.7	82	4.7	90	87	51	2	0	2	1	1	
GA AUGUSTA	61	40	68	25	51	5	2.5	1.6	1.9	9.5	128	7.5	177	92	52	2	0	3	2	2	
GA MACON	61	42	68	27	52	5	5.8	4.8	4.8	14.4	167	10.9	238	92	53	1	0	4	2	2	
GA SAVANNAH	64	46	78	30	55	6	2.5	1.8	1.3	11.1	182	9.0	270	91	60	1	0	5	2	0	
HI HILO	83	65	86	61	74	2	0.2	-2.3	0.2	33.9	147	3.8	37	92	62	0	0	1	0	0	
HI HONOLULU	81	65	82	60	73	1	0.7	0.0	0.6	5.7	77	0.8	19	87	55	0	0	2	1	0	
HI KAHULUI	82	63	84	58	72	1	0.0	-0.9	0.0	6.0	86	0.1	1	91	54	0	0	0	0	0	
HI LIHUE	80	65	82	60	73	2	0.4	-0.8	0.4	4.0	34	0.7	10	85	54	0	0	1	0	0	
ID BOISE	40	16	49	6	28	-4	0.0	-0.3	0.0	1.9	62	1.0	56	80	32	7	0	0	0	0	
ID LEWISTON	45	29	58	15	37	3	0.0	-0.3	0.0	0.6	20	0.1	10	57	31	4	0	0	0	0	
ID POPLATELLO	31	2	45	-14	17	-9	0.1	-0.1	0.1	1.9	89	0.7	61	84	48	7	0	0	0	0	
IL CHICAGO	33	15	49	6	24	3	0.0	-0.3	0.0	3.4	83	1.4	83	84	53	7	0	1	0	0	
IL MOLINE	31	11	48	-2	21	1	0.0	-0.3	0.0	4.3	118	1.2	70	85	53	7	0	0	0	0	
IL PEORIA	33	15	49	8	24	1	0.0	-0.3	0.0	4.9	132	1.2	70	88	57	7	0	1	0	0	
IL QUINCY	34	15	50	7	25	0	0.0	-0.3	0.0	2.3	73	0.6	41	85	54	6	0	1	0	0	
IL ROCKFORD	27	8	41	-4	17	-2	0.0	-0.3	0.0	3.5	105	1.1	76	85	54	6	0	0	0	0	
IL SPRINGFIELD	34	14	49	1	24	-1	0.2	-0.2	0.2	6.3	165	1.3	77	88	61	7	0	1	0	0	
IN EVANSVILLE	42	25	58	17	33	2	0.8	0.2	0.5	10.5	158	3.0	95	93	63	7	0	3	1	1	
IN FORT WAYNE	32	12	42	5	22	-1	0.2	-0.3	0.2	9.4	201	1.8	82	89	63	7	0	1	0	0	
IN INDIANAPOLIS	37	16	50	6	26	0	0.4	-0.1	0.4	9.3	162	1.6	57	90	63	6	0	2	0	0	
IN SOUTH BEND	33	16	45	10	25	1	0.1	-0.4	0.1	6.7	121	1.6	63	86	57	7	0	2	0	0	
IA DES MOINES	31	8	50	-9	20	0	0.1	-0.2	0.1	3.1	150	1.0	91	82	53	7	0	1	0	0	
IA SIOUX CITY	32	7	42	-6	20	2	0.0	-0.1	0.0	1.3	89	0.5	70	86	58	7	0	1	0	0	
IA WATERLOO	26	0	45	-20	13	-2	0.0	-0.2	0.0	2.0	103	0.8	90	88	58	7	0	1	0	0	
KS CONCORDIA	47	18	61	3	32	5	0.0	-0.1	0.0	1.0	76	0.6	89	77	43	6	0	1	0	0	
KS DODGE CITY	51	17	67	1	34	3	0.1	0.0	0.1	0.9	98	0.3	72	80	30	6	0	1	0	0	
KS GOODLAND	46	13	62	1	30	1	0.0	0.0	0.0	0.4	50	0.2	63	81	28	7	0	2	0	0	
KS TOPEKA	45	12	61	-6	29	1	0.1	-0.1	0.1	1.8	79	0.8	81	88	40	7	0	1	0	0	
KS WICHITA	51	29	63	7	36	5	0.0	-0.1	0.0	1.1	65	0.6	79	82	35	6	0	1	0	0	
KY BOWLING GREEN	51	25	60	19	38	4	0.7	-0.3	0.6	15.1	161	3.7	75	96	60	7	0	3	1	1	
KY LEXINGTON	48	25	56	18	36	4	0.6	-0.2	0.4	12.7	169	2.6	68	85	54	6	0	4	0	0	
KY LOUISVILLE	47	25	59	17	36	4	0.9	-0.1	0.5	12.2	173	3.3	92	88	56	6	0	3	0	0	
LA ALEXANDRIA	62	41	68	32	52	2	0.1	-0.9	0.1	17.9	186	9.7	203	93	55	2	0	1	0	0	
LA BATON ROUGE	63	43	72	33	53	2	1.4	0.3	0.7	14.5	146	9.7	197	91	60	0	0	3	2	2	
LA LAKE CHARLES	63	44	68	35	53	3	1.1	0.1	1.0	18.3	185	14.3	294	95	63	0	0	3	1	1	
LA NEW ORLEANS	62	47	68	40	55	2	5.4	4.2	2.7	28.9	274	19.3	363	97	69	0	0	3	1	3	

Based on 1951-80 normals

Weather Data for the Week Ending February 2, 1991

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	TEMP. °F		PRECIP.
														.01 INCH OR MORE						.50 INCH OR MORE	.01 INCH OR MORE	.50 INCH OR MORE
LA SHREVEPORT	59	34	68	26	47	0	0.1	-0.8	0.1	11.7	143	7.7	180	96	54	4	0	4	0	0	0	0
ME CARIBOU	20	2	34	-12	11	1	0.6	-0.1	0.3	7.7	136	2.1	83	78	51	7	0	7	0	0	1	0
ME PORTLAND	38	19	45	8	28	7	0.8	-0.1	0.5	10.8	127	2.9	73	79	39	6	0	6	0	0	3	0
MD BALTIMORE	51	27	56	21	39	7	0.0	-0.6	0.0	8.4	128	3.5	111	78	33	6	0	6	0	0	1	0
MD SALISBURY	54	25	59	15	40	5	0.0	-0.8	0.0	9.2	126	5.2	143	93	36	6	0	6	0	0	0	0
MA BOSTON	42	26	51	19	34	5	0.4	-0.4	0.2	6.4	74	3.2	77	83	41	6	0	6	0	0	4	0
MA CHATHAM	41	28	47	18	34	4	0.3	-0.6	0.2	6.7	70	3.0	64	81	55	6	0	6	0	0	4	0
MI ALPENA	28	3	46	-11	16	-1	0.0	-0.3	0.0	2.8	74	1.0	54	87	51	7	0	7	0	0	1	0
MI DETROIT	34	16	48	8	25	1	0.2	-0.2	0.1	5.8	131	1.4	74	88	55	7	0	7	0	0	3	0
MI FLINT	31	16	44	10	24	3	0.1	-0.3	0.0	4.0	109	1.5	89	84	54	7	0	7	0	0	2	0
MI GRAND RAPIDS	31	15	41	5	23	1	0.1	-0.3	0.0	4.3	92	1.3	63	89	58	7	0	7	0	0	3	0
MI HOUGHTON LAKE	26	3	43	-14	15	-2	0.1	-0.2	0.1	2.8	80	1.2	78	88	61	7	0	7	0	0	3	0
MI LANSING	32	16	45	10	24	4	0.0	-0.3	0.0	4.1	97	1.3	74	87	57	7	0	7	0	0	1	0
MI MARQUETTE	21	-7	54	-20	7	-5	0.1	-0.3	0.1	2.6	57	0.9	43	83	59	7	0	7	0	0	3	0
MI MUSKEGON	31	19	40	12	25	3	0.0	-0.5	0.0	4.0	78	1.4	55	88	60	6	0	6	0	0	4	0
MI SAULT ST. MARIE	20	1	37	-11	10	-2	0.5	0.1	0.2	4.0	82	1.5	66	90	61	7	0	7	0	0	0	0
MN ALEXANDRIA	25	1	47	-15	13	7	0.2	0.0	0.1	1.0	60	0.5	52	89	59	7	0	7	0	0	2	0
MN DULUTH	18	-5	47	-17	6	-1	0.1	-0.2	0.0	1.0	40	0.5	42	85	47	7	0	7	0	0	3	0
MN INT'L FALLS	16	-12	55	-25	2	1	0.1	-0.1	0.0	2.0	111	0.8	87	86	51	7	0	7	0	0	2	0
MN MINNEAPOLIS	27	4	48	-7	16	4	0.1	-0.1	0.1	1.5	89	0.5	58	86	52	7	0	7	0	0	2	0
MN ROCHESTER	22	-1	40	-17	11	0	0.0	-0.2	0.0	2.3	133	0.7	79	84	62	7	0	7	0	0	1	0
MS GREENWOOD	59	35	68	25	47	3	0.4	-0.7	0.2	12.0	110	3.2	59	93	53	3	0	3	0	0	2	0
MS JACKSON	59	37	69	26	48	2	1.1	0.1	0.9	10.7	100	5.0	94	96	64	3	0	3	0	0	4	1
MS MERIDIAN	59	38	69	28	49	3	1.3	0.2	0.7	9.5	86	5.8	109	96	59	2	0	2	0	0	3	0
MO CAPE GIRARDEAU	43	26	59	20	34	3	0.5	-0.1	0.4	12.6	184	3.5	114	94	64	7	0	7	0	0	3	0
MO COLUMBIA	41	17	59	9	29	0	0.3	-0.1	0.3	5.1	131	1.6	84	82	50	6	0	6	0	0	1	0
MO KANSAS CITY	40	13	57	-6	27	-2	0.1	-0.2	0.1	2.5	91	1.4	109	84	47	7	0	7	0	0	0	0
MO SAINT LOUIS	43	25	63	17	34	4	0.2	-0.2	0.2	8.0	197	1.5	82	80	51	7	0	7	0	0	2	0
MO SPRINGFIELD	45	22	61	15	34	1	0.3	0.0	0.3	9.1	213	3.0	175	86	51	7	0	7	0	0	2	0
MT BILLINGS	37	16	57	-14	27	4	0.1	-0.1	0.1	1.3	72	0.8	81	60	40	5	0	5	0	0	0	0
MT GLASGOW	30	7	55	-18	19	9	0.0	-0.1	0.0	0.8	107	0.2	54	84	59	7	0	7	0	0	2	0
MT GREAT FALLS	38	18	60	-11	28	7	0.2	-0.1	0.1	1.4	77	0.7	63	64	35	4	0	4	0	0	2	0
MT HAVRE	40	16	61	-8	28	14	0.0	-0.1	0.0	0.4	33	0.0	6	76	42	5	0	5	0	0	0	0
MT HULENA	36	5	56	-19	20	0	0.1	0.0	0.1	0.8	57	0.3	38	78	41	7	0	7	0	0	2	0
MT KALISPELL	28	4	45	-10	16	-5	0.1	-0.3	0.1	6.1	188	1.7	102	91	59	7	0	7	0	0	2	0
MT MILES CITY	35	11	48	-16	23	7	0.0	-0.1	0.0	0.8	65	0.6	92	83	52	7	0	7	0	0	1	0
MT MISSOULA	30	6	47	-10	18	-5	0.1	-0.2	0.1	1.7	65	0.6	42	87	56	7	0	7	0	0	1	0
NE GRAND ISLAND	40	11	59	-5	25	3	0.1	-0.1	0.1	1.3	108	0.5	98	85	47	7	0	7	0	0	1	0
NE LINCOLN	37	4	49	-9	21	-1	0.0	-0.1	0.0	1.7	125	0.9	131	87	53	7	0	7	0	0	1	0
NE NORFOLK	35	6	53	-8	21	2	0.2	0.1	0.1	1.4	121	0.9	164	88	53	7	0	7	0	0	2	0
NE NORTH PLATTE	45	9	65	-1	27	4	0.1	0.0	0.1	0.4	55	0.4	88	94	33	7	0	7	0	0	1	0
NE OMAHA	33	13	45	-2	23	1	0.0	-0.2	0.0	1.7	110	0.9	118	78	52	6	0	6	0	0	1	0
NE SCOTTSBLUFF	41	8	60	-10	25	-1	0.2	0.1	0.2	0.8	86	0.5	100	79	36	7	0	7	0	0	2	0
NE VALENTINE	40	6	63	-10	23	4	0.1	0.0	0.1	0.4	65	0.2	50	88	42	7	0	7	0	0	2	0
NV ELY	48	7	59	-1	27	1	0.0	-0.2	0.0	0.4	28	0.1	14	60	15	7	0	7	0	0	0	0
NV LAS VEGAS	59	30	63	25	45	-2	0.0	-0.1	0.0	0.2	26	0.2	41	34	12	6	0	6	0	0	0	0
NV RENO	53	18	59	10	36	1	0.0	-0.2	0.0	0.5	18	0.0	2	72	15	6	0	6	0	0	1	0
NV WINNEMUCCA	48	11	54	3	30	-2	0.0	-0.2	0.0	1.0	54	0.4	38	75	20	7	0	7	0	0	0	0
NH CONCORD	37	11	46	1	24	4	0.6	0.0	0.4	6.0	94	1.9	63	94	39	7	0	7	0	0	3	0
NJ ATLANTIC CITY	50	22	55	13	36	4	0.1	-0.7	0.1	8.7	120	5.1	139	92	39	6	0	6	0	0	1	0
NM ALBUQUERQUE	51	21	58	18	36	-1	0.0	-0.1	0.0	1.2	133	0.6	14	61	18	7	0	7	0	0	0	0
NM CLOVIS	55	27	61	16	41	3	0.0	-0.1	0.0	1.0	91	0.6	11	75	25	6	0	6	0	0	0	0
NM ROSWELL	60	25	65	18	43	2	0.0	-0.1	0.0	0.5	71	0.2	55	67	18	6	0	6	0	0	0	0
NY ALBANY	37	17	44	10	27	6	0.4	-0.1	0.3	5.7	103	2.2	86	88	45	7	0	7	0	0	4	0
NY BINGHAMTON	34	19	45	13	27	6	0.2	-0.4	0.1	7.4	132	2.1	79	85	43	7	0	7	0	0	3	0
NY BUFFALO	34	23	44	18	29	5	0.4	-0.2	0.1	10.8	164	2.1	66	88	54	6	0	6	0	0	5	0
NY NEW YORK	47	32	54	24	40	8	0.4	-0.3	0.3	7.9	114	3.0	92	75	37	4	0	4	0	0	3	0
NY ROCHESTER	33	21	46	17	27	4	0.4	-0.1	0.2	5.9	116	1.7	70	88	52	7	0	7	0	0	5	0
NY SYRACUSE	38	20	47	9	29	6	0.3	-0.3	0.1	7.7	130	2.5	89	86	43	7	0	7	0	0	4	0
NC ASHEVILLE	55	29	61	19	42	5	0.2	-0.5	0.2	7.7	118	3.3	96	95	42	5	0	5	0	0	2	0
NC CHARLOTTE	58	37	62	26	48	7	0.5	-0.4	0.5	9.3	125	6.0	150	87	43	3	0	3	0	0	1	0
NC GREENSBORO	57	32	60	22	45	7	0.2	-0.6	0.2	8.7	123	4.5	121	86	40	4	0	4	0	0	1	0
NC HATTERAS	60	42	64	36	51	7	1.2	0.1	0.7	17.6	184	12.5	243	94	58	0	0	0	0	3	1	
NC NEW BERN	59	37	65	25	48	4	1.2	0.1	0.5	9.2	116	7.3	170	95	43	3	0	3	0	0	3	0
NC RALEIGH	58	33	62	25	46	6	0.2	-0.7	0.2	7.2	105	4.1	110	89	39	4	0	4	0	0	1	0
NC WILMINGTON	61	40	66	26	51	5	1.6	0.8	0.7	12.9	176	10.2	263	92	49	2	0	2	0	0	3	1
ND BISMARCK	31	3	54	-14	17	7	0.1	-0.1	0.1	0.7	66	0.2	31	88	53	7	0	7	0	0	1	0
ND FARGO	23	2	44	-13	13	8	0.1	0.0	0.1	1.1	90	0.3	51	84	60	7	0	7	0	0	2	0
ND GRAND FORKS	22	3	43	-15	9	6	0.0	-0.2	0.0	0.8	56	0.3	38	83	60	7	0	7	0	0	0	0
ND WILLISTON	29	4	52	-19	17	8	0.1	-0.1	0.1	0.6	57	0.2	34	87	57	7	0	7	0	0	1	0
OH AKRON CANTON	38	20	48	13	29	4	0.5	0.0	0.2	9.2	171	2.4										

Weather Data for the Week Ending February 2, 1991

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	TEMP. °F		PRECIP.	
																			.01 INCH OR MORE	.50 INCH OR MORE		
OH DAYTON	38	19	50	9	28	1	0.8	0.2	0.4	12.6	243	2.5	93	85	56	6	0	3	0	0	0	
OH TOLEDO	33	15	45	5	24	1	0.1	-0.3	0.1	7.1	151	1.4	66	88	60	6	0	2	2	0	0	
OH YOUNGSTOWN	37	18	47	9	27	3	0.5	-0.1	0.3	8.7	156	2.1	75	88	53	6	0	4	4	0	0	
OK OKLAHOMA CITY	53	25	63	15	39	2	0.0	-0.2	0.0	2.4	106	0.9	85	84	41	6	0	0	0	0	0	
OK TULSA	52	25	65	16	38	2	0.1	-0.2	0.1	4.4	136	1.5	101	82	41	6	0	1	1	0	0	
OR ASTORIA	50	34	61	23	42	0	1.6	-0.6	0.6	0.0	0	7.8	68	87	65	4	0	5	5	1	0	
OR BURNS	43	12	47	-4	27	-3	0.1	-0.3	0.1	0.7	22	0.5	33	82	30	7	0	1	1	0	0	
OR MEDFORD	54	25	66	17	40	0	0.6	-0.1	0.6	3.2	46	2.1	59	83	29	5	0	1	1	0	0	
OR PENDLETON	46	26	62	11	36	1	0.0	-0.3	0.0	1.8	52	1.0	54	83	39	5	0	1	1	0	0	
OR PORTLAND	48	32	61	22	40	0	0.8	-0.4	0.5	5.5	43	3.1	48	81	53	5	0	4	4	0	0	
OR SALEM	50	32	60	19	41	1	1.6	0.2	1.1	6.4	44	3.5	48	86	58	6	0	2	2	1	0	
PA ALLENTOWN	44	24	51	18	34	7	0.3	-0.5	0.3	8.4	117	2.8	78	89	43	6	0	2	2	0	0	
PA ERIE	37	22	47	14	29	6	0.5	0.0	0.2	9.1	158	2.2	86	87	51	6	0	4	4	0	0	
PA HARRISBURG	45	24	55	19	35	5	0.2	-0.4	0.2	8.3	130	2.6	83	80	37	7	0	1	1	0	0	
PA PHILADELPHIA	49	27	53	21	38	7	0.1	-0.5	0.1	7.9	117	4.1	122	81	37	6	0	1	1	0	0	
PA PITTSBURGH	41	21	51	12	31	4	0.6	0.0	0.3	11.1	199	2.6	85	87	50	6	0	4	4	0	0	
PA SCRANTON	40	22	49	17	31	6	0.4	-0.1	0.3	5.8	120	1.5	65	83	38	7	0	3	3	0	0	
RI PROVIDENCE	45	23	53	18	34	6	0.4	-0.5	0.2	8.9	102	3.4	80	84	38	6	0	3	3	0	0	
SC CHARLESTON	63	44	71	30	53	5	2.4	1.6	1.1	10.5	158	7.8	221	81	58	1	0	4	4	3	0	
SC COLUMBIA	62	40	69	25	51	6	1.7	0.8	1.2	7.1	87	5.5	118	84	48	6	0	3	3	0	0	
SC FLORENCE	61	41	67	29	51	6	1.5	0.7	0.9	8.1	121	5.6	149	87	51	3	0	3	3	1	0	
SC GREENVILLE	57	33	63	23	45	3	0.7	-0.3	0.7	8.0	93	4.7	104	90	44	4	0	2	2	1	0	
SD ABERDEEN	35	7	60	-9	21	12	0.0	-0.1	0.0	0.5	47	0.1	21	82	37	7	0	1	1	0	0	
SD HURON	40	10	65	-3	25	12	0.0	-0.1	0.0	0.5	56	0.1	21	85	37	7	0	0	0	0	0	
SD RAPID CITY	40	11	64	-12	25	3	0.1	0.0	0.1	0.7	76	0.3	76	76	38	7	0	1	0	0	0	
SD SIOUX FALLS	35	8	56	0	22	8	0.0	-0.1	0.0	0.8	66	0.2	40	86	52	7	0	0	0	0	0	
TN CHATTANOOGA	58	31	64	24	45	5	0.4	-0.7	0.3	13.1	122	2.7	49	92	42	4	0	4	4	0	0	
TN KNOXVILLE	55	29	59	22	42	4	0.6	-0.4	0.5	11.5	121	2.5	51	94	45	4	0	3	3	1	0	
TN MEMPHIS	58	32	73	27	45	5	0.2	-0.8	0.2	13.5	138	2.9	59	93	54	4	0	2	2	0	0	
TN NASHVILLE	54	30	63	20	42	4	0.1	-0.8	0.1	13.7	146	2.9	62	95	50	5	0	2	2	0	0	
TX ABILENE	59	29	68	22	44	0	0.3	0.1	0.3	3.5	185	2.7	261	85	34	5	0	2	2	0	0	
TX AMARILLO	57	20	66	8	39	2	0.0	-0.1	0.0	1.1	108	0.9	165	80	18	7	0	0	0	0	0	
TX AUSTIN	63	37	76	32	50	0	0.2	-0.3	0.2	9.9	262	9.2	529	90	44	1	0	1	0	0	0	
TX BEAUMONT	64	43	69	34	54	1	0.1	-0.9	0.1	18.7	201	14.9	339	96	63	0	0	2	0	0	0	
TX BROWNSVILLE	74	51	85	39	63	2	0.0	-0.3	0.0	0.5	19	0.5	35	96	56	0	0	1	0	0	0	
TX CORPUS CHRISTI	69	45	81	37	57	2	0.0	-0.4	0.0	2.1	72	1.7	98	95	58	0	0	1	0	0	0	
TX DEL RIO	67	40	78	31	54	1	0.0	-0.2	0.0	0.8	70	0.6	97	68	32	2	0	1	0	0	0	
TX EL PASO	61	32	68	22	47	1	0.1	0.0	0.1	1.2	154	0.8	205	78	21	3	0	1	0	0	0	
TX FORT WORTH	62	30	72	23	46	1	0.2	-0.3	0.2	4.2	117	2.7	149	89	38	5	0	1	0	0	0	
TX GALVESTON	61	48	67	38	55	1	0.0	-0.6	0.0	12.6	186	10.8	339	94	67	0	0	1	0	0	0	
TX HOUSTON	64	42	68	31	53	1	0.1	-0.7	0.1	11.6	155	9.8	262	93	49	1	0	1	0	0	0	
TX LUBBOCK	58	25	64	15	42	2	0.0	-0.1	0.0	1.6	205	1.2	288	82	26	7	0	0	0	0	0	
TX MIDLAND	61	29	69	23	45	0	0.1	0.0	0.1	2.5	286	1.8	419	94	33	5	0	2	0	0	0	
TX SAN ANGELO	62	30	71	23	46	-1	0.2	0.1	0.2	2.3	174	2.1	301	91	33	6	0	1	0	0	0	
TX SAN ANTONIO	66	37	81	29	51	0	0.5	0.0	0.3	5.3	175	5.1	305	91	42	3	0	2	0	0	0	
TX VICTORIA	64	41	73	34	53	0	0.2	-0.3	0.2	8.6	206	7.8	382	96	58	0	0	1	0	0	0	
TX WACO	61	33	73	27	47	0	0.0	-0.4	0.0	4.5	121	3.1	174	96	48	5	0	1	0	0	0	
TX WICHITA FALLS	58	26	66	21	42	1	0.0	-0.2	0.0	3.6	169	2.7	277	84	30	6	0	0	0	0	0	
UT CEDAR CITY	40	10	49	2	25	-6	0.0	-0.2	0.0	1.8	138	0.8	115	83	31	7	0	1	0	0	0	
UT SALT LAKE CITY	37	12	43	6	24	-6	0.0	-0.3	0.0	1.7	61	1.1	78	88	36	7	0	1	0	0	0	
VT BURLINGTON	29	12	40	-4	21	5	0.3	-0.1	0.2	5.3	120	1.7	86	85	44	7	0	3	0	0	0	
VA NORFOLK	57	34	62	27	45	6	0.1	-0.7	0.1	7.4	105	4.7	121	85	44	3	0	2	0	0	0	
VA RICHMOND	58	30	62	20	44	7	0.1	-0.7	0.1	7.1	104	3.6	105	90	40	4	0	1	0	0	0	
VA ROANOKE	56	31	61	21	44	8	0.0	-0.7	0.0	7.3	124	3.6	117	73	34	4	0	0	0	0	0	
WA QUILLAYUTE	45	35	51	27	40	0	7.4	4.4	4.7	35.0	107	18.2	119	99	81	4	0	6	3	0	0	
WA SEATTLE-TACOMA	46	34	57	26	40	0	1.3	0.1	0.6	8.8	70	5.2	82	95	59	4	0	5	1	0	0	
WA SPOKANE	37	21	51	9	29	1	0.2	-0.3	0.2	3.6	70	1.9	72	87	48	6	0	1	0	0	0	
WA YAKIMA	40	17	55	6	29	-2	0.0	-0.3	0.0	0.6	21	0.4	24	88	42	7	0	1	0	0	0	
WV BECKLEY	47	26	55	18	36	6	1.0	0.2	0.8	9.5	141	4.2	116	87	46	5	0	3	2	0	0	
WV CHARLESTON	50	26	59	18	38	5	0.8	0.0	0.5	9.7	140	2.7	73	90	43	5	0	3	0	0	0	
WV HUNTINGTON	49	25	58	17	37	4	0.4	-0.3	0.2	10.3	157	2.2	65	86	45	5	0	3	0	0	0	
WV PARKERSBURG	46	23	54	14	35	3	0.7	0.1	0.4	10.1	175	3.0	99	92	54	6	0	3	0	0	0	
WI GREEN BAY	22	1	37	-15	12	-3	0.0	-0.2	0.0	2.7	100	0.6	46	85	54	7	0	0	0	0	0	
WI LACROSSE	25	3	43	-13	14	-1	0.0	-0.2	0.0	3.9	186	0.9	94	81	52	7	0	0	0	0	0	
WI MADISON	25	4	45	-16	15	-2	0.1	-0.2	0.1	4.6	173	1.2	101	84	55	7	0	1	0	0	0	
WI MILWAUKEE	29	12	47	0	20	1	0.0	-0.3	0.0	4.2	113	1.6	91	80	49	7	0	1	0	0	0	
WI WAUSAU	21	-3	42	-20	9	-3	0.1	-0.1	0.1	2.4	106	0.4	42	90	62	7	0	2	0	0	0	
WY CASPER	34	12	47	-18	23	-1	0.1	0.0	0.1	1.2	116	0.5	104	62	39	7	0	1	0	0	0	
WY CHEYENNE	42	14	62	-15	28	1	0.1	0.0	0.1	0.8	99	0.4	92	57	24	7	0	2	0	0	0	
WY LANDER	35	7	50	-14	21	0	0.1	0.0	0.1	0.8	77	0.4	77	71	39	7	0	1	0	0	0	
WY SHERIDAN	35	5	50	-27	20	-1	0.3	0.2	0.3	1.3	83	0.9	110	83	42	7	0	1	0	0	0	

Based on 1951-80 normals

## January Weather and Crop Summary

### Weather

The Southeast endured eight drenching rains, the West had an abnormally dry spell, and the Nation as a whole was spared extended cold snaps during this midwinter month. Elsewhere, only a handful of storms hit the normally rainy Pacific Northwest, drought worsened in the northern Plains and California, and persistent high pressure over the central Rockies resulted in below-normal temperatures from the Great Basin to the southern Plains. A series of weak storms dropped frequent light snows from the Midwest to the Northeast. Snow squalls often raged in the Great Lakes States during the last 10 days of the month.

The year 1991 began with many Ohio Valley rivers out of their banks. Precipitation continued at a moderate clip until mid-January in the Ohio Valley, prolonging flood conditions, especially in Indiana, Ohio, and Kentucky. As the month progressed, the prime focus for heavy rain shifted southward toward the Gulf coast. With never more than 5 days between soaking rains, areas from eastern Texas to Georgia saw last year's dryness vanish. In the Southeast, only portions of peninsular Florida remain in need of rain. Many locations along the Gulf and south Atlantic coasts shattered January rainfall records, including Port Arthur, TX (14.87 inches), Slidell, LA (21.84 inches), Mobile, AL (16.07 inches), Tallahassee, FL (18.96 inches), and Wilmington, NC (10.22 inches). Monthly rainfall in the Florida Panhandle was 400 to 600 percent of normal.

Two disturbances crossed southern California by the 10th, but insignificant precipitation fell thereafter. The Pacific Northwest had the bulk of its rain and snow during the second week of the month. Central California received less than 10 percent of its normal precipitation. January's storms also largely bypassed the northern and central Plains.

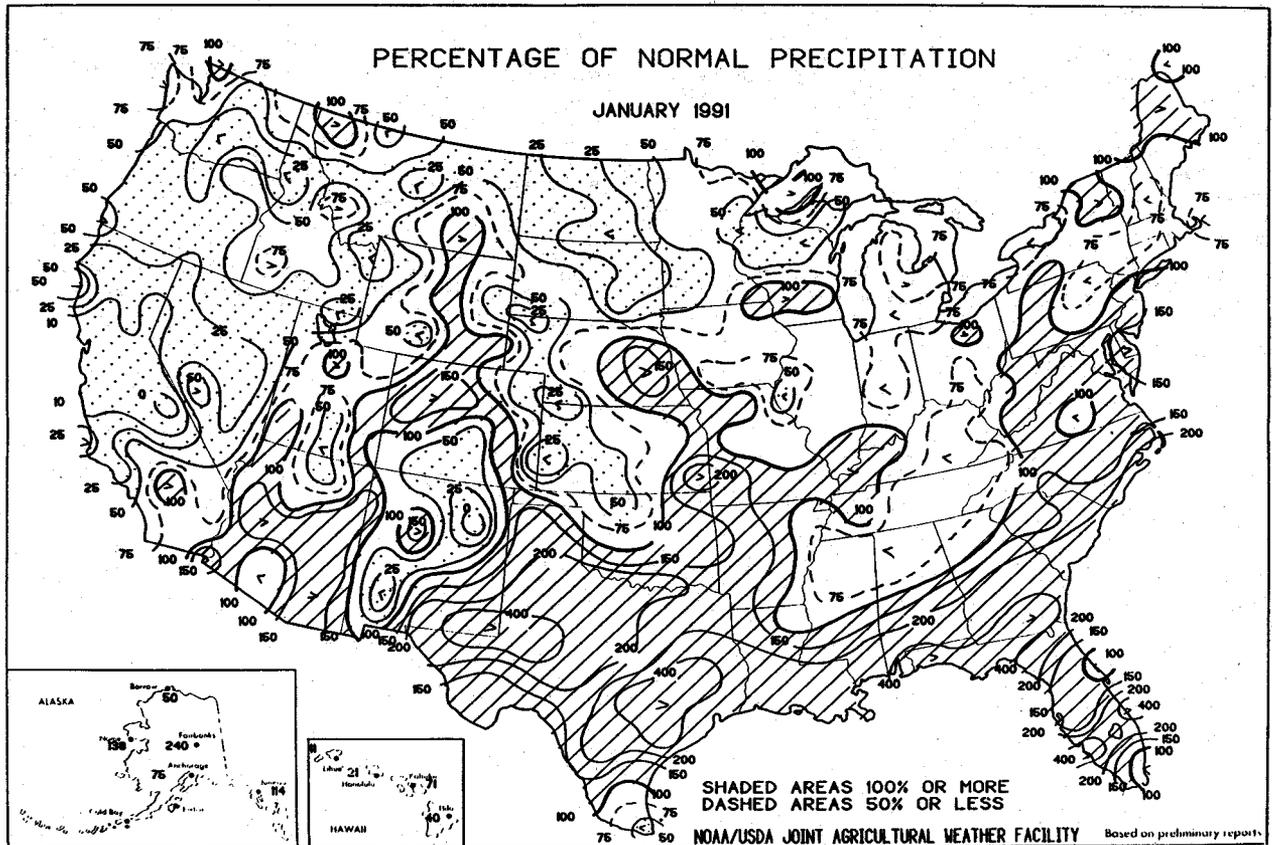
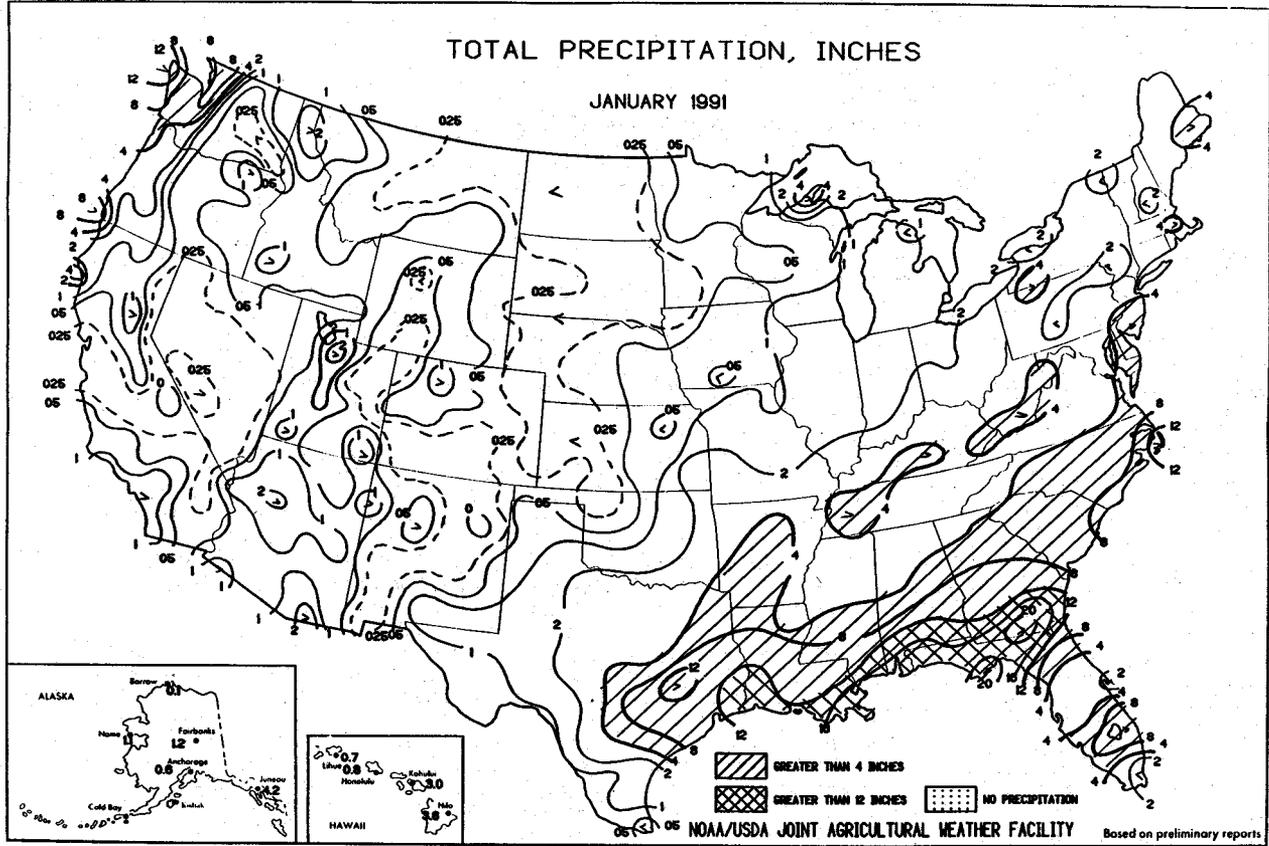
The East's coldest air of the winter settled in by the 22nd. Most of the arctic wrath was directed at the Northeast, although night-time temperatures briefly dipped below freezing as far south as

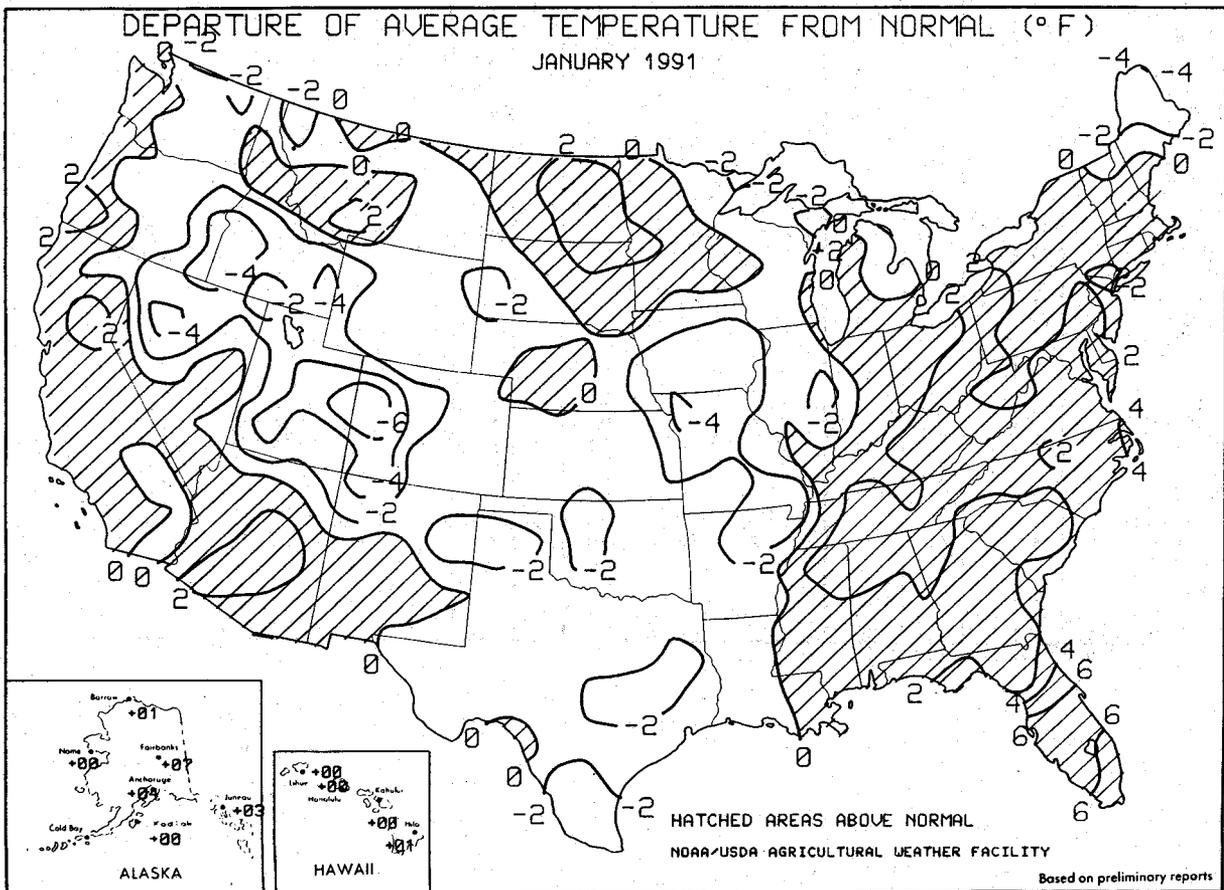
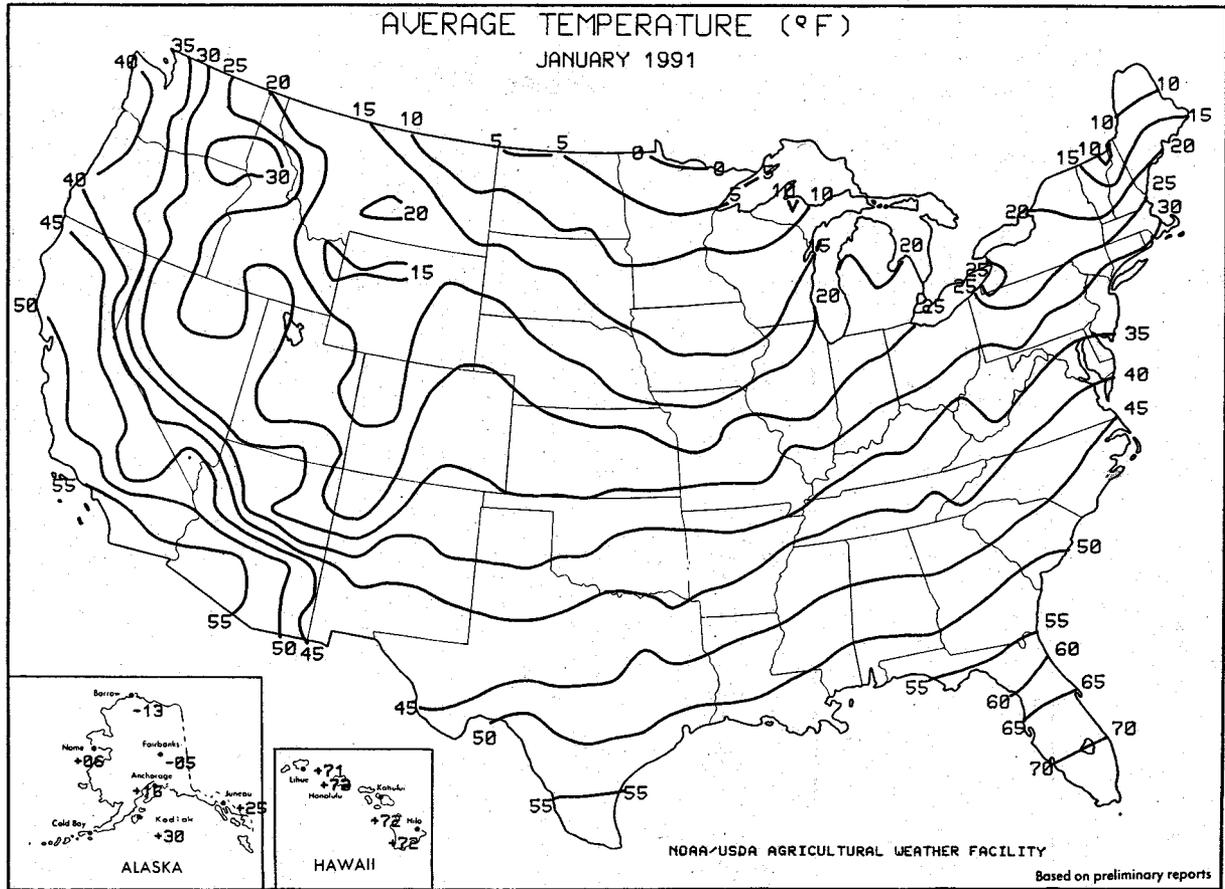
northern Florida. Snow squall-prone areas near the Great Lakes were frequently blasted by snow and wind for the rest of the month.

January ended on a transitory note, with arctic air rapidly receding into Canada, and subtropical warmth and moisture overspreading the Pacific Northwest. Record warmth appeared in Florida and along the Pacific coast, poised to spread northward and eastward across the Nation.

### Winter Wheat

Early in January, snow cover from Montana through the northern Plains provided protection from low temperatures for winter wheat. Cold weather in Kansas reduced greenbug and armyworm populations in south-central winter wheat fields. The Wyoming winter wheat crop was fair to good, with some freeze and wind damage. Topdressing was underway in most areas. By mid-January, the Illinois and Indiana winter wheat crops were mostly good, with moisture supplies adequate to surplus. Wheat seeding continued in California, while rain early in the month aided emerged fields. Newly emerged wheat in California showed some freeze damage, and replanting may be necessary. Warm weather in Kansas and North Dakota melted some snow cover on the wheat crop, but the crop remained in good condition. Texas small grains were showing some recovery from the recent freezing temperatures. The wheat crop in Washington was mostly poor to fair. Montana's wheat crop was fair to good, with spotty snow cover due to strong winds. Some Arkansas wheat was waterlogged due to wet conditions and poor drainage. By the end of the month, above-normal temperatures warmed the Texas High Plains and Montana, melting the protective snow cover on the wheat crops. Wheat in the Delta suffered damage due to flooding and excessive soil moisture. Irrigated wheat fields in the Texas High Plains were good, while the dryland fields suffered. Washington winter wheat was in mostly poor condition. California wheat emergence and growth were slowed due to a low level of soil moisture.





Temperature and Precipitation Data for January 1991

Temperature and Precipitation Data for January 1991				Temperature and Precipitation Data for January 1991				Temperature and Precipitation Data for January 1991									
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	Average	Departure	Total	Departure	Average	Departure
ALA. Birmingham.	45	2	3.2	-2.0	LA. Baton Rouge.	51	0	9.7	5.1	Youngstown.	27	3	2.1	-0.6			
Moble.	52	1	16.1	11.5	Lake Charles.	50	-2	14.3	10.0	OKLA. Okla. City.	35	-1	0.9	-0.1			
Montgomery.	48	1	8.3	4.1	New Orleans.	53	1	19.3	14.3	Tulsa.	35	0	1.5	0.1			
ALASKA. Anchorage.	16	3	0.6	-0.2	Shreveport.	44	-2	7.7	3.7	OREG. Astoria.	41	0	6.8	-4.5			
Barrow.	-12	2	0.1	-0.1	MAINE. Caribou.	7	-4	2.1	-0.3	Burns.	26	-2	0.6	-1.0			
Fairbanks.	-5	8	1.2	0.7	Portland.	23	1	2.9	-0.9	Medford.	38	0	1.6	-1.8			
Juneau.	25	3	4.2	0.5	MD. Baltimore.	36	3	3.5	0.5	Pendleton.	31	-2	1.0	-0.7			
					MASS. Boston.	29	-1	3.2	-0.8	Portland.	39	0	2.6	-3.6			
					Chatham.	33	2	3.1	-1.2	Salem.	40	0	2.4	-4.6			
					MICH. Alpena.	-19	2	1.0	-0.7	PA. Allentown.	30	3	2.8	-0.6			
ARIZ. Flagstaff.	31	3	1.8	-0.3	Detroit.	25	2	1.4	-0.5	Erie.	28	3	2.2	-0.3			
Phoenix.	56	4	0.6	-0.1	Flint.	21	0	1.5	-0.1	Harrisburg.	32	3	2.6	-0.4			
Tucson.	52	1	1.2	0.4	Grand Rapids.	22	0	1.3	-0.6	Philadelphia.	35	4	4.1	0.9			
Winslow.	32	0	0.8	0.4	Houghton Lake.	16	-1	1.2	-0.3	Pittsburgh.	30	3	2.6	-0.3			
Yuma.	57	1	0.8	0.4	Lansing.	21	-1	1.3	-0.5	Scranton.	28	3	1.5	-0.8			
ARK. Fort Smith.	36	-2	2.2	0.3	Marquette.	10	-2	0.9	-1.1	R.I. Providence.	30	2	3.4	-0.7			
Little Rock.	38	-2	5.7	2.0	Muskegon.	25	2	1.4	-1.0	S.C. Charleston.	51	3	7.8	4.5			
CALIF. Bakersfield.	49	1	0.6	-0.4	S. Ste. Marie.	13	0	1.5	-0.7	Columbia.	46	1	5.5	1.1			
Eureka.	48	1	1.7	-5.3	MINN. Duluth.	6	0	0.5	-0.7	Greenville.	42	1	4.7	0.5			
Fresno.	47	1	0.1	-2.0	Internat'l Falls.	0	0	0.8	-0.1	S.D. Aberdeen.	11	3	0.1	-0.4			
Los Angeles.	57	1	1.4	-1.7	Minneapolis.	13	2	0.5	-0.3	Huron.	13	2	0.1	-0.3			
Redding.	46	0	0.9	-7.6	Rochester.	10	-1	0.7	0.0	Rapid City.	18	-3	0.3	-0.1			
San Diego.	57	0	1.1	-1.0	St. Cloud.	9	2	0.4	-0.5	Sioux Falls.	14	2	0.2	-0.3			
San Francisco.	50	1	0.2	-4.5	MISS. Jackson.	47	1	5.0	0.0	TENN. Chattanooga.	43	4	2.7	-2.5			
Stockton.	47	2	0.2	-2.8	Meridian.	47	1	5.8	0.8	Knoxville.	41	3	2.5	-2.2			
COLO. Denver.	28	-2	0.8	0.3	MO. Columbia.	26	-2	1.6	0.0	Memphis.	41	1	2.9	-1.7			
Grand Junction.	18	-8	0.9	0.3	Kansas City.	23	-3	1.4	0.3	Nashville.	37	1	2.9	-1.6			
Pueblo.	29	-1	0.1	-0.2	St. Louis.	29	0	1.5	-0.2	TEX. Abilene.	42	-1	2.7	1.7			
CONN. Bridgeport.	32	2	2.8	-5.0	Springfield.	31	-1	3.0	1.4	Amarillo.	33	-2	0.9	0.4			
Hartford.	27	2	2.5	-1.0	MONT. Billings.	21	0	0.8	-0.2	Austin.	47	-2	9.2	7.6			
D.C. Washington.	39	4	2.9	0.1	Glasgow.	8	0	0.2	-0.3	Beaumont.	51	-1	14.9	10.7			
FLA. Apalachicola.	57	4	20.8	17.3	Great Falls.	19	0	0.6	-0.4	Brownsville.	59	-1	0.5	-0.8			
Daytona Beach.	63	5	2.3	-0.1	Havre.	12	1	0.4	-0.2	Corpus Christi.	55	-1	1.7	0.1			
Ft. Myers.	--	--	8.0	6.1	Helena.	19	1	0.3	-0.4	Del Rio.	52	1	0.6	0.1			
Jacksonville.	56	3	10.2	7.1	Kalispell.	16	-3	1.7	0.1	El Paso.	44	0	0.8	0.4			
Key West.	76	7	2.2	0.5	Miles City.	13	-2	0.6	0.0	Fort Worth.	43	-1	2.7	1.0			
					Missoula.	22	1	0.6	-0.8	Galveston.	53	-1	10.8	7.8			
					NEBR. Grand Island.	21	0	0.5	0.0	Houston.	50	-1	9.8	6.6			
					Lincoln.	18	-2	0.9	0.3	Lubbock.	38	-1	1.2	0.8			
					Norfolk.	17	0	0.9	0.4	Midland.	42	-2	1.8	1.4			
					N. Platte.	23	2	0.4	0.0	San Angelo.	44	-2	2.1	1.5			
					Omaha.	17	-2	0.9	0.2	San Antonio.	49	-1	5.1	3.5			
					Valentine.	17	-2	0.2	-0.1	Victoria.	52	-1	7.8	5.9			
					NEV. Ely.	26	2	0.1	-0.6	Waco.	44	-2	3.1	1.4			
					Las Vegas.	46	1	0.2	-0.3	Wichita Falls.	39	-1	2.7	1.8			
					Reno.	32	0	T	-1.2	UTAH. Blanding.	--	--	1.2	-0.1			
					Winnemucca.	26	-4	0.4	-0.5	Salt Lake City.	24	-5	1.1	-0.3			
					N.H. Concord.	20	0	1.9	-0.9	VT. Burlington.	19	2	1.7	-0.2			
					N.J. Atlantic City.	34	2	5.1	1.6	VA. Lynchburg.	39	4	3.0	-0.1			
										Norfolk.	44	4	4.7	1.0			
					N. MEX. Albuquerque.	36	1	0.6	0.2	Richmond.	40	3	3.6	0.4			
					Roswell.	41	0	0.3	0.1	Roanoke.	39	3	3.6	0.8			
					N.Y. Albany.	23	2	2.2	-0.2	WASH. Colville.	22	-3	1.8	-0.4			
					Binghamton.	23	2	2.1	-0.4	Omak.	24	1	0.4	-1.0			
					Buffalo.	26	2	2.1	-0.9	Quillayute.	40	1	12.9	-2.2			
					New York.	35	3	3.0	-0.1	Seattle-Tacoma.	40	1	4.5	-1.5			
					Rochester.	25	1	1.7	-0.6	Spokane.	26	0	1.7	-0.8			
					Syracuse.	24	1	2.4	-0.2								
					N.C. Asheville.	39	2	3.3	-0.2	Yakima.	28	0	0.3	-1.1			
					Charlotte.	43	2	6.0	2.2	W. VA. Beckley.	34	4	4.2	-0.8			
					Greensboro.	41	3	4.5	1.0	Charleston.	37	4	2.7	-0.8			
					Hatteras.	50	4	12.5	7.7	Huntington.	36	3	2.2	-1.0			
					Raleigh.	42	2	4.1	0.5								
					Wilmington.	48	2	10.2	6.6	WISC. Green Bay.	14	0	0.6	-0.6			
					N. DAK. Bismarck.	9	2	0.2	-0.3	La Crosse.	13	-1	0.9	0.0			
					Fargo.	6	2	0.3	-0.3	Madison.	15	-1	1.2	0.2			
					Williston.	8	1	0.2	-0.4	Milwaukee.	20	1	1.6	0.0			
					OHIO. Akron-Canton.	28	3	2.4	-0.1	WYO. Casper.	21	-1	0.5	0.0			
					Cincinnati.	31	2	2.8	-0.3	Cheyenne.	25	-1	0.4	0.0			
					Cleveland.	27	1	2.2	-0.3	Lander.	19	-1	0.4	-0.1			
					Columbus.	30	3	2.0	-0.8	Sheridan.	19	-1	0.9	0.2			
					Dayton.	28	1	2.5	-0.1	P.R. San Juan.	77	0	2.6	-0.4			
					Toledo.	25	2	1.4	-0.6								

Based on 1951-80 normals.

## Heating Degree Days (Base 65°) For January 1991

States and Stations	TOTAL	Depart Normal	States and Stations	TOTAL	Depart Normal	States and Stations	TOTAL	Depart Normal
AL. Birmingham . . .	617	-68	MD. Baltimore . . .	907	-94	OK. Okla. City . . .	925	679
Mobile . . .	382	-87	MA. Boston . . .	1096	-1	Tulsa . . .	933	9
Montgomery . . .	520	-60	Chatham . . .	990	-61	OR. Astoria . . .	727	-14
AK. Anchorage . . .	1518	-94	MI. Alpena . . .	1433	-43	Burns . . .	1212	49
Barrow . . .	2433	-28	Detroit . . .	1234	-56	Medford . . .	837	-12
Fairbanks . . .	2161	-251	Flint . . .	1352	-3	Pendleton . . .	1039	41
Nome . . .	1797	-38	Grand Rapids . . .	1323	-10	Portland . . .	802	-7
AZ. Flagstaff . . .	1060	-81	Houghton Lake . . .	1509	21	Salem . . .	784	-13
Phoenix . . .	275	-119	Lansing . . .	1359	14	PA. Allentown . . .	1092	-80
Tucson . . .	384	-47	Marquette . . .	1707	67	Erie . . .	1137	-119
Winslow . . .	1002	-21	S. Ste. Marie . . .	1609	6	Harrisburg . . .	1026	-78
Yuma . . .	235	-55	MN. Duluth . . .	1833	13	Philadelphia . . .	920	-128
AR. Fort Smith . . .	884	31	Internatl Falls . . .	2017	5	Pittsburg . . .	1085	-102
Little Rock . . .	825	47	Minneapolis . . .	1624	-44	Scranton . . .	1153	-81
CA. Bakersfield . . .	503	-18	Rochester . . .	1701	21	RI. Providence . . .	1090	-51
Eureka . . .	528	-21	St. Cloud . . .	1739	-59	SC. Charleston . . .	432	-111
Fresno . . .	549	-56	MS. Jackson . . .	566	-45	Columbia . . .	571	-66
Los Angeles . . .	236	-50	Meridian . . .	543	-73	Greenville . . .	713	-28
Redding . . .	591	17	MO. Columbia . . .	1205	42	SD. Aberdeen . . .	1660	-98
Stockton . . .	547	-67	Kansas City . . .	1296	84	Huron . . .	1614	-54
San Diego . . .	227	-31	St. Louis . . .	1101	-21	Rapid City . . .	1440	70
San Francisco . . .	454	-58	Springfield . . .	1059	20	Sioux Falls . . .	1587	-44
CO. Denver . . .	1143	42	MT. Billings . . .	1365	-2	TN. Chattanooga . . .	689	-126
Pueblo . . .	1116	25	Glasgow . . .	1767	6	Knoxville . . .	730	-101
CO. Bridgeport . . .	1023	-78	Great Falls . . .	1425	-10	Memphis . . .	728	-59
Hartford . . .	1170	-64	Havre . . .	1657	-17	Nashville . . .	791	-74
DC. Washington . . .	810	-114	Helena . . .	1420	-34	TX. Abilene . . .	711	38
FL. Apalachicola . . .	255	-146	Kalispell . . .	1503	86	Amarillo . . .	994	76
Jacksonville . . .	285	-111	Miles City . . .	1605	27	Austin . . .	540	35
Key West . . .	0	-49	Missoula . . .	1341	-14	Beaumont . . .	422	-9
Miami . . .	2	-74	NE. Grand Island . . .	1358	-18	Brownsville . . .	217	1
Orlando . . .	75	-137	Lincoln . . .	1449	45	Corpus Christi . . .	321	11
W. Palm Beach . . .	18	-74	Norfolk . . .	1477	1	Del Rio . . .	412	-38
Tallahassee . . .	327	-114	North Platte . . .	1290	-65	El Paso . . .	636	-9
Tampa . . .	72	-156	Omaha . . .	1479	44	Fort Worth . . .	681	30
GA. Atlanta . . .	636	-80	Valentine . . .	1476	41	Galveston . . .	364	-12
Augusta . . .	560	-66	NV. Ely . . .	1190	-69	Houston . . .	448	6
Macon . . .	522	-58	Las Vegas . . .	597	-35	Lubbock . . .	836	24
Savannah . . .	395	-112	Reno . . .	1021	4	Midland . . .	715	55
ID. Boise . . .	1252	164	Winnemucca . . .	1195	104	San Angelo . . .	651	46
Lewiston . . .	940	-80	NH. Concord . . .	1381	-17	San Antonio . . .	494	31
Pocatello . . .	1406	129	NJ. Atlantic City . . .	963	-66	Victoria . . .	408	22
IL. Chicago . . .	1365	13	NM. Albuquerque . . .	903	-33	Waco . . .	633	42
Moline . . .	1437	26	NY. Albany . . .	1290	-71	Wichita Falls . . .	791	25
Peoria . . .	1341	-8	Binghamton . . .	1282	-76	UT. Salt Lake City . . .	1249	121
Rockford . . .	1483	35	Buffalo . . .	1203	-84	VT. Burlington . . .	1424	-76
Springfield . . .	1262	10	New York . . .	911	-118	VA. Lynchburg . . .	804	-123
Fort Wayne . . .	1240	-53	Rochester . . .	1230	-53	Norfolk . . .	657	-121
Indianapolis . . .	1175	-34	Syracuse . . .	1253	-55	Richmond . . .	762	-118
South Bend . . .	1260	-36	NC. Asheville . . .	793	-81	Roanoke . . .	787	-128
IA. Des Moines . . .	1491	53	Charlotte . . .	671	-89	WA. Quillayute . . .	1324	68
Dubuque . . .	1561	30	Greensboro . . .	739	-114	Seattle-Tacoma . . .	767	-36
Souix City . . .	1521	8	Hatteras . . .	460	-157	Spokane . . .	1212	-6
KS. Concordia . . .	1247	4	Raleigh . . .	709	-78	Walla Walla . . .		
Dodge City . . .	1116	15	Wilmington . . .	513	-94	Yakima . . .	1149	8
Goodland . . .	1203	31	ND. Bismark . . .	1740	-67	WV Beckley . . .	957	-125
Topeka . . .	1227	21	Fargo . . .	1813	-69	Charleston . . .	876	-119
Wichita . . .	1114	17	Williston . . .	1775	-35	Huntington . . .	894	-104
KY. Lexington . . .	955	-84	OH. Akron-Canton . . .	1143	-94	WI. Green Bay . . .	1579	-2
Louisville . . .	949	-59	Cincinnati . . .	1046	-73	La Crosse . . .	1599	18
LA. Baton Rouge . . .	432	-34	Cleveland . . .	1163	-62	Madison . . .	1539	8
Lake Charles . . .	449	7	Columbus . . .	1089	-86	Milwaukee . . .	1385	-50
New Orleans . . .	371	-52	Dayton . . .	1138	-52	WY Casper . . .	1349	22
Shreveport . . .	634	37	Toledo . . .	1228	-71	Cheyenne . . .	1231	25
ME. Caribou . . .	1791	105	Youngstown . . .	1183	-82	Lander . . .	1422	15
Portland . . .	1283	-66				Sheridan . . .	1407	-4

Based on 1951-80 normals.

### January Weather in Historical Perspective

Temperatures for January 1991 averaged slightly below normal for the Nation, ranking as the 32nd coldest January on record (fig. 1). Nationally, areally-averaged precipitation was slightly above the long-term mean, ranking as the 61st wettest January in 97 years of climate data. However, the index shown in figure 2, which takes into account the geographical distribution of the precipitation, indicates that compared with the local normal climate, January was slightly drier than normal.

Regional rankings for the nine climatically homogeneous regions are listed in table 1 (see the *Weekly Weather and Crop Bulletin*, Vol. 78, No. 2, Jan. 15, 1991, page 6 for a map of the regions). While many pockets of the Nation had slightly above-normal temperatures, only the Southeast region ranked in the warmest third. The South, Southwest, Northwest, and East North Central regions experienced a January within the coldest third of the rankings.

California had its 6th driest January on record en route to its driest October to January period ever (see related article on page 13). Drier-than-normal conditions prevailed in most western and northern sections of the Nation. The Northwest and West regions recorded their 9th and 5th driest January, respectively. In contrast, the South and Southeast regions endured their 9th and 2nd wettest January. The frequent storminess resulted in 37 tornadoes, the most in January since 1975, and the third highest total on record (fig. 3). Precipitation in the central Plains (winter wheat belt) lagged normal rates, as has been the case since October 1990 (fig. 4).

TABLE 1. TEMPERATURE AND PRECIPITATION RANKINGS FOR JANUARY 1991, BASED ON THE PERIOD 1895-1991. 1 = DRIEST/COLDEST, 97 = WETTEST/HOTTEST.

REGION	PRECIPITATION	TEMPERATURE
NORTHEAST	42	53
EAST NORTH CENTRAL	26	32
CENTRAL	38	37
SOUTHEAST	96	65
WEST NORTH CENTRAL	13	40
SOUTH	89	24
SOUTHWEST	54	27
NORTHWEST	9	32
WEST	5	42
NATIONAL	61	32

Figure 1

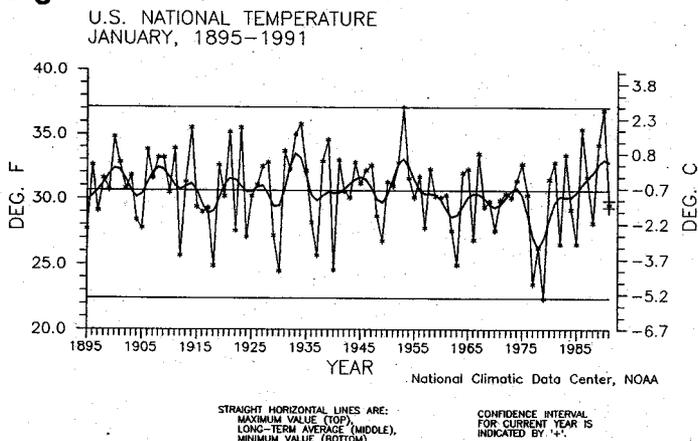


Figure 2

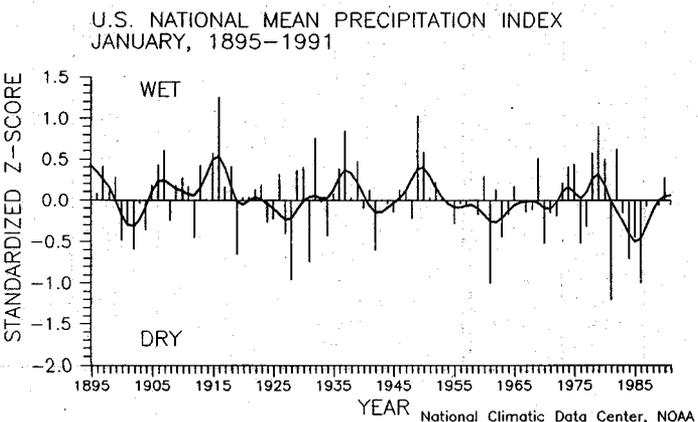


Figure 3

### TOTAL NUMBER OF TORNADES, U.S.

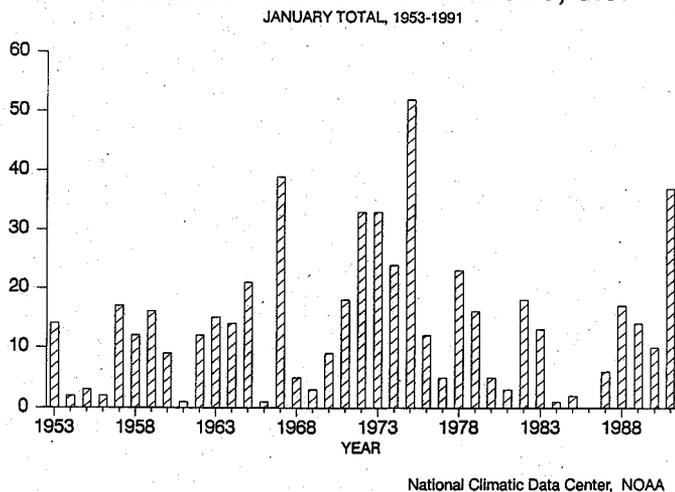
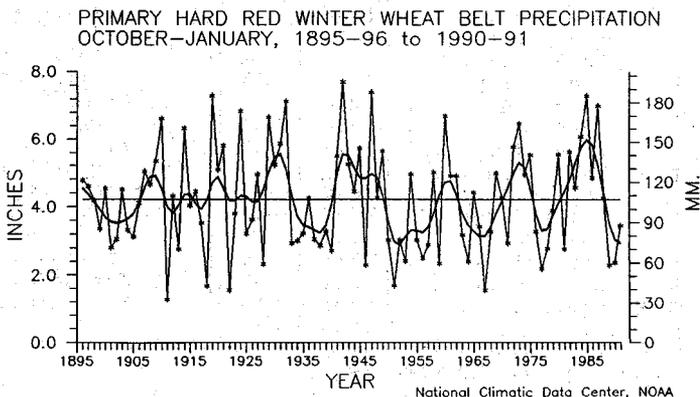


Figure 4



## California: Anatomy of a Drought

More than halfway through the 1990-91 rainy season, California needs to erase huge rainfall deficits to avert a fifth consecutive dry year. Through the end of January, the 1991 water year is running marginally drier than 1977 (fig. 1), the driest year on record (fig. 2). (Water year 1991 is defined as October 1, 1990, to September 30, 1991. More than 90 percent of California's precipitation falls between October and April.) If drought prevails, it will be the first time in 96 years of recordkeeping that California has endured 5 significantly drier-than-normal years in a row. Compounding the State's water shortage is demographic change: California's population has quadrupled in the past 50 years and agricultural water demands have increased.

Previously, the driest periods on record in California have been:

<u>Water years</u>	<u>Length</u>	<u>Remarks</u>
1896-1900	5 years	Only 1898 and 1899 were critically dry.
1928-1934	6 of 7 yrs.	Precipitation was normal in 1932.
1944-1950	7 years	No single year was critically dry.
1959-1962	4 years	No single year was critically dry.
1975-1977	3 years	1976: 4th driest; 1977: driest ever.

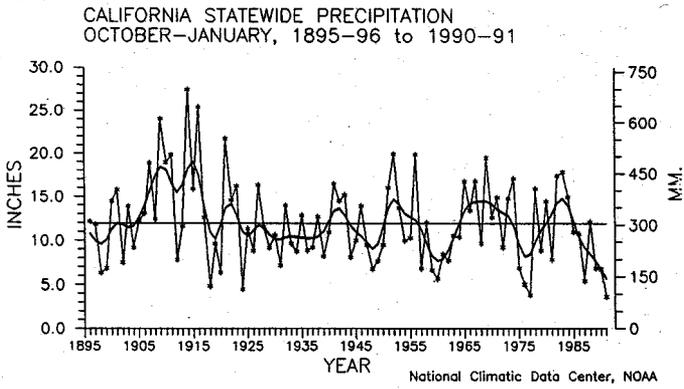
The current drought began during the 1987 water year, which was the fifth driest on record. The State has not received widespread relief since. With each passing year, California's wettest/snowiest region, the Sierra Nevada range, has noted decreasing precipitation. This has squelched spring runoff as winter snowpack has diminished. Annual precipitation in the Sierras has steadily dwindled from near normal in 1986 to less than 75 percent of normal in 1988, and to only about 50 percent of normal in 1990. Currently, the entire State is in a condition of moderate, severe, or extreme drought, according to the Palmer Drought Index. Human geography is also straining diminished water supplies more than during previous droughts. California's population has exploded from 1.5 million at the turn of the century to 6.9 million in 1940, and then to nearly 30 million today. With an average water usage of 100 gallons per person per day, residential water consumption alone has jumped more than 600 million gallons a day since the drought of 1977. Irrigation demands also have increased due to both expanding agricultural practices and lack of rainfall.

How does 1991 compare with 1977 in terms of drought severity? Not only has water year 1991 been slightly drier than 1977 (through January), but 1991 comes on the heels of 4 very dry years as well. The drought of 1977 was a continuation of only 2 previous dry years. Statewide precipitation was about 35 percent of normal in 1977. During the current water year, precipitation has totaled 25 percent of normal. In 1977, it was drier along the north coast and in the southern San Joaquin Valley. This year it is drier in most areas of northeastern, central, and southern California (fig. 3). The Palmer Drought Severity charts indicate that 1991 began with drought conditions nearly as serious as they were toward the end of the 1977 drought (fig. 4). The difference is that the most stricken region in 1977 was northern California. This year, southern and northeastern California are experiencing the most extreme drought.

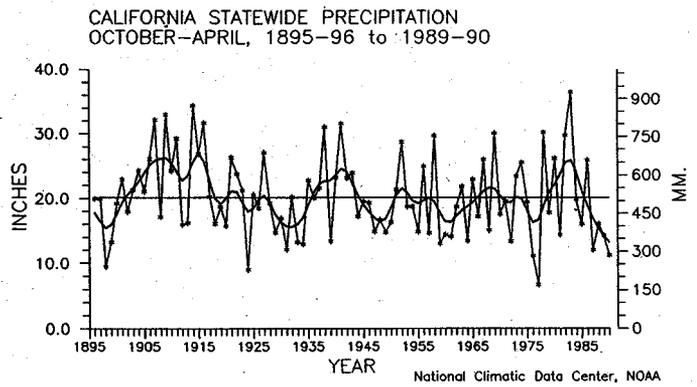
Another key indicator of drought severity is reservoir storage. On October 1, 1976, water storage in the 143 major reservoirs was 65 percent of normal. A year later, on October 1, 1977, storage bottomed out at just 37 percent of normal. Currently, the State's reservoir holdings are at 54 percent of normal levels, having fallen from 60 percent on October 1, 1990. Reservoirs in drier areas have already reached record-low levels. Folsom Lake, northeast of Sacramento, has fallen to 16 percent of its usual level. Lake Cachuma, which supplies Santa Barbara, has dropped to 15 percent of normal volume, the lowest level since the lake was filled in 1958.

Much needed rain and snow began to fall in northern California on February 1. Redding nearly doubled its seasonal rainfall in just 2 days. But only meager rain has reached into southern California. For 1991 to unseat 1977 as the State's driest year, less than 50 percent of the normal precipitation must fall from now through April. But the drought is sufficiently severe that unless frequent, soaking storms track across California for the next 3 months, the State will still face a summer of mandatory water restrictions and brace for battles between residential, agricultural, and industrial causes for the remaining precious water.

**Figure 1**



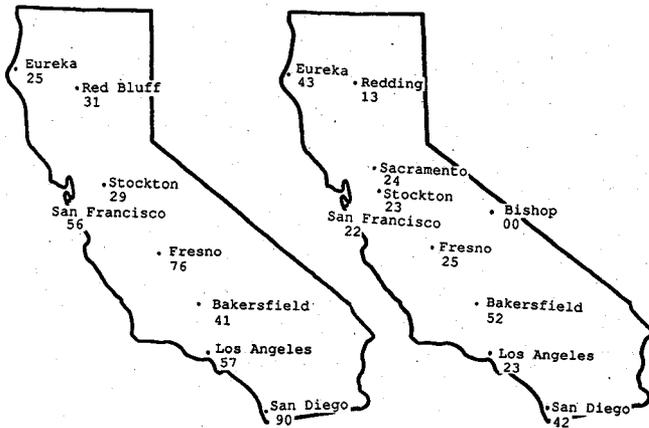
**Figure 2**



**Figure 3**

**Percentage of Normal Precipitation**

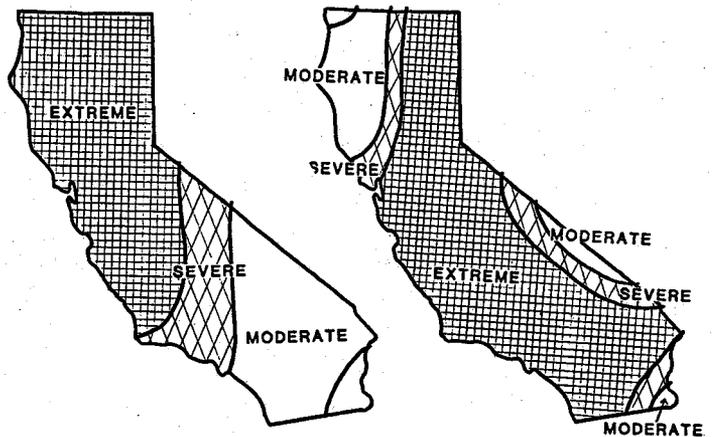
October 1976 to January 1977    October 1990 to January 1991



**Figure 4**

**Palmer Drought Severity**

April 1977    October 1990



## National Agricultural Summary

January 28-February 3, 1991

**HIGHLIGHTS:** Seasonal temperatures early in the week gave way to above-normal temperatures by week's end over most regions, depleting snow cover on winter wheat fields. Widespread rainfall across the Southeast limited spring field crop preparations. Elsewhere, activities centered around livestock care and equipment maintenance.

**SMALL GRAINS:** Snow cover on winter wheat fields in the Great Plains and Corn Belt continued to erode as higher temperatures moved in by week's end. In Arkansas, waterlogged wheat fields began drying out as little moisture fell during the week. In Texas, small grains responded to higher temperatures. Spring oat planting will begin in the Low Plains as fields dry out. Oklahoma spring oats and barley planting was underway. Topdressing of wheat fields was common in the Corn Belt and Southeast as conditions permitted. Excessive moisture in Georgia has resulted in yellowing wheat fields, a sign of nitrogen depletion. Washington and Oregon winter-kill was being assessed for winter wheat fields. Some winter barley reseeding was needed in Oregon. In California, low soil moisture hampered growth and emergence of small grains.

**OTHER FIELD CROPS:** Sugarcane planting and harvesting was active in Florida. Cotton harvest resumed in the Texas Low Plains. Ground preparation for cotton planting progressed in California and Arizona. Tobacco bed preparation was nearly complete in Georgia and continued in the Carolinas.

**FRUIT AND NUTS:** Variable rainfall fell over Florida's citrus region, but more was needed. High winds increased fruit droppage. Early orange

harvest was slowing, and midseason seedling oranges were being picked. Peach trees were blooming in the Rio Grande Valley of Texas. Arizona citrus harvest continued. Grapefruit, navel orange, and lemon harvests continued in California. Pruning and weeding of orchards and vineyards was active.

**VEGETABLES:** Ground preparation and planting was common in Florida's major vegetable-producing areas. Georgia onions were rated fair to good, but southeastern fields were showing disease problems from excess moisture. In the Rio Grande Valley of Texas, cole crop harvesting continued as well as spring watermelon planting. Vegetable crops progressed well in the San Antonio-Winter Garden region. Vegetable harvest continued in Arizona. Lettuce harvest was moderate in the Blythe area of California. Spring lettuce planting continued in the Westside area. Ground preparation continued for other spring and summer vegetable crops.

**PASTURES AND LIVESTOCK:** Livestock was in generally good condition, and roughage supplies were adequate in most States. Calving, lambing, and supplemental feeding were the main activities across much of the country. In California, range conditions continued to be poor over the southern two-thirds of the State. Alfalfa field grazing was more frequent than normal as more typical feed sources were less available.

## 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 4.00 in. southeast; over 5.00 in. extreme south; under 0.50 in. north, west central. Temperatures 3 to 7° above normal.

Wet conditions continued to limit field activities. Winter wheat 1% poor, 25% fair, 71% good, 3% excellent. Livestock 59% fair, 41% good. Pastures 10% very poor, 25% poor, 43% fair, 22% good. Hay, roughage supplies for remainder of season 69% short, 31% adequate. Primary activities: Tax preparation; planning crop year; equipment, fence, structure repair; pruning, brush removal from orchards; grading, marketing sweet potatoes; harvesting, marketing catfish; soil testing; applying lime; some turning land; planting pine trees; general care, feeding of livestock, poultry, catfish.

**ARIZONA:** Normal temperatures 27th, 28th; cold front 29th, 30th lowered temperatures 5 to 15°, snow northeast, rain southeast; warming 1st; average temperatures 4° below to 3° above normal; Extremes 24°; 79° deserts, 5 to 7° higher elevations. Precipitation none west, central; traces east.

Cotton field preparations underway. Wheat, barley good; 99% seeded, 100% 1990, 98% avg.; 95% established, 100% 1990, 90% avg.; alfalfa good; grazing light central, moderate west. Citrus, mixed vegetable harvests continued. Cattle, calves fair to good; ranges provided average feed supplies; stockwater, soil moisture adequate. Sheep, lambs good.

**ARKANSAS:** Temperatures near normal. Light precipitation first part of week. Extremes 12°; 73°. Rainfall none to 0.29 in.

Wheat still water logged, south west; some fields in central part of State had nitrogen applied. Fields drying, too wet for fieldwork. Pastures dried some, are providing avg. grazing. Hay supply adequate. Livestock average to good.

**CALIFORNIA:** Blocking high pressure dominated most of week. Week finished with rain north end of State, as frontal system moved inland 1st. Southern State remained dry. Temperatures warmed near, slightly above normal.

Open weather permitted field activities until 2nd. Low soil moisture hampered growth, emergence small grains. Irrigation continued many areas as germination aid. Limited seeding still underway. Previously freeze damaged alfalfa, sunflowers reseeded. Established alfalfa sprayed, weed control. Ground preparation for corn, cotton, safflower, sugarbeets progressed. General activities included pre irrigation, cultivation, herbicide application. Pruning, weed control activity steady; orchards, vineyards. Irrigation continued. Dry fertilizer applications began. Almonds in green tip stage northern State. Date harvest wound down in southern State; early desert peaches had swollen buds; grapefruit, navel orange, lemon harvest continued. Navels sent to processing plants, San Joaquin Valley. Lemons picked pre freeze packed, shipped out of cold storage. Broccoli harvest very light variable quality Salinas area, fairly light good quality Santa Maria area; fields heading out in Delta area, while harvesting, packing continued good quality Fresno, desert areas. Cauliflower movement fairly light Santa Maria area, good quality. Celery supplies very light good quality Santa Maria area. Lettuce

harvest moderate Blythe area, planting spring lettuce continued west side area. Planting peppers, sweet corn active desert area. Shipment of fall potatoes steady from storage Tularelake Butte Valley area, winter potato harvest continued Hemet San Jacinto area. Strawberry harvest increased southern State. Ground preparation continued for planting spring, summer crops including fresh market, processing tomatoes, onions, garlic. Cattle on supplemental feed most areas. Range conditions poor to very poor southern two thirds of State, fair to poor in northern third. Lack of normal feed sources, supply of freeze damaged alfalfa, has led to greater than normal alfalfa field grazing by livestock. Despite rain in northern two thirds State on 3rd, water supplies short most areas, extremely short in southern counties. Snow pack insufficient to meet summer water demands.

**COLORADO:** Warm weather dominated the State during the week with the exception of a weak front that produced snowfall over the eastern plains on 29th. Moisture amounts were generally less than 0.20 in. Temperature 5 to 7° below normal despite the warm weather at weekend.

**FLORIDA:** Temperatures 3 to 12° above normal. Rain in varying amounts occurred all areas, Panhandle 3.00 to 6.00 in. Most Peninsula locations received less than 0.50 in., local areas along southeast coast recorded over 5.00 in.

Soil moisture surplus Panhandle, northern Peninsula; adequate, southern Peninsula; short to adequate, central Peninsula. Tobacco growers maintained tobacco beds. Sugarcane planting, harvesting continued active. Pastures rate 10% poor, 45% fair, 35% good, and 10% excellent. Cattle fair to good. Variable rain most citrus areas, more needed. Warm temperatures mid week increased evaporation. High winds increased fruit droppage. Early orange harvest slowing as supplies running low, mid season seedling oranges now being picked. Grapefruit movement active. Temperatures generally above normal, major vegetable producing areas. Rainfall limited, irrigation prevalent southern areas. Ground preparation, planting active. Shipments most crops, except lettuce, near usual levels. Volume leaders: Tomatoes, cabbage, peppers, celery, snap beans, squash, carrots, sweet corn. Also available eggplant, escarole, specialty lettuce, potatoes, radishes, strawberries.

**GEORGIA:** Most of State at least 1.00 in. of rain. Heaviest rains central, south; 2.00 to 5.00 in. common. Warm week, temperatures 4 to 8° above normal. Warmest temperatures mid to upper 60s north, upper 70s extreme south. Coldest temperatures upper teens northeast mountains, upper 30s to low 40s extreme southeast.

Soil moisture surplus. Heavy rains throughout State saturated ground. Some flooding low lying areas, little damage. Onions mostly fair to good, diseases widespread southeast because of excessive moisture. Wheat, other small grains fair to good. Wheat beginning to yellow, needs nitrogen. Tobacco bed preparation about 95% complete. Tobacco plants fair to good. Final pruning of peach trees. Some peach varieties needing additional chill hours. Pastures mostly fair. Cattle, hogs good.

**HAWAII:** Warm, sunny weather most of week. Crops in improved condition. Winds variable 5 to 30 mph. Temperatures high 50s to low 80s. Rainfall varied none to 1.90 in.

Days suitable for farm work 7.0. Papaya production decreasing. Ginger root harvesting active, heavy. Chinese, head cabbage production moderate.

**IDAHO:** Temperatures, precipitation were below normal statewide.

The north, selected areas of east received adequate soil moisture; remainder of State short. Farm activities included: Shopwork, livestock care, taxes, meetings. Livestock good. Lambing, calving continuing, cold weather in north stressful for livestock. Hay, roughage supplies remained adequate.

**ILLINOIS:** Temperatures 2 to 6° above normal. Precipitation generally none, less than 0.25 in. far south.

Soil moisture remained adequate to surplus. Winter wheat fair to good. Snow cover virtually gone.

**INDIANA:** Temperatures 2 to 7° above normal. Lows mid teens to mid 20s, highs low 50s to low 60s. Precipitation 0.35 to 0.50 in.

Snow, wet conditions limited fieldwork. Other activities: Top dressing wheat, attending farm auctions, pesticide training, hauling grain, hauling manure, machinery maintenance, purchasing supplies, attending meetings, tobacco processing, tax preparation, care of livestock. Livestock mostly good. Wheat fair to good. Hay supplies adequate.

**IOWA:** Temperatures 0 to 4° above normal. Extremes -24; 53°. Precipitation trace to 0.13 in.; average 0.01 in.

Warmer weather making feedlots muddy. Main activities include: Tending livestock, machinery repairs, bookkeeping.

**KANSAS:** Temperatures normal west, central; 4° below east. Over 0.25 in. precipitation fell east; few hundredths west, central.

Some light snow. Some blowing. Snow cover melted end week. Supplemental feeding heavier early week.

**KENTUCKY:** Maximum temperatures lower 50s, south; upper 40s north, 5 to 10° above normal. Minimum temperatures upper 20s, 2 to 6° above normal. Highest temperature 60° Buckhorn Lake; lowest 13° Glasgow. Precipitation averaged 0.50 in. west, central areas, about 0.75 in. east. Most precipitation fell as rain first half week.

Soil moisture adequate, well drained soils are drying, some fields would support machinery. Manure hauling major field activity. Most burley markets closed for season. Livestock, mostly satisfactory condition. Feed supplies adequate, water supplies ample.

**LOUISIANA:** Temperatures 3° below normal northwest to 3.1° above normal central. Extremes 24°; 73°. Rainfall 0.06 in. north central to 4.29 in. southwest.

Main farm activities: Wet field conditions

continue to limit fieldwork. Some top dressing rye grass, wheat in drier fields. Hay supplies were getting short, grazing is limited due to excessive soil moisture in winter pastures. Strawberry farmers were busy spraying for disease, insects as needed. Draining sugarcane fields, harvesting crawfish were active.

**MARYLAND & DELAWARE:** **MARYLAND:** Precipitation 0.11 in. Temperature 37.1°, normal 32.6°. Extremes -4°; 61°.

Activities for the week: Repairing fence; hauling manure; spreading fertilizer; maintaining machinery; tax preparation; caring for livestock. **DELAWARE:** Precipitation 0.13 in. Temperature 38.7°, normal 33.5°. Extremes 15°; 59°.

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

**MICHIGAN:** Temperatures 6° above to 3° below normal. Extremes -25°; 54°. Precipitation 0.01 to 0.98 in. across the State. Frigid period earlier in the week displaced by abnormally warm weather. Much of the snow cover has been depleted despite snow showers.

Livestock are healthy, out in the fields. Feed stocks are in good supply. Few fields of corn yet to be harvested. Dryers operational. Major activities included: fruit tree pruning, barn cleaning, purchasing seed for spring planting, caring for livestock.

**MINNESOTA:** Temperatures 3 to 10° above normal for the State. Extremes -29° Hibbing; 65° Browns valley. Precipitation none to 0.13 in. across State. Greatest weekly total 0.13 in. at Fergus Falls.

**MISSISSIPPI:** Temperatures 2° above normal. Extremes 19°; 73°. Temperatures 47°. Wet south, dry north. State 1.20 in., 0.05 in. above normal. Soil temperature 47°.

Days suitable for fieldwork 0.2, 0.3 1990, 2.6 avg. Soil moisture 9% adequate, 79% surplus, 12% excessive. Pasture 9% very poor, 14% poor, 37% fair, 21% good, 19% excellent. Livestock 42% fair, 39% good, 19% excellent. Hay supply 67% short, 16% adequate, 17% surplus. Feed grain 14% short, 72% adequate, 14% surplus. Wheat 10% very poor, 16% poor, 65% fair, 9% good. Activities: Feeding livestock, attending farm meetings, preparation for spring.

**MISSOURI:** Temperatures 3° below normal southwest to 1° above normal eastern half. Precipitation less than 0.10 in. north, 0.25 in. elsewhere.

Topsoil moisture 1% short, 75% adequate, 24% surplus. Subsoil moisture 10% short, 81% adequate, 9% surplus. Wheat 1% very poor, 8% poor, 62% fair, 29% good. Supply of hay 12% short, 76% adequate, 12% surplus. Livestock water supply 2% short, 98% adequate. Livestock condition 33% fair, 65% good, 2% excellent.

**MONTANA:** Temperatures below normal west. Rest of State 2 to 7° above normal. Readings into 50° most locations by weekend. Some moisture none locations, generally below normal. Rainfall none to 0.20 in. with heavier amounts in south.

Winter wheat 3% very poor, 24% poor, 47% fair,

25% good, 1% excellent. Snow cover protection 51% poor, 20% fair, 25% good, 4% excellent. Warm weather eroding snow cover. Grazing 38% open, 50% difficult, 12% closed. Cattle, calves receiving supplemental feed 96%, sheep, lambs 99%. Calving 2% complete, lambing 5% complete.

**NEBRASKA:** Precipitation first of the week 0.10 in. Temperatures 1° above normal northwest to 7° above normal southwest. Extremes -12°; 65°.

**NEVADA:** Temperatures below normal. Extremes -8°; 66°. Precipitation none to 0.02.

Northern areas experienced snow flurries early in the week. Temperatures moderate, reducing livestock stress. Main farm, ranch activities include caring for livestock, equipment maintenance.

**NEW ENGLAND:** Precipitation 0.10 to 1.20 in. Temperatures teen northern Maine, 30 to 35° south. Temperatures 0 to 5° above normal.

Major farm activities: General repairs, maintenance, tending livestock, moving crops from storage.

**NEW JERSEY:** Temperatures above normal, 34° south, 38° north, 42° coastal. Extremes 15°; 65°. Precipitation below normal, averaged 0.28 in. north, 0.17 in. south, 0.16 in. coastal. Heaviest 24 hour total 0.40 in. on 30th, 31st. Heaviest 24 hour snowfall 1.00 in. on 31st, 1st.

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

**NEW MEXICO:** Temperatures over the State varied, 6° below normal at Farmington to 4° above normal at Roswell. Precipitation was sparse, trace at Las Vegas to 0.47 in. at Alamogordo.

**NEW YORK:** Week began with near normal temperatures, light precipitation, turned colder on 29th with mixed precipitation. Nearly 0.20 in. of ice accumulated at Albany on the 30th. Much milder air returned over the weekend. Highs climbed into the 50s. Extremes -15°; 55°.

Major activities: Caring livestock, machinery repair, spreading manure, attending meetings, planning for upcoming season. Mild weather at weekend made outside activities easier.

**NORTH CAROLINA:** Temperatures 2° above normal in the Mountains, 4° above in the Piedmont, 3° above at the Coast. Precipitation 0.10 to 2.36 in.

Days suitable for fieldwork 2.3. Soil moisture 1% short, 53% adequate, 46% surplus. Pasture 3% very poor, 13% poor, 33% fair, 50% good, 1% excellent. Crop condition: Wheat 20% fair, 78% good, 2% excellent; oats 1% poor, 18% fair, 80% good, 1% excellent; barley 20% fair, 79% good, 1% excellent; rye 1% poor, 23% fair, 73% good, 3% excellent. Hay, roughage supplies 8% short, 88% adequate, 4% surplus. Feed grain supplies 2% very short, 6% short, 90% adequate, 2% surplus. Activities: Tending livestock; preparing, seeding tobacco plant beds; cutting wood; pruning trees; equipment repair; general farm maintenance.

**NORTH DAKOTA:** Temperatures -30 to 9° above normal. Precipitation 0.03 in. northeast to 0.06 in. northwest, north central, southeast.

Snow cover 0.50 in. Snow cover adequate to protect 3% winter wheat, 11% rye, 10% alfalfa. Conditions of seedings mostly fair. Cattle, sheep mostly good. Calving 2% complete, lambing 8%, shearing 15%. Hay supplies mostly adequate.

**OHIO:** Seasonable conditions prevailed the first part of the period with some light precipitation. The last part of the period was warm with no precipitation. High temperatures mid 30s to the upper 40s. Low temperatures teens to upper 20s. Extreme 5°; 64°. Temperatures generally were 2 to 8° above normal. Precipitation near to slightly below normal 0.25 to 0.50 in. Most readings were up to 0.30 in. subnormal.

The unseasonably high temperatures late in the period gave farmers a chance to do some outside chores in rather pleasant conditions. Soil temperatures were at, or a degree or two above, freezing. Mild temperatures removed most snow cover from winter wheat stands.

**OKLAHOMA:** Temperatures 7° above normal north east to 3° above normal south central. Precipitation none most districts to 0.09 in. northeast.

Topsoil 40% short, 45% adequate, 15% surplus. Subsoil moisture 15% short, 85% adequate. Wheat 5% poor, 85% fair, 10% good; recent warmth caused greening. Moisture needed for sustained growth. Grain producers making plans to topdress. Oats, barley spring plantings begun. Pasture 20% poor, 70% fair, 10% good. Cattle good; marketings average, prices steady to slightly higher than preceding week.

**OREGON:** Temperatures near normal entire State; 5° below normal to 5° above normal. Overnight lows well below zero some stations east of Cascades. Precipitation heaviest over coast range, up to 3.04 in.; over 1.00 in. many coastal spots, a few locations in the Willamette Valley. Elsewhere precipitation trace to 0.50 in., except extreme eastern Malheur Co. had no rain.

Soil moisture adequate west, short east. Very little fieldwork. Still assessing extent of freeze damage. Some winter barley will need reseeding Gilliam Co. Pruning continued in fruit, nut orchards, caneberry fields. Livestock fair to mostly good. Calving, lambing continued. Hay stocks going fast. Range, pasture poor to fair east, fair to good west.

**PENNSYLVANIA:** Mild week with below normal precipitation, above normal temperatures. Temperature 31°, 4° above normal. Extremes 8°; 55°. Precipitation 0.38 in, 0.24 in. below normal.

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

**PUERTO RICO:** Rainfall 0.40 in. was 0.21 in. below normal. Highest weekly total 2.66 in. at Pico Del Este Luquillo, 0.69 in. at Rio Blanco Lower, 0.63 in. at San Lorenzo. Highest 24 hour total 1.56 in. at Pico Del Este Luquillo. Divisional temperatures 77° on the coasts, 68 to 74° in the Interior with mean station temperatures 62.1° at Pico Del Este Luquillo to 80.3° at Fajardo. Extremes 56°; 91°.

**SOUTH CAROLINA:** Temperatures 2° above normal Upstate to 6° above normal Midlands, Coastal Plains. Rainfall 0.80 in. Foothills to 2.90 in. South.

Farm activities: Wet field conditions slowed fieldwork, however land preparation for spring planting, planting tobacco seed beds continued as weather permitted; general farm maintenance. Applying nitrogen to small grains.

**SOUTH DAKOTA:** Week began cold, mid week warming trend. Temperature normal to 17° above normal. Extremes -26°; 69°. Precipitation below normal except for Black Hills, southwest, south central. Snow cover, except for Black Hills, down to a trace. Snowfall in Black Hills up to 5.00 in., under 1.00 in. elsewhere.

**TENNESSEE:** Cold fronts brought light rainfall 28th through 30th. High pressure dominated remainder week. Temperatures above normal. Mostly 3° above normal east, Plateau; 9° above normal west. Extremes 19°; 73°. Precipitation 0.50 to 1.00 in. below normal. Most rain fell at Dyersburg, 0.58 in.; least Nashville 0.05 in. Average departure statewide 1.02 in. below normal.

Activities included hauling grain, spreading fertilizer, hauling manure, machinery maintenance, purchasing supplies, cutting wood, clearing fence rows, attending meetings, tax preparation, care of livestock. Some limited field preparation during unusually mild weather. Hay supplies mostly adequate. Livestock mostly good condition.

**TEXAS:** Rains let up last week over swamped parts of State. Most rain amounts below normal values. Only exception Lower Rio Grande Valley. Late in weekend, much needed rains fell, put average amounts between 0.25 to 0.50 in. above normal. Temperatures near normal across State. Temperature departures were zero coastal sections. Departures -1° in south central areas, Low Rolling Plains. Elsewhere, departures 1 or 2° above normal. Rainfall departures -0.83 in. eastern areas which missed much of rainfall last week, to +0.39 in. in Lower Valley.

**Crops:** Cotton harvest finally resumed last week Low Plains. Harvest expected to be complete quickly if open conditions continued. Small grains responding to warmer temperatures, sunshine. Most fields showing good sign recovery, freeze damage took toll later planted fields High Plains, eastern areas. Insect activity remained light on fields across State. Planting of spring oats to begin Low Plains soon as field conditions dry, temperatures warm. Statewide wheat condition 65% of normal compared with 38% last year. Peach pruning winding down some areas of Blacklands, eastern areas. Some producers began dormant spraying of trees. Planting, transplanting continued. Peach trees blooming Rio Grande Valley.

**Commercial Vegetables:** Rio Grande Valley, cole crop harvest continued. Low insect problems reported, disease pressure high. Spring watermelon planting continued. San Antonio Winter Garden, most crops continued good progress. Spinach quality reported poor some fields. Cabbage harvest continued.

**Range and Livestock:** Livestock continued fair to good shape generally. Normal feeding haying continued most areas. Wet conditions eastern areas causing heavy feeding as well as dry conditions southern areas. Wet, muddy lots eastern areas also affecting dairy production. Winter pastures continued to decline generally, winter weeds

showing good emergence many areas. Range and Pasture conditions: 3% very poor, 13% poor, 50% fair, 29% good, 5% excellent.

**UTAH:** Precipitation very light, scattered in central part of State. None elsewhere. Temperature maximums 6° below normal, minimums 12° below normal.

Winter range conditions mostly fair, poor some areas. Fall seeded wheat fair most locations, poor Utah County. Farm activities included tax preparation, care of livestock, repair, maintenance of equipment.

**VIRGINIA:** Temperatures about 4° above normal, rainfall was below normal none to 0.35 in.

Days suitable for fieldwork 2.9. Topsoil moisture 4% short, 81% adequate, 15% surplus. Winter grains, grazing crop condition 3% very poor, 11% poor, 43% fair, 40% good, 3% excellent. Winter grazing crops, dairy cattle 7%, beef cattle 21%, sheep 23%. Feed supply adequate to surplus. Topdressing small grains, spraying alfalfa for weeks, preparing for potato planting, fruit tree pruning, tapping maple trees.

**WASHINGTON:** Temperatures 2° below to 3° above normal, east; 2° to 3° below normal, west. Precipitation none east; 0.14 to 1.15 in. west.

Days suitable for fieldwork 1.1. Soil moisture 58% short, 35% adequate, 7% surplus. Range, pasture 19% very poor, 20% poor, 60% fair, 1% good. Hay, other roughage 3% short, 97% adequate. Winter wheat 27% very poor, 55% poor, 18% fair. Barley 52% very poor, 40% poor, 8% fair. Precipitation was heaviest on the coast. Cascade mountains blocked most of the storm activity from entering eastern areas. Pruning continued on fruit, berry crops. Winter wheat damage is becoming more evident. Livestock continue on winter feed rations. Lambing, calving in full swing. Freezing weather held up Christmas tree planting, turf grass sod cutting.

**WEST VIRGINIA:** Temperature 37°, 1 to 10° above normal. Extremes 7°, 65°. Precipitation 0.38 in.

Days suitable for fieldwork 1.7. Soil moisture 50% adequate, 50% surplus. Wheat 53% fair, 47% good. Barley 77% fair, 23% good. Cattle good; 10% calved. Sheep good; 11% lambled. Hay feed supplies 69% adequate, 31% surplus. Other feed supplies adequate. Farm activities: feeding livestock, calving, lambing, general maintenance.

**WISCONSIN:** Temperature 16°. Extremes -31°; 54°. Temperatures over weekend reached the upper 40s, lower 50s which melted 1.00 to 4.00 in. of snow across the State.

Scattered snowfall throughout the State 28th to 30th. Amounts generally less than 0.10 in. Snow in Hurley extreme north central areas on 30th, with accumulations of 1.50 in.

**WYOMING:** Temperatures 3 to 10° below normal. Precipitation below normal.

Winter wheat fair to good. Cold temperatures with little snow cover increasing chances of winter kill. Additional moisture needed for good development. Livestock mostly good. Small amount early calving, lambing. Shearing of farm flocks starting. Supplemental feeding continues in most areas.

## JANUARY 1991

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

\*\*\* = DATA NOT AVAILABLE

International Weather and Crop Summary  
HIGHLIGHTS

January 27-February 2, 1991

WESTERN USSR ... The coldest weather so far this winter stresses winter grains.

NORTHWESTERN AFRICA ... Beneficial rain covers winter grains in Algeria and Tunisia. Persistent dryness in southern Morocco increases crop stress.

EUROPE ... Bitter cold covers north-central and eastern winter grain areas, creating the potential for some winterkill in areas with a limited snow cover.

EASTERN ASIA ... Rainfall tapers off across southern spring crop areas. Milder-than-usual weather continues over the winter wheat regions.

SOUTHEAST ASIA ... Seasonable showers benefit most rice and plantation crops in Indonesia and Malaysia. Drier-than-normal conditions persist over the Philippines.

SOUTH AFRICA ... Continuing widespread showers benefit reproductive to filling corn.

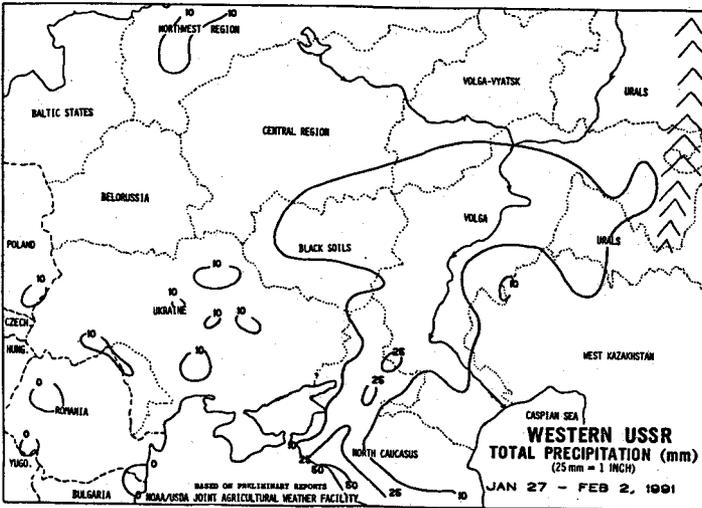
SOUTH AMERICA ... Widespread rain improves soybean conditions in south-central Brazil, and maintains favorable growing conditions in Argentina.

AUSTRALIA ... Drier weather prevails in eastern summer crop areas, while heavy showers soak sugarcane.

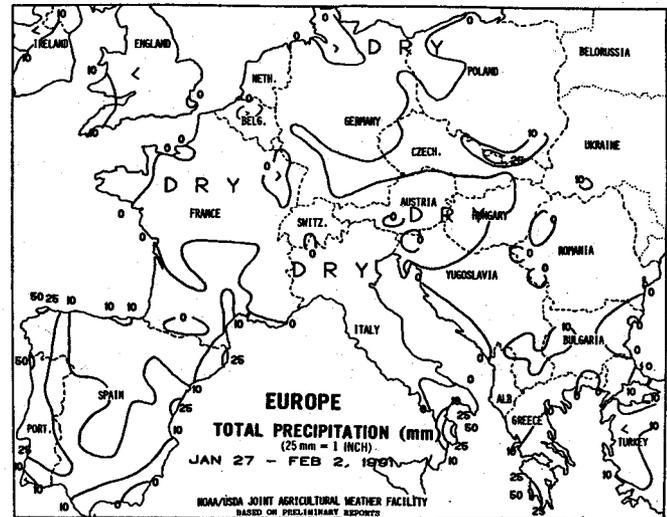
COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY	OSLO	-3	-9	7	-22	-6	1.5	77	19
SWEDEN	STOCKHOLM	1	-3	5	-10	-1	2.0	41	2
FINLND	HELSINKI	-1	-6	7	-23	-3	2.6	89	45
U KING	GLASGOW	6	0	11	-8	3	-0.6	122	-11
	EDINBURGH	5	0	10	-8	2	-0.7	70	21
	BIRMINGHAM	6	1	11	-7	3	-0.1	73	15
	LONDON	7	2	12	-3	4	0.8	83	7
IRELND	DUBLIN	7	3	12	-2	5	-0.1	73	5
ICELND	REYKJAVIK	3	-1	8	-11	1	1.3	133	58
DENMRK	COPENHAGEN	4	0	9	-5	2	2.1	41	-8
LUXEMB	LUXEMBOURG	3	-1	12	-8	1	0.9	133	68
SWITZL	ZURICH	3	-1	14	-7	1	1.3	63	-6
	GENEVA	4	1	14	-6	3	1.7	40	-36
FRANCE	PARIS	7	2	15	-6	4	1.1	44	-7
	STRASBOURG	5	1	18	-8	3	1.9	12	-23
	BOURGES	7	2	16	-7	4	1.2	30	-31
	BORDEAUX	10	3	18	-3	6	1.1	27	-73
	TOULOUSE	8	2	15	-3	5	0.5	20	-36
	MARSEILLE	10	2	17	-5	6	-0.1	5	-39
SPAIN	VALLADOLID	8	1	14	-5	4	0.4	27	-21
	MADRID	9	1	13	-6	5	-0.2	8	-43
	SEVILLE	16	6	19	2	11	0.4	11	-75
GERMNY	LEIPZIG	5	0	16	-8	2	2.7	13	-21
	DRESDEN	5	1	16	-10	3	4.0	16	-22
	HAMBURG	5	1	13	-5	3	2.5	37	-18
	BERLIN	5	1	16	-9	3	2.9	28	-13
	DUSSELDORF	6	2	15	-5	4	2.0	40	-23
	STUTTGART	4	-1	17	-11	1	1.9	14	-35
	NURNBERG	4	-1	15	-11	2	2.4	24	-19
	MONICH	4	-3	17	-11	1	2.1	65	13
AUSTRI	VIENNA	4	-3	14	-12	0	1.6	4	-24
	INNSBRUCK	5	-4	11	-11	0	2.1	41	-11
CZECH	PRAGUE	4	-2	16	-14	1	3.0	5	-17
POLAND	WARSAW	2	-2	12	-18	0	3.3	19	-4
	LODZ	3	-2	11	-16	0	2.7	10	-29
	KATOWICE	3	-3	13	-20	0	2.2	19	-23
	PRZEMYSL	2	-3	11	-22	0	2.8	26	-6
HUNGAR	BUDAPEST	4	-3	10	-13	1	2.5	2	-29
YUGOSL	SARAJEVO	3	-5	12	-17	-1	1.0	19	-52
ROMANI	BUCHAREST	5	-3	14	-11	1	3.6	3	-44
BULGAR	SOPIA	4	-4	16	-13	0	2.0	20	-7
ITALY	MILAN	5	-2	10	-8	1	0.1	18	-47
	VERONA	7	-1	11	-7	3	1.6	25	-27
	VENICE	7	1	10	-4	4	1.2	24	-31
	GENOA	12	7	16	0	9	1.4	37	-52
	ROME	13	4	17	-3	9	0.6	4	-75
	NAPLES	13	5	16	-1	9	0.9	5	-107
GREECE	THESSALONIKA	9	0	15	-6	5	-0.7	9	-38
	LARISSA	9	-1	16	-7	4	-1.3	27	-13
	ATHENS	12	7	18	1	9	-1.1	58	7
TURKEY	ISTANBUL	8	4	12	-3	6	0.7	40	-46
	ANKARA	3	-6	10	-14	-1	-1.7	17	-15
CYPRUS	LARNACA	17	8	20	1	12	0.3	60	-34
USSR	TALLINN	0	-3	6	-16	-2	3.6	87	50
	LENINGRAD	-3	-7	4	-22	-5	3.0	57	20
	KAUNAS	1	-3	7	-19	-1	3.8	41	7
	MINSK	-1	-4	8	-24	-3	4.3	31	-4
	KAZAN	-9	-14	1	-31	-12	1.9	35	8
	MOSCOW	-5	-8	5	-30	-6	3.2	43	1
	SVERDLOVSK	-11	-16	2	-32	-13	1.7	17	-6
	OMSK	-10	-15	1	-33	-12	6.0	34	18
	KUSTANAY	-10	-17	2	-29	-13	4.4	29	15
	KRASNOYARSK	-11	-17	2	-32	-14	2.0	17	1
	NOVOSIBIRSK	-10	-14	-1	-27	-12	7.6	21	1
	BARNAUL	-9	-14	0	-25	-11	4.6	26	3
	KHABAROVSK	-15	-23	-7	-33	-19	2.4	36	26
	VLADIVOSTOK	-9	-15	-3	-21	-12	1.4	0	-15
	KIEV	0	-4	11	-22	-2	3.6	19	-24
	LVOV	1	-3	10	-21	-1	3.5	26	-12
	KIROVOGRAD	-1	-4	9	-17	-2	3.0	15	-20

Based on Preliminary Reports

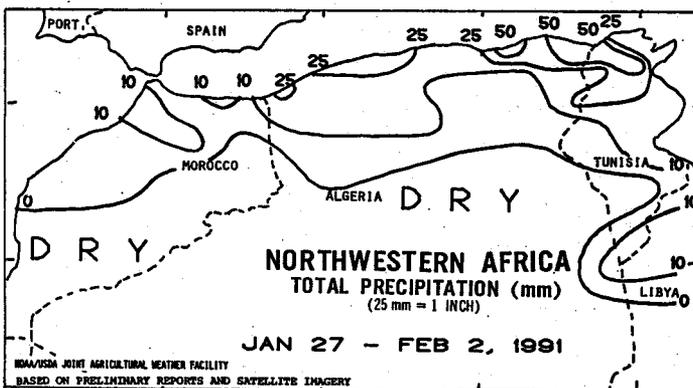




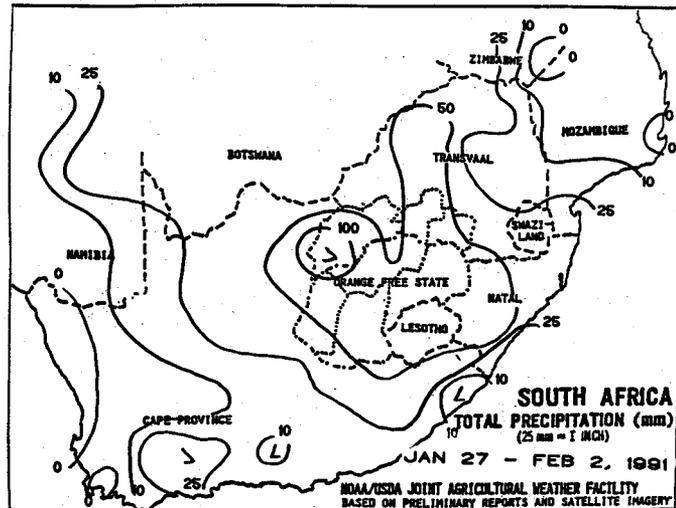
**WESTERN USSR** ... The coldest weather so far this winter spread westward over winter grain areas. Lowest minimum temperatures during the week ranged from -25 to -35 degrees Celsius (C) over eastern Belorussia, the Central Region, Volga Vyatsk, the eastern Black Soils Region, and the upper Volga. Lowest minimum temperatures were -15 to -24 degrees C over the western Baltic States, western Belorussia, most of the Ukraine, North Caucasus, southern Black Soils Region, and the lower Volga. A shallow to moderate snow cover in most areas provided adequate protection from widespread winterkill. Widespread snow accompanied the bitter cold, with moderate to heavy snow (10-25mm liquid equivalent) blanketing winter grain areas in the western North Caucasus, Black Soils Region, and the lower Volga.



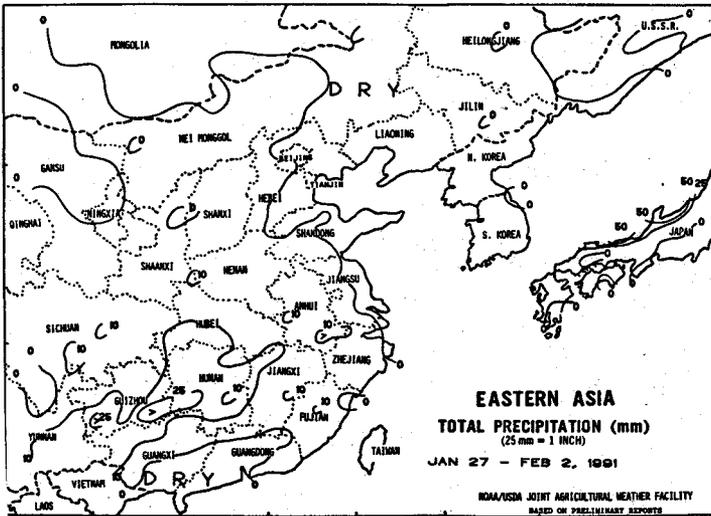
**EUROPE** ... Bitter cold penetrated the continent from the east, causing a sharp drop in temperatures over north-central and eastern Europe. Coldest weather covered winter grains in Poland, Czechoslovakia, Hungary, Romania, eastern Yugoslavia, and northern Bulgaria, where minimum temperatures on February 1 and 2 ranged from -15 to -23 degrees C. Minimum temperatures fell to around -10 degrees C in Germany, -5 degrees C in northern France and northern Italy, and 0 degrees C in England and Greece. Light, variable precipitation (1-10mm), falling mainly as snow, in eastern Europe accompanied the bitter cold. Severe cold (-20 to -25 degrees C) in eastern Poland and Czechoslovakia created the potential for some winterkill in those areas with limited snow cover. In Spain, light showers (10-25mm) in southern areas improved moisture conditions for wheat.



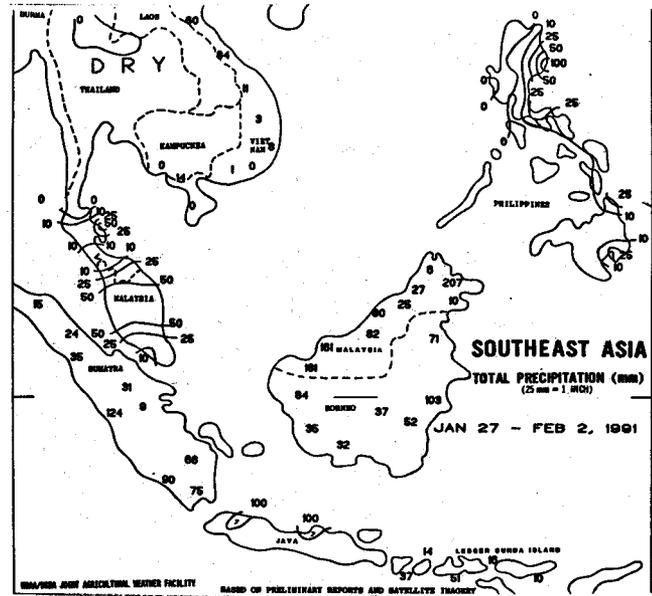
**NORTHWESTERN AFRICA** ... Widespread rain (10-40mm, with local amounts in excess of 50mm) benefited vegetative winter grains in Algeria and Tunisia. While light showers (around 10mm) in northern Morocco moistened topsoils, continued dryness in southern winter grain areas limited moisture for vegetative crops. Crop conditions are likely deteriorating, and rain is needed soon to stabilize declining crop prospects.



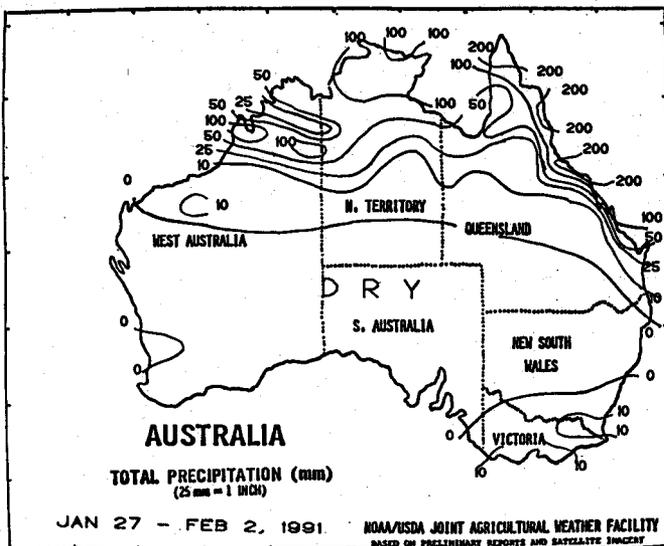
**SOUTH AFRICA** ... Continuing, moderate to heavy showers (25-50mm or more) covered South Africa's crop regions, with much of the Maize Triangle receiving 50-120mm. Frequent, soaking rains since early January have greatly improved conditions for vegetative to filling corn across the Maize Triangle, especially in the west where plantings took place past the optimal period. The recent rainfall has also benefited immature crops in the eastern Cape Province and Natal, including coastal sugarcane areas.



**EASTERN ASIA** ... Rainfall tapered off across southern China, with most primary crop areas receiving less than 15mm. Recent weeks of beneficial rainfall, especially over the Yangtze Valley, have provided moisture for plantings that usually begin in March. More rain, however, is needed along the southern coast. Further north, light precipitation (5mm or less) covered China's southern and far western winter wheat regions, but dry weather stretched from the North China Plain to Manchuria and the Koreas. Mild temperatures (1-4 degrees C above normal) continued across the primary winter wheat areas, but crops remained dormant.



**SOUTHEAST ASIA** ... Widespread, seasonable showers maintained generally favorable conditions for immature rice and plantation crops across Indonesia and Malaysia, including northern crop regions of eastern Malaysia that had been trending drier than normal. Rainfall totaled 50-180mm over most primary crop regions, although the southern palm oil regions of western Malaysia received less than 25mm. In the Philippines, light to moderate rain (10-50mm) fell over southern and eastern Luzon and local areas of Mindanao and the east-central islands. Below-normal rainfall since October has limited moisture for the normal development of fall planted grains, although periodic showers during January improved local conditions in southern Luzon, eastern Mindanao, and the east-central islands.



**AUSTRALIA** ... Drier weather prevailed over eastern summer crop areas, following the previous week's beneficial moisture. The sunny skies promoted development of reproductive cotton and sorghum, but daytime high temperatures in the middle 30's C also hastened the rate of soil moisture loss by evapotranspiration. Locally heavy rain (100-314mm) fell along east-coastal sugarcane areas of Queensland. Widespread tropical showers continued across northern Australia, with highest rainfall (100-326mm) concentrated along the north coasts of the Northern Territory and Queensland.

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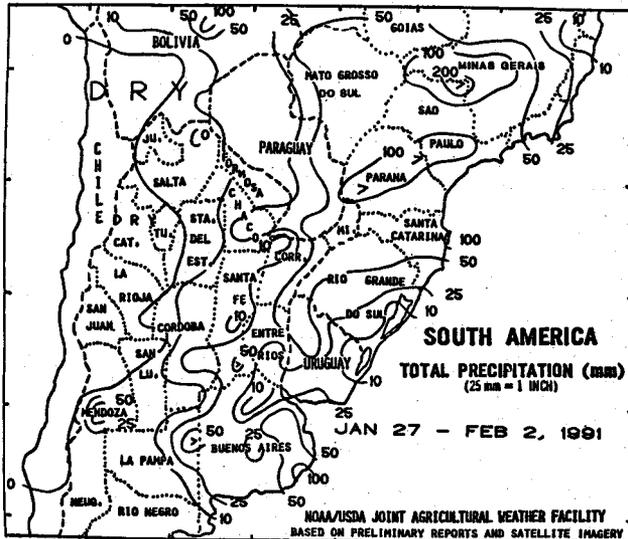
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**SOUTH AMERICA** ... Widespread rain fell over nearly all summer crop areas of Argentina and south-central Brazil. The early-week storm produced substantial moisture across Brazil's soybean areas. In the south, where prolonged dryness had stressed early flowering, weekly rainfall averaged 25-96mm in Rio Grande do Sul, 60-109mm Parana, and 57-81mm in Mato Grosso do Sul. Locally heavy rain (100-250mm) fell in northern Sao Paulo and southwestern Minas Gerais. The much needed moisture halted crop deterioration caused by moisture and heat stress during the first half of the growing season. The rain throughout Argentina's crop areas, including northern cotton areas, maintained favorable moisture conditions for summer crops, which are mostly in reproductive to early filling stages of development. Second-crop soybeans, in early vegetative growth, are also in good condition.

(Continued from front cover)  
Snow and ice slicked the **southern Plains**. A new month brought rapid weather changes: the **Southeast** dried, the **Nation** warmed, and the **Pacific Northwest** turned soggy. Much welcomed rain reached as far south as **San Francisco, CA**. **Redding, CA** nearly doubled its winter rainfall with 2 inches in 2 days. In **east-central Florida**, an easterly flow brought persistent showers. Impressive record warmth developed in the **northern Plains** and **upper Great Lakes** on Saturday. Among the 15 record-highs, **International Falls, MN** reached 55° F, toppling its old record for the date by 20°.

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