

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

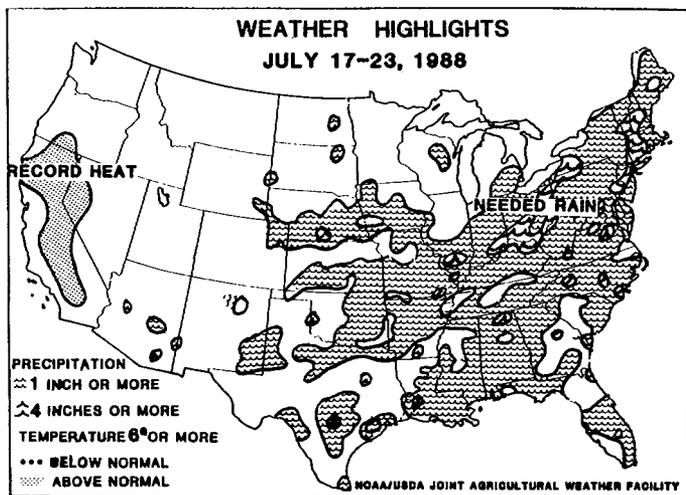
Volume 75, No. 30

Washington, D.C.

July 26, 1988

National Weather Summary

July 17 to 23, 1988



WEDNESDAY...The frontal system extended from New England to southern Texas and continued to trigger showers and thunderstorms, bringing short-term relief to many areas suffering from drought. Relatively cool air moved into the north-central United States behind the front, while the Pacific Coast States continued to bake. An all time record-high temperature was set at Redding, California.

THURSDAY...Soaking rains continued ahead of the frontal system extending from the Northeast to the western gulf coast. Showers also remained over the upper Great Lakes. Hot dry weather prevailed in the West.

FRIDAY...Showers and thunderstorms persisted over much of the eastern third of the Nation. Rain with locally heavy amounts was widespread along the stationary front extending from New England to the central gulf coast. Thunderstorms were scattered over the southwestern States. Cool Canadian air settled over the central United States, while temperatures climbed to over 100 degrees in the northern High Plains and in the Far West.

SATURDAY...Soaking rain again fell along the front, extending through the middle and southern Atlantic Coast States. Another front triggered a line of severe weather across the northern Plains during the evening. Thunderstorms occurred over the southern Great Lakes and were scattered in the Southwest. Hot weather remained in the West.

HIGHLIGHTS: A frontal system moved through the eastern half of the Nation, bringing badly needed rain and short-term relief to much of the areas suffering from drought. Cool Canadian air settled into the central United States by midweek, but the West continued to be plagued with record heat.

SUNDAY...Thunderstorms developed along a stationary front, extending from the lower Great Lakes into the central Great Plains. Thunderstorms and showers were scattered over the High Plains, Southeast, Northeast, and mid-Atlantic States. Warm and muggy conditions continued from the previous week over much of the Nation.

MONDAY...The frontal system moved slowly into the Ohio and middle Mississippi Valleys, bringing desperately needed rain. Scattered thunderstorms remained over the central Plains, along the gulf coast, and middle and upper Atlantic Coast States. Thunderstorms were spread across the central and southern Rockies. Temperatures remained high across the southern half of the Nation.

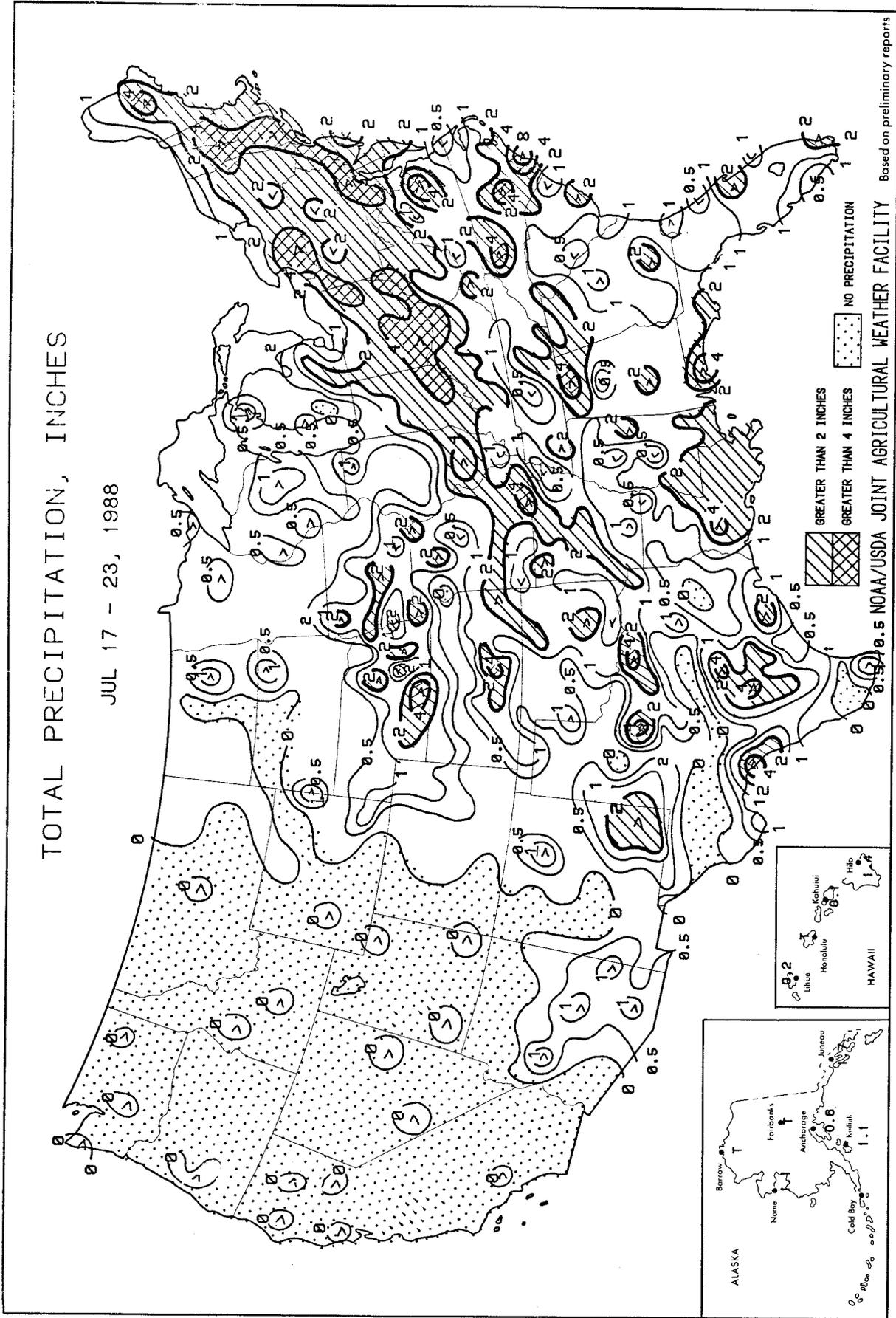
TUESDAY...Rain continued across the Midwest as the front edged southward. Another batch of substantial rain fell over the central Great Plains. Scattered showers and thunderstorms gave beneficial rain to much of the eastern two-thirds of the Nation. It was another day of sunny skies and searing heat in the Western United States as many record-high temperatures were broken.

Contents

	Page
National Weather Summary	1
Total Precipitation	2
Crop Moisture & Crop Moisture Index	3
Drought Severity & Drought Severity Index	4
Precipitation Needed to End Drought & Extreme Maximum Temperature	5
Average Temperature & Departure	6
Total Growing Degree Days & Departure	7
National Weather Data for Selected Cities	8
National Agricultural Summary	11
State Summaries of Weather and Agriculture	12
Drought Relief	18
Crop Progress & Condition Tables	19
International Weather and Crop Summary	21
Subscription and Mailing Permit Information	24

TOTAL PRECIPITATION, INCHES

JUL 17 - 23, 1988



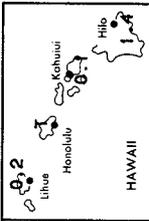
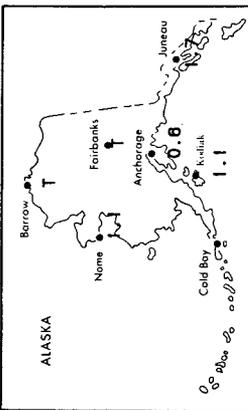
Based on preliminary reports

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

GREATER THAN 2 INCHES

GREATER THAN 4 INCHES

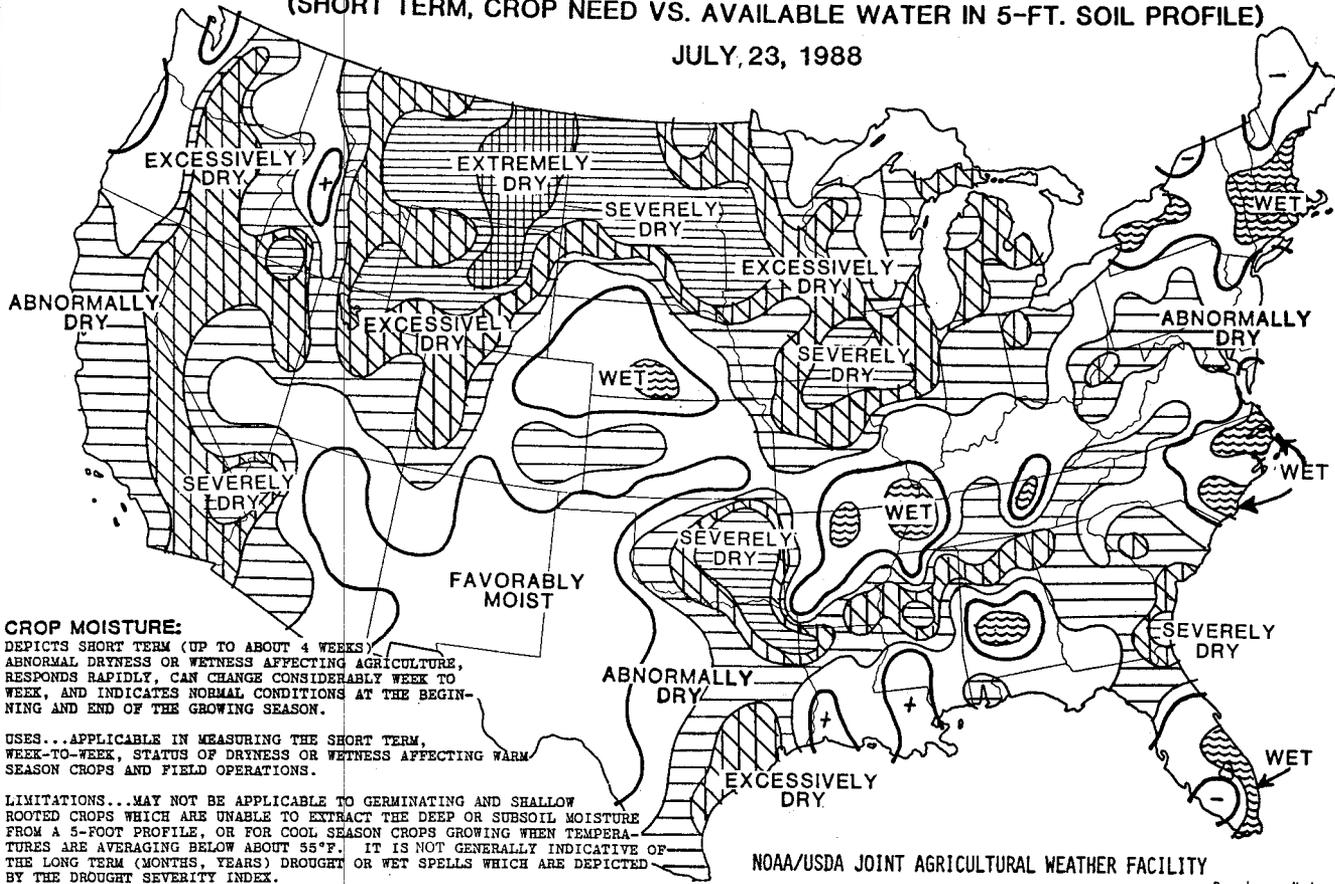
NO PRECIPITATION



CROP MOISTURE

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

JULY 23, 1988



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 FARM 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.

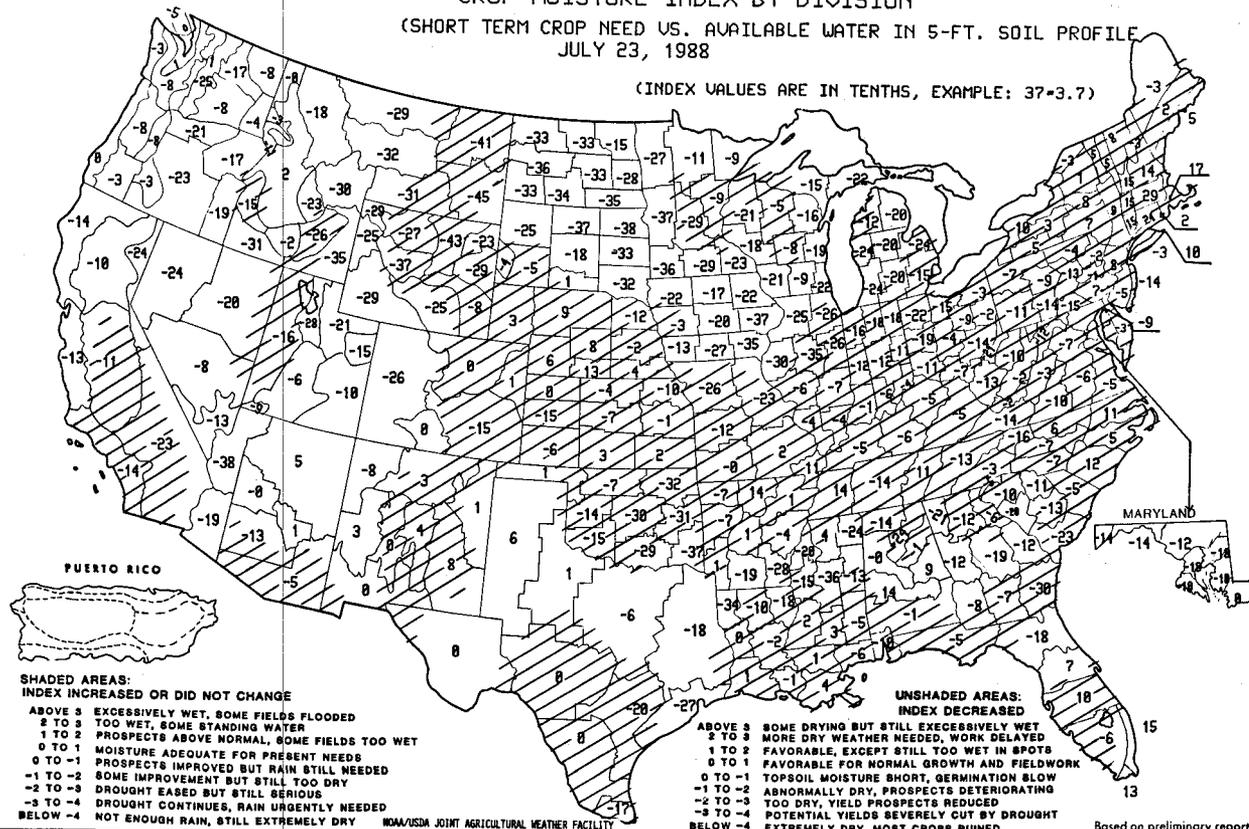
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports

CROP MOISTURE INDEX BY DIVISION

(SHORT TERM CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE JULY 23, 1988)

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



SHADED AREAS:

INDEX INCREASED OR DID NOT CHANGE

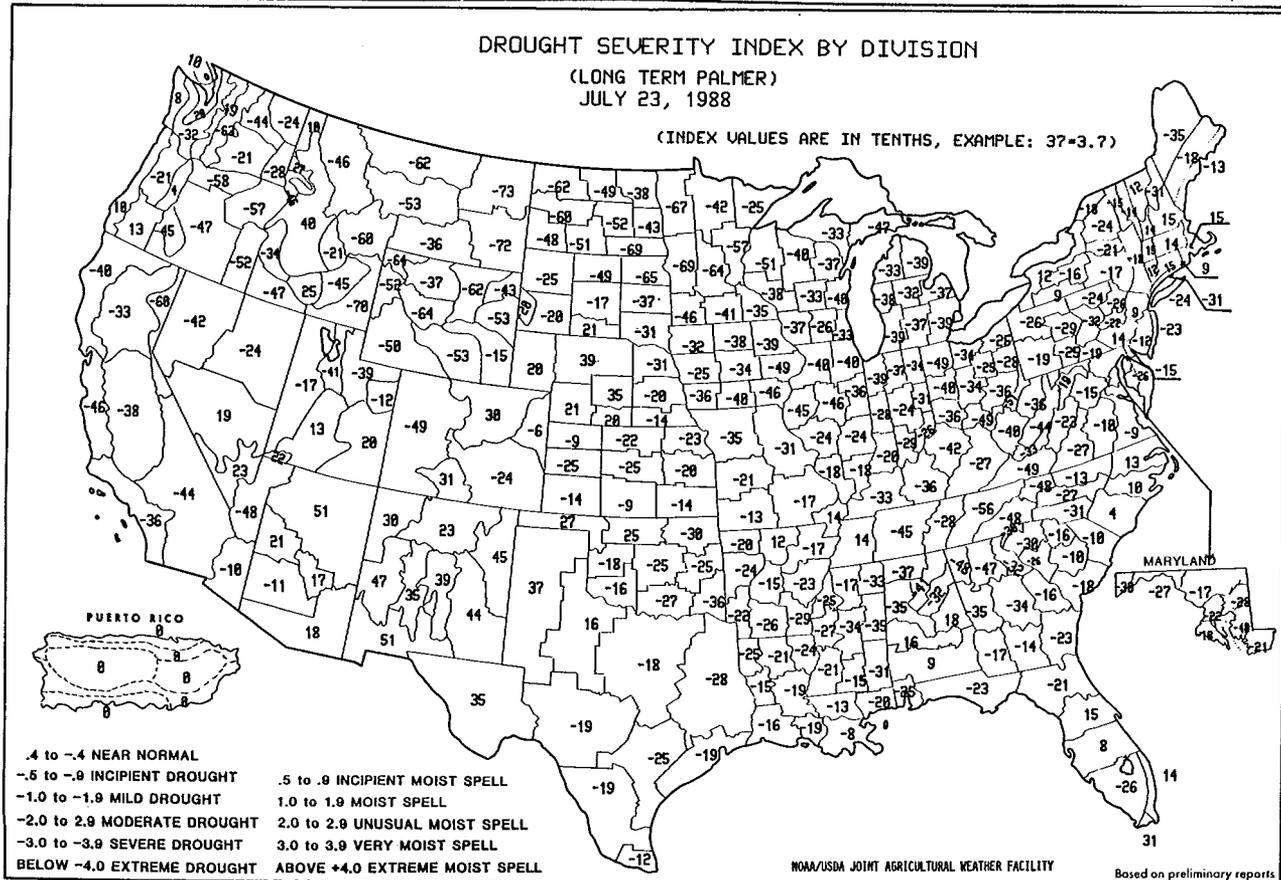
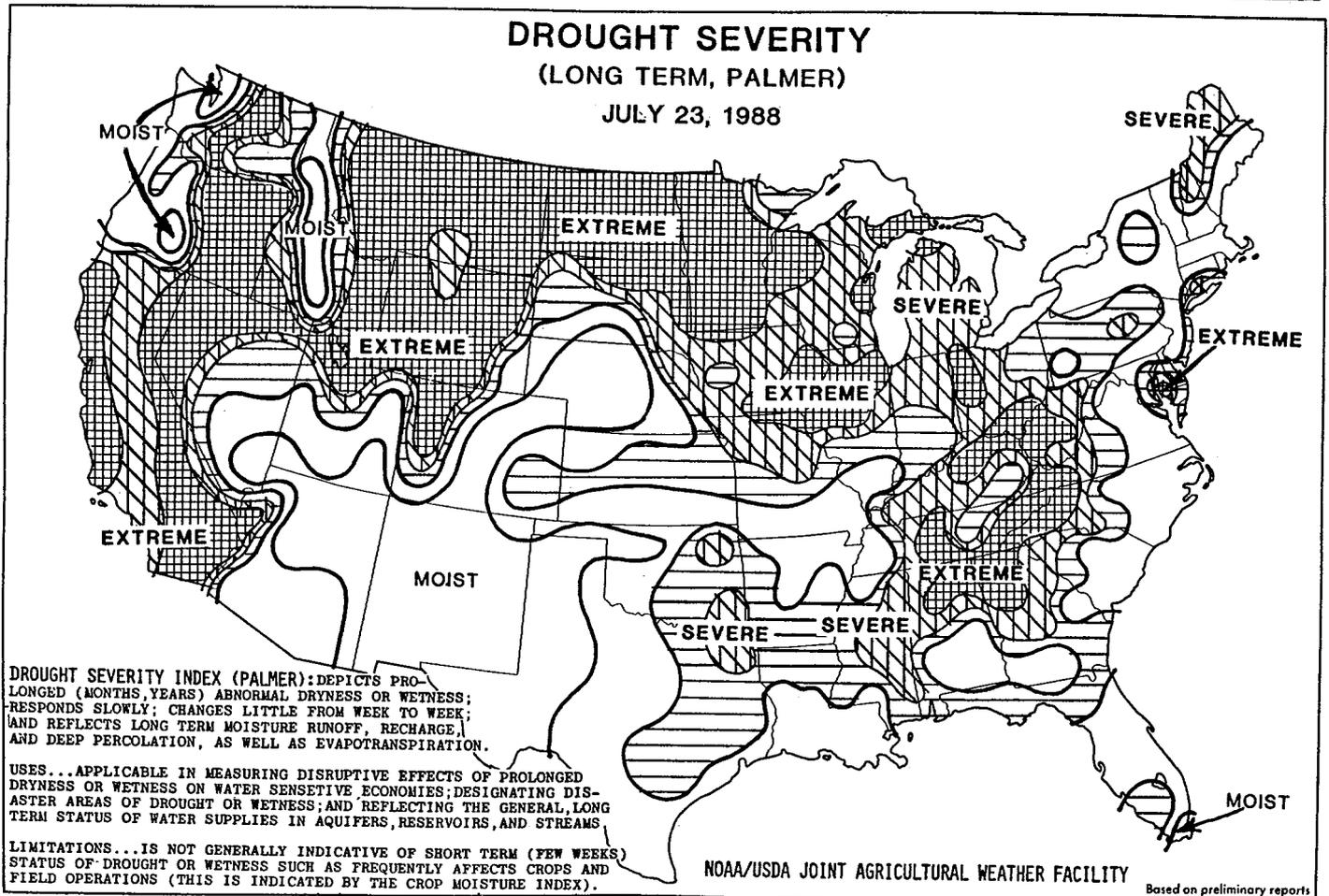
- ABOVE 3 EXCESSIVELY WET, SOME FIELDS FLOODED
- 2 TO 3 TOO WET, SOME STANDING WATER
- 1 TO 2 PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
- 0 TO 1 MOISTURE ADEQUATE FOR PRESENT NEEDS
- 0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
- 1 TO -2 SOME IMPROVEMENT BUT STILL TOO DRY
- 2 TO -3 DROUGHT EASED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

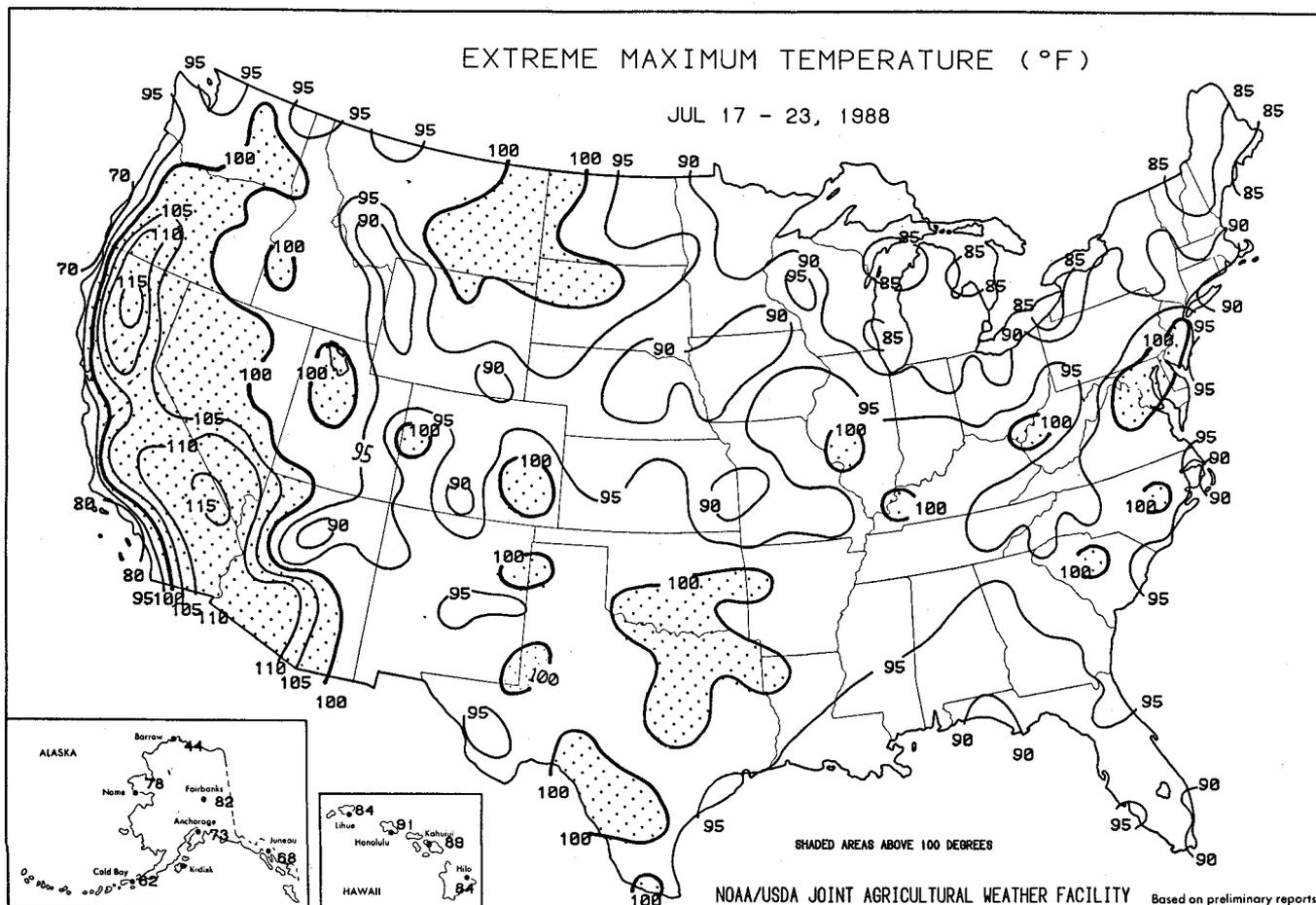
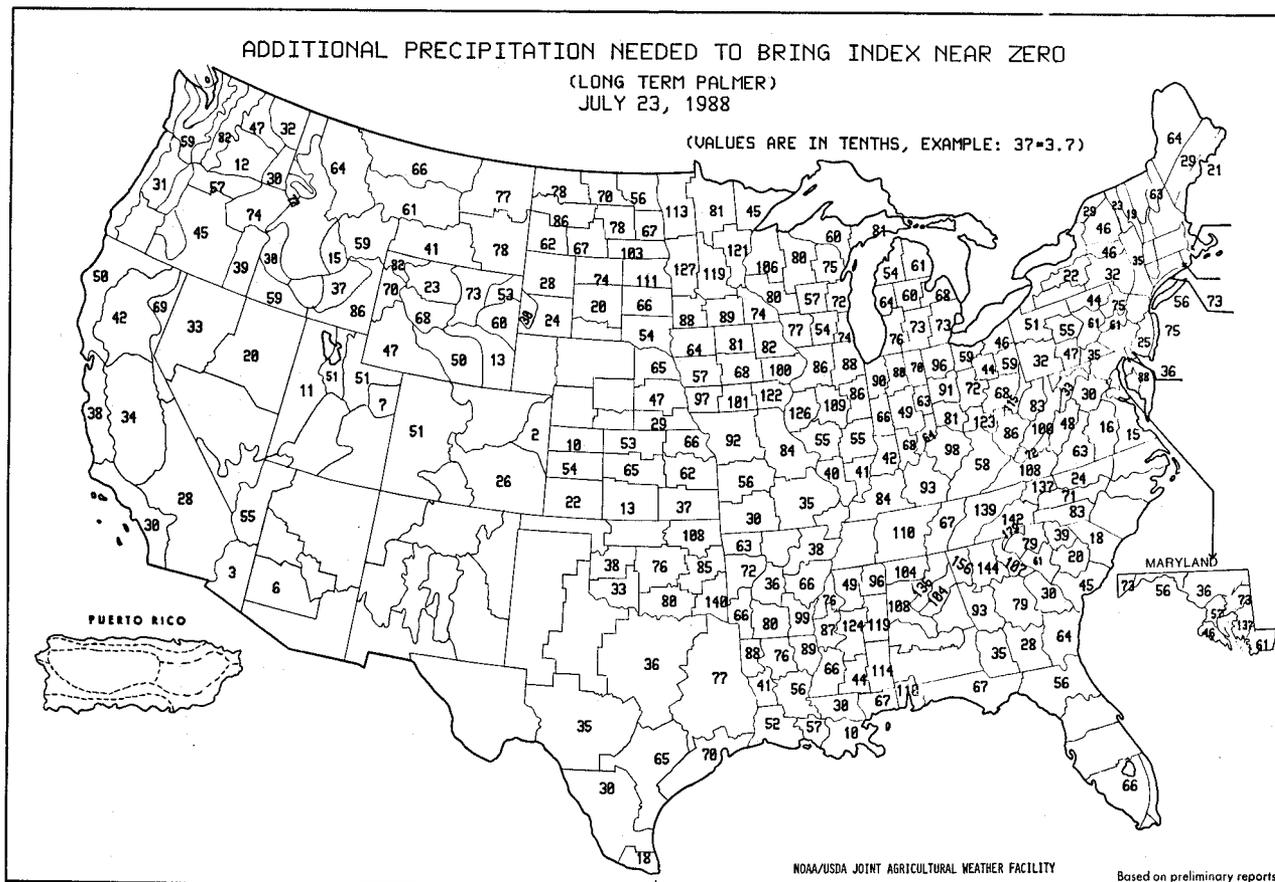
UNSHADED AREAS:

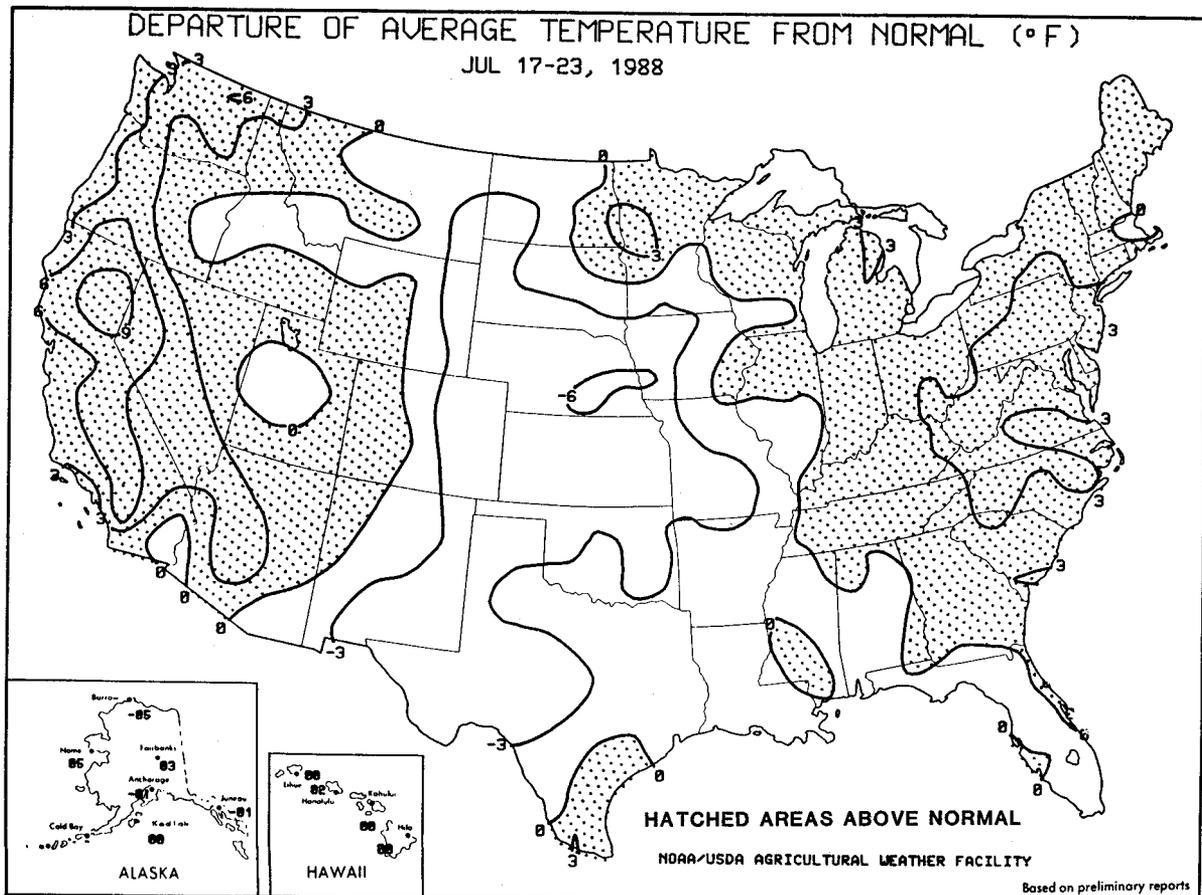
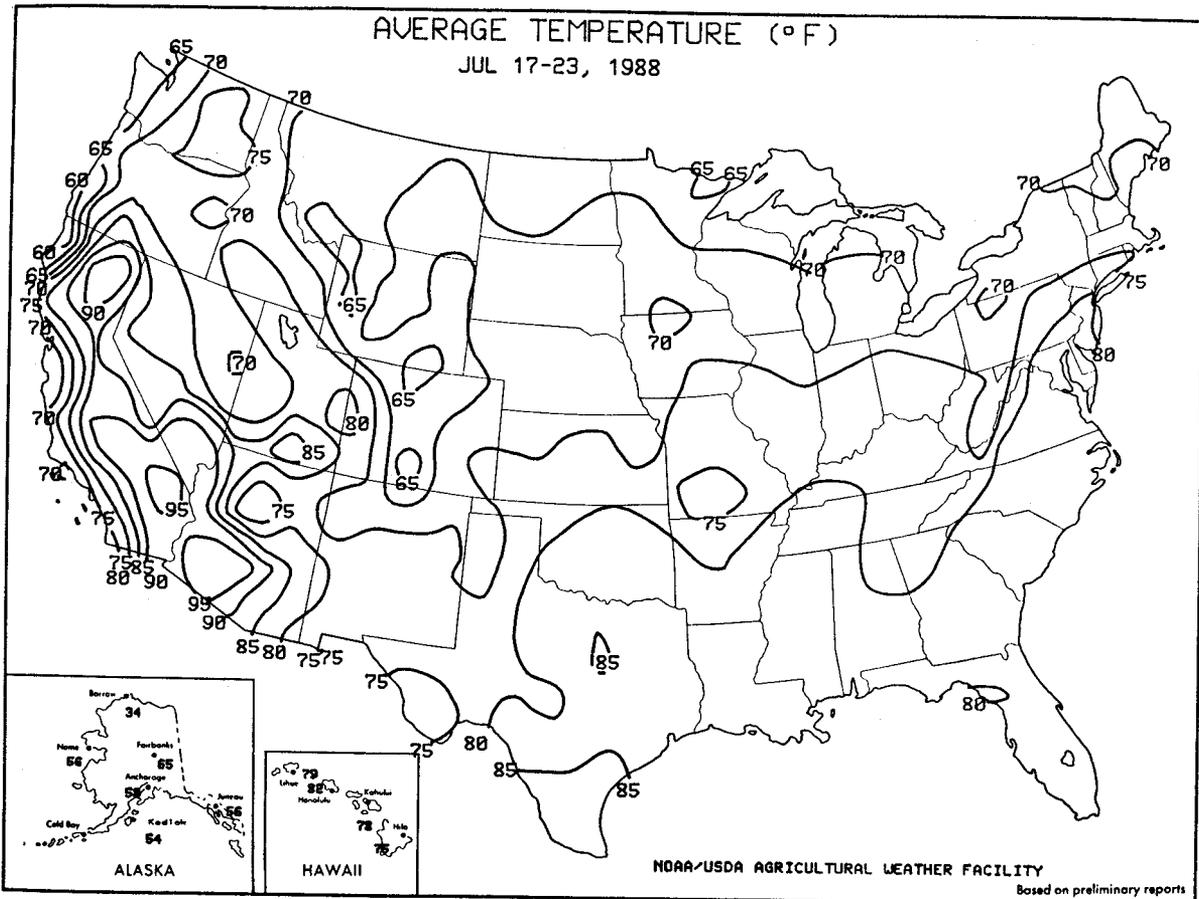
- INDEX DECREASED
- ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
- 2 TO 3 MORE DRY WEATHER NEEDED, WORK DELAYED
- 1 TO 2 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
- 0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
- 0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
- 1 TO -2 ABNORMALLY DRY, PROSPECTS 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

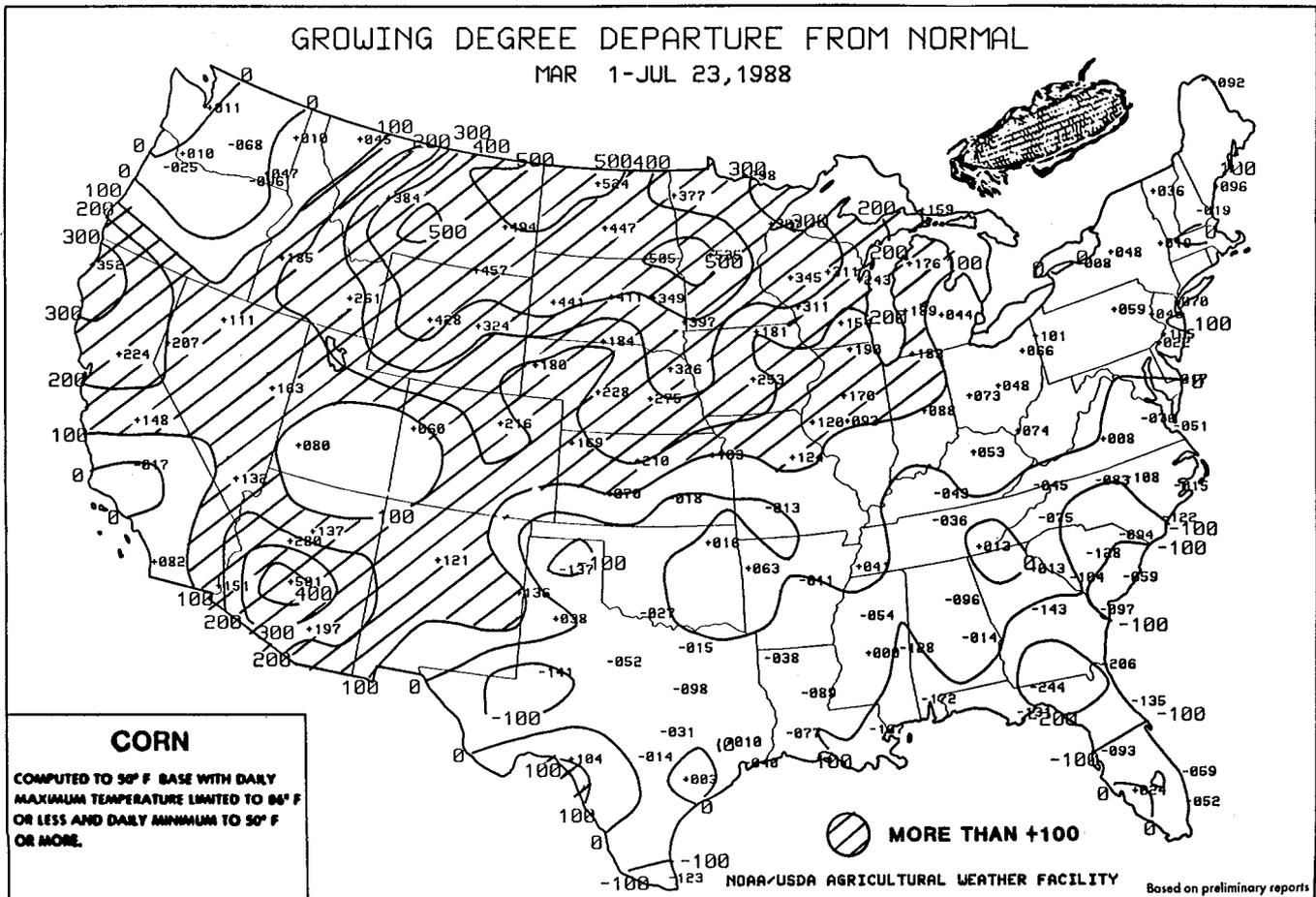
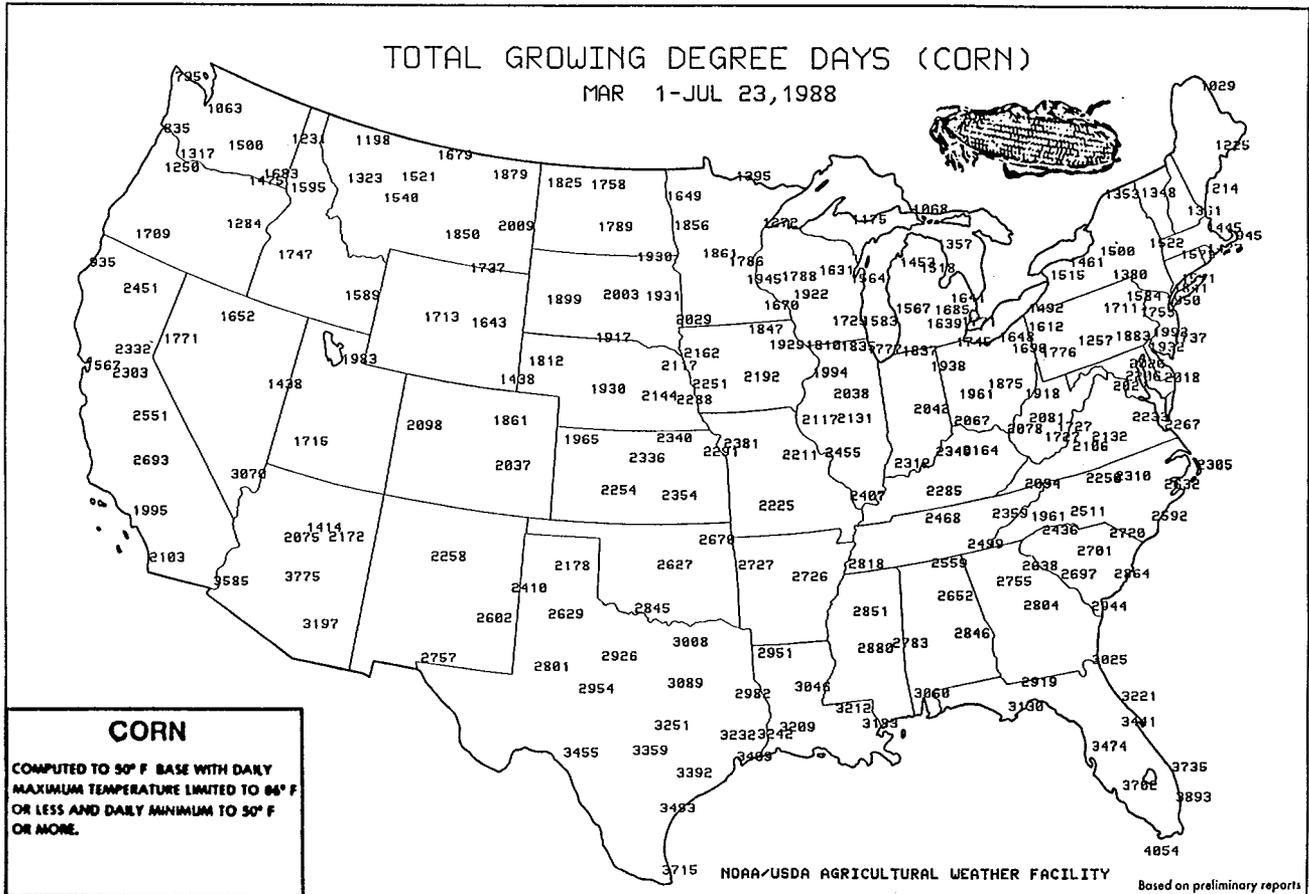
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports









National Weather Data for Selected Cities

Weather Data for the Week Ending July 23, 1988

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 June 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERA- TURE °F		PRECIPI- TATION		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
AL BIRMINGHAM	90	71	95	68	81	0	.3	-1.0	.2	2.1	27	17.7	52	98	55	5	0	2	0	
MOBILE	89	72	92	69	80	0	1.8	0	1.0	8.3	76	31.7	84	98	61	4	0	5	1	
MONTGOMERY	91	71	93	70	81	-1	1.0	-1	.6	12.2	174	38.0	126	99	56	5	0	3	1	
AK ANCHORAGE	63	53	73	51	58	-1	.6	.1	.5	1.4	54	3.7	61	92	63	0	0	3	0	
BARROW	38	31	44	29	34	-5	.3	-2	.3	.3	26	.5	25	99	85	0	6	0	0	
FAIRBANKS	76	54	82	51	65	3	.4	0	.3	2.8	106	5.1	104	82	35	0	0	0	0	
JUNEAU	62	49	68	45	56	-1	1.1	.1	.6	5.4	90	24.7	107	96	62	0	0	2	4	
KODIAK	60	49	64	43	54	0	1.1	.3	.7	4.6	70	39.3	129	99	78	0	0	4	1	
NOME	68	45	78	42	57	5	T	-5	T	1.4	50	5.3	93	86	49	0	0	0	0	
AZ PHOENIX	108	84	111	77	96	3	.7	.5	.6	7.7	100	3.1	98	56	20	7	0	2	1	
PRESCOTT	94	63	95	60	78	5	.2	-6	.2	2.3	81	6.6	75	66	23	7	0	2	0	
TUCSON	101	72	105	69	87	0	.7	.1	.4	1.2	58	3.7	80	76	25	7	0	4	0	
YUMA	104	82	114	78	93	-1	T	0	T	.1	125	1.1	113	70	32	7	0	0	0	
AR FORT SMITH	94	69	102	59	82	-1	.7	0	.6	3.5	59	19.1	82	94	38	6	0	2	1	
LITTLE ROCK	90	71	96	65	81	-2	3.9	3.1	2.8	10.0	158	25.3	86	81	52	3	0	2	2	
CA BAKERSFIELD	107	77	109	72	92	7	T	0	T	33	33	3.0	79	53	20	7	0	0	0	
EUREKA	86	53	71	52	60	3	0	0	0	2.3	390	15.9	71	92	70	0	0	0	0	
FRESNO	107	75	108	71	91	9	0	0	0	T	67	5.5	79	66	22	7	0	0	0	
LOS ANGELES	76	66	80	64	71	2	0	0	0	T	0	4.6	56	92	65	0	0	0	0	
REDDING	112	74	118	70	93	9	0	0	0	1.7	185	16.9	68	54	10	7	0	0	0	
SACRAMENTO	104	64	112	61	84	8	0	0	0	.2	154	6.9	65	70	19	7	0	0	0	
SAN DIEGO	78	68	81	66	73	3	T	0	T	0	0	6.7	104	91	63	0	0	0	0	
SAN FRANCISCO	81	57	104	56	69	7	0	0	0	T	0	6.7	104	91	63	0	0	0	0	
CO DENVER	85	57	95	50	71	-3	.3	-2	.3	3.5	116	10.6	110	80	28	3	0	1	0	
GRAND JUNCTION	97	65	101	61	81	1	0	-1	0	.4	50	4.5	110	34	11	7	0	0	0	
PUEBLO	91	56	103	48	74	-3	.1	-3	.1	3.0	121	7.3	119	84	25	5	0	1	0	
CT BRIDGEPORT	81	71	89	68	76	1	5.6	4.8	2.0	7.2	134	20.1	88	94	68	0	0	5	3	
HARTFORD	82	67	94	63	74	1	4.1	3.4	1.4	6.3	112	21.5	90	97	64	2	0	6	4	
DC WASHINGTON	92	74	101	71	83	4	2.6	1.7	1.2	3.6	59	18.1	84	96	54	5	0	6	2	
FL APALACHICOLA	88	75	90	74	82	0	3.8	2.1	2.1	9.9	98	31.0	112	93	67	1	0	6	2	
DAYTONA BEACH	91	71	94	68	81	0	.2	-1.0	.1	4.5	42	19.5	79	100	54	5	0	3	0	
JACKSONVILLE	92	73	96	69	83	0	.3	-1.2	.3	7.9	76	27.8	100	92	55	6	0	2	0	
KEY WEST	89	77	91	74	83	-2	.2	-5	.1	8.2	106	23.8	136	90	63	2	0	4	0	
MIAMI	89	76	91	74	83	0	1.6	.3	.7	18.1	134	28.1	95	91	63	3	0	5	1	
ORLANDO	89	72	92	71	81	-2	2.2	.4	1.8	12.3	94	27.7	100	99	57	3	0	5	1	
TALLAHASSEE	91	70	93	69	81	-1	1.3	-7	1.2	6.5	50	28.8	76	98	54	6	0	4	1	
TAMPA	91	73	93	70	82	0	1.6	-1	.9	8.4	78	19.8	80	96	57	6	0	6	2	
WEST PALM BEACH	89	74	90	73	82	-1	1.7	.4	1.0	19.0	152	41.5	139	94	63	4	0	5	1	
GA ATLANTA	92	72	95	67	82	3	1.4	.3	1.2	2.4	34	20.7	67	94	44	5	0	3	1	
AUGUSTA	94	72	98	70	83	2	.4	-6	.4	6.4	89	23.7	88	91	44	5	0	2	1	
MACON	93	73	95	72	83	2	.9	-1	.9	4.2	60	23.0	81	94	47	6	0	2	1	
SAVANNAH	94	75	98	73	85	3	1.4	-3	1.3	4.4	39	22.6	77	92	47	6	0	2	1	
HI HILO	82	69	84	66	75	0	1.4	-7	.4	9.5	77	63.5	89	92	47	6	0	2	1	
HONOLULU	90	74	91	73	82	2	T	0	T	.1	17	6.9	51	76	43	4	0	0	0	
KAHULUI	87	70	89	63	78	0	.1	0	.1	.1	24	12.3	105	83	49	0	0	1	0	
LIHUE	84	74	84	70	79	0	.2	-2	.2	1.7	53	21.1	89	84	63	0	0	3	0	
ID BOISE	96	55	103	48	75	0	0	0	0	.5	45	6.8	95	48	12	6	0	0	0	
LEWISTON	94	60	103	54	77	2	0	-1	0	2.0	111	6.2	80	54	15	6	0	0	0	
POCATELLO	92	54	98	44	73	1	0	-1	0	.4	26	4.4	67	51	12	4	0	0	0	
IL CHICAGO	82	64	89	61	73	0	.4	-3	.4	2.2	33	10.8	56	94	51	0	0	1	0	
MOLINE	88	64	97	56	76	1	.6	-5	.6	2.3	28	11.1	51	96	38	3	0	2	1	
PEORIA	89	64	98	58	76	1	.2	-7	.2	.9	14	9.7	48	94	38	3	0	1	0	
QUINCY	88	64	98	57	76	-1	T	-1.0	T	2.9	40	9.2	43	92	41	3	0	2	0	
ROCKFORD	86	63	91	57	74	1	.9	-1	.9	2.6	33	12.2	58	96	43	2	0	1	0	
SPRINGFIELD	88	65	100	56	76	0	.2	-6	.2	.8	13	10.1	50	89	40	2	0	1	0	
IN EVANSVILLE	88	69	98	62	79	0	2.5	1.6	1.6	5.5	85	18.7	73	94	60	2	0	3	2	
FORT WAYNE	83	65	88	59	74	1	3.5	2.7	2.6	5.4	88	16.7	82	97	53	0	0	5	1	
INDIANAPOLIS	86	66	95	59	76	1	3.2	2.2	1.8	4.2	57	17.8	77	96	51	1	0	2	2	
SOUTH BEND	83	64	90	58	73	0	.4	-5	.3	1.5	23	13.1	62	99	55	1	0	2	0	
IA DES MOINES	87	63	95	56	75	-1	2.3	1.6	2.0	7.5	117	11.3	63	95	42	2	0	3	1	
SIoux CITY	84	60	89	54	72	-4	.7	-1	.6	3.5	54	10.2	65	95	47	0	0	2	1	
WATERLOO	87	57	90	51	72	-1	.2	-9	-1	4.6	59	10.4	53	98	42	1	0	2	0	
KS CONCORDIA	86	63	93	57	74	-5	.8	0	.6	4.8	71	10.6	64	91	46	2	0	3	0	
DODGE CITY	90	63	95	55	76	-4	1.3	.6	1.3	2.1	40	10.3	80	90	38	4	0	2	1	
GOODLAND	86	57	93	52	71	-5	1.4	.9	.9	5.2	115	14.2	137	94	36	3	0	3	1	
TOPEKA	87	62	91	53	74	-5	T	-8	T	4.8	59	14.0	72	97	50	1	0	1	0	
WICHITA	90	67	99	62	79	-3	.2	-6	.1	2.8	41	13.2	79	89	42	3	0	3	0	
KY BOWLING GREEN	87	71	96	64	79	0	2.9	1.9	1.5	5.9	76	20.3	67	100	55	3	0	4	2	
LEXINGTON	87	69	97	65	78	2	2.0	.8	.6	4.1	51	18.4	66	97	55	2	0	7	3	
LOUISVILLE	88	70	98	67	79	1	3.4	2.5	2.0	5.3	80	22.1	84	92	54	1	0	4	2	
LA ALEXANDRIA	90	74	96	71	82	-1	.8	-2	.4	5.5	77	23.9	74	84	53	4	0	3	0	
BATON ROUGE	88	74	92	73	81	-1	2.9	1.2	.8	10.2	121	41.3	125	96	62	3	0	6	3	
LAKE CHARLES	89	74	93	73	82	0	2.4	1.1	1.6	10.3	130	31.1	109	98	60	4	0	4	1	
NEW ORLEANS	88	73	91	71	81	-1	2.3	.8	1.7	17.6	182	52.4	153	100	68	3	0	5	1	

Weather Data for the Week Ending July 23, 1988

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 June 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
ME SHREVEPORT	96	72	101	66	84	1	.3	-.5	.3	1.7	28	15.1	56	90	36	7	0	2	0
ME CARIBOU	77	55	84	50	66	1	.7	-.3	.7	4.5	74	15.0	81	100	54	0	0	1	1
ME PORTLAND	78	63	86	59	71	2	2.9	2.3	1.6	6.2	120	21.3	90	98	69	0	0	5	3
MD BALTIMORE	91	73	101	69	82	5	2.8	1.9	1.8	3.7	57	19.4	84	95	52	5	0	6	2
MD SALISBURY	88	74	97	72	81	4	3.8	2.8	2.9	6.4	96	26.4	109	95	62	3	0	3	2
MA BOSTON	77	65	93	61	71	-3	2.3	1.7	.9	5.0	103	19.3	81	99	72	1	0	6	3
MA CHATHAM	75	64	82	61	70	1	2.9	2.2	1.0	5.3	110	20.7	82	98	89	0	0	5	3
MI ALPENA	82	59	86	54	70	3	.1	-.6	.1	2.9	53	12.4	79	99	52	0	0	2	0
MI DETROIT	84	66	88	61	75	2	.6	-.1	.4	2.6	45	9.4	53	91	45	0	0	4	0
MI FLINT	85	63	88	57	74	3	1.4	-.8	.6	3.4	65	10.6	65	97	45	0	0	5	1
MI GRAND RAPIDS	84	64	90	59	74	2	T	-.6	T	3.1	52	12.9	70	95	47	1	0	0	0
MI HOUGHTON LAKE	83	58	87	51	71	3	.2	-.5	.1	2.1	40	10.1	66	95	45	0	0	2	0
MI LANSING	84	62	89	57	73	2	.5	0	.5	2.3	39	11.0	67	100	49	0	0	3	0
MI MARQUETTE	79	51	88	47	65	0	T	-.7	T	1.5	24	13.0	63	93	39	0	0	0	0
MI MUSKOGON	82	63	88	60	73	2	.7	-.2	.4	1.9	46	12.7	77	98	50	0	0	3	0
MI SAULT ST. MARIE	81	53	85	50	67	3	.4	-.3	.4	1.9	35	12.5	75	100	44	0	0	2	0
MN ALEXANDRIA	85	63	90	58	74	3	.3	-.4	.2	1.7	27	7.2	50	78	30	1	0	2	0
MN DULUTH	82	52	87	48	67	1	.1	-.8	.1	5.2	76	13.0	81	97	37	0	0	1	0
MN INT'L FALLS	81	53	88	50	67	0	.3	-.5	.2	6.5	99	10.2	76	98	39	0	0	4	0
MN MINNEAPOLIS	85	61	92	55	73	-1	.3	-.5	.3	1.4	21	7.6	50	86	36	2	0	1	0
MN ROCHESTER	84	56	88	50	70	-1	.2	-.6	.2	2.7	40	10.4	65	94	38	0	0	2	0
MS GREENWOOD	91	72	96	60	81	-1	.2	-.8	.2	1.7	24	14.5	44	97	50	6	0	1	0
MS JACKSON	92	71	95	64	82	0	T	-1.0	T	2.2	33	21.4	67	98	49	7	0	1	0
MS MERIDIAN	90	70	93	65	80	-1	1.4	.2	.9	5.4	71	24.7	74	99	58	4	0	4	1
MO CAPE GIRARDEAU	88	69	99	61	79	-	.8	0	.6	2.7	43	17.2	64	96	49	1	0	3	1
MO COLUMBIA	89	65	97	59	77	-2	.3	-.4	.3	2.2	36	14.5	67	89	41	3	0	2	0
MO KANSAS CITY	89	64	91	56	77	-4	T	-.9	T	2.8	36	10.6	51	89	37	4	0	0	0
MO SAINT LOUIS	87	70	100	64	79	-1	2.0	1.2	1.8	4.1	63	17.0	82	91	47	2	0	3	1
MO SPRINGFIELD	83	64	93	57	74	-5	1.9	1.2	1.0	9.7	132	27.3	118	96	56	1	0	4	2
MT BILLINGS	89	59	101	53	74	0	T	-.2	T	.5	18	6.0	62	53	16	2	0	0	0
MT GLASGOW	86	56	100	50	71	-1	.1	-.3	.1	2.8	74	5.4	76	67	20	2	0	1	0
MT GREAT FALLS	86	51	96	44	69	-2	T	-.2	T	3.2	92	7.3	71	61	19	3	0	0	0
MT HAVRE	87	51	99	44	69	-2	T	-.3	T	1.8	56	2.9	38	63	17	2	0	0	0
MT HELENA	88	53	97	45	71	2	0	0	0	1.9	67	6.2	84	53	16	3	0	0	0
MT KALISPELL	88	48	96	46	68	0	0	0	0	2.4	83	8.8	95	83	19	3	0	0	0
MT MILES CITY	86	60	103	53	73	-3	T	-.3	T	.7	18	2.0	21	54	18	2	0	0	0
MT MISSOULA	89	48	96	43	69	0	0	0	0	2.2	89	8.4	103	72	18	4	0	0	0
NE GRAND ISLAND	83	59	88	52	71	-6	.3	-.2	.3	8.2	144	13.9	93	95	49	0	0	2	0
NE LINCOLN	86	62	91	54	74	-4	.7	0	.7	1.8	28	8.2	49	93	44	1	0	1	1
NE NORFOLK	83	59	90	53	71	-5	.5	-.2	.5	5.9	87	14.8	95	97	47	1	0	2	0
NE NORTH PLATTE	84	57	90	50	70	-5	1.1	.5	.9	6.2	103	12.9	97	96	40	1	0	2	1
NE OMAHA	81	63	85	56	72	-6	.7	-.1	.4	5.5	81	13.5	77	91	58	0	0	2	0
NE SCOTTSBLUFF	88	54	95	48	71	-4	.6	.2	.5	3.1	70	12.6	120	93	27	3	0	3	0
NE VALENTINE	84	57	94	46	71	-4	.1	-.5	.1	4.3	90	12.8	115	79	35	1	0	1	0
NV ELY	92	46	96	39	69	1	T	-.1	T	.6	51	4.5	80	46	12	7	0	1	0
NV LAS VEGAS	109	80	112	78	95	4	0	0	0	1.1	1.7	82	36	15	7	0	0	0	0
NV RENO	101	58	103	54	79	9	T	-.1	T	.6	118	2.2	48	47	10	7	0	0	0
NV WINNEMUCCA	100	52	104	48	76	3	0	0	0	.5	49	4.0	84	28	7	7	0	0	0
NH CONCORD	79	64	89	61	72	2	3.5	2.9	1.9	4.9	95	16.5	85	100	63	0	0	6	2
NJ ATLANTIC CITY	86	72	92	69	79	4	1.8	.8	1.6	4.6	81	18.6	81	96	67	3	0	3	1
NM ALBUQUERQUE	91	64	98	61	78	-2	.1	-.3	.1	2.9	199	6.0	168	68	23	5	0	2	0
NM CLOVIS	85	62	94	57	73	-4	1.3	.6	1.3	8.0	167	14.8	161	87	41	1	0	1	1
NM ROSWELL	90	64	99	59	77	-4	3.3	2.9	3.1	5.6	254	11.1	244	85	31	5	0	3	1
NY ALBANY	83	65	91	59	74	2	2.1	1.5	.9	4.2	76	15.9	82	99	60	1	0	5	2
NY BINGHAMTON	81	64	89	61	73	3	1.8	1.1	1.0	3.7	60	17.3	85	97	57	0	0	5	2
NY BUFFALO	83	64	89	62	74	2	4.2	3.5	1.6	6.3	130	20.6	108	97	56	0	0	7	2
NY NEW YORK	84	73	92	70	79	1	5.9	5.0	2.0	8.0	139	22.7	97	94	61	2	0	6	4
NY ROCHESTER	83	63	90	59	73	1	3.4	2.9	1.7	5.2	112	13.8	81	98	55	1	0	5	3
NY SYRACUSE	83	63	91	60	73	2	3.5	2.7	1.6	7.4	116	18.5	87	100	61	1	0	4	3
NC ASHEVILLE	88	65	91	63	76	2	1.8	.9	1.3	3.5	54	13.9	55	100	46	2	0	4	1
NC CHARLOTTE	91	73	95	71	82	3	1.9	1.0	1.6	4.9	76	17.2	67	93	48	5	0	3	1
NC GRENSBORO	90	71	95	69	81	3	2.7	1.8	2.3	7.3	103	19.3	79	96	52	5	0	2	1
NC HATTERAS	86	76	89	72	81	2	1.3	.1	.7	3.7	45	24.0	84	95	75	0	0	3	1
NC NEW BERN	89	77	96	72	83	4	3.1	1.5	1.9	9.9	97	30.1	103	93	64	4	0	2	2
NC RALEIGH	90	72	97	70	81	3	1.6	.6	.6	4.7	68	18.4	76	95	61	4	0	4	2
NC WILMINGTON	89	76	95	71	83	2	9.2	7.5	6.3	13.6	121	36.2	122	92	61	3	0	3	2
ND BISMARCK	86	51	95	47	69	-3	.1	-.4	.1	2.7	59	5.9	60	84	25	1	0	2	0
ND FARGO	89	59	96	54	74	3	T	-.7	T	1.7	31	6.4	56	79	27	2	0	1	0
ND GRAND FORKS	85	53	92	50	69	0	.2	-.4	.2	4.8	94	7.8	74	93	33	2	0	2	0
ND WILLISTON	85	53	103	46	69	-2	.1	-.2	.1	4.0	98	7.1	82	77	21	2	0	2	0
OH AKRON-CANTON	83	65	92	59	74	2	4.2	3.3	1.2	4.9	78	15.5	73	98	53	1	0	6	5
OH CINCINNATI	87	68	98	62	78	2	4.1	3.2	2.9	6.0	83	23.1	94	92	51	2	0	2	2
OH CLEVELAND	84	65	92	62	75	2	2.0	1.2	1.1	3.1	53	14.0	69	96	49	1	0	7	1
OH COLUMBUS	86	68	93	63	77	3	6.6	5.7	3.3	8.3	119	21.7	97	96	58	2	0	6	5

Weather Data for the Week Ending July 23, 1988

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 June 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMPERATURE °F		PRECIPITATION	
																		90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	87	67	94	61	77	2	2.2	1.4	1.4	3.7	59	15.6	74	95	51	2	0	4	2		
TOLEDO	85	65	90	58	75	2	1.4	.7	.7	2.0	34	9.0	49	93	51	1	0	4	1		
YOUNGSTOWN	83	60	93	55	72	1	4.1	3.2	1.8	5.4	83	16.5	77	99	56	1	0	6	3		
OK OKLAHOMA CITY	92	70	99	64	81	-2	.2	-.4	.2	4.0	65	17.7	94	77	36	5	0	3	0		
TULSA	91	71	99	64	81	-3	1.4	-.6	1.4	2.6	36	15.6	68	87	39	3	0	2	1		
OR ASTORIA	73	52	93	45	63	2	0	-.1	0	.7	89	4.4	78	49	11	5	0	0	0		
BURNS	93	48	99	43	70	0	0	-.1	0	1.0	124	6.8	65	70	14	7	0	0	0		
MEDFORD	102	57	110	51	80	6	0	-.1	0	.3	37	7.3	108	44	14	5	0	0	0		
PENDLETON	93	60	100	54	76	2	0	-.1	0	3.0	174	19.3	98	85	28	3	0	0	0		
PORTLAND	88	57	99	54	73	4	0	-.1	0	2.0	140	18.8	87	88	22	3	0	0	0		
SALEM	91	50	103	45	71	3	0	-.1	0	6.2	96	23.6	97	97	59	2	0	5	4		
PA ALLENTOWN	86	71	97	68	79	5	3.6	2.6	1.3	2.0	96	23.6	97	97	59	2	0	5	4		
ERIE	80	65	83	62	72	2	1.6	.9	.5	3.5	55	16.1	79	94	59	0	0	6	1		
HARRISBURG	88	71	97	67	80	3	3.1	2.4	1.6	4.3	70	20.2	90	98	56	2	0	6	2		
PHILADELPHIA	91	73	102	73	82	5	5.6	4.7	3.5	6.4	94	22.0	95	98	58	5	0	4	3		
PITTSBURGH	84	66	97	61	75	2	2.2	1.3	1.0	3.8	60	16.1	73	95	60	1	0	4	2		
SCRANTON	85	67	93	62	76	4	3.3	2.6	1.5	5.5	92	18.1	95	97	56	2	0	5	2		
RI PROVIDENCE	81	68	93	65	75	1	3.5	2.8	1.1	5.2	106	23.2	95	100	72	2	0	6	3		
SC CHARLESTON	92	76	95	72	84	3	2.4	.7	1.9	6.1	51	18.2	60	97	57	5	0	4	1		
COLUMBIA	94	74	100	71	84	3	1.1	-.1	.8	3.8	45	17.0	58	93	44	5	0	2	1		
FLORENCE	93	75	98	73	84	3	3.1	1.8	1.4	6.8	76	19.7	75	97	51	5	0	4	3		
GREENVILLE	92	71	95	69	81	2	.6	-.4	.4	5.4	70	20.1	65	97	48	5	0	2	0		
SD ABERDEEN	88	58	97	51	73	0	1.4	.9	1.4	3.7	74	8.3	71	75	24	2	0	2	1		
HURON	89	59	94	51	74	-1	.4	-.1	.4	1.9	38	11.3	93	75	25	4	0	1	0		
RAPID CITY	86	55	98	49	71	-3	.2	-.3	.2	1.5	30	6.3	55	74	22	2	0	1	0		
SIOUX FALLS	86	59	92	52	73	-2	.3	-.3	.2	1.3	23	8.3	58	94	35	2	0	3	0		
TN CHATTANOOGA	89	71	97	65	80	1	1.8	.7	1.7	4.3	64	20.6	65	95	49	4	0	3	1		
KNOXVILLE	90	70	95	67	80	2	1.0	0	.7	3.5	49	18.0	62	95	49	4	0	5	1		
MEMPHIS	90	74	96	67	82	-1	.5	-.4	.5	6.5	100	23.7	75	92	54	3	0	2	1		
NASHVILLE	91	72	98	67	82	-2	.3	-.5	.2	3.5	55	15.4	52	94	47	4	0	3	0		
TX ABILENE	93	70	100	64	81	-3	.5	0	.4	5.4	133	11.4	89	82	32	5	0	2	0		
AMARILLO	88	62	98	55	75	-4	.1	-.4	.1	5.0	92	14.8	131	86	34	3	0	1	0		
AUSTIN	95	73	99	68	84	-1	.6	-.2	.6	4.9	110	13.5	77	93	38	6	0	2	1		
BEAUMONT	92	74	96	71	83	0	.6	-.8	.3	7.5	82	24.6	83	100	53	4	0	3	0		
BROWNSVILLE	95	76	96	74	85	1	.4	.1	.4	3.9	104	11.0	103	95	47	7	0	1	0		
CORPUS CHRISTI	94	74	97	73	84	0	.9	.4	.9	2.9	52	7.2	49	98	43	6	0	1	1		
DEL RIO	93	73	100	70	83	-3	3.6	3.2	2.6	6.1	205	8.0	90	74	26	5	0	2	2		
EL PASO	92	66	98	57	79	-4	T	-.4	T	3.1	179	4.6	140	75	35	5	0	0	0		
PORT WORTH	96	72	102	67	84	-2	.4	-.1	.4	5.7	145	14.2	77	87	36	6	0	1	0		
GALVESTON	88	78	92	75	83	-1	1.7	.8	1.6	7.3	115	21.6	109	86	58	2	0	2	1		
HOUSTON	94	73	99	67	84	0	.8	.1	.8	4.3	62	14.4	57	93	43	6	0	2	1		
LUBBOCK	91	66	99	57	79	-1	T	-.5	T	4.0	88	9.1	91	83	32	4	0	0	0		
MIDLAND	88	63	95	58	76	-6	.6	.2	.5	7.5	281	11.0	157	88	38	4	0	2	1		
SAN ANGELO	93	66	99	59	80	-4	T	-.2	T	3.2	117	8.9	97	89	33	5	0	1	0		
SAN ANTONIO	94	73	99	67	83	-2	4.0	3.6	2.8	11.0	251	14.8	95	92	39	5	0	2	2		
VICTORIA	96	76	99	73	86	1	.1	-.4	.1	3.1	49	7.5	39	93	41	7	0	2	0		
WACO	99	71	104	62	85	-1	T	-.4	T	6.7	176	13.9	77	84	33	7	0	0	0		
WICHITA FALLS	97	72	102	64	85	-1	.1	-.3	.1	3.3	77	13.4	87	77	31	6	0	2	0		
UT BLANDING	93	60	94	59	76	2	.1	-.2	.1	1.4	119	6.0	108	54	25	4	0	1	0		
CEDAR CITY	95	57	97	53	76	1	.5	.2	.4	1.1	89	8.4	151	42	12	6	0	2	0		
SALT LAKE CITY	95	63	101	58	79	1	0	-.2	0	1.1	89	8.4	151	42	12	6	0	2	0		
VT BURLINGTON	79	65	88	61	72	2	.7	-.1	.5	5.7	93	13.3	76	98	63	0	0	2	1		
VA NORFOLK	88	75	97	73	82	3	.9	-.3	.7	6.2	85	23.1	94	93	63	4	0	4	1		
RICHMOND	90	73	99	71	82	3	5.2	4.0	3.7	9.1	124	24.1	101	96	61	4	0	4	2		
ROANOKE	90	69	99	64	80	3	1.9	1.1	1.4	6.5	111	16.8	76	99	51	4	0	5	1		
WA QUILLAYUTE	77	48	97	40	62	3	T	-.6	T	4.1	86	56.2	101	95	45	1	0	1	0		
SEATTLE-TACOMA	84	56	95	50	70	5	0	-.2	0	1.9	104	16.6	85	82	32	2	0	0	0		
SPOKANE	89	57	96	52	73	3	0	-.1	0	1.3	84	8.6	91	54	14	2	0	0	0		
YAKIMA	94	54	99	48	74	3	0	0	0	1.0	148	3.5	80	66	17	6	0	0	0		
WV BECKLEY	83	65	90	61	74	4	3.2	2.1	1.0	6.4	85	18.5	73	96	56	1	0	5	3		
CHARLESTON	89	71	100	67	80	5	.9	-.3	.4	2.1	28	13.7	54	94	50	3	0	5	0		
HUNTINGTON	88	69	100	64	79	3	6.2	5.1	3.0	7.1	102	19.6	80	96	51	3	0	5	3		
PARKERSBURG	86	69	97	65	77	2	4.7	3.8	2.3	5.8	84	16.0	70	98	58	2	0	5	2		
WI GREEN BAY	81	60	87	55	70	1	.7	0	.4	3.0	54	9.2	59	100	47	0	0	2	0		
LACROSSE	85	61	91	57	73	0	.9	0	.6	6.1	88	12.2	70	100	40	2	0	3	1		
MADISON	82	59	89	53	71	0	.2	-.6	.2	4.3	86	11.4	66	98	47	0	0	2	0		
MILWAUKEE	79	64	82	60	72	0	.1	-.7	.1	2.0	32	12.5	70	89	54	0	0	2	0		
WAUSAU	84	60	89	56	72	2	1.1	-.2	.9	4.2	61	9.6	55	95	37	0	0	2	1		
WY CASPER	88	52	96	47	70	-2	T	-.2	T	.8	41	4.5	59	67	15	3	0	1	0		
CHEYENNE	82	51	90	45	67	-3	T	-.4	T	3.7	107	11.1	125	85	26	1	0	2	0		
LANDER	89	57	97	52	73	1	T	-.1	T	.5	27	5.2	57	50	15	4	0	0	0		
SHERIDAN	87	53	99	47	70	-1	T	-.2	T	.6	20	7.2	72	68	20	2	0	1	0		
PR SAN JUAN	90	77	91	75	83	2	.6	-.6	.3	3.9	46	28.1	111	91	72	4	0	5	0		

National Agricultural Summary

July 18 to 24, 1988

HIGHLIGHTS: Precipitation relieved drought stress in the central and eastern Corn Belt, but crops showed little improvement. The precipitation gave most crops a boost in the central and southern Great Plains, Delta, and Southeast. Soil moisture improved but was still mostly short in the eastern half of the Nation.

Winter wheat harvest reached 88 percent (%) completion, 8 percentage points above the 5-year average. Spring wheat was 26% harvested, compared with 5% in 1987 and 2% normally. Harvest surged 51 points ahead of normal in South Dakota. Corn silking was 74% finished, 16 points above normal. Ten percent of the acreage reached the dough stage, 13 points behind 1987 and 2 points below average. Harvest began spreading across the Southeast and Delta. Soybean blooming was 66% finished, 8 points ahead of normal. Pod setting climbed 6 points ahead of normal to 25% completion. Sorghum was 31% headed, slightly below normal. Twenty-four percent of the acreage turned color, 2 points below average. Nearly half the cotton acreage set bolls, equaling the average. Bolls began opening in the Southeast and in California. Rice was 26% headed, trailing 5 points behind normal. Livestock was mostly fair.

SMALL GRAINS: Winter wheat was 88% harvested, compared with 83% in 1987 and 80% normally. Harvest was finished or virtually finished except in Idaho, Montana, Oregon, and Washington. Harvest surged 34 points ahead of the previous week to 58% completion in Montana. In Oregon, harvest lagged 15 points behind normal at 7% completion. Eight percent of Washington's wheat acreage was combined but trailed 6 points behind average. Wheat growers began preparing seedbeds for the 1989 crop in Oklahoma.

Slightly more than one-fourth of the spring wheat acreage was combined, 21 points ahead of 1987 and 24 points ahead of normal. Harvest was underway and ahead of normal in all major producing States except Idaho. South Dakota's harvest reached 64% completion nearly 5 times greater than normal. One-fifth or more of the acreage was cut in North Dakota and Minnesota, when normally harvest would just be beginning or would not have started.

CORN: Rain blanketed the central and eastern Corn Belt but may be too late to improve corn. The crop showed some improvement, but condition remained mostly poor to fair. The rain caused very little change in crop condition in the Delta and Southeast States. Corn silking was 74% finished, lagging 10% behind 1987 but was 16 points above average. Ten percent of the acreage reached the dough stage, slightly behind average. Corn harvest was underway in Alabama, Georgia, Louisiana, and Texas.

SOYBEANS: Soybeans were mostly fair. Despite heavy rain, crop condition showed little improvement in the central and eastern Corn Belt. Crop condition continued improving in the central Great Plains and was good to fair. In the 19 major producing States, 66% of the acreage reached the blooming stage, compared with 73% in 1987 and 58% normally. Blooming continued lagging behind normal in the Southeast, Delta, and Appalachian States. Twenty-five percent of the acreage set pods, 13 points below 1987 but 6 points above average. All major producing States were setting pods except North Carolina.

COTTON: Cotton responded well to the precipitation in the Delta, Southeast, and southern Great Plains. The crop was mostly good to fair. Ninety-five percent of the acreage had squares present, slightly ahead of 1987 but 10 points greater than normal. Boll setting equaled the average at 49% completion but was 11 points behind 1987. In Georgia, cotton bolls opened and insect populations increased. Bollworm and boll weevil activity increased in southwestern Oklahoma. In Texas, cotton harvest was in full swing between showers in the Rio Grande Valley. Harvest was just beginning at Coastal Bend. Cotton developed well in California. A few open bolls appeared in southern California.

SORGHUM: Sorghum was good to fair, improving from the fair to good rating the previous week. Heading was 32% finished, slightly below average and 11 points below 1987. Sorghum turned color on 25% of the acreage which was about normal. In Texas, harvest was in full swing along the Upper Coast but began drawing to a close at Coastal Bend and in the Rio Grande Valley. In Kansas, chinch bug activity continued but appeared less significant than the previous week.

OTHER CROPS: Rice was 26% headed, up 8 points from the previous week. Normally, 31% of the acreage would be heading by this time. Heading neared completion in Texas. Draining fields continued in preparation for harvest in Texas. Harvest was underway in Louisiana.

Peanuts were fair to good in the Southeast. Nearly all the acreage was pegging in Alabama and Georgia. Twenty percent of the acreage was filling pods in Oklahoma. Peanuts progressed well in Texas' major growing areas. Excessive rain caused minor disease in the Plains.

Flue-cured tobacco harvest trailed behind normal in Georgia. Harvest progressed normally in the Carolinas. In Kentucky, tobacco grew rapidly with favorable moisture and temperatures.

FRUITS AND NUTS: Florida's citrus trees were very good with adequate moisture. New foliage was abundant and new crop fruit sized well. Very little new crop fruit droppage has occurred thus far. Valencia orange and grapefruit harvests were virtually finished. In California, grape vines grew vigorously. Dates were bagged in the Coachella Valley. Table grape, stonefruit, and citrus harvests were active. Almonds were sprayed for navel orange worms. Grapefruit harvest continued in Arizona. Grapes were shipped from central areas.

VEGETABLES: Fall lettuce field preparation began in eastern Arizona. Watermelons, cantaloups, honeydews, and mixed melons were shipped from central areas. California's vegetable harvest consisted mostly of broccoli, cauliflower, lettuce, celery, melons, and strawberries. Land preparation and irrigation continued in the Rio Grande Valley. Planting is expected to begin soon. In Florida, fall vegetable land preparation continued. Tomatoes were planted in the Quincy area.

PASTURES AND LIVESTOCK: Livestock was mostly fair. Moisture improved pastures but most were still in poor condition.

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: Significant rains most areas. Less than 0.50 in. only few areas, 1.00 to 3.00 in. common; over 4.00 in. local areas north. Temperatures averaged 1 to 3° below normal.

Days suitable for fieldwork 4.6. Soil moisture 6% very short, 32% short, 55% adequate, 7% surplus. Showers relieved drought stressed crops, pastures northern counties; provided beneficial moisture elsewhere. Soybeans 34% blooming, 37% 1987, 38% avg.; 14% setting pods, 10% 1987, 13% avg.; 2% very poor, 32% poor, 34% fair, 32% good. Corn 98% silked, 99% 1987, 96% avg.; 63% dented, 64% 1987, 63% avg.; 35% mature, 37% 1987, 32% avg.; 11% harvested, 10% 1987, 4% avg.; 28% very poor, 43% poor, 28% fair, 1% good. Cotton 84% setting bolls, 80% 1987, 67% avg.; 14% very poor, 37% poor, 26% fair, 23% good. Peanuts 93% pegging, 83% 1987, 85% avg.; 100% good. Sorghum 7% very poor, 28% poor, 47% fair, 18% good. Hay, roughage supplies 25% very short, 62% short, 13% adequate. Pasture feed supplies 8% very short, 47% short, 45% adequate. Livestock mostly fair to good; pasture mostly fair. Primary activities: Controlling weeds, insects in row crops; harvesting vegetables, potatoes, peaches, apples, other fruits; cutting, baling hay; applying fungicides to peanuts; building fish ponds, monitoring conditions; routine care of livestock, poultry.

ARIZONA: Thunderstorms eastern two-thirds 17th; rain up to 1.00 in. southern two-thirds 18th, 19th. Clear skies north; thunderstorms central, 50 mph winds 20th. Hot 22nd, 23rd. Rainfall amounts for the period 0.10 to 2.00 ins. Average temperatures varied from 1° below normal to 3° above.

Cotton 80% good, 28% fair; 99% squaring, 80% setting bolls. Insect infestations problem central; Yuma County moderate. Weed infestations light Yuma County; moderate other areas. Lay-by herbicide applications, irrigation primary activities. Small grain harvest near completion. Alfalfa good to excellent; hay, roughage supplies 33% short, 67% adequate. Watermelon harvested west. Watermelon, cantaloupes, honeydews, mixed melons, grapes shipped central. Grapefruit harvest continues. Fall lettuce field preparation begun east, melon harvest expected soon.

ARKANSAS: Scattered showers and thunderstorms early in week held average temperatures below normal. Temperature extremes 54°; 102°. Rainfall totals none to 3.87 in.

Days suitable for fieldwork 5.0. Soil moisture supplies 36% short 61% adequate, 1% surplus. Soybean planting continued. Problems with insects, diseases continued as weed problems emerged. Pesticides being applied. Corn 24% poor, 29% fair, 46% good, 1% excellent. Hay and roughage supplies 25% very short, 73% short, 2% adequate. Pasture, range 5% very poor, 29% poor, 55% fair, 11% good. Stockwater supplies 40% short, 59% adequate, 1% surplus. Livestock in fair, external parasites causing problems.

CALIFORNIA: Week began with strong high pressure over State. This brought much above normal temperatures with many records being broken. Redding topped out at 118°, Sacramento at 112°. Isolated thunder showers brought some light rain southeast interior about midweek.

Warm, open weather, normal progress field activities, rapid crop development. Cotton development good. Controls applied weeds, insects. Few open bolls southern areas. Rice late herbicide applications. Few early fields heading. Safflower

harvest began. Sugarbeets treated mildew. Early corn maturing. Single-crop dry beans bloomed. Sunflower continued bloom. Alfalfa, sudan harvests normal. Irrigation, weed control active. Dates bagged Coachella Valley. Vigorous growth grape vineyards. Table grape, stonefruit, citrus picking active. Almonds sprayed for navel orange worm. Artichokes light, good quality Salinas. Moderate supplies broccoli, cauliflower, good quality. Santa Maria broccoli light, cauliflower heavy; both good quality. Heavy supplies carrots, Salinas. Central coast celery moderate, good quality. Lettuce supplies Salinas, Santa Maria moderate, quality variable to good. Melons harvested Merced-Atwater, Modesto-Turlock, Riverside, Westside. Red onions harvested Westside. Strawberries moderate to heavy, variable quality central coast. Processing, fresh market tomato activity continued San Joaquin, Sacramento Valleys. Livestock fair to good. Pastures northern counties getting short, irrigation water supplies dwindled. Range, non-irrigated pastures valley, foothill areas dry. Hay, roughage supplies 15% short, 85% adequate. Livestock movement slow, Redding. Supplemental feeding continued. Stock ponds very low.

COLORADO: Hot, dry weather over mountains, Western Valleys; substantial rains over eastern Plains. Precipitation ranged from 0.05 to 5.26 in. Average temperatures 3 to 5° below normal.

Days suitable for fieldwork, 5.5. Soil moisture 9% very short, 43% short, 46% adequate, 2% surplus. Hay and roughage supplies 9% short, 89% adequate, 2% surplus. Barley 41% harvested. Spring wheat harvest 7%. Oats 30% harvested. Rain slowed progress on eastern Plains. Livestock, pastures mostly good to excellent.

FLORIDA: Tropical air embedded over State with showers and thunderstorms, morning coastal, afternoon interior. Rainfall amounts 1.00 in. to 3.00 in.

Soil moisture improved; mostly adequate all areas except scattered northern Peninsula pockets continued short. Cotton, soybeans, peanuts responded to improved weather. Haymaking, tobacco harvest active. Sugarcane good growth. Pasture, cattle condition improved with rains. Pastures mostly good, some fair in north, east counties. Cattle mostly good. Hay, roughage supplies: 2% very short, 37% short, 61% adequate. Citrus trees, groves very good; moisture adequate, very little irrigation, abundant new foliage, new crop fruit sizing well, very little droppage of new fruit. Valencia harvest all but complete, grapefruit harvest virtually over for year. Caretakers very active with summer care programs. Normal summertime weather vegetable producing areas. Frequent showers, thunderstorms. Preparation fall crops continued. First tomatoes planted, Quincy area.

GEORGIA: Significant rains northern areas. Several stations over 1.00 in., local totals exceed 3.00 in. Rain variable southern half, some areas over 1.00 in, others less than 0.50 in. Temperatures slightly above normal. Hottest near 90 mountains, upper 90s southeast. Coolest mid 50s mountains, to low 70s coast.

Days suitable for fieldwork 5.7. Soil moisture 28% very short, 55% short, 16% adequate, 1% surplus. Corn 32% mature, 25% 1987, 41% avg. Harvest beginning. Cotton bolls opening, insects

increasing. Peanuts fair to good, 92% pegging, 92% avg. Soybeans unchanged. Tobacco 5% poor, 55% fair, 40% good, 30% harvested, below average. Apples mostly good, harvest underway. Peach harvest nearing completion. Pecans fair to good. Pasture, hay no change, poor to fair. Cattle, hogs fair to good. Hay supplies 28% very short, 59 short, 13 adequate.

HAWAII: Skies mostly sunny after morning showers. Temperatures above normal most days. Rainfall light to moderate, daily some areas. Rainfall none to 1.50 in. Trade winds 5 to 25 mph.

Days suitable for fieldwork 7.0. Gusty trade winds all week hampered irrigation, pesticide spraying. Irrigation moderate to very heavy. Chinese cabbage production moderate. Head cabbage good condition, output moderate. Cucumber production heavy. Papaya harvesting active, production forecast to increase through September.

IDAHO: Temperatures ranged 3° above normal, 2° below normal. No precipitation recorded.

Days suitable for fieldwork 7.0. Soil moisture 31% very short, 38% short, 31% adequate. Irrigation water supplies fair, good. Potatoes good; 78% closing middles, very little turning. Winter wheat good; 11% harvested, 2% 1987, 6% avg. Spring wheat fair, good; nearly 100% headed, over 50% turning color. Spring barley almost 50% turning color. Second cutting of alfalfa hay 44% harvested, 22% 1987, 21% avg. Mint 18% harvested. Peaches 19% harvested. Hay, roughage supplies adequate. Range, pasture fair. Livestock producers reported no problems.

ILLINOIS: Temperatures averaged 2° below normal. Precipitation averaged 1.00 to 3.00 in. south except St. Louis 3.42 in., 0.20 to 0.50 in. north; central less than 0.20 in.

Days suitable for fieldwork 5.3. Soil moisture 79% short, 21% adequate. Oats ripe 98%, 100% 1987, 91% avg.; harvested for grain 70%, 90% 1987, 66% avg. Alfalfa 2nd crop cut 92%, 91% 1987, 82% avg.; 4% very poor, 40% poor, 49% fair, 7% good. Alfalfa 3rd crop cut 20%, 23% 1987, 11% avg. Hay and roughage supplies 22% very short, 59% short, 19% adequate. Pasture 49% very poor, 42% poor, 9% fair.

INDIANA: Temperatures 1 to 6° below normal north and south, near normal central area. Lows low 60s to upper 60s, highs low 80s to mid 80s. Precipitation varied. Totals less than 0.50 in. to 4.43 in.

Days suitable for fieldwork 4.0. Topsoil moisture 39% short, 58% adequate, 3% surplus. Subsoil moisture 85% short, 15% adequate. Major crops and pasture improved with rain. Soybeans 21 in. high, 32 in. 1987, 23 in. avg. Oats 67% combined, 86% 1987, 59% avg. Alfalfa 88% cut twice, 80% 1987, 75% avg. Pastures 13% fair, 48% poor, 39% very poor. Livestock water supply 72% adequate, 26% short, 2% very short. Hay, roughage for feeding season 17% adequate, 67% short, 16% very short. Widespread showers brought relief to most areas.

IOWA: Temperatures 4° below normal to 2° above normal; extremes 49 to 93°. Precipitation averaged 0.15 in.; extremes 0.02 to 1.45 in.

Days suitable for fieldwork 5.6. Topsoil moisture 73% short, 27% adequate; subsoil moisture 91% short, 9% adequate. Oats 95% harvested, 84% 1987, 59% avg. Hay 18% very poor, 36% poor, 38% fair, 8% good. Second crop alfalfa 80% harvested, 80% 1987, 72% avg. Second crop clover 48% harvested, 51% 1987, 41% avg. Hay being fed to supplement pastures, 2% none, 21% light, 53% moderate, 24% heavy. Availability of hay for feed,

5% very short, 29% short, 60% adequate, 6% surplus. Corn 98% tasseled, 100% 1987, 71% avg. Corn 16% milk stage, 37% 1987, 14% avg. Livestock mostly good. Replacements in feeder cattle slow due to feed, contract prices. Water for livestock a continuing problem. Pastures 49% very poor, 34% poor, 14% fair, 3% good.

KANSAS: Temperatures averaged mid 70's during week, near normal. Healthy amount of rain received most of Kansas. Amounts of 2.00 to 3.00 inch north central, south central and southeast. Northeast and southwest received 1.00 inch or less. Isolated heavier amounts across State.

Days suitable for fieldwork 4.0. Topsoil moisture 30% short, 63% adequate, 7% surplus, significant improvement over last week. Subsoil moisture 56% short, 44% adequate. Beneficial moisture received many areas during week. European, southwestern corn borers present. Entomologists state possibly more trouble with southwestern borer than normal south central, southwest. Chinch bugs remain in sorghum, appear less significant than previous weeks. Range and pasture remain mostly short to adequate with some very short despite moisture. Hay and roughage supplies 7% very short, 54% short and 39% adequate. Shortage prompted supplemental feeding and pasture rotation cattle operators. Third cutting alfalfa making slow progress, 25% complete.

KENTUCKY: Warm, humid, showery conditions. Mean temperatures near normal at 77°. Rainfall averaged 1.50 in. over western one-third of state, between 2.00 to 2.70 in. over Central and Eastern sections.

Days suitable fieldwork 2.6. Soil moisture 8% very short, 52% short, 38% adequate, 2% surplus. Stockwater 11% very short, 50% short, 38% adequate, 1% surplus. Late planted corn fields improved, slightly improving overall corn condition. Tobacco growing rapidly with favorable moisture and temperature. Weed, insect control activities increasing tobacco and soybeans. Tobacco 4% very poor, 22% poor, 55% fair, 19% good. Average expected starting date for tobacco cutting August 20. Pastures 50% very poor, 38% poor, 11% fair, 1% good. Hay field 54% very poor, 35% poor, 11% fair. Hay roughage supplies 49% very short, 48% short, 3% adequate.

LOUISIANA: Temperatures 2° below to 1° above normal. Temperature extremes 60°; 101°. Rainfall averaged 0.24 to 2.59 in.

Days suitable for fieldwork 3.2. Soil moisture 10% very short, 19% short, 38% adequate, 33% surplus. Corn fair; 94% dough stage, 29% mature, 3% harvested. Rice 8% ripe, 3% harvested. Spraying fungicides for sheath blight. Sweetpotatoes fair to good; 1% harvested. Hay first cutting 96% complete. Peaches 81% harvested. Sugarcane good; spraying for borers. Livestock, pecans fair to good. Pastures, vegetables fair. Livestock feed obtained from pastures 86%. Hay roughage supplies 23% very short, 52% short, 25% adequate. Main activities: fertilizing rice, pastures, hay; harvesting hay, vegetables, peaches, corn, rice; cultivating, spraying soybeans; feeding livestock.

MARYLAND & DELAWARE: Maryland: Precipitation averaged 1.81 in. Significant additional precipitation July 23-24. Average temperature 82°, normal 76°. Temperature extremes 58°; 104°.

Days suitable for fieldwork 4.5. Topsoil moisture adequate. Subsoil moisture 60% short, 40% adequate. Pasture 60% poor, 40% fair, improving rapidly. Current hay supply 50% short, 50% adequate. Corn 40% poor, 60% fair. Corn silked 55%, 65% avg. Much corn too mature to benefit from moisture. Soybeans 70% fair, 30% good. Soybeans planted 95%, 99% avg. Soybeans bloomed 20%, 25%

avg. Tobacco 70% fair, 30% good. Wheat harvested 98%, 98% avg. Oats harvested 70%, 70% avg. Rye harvested 95%, 95% avg. Alfalfa second cutting 95%, 90% avg. Apples, peaches 30% fair, 70% good. Sweet corn harvested 45%, 40% avg.

DELAWARE: Precipitation averaged 1.32 in. Precipitation this growing season 14.25 in., 17.20 normal. Average temperature 82.6°, normal 76.8°.

Days suitable for fieldwork 5.0. Topsoil moisture 20% short, 80% adequate. Subsoil moisture 10% very short, 90% short. Pasture 50% poor, 50% fair. Current hay supply 20% short, 80% adequate. Corn 50% poor, 50% fair. Corn silked 65%, 75% avg. Soybeans 40% fair, 60% good. Soybeans planted 90%, 99% avg. Soybeans bloomed 10%, 25% avg. Rye harvested 99%, 98% avg. Alfalfa third cutting 45%, 33% avg. Clover & other hay second cutting 50%, 80% avg. Apples, peaches good.

MICHIGAN: Temperatures ranged 1 to 3° above normal. Temperature extremes 50°; 90°. Precipitation ranged from none to 1.44 in.

Days suitable for fieldwork 5.7. Soil moisture 92% short, 8% adequate. Corn 30% silked, 75% 1987, 40% avg.; none in dough, 10% 1987, 2% avg.; 28% very poor, 32% poor, 30% fair, 9% good, 1% excellent. Soybeans 45% bloomed, 70% 1987, 45% avg.; 5% setting pods, 25% 1987, 10% avg.; 10% very poor, 25% poor, 37% fair, 25% good, 3% excellent. Wheat 90% harvested, 95% 1987, 60% avg. Pastures supplying 15% of livestock feed supply. Hay and roughage supplies 60% very short, 37% short 3% adequate. Major activities: Wheat and oats harvest, cutting hay and cherry picking.

MINNESOTA: Temperatures averaged 2° above to 2° below normal. Temperature extremes 44°; 96°. Precipitation averaged 0.13 to 0.62 in. Greatest weekly total 1.31 in.

Days suitable for fieldwork 6.1. Topsoil moisture 57% very short, 39% short, 4% adequate. Spring Wheat 99% turning ripe, 78% 1987, 61% avg.; 27% combined, 6% 1987, 2% avg. Oats 99% turning ripe, 98% 1987, 81% avg.; 64% combined, 41% 1987, 14% avg. Barley 99% turning ripe, 88% 1987, 76% avg.; 26% combined, 12% 1987, 6% avg. Corn 92% tasseling, 89% 1987, 59% avg.; 15% in milk, 26% 1987, 7% avg. Soybeans 86% blooming, 82% 1987, 68% avg.; 55% setting pods, 46% 1987, 14% avg. Winter Wheat 91% harvested for grain, 60% 1987, 22% avg. Rye 92% harvested for grain, 67% 1987, 23% avg. Soybeans 13% very poor, 21% poor, 49% fair, 16% good, 1% excellent. Field Corn 24% very poor, 33% poor, 36% fair, 7% good, 0% excellent. Spring Wheat 33% very poor, 32% poor, 35% fair. Hay supplies for remainder of feeding season 32% very short, 55% short, 13% adequate. Livestock feed now obtained from pastures 28%.

MISSISSIPPI: Temperatures near normal. Rainfall below normal for northern two-thirds of state, above normal over south.

Days suitable for fieldwork 4.6, 5.7 1987, 5.4 avg. Soil moisture 5% very short, 30% short, 55% adequate, 5% surplus, 5% excessive. Corn fair to poor; 92% silking, 97% 1987; 5% mature, 12% 1987, 15% avg. Sorghum fair; 64% heading, 70% 1987, 58% avg.; 8% coloring, 28% 1987, 28% avg. Cotton fair to good; 97% squaring, 100% 1987, 99% avg.; first reports of open bolls. Rice fair; 11% heading, 28% 1987, 32% avg. Soybeans fair; 32% blooming, 37% 1987, 36% avg. Peaches 66% harvested, 96% 1987, 78% avg. Hay 58% harvested, 64% 1987, 61% avg. Pasture fair. Livestock fair to good. Rains since July 1 have improved all crops, pastures. Activities: applying cotton insecticides, soybean herbicides.

MISSOURI: Temperatures averaged 3° below normal. Precipitation 0.75 in. to 1.00 in. north, 1.00 in.

central with locally 4.00 in., 2.00 in. south, 4.00 in. to 5.00 in. Bootheel.

Days suitable for fieldwork 4.5. Topsoil moisture supply 68% short, 28% adequate, 4% surplus. Surplus only central, southeast. North central 100% short. General improvement in crop conditions. Alfalfa 2nd cutting 95%, 99% 1987, 91% avg. Alfalfa 3rd cutting 18%, 40% 1987, 26% avg. Livestock feed from pasture 52%. Supply of hay, roughage 32% very short, 62% short, 6% adequate. Stockwater supply 19% critically short, 62% short, 19% adequate. Pasture condition 44% very poor, 31% poor, 19% fair, 6% good, northern districts poorest.

MONTANA: Temperatures early week below normal, but above normal by week's end with some maximum temperatures over 100°. Only precipitation widely scattered showers northeast, south central.

Days suitable for fieldwork 6.8. Topsoil moisture 79% short, 21% adequate. Subsoil moisture 83% short, 17% adequate. Barley 33% very poor, 30% poor, 28% fair, 8% good, 1% excellent. Oats 43% very poor, 30% poor, 19% fair, 7% good, 1% excellent. Range, pasture feed 43% very poor, 35% poor, 15% fair, 7% good. Spring grain harvest underway. Spring wheat 44% ripe or harvested, 1% 1987, 3% avg. Barley 35% ripe or harvested, 2% 1987, 5% avg. Oats 43% ripe or harvested, 3% 1987, 6% avg. Hay and roughage supplies 32% very short, 36% short, 28% adequate, 4% surplus. First cutting alfalfa 96% harvested, 100% 1987, 96% avg. Other hay 70% harvested, 68% 1987, 66% avg. Second cutting alfalfa 18% harvested, 14% 1987, 13% avg.

NEBRASKA: The week started off with a few showers which slowly turned to warm and dry weather. South Central areas received some very heavy rains. Temperatures cooler at 4 to 6° below normal. Extremes: 45°; 97°.

Days suitable for fieldwork 4.2. Topsoil moisture 19% short, 79% adequate, 2% surplus. Subsoil moisture 56% short, 44% adequate. Alfalfa hay 1% very poor, 12% poor, 52% fair, and 35% good. Alfalfa 2nd cutting 90% complete, 90% 1987, 75% average. Alfalfa 3rd cutting 5%, 1% 1987, 5% average. Oats harvested 90%, 82% 1987, 67% average. Pasture, range feed supplies adequate to short. Hay, roughage supplies adequate. Livestock being affected in areas of very heavy rains.

NEVADA: Hot, dry sixth consecutive week. Isolated afternoon thunderstorms midweek southern half produced only virgas (rainfall evaporated before it reached the ground). Extremely hot week with 100° or higher readings common all areas. Average temperatures varied from 4° to 9° above normal all areas except northeast, near normal.

Weather again favorable haying, small grain harvests. Potato crop growth, condition generally good. Ranges, pastures continued to deteriorate. Hay roughage supplies, 30% short, 46% adequate, 15% surplus.

NEW ENGLAND: Precipitation averaged 4.25 to 5.25 in. Connecticut, Massachusetts, southern New Hampshire, southern Vermont; 2.25 to 3.50 in. Rhode Island, coastal Maine, northern Vermont; 0.50 to 1.00 in. northern New Hampshire, interior Maine. Precipitation extremes of 8.37 in. Northbridge, Massachusetts; 7.00 in. West Thompson Lake, Connecticut and Buffumville, Massachusetts. Average temperatures ranged from upper 60s north and central, mid 70s coastal south. Temperatures normal.

Days suitable for fieldwork 3.0. Fieldwork 1.0 days ahead. Soil moisture 9% short, 82% adequate 9% surplus. Grazing availability 45% short, 55% adequate. Hay and roughage 40% short, 60% adequate. Percent of feed now being obtained from pasture 31%. Maine potato condition good to excellent. Connecticut River Valley potato

condition fair to good. Field corn condition fair to good. Sweet corn condition fair to good. Shade tobacco condition good Massachusetts, good to excellent Connecticut; outdoor tobacco fair to good Connecticut, good Massachusetts. First crop hay 98% cut, 94% 1987, 93% avg.; condition good to excellent. Second crop hay 25% cut. 33% 1987, 30% avg.; condition fair to good. Apple set average; apple drop average; scab infestation light to average. Blueberry set average; 25% harvested. Strawberry harvest complete. Major farm activities: Harvesting vegetables and berries, machinery maintenance, and insect control.

NEW JERSEY: Temperatures averaged slightly above normal. Extremes 59^o; 95^o. Rainfall averaged 4.18 in. north, 2.66 in. central, 1.33 in. south. Heaviest 24-hour total 2.60 on 19th, 20th. Estimated soil moisture percent field capacity averaged 84% north, 56% central, 49% south. Four inch soil temperatures averaged 78^o north, 79^o central, south.

Most areas received significant amount of rain. Rain came too late for some crops; improved prospects for others. Prolonged high temperatures reduced yields some summer vegetables, melons. Blueberry picking declining. Peach harvest increased. Picking of Redhaven began. Wheat, oat combining active. Field corn, soybean prospects varied. Hay, pasture growth improved in response to rain.

NEW MEXICO: Temperatures ranged from 101^o at Tucumcari to 43^o Ruidoso. Moderate to heavy precipitation recorded in many locations, except western border.

Days suitable for fieldwork 5.0. Soil moisture 25% short, 58% adequate, 17% surplus. Wheat virtually 100% harvested. Cotton 89% squaring; 40% setting bolls; 13% poor, 50% fair, 37% good. Onions 20% fair, 60% good; 20% excellent; shipments steady. Cattle 27% fair, 64% good, 9% excellent. Sheep 87% good, 13% excellent. Range continued to improve to 36% fair, 46% good, 18% excellent. Hay and roughage stocks continue near adequate; some spot shortages occurring.

NEW YORK: Temperatures averaged from 1^o below normal to 3^o above normal. High temperatures topped 90^o mark in southeast at beginning of week. Otherwise high temperatures 70s, 80s. Rainfall totals between 3.00 to 6.00 in. common. Heaviest amounts Catskills, lower Hudson Valley. Least amount, under 0.50 in. St. Lawrence Valley, northern Adirondacks.

Days suitable for fieldwork 3.5. Soil moisture mostly adequate. Timely rains helped crops. Pastures poor to fair. Hay mostly fair to good. Corn fair to good. Second cutting alfalfa 31% complete, 29% 1987. Clover-timothy 91% harvested, 88% 1987, 87% averaged. Hay and roughage supplies 12% very short, 25% short, and 63% adequate. Rainfall was a timely relief to fruit crops. Sweet cherry harvest completed. Tart cherries in late middle harvest and in good condition. Early peach harvest underway. Grapes in good to excellent condition. Apples, pears good. Orange County vegetable growers evaluating tornado damage that struck mucklands on 14th. Some onions, lettuce, celery severely damaged. Early cabbage harvest beginning. Tomato fruit set generally good. Sweet corn harvest underway. Green pea harvest ending.

NORTH CAROLINA: Temperatures averaged 2 to 5^o above normal statewide. Temperature extremes 60^o; 101^o. Precipitation ranged 0.63 to 8.75 in. Soil moisture and conditions do not adequately reflect the generous rainfall received 22nd, 23rd.

Days suitable for fieldwork 5.4. Soil moisture 17% very short, 51% short, 30% adequate, 2% surplus. Pasture 10% very poor, 26% poor, 40% fair,

23% good, 1% excellent. Flue-cured tobacco 11% harvested, 10% 1987, 10% avg. Tobacco 1% very poor, 4% poor, 35% fair, 59% good, 1% excellent. Peanuts 3% poor, 21% fair, 70% good, 6% excellent. Sweet potato 2% very poor, 2% poor, 25% fair, 60% good, 11% excellent. Irish potatoes 90% harvested, 88% 1987, 88% avg.; 6% poor, 38% fair, 50% good, 6% excellent. Peaches 55% harvested, 57% 1987, 68% avg.; 31% fair, 54% good, 15% excellent. Truck crops 4% poor, 41% fair, 52% good, 3% excellent. Hay and roughage supply 2% very short, 32% short, 65% adequate, 1% surplus. Pastures 5% very poor, 28% poor, 41% fair, 24% good, 2% excellent. Livestock feed obtained from pasture 60%. Apples 3% poor, 42% fair, 55% good. Major farm activities: Tobacco topping, suckering, harvesting, irrigation; cultivating soybeans, cotton, peanuts; harvest peaches, truck crops, hay, Irish potatoes; clipping pastures; apply insecticides; shearing Christmas trees; applying land plaster to peanuts; tending livestock and general farm maintenance.

NORTH DAKOTA: Temperatures averaged near normal statewide. Extremes 41^o; 105^o. Light scattered precipitation averaged 0.02 in. north central to 0.40 in. northeast.

Days suitable for fieldwork 6.9. Topsoil moisture further depleted; 71% very short, 27% short, 2% adequate. Subsoil 66% very short, 28% short, 6% adequate. Crop conditions generally very poor to poor. Spring wheat 41% very poor, 36% poor, 20% fair, 3% good; durum 36%, 46%, 18%; winter wheat 38%, 51%, 10%, 1%; oats 56%, 38%, 6%; barley 42%, 31%, 27%; corn 27%, 42%, 23%, 8%; flax 26%, 35%, 34%, 5%; soybeans 1%, 42%, 21%, 36%; sunflower 9%, 26%, 46%, 19%; dry edible beans 2%, 11%, 28%, 59%; potatoes none, none, 97%, 3%. Small grain harvest progressed more than two weeks ahead of average. Spring wheat 20% combined, 1% 1987, none avg.; durum 6%, none 1987, none avg.; oats 22%, 3% 1987, 2% avg.; barley 26%, 5% 1987, 3% avg.; winter wheat 76%, 26% 1987, 11% avg.; sunflower 28% bloom or beyond, 13% 1987, 6% avg.; potatoes 81%, 93% 1987, 76% avg.; dry edible beans 81%, 63% 1987, 60% avg.; corn 10% milk to dough, 5% 1987, 2% avg.; flax 6% turning to ripe, 4% 1987, 4% avg.; soybeans 53% pods lower plant & beyond, 21% 1987, 33% avg.; hay and roughage supplies 33% very short, 55% short, 12% adequate. Pastures 90% very poor to poor, 10% fair; furnished 74% roughage requirements. High nitrate levels in foraged grains and poor stockwater quality caused concern for livestock producers.

OHIO: Average high temperatures mid 80s. Average low temperatures high 50s to mid 60s. Temperatures seasonable with averages only 1 to 2^o above normal. Above normal rainfall statewide. Precipitation ranged from 1.0 in. to 6.0 in. with lowest readings northwest.

Days suitable for fieldwork: 4.0. Soil moisture 54% short, 45% adequate, 1% surplus. Rainfall greatly improved soybeans, hay and pasture. Much of the corn crop already beyond help. Root worm damage reported in corn. Corn very poor to poor. Soybeans had a lot of spider mite damage; soybeans rated poor to fair. Oat harvest continued with oats rating poor. Hay and pasture benefited from the rain but hay still rated only very poor to poor with pasture at very poor. Hay and roughage supplies 36% very short, 50% short, 13% adequate, 1% surplus.

OKLAHOMA: Temperatures averaged 2^o below normal southeast to 5^o below normal Panhandle. Precipitation averaged 0.37 in. southeast to 1.03 in. northeast.

Days suitable for fieldwork 5.6. Topsoil moisture 55% short, 45% adequate. Subsoil moisture 45% short, 55% adequate. Wheat 90% plowed, 90% 1987, 80% avg. Some growers preparing seedbeds.

Cotton 30% fair, 70% good; 95% squaring, 70% 1987, 40% avg.; 40% setting bolls, 20% 1987, 10% avg. Bollworm, boll weevils spotted southwest. Sorghum 2% very poor, 3% poor, 25% fair, 70% good; 35% heading, 40% 1987, 20% avg.; 10% coloring, 10% 1987, 5% avg. Grasshopper infestations increasing. Peanuts 70% pegging, 50% 1987, 55% avg.; 20% setting pods, 10% 1987, 15% avg. Soybeans 10% flowering, 55% 1987, 20% avg. Corn 35% milk-to-soft, 70% 1987, 45% avg. Hay, forage 15% very short, 40% short, 35% adequate, 10% surplus. Pastures fair, livestock good to fair. Cattle marketing average, prices down slightly from preceding week. Livestock feeding 25% supplemental.

OREGON: Maximum temperatures near or above 100°. No measurable precipitation anywhere. Trace amounts along coast. Brookings 102°.

Soil moisture 45% short, 55% adequate. Winter wheat 4% fair, 71% good, 25% excellent. Hay, roughage supplies 16% short, 66% adequate, 18% surplus. Barley harvested 22%, compared with 43%, 1987, 39% 3 year average. Grass seed harvest full swing; northeast, west. Grass, clovers combined; northwest. Seed crops swathed; mid-Willamette Valley. Third crop alfalfa cut; southwest, northeast. First cut alfalfa; Lake Co. Peppermint, hops bloomed. Vegetables irrigated. Early sweet corn harvest begun; Klamath Basin. Early apples, apricots matured. Red raspberry harvest near completion; northwest. Nuts sizing well. Tart cherry harvest begun; upper Willamette Valley. Livestock good to excellent. Range and pasture poor to fair.

PENNSYLVANIA: Warm, wet week across state. Rainfall quite generous across many areas. Average temperature 75°, 5° above normal. Temperature extremes 54°, 102°. Average precipitation 2.86 in., 1.97 in. above normal.

Days suitable for fieldwork 3.0. Soil moisture 78% short, 22% adequate. Corn 10% silk, 52% 1987, 30% avg. Average corn height 32 in., 66 in. 1987, 54 in. avg. Corn 28% very poor, 34% poor, 27% fair, 10% good, 1% excellent. Soybean 16% very poor, 29% poor, 37% fair, 17% good, 1% excellent. Barley 13% turning yellow, 7% 1987; 14% ripe, 9% 1987; 73% harvested, 84% 1987. Wheat 8% turning yellow, 10% 1987; 30% ripe, 27% 1987; 62% harvested, 63% 1987. Wheat crop condition 1% very poor, 7% poor, 22% fair, 50% good, 20% excellent. Oats 18% heading or headed, 13% 1987; 35% turning yellow, 29% 1987; 31% ripe, 32% 1987; 16% harvested, 26% 1987. Oats 6% very poor, 25% poor, 31% fair, 30% good, 8% excellent. Second cutting alfalfa 66% complete, 57% 1987. First cutting clover-timothy 100% complete, 96% 1987. Hay stands mostly poor to fair. Feed from pastures mostly below average. Hay and roughage supplies 35% very short, 51% short, 14% adequate. 9% of livestock feed now obtained from pastures. Activities for the week: Planting soybeans; harvesting oats, barley, wheat, hay, haylage, vegetables; controlling weeds; caring for livestock; maintaining machinery.

SOUTH CAROLINA: Temperatures averaged near normal. Rainfall ranged from 3.36 in. Oakway to less than 0.20 in. Midlands, west central.

Days suitable for fieldwork 5.7. Soil moisture 17% very short, 74% short, 9% adequate. Cotton 88% squaring, 95% 1987, 96% avg.; 46% setting bolls, 68% 1987, 80% avg.; 4% poor, 88% fair, 8% good. Soybeans 12% blooming, 18% 1987, 16% avg.; 2% setting pods, 7% 1987, 5% avg.; 12% poor, 69% fair, 19% good. Tobacco fair to good; 21% harvested, 18% 1987, 21% avg.; 95% topped, 94% 1987, 93% avg. Corn 97% silked, 100% 1987, 96% avg.; 62% dough stage, 78% 1987, 73% avg.; poor to fair. Peanuts fair to good. Sorghum fair; 3%

harvested, 6% 1987, 4% avg. Peaches good to excellent; 55% harvested, 59% 1987, 69% avg. Pastures fair. Livestock fair to good. Hay and roughage supplies 27% very short, 59% short, 14% adequate.

SOUTH DAKOTA: Average temperatures mostly below normal; -6° below to 2° above normal. Extremes 40°; 98°. Good rains fell in scattered areas, most of the State received less than 0.25 in.

Days suitable for fieldwork 6.8. Topsoil moisture; 66% critically short, 22% short, 12% adequate, 0% surplus. Hay and roughage supplies; 17% very short, 53% short, 30% adequate, 0% surplus. Row crops beginning to show definite signs of drought and moisture stress. Problem in some areas with high levels of nitrate in small grains cut for hay. Eighty-two percent of livestock feed is being obtained from pasture.

TENNESSEE: Moist, unstable air gave way to cold front midweek. Weak high pressure late week. Temperatures averaged slightly below normal east, slightly above normal west. General rainfall statewide. Ranged 2.50 in. northwest and plateau to 0.50 in. or less southwest and central sections.

Days suitable for fieldwork 3.8. Soil moisture 7% very short, 40% short, 50% adequate, 3% surplus. Corn 78% tasseling, 92% 1987, 80% avg.; 32% dough, 55% 1987, 35% avg.; 16% dent, 89% 1987, 78% avg.; 14% very poor, 50% poor, 32% fair, 4% good. Alfalfa 2nd cutting 88% harvested, 97% 1987, 98% avg. Hay, roughage supplies 32% very short, 65% short, 2% adequate, 1% surplus. Pasture feed condition 32% normal. Tobacco 6% topped, 18% 1987, 18% avg.; 2% very poor, 31% poor, 51% fair, 16% good. Most crops responding well to rain. Much corn cut for silage. Vegetable harvest well underway, good quality where irrigated. Boll weevils under control. Pastures mostly poor. Cattle fair. State still low on livestock water supply.

TEXAS: An unusual weather pattern dominated Texas weather. Very warm, moist air Monday prevailed, scattered showers northwest. Tuesday unusual cool front pressing into Panhandle, setting off thunderstorms across State. Front eventually stalled out extreme south. Dry air, cool to mild temperatures, brought welcome relief. Temperatures at or below normal statewide. Rainfall amounts above average, some areas northcentral, eastern areas slightly below average, Upper Coast driest. Wettest areas south, far west.

Crops: Small grain harvest completed High Plains. Corn harvest intermittent southern areas, Upper Coast because scattered showers. Yields fair to good. Harvest just beginning southcentral areas. Mild temperatures, adequate moisture good crop progress Plains. Many fields maturing rapidly Blacklands, east. Corn dented 64%, 60% 1987, 59% three-year avg. Mature 37%, 17% 1987, 31% three-year avg. Harvested 12%, 2% 1987, 5% avg. Grain sorghum harvest beginning wind down Valley, Coastal Bend, harvest full swing Upper Coast. Showers curtailed operations midweek. Yields poor to good. Harvest increasing central, beginning Blacklands. Early yields at or slightly above average. Crop progress excellent Plains with low insect populations. Sorghum mature 35%, 25% 1987, 38% avg. Harvested 29%, 10% 1987, 24% avg. Cotton harvest full swing between showers Valley. Harvest beginning Coastal Bend. Insect populations increasing Blacklands, Plains. Producers spraying as conditions allowed. Cooler weather midweek slowing overall progress Plains, crop remained good to excellent. Some fields Low Plains beginning to set bolls. Crop progress satisfactory Trans-Pecos, fields blooming. Cotton open bolls 8%, 4% 1987, 4% avg. Harvested 2%, none

1987, none avg. Rice continued good progress Upper Coast. Additional draining fields continued. Some fields turning color. Harvest could begin soon on early fields. Peanuts good progress most major growing areas. Recent rains improved overall conditions. Excessive rains Plains caused some minor disease problems. Insect problems light. Soybeans showing normal progress Plains, Upper Coast. Fields Plains beginning to bloom. Producers completed planting. Recent rains along the Upper Coast helped sets. Other Field Crops: Oats 98% harvested, 100% 1987, 98% avg. Sunflowers 98% planted, 100% 1987, 100% avg.

Commercial Vegetables: Rio Grande Valley, land preparation, irrigation continued tomatoes, peppers. Planting begin soon. San Antonio-Winter Garden, harvest watermelons winding down. East Texas, watermelon harvest continued. Sweetpotatoes received very timely rains. Tomatoes good supply. High Plains, onion yields decreasing because too much rain. Potatoes yielding very good. Trans-Pecos, cantaloupe, onion harvest continued. Minor hail damage occurred some fields. Cabbage harvest continued. Pecan progress improved with widespread rains last week. Leaf, nut shed slowed, but more rain needed. Insect problems increasing Cross Timbers.

Range and Pasture: Rains revived many ranges, pastures. Haying operations resumed much east with improved growth. Conditions remained excellent Plains. Additional rain needed Valley to increase growth. Current reported hay and roughage supplies are 17 percent very short; 42 percent short; and 38 percent adequate; and 3 percent surplus.

UTAH: Precipitation none to very light. Temperatures 4° above normal.

Days suitable fieldwork 6.7. Soil moisture 65% short, 35% adequate. Winter wheat 92% ripe, 93% 1987, 76% avg.; 44% harvested, 58% 1987, 33% avg. Barley 73% ripe, 73% 1987, 54% avg.; 23% harvested, 29% 1987, 23% avg. Spring wheat 78% ripe, 79% 1987, 42% avg.; 8% harvested, 10% 1987, 6% avg. Oats 67% turned color, 61% 1987, 58% avg.; 19% ripe, 37% 1987, 18% avg. Corn height 59 in., 64 in. 1987, 55 in. avg.; 40% tasseled, 46% 1987, 36% avg. Alfalfa 2nd cutting 57% completed, 48% 1987, 35% avg. Tart cherry harvest near completion, apricot harvest well along. Pasture, range 5% very poor, 35% poor, 35% fair, 25% good. Irrigation water supply 11% very short, 42% short, 47% adequate; stock water supply 38% short, 62% adequate. Hay and roughage supplies 5% short, 95% adequate. Livestock good to excellent. Major farm activities: Haying, grain harvest, irrigation, weed control.

VIRGINIA: Hot, above normal precipitation. Temperatures averaged 6° above normal, range 62° to 104°. Precipitation range 0.33 to 3.40 in.

Days suitable for fieldwork 4.4. Topsoil moisture 12% very short, 36% short, 38% adequate, 14% surplus. Majority of crop conditions improve. Best conditions south, worst east. Corn mostly fair to good. Corn 58% in or beyond silk stage, 62% 1987, 72% avg. In or beyond dough stage 18%, 30% 1987, 32% avg. Soybeans fair to good. Soybeans 16% blooming, 21% 1987, 23% avg. Setting pods 4%, 6% 1987, 5% avg. Flue-cured tobacco excellent; spraying sucker control, topping nearly complete. Burley tobacco poor, stressed. Peanuts excellent, weed control. Potatoes 82% harvested. Hay, roughage supplies 8% very short, 39% short, 45% adequate, 8% surplus. Pastures poor mountains, fair central, good to excellent south, southeast, poor elsewhere. Livestock water shortage, supplemental feeding some areas. Soil moisture reducing nitrate levels in corn.

WASHINGTON: Scattered showers, westerly flow aloft accounted for rainfall, below normal temperatures east of Cascades. Western Washington moist, westerly flow kept cloudy skies, cool temperatures, above normal precipitation.

Days suitable for fieldwork 6.3. Soil moisture 55% short, 45% adequate. Winter wheat 2% harvested, 12% 1987, 5% avg. Barley harvest also underway. Russian wheat aphid infestation spreading; however, serious damage to this year's crop not expected. Potato harvest continued; growers digging, killing vines on early red, Norgold potatoes. Cutting second crop hay underway most areas. Hay, other roughage feed supplies 65% adequate, 35% surplus. Green pea harvest winding down. Apricot harvest underway Grant, Yakima, Chelan Counties. Early Red Haven peaches also being picked. Cherry harvest completed most areas, ongoing Spokane County. Strawberry harvest finished, raspberry harvest past peak. Blueberry harvest beginning early areas. Warm weather vegetables slowed by cool temperatures. Corn crops most areas lagging behind normal. East Cascades, temperatures warmer, vegetable crops doing well. Corn tasseling Grant County. Onion seed harvest underway Columbia Basin. Leafy vegetable harvest continued Pierce County.

WEST VIRGINIA: Average temperature 75°, 2 to 4° above normal. Extremes 104° Weston; 55° Elkins. Average precipitation 3.01 in., 1 to 3 ins. above normal.

Days suitable for fieldwork 3.2. Soil moisture 26% very short, 35% short, 33% adequate, 6% surplus. Barley mostly fair to good. Wheat fair to good. Oats mostly fair. Corn poor to very poor. Apples fair to good. Peaches good to fair. Barley 98% harvested. Wheat 91% harvested. Oats 77% ripe, 37% harvested. Corn 35% silked, 15% dough. Pasture, hay very poor to poor. Cattle, sheep mostly fair to good. Feed supplies 30% very short, 38% short, 32% adequate. Feed from pasture 64%. Farm activities: general farm maintenance, livestock care, haying, clipping pasture.

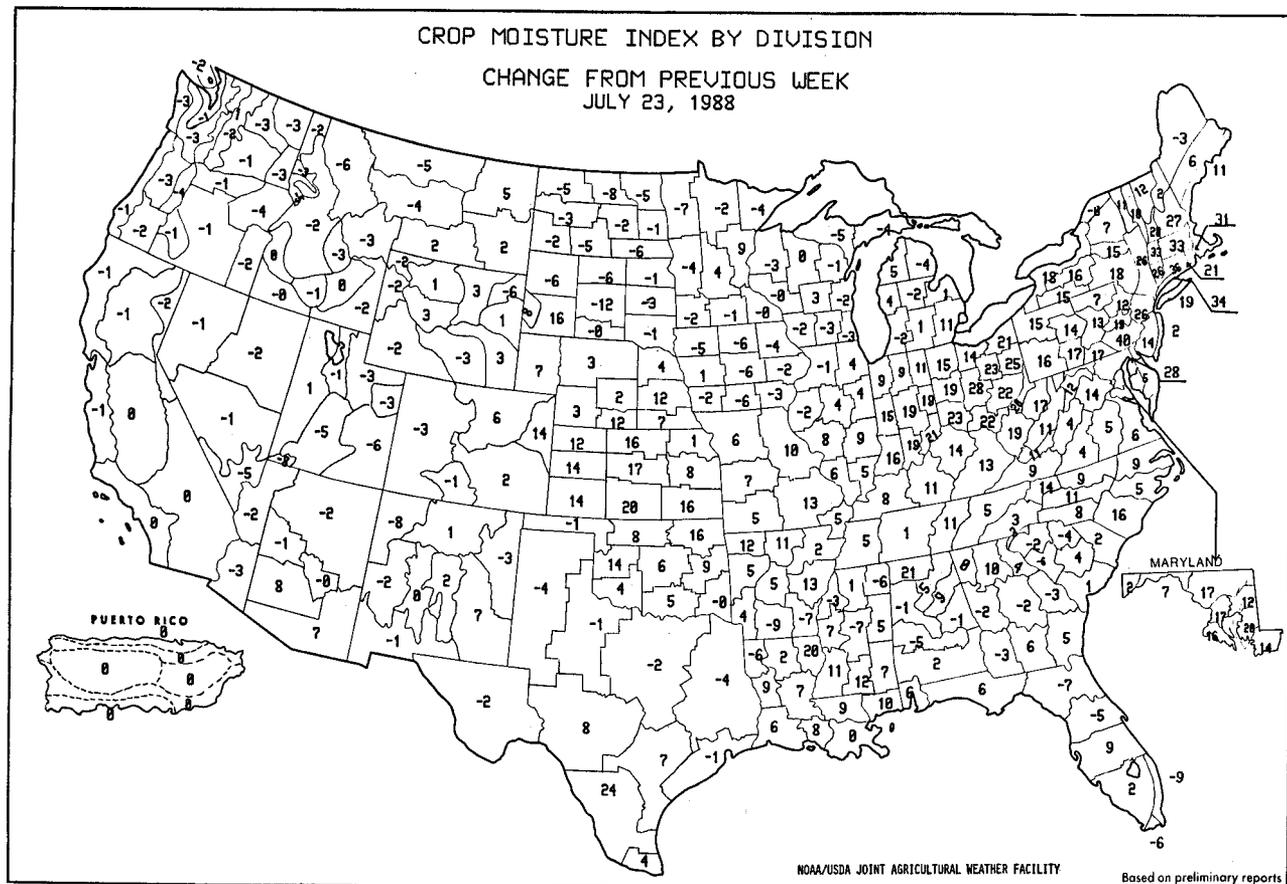
WISCONSIN: Temperatures normal, 71° average. Extremes: 44°; 95°. Precipitation 0.40 to 1.20 in.

Days suitable for fieldwork 5.9. Soil moisture 96% short, 4% adequate. Crop conditions improved; 14% very poor, 43% poor, 40% fair, 3% good. Corn better; 6% very poor, 45% poor, 43% fair, 6% good. Average corn height 59 in., 74 in. 1987, 63 in. avg. Tasseling at shorter than normal heights. Corn 58% silked, 65% 1987, 33% avg. Oats 27% harvested, 25% 1987, 12% avg; yields low, straw short. Second crop hay 61% cut, 51% 1987, 42% avg. Yields very low. Soybeans blooming, aided by rain. Winter wheat 74% harvested, 58% 1987. Yields vary, below to near normal. Pasture condition 27% of normal, 66% 1987, 74% avg; starting to green up. Feed and roughage supplies 38% very short, 60% short, 2% adequate.

WYOMING: Temperatures above normal Western portion below normal East. Rainfall generally below normal.

Days suitable for fieldwork 7.0. Topsoil moisture 95% short, 5% adequate. Winter wheat 0% headed, 5% avg.; 10% turning color, 5% 1987, 15% avg.; 45% mature, 65% 1987, 50% avg.; 45% harvested, 30% 1987, 25% avg. Barley 10% headed, 15% 1987, 25% avg.; 30% turning color, 40% 1987, 40% avg.; 50% mature, 40% 1987, 30% avg.; 10% harvested, 5% 1987, 5% avg. Spring wheat 15% headed, 5% 1987, 30% avg.; 25% turning color, 55% 1987, 40% avg.; 45% mature, 40% 1987, 25% avg.; 15% harvested, small amount 1987, 5% avg. Oats 25% headed, 35% 1987, 45% avg.; 45% turning color, 45% 1987, 35% avg.; 25% mature, 20% 1987, 15% avg.; 5% harvested, none 1987, 5% avg. Corn 55% tasseled, 35% 1987, 40% avg.; 20% silked, 5% 1987, 15% avg.

(Continued to back cover)



Drought Relief

Over 4 inches of rain fell during July 17-23 in the Ohio Valley and in the Mid-Atlantic and New England States. As a result, the Crop Moisture Index (page 3) shows substantial improvement in these areas, increasing by two or more points in southeastern Indiana, much of Ohio, eastern Pennsylvania, northern and eastern New Jersey, New York's Hudson Valley, and southern New England (see accompanying map). This leaves the Crop Moisture Index just slightly below normal in the Ohio Valley and above normal in New York and New England. Does this mean the drought is over? Since "drought" is broadly defined as a prolonged and abnormal moisture deficiency and can be measured in various ways, there is no simple answer. The Palmer Drought Severity Index (page 4) shows that the Ohio Valley still needs 5-10 inches of rain to bring that index near zero. This means that, although surface moisture supplies have been replenished and plant growth has been given a boost, substantially more rain is needed to bring rivers, water tables, lakes, and sub-surface soil moisture up to normal levels. Now that rainfall has begun to alleviate the drought, it is important to monitor both the Crop Moisture Index for short-term effects and the Palmer Drought Severity Index for long-term effects.

Crop Progress 1/

FOR WEEK ENDING JULY 24, 1988

	COTTON % SETTING BOLLS		
	1988	1987	AVG.
ALA	84	80	67
ARIZ	80	89	89
ARK	79	94	81
CALIF	65	90	70
GA	84	87	79
LA	77	74	70
MISS	81	90	65
MO	85	100	71
N MEX	40	41	60
N C	62	78	60
OKLA	40	20	10
S C	46	68	80
TENN	60	80	47
TEX	23	35	29

14 STATES 49 60 49

THESE 14 STATES PRODUCED 100% OF THE 1987 COTTON CROP.

	GRAIN SORGHUM % HEADED		
	1988	1987	AVG.
ARK	47	81	NA
ILL	20	77	NA
KANS	10	20	10
LA	68	76	83
MISS	64	70	58
MO	31	68	45
NEBR	20	31	17
OKLA	35	40	20
S DAK	14	19	6
TENN	50	70	64
TEX	64	72	69

11 STATES 31 44 NA

EXCL. STATES WITH NA 31 42 32

THESE 11 STATES PRODUCED 96% OF THE 1987 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

	CORN % SILKING		
	1988	1987	AVG.
COLO	32	19	18
GA	98	100	99
ILL	92	93	80
IND	68	96	68
IOWA	85	92	62
KANS	85	80	50
KY	68	90	68
MICH	30	75	40
MINN	80	86	37
MO	88	94	70
NEBR	85	82	56
N C	93	88	90
OHIO	50	89	58
PA	10	52	30
S DAK	54	56	21
TEX	92	91	91
WIS	58	65	33

17 STATES 74 84 58

THESE 17 STATES PRODUCED 94% OF THE 1987 CORN CROP.

	COTTON % SQUARING		
	1988	1987	AVG.
ALA	100	99	96
ARIZ	99	100	100
ARK	99	100	99
CALIF	100	100	96
GA	99	100	98
LA	96	98	94
MISS	97	100	99
MO	100	100	95
N MEX	89	95	96
N C	84	94	84
OKLA	95	70	40
S C	88	95	96
TENN	100	99	94
TEX	92	90	77

14 STATES 95 94 85

THESE 14 STATES PRODUCED 100% OF THE 1987 COTTON CROP.

	GRAIN SORGHUM % COLORING		
	1988	1987	AVG.
ARK	6	25	NA
ILL	0	0	0
KANS	0	NA	NA
LA	15	20	35
MISS	8	28	28
MO	0	10	0
NEBR	0	0	0
OKLA	10	10	5
S DAK	0	0	0
TENN	8	13	8
TEX	51	50	55

11 STATES 14 NA NA

EXCL. STATES WITH NA 24 25 26

THESE 11 STATES PRODUCED 96% OF THE 1987 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

	CORN % DOUGH		
	1988	1987	AVG.
COLO	0	0	0
GA	90	92	93
ILL	19	57	26
IND	0	34	11
IOWA	0	8	2
KANS	15	35	10
KY	8	28	22
MICH	0	10	2
MINN	0	0	0
MO	26	55	36
NEBR	10	9	4
N C	59	60	63
OHIO	4	21	10
PA	0	0	0
S DAK	0	0	0
TEX	69	69	69
WIS	0	0	0

17 STATES 10 23 12

THESE 17 STATES PRODUCED 94% OF THE 1987 CORN CROP.

	WINTER WHEAT % HARVESTED		
	1988	1987	AVG.
ARK	100	100	100
CALIF	98	98	98
COLO	94	66	68
GA	100	100	100
IDAHO	11	2	6
ILL	100	100	100
IND	100	100	97
KANS	100	100	99
MICH	90	95	60
MO	100	100	100
MONT	58	3	2
NEBR	98	97	86
N MEX	100	100	NA
N C	100	100	99
OHIO	99	98	94
OKLA	100	100	100
OREG	7	43	22
S DAK	99	69	49
TEX	100	100	100
WASH	8	23	14

20 STATES 88 83 NA

EXCL. STATES WITH NA 88 83 80

THESE 20 STATES PRODUCED 91% OF THE 1987 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

	SOYBEANS % BLOOM		
	1988	1987	AVG.
ALA	34	37	38
ARK	12	34	25
GA	40	48	42
ILL	86	94	77
IND	75	92	69
IOWA	92	87	72
KANS	55	60	35
KY	48	59	36
LA	28	42	43
MICH	45	70	45
MINN	86	82	68
MISS	32	37	36
MO	71	79	53
NEBR	80	77	69
N C	16	21	18
OHIO	70	91	66
S C	12	18	16
S DAK	85	78	54
TENN	22	40	35

	SOYBEANS % SETTING PODS		
	1988	1987	AVG.
ALA	14	10	13
ARK	3	9	8
GA	14	15	14
ILL	33	68	30
IND	14	24	17
IOWA	50	55	29
KANS	15	30	10
KY	11	19	8
LA	9	18	19
MICH	5	25	10
MINN	55	46	14
MISS	12	14	10
MO	22	43	25
NEBR	25	26	19
N C	0	0	0
OHIO	10	41	16
S C	2	7	5
S DAK	23	23	7
TENN	6	17	9

	RICE % HEADED		
	1988	1987	AVG.
ARK	5	24	15
CALIF	1	5	2
LA	64	49	60
MISS	11	28	32
TEX	93	81	82

19 STATES 66 73 58

19 STATES 25 38 19

5 STATES 26 33 31
THESE 5 STATES PRODUCED 97%
OF THE 1987 RICE CROP.

THESE 19 STATES PRODUCED 96%
OF THE 1987 SOYBEANS CROP.

THESE 19 STATES PRODUCED 96%
OF THE 1987 SOYBEANS CROP.

	SPRING WHEAT % HARVESTED		
	1988	1987	AVG.
IDAHO	0	0	0
MINN	27	6	2
MONT	14	0	0
N DAK	20	1	0
S DAK	64	28	13

5 STATES 26 5 2

THESE 5 STATES PRODUCED 95%
OF THE 1987 SPRING WHEAT CROP.

1/ AVERAGES FOR THESE SUMMARIES ARE FOR THE YEARS 1983 - 1987.

Crop Condition
FOR WEEK ENDING JULY 24, 1988

CORN						COTTON						GRAIN SORGHUM					
STATE	VP	P	F	G	EX	STATE	VP	P	F	G	EX	STATE	VP	P	F	G	EX
COLO	1	3	12	54	30	ALA	14	37	26	23	0	ARK	0	23	58	16	3
GA	10	33	49	8	0	ARIZ	0	0	20	80	0	ILL	0	10	72	18	0
ILL	10	46	42	2	0	ARK	0	0	29	64	7	KANS	2	5	34	52	7
IND	21	49	28	2	0	CALIF	0	0	10	55	35	LA	9	15	26	49	1
IOWA	5	24	44	25	2	GA	0	26	43	31	0	MISS	5	20	60	15	0
KANS	2	34	11	51	2	LA	0	14	64	22	0	MO	6	15	56	23	0
KY	22	53	22	3	0	MISS	5	5	55	35	0	NEBR	0	0	44	51	5
MICH	28	32	30	9	1	MO	0	10	20	70	0	OKLA	2	3	25	70	0
MINN	24	33	36	7	0	N MEX	0	13	50	37	0	S DAK	2	5	66	27	0
MO	22	49	23	6	0	N C	0	13	26	58	3	TENN	5	24	57	14	0
NEBR	0	0	32	59	9	OKLA	0	0	30	70	0	TEX	1	4	24	49	22
N C	7	15	39	35	4	S C	0	4	88	8	0	11 STATE	2	6	37	46	9
OHIO	37	38	22	3	0	TENN	0	7	37	56	0						
PA	28	34	27	10	1	TEX	2	2	25	51	20						
S DAK	13	28	44	15	0	14 STATE	2	4	31	48	15						
TEX	3	10	29	40	18												
WISC	6	45	43	6	0												
17 STATE	13	32	35	18	2												

RICE						SPRING WHEAT					
STATE	VP	P	F	G	EX	STATE	VP	P	F	G	EX
ARK	0	5	37	58	0	IDAHO	6	11	27	49	7
CALIF	0	0	10	85	5	MINN	33	32	35	0	0
LA	0	1	8	85	6	MONT	39	33	22	5	1
MISS	10	5	40	45	0	N DAK	41	36	20	3	0
TEX	0	0	5	78	17	S DAK	28	49	22	1	0
5 STATE	1	3	24	68	4	5 STATE	36	36	24	4	0

SOYBEANS					
STATE	VP	P	F	G	EX
ALA	2	32	34	32	0
ARK	0	12	73	15	0
GA	0	21	53	24	2
ILL	1	14	73	12	0
IND	2	18	64	16	0
IOWA	1	10	41	44	4
KANS	1	2	23	42	32
KY	1	25	58	16	0
LA	9	15	26	49	1
MICH	10	25	37	25	3
MINN	13	21	49	16	1
MISS	10	15	65	10	0
MO	4	20	62	13	1
NEBR	0	0	53	46	1
N C	0	9	38	47	6
OHIO	18	33	40	9	0
S C	0	12	69	19	0
S DAK	2	11	60	23	4
TENN	2	21	44	33	0
19 STATE	4	16	54	24	2

VP - VERY POOR P - POOR F - FAIR
G - GOOD EX - EXCELLENT

International Weather and Crop Summary

July 17-23, 1988

HIGHLIGHTS:

UNITED STATES ... Precipitation relieves drought stress in the central and eastern Corn Belt, but crops show little improvement. The precipitation boosts most crops in the central and southern Great Plains, Delta, and Southeast.

USSR ... In Western USSR, widespread rain delays spring grain maturation and winter grain harvesting. Hot, dry weather continues in the Volga and Urals. In the New Lands, rain benefits reproductive spring grains in the east.

EUROPE ... Heavy rain continues in the northwest. Dry weather returns to the southeast.

SOUTH ASIA ... Showers in the south improve conditions for summer crop establishment. Excessive rain in Gujarat likely necessitates some replanting.

EASTERN ASIA ... Scattered rain brings limited relief from heat and dryness in central China. Heavy rain and flooding continue across northern crop areas.

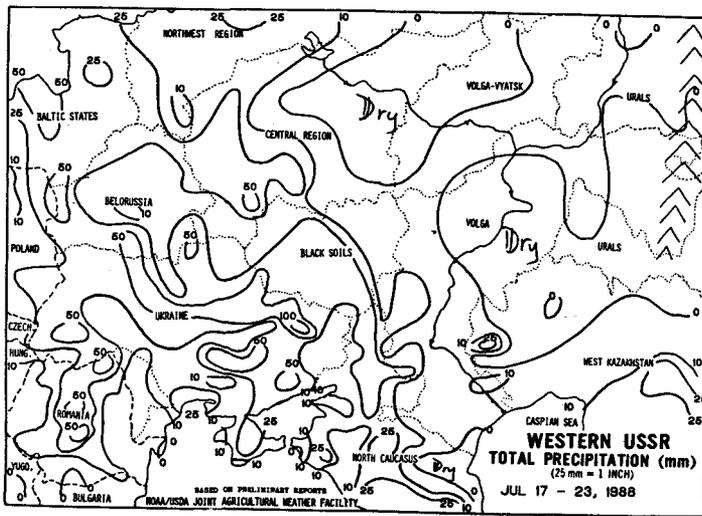
SOUTHEAST ASIA ... Seasonably warm, drier-than-normal weather covers immature Thai corn. Typhoon Warren brushes the northern Philippines, likely causing local flooding in some grain regions.

SOUTH AMERICA ... Beneficial rain helps wheat planting in eastern Argentina. Mostly dry weather prevails in south-central Brazil.

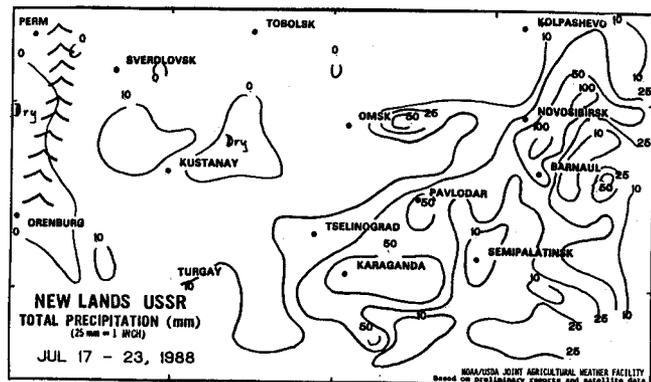
AUSTRALIA ... Moderate to heavy rain continues in winter grain areas of Western Australia.

MEXICO ... Widespread rain benefits crop development.

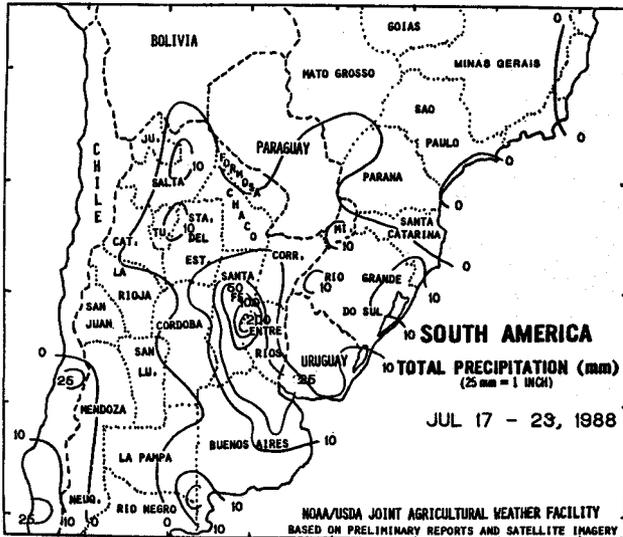
CANADA ... Drier and periodically hot weather stresses reproductive to filling crops in the eastern half of the Prairies.



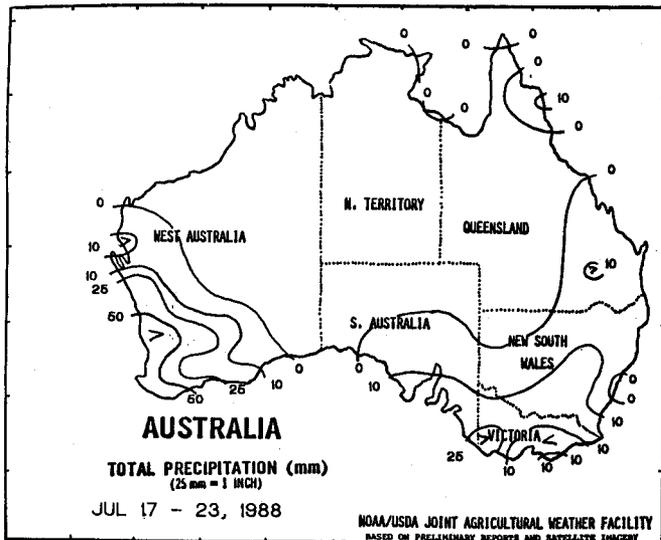
USSR ... In Western USSR, widespread rain continued over the Baltic States, Belorussia, the Ukraine, the western one-third of the the Central Region, the western Black Soils, and the North Caucasus. Precipitation amounts generally ranged from 25 to 50mm, with isolated locations receiving rainfall in excess of 50mm. Frequent rains in these areas during the past several weeks have been mostly beneficial for corn, but conditions have become too wet for sugar beets and maturing spring grains. In addition, the rain likely caused delays in winter grain harvesting. Further east, continued unseasonably warm, dry weather in the upper Volga and the Volga Vyatski likely accelerated spring grain development and caused further deterioration in crop prospects. The highest weekly temperatures in these areas ranged from 33 to 36 degrees Celsius, increasing crop stress.



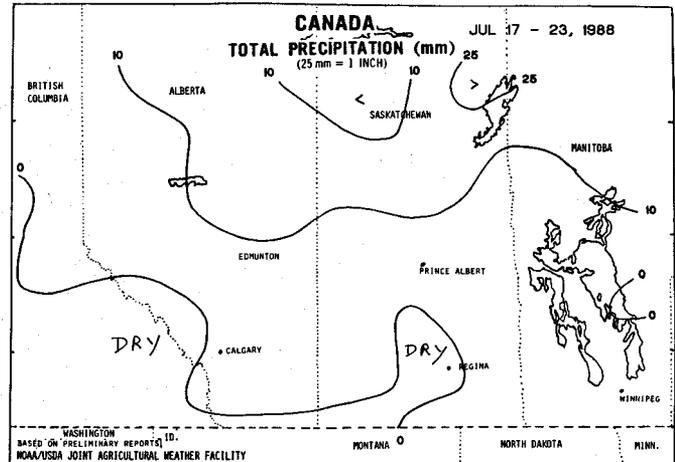
In the New Lands, hot, dry weather continued over the eastern portion of the upper Volga and the Urals, stressing spring grains in the filling stage. Highest weekly temperatures in these areas ranged from 33 to 38 degrees Celsius, creating moderate to severe stress on crops. In central Kazakstan and the western half of West Siberia, light, scattered showers and below-normal temperatures covered spring grains in the reproductive to filling stages of development. Further east, widespread moderate to heavy rain fell in a narrow band which stretched northeastward from Karoganda through Pavlodar and Barnaul, and into Novosibirsk, benefiting spring grains in the reproductive to filling stages. Rainfall in these areas ranged from 25 to 65mm with isolated areas receiving rainfall in excess of 80mm.



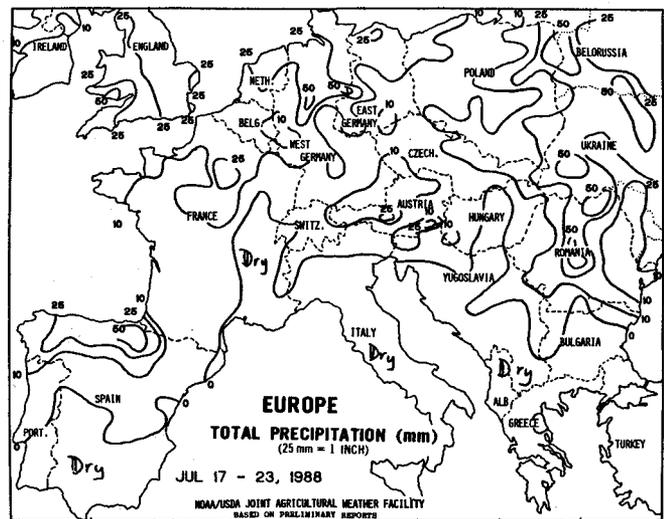
SOUTH AMERICA ... Substantial showers developed late in the week over portions of Argentina's major wheat areas. Weekly rainfall averaged 25-55mm in Santa Fe, with an isolated location near Entre Rios receiving over 100mm. In northeastern Buenos Aires, weekly rainfall ranged from 20 to 35mm, while less than 10mm of rain fell over the remainder of Buenos Aires, La Pampa, and Cordoba. The moisture will stimulate wheat planting, especially in Santa Fe and northeastern Buenos Aires, following delays due to the long dry spell. The light rain elsewhere in the wheat areas provided minimal, if any, planting moisture. In south-central Brazil, light showers (less than 10mm) fell in Rio Grande do Sul, while mostly dry weather prevailed over Parana's wheat area and the northern coffee areas, including Sao Paulo and Minas Gerais. Weekly temperatures averaged near normal throughout the region.



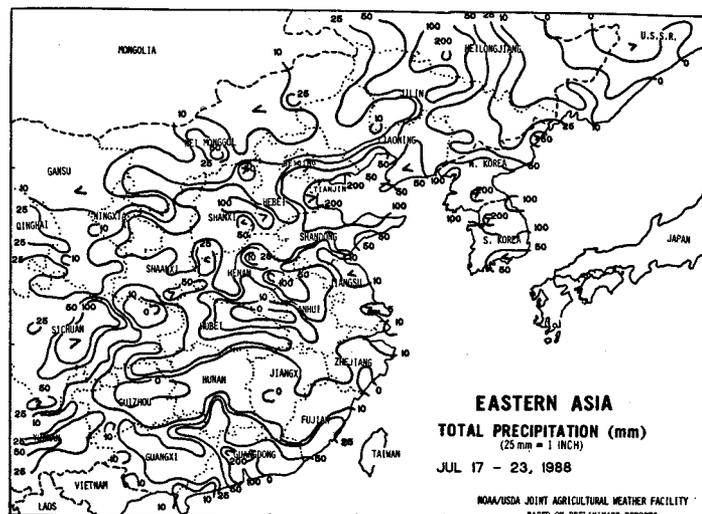
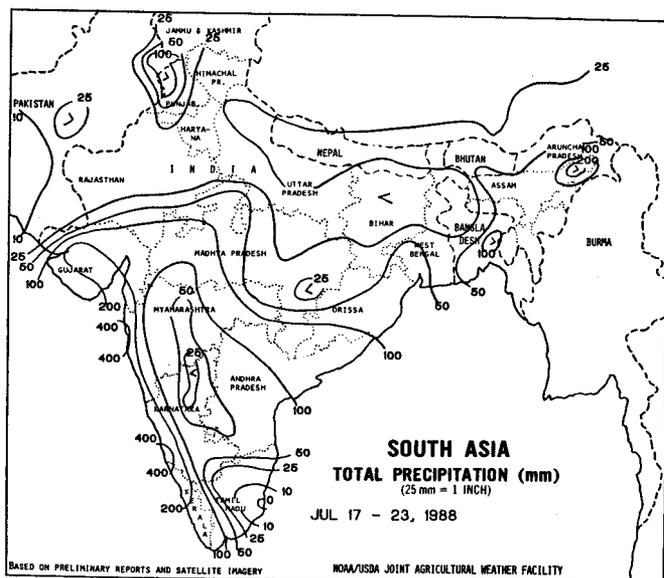
AUSTRALIA ... A frontal system brought moderate to heavy rain (20-50mm) to winter grain areas of Western Australia, causing further late planting and fieldwork delays. Light to moderate rain (5-20mm), with isolated amounts greater than 25mm, fell over crop areas in South Australia, Victoria, New South Wales, and southern Queensland. Mostly dry weather along Queensland's eastern coast favored progress in the sugarcane harvest. Mean weekly temperatures were above normal in eastern and southeastern crop areas and near normal in the southwest.



CANADA ... Dry, warmer weather returned to the Prairie grain belt, with rainfall ranging from 1-5mm over most regions. A brief period of hot weather from southern Alberta to Manitoba pushed maximum temperatures into the middle and upper 30 degrees C, increasing evaporative moisture losses and stressing crops in reproductive to filling stages of development. However, the dry weather was welcome in northern Alberta where some areas were too wet following 3 weeks of above-normal rainfall. Elsewhere, more rain and mild weather are needed for cereals and oilseeds currently advancing into grain and pod filling stages of development.

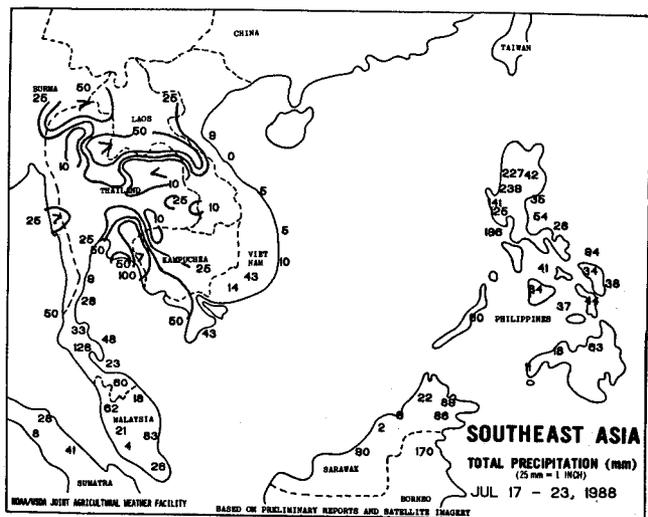


EUROPE ... Moderate to heavy rain (15-25mm, with isolated amounts greater than 40mm) continued across northwestern Europe, possibly causing some flooding in Benelux and northern West Germany. Widespread light to moderate rain (10-20mm) from northern France eastward to Poland caused delays in winter grain harvest but benefited spring and summer crops. Scattered light rain (less than 10mm) fell over northern Spain, while much of the rest of southern Europe remained dry. Mostly dry weather led to increasing moisture deficiencies for summer crops across growing areas of Hungary, Romania, Yugoslavia, and Bulgaria, although evaporative losses were limited by normal to below-normal temperatures. Temperatures across the remainder of Europe were near normal.



SOUTH ASIA ... Rainfall increased for the second week over crop regions of southern India, improving conditions for summer crop establishment. However, rainfall averaged less than 25mm over portions of southern Maharashtra, northern Karnataka, and Tamil Nadu that have been drier than normal for most of the season. Moderate to heavy showers (25-100mm or more) fell elsewhere in the south and spread into central India, maintaining generally favorable conditions for vegetative crops, though pockets of drier weather (less than 25mm) continued in eastern Madhya Pradesh. Rainfall was excessive (150-200mm or more) for the second week in Gujarat, causing local flooding and likely necessitating some replanting. Rainfall was lighter than normal (less than 25mm) across the north from Haryana to Bangladesh, bringing some relief to crop areas of eastern Uttar Pradesh and Bihar that were too wet for planting.

EASTERN ASIA ... Extremely hot weather continued over much of central China, with mean average temperatures for the week as much as 6 degrees C above normal. A midweek frontal system brought scattered rain (5-20mm, with scattered amounts over 25mm) and slightly cooler temperatures, although maximum temperatures in much of the region rose above 35 degrees C once more by week's end. The heat stressed vegetative to reproductive single-crop rice, corn, cotton, and soybeans. In the north, heavy rain (greater than 25mm) continued from Gansu eastward to Japan. Very heavy rain (50-100mm, with isolated amounts greater than 150mm) fell over previously wet soils in Hebei, northern Shandong, Liaoning, Jilin, the Korean Peninsula, and Japan, likely causing flooding. In southern China, scattered rain (10-50mm, with isolated amounts greater than 75mm) benefited establishment of late double-cropped rice but delayed harvest of the early sown crop.



SOUTHEAST ASIA ... Light rain (1-15mm) covered most corn regions of central Thailand as temperatures continued seasonably warm, maintaining high evaporation rates and crop moisture demands. Corn is mostly in the filling stage of development though harvesting of early planted corn is likely underway. Light rain (less than 13mm) covered most rice regions of eastern Thailand, favoring transplanting activities. More rain, however, is needed over the Khorat Plateau for vegetative growth. Moderate to heavy showers (25-112mm) continued over south-central and northern Thai rice regions, but rainfall was lighter than last week elsewhere in Indochina. In the Philippines, Typhoon Warren brushed the northern island of Luzon, bringing high winds and heavy rains to northern and western portions of the island. Corn is in reproductive to filling stages. Moderate to heavy rain (25-50mm or more) covered all but southernmost crop regions.

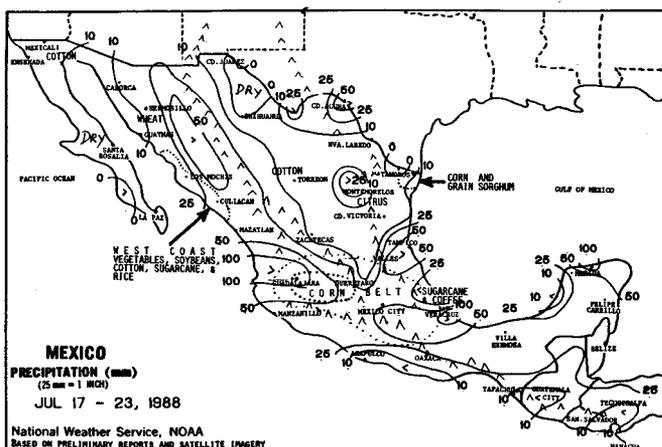
The Weekly Weather and Crop Bulletin (ISSN 0043-1974) is published weekly and jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the Weekly Weather Chronicle. It is issued under general authority of the Act of January 12, 1895 (44-USA 213), 53d Congress, 3d Session. NOAA is responsible for managing, printing, and distributing the bulletin. The contents may be reprinted freely, with proper credit.

Annual subscriptions: domestic \$25, foreign \$33 (in U.S. funds by international money order or check drawn on U.S. bank) payable to U.S. Department of Commerce, NOAA. POSTMASTER: Send address changes to Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington, D.C. 20250. Order subscriptions from the office and address listed above. Second class postage paid at Washington, D.C. and additional mailing offices.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service/Climatic Analysis Center
Managing Editor (Acting) Douglas Le Comte
Meteorologists Tom Heddinghaus
Vilhelm Bjerknes, Wes Byrd, Jeff Logan, and Randy Taylor

Subscriptions (202) 447-7917

U.S. DEPARTMENT OF AGRICULTURE
Economics Management Staff
Editor Sharon Lee
National Agricultural Statistics Service
Agricultural Statistician Clif James
World Agricultural Outlook Board
Agricultural Weather Analysts. Ray Motha,
Tom Puterbaugh, Mark Brusberg,
and Jeff Andresen



MEXICO ... Widespread rain covered most crop areas, improving moisture conditions in the previously dry northwest and maintaining adequate moisture for crop development in the Southern Plateau. Weekly rainfall averaged 25-90mm in the northwestern mountains, 10-37mm along the west coast farming region, and 25-100mm or more throughout the Southern Plateau corn belt. Tropical showers covered much of southern Mexico, producing 25-50mm in many areas. Light rain (mostly less than 10mm) fell in the north-central cotton and grazing areas, while variable rainfall prevailed in the northeast. Early summer crop harvesting progressed in the northeast. Extreme maximum temperatures reaching the upper 30's to low 40 degrees (C) were confined to the extreme northwest and northeast portions of the country.

(Continued from p. 17)

Dry beans 80% bloom, 65% 1987, 65% avg. Potatoes 70% bloom, 70% 1987, 70% avg. Alfalfa 95% first cutting complete, 95% 1987, 95% avg.; second cutting 15% complete, 15% 1987, 10% avg. Other hay 65% harvested, 70% 1987, 55% avg. Livestock fair to good. Stock water 60% short. Livestock feed obtained from pastures 95%. Hay, roughage supplies 10% very short, 65% short, 25% adequate.

NOAA/USDA Joint Agricultural
Weather Facility
Room 5844 USDA South Building
Washington, D.C. 20250

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

WEEKLY NEWS BULLETIN
SECOND CLASS

SECOND CLASS MAIL
POSTAGE AND FEES PAID
NOAA PERMIT NO.

ISSN 0043 1974