

WEEKLY WEATHER AND CROP BULLETIN

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

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

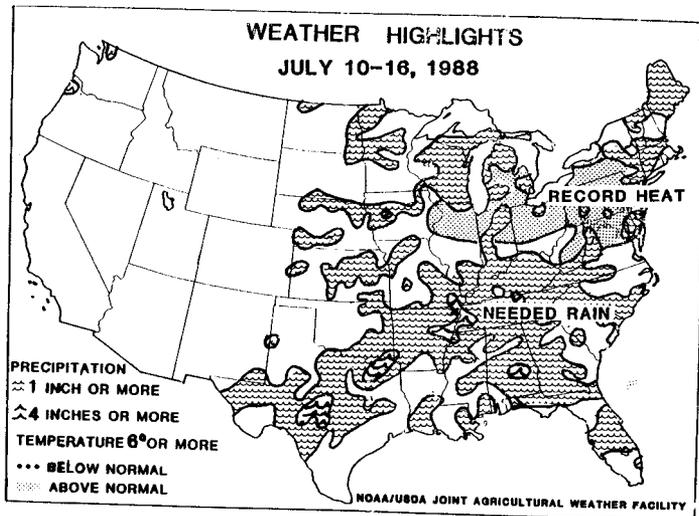
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July 19, 1988

National Weather Summary

July 10 to 16, 1988



WEDNESDAY...Much needed rain continued over the parched Tennessee Valley. Showers and thunderstorms were scattered along a cold front curving from upper Michigan into southern Nebraska. Relatively cool weather prevailed only across the northern tier of States. Most of the remainder of the Nation was hot and muggy.

THURSDAY...Hot, humid air dominated from the Plains to the Atlantic coast. Showers and thunderstorms were scattered along a frontal system from the Northeast to the central Plains. The frontal system triggered severe storms in the Northeast during the evening. Showers were widespread over the southern Atlantic coast States.

FRIDAY...High-temperature records were broken as warm moist air again dominated the eastern two-thirds of the Nation. Thunderstorms were over the Great Lakes region, central Great Plains, and along the Gulf coast.

SATURDAY...Hot air dominated much of the United States as record-high temperatures continued to be set. Severe thunderstorms struck from the Northeast to the central Rockies and over the Tennessee Valley and the Carolinas.

HIGHLIGHTS: Record-high temperatures continued to be set as temperatures again soared to over 100 degrees throughout much of the Nation. Substantial rain from scattered thunderstorms over the eastern two-thirds of the United States brought relief to some of the drought-stricken areas. Heavy rain caused local flooding in central and northeastern Texas during the first part of the week.

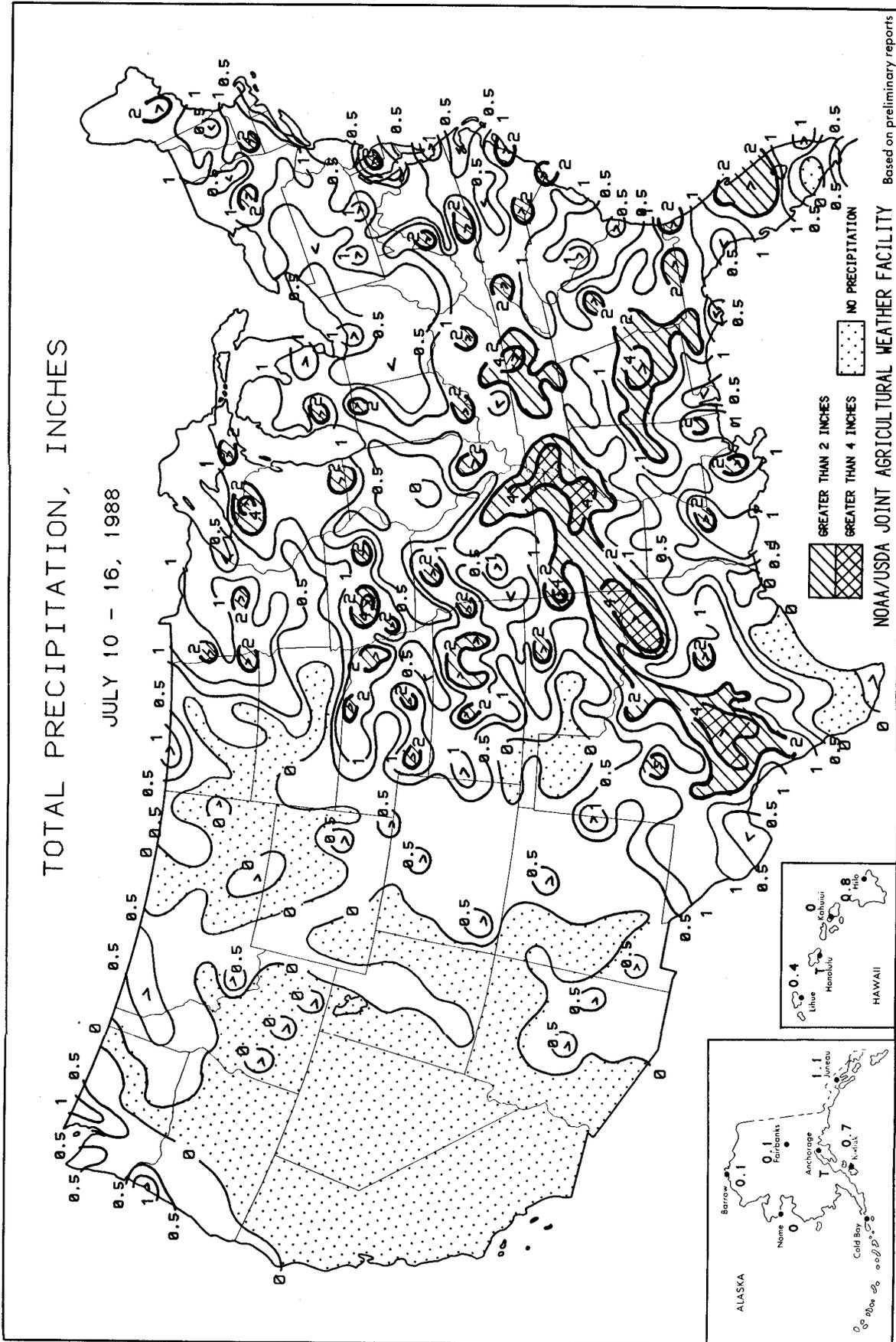
SUNDAY...Showers and thunderstorms developed along a frontal system that extended from the upper Great Lakes into the central Great Plains. Rain moved across the eastern Corn Belt, but rainfall was less than one-fourth of an inch. Thunderstorms were scattered across Texas, the Southeast, and up the Atlantic coast.

MONDAY...The frontal system reached from the eastern Great Lakes through the middle Mississippi Valley and brought scattered rain to the parched southern Corn Belt. Thunderstorms produced heavy rain in central Texas and were spread over the central Plains, the Southeast, and Atlantic coast States. Hot, humid air covered the East Coast.

TUESDAY...Showers and thunderstorms remained scattered from the southern Plains to the mid-Atlantic coast and into New England. Soaking rain and local flooding continued over central and northeastern Texas. Severe thunderstorms developed over the northern Plains during the evening.

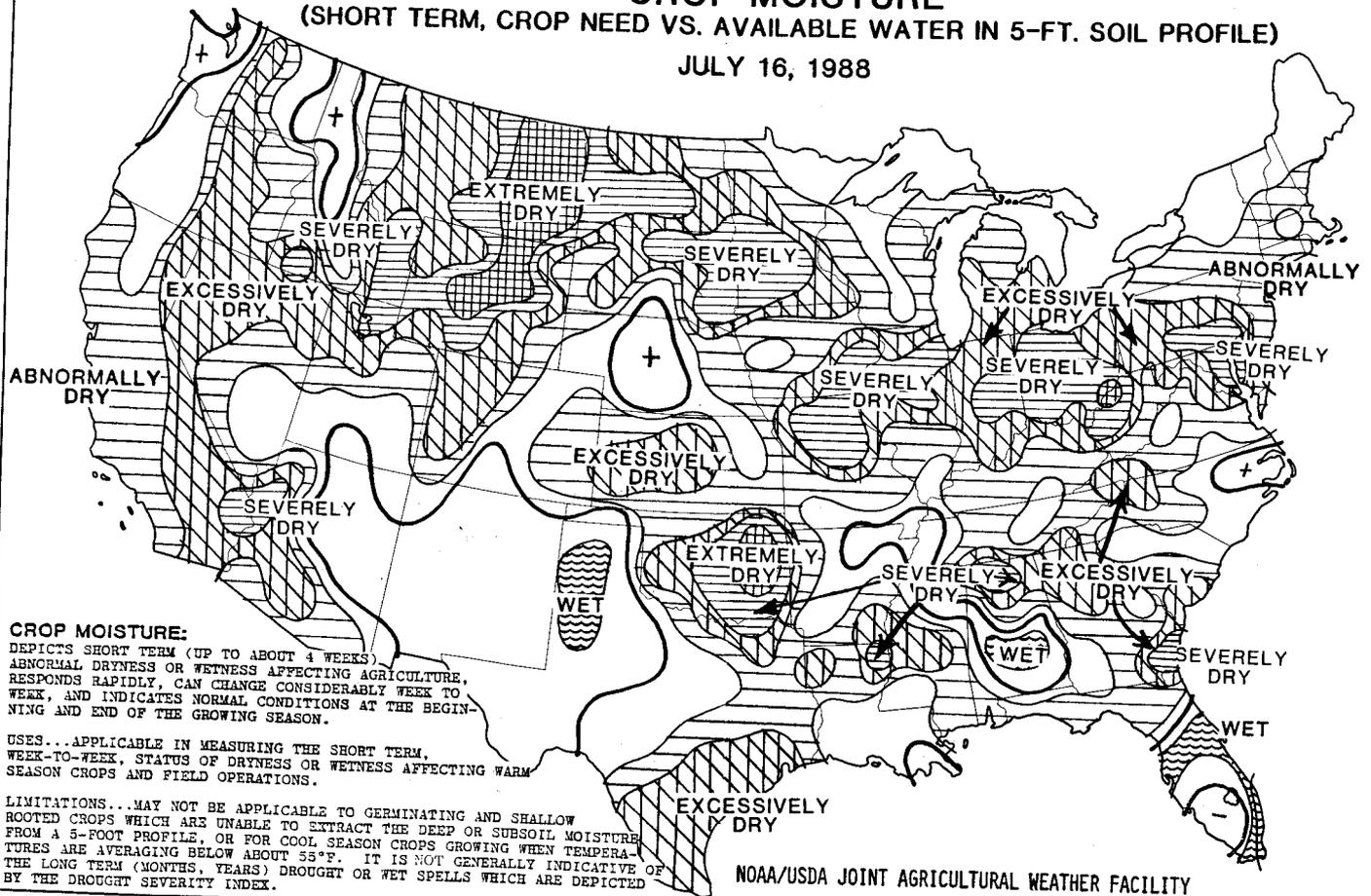
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CROP MOISTURE

(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
JULY 16, 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 WARM SEASON CROPS AND FIELD OPERATIONS.

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

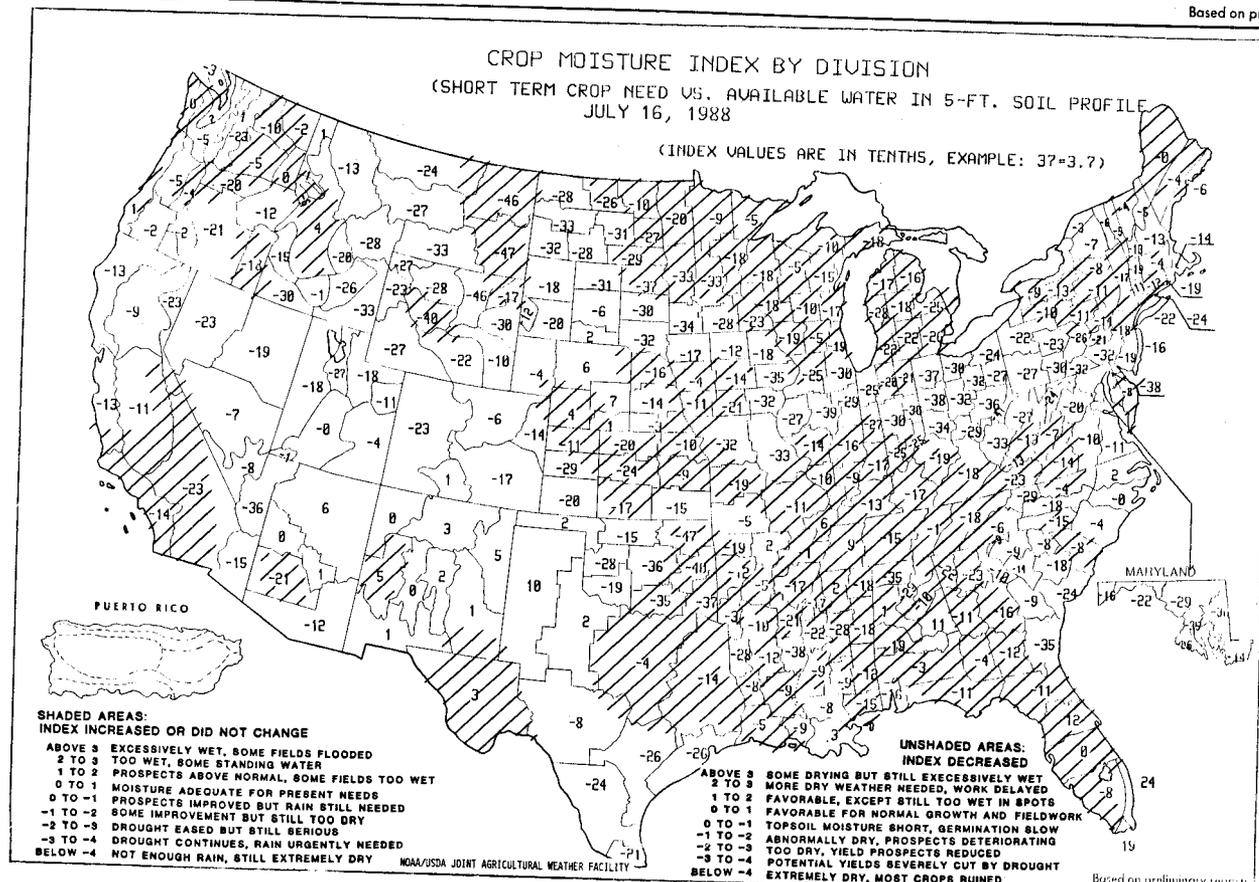
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports

CROP MOISTURE INDEX BY DIVISION

(SHORT TERM CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
JULY 16, 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

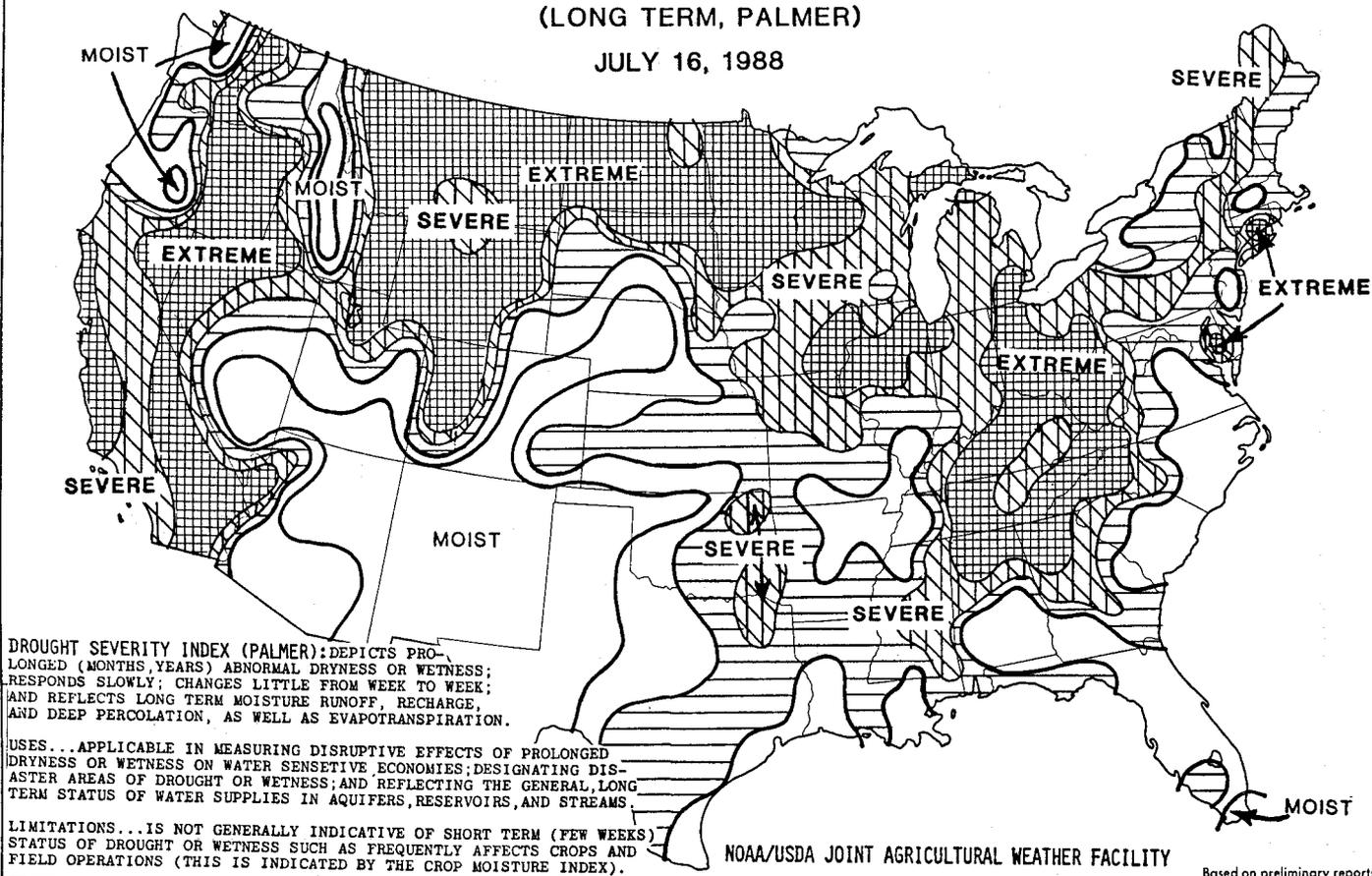
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Based on preliminary reports

DROUGHT SEVERITY

(LONG TERM, PALMER)

JULY 16, 1988



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

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

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

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

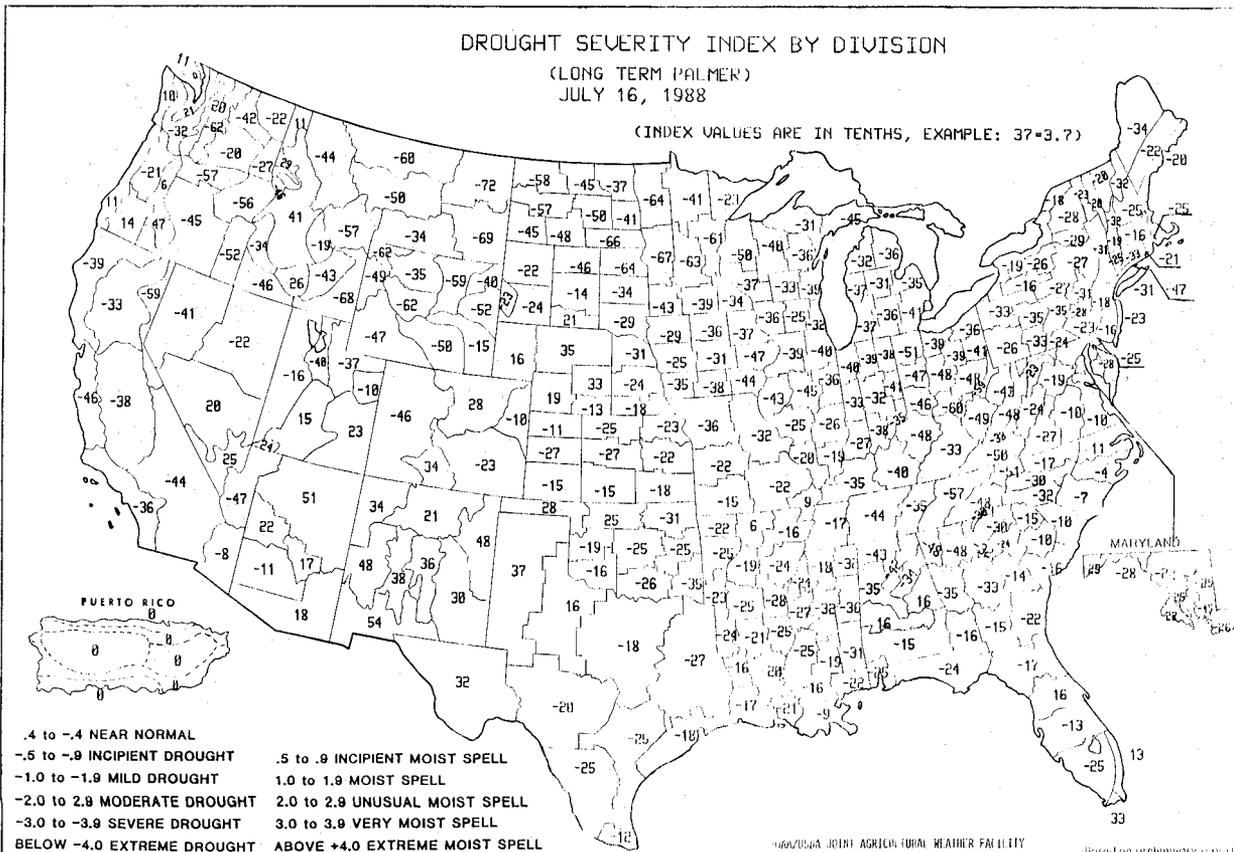
Based on preliminary reports

DROUGHT SEVERITY INDEX BY DIVISION

(LONG TERM PALMER)

JULY 16, 1988

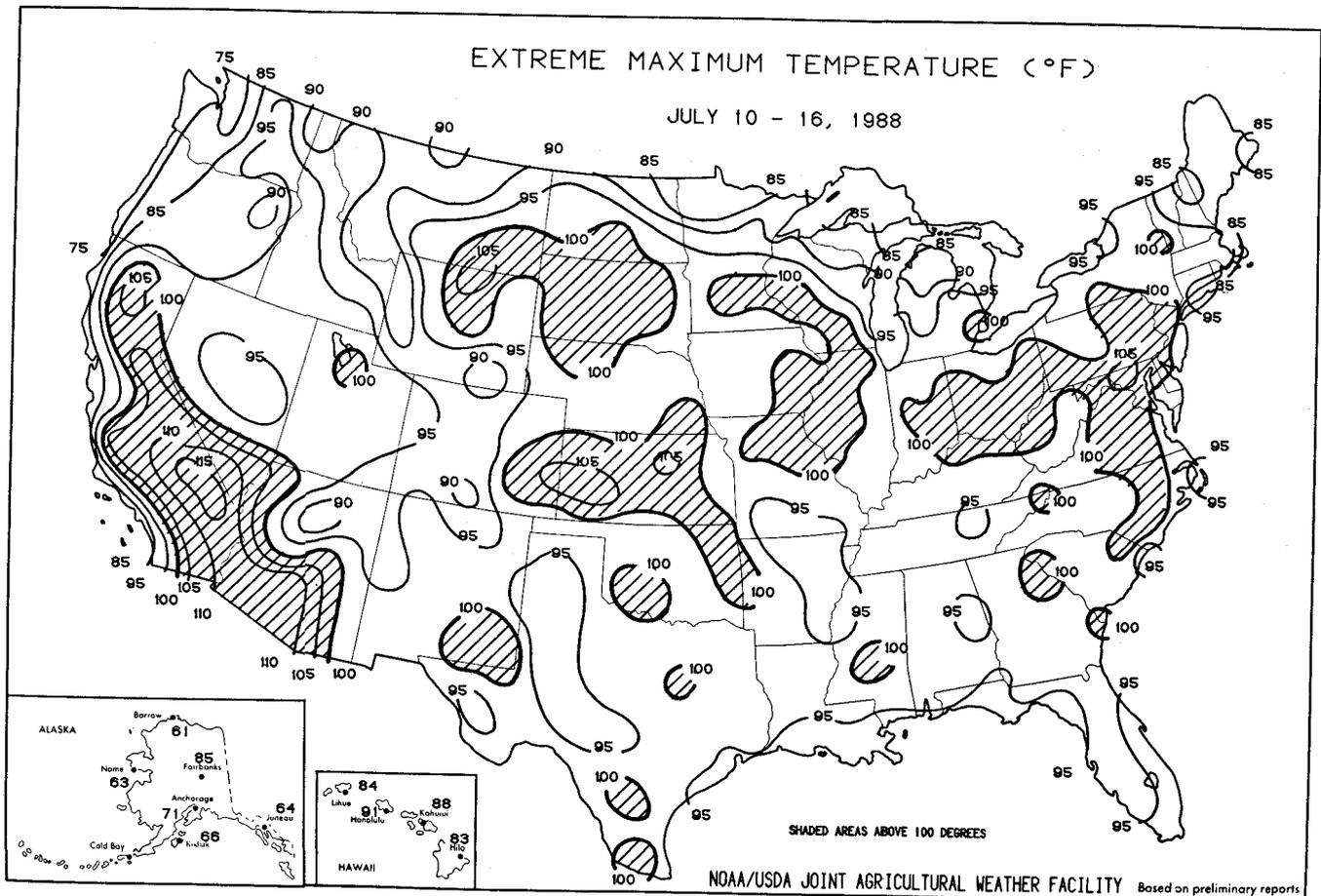
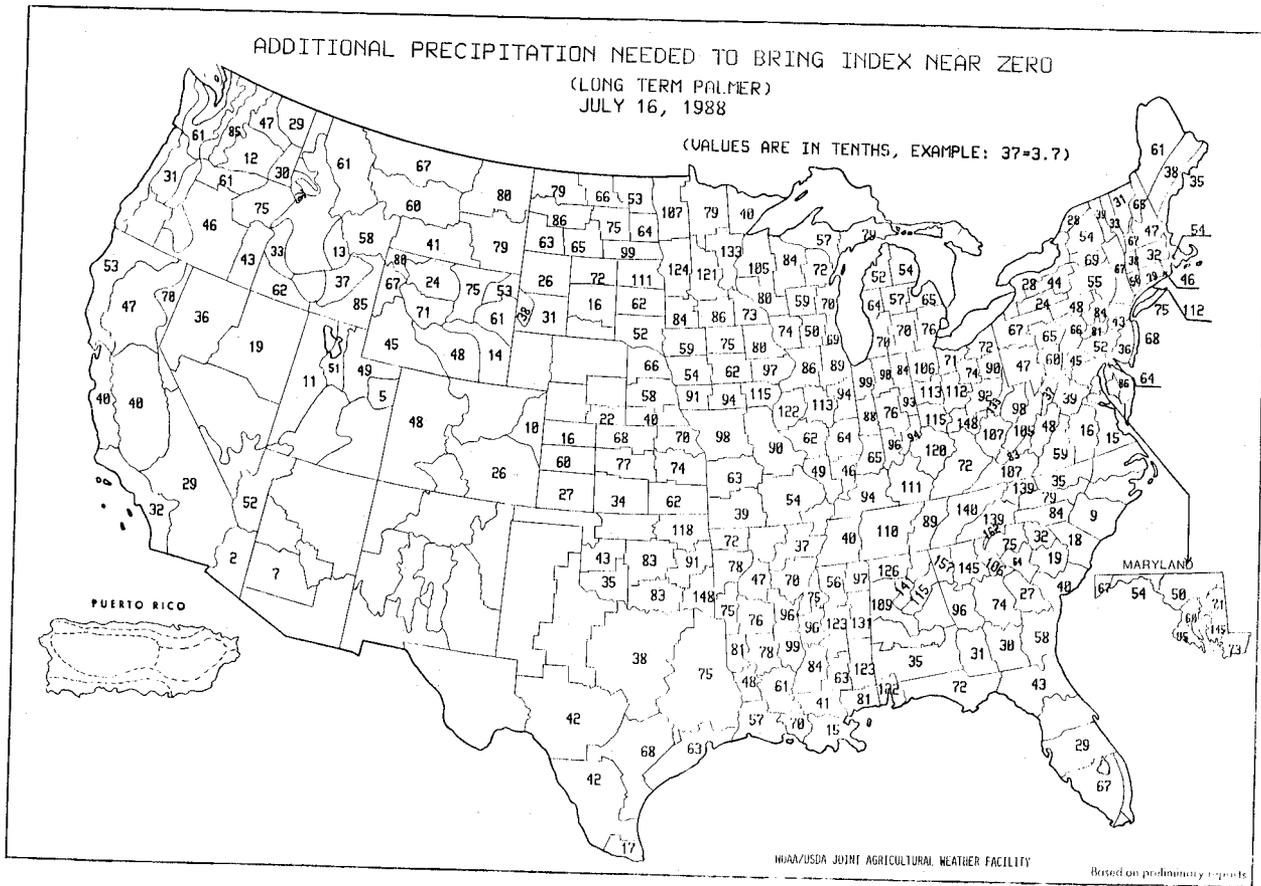
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)



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

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Based on preliminary reports



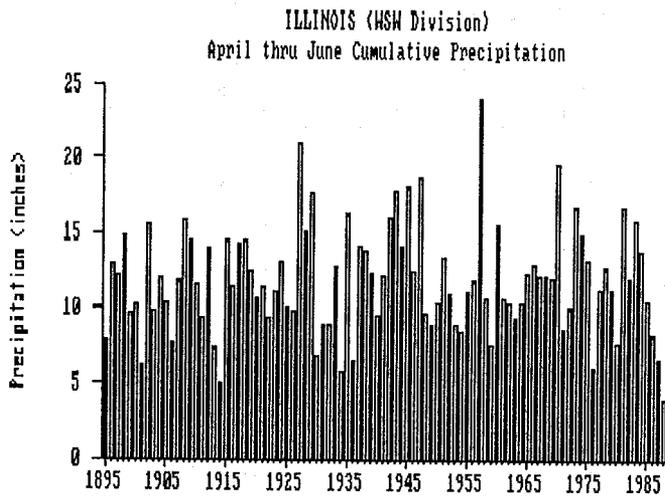
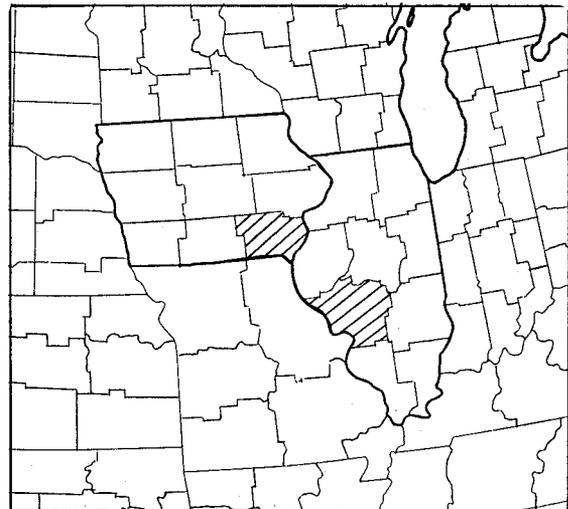
1988 DROUGHT HISTORICAL PERSPECTIVE

In the contiguous United States, the percentage of area covered by severe or extreme drought on June 18, 1988, was 33 percent and by July 9 increased to 43 percent. A review of the July historical values indicates the July 1988 percentage of area under severe or extreme drought ranks fourth.

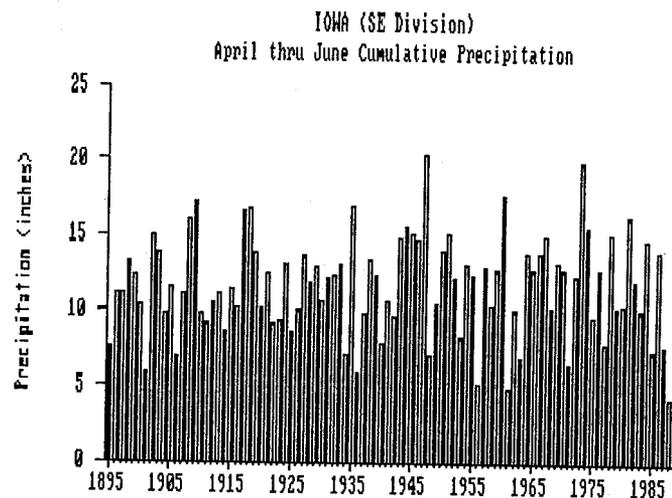
The top four are:	
July 1934	61 percent
July 1954	45 percent
July 1936	44 percent
July 1988	43 percent *

* Estimated

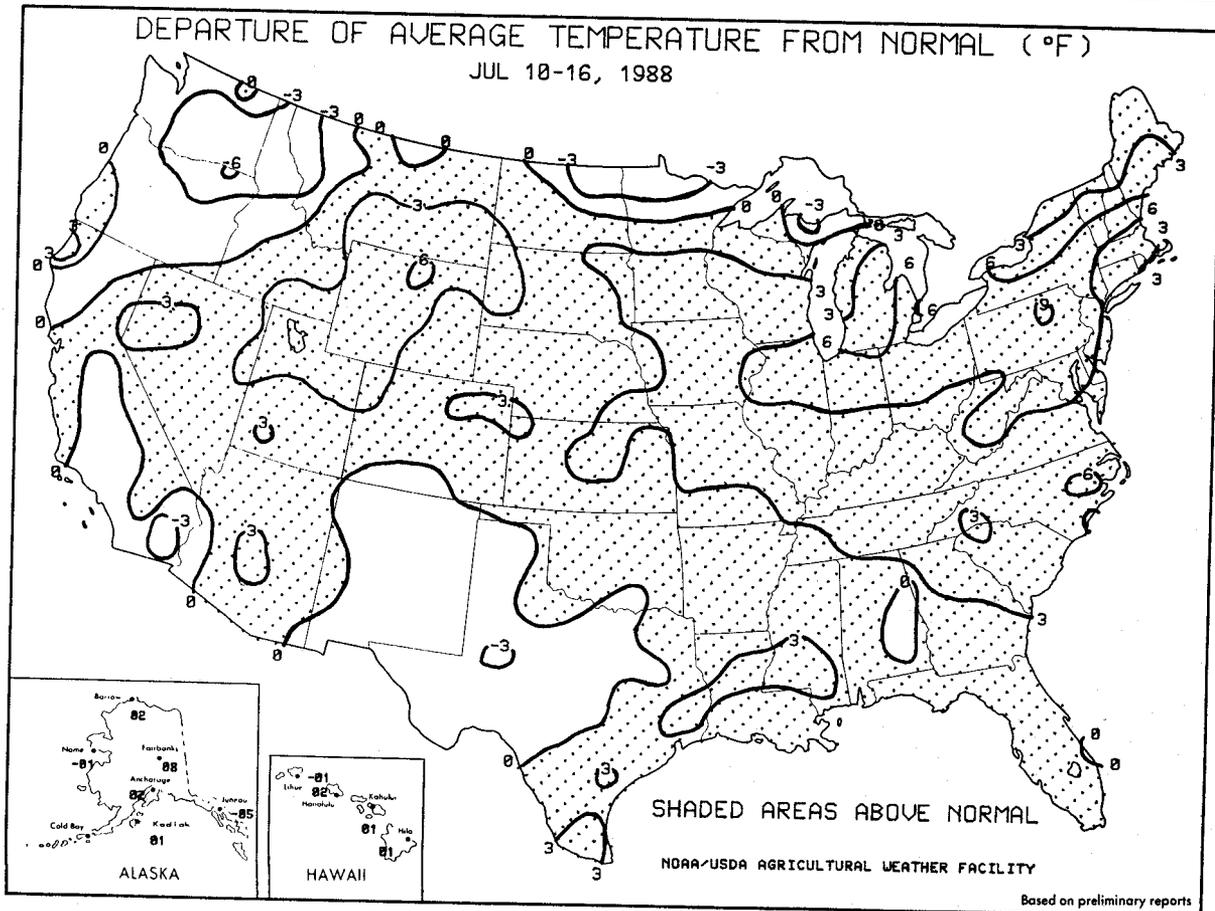
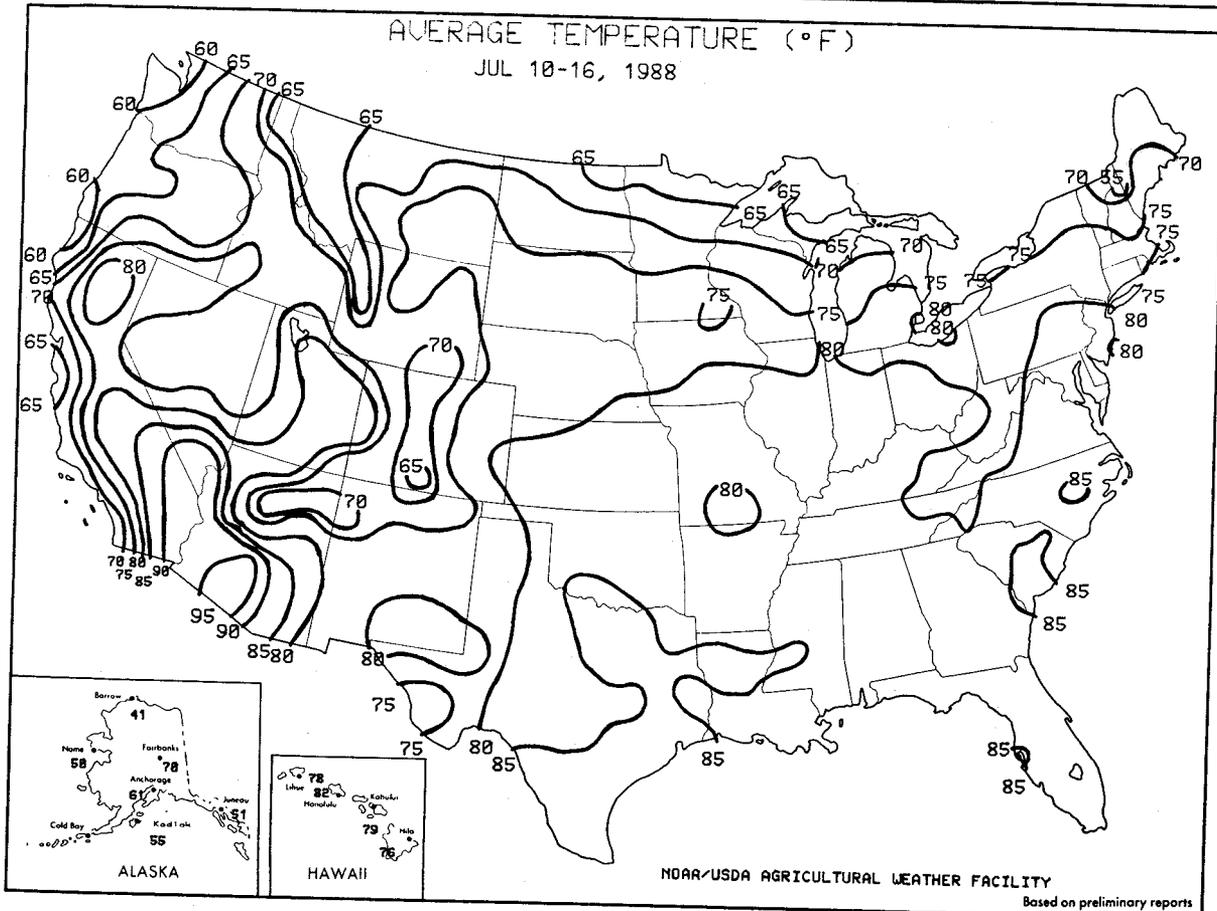
Based on preliminary data, the April to June 1988 precipitation was the lowest since 1895 in 17 percent of the climatic divisions, resulting in a rapidly developing drought situation during a critical crop stage. In the Midwest region, over 90 percent of the climatic divisions received 60 percent or less of normal precipitation, and 37 percent received 40 percent or less. One climatic division in southern Illinois received 25 percent of normal precipitation during this period. The time series for selected climatic divisions in Illinois and Iowa depict the record-breaking, low-growing season precipitation amounts.

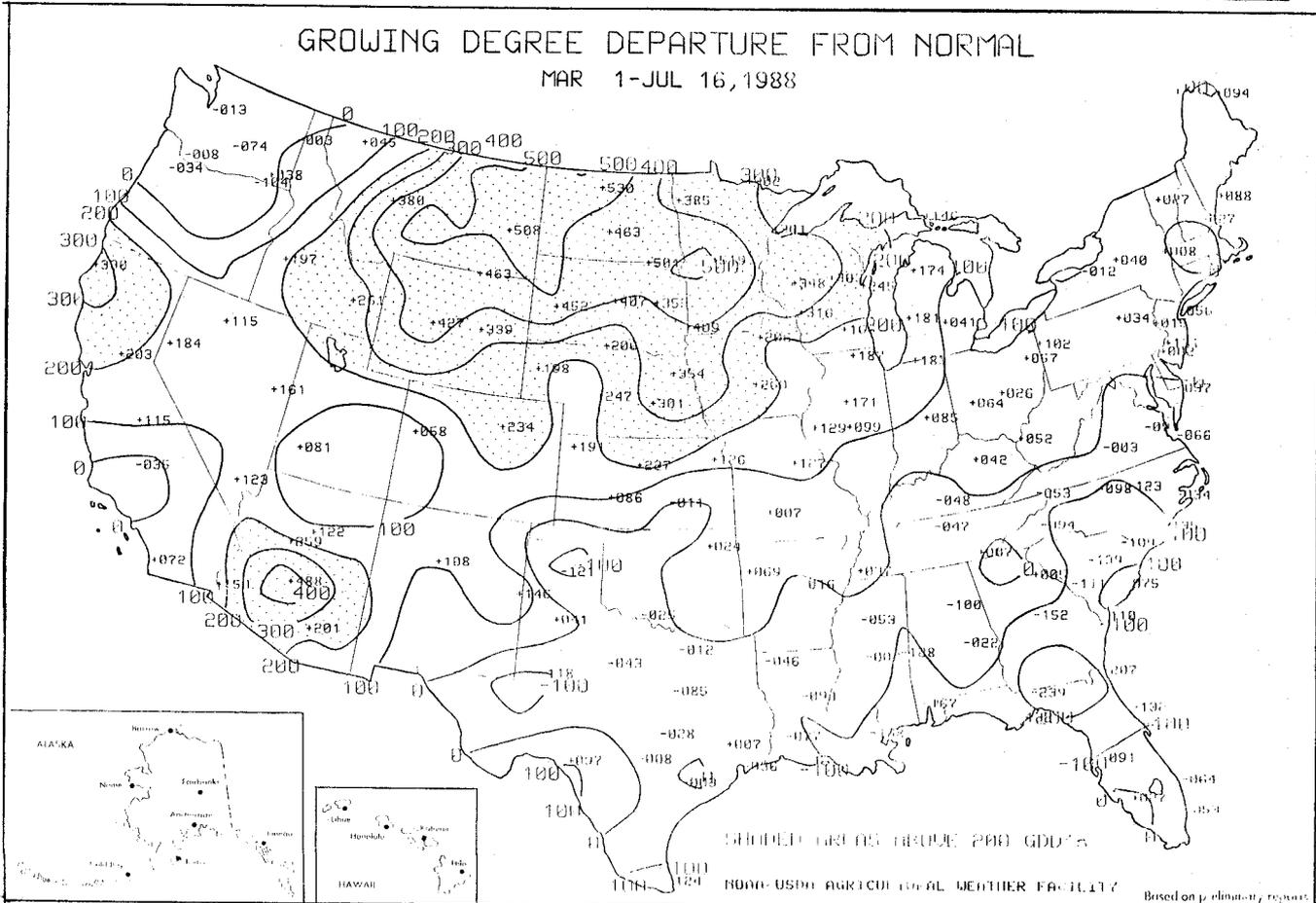
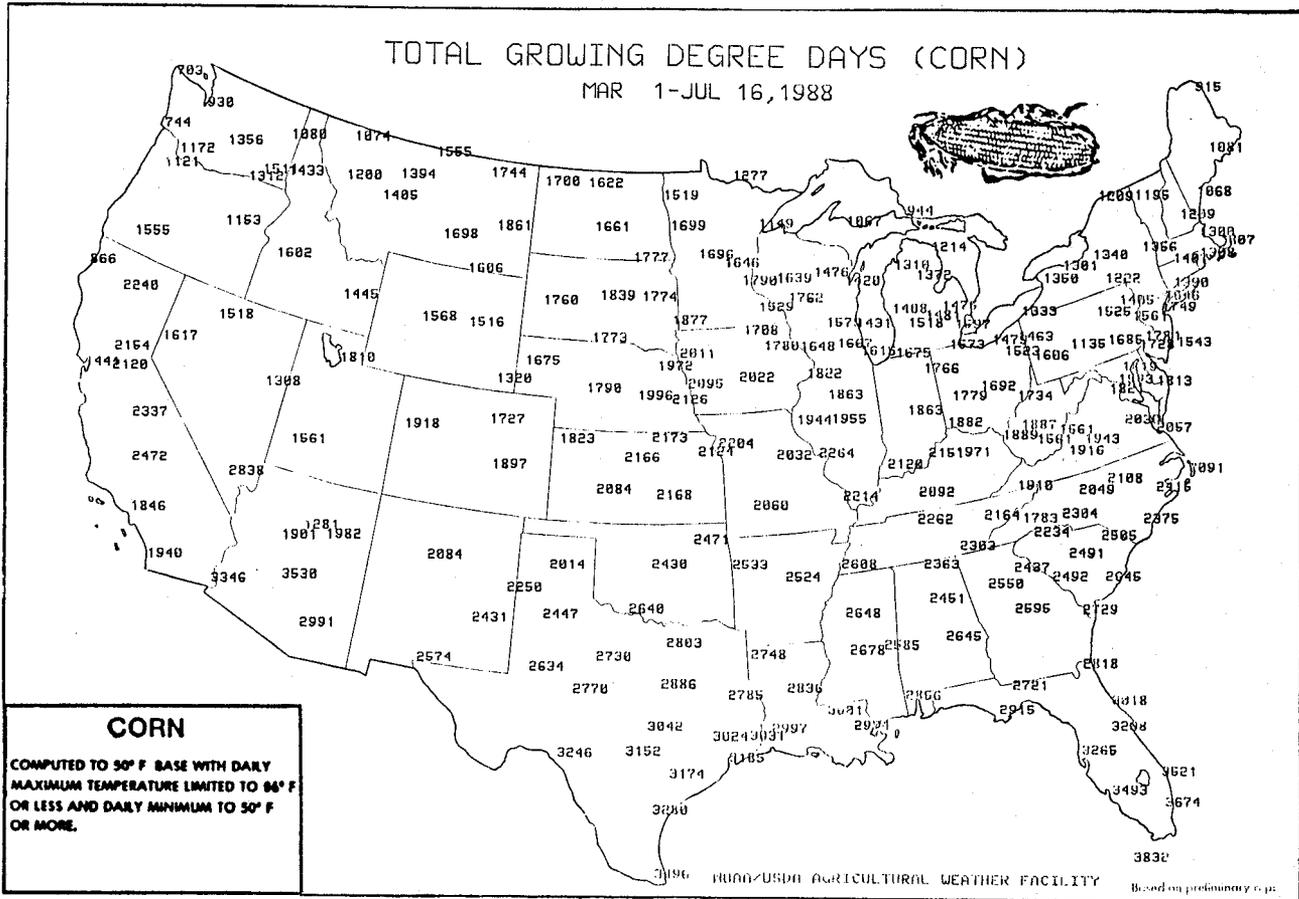


□ 1988 data estimated



□ 1988 data estimated

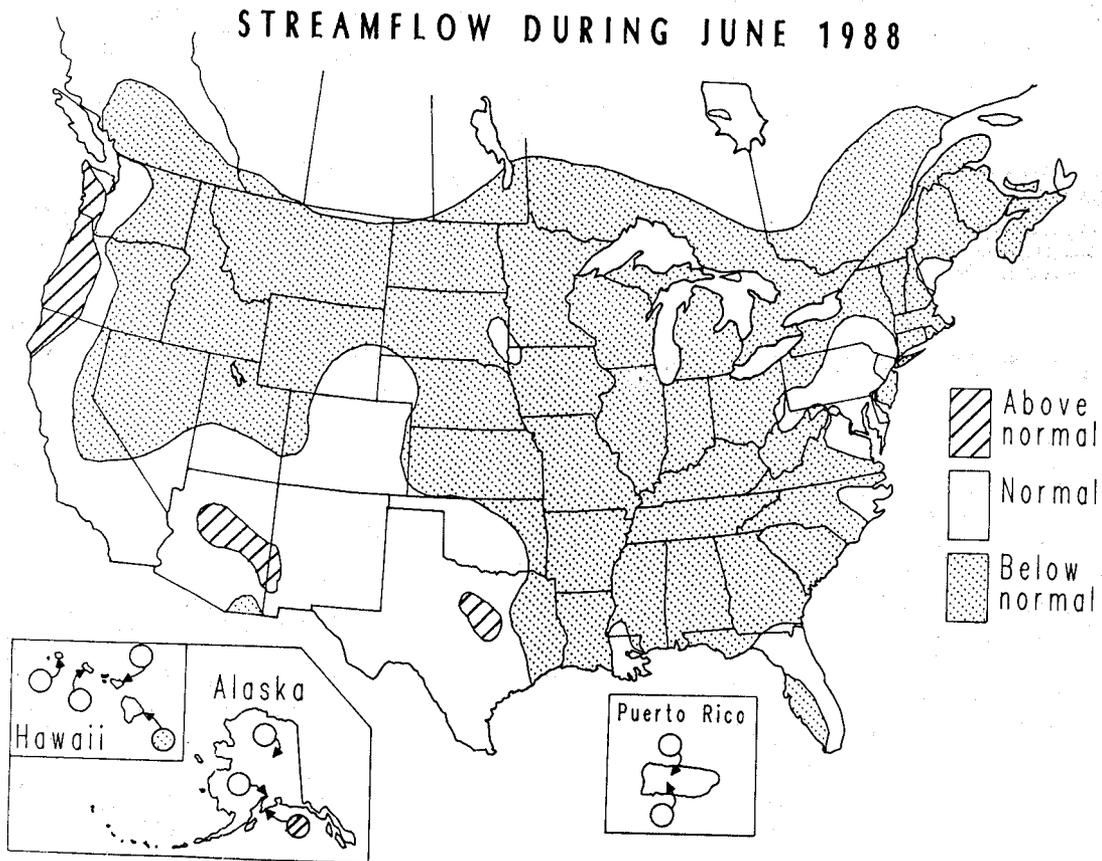




National Water Conditions

UNITED STATES
Department of the Interior
Geological Survey

CANADA
Department of the Environment
Water Resources Branch



Streamflow was well below normal, within the lowest 25 percent of record, across nearly 60 percent of the conterminous United States during June. The area of below-normal streamflow increased about 50 percent since May when low flows were recorded in about 40 percent of the country. The following rivers were among the record lows for the month of June:

- o Chippewa River at Chippewa Falls, Wisconsin averaged 79 percent below normal and the lowest June flow in 99 years of record.
- o French Broad River at Asheville, North Carolina averaged 69 percent below normal and the lowest June flow in 92 years of record.

- o Greenbrier River at Alderson, West Virginia averaged 76 percent below normal and the lowest June flow in 92 years of record.

- o Allegheny River at Natrona, Pennsylvania averaged 52 percent below normal and the lowest June flow in 49 years of record.

- o Mississippi River at Vicksburg, Mississippi averaged 62 percent below normal and the lowest June flow in 59 years of record.

About 18 percent of the index streams across the United States and southern Canada dropped to new record lows for June.

National Weather Data for Selected Cities

Weather Data for the Week Ending JULY 16, 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 °F				
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
AL BIRMINGHAM	92	73	98	68	82	2	.6	-1.7	.5	1.8	27	17.4	53	97	54	4	0	3	1	
MOBILE	92	75	97	72	84	1	.2	-1.6	.1	6.4	72	29.9	84	97	55	5	0	3	0	
MONTGOMERY	89	73	95	72	81	-1	5.8	4.8	2.0	11.2	188	37.0	128	98	64	3	0	5	4	
AK ANCHORAGE	66	55	71	52	61	2	T	-1.4	T	.8	40	3.1	56	87	59	0	0	1	0	
BARROW	48	34	61	32	41	2	.1	-1.1	.1	.3	33	.5	28	99	80	0	2	1	0	
FAIRBANKS	81	58	85	54	70	8	1.1	-1.3	0	2.4	109	4.7	106	85	35	0	0	2	0	
JUNEAU	58	44	64	44	51	-5	1.1	-1.2	.4	4.3	86	23.6	107	96	75	0	1	7	0	
KODIAK	61	49	66	45	55	1	.7	-1.1	.6	3.5	60	38.2	129	97	73	0	0	3	1	
NOME	56	44	63	39	50	-1	T	-1.5	T	1.4	63	5.3	102	91	62	0	0	0	0	
AZ PHOENIX	108	84	113	80	96	4	T	-1.2	T	T	4	2.4	82	35	14	7	0	0	0	
PHOENIX	92	60	98	55	76	3	.4	-1.4	.2	2.1	102	6.4	80	57	19	6	0	2	0	
PRESCOTT	104	73	108	69	88	2	.3	-1.2	.3	.5	36	3.0	75	62	16	7	0	1	0	
TUCSON	107	78	110	75	93	-1	0	0	0	.1	250	1.1	118	57	19	7	0	0	0	
YUMA	95	73	101	68	84	2	1.0	.3	.8	2.8	53	18.4	81	95	48	5	0	2	1	
AR PORT SMITH	91	75	95	72	83	1	3.7	2.9	3.6	6.1	111	21.4	75	84	61	5	0	2	1	
CA BAKERSFIELD	97	68	107	84	82	-2	0	0	0	T	33	3.0	79	61	24	7	0	0	0	
EUREKA	66	55	70	51	60	4	T	0	0	T	2.3	396	15.9	71	94	71	0	0	0	0
FRESNO	97	67	105	63	82	0	0	0	0	T	67	5.5	79	66	25	7	0	1	0	
LOS ANGELES	73	63	75	62	68	-1	0	0	0	T	0	4.6	56	90	64	0	0	0	0	0
REDDING	98	68	106	63	83	-1	0	0	0	T	0	4.6	56	90	64	0	0	0	0	0
SACRAMENTO	96	60	105	58	78	2	0	0	0	T	0	6.7	104	85	64	0	0	0	0	0
SAN DIEGO	73	64	78	63	69	-1	T	0	T	T	0	6.7	104	85	64	0	0	0	0	0
SAN FRANCISCO	73	55	87	53	64	1	T	0	T	.6	545	7.3	59	87	51	0	0	0	0	0
CO DENVER	91	62	95	55	76	3	.3	-1.2	.3	3.2	125	10.4	113	68	22	4	0	2	0	0
GRAND JUNCTION	97	66	99	63	82	3	T	-1.1	T	.4	59	4.5	113	42	12	7	0	0	0	0
PUEBLO	98	60	104	52	79	2	T	-1.4	T	2.9	142	7.2	127	77	16	6	0	3	0	0
CT BRIDGEPORT	87	71	94	69	79	5	.7	0	.4	1.7	36	14.6	66	92	53	3	0	2	0	0
HARTFORD	90	65	99	60	78	4	1.4	.7	.6	2.2	45	17.4	75	96	43	3	0	3	1	0
DC WASHINGTON	97	75	104	71	86	7	.1	-1.8	.1	1.1	20	15.5	75	90	39	6	0	2	0	0
FL APALACHICOLA	91	75	94	72	83	1	.1	-1.5	0	6.1	72	27.2	105	96	62	5	0	3	0	0
DAYTONA BEACH	92	73	94	71	82	1	1.2	-1.1	.9	4.3	46	19.3	82	99	58	6	0	3	1	1
JACKSONVILLE	95	74	98	72	84	2	3.7	2.3	3.1	7.6	85	27.5	105	94	50	7	0	3	1	1
KEY WEST	89	80	90	74	84	0	2.5	1.7	2.5	7.9	114	23.6	140	84	67	1	0	1	1	1
MIAMI	90	76	91	73	83	1	1.5	.2	1.0	16.6	135	26.5	94	88	59	6	0	3	1	1
ORLANDO	92	73	95	72	83	0	3.6	1.7	1.6	10.2	90	25.6	98	100	54	6	0	5	3	3
TALLAHASSEE	92	71	96	67	82	1	2.0	0	.6	5.2	47	27.5	77	100	56	6	0	5	2	2
TAMPA	92	76	96	74	84	2	1.5	-1.1	1.2	6.7	75	18.1	79	94	57	6	0	2	1	1
WEST PALM BEACH	90	75	92	73	82	0	.9	-1.5	.7	17.3	154	39.8	139	95	63	4	0	4	0	0
GA ATLANTA	92	74	98	72	83	5	.7	-1.5	.6	1.0	17	19.3	65	92	47	5	0	3	1	1
AUGUSTA	96	73	98	71	84	4	1.1	-1.1	.8	5.9	97	23.3	89	96	45	7	0	2	1	1
MACON	94	74	98	72	84	2	.8	-1.2	.5	3.3	55	22.0	80	95	49	7	0	3	0	0
SAVANNAH	96	75	99	73	85	4	.3	-1.3	.3	3.0	31	21.2	77	92	46	6	0	2	0	0
HI HILO	83	69	83	66	76	1	.8	-1.1	.2	8.1	79	62.1	90	93	63	0	0	6	0	0
HONOLULU	89	74	91	73	82	2	T	-1.1	T	.1	20	6.9	52	81	45	2	0	2	0	0
KAHULUI	86	71	88	67	79	1	T	-1.1	T	.1	17	12.2	105	85	50	0	0	0	0	0
LIHUE	83	73	84	68	78	0	.4	-1.1	.3	1.4	54	20.9	90	88	64	0	0	2	0	0
ID BOISE	91	58	98	55	75	0	0	-1.1	0	.5	46	6.8	95	60	20	4	0	0	0	0
LEWISTON	82	58	96	54	70	4	.1	0	.1	2.0	117	6.2	81	67	28	1	0	1	0	0
POCATELLO	92	57	95	49	75	3	0	-1.1	0	.4	27	4.4	67	62	18	6	0	0	0	0
IL CHICAGO	93	66	102	59	80	7	.7	0	.7	1.8	30	10.4	56	86	37	5	0	1	1	1
MOLINE	93	70	102	61	82	7	.5	-1.6	.3	1.7	25	10.6	51	92	42	6	0	2	0	0
PEORIA	92	71	100	65	82	6	.2	-1.8	.2	.8	13	9.6	49	92	45	6	0	1	0	0
QUINCY	94	70	102	61	82	5	.1	-1.9	.1	2.9	46	9.2	44	90	44	6	0	1	0	0
ROCKFORD	92	66	102	58	79	6	1.2	-1.2	1.2	1.7	24	11.3	56	89	38	5	0	3	1	1
SPRINGFIELD	92	72	100	65	82	5	0	-1.8	0	.6	12	9.9	52	87	44	5	0	0	0	0
IN EVANSVILLE	90	73	97	69	82	3	1.9	1.0	1.4	3.0	54	16.2	65	94	58	4	0	3	1	1
FORT WAYNE	93	66	100	61	79	6	1.2	-1.4	.5	1.9	36	13.2	68	90	37	5	0	4	0	0
INDIANAPOLIS	94	69	103	65	82	6	.6	-1.4	.3	1.0	15	14.6	66	95	43	5	0	5	0	0
SOUTH BEND	91	66	98	61	78	6	.7	-1.1	.4	1.2	20	12.7	63	94	45	3	0	3	0	0
IA DES MOINES	89	67	97	63	78	2	1.8	1.1	1.6	2.8	49	9.6	64	94	51	5	0	2	1	1
SIOUX CITY	89	68	100	60	78	5	.8	-1.2	.6	4.4	66	10.2	55	97	57	3	0	3	1	1
WATERLOO	96	70	103	65	83	4	.4	-1.3	.4	4.0	67	9.8	63	87	36	5	0	2	0	0
KS CONCORDIA	97	69	106	63	83	3	.1	-1.6	.1	.8	18	9.0	74	87	32	7	0	1	0	0
DODGE CITY	94	63	101	59	79	3	.6	0	.5	3.8	95	12.8	130	90	30	5	0	2	0	0
GOODLAND	92	69	96	64	81	2	.5	-1.4	.5	4.7	65	14.0	75	95	54	5	0	1	0	0
TOPEKA	97	72	103	66	84	3	.1	-1.8	.1	2.5	42	13.0	82	91	36	6	0	1	0	0
WICHITA	91	72	97	67	81	3	.9	-1.1	.8	3.1	44	17.4	59	100	54	4	0	3	1	1
KY BOWLING GREEN	90	72	99	67	81	5	1.3	.1	1.0	2.1	31	16.4	61	93	52	4	0	4	1	1
LEXINGTON	91	74	100	69	83	5	1.0	.1	.8	1.9	33	18.6	74	88	53	4	0	3	1	1
LA ALEXANDRIA	94	79	97	77	87	4	.2	-1.9	.1	4.7	76	23.1	74	81	51	6	0	2	0	0
BATON ROUGE	92	77	95	75	84	2	.9	-1.8	.5	7.3	109	38.4	122	96	57	6	0	3	0	0
LAKE CHARLES	90	77	93	75	84	2	1.7	.5	1.7	8.0	119	28.8	105	98	65	4	0	3	1	1
NEW ORLEANS	90	76	93	73	83	1	2.4	.9	1.7	15.2	189	50.1	154	99	64	5	0	3	2	2

Based on 1951-80 normals

Weather Data for the Week Ending JULY 16, 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		PRECIPI- TATION		
																90 AND ABOVE	92 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
ME SHREVEPORT	95	75	98	71	85	2	.7	-.2	.7	1.4	27	14.9	57	95	46	6	0	1	1	
ME CARIBOU	76	59	87	51	67	2	1.1	.2	.4	3.9	74	14.3	81	99	59	0	0	6	0	
ME PORTLAND	85	64	93	57	75	6	.9	.2	.5	3.3	72	18.4	80	93	48	2	0	2	0	
MD BALTIMORE	97	71	104	69	84	7	.1	-.8	-.1	.9	17	16.6	75	95	40	6	0	2	1	
MD SALISBURY	93	71	98	66	82	5	.6	-.4	-.6	2.6	45	22.6	96	96	45	6	0	2	0	
MA BOSTON	88	68	99	65	78	4	1.3	-.7	-.6	2.7	65	17.0	73	94	51	3	0	4	1	
MA CHATHAM	76	64	78	59	70	2	0	-.6	0	2.5	59	17.8	73	97	79	0	0	4	1	
MI ALPENA	82	58	88	49	70	4	2.0	1.3	1.0	2.9	60	12.3	82	100	51	0	0	0	0	
MI DETROIT	93	67	102	62	80	7	1.0	.3	.9	1.9	39	8.8	52	82	31	4	0	2	1	
MI FLINT	91	63	98	55	77	7	1.3	-.7	1.2	2.0	43	9.2	59	89	33	4	0	2	1	
MI GRAND RAPIDS	89	62	94	54	75	4	2.8	2.1	1.7	3.1	59	12.9	72	93	39	3	0	3	3	
MI HOUGHTON LAKE	84	61	87	52	72	5	1.1	.4	.7	2.0	42	9.9	68	87	43	0	0	4	1	
MI LANSING	91	61	98	53	76	6	1.5	1.0	1.4	1.7	33	10.5	65	93	33	4	0	3	1	
MI MARQUETTE	73	50	86	43	62	-3	.6	-.1	-.5	1.5	27	13.0	65	91	56	0	0	3	1	
MI MUSKEGON	84	61	95	53	73	2	.8	.3	.7	1.2	34	12.0	75	93	45	1	0	3	1	
MI SAULT ST. MARIE	74	49	77	44	62	-2	1.0	.3	.6	1.5	32	12.1	76	99	60	0	0	4	1	
MN ALEXANDRIA	86	61	93	54	74	3	.7	0	.4	1.5	26	6.9	51	80	31	3	0	2	0	
MN DULUTH	79	55	89	48	67	2	.4	-.5	.4	5.1	86	13.0	86	98	48	0	0	2	0	
MN INT'L FALLS	74	52	80	43	63	-4	1.5	.7	.6	6.2	108	9.8	79	97	51	0	0	5	1	
MN MINNEAPOLIS	90	66	102	59	78	5	.8	0	.7	1.1	19	7.4	51	79	31	4	0	2	1	
MN ROCHESTER	86	62	96	52	74	3	.6	-.3	.5	2.4	43	10.1	68	90	44	2	0	2	0	
MS GREENWOOD	92	76	95	73	84	1	.6	-.5	.4	1.4	25	14.3	44	92	51	5	0	3	0	
MS JACKSON	97	75	101	73	86	4	1.5	.5	1.4	2.1	39	21.4	69	95	43	7	0	2	1	
MS MERIDIAN	92	73	96	71	82	1	.9	-.3	.9	3.9	62	23.3	72	97	56	5	0	2	1	
MO CAPE GIRARDEAU	91	75	97	72	83	—	1.2	.4	.5	1.9	35	16.3	63	94	56	5	0	3	2	
MO COLUMBIA	93	72	101	67	83	4	1.2	.5	.8	1.9	35	14.2	68	91	48	5	0	2	1	
MO KANSAS CITY	94	71	100	67	83	3	.7	-.3	.7	2.8	40	10.6	53	92	46	6	0	2	1	
MO SAINT LOUIS	95	78	103	73	86	7	1.1	-.8	.1	2.0	36	14.9	75	79	43	5	0	2	1	
MO SPRINGFIELD	89	69	94	66	79	1	.1	-.3	.3	7.8	118	25.4	114	96	58	4	0	4	0	
MT BILLINGS	91	62	96	60	77	4	2	-.1	T	.5	19	6.0	63	57	20	4	0	2	0	
MT GLASGOW	85	60	90	56	73	2	.2	-.2	.1	2.7	80	5.3	79	69	24	1	0	2	0	
MT GREAT FALLS	82	57	89	48	70	0	.1	-.2	.1	3.2	97	7.3	73	67	24	0	0	1	0	
MT HAVRE	83	56	91	47	69	-1	.3	-.3	0	1.8	61	2.9	39	65	20	1	0	0	0	
MT HELENA	85	57	91	52	71	-3	.2	-.1	.2	1.9	73	6.2	87	59	26	1	0	1	0	
MT KALISPELL	77	49	91	40	63	-2	.7	.5	.5	2.4	88	8.8	97	87	29	1	0	2	1	
MT MILES CITY	92	65	100	61	79	4	0	-.3	0	.7	19	2.0	22	54	20	6	0	0	0	
MT MISSOULA	79	49	93	39	64	-4	.1	-.1	.1	2.2	96	8.4	105	87	32	1	0	0	0	
NE GRAND ISLAND	91	65	99	61	78	1	.9	.2	.8	7.8	153	13.6	95	97	46	3	0	2	1	
NE LINCOLN	96	68	104	62	82	4	T	-.7	T	1.0	18	7.4	47	89	41	6	0	0	0	
NE NORFOLK	89	66	98	62	77	1	2.4	1.7	1.3	5.4	89	14.3	96	98	51	3	0	2	2	
NE NORTH PLATTE	91	61	97	55	76	1	.3	-.4	.2	5.1	94	11.8	93	96	39	5	0	2	0	
NE OMAHA	89	69	98	64	79	1	1.4	.6	1.4	4.8	80	12.8	76	91	58	2	0	1	1	
NE SCOTT'S BLUFF	94	58	99	55	76	2	.1	-.4	.1	2.5	62	12.0	119	86	22	5	0	2	0	
NE VALENTINE	91	60	103	52	75	1	.8	.3	.5	4.2	100	12.7	120	82	36	5	0	2	1	
NV ELY	92	48	94	44	70	3	0	-.1	0	.6	56	4.4	82	42	12	7	0	0	0	
NV LAS VEGAS	107	76	110	71	92	1	0	-.1	0	T	15	1.7	86	23	13	7	0	0	0	
NV RENO	94	55	97	53	75	5	0	-.1	0	.6	134	2.2	48	64	15	7	0	0	0	
NV WINNEMUCA	96	56	98	49	76	3	0	0	0	.5	50	4.0	84	46	16	7	0	0	0	
NH CONCORD	90	62	95	51	76	6	.1	-.5	.1	1.3	30	12.9	69	95	36	5	0	2	0	
NJ ATLANTIC CITY	90	70	96	66	80	6	.2	-.7	.2	2.8	60	16.8	77	95	51	5	0	1	0	
NM ALBUQUERQUE	92	64	97	60	78	-1	T	-.3	T	2.8	250	5.9	183	68	21	6	0	1	0	
NM CLOVIS	88	66	93	62	77	-1	1.4	.7	.8	6.7	163	13.6	159	92	43	4	0	3	2	
NM ROSWELL	94	66	102	62	80	0	.4	.1	.3	2.3	128	7.7	187	84	30	5	0	2	0	
NY ALBANY	91	64	98	57	78	6	.4	-.3	.2	2.0	42	13.8	74	95	39	4	0	3	0	
NY BINGHAMTON	89	65	98	60	77	8	.7	-.1	.5	1.8	34	15.4	79	87	33	3	0	3	1	
NY BUFFALO	88	66	95	60	77	6	.5	-.2	.3	2.1	50	16.4	89	88	40	2	0	3	0	
NY NEW YORK	90	74	98	70	82	5	.7	-.1	.3	2.2	44	16.8	75	88	42	3	0	4	0	
NY ROCHESTER	88	63	97	57	76	4	.6	.1	.6	1.7	43	10.4	63	88	43	2	0	2	1	
NY SYRACUSE	88	64	97	59	76	5	1.3	.5	.8	3.9	70	15.0	74	90	44	2	0	3	2	
NC ASHEVILLE	89	65	95	60	77	3	.6	-.3	.5	1.7	31	12.2	50	100	50	3	0	3	1	
NC CHARLOTTE	93	73	99	71	83	4	1.1	.2	.5	3.1	55	15.4	62	94	50	5	0	4	0	
NC GREENSBORO	91	71	96	67	81	3	.6	-.3	.3	4.5	74	16.5	71	97	56	5	0	5	0	
NC HATTERAS	88	77	91	75	83	4	.1	-.1	.1	2.4	35	22.7	83	96	69	1	0	2	0	
NC NEW BERN	94	75	98	73	85	6	1.4	-.1	1.3	6.8	80	27.0	97	93	56	6	0	3	1	
NC RALEIGH	93	71	97	69	82	4	.2	-.8	.2	3.1	53	16.8	73	95	52	6	0	2	0	
NC WILMINGTON	92	75	96	71	83	3	1.1	-.6	.8	4.4	46	27.0	96	95	60	6	0	3	1	
ND BISMARCK	88	56	102	51	72	2	T	-.5	T	2.6	64	5.9	61	86	30	2	0	1	0	
ND FARGO	86	56	92	46	71	0	.2	-.6	.2	1.7	35	6.4	60	86	31	2	0	1	0	
ND GRAND FORKS	80	53	83	47	66	-3	1.2	.5	1.1	4.6	103	7.6	77	95	38	0	0	3	1	
ND WILLISTON	86	59	98	51	72	2	.2	-.3	.2	3.8	105	7.0	84	70	27	1	0	1	0	
OH AKRON-CANTON	92	66	101	60	79	7	.3	-.6	.3	.7	13	11.4	56	87	36	5	0	2	0	
OH CINCINNATI	91	71	101	66	81	5	.7	-.3	.4	1.9	30	19.0	80	93	50	4	0	2	0	
OH CLEVELAND	91	68	100	60	80	7	.5	-.2	.5	1.2	23	12.0	62	89	36	5	0	2	1	
OH COLUMBUS	92	69	100	64	81	7	.3	-.6	.3	1.7	27	15.1	70	90	43	4	0	2	0	

Weather Data for the Week Ending JULY 16, 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
DAYTON	93	71	102	66	82	7	.1	-.7	.1	1.5	27	13.4	66	87	40	4	0	1	0
TOLEDO	93	65	99	57	79	7	.4	-.4	.3	.6	12	7.6	44	88	33	5	0	2	0
YOUNGSTOWN	92	64	100	53	78	8	.6	-.3	.5	1.3	23	12.4	60	93	35	5	0	2	0
OK OKLAHOMA CITY	94	73	98	70	84	1	T	-.7	T	3.7	69	17.5	96	89	44	5	0	0	1
TULSA	95	75	100	71	85	2	.6	-.2	.6	1.2	19	14.2	65	85	42	6	0	2	0
OR ASTORIA	86	54	69	46	60	0	.4	-.2	.3	4.5	145	30.6	84	95	67	0	0	2	1
BURNS	86	49	91	43	68	0	0	-.1	0	.7	97	4.4	78	65	20	1	0	0	0
MEDFORD	87	55	92	52	71	-1	0	-.1	0	1.0	132	6.8	66	75	23	2	0	0	0
PENDELTON	80	56	92	52	68	-6	T	-.1	T	.3	40	7.3	108	64	28	1	0	1	0
PORTLAND	73	57	81	55	65	-2	.4	.3	.3	3.0	182	19.3	98	91	54	0	0	2	0
SALEM	75	52	82	44	64	-3	T	-.1	T	2.0	145	18.8	87	92	45	0	0	0	0
PA ALLENTOWN	94	68	101	65	81	7	.8	-.2	.5	2.6	48	20.0	86	98	39	5	0	4	1
ERIE	87	67	96	59	77	8	.7	-.1	.6	1.9	34	14.5	74	88	43	3	0	2	1
HARRISBURG	96	70	104	66	83	7	.1	-.6	.1	1.1	21	17.0	79	84	34	6	0	2	0
PHILADELPHIA	96	72	102	70	84	7	.1	-.8	.1	.8	14	16.5	74	84	34	6	0	2	0
PITTSBURGH	94	67	103	58	81	8	.4	-.5	.4	1.6	30	13.9	66	88	37	7	0	1	0
SCRANTON	93	67	101	63	80	8	1.0	-.2	.5	2.1	41	14.7	80	88	33	4	0	4	0
RI PROVIDENCE	88	67	97	65	78	5	.4	-.2	.2	1.7	40	19.7	83	99	53	2	0	4	0
SC CHARLESTON	94	76	98	75	85	4	1.3	-.4	.8	3.8	36	15.8	55	97	53	6	0	3	1
COLUMBIA	97	75	104	74	86	5	.6	-.6	.4	2.7	38	15.9	56	91	41	7	0	4	0
FLORENCE	98	73	101	71	85	5	1.6	.3	.9	3.7	49	16.6	66	95	43	7	0	2	2
GREENVILLE	92	71	98	69	82	3	.7	-.4	.7	4.8	71	19.5	66	96	53	5	0	1	1
SD ABERDEEN	91	61	102	54	76	4	.7	-.1	.7	2.3	50	6.8	61	84	28	5	0	1	1
HURON	92	61	101	53	77	2	T	-.5	T	1.5	32	10.9	94	83	32	5	0	0	0
RAPID CITY	92	62	103	55	77	4	.1	-.3	.1	1.3	29	6.2	56	74	27	4	0	3	0
SIOUX FALLS	92	64	100	60	78	4	T	-.6	T	1.1	21	8.0	59	85	37	6	0	1	0
TN CHATTANOOGA	92	73	98	70	82	4	1.5	.4	1.0	2.6	45	18.9	62	94	51	4	0	4	1
KNOXVILLE	92	72	98	69	82	4	1.9	.9	1.0	2.5	41	16.9	60	95	53	5	0	3	2
MEMPHIS	91	76	95	72	84	1	2.8	1.9	1.3	6.0	107	23.2	75	95	61	4	0	4	3
NASHVILLE	94	73	99	70	84	4	2.6	1.7	2.2	3.2	57	15.1	52	96	48	5	0	3	1
TX ABILENE	92	73	96	69	83	-1	.8	.3	.5	4.9	137	10.9	88	88	44	6	0	2	1
AMARILLO	89	67	94	59	78	-1	T	-.6	T	4.8	99	14.7	137	90	42	5	0	0	0
AUSTIN	94	75	98	72	85	0	1.0	.6	.7	4.2	105	12.8	75	96	49	6	0	4	1
BRAUMONT	94	77	97	75	86	3	0	-1.3	0	7.0	89	24.0	84	97	55	7	0	0	0
BROWNSVILLE	94	78	95	77	86	2	T	-.3	T	3.5	102	10.7	102	94	51	7	0	1	0
CORPUS CHRISTI	95	78	96	74	87	2	T	-.5	T	2.0	39	6.4	44	92	51	7	0	0	0
DEL RIO	95	75	99	73	85	-1	.6	-.2	.6	2.6	98	4.5	53	73	37	6	0	2	1
EL PASO	94	68	99	63	81	-2	.1	-.2	.1	3.1	230	4.6	158	82	29	6	0	3	0
FORT WORTH	95	76	98	73	86	0	.7	-.2	.4	5.3	155	13.8	77	91	48	6	0	3	0
GALVESTON	88	81	89	77	85	1	T	-.8	T	5.6	103	19.9	105	86	70	0	0	1	0
HOUSTON	96	78	99	74	87	4	0	-.8	T	3.5	56	13.5	55	93	46	7	0	0	0
LUBBOCK	91	69	96	66	80	0	.1	-.4	.1	4.0	99	9.1	95	94	48	5	0	1	0
MIDLAND	90	68	94	67	79	-3	.9	.5	.7	6.9	304	10.4	157	98	49	5	0	2	1
SAN ANGELO	92	72	95	68	82	-2	.9	.6	.4	3.1	127	8.9	99	91	47	5	0	2	0
SAN ANTONIO	94	76	97	75	85	1	1.1	.7	.8	7.0	176	10.8	71	94	46	5	0	3	1
VICTORIA	95	78	98	76	86	2	T	-.6	T	3.1	52	7.4	40	94	45	7	0	0	0
WACO	96	76	100	73	86	0	1.0	.6	1.0	6.7	195	13.9	78	93	47	6	0	1	1
WICHITA FALLS	96	74	100	70	85	0	.5	.1	.4	3.2	83	13.3	89	90	44	6	0	2	0
UT BLANDING	91	58	94	54	74	0	0	-.2	0	1.3	149	5.9	113	60	21	4	0	0	0
CEDAR CITY	93	61	96	57	77	3	T	-.3	T	.7	67	7.9	150	41	12	7	0	0	0
SALT LAKE CITY	98	67	101	62	83	5	0	-.2	0	0	T	2	62	66	47	7	0	0	0
VT BURLINGTON	85	63	95	56	74	4	1.4	.7	1.4	5.0	93	12.6	75	88	40	1	0	2	1
VA NORFOLK	93	75	96	71	84	5	1.1	0	1.1	5.2	87	22.2	95	93	49	6	0	1	1
RICHMOND	94	73	100	71	83	5	.2	-1.0	.2	3.9	64	18.9	84	95	48	5	0	1	0
ROANOKE	91	68	100	64	80	4	.4	-.4	.4	4.6	91	14.9	70	97	49	5	0	2	0
WA QUILLAYUTE	65	50	71	42	57	-2	.9	-.2	.6	4.1	98	56.1	102	98	67	0	0	4	1
SEATTLE-TACOMA	70	54	76	51	62	-3	.1	-.1	.1	1.9	113	16.6	85	95	54	0	0	1	0
SPOKANE	76	53	90	48	64	-5	.1	0	-.1	1.3	88	8.6	92	76	29	1	0	1	0
YAKIMA	80	52	92	45	66	-5	0	0	0	1.0	156	3.5	80	80	32	1	0	0	0
WV BECKLEY	85	66	94	65	76	6	1.0	-.1	.9	3.3	51	15.3	64	94	50	2	0	3	1
CHARLESTON	94	70	104	67	82	7	.2	-1.0	.2	1.1	19	12.7	53	89	39	5	0	2	0
HUNTINGTON	91	70	102	67	81	5	.1	-1.0	.1	.9	15	13.4	57	92	45	4	0	2	0
PARKERSBURG	92	69	102	67	80	5	.3	-.7	.2	1.1	18	11.3	51	94	43	4	0	3	0
WI GREEN BAY	83	63	93	55	73	3	1.1	.3	.8	2.3	48	8.5	58	93	49	2	0	3	1
LACROSSE	88	65	102	54	77	3	1.5	.7	.8	5.2	86	11.3	69	97	45	3	0	4	1
MADISON	87	63	100	52	75	4	1.8	.9	1.2	4.1	71	11.2	68	92	44	3	0	2	2
MILWAUKEE	86	67	93	63	76	5	1.2	.4	1.2	1.9	34	12.3	72	86	44	2	0	1	1
WAUSAU	84	61	92	56	73	3	1.1	.3	.7	3.1	52	8.5	52	92	39	2	0	3	1
WY CASPER	92	56	100	51	74	3	T	-.3	T	.8	45	4.5	61	63	14	5	0	0	0
CHEYENNE	84	57	91	50	71	2	.6	-.1	.5	3.6	121	11.0	131	81	27	2	0	3	0
LANDER	91	60	98	53	75	5	.3	-.1	.2	.5	29	5.2	58	50	16	0	0	2	0
SHERIDAN	94	57	106	51	76	6	T	-.2	T	.6	21	7.2	73	72	21	5	0	1	0
PR SAN JUAN	91	77	91	72	84	2	.7	-.4	.6	3.3	46	27.5	114	89	63	5	0	4	1

Heating Degree Days (Base 65° F.)

June 1988

AL. Birmingham . . .	0	MD. Portland . . .	109	OK. Okla. City . . .	0
Mobile . . .	0	MD. Baltimore . . .	27	Tulsa . . .	0
Montgomery . . .	0	MA. Boston . . .	61	OR. Astoria . . .	273
AK. Anchorage . . .	285	Chatham . . .	129	Burns . . .	193
Barrow . . .	938	MI. Alpena . . .	112	Medford . . .	106
Fairbanks . . .	96	Detroit . . .	46	Pendleton . . .	126
Nome . . .	506	Flint . . .	82	Portland . . .	109
AZ. Flagstaff . . .	126	Grand Rapids . . .	60	Salem . . .	145
Phoenix . . .	0	Houghton Lake . . .	109	PA. Allentown . . .	52
Tucson . . .	0	Lansing . . .	74	Erie . . .	96
Winslow . . .	5	Marquette . . .	166	Harrisburg . . .	41
Yuma . . .	0	S. Ste. Marie . . .	197	Philadelphia . . .	32
AR. Fort Smith . . .	0	MN. Duluth . . .	146	Pittsburg . . .	64
Little Rock . . .	0	Internatl Falls . . .	53	Scranton . . .	91
CA. Bakersfield . . .	11	Minneapolis . . .	4	RI. Providence . . .	67
Eureka . . .	215	Rochester . . .	22	SC. Charleston . . .	2
Fresno . . .	12	St. Cloud . . .	23	Columbia . . .	1
Los Angeles . . .	61	MS. Jackson . . .	0	Greenville . . .	3
Redding . . .	44	Meridian . . .	0	SD. Aberdeen . . .	0
Stockton . . .		MO. Columbia . . .	2	Huron . . .	1
San Diego . . .	22	Kansas City . . .	0	Rapid City . . .	17
San Francisco . . .	78	St. Louis . . .	3	Sioux Falls . . .	1
CO. Denver . . .	14	Springfield . . .	2	TN. Chattanooga . . .	1
Pueblo . . .	8	MT. Billings . . .	14	Knoxville . . .	9
CO. Bridgeport . . .	45	Glasgow . . .	13	Memphis . . .	0
Hartford . . .	75	Great Falls . . .	65	Nashville . . .	2
DC. Washington . . .	25	Havre . . .	49	TX. Abilene . . .	0
FL. Apalachicola . . .	0	Helena . . .	63	Amarillo . . .	4
Jacksonville . . .	0	Kalispell . . .	123	Austin . . .	0
Key West . . .	0	Miles City . . .	12	Beaumont . . .	0
Miami . . .	0	Missoula . . .	118	Brownsville . . .	0
Orlando . . .	0	NE. Grand Island . . .	2	Corpus Christi . . .	0
W. Palm Beach . . .	0	Lincoln . . .	2	Del Rio . . .	0
Tallahassee . . .	0	Norfolk . . .	6	El Paso . . .	0
Tampa . . .	0	North Platte . . .	3	Fort Worth . . .	0
GA. Atlanta . . .	0	Omaha . . .	5	Galveston . . .	0
Augusta . . .	0	Valentine . . .	4	Houston . . .	0
Macon . . .	0	NV. Ely . . .	120	Lubbock . . .	0
Savannah . . .	0	Las Vegas . . .	0	Midland . . .	0
ID. Boise . . .	59	Reno . . .	88	San Angelo . . .	0
Lewiston . . .	87	Winnemucca . . .	94	San Antonio . . .	0
Pocatello . . .	38	NH. Concord . . .	137	Victoria . . .	0
IL. Chicago . . .	40	NJ. Atlantic City . . .	68	Waco . . .	0
Moline . . .	15	NM. Albuquerque . . .	2	Wichita Falls . . .	0
Peoria . . .	12	NY. Albany . . .	99	UT. Milford . . .	30
Rockford . . .	23	Bimhamton . . .	142	Salt Lake City . . .	3
Springfield . . .	11	Buffalo . . .	113	VT. Burlington . . .	135
IN. Evansville . . .	4	New York . . .	31	VA. Lynchburg . . .	37
Fort Wayne . . .	22	Rochester . . .	126	Norfolk . . .	15
Indianapolis . . .	15	Syracuse . . .	131	Richmond . . .	32
South Bend . . .	37	NC. Asheville . . .	31	Roanoke . . .	46
IA. Des Moines . . .	3	Charlotte . . .	6	WA. Quillayute . . .	312
Dubuque . . .	20	Greensboro . . .	23	Seattle-Tacoma . . .	165
Souix City . . .	6	Hatteras . . .	22	Spokane . . .	173
KS. Concordia . . .	0	Raleigh . . .	22	Walla Walla . . .	90
Dodge City . . .	0	Wilmington . . .	7	Yakima . . .	139
Goodland . . .	8	ND. Bismark . . .	16	WV Beckley . . .	84
Topeka . . .	5	Fargo . . .	8	Charleston . . .	38
Wichita . . .	0	Williston . . .	8	Huntington . . .	30
KY. Lexington . . .	18	OH. Akron-Canton . . .	67	WI. Green Bay . . .	74
Louisville . . .	7	Cincinnati . . .	22	Madison . . .	53
LA. Baton Rouge . . .	0	Cleveland . . .	60	Milwaukee . . .	55
Lake Charles . . .	0	Columbus . . .	49	WY Casper . . .	21
New Orleans . . .	0	Dayton . . .	35	Cheyenne . . .	42
Shreveport . . .	0	Toledo . . .	53	Lander . . .	15
ME. Caribou . . .	232	Youngstown . . .	91	Sheridan . . .	23

National Agricultural Summary

July 11 to 17, 1988

HIGHLIGHTS: Precipitation relieved some drought stress in the northern Corn Belt, central and southern Great Plains, Delta, Appalachian States, and Southeast. Crops showed some improvement but additional moisture is badly needed. Inadequate moisture and high temperatures continued plaguing crops in the central and eastern Corn Belt. Soil moisture showed some improvement but still remained mostly short. Despite the precipitation, farmers were able to work 5 to 6 days in most areas.

Winter wheat harvest climbed 7 percentage points ahead of the previous week to 82 percent (%) completion. Harvest was 10 points ahead of the 5-year average. Harvest was virtually finished from the central Great Plains southward and eastward. Spring wheat was 98% headed. Harvest was underway in Minnesota and Montana. Corn silking reached 46% completion, 11 points ahead of normal. Corn reached the dough stage in Illinois and began maturing in the Delta and Southeast. Soybean blooming was 13 points ahead of the 39% average. Twelve percent of the acreage was setting pods, 4 points above normal. Sorghum was 22% headed, slightly behind normal. Cotton squaring climbed 13 points ahead of the previous week and was 13 points ahead of the 75% average. Thirty-four percent of the acreage was setting bolls, compared with 46% in 1987 and 33% normally. Rice was 18% headed. Harvest was underway in Louisiana. Livestock was mostly fair. In Idaho, nearly one-third of the acreage turned color. Spring wheat harvest reached 10% completion in Minnesota, 5 times greater than in 1987 and 10 points ahead of normal. Montana's harvest was 5% finished.

SMALL GRAINS: Winter wheat was 82% harvested, compared with 75% in 1987 and 72% normally. Harvest climbed 7 points above the previous week but restricted mostly to the northern Great Plains, Rocky Mountains, and West Coast States. A few acres remained to be harvested in Nebraska and some Corn Belt States. Harvest was just beginning in Idaho, Washington, and Oregon.

Spring wheat was mostly poor except in Idaho where condition was mostly good. Heading was virtually finished in the 5 major producing States. Most of the wheat left to head was in Idaho and Montana.

CORN: In the 17 major producing States, corn was mostly poor. However, condition was mostly fair to good in the northern and central Great Plains because of precipitation. Crop condition continued worsening in the central and eastern Corn Belt with most areas receiving only a trace of moisture. Forty-six percent of the acreage reached the silking stage, lagging 19 points behind 1987 but 11 points ahead of normal. Corn reached the dough stage as far north as Illinois. Corn reaching maturity began spreading across the Southeast and Delta. Corn harvest was underway in Texas and Louisiana.

SOYBEANS: Despite precipitation, soybeans remained mostly fair to poor. The rain boosted soybeans in the central Great Plains and Southeast, where condition was mostly fair to good. Inadequate moisture and high temperature continued taking their toll in the central and eastern Corn Belt. Charcoal rot disease affected soybeans in Kansas. Spider mites caused considerable damage to soybeans in Ohio. In the 19 major producing States, soybeans bloomed 13 points ahead of normal at 52% completion. Pod formed on 12% of the

acreage, compared with 23% in 1987 and 8% normally. Pod formation was underway in all major producing States except Arkansas, Michigan, North Carolina, and South Carolina.

COTTON: In the Delta and Southeast, cotton responded well to moisture. Crop condition was mostly good to fair. Boll weevils and bollworms caused problems in Arkansas. The hot weather promoted cotton growth in Oklahoma. Cotton bolls opened rapidly at Coastal Bend and in the Rio Grande Valley where harvest was underway. In California, cotton was treated for lygus and mites. Producers thinned late planted fields. Warm, humid weather advanced cotton development in Arizona. Cotton squaring advanced 13 points ahead of the previous week and was 13 points ahead of the 75% average. Thirty-three percent of the acreage set bolls, 11 points behind 1987 but 2 points above average. Boll setting jumped 12 points ahead of the previous week.

SORGHUM: Sorghum was mostly fair to good and showed some improvement from the rain. Heading was 22% finished but lagged behind normal in most Delta and central Great Plains States. Sorghum heading was just beginning in the central and northern Great Plains. Chinch bugs caused some problems in Kansas. Sorghum turned color in Louisiana and Oklahoma. Sorghum harvest reached 13% completion in Texas.

OTHER CROPS: Rice was 18% headed, 2 points behind 1987 and normal. Heading had not begun in California but lagged behind normal in the other States. In Texas, some fields were drained in preparation for harvest. Harvest was underway in Louisiana.

Peanuts were mostly good to fair. Planting was virtually finished in Texas. Rain alleviated the need for irrigation. Pegging was slightly behind normal in Georgia. Alabama's peanuts were 83% pegged, 12 points ahead of normal.

Tobacco was fair to good in the Southeast. Tobacco harvest gained momentum in Florida but lagged 7 points behind normal in Georgia. Rain improved tobacco in Kentucky.

FRUITS AND NUTS: Rain virtually curtailed irrigation in Florida's citrus groves. Most trees showed new foliage. Valencia harvest neared completion. Table grape, nectarine, peach, pear, plum, and citrus harvests progressed well in California. Almonds split hulls and pistachios and walnuts sized. Clingstone peaches were harvested in New Jersey. South Carolina's peach harvest trailed 9 points behind normal.

VEGETABLES: Summer vegetable harvest was mostly finished in Florida. Tomato growers laid plastic. Land preparation continued in the Rio Grande Valley. California's vegetable harvest consisted mostly of broccoli, cauliflower, carrots, celery, melons, and onions.

PASTURES AND LIVESTOCK: Pastures were mostly poor. Pastures showed little improvement in most areas. Livestock was mostly fair. In Iowa, farmers encountered problems watering livestock as pond and creeks dried. Heat stress caused some sow and pig losses. Supplemental feeding and pasture rotation was underway in Kansas. Livestock was heat stressed with several fly problems. The heat and horn flies stressed livestock in Nebraska. Farmers began chopping green corn to feed livestock in Ohio. Small grains were grazed or cut for hay in South Dakota.

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: Hot, humid weather with showers, thunderstorms common; 1.00 to 3.00 in. rain most areas, except extreme south. Temperatures averaged 2 to 4° above normal north; near normal central, south.

Days suitable for fieldwork 4.8. Soil moisture 11% very short, 42% short, 45% adequate, 2% surplus. Showers brought some relief to drought conditions in south, central; more general rains needed to alleviate drought northern areas. Corn 93% silked, 95% 1987, 91% avg.; 61% dented, 54% 1987, 46% avg.; 32% mature, 33% 1987, 19% avg.; 18% very poor, 42% poor, 38% fair, 2% good. Sorghum 98% planted, 96% 1987, 98% avg.; 7% very poor, 19% poor, 43% fair, 31% good. Cotton 98% squaring, 97% 1987, 93% avg.; 62% setting bolls, 68% 1987, 47% avg.; 2% very poor, 13% poor, 44% fair, 41% good. Soybeans 99% planted, 99% 1987, 99% avg.; 22% blooming, 29% 1987, 25% avg.; 10% setting pods, 8% 1987, 6% avg.; 5% very poor, 18% poor, 50% fair, 27% good. Peanuts 83% pegging, 74% 1987, 71% avg.; 7% poor, 20% fair, 73% good. Livestock mostly fair to good. Pastures 16% very poor, 31% poor, 31% fair, 22% good. Pasture feed supplies 20% very short, 60% short, 20% adequate. Hay and roughage supplies 37% very short, 52% short, 11% adequate. Primary activities: Harvesting vegetables, fruits, potatoes, catfish; controlling weeds, insects in row crops; applying fungicides to peanuts; managing fishponds; general care of livestock, poultry.

ALASKA: Seasonal, localized showers, some sunshine and wind. Temperature highs ranged from 2° below normal to 10° warmer than normal. Lows ranged from 2 to 9° warmer than normal. Seasonal precipitation totals ranged from 1.46 in. drier than normal to 4.06 in. wetter than normal.

Days suitable for fieldwork, 4.0. Topsoil moisture supplies 36% short, 63% adequate, 1% surplus. Subsoil moisture supplies 31% short, 38% adequate, 1% surplus. Nearly 80% of first crop hay has been made compared with just over 70% 1987. Small grains for grain mostly headed; 15% oats, nearly 65% of the barley reaching early dough stage of development compared with 50% early dough 1987. Heights of small gains averaged 28 in., 8 inches above 1987. Commercial potato heights averaged 15 in. ahead 1987. Vegetable harvest continued. Commercial cabbage, zucchini cutting earliest on record. Prospects for all crops mainly average or better.

ARIZONA: Thunderstorms, 10th. Substantial decrease in storms 11th. Activity limited northeast quarter; Canyon De Chelly reported 2.11 ins. in 1 hr. Sunny, hot, dry conditions 12th to 16th; monsoon activity limited Mogollon Rim, White Mountains, southeast. Rainfall trace to 0.50 in. eastern two-thirds; none extreme west. Temperatures varied from 1° below to 3° above normal.

Unusually warm, humid weather helped cotton advance; 99% squaring, 75% setting bolls. Irrigation, cultivation most of State; spraying pink boll worms, lay-by herbicide applications continued. Central insect problems greater than other areas. Statewide, crop rated 14% fair, 72% good, 14% excellent. Alfalfa rated good to excellent, except south central rated fair. Harvest moderate to active most areas; growers on 5th cuttings west. Favorable curing conditions, good regrowth after cuttings west. Limited rain damage southeast. Hay, roughage supplies 2% short, 98% adequate. Small grain harvest central; 99%

complete statewide. Harvested fields prepared for planting other crops west. Corn silage central, south central harvested. Fields irrigated southeast; fields tasseling. Fruit, vegetable season approaching rapid close west; only watermelons harvested, shipped. Cantaloups, honeydews, mixed melons, grapes harvested, shipped central. Grapefruit harvest continued on small scale. Dry onion harvest completed east; watermelon growers gear up for harvest.

ARKANSAS: Temperatures above normal as rains fell statewide with moderate to locally heavy amounts. Temperature extremes 66°; 102°. Rainfall totals none to 4.82 in.

Days suitable for fieldwork 5.0. Soil moisture supplies 49% short, 44% adequate, 7% surplus. Soybean planting continued. Recent rains stimulated crop growth as well as problems with insects, diseases. Boll weevil, bollworm in cotton; sheath blight, blast in rice. Corn 22% poor, 23% fair, 54% good, 1% excellent. Tomato harvest almost complete. Peach quality and quantity good. Livestock fair, marketings slowed down. Hay supplies short to very short, pastures mostly poor. Stockwater supplies adequate to short.

CALIFORNIA: Very warm weekend temperatures cooled through week resulting in near average week. No rain statewide except a trace on north coast.

Warm open weather, normal progress field activities. Cotton treated lygus, mites. Thinning late fields. Small grain harvest near end all but late, high elevation areas. Seeding second crop sorghum, corn. Early corn tasseling. Seeding second crop dry beans. Bloom showing early single crop. Early rice fields heading. Weed problems bad some fields. Wild rice harvest underway. Sunflowers blooming. Sugarbeets treated mildew. Hoeing, thinning new fields. Hay crops good progress. Irrigation, weed control active. Gravenstein apple harvest began Sebastopol area. Table grape, nectarine, peach, pear, plum, and citrus harvests progressed. Almond hulls began splitting. Pistachios, walnuts sized. Broccoli, cauliflower light Salinas, Santa Maria. Carrot digging continued Westside. Celery moderate to light Salinas, Santa Maria. Lettuce moderate Salinas. Melon harvest began Cutler-Orosi, still three-four weeks behind Sacramento Valley, continued Westside. Cantaloup volume up significantly Westside. Onion harvest continued Riverside. Potatoes closing rows Tulelake, Potatoes harvested Riverside. Strawberry supplies light, variable quality, central coast, seasonally diminishing south coast. Processing tomatoes harvested Cutler-Orosi, Riverside, Sacramento Valley, Westside. Fresh market tomatoes planted and harvested Merced-Atwater. Livestock fair to good condition, Statewide. Irrigated pastures northern counties good shape. Drought conditions fire danger evident ranges, non-irrigated pastures valley, foothill areas. Livestock movement slowed to seasonal standstill. Supplemental feeding continued. Water supplies low or nearly gone most areas.

COLORADO: Mostly dry conditions prevailed through much of the state with occasional scattered thunderstorms. Precipitation ranges from 0.01 to 0.62 in. Avg. temp. 1° to 2° above normal.

Days suitable for fieldwork, 6.0. Soil moisture 7% very short, 62% short, 29% adequate, and 2%

surplus. Hay and roughage supplies 15% short and 85% adequate. Barley 22% harvested; oats, spring wheat just underway. Livestock good to excellent, pastures fair to good.

FLORIDA: Welcome rainfall statewide especially central Florida. Increased rainfall most areas. Typical hot, humid temperatures. Near record highs midweek.

Soil moisture improved but continued mostly short northern Peninsula, Panhandle. Peanuts, soybeans, cotton generally benefited. Haymaking active; tobacco harvest gaining. Sugarcane good growth. Pasture mostly poor to fair Panhandle, upper Peninsula; fair to good central, southern Peninsula. Hay and roughage supplies 2% very short, 43% short, 55% adequate. Cattle mostly fair northern areas; good in south. Rain most citrus areas, very little irrigation, water reservoirs starting to refill. New foliage showing most trees, Valencia harvest almost complete, grapefruit harvest complete. Caretakers very busy with summer care programs. Scattered showers, hot days, warm nights vegetable areas. First significant rains past month west coast. Zellwood sweet corn harvest done. Tomato growers laid plastic.

GEORGIA: Warm week, light rain many locations. Weekly totals under 0.50 in., 1.00 to 2.00 in. local areas north and southwest. Southeast under 0.50 in. Temperatures 2 to 5° above normal. Extreme highs 100 or more north and east, upper 90s southwest. Lows mostly 70s.

Days suitable for fieldwork 5.4. Soil moisture 25% very short, 48% short, 26% adequate, 1% surplus. Corn development increased, 20% mature. Cotton 62% setting bolls, above avg., moisture spotty, insects increased. Peanuts 2% poor, 33% fair, 55% good, 10% excellent; 81% pegging, 84% 1987, 85% avg. Tobacco 23% harvested, 25% 1987, 30% avg. Apples fair to good, harvest underway. Peach harvest over 75% complete. Pastures and hay some improvement, poor to fair. Cattle, and hogs fair to good.

HAWAII: Skies mostly sunny after few morning showers. Gusty trade winds early in week added to dry conditions. Weakened trades later week helped foster 90° temperatures. Rainfall none to 2.10 inches. Trade winds 5 to 25 mph.

Days suitable for fieldwork 7.0. Irrigation and pesticide spraying heavy on all crops. Chinese cabbage production moderate. Head cabbage output moderate. Smaller, tighter heads due to warm weather. Cucumber production heavy. Papaya harvesting very active, good quality.

IDAHO: Cool, wet in north; rest of State below normal precipitation; above normal temperatures.

Days suitable for fieldwork 6.0. Soil moisture 19% very short, 42% short, 39% adequate. Irrigation water supplies fair, good. Potatoes good, 56% closing middles. Winter wheat good; 80% turning color, some harvesting underway. Spring wheat fair to good; 96% headed, 100% 1987, 94% avg.; over 30% turning color. Spring barley nearly all headed, one-third turning color. Cherry harvest near completion. First cutting alfalfa near completion. Second cutting alfalfa 21% harvested, 12% 1987. Mint harvest continued. Range, pasture fair. Livestock good. Hay, roughage supplies 4% very short, 11% short, 78% adequate, 7% surplus.

ILLINOIS: Temperatures averaged 3 to 5° above normal south, 5 to 10° above normal north and central.

Precipitation averaged 1.00 to 3.00 in. south except Iuka had 5.66 in., 1.00 in. or greater extreme north, parts of west and central less than 0.10 in.

Days suitable for fieldwork 6.3. Soil moisture 99% short, 1% adequate. Corn dough 3%, 26% 1987, 10% avg. Oats turning yellow 98%, 100% 1987, 91% avg.; ripe 78%, 95% 1987, 67% avg.; harvested for grain 50%, 61% 1987, 37% avg.; 6% very poor, 18% poor, 71% fair, 5% good. Alfalfa 2nd crop cut 81%, 85% 1987, 70% avg.; 16% very poor, 37% poor, 42% fair, 5% good. Hay and roughage supplies 21% very short, 60% short, 19% adequate. Pasture 61% very poor, 28% poor, 11% fair.

INDIANA: Temperatures 4 to 7° above normal. Lows mid 60s to low 70s, highs 90 to 103°. Precipitation varied. Totals less than 0.25 in. to 2.00 in.

Days suitable for fieldwork 6.1. Topsoil moisture 95% short, 5% adequate. Subsoil moisture 99% short, 1% adequate. Corn, soybeans, pasture forage mostly poor to very poor. Corn 54 in. high, 84 in. 1987, 60 in. avg. Soybeans 16 in. high, 28 in. 1987, 19 in. avg. Oats 52% combined, 67% 1987, 35% avg. Alfalfa 82% cut twice, 65% 1987, 63% avg. Pastures 2% fair, 25% poor, 73% very poor. Livestock water supply 81% adequate, 19% short. Hay, roughage for feeding season 14% adequate, 58% short, 28% very short. A few areas received rain, slight improvement to crops.

IOWA: Temperatures 3° above normal west to 8° above normal southeast. Extremes: 52° to 103°. Precipitation averaged 1.00 in.; extreme none to 6.50 in.

Days suitable for fieldwork 5.6. Topsoil moisture 85% short, 15% adequate; subsoil moisture 93% short, 7% adequate. Oats 72% harvested, 51% 1987, 28% avg. Winter wheat 99% harvested, 75% 1987, 60% avg. Hay 31% very poor, 43% poor, 25% fair, 1% good. Second crop alfalfa 65% harvested, 61% 1987, 51% avg. Second crop clover 22% harvested, 30% 1987, 22% avg. Hay being fed to supplement pastures 2% none, 18% light, 45% moderate, 35% heavy. Availability of hay 7% very short, 38% short, 50% adequate, 5% surplus. Corn tasseled 80%, 89% 1987, 47% avg. Pastures 62% very poor, 29% poor, 7% fair, 2% good. Livestock mostly good. Watering of livestock becoming serious problem as ponds, creeks drying up. Some sow, pig losses from heat stress.

KANSAS: Temperatures averaged 81° to 83° west, 84° central, 82 to 84° east; 3 to 5° above normal. Significant rainfall first and last of week, most in eastern half. End of week rain prompted flash flood watch south central, southeast. Precipitation averaged 0.50 in. or less west, 0.50 to 1.00 in. central, 1.00 east.

Days suitable for fieldwork 6.0. Topsoil moisture 67% short, 31% adequate, 2% surplus. Subsoil moisture 76% short, 24% adequate. Rain brought temporary relief to drought stressed crops in many areas. More is needed to prevent significant yield loss. Irrigated corn being watered fast as possible, some problems keeping up with water demand. European, southwestern corn borer infestations present. Sorghum heading started east. Chinch bugs present most areas, ranging light to severe. Soybeans affected by charcoal rot due to dry June weather. Range, pastures short to adequate, some areas very short. Hay and roughage supplies 4% very short, 56% short, 40% adequate. Cattle moving to market, offset high feed costs. Supplemental feeding, pasture rotation underway. Cattle heat stressed, several fly problems. Third cutting alfalfa little progress, regrowth slow most areas.

KENTUCKY: Hot humid weather continued with high temperatures averaging 90s. Readings at most locations rising near or above 100°. Minimum temperatures averaged lower to mid 70s. Rain widespread over State first of week with amounts

averaging 1.00 to 2.00 in. Scattered showers also occurred on 17th.

Days suitable for fieldwork 3.8. Soil moisture 50% very short, 42% short, 8% adequate. Stock water 25% very short, 58% short, and 17% adequate. Some farmers continued to haul water, feed supplies. Corn very poor to poor. Soybeans, tobacco received a boost from rain. Tobacco 14% very poor, 33% poor, 50% fair, 3% good. Hay 65% very poor, 30% poor, 5% fair. Pastures 76% very poor, 23% poor, 1% fair. Hay roughage supplies 57% very short, 40% short, 3% adequate.

LOUISIANA: Temperatures normal to 2° above normal. Temperature extremes 68°; 99°. Rainfall averaged 0.05 to 1.20 in.

Days suitable for fieldwork 4.8. Soil moisture 11% very short, 25% short, 56% adequate, 8% surplus. Corn fair; 88% dough stage, 18% mature, 1% harvested. Rice 5% ripe, 1% harvested. Sheath blight problem southwest. Sorghum 8% turning color. Soybeans 98% planted, 99% avg.; 93% emerged, 98% avg. Sweetpotatoes fair to good; 99% planted. Hay first cutting 91% complete. Hay supplies 36% very short, 34% short, 30% adequate. 84% of livestock feed obtained from pastures. Peaches fair to good; 75% harvested. Sugarcane good. Livestock, pecans fair to good. Pastures, vegetables fair. Main activities: Fertilizing rice, pastures; harvesting hay, vegetables, peaches; planting soybeans, sweetpotatoes; cultivating, spraying soybeans; feeding livestock.

MARYLAND & DELAWARE: **Maryland:** Precipitation averaged 0.67 in. Rain from thunderstorms varied significantly. Average temperature 77.8°, normal 75.7°. Temperature extremes 102°; 55°.

Days suitable for fieldwork 6.0. Topsoil moisture 50% very short, 50% short. Subsoil moisture 60% very short, 40% short. Pasture 90% poor, 10% fair. Hay supplies 40% short, 60% adequate. Corn 80% poor, 20% fair. Corn silked 30%, 40% avg. Some corn silked premature. Soybeans 20% poor, 80% fair. Soybeans planted 85%, 97% avg. Moisture for further soybean planting sufficient some areas. Tobacco 30% poor, 70% fair. Wheat, barley, rye good. Wheat harvested 97%, 90% 1987. Barley harvested 100%, 100% avg. Oats 50% fair, 50% good. Oats 45% harvested, 50% avg. Alfalfa second cutting 90%, 80% avg. Other hay second cutting 60%, 60% avg. Apples 40% fair, 60% good. Peaches 70% fair, 30% good. Peaches harvested 5%, 5% avg.

Delaware: Precipitation averaged 1.99 in. Average temperature 81.2°, normal 76.0°.

Days suitable for fieldwork 6.6. Topsoil moisture very short. Subsoil moisture 80% very short, 20% short. Pastures poor. Hay supplies 20% short, 80% adequate. Corn 80% poor, 20% fair. Corn silked 20%, 55% avg. Soybeans 30% poor, 70% fair. Soybeans planted 80%, 98% avg. Moisture for further soybean planting sufficient some areas. Wheat harvested 100%, 95% avg. Barley harvested 100%, 100% avg. Alfalfa second cutting 100%, 90% avg. Apples, peaches, 20% fair, 80% good.

MICHIGAN: Temperatures ranged 1 below to 7° above normal. Temperature extremes 43°; 102°. Precipitation ranged from 0.04 to 2.80 in. across State.

Days suitable for fieldwork 6.7. Soil moisture 100% short. Corn 10% silked, 55% 1987, 15% avg.; 30% very poor, 35% poor, 25% fair, 9% good, 1% excellent. Soybeans 20% bloomed, 50% 1987, 20% avg.; 20% very poor, 30% poor, 35% fair, 14% good, 1% excellent. Wheat 80% harvested, 70% 1987, 25% avg. Major activities: Wheat harvest, straw baling, cutting hay and cherry picking.

MINNESOTA: Temperatures averaged 4 to 5° above normal. Temperature extremes 43°; 103°.

Precipitation averaged 0.26 to 1.01 in. Greatest weekly total 1.49 in.

Days suitable for fieldwork 6.0. Topsoil moisture 56% very short, 38% short, 6% adequate. Spring Wheat 73% turning ripe, 63% 1987, 31% avg., 10% combined, 2% 1987, none avg. Oats 97% turning ripe, 91% 1987, 52% avg., 38% combined, 18% 1987, 4% avg. Barley 87% turning ripe, 74% 1987, 48% avg., 17% combined, 6% 1987, 2% avg. Corn 57 in. averaged height, 68 in. 1987, 52 in. avg., 74% tasseling, 85% 1987, 29% avg.; 3% in milk, 8% 1987, 2% avg. Soybeans 22 in. averaged height, 25 in. 1987, 17 in. avg.; 79% blooming, 69% 1987, 39% avg.; 30% setting pods, 29% 1987, 6% avg. Winter Wheat 68% harvested 29% 1987, 7% avg. Rye 74% harvested 34% 1987, 9% avg. Soybeans 9% very poor, 16% poor, 57% fair, 18% good. Field Corn 23% very poor, 37% poor, 35% fair, 5% good. Spring Wheat 33% very poor, 47% poor, 12% fair, 8% good. Hay supplies for the remainder of the feeding season 37% very short, 52% short, 10% adequate, 1% surplus. Livestock feed now obtained from pastures 27%.

MISSISSIPPI: Hot, humid weather with measurable rain across State. Extreme temperatures 65°; 101°. Weekly rainfall more than 1.00 in. most places.

Days suitable for fieldwork 4.8, 6.2 1987, 5.6 avg. Soil moisture 10% very short, 45% short, 40% adequate, 5% excessive. Corn fair; 85% silking, 92% 1987, 86% avg.; 4% mature, 3% 1987. Sorghum fair; 40% heading, 53% 1987, 43% avg. Cotton fair; 93% squaring, 100% 1987, 96% avg.; 69% setting bolls, 70% 1987, 45% avg. Rice fair; 9% heading, 11% 1987, 16% avg. Soybeans fair to poor; 94% planted, 100% 1987, 98% avg.; 15% blooming, 25% 1987, 22% avg. Peaches 59% harvested, 91% 1987, 69% avg. Hay 55% harvested, 56% 1987, 55% avg. Pasture fair to poor. Livestock mostly fair. Continued rains improved pasture, corn, soybeans, sorghum. Activities: late soybean planting, finishing cotton cultivation. Hay and roughage supply 35% very short, 65% short.

MISSOURI: Temperatures averaged 1° above normal southeast to 6° above normal northeast, 100° common. Two to 4.00 in. rain southeast, over over 1.00 in. localized areas southwest and central, less than 0.50 in. northwest.

Days suitable for fieldwork 5.9. Topsoil moisture supply 82% short, 18% adequate. Crop conditions southeast, west-central improved significantly. Over half corn north central, northeast very poor condition, more acres than normal expected for silage. Alfalfa 2nd cutting 90%, 90% last year, 86% avg. Supply of hay, roughage 38% very short, 58% short, 8% adequate. Stockwater supply 18% critically short, 89% short, 15% adequate. Pasture condition 57% very poor, 31% poor, 12% fair, poorest northwest, north-central, northeast, east-central areas.

MONTANA: Temperatures little below normal west, normal to slightly above normal east. Few thunderstorms west, northeast.

Days suitable for fieldwork 6.0. Topsoil moisture 69% short, 31% adequate. Subsoil moisture 85% short, 15% adequate. Winter wheat 26% very poor, 26% poor, 34% fair, 13% good, 1% excellent. Barley 31% very poor, 28% poor, 22% fair, 18% good, 1% excellent. Oats 40% very poor, 26% poor, 20% fair, 13% good, 1% excellent. Range, pasture feed 41% very poor, 33% poor, 15% fair, 10% good, 1% excellent. Spring wheat harvested 5%, none 1987, none avg. Barley 91% headed, 94% 1987, 88% avg. Barley harvested 3%, none 1987, none avg. Oats 93% headed, 94% 1987, 86% avg. Hay and roughage supplies 25% very short, 31% short, 42% adequate, 2% surplus. First cutting alfalfa hay 90% harvested, 100% 1987, 87% avg. Other hay 61% harvested, 64% 1987, 57% avg. Second cutting alfalfa hay 12% harvested, 6% 1987, 1% avg.

NEBRASKA: Showers beginning, end of week with midweek hot, dry. Some severe weather central and east on 15th; central had very severe winds, hail. Temperatures ranged from normal to 4° above normal. Extremes: 49°; 104°.

Days suitable for fieldwork 5.3. Topsoil moisture 53% short, 47% adequate. Subsoil moisture 71% short, 29% adequate. Wheat ripe 100%, 97% 1987, 87% avg. Alfalfa hay 1% very poor, 25% poor, 50% fair, 22% good, 2% excellent. Alfalfa 2nd cutting 80% complete, 73% 1987, 58% avg. Oats harvested 80%, 54% 1987, 45% avg. Pasture, range feeds short to adequate. Hay, roughage supplies short to adequate. Livestock being stressed due to heat, horn flies.

NEVADA: Unseasonably warm, dry conditions continued. No precipitation entire period. Low pressure system early produced afternoon winds, no rain. Temperatures as much as 7° above normal. Extremes 33°; 115°.

Potatoes, other row crops showed good growth due high night temperatures most areas. Ideal weather small grain, hay harvests. Ranges, pastures continued to deteriorate. Hay, roughage supplies 39% short, 46% adequate, 15% surplus.

NEW ENGLAND: Precipitation averaged 0.50 to 1.00 in. Maine, 1.00 to 2.00 remainder. Average temperatures from upper 60s north to 80° south, eastern coastal areas. Temperatures 3 to 5° above normal.

Days suitable for fieldwork 6.0. Fieldwork 1.0 days ahead. Soil moisture 13% very short; 48% short; 39% adequate. Grazing availability 11% very short; 68% short; 21% adequate. Hay and roughage supplies 7% very short, 53% short 40% adequate. Percent of feed now being obtained from pasture 32%. Maine potatoes good. Rhode Island potato condition good to excellent. Connecticut River Valley potato fair to good. Field corn fair to good. Sweet corn fair to good. Outdoor Tobacco fair; shade tobacco condition fair to good. First crop hay 97% cut, 92% 1987, 87% avg; good to excellent. Second crop hay 15% cut, 25% 1987, 20% avg; fair. Apple set average; apple drop average; scab infection light to average. Blueberry set average to heavy. Strawberries 98% harvested. Major farm activities: Haying, harvesting vegetables and berries, irrigating.

NEW JERSEY: Temperatures averaged much above normal. Extremes 59°; 104°. Rainfall averaged 1.44 in. north, 0.88 in. central, 0.81 in. south. Heaviest 24-hour total 1.47 in. on 16th, 17th. Estimated soil moisture percent field capacity averaged 35% north, south; 27% central. Four inch soil temperatures averaged 79° entire state.

Scattered weekend showers beneficial but good, soaking rain needed. Extremely hot, windy weather continued. Quality, and yields reduced many crops. Harvest summer vegetables active. Blueberry harvest past peak. Clingstone peach harvest active. Raspberry, blackberry picking continued. Barley combining about complete. Wheat harvest active. Early field corn tasseling on very short stalks. Early soybeans in bloom. Hay fields, pastures slowly responding to showers. Hay and roughage supplies 25% short, 75% adequate.

NEW MEXICO: Temperatures ranged from 42° Chama to 102° Carlsbad, Roswell. Showers, thundershowers heaviest over mountains, eastern locations.

Days suitable for fieldwork 5.7. Soil moisture 14% short, 79% adequate, 7% surplus. Wheat 94% harvested; slowed by rainfall, wet fields. Cotton 78% squaring; 35% setting bolls; condition 11% poor, 56% fair, 33% good. Onions 17% fair, 83% good; shipments steady. Cattle 36% fair, 43% good, 21% excellent. Sheep 25% fair, 50% good, 25% excellent. Range continued to improve to 36% fair,

43% good, 21% excellent. Hay and roughage stocks continue adequate statewide; few indications of shortages in local areas.

NEW YORK: Temperatures averaged 5 to 15° above normal. Highs in 80s, 90s everyday; lows in the 50s, 60s. Extremes: 45° at Newcomb; 100° at Battenville, Glens Falls. Binghamton reached 98° on 16th, highest temperature of record for that location. Precipitation above normal north and west, below normal elsewhere. In below normal areas rainfall averaged 0.50 in. or less, other areas 0.75 to 1.50 in.

Days suitable for fieldwork 6.7. Soil moisture very short to short. Pastures mostly poor. Hay mostly poor to fair. Dryness limiting regrowth. Second cutting alfalfa 24% complete, 13% 1987. Clover-timothy 86% harvested, 78% 1987, 79% average. Corn fair. Hay and roughage supplies 18% very short, 41% short, 41% adequate. Western sweet cherry harvest 80% complete. Tart cherry harvest underway. Cabbage transplanting finished. Early planted snap beans blossoming on very small plants. Early processing sweet corn silking, plant size small. Processing pea harvest continued active. Processing tomatoes in blossom. Early crop cabbage harvest started. Onion development behind normal due to dryness.

NORTH CAROLINA: Temperatures averaged 2° to 4° above normal statewide. Temperature extremes 53°; 99°. Precipitation ranged 0.05 to 2.85 in.

Days suitable for fieldwork 5.4. Soil moisture 13% very short, 59% short, 28% adequate. Pasture 6% very poor, 30% poor, 43% fair, 20% good, 1% excellent. Tobacco 1% very poor, 6% poor, 39% fair, 54% good. Peanuts 4% poor, 26% fair, 66% good, 4% excellent. Sweet potatoes 5% poor, 27% fair, 65% good, 3% excellent. Irish potatoes 85% harvested, 81% 1987, 80% avg.; 11% poor, 41% fair, 37% good, 11% excellent. Peaches 48% harvested, 51% 1987, 62% avg.; 39% fair, 51% good, 10% excellent. Truck crops 10% poor, 38% fair, 50% good, 2% excellent. Hay and roughage supplies 3% very short, 33% short, 63% adequate, 1% surplus. Hay 3% very poor, 36% poor, 39% fair, 22% good. Livestock feed obtained from pasture 66%. Apples 4% poor, 48% fair, 48% good. Major farm activities: Tobacco topping, suckering, harvesting, irrigation; cultivating soybeans, cotton, peanuts; harvest peaches, truck crops, small grains, hay, Irish potatoes; planting soybeans; apply insecticides; shearing Christmas trees; applying land plaster to peanuts; tending livestock, and general farm maintenance..0P

NORTH DAKOTA: Temperatures averaged 2° below normal northeast to 4° above normal southwest. Extremes: 42°; 104°. Precipitation midweek; average amounts ranged 0.02 in. south central to 1.12 in. southeast.

Days suitable for fieldwork 6.5. Topsoil 39% very short, 50% short, 11% adequate. Subsoil 57% very short, 37% short, 6% adequate. Large hail in isolated areas of the south central and southeast caused damage to crops. Spring wheat 32% very poor, 42% poor, 23% fair, 3% good; durum 31%, 46%, 23%; winter wheat 31%, 52%, 16%, 1%; oats 50%, 40%, 10%; barley 35%, 36%, 29%; corn 22%, 38%, 25%, 15%; flax 22%, 30%, 43%, 5%; soybeans 1%, 24%, 29%, 46%; sunflower 11%, 19%, 39%, 30%; dry edible beans 1%, 7%, 20%, 72%; potatoes none, none, 74%, 26%. Harvest of small grains underway. Spring wheat 58%, turning to ripe or beyond, 24% 1987, 12% avg.; durum 35%, 14% 1987, 6% avg.; oats 67%, 36% 1987, 19% avg.; barley 68%, 50% 1987, 29% avg.; winter wheat 42% combined, 11% 1987, 3% avg.; potatoes 64% bloom or beyond, 82% 1987, 60% avg.; flax 61%, 52% 1987, 51% avg.; dry beans 69%, 42% 1987, 38% avg.; soybeans 78%, 40% 1987, 35% avg.; sunflower 10%, 3% 1987, 1% avg. Hay and roughage supplies 50% very

short, 40% short, 10% adequate. Pastures improved slightly, 82% very poor to poor, 18% fair; furnished 77% roughage requirements.

OHIO: Average high temperatures low 90s exceeded normal by 7° to 10°. Many stations over 100°. Average low temperatures upper 60s to 70s, 7° above normal. Precipitation scarce with only one station reporting more than 0.50 in.

Days suitable for fieldwork 6.8. Soil moisture 99% short, 1% adequate. All crops deteriorated rapidly. Wheat harvest virtually completed. Baling of straw and hay, harvesting of oats underway. Corn rated very poor to poor. Soybeans considerable spider mite damage; beans poor to fair. Hay yields much lower than normal; pasture dried up. Hay, pasture very poor. Hay and roughage supplies 47% very short, 41% short, 12% adequate. Many farmers began green chopping corn to feed to livestock.

OKLAHOMA: Temperatures averaged 2° above normal north central to 3° above normal northeast. Precipitation averaged none west central to 1.08 in. southeast.

Days suitable for fieldwork 6.0. Topsoil moisture 70% short, 30% adequate. Subsoil moisture 50% short, 50% adequate. Wheat ground preparation increased with rain. Cotton 2% fair, 98% good; 70% squaring, 45% 1987, 25% avg; 30% setting bolls, 10% 1987, 3% avg. Hot weather promoted growth. Sorghum 1% poor, 29% fair, 70% good; 30% heading, 15% 1987, 10% avg.; 5% coloring, 2% 1987, 3% avg. Peanuts 30% pegging, 40% 1987, 40% avg. Soybeans 5% flowering, 40% 1987, 10% avg. Corn 70% tasseling, 90% 1987, 70% avg. Pasture fair. Supplemental feed comprised 20% of livestock feed. Hay, forage supplies 15% very short, 45% short, 38% adequate, 2% surplus. Cattle good-to-fair. Marketings average, prices up from previous week.

OREGON: Temperatures slightly above normal along coast. Most other locations 2 to 3° below normal. Daytime highs 90 to 100° extreme east. Most of coast received 0.33 in. rain, some coastal locales received 1.50 in. Northern Willamette Valley, north Cascades, parts of extreme east 0.25 to 0.50 in. of rain.

Soil moisture 36% short, 64% adequate. Winter wheat crop 15% fair, 62% good, 23% excellent. Hay, roughage supplies 24% short, 76% adequate. Barley harvested 15%, 22% 1987, 20% avg. Grass seed harvest underway, field began Willamette Valley. Crimson clover harvest, haying continued as weather permitted upper Willamette Valley. Haying in full swing northeast. Vegetable growth slowed coastal areas, upper Willamette Valley. Potato harvest began on early fields Hermiston-Boardman area. Early onions harvested Malheur County. Harvesting broccoli, peas, squash west. Strawberries for processing harvest over Willamette Valley. Cherry harvest continued. Raspberry, blackberry, Boysenberry, loganberry, blueberry harvests continued upper Willamette Valley. Livestock good to excellent. Range, pasture fair to good. South, east areas low on livestock water supply.

PENNSYLVANIA: Hot, mostly dry conditions. Scattered showers, thunderstorms produced spotty heavy rains, mostly across northern half of state. Average temperature 79°, 10° above normal. Temperature extremes 50°; 105°. Average precipitation 0.49 in., 0.39 in. below normal.

Days suitable for fieldwork 7.0. Soil moisture 100% short. Corn 1% silk, 23% 1987, 10% avg. Avg. corn height 24 in., 56 in. 1987, 43 in. avg. Corn 26% very poor, 39% poor, 28% fair, 6% good, 1% excellent. Soybeans 98% planted, 100% 1987, 100% avg. Soybeans 19% very poor, 33% poor, 35% fair, 13% good. Barley 8% heading or headed, 3% 1987; 15% turning yellow, 9% 1987; 11% ripe, 12% 1987;

66% harvested, 76% 1987. Wheat 3% heading or headed, 3% 1987; 22% turning yellow, 20% 1987; 36% ripe, 43% 1987; 39% harvested, 34% 1987. Wheat crop condition 1% very poor, 9% poor, 28% fair, 45% good, 17% excellent. Oats 30% heading or headed, 30% 1987; 40% turning yellow, 38% 1987; 24% ripe, 23% 1987; 6% harvested, 9% 1987. Oats 7% very poor, 17% poor, 40% fair, 28% good, 8% excellent. First cutting alfalfa 100% complete, 99% 1987. Second cutting alfalfa 58% complete, 44% 1987. First cutting clover-timothy 98% complete, 92% 1987. Hay stands mostly fair to good. Feed from pastures below average. Hay and roughage supplies 33% very short, 55% short, 12% adequate. 23% of livestock feed now obtained from pastures. Activities: Planting soybeans; harvesting oats, barley, wheat, hay, haylage, vegetables; controlling weeds; caring for livestock; maintaining machinery.

PUERTO RICO: Island average rainfall of 0.97 in., 0.23 in. below normal. Highest weekly total rainfall 3.18 in San Loranzo followed by 2.80 in. Roosevelt Roads N.S., 2.36 in. at Canovanas. Highest 24-hour total 2.54 in. Roosevelt Roads N.S. Accumulated total rainfall since January 1 to July 15 27.91 in., 3% above normal. San Juan WSFO mean temperature 84°, 2° above normal. Total rainfall 0.99 in., 0.6 in. above normal. Divisional temperature averaged about 81 to 83° on coasts, 80° interior with mean station temperature ranging from 77° Cayey to 86° Roosevelt Roads. Highest maximum temperature 93° at Ponce 4E, lowest minimum temperature 65° Vieques, Arecibo.

SOUTH CAROLINA: High temperatures in the low 100s. Rainfall ranged from 3.50 in. to less than 0.10.

Days suitable for fieldwork 5.8. Soil moisture 14% very short, 77% short, 9% adequate. Cotton 72% squaring, 87% 1987, 90% avg; 25% setting bolls, 53% 1987, 67% avg; 11% poor, 82% fair, 7% good. Soybeans 99% planted, 100% 1987, 100% avg; 4% blooming, 9% 1987, 9% avg; 19% poor, 74% fair, 7% good. Tobacco fair to good; 89% topped, 86% 1987, 85% avg; 14% harvested, 10% 1987, 13% avg. Peanuts fair to good. Sorghum fair; 90% planted, 93% 1987, 93% avg. Peaches fair to good; 50% harvested, 53% 1987, 59% avg. Pastures fair. Livestock fair to good. Hay and roughage supplies 23% very short, 62% short, 15% adequate.

SOUTH DAKOTA: Average temperatures 1° to 5° above normal. Extremes 48°; 106°. Best rainfall in southwest, south central, northeast but was light and scattered.

Days suitable for fieldwork 6.0. Topsoil moisture worse; 42% critically short, 47% short, 11% adequate. Hay and roughage supplies; 17% very short, 56% short, 27% adequate. Many small grain crops being grazed or cut for hay. Some even too dry to cut for hay.

TENNESSEE: Weak high pressure dominated week. Heavy rains, mild temperatures first of week. Hot, dry latter half of week. Temperatures averaged above normal, highs mostly 95 to 100°. Average rainfall ranged 1.50 in. east to 4.00 in. west.

Days suitable for fieldwork 3.7. Soil moisture 22% very short, 36% short, 39% adequate, 3% surplus. Corn 64% tasseling, 84% 1987, 68% avg.; 20% dough, 39% 1987, 24% avg.; 10% dent, 10% 1987, 5% avg. Tobacco topped 2%, 11% 1987, 11% avg. Alfalfa 2nd cutting 88% harvested, 90% 1987, 95% avg. Hay, roughage supplies 34% very short, 64% short, 2% adequate. Primary activities: planting soybeans, tending livestock. Pastures poor. Cattle poor to fair.

TEXAS: Slow-moving upper air system localized storm activity, southwest, west. Heavy rains parts Hill Country, Edwards Plateau caused some

flooding. System moved northeastward, rain north, east. Gulf system south of Texas extended showers along coastal sections. Rainfall above normal west central, across north, east. Elsewhere, rainfall below normal. Temperatures close to normal all areas. Upper Coast above normal, Rolling Plains below normal.

Crops: Small grain harvest good progress as drier weather returned Plains. Many producers completed harvest. Yields vary widely across Plains. Corn harvest increased Coastal Bend, Rio Grande Valley with open weather. Harvest beginning Upper Coast. Fields central, Blacklands maturing rapidly under hot temperatures. Fields good progress Plains with recent moisture. Fields silk. Corn doughing 67%, 62% 1987, 63% three-year avg. Dented 52%, 50% 1987, 54% three-year avg. Mature 15%, 4% 1987, 16% avg. Harvested 6%, none 1987, 1% avg. Grain sorghum harvest increased southern areas, Upper Coast. Yields varied these regions. Harvest beginning central. Fields maturing Blacklands, harvest begin soon. Some fields lodging because dryness. Showers this area probably be too late to help. Producers Plains cultivating fields as drying conditions returned. Most fields good progress. Sorghum planted 100%, 100% 1987, 100% avg. Turning color 39%, 46% 1987, 50% avg. Mature 20%, 20% 1987, 30% avg. Harvested 13%, 3% 1987, 16% avg. Cotton continued open rapidly Coastal Bend, Rio Grande Valley, harvest underway. Rain central, Blacklands improved progress. Some spraying, bollworm activity increased. Fields squaring, some fields blooming Plains. Recent rains increased progress. Cotton planted 100%, 100% 1987, 100% avg. Open bolls 5%, 1% 1987, 2% avg. Harvested 2%, none 1987, none avg. Rice fields good progress Upper Coast. Some fields drained in preparation for harvest. Peanut planting virtually complete last week, most fields up to good stands. Heavy rains caused some leaf spot isolated areas. Recent rains alleviated irrigation needs. Soybeans some minor disease problems Plains because excessive rains. Progress good. Upper Coast, showers helped planted fields. Other Field Crops: Oats 96% harvested, 95% 1987, 93% avg. Peanuts 100% planted, 98% 1987, 98% avg. Soybeans 100% planted, 100% 1987, 99% avg. Sunflowers 80% planted, 100% 1987, 99% avg.

Commercial Vegetables: Rio Grande Valley, land preparation continued. Tomato, pepper harvest virtually complete. San Antonio-Winter Garden, watermelon harvest continued. East Texas, harvesting vegetables, melons continued with low yields. High Plains, onion, potato harvest proceeded drying conditions occurred. Quality may suffer from rain. Trans-Pecos, cantaloup harvest continued. Chillies setting fruit. Rain slowed onion harvest slightly. Recent rains helped pecans, slightly slowed abnormally high drop. Normal spraying programs continued. More rain needed southern areas as nuts continued to fill.

Range and Pasture: Ranges, pastures drier parts east improved slightly as varied amounts rain fell. Additional moisture needed for continued recovery from drought-like conditions. Other areas some improvement with recent rain. Hot temperatures will deplete moisture, more rain needed soon. Hay cutting continued, supplies continued decline drier areas. Current reported hay and roughage supplies 11% very short; 52% short; 37% adequate.

UTAH: Precipitation light. Temperatures 2 to 4° above normal.

Days suitable fieldwork 6.9. Soil moisture 75% short, 25% adequate. Winter wheat 93% turned color, 100% 1987, 95% avg.; 51% ripe, 91% 1987, 55% avg.; 25% harvested, 42% 1987, 23% avg. Barley 90% turned color, 88% 1987, 75% avg.; 27% ripe, 65% 1987, 27% avg. Spring wheat 79% turned color, 99%

1987, 73% avg.; 18% ripe, 50% 1987, 21% avg. Oats 80% headed, 100% 1987, 92% avg.; 40% turned color, 61% 1987, 40% avg. Corn height 52 in., 54 in. 1987, 47 in. avg. Alfalfa 2nd cutting 28% completed, 26% 1987, 20% avg. Tart cherry harvest past midpoint, apricot harvest well along. Pasture and range 26% poor, 48% fair, 26% good. Irrigation water supply 4% very short, 50% short, 46% adequate. Stock water supply 35% short, 65% adequate. Hay & roughage supplies 21% short, 79% adequate. Livestock good to excellent. Major farm activities: Harvest hay, fall grains, irrigation, weed control.

VIRGINIA: Hot, average precipitation. Temperatures averaged 5° above normal, range 58° to 102°. Precipitation range 0.09 to 3.23 in.

Days suitable for fieldwork 5.6. Topsoil moisture 28% very short, 52% short, 18% adequate, 2% surplus. Crop conditions continue decline most areas. Best conditions southeast, worst north, southwest. Corn poor to fair. Corn 36% in or beyond silk stage, 53% 1987, 53% avg. In or beyond dough stage 10%, 15% 1987, 15% avg. Soybeans 6% blooming, 1% 1987, 1% avg. Flue-cured tobacco good to excellent, irrigated, topped. Burley tobacco poor, stressed. Peanuts excellent. Wheat 98% harvested, 98% 1987, 96% avg. Potatoes 80% harvested. Hay, roughage supplies 9% very short, 15% short, 54% adequate, 22% surplus. Pastures very poor to poor mountains, poor to fair central, fair to good southeast, poor to fair elsewhere. Supplemental livestock feeding some areas.

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 79°, 7 to 9° above normal. Extremes 107° Ripley, Martinsburg; 52° Flattop. Precipitation averaged 0.68 in., 0.40 to 0.70 in. below normal.

Days suitable for fieldwork averaged 5.7. Soil moisture 85% very short, 15% short. Barley mostly fair. Wheat good to poor. Oats fair to poor. Corn fair to very poor. Barley 100% ripe, 93% harvested. Wheat 98% ripe, 85% harvested. Oats 51% ripe, 14% harvested. Corn 32% silked, 14% dough. Pasture, hay mostly fair to very poor. Cattle, sheep mostly fair. Feed supplies 27% very short, 46% short, 27% adequate. Feed from pasture 72%. Farm activities: general farm maintenance, livestock care, haying, clipping and liming pastures, and gardening.

(Continued to back cover)

Crop Progress 1/
FOR WEEK ENDING JULY 17, 1988

SOYBEANS
% SETTING PODS
1988 1987 AVG.

ALA	10	8	6
ARK	0	0	1
GA	5	6	7
ILL	13	50	15
IND	7	13	7
IOWA	28	37	13
KANS	10	15	4
KY	5	13	4
LA	3	6	8
MICH	0	15	3
MINN	30	29	6
MISS	1	6	5
MO	13	28	15
NEBR	15	13	6
N C	0	0	0
OHIO	3	19	0
S C	0	0	0
S DAK	9	0	0
TENN	4	8	4
19 STATES	12	23	8

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

SOYBEANS
% BLOOM
1988 1987 AVG.

ALA	22	29	25
ARK	5	19	14
GA	22	25	27
ILL	74	87	61
IND	55	83	52
IOWA	82	75	51
KANS	35	40	20
KY	30	42	24
LA	21	26	27
MICH	20	50	20
MINN	79	69	39
MISS	15	25	22
MO	54	64	35
NEBR	65	63	48
N C	11	14	10
OHIO	42	73	41
S C	4	9	9
S DAK	65	64	33
TENN	16	32	19
19 STATES	52	61	39

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

GRAIN SORGHUM
% HEADED
1988 1987 AVG.

ARK	25	69	NA
ILL	7	69	NA
KANS	1	10	3
LA	55	64	73
MISS	40	53	43
MO	20	47	25
NEBR	4	10	5
OKLA	30	15	10
S DAK	3	0	0
TENN	26	60	46
TEX	60	61	64
11 STATES	22	31	NA
EXCL. STATES WITH NA	22	28	24

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

NA - NOT AVAILABLE.

WINTER WHEAT
% HARVESTED
1988 1987 AVG.

ARK	100	100	99
CALIF	95	96	96
COLO	65	36	40
GA	100	100	100
IDAHO	3	0	2
ILL	100	100	96
IND	99	97	87
KANS	100	98	95
MICH	80	70	25
MO	100	99	97
MONT	24	1	0
NEBR	95	77	71
N MEX	94	100	NA
N C	100	100	NA
OHIO	99	87	72
OKLA	100	100	100
OREG	4	20	9
S DAK	80	33	27
TEX	99	99	99
WASH	2	12	5

20 STATES 82 76 NA

EXCL. STATES WITH NA 82 75 72

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

SPRING WHEAT
% HEADED
1988 1987 AVG.

IDAHO	96	100	94
MINN	100	99	95
MONT	91	95	89
N DAK	99	99	91
S DAK	100	100	100

5 STATES 98 98 93

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

COTTON
% SQUARING
1988 1987 AVG.

ALA	98	97	93
ARIZ	99	100	100
ARK	99	99	97
CALIF	95	100	93
GA	96	99	96
LA	93	96	88
MISS	93	100	96
MO	100	100	91
N MEX	78	90	88
N C	77	86	76
OKLA	70	45	25
S C	72	87	90
TENN	94	95	88
TEX	82	74	59

14 STATES 88 85 75

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

RICE
% HEADED
1988 1987 AVG.

ARK	1	8	4
CALIF	0	1	0
LA	44	34	47
MISS	9	11	16
TEX	69	73	70

5 STATES 18 20 20

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

COTTON
% SETTING BOLLS
1988 1987 AVG.

ALA	62	68	47
ARIZ	75	85	83
ARK	62	85	59
CALIF	35	60	43
GA	62	57	61
LA	48	55	51
MISS	69	70	45
MO	52	100	50
N MEX	35	33	37
N C	44	62	43
OKLA	30	10	3
S C	25	53	67
TENN	26	58	28
TEX	15	25	17

14 STATES 34 46 33

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

	CORN % SILKING		
	1988	1987	AVG.
COLO	7	4	11
GA	97	99	98
ILL	71	90	57
IND	32	84	45
IOWA	55	73	37
KANS	60	70	36
KY	46	78	54
MICH	10	55	15
MINN	41	42	11
MO	75	83	51
NEBR	50	55	32
N C	84	79	82
OHIO	17	72	36
PA	1	23	10
S DAK	25	29	6
TEX	79	79	83
WIS	19	34	12

17 STATES 46 65 35

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

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

Crop Condition

FOR WEEK ENDING JULY 17, 1988

RICE					
STATE	VP	P	F	G	EX
ARK	0	5	46	49	0
CALIF	0	0	20	75	5
LA	0	1	3	94	2
MISS	5	10	55	30	0
TEX	0	6	13	69	12
5 STATE	0	4	31	62	3

SPRING WHEAT					
STATE	VP	P	F	G	EX
IDAHO	4	8	23	53	12
MINN	33	47	12	8	0
MONT	40	32	17	10	1
N DAK	32	42	23	3	0
S DAK	23	50	23	4	0
5 STATE	32	41	20	7	0

SOYBEANS					
STATE	VP	P	F	G	EX
ALA	5	18	50	27	0
ARK	0	38	53	9	0
GA	0	18	55	27	0
ILL	4	20	68	8	0
IND	6	48	42	4	0
IOWA	2	22	43	29	4
KANS	3	3	30	30	34
KY	11	31	53	5	0
LA	5	23	26	46	0
MICH	20	30	35	14	1
MINN	9	16	57	18	0
MISS	5	30	45	20	0
MO	11	30	53	6	0
NEBR	0	0	63	37	0
N C	0	6	43	48	3
OHIO	25	35	35	5	0
S C	0	19	74	7	0
S DAK	0	5	54	41	0
TENN	8	41	34	17	0
19 STATE	6	24	50	18	2

CORN					
STATE	VP	P	F	G	EX
COLO	1	2	14	64	19
GA	4	28	51	17	0
ILL	21	44	33	2	0
IND	33	56	11	0	0
IOWA	17	28	36	17	2
KANS	7	18	22	45	8
KY	35	49	16	0	0
MICH	30	35	25	9	1
MINN	23	37	35	5	0
MO	27	49	18	6	0
NEBR	0	5	38	55	2
N C	0	20	48	29	3
OHIO	39	38	21	2	0
PA	26	39	28	6	1
S DAK	5	20	51	24	0
TEX	2	12	28	39	19
WISC	13	48	37	2	0
17 STATE	18	32	32	16	2

COTTON					
STATE	VP	P	F	G	EX
ALA	2	13	44	41	0
ARIZ	0	0	14	72	14
ARK	0	6	35	53	6
CALIF	0	0	15	50	35
GA	0	19	37	44	0
LA	0	17	77	6	0
MISS	5	5	60	30	0
MO	0	0	44	56	0
N MEX	0	11	56	33	0
N C	0	17	29	50	4
OKLA	0	0	2	98	0
S C	0	11	82	7	0
TENN	0	14	54	32	0
TEX	2	4	27	44	23
14 STATE	2	5	34	43	16

GRAIN SORGHUM					
STATE	VP	P	F	G	EX
ARK	2	30	61	4	3
ILL	8	27	57	8	0
KANS	2	12	47	27	12
LA	2	26	37	35	0
MISS	1	44	54	1	0
MO	7	29	49	15	0
NEBR	0	3	68	29	0
OKLA	0	1	29	70	0
S DAK	1	7	52	40	0
TENN	18	43	39	0	0
TEX	3	10	30	43	14
11 STATE	2	13	46	31	8

International Weather and Crop Summary

July 10-16, 1988

HIGHLIGHTS:

UNITED STATES ... Precipitation relieves some drought stress in the northern Corn Belt, central and southern Great Plains, Delta, Appalachian States, and Southeast. Inadequate moisture and high temperatures continue plaguing crops in the central and eastern Corn Belt.

USSR ... In Western USSR, showers and thunderstorms cover most agricultural areas. In the New Lands, widespread significant showers in central spring grain areas improve moisture conditions for crop growth. Dry weather continues to stress crops in western and eastern areas.

EUROPE ... Light to moderate rain benefits vegetative to reproductive corn in the Balkans. Beneficial dry weather develops in Spain and Portugal.

SOUTH ASIA ... Rainfall increases over most southern interior regions, but evaporation rates are high. Widespread showers elsewhere boost moisture levels for planting.

EASTERN ASIA ... Scattered rain offers some relief to heat and dryness in east-central China. Heavy rain causes flooding in sections of northern China, the Korean Peninsula, and Japan.

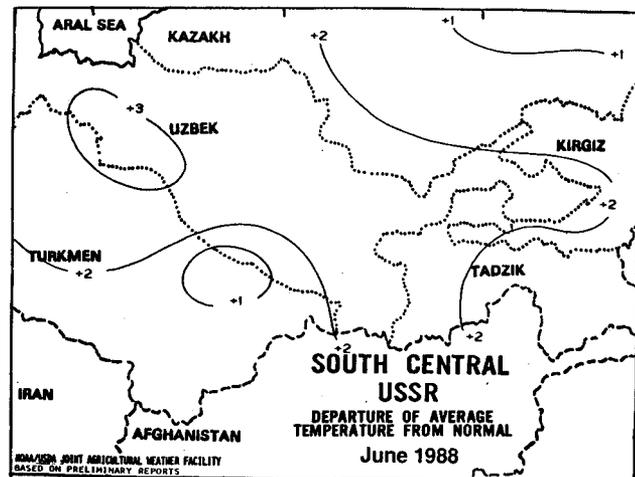
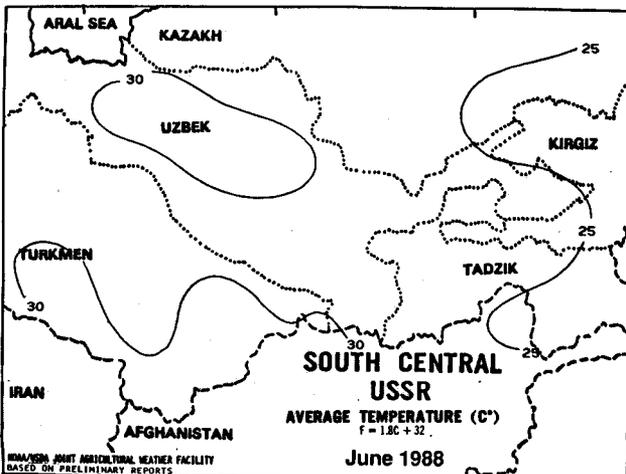
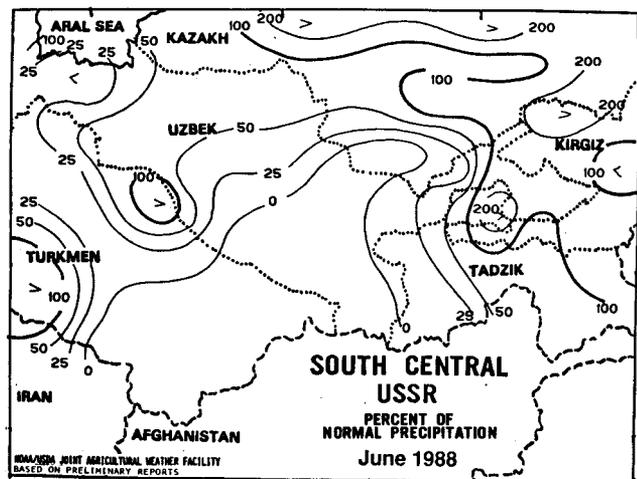
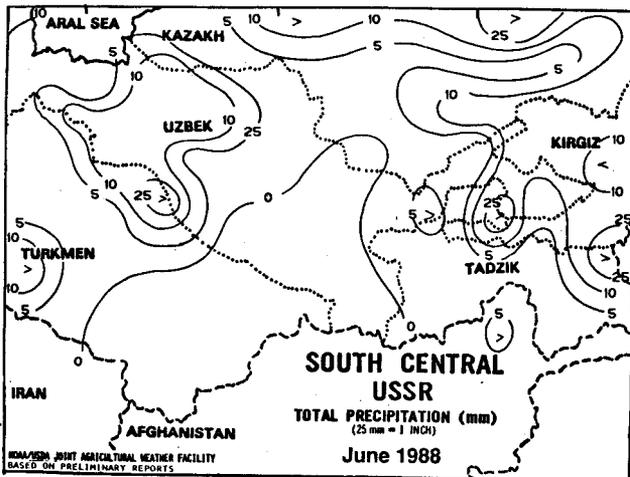
SOUTHEAST ASIA ... Widespread showers over Thailand benefit filling corn and vegetative rice.

SOUTH AMERICA ... Unfavorable dryness continues to delay Argentina's wheat planting. Moisture is adequate for Brazil's southern wheat.

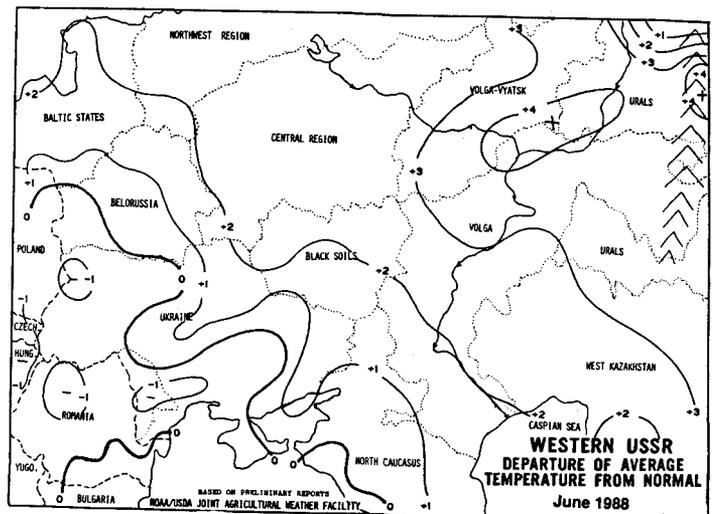
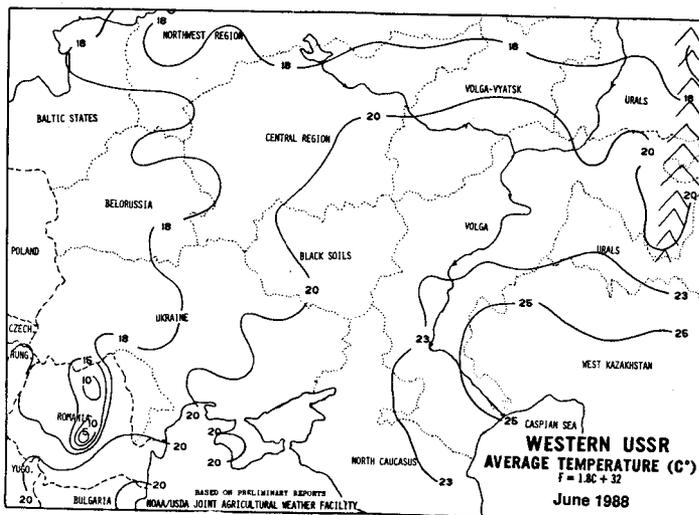
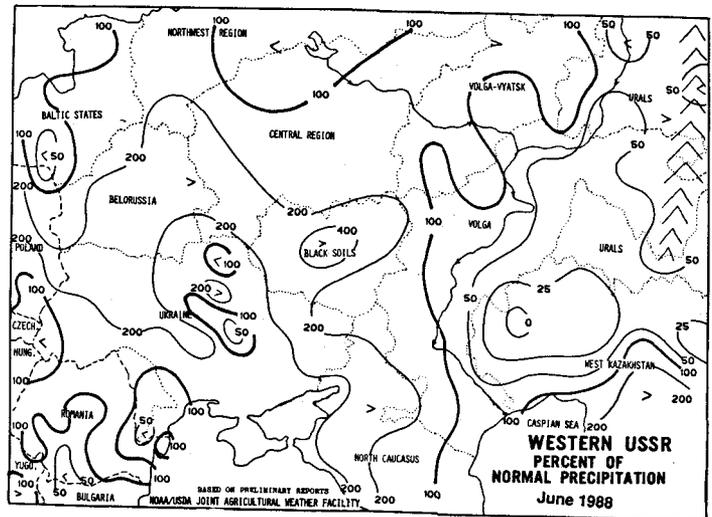
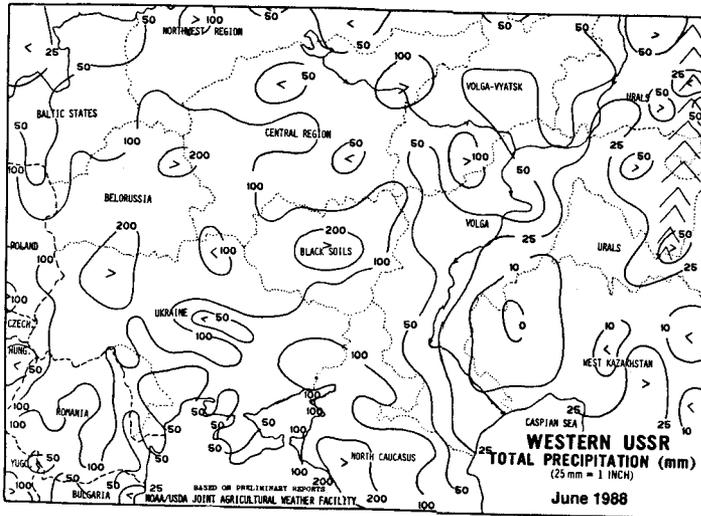
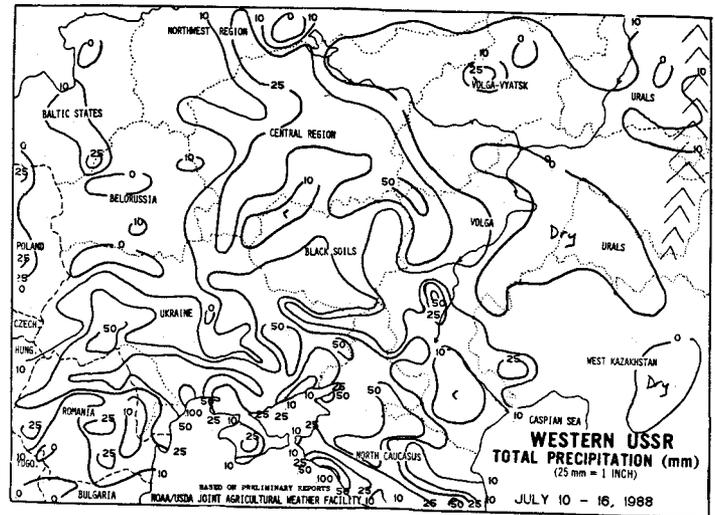
AUSTRALIA ... Rain continues in southern wheat areas. Scattered light rain in Queensland causes only minor delays in sugarcane harvest.

MEXICO ... Beneficial rain covers most crop areas.

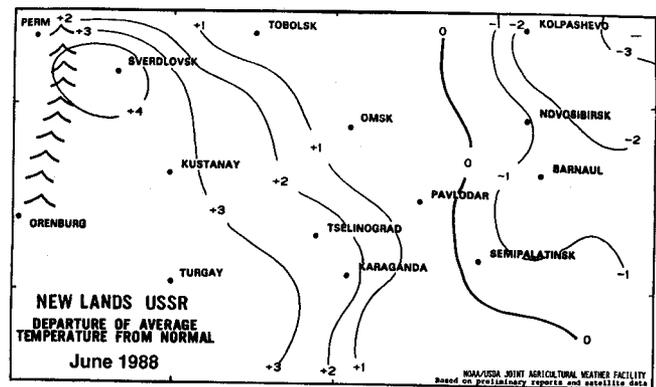
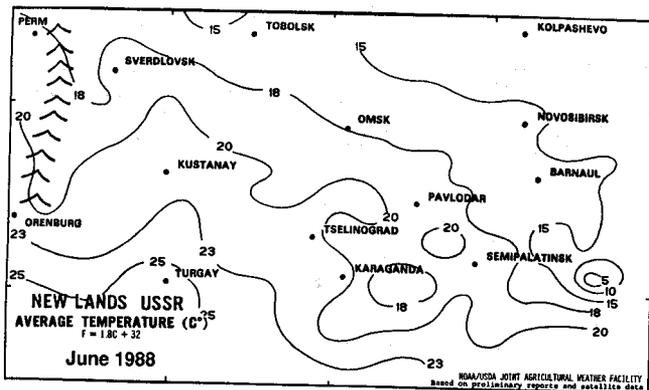
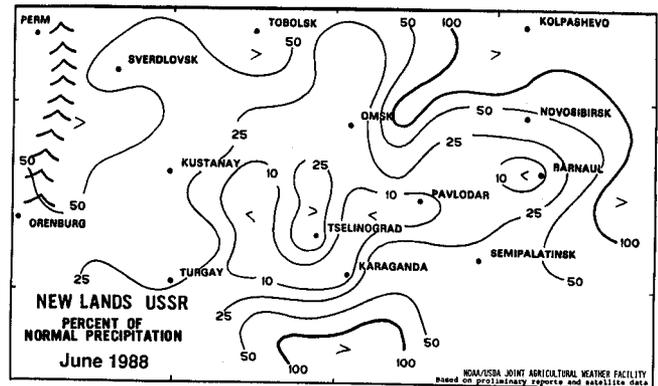
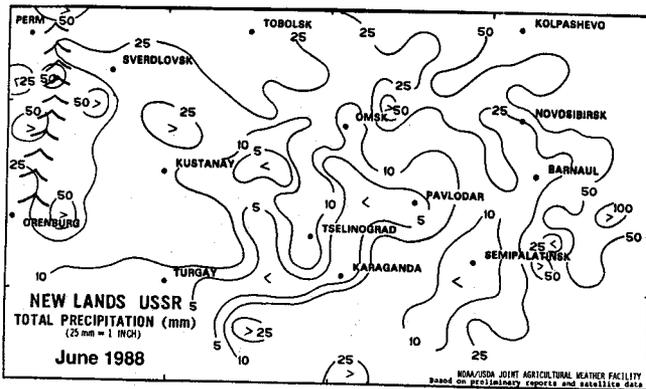
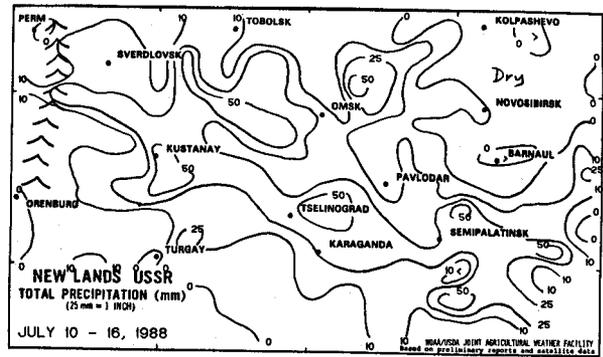
CANADA ... Mostly dry weather returns to western Saskatchewan and parts of southern Alberta, but rain elsewhere helps reproductive to filling crops.



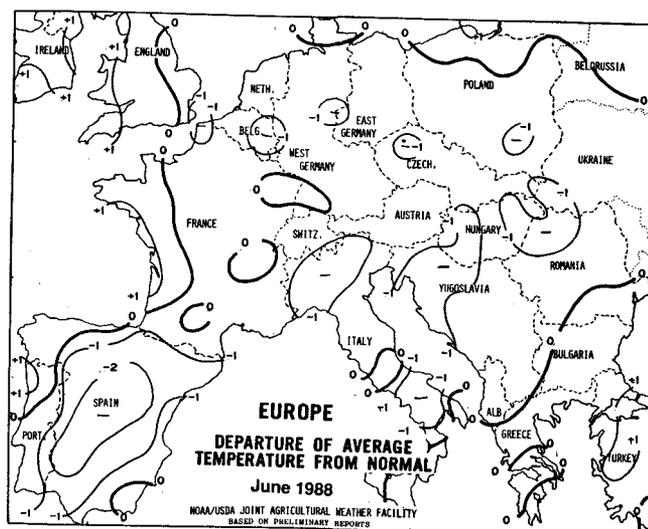
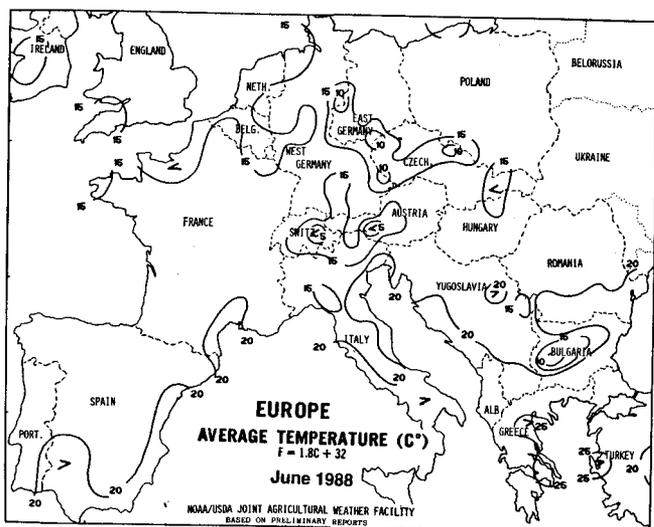
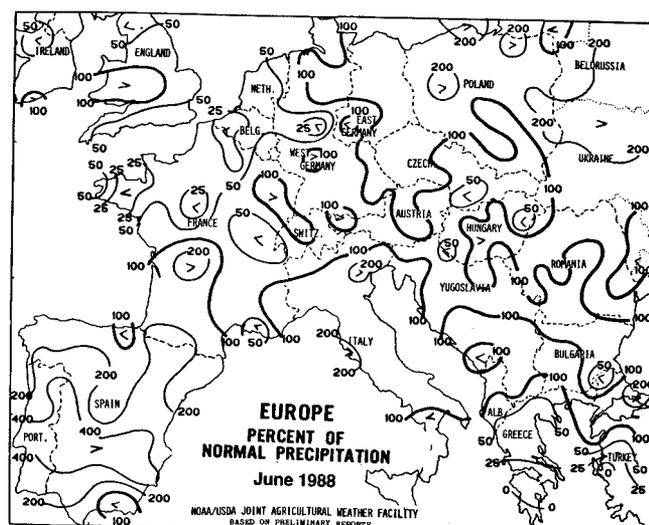
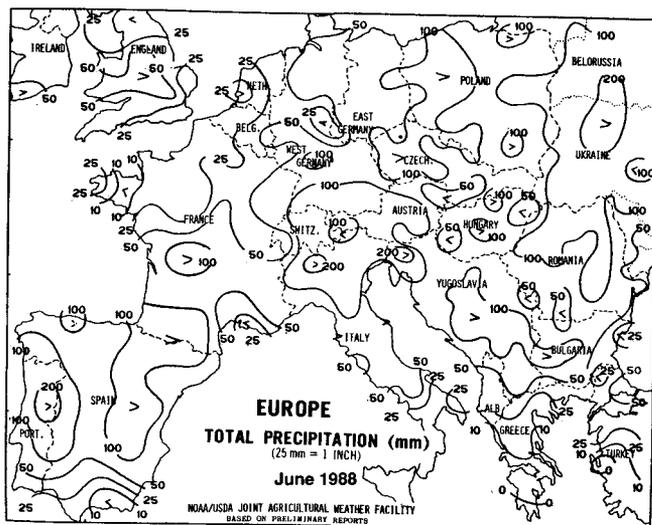
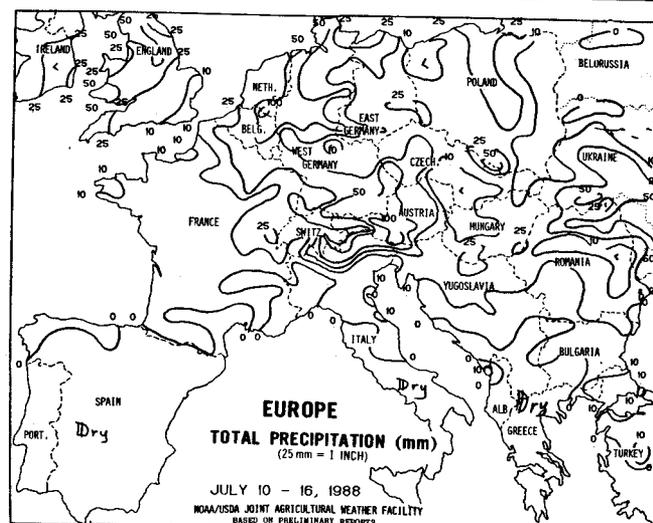
WESTERN USSR ... Widespread showers and thunderstorms covered most agricultural areas. Moderate to heavy showers, over the western and southern Ukraine and the southern two-thirds of the North Caucasus, likely caused delays in winter grain harvesting and spring grain maturation but were mostly beneficial to corn in the tasseling stage. Rainfall in these areas ranged from 25 to 65mm, with local heavier amounts in excess of 65mm. Persistent above-normal rain over the western Ukraine since June has likely waterlogged fields, creating unfavorable conditions for sugar beets. June precipitation was above normal over most of Western USSR, except in the eastern Volga where precipitation was below normal. More than twice the normal amount of June rain soaked crops in the western and eastern Ukraine, Belorussia, the Black Soils Region, and the North Caucasus. Although the rain was mostly beneficial for crop growth, locally heavy downpours along with gusty winds and hail caused some crop lodging. Temperatures continued June's pattern of above normal in the north and near to below normal in the south.

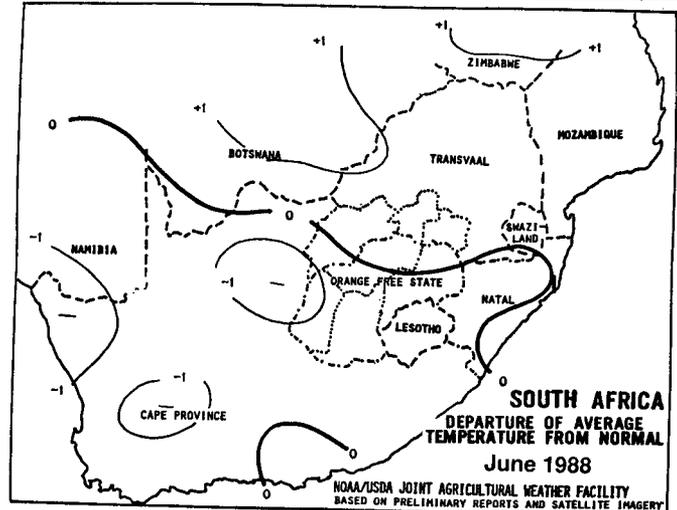
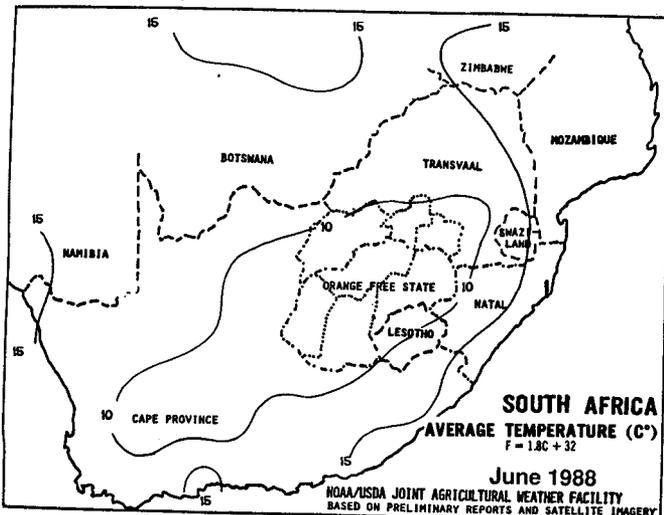
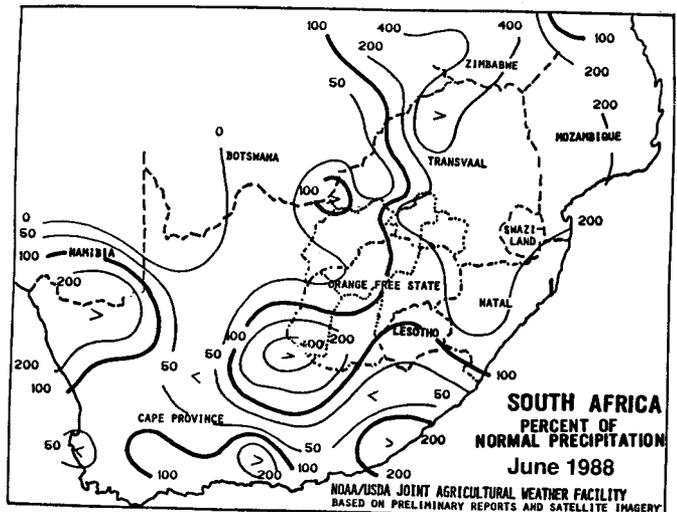
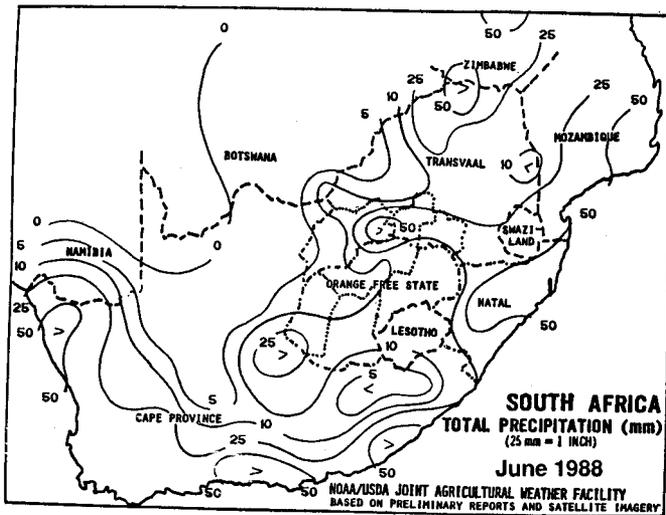
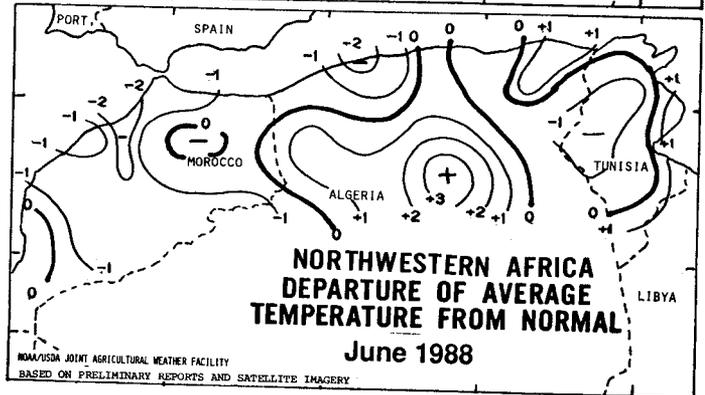
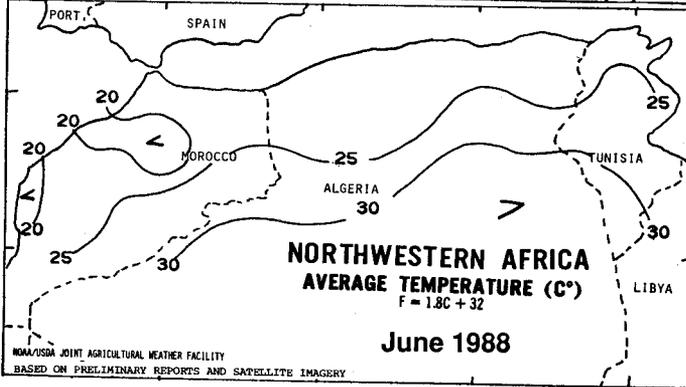
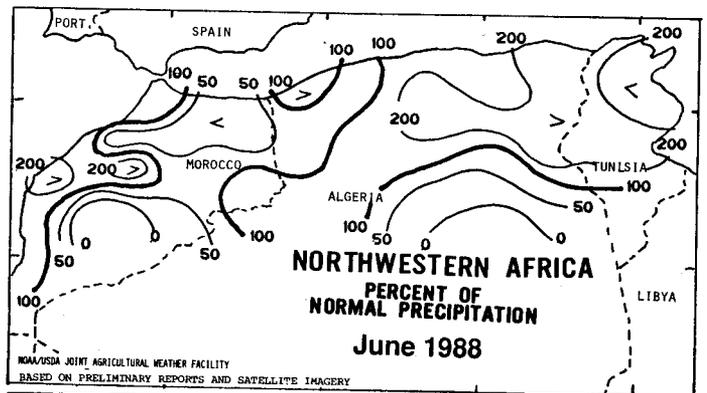
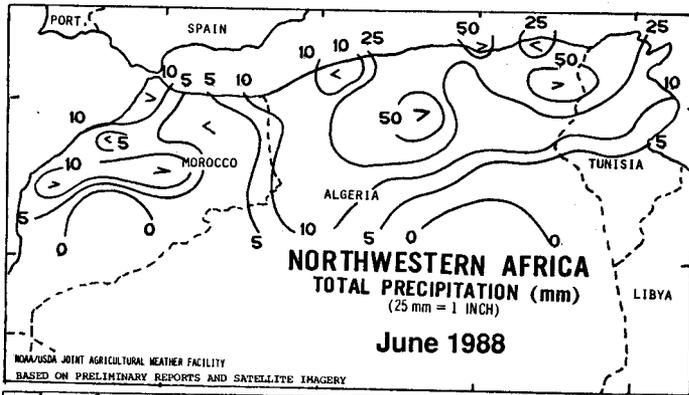


NEW LANDS ... Following unfavorably dry weather in June, widespread significant showers (25-50mm) improved moisture conditions for spring grains in central Kazakhstan, parts of the eastern Urals, and the western half of West Siberia. In June, precipitation was generally less than 50 percent of normal over most crop areas, with central areas receiving rainfall less than 25 percent of normal. June's adverse dryness was accompanied by hot weather from June 15 to 19, which depleted soil moisture and caused moderate to severe stress on crops. Eastern spring grain areas in West Siberia, which received above-normal June precipitation, were mostly dry. In addition, above-normal temperatures covered these areas, with the hottest weather (30-35 degrees Celsius) occurring on July 11. Spring grains over the region are filling in the south and entering reproduction in the north. Although a substantial improvement in moisture conditions occurred in central growing areas, unfavorably dry weather continued to stress crops in the western and southern Urals and eastern West Siberia.

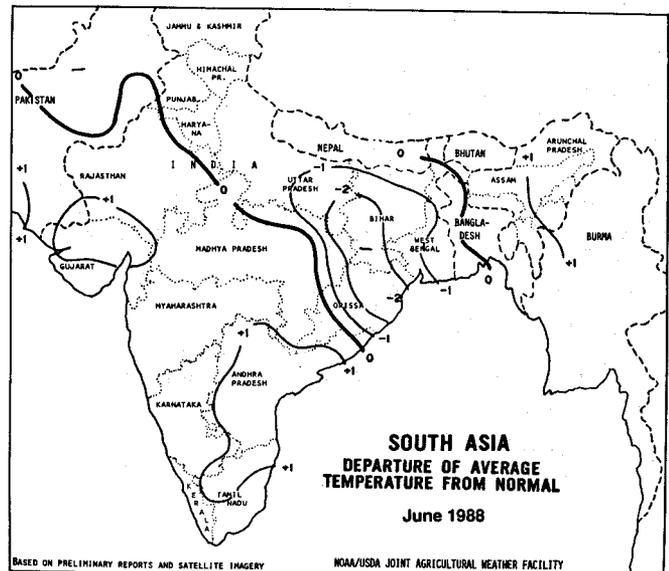
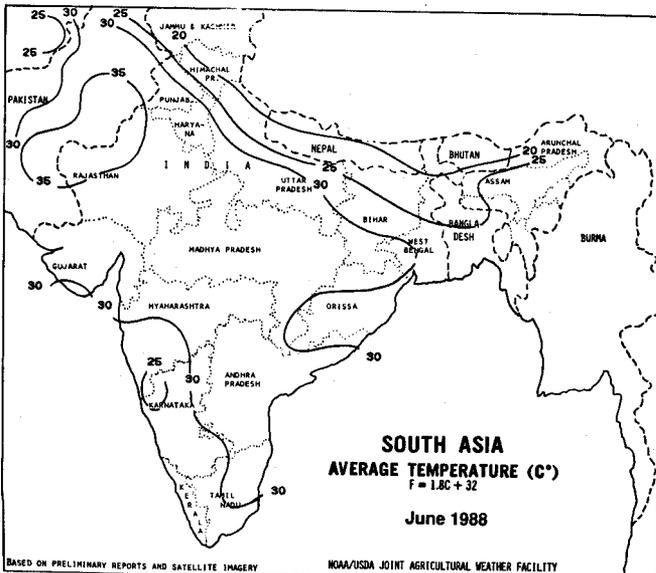
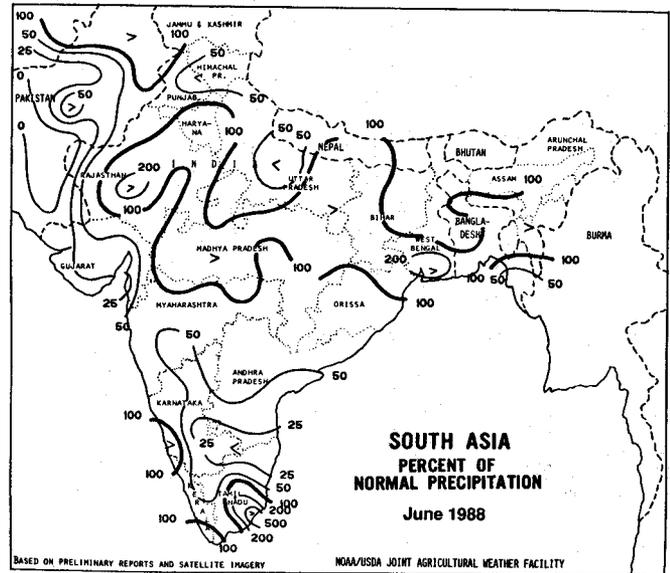
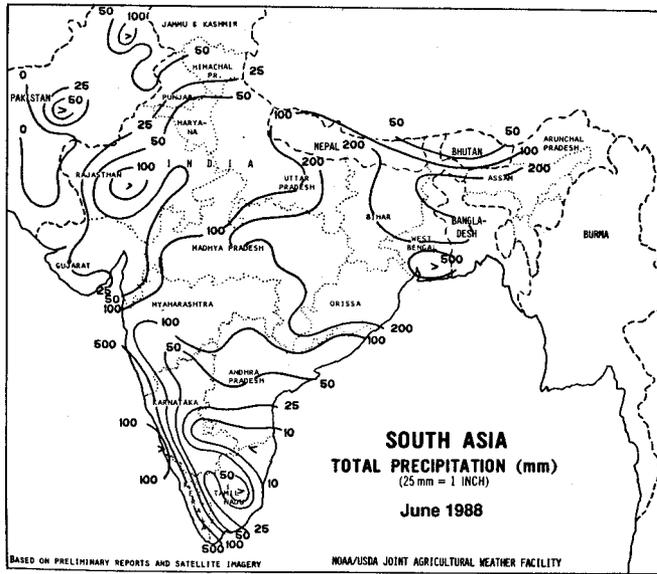
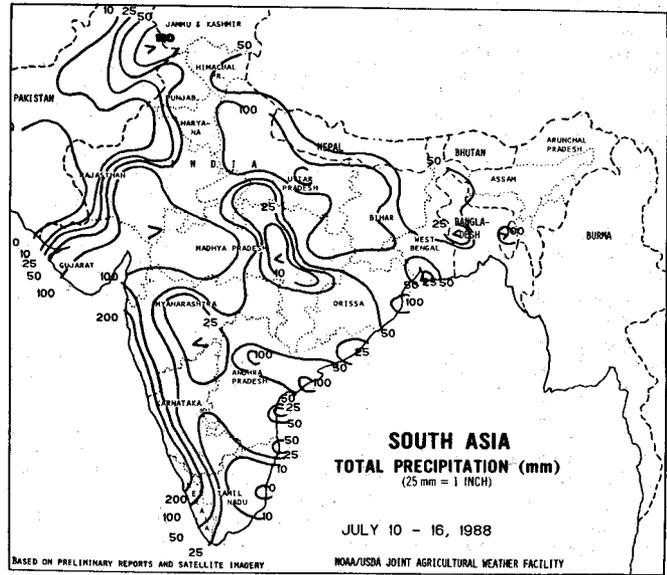


EUROPE ... Light to moderate rain (10-25mm with isolated amounts greater than 25mm) benefited vegetative to reproductive corn in growing areas of Hungary, Yugoslavia, Romania, and Bulgaria. The rain followed up to 3 weeks of dry weather over the region, which also received only normal- to below-normal rainfall during June. In northwestern Europe, widespread rain (15-25mm) continued to cause delays in winter grain harvest. Very heavy rain (25-50mm) on already saturated soils may have caused localized flooding in sections of Benelux and West Germany. Mostly dry and warm weather developed in northern Spain and Portugal and favored a resumption of grain and forage harvests, which have been delayed several weeks due to excessive rainfall. In addition to the Iberian Peninsula, June rainfall was above normal in northeastern Europe and scattered areas of the south. Temperatures for the month averaged near normal in most crop areas.

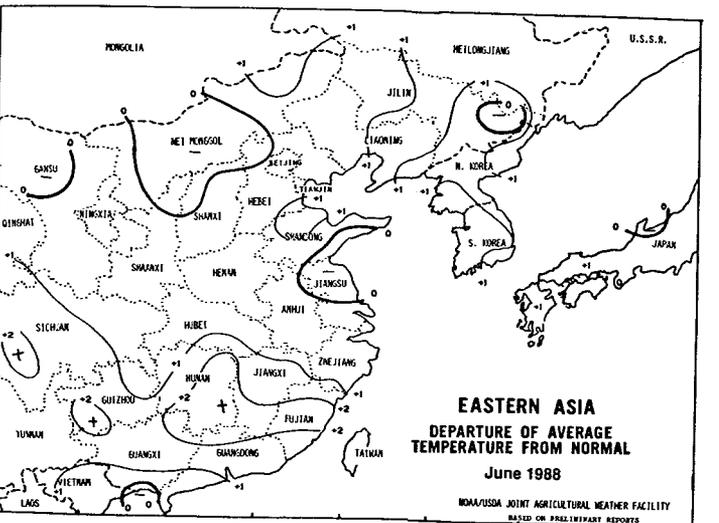
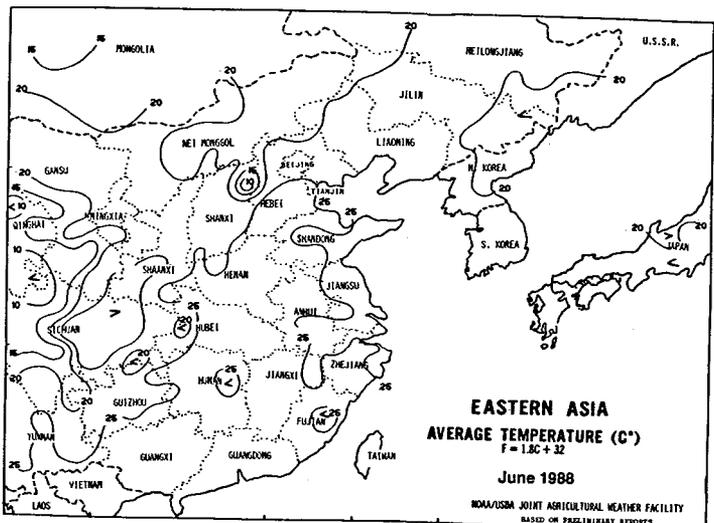
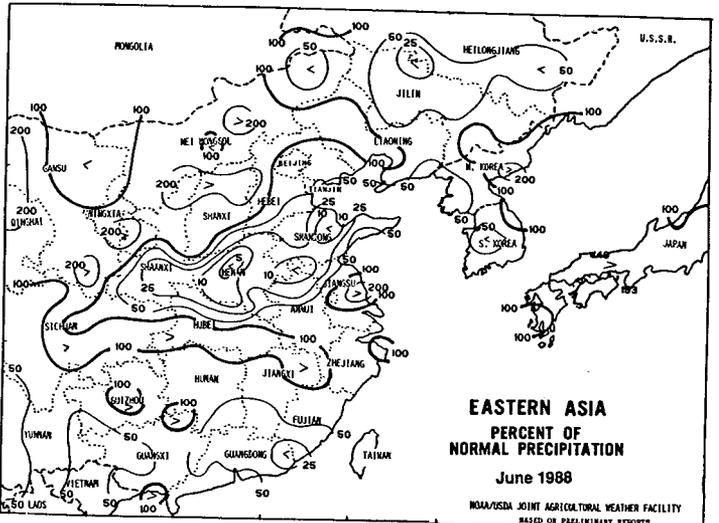
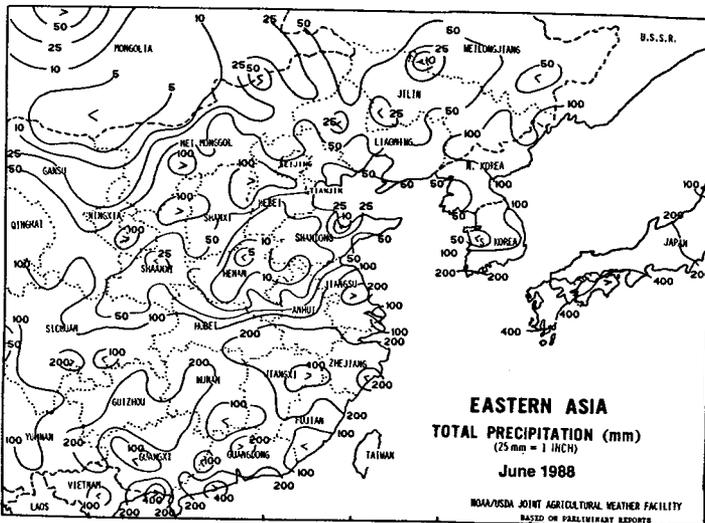
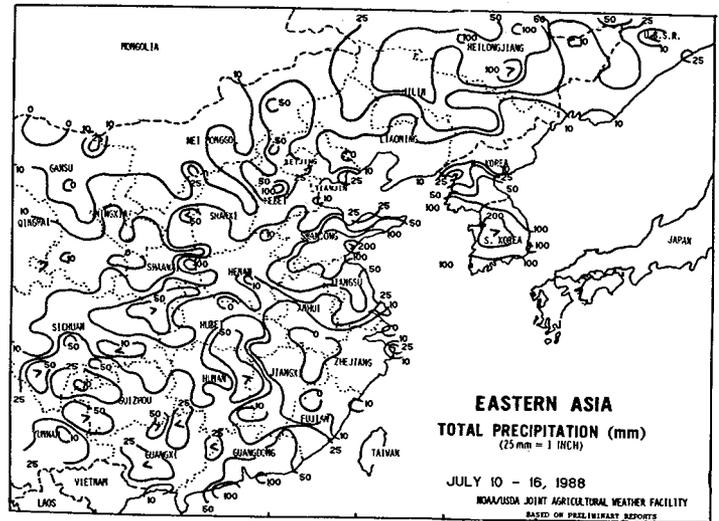




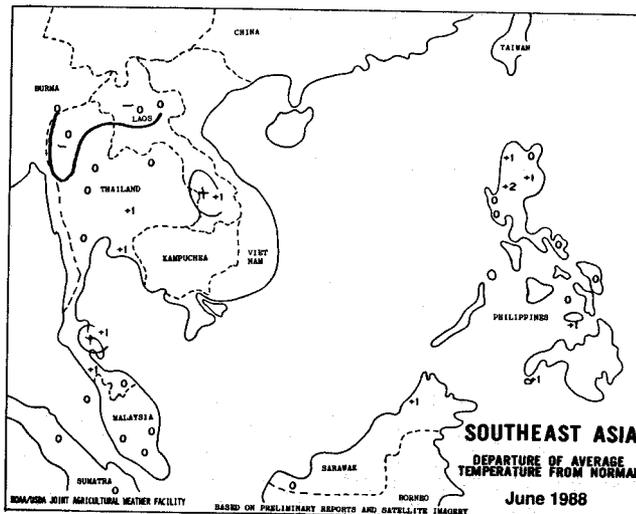
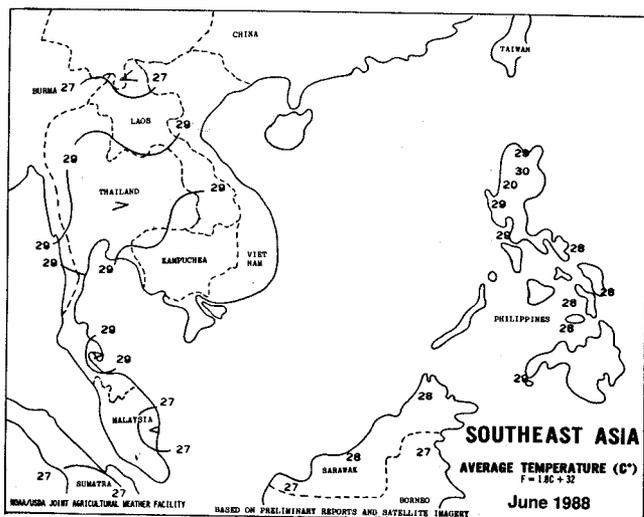
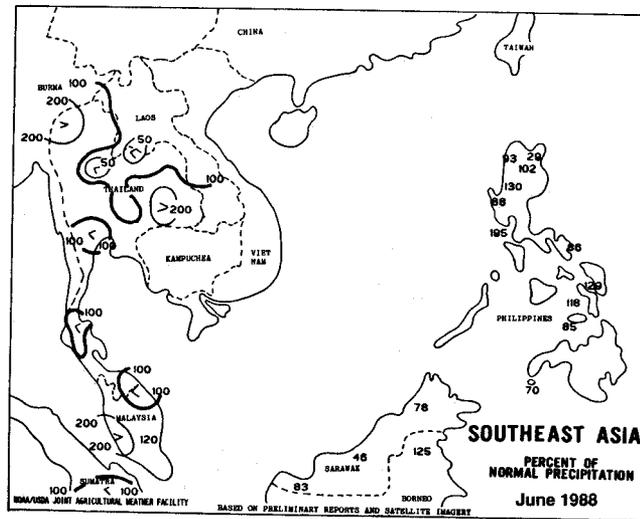
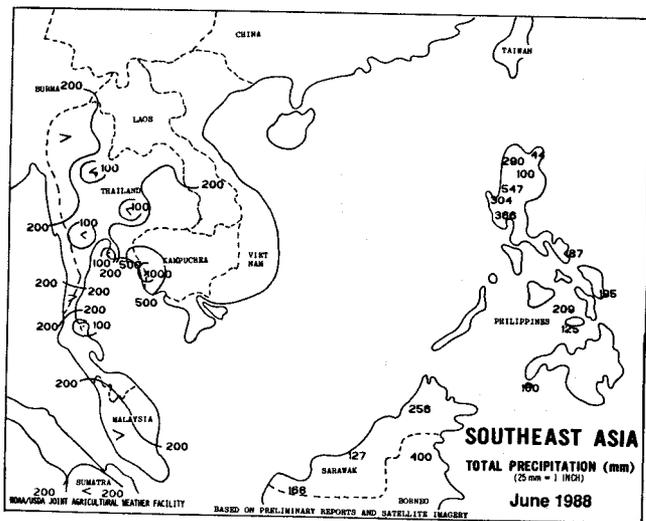
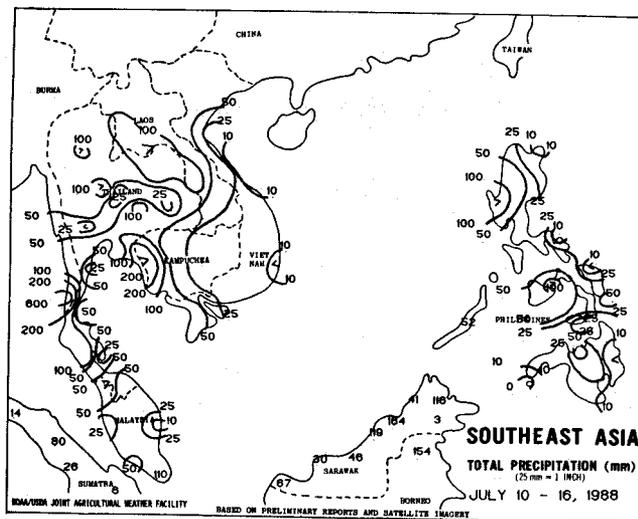
SOUTH ASIA ... Rainfall increased from the previous week over summer crop regions from western Maharashtra to southern Andhra Pradesh, with amounts ranging from 12 to 84mm. Tamil Nadu, however, was mostly dry. Weather across the south was seasonably warm, maintaining high evaporation rates. Elsewhere, widespread moderate to heavy showers (25-100mm or more) provided beneficial planting moisture to most crop regions of India and northern Pakistan, including crop regions of northwestern India which received the heaviest rain of the season. Planting is likely well underway across South Asia, though portions of northern India from Bihar to Uttar Pradesh may be too wet after 2 weeks of heavy rain (100-200mm or more). Seasonable showers (50-200mm or more) maintained wet conditions in the east and along the southwest coast. During June, southern interior crop regions from western Maharashtra southward were mostly drier than normal, causing local planting delays and leaving most areas with limited soil moisture reserves. Elsewhere, the southwest monsoon progressed northward, bringing near- to above-normal rainfall to all but northwestern crop areas. Rainfall was excessive, however, in the east, causing flooding from southern West Bengal eastward.



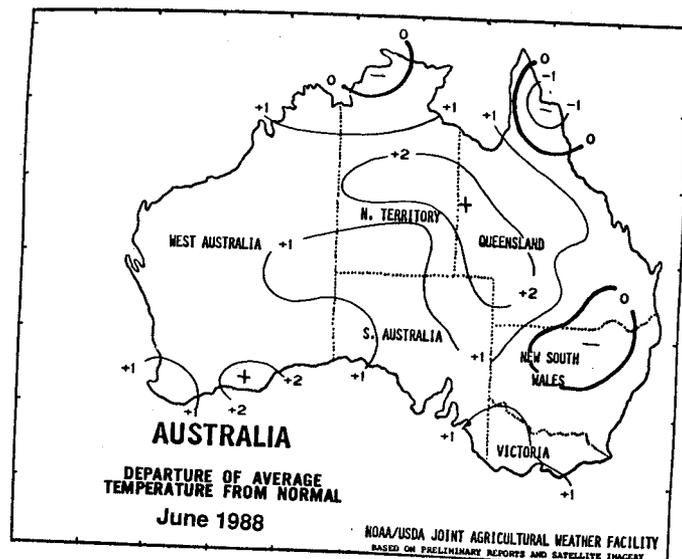
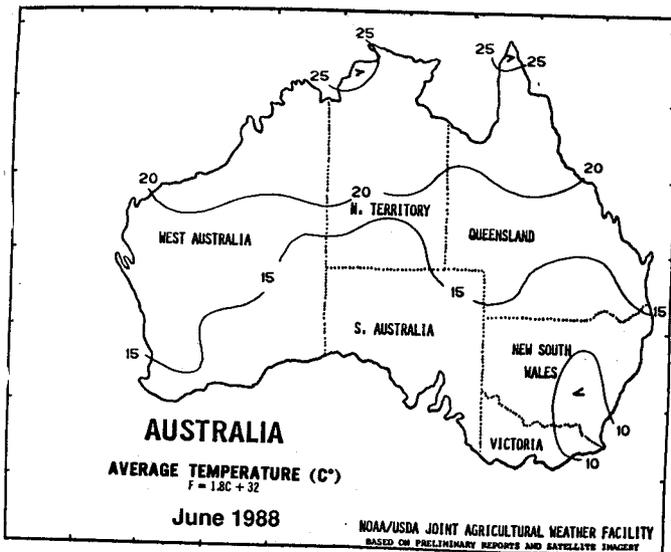
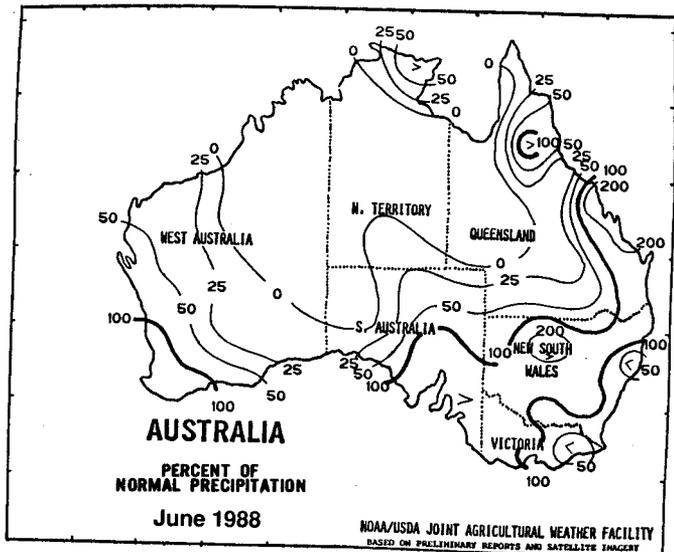
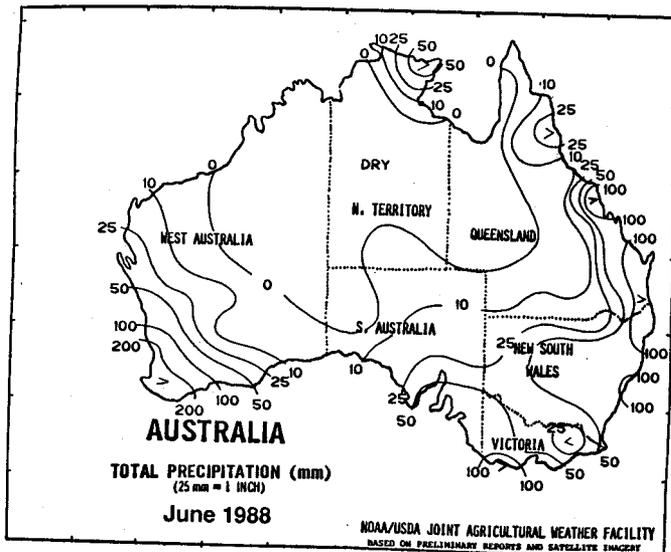
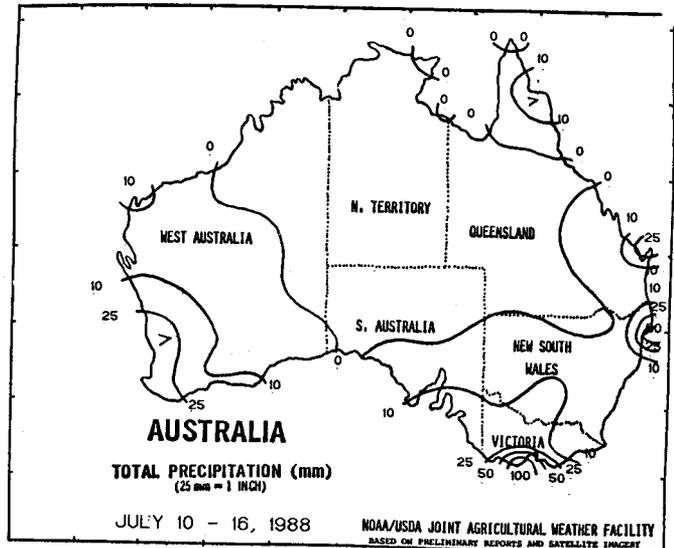
EASTERN ASIA ... Scattered rain (10-40mm with isolated rainfall in excess of 50mm) offered some relief to vegetative to reproductive corn, cotton, soybeans, and single-crop rice in central and eastern Chinese growing areas. Much of the Yellow River Valley from northwestern Sichuan to southern Shandong and Jiangsu has been persistently dry since June, favoring harvest of winter grains but stressing spring and summer crops. The dryness and moisture stress were compounded by above-normal temperatures (as much as 5 degrees C) which acted to increase evapotranspiration losses. Heat and scattered rainfall (10-50mm) also covered much of southern China. In northern China, a pair of frontal systems brought widespread heavy rain (greater than 25mm) to most crop areas. Very heavy rain (50-100mm, with isolated amounts greater than 100mm) likely caused flooding in sections of Shandong, North and South Korea, and western Japan. During June, precipitation was below normal across most southern, eastern, and northeastern Chinese crop areas, while above-normal rain fell in northwestern China, the Yangtze Valley, and much of Japan. Mean temperatures for the month were normal to above normal over most crop areas.



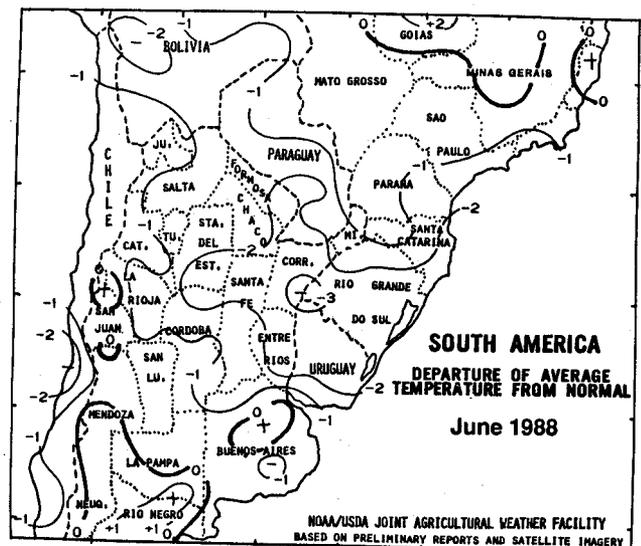
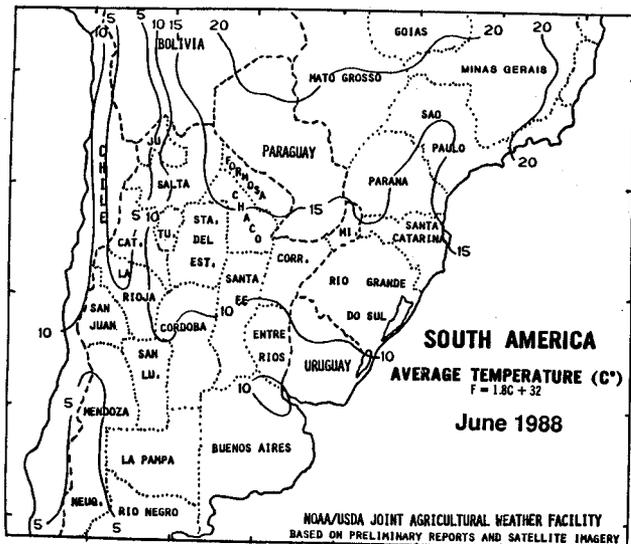
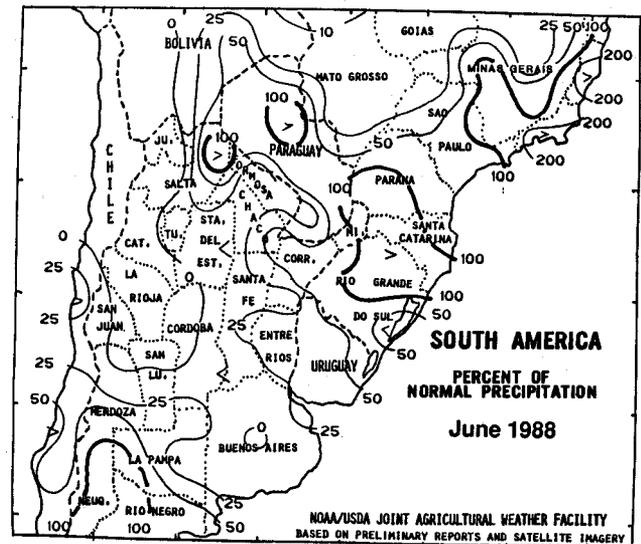
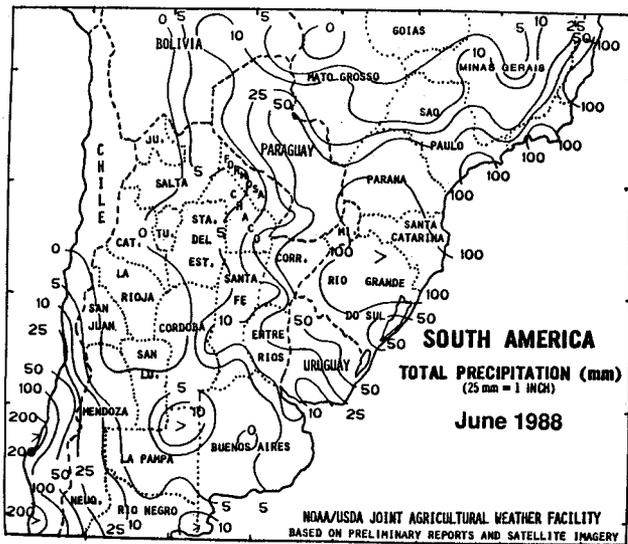
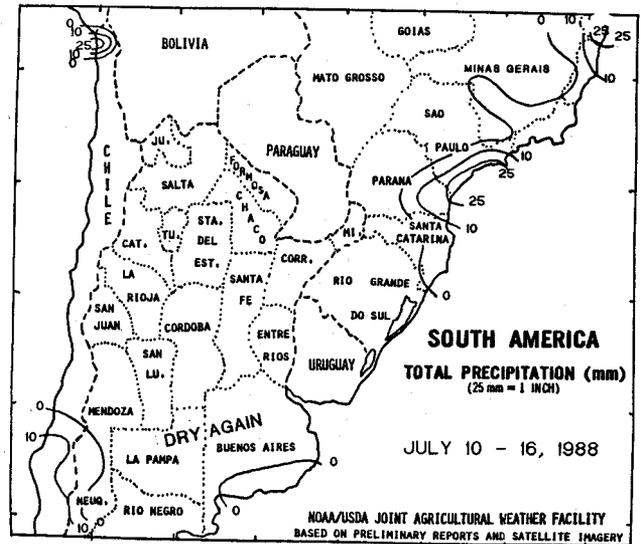
SOUTHEAST ASIA ... Beneficial rain (25-100mm or more) covered most corn regions of central Thailand, improving conditions for filling crops. Moderate to heavy showers (50-100mm or more) elsewhere in Thailand benefited vegetative rice. However, early-week temperatures were hot, increasing moisture loss through evaporation and crop moisture usage. During June, rainfall trended below normal over portions of central Thailand, with near- to above-normal accumulations elsewhere. Late-month drier and warmer-than-normal weather reduced moisture levels for reproductive corn. Elsewhere in Indochina, light rain (2-18mm) and hot weather continued over central Vietnam, with widespread moderate to heavy showers (50-100mm or more) over most other regions. June rainfall over rice regions of northern and southern Vietnam was below normal, though amounts ranged from 100 to 200mm or more. In the Philippines, widespread rain (25-100mm or more) covered all but easternmost crop regions, reflecting June's seasonable rainfall trend. Inundating rain early in the month from Typhoon Susan likely flooded portions of western Luzon.



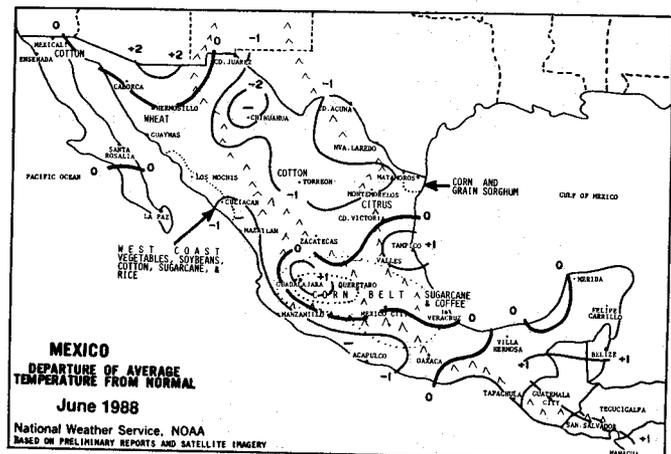
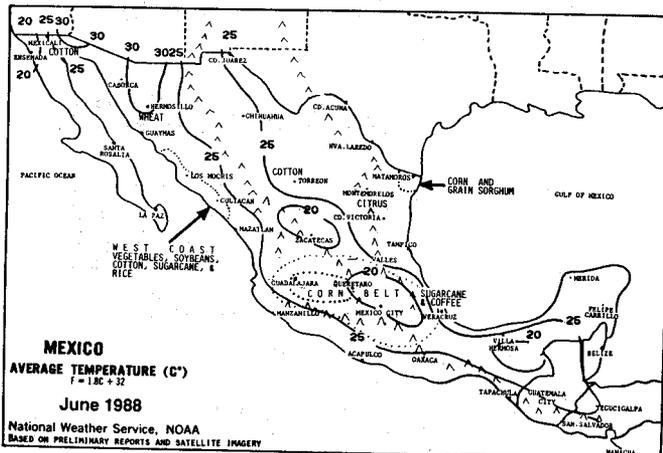
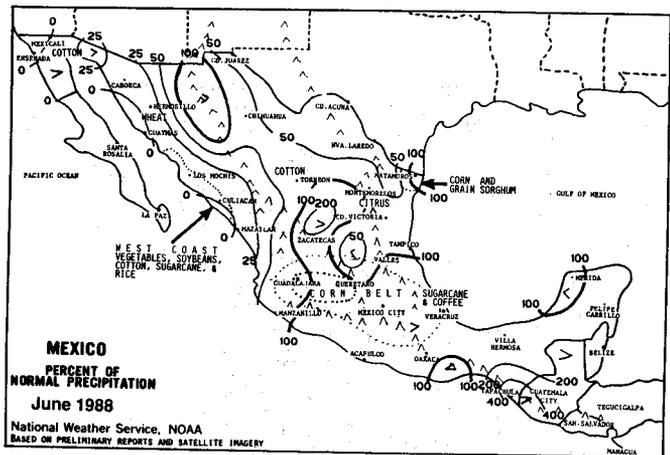
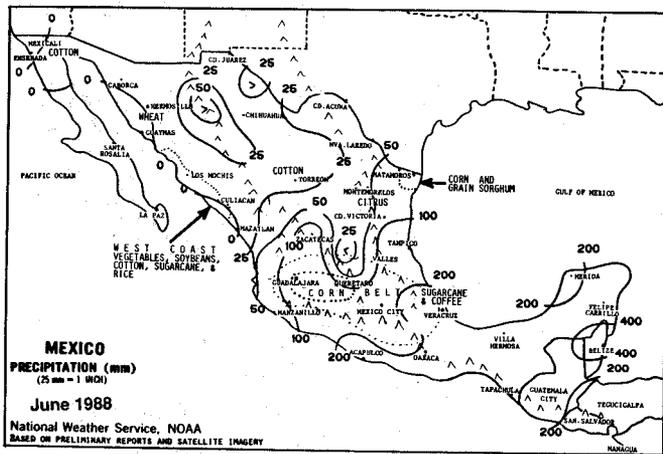
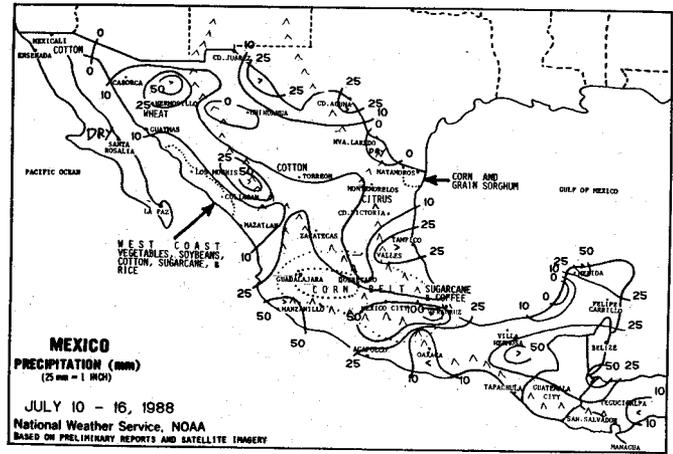
AUSTRALIA ... Moderate to heavy rain (10-25mm) covered southern winter crop areas of Western Australia and Victoria, while light to moderate rain (5-15mm) fell over South Australia and southern New South Wales. The rain continued delays in wheat and barley planting, which normally concludes in July. Seasonably dry weather covered winter grain areas in northern New South Wales and Queensland. Scattered light showers (less than 10mm) in coastal sugarcane growing areas of Queensland caused only minor harvest delays. During June, above-normal precipitation fell in crop areas of Western Australia, South Australia, Victoria, New South Wales, and eastern coastal Queensland. Below-normal rain fell in most interior Queensland crop areas. Normal- to above-normal mean monthly temperatures over most growing areas allowed greater than normal fall and winter establishment of winter grains, which normally slip into a semi-dormant state during the winter months of July and August.



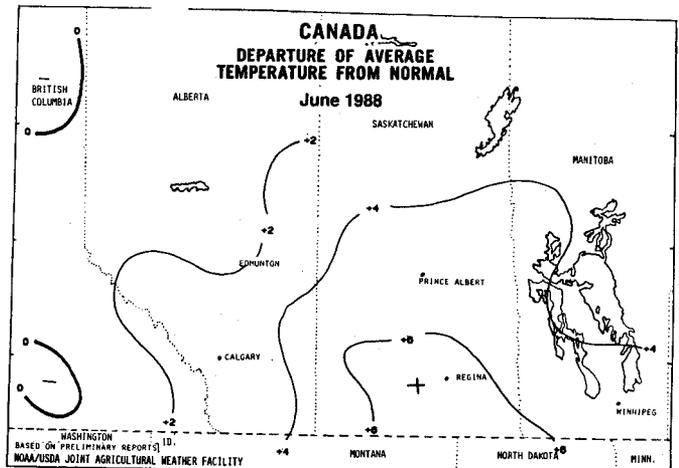
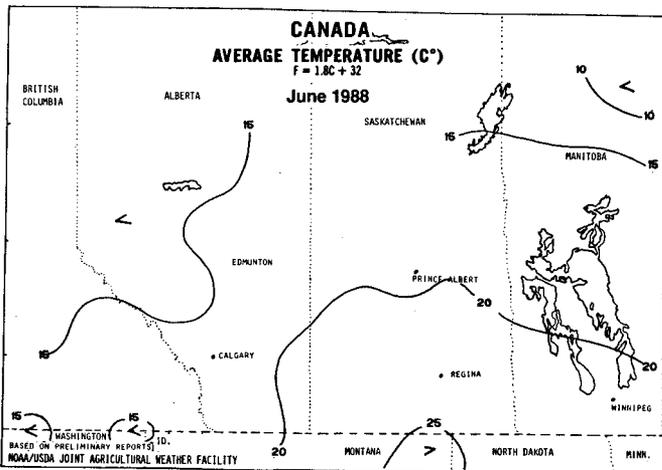
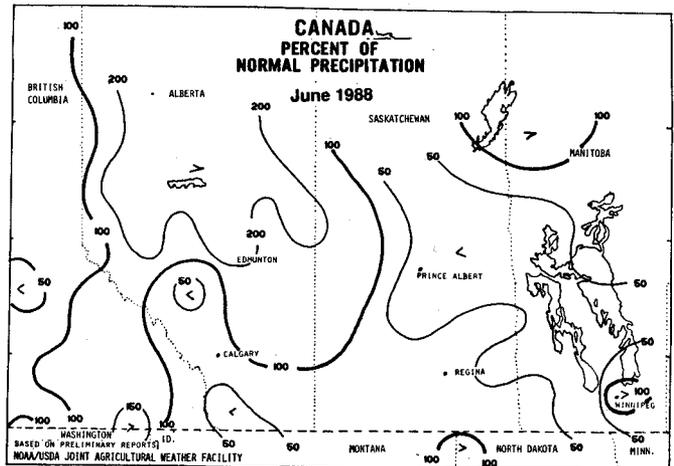
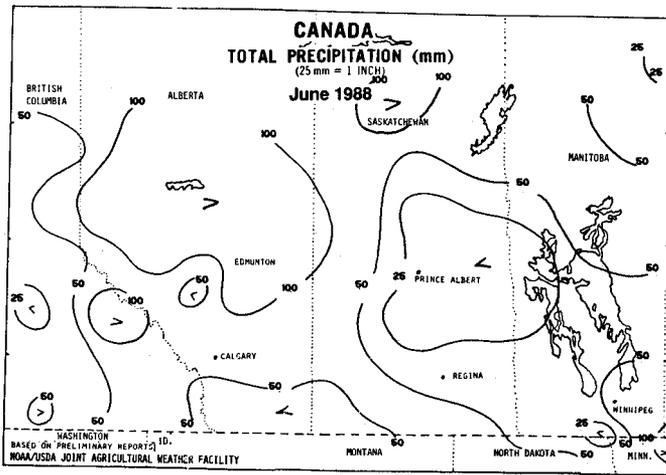
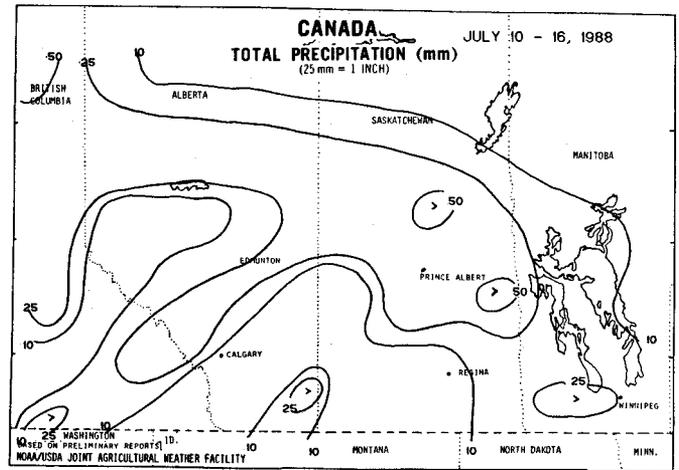
SOUTH AMERICA ... Dry weather continued over most of Argentina's wheat areas, causing further delays in wheat planting. Light showers (1-6mm) were confined to coastal areas of southern Buenos Aires. Well-below-average June rainfall continued the drying trend which began in April and has resulted in very low topsoil moisture. Wheat planting is beginning to fall well behind last year's pace. Periodic cold weather, producing some record-low temperatures, has aggravated the worsening emergence conditions. Mild weather moved into the region by week's end. In south-central Brazil, showers were confined to coastal areas while dry weather prevailed over most wheat areas. Near-average June rainfall helped wheat growth over most of Rio Grande do Sul, Santa Catarina, and southern Parana. Near-normal June rain also favored coffee areas of Minas Gerais, while well-below-average rainfall left Mato Grasso do Sul mostly dry.



MEXICO ... Substantial rain (10-54mm) fell in the chronically dry northwest and throughout the northwestern mountains, improving conditions following June's well-below-average rainfall. The moisture benefited summer crop growth and helped the very low reservoirs. Light rain fell in the northeastern summer crop area, allowing early corn, cotton, and vegetable harvesting. In the Southern Plateau corn belt, widespread showers produced beneficial moisture throughout the major corn growing region, continuing June's near-average rainfall pattern. Weekly rainfall generally averaged 35-80mm in the west, 20-30mm in the northwest, and 50-111mm in the southeast. Tropical showers also covered much of southern Mexico. The light rain (10mm or less) along the west coast farming region necessitated irrigation for immature crops. Recent hot weather covered much of northern Mexico.



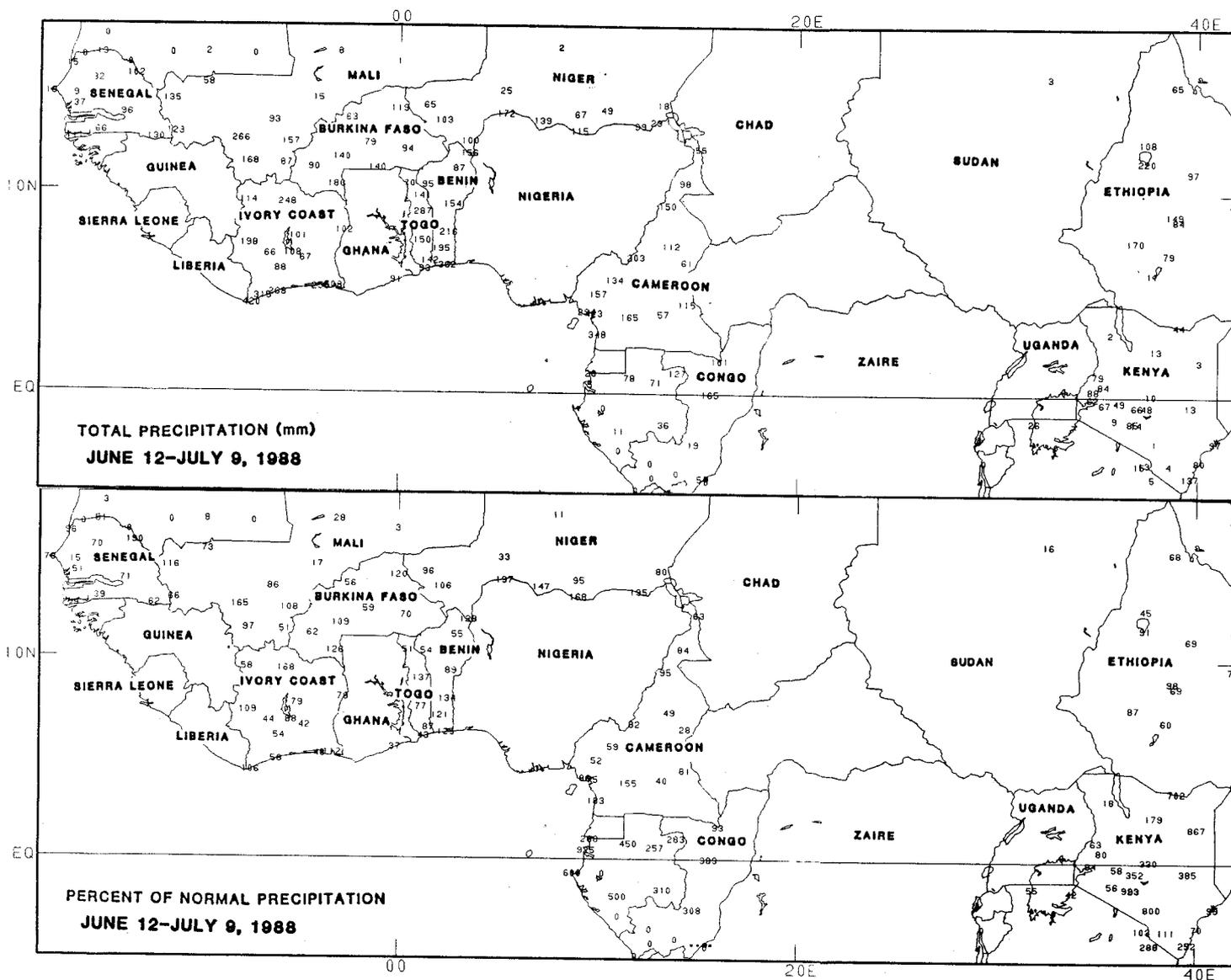
CANADA ... Light rain (less than 10mm) returned to the southwestern half of Saskatchewan and much of central and southern Alberta. Light to moderate rain (10-25mm or more) continued elsewhere, improving conditions somewhat for reproductive to filling crops. Portions of northern Alberta, however, are too wet following 3 weeks of above-normal rainfall. Temperatures across the Prairies remained mild. In early June, hot, dry weather stressed a large portion of Canada's early vegetative spring wheat, while late in the month, a second outbreak of hot, dry weather stressed reproductive crops in southern Saskatchewan and parts of Manitoba. Monthly temperatures averaged 4-6 degrees C above normal in the eastern two-thirds of the Prairies. Conditions generally improved in June for crop development over much of the northwest.



AFRICAN AGRICULTURAL WEATHER SUMMARY

In eastern Africa, much needed rain finally reached crop regions of northern Ethiopia, improving conditions for late planting. Moderate to heavy showers continued over Ethiopia's central and western crop areas, benefiting vegetative to reproductive crops. Conditions have been mostly favorable since early June for normal crop development in western and central regions. As indicated by satellite imagery, scattered showers since mid-June over central Sudan benefited planting and crop establishment. Satellite imagery depicted mostly dry weather over Somalia, though scattered, light rain in southern growing areas during early July benefited immature crops. Moisture conditions have continued mostly favorable for Kenya's reproductive to filling corn, while dry weather in northern Tanzania favored mature grains.

In western Africa, conditions continued favorable in the coastal countries for crops in the vegetative to filling stages of development. Excessive rainfall over coastal Cote d'Ivoire, however, likely caused local flooding. Further north, conditions since mid-June from southern Mali to Niger have been favorable for planting and vegetative growth, except for western Burkina Faso, which until recently had been drier than normal. Heavy rains since July 10 have relieved the dry conditions in Burkina Faso. Periodic rain over western Senegal and, more recently, in central Chad has improved planting conditions. Mauritania received some rain recently, but more is needed for proper crop establishment.



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(Continued from p. 20)

WISCONSIN: Temperatures averaged 73^o, 2^o above normal. Extremes 41^o; 104^o. Precipitation 0.60 to 2.00 in. Still more rain needed.

Days suitable for fieldwork 6.4. Soil moisture 98% short, 2% adequate. Crop condition 30% very poor, 41% poor, 27% fair, 2% good. Corn condition declines, 13% very poor, 48% poor, 37% fair, 2% good. Average corn height 49 in., 65 in. 1987, 52 in. avg. Corn 19% silked, 34% 1987, 12% avg. Second crop hay 44% cut, 31% 1987, 25% avg. Slow regrowth caused many farmers not to cut second crop. Oats 12% harvested, 8% 1987, 3% avg. Winter wheat 48% harvested, 22% 1987. Feed and roughage supplies 56% very short, 41% short, 3% adequate.

WYOMING: Temperatures above normal. Rainfall generally below normal.

Days suitable for fieldwork 7.0. Topsoil moisture 98% short, 2% adequate. Winter wheat 5% headed, 5% 1987, 10% avg.; 25% turning color, 35% 1987, 45% avg.; 55% mature, 55% 1987, 35% avg.; 15% harvested, 5% 1987, 10% avg. Barley 5% boot, 5% 1987, 35% headed, 35% 1987, 35% avg.; 40% turning color, 40% 1987, 40% avg.; 20% mature, 20% 1987, 15% avg.; small amount harvested. Spring wheat 5% boot, 5% 1987; 35% headed, 50% 1987, 50% avg.; 40% turning color, 30% 1987, 35% avg.; 20% mature, 15% 1987, 10% avg. Oats 10% boot, 15% 1987; 50% headed, 50% 1987, 60% avg.; 25% turning color, 25% 1987, 20% avg.; 15% mature, 10% 1987, 5% avg. Dry beans 30% bloom, 15% 1987, 35% avg. Potatoes 60% bloom, 25% 1987, 40% avg. Corn 15% tasseled, 5% 1987, 10% avg. Alfalfa first cutting 95% complete, 95% 1987, 85% avg. Other hay 60% harvested, 55% 1987, 45% avg. Range, pasture poor to fair. Stock water 50% short. Livestock feed obtained from pastures 90%. Hay, roughage supplies 15% very short, 50% short, 35% adequate.

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