

WEEKLY WEATHER AND CROP BULLETIN

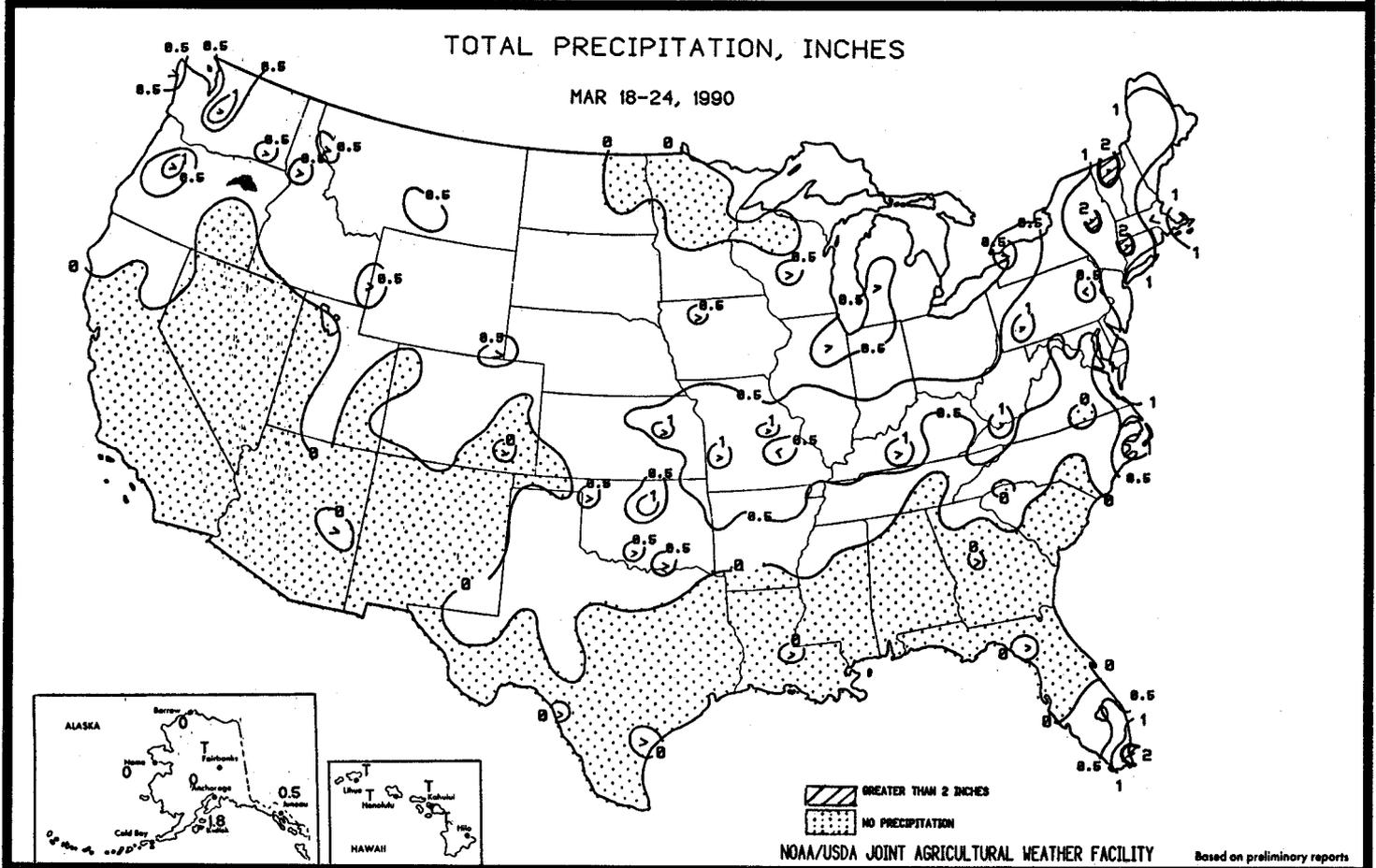
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HIGHLIGHTS

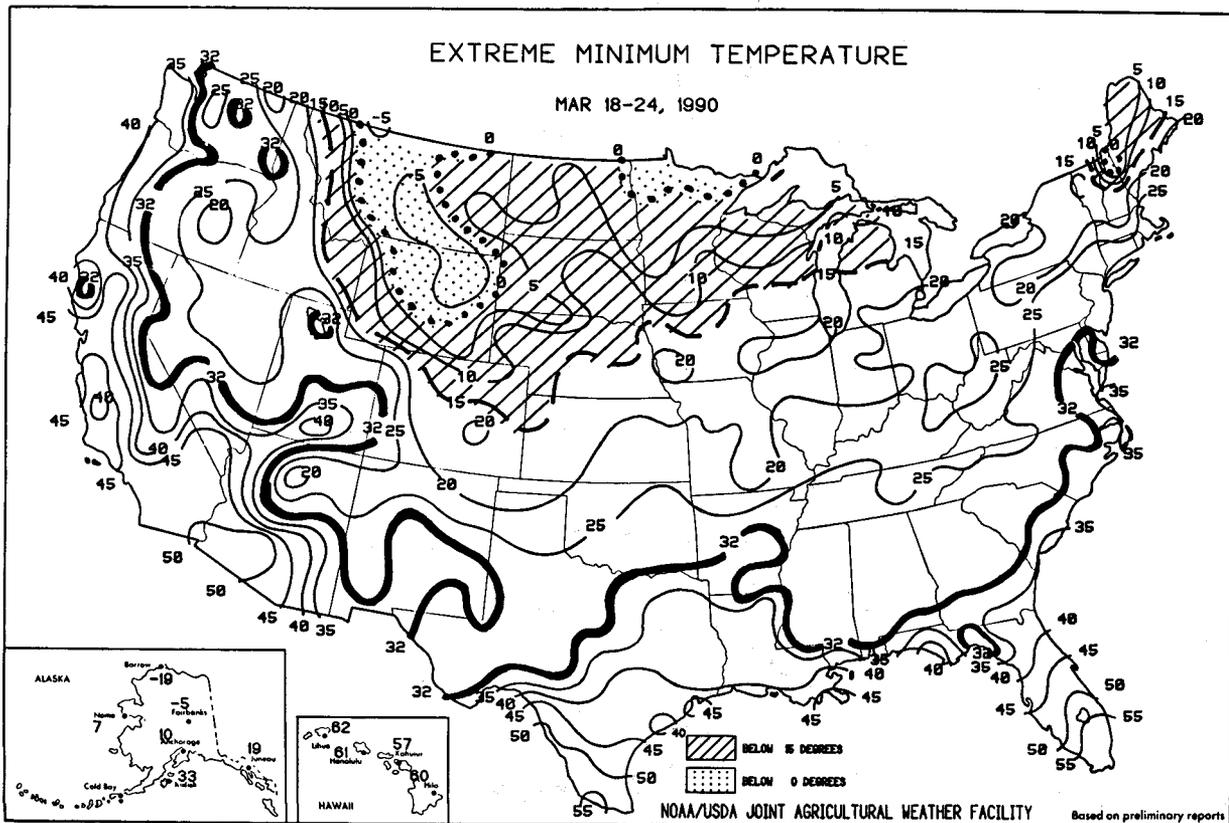
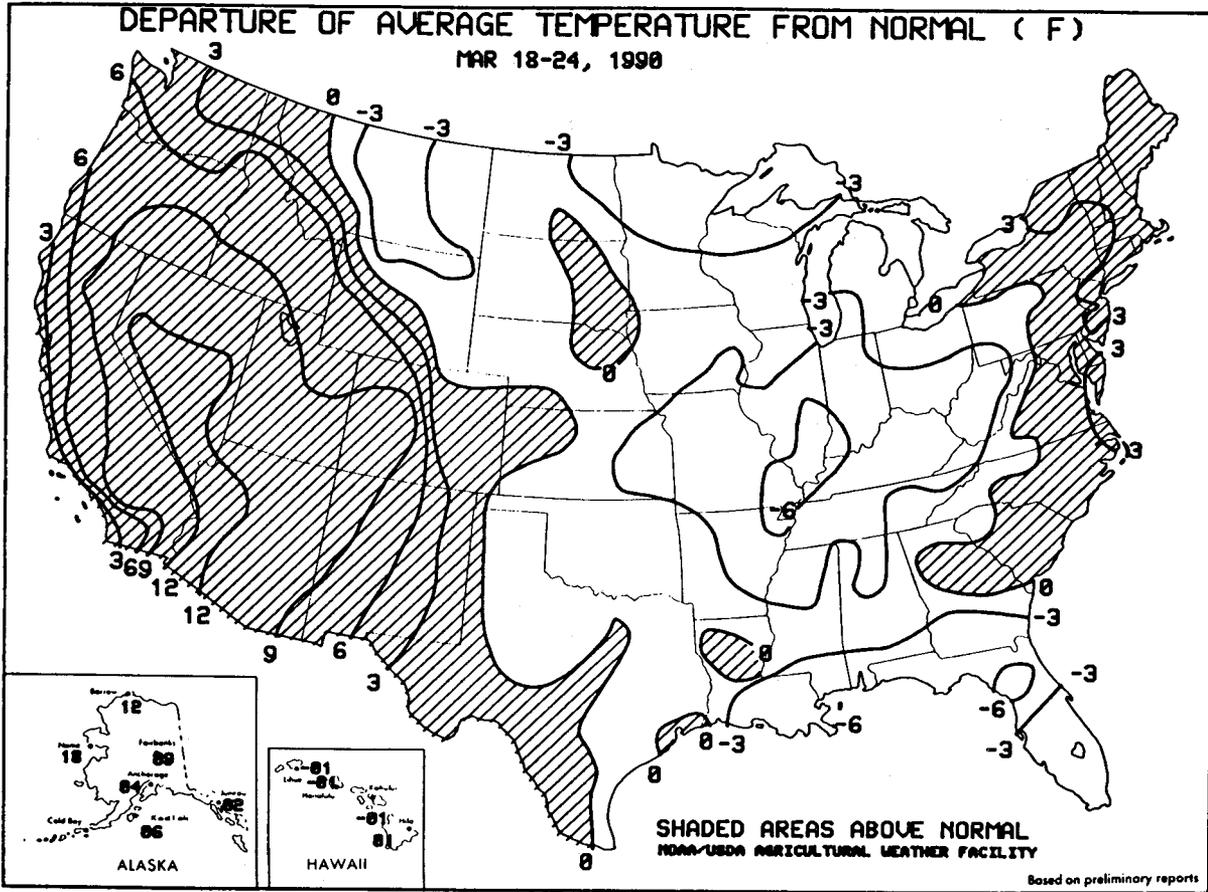
March 18-24, 1990

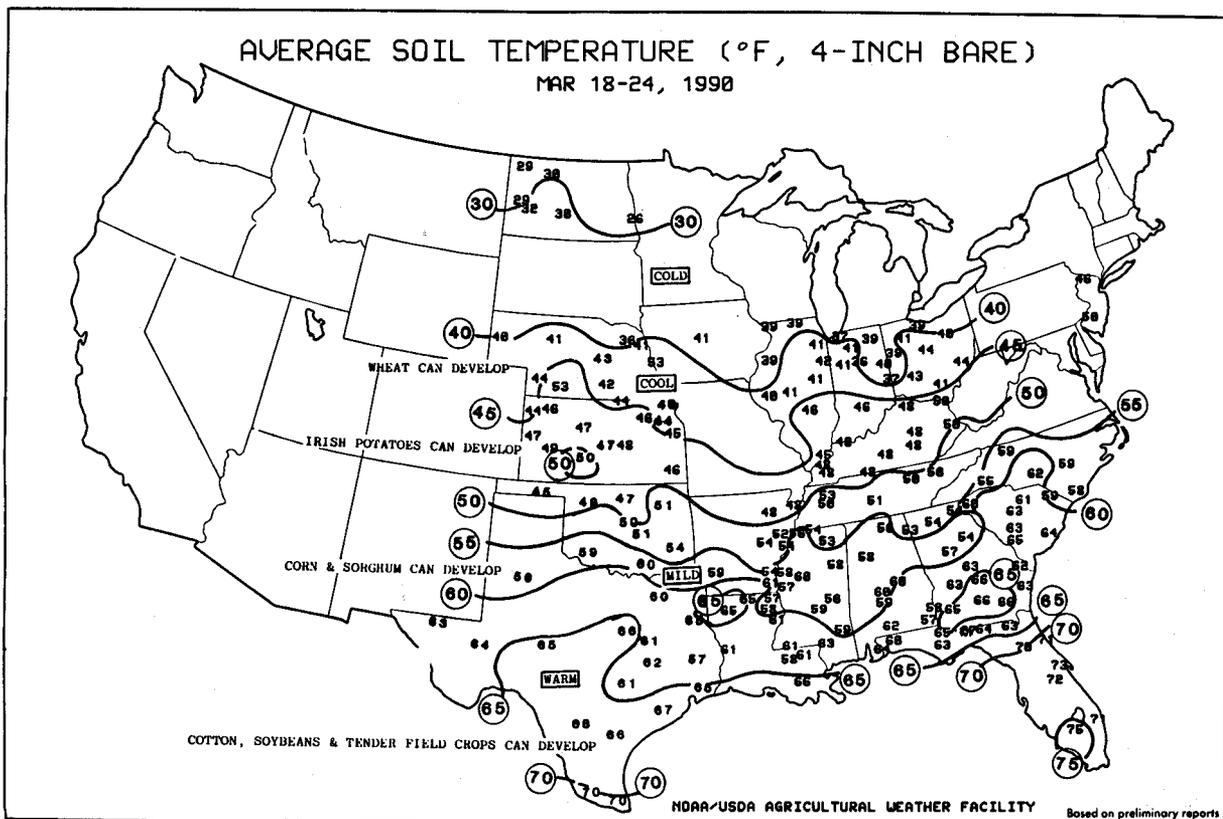
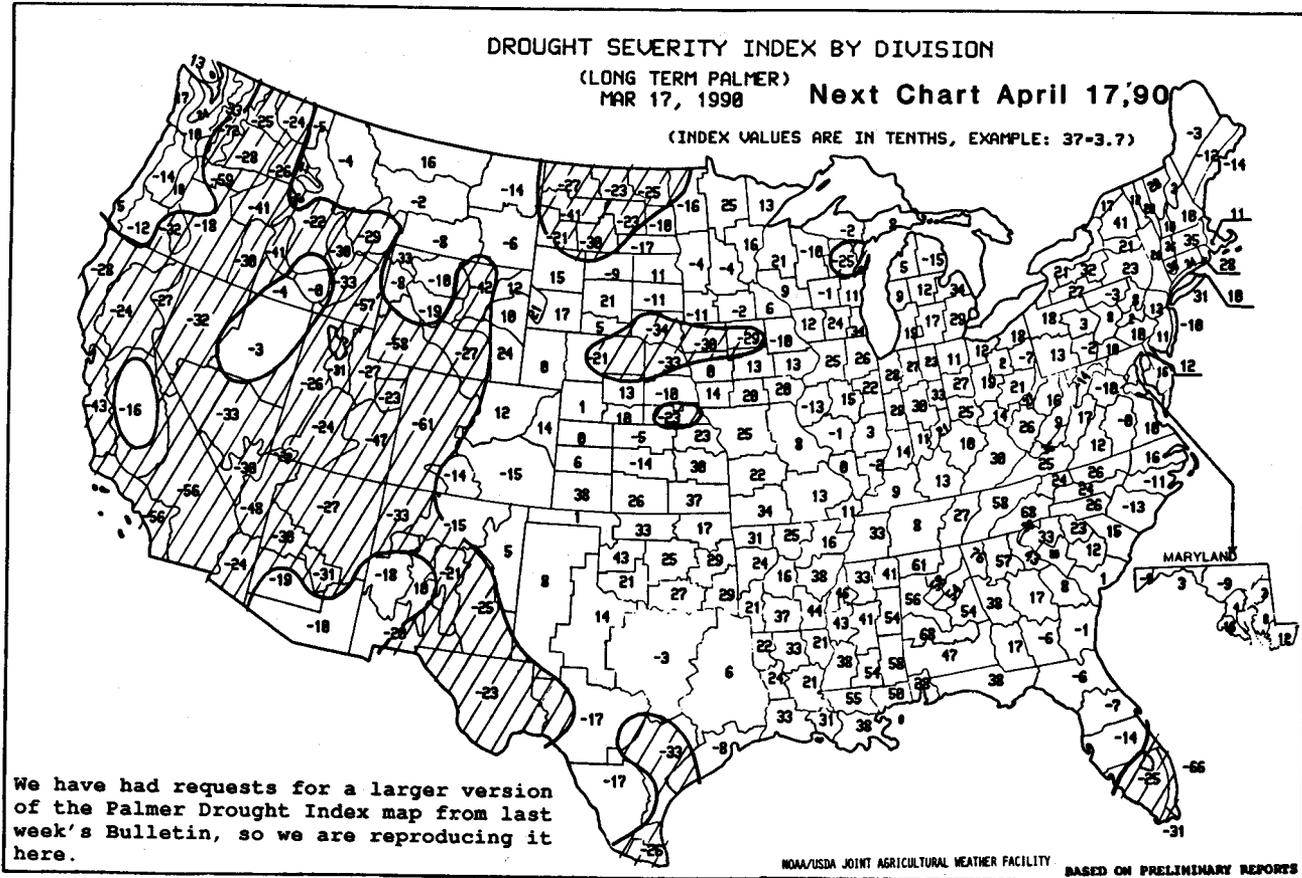
Relatively cool, dry, and tranquil conditions prevailed over the **eastern two-thirds of the United States**, replacing the prior week's extraordinary weather of record heat, floods, and severe storms. During the latter part of the week, however, a late-season winter storm dumped heavy snow over the **lower Missouri Valley**.

At the first of the week, the strong frontal system (responsible for the previous week's unstable weather) brought heavy rain across **New England** and much needed rain to **southern Florida**, before moving into the **Atlantic**. A following cold front then caused light to moderate rain and snow over the **northeastern quarter of the Nation** on Monday and early Tuesday. Late Tuesday, low pressure along the front intensified **off the New** (Continued to p. 8)

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National Weather Data for Selected Cities

Weather Data for the Week Ending March 24, 1990

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 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	68	37	79	26	52	-3	0	-1.5	0	5.0	97	19.9	133	90	31	0	2	0	0	0	
MOBILE	72	42	78	32	57	-4	0	-1.5	0	11.7	234	27.2	188	89	32	0	1	0	0	0	
MONTGOMERY	71	39	79	30	55	-3	0	-1.4	0	11.6	252	29.4	222	91	33	0	1	0	0	0	
AK ANCHORAGE	41	17	45	10	29	4	0	-1.1	0	.5	90	3.3	155	79	36	0	7	0	0	0	
BARROW	6	-10	20	-19	-2	12	0	0	0	.1	111	.2	40	87	74	0	7	0	0	0	
FAIRBANKS	38	1	44	-5	20	9	T	-1	T	.1	34	1.3	102	81	28	0	7	0	0	0	
JUNEAU	42	27	48	19	34	2	.5	1.5	3.5	134	11.6	116	78	32	0	6	1	0	0	0	
KODIAK	42	35	47	33	39	6	1.8	1.0	3.7	119	13.2	95	80	57	0	0	2	1	0	0	
NOME	34	17	41	7	26	18	0	-1	0	.5	132	2.0	115	84	49	0	6	0	0	0	
AZ PHOENIX	92	61	94	55	77	15	0	-2	0	.3	46	1.8	93	36	11	6	0	0	0	0	
PRESCOTT	75	37	78	30	56	12	0	-3	0	.4	33	2.9	65	56	11	0	2	0	0	0	
TUCSON	89	53	92	46	71	12	0	-2	0	.2	35	1.9	95	33	9	4	0	0	0	0	
YUMA	95	59	100	53	77	12	0	0	0	0	.1	19	35	11	7	0	0	0	0	0	
AR FORT SMITH	65	38	77	26	52	0	.6	-3	.5	3.9	133	15.0	206	94	37	0	1	2	1	0	
LITTLE ROCK	61	40	74	31	51	-3	.3	-8	.2	7.0	198	16.6	147	71	41	0	1	2	0	0	
CA BAKERSFIELD	81	51	84	47	66	8	0	-2	0	.4	56	2.2	83	86	31	0	0	0	0	0	
EUREKA	57	47	59	44	52	3	.1	-1.0	.1	3.4	84	15.1	93	95	79	0	0	2	0	0	
FRESNO	78	49	80	45	63	8	0	-4	0	.7	53	4.8	94	93	37	0	0	0	0	0	
LOS ANGELES	69	53	75	50	61	3	0	-4	0	.1	10	3.9	57	96	55	0	0	0	0	0	
REDDING	76	47	79	42	62	7	0	-1.1	0	2.4	60	11.9	63	83	30	0	0	0	0	0	
SACRAMENTO	75	47	79	44	61	8	0	-4	0	.9	52	8.7	103	93	41	0	0	0	0	0	
SAN DIEGO	69	53	79	50	61	2	T	-4	T	.1	8	3.7	73	96	54	0	0	0	0	0	
SAN FRANCISCO	63	47	71	46	55	3	T	-6	T	.8	38	6.1	62	96	61	0	0	0	0	0	
CO DENVER	53	27	70	14	40	1	.1	-2	.1	2.4	274	3.6	177	88	41	0	5	4	0	0	
GRAND JUNCTION	68	40	73	32	54	11	0	-2	0	.4	71	1.5	88	58	17	0	1	0	0	0	
PUEBLO	57	28	76	22	43	1	T	-2	T	.5	100	1.8	181	74	35	0	6	0	0	0	
CT BRIDGEPORT	53	35	68	31	44	5	1.1	.2	.8	1.6	54	7.4	81	88	40	0	2	4	1	0	
HARTFORD	52	31	64	26	42	3	1.2	.3	.8	2.0	65	9.4	95	85	41	0	4	4	1	0	
DC WASHINGTON	59	39	71	32	49	1	.3	-5	.2	1.8	67	6.0	74	84	34	0	1	3	0	0	
FL APALACHICOLA	70	46	76	39	58	-4	0	-9	0	2.0	64	8.4	81	93	41	0	0	0	0	0	
DAYTONA BEACH	74	48	80	43	61	-4	0	-7	0	.3	11	7.2	92	94	42	0	0	0	0	0	
JACKSONVILLE	74	43	83	36	59	-5	0	-8	0	.6	21	6.5	70	94	34	0	0	0	0	0	
KEY WEST	79	68	84	64	73	-1	T	-3	T	.5	53	1.5	32	81	55	0	0	0	0	0	
MIAMI	79	65	81	59	72	-1	.6	.2	.5	1.2	87	2.6	48	83	49	0	0	2	0	0	
ORLANDO	77	53	81	48	65	-3	0	-7	0	.4	14	5.5	69	86	36	0	0	0	0	0	
TALLAHASSEE	75	38	83	28	56	-5	0	-1.3	0	1.9	44	11.8	84	96	26	0	1	0	0	0	
TAMPA	77	51	83	42	64	-3	0	-8	0	.3	12	5.5	69	90	36	0	0	0	0	0	
WEST PALM BEACH	78	64	81	55	71	0	.3	-3	.3	1.1	54	3.7	50	81	48	0	0	2	0	0	
GA ATLANTA	70	41	78	31	56	2	0	-1.4	0	7.8	169	25.9	186	71	29	0	2	0	0	0	
AUGUSTA	73	40	83	29	57	0	0	-1.1	0	1.2	31	6.6	56	95	25	0	1	0	0	0	
MACON	72	41	80	29	56	-1	0	-1.2	0	4.2	103	12.3	96	91	29	0	1	0	0	0	
SAVANNAH	73	44	81	34	59	-1	0	-9	0	1.3	45	8.5	91	85	29	0	0	0	0	0	
HI HILO	81	64	83	60	72	1	T	-3.1	T	10.4	99	45.8	137	88	54	0	0	0	0	0	
HONOLULU	81	64	83	61	73	-1	T	-8	T	.3	10	8.7	94	86	54	0	0	0	0	0	
KAHULUI	83	60	86	57	72	-1	T	-6	T	1.5	66	10.2	111	93	51	0	0	1	0	0	
LIHUE	78	65	82	62	72	-1	0	-1.0	0	2.4	69	12.9	96	86	61	0	0	0	0	0	
ID BOISE	63	37	71	28	50	8	.2	0	.2	.8	103	2.4	69	78	30	0	2	2	0	0	
LEWISTON	60	42	69	34	51	7	.4	.2	.4	1.0	129	1.6	51	76	43	0	0	1	0	0	
POCATELLO	58	30	66	14	44	7	.5	.2	.5	2.3	339	3.1	119	82	32	0	3	1	0	0	
IL CHICAGO	44	26	63	20	35	-3	.5	-2	.5	2.6	133	7.1	150	79	40	0	6	2	0	0	
MOLINE	46	26	66	20	36	-2	.1	-6	.1	6.3	318	10.1	208	84	38	0	5	2	0	0	
PEORIA	46	26	66	19	36	-3	.2	-5	.2	3.6	173	8.9	175	81	41	0	5	1	0	0	
QUINCY	48	27	69	19	37	-3	.2	-6	.1	2.8	121	7.7	150	81	41	0	5	2	0	0	
ROCKFORD	43	24	64	18	34	-2	.3	-3	.3	2.2	121	5.2	118	79	39	0	6	2	0	0	
SPRINGFIELD	48	27	65	20	38	-4	.5	-2	.4	3.1	138	9.5	172	89	43	0	5	4	0	0	
IN EVANSVILLE	50	31	64	22	40	-6	.7	-4	.3	1.4	40	11.2	118	94	43	0	5	5	0	0	
FORT WAYNE	45	27	55	20	36	-2	.5	-2	.4	2.1	94	11.2	179	91	47	0	6	4	0	0	
INDIANAPOLIS	48	28	60	19	38	-4	.2	-7	.1	1.4	51	8.2	105	85	37	0	6	2	0	0	
SOUTH BEND	43	26	58	17	34	-3	.9	-1	.6	2.1	94	8.3	124	83	42	0	6	3	1	0	
IA DES MOINES	47	26	71	18	36	-1	.2	-4	.2	5.4	336	7.7	210	80	40	0	6	1	0	0	
SIOUX CITY	47	25	69	17	36	0	.2	-2	.1	1.6	275	5.2	157	79	41	0	7	1	0	0	
WATERLOO	43	22	68	17	33	-1	.3	-3	.3	2.1	166	2.7	95	81	34	0	6	2	0	0	
KS CONCORDIA	52	29	71	19	41	-1	.4	-1	.3	3.4	243	4.1	143	78	43	0	4	2	0	0	
DODGE CITY	55	30	73	18	43	-1	T	-4	T	1.2	110	4.0	200	84	41	0	4	1	0	0	
GOODLAND	53	24	74	12	39	0	T	-4	T	.9	119	2.1	138	93	39	0	6	1	0	0	
TOPEKA	52	27	70	18	39	-4	.8	-3	.7	3.2	199	6.7	190	86	47	0	5	2	1	0	
WICHITA	54	33	67	22	43	-3	.1	-4	.1	2.3	150	6.2	205	81	47	0	4	2	1	0	
KY BOWLING GREEN	56	33	71	24	44	-3	1.1	-1	.6	3.0	70	15.3	119	98	50	0	4	2	0	0	
LEXINGTON	51	30	68	20	41	-5	.3	-8	.2	1.3	34	8.9	84	85	43	0	4	2	0	0	
LOUISVILLE	52	33	67	24	43	-4	.6	-5	.4	2.1	57	12.7	124	84	33	0	4	4	0	0	
LA ALEXANDRIA	74	48	83	40	61	2	0	-1.1	0	4.3	114	21.8	170	83	33	0	0	0	0	0	
BATON ROUGE	74	44	81	36	59	-2	0	-1.0	0	3.9	112	22.4	171	93	36	0	0	0	0	0	
LAKE CHARLES	71	47	76	39	59	-3	0	-7	0	3.5	147	17.0	164	98	46	0	0	0	0	0	
NEW ORLEANS	72	45	79	39	59	-4	0	-1.0	0	4.2	113	23.2	168	89	40	0	0	0	0	0	

Based on 1951-80 normals

Weather Data for the Week Ending March 24, 1990

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY PERCENT	NUMBER OF DAYS						
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
SHREVEPORT	73	43	79	36	58	0	T	-1.9	T	1.6	54	18.5	179	88	33	0	0	0	0	
ME CARIBOU	39	23	46	8	31	5	.8	.2	.4	1.3	68	6.6	104	85	46	0	0	0	0	
PORTLAND	49	29	60	20	39	6	.9	.0	.7	1.1	34	6.7	65	89	40	0	0	0	0	
MD BALTIMORE	56	37	67	31	46	2	.5	-.4	-.3	1.5	51	6.3	71	87	39	0	0	0	0	
SALISBURY	60	38	72	30	49	3	1.4	-.4	.7	2.1	65	8.1	82	92	43	0	0	0	0	
MA BOSTON	52	35	64	27	44	4	.8	-.1	.3	1.2	36	8.3	77	86	45	0	0	0	0	
CHATHAM	47	35	52	30	41	3	1.6	.7	.7	2.1	68	11.5	99	90	61	0	0	0	0	
MI ALPENA	39	19	51	13	29	0	.4	-.1	.4	2.8	204	6.3	142	86	39	0	0	0	0	
DETROIT	43	28	53	21	35	-2	.4	-.2	.2	1.6	87	8.4	155	88	50	0	0	0	0	
FLINT	42	25	52	17	33	-1	.4	-.1	.3	1.3	83	5.5	121	87	44	0	0	0	0	
GRAND RAPIDS	41	24	53	16	33	-3	.6	-.1	.5	1.6	83	6.0	112	81	43	0	0	0	0	
HOUGHTON LAKE	36	20	45	10	28	-1	.4	.0	.3	1.1	79	3.5	83	83	44	0	0	0	0	
LANSING	42	24	54	17	33	-2	.4	-.2	.4	1.1	63	4.9	104	86	45	0	0	0	0	
MARQUETTE	32	8	48	-2	20	-5	.2	-.5	.2	1.7	80	5.4	90	95	45	0	0	0	0	
MUSKOGON	39	24	52	16	32	-3	.4	-.2	.4	2.2	116	6.2	105	88	45	0	0	0	0	
SAULT ST. MARIE	32	15	42	9	24	-2	.4	-.1	.2	2.3	153	6.9	128	91	52	0	0	0	0	
MN ALEXANDRIA	33	13	54	2	23	-3	.3	-.3	.3	2.3	275	2.8	118	90	57	0	0	0	0	
DULUTH	30	11	45	2	20	-5	.1	-.4	.1	3.1	235	4.1	122	84	42	0	0	0	0	
INT'L FALLS	32	8	45	-3	20	-4	.1	-.2	.1	1.3	164	2.3	96	86	44	0	0	0	0	
MINNEAPOLIS	40	19	59	11	30	-2	.4	-.4	.4	3.7	290	4.5	157	77	35	0	0	0	0	
ROCHESTER	39	18	58	11	29	-2	.2	-.3	.1	3.6	280	4.8	174	83	44	0	0	0	0	
MS GREENWOOD	66	39	77	30	53	-3	0	-1.5	0	4.6	96	18.2	126	93	41	0	0	0	0	
JACKSON	70	40	78	29	55	-2	0	-1.3	0	3.0	71	23.5	174	96	34	0	0	0	0	
MERIDIAN	72	38	81	29	55	-2	0	-1.5	0	5.4	106	32.4	221	96	30	0	0	0	0	
MO CAPE GIRARDEAU	52	33	70	25	43	-1	.5	-.7	.3	1.7	43	15.1	155	91	49	0	0	0	0	
COLUMBIA	49	26	72	20	38	-7	.9	-.1	.5	6.8	274	12.5	205	85	39	0	0	0	0	
KANSAS CITY	51	28	69	19	39	-5	.6	.0	.6	3.4	174	6.7	153	81	42	0	0	0	0	
SAINT LOUIS	51	30	70	23	41	-4	.8	-.1	.3	1.9	79	6.9	109	79	36	0	0	0	0	
SPRINGFIELD	53	31	73	22	42	-4	.5	-.3	.3	7.3	281	18.2	288	86	44	0	0	0	0	
MT BILLINGS	42	21	65	-7	31	-4	.6	.4	.4	1.7	236	2.5	105	82	51	0	0	0	0	
GLASGOW	40	16	64	2	28	-2	.1	.0	.3	1.2	7	80	88	43	0	0	0	0	0	
GREAT FALLS	39	18	62	-2	29	-4	.4	-.1	.2	1.7	252	2.2	91	91	46	0	0	0	0	
HAVRE	37	14	57	-1	26	-5	.1	-.1	.1	.6	156	6	43	92	54	0	0	0	0	
HELENA	42	19	64	-2	31	-2	.3	-.1	.2	.9	171	1.5	90	85	40	0	0	0	0	
KALISPELL	45	25	54	13	35	2	.3	-.1	.1	1.0	158	3.7	111	84	44	0	0	0	0	
MILES CITY	44	21	70	7	33	-1	.1	-.1	.1	.2	43	.3	20	84	46	0	0	0	0	
MISSOULA	48	27	66	13	38	2	.4	-.2	.2	.6	100	1.8	65	82	36	0	0	0	0	
NE GRAND ISLAND	50	24	71	17	37	0	.4	.0	.3	2.5	232	3.4	141	86	42	0	0	0	0	
LINCOLN	50	24	73	15	37	-1	.3	-.2	.3	2.1	149	2.8	91	81	43	0	0	0	0	
NORFOLK	48	24	71	14	36	1	.1	-.3	.1	2.1	184	3.2	133	81	33	0	0	0	0	
NORTH PLATTE	51	22	76	15	36	0	.3	.0	.3	1.8	220	2.2	131	87	36	0	0	0	0	
OMAHA	49	27	71	19	38	-2	.1	-.4	.1	2.8	204	3.8	128	75	43	0	0	0	0	
SCOTTSBLUFF	51	21	73	12	36	-1	.5	-.3	.4	2.5	354	3.8	247	89	38	0	0	0	0	
VALENTINE	48	18	74	3	33	-1	.1	-.1	.1	1.3	217	1.6	115	88	37	0	0	0	0	
NV ELY	64	29	65	22	46	12	0	-.2	.0	.8	113	2.7	129	79	16	0	0	0	0	
LAS VEGAS	84	52	88	47	68	12	0	-.1	.0	.8	113	2.7	129	79	16	0	0	0	0	
RENO	71	35	73	33	53	12	0	-.2	.0	.1	12	1.6	125	34	11	0	0	0	0	
WINNEMUCCA	69	31	71	25	50	10	T	T	T	T	12	2.0	71	76	15	0	0	0	0	
NH CONCORD	49	27	58	15	38	4	.9	-.3	.8	1.5	119	1.5	74	71	17	0	0	0	0	
NJ ATLANTIC CITY	56	33	70	27	45	2	1.2	-.2	.5	1.8	56	6.9	93	91	38	0	0	0	0	
NM ALBUQUERQUE	72	40	76	32	56	8	0	-.1	.0	.3	76	1.0	89	88	41	0	0	0	0	
CLOVIS	63	38	81	27	50	2	T	-.1	T	T	2	2.2	168	69	35	0	0	0	0	
ROSWELL	70	41	85	34	55	3	T	-.1	T	T	.6	187	1.3	116	57	24	0	0	0	0
NY ALBANY	48	28	59	20	38	2	1.9	1.2	1.7	3.5	151	11.2	163	87	45	0	0	0	0	
BINGHAMTON	43	25	59	16	34	1	.6	-.1	.4	1.3	58	7.9	112	89	46	0	0	0	0	
BUFFALO	42	28	64	20	35	0	.5	-.2	.3	1.3	58	9.9	130	85	49	0	0	0	0	
NEW YORK	53	40	66	34	47	4	1.2	-.3	.8	2.2	70	7.7	83	83	36	0	0	0	0	
ROCHESTER	44	28	64	22	36	1	.4	-.2	.2	1.4	71	6.8	103	89	50	0	0	0	0	
SYRACUSE	46	28	61	20	37	2	.8	-.1	.4	3.2	136	9.3	122	92	47	0	0	0	0	
NC ASHEVILLE	61	32	73	26	47	-1	.1	-.1	.1	5.4	146	16.8	166	86	31	0	0	0	0	
CHARLOTTE	67	40	76	29	54	2	.1	-.1	.1	2.6	67	12.1	107	79	27	0	0	0	0	
GREENSBORO	62	36	74	25	49	0	0	-.7	.1	1.5	48	9.5	96	82	31	0	0	0	0	
HATTERAS	66	46	72	37	56	3	.8	-.1	.8	2.3	73	11.1	92	97	50	0	0	0	0	
NEW BERN	70	42	78	32	56	2	1.0	-.2	.9	2.6	91	8.0	74	91	37	0	0	0	0	
RALEIGH	66	39	77	26	52	2	.1	-.8	0	1.6	54	8.4	86	87	29	0	0	0	0	
WILMINGTON	68	44	79	33	56	1	.3	-.6	.2	1.4	43	5.8	56	96	40	0	0	0	0	
ND BISMARCK	41	16	60	6	29	0	T	-.1	T	.6	115	1.0	74	85	36	0	0	0	0	
FARGO	32	12	44	1	22	-5	.5	-.2	T	.2	276	2.2	151	90	58	0	0	0	0	
GRAND FORKS	30	9	38	-1	19	-5	.5	-.2	T	2.2	400	2.7	147	86	62	0	0	0	0	
WILLISTON	40	14	63	3	27	-1	.1	-.1	T	.4	116	.8	63	89	41	0	0	0	0	
OH AKRON-CANTON	45	28	65	20	37	-2	.2	-.6	.1	1.0	39	7.9	110	83	45	0	0	0	0	
CINCINNATI	50	29	66	20	40	-4	.8	-.2	.4	2.3	77	10.7	122	80	37	0	0	0	0	
CLEVELAND	44	30	65	22	37	-2	.3	-.4	.2	.8	35	7.8	114	85	45	0	0	0	0	
COLUMBUS	48	29	63	23	39	-3	.3	-.5	.2	.9	38	8.5	116	87	40	0	0	0	0	

Based on 1951-80 normals

Weather Data for the Week Ending March 24, 1990

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Mar 1	PCT. NORMAL SINCE Mar 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
DAYTON	47	28	61	19	38	-4	.3	-.4	.1	2.5	109	10.6	152	84	41	0	5	5	0	
TOLEDO	44	28	59	22	36	-1	.4	-.3	.1	2.2	113	9.7	169	88	42	0	6	3	0	
YOUNGSTOWN	45	28	65	21	36	-1	.1	-.7	.1	.9	38	7.7	104	80	42	0	5	3	0	
OK OKLAHOMA CITY	62	38	78	26	50	-1	.1	-.4	.1	3.8	244	10.3	269	84	39	0	2	3	0	
TULSA	60	38	74	27	49	-2	.2	-.6	.2	6.0	261	13.0	242	81	41	0	3	2	0	
OR ASTORIA	58	45	64	39	51	6	.2	-1.4	.1	5.2	90	33.0	136	96	63	0	0	3	0	
BURNS	62	29	68	19	45	8	0	-.2	0	.5	73	1.4	43	92	28	0	6	0	0	
MEDFORD	69	39	75	33	54	8	.3	-.1	.3	1.5	101	5.5	79	93	32	0	0	1	0	
PENDLETON	57	39	65	29	48	3	.3	-.1	.2	1.1	136	2.2	60	83	44	0	1	3	0	
PORTLAND	61	44	67	37	53	6	.1	-.7	.1	2.4	85	13.8	107	94	51	0	0	2	0	
SALEM	62	43	66	35	52	7	.2	-.7	.2	2.4	70	16.2	108	93	55	0	0	2	0	
PA ALLENTOWN	53	33	65	30	43	3	.2	-.7	.1	1.2	39	8.1	87	85	39	0	4	4	0	
ERIE	44	30	66	24	37	2	.2	-.5	.1	.8	37	8.6	131	80	44	0	5	3	0	
HARRISBURG	53	34	68	28	44	1	.7	-.1	.4	1.5	55	8.1	96	79	38	0	3	3	0	
PHILADELPHIA	56	36	67	30	46	3	1.0	-.1	.4	2.0	67	7.4	83	89	43	0	1	5	0	
PITTSBURGH	46	28	67	23	37	-3	.3	-.5	.2	1.3	46	7.7	97	79	43	0	6	4	0	
SCRANTON	48	31	62	27	39	2	.8	-.2	.6	1.6	81	8.1	130	87	42	0	4	2	1	
RI PROVIDENCE	54	33	71	28	43	5	.8	-.2	.4	1.4	41	9.1	83	89	42	0	4	4	0	
SC CHARLESTON	73	47	82	35	60	2	0	-.1	0	.5	15	6.1	60	87	29	0	0	0	0	
COLUMBIA	73	41	83	29	57	1	0	-1.2	0	1.2	28	6.1	49	92	24	0	1	0	0	
FLORENCE	72	42	83	30	57	1	0	-1.0	0	1.2	38	4.1	40	91	25	0	1	0	0	
GREENVILLE	68	36	77	25	52	-1	0	-1.4	0	5.4	115	15.1	113	79	27	0	2	0	0	
SD ABERDEEN	42	18	59	9	30	0	0	-.2	.1	.7	104	1.2	69	86	43	0	7	1	0	
HURON	46	20	69	12	33	1	0	-.1	.2	1.3	142	1.9	93	80	36	0	7	2	0	
RAPID CITY	45	19	70	3	32	-2	.2	0	0	1.3	179	1.8	108	89	44	0	5	5	0	
ST LOUIS	45	21	68	10	33	0	.3	-.1	.2	1.6	136	2.0	76	84	36	0	7	2	0	
TN CHATTANOOGA	67	37	78	27	52	1	0	-1.5	0	8.7	177	25.9	175	86	32	0	2	0	0	
KNOXVILLE	61	36	74	27	48	-3	.2	-1.1	.2	5.3	125	18.2	139	81	33	0	3	2	0	
MEMPHIS	61	39	71	30	50	-3	.2	-1.0	.2	4.1	100	17.1	131	88	41	0	2	2	0	
NASHVILLE	59	34	74	26	47	-4	.2	-1.1	.2	2.9	67	10.4	81	80	32	0	3	3	0	
TX ABILENE	70	43	82	29	56	-1	.1	-.3	0	1.2	161	5.4	199	78	39	0	1	0	0	
AMARILLO	60	34	81	21	47	-1	.1	-.1	.1	1.8	272	4.6	272	76	41	0	3	2	0	
AUSTIN	74	49	80	42	61	0	0	-.4	0	1.6	126	6.4	121	80	42	0	0	0	0	
BEAUMONT	73	50	79	39	62	0	0	-.7	0	3.9	166	19.9	187	97	47	0	0	0	0	
BROWNSVILLE	79	58	82	53	69	-1	.1	-.1	0	.4	114	1.6	50	91	49	0	0	0	0	
CORPUS CHRISTI	77	55	79	49	66	-1	.1	-.2	0	.9	155	5.3	144	97	54	0	0	1	0	0
DEL RIO	75	53	80	47	64	-1	.1	-.1	0	1.3	312	3.4	185	73	49	0	0	1	0	0
EL PASO	79	42	86	33	60	4	0	-.1	0	.4	164	.8	79	58	17	0	0	0	0	0
FORT WORTH	68	45	78	35	57	-1	.1	-.6	0	3.9	229	13.1	250	79	45	0	0	1	0	0
GALVESTON	70	59	74	50	65	2	0	-.5	0	2.7	170	9.9	143	86	56	0	0	0	0	0
HOUSTON	74	47	78	39	61	-2	0	-.6	0	1.6	77	10.0	114	93	38	0	0	0	0	0
LUBBOCK	64	38	84	26	51	0	0	-.2	0	.4	65	2.9	187	77	38	0	2	1	0	0
MIDLAND	73	39	90	30	56	0	0	-.1	0	.5	142	1.9	145	77	26	0	1	1	0	0
SAN ANGELO	73	44	87	30	58	0	0	-.2	0	.3	56	3.6	178	79	35	0	2	1	0	0
SAN ANTONIO	76	49	83	38	62	-1	.1	-.3	0	3.1	319	6.9	161	90	40	0	0	0	0	0
VICTORIA	75	50	78	43	62	-3	.1	-.3	0	1.2	120	5.0	98	93	43	0	0	0	0	0
WACO	72	47	79	34	60	0	0	-.5	0	4.1	288	9.6	188	83	40	0	0	0	0	0
WICHITA FALLS	66	40	80	30	53	-2	.1	-.4	0	4.4	334	11.7	366	85	46	0	0	0	0	0
UT CEDAR CITY	67	34	72	27	51	11	0	-.3	0	.8	101	3.6	161	78	21	0	4	0	0	0
SALT LAKE CITY	63	40	67	32	51	10	0	-.4	0	1.6	124	2.5	64	72	31	0	1	0	0	0
VT BURLINGTON	45	27	51	21	36	5	.8	-.3	.7	1.5	91	6.7	129	82	46	0	6	2	1	0
VA NORFOLK	64	43	77	35	54	4	.7	-.2	.5	2.1	70	8.2	83	90	35	0	0	3	1	0
RICMOND	62	40	75	34	51	2	.5	-.3	.1	1.3	46	6.5	71	85	32	0	0	4	0	0
ROANOKE	60	36	70	29	48	0	.4	-.5	.2	2.2	76	7.4	83	81	32	0	3	3	0	0
WA QUILLAYUTE	53	40	60	36	47	4	.4	-.2	.3	8.6	90	41.4	115	96	68	0	0	4	0	0
SEATTLE-TACOMA	56	41	60	38	49	4	.4	-.4	.2	2.6	91	16.0	122	99	62	0	0	4	0	0
SPOKANE	51	30	60	22	41	2	.2	-.1	.1	.9	79	4.3	83	87	43	0	4	2	0	0
YAKIMA	59	35	69	26	47	4	.4	-.1	.1	.2	45	1.8	69	89	35	0	2	1	0	0
WV BECKLEY	49	30	65	21	40	-3	.7	-.3	.6	2.0	66	9.7	100	78	40	0	4	3	1	0
CHARLESTON	54	33	75	27	44	-3	.6	-.3	.3	1.7	56	8.3	86	86	36	0	3	2	0	0
HUNTINGTON	53	33	70	26	43	-4	.6	-.3	.4	1.8	57	8.3	90	76	34	0	4	2	0	0
PARKERSBURG	50	32	69	24	41	-4	.4	-.4	.3	1.6	60	8.1	99	86	40	0	4	2	0	0
WI GREEN BAY	37	21	48	14	29	-2	.2	-.3	.1	3.3	237	4.5	126	79	39	0	7	2	0	0
LACROSSE	41	21	57	15	31	-2	.2	-.2	.2	3.4	245	4.7	150	80	39	0	6	2	0	0
MADISON	42	23	55	16	32	-1	.2	-.3	.2	4.2	271	6.8	185	79	38	0	7	1	0	0
MILWAUKEE	42	26	49	19	34	0	.4	-.2	.4	2.2	117	6.6	137	71	37	0	5	2	0	0
HAUSAU	37	16	48	9	27	-2	.1	-.5	.1	2.4	171	3.9	120	85	46	0	7	0	0	0
WY CASPER	47	17	67	-7	32	-1	.1	-.1	.1	.9	134	1.9	111	86	39	0	6	3	0	0
CHEYENNE	40	19	59	6	30	-3	.7	-.4	.5	3.3	457	4.3	289	96	61	0	7	4	1	0
LANDER	50	22	65	1	36	3	.1	-.2	.1	.7	87	.8	41	78	33	0	6	1	0	0
SHERIDAN	42	18	67	-9	30	-3	.2	-.1	.2	.9	117	2.1	94	92	47	0	6	2	0	0

Based on 1951-80 normals

National Agricultural Summary

March 19-25, 1990

HIGHLIGHTS: A winter storm brought some beneficial moisture to the northern Great Plains. Cool temperatures slowed winter wheat growth in the Great Plains. Corn planting and spring fieldwork progressed well in the Delta as fields dried. Freezing temperatures damaged early peaches and vegetables in portions of the Southeast. Florida's citrus-producing areas remained dry.

SMALL GRAIN: Cold weather at the end of the week slowed winter wheat growth in the Great Plains. Early in the week, growth was excellent in Kansas. Insect and disease problems remained light but some leaf rust was noted. Oklahoma's winter wheat was good to fair, but freezing temperatures damaged some fields with moderate top growth. Cold weather slowed growth in most areas of Texas at the end of the week. Russian wheat aphid populations were increasing in the High Plains, and rust was still a problem in the Blacklands. Most fields were heading in central and southern Texas. Arkansas' crop was good and snow provided protection from freezing temperatures in Missouri. Winter wheat was good to fair in Colorado and mostly good in Montana. Earlier dry soil conditions forced some reseeded in the Columbia Basin, Oregon. Washington's winter wheat was good to fair. In California, small grains were mostly good, but Russian wheat aphids were a continuing problem. Small grains were beginning to turn color in Arizona. Winter wheat was good to fair in Georgia and North Carolina. Powdery mildew was widespread in Georgia. In the Corn Belt, crop condition was good. Fields were greening in Michigan.

OTHER FIELD CROPS: Fieldwork progressed well in the Delta as fields dried. Corn planting was over a third finished in Alabama, but earlier flooding may force some replanting. Corn planting was half finished in Georgia. Condition of the emerged crop was good to fair. A few fields were planted in Kansas. In Texas, corn planting was nearly complete in the Coastal Bend and Rio Grande Valley. Corn and sorghum planting progressed well in the Blacklands and central area. Cotton planting continued in the Coast Bend and Rio Grande Valley, and rice seeding was underway along the coast. Rice seeding continued in Louisiana. Cotton planting continued in Arizona and southern California and began in central California. Tobacco was good to fair in Georgia and North Carolina and fair to good in South Carolina. Tobacco plant bed seeding was nearly complete in Virginia.

FRUIT AND NUTS: Florida's citrus areas remained dry. Irrigation was active in all areas. Valencia orange harvest was active. Grapefruit harvest slowed seasonally and the Temple orange harvest was nearly complete. Freezing temperatures damaged early peach varieties in portions of Alabama, Georgia, and South Carolina. Peaches were blooming and setting fruit in Texas. Cold weather at week's end caused only minor damage in the east and the Hill Country. Citrus harvests were active in Arizona and California. Almond bloom was nearly complete in California. New crop avocado and citrus began blooming and grapes were leafing out. Apple and pear development were ahead of normal in Oregon's Hood River Valley. Early peach varieties began blooming in Willamette Valley and were in full bloom in Douglas County.

VEGETABLES: Cool weather dominated Florida's major vegetable producing areas. Freezing temperatures damaged some early crops in northern areas. Planting was nearly complete in the central and southern areas. Harvest volume leaders included tomatoes, peppers, potatoes, and sweet corn. Bell pepper harvest began in the central and western areas. Freezing temperatures damaged watermelons in portions of Georgia. Onions were good to excellent. Watermelons and tomatoes were fair to good in South Carolina. Irish potato planting continued in North Carolina. Crop condition was good to fair. In the Rio Grande Valley, Texas, onion harvest began and cabbage, carrot, and celery harvests continued. Spinach harvest was nearly complete in the San Antonio-Winter Garden area. Spring crop planting continued in the High Plains and the east. Mixed vegetable harvests continued in Arizona. Artichoke harvest was underway in the west. Artichoke supplies increased seasonally in California. Asparagus, broccoli, and cauliflower harvests were active. Melon planting was active in the Huron District. Early potato planting was underway in Oregon. Onion planting continued in Idaho and Oregon. In Washington, onion, potato, and pea planting was active.

PASTURES AND LIVESTOCK: A winter storm stressed newborn calves and lambs in the northern Great Plains. Pastures were mostly good to fair in the Delta and East. Range conditions continued to improve in California.

(Continued from front cover)

England coast, bringing heavy rain and snow to New England and the Hudson Valley. Montpelier, VT, reported 17 inches of snow on the ground Wednesday morning. At midweek, another frontal system developed over the northern Plains and swung southeastward. The system left moderate to heavy snow from the central Plains to the middle Atlantic coast as amounts of 7-9 inches fell from Kansas City to Saint Louis, MO.

The Southeast was favorably dry, following the torrential downpours and severe floods of the

previous week, while unfavorably warm and dry conditions persisted over California and the Southwest. Temperatures were unseasonably cool in the middle Mississippi Valley and along the eastern Gulf coast, ranging from 3 to 6 degrees Fahrenheit below normal. Frost and freezing temperatures encompassed most of the Southeast on Wednesday morning, dipping all the way into northern Florida. Very cold air that invaded the northern Plains late Wednesday dominated most of the country by Saturday. Subfreezing temperatures penetrated deep into the southern Plains' crop areas on Saturday.

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: Dry weather prevailed; light rain north. Freezing temperatures, frost occurred early, mid week; temperatures 2 to 4° below normal.

Days suitable for fieldwork 2.7. Soil moisture 14% adequate, 86% surplus. Farmers still recovering from previous weeks flooding; extent of losses unknown; significant topsoil erosion, loss of fertilizers, chemicals from cropland. Acreage intended for spring planting 32% prepared, 35% 1989, 44% avg. Fieldwork progress 86% behind normal, 14% on schedule. Corn 37% planted, 45% 1989, 34% avg.; some flooded fields may be replanted. Winter wheat 20% headed, 23% 1989, 8% avg.; 1% poor, 57% fair, 30% good, 12% excellent; some fields flooded. Pastures 6% poor, 44% fair, 47% good, 3% excellent. Feed supplies from pastures 23% short, 77% adequate. Livestock 25% fair, 75% good. Freezing temperatures damaged early peach varieties; losses vary light to heavy. Primary activities: Recovering from previous weeks heavy rains, flooding; land preparation; top dressing winter annuals; fertilizing pastures; spraying fruit trees; planting pine seedlings; general care of livestock, poultry, catfish.

ARIZONA: High pressure system brought sunshine, warm, dry air; temperatures 20 to 79° higher elevations, 44 to 96° deserts. Temperatures 7 to 16° above normal; no precipitation.

Wheat, barley jointing 96%, 94% 1989, 91% avg.; heading 48%, 31% 1989, 32% avg.; began turning color; condition 60% good, 40% excellent. Cotton planted 11%, 16% 1989, 14% avg.; pre plant activities continued. Alfalfa first cut continued; curing conditions favorable; condition 75% good, 25% excellent. Weed infestations light, insects moderate; light grazing activity. Valencia oranges, grapefruit harvested central, west; tangerines harvested central; artichoke harvest underway in western area. Mixed vegetable harvests continued statewide; spring lettuce harvest continued central, west.

ARKANSAS: Temperatures below normal with light precipitation beginning, weekend. Extremes 21°; 81°. Rainfall none to 0.96 in.

Soil moisture adequate to surplus. Disking, bedding performed on sandy land. Wheat looks good, fertilizer application. Fruit potentials good. Pastures good. Livestock good.

CALIFORNIA: Weak upper air disturbances moved thru State, very little moisture. Temperatures warmed above normal, high pressure dominated pattern.

Open weather entire week permitted rapid progress field operations. Most small grains good condition. Dryland nearing moisture stress point many areas. Russian wheat aphid populations building. Controls applied. Some winter forage green chopped. Burned some rice, grain stubble. Preparations seeding rice began. Cotton seeding progressed southern, began central. Thinning sugarbeets progressed. Harvest overwintered sugarbeets underway. Safflower, sudan grass seeded. Alfalfa weevil controls applied. Harvest seasonally active south. Sheep grazed seed alfalfa fields. Normal cultural activities. Almond bloom near completion. New crop avocado, citrus began bloom. Date pollination active. Grapes leafing out. Grapefruit, lemon, orange harvests active. Artichoke supply seasonally

increasing improved quality. Asparagus harvest active. Broccoli continued heavy supply, variable quality. Cauliflower heavy supply, variable quality. Cantaloupe, other melon planting Huron district. Desert spring potato crop recovering from February freeze. Potato sheds Tulelake area operating full time. Transplanting market tomatoes continued. Sweet potato fields being fumigated. Livestock good condition, statewide. Range, pasture conditions continued to improve, stock ponds starting to fill, rainfall most areas still below normal. Supplemental feeding started to taper off northern counties. Calving, lambing continued.

COLORADO: Warm temperatures followed by light snow, much colder temperatures. Western, southern areas still need moisture. Temperatures 3 to 5° above normal in the east, 6 to 9° above normal in the west, south.

Days suitable for fieldwork 4.1 days. Soil moisture 10% very short, 28% short, 59% adequate, 3% surplus. Improved winter wheat 8% poor, 26% fair, 59% good, 7% excellent. Barley, oats, spring wheat, sugarbeets progressing normally. Calving remained normal, lambing ahead of normal. Death losses slightly higher than normal for calves. Range, pasture condition fair to good.

FLORIDA: Dry over most of State; main exception was south with most rains under 0.50 in., few local amounts over 1.50 in. Temperatures remained seasonably cool, 2 to 7° below normal most locations. Warmest highs, low to mid 80s. Coolest lows mid 30s Panhandle interior, Big Bend to low, mid 40s central; low to mid 60s near southeast coast.

Panhandle soil moisture surplus to adequate; Peninsula mostly short. Heavy rains western Panhandle caused flooding, erosion. Mid week freezing temperatures damaged tobacco; few acres need replanting. Corn planting, tobacco transplanting active. Land preparation active spring seeded crops. Winter wheat good progress. Pastures continued mostly fair, Panhandle, poor to good, Peninsula. Stress increased from lack of moisture except extreme western Panhandle where some areas saturated from heavy rains previous weekend. Cool temperatures also slowed growth. Cattle, calves remain fair to generally good. Citrus groves dry; rain needed. Irrigating all areas. New crop progressing well. Remaining Valencia oranges starting to soften. Few grapefruit remaining. Valencia movement active. Grapefruit movement slow. Temple harvest almost complete. Caretakers active controlling cover crops. Cooler weather prevailed over major vegetable producing areas. Freezing temperatures damaged early crops, northern areas. Planting nearly complete central, southern areas. Harvest continues increase. Volume loaders: Tomatoes, peppers, cucumbers, potatoes, sweet corn, cabbage, celery, squash, snap beans, lettuce. Also good volume strawberries, radishes, carrots, eggplant, escarole. Harvest west central bell peppers underway.

GEORGIA: No significant rain. Freezing temperatures or frost most of State early to mid week. Lowest temperatures near 20° higher mountains, mid to upper 30s extreme southeast. Temperatures warmed 24th, 25th. Maximum

temperatures mid to upper 70s north, low, mid 80s south. For week, temperatures within couple degrees of normal.

Days suitable for fieldwork 3.8. Soil moisture 5% short, 53% adequate, 42% surplus. Corn 21% fair, 73% good, 6% excellent; 50% planted, 37% 1989, 45% avg.; planting very active latter part of week. Tobacco 47% fair, 53% good; 29% transplanted, 27% 1989, 22% avg. Watermelons 2% poor, 44% fair, 54% good; 57% planted, 45% 1989, 46% avg.; some frost damage. Wheat 1% very poor, 2% poor, 29% fair, 60% good, 8% excellent; 85% jointing, 89% 1989, 73% avg.; 30% boot, 49% 1989, 25% avg.; powdery mildew widespread, spraying active. Rye 1% poor, 20% fair, 76% good, 3% excellent. Other small grains 19% fair, 78% good, 3% excellent. Apples 57% fair, 43% good; 29% blooming, 10% 1989, 9% avg. Peaches 1% very poor, 1% poor, 29% fair, 69% good; 100% blooming, 89% 1989, 91% avg.; Frost damage heavy north, light to moderate central, south. Onions 59% good, 41% excellent. Pasture 3% poor, 15% fair, 75% good, 7% excellent. Cattle, hogs good.

HAWAII: Weather mostly sunny, some cloudy periods, evening, morning showers, mostly windward, mountain areas. Light trade winds 5 to 15 mph. Volcanic smog caused hazy conditions most of State 22nd, 23rd. Temperatures low 60s to low 80s. Rainfall none to 0.55 in.

Days suitable for farm work 7.0. Weather favorable for crop development. Sugar harvesting active all areas. Irrigation necessary some areas. Papaya harvesting seasonally lower level. Production of vegetable crops increased. Ginger root planting, harvesting continued active island of Hawaii.

IDAHO: Temperatures above normal statewide except for the far north. Precipitation was below normal in all areas except parts of the north, east.

Fieldwork drier areas of State. North: Fertilizing; disease, weed control; seeding at lower elevations. Southwest: Planting grains, onions, sugarbeets; dormant spraying of fruit trees. South central: Planting sugarbeets, grains; general fieldwork; irrigation on lighter soils. East: General field bed preparation; fertilizing; sorting, shipping seed potatoes. Livestock good to excellent. Calving, lambing winding down north, southwest, south central; still in full swing east. Serious lambing losses one area of east. Some movement of sheep to early ranges south central. Adequate supplies hay, roughage statewide.

ILLINOIS: Temperatures mostly 2 to 5° below normal north, 6 to 10° below normal central, south. Precipitation 0.10 to 0.25 in. northwest, west central, 0.35 to 1.00 in. east, south.

Winter wheat good. Livestock good to excellent.

INDIANA: Temperatures 5 to 9° below normal. Lows mid 20s, highs mid 40s. Precipitation 0.10 to 0.50 in. Weekend snow central, southwest areas.

Plowing, tilling gaining momentum. Other activities: Seeding oats, top dressing wheat, spreading fertilizer, seeding grasses, repairing equipment, purchasing supplies, hauling manure, selling grain, cleaning ditches, moving hay, seeding tobacco beds, care of livestock. Hay supplies adequate. Livestock good.

IOWA: Temperatures 1° above normal to 4° below normal. Extremes 12°; 72°. Precipitation none to 0.45 in; average 0.15 in.

Most farmers preparing for spring tillage, planting. Livestock mostly good. Calving in full swing across the State.

KANSAS: Temperatures normal west central, 2 to 4° above northern areas, 1 to 4° below normal elsewhere. Rainfall light all areas, none southwest to high of 0.18 in. east central.

Days suitable for fieldwork 3.5. Topsoil 12% short, 73% adequate, 15% surplus. Subsurface moisture 34% short, 61% adequate, 5% surplus. Wheat continues excellent growth though cold weather weekend slowed development. Wheat jointing 5%, 1% 1989; mostly central, southern counties susceptible to freeze damage. Insects, disease infestations light, appearance leaf rust this early will bear watching. Seedbed preparation for corn, sorghum continues; few fields corn south central, southeast planted toward weekend. Range, pasture improving providing adequate grazing. Lambing, calving winding down; only minor problems.

KENTUCKY: Cooler than normal temperatures, first time this month. Highs in lower 50s. Lows in lower 30s; 5 to 10° below normal. Precipitation 0.25 in. east to 1.50 in. west, 3.00 to 6.00 in. snow over north 24th.

Soil moisture mostly adequate. Wheat farmers concerned that early week cold blast may have damaged some fields where growth was well advanced due to early spring warm temperatures. The extent of any potential damage is unknown at this time. Cold temperatures inflicted further damage to any peach buds remaining after Decembers record low temperatures caused extensive damage. Tobacco bed preparation, seeding advancing. Newborn calves generally good.

LOUISIANA: Temperatures near normal to 4° below normal. Extremes 29°; 81°. Rainfall none to 0.01 in.

Days suitable for fieldwork 4.0. Soil moisture supplies 80% adequate, 20% surplus. Spring plowing 20%, 38% 1989, 36% avg. Corn planted 30%, 27% 1989, 30% avg.; emerged 10%, 12% 1989, 15% avg. Rice planted 8%, 10% 1989, 9% avg.; emerged 5%, 5% 1989, 4% avg. Sugarcane 27% very poor, 27% poor, 46% fair. Shaving, off barring active. Wheat headed 35%, 11% 1989, 9% avg., 63% fair, 31% good, 6% excellent. Above normal temperatures were speeding development. Fungicide application was active. Livestock 6% poor, 59% fair, 35% good. Pasture 9% poor, 70% fair, 21% good. Vegetable 4% very poor, 17% poor, 62% fair, 17% good.

MARYLAND & DELAWARE: **MARYLAND:** Precipitation 1.42 in. Temperature 52°, normal 45°. Extremes 23°; 81°.

DELAWARE: Precipitation 1.57 in. Temperature 52°, normal 45°. Extremes 30°; 77°.

MICHIGAN: Temperatures normal to 4° below normal. Extremes 1°; 54°. Precipitation 0.02 to 0.54 in. across State. Winter wheat fields greening up.

Major activities: Fertilizer, top dressing on wheat; pruning orchards, marketing hay, grain; attending farm auctions, preparing machinery for spring fieldwork. Fields still too wet for tillage operations. Livestock excellent condition. Feed supplies abundant. Spring calving well underway.

MINNESOTA: Temperatures 1 to 4° below normal for the State. Extremes -8°; 65°. Precipitation 0.02 to 0.24 in. Greatest weekly total 0.35 in. at Worthington.

MISSISSIPPI: Temperatures 4° below normal. Extremes 81°; 23°. Mostly dry statewide. Rainfall 0.02 in., 1.38 below normal.

Days suitable for fieldwork 3.1, 1.5 1989, 3.6 avg. Soil moisture 53% adequate, 45% surplus, 2%

excessive. Wheat 72% jointing, 64% 1989, 60% avg.; 1% very poor, 15% poor, 58% fair, 25% good, 1% excellent. Corn 9% planted, 14% 1989, 19% avg. Watermelons 8% planted, 10% 1989, 12% avg. Livestock 45% fair, 51% good, 4% excellent. Pastures 9% poor, 56% fair, 32% good, 3% excellent. Hay supply 23% short, 77% adequate. Activities: Land preparation, continued wheat fertilizing.

MISSOURI: Temperatures above normal mid week, sharply below normal beginning, weekend. Scattered showers mid week, main precipitation from snow storm 23rd, 24th, heaviest band from Kansas City to St. Louis, 7.00 to 9.00 in. snow. Farmers kept out of fields by rain, snow, cold. Wheat mostly protected during lowest temperatures by snow.

MONTANA: Temperatures 2 to 3° above normal in west, 1 to 3° below normal elsewhere. All areas of the State received precipitation 0.20 to 0.40 in. Winter wheat good. Wind damage to winter wheat light. Livestock general condition remains good. Winter storm imposed extreme conditions on calving, lambing.

NEBRASKA: Precipitation occurred last couple days of the week 0.10 to 0.75 in. Temperatures near normal. Extremes 3°; 76°.

NEVADA: Winter ended relatively mild temperatures 10° above normal. Weather pattern remainder of period dry, mild. Few light scattered rain showers north weekend. Extremes 21°; 90°.

Good progress field work all areas. Gusty winds only negative. Winter grains starting to show growth. Early irrigation necessary.

NEW ENGLAND: Precipitation (rainfall and water equivalent of snow) 1.00 to 2.00 in. Vermont, Massachusetts, 0.50 to 1.00 in. remainder. Temperatures upper 20s near Canadian border to mid 40s along south coast. Near normal north, slightly below normal south.

Major farm activities: Repairing machinery, tending livestock, moving crops from storage, maple sugaring.

NEW JERSEY: Temperatures near normal. Extremes 23°; 73°. Rainfall 1.04 in. north, 0.66 in. central, 0.62 in. south. Heaviest 24 hour total 1.01 in. on 20th, 21st. Estimated soil moisture percent field capacity 99% north, 98% central, south. Four inch soil temperatures 47° north, 50° central, south.

Early crop development as much as 4 weeks ahead of normal. Fall sown grain, hay, pasture growth advanced. Fertilizer, lime, manure spreading active. Early blooming peaches in full bloom, 1 week before record early bloom of 1945. Night time temperatures below 28° will be devastating.

NEW MEXICO: Temperatures well above normal except for eastern plains; light precipitation some areas.

Days suitable for fieldwork 6.9. Soil moisture 75% short, 25% adequate. Wheat 20% very poor, 30% poor, 30% fair, 20% good. Cattle poor to good; sheep poor to fair; range poor to good.

NEW YORK: Temperatures 5° of normal. Temperatures plunged dramatically on 23rd; light rain, snow fell as a cold front sliced through the State. Extreme 2° at Newcomb; 68° at Jamestown. Coastal storm on 24th provided weeks precipitation. Amounts up to 2.03 in.

Major activities: Tending livestock, precipitation for planting. Maple syrup

collection behind schedule due to warm weather early in month. Quantity quality are expected to be low.

NORTH CAROLINA: Temperatures 1° below to 3° above normal across the State. Precipitation none to 2.17 in.

Days suitable for fieldwork 4.2. Soil moisture 84% adequate, 16% surplus. Pasture 4% poor, 23% fair, 66% good, 7% excellent. Livestock feed from pasture 45%. Crop condition: Wheat, 20% fair, 73% good, 7% excellent; oats 21% fair, 74% good, 5% excellent; barley 19% fair, 77% good, 4% excellent; rye 17% fair, 77% good, 6% excellent; tobacco plant beds 1% poor, 28% fair, 63% good, 8% excellent; irish potatoes 3% poor, 27% fair, 64% good, 6% excellent. Irish potatoes planted 79%; cabbage transplanted 63%. Hay, roughage supplies 5% short, 88% adequate, 7% surplus. Feed grain supplies 7% short, 92% adequate, 1% surplus. Major activities: Land preparation, tending tobacco beds, top dressing small grains. Other activities included: Fertilizing pastures, tending livestock, spraying, pruning fruit trees, planting corn and general farm maintenance.

NORTH DAKOTA: Mild early, cold late. Temperatures 4° below normal northeast, east central to near normal south central, southeast. Extremes -7° north central, 23rd; 66° south central, 20th. Scattered precipitation as rain, snow averaged none east central to 0.08 in. southwest.

Soil moisture below normal. Winter grains mostly poor to fair. Livestock mostly good, received supplemental forages. Calving, lambing progressed with minimal problems. Hay supplies mostly adequate. Farmers prepared for spring planting.

OHIO: Temperatures 1 to 8° subnormal. Extremes low 70s to upper teens. Precipitation 0.10 to 0.75 in; 0.30 to 0.70 in. subnormal. Snow southern half did not linger. No snowcover.

Generally dry early in the period allowed farmers to continue field activities including soil preparation, fertilizer spreading, some early sugarbeet planting. Winter wheat green, growing.

OKLAHOMA: Temperatures 3° below normal southeast to 6° below normal south central. Precipitation 0.04 in. southwest to 0.54 in. south central.

Days suitable for fieldwork 3.2. Topsoil 35% adequate, 65% surplus. Subsoil 100% adequate. Wheat 10% fair, 89% good, 1% excellent; 35% jointing, 20% 1989, 25% avg. Late week freeze damaged wheat with moderate top growth. Wet fields continued to thwart fertilizer applications. Many fields short on nitrogen. Cotton 30% seedbed prepared, 20% 1989, 25% avg. Sorghum 30% seedbed prepared, 30% 1989, 22% avg. Spring fruits suffered undetermined freeze damage. Pastures fair to good, growth interrupted by cold snap. Cattle good; marketings average, prices down from preceding week.

OREGON: Warm week across State, above normal temperatures. Willamette Valley 7° above normal; central, south central areas 6 to 9° above normal. Some precipitation across State mainly late in week, generally less than 0.50 in. East of the Cascades received as much or more rain than west.

Soil moisture adequate west, northeast mountains, Klamath Basin; short other eastern areas. Winter wheat mostly good west, fair to good Columbia Basin, poor to fair southeast except good Klamath County. Russian wheat aphid populations low. Some wheat reseeded due to poor germination caused by low soil moisture Malheur County, Columbia Basin. Fieldwork underway most areas; spraying, fertilizing. Sugarbeet planting

continued Malheur County. Fruit orchards fertilized, sprayed with delayed dormant sprays, pruning mainly completed. Filberts leafing out; received fertilizer, blight sprays. Apple, pear development slightly ahead of normal Hood River. Peaches near bloom, pear bloom expected April 5th to 10th Medford. Early peaches blooming Willamette Valley. Full peach bloom Douglas County. Caneberry buds swelling Willamette Valley. Cranberry buds losing color, swelling; growers monitoring frost possibilities south coast. Pea seeding Umatilla County. Early potato planting underway. Onion planting continued Treasure Valley. Spring vegetable seedbeds prepared Willamette Valley. Livestock good to excellent. Range, pastures fair to good. Calving, lambing continued to go well. Moisture outlook continues poor in much of east.

PENNSYLVANIA: Near normal temperatures with below normal precipitation prevailed across Commonwealth. Temperature 38°, 1° above normal. Extremes 17°; 70°. Precipitation 0.51 in., 0.30 in. below normal.

Activities: Hauling manure, caring for livestock, maintaining machinery, fixing fence, grading potatoes, early Spring activities.

PUERTO RICO: Rainfall 0.59 in. was 0.01 in. below normal. Highest rainfall 3.80 in. Borinquen Airport, 2.62 in. Corozal Aes, 1.73 in. Pico Del Este Luquillo. Highest 24 hour total 2.60 in. Corozal Aes. Temperatures 76° Coast, 68 to 72° Interior. Extremes 55°; 90°.

SOUTH CAROLINA: Temperatures 1 to 3° above normal. Precipitation 0.10 in. or less for nearly all locations.

Days suitable for fieldwork 5.4. Soil moisture, 20% short, 72% adequate, 8% surplus. Tobacco fair to good; 5% planted, 0% 1988. Corn fair to good; 29% planted, 3% 1989, 17% avg. Watermelons fair to good; 14% planted, 15% 1989, 25% avg. Cantaloupes fair to good; 2% planted, 3% 1989, 9% avg. Tomatoes fair to good; 26% planted, 8% 1989, 35% avg. Peach condition fair. Freezing temperatures caused considerable damage to peaches in Ridge, upper portion of State.

SOUTH DAKOTA: Temperatures 5° below to 2° above normal. Extremes -4°; 77°. Precipitation above normal west, central, below normal east. Maximum melted precipitation 0.78 in. Yearly precipitation above normal central, south central, central Black Hills, below normal elsewhere. Range 1.57 in. above normal to 1.21 in. below normal. One to 3.00 in. snowcover Black Hills.

TENNESSEE: Weather for the week was cooler, drier than normal although rain occurred throughout the State early in the week, again toward the weekend. Temperatures below normal for all but the southeast. Departures 2 to 6° below normal except for 1° above normal in southeast. Precipitation better than 1.00 in. below normal, average less than 0.50 in.

Primary activities: Fertilizing pastures, hay land, applying herbicides, equipment maintenance, new crop preparations, routine care of livestock.

TEXAS: Spring started on a warm, dry note early week, generally fair weather most locations through mid week. Large mass of cold air building over northwest Canada worked southward, Panhandle felt effects cold air first. By weekend, edge of cold dome of air pushed through most of the State causing precipitation, pushing temperatures well below normal most locations. Temperatures generally below normal. South central temperatures slightly above normal. All areas except Lower Valley below normal rainfall.

Crops: Small grain prospects looking better last week, warmer temperatures promoting good progress most areas. Aphid problems portions High Plains. Small grains excellent growth Blacklands, some fields rust problems. Most fields central, south heading. Fields for grazing providing additional forage. Wheat 2% headed, 1% 1989, 1% avg. Corn planting very active Blacklands, central, east, south. Planting winding down Coastal Bend, Rio Grande Valley. Land preparation, pre watering Plains. Warmer temperatures southern areas promoted good early stands. Corn 34% planted, 49% 1989, 49% avg. Grain sorghum producers good planting progress Blacklands, central. Wet conditions had kept many producers out of fields until last week. Sorghum 22% planted, 29% 1989, 35% avg. Cotton planting moved ahead Coastal Bend, Rio Grande Valley under good conditions. Many producers finishing planting these areas. Land preparations continued other areas. Cotton 7% planted, 6% 1989, 6% avg. Rice planting beginning along coast last week. Rice 14% planted, 2% 1989, 8% avg.

Commercial Vegetables: Rio Grande Valley, cabbage, carrot, celery harvest continued. Onion harvest just beginning. Melons making excellent progress. Pruning operations continued slowly citrus groves. San Antonio Winter Garden, melon planting continued. Some producers watering onions. Most fields good progress. Some cabbage harvested. Spinach harvest almost complete. Eastern State, planting increased without much delay for first time in weeks. Continued rain caused problems. High Plains, onion, potato planting continued. Land preparations other vegetables also continued. Trans Pecos, melon, pepper land preparations continued. Early planted onions up. Some thrips showing up. Peaches continued to bloom, set fruit across State. Late week frost caused only minor damage east, portions Hill Country. Peach harvest Valley expected to begin mid April.

Range and Livestock: Range, pasture grasses increased greening. Late week frost burned back some growth portions east. Producers reduced feeding some areas as forage increased. Livestock conditions improved.

UTAH: Temperatures 8° above normal, precipitation was almost zero.

Seeding spring grains, discing, fertilizing, other spring fieldwork continued. Soil moisture short in the southern, eastern parts of State, short to adequate northern parts. Range, pasture grass emerging from winter dormancy. Lambing, calving continued. Shearing of sheep underway in warmer climates.

VIRGINIA: Beginning of the period temperatures above normal. End of the period saw an arctic cold front move in bringing snow, below normal temperatures. Snow was recorded in almost all divisions. Rainfall over most of the State 0.50 in. except in the southwest over 1.00 in.

Days suitable for fieldwork 3.1. Topsoil 22% surplus, 78% adequate. Pasture condition 17% excellent, 70% good, 13% fair. Alfalfa 10% excellent, 64% good, 24% fair. 2% fair. Barley 9% excellent, 65% good, 26% fair. Wheat 11% excellent, 67% good, 22% fair. Apples fair to good while peaches very poor to fair. Tobacco planted seeding was nearly complete, beds 8% excellent, 64% good, 28% fair. Potato planting continued, ahead of schedule. Activities included land preparation for corn, soybean planting, pruning, spraying fruit trees, calving, lambing.

WASHINGTON: Temperatures 4 to 9° above normal, east; 4 to 8° above normal, west. Precipitation none to 0.75 in., east; 0.10 to 0.78 in., west.

Days suitable for fieldwork 4.6. Soil moisture 39% short, 60% adequate, 1% surplus. Range, pasture 55% short, 40% adequate, 5% surplus. Hay, other roughage 15% very short, 35% short, 45% adequate, 5% surplus. Field activity picked up across the State where soil moisture conditions permitted. Field preparation, fertilizing, weed control, planting were the main activities. Wheat, onions, potatoes, peas were being planted. Pastures were beginning to green, some livestock were being placed on them. Fruit tree, berry buds were beginning to open. Winter wheat 38% fair, 62% good. Calving, lambing continued with favorable weather conditions.

WEST VIRGINIA: Temperature 39°, 0 to 6° below normal. Extremes 16; 75°. Precipitation 0.74 in., 0.29 in. above to 0.47 in. below normal.

Days suitable for fieldwork 3.5. Soil moisture 9% short, 82% adequate, 9% surplus. Cattle good. Sheep good to excellent. Calving 59% complete; lambing 66% complete. Feed supplies adequate to surplus. Wheat, barley fair to good. Farm activities: Calving, lambing, spring plowing, planting.

WISCONSIN: Temperature 28°. Extremes -2°; 66°. Precipitation trace to 0.30. Frost depth 8.00 in. as of 25th; average 10.9. Snow depth 0.10 in.; average 4.50.

Some fieldwork started in south.

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

Winter wheat fair to good. Snowcover melting, improving moisture conditions. Livestock good condition with supplemental feeding most areas. Calving, lambing, shearing underway. Warmer temperatures reducing stress on livestock.

International Weather and Crop Summary

March 18-24, 1990

HIGHLIGHTS

USSR ... The 11th consecutive week of unseasonably warm weather causes winter grains in the west and south to begin breaking dormancy 4-6 weeks earlier than usual.

EUROPE ... Rain benefits winter crops in sections of the west and north. Above-normal temperatures continue over all crop areas.

SOUTH ASIA ... Heavy rain causes local flooding and damage to maturing wheat in northern India and Pakistan.

EASTERN ASIA ... Moderate to heavy rain benefits winter crops in the North China Plain. Rain continues in the Yangtze Valley.

SOUTHEAST ASIA ... Beneficial, preplanting rains continue over eastern Thailand.

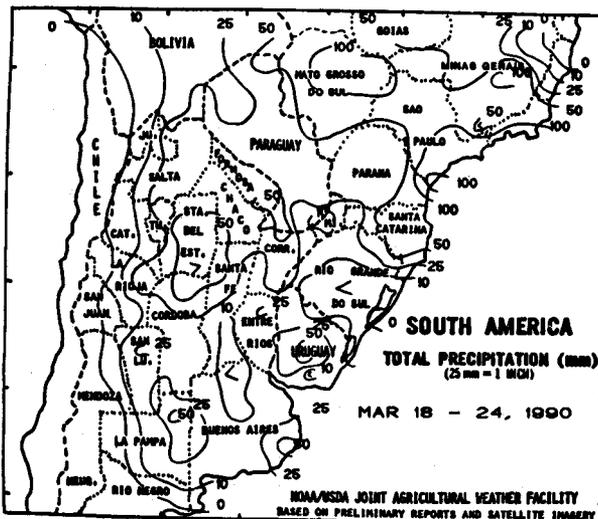
SOUTH AMERICA ... Widespread showers slow early harvesting in south-central Brazil and Argentina.

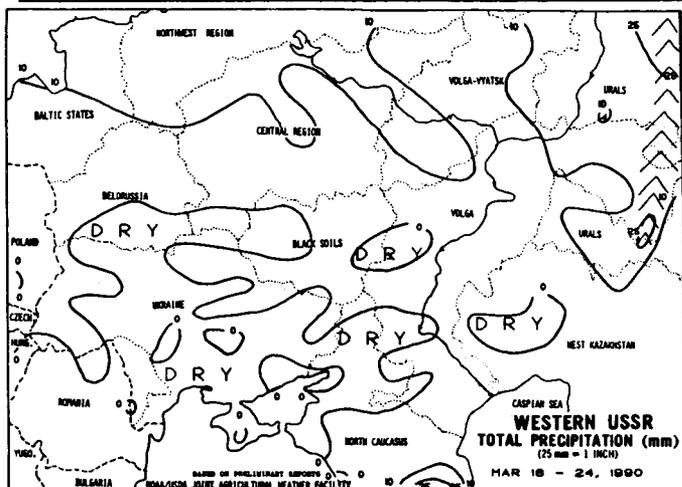
SOUTH AFRICA ... Conditions continue unfavorably wet for maturing corn.

AUSTRALIA ... Tropical Cyclone Ivor brings torrential rain to sections of eastern Queensland.

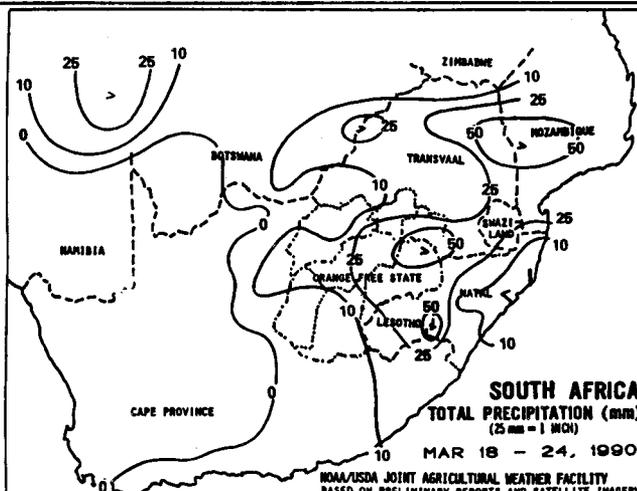
NORTHWESTERN AFRICA ... Unfavorably dry weather stresses winter grains in the reproductive stages over most of the region.

SOUTH AMERICA ... Periodic showers covered the entire region from central Argentina to northern soybean areas of Brazil. In Brazil, locally heavy rain (50-147mm) fell in Mato Grosso do Sul, Sao Paulo, and southeastern Minas Gerais, soaking maturing summer crops and delaying early harvest activities. Weekly rainfall averaged 25-50mm in far northern soybean areas of Goias and Minas Gerais, and in Parana, where recent wetness slowed fieldwork. In Rio Grande do Sul, mostly light rain (10mm or less) favored early harvesting in most areas, but heavier showers (25-62mm) dampened maturing crops in the northeast. In Argentina, widespread showers also slowed fieldwork, except in southern Santa Fe and north-central Buenos Aires, where rainfall averaged only 2-8mm. Weekly rainfall ranged from 16 to 24mm in the primary corn areas of southern Cordoba, from 11 to 38mm over the remaining corn, sunflower, and soybean areas of Buenos Aires, and from 30 to 54mm in northern cotton areas. Summer crops generally range from late development to mature. Thus, dry weather is needed for harvesting.





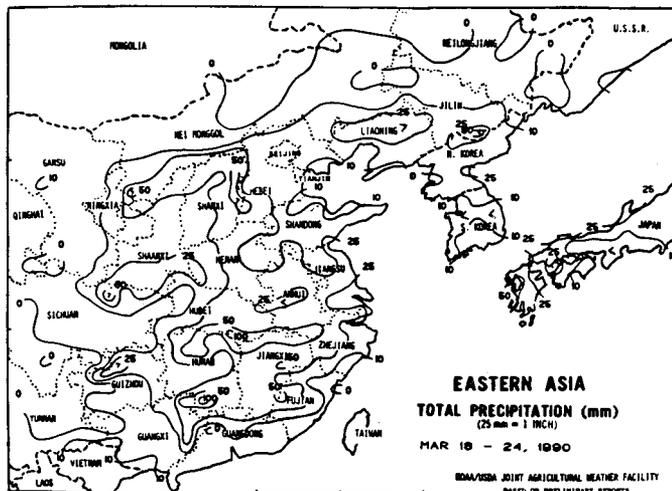
WESTERN USSR ... The 11th consecutive week of unseasonably warm weather persisted over the region. Weekly average temperatures, ranging from 5 to 11 degrees Celsius (C) above normal, continued to melt snow cover and promote greening of winter grains in the west and south. By week's end, most winter grain areas were without snow cover except for the Volga Vyatsk, where crops remained under a deep snow cover. In the Baltic States, Belorussia, the Ukraine, and the North Caucasus, winter grains continued to break dormancy about 4-6 weeks earlier than usual. Although mostly dry weather over the west and south favored early spring fieldwork, rain is needed in the southern Ukraine, where persistent dryness has left topsoils short of moisture.



SOUTH AFRICA ... Moderate rain (18-36mm) again fell over portions of the central and western Maize Triangle, maintaining unfavorably wet conditions for maturing crops. However, the rainfall was not as heavy or widespread as the previous week, with large areas of the southern and northwestern Triangle receiving only light rain (10mm or less). Variable rain (9-74mm) continued in the eastern Maize Triangle and nearby areas of the southern Transvaal and western Natal. Drier and warmer weather is needed across the region to prevent quality reductions and, in the east, hasten growth of immature crops following 2 weeks of wet, cooler-than-normal weather. Lighter rain (2-21mm) fell over Natal's sugar region.



EUROPE ... Light to moderate rain (5-15mm) fell in Ireland, Great Britain, Benelux, and West Germany, benefiting actively vegetative winter crops. Further south, scattered light rain (less than 10mm) caused only minor delays in spring planting from France eastward to Poland. Light to moderate rain (5-15mm), with isolated amounts in excess of 15mm) in sections of the Iberian Peninsula favored jointing to booting winter grains. Italy and the Balkans remained unfavorably dry. Much above-normal temperatures (3-10 degrees C above normal) over nearly all crop areas continued rapid growth and development of winter grains and quick germination and establishment of recently planted spring crops.



EASTERN ASIA ... Moderate to heavy rain (10-40mm, with scattered amounts in excess of 40mm) fell over much of the North China Plain, keeping soil moisture at near optimal levels for vegetative winter grains. It was the heaviest precipitation in many sections of the region since last fall. In middle and lower sections of the Yangtze Valley, heavy rain (20-50mm, with isolated amounts greater than 75mm) continued localized flooding and delays in spring fieldwork and planting. Moderate to heavy rain (10-30mm, with isolated rainfall greater than 30mm) also fell across sections of the Korean Peninsula and southern Manchuria. Above-normal temperatures (2-8 degrees C above normal) continued over most crop areas for the third consecutive week, accelerating growth and development of both fall and spring planted crops.

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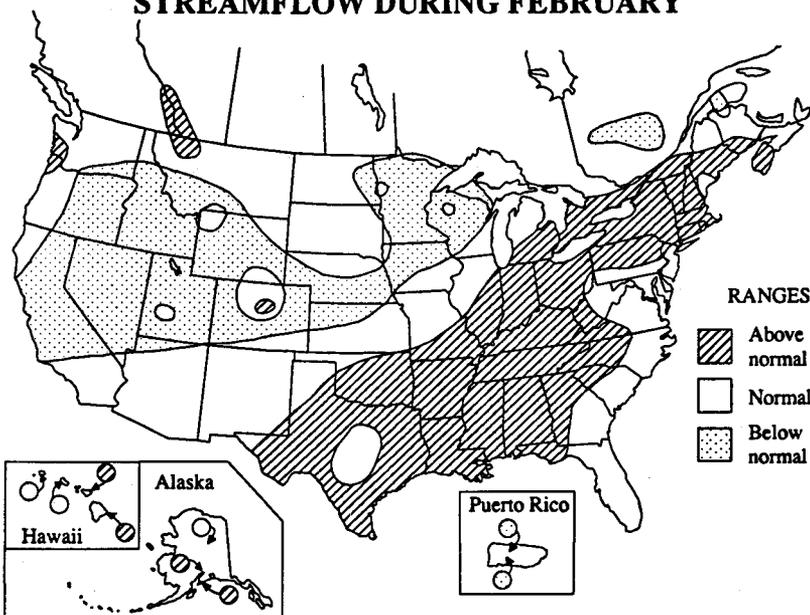
National Water Conditions

FEBRUARY 1990

UNITED STATES
Department of the Interior
Geological Survey

CANADA
Department of the Environment
Water Resources Branch

STREAMFLOW DURING FEBRUARY



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