

WEEKLY WEATHER AND CROP BULLETIN

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

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

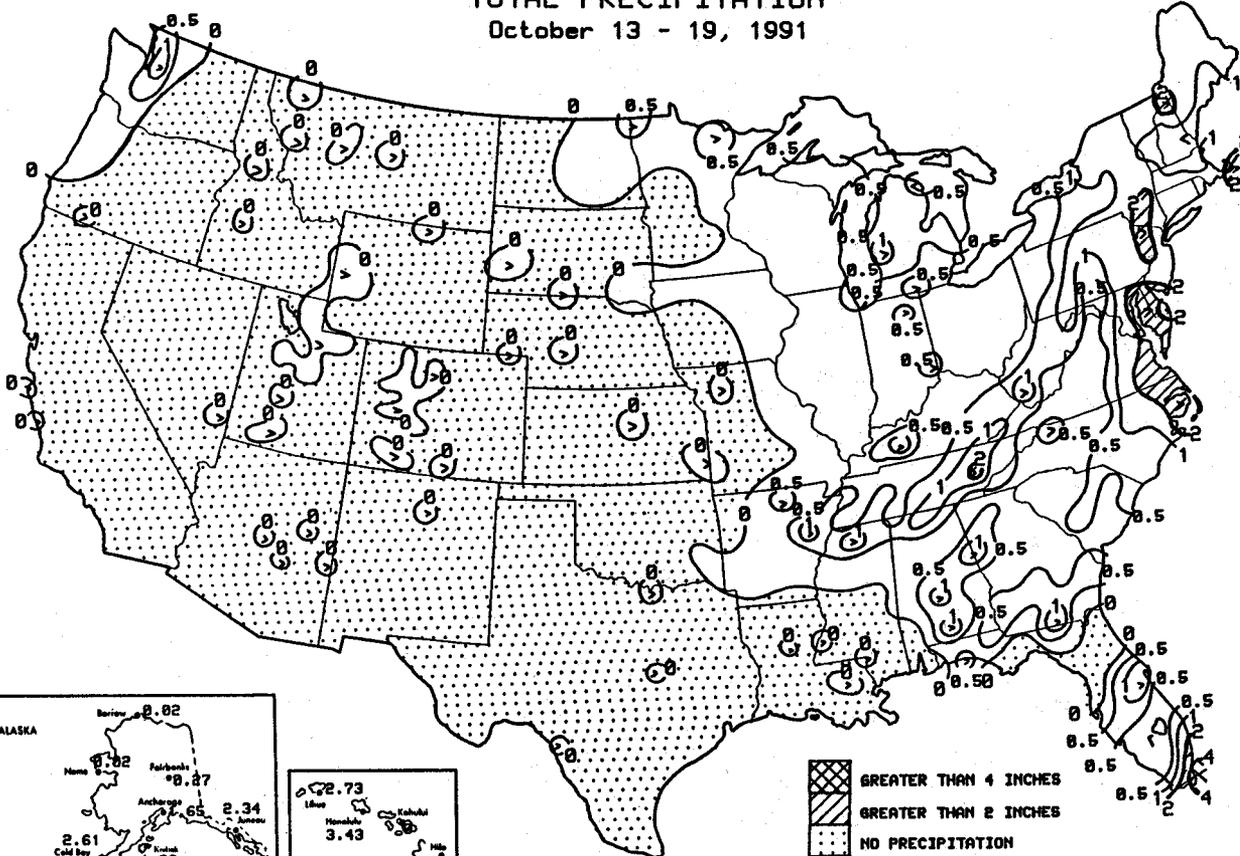
Volume 78, No. 42

Washington, D.C.

October 22, 1991

TOTAL PRECIPITATION

October 13 - 19, 1991



NOAA-USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports

HIGHLIGHTS

October 13 - 19, 1991

A pair of sharp cold fronts raced across the Nation, producing high winds in the **Northwest** and rain along the **East coast**. Continued heat in the **Southwest** and warmth ahead of the fronts led to more than 75 daily record highs. Dry weather dominated from the **Plains** westward, leaving the **central Plains** parched for a fourth consecutive week. A pocket of cold air at midweek brought daily record lows to 20 locations from the **Midwest** to the **Southeast**. Early in the week, showers and thunderstorms intensified as the first front crossed the **Mississippi Valley**. A low pressure system developed on the front, spreading heavy rain from the **Middle Atlantic States** to **New England**. More than 3 inches of rain drenched **Norfolk, VA**. Cool air trailed the storminess, dropping the temperature to 25° F in **Toledo, OH**, and to 35° F in **Montgomery, AL**. On Wednesday, Tropical Storm Fabian

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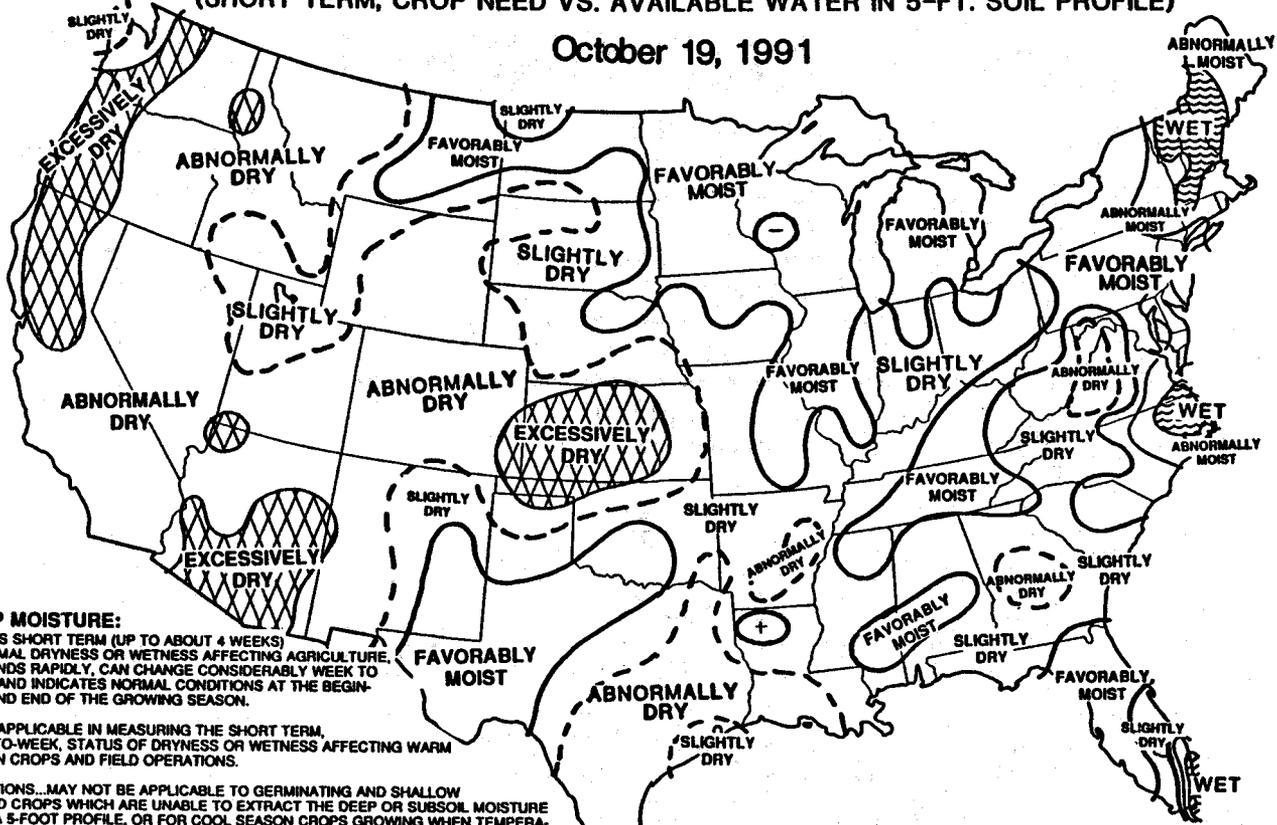
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CROP MOISTURE

(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)

October 19, 1991



CROP MOISTURE:

DEPICTS SHORT TERM (UP TO ABOUT 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE. RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK, AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.

USES... APPLICABLE IN MEASURING THE SHORT TERM, WEEK-TO-WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS.

LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A 5-FOOT PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55°F. IT IS NOT GENERALLY INDICATIVE OF THE LONG TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

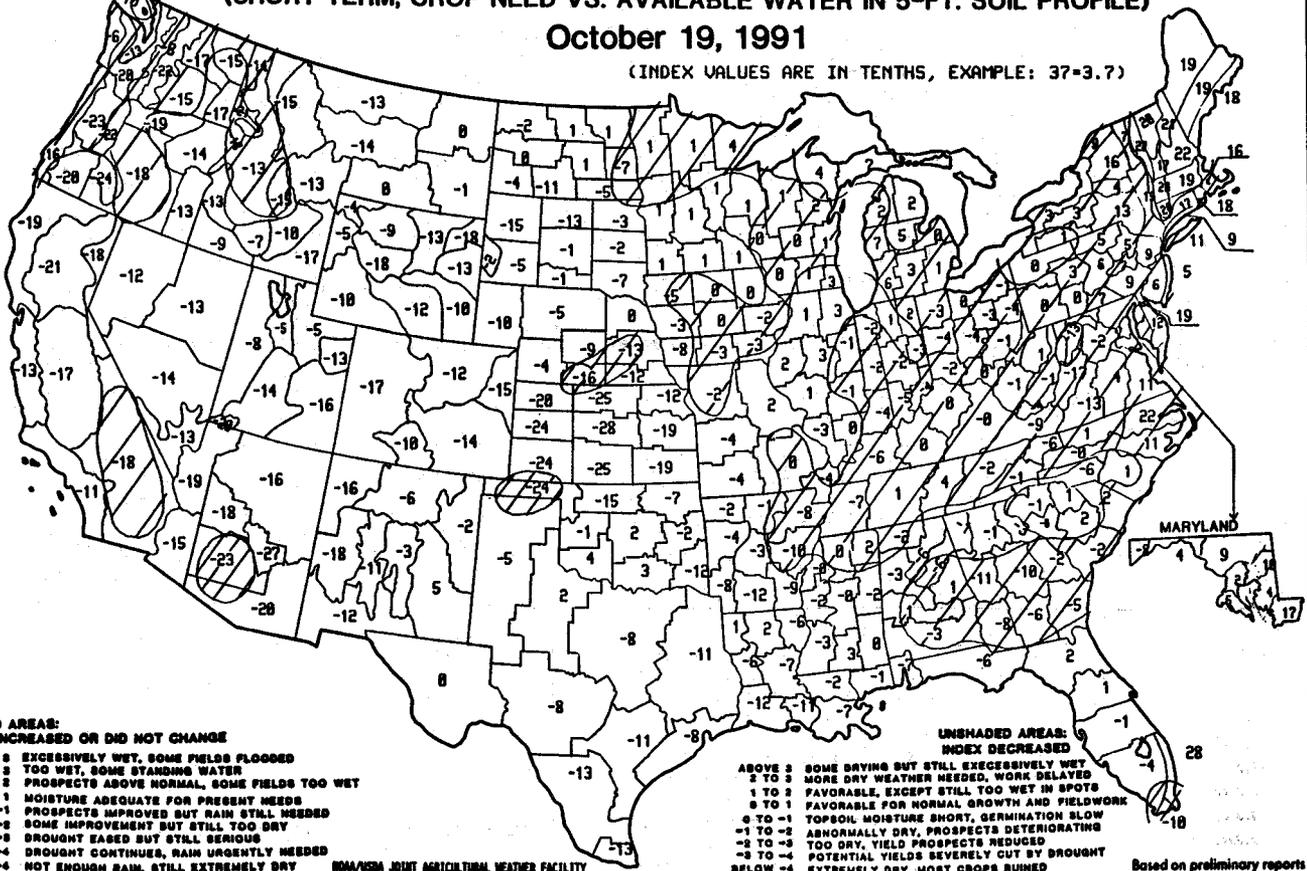
Based on preliminary reports

CROP MOISTURE INDEX

(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)

October 19, 1991

(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)



SHADED AREAS:

INDEX INCREASED OR DID NOT CHANGE

- ABOVE 8 EXCESSIVELY WET, SOME FIELDS FLOODED
- 2 TO 3 TOO WET, SOME STANDING WATER
- 1 TO 2 PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
- 0 TO 1 MOISTURE ADEQUATE FOR PRESENT NEEDS
- 0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
- 1 TO -2 SOME IMPROVEMENT BUT STILL TOO DRY
- 2 TO -3 BROUGHT EASER BUT STILL SERIOUS
- 3 TO -4 DROUGHT CONTINUES, RAIN URGENTLY NEEDED
- BELOW -4 NOT ENOUGH RAIN, STILL EXTREMELY DRY

UNSHADED AREAS:

INDEX DECREASED

- ABOVE 8 SOME DRYING BUT STILL EXCESSIVELY WET
- 2 TO 3 MORE DRY WEATHER NEEDED, WORK DELAYED
- 1 TO 2 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
- 0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
- 0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
- 1 TO -2 ABNORMALLY DRY, PROSPECTS DETERIORATING
- 2 TO -3 TOO DRY, YIELD PROSPECTS REDUCED
- 3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DROUGHT
- BELOW -4 EXTREMELY DRY, MOST CROPS RUINED

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

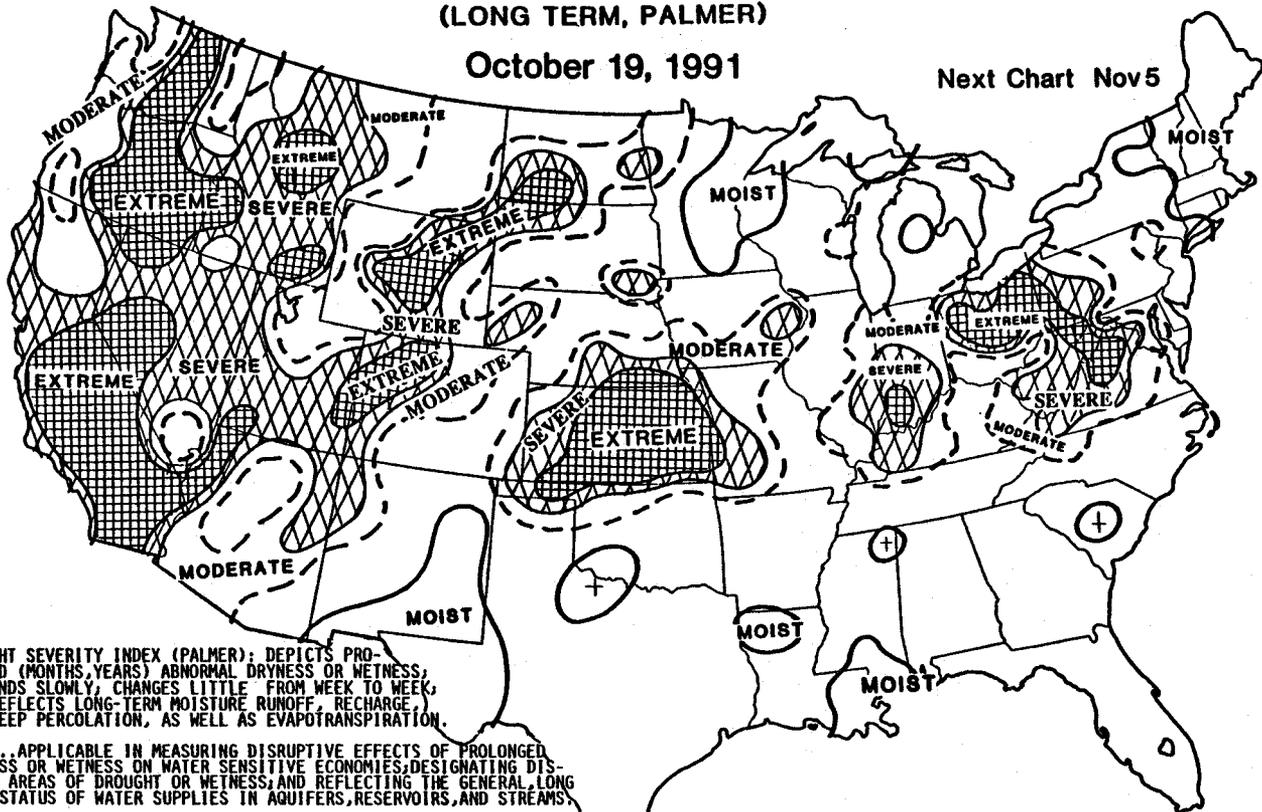
Based on preliminary reports

DROUGHT SEVERITY

(LONG TERM, PALMER)

October 19, 1991

Next Chart Nov 5



DROUGHT SEVERITY INDEX (PALMER): DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; RESPONDS SLOWLY, CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.

USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES; DESIGNATING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.

LIMITATIONS... IS NOT GENERALLY INDICATIVE OF SHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

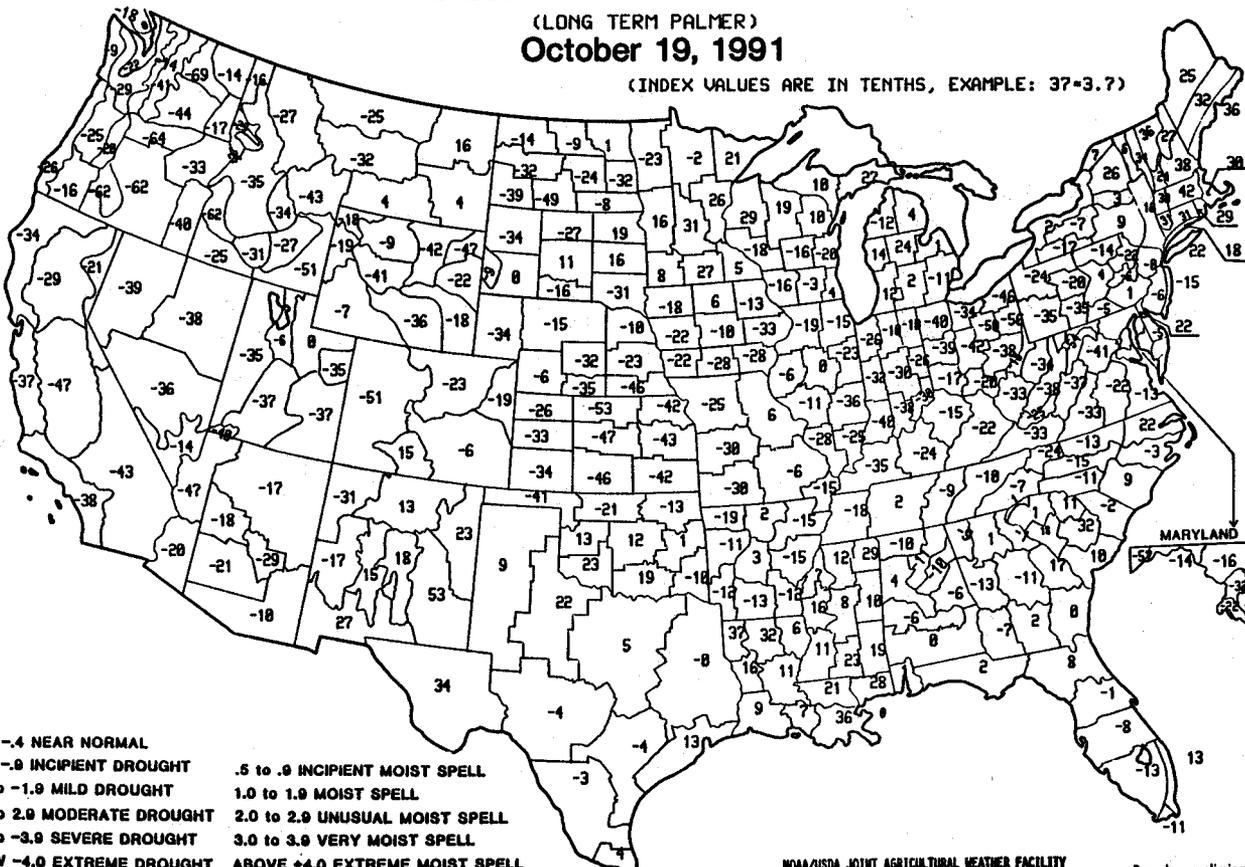
Based on preliminary reports

DROUGHT SEVERITY INDEX BY DIVISION

(LONG TERM PALMER)

October 19, 1991

(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37-3.7)



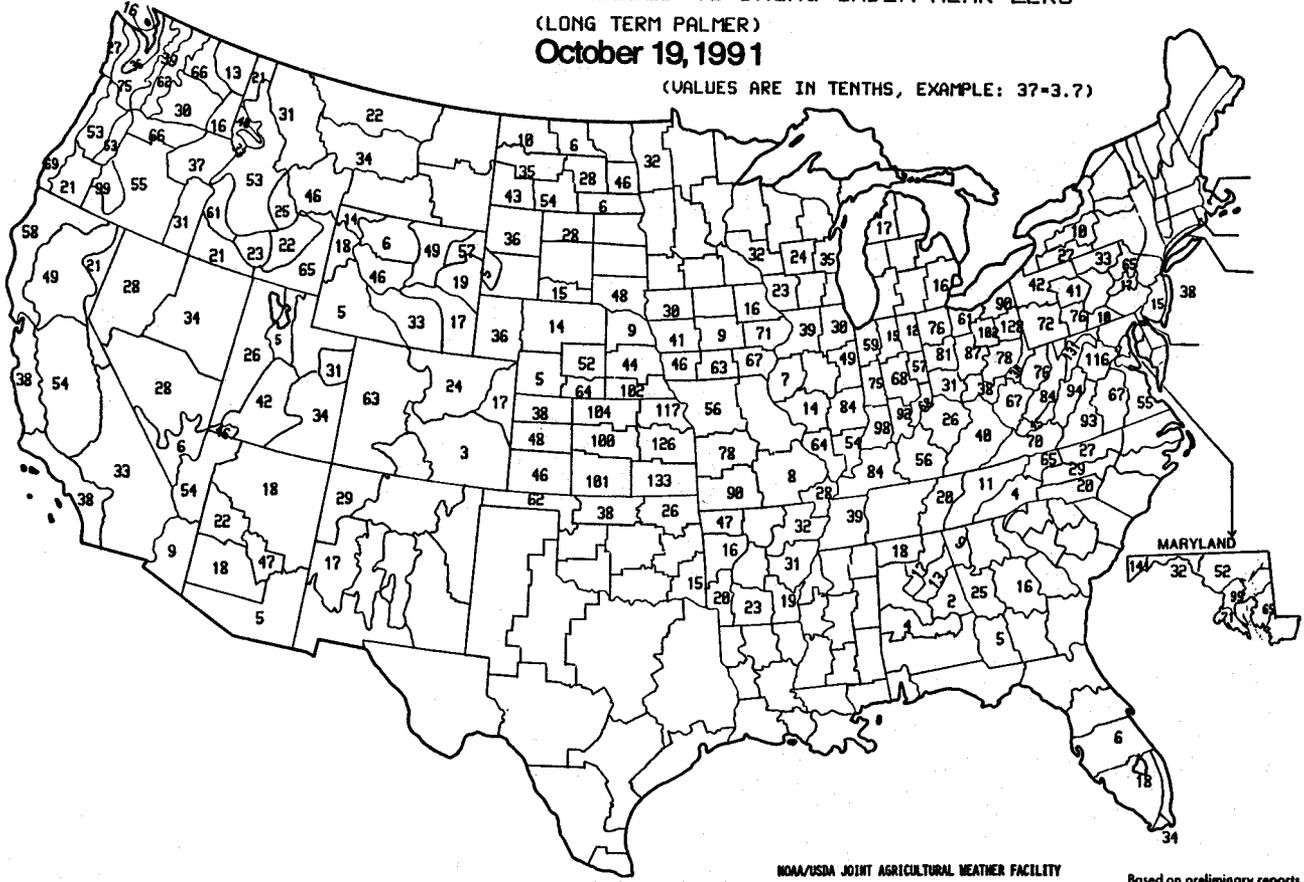
- .4 to -.4 NEAR NORMAL
- .5 to -.9 INCIPIENT DROUGHT
- 1.0 to -1.9 MILD DROUGHT
- 2.0 to 2.0 MODERATE DROUGHT
- 3.0 to -3.9 SEVERE DROUGHT
- BELOW -4.0 EXTREME DROUGHT
- .5 to .9 INCIPIENT MOIST SPELL
- 1.0 to 1.9 MOIST SPELL
- 2.0 to 2.9 UNUSUAL MOIST SPELL
- 3.0 to 3.9 VERY MOIST SPELL
- ABOVE +4.0 EXTREME MOIST SPELL

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports

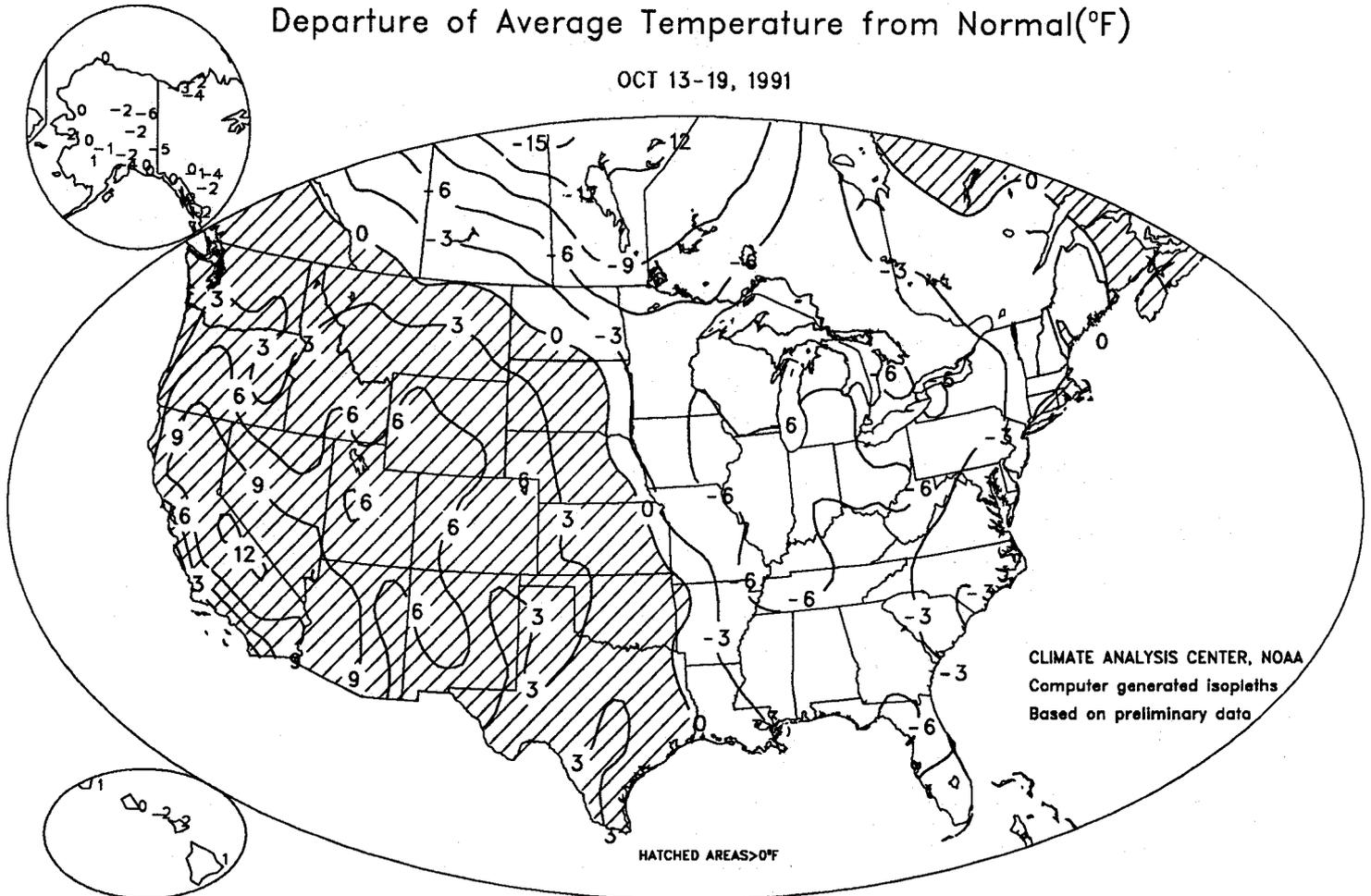
ADDITIONAL PRECIPITATION NEEDED TO BRING INDEX NEAR ZERO
 (LONG TERM PALMER)
October 19, 1991

(VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)



Departure of Average Temperature from Normal(°F)

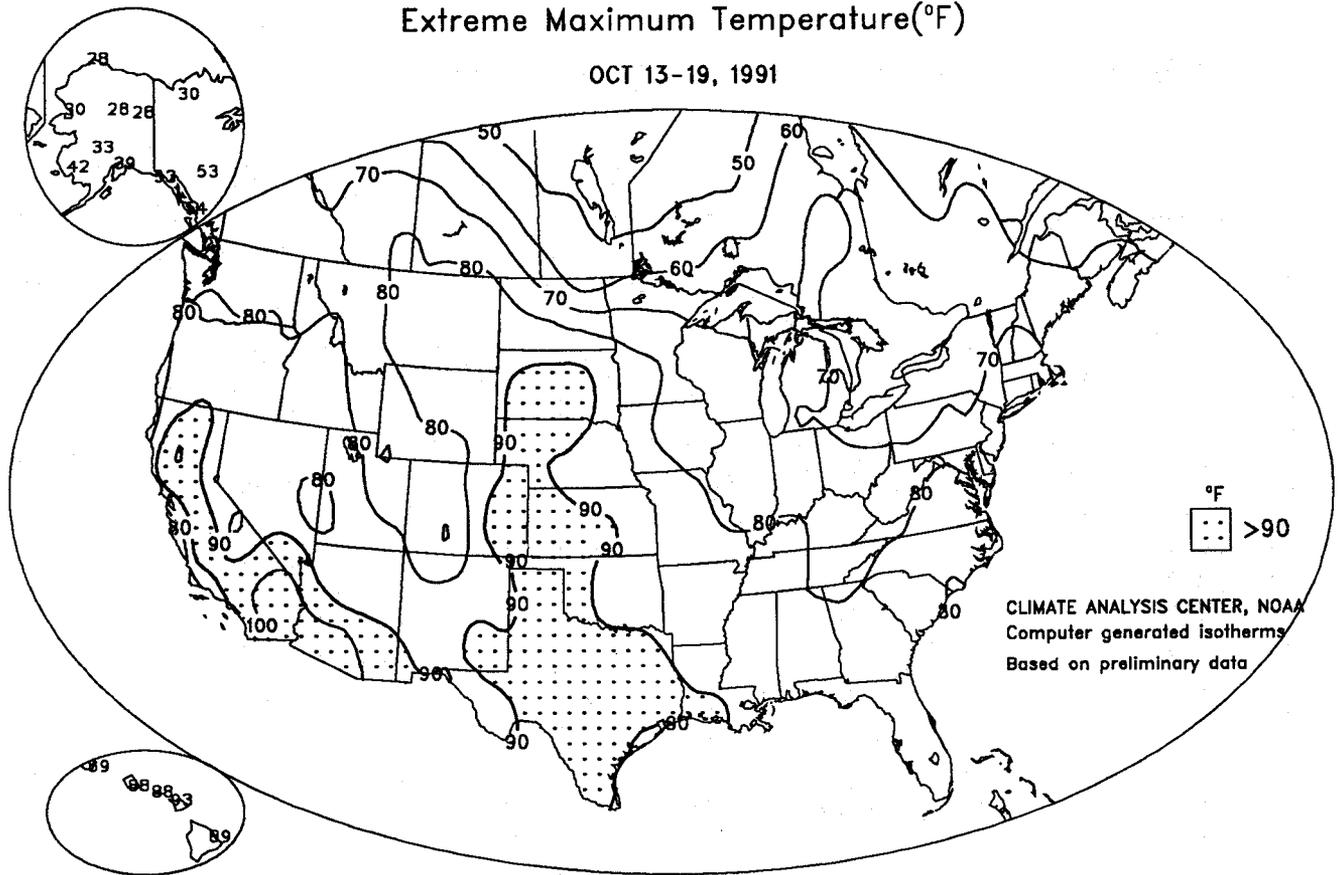
OCT 13-19, 1991



HATCHED AREAS > 0°F

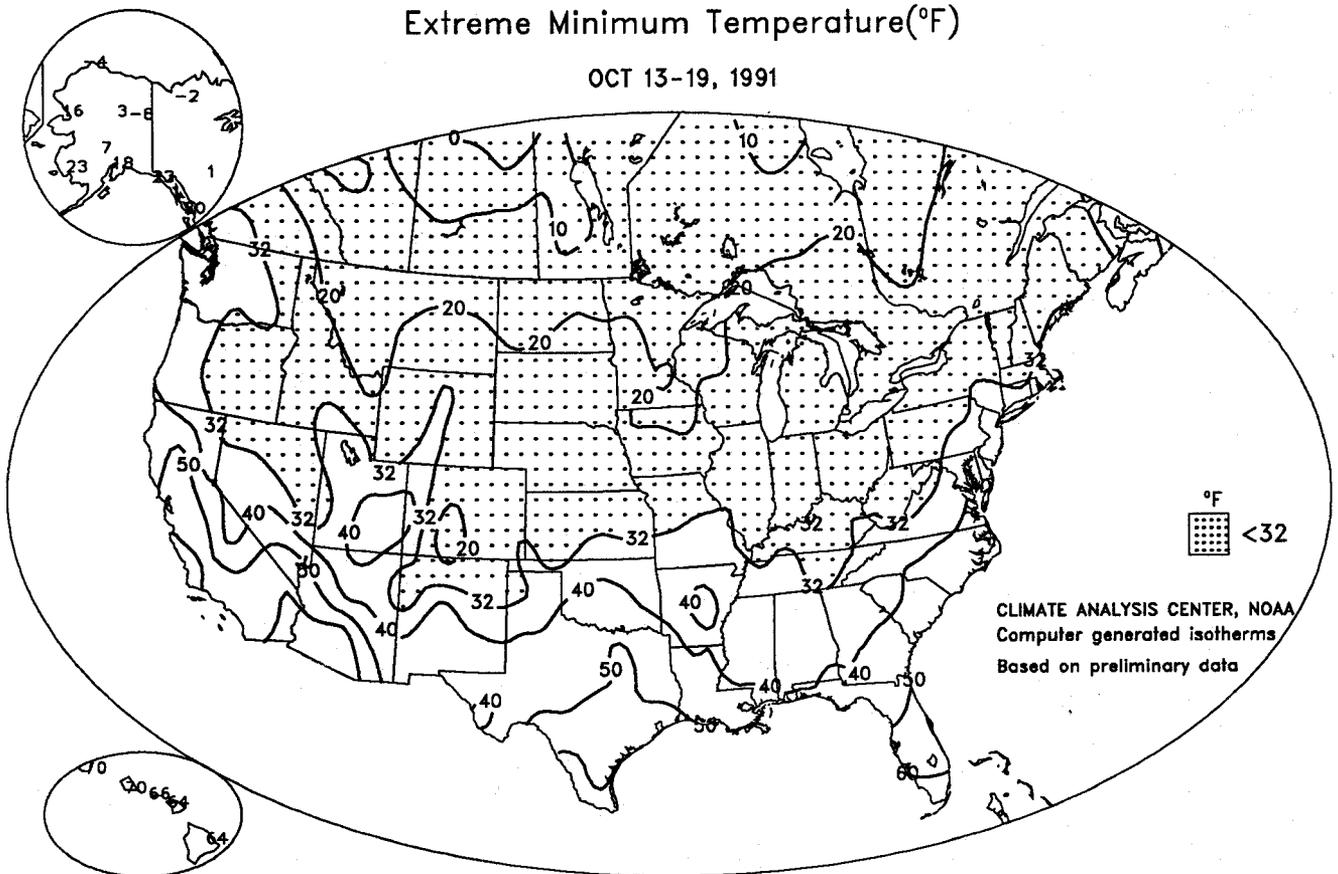
Extreme Maximum Temperature(°F)

OCT 13-19, 1991



Extreme Minimum Temperature(°F)

OCT 13-19, 1991



National Weather Data for Selected Cities

Weather Data for the Week Ending October 19, 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 Sept 1	PCT. NORMAL SINCE Sept 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		
AL BIRMINGHAM	76	42	83	34	59	-4	.4	-5	T	3.1	51	45.3	101	90	26	0	0	0	0	0	0	
MOBILE	80	49	87	38	64	-4	.6	-5	.0	2.6	31	72.7	133	96	30	0	0	0	0	0	0	
MONTGOMERY	75	42	86	35	60	-5	1.7	.1	.6	4.6	74	56.3	139	96	28	0	0	0	0	1	1	
AK ANCHORAGE	38	26	40	18	30	-4	1.7	1.3	.8	5.2	145	13.8	113	97	71	0	0	0	0	4	4	
BARROW	21	6	28	-4	14	-1	.4	-1	T	.4	45	1.4	34	94	82	0	0	0	0	7	7	
FAIRBANKS	30	14	33	8	22	-3	.3	.1	.2	1.4	91	7.5	86	91	57	0	0	0	0	3	3	
JUNEAU	48	37	54	27	43	1	2.3	.6	.9	22.7	202	64.2	159	98	68	0	0	0	0	3	3	
KODIAK	47	36	55	29	42	1	2.0	.4	.8	12.7	120	67.6	145	93	60	0	0	0	0	2	4	
NOME	32	21	33	18	26	-2	.4	-3	T	4.3	136	12.9	102	82	61	0	0	0	0	7	7	
AZ PHOENIX	100	71	103	69	85	12	.0	-1	.0	.8	80	4.3	81	36	15	7	0	0	0	0	0	
PRESCOTT	85	46	89	43	66	11	.0	-3	.0	1.4	64	11.1	72	52	11	0	0	0	0	0	0	
TUCSON	97	61	100	58	79	9	.0	-2	.0	1.5	80	7.8	85	39	11	7	0	0	0	0	0	
YUMA	102	71	105	62	86	10	.0	-1	.0	.4	95	2.2	121	51	13	7	0	0	0	0	0	
AR FORT SMITH	78	47	89	37	63	0	.0	-7	.0	4.9	95	29.1	91	83	29	0	0	0	0	0	0	
LITTLE ROCK	72	51	83	46	62	-1	.3	-3	.3	2.5	42	42.9	109	59	39	0	0	0	0	1	0	
CA BAKERSFIELD	93	62	96	59	77	9	.0	-1	.0	T	4	4.6	111	51	20	5	0	0	0	0	0	
EUREKA	66	50	69	46	58	4	.0	-6	.0	T	1	17.8	72	96	65	0	0	0	0	0	0	
FRESNO	93	59	95	56	76	11	.0	-1	.0	T	0	8.5	116	74	25	6	0	0	0	0	0	
LOS ANGELES	74	60	82	59	67	1	.0	.0	.0	.1	53	8.1	95	98	65	0	0	0	0	0	0	
REDDING	95	53	103	51	74	8	.0	-4	.0	.0	0	17.3	64	61	13	7	0	0	0	0	0	
SACRAMENTO	92	54	96	52	73	9	.0	-2	.0	T	6	12.7	112	83	21	5	0	0	0	0	0	
SAN DIEGO	74	63	81	59	68	1	T	-1	T	.3	90	11.1	170	94	65	0	0	0	0	0	0	
SAN FRANCISCO	75	53	82	51	64	3	.0	-2	.0	T	6	11.3	87	94	49	0	0	0	0	0	0	
CO DENVER	73	39	89	32	56	4	.0	-2	.0	1.0	53	16.9	127	63	16	0	1	0	0	0	0	
GRAND JUNCTION	78	46	80	43	62	7	.0	-2	.0	2.3	185	6.4	101	36	12	0	0	0	0	0	0	
PUEBLO	78	38	94	30	58	4	.0	-2	.0	1.3	102	10.6	109	47	14	2	2	0	0	0	0	
CT BRIDGEPORT	63	47	70	38	55	-1	1.0	.3	.6	5.2	99	33.2	102	86	50	0	0	0	0	2	1	
HARTFORD	64	41	74	33	53	0	1.0	.3	.4	8.4	139	39.8	115	93	41	0	0	0	0	3	0	
DC WASHINGTON	68	47	81	42	57	-2	1.6	.9	1.2	5.5	111	23.7	75	91	44	0	0	0	0	3	1	
FL APALACHICOLA	78	54	83	48	66	-4	T	-7	T	2.7	25	88.5	185	93	44	0	0	0	0	0	0	
DAYTONA BEACH	79	58	83	53	69	-4	T	-1.0	T	8.2	84	64.9	154	98	48	0	0	0	0	1	0	
JACKSONVILLE	82	53	88	48	68	-3	.0	-9	.0	12.4	136	78.3	169	96	36	0	0	0	0	0	0	
KEY WEST	82	74	85	70	78	-2	2.2	1.0	1.7	9.0	94	36.8	113	90	64	0	0	0	0	2	1	
MIAMI	84	69	88	62	76	-2	2.1	.5	1.0	28.8	225	66.1	131	92	59	0	0	0	0	4	2	
ORLANDO	82	62	87	54	72	-3	1.4	.7	1.4	8.8	103	59.9	134	97	47	0	0	0	0	1	1	
TALLAHASSEE	83	45	88	37	64	-5	T	-7	T	2.1	24	70.0	126	98	29	0	0	0	0	0	0	
TAMPA	83	60	88	51	71	-3	T	-5	T	3.9	50	41.0	98	97	46	0	0	0	0	1	0	
WEST PALM BEACH	83	67	87	58	75	-2	1.5	-3	1.4	12.7	88	71.8	140	94	54	0	0	0	0	4	1	
GA ATLANTA	74	47	80	41	61	-2	.3	-2	.3	2.4	52	50.0	126	79	32	0	0	0	0	1	0	
AUGUSTA	78	43	87	39	60	-3	.5	.0	.5	1.9	40	52.5	142	99	35	0	0	0	0	1	0	
MACON	79	43	87	38	61	-4	-1	-3	.1	1.0	22	47.9	127	96	28	0	0	0	0	1	0	
SAVANNAH	79	50	85	43	65	-2	.8	.3	.8	1.7	25	65.2	147	92	36	0	0	0	0	1	1	
HI HILO	86	68	89	64	77	2	.4	-1.9	.2	10.9	90	127.3	133	94	59	0	0	0	0	2	0	
HONOLULU	86	73	88	70	80	1	3.3	2.9	1.8	3.9	249	15.0	95	88	59	0	0	0	0	4	2	
KAHULUI	89	70	93	64	80	2	.0	-2	.0	1.2	176	10.5	81	89	52	2	0	0	0	0	0	
LIHUE	84	73	89	70	79	1	2.7	1.7	1.3	3.8	79	27.9	90	91	64	0	0	0	0	3	2	
ID BOISE	74	38	87	27	56	4	T	-2	T	.2	22	6.5	76	59	19	0	2	0	0	0	0	
LEWISTON	66	41	75	31	54	2	T	-2	T	.2	18	8.8	88	54	24	0	1	0	0	0	0	
POCATELLO	68	39	79	31	54	5	T	-2	T	.7	56	11.0	131	57	19	0	2	0	0	0	0	
IL CHICAGO	58	35	74	28	46	-7	.6	-1	.2	6.3	116	26.7	92	85	39	0	3	3	0	0	0	
MOLINE	61	35	80	26	48	-6	.4	-2	.3	5.6	101	24.8	77	86	36	0	0	0	3	2	0	
PEORIA	59	35	74	29	47	-7	.2	-3	.1	8.5	159	28.1	93	91	41	0	3	3	0	0	0	
QUINCY	61	38	80	27	50	-6	.1	-7	.1	8.1	128	30.7	94	80	35	0	1	1	0	0	0	
ROCKFORD	58	32	76	26	45	-7	.4	-3	.3	7.6	137	24.6	78	88	37	0	4	2	0	0	0	
SPRINGFIELD	61	37	74	30	49	-7	.2	-4	.2	8.4	173	30.9	106	87	37	0	2	2	0	0	0	
IN EVANSVILLE	65	36	80	27	51	-6	.2	-3	.2	3.8	92	23.4	70	90	36	0	3	3	0	0	0	
FORT WAYNE	59	34	72	26	47	-6	.4	-2	.3	5.5	135	33.9	119	88	38	0	0	0	2	0	0	
INDIANAPOLIS	63	36	76	26	49	-5	.3	-2	.2	2.4	56	27.9	87	88	36	0	2	2	0	0	0	
SOUTH BEND	58	37	70	29	47	-6	.4	-3	.3	7.4	142	27.9	90	88	45	0	2	4	0	0	0	
IA DES MOINES	62	37	80	24	50	-5	T	-5	T	2.3	52	30.4	111	73	30	0	3	0	0	0	0	
SIoux CITY	64	35	84	19	50	-3	T	-4	T	3.0	81	21.4	92	75	28	0	3	0	0	0	0	
WATERLOO	58	33	77	19	45	-1	.1	-4	.1	4.8	97	34.8	119	84	37	0	3	2	0	0	0	
KS CONCORDIA	71	45	90	27	58	1	.0	-4	.0	.2	5	15.3	62	61	20	1	1	0	0	0	0	
DODGE CITY	76	46	93	27	61	3	T	-3	T	.2	7	7.3	39	56	17	1	1	0	0	0	0	
GOODLAND	75	42	93	31	58	6	.0	-2	.0	.8	38	19.9	134	54	18	2	1	0	0	0	0	
TOPSKA	72	44	90	27	58	0	.0	-6	.0	2.5	47	21.7	74	64	25	1	1	0	0	0	0	
WICHITA	74	48	90	34	61	2	T	-6	T	2.1	41	21.3	84	65	26	1	0	0	0	0	0	
KY LEXINGTON GREEN	66	37	81	30	51	-6	.2	-4	.2	4.0	83	35.3	89	99	50	0	2	1	0	0	0	
LEXINGTON	64	39	76	30	51	-6	.2	-3	.2	3.9	85	32.4	86	89	39	0	1	1	0	0	0	
LOUISVILLE	68	41	80	34	54	-3	.1	-5	.1	3.6	74	29.7	84	85	36	0	0	0	1	0	0	
LA ALEXANDRIA	81	49	90	43	65	-2	.0	-7	.0	2.0	43	61.1	145	95	30	1	0	0	0	0	0	
BATON ROUGE	82	51	90	43	66	-2	T	-6	T	6.3	104	63.5	138	95	31	1	0	0	1	0	0	
LAKE CHARLES	83	54	89	47	69	-1	.0	-8	.0	3.7	45	61.6	142	96	37	0	0	0	0	0	0	
NEW ORLEANS	80	56	88	44	68	-1	.0	-5	.0	3.4	45	95.7	194	94	35	0	0	0	0	0	0	

Based on 1951-80 normals

Weather Data for the Week Ending October 19, 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 Sept 1	PCT. NORMAL SINCE Sept 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE	MAXIMUM	MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE		.50 INCH OR MORE	
																			TEMP. °F	PRECIP.		
SHREVEPORT	81	50	89	44	66	-1	T	-6	T	3.5	72	67.0	191	95	36	0	0	0	0	0	0	
ME CARIBOU	51	34	56	27	43	-1	1.2	.5	.7	7.1	132	30.8	107	94	69	0	0	2	6	1	0	
PORTLAND	60	38	68	30	49	1	.8	-1	.3	8.0	146	48.5	149	97	53	0	0	2	4	0	0	
MD BALTIMORE	67	44	80	36	56	-1	2.3	1.6	2.1	6.2	115	24.4	72	91	45	0	0	0	3	1	1	
SALISBURY	67	45	80	34	56	-1	2.0	1.1	1.4	7.1	113	39.5	106	98	53	0	0	0	3	1	1	
MA BOSTON	63	45	72	40	54	-1	1.5	.7	.8	8.9	165	33.9	101	89	51	0	0	0	4	1	1	
CHATHAM	61	49	65	42	55	1	2.5	1.7	1.5	6.5	110	28.8	80	89	67	0	0	0	3	2	0	
MI ALPENA	54	32	73	25	43	-5	.4	-1	.2	4.8	108	26.8	112	91	52	0	0	4	3	0	0	
DETROIT	58	36	69	28	47	-5	.3	-1	.2	2.4	67	22.5	90	85	39	0	2	3	0	0	0	
FLINT	55	32	71	25	44	-7	.5	.0	.2	2.8	79	25.2	106	88	46	0	4	4	0	0	0	
GRAND RAPIDS	55	33	71	28	44	-7	.8	.2	.4	6.1	126	33.5	124	91	47	0	4	4	0	0	0	
HOUGHTON LAKE	51	35	71	28	43	-4	.7	.2	.3	8.2	194	29.1	127	88	54	0	3	4	0	0	0	
LANSING	55	32	70	24	43	-7	.8	.4	.3	3.5	85	24.3	100	93	48	0	4	4	0	0	0	
MARQUETTE	53	29	73	22	41	-3	.4	-.3	.2	5.6	93	27.4	90	85	47	0	5	4	0	0	0	
MUSKOGON	54	36	71	26	45	-6	1.2	.5	.7	7.7	167	32.3	131	87	46	0	4	4	1	0	0	
SAULT ST. MARIE	51	32	76	25	42	-4	.7	.0	.5	8.3	146	25.6	97	86	58	0	4	3	0	0	0	
MN ALEXANDRIA	54	33	81	26	44	-3	.4	-.4	.5	4.4	125	26.2	119	77	36	0	4	0	0	0	0	
DULUTH	50	29	71	19	39	-5	.4	-1	.2	10.2	219	35.9	140	80	46	0	5	2	0	0	0	
INT'L FALLS	47	27	63	14	37	-6	.5	-1	.3	5.7	131	24.4	114	85	47	0	5	2	0	0	0	
MINNEAPOLIS	57	35	79	23	46	-4	.4	-.4	.5	5.7	155	28.1	120	71	33	0	3	0	0	0	0	
ROCHESTER	55	30	74	16	42	-7	.3	-.2	.3	2.9	59	28.1	112	82	42	0	3	3	0	0	0	
MS GREENWOOD	76	44	83	36	60	-3	.0	-.6	.5	3.7	75	53.2	127	95	32	0	0	0	1	0	0	
JACKSON	79	44	86	36	62	-3	.0	-.5	.0	3.7	74	52.7	127	98	31	0	0	0	0	0	0	
MERIDIAN	78	43	84	35	61	-3	.0	-.6	.5	6.1	117	60.6	140	93	27	0	0	0	1	0	0	
MO CAPE GIRARDEAU	68	40	82	32	54	-1	.2	-.4	.2	3.4	66	31.5	87	85	29	0	1	1	0	0	0	
COLUMBIA	66	40	83	30	53	-5	.2	-.5	.2	5.0	83	26.9	85	78	33	0	1	1	0	0	0	
KANSAS CITY	68	42	85	26	55	-2	.0	-.8	.0	4.3	66	23.1	72	67	29	0	1	0	0	0	0	
SAINT LOUIS	66	44	78	35	55	-2	.0	-.4	.2	5.2	126	24.7	88	76	32	0	0	0	0	0	0	
SPRINGFIELD	70	44	85	38	57	-1	.2	-.7	.0	4.5	71	27.4	83	72	31	0	0	0	0	0	0	
MT BILLINGS	70	41	86	30	56	6	.0	-.3	.0	3.4	169	18.4	144	65	21	0	1	0	0	0	0	
GLASGOW	64	31	86	15	48	1	.0	-.1	.0	7.7	81	10.4	103	61	25	0	4	0	0	0	0	
GREAT FALLS	65	36	80	18	51	2	.0	-.2	.0	1.2	81	12.6	96	67	22	0	3	1	0	0	0	
HAVRE	63	30	83	14	46	0	.0	-.1	.0	3.3	21	8.7	83	68	27	0	4	0	0	0	0	
HELENA	66	40	83	28	53	8	.0	-.1	.0	1.3	102	9.6	96	56	18	0	1	1	0	0	0	
KALISPELL	63	25	79	13	44	4	.0	-.2	.0	4.2	42	11.5	92	84	24	0	6	1	0	0	0	
MILES CITY	69	36	90	24	52	4	.0	-.2	.0	3.8	226	19.0	150	70	25	1	3	0	0	0	0	
MISSOULA	65	31	81	19	48	4	.0	-.2	.0	4.4	23	8.8	82	68	22	0	3	1	0	0	0	
NE GRAND ISLAND	69	39	86	25	54	1	.0	-.2	.0	1.0	31	24.7	116	64	23	0	2	0	0	0	0	
LINCOLN	69	40	85	25	54	0	.0	-.4	.0	1.2	29	19.3	78	67	23	0	3	0	0	0	0	
NORFOLK	65	36	85	22	51	-1	.0	-.3	.0	2.4	80	25.0	115	71	26	0	3	0	0	0	0	
NORTE PLATTE	70	36	89	26	53	3	.0	-.2	.0	2.2	96	17.2	96	82	22	0	3	1	0	0	0	
OMAHA	64	39	81	26	52	-3	.0	-.5	.0	2.7	55	31.4	114	65	36	0	3	0	0	0	0	
SCOTTSBLUFF	72	36	90	28	54	3	.0	-.2	.0	1.4	87	12.9	97	67	19	1	2	1	0	0	0	
VALENTINE	67	35	93	28	51	1	.1	-.1	.1	1.1	56	19.6	122	71	25	1	2	1	0	0	0	
NV ELY	76	31	82	28	54	7	.0	-.1	.0	1.3	122	8.3	112	54	17	0	6	0	0	0	0	
LAS VEGAS	94	63	96	61	78	10	.0	-.1	.0	.1	13	3.4	107	27	10	7	0	0	0	0	0	
RENO	83	41	89	40	62	12	.0	-.1	.0	.6	146	3.9	74	60	13	0	0	0	0	0	0	
WINNEMUCCA	80	33	86	30	57	8	.0	-.1	.0	.8	119	5.7	98	50	13	0	4	0	0	0	0	
NH CONCORD	62	33	72	27	47	-1	.5	-.2	.2	8.7	174	30.9	109	99	43	0	4	3	0	0	0	
NJ ATLANTIC CITY	66	45	80	32	56	-1	1.2	.5	1.0	4.0	86	29.9	90	99	53	0	1	3	1	0	0	
NM ALBUQUERQUE	81	48	85	44	65	7	.0	-.2	.0	1.4	106	7.9	118	43	13	0	0	0	0	0	0	
CLOVIS	77	46	86	33	61	3	.0	-.4	.0	3.5	114	19.8	128	57	19	0	0	0	0	0	0	
ROSWELL	82	47	93	41	65	5	.0	-.2	.0	4.1	164	17.5	184	60	19	2	0	0	0	0	0	
NY ALBANY	60	37	72	32	49	-2	1.3	.7	.9	7.1	142	28.0	99	96	50	0	2	4	1	0	0	
BINGHAMTON	55	36	67	29	45	-4	.8	.1	.5	4.0	77	25.9	88	95	51	0	1	5	1	0	0	
BUFFALO	54	36	63	30	45	-6	.2	-.4	.2	6.1	120	32.2	111	95	54	0	2	1	0	0	0	
NEW YORK	66	49	76	44	57	0	.9	.1	.6	4.8	89	33.0	97	89	47	0	0	3	1	0	0	
ROCHESTER	55	36	65	29	45	-6	.6	.0	.4	4.5	106	23.9	95	95	50	0	2	3	0	0	0	
SYRACUSE	56	37	68	32	47	-5	1.3	.6	1.1	6.7	130	31.1	100	95	56	0	1	3	1	0	0	
NC ASHEVILLE	68	38	80	32	53	-3	.2	-.5	.2	1.4	25	35.4	98	87	31	0	1	1	0	0	0	
CHARLOTTE	73	47	84	41	60	-1	.1	-.5	.1	2.2	42	39.4	110	86	31	0	0	1	0	0	0	
GREENSBORO	72	43	83	38	58	-1	.1	-.6	.1	5.6	99	37.3	106	88	35	0	0	1	0	0	0	
HATTERAS	72	56	80	48	64	-1	2.7	1.6	2.6	9.1	104	58.7	132	91	48	0	0	3	1	0	0	
NEW BERN	73	50	81	45	62	-2	2.2	1.5	1.1	8.2	102	45.1	100	94	45	0	0	3	2	0	0	
RALEIGH	71	46	81	41	59	-1	.5	-.2	.3	4.6	92	32.1	93	91	43	0	0	3	0	0	0	
WILMINGTON	74	49	81	46	62	-3	.3	-.4	.2	4.2	55	52.3	114	95	46	0	0	2	0	0	0	
ND BISMARCK	62	30	87	17	46	-1	.0	-.2	.0	2.5	132	13.6	97	76	28	0	4	1	0	0	0	
FARGO	55	29	81	19	42	-5	.1	-.2	.1	1.3	49	19.4	110	76	33	0	5	1	0	0	0	
GRAND FORKS	51	28	64	19	40	-6	.2	.0	.2	3.7	133	19.1	116	86	41	0	5	1	0	0	0	
WILLISTON	63	29	81	15	46	0	.0	-.2	.0	2.8	150	16.6	135	69	28	0	5	0	0	0	0	
OH AKRON-CANTON	58	36	68	31	47	-5	.2	-.3	.1	3.9	89	18.7	63	93	45	0	2	2	0	0	0	
CINCINNATI	63	38	75	32	51	-5	.4	-.2	.3	3.5	80	32.7	100	88	38	0	1	2	0	0	0	
CLEVELAND	59	38	67	31	48	-5	.5	-.1	.3	5.6	128	27.1	94	91	44	0	1	2	0	0	0	
COLUMBUS	61	34	72	29	48	-6	.4	.0	.4	5.7	146	27.5	89	96	40	0	3	2	0	0	0	

Based on 1951-80 normals

Weather Data for the Week Ending October 19, 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 Sept 1	PCT. NORMAL SINCE Sept 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	60	36	72	28	48	-6	.3	-.1	.2	4.4	122	31.0	108	89	40	0	2	2	0	
TOLEDO	59	36	69	25	47	-5	.3	-.1	.3	1.7	45	19.0	74	89	40	0	2	3	0	
YOUNGSTOWN	58	34	69	26	46	-5	.1	-.5	.1	4.1	87	21.3	70	95	43	0	3	2	0	
OK OKLAHOMA CITY	77	51	85	40	64	1	.1	-.6	.1	11.9	226	31.9	117	69	32	0	0	0	0	
TULSA	77	51	88	40	64	2	.0	-.8	.0	6.2	94	21.9	66	71	34	0	0	0	0	
OR ASTORIA	65	43	75	36	54	1	.2	-1.3	.1	.2	4	37.9	84	96	52	0	0	2	0	
BURNS	71	29	84	20	50	2	.0	-.2	.0	2	4.4	62	63	17	0	6	0	0	0	
MEDFORD	80	41	92	35	60	6	.6	-.4	.1	0	10.6	85	86	23	1	0	0	0	0	
PENDLETON	70	42	84	33	56	3	.0	-.2	.0	0	9.2	109	51	20	0	0	0	0	0	
PORTLAND	72	44	82	38	58	4	.1	-.6	.1	.1	3	21.5	89	91	33	0	0	1	0	
SALEM	73	40	85	33	56	3	.3	-.7	.2	.1	2	22.1	86	89	34	0	0	1	0	
PA ALLENTOWN	61	43	70	32	52	-1	1.6	-.9	1.0	5.9	101	28.4	80	94	50	0	1	3	1	
ERIE	57	41	63	36	49	-1	.3	-.5	.2	5.6	91	24.7	78	86	45	0	0	4	1	
HARRISBURG	63	44	72	35	53	-2	1.1	-.4	1.1	4.6	87	26.3	83	90	47	0	0	1	1	
PHILADELPHIA	65	47	76	41	56	0	1.4	-.8	1.0	5.2	101	30.8	92	91	50	0	0	2	1	
PITTSBURGH	61	35	71	28	48	-1	.1	-.5	.1	4.0	93	26.4	87	92	44	0	1	1	0	
SCRANTON	57	37	66	29	47	-1	1.4	-.8	1.0	5.0	100	23.7	84	96	56	0	0	3	0	
RI PROVIDENCE	65	45	74	36	55	-2	1.2	-.4	.5	7.0	122	37.2	106	91	47	0	0	4	1	
SC CHARLESTON	77	51	84	47	64	-2	.2	-.5	.2	3.1	44	46.4	103	94	40	0	0	2	1	
COLUMBIA	77	45	86	39	61	-3	.2	-.3	.3	3.0	51	58.4	138	97	39	0	0	2	0	
FLORENCE	76	47	83	41	61	-2	.3	-.3	.1	3.0	54	39.6	104	91	41	0	0	2	0	
GREENVILLE	73	41	86	35	57	-4	.4	-.7	.1	1.6	23	42.9	101	89	32	0	0	1	0	
SD ABERDEEN	61	36	90	27	48	1	.1	-.2	.1	.6	28	21.6	133	66	26	1	1	3	0	
HURON	63	36	92	27	50	1	.1	-.2	.2	2.1	93	21.7	129	70	27	1	3	0	0	
RAPID CITY	69	40	91	31	54	4	.2	-.5	.2	1.2	79	16.2	109	72	25	1	1	2	0	
SIoux FALLS	60	34	84	24	47	1	.1	-.2	.1	4.1	107	24.0	110	74	32	0	4	1	0	
TN CHATTANOOGA	72	41	79	34	56	-2	.2	-.5	.1	2.6	42	43.1	102	94	29	0	0	2	0	
KNOXVILLE	69	41	75	35	55	-3	.8	-.2	.6	4.2	93	42.8	114	94	35	0	0	2	1	
MEMPHIS	70	47	82	39	59	-1	.3	-.2	.3	2.7	54	45.4	110	74	31	0	0	1	0	
NASHVILLE	67	40	81	32	54	-6	.3	-.3	.3	6.1	116	33.0	84	93	38	0	1	1	0	
TX ABILENE	82	54	91	45	68	2	.0	-.8	.0	6.0	131	24.3	119	67	27	1	1	0	0	
AMARILLO	79	47	92	31	63	4	.0	-.3	.0	2.1	78	12.4	71	57	19	2	0	0	0	
AUSTIN	89	60	97	57	74	4	.0	-.8	.0	3.4	60	35.3	136	81	31	2	0	0	0	
BEAUMONT	84	58	92	52	71	1	.0	-.8	.0	7.1	93	62.3	140	95	38	1	0	0	0	
BROWNSVILLE	87	63	89	62	76	0	.0	-.8	.0	8.9	115	29.3	136	98	49	0	0	0	0	
CORPUS CHRISTI	87	62	89	59	75	1	.0	-.6	.0	8.6	100	36.3	131	99	47	1	0	0	0	
DEL RIO	88	60	94	56	74	3	.0	-.5	.0	7.1	167	17.4	115	67	28	2	0	0	0	
EL PASO	87	49	92	45	68	4	.0	-.2	.0	1.8	96	8.2	122	50	16	2	0	0	0	
FORT WORTH	84	56	93	50	70	2	.0	-.7	.0	4.6	86	34.4	131	77	29	1	0	0	0	
GALVESTON	80	69	84	63	74	2	.0	-.5	.0	5.5	70	50.5	153	84	53	0	0	0	0	
HOUSTON	86	58	94	50	72	1	.0	-.8	.0	2.9	37	44.2	118	98	39	1	0	0	0	
LUBBOCK	81	50	92	40	66	4	.0	-.4	.0	6.8	209	20.2	127	74	24	1	0	0	0	
MIDLAND	84	52	91	47	68	3	.0	-.3	.0	4.0	131	20.1	168	70	23	3	0	0	0	
SAN ANGELO	84	51	91	43	68	1	.0	-.5	.0	4.8	108	16.8	106	83	29	1	0	0	0	
SAN ANTONIO	90	59	97	57	75	4	.0	-.6	.0	1.4	26	27.5	114	82	28	3	0	0	0	
VICTORIA	89	60	96	55	75	3	.0	-.7	.0	3.1	36	46.5	148	96	42	2	0	0	0	
WACO	87	55	96	48	71	2	.0	-.7	.0	3.8	74	31.9	125	82	27	1	0	0	0	
WICHITA FALLS	82	52	93	47	67	1	.0	-.6	.0	8.3	161	24.3	105	78	29	2	0	0	0	
UT CEDAR CITY	78	41	82	37	60	8	.0	-.2	.0	1.1	84	9.0	108	42	12	0	0	0	0	
SALT LAKE CITY	74	45	85	42	60	7	.0	-.3	.0	2.6	168	13.2	109	64	18	0	0	0	0	
VT BURLINGTON	56	35	66	27	45	-3	1.5	-.8	.7	9.9	201	29.3	108	98	56	0	2	5	1	
VA NORFOLK	71	50	82	44	61	-1	3.3	2.6	1.9	6.7	104	38.7	103	90	47	0	0	3	2	
RICHMOND	70	44	84	37	57	-2	1.8	-.9	1.3	5.2	89	30.6	85	93	47	0	0	3	1	
ROANOKE	71	42	83	31	56	-1	.0	-.8	.0	.2	4	30.7	96	73	31	0	1	1	0	
WA QUILLAYUTE	63	40	82	30	52	2	.5	-1.9	.4	.7	6	67.8	95	98	58	0	1	2	0	
SEATTLE-TACOMA	66	45	77	40	56	3	.2	-.6	.2	.2	5	25.6	103	90	43	0	0	1	0	
SPOKANE	65	36	76	26	50	3	.0	-.2	.0	.1	1	9.7	85	64	23	0	2	0	0	
YAKIMA	70	34	78	28	52	2	.0	-.1	.0	.1	14	5.4	101	89	32	0	2	0	0	
WV BECKLEY	60	37	72	30	48	-3	.5	-.1	.5	3.4	64	29.8	84	92	43	0	1	1	0	
CHARLESTON	64	37	78	33	51	-5	.5	-.1	.5	6.6	144	31.6	90	98	46	0	0	2	0	
HUNTINGTON	65	37	79	28	51	-5	.3	-.2	.2	3.2	71	30.1	89	90	36	0	1	2	0	
PARKERSBURG	62	35	73	28	49	-7	.3	-.3	.2	5.1	118	35.3	111	95	46	0	2	2	0	
WI GREEN BAY	56	34	74	24	45	-4	.5	-.0	.4	3.6	80	20.0	84	86	41	0	4	3	0	
LACROSSE	57	35	77	24	46	-5	.2	-.2	.1	2.0	40	27.5	103	86	42	0	2	3	0	
MADISON	57	33	76	24	45	-5	.3	-.2	.2	5.3	119	29.5	111	88	41	0	5	4	0	
MILWAUKEE	58	37	75	30	48	-4	.4	-.1	.3	7.5	175	30.2	116	80	40	0	1	3	0	
WAUSAU	53	32	71	19	43	-5	.4	-.1	.2	4.8	89	30.4	109	83	46	0	4	3	0	
WY CASPER	69	37	83	31	53	6	.0	-.2	.0	.5	42	10.5	108	59	17	0	1	0	0	
CHEYENNE	68	40	82	32	54	6	.0	-.2	.0	2.0	134	17.4	143	51	17	0	2	0	0	
LANDER	70	38	83	31	54	7	.0	-.3	.0	.5	33	11.2	100	62	19	0	1	0	0	
SHERIDAN	66	39	87	32	53	5	.2	-.1	.1	1.8	97	12.5	96	73	26	0	2	2	0	

Based on 1951-80 normals

HEATING DEGREE DAYS (Base 65° F) September 1991

STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL
AL BIRMINGHAM	12	5	NEW ORLEANS	0	0	CINCINNATI	81	28
MOBILE	3	3	SHREVEPORT	9	9	DAYTON	111	41
MONTGOMERY	1	1	ME CARIBOU	383	41	TOLEDO	167	54
AK ANCHORAGE	414	-90	PORTLAND	228	27	YOUNGSTOWN	165	35
BARROW	1046	14	MD BALTIMORE	49	20	OK OKLAHOMA CITY	37	23
FAIRBANKS	504	-99	SALISBURY	61	35	TULSA	35	17
JUNEAU	435	-39	MA BOSTON	111	31	OR ASTORIA	147	-52
KODIAK	419	-34	CHATHAM	122	1	BURNS	176	-39
NOME	504	-177	MT ALPENA	304	48	MEDFORD	11	-81
AZ FLAGSTAFF	159	-70	DETROIT	151	45	PENDLETON	52	-68
PHOENIX	0	0	FLINT	218	74	PORTLAND	25	-86
PRESCOTT	8	-45	GRAND RAPIDS	211	81	SALEM	61	-70
TUCSON	0	0	HOUGHTON LAKE	295	53	PA ALLENTOWN	113	28
WINSLOW	12	0	LANSING	244	112	ERIE	130	0
YUMA	0	0	MARQUETTE	385	55	HARRISBURG	103	43
AR FORT SMITH	31	18	MUSKOGON	199	67	PHILADELPHIA	42	9
LITTLE ROCK	28	19	SAULT STE MARIE	338	32	PITTSBURGH	127	26
CA BAKERSFIELD	0	0	MN ALEXANDRIA	249	16	SCRANTON	160	43
EUREKA	225	-21	DULUTH	363	29	RI PROVIDENCE	125	31
FRESNO	0	0	INT'L FALLS	393	27	SC CHARLESTON	0	0
LOS ANGELES	0	-22	MINNEAPOLIS	228	68	COLUMBIA	6	6
REDDING	0	0	ROCHESTER	274	86	FLORENCE	7	7
SACRAMENTO	0	-6	SAINT CLOUD	285	45	GREENVILLE	22	15
SAN DIEGO	0	-4	MS GREENWOOD	14	5	SD ABERDEEN	206	9
SAN FRANCISCO	65	-15	JACKSON	4	4	HURON	192	21
STOCKTON	0	0	MERIDIAN	3	-2	RAPID CITY	183	-5
CO DENVER	118	-17	MO CAPE GIRARDEAU	76	55	SIoux FALLS	180	19
GRAND JUNCTION	37	-29	COLUMBIA	110	63	TN CHATTANOOGA	17	6
PUEBLO	76	-13	KANSAS CITY	96	55	KNOXVILLE	46	32
CT BRIDGEPORT	91	42	SAINT LOUIS	67	26	MEMPHIS	23	14
HARTFORD	156	54	SPRINGFIELD	102	59	NASHVILLE	42	23
DE WILMINGTON	64	28	MT BILLINGS	171	-43	TX ABILENE	33	27
DC WASHINGTON	27	13	GLASGOW	215	-45	AMARILLO	71	43
FL APALACHICOLA	0	0	GREAT FALLS	233	-35	AUSTIN	8	8
DAYTONA BEACH	0	0	HAVRE	227	-52	BEAUMONT	0	0
FORT MYERS	0	0	HELENA	220	-88	BROWNSVILLE	1	1
JACKSONVILLE	0	0	KALISPELL	300	-45	CORPUS CHRISTI	0	0
KEY WEST	0	0	MILES CITY	185	-30	DEL RIO	0	0
MIAMI	0	0	MISSOULA	202	-87	EL PASO	26	26
ORLANDO	0	0	NE GRAND ISLAND	110	6	FORT WORTH	12	12
TALLAHASSEE	0	0	LINCOLN	106	27	GALVESTON	0	0
TAMPA	0	0	NORFOLK	130	5	HOUSTON	0	0
WEST PALM BEACH	0	0	NORTH PLATTE	148	-3	LUBBOCK	69	56
GA ATLANTA	8	0	OMAHA	116	43	MIDLAND ODESSA	47	36
AUGUSTA	3	3	SCOTTSBLUFF	137	-35	SAN ANGELO	33	33
MACON	0	0	VALENTINE	157	-4	SAN ANTONIO	5	5
SAVANNAH	0	0	NV ELY	254	-7	VICTORIA	0	0
ID BOISE	55	-79	LAS VEGAS	0	0	WACO	10	10
LEWISTON	45	-84	RENO	41	-130	WICHITA FALLS	25	9
POCATELLO	176	-33	WINNEMUCCA	93	-100	UT BLANDING	32	-72
IL CHICAGO	163	88	NH CONCORD	238	47	CEDAR CITY	56	-58
MOLINE	147	74	NJ ATLANTIC CITY	102	75	SALT LAKE CITY	78	-19
PEORIA	143	78	NM ALBUQUERQUE	21	9	VT BURLINGTON	240	38
QUINCY	124	66	CLOVIS	73	41	VA LYNCHBURG	41	9
ROCKFORD	172	73	ROSWELL	59	50	NORFOLK	22	13
SPRINGFIELD	120	72	NY ALBANY	197	48	RICHMOND	25	1
IN EVANSVILLE	88	49	BINGHAMTON	220	42	ROANOKE	49	11
FORT WAYNE	164	65	BUFFALO	166	36	WA COLVILLE	135	-99
INDIANAPOLIS	105	43	NEW YORK	45	10	QUILLAYUTE	159	-93
SOUTH BEND	167	79	ROCHESTER	196	64	SEATTLE-TACOMA	90	-79
IA DES MOINES	144	64	SYRACUSE	189	56	SPOKANE	108	-101
DUBUQUE	197	73	NC ASHEVILLE	64	8	YAKIMA	63	-98
STOIX CITY	150	56	CAPE HATTERAS	0	0	WV BECKLEY	117	7
WATERLOO	217	80	CHARLOTTE	9	-1	CHARLESTON	80	28
KS CONCORDIA	62	-3	GREENSBORO	29	17	HUNTINGTON	75	13
DODGE CITY	55	12	NEW BERN	3	-3	PARKERSBURG	102	43
GOODLAND	87	-27	RALEIGH-DURHAM	24	15	WI GREEN BAY	250	58
TOPEKA	95	44	WILMINGTON	0	0	LA CROSSE	217	82
WICHITA	71	32	ND BISMARCK	236	-19	MADISON	222	61
KY BOWLING GREEN	62	31	FARGO	234	-2	MILWAUKEE	160	43
LEXINGTON	77	31	GRAND FORKS	264	-14	WAUSAU	303	77
LOUISVILLE	52	19	WILLISTON	262	-15	WY CASPER	192	-48
LA ALEXANDRIA	4	4	OH AKRON-CANTON	139	31	CHEYENNE	217	-18
BATON ROUGE	1	1	CLEVELAND	123	24	LANDER	179	-62
LAKE CHARLES	0	0	COLUMBUS	105	27	SHERIDAN	200	-55

Based on 1951-80 normals

National Agricultural Summary

October 14 - 20, 1991

HIGHLIGHTS: Heavy rains along the northern Atlantic coast slowed fieldwork, but provided much needed soil moisture to the region. Hot, dry weather persisted in the West, permitting harvest and planting activities to progress uninterrupted, but further drying parched soils.

SMALL GRAINS: Winter wheat seeding advanced to 83 percent (%) complete in the 19 major producing States, 4 percentage points ahead of last year and 3 points ahead of the 5-year average. Fifty-nine percent of the crop had emerged, compared with 62% last year and 61% average. Absence of topsoil moisture was reducing germination and emergence in Kansas. Seeding of winter barley and rye continued. Rainfall in the East benefited fall seeded grains, while dry soils concerned producers in the West.

CORN: Corn harvest continued to advance much earlier than normal with progress reaching 80% complete in the 17 major States, 34 points ahead of last year and 22 points ahead of the average. Harvest was well along in the eastern Corn Belt and southern States.

SOYBEANS: Soybean harvest neared completion in the northern producing States and was in full swing in the South. Harvest reached 73% complete in the 19 major producing States, 18 points ahead of last year and 12 points ahead of the average. Temperatures remained lower than normal in the eastern half of the Nation, and frost encouraged leaf drop from Missouri and Kentucky northward. Leaves were dropping on 93% of the acreage in the 19 major States, compared with 90% last year and 93% average.

COTTON: Cotton picking was well along in the Mississippi and Tennessee Valleys and gaining momentum in the West. Harvest was 42% complete in the 14 major producing States, compared with 44% last year and 40% average. Boll opening was nearly complete in all States except Oklahoma and Texas. Nationwide, bolls were opening on 83% of the acreage, compared with 88% last year and 83% average. High temperatures across the West benefited crop development. Second picking was starting in Arkansas.

GRAIN SORGHUM: Sorghum harvest continued to outpace both last year and the historic average, with progress well ahead of normal across the Midwest. Harvest was nearing completion in the Delta. Seventy-nine percent of the crop was harvested in the 12 major States, compared with 62% last year.

RICE: Rice harvest reached 91% complete in the five major producing States, 4 points ahead

of last year but 1 point behind the average. The first crop harvest was virtually complete in Louisiana, and the second crop cutting was underway. Dry weather in California allowed harvest to advance 30 points. Harvest remained in full swing in Arkansas and Mississippi.

OTHER FIELD CROPS: Alfalfa and other hay cutting continued, with alfalfa in the fourth cutting in most regions. Dry bean harvest was complete in Idaho and mostly harvested in the other producing States. Peanut digging neared completion in the Southeast and was about half complete in Oklahoma and Texas. Potato digging was in the later stages across the Nation. Sunflower harvest was also well along. Sugarbeet harvest was well advanced in the North Central States while in full swing in California, Ohio, and the Pacific Northwest.

FRUIT AND NUTS: Harvests of apples, dates, late variety table and wine grapes, olives, persimmons, and pomegranates remained active in California. Kiwifruit picking was underway, while almond, walnut, and pistachio harvests were winding down. California's new crop navel oranges neared picking time, while the Valencia orange harvest neared completion. Harvests of all early citrus varieties were active in Florida. Cranberry harvest was well advanced in the Northeast and continued in the Northwest. Apple harvest was virtually complete in New York as was the grape harvest in Ohio. Wine grape harvest continued in Oregon's Willamette Valley and Washington. Pecan harvest was gaining momentum in the southern tier States.

VEGETABLES: Melon and lettuce harvests were active in Arizona. Broccoli, cauliflower, celery, and lettuce picking continued in California. Increasing volumes of snap beans, sweet corn, cucumbers, eggplant, peppers, radishes, squash, and tomatoes were available in Florida. Fall cole crop harvests were underway in Oregon. Carrot, cabbage, and pumpkin harvests were in full swing in Texas.

PASTURES AND LIVESTOCK: Fall calving was underway in California, while sheep and cattle continued to move to winter ranges in the West. Very little wheat pasture was available in drought-stricken Kansas, and heavy culling was underway. Stocker cattle continued to move onto Texas' wheat fields where hornfly populations remained high.

Crop Progress

for week ending October 20, 1991

	Cotton % Bolls Opening		
	1991	1990	Avg.
AL	99	100	99
AZ	98	100	99
AR	97	98	97
CA	100	100	100
GA	95	97	94
LA	99	100	100
MS	99	100	99
MO	94	94	94
NM	95	98	96
NC	99	99	99
OK	67	93	73
SC	95	98	97
TN	100	100	100
TX	67	75	67
14 States	83	88	83

These 14 states produced 99% of the 1990 cotton crop.

	Cotton % Harvested		
	1991	1990	Avg.
AL	74	87	66
AZ	35	48	37
AR	72	58	62
CA	15	15	18
GA	42	74	52
LA	78	91	81
MS	68	80	74
MO	81	57	71
NM	9	8	10
NC	44	46	31
OK	5	21	10
SC	39	65	49
TN	68	60	66
TX	29	26	23
14 States	42	44	40

These 14 states produced 99% of the 1990 cotton crop.

	Grain Sorghum % Harvested		
	1991	1990	Avg.
AR	92	88	95
CO	63	31	32
IL	88	11	62
KS	75	60	40
LA	97	92	98
MS	94	94	95
MO	74	42	67
NE	96	69	66
NM	9	35	NA
OK	15	20	23
SD	96	82	55
TX	82	71	70
12 States	79	62	NA

Excl. States with NA 80 63 58

These 12 states produced 98% of the 1990 grain sorghum crop.

NA - not available.

**Soybeans
% Dropping Leaves**

	1991	1990	Avg.
AL	83	89	80
AR	67	59	65
GA	93	94	91
IL	100	93	99
IN	100	98	99
IA	100	100	100
KS	100	98	95
KY	93	75	88
LA	55	64	80
MI	100	100	100
MN	99	99	99
MS	82	81	87
MO	98	86	95
NE	100	100	100
NC	68	75	56
OH	100	100	100
SC	45	59	53
SD	100	100	100
TN	88	78	88
19 States	93	90	93

These 19 states produced 95% of the 1990 soybeans crop.

**Soybeans
% Harvested**

	1991	1990	Avg.
AL	28	44	31
AR	28	14	25
GA	16	22	17
IL	95	54	78
IN	91	41	63
IA	92	91	86
KS	85	60	45
KY	29	14	26
LA	38	54	49
MI	80	20	35
MN	93	93	88
MS	28	42	37
MO	60	38	50
NE	96	89	84
NC	9	14	9
OH	84	36	55
SC	10	10	6
SD	99	96	66
TN	20	15	27
19 States	73	55	61

These 19 states produced 95% of the 1990 soybeans crop.

**Corn
% Harvested**

	1991	1990	Avg.
CO	46	15	28
GA	100	97	97
IL	95	39	68
IN	91	23	47
IA	67	58	66
KS	95	85	75
KY	85	53	68
MI	60	10	20
MN	74	47	60
MO	90	65	76
NE	87	59	57
NC	88	89	84
OH	75	19	32
PA	48	8	21
SD	93	54	44
TX	92	98	96
WI	53	16	38
17 States	80	46	58

These 17 states produced 95% of the 1990 corn crop.

**Rice
% Harvested**

	1991	1990	Avg.
AR	92	80	92
CA	80	80	72
LA	99	98	99
MS	78	90	95
TX	100	100	100
5 States	91	87	92

These 5 states produced 98% of the 1990 rice crop.

Crop Condition

PERCENT

for week ending October 20, 1991

	Winter Wheat % Planted		
	1991	1990	Avg.
AR	32	14	26
CA	0	1	6
CO	98	98	98
GA	9	6	12
ID	84	92	90
IL	89	40	74
IN	84	48	66
KS	95	95	90
MI	90	70	70
MO	59	46	56
MT	97	99	91
NE	100	100	100
NC	25	17	20
OH	82	44	62
OK	88	90	82
OR	68	74	61
SD	100	100	100
TX	73	74	81
WA	82	94	91
19 States	83	79	80

These 19 states produced 91% of the 1990 winter wheat crop.

	Winter Wheat % Emerged		
	1991	1990	Avg.
AR	15	6	14
CA	0	0	0
CO	89	89	90
GA	5	3	8
ID	56	57	60
IL	45	18	34
IN	49	31	40
KS	65	80	70
MI	70	65	50
MO	32	29	36
MT	68	79	70
NE	90	93	97
NC	13	12	11
OH	45	25	32
OK	55	63	57
OR	28	48	31
SD	94	90	91
TX	55	52	62
WA	68	79	73
19 States	59	62	61

These 19 states produced 91% of the 1990 winter wheat crop.

State	Cotton				
	VP	P	F	G	EX
AL	0	1	30	59	10
AZ	0	0	17	50	33
AR	0	0	23	63	14
CA	0	0	10	90	0
GA	0	0	16	64	20
LA	0	0	26	63	11
MS	0	0	4	76	20
MO	0	0	58	42	0
NM	0	0	54	46	0
NC	0	0	19	75	6
OK	0	0	54	46	0
SC	0	0	36	64	0
TN	0	6	32	62	0
TX	0	13	39	45	3
14 State	0	6	30	57	7
Prev Week	0	4	37	54	5
Prev Year	NA				

VP - Very Poor P - Poor F - Fair

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 under 0.25, over 1.00 in. local areas. Temperatures 3 to 7° below normal.

Days suitable for fieldwork 6.1. Soil moisture 70% short, 30% adequate. Row crop harvest made excellent progress; rain needed for recently seeded small grains, pastures. Corn 98% harvested, 98% 1990, 94% avg. Sorghum 80% harvested, 94% 1990, 82% avg. Peanuts 94% dug, 99% 1990, 88% avg.; 91% combined, 96% 1990, 78% avg. Cotton 99% bolls opened, 100% 1990, 99% avg.; 74% harvested, 87% 1990, 66% avg.; 1% poor, 30% fair, 59% good, 10% excellent. Soybeans 96% turning color, 96% 1990, 93% avg.; 83% dropping leaves, 89% 1990, 80% avg.; 64% mature, 77% 1990, 63% avg.; 28% harvested, 44% 1990, 31% avg.; 5% poor, 40% fair, 55% good. Winter wheat 28% seeded, 29% 1990, 35% avg. Pastures 65% fair, 35% good. Livestock 22% fair, 74% good, 4% excellent. Activities: Harvesting cotton, hay, sorghum, soybeans, fall vegetables; digging, combining peanuts; preparing land, seeding winter annuals; mowing pastures; cutting, destroying cotton stalks; general care of livestock, poultry, catfish.

ARIZONA: Clear, dry, unseasonably warm throughout period. Rainfall none. Record high, south central, 16th, 100°; central areas set record for number of days in October with temperature 100° or more: 15. Old record 9 days. Temperatures 4 to 12° above normal.

Cotton bolls opening 98%, 100% 1990, 99% avg. Cotton harvested 35%, 48% 1990, 37% avg.; activities, defoliation, insect monitoring. Condition 17% fair, 50% good, 33% excellent. Alfalfa harvest moderate; renovation of stands, new plantings. Peanuts harvested, west. Lemon, grapefruit, cantaloupe, watermelon harvest, west, central. Red, green chile, pistachio, lettuce harvest, east. Pecan harvest, central. Mixed vegetables harvested, central, east.

ARKANSAS: Temperatures below normal. Cold front first of the week brought scattered showers, mainly northeast. Extremes 27°; 89°.

Days suitable for fieldwork 7. Soil moisture 86% short, 14% adequate. Corn harvested 98%, 98% 1990, 99% avg. Pasture 19% poor, 41% fair, 40% good. Alfalfa 17% poor, 36% fair, 47% good. Other hay 16% poor, 58% fair, 26% good. Livestock good. Activities: Harvesting rice, cotton, grain sorghum, corn, hay; seeding supplemental cool season forage. Pastures began to show drought stress in northwest, fire potential increasing. Cotton harvest past peak. Some producers second picking cotton. Gins running 24 hours a day.

CALIFORNIA: Strong high pressure provided record or near record high temperatures across most of the State. No rain was recorded.

Open weather permitted progress field activities. Rice harvest very active, ideal conditions. Stubble burned, air quality restrictions allowed. Cotton defoliation winding down. Harvest full swing. Shredding, discing following harvest; pink bollworm control. Corn, dry bean, sugar beet, sunflower harvests progressed. Alfalfa hay, sudan grass harvests normal. Field preparation small grains

slowed, low moisture. Some fields pre-irrigated. Harvest active in apples, dates, late variety table, wine grapes, olives, persimmons, pomegranates. Kiwifruit picking underway. Almond, walnut, pistachio harvests winding down. New crop Navel orange prepared for picking. Valencia 1990-91 crop harvest near completion. Salinas-Watsonville, Santa Maria areas, broccoli supplies moderate, good quality. Cauliflower heavy supplies Salinas-Watsonville area, Santa Maria area moderate, variable quality. Celery fairly heavy, good quality. Lettuce movement Salinas-Watsonville moderate, seasonally declining, variable quality; harvest moderate, good quality Santa Maria area. Fall lettuce harvest Fresno area in full swing. Honeydew harvesting done, Sacramento Valley area; small amounts cantaloupe picked, westside area. Fall potato digging active Tulalake-Butte Valley area, good quality. Winter potato planting, summer potato harvest continued, Perris-Hemet area. Fall quarter fresh market tomato harvest continued westside, Delta areas. Processing tomato harvest virtually complete, Sacramento Valley area. Other vegetables harvested: Beans, cherry tomatoes, cucumbers, eggplant, okra, peppers, pumpkins, squash, strawberries, sweet corn. Planting onions, garlic active, Westside area. Range conditions very poor to fair. Supplemental feeding continued. Water supplies poor. Fall calving underway. Livestock movement light.

COLORADO: High pressure system was responsible for warm, dry conditions until the 18th. Record high temperatures were set at several locations. Fast moving, dry cold front moved through eastern areas on the 19th which lowered temperatures 10 to 20°, brought no precipitation. Temperatures for the period generally 4 to 9° above normal.

Days suitable for fieldwork 6.7. Soil moisture 27% very short, 51% short, 22% adequate. Third cutting alfalfa hay 93% complete, 93% 1990, 89% avg.; fourth cutting 54% complete, 66% 1990, 42% avg. Oats 100% harvested, 100% 1990, 100% avg. Dry beans 95% harvested, 96% 1990, 94% avg. Sorghum is 93% mature, 92% 1990, 87% avg.; sorghum 63% harvested, 31% 1990, 32% avg. Fall potatoes 99% harvested, 83% 1990, 96% avg. Corn 98% mature, 97% 1990, 97% avg.; corn for grain 46% harvested, 15% 1990, 28% avg. Corn 2% poor, 15% fair, 68% good, 15% excellent; sorghum 5% poor, 23% fair, 57% good, 15% excellent. Onion harvest 98% complete, 98% 1990, 93% avg. Winter wheat 98% seeded, 98% 1990, 98% avg; winter wheat 89% emerged, 89% 1990, 90% avg. Livestock mostly good. Pasture, range feed good to excellent.

FLORIDA: Heavy rain 1.00 to 3.00 in., common across southeast areas. Local rainfall 1.00 to 2.00 in. inland central areas. Elsewhere, 0.50 in. or less. Temperatures 4 to 7° below normal central, 1 to 3° below normal south. Highs, mid to upper 80s. Lows, mid 30s to low 40s north, upper 40s to low 50s central, interior south, mid 50s to low 60s elsewhere southern areas.

Soil moisture Panhandle short to adequate; Peninsula adequate to surplus. Cotton harvest, sugarcane planting active. Sugarcane, soybean harvest starting. Peanut harvest slowing. Small grain planting active. State's pastures mostly

good. Pasture ratings 25% fair, 60% good, 15% excellent. States cattle herds mostly fair to good. Citrus groves excellent, moisture adequate. New growth slowed, fruit droppage normal. Harvest all early varieties active for fresh markets. Caretakers cutting cover crops, spraying, fertilizations almost complete. Warm days, cool nights over most major vegetable producing areas. Field preparation, planting active. Fall harvest continued southward movement. Increasing volume snap beans, sweet corn, cucumbers, eggplant, peppers, radishes, squash, tomatoes. First Palmetto-Ruskin tomatoes picked.

GEORGIA: Temperatures 1 to 3° below normal. Extreme highs around 80° mountains, upper 80s south. Coolest lows upper 20s northeast mountains, upper 30s south, upper 40s near coast. Rain on 1 or 2 days numerous locations first part of week. Typical totals under 0.50 in., only few isolated spots over 1.00 in.

Days suitable for fieldwork 5.9. Soil moisture 10% very short, 61% short, 29% adequate. Cotton harvest very active, yields good. Sorghum 1% poor, 23% fair, 75% good, 1% excellent; 81% harvested for grain, 82% 1990, 77% avg. Peanuts 10% poor, 59% fair, 31% good; 96% dug, 97% 1990, 93% avg.; 88% threshed, 93% 1990, 84% avg. Soybeans 6% poor, 47% fair, 47% good, Harvest gaining momentum. Wheat 53% fair, 45% good, 2% excellent, Planting delayed by dry soils. Rye 60% fair, 38% good, 2% excellent; 42% planted, 34% 1990, 42% avg. Other small grains 1% poor, 48% fair, 47% good, 4% excellent; 24% planted, 23% 1990, 28% avg. Apples 25% fair, 75% good; 90% harvested, 98% 1990, 93% avg. Pecans 8% very poor, 13% poor, 59% fair, 20% good; 12% harvested, 9% 1990, 9% avg.; Early yields disappointing. Hay 10% poor, 46% fair, 42% good, 2% excellent. Pasture 13% poor, 41% fair, 46% good, declining fast, some producers feeding hay. Cattle, hogs good. Activities: Preparing land for small grain seeding, routine care of livestock, poultry.

HAWAII: First winter storm drenched Oahu, Kauai islands. Heavy rains caused island-wide flooding, resulting in erosion, runoffs. Only minor crop damages reported in Oahu so far from three day downpour. Sunny days returned weekend, drying muddy fields. Irrigation water restrictions still in effect some crop areas, islands of Maui, Hawaii because dry spell persists. Temperatures mid 60s to low 90s. Winds varied 5 to 25 mph. Rainfall none to 10.60 in.

Days suitable for fieldwork 7.0. Heavy rainfall hampered farming activities mainly on Oahu. Some minor damage vegetable crops. Papaya production seasonally heavy.

IDAHO: Temperatures 1 to 7° above normal. Moscow was the only station to report measurable precipitation, receiving 0.03 in.

Days suitable for fieldwork 7. Soil moisture conditions 25% very short, 37% short, 38% adequate. Winter wheat good; 84% planted, 92% 1990, 90% avg.; 56% emerged, 57% 1990, 60% avg. Potato good; 89% harvested, 96% 1990, 97% avg. Sugarbeets 47% harvested, 52% 1990, 55% avg. Third cutting alfalfa 94% complete, 97% 1990, 99% avg. Apple harvest 48% complete, 81% 1990, 84% avg. Dry bean harvest 100% complete, 100% 1990, 98% avg. Onion harvest 95% complete, 96% 1990, 98% avg. Corn for grain 28% harvested, 16% 1990, 33% avg. Corn for silage 93% harvested, 98% 1990. Irrigation water supplies 10% very

poor, 11% poor, 31% fair, 48% good. Activities: Planting of winter wheat and harvesting of potatoes, sugarbeets, onions, apples. Livestock in good to excellent condition. Pasture, range conditions 69% of normal.

ILLINOIS: Temperatures 5 to 10° below normal. Precipitation averaged none to 0.25 in.

Days suitable for fieldwork 6.50. Soil moisture 59% short, 40% adequate, 1% surplus. Winter wheat emerged 48%, 18% 1990, 34% avg. Pasture condition as a % of normal, where 100% = normal, was 74%.

INDIANA: Temperatures 5 to 8° below normal. Highs mid 50s to low 60s. Lows upper 20s to upper 30s. Scattered rains, light to moderate. More north, less south. Freezing temperatures stopped growing season for most of the state.

Days suitable for fieldwork 6.3. Topsoil 55% short, 45% adequate. Subsoil 73% short, 27% adequate. Corn moisture content 16%, 24% 1990, 20% avg. Soybean moisture content 12%, 13.3% 1990, 13.3% avg. Winter wheat 3% very poor, 5% poor, 38% fair, 51% good, 3% excellent. Winter wheat acres plowed 91%, 59% 1990, 80% avg. Pasture 56% of normal. Hay, roughage availability 6% very short, 31% short, 63% adequate. Tobacco processing 7%, 8% 1990. Apple harvest 93%. Corn, soybean harvest nearing the end. Other activities include plowing of land, seeding winter wheat, hauling manure, applying fertilizer.

IOWA: Temperatures 4 to 6° below normal. Extremes 18 to 84°. Precipitation none to 0.28 in.; averaged only 0.05 in. One to 4 in. snow northwest, north central 18th.

Days suitable for fieldwork 6.8. Topsoil 53% short, 47% adequate. Subsoil 43% short, 56% adequate, 1% surplus. Pasture 79% of normal. Grain storage availability, 11% short, 72% adequate, 17% surplus. Winter wheat 85% planted, 97% 1990, 91% avg. Fall row crop tilling 16% complete, 13% 1990, 21% avg. Fall fertilizer application 14% complete, 10% 1990, 16% avg. Livestock in mostly good, weather very favorable until late in the week.

KANSAS: Temperatures 2 to 9° above normal. Rainfall 0.01 in. southeast; none elsewhere.

Days suitable for fieldwork 7.0. Topsoil 100% short; subsurface moisture 94% short, 6% adequate. Corn, sorghum, soybean harvest excellent progress under ideal harvest conditions; well ahead of schedule. Wheat planting good progress, on schedule. Some farmers still planting in cloud of dust; others waiting for moisture before putting seed in ground. Absence of topsoil moisture reducing germination, emergence. Very little wheat pasture available. Range, pastures furnishing little grazing. Heavy culling still underway. Feed grain adequate; forage getting short. Some water hauling necessary because of short stockwater.

KENTUCKY: Highest temperatures lower 80s, lows upper 20s, low 30s. Temperatures lower 50s, a few degrees below normal. Rain most areas, generally 0.25 to 0.50 in.

Days suitable for fieldwork 5.3. Soil moisture 9% very short, 56% short, 35% adequate. Corn harvest nearly complete west. Soybean harvest becoming very active. Burley stripping ahead of normal, 19% complete. Some houseburn, mold, overall quality mostly good. Fall wheat 60% seeded, ahead of last year and avg. Pasture poor to good, mostly fair. Hay being fed in drier areas.

LOUISIANA: Temperatures 2.7° below to 0.1° above normal. Extremes 38°; 92°. Rainfall none to 0.05 in. east central.

Days suitable for fieldwork 6.7. Soil moisture 28% very short, 63% short, 9% adequate. Hay 95% final cutting, 94% 1990, 96% avg. Pecans 19% poor, 65% fair, 16% good; 13% harvested, 5% 1990, 4% avg. Rice 100% ripe, 100% 1990, 100% avg. Second crop harvesting continued, southwest. Sorghum 100% ripe, 96% 1990, 99% avg. Soybeans 63% leaves turning color, 95% 1990, 96% avg. Sweet potatoes 70% fair, 30% good; 82% harvested, 76% 1990, 82% avg. Sugarcane 1% poor, 11% fair, 68% good, 20% excellent; 99% planted, 95% 1990, 97% avg.; 18% harvested, 1% 1990, 11% avg. Recently planted fields needed moisture. Wheat 9% planted, 6% 1990, 11% avg.; 5% emerged, 3% 1990, 5% avg. Early stands poor due to dry soils. Vegetables 16% poor, 54% fair, 30% good. Pastures 1% very poor, 4% poor, 17% fair, 20% good, 58% excellent. Winter pasture stands poor due to dry weather. Livestock 28% fair, 69% good, 3% excellent. Crawfish pond management continued.

MARYLAND & DELAWARE: MARYLAND: Precipitation 1.64 in. Temperature 54.1°, normal 56.6°. Extremes 22°; 79°.

Days suitable for fieldwork 4.5. Topsoil moisture 5% very short, 11% short, 73% adequate, 11% surplus. Subsoil moisture 5% very short, 42% short, 48% adequate, 5% surplus. Field corn fair, soybeans, sorghum fair to good, tobacco good. Field corn 74% harvested for grain, 66% 1990, 69% avg. Soybeans 94% shedding leaves, 84% 1990, 80% avg.; 29% harvested, 30% 1990, 26% avg. Sorghum 67% harvested, N/A 1990, N/A avg. Sweet potatoes 83% harvested, 92% 1990, 82% avg. Small grains good. Wheat 31% seeded, 28% 1990, 41% avg. Barley 69% seeded, 77% 1990, 71% avg. Rye 57% seeded, 70% 1990, 64% avg. Other hay third cut 58% complete, 83% 1990, N/A avg.; fourth cut 33% complete, 39% 1990, N/A avg. Alfalfa fourth cut 83% complete, 91% 1990, 85% avg.; fifth cut 24% complete, 21% 1990, N/A avg. Hay supplies short to adequate. Pasture poor to fair condition. Apples good to excellent, 83% harvested, 89% 1990, 92% avg. Activities: Harvesting hay, vegetables; repairing fence; hauling manure; spreading fertilizer; maintaining machinery; caring for livestock.

DELAWARE: Precipitation 1.82 in. Temperature 55.7°, normal 57.4°. Extremes 34°; 74°.

Days suitable for fieldwork 4.1. Topsoil 14% short, 72% adequate, 14% surplus. Subsoil 86% adequate, 14% surplus. Field corn, sorghum good, soybeans fair to good. Field corn 92% harvested for grain, 85% 1990, 81% avg. Soybeans 91% shedding leaves, 80% 1990, 77% avg.; 18% harvested, 26% 1990, 23% avg. Sorghum 66% harvested, N/A 1990, N/A avg. Small grains good. Wheat 28% seeded, 28% 1990, 27% avg. Barley 71% seeded, 75% 1990, 61% avg. Rye 58% seeded, 51% 1990, 42% avg. Oats 55% seeded, N/A 1990, N/A avg. Other hay fourth cut 94% complete, N/A 1990, N/A avg. Alfalfa fifth cut 39% complete, 24% 1990, N/A avg. Hay supplies adequate. Pasture good. Apples good, 88% harvested, 89% 1990, 87% avg. Activities: Harvesting hay, vegetables; hauling manure; spreading fertilizer; caring for livestock.

MICHIGAN: Temperatures 3 to 7° below normal. Extremes 18°; 76°. Precipitation 0.33 to 1.27.

Days suitable for fieldwork 5.5. Soil moisture 20% short, 70% adequate, 10% surplus. Corn 60% harvested, 10% 1990, 20% avg. Soybeans 100% dropping leaves, 100% 1990, 100% avg.; 80% harvested, 20% 1990, 35% avg. Winter wheat 90%

planted, 70% 1990, 70% avg.; 70% emerged, 65% 1990, 50% avg. Pasture condition 80% of normal. Activities: Planting wheat, harvesting corn, soybeans, sugarbeets, spreading fertilizer, lime, making cider, cutting Christmas trees.

MINNESOTA: Temperatures 3 to 7° below normal. Extremes 11°; 86°. Precipitation none to 0.47 in. Greatest weekly total 0.86.

Days suitable for fieldwork 6.2. Topsoil 6% very short, 26% short, 64% adequate, 4% surplus. Field corn 74% picked/combined, 47% 1990, 60% avg.; 18% moisture 29% 1990, 22% avg.; 34% stubble worked, 16% 1990, 29% avg. Soybeans 93% combined, 93% 1990, 88% avg.; 11% moisture, 11% 1990, 12% avg.; 43% stubble worked, 42% 1990, 49% avg. Potatoes 96% harvested, 99% 1990, 97% avg. Sugarbeets 92% harvested 90% 1990, 94% avg. Sunflowers 92% harvested, 96% 1990, 77% avg.

MISSISSIPPI: Temperature 60°, 4.7° below normal. Extremes 46°; 90°. Mostly dry statewide. State average: 0.09 in., 0.48 below normal. Soil temperature 66°.

Days suitable for fieldwork 6.5, 5.8 1990, 5.6 avg. Soil moisture 10% very short, 60% short, 30% adequate. Corn 90% harvest, 91% 1990, 92% avg.; 13% poor, 53% fair, 34% good. Cotton open bolls 99%, 100% 1990, 99% avg.; 68% harvest, 80% 1990, 74% avg.; 4% fair, 76% good, 20% excellent. Peanuts 93% harvest, 95% 1990, 93% avg. Rice 99% mature, 100% 1990, 100% avg.; 78% harvest, 90% 1990, 95% avg.; 49% poor, 47% fair, 4% good. Sorghum 94% harvest, 94% 1990, 95% avg.; 98% silage harvested, 100% 1990, 99% avg.; 1% poor, 51% fair, 43% good, 5% excellent. Soybeans 94% coloring, 98% 1990, 98% avg.; 82% shedding leaves, 81% 1990, 87% avg.; 28% harvest, 42% 1990, 37% avg.; 39% fair, 58% good, 3% excellent. Sweet potatoes 82% harvest, 87% 1990, 82% avg. Wheat planted 31%, 26% 1990, 29% avg.; 18% emerged, 16% 1990, 22% avg.; 50% fair, 46% good, 4% excellent. Hay 99% harvested, 96% 1990, 96% avg. Pecans 6% harvest, 4% 1990, 6% avg.; 2% very poor, 22% poor, 31% fair, 40% good, 5% excellent. Livestock 13% fair, 74% good, 13% excellent. Pasture 89% of normal. Activities: Harvesting crops, planting wheat.

MISSOURI: Temperatures 5° below normal northeast, southeast, to near normal southwest. Rainfall 0.05 in., only localized southeastern areas had significant amounts.

Days suitable for fieldwork 6.6. Topsoil 58% short, 42% adequate. Corn harvest least advanced northeast district at 83%, other districts high 80s to low 90s except west central, southeast virtually complete. Frost caused earlier leaf dropping on late beans. Soybean harvest least advanced southeastern district at 26%, northwest, north central, northeast most advanced around 75%. Sorghum harvest least advanced northeast, southwest around 55%, most advanced west central, south central, southeast, 80% or more. New wheat seedings need rain for germination, growth. Pasture 16% very poor, 22% poor, 39% fair, 23% good.

MONTANA: Temperatures normal to above normal with little or no precipitation.

Days suitable for fieldwork 6.8. Topsoil 55% short, 43% adequate, 2% surplus. Subsoil 50% short, 48% adequate, 2% surplus. Winter wheat 7% poor, 30% fair, 48% good, 15% excellent. Potatoes harvested 85%, 87% 1990, 90% avg. Sugarbeets harvested 80%, 92% 1990, 96% avg. Dry beans harvested 98%, 96% 1990, 96% avg. Corn silage harvested 95%, 99% 1990, 97% avg. Pasture, range feed condition 86% of normal.

NEBRASKA: Temperatures 2 to 3° above normal in the west, 2 to 3° below normal in the east. Only trace amounts of precipitation.

Days suitable for fieldwork 6.9. Topsoil 93% short, 7% adequate. Subsoil 85% short, 15% adequate. Corn 87% harvested, 59% 1990, 57% avg. Sorghum 96% harvested, 69% 1990, 66% avg. Soybeans 96% harvested, 89% 1990, 84% avg. Wheat 90% emerged, 93% 1990, 97% avg.; 11% very poor, 9% poor, 40% fair, 37% good, 3% excellent.

NEVADA: Temperatures above normal. Extremes 19°; 102°. High temperatures upper 80s north, 90s south, breaking many records early in week. No precipitation.

Late harvest, field preparation, winter seeding continue. Livestock movement underway to market, winter grazing. Dry conditions continue to affect water and forage availability.

NEW ENGLAND: Precipitation 0.50 to 1.65 in. south, up to 2.30 in. Massachusetts; 0.40 to 1.80 in. north. Temperatures low 40s to mid 50s; 3° below to 2° above normal. Maximums mid 50s to mid 70s; minimums low 20s to high 30s.

Days suitable for fieldwork 5.0. Soil moisture 70% adequate, 30% surplus. Grazing availability 21% short, 79% adequate. Fieldwork 1.3 days ahead of schedule. Maine potatoes 93% harvested, 84% 1990, 94% avg.; good. Rhode Island potatoes 95% harvested; fair to good. Connecticut Valley potatoes 96% harvested, 92% 1990, 92% avg.; good. Field corn 93% harvested, 84% 1990, 84% avg.; good. Third cut hay 89% complete, 99% 1990, 95% avg.; good. Apples 94% harvested, 88% 1990, 88% avg.; size medium, good. Cranberry harvest 85% complete, berry size medium to small, good. Activities: Harvesting apples, potatoes, field corn, cranberries; planting cover crops.

NEW JERSEY: Temperatures slightly below normal. Extremes 25°; 82°. Rainfall 1.61 in. north, 1.21 in. central, 1.74 in. south. Heaviest 24 hour total 1.58 in. on 17th, 18th. Estimated soil moisture percent field capacity, 97% north, 87% central, south. Four inch soil temperature 50° north, 53° central, 54° south.

Some irrigation in use. Harvest of corn very active. Soybean combining active. Sweetpotato, Irish potato digging active. Fall variety apple harvest in progress. Cranberry harvest well advanced. Fall vegetable harvest in progress. Plowing, planting active for cover crops. Early seeding growth good. Pasture growth good.

NEW MEXICO: Temperatures above normal, 1 to 9° above normal. Numerous record highs for the date were set during mid week. Precipitation a trace in north central, none elsewhere.

Days suitable for fieldwork 6.9. Soil moisture 60% short, 40% adequate. Crops conditions: Alfalfa 26% fair, 74% good; last cutting finishing. Corn 9% fair, 82% good, 9% excellent. Sorghum 3% poor, 17% fair, 66% good, 14% excellent. Irrigated wheat 8% fair, 92% good. Dryland wheat 56% fair, 44% good. Pecans 14% poor, 29% fair, 57% good. Chile 9% very poor, 46% fair, 49% good. Lettuce harvest active, crop good. Cattle 7% fair, 89% good, 4% excellent. Sheep 12% fair, 84% good, 4% excellent. Range 92% of normal.

NEW YORK: Wet east, dry west. Up to 3.82 in. fell in eastern areas. Western regions had below normal rainfall with less than 0.25 in. falling. Temperatures 3 to 6° below normal except in the extreme southeast where they averaged slightly above normal.

Days suitable for fieldwork 5.5. Soil moisture short to mostly adequate. Pasture condition 64% of normal. Corn for grain 35% harvested, 14% 1990, 15% avg. Progress was 2 weeks ahead of normal. Silage corn 92% complete, 67% 1990, 71% avg. Potatoes 97% harvested. Dry beans 87% harvested. Fall plowing underway. Apple harvest virtually complete. Fruit packing in full swing. Orchard clean up underway. Equipment being prepared for winter storage. Cider making continued very active. Only late season vegetable crops remain for harvest.

NORTH CAROLINA: Temperatures 2 to 6° below normal. Precipitation none to 2.60 in.

Days suitable for fieldwork 5.1. Soil moisture 6% very short, 19% short, 66% adequate, 9% surplus. Crop condition: Cotton 19% fair, 75% good, 6% excellent; soybeans 29% fair, 70% good, 1% excellent; Pasture 5% poor, 30% fair, 65% good. Harvested: Corn for Grain 88%; sorghum for grain 60%; sweetpotatoes 68%; Apples 93%; Peanuts dug 86%; Peanuts threshed 65%; cotton 44%; soybeans 9%. Soybeans dropping leaves 68%; wheat emerged 13%. Planted: wheat 25%; oats 42%; barley 54%; rye 45%. Activities: Harvesting cotton, corn, sorghum, sweet potatoes, soybeans, truck crops, peanuts, hay; planting small grains. Other activities: Land preparation; seeding pastures; shearing Christmas trees; tending livestock.

NORTH DAKOTA: Temperatures 7° below normal northeast to 1° below normal northwest. Extremes 9° south central; 90° south central.

Days suitable for fieldwork 6.7. Topsoil 29% very short, 31% short, 38% adequate, 2% surplus. Subsoil 32% very short, 50% short, 16% adequate, 2% surplus. Corn for grain 96% harvested, 51% 1990, 60% avg. Sunflower 88% harvested, 83% 1990, 71% avg. Potatoes 98% dug, 100% 1990, 100% avg. Sugarbeets 98% lifted, 98% 1990, 98% avg. Pasture conditions 68% of normal. Stockwater supplies 8% very short, 54% short, 38% adequate.

OHIO: Temperatures mid 50s to low 60s with low temperatures mostly in the upper 20s to lower 30s, which was 4 to 9° below normal. Precipitation 0.20 to 0.40 in. across most of the State. Much of the State was still dry.

Days suitable for fieldwork 5.8. Fall harvest two weeks ahead of schedule. Soil moisture 49% short, 49% adequate, 2% surplus. Pastures 17% very poor, 30% poor, 31% fair, 20% good, 2% excellent. Potato harvest 94% complete, 79% in 1990, 86% 5 year average. Fourth cut alfalfa 72% complete. Sugarbeet harvest about 45% complete, sugar content excellent. Grape harvest 99% complete with excellent quality. Activities: Sowing winter wheat, machinery repairs, fall liming, fertilizing, preparing livestock housing for winter.

OKLAHOMA: Temperatures normal northeast to 4° above normal southwest. No precipitation.

Days suitable for fieldwork 6.8. Topsoil 77% short, 23% adequate. Subsoil 37% short, 63% adequate. Wheat 3% poor, 69% fair, 24% good, 4% excellent; 88% planted, 90% 1990, 82% avg.; 55% emerged, 63% 1990, 57% avg. Rain needed for fall pasture. Armyworm infestations building. Cotton 54% fair, 46% good; 67% open bolls, 93% 1990, 73% avg.; 5% harvested, 21% 1990, 10% avg. Sorghum 17% poor, 59% fair, 24% good; 80% mature, 80% 1990, 79% avg; 15% harvested, 20% 1990, 23% avg. Soybeans 29% harvested, 28% 1990, 34% avg. Peanuts 47% harvested, 37% 1990, 27% avg. Pasture 93%. Cattle good; prices mixed from preceding week.

OREGON: Temperatures above normal statewide. South central, north central, southwest valleys 6° above normal. Elsewhere up to 3° above normal. Northern coast, northwest interior and northern Cascades recorded 0.10 in. High plateau areas, north, central recorded a trace. Elsewhere remained dry.

Soil moisture 77% short, 23% adequate. 1992 winter wheat planted, 68%. 1992 winter wheat emerged, 28%. 1992 barley planted, 36%. Harvesting of field crops completed, statewide. Field preparation seeding underway; statewide, lack of precipitation still slowing process. Emergence of 1992 grains delayed, lack of precipitation. Sugarbeet harvest continued, Klamath County. Late hay cuttings concluding. Hazelnut harvest continued, needed wind. Wine grapes harvest continued, Willamette Valley. Red raspberry growers pruning, tying. Rest of fruit, nut harvest complete. Onion harvest concluding, Umatilla County. Potato harvest concluding, statewide. Fall cole crop harvest underway, Willamette Valley. Livestock condition was mostly good to excellent. Weanings, pre-conditioning, shipping of yearlings continued. Supplemental feeding in most areas. Statewide range, pasture, 3% very poor, 29% poor, 29% fair, 37% good, 2% excellent.

PENNSYLVANIA: Cool, wet across Commonwealth. Temperature 47°, 8° below normal. Extremes 21°; 76°. Precipitation 0.93 in., 0.25 in. above normal.

Days suitable for fieldwork 5. Soil moisture 52% short, 39% adequate, 9% surplus. Corn 100% dent, 100% 1990, 100% avg.; 95% mature, 62% 1990, 78% avg.; 48% harvested, 8% 1990, 21% avg. Ensilage corn harvested 96% harvested, 66% 1990, 80% avg. Corn 20% very poor, 26% poor, 28% fair, 21% good, 5% excellent. Soybean harvest 27% complete, 6% 1990, 21% avg.; 15% very poor, 19% poor, 29% fair, 33% good, 4% excellent. Potato harvest 89% complete, 78% 1990, 85% avg. Fall plowing 77% complete, 76% 1990, 84% avg. Winter wheat 83% planted, 72% 1990, 77% avg. Barley 92% planted, 89% 1990, 92% avg. Third cutting alfalfa 96% complete, 88% 1990. Fourth cutting alfalfa 75% complete, 57% 1990. Quality of hay made mostly fair. Feed obtained from pastures 30% very poor, 25% poor, 37% fair, 8% good. Apple harvest 85% complete, 78% 1990. Grape harvest 92% complete, 81% 1990. Activities: Repairing fence; hauling manure; harvesting hay, potatoes, fruits, corn silage, corn, soybeans; maintaining machinery; caring for livestock; fall plowing, planting.

PUERTO RICO: Island rainfall 0.55 in. was 1.24 in. below normal. Highest rainfall 2.86 in. San Sebastian, 2.13 in. in Pico Del Este Luquillo, 1.99 in. at Isabela Aes. Highest 24 hour total 2.07 in. at San Sebastian. Divisional temperatures 80 to 82° on the Coasts and 72 to 76° in Interior with mean station temperature ranging from 66.6° at Pico Del Este Luquillo to 83.8° at San Juan WSFO. Extremes 56°; 96°.

SOUTH CAROLINA: Temperatures 1 to 3° below normal. Rainfall varied; 0.30 in. statewide. Isolated downpours caused minor flooding.

Days suitable for fieldwork 6.1. Soil moisture 12% very short, 68% short, 20% adequate. Apples good; 97% harvested, 95% 1990, 88% avg. Barley fair to good; 19% planted, 20% 1990, 20% avg.; 15% emerged, 16% 1990, 11% avg. Cotton 7% poor, 43% fair, 50% good; 95% open bolls, 98% 1990, 97% avg.; 39% harvested, 65% 1990, 49% avg. Fall Hay fair to good; 89% harvested, 80% 1990, 86%

avg. Oats fair to good; 26% planted, 29% 1990, 27% avg.; 12% emerged, 18% 1990, 14% avg. Peanuts fair to good; 85% harvested, 62% 1990, 59% avg. Rye fair; 29% planted, 33% 1990, 33% avg.; 16% emerged, 18% 1990, 19% avg. Sorghum fair to good; 73% harvested, 74% 1990, 60% avg. Soybeans 7% poor, 43% fair, 50% good; 87% leaves turning, 89% 1990, 84% avg; 45% shedding leaves, 59% 1990, 53% avg; 31% mature, 42% 1990, 36% avg.; 10% harvested, 10% 1990, 6% avg. Sweet potatoes fair to good; 80% harvested, 74% 1990, 62% avg. Tobacco 91% stalks destroyed, 89% 1990, 85% avg. Wheat fair to good; 4% planted, 4% 1990, 8% avg.; 2% emerged, 3% 1990, 5% avg. Winter grazing fair; 57% planted, 62% 1990, 63% avg; 38% emerged, 44% 1990, 44% avg.

SOUTH DAKOTA: Temperatures 5° above normal west to 2° below normal in the eastern part of the State. Extremes 18°; 95°. Precipitation very light, confined to the south, and included a small snowfall. Maximum 0.28 in..

Days suitable for fieldwork 6.1. Topsoil 25% critical, 56% short, 19% adequate. Subsoil 32% critical, 42% short, 26% adequate. Winter wheat 1% very poor, 17% poor, 30% fair, 45% good, 7% excellent. Winter rye: 7% poor, 13% fair, 73% good, 7% excellent. Livestock 9% fair, 81% good, 10% excellent. Pasture 80% of normal.

TENNESSEE: Cool, dry. Cold front produced light rain 14th, 15th. Widespread frost several mornings. Temperatures 3 to 9° below normal statewide. Precipitation below normal statewide, except normal Plateau.

Days suitable for fieldwork 5.5. Soil moisture 5% very short, 43% short, 52% adequate. Corn 80% harvested grain, 71% 1990, 82% avg. Cotton 68% harvested, 60% 1990, 66% avg. Sorghum 70% harvested, 63% 1990, 87% avg. Soybeans 88% shedding leaves, 78% 1990, 88% avg.; 54% mature, 44% 1990, 66% avg.; 20% harvested, 15% 1990, 27% avg.; 2% very poor, 8% poor, 44% fair, 46% good. Burley tobacco 36% stripped, 26% 1990, 26% avg. Wheat 38% seeded, 38% 1990, 38% avg. Pastures 2% very poor, 8% poor, 30% fair, 58% good, 2% excellent. Cattle 1% poor, 13% fair, 83% good, 3% excellent.

TEXAS: West to northwest flow aloft kept most of State dry, cool throughout past week. Surface low in Gulf helped spark some storms early in week mainly in southern half of State. Cool front entered High Plains 18th evening, moved across all of State 18th, 19th. Spotty rain fell in deep South Texas in association with front over weekend. Temperatures below normal in all districts. Readings 2° below normal in Lower Valley to 8° below normal in Low Plains. Rainfall sparse with all districts reporting below normal amounts. The Plains, north central Texas, Trans Pecos area all reported no rainfall. Lower Valley, south central Texas reported heaviest amounts, although both regions below normal.

Crops: Corn harvest nearing completion with favorable conditions in Plains. Yields in Plains range from good to excellent. Sorghum harvest in full swing in the Plains. Producers hoping for few more weeks of warm weather. Hot, weather improved cotton fields, although warm weather needed over next few weeks to enhance cotton development. Boll opening, development continued at accelerated pace. Some fields being sprayed for insect control. Small grains looked good where adequate moisture available. Early planted wheat, oat fields need moisture to improve growth. Hot, dry weather begun to wilt some early grains. Moderate infestations of greenbugs, winter grain mites occurred in Blacklands.

Soybean harvest made good progress with open weather. Harvest beginning on some late beans in Blacklands. Yields fair to good. Peanut harvest increasing in Cross Timbers. Many fields could use rain to improve harvest activities. Statewide peanut at 87% of normal.

Commercial Vegetables: High Plains, carrot, cabbage, pumpkin harvest full swing. East Texas, sweetpotato harvest going strong. Yields ranged from good to excellent. Trans-Pecos, chile pepper harvest continued. Pecan harvest increased throughout much of State. Quality average, insect disease continued to cause some damage.

Range and Livestock: Winter pastures showing signs of stress because of low moisture conditions. Pastures need a few more weeks of warm weather to produce more forage for winter. Stocker cattle being placed on wheat fields. Hornfly populations remained high.

UTAH: Temperature maximums 12° above normal, minimums 5° above normal. No precipitation reported for the second consecutive week.

Days suitable for fieldwork 6.9. Soil moisture 60% short, 40% adequate. Winter wheat seeding 99% completed, 91% 1990, 94% avg. Winter wheat 59% emerged, 59% 1990. Corn grain 30% harvested, 57% 1990, 50% avg. Corn silage harvest 94% finished. Fourth crop alfalfa hay 80% cut, 93% 1990, 93% avg. Apple harvest 84% completed, 83% 1990, 90% avg. Potato harvest 92% completed, 93% 1990, 88% avg. Cattle 78% in from range, 83% 1990, 82% avg. Sheep 87% in from range, 85% 1990, 84% avg. Onion, alfalfa seed harvests are complete.

VIRGINIA: Temperatures slightly below normal. Extremes 24°; 83°. Precipitation varied from below normal across the west to much above normal in the extreme east.

Days suitable for fieldwork 5.2. Topsoil 28% very short, 30% short, 37% adequate, 5% surplus. Corn silage nearly all harvested. Corn for grain 80% harvested, 71% 1990, 60% avg. Soybeans harvested 14%, 14% 1990, 8% avg.; 2% poor, 67% fair, 31% good. Peanuts 95% dug, 85% 1990, 76% avg.; 90% combined, 70% 1990, 58% avg. Cotton harvest 28% completed. Sweet potato harvest 80% completed. Apple harvest 90% completed. Wheat 23% seeded, 26% 1990, 21% avg. Barley 62% seeded, 60% 1990, 55% avg. Oats 75% seeded, 69% 1990, 60% avg. Pasture 27% very poor, 19% poor, 39% fair, 12% good, 3% excellent.

WASHINGTON: Temperatures 3° above normal to 3° below normal, east; 2° above normal to normal, west. Precipitation none to 0.01 in. east; 0.12 to 0.37 in. west.

Days suitable for fieldwork 6.3. Soil moisture 79% short, 21% adequate. Hay, other roughage 1%

very short, 9% short, 77% adequate, 13% surplus. Irrigation water 100% short. Range, pasture 6% very poor, 43% poor, 51% fair. Winter wheat 6% very poor, 94% fair. Potatoes 100% good. Dry beans 100% good. Corn 100% good. Winter wheat 82% planted, 68% emerged. Potatoes 75% harvested. Corn for grain 22% harvested. Dry beans 95% harvested. Dry conditions continued to prevail in the dryland grain producing portion of the State. Planting of winter wheat continued, at a slower pace than normal. Some producers are waiting in hopes of better soil moisture conditions. Gale force winds caused havoc in eastern areas, spreading fires, dust throughout the area. The winds also caused fruit drop, fruit damage in areas that were not yet harvested. Delicious apples were being harvested in the apple producing portion of the State. Potato, grape, cranberry harvest continued. Cattle were slowly being moved off ranges to lower pastures. Concern over lack of pastures, low quality feed are apparent.

WEST VIRGINIA: Temperature 49°. Extremes 28°; 81°. Precipitation 0.45 in.

Days suitable for fieldwork 5.0. Soil moisture 35% very short, 30% short, 35% adequate. Corn, 4% very poor, 55% fair, 41% good; 100% mature, 80% harvested. Tobacco, good; 98% harvested. Hay, 26% poor, 39% fair, 35% good; 88% second cutting, 86% third cutting. Wheat, 24% sown. Apples poor. Pastures, 23% very poor, 30% poor, 19% fair, 28% good; 58% of normal. Cattle, good. Sheep, fair. Activities: cutting hay, harvesting corn, chopping silage, harvesting tobacco and apples, planting wheat, marketing livestock.

WISCONSIN: Temperature 44°, 3° below normal. Extremes 11°; 78°. Precipitation 0.10 to 0.30 in.

Days suitable for fieldwork 6.2. Soil moisture 15% short, 83% adequate, 2% surplus. Pasture condition 77% of normal, 83% 1990, 76% avg. General condition of crops 1% poor, 12% fair, 79% good, 8% excellent. Corn 1% very poor, 2% poor, 13% fair, 63% good, 21% excellent; harvested 53%, 16% 1990, 38% avg. Corn silo filling 93% complete, 79% 1990, 84% avg. Soybeans 70% harvested, 28% 1990, 50% avg. Fall tillage 32%, 24% 1990, 28% avg.

WYOMING: Temperatures above normal. Precipitation below normal.

Days suitable for fieldwork 6.7. Topsoil 59% short, 41% adequate. Corn for grain 65% harvested, 25% 1990, 20% avg. Potatoes 100% harvested, 95% 1990, 90% avg. Sugarbeets 70% harvested, 70% 1990, 70% avg. 1992 winter wheat mostly fair to good. Ranges, pastures good to excellent. Livestock good to excellent. Hay supplies for wintering livestock 70% adequate, 30% surplus.

International Weather and Crop Summary

HIGHLIGHTS

October 13 - 19, 1991

USSR ... Light showers improve moisture for winter grain establishment in the south. Winter grains are cold hardening in the north.

EUROPE ... Widespread variable showers cause some harvest delays but moisten emerging winter crops.

EASTERN ASIA ... Rain is needed for winter wheat germination in the North China Plain. A hard freeze ends Manchuria's growing season. Widespread rains hamper rice harvesting in the south.

SOUTHEAST ASIA ... Seasonably drier weather develops over Thailand. Much needed rain improves conditions for Philippine grain establishment.

SOUTH ASIA ... Heavy rain floods rice areas of Bangladesh and eastern India. Planting is progressing in southern India.

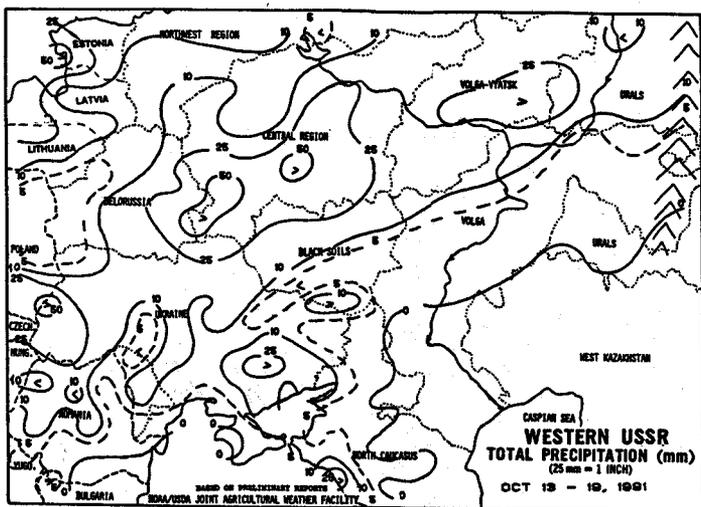
SOUTH AMERICA ... Showers favor soil moisture reserves across the region. Soybean and corn planting is progressing well.

AUSTRALIA ... Winter wheat areas are becoming dry across the country.

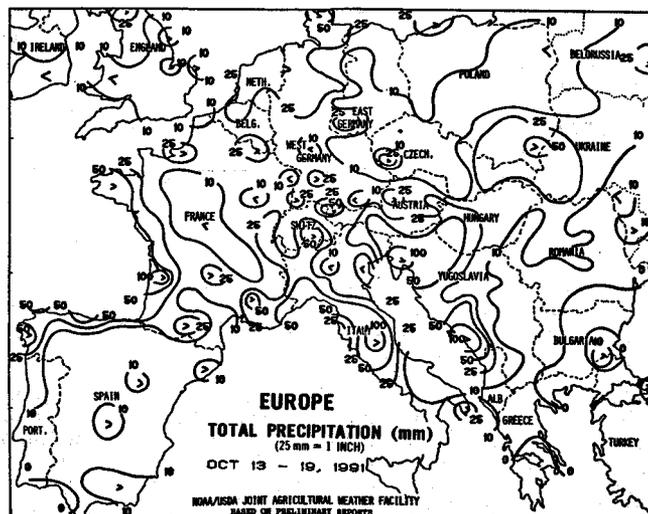
MEXICO ... Dry weather favors summer crop harvesting.

NORTHWESTERN AFRICA ... An early start to the autumn rainy season provides sufficient topsoil moisture for early winter grain planting in Morocco, Algeria, and Tunisia.

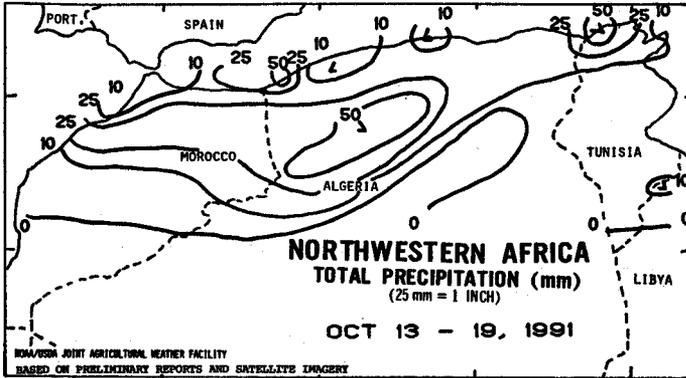
SOUTH AFRICA ... Widespread rain improves corn planting conditions.



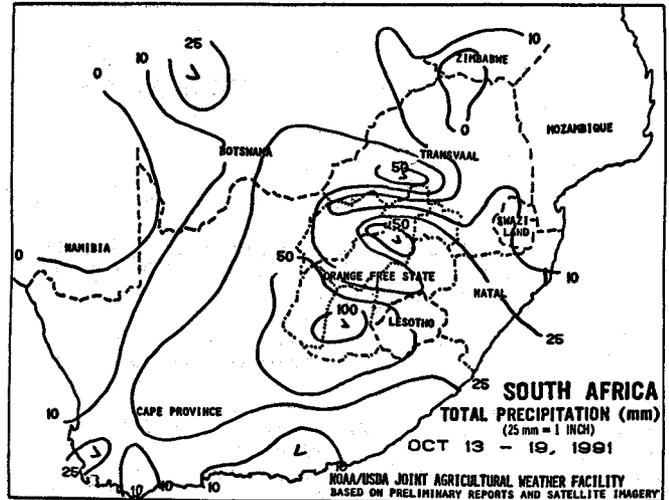
WESTERN USSR ... Widespread light to moderate rain (12-53mm) fell in a band that stretched northeastward from western Ukraine, through eastern Belorussia and the northern Black Soils Region, and into Central and Volga Vyatsk Regions. The rain in these areas continued to provide favorable moisture for winter grain establishment. Further south, although light showers (5-18mm) over Moldova, southern Ukraine, southern Black Soils Region, and northwestern North Caucasus provided some benefit to newly emerged winter grains, more rain is needed to ensure plants become well established before dormancy. The rain in these areas caused only brief delays in corn, sunflower, and sugarbeet harvests. The weather continued unusually mild with weekly average temperatures ranging from 4 to 6 degrees Celsius (C) above normal. Winter grains were cold hardening prior to dormancy over the northern half of the region.



EUROPE ... Widespread variable showers covered the region, generally causing sporadic harvest delays but benefiting winter grain establishment. Substantial rain (10-48mm) fell over the Benelux countries, northern Germany, northwestern and southern Poland, eastern Czechoslovakia, and Hungary, slowing the sugarbeet harvest in those areas but improving topsoil moisture for winter crops. Corn harvesting progressed in Romania with only scattered showers in excess of 10mm. In France, weekly rainfall of 10-20mm slowed sugarbeet harvesting in the north, while variable rain (3-33mm) in the south caused local disruptions in the corn harvest. Mostly light showers (less than 10mm) in central France, southern England, and Spain caused little fieldwork delay. Showers diminished in northern Italy, easing excessive wetness in the Po Valley. However, heavy rain (50-140mm) soaked central Italy and western Yugoslavia. Dry weather prevailed in Bulgaria and Greece.

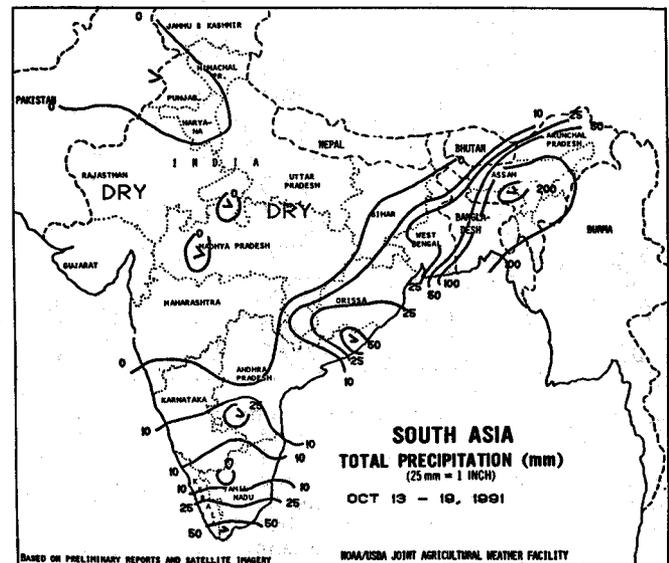


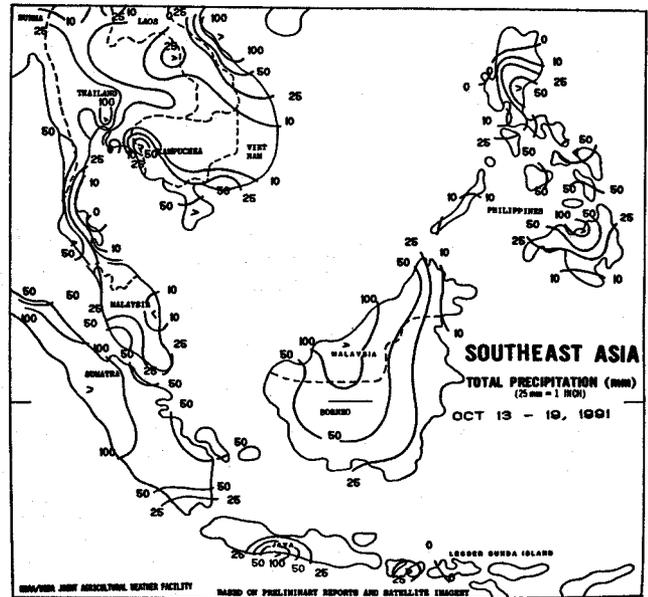
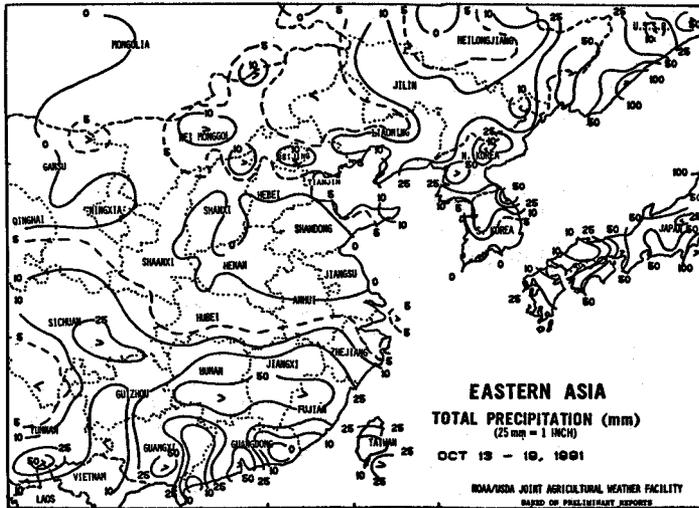
NORTHWESTERN AFRICA ... Showers (10-29mm) continued to dampen topsoils in Morocco, although rainfall was less than the previous week. Further east, light to moderate rain (10-50mm) over Algeria and Tunisia helped to condition soils prior to winter grain planting. The autumn rainy season is off to an early start over the region, providing adequate topsoil moisture for early winter grain planting.



SOUTH AFRICA ... Widespread showers swept across South Africa, greatly improving soil moisture for planting in primary corn areas. Moderate to heavy rain (25-50mm or more, with local amounts exceeding 100mm) fell in south-central Transvaal and northeastern Orange Free State, as well as the typically drier regions in the western Orange Free State and northern Cape Province. Corn areas elsewhere received 5-25mm. Moderate showers (16-43mm) continued over Natal's sugarcane regions.

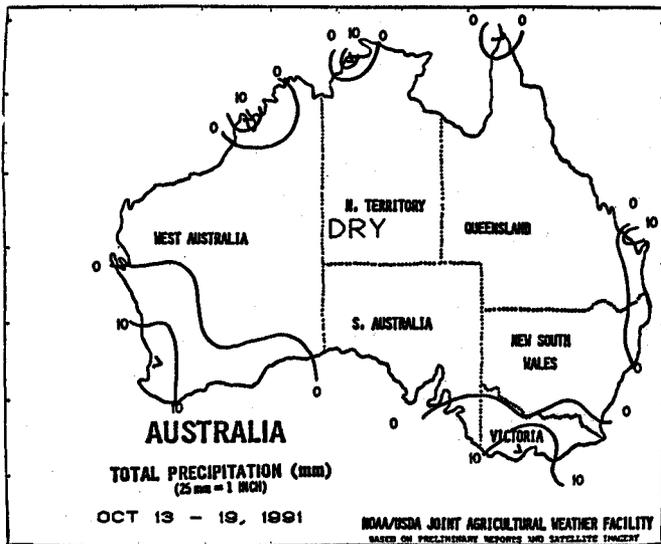
SOUTH ASIA ... Heavy rain (50-200mm or more) caused more flooding in rice regions of Bangladesh and India's eastern states. However, rainfall tapered off elsewhere in India's eastern rice areas, as well as the southern interior, with only local areas reporting more than 25mm. Fall grain and oilseed planting should be underway in the southern interior, aided by recent weeks of beneficial rain. Light showers (2-8mm) improved local topsoil conditions in winter wheat regions of northern Pakistan and north-central India, but caused no major planting delays.



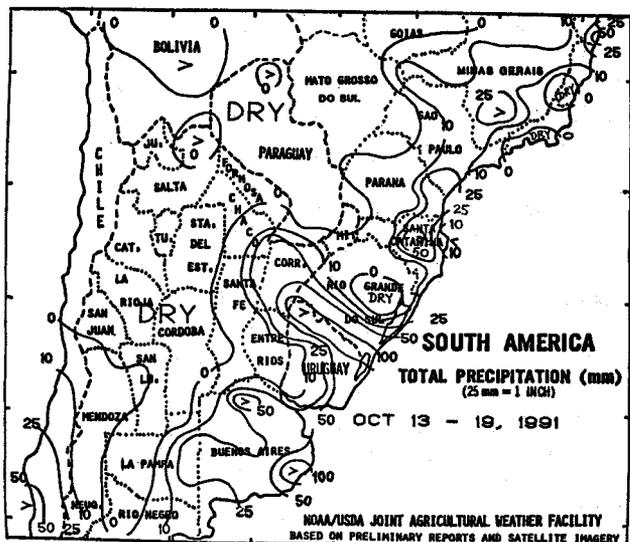


EASTERN ASIA ... Subfreezing temperatures occurred throughout most of Manchuria, effectively ending the growing season for late planted summer crops. Light to moderate rain fell across Manchuria, slowing harvesting. The southern North China Plain received no significant rain, where moisture is needed for adequate winter wheat germination. Widespread moderate rains (31-68mm) covered southern China, alleviating long-term dry conditions, but hampering late double-crop rice harvesting. Japan continued to receive moderate to heavy rains (45-165mm), causing flooding to persist.

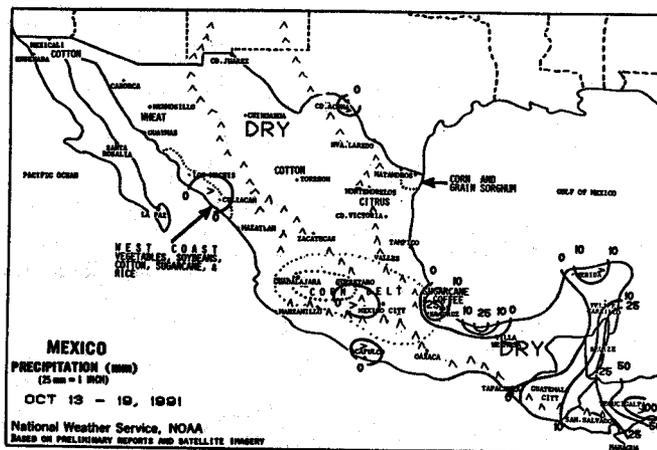
SOUTHEAST ASIA ... Seasonably drier weather enveloped Thailand's primary dry season rice regions, with most areas receiving less than 25mm. However, locally heavy rain (50-152mm) exacerbated flooding near Bangkok, as well as in central and southern Vietnam. Showers (25-100mm or more) continued over most primary Malaysian crop areas and moved southward toward Java but, except for isolated stations, rainfall across southern Indonesia was unseasonably light (1-25mm). In contrast, highly beneficial, widespread rain (25-50mm or more) covered most Philippine crop regions, providing much needed moisture for germination of fall planted crops.



AUSTRALIA ... Little or no rain fell across Queensland and northern New South Wales grain areas, severely stressing winter wheat and delaying summer crop planting. Dry weather also prevailed across the remainder of the winter grain regions, with Victoria and West Australia receiving only light rain (less than 10mm). While these areas have previously received adequate moisture, continued dryness and warmth will stress grain-filling winter wheat. Weekly temperatures averaged 1-3 degrees C above normal in all wheat areas.



SOUTH AMERICA ... In Argentina, widespread moderate rains covered Buenos Aires, aiding winter wheat development and moisture for corn and soybean planting. Further north in Santa Fe and Cordoba, where adequate moisture exists for germination, drier weather enabled summer crop planting to progress. In southern Brazil, moderate to heavy rain (55-113mm) fell across extreme southern Rio Grande do Sul and northern Uruguay, boosting soil moisture reserves. Drier weather (less than 10mm) prevailed from central Rio Grande do Sul to northwestern Parana, and into Mato Grosso do Sul, favoring soybean planting and winter wheat harvesting. Scattered rains fell near the coastal areas of Santa Catarina, Parana, and the interior of Sao Paulo and Minas Gerais, aiding coffee and citrus flowering. Weekly temperatures averaged 1-3 degrees C below normal across central Argentina and 2-4 degrees C above normal in southern Brazil.



MEXICO ... Mostly dry weather prevailed throughout the country except for scattered showers (6-31mm) along the eastern coast. After several weeks of widespread moderate to heavy rain, drier weather aided summer crop harvesting, and winter wheat planting in the northwest.

El Niño and Global Weather

Once every 4-7 years or so, wind and pressure patterns over the Pacific Basin go out of whack and widespread weather anomalies occur in the tropics. When the El Niño-Southern Oscillation, or ENSO for short, goes into its warm phase, water temperatures rise in the eastern tropical Pacific, air pressure rises over the western tropical Pacific and falls over the southeastern Pacific, and various other changes take place in the atmosphere and oceans. Now, with drought worsening in Australia and continuing in Indonesia, there is growing concern among farmers, commodity traders, and the press about the current ENSO situation.

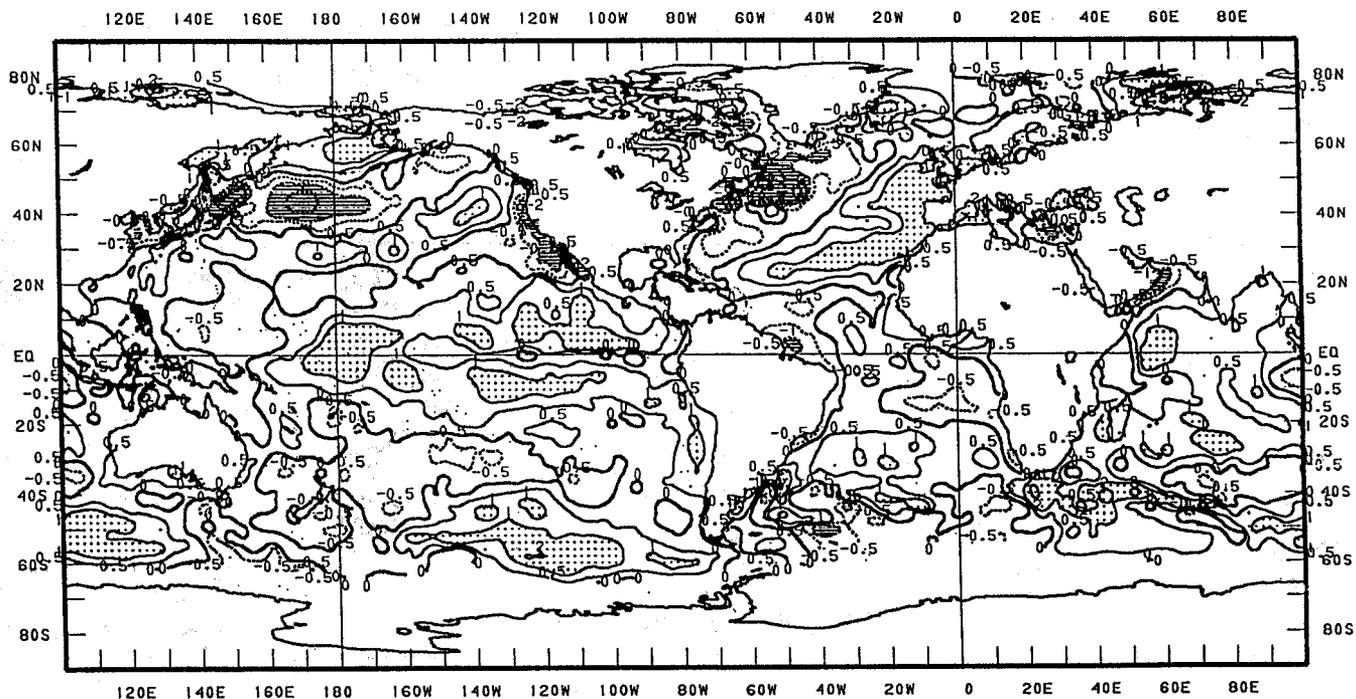
As figure 1 shows, sea surface temperatures have been above normal by a degree or so in much of the tropical Pacific from the dateline eastward. Though not comparable to the anomalies that occurred during the severe ENSO of 1982-83 when departures exceeded 4° C, this indicator and others has led scientists at the National Weather Service's Climate Analysis Center (CAC) to announce that a "weak warm episode" is in progress. It is not known, unfortunately, if the ENSO will intensify, remain weak, or dissipate.

ENSO events are associated with climate anomalies in several regions of the world, particularly the Pacific and Indian Ocean basins (figure 2). Studies by CAC researchers Chet Ropelewski and Michael Halpert show a tendency for dryness in eastern Australia and Indonesia during warm episodes (see, for example, "Global and Regional Scale Precipitation Patterns Associated with the El Niño/Southern Oscillation," *Monthly Weather Review*, 1987, pages 1,606-1,626). Not every indicated anomaly occurs with every event, but it is likely that the dryness observed this year in the western Pacific is related to the current event. If the ENSO continues, the likelihood will increase for drought in southeastern Africa, heavy rains in southern Brazil, and cool, wet conditions this winter along the U.S. gulf coast. Additionally, heavy rains are typically observed in Ecuador and northern Peru and the lack of upwelling there affects the anchovy catch. Note that there is no statistically strong link with temperatures or rainfall across the U.S. farmbelt. Also, an ENSO event does not tell us if the drought will finally end in California.

We will try to give you updates as the situation changes. Stay tuned.

Douglas Le Comte

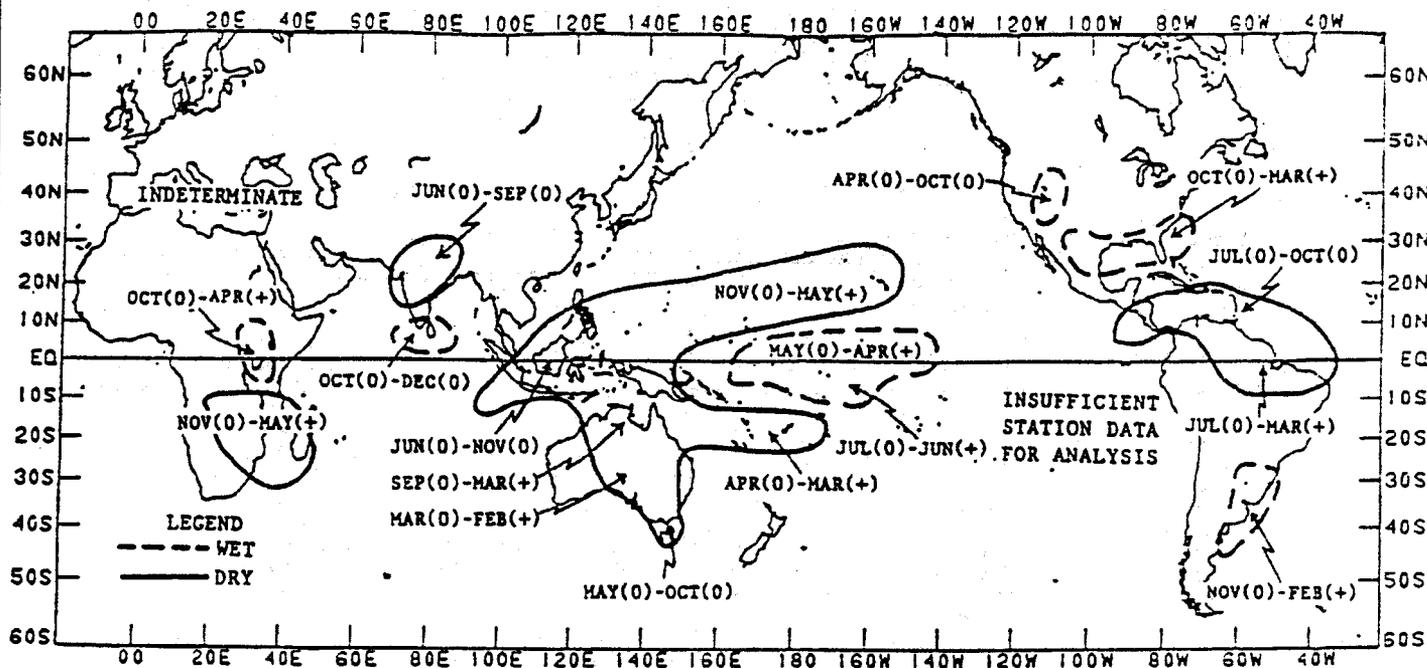
Figure 1



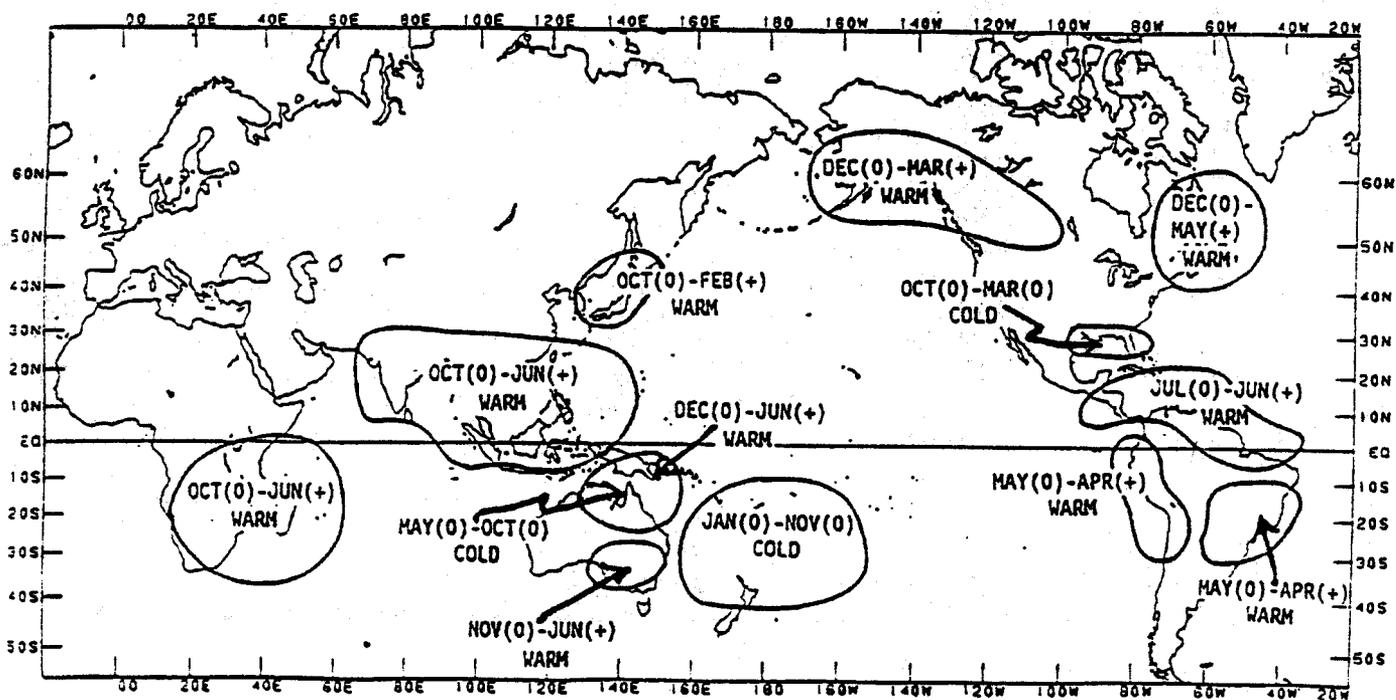
Blended sea surface temperature anomalies for September 1991. The contour interval is 1°C and negative contours are dashed. The 0°C contour has been darkened. Anomalies less than -1°C are shaded and greater than 1°C are stippled. Additional anomaly contours of +0.5°C are shown.

Source: ENSO Advisory, National Weather Service, Climate Analysis Center, October 10, 1991.

Figure 2



Regions that are likely to experience anomalous precipitation (top) and temperature (bottom) conditions during an ENSO (El Niño/Southern Oscillation) event. An "O" in parentheses after the month indicates the month of the same year as the ENSO event began; a "+" indicates the following year. For the event currently in progress, "O" is 1991 and "+" is 1992. For example, below normal temperatures between October 1991 – March 1992 are depicted as likely in the Gulf Coast region.



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(Continued from front cover)
passed less than 75 miles southeast of **Miami, FL**. Although **southern Florida** was spared Fabian's 45 mph winds and strong thunderstorms, local rainfall topped 2 inches. Also at midweek, winds became strong and gusty in the **Northwest** in advance of the second front, fanning several range and forest fires. Temperatures briefly topped 90° F as far north as **Rapid City, SD**. Winds gusted to 61 mph at **Spokane, WA**, and **Missoula, MT**. The largest fire scorched 180,000 acres of grassland in **eastern Montana**, while one of the most damaging blazes destroyed a dozen homes near **Spokane, WA**. The front progressed eastward, dragging the coldest air of the season into the **northern Plains**. The temperature bottomed out at 7° F in **Wisdom, MT**. Farther east, snow accumulated to a depth of 4 inches in **Rochester, MN**. By week's end, dry weather overspread the Nation. Cool air poured southward **east of the Rockies**, while warm weather prevailed in the **West**. On Saturday, a forest fire ignited in the hills east of **Oakland, CA**, and spread into populated areas.

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