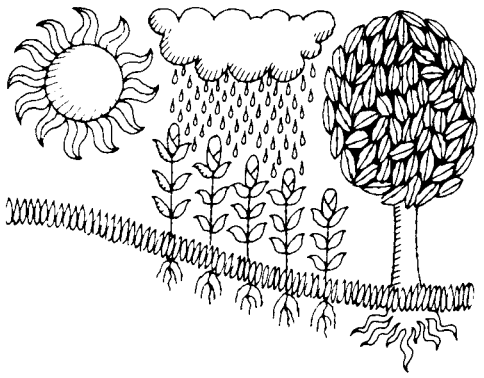

WEEKLY WEATHER AND CROP BULLETIN

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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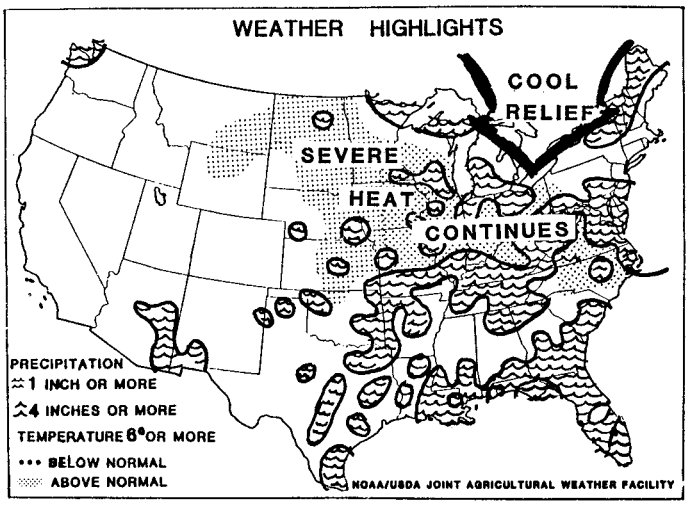
National Weather Summary

August 14 - 20, 1988



HIGHLIGHTS: Hot, humid weather remained over the eastern United States during much of the week. At week's end, a strong cold front pushed south from Canada and brought showers and relief from the extreme heat to the north-central and northeastern States. Remnants from a tropical depression brought widespread rain to the extreme Southeast.

SUNDAY...The heat and humidity persisted over much of the Nation. Many stations in the Northeast had record-high temperatures for the date. Temperatures soared above 100 degrees in the central and southern Plains. A tropical depression brought more rain to the Southern Atlantic States. Showers were spread over the Great Lakes to New England.

MONDAY...It was one of the hotter days of the hot summer of 1988. Numerous high temperature records were broken east of the Rockies. Pierre, South Dakota reached 114 degrees. Showers continued over the Southeast and New England and were widely scattered over the Rockies. Evening thunderstorms reached from Indiana to the mid-Atlantic coast.

TUESDAY...It was another hot scorching day across the heartland of the Nation. Thirty-nine record-high temperatures were broken from the northern Plains to the central Appalachians. Severe weather developed along the northern fringe of the heat over the upper Great Lakes. Showers remained along the Gulf and South Atlantic coasts.

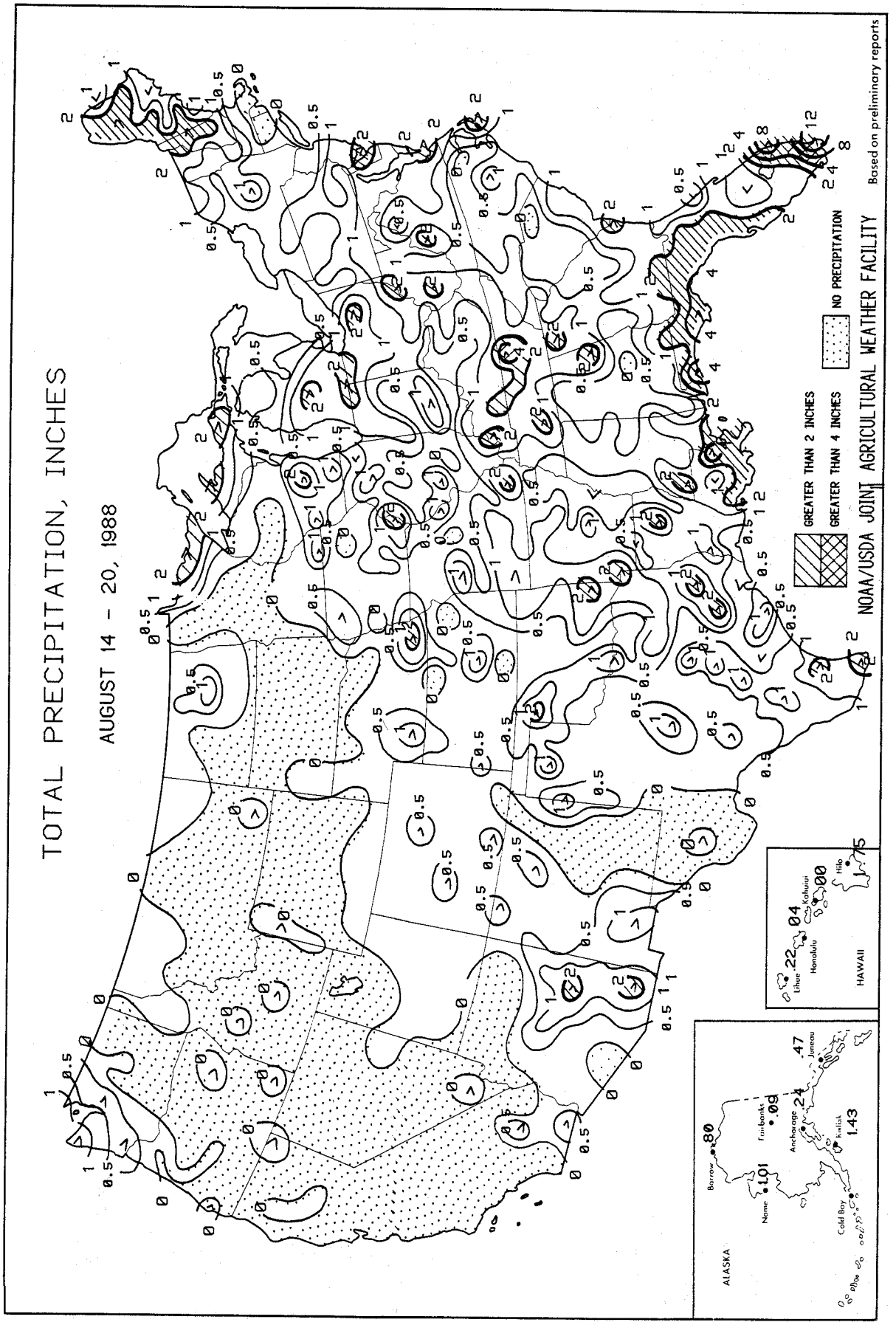
WEDNESDAY...The eastern two-thirds of the Nation continued to fry as 55 stations set record-high temperatures. A cold front along the Canadian border sagged southward and initiated showers and severe thunderstorms from New England to the Great Lakes region. Rain was widely scattered along the gulf coast and in the southern and central Great Plains.

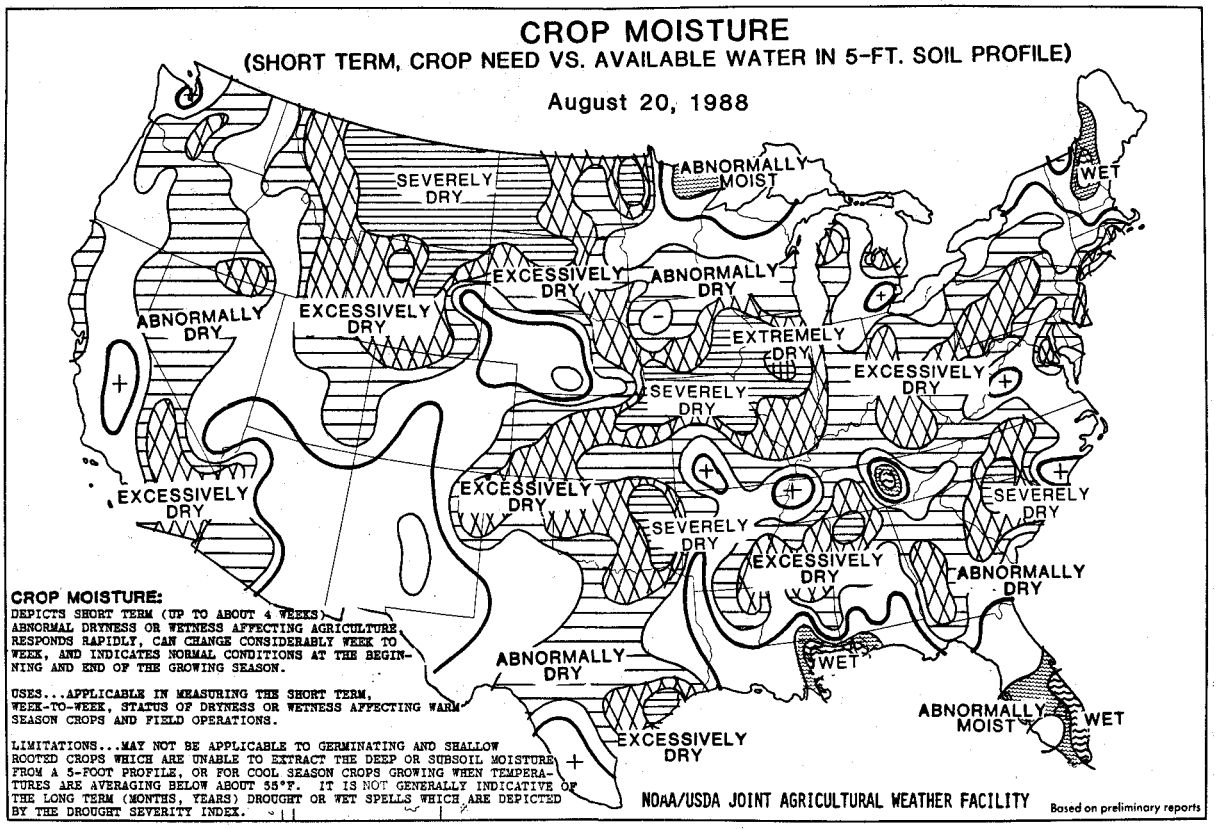
THURSDAY...The cold front moved to the south, bringing cooler air and showers from the central Plains to the middle Atlantic States. While the northeastern and north-central portions of the country were getting relief from the hot weather, the Southeast continued to suffer. The Carolinas experienced record heat.

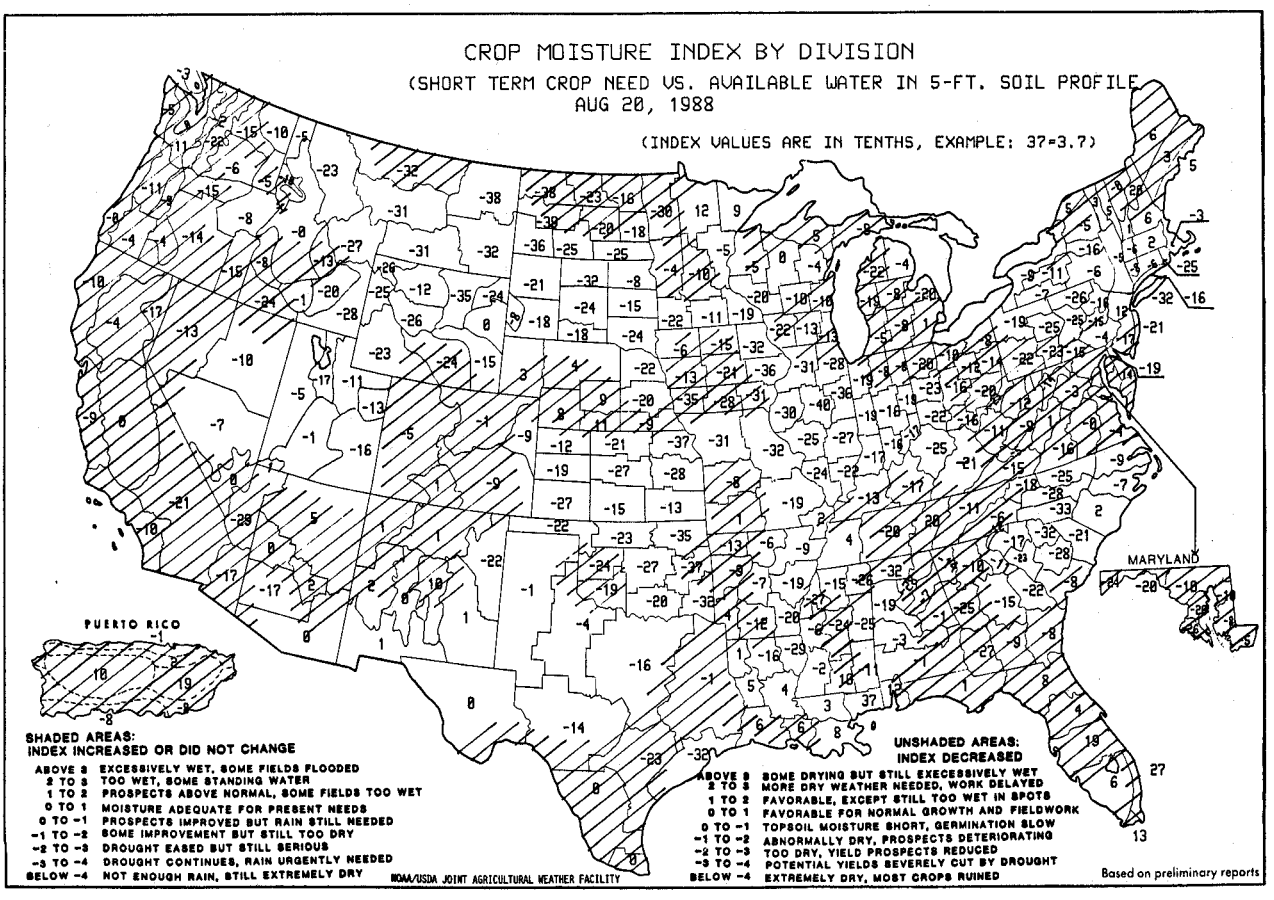
FRIDAY...The frontal system stalled across the mid-Atlantic States, through the Ohio Valley and into the central Plains and continued to be the focal point for showers and thunderstorms. Cooler weather moved in north of the front, while scattered showers remained in the warm humid air south of the front.

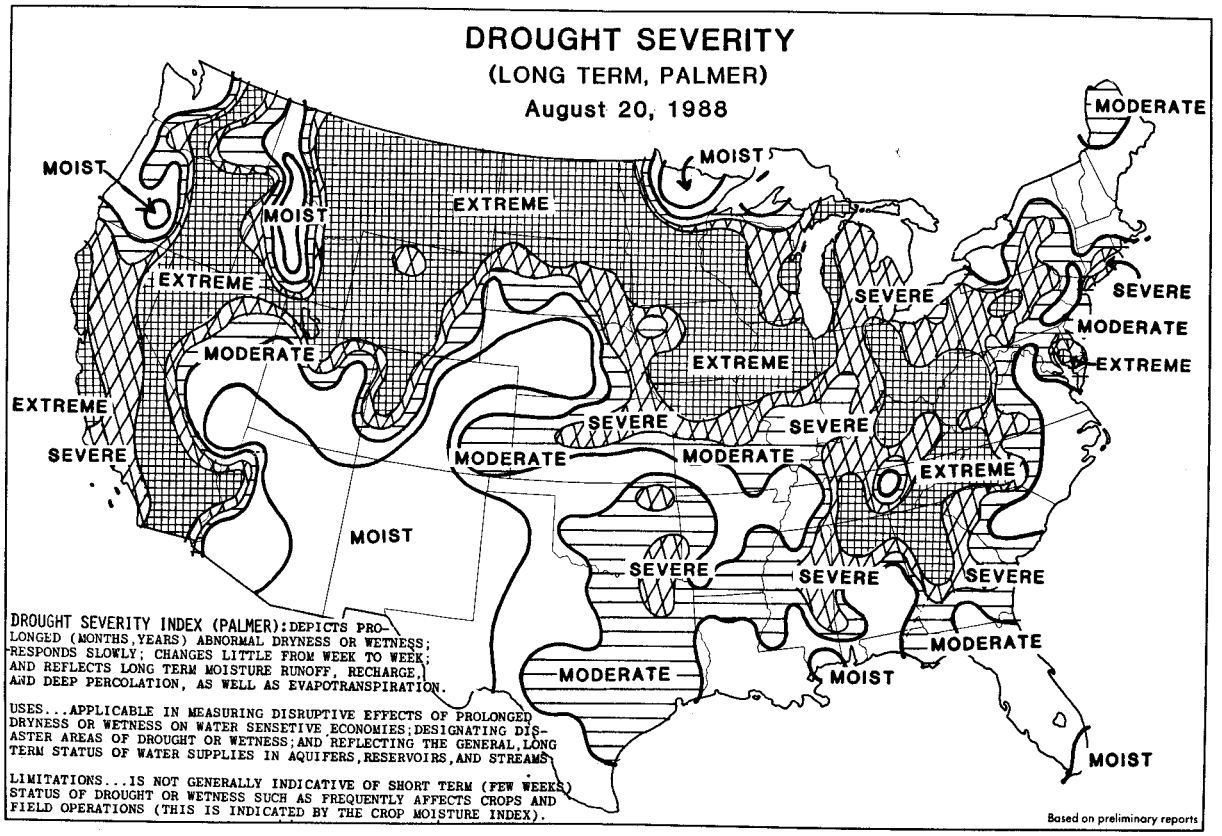
SATURDAY...Widespread showers and occasional thunderstorms continued over the mid-Atlantic States and much of the Southeast. A strong cold front, draped from central Montana into Nevada, produced scattered thunderstorms in the central Rockies. Strong winds associated with this front pushed dense smoke from forest fires across northwest Wyoming.

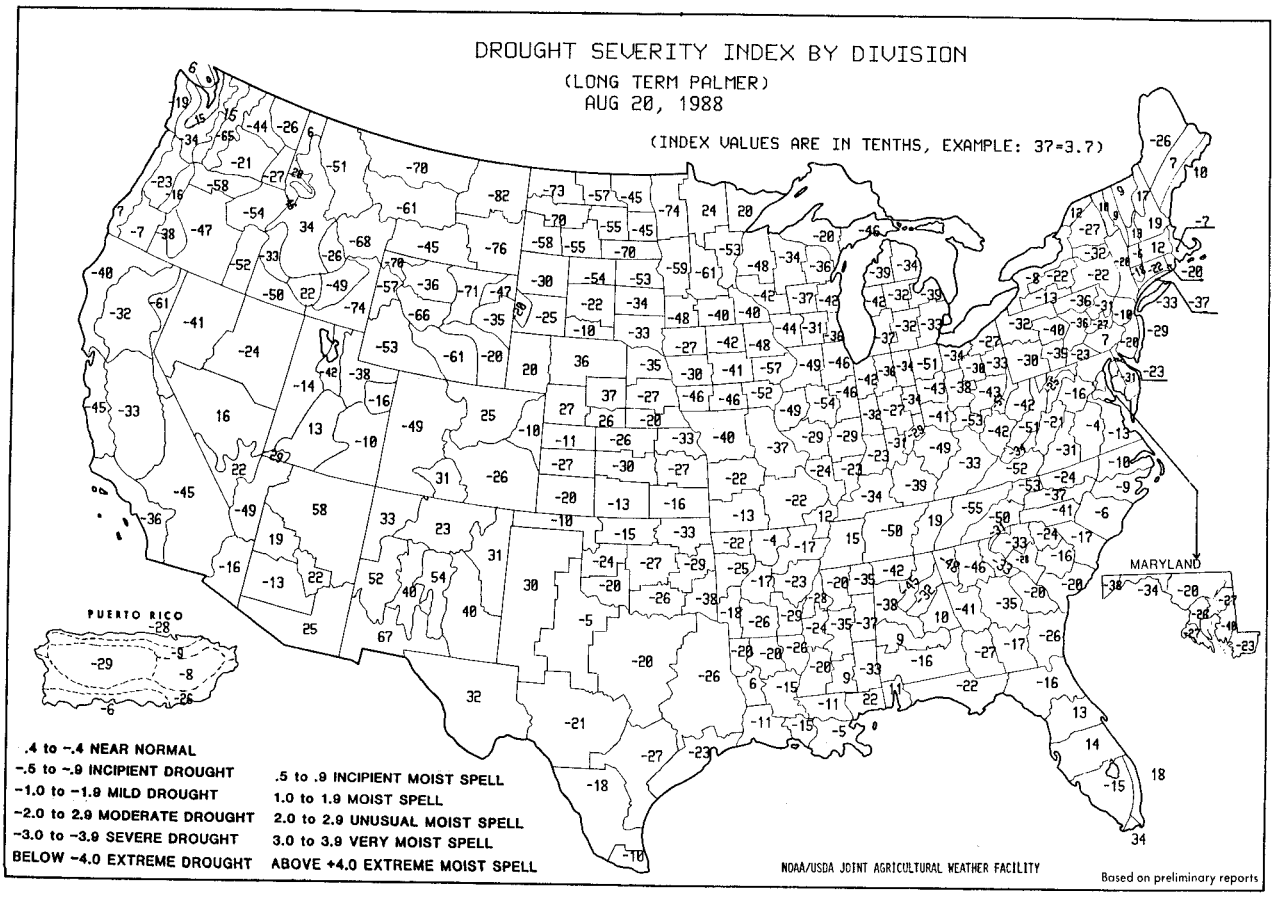
Contents

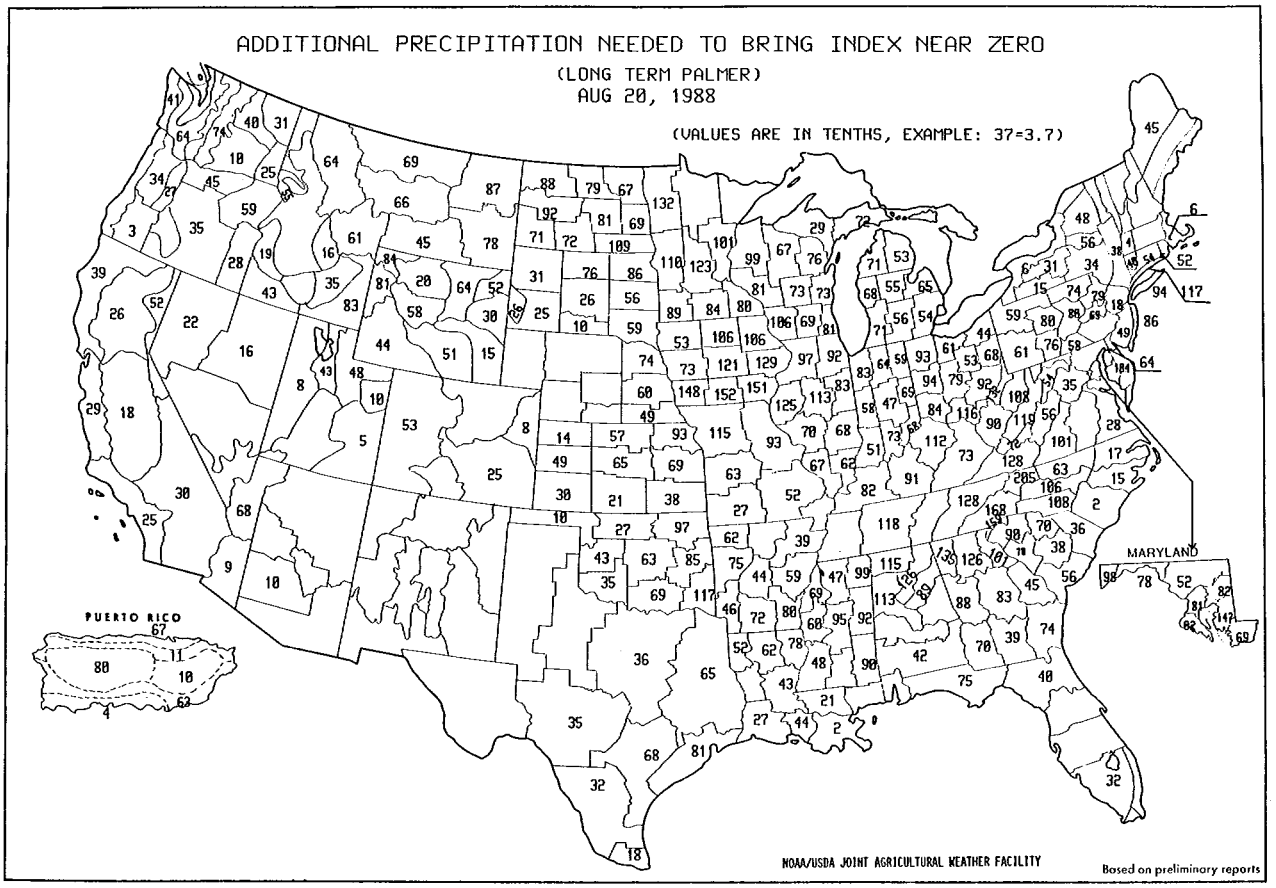

TOTAL PRECIPITATION, INCHES
AUGUST 14 - 20, 1988
GREATER THAN 2 INCHES
GREATER THAN 4 INCHES
NO PRECIPITATION
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA
Barrow .80
Nome .101
Fairbanks .00
Anchorage .24
Juneau .47
Kodiak 1.43
Cold Bay
HAWAII
Lihue .22
Honolulu .04
Kahului .00
Hilo .75

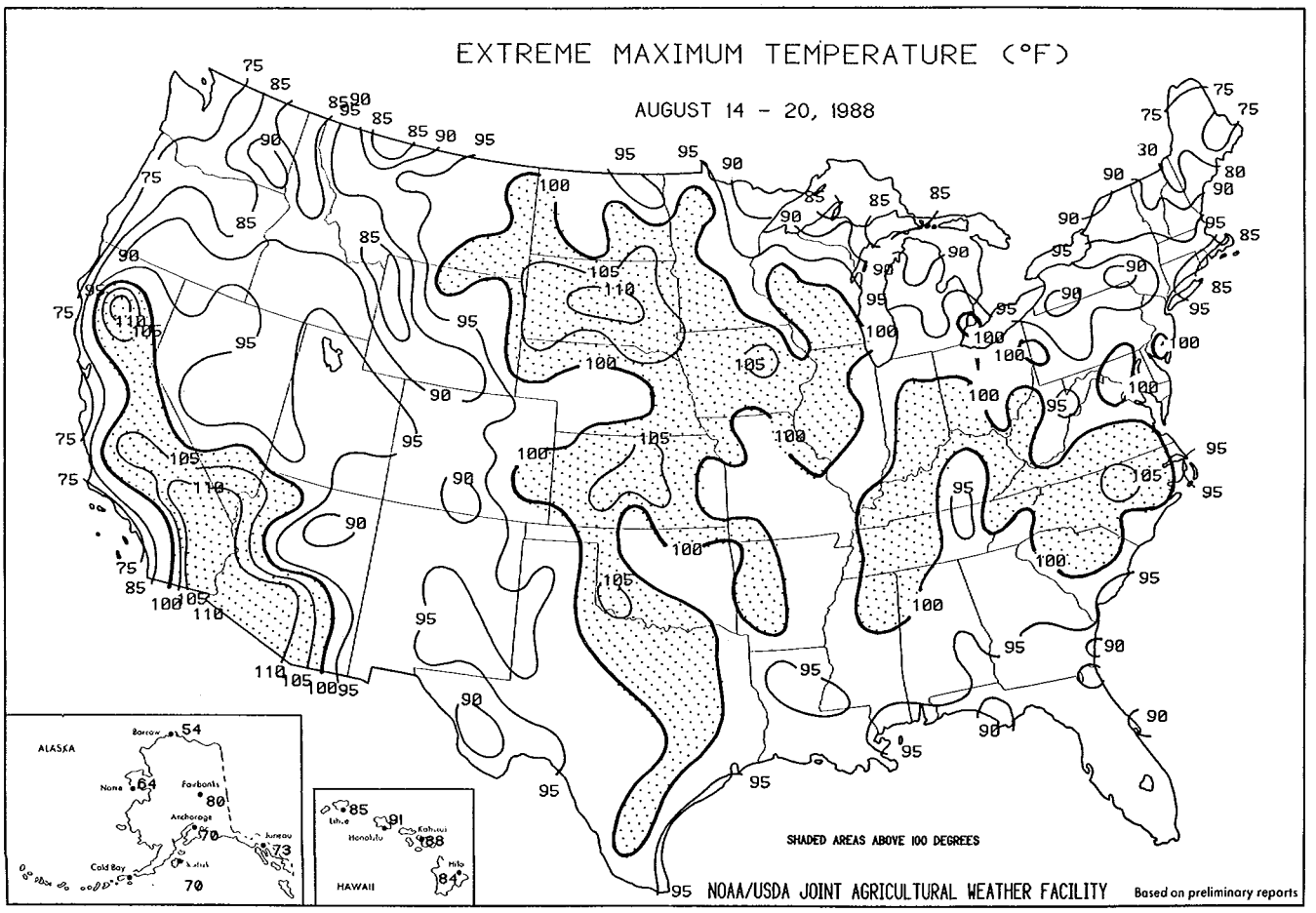

CROP MOISTURE
(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
August 20, 1988
SEVERELY DRY
ABNORMALLY MOIST
WET
EXCESSIVELY DRY
ABNORMALLY DRY
EXTREMELY DRY
SEVERELY DRY
EXCESSIVELY DRY
ABNORMALLY DRY
EXCESSIVELY DRY
SEVERELY DRY
EXCESSIVELY DRY
SEVERELY DRY
EXCESSIVELY DRY
ABNORMALLY DRY
ABNORMALLY DRY
WET
ABNORMALLY MOIST
WET
EXCESSIVELY DRY
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

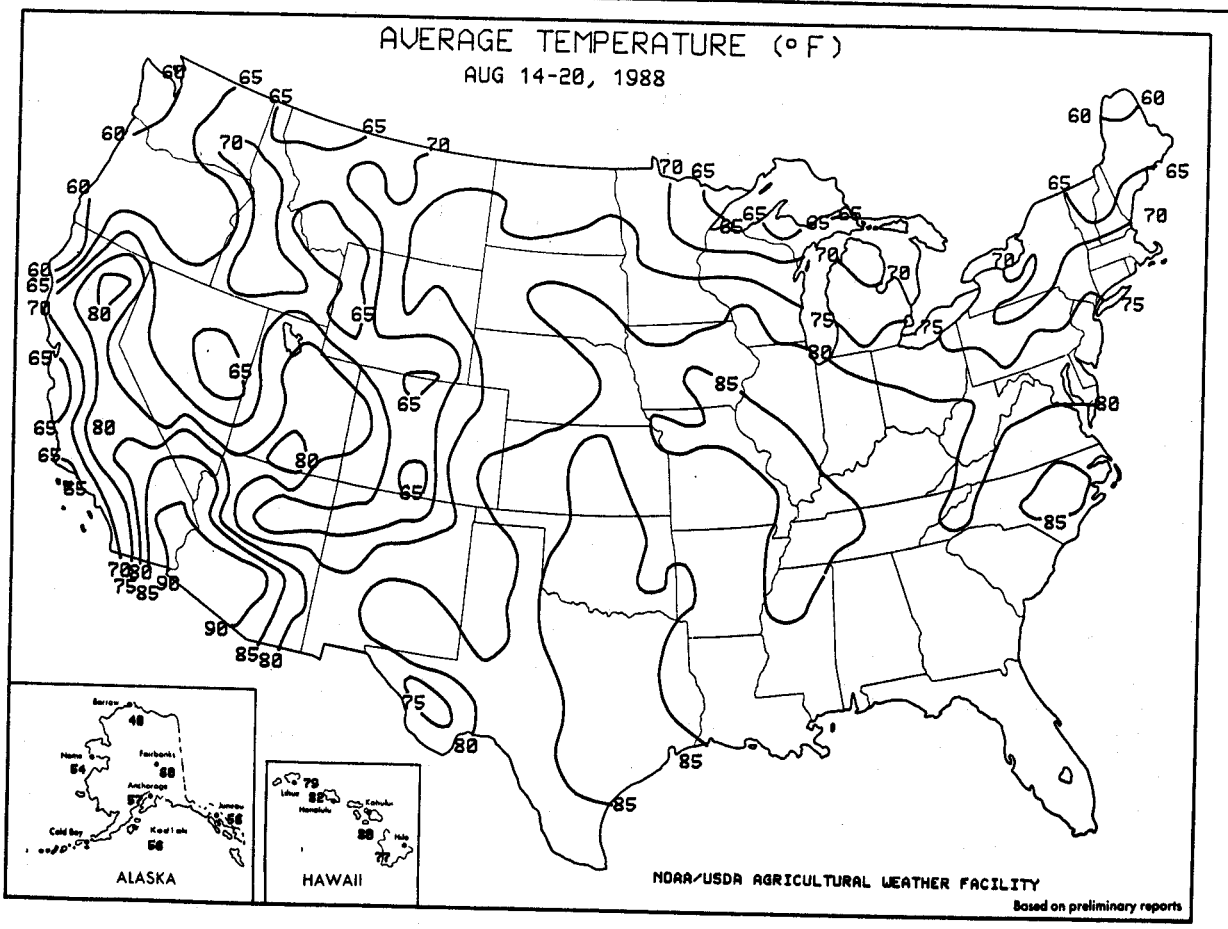

CROP MOISTURE INDEX BY DIVISION
(SHORT TERM CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE
AUG 20, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
PUERTO RICO
MARYLAND
SHADED AREAS:
INDEX INCREASED OR DID NOT CHANGE
ABOVE 3 EXCESSIVELY WET, SOME FIELDS FLOODED
2 TO 3 TOO WET, SOME STANDING WATER
1 TO 2 PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
0 TO 1 MOISTURE ADEQUATE FOR PRESENT NEEDS
0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2 SOME IMPROVEMENT BUT STILL TOO DRY
-2 TO -3 DROUGHT EASED BUT STILL SERIOUS
-3 TO -4 DROUGHT CONTINUES, RAIN URGENTLY NEEDED
BELOW -4 NOT ENOUGH RAIN, STILL EXTREMELY DRY
UNSHADED AREAS:
INDEX DECREASED
ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
2 TO 3 MORE DRY WEATHER NEEDED, WORK DELAYED
1 TO 2 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1 TO -2 ABNORMALLY DRY, PROSPECTS DETERIORATING
-2 TO -3 TOO DRY, YIELD PROSPECTS REDUCED
-3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DROUGHT
BELOW -4 EXTREMELY DRY, MOST CROPS RUINED
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

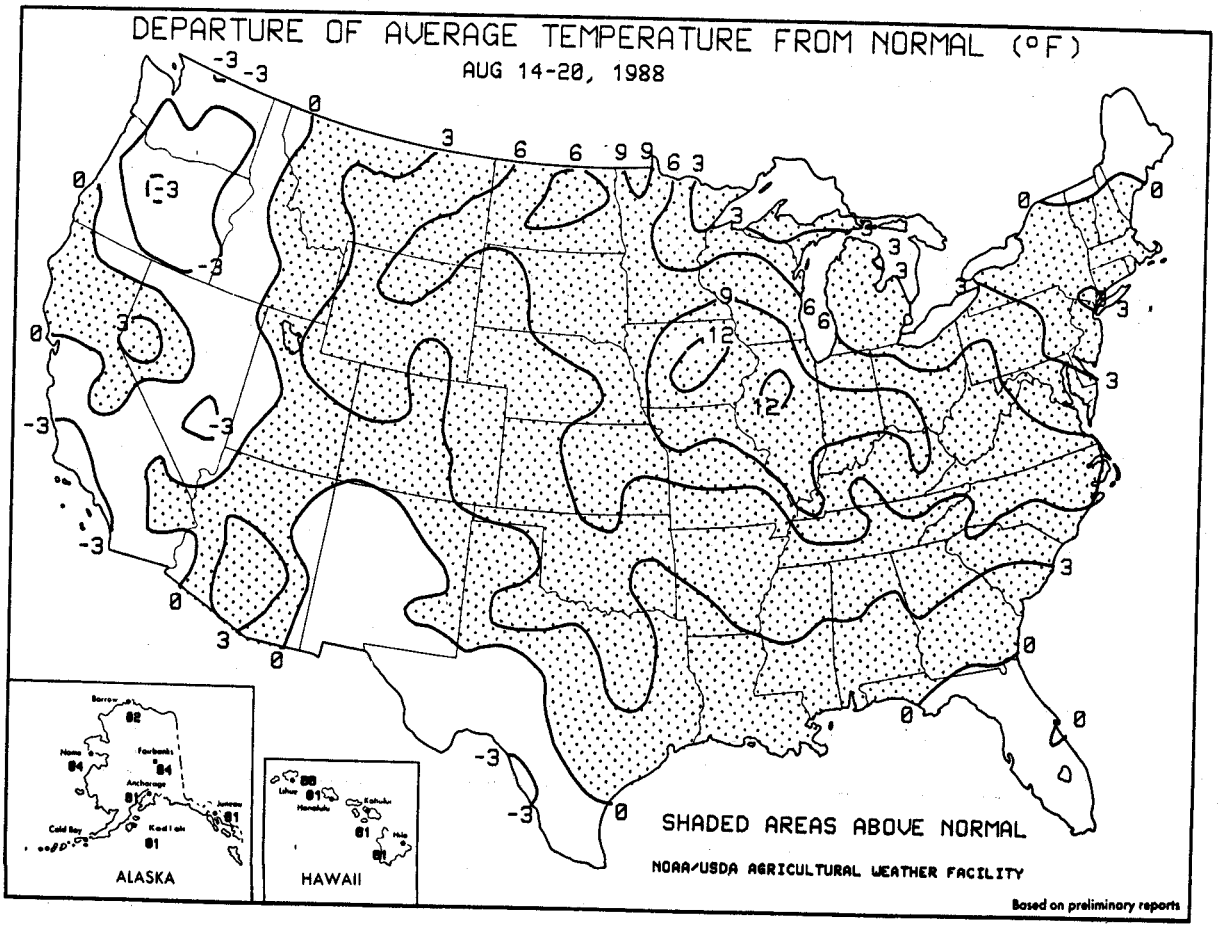

DROUGHT SEVERITY
(LONG TERM, PALMER)
August 20, 1988
MOIST
MOIST
MOIST
EXTREME
EXTREME
MODERATE
EXTREME
SEVERE
MOIST
MODERATE
EXTREME
SEVERE
SEVERE
MODERATE
MODERATE
SEVERE
MODERATE
EXTREME
MODERATE
EXTREME
SEVERE
SEVERE
SEVERE
SEVERE
MODERATE
MOIST
MODERATE
MOIST
DROUGHT SEVERITY INDEX (PALMER): DEPICTS 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 SENSETIVE ECONOMIES; DESIGNATING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL, LONG TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS
LIMITATIONS...IS NOT GENERALLY INDICATIVE OF SHORT TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
Based on preliminary reports


DROUGHT SEVERITY INDEX BY DIVISION
(LONG TERM PALMER)
AUG 20, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
PUERTO RICO
MARYLAND
.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


ADDITIONAL PRECIPITATION NEEDED TO BRING INDEX NEAR ZERO
(LONG TERM PALMER)
AUG 20, 1988
(VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
PUERTO RICO
MARYLAND
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


EXTREME MAXIMUM TEMPERATURE (°F)
AUGUST 14 - 20, 1988
ALASKA
HAWAII
SHADED AREAS ABOVE 100 DEGREES
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


AVERAGE TEMPERATURE (°F)
AUG 14-20, 1988
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
AUG 14-20, 1988
ALASKA
HAWAII
SHADED AREAS ABOVE NORMAL
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

Heating Degree Days (Base 65° F.)

July 1988

AL.	Birmingham	0		Portland	13	OK.	Okla. City	0
	Mobile	0	MD.	Baltimore	2		Tulsa	0
	Montgomery	0	MA.	Boston	9	OR.	Astoria	159
AK.	Anchorage	184		Chatham	10		Burns	25
	Barrow	803	MI.	Alpena	8		Medford	1
	Fairbanks	39		Detroit	2		Pendleton	22
	Nome	364		Flint	5		Portland	33
AZ.	Flagstaff	9		Grand Rapids	3		Salem	47
	Phoenix	0		Houghton Lake	7	PA.	Allentown	0
	Tucson	0		Lansing	7		Erie	5
	Winslow	0		Marquette	37		Harrisisburg	4
	Yuma	0		S. Ste. Marie	39		Philadelphia	0
AR.	Fort Smith	0	MN.	Duluth	22		Pittsburg	5
	Little Rock	0		Internatl Falls	29		Scranton	13
CA.	Bakersfield	0		Minneapolis	1	RI.	Providence	8
	Eureka	187		Rochester	3	SC.	Charleston	0
	Fresno	0		St. Cloud	1		Columbia	0
	Los Angeles	0	MS.	Jackson	0		Greenville	0
	Redding	0		Meridian	0	SD.	Aberdeen	3
	Stockton	0	MO.	Columbia	4		Huron	3
	San Diego	0		Kansas City	2		Rapid City	3
	San Francisco	40		St. Louis	0		Sioux Falls	0
CO.	Denver	7		Springfield	0	TN.	Chattanooga	0
	Pueblo	1	MT.	Billings	0		Knoxville	0
CO.	Bridgeport	6		Glasgow	0		Memphis	0
	Hartford	9		Great Falls	24		Nashville	0
DC.	Washington	0		Havre	11	TX.	Abilene	0
FL.	Apalachicola	0		Helena	10		Amarillo	0
	Jacksonville	0		Kalispell	69		Austin	0
	Key West	0		Miles City	0		Beamont	0
	Miami	0		Missoula	48		Brownsville	0
	Orlando	0	NE.	Grand Island	7		Corpus Christi	0
	W. Palm Beach	0		Lincoln	3		Del Rio	0
	Tallahassee	0		Norfolk	4		El Paso	0
	Tampa	0		North Platte	0		Fort Worth	0
GA.	Atlanta	0		Omaha	2		Galveston	0
	Augusta	0		Valentine	6		Houston	0
	Macon	0	NV.	Ely	1		Lubbock	0
	Savannah	0		Las Vegas	0		Midland	0
ID.	Boise	4		Reno	0		San Angelo	0
	Lewiston	12		Winnemucca	0		San Antonia	0
	Pocatello	1	NH.	Concord	19		Victoria	0
IL.	Chicago	0	NJ.	Atlantic City	5		Waco	0
	Moline	1	NM.	Albuquerque	0		Wichita Falls	0
	Peoria	0	NY.	Albany	8	UT.	Milford	0
	Rockford	0		Bimhamton	18		Salt Lake City	0
	Springfield	0		Buffalo	5	VT.	Burlington	15
IN.	Evansville	0		New York	3	VA.	Lynchburg	0
	Fort Wayne	0		Rochester	6		Norfolk	0
	Indianapolis	0		Syracuse	9		Richmond	0
	South Bend	1	NC.	Asheville	5		Roanoke	1
IA.	Des Moines	0		Charlotte	0	WA.	Quillayute	183
	Dubuque	1		Greensboro	0		Seattle-Tacoma	60
	Souix City	0		Hatteras	0		Spokane	47
KS.	Concordia	4		Raleigh	0		Walla Walla	--
	Dodge City	0		Wilmington	0		Yakima	33
	Goodland	3	ND.	Bismark	1	WV	Beckley	14
	Topeka	2		Fargo	3		Charleston	2
	Wichita	0		Williston	1		Huntington	0
KY.	Lexington	0	OH.	Akron-Canton	8	WI.	Green Bay	4
	Louisville	0		Cinncinnati	1		Madison	4
LA.	Baton Rouge	0		Cleveland	8		Milwaukee	3
	Lake Charles	0		Columbus	3	WY	Casper	2
	New Orleans	0		Dayton	2		Cheyenne	12
	Shreveport	0		Toledo	4		Lander	1
ME.	Caribou	47		Youngstown	11		Sheridan	3

THE HOT SUMMER OF 1988, A HISTORICAL PERSPECTIVE

Late in the week of August 14-20, 1988, a cold front brought the curtain down on a record-setting heat wave which had plagued much of the United States east of the Rockies. This was only one of many hot spells that had smothered large parts of the continent since June.

The summer temperatures of 1988 have rewritten the record books. More than 1,000 high temperature records have been set or tied since June 1. On August 17 alone, 55 records were set or tied as temperatures soared to the 95- to 105-degree levels from the East coast westward to the mid-Mississippi Valley. In one 3-day period, from August 15 to August 17, 130 records were set or tied. The heat has been blamed for at least 70 deaths and has contributed to massive declines in crop yields and water levels.

Now that the bulk of the heat appears to be behind us, it is interesting to see how the blistering summer and spring of 1988 compares with past years. First, we present a National Climatic Data Center study comparing June-July temperatures this year with past years. Second, we show the results of a USDA/NOAA Joint Agricultural Weather Facility study which looks at May-July rainfall and temperatures. Note that neither study incorporates data from the steamy August 1-17 period, but the results are nevertheless impressive.

RECORD SUMMER HEAT

June-July average temperatures set a 93-year record in ten States. A review of historical records for climate divisions indicates that there have been seven summers, in six decades, in which the June-July mean temperatures set records across the United States. These seven heat waves created records in some portion of 46 of the 48 contiguous States (fig. 1). The most extensive early summer heat wave occurred in 1934 when the June-July averages broke records in 17 States.

Figures 2, 3, and 4 show examples of the historical time series for a few selected climate divisions in which the 1988 heat has been extreme. The June-July 1988 estimates are clearly record breakers in all cases. In the Wind River climate division in Wyoming, both the June and July mean temperatures were record breakers, creating a June-July average that is significantly higher than any in the 93-year history.

National Climatic Data Center

Figure 1

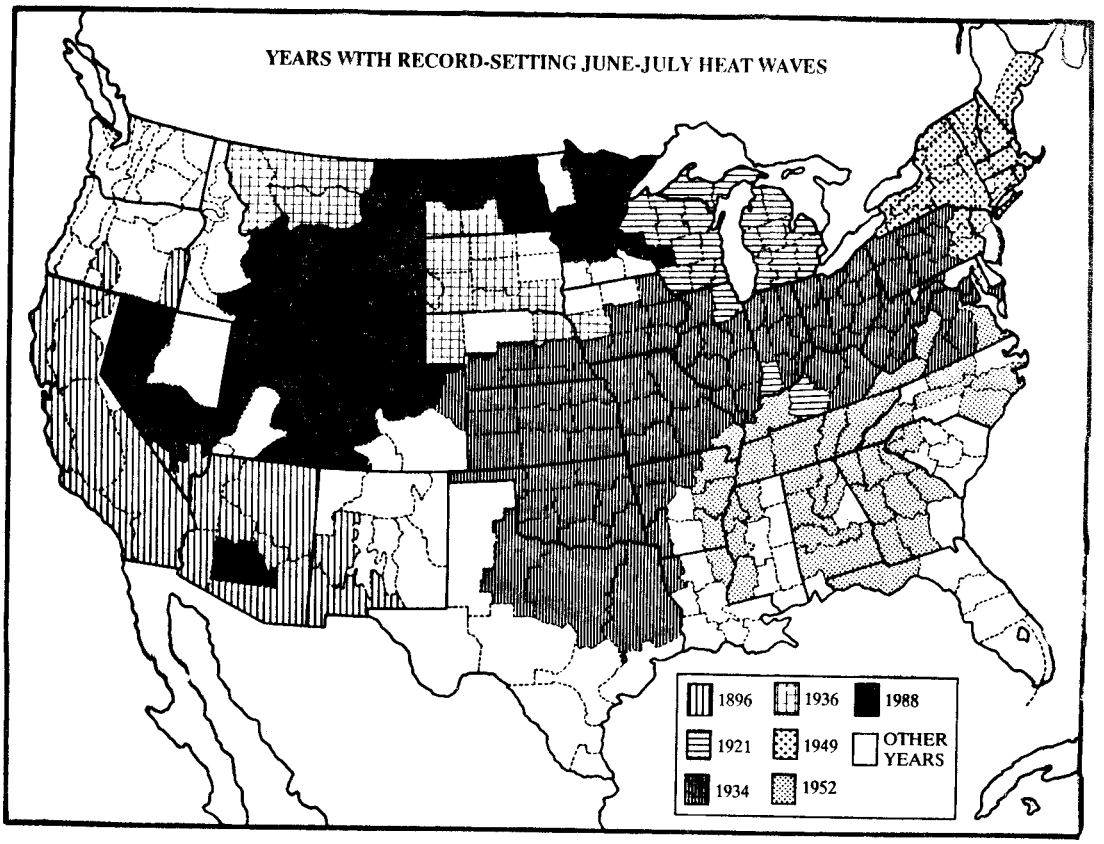
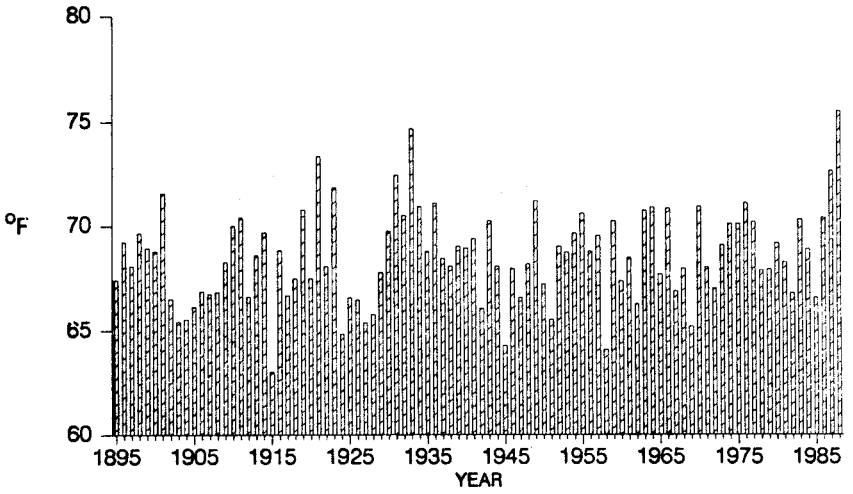


Figure 2

CENTRAL Division - MINNESOTA

June-July Average Temperature



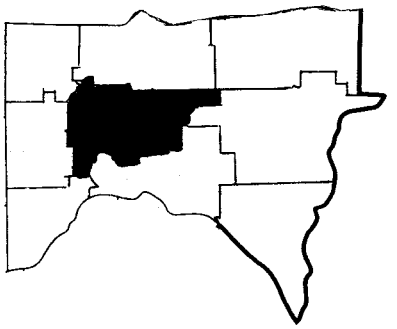
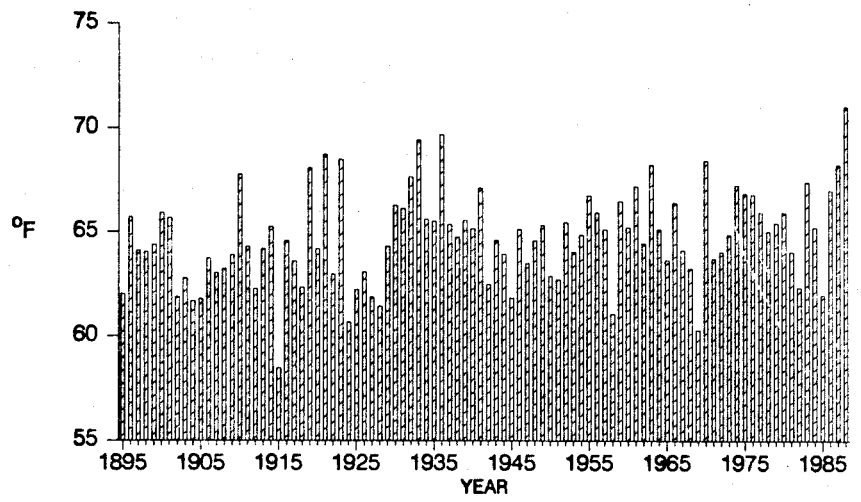


Figure 3

NORTHEAST Division - NORTH DAKOTA

June-July Average Temperature



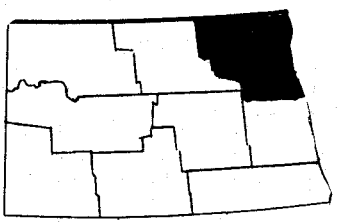
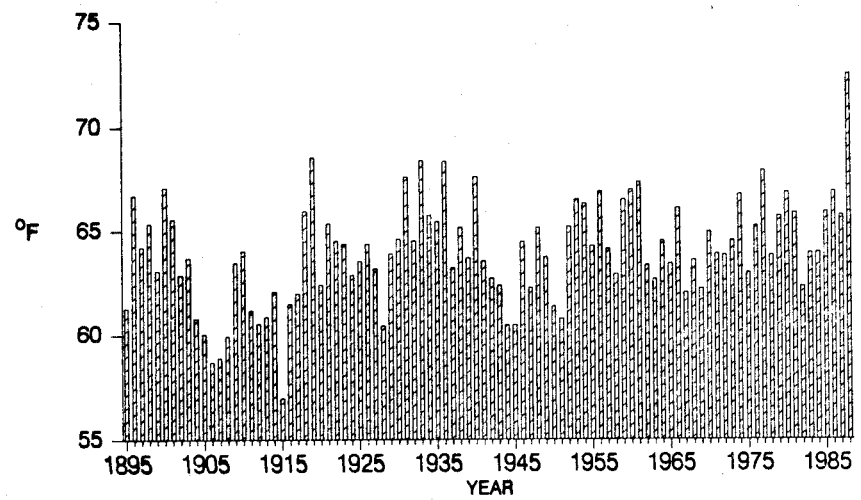
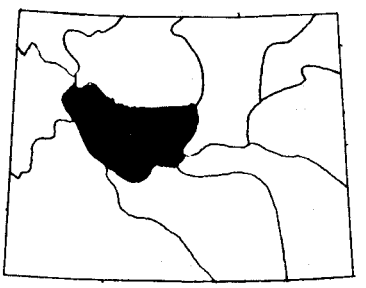


Figure 4

WIND RIVER Division - WYOMING

June-July Average Temperature





HOTTEST AND DRIEST YEARS IN THE U.S. CLIMATE DIVISIONS FOR THE PERIOD 1931-1988

TOM PUTERBAUGH

AGRICULTURAL WEATHER ANALYST
NOAA/USDA JOINT AGRICULTURAL
WEATHER FACILITY

JEFFREY LOGAN

METEOROLOGIST
NOAA/CLIMATE ANALYSIS CENTER
ANALYSIS AND INFORMATION BRANCH

Monthly precipitation and temperature data for 344 climate divisions for the growing season, May-July, were ranked to determine the driest and hottest years for each division. The period of record used in the analysis was 1931-1988. Precipitation data were totaled for the 3-month period, while temperature data were averaged for this period. Maps 1 and 2 and table 1, show the results of the study. Data for 1988 are based on preliminary reports and are subject to revision following the National Climatic Data Center's more complete compilation.

Map 1 shows the driest years for each division, with only the last two digits of the years. The years 1988, 1936, and 1934 are shaded because they contain the most divisions in the driest year category (see table 1). These divisions tend to be geographically homogeneous, covering major agricultural areas in the northern Great Plains, the Corn Belt States, eastern Texas, and parts of the Southeast. More specifically, 1934 was the driest year for eastern Texas, southern Nebraska, east-central and north-central Indiana, southeast Michigan, and northwest Pennsylvania. The driest year of 1936 covers Kentucky, southern Ohio, most of Indiana, southern Illinois, eastern and west-central Missouri, northern Arkansas, western South Dakota, and southern North Dakota. In 1988, northern Ohio, and western, central, and upper Michigan, Wisconsin, Minnesota, Iowa, and extreme northwestern Missouri were the driest divisions. Geographic clustering also occurred for 1965 in the northeast, 1977 in the Piedmont of Virginia and North Carolina, 1940 in the Great Basin, and 1944 in Tennessee.

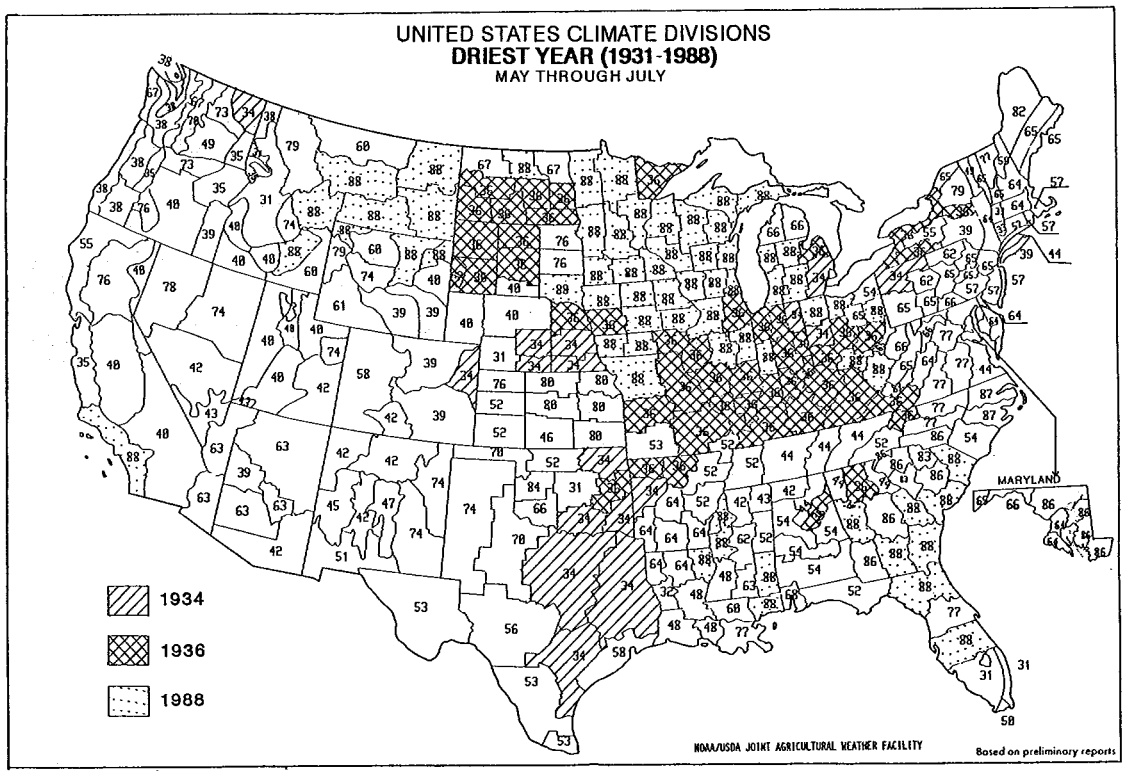
Table 1-Extreme year categories for U.S. climate divisions, May-July, selected years, 1931-1988

Precipitation		Temperature	
Driest Year	Number of Climate Divisions 1/	Hottest Year	Number of Climate Divisions 1/
1988	65	1934	118
1936	49	1988	64
1934	17	1952	28
1965	15	1943	28
1940	14	1936	18
1964	13	1958	17
1986	10	1949	14
1952	10		

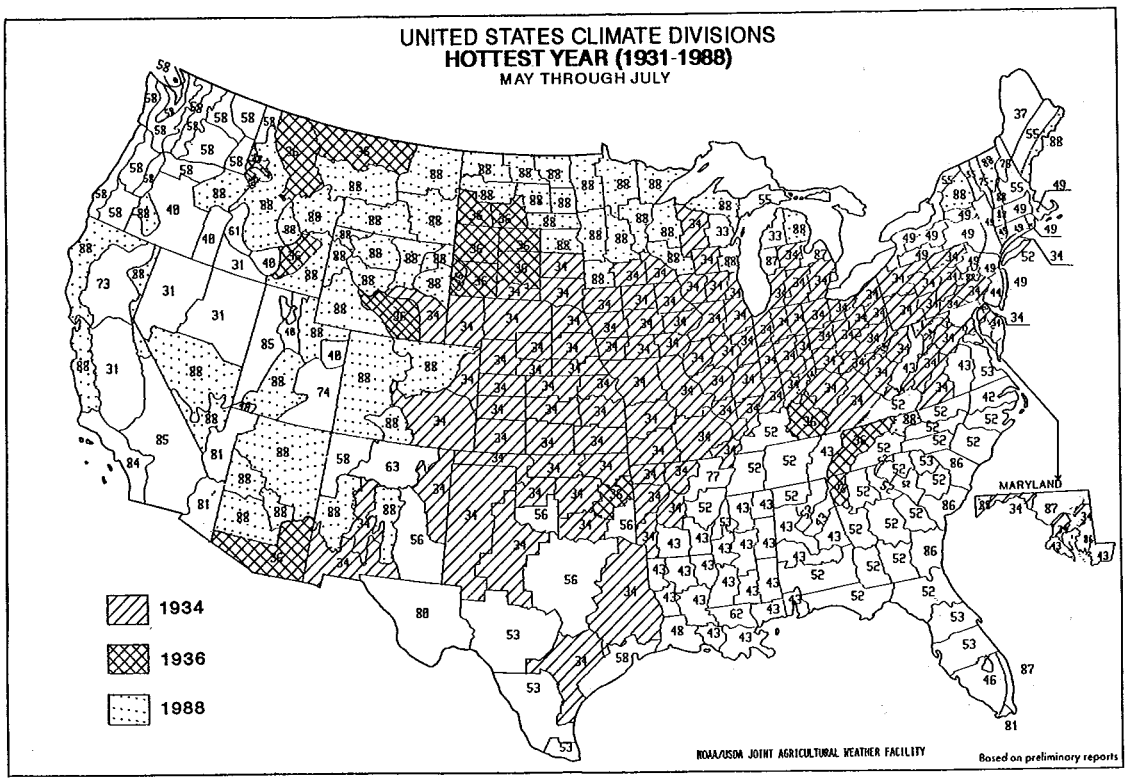
1/ Year categories containing less than 10 divisions were excluded.

Map 2 shows the hottest years for the same period for each division. As is map 1, only the last two digits of the year are shown. Table 1 lists the number of climate divisions within their respective hottest year categories. To be consistent with map 1, 1988, 1936, and 1934 in map 2 were shaded similarly. A total of 114 divisions experienced the hottest weather during 1934. These divisions are mostly concentrated in Pennsylvania, Ohio, Indiana, southern Michigan, Illinois, Iowa, Missouri, western Arkansas, Oklahoma, Kansas, and Nebraska. Eighteen divisions had 1936 as their hottest year, covering western South Dakota, southwestern North Dakota, and northwestern Montana. A total of 65 divisions have 1988 as the hottest year covering most of Wisconsin, northern Minnesota, northern and eastern North Dakota, northeast South Dakota, Wyoming, Montana, western Colorado, southern Nevada, and the west coast of California. Clustering of hottest years also occurred for 1943 in the Delta, 1949 in the Southeast, 1952 in parts of the extreme Northeast, and 1958 in the Pacific Northwest.

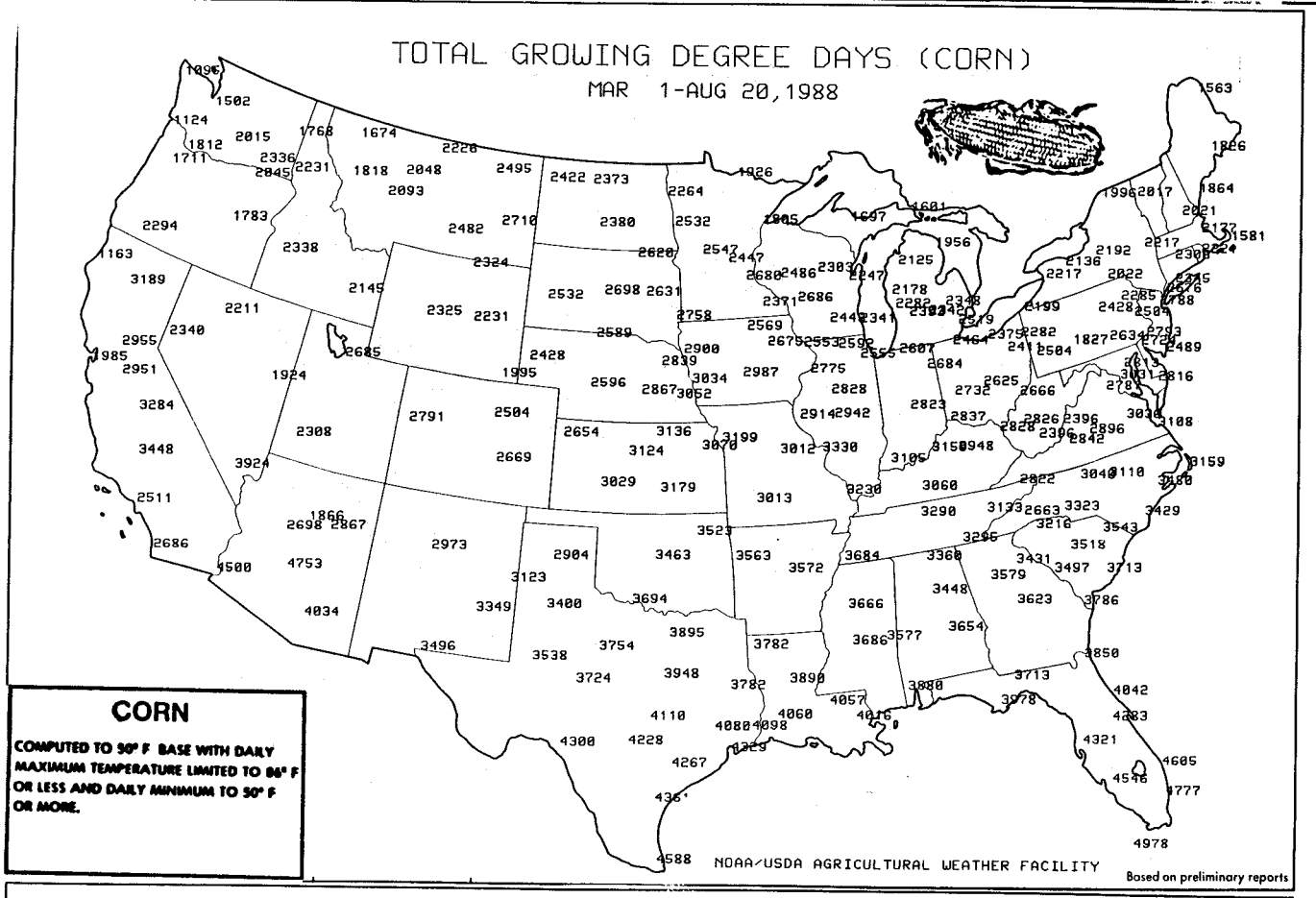
These maps show 1988 as both the driest and hottest year for most of Montana, North Dakota, and Minnesota. In 1934, the hottest and driest areas were northeastern Nebraska and eastern Texas, and in 1936, the driest and hottest year was for western South Dakota. Although many divisions in Kentucky, Indiana, and Illinois have 1936 as the driest year, with 1934 being the hottest year, in many cases 1936 was ranked as the second hottest. Again, it is important to note that some revisions to the 1988 data may occur based on final reports. Thus, areas in which 1988 data rank a close second or third should be noted. The 1988 hottest areas include southwestern North Dakota, South Dakota, northern Nebraska, southern Minnesota, most of Iowa, Wisconsin, northern Michigan, northeastern Missouri, and Kansas. For 1988 as the driest year, the areas are North Dakota, two divisions in South Dakota, northern Indiana, eastern Michigan, southeastern Ohio, and some are scattered along the Gulf Coast States.

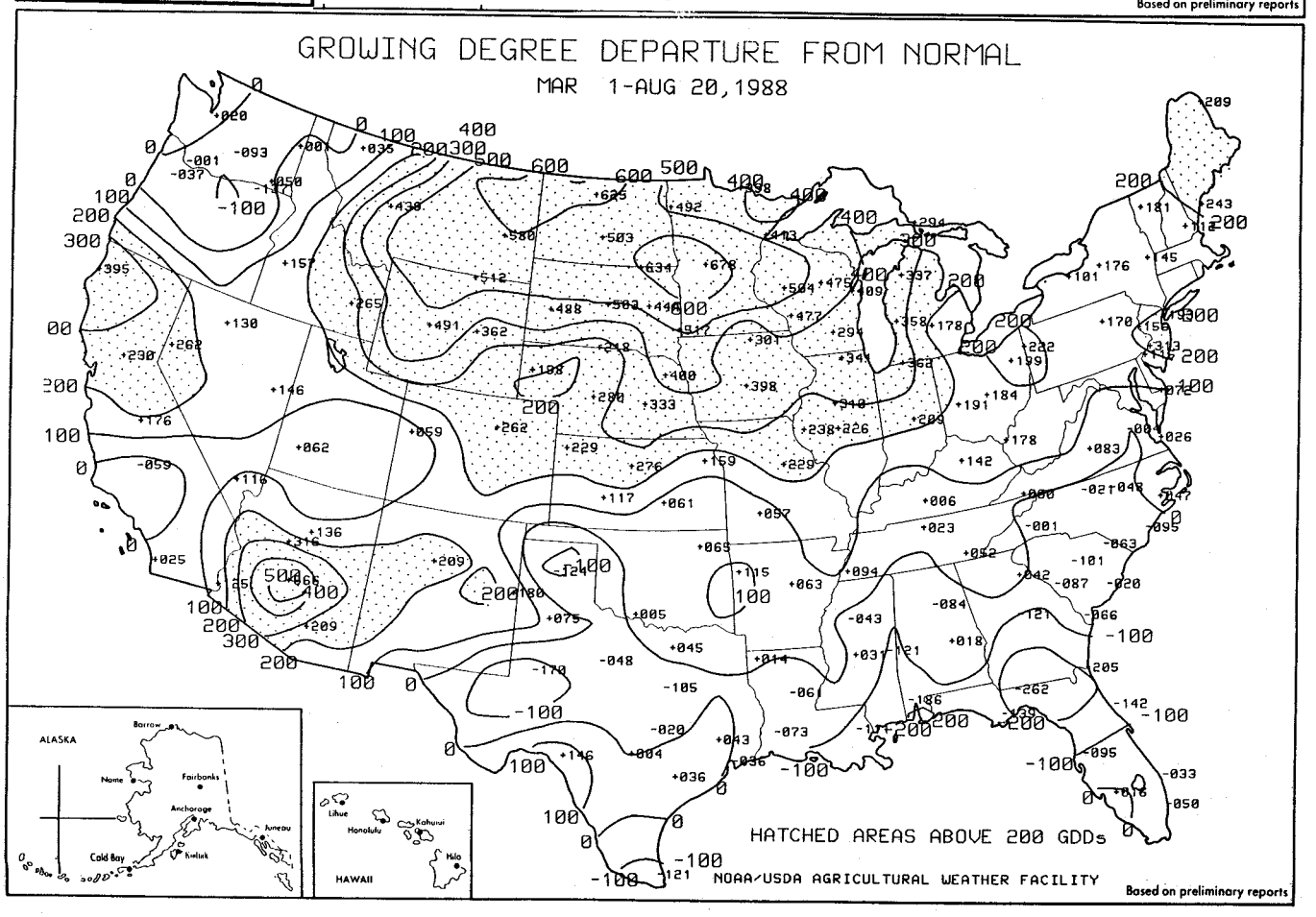

UNITED STATES CLIMATE DIVISIONS
DRIEST YEAR (1931-1988)
MAY THROUGH JULY
1934
1936
1988
MARYLAND
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

Map 1


UNITED STATES CLIMATE DIVISIONS
HOTTEST YEAR (1931-1988)
MAY THROUGH JULY
1934
1936
1988
MARYLAND
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

Map 2


TOTAL GROWING DEGREE DAYS (CORN)
MAR 1-AUG 20, 1988
CORN
COMPUTED TO 50° F BASE WITH DAILY MAXIMUM TEMPERATURE LIMITED TO 86° F OR LESS AND DAILY MINIMUM TO 50° F OR MORE.
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


GROWING DEGREE DEPARTURE FROM NORMAL
MAR 1-AUG 20, 1988
ALASKA
Barrow
Nome
Fairbanks
Anchorage
Juneau
Cold Bay
Kwilnk
HAWAII
Lihue
Honolulu
Kahului
Hilo
HATCHED AREAS ABOVE 200 GDDs
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

National Weather Data for Selected Cities

Weather Data for the Week Ending August 20, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE June 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	95	72	98	69	84	4	.2	-.6	.1	5.2	45	20.8	55	95	44	7	0	2	0
MOBILE	90	74	94	73	82	0	.3	-1.2	.3	16.7	97	40.2	91	98	59	6	0	1	0
MONTGOMERY	93	72	95	70	82	1	.3	-.4	.3	13.6	134	39.4	119	97	52	6	0	1	0
AK ANCHORAGE	65	50	70	47	57	1	.2	-.2	.2	2.6	58	4.9	62	87	48	0	0	2	0
BARROW	45	34	54	30	40	2	.8	.6	.5	2.4	131	2.6	97	97	79	0	3	2	1
FAIRBANKS	72	49	80	43	61	4	.1	-.3	.1	4.5	104	6.8	103	89	41	0	0	2	0
JUNEAU	64	47	73	44	56	1	.6	-.6	.5	9.2	90	28.6	105	98	58	0	0	2	0
KODIAK	63	49	70	46	56	1	1.4	.3	1.0	7.9	74	42.6	124	99	68	0	0	3	1
NOME	58	50	64	48	54	4	1.0	.3	.7	4.0	74	8.0	95	96	78	0	0	7	1
AZ PHOENIX	108	85	113	80	97	7	T	-.2	T	1.0	64	3.4	84	47	19	7	0	1	0
PRESCOTT	89	58	94	52	73	3	.9	.1	.6	5.8	93	10.1	83	63	27	5	0	3	1
TUCSON	101	74	106	72	88	4	.5	0	.3	3.3	79	5.8	86	74	25	7	0	4	0
YUMA	106	77	111	72	92	-1	.5	.4	.5	.6	154	1.6	125	58	22	7	0	1	1
AR FORT SMITH	98	74	104	73	86	5	.6	-.1	.6	5.1	59	20.6	79	97	44	7	0	1	1
LITTLE ROCK	94	75	97	73	84	3	.1	-.5	.1	11.7	128	26.9	83	80	55	6	0	1	0
CA BAKERSFIELD	95	64	102	58	80	-3	T	0	T	T	33	3.0	79	66	24	6	0	0	0
EUREKA	64	53	65	51	59	1	T	-.1	T	2.3	279	15.9	71	94	74	0	0	0	0
FRESNO	96	61	103	57	79	0	0	0	0	T	67	5.5	79	72	18	5	0	0	0
LOS ANGELES	71	61	74	60	66	-4	0	0	0	T	0	4.6	55	90	63	0	0	0	0
REDDING	99	62	110	57	81	0	0	-.1	0	1.7	138	16.9	68	59	14	5	0	0	0
SACRAMENTO	94	57	103	55	76	1	0	0	0	.2	133	6.9	65	81	21	5	0	0	0
SAN DIEGO	73	64	76	63	68	-2	0	0	0	T	0	6.7	103	90	66	0	0	0	0
SAN FRANCISCO	74	55	81	52	64	1	0	0	0	.6	545	7.3	59	91	51	0	0	0	0
CO DENVER	89	59	97	56	74	3	.7	.4	.4	5.2	115	12.4	111	83	27	3	0	2	0
GRAND JUNCTION	93	64	97	61	78	3	.1	-.1	.1	.9	61	5.0	104	52	18	6	0	2	0
PUEBLO	95	58	100	53	76	2	T	-.4	T	4.9	115	9.3	117	81	21	6	0	2	0
CT BRIDGEPORT	83	67	95	56	75	2	.2	-.6	.2	9.5	109	22.4	86	80	45	1	0	1	0
HARTFORD	86	61	97	49	74	2	T	-.9	T	9.3	104	24.5	90	91	40	2	0	0	0
DC WASHINGTON	91	72	103	64	81	4	1.4	.4	1.0	6.2	61	20.6	81	88	47	5	0	5	1
FL APALACHICOLA	87	75	90	73	81	-1	6.7	5.0	5.2	23.9	143	45.0	131	97	69	2	0	4	3
DAYTONA BEACH	88	73	91	71	80	-1	.4	-1.1	.2	7.0	44	22.1	73	98	63	2	0	3	0
JACKSONVILLE	92	73	96	71	83	1	.9	-.9	.5	11.9	69	31.7	92	95	54	5	0	2	1
KEY WEST	89	77	90	75	83	-2	3.0	1.9	1.2	14.4	126	30.1	141	92	66	2	0	5	3
MIAMI	88	76	92	74	82	-1	4.3	2.7	2.7	27.2	140	37.1	105	95	67	2	0	6	3
ORLANDO	90	74	93	71	82	0	1.5	.1	.9	16.8	87	32.2	95	97	58	4	0	5	1
TALLAHASSEE	90	72	93	69	81	0	2.0	.4	1.3	12.7	63	34.9	78	99	58	4	0	4	2
TAMPA	91	74	93	73	82	0	3.9	2.2	3.2	15.9	90	27.3	86	96	59	6	0	5	1
WEST PALM BEACH	87	75	93	72	81	-2	10.1	8.8	6.7	30.9	178	53.4	154	97	69	1	0	6	3
GA ATLANTA	92	73	96	72	83	4	.6	-.2	.5	9.0	86	27.3	80	92	48	5	0	3	1
AUGUSTA	94	71	98	68	82	3	.2	-.7	.2	8.4	78	25.8	84	95	48	7	0	3	0
MACON	93	73	96	71	83	2	1.0	.2	.6	8.1	77	26.8	84	96	50	7	0	4	1
SAVANNAH	90	74	96	72	82	1	1.1	-.4	.6	9.9	57	28.1	79	97	58	4	0	4	1
HI HILO	83	70	84	69	77	1	1.8	-.5	.6	26.0	121	80.1	99	93	61	0	0	7	1
HONOLULU	89	75	91	73	82	1	T	-.1	T	.5	33	7.2	52	80	45	3	0	1	0
KAHULUI	87	72	88	68	80	1	0	-.1	0	.4	53	12.6	104	82	48	0	0	0	0
LIHUE	84	75	85	73	79	0	.2	-.2	.1	5.0	103	24.5	96	88	65	0	0	4	0
ID BOISE	87	54	91	51	71	-1	T	-.1	T	.6	43	6.9	93	58	16	3	0	0	0
LEWISTON	84	58	90	52	71	-1	T	-.2	T	2.6	109	6.8	82	53	21	1	0	1	0
POCATELLO	89	49	94	45	69	0	0	-.1	0	.6	31	4.6	65	52	13	4	0	0	0
IL CHICAGO	90	72	98	64	81	9	.3	-.5	.3	6.5	67	15.1	68	87	53	4	0	2	0
MOLINE	95	72	103	67	84	11	.2	-.6	.2	4.4	38	13.3	52	95	48	5	0	2	0
PEORIA	96	73	103	70	84	11	.3	-.5	.3	1.9	19	10.7	45	94	42	5	0	2	0
QUINCY	96	74	102	68	85	11	.4	-.5	.4	4.5	41	10.7	42	91	45	5	0	2	0
ROCKFORD	93	71	104	60	82	11	.4	-.4	.4	4.6	40	14.2	57	91	44	5	0	1	0
SPRINGFIELD	96	74	102	69	85	11	.2	-.6	.2	3.3	36	12.6	54	93	44	6	0	1	0
IN EVANSVILLE	95	73	100	71	84	8	1.2	.6	1.2	9.8	103	23.0	80	97	54	5	0	1	1
FORT WAYNE	89	68	98	62	78	7	1.0	.3	.8	9.5	103	20.8	89	95	55	4	0	4	1
INDIANAPOLIS	94	73	102	69	83	10	.1	-.7	.1	5.9	56	19.6	74	92	49	5	0	2	0
SOUTH BEND	88	70	98	62	79	8	1.5	.6	.8	6.5	64	18.1	74	92	55	4	0	3	1
IA DES MOINES	97	73	104	69	85	11	.4	-.5	.4	8.0	80	11.8	55	91	40	5	0	1	0
SIOUX CITY	93	69	102	62	81	8	.8	.1	.8	5.3	57	12.1	65	92	43	4	0	1	1
WATERLOO	96	71	105	57	84	13	T	-.8	T	5.9	52	11.7	51	90	36	5	0	0	0
KS CONCORDIA	96	73	105	63	85	7	0	-.8	0	6.4	65	12.2	63	79	36	5	0	0	0
DODGE CITY	97	70	106	64	83	5	.4	-.2	.2	3.1	40	11.3	74	82	31	6	0	2	0
GOODLAND	93	65	100	58	79	6	T	-.4	T	8.4	132	17.4	142	82	30	5	0	1	0
TOPEKA	95	73	100	68	84	7	0	-.8	0	6.2	54	15.4	67	92	42	7	0	0	0
WICHITA	99	75	105	70	87	7	T	-.6	T	3.8	40	14.2	73	81	32	7	0	0	0
KY BOWLING GREEN	93	71	100	69	82	5	1.4	.7	1.0	8.0	73	22.4	67	100	48	5	0	2	1
LEXINGTON	93	72	98	69	83	8	.1	-.8	.1	6.6	56	20.9	66	90	46	5	0	2	0
LOUISVILLE	95	74	101	72	85	8	.4	-.3	.4	7.3	75	24.0	82	91	44	5	0	1	0
LA ALEXANDRIA	92	76	94	75	84	1	.8	-.1	.4	9.9	88	28.3	78	94	56	7	0	2	0
BATON ROUGE	91	76	96	74	84	2	.6	-.5	.4	18.3	134	49.4	129	96	63	5	0	4	0
LAKE CHARLES	92	76	96	74	84	2	T	-1.2	T	17.7	137	38.5	115	97	57	7	0	1	0
NEW ORLEANS	90	74	95	73	82	0	2.8	1.5	2.0	24.2	158	59.1	148	99	66	4	0	4	2

Based on 1951-80 normals

Weather Data for the Week Ending August 20, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE June 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	94	76	97	73	85	2	.1	-.4	.1	6.0	70	19.4	66	95	49	7	0	2	0
ME CARIBOU	67	52	74	44	60	-3	1.4	.5	.6	9.0	92	19.5	88	97	63	0	0	4	2
PORTLAND	79	58	90	50	69	2	.8	.2	.5	9.3	122	24.4	94	95	53	1	0	3	1
MD BALTIMORE	90	69	103	63	80	4	1.0	0	.9	5.7	54	21.4	79	84	44	5	0	3	1
SALISBURY	87	70	93	66	78	3	2.0	.7	1.3	11.3	96	31.3	107	95	55	4	0	3	2
MA BOSTON	82	64	96	57	73	1	.2	-.7	.1	9.4	118	23.6	88	89	51	2	0	2	0
CHATHAM	75	66	81	59	71	3	.1	-.9	.1	7.0	84	22.3	78	85	66	0	0	1	0
MI ALPENA	79	56	89	44	67	2	.5	-.2	.5	6.7	82	16.3	88	98	48	0	0	1	1
DETROIT	86	66	100	57	76	5	1.5	.7	.9	6.2	72	13.1	63	88	48	2	0	4	1
FLINT	84	63	96	50	74	5	.7	-.1	.3	7.5	91	14.7	77	91	48	2	0	3	0
GRAND RAPIDS	86	63	98	55	75	5	1.2	.5	.7	5.7	67	15.5	73	91	49	4	0	3	2
HOUGHTON LAKE	80	59	86	41	70	5	.5	-.1	.3	6.8	87	14.8	83	90	48	0	0	2	0
LANSING	84	61	95	50	73	4	3.2	2.5	1.4	7.0	84	15.7	83	97	52	2	0	3	3
MARQUETTE	74	52	89	38	63	1	2.4	1.6	1.6	9.6	106	21.1	90	97	62	0	0	2	2
MUSKEGON	85	63	95	55	74	5	1.6	.9	.9	4.3	63	15.1	79	91	53	2	0	2	2
SAULT ST. MARIE	77	55	84	45	66	3	1.2	.4	.7	5.6	67	16.2	83	98	53	0	0	3	1
MN ALEXANDRIA	84	64	99	57	74	6	T	-.8	T	10.0	106	15.4	89	89	54	2	0	0	0
DULUTH	75	56	91	49	66	3	.4	-.5	.4	11.3	107	19.2	97	95	61	1	0	2	0
INT'L FALLS	77	57	89	45	67	4	3.2	2.6	1.8	12.8	137	16.5	102	97	56	0	0	3	2
MINNEAPOLIS	87	67	99	60	77	6	T	-.8	T	5.2	52	11.4	61	89	50	3	0	1	0
ROCHESTER	88	66	99	53	77	9	.3	-.5	.3	4.8	48	12.5	65	94	54	3	0	1	0
MS GREENWOOD	95	74	98	73	85	4	.4	-.2	.3	4.1	43	16.9	47	90	48	6	0	3	0
JACKSON	96	72	99	70	84	3	1.0	.2	.9	4.3	43	23.6	66	98	45	7	0	2	1
MERIDIAN	94	71	98	69	83	2	.7	-.1	.7	7.1	64	26.4	71	98	46	7	0	1	1
MO CAPE GIRARDEAU	97	74	104	71	85	—	.5	-.3	.4	3.9	41	18.3	62	93	45	6	0	2	0
COLUMBIA	95	73	99	69	84	7	T	-.7	T	4.5	51	16.8	69	95	48	6	0	0	0
KANSAS CITY	98	76	103	71	87	9	T	-.8	T	3.7	33	11.6	48	85	37	7	0	1	0
SAINT LOUIS	98	78	103	73	88	11	.7	.1	.7	5.9	65	18.8	81	82	41	6	0	4	1
SPRINGFIELD	94	70	98	67	82	6	1.3	.6	1.2	11.8	119	29.3	114	94	45	6	0	2	1
MT BILLINGS	92	58	99	53	75	5	0	-.2	0	.6	17	6.1	58	52	17	5	0	0	0
GLASGOW	89	58	97	52	73	4	.3	-.1	.3	3.3	65	5.9	70	82	24	3	0	1	0
GREAT FALLS	88	52	95	47	70	3	T	-.3	T	3.4	73	7.4	65	65	16	2	0	0	0
HAVRE	85	54	93	44	69	1	0	-.3	0	2.7	63	3.8	44	73	23	2	0	0	0
HELENA	87	53	92	47	70	4	T	-.3	T	1.9	50	6.3	74	58	16	2	0	0	0
KALISPELL	82	47	93	37	64	1	.1	-.2	.1	2.7	67	9.0	87	84	22	1	0	2	0
MILES CITY	93	64	99	57	79	6	T	-.3	T	.9	19	2.3	21	59	18	5	0	0	0
MISSOULA	84	50	93	43	67	2	T	-.2	T	2.5	77	8.7	98	79	19	1	0	0	0
NE GRAND ISLAND	91	68	97	59	79	5	.2	-.4	.2	11.0	138	16.8	97	92	44	4	0	1	0
LINCOLN	95	69	102	61	82	7	.7	-.1	.4	3.9	42	10.3	52	91	40	5	0	2	0
NORFOLK	93	68	103	57	80	7	T	-.6	T	7.6	82	16.5	91	90	41	4	0	0	0
NORTH PLATTE	90	63	96	57	77	4	.6	.2	.5	10.0	127	16.8	110	90	40	4	0	2	0
OMAHA	94	72	101	65	83	8	T	-.9	T	6.1	59	14.2	67	87	45	5	0	0	0
SCOTTSBLUFF	93	59	104	52	76	4	T	-.2	T	3.8	68	13.2	115	83	25	5	0	0	0
VALENTINE	94	64	104	55	79	7	T	-.5	T	8.9	128	17.3	130	75	29	5	0	0	0
NV ELY	85	43	90	36	64	-1	T	-.1	T	2.1	115	5.9	96	52	15	1	0	1	0
LAS VEGAS	101	72	108	67	87	-1	.1	0	.1	.2	19	1.8	71	30	14	6	0	2	0
RENO	90	49	97	48	70	3	0	-.1	0	.8	117	2.4	51	61	10	5	0	0	0
WINNEMUCCA	91	46	98	38	68	0	T	-.1	T	.7	57	4.3	84	41	10	4	0	0	0
NH CONCORD	81	55	93	42	68	1	2.5	1.8	1.3	9.9	124	21.6	97	99	48	1	0	3	2
NJ ATLANTIC CITY	86	65	100	58	75	2	1.3	.2	.7	7.0	70	20.9	77	94	51	4	0	3	2
NM ALBUQUERQUE	88	64	95	62	76	0	.3	-.1	.1	5.2	184	8.3	168	84	30	2	0	3	0
CLOVIS	88	65	92	62	76	0	.5	-.1	.4	8.7	121	15.5	134	84	40	1	0	2	0
ROSWELL	93	68	95	66	80	2	T	-.5	T	6.0	147	11.4	179	78	30	7	0	0	0
NY ALBANY	84	59	97	47	72	3	.2	-.6	.1	5.7	69	17.5	79	99	43	2	0	3	0
BINGHAMTON	79	59	89	47	69	2	.2	-.6	.2	6.5	71	20.1	86	89	42	0	0	1	0
BUFFALO	83	61	91	49	72	3	.3	-.6	.2	8.4	100	22.7	100	88	40	1	0	2	0
NEW YORK	86	72	97	63	79	4	.1	-.9	.1	9.5	99	24.2	89	74	37	2	0	1	0
ROCHESTER	82	58	94	47	70	1	.3	-.4	.2	5.9	80	14.5	73	94	45	1	0	2	0
SYRACUSE	82	60	96	46	71	2	.1	-.7	.1	8.5	87	19.6	80	94	44	1	0	2	0
NC ASHEVILLE	90	65	95	62	78	5	.7	-.3	.3	5.0	48	15.4	53	100	47	3	0	4	0
CHARLOTTE	95	73	101	72	84	6	.8	-.1	.8	7.3	73	19.6	67	91	41	7	0	1	1
GREENSBORO	96	71	103	68	84	7	.2	-.8	.2	8.1	74	20.1	71	94	39	7	0	1	0
HATTERAS	89	78	93	73	83	5	1.8	.4	1.5	7.7	56	27.9	83	93	66	3	0	3	1
NEW BERN	95	76	100	72	86	7	.1	-1.3	.1	17.6	109	37.8	107	92	54	7	0	1	0
RALEIGH	97	72	105	69	85	8	.3	-.8	.2	5.9	54	19.7	70	93	40	7	0	2	0
WILMINGTON	92	75	99	72	84	4	.5	-1.0	.3	21.3	122	43.9	122	95	57	5	0	2	0
ND BISMARCK	88	61	95	56	74	6	T	-.4	T	4.8	78	8.0	70	94	44	3	0	1	0
FARGO	88	65	104	54	76	8	T	-.6	T	3.7	45	8.4	60	94	48	2	0	1	0
GRAND FORKS	86	62	94	53	74	7	T	-.6	T	6.0	79	8.9	69	93	46	1	0	2	0
WILLISTON	90	59	100	52	74	6	.1	-.2	.1	4.4	82	7.5	75	83	30	4	0	3	0
OH AKRON-CANTON	86	64	97	59	75	5	1.6	.8	1.3	7.1	75	17.8	73	94	50	2	0	3	1
CINCINNATI	95	71	100	69	83	9	.1	-.5	.1	9.4	91	26.4	96	92	43	5	0	1	0
CLEVELAND	86	66	99	58	76	5	.6	-.2	.5	6.0	67	16.9	72	88	46	2	0	3	1
COLUMBUS	89	68	97	63	79	6	.8	-.1	.4	10.3	99	23.7	92	97	48	5	0	3	0

Weather Data for the Week Ending August 20, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE June 1	PCT. NORMAL SINCE June 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	93	71	102	66	82	9	.6	-.1	.6	5.9	64	17.8	74	88	44	5	0	2	1
TOLEDO	85	66	96	60	76	5	2.8	2.1	2.2	8.1	92	15.1	71	92	57	2	0	3	1
YOUNGSTOWN	86	62	97	55	74	5	.2	-.6	.1	6.6	68	17.7	72	91	44	2	0	3	0
OK OKLAHOMA CITY	96	74	98	72	85	4	.2	-.4	.1	6.9	82	20.6	98	84	39	7	0	3	0
TULSA	96	75	99	73	85	4	.7	0	.6	5.5	56	18.5	73	90	40	7	0	3	1
OR ASTORIA	65	52	70	47	59	-2	.9	.5	.6	5.3	119	31.4	83	93	67	0	0	2	1
BURNS	83	41	89	36	62	-5	0	-.1	0	1.2	107	4.9	81	71	16	0	0	0	0
MEDFORD	87	51	93	47	69	-2	T	-.1	T	1.0	88	6.8	63	81	22	3	0	0	0
PENDLETON	79	53	84	50	66	-5	0	-.1	0	.3	25	7.3	101	62	25	0	0	0	0
PORTLAND	74	54	79	51	64	-3	.1	-.2	.1	3.1	125	19.5	95	88	48	0	0	1	0
SALEM	76	50	83	44	63	-3	0	-.2	0	2.0	104	18.8	85	89	42	0	0	0	0
PA ALLENTOWN	84	66	97	59	75	3	.5	-.6	.5	8.4	81	25.8	92	91	49	2	0	1	0
ERIE	82	65	92	55	73	5	.1	-.8	.1	6.1	62	18.8	78	81	46	1	0	1	0
HARRISBURG	86	67	99	58	77	3	.9	.1	.6	7.5	83	23.4	93	86	41	4	0	2	1
PHILADELPHIA	86	68	98	61	77	2	1.2	.3	.8	9.9	95	25.6	95	88	48	3	0	3	1
PITTSBURGH	87	67	100	63	77	7	.4	-.3	.2	4.8	51	17.1	68	95	51	3	0	3	0
SCRANTON	83	63	93	51	73	3	.3	-.4	.3	8.7	96	21.3	96	86	42	2	0	1	0
RI PROVIDENCE	84	64	95	53	74	3	0	-.9	0	6.7	80	24.7	89	87	44	2	0	0	0
SC CHARLESTON	90	75	95	73	83	3	1.1	-.3	1.1	11.2	62	23.2	64	97	63	5	0	2	1
COLUMBIA	96	72	101	70	84	4	.1	-1.1	.1	8.8	65	22.0	64	95	45	6	0	1	0
FLORENCE	95	73	101	71	84	4	T	-1.1	T	9.6	71	22.5	73	96	47	5	0	0	0
GREENVILLE	96	71	101	70	83	6	.3	-.6	.3	7.7	68	22.5	65	93	44	7	0	1	0
SD ABERDEEN	92	66	107	60	79	9	0	-.4	0	7.4	107	11.9	89	90	36	3	0	0	0
HURON	93	66	107	58	79	8	T	-.4	T	4.2	61	13.6	98	88	36	4	0	0	0
RAPID CITY	94	60	106	54	77	5	.1	-.3	.1	3.5	56	8.4	65	69	23	5	0	1	0
SIOUX FALLS	92	67	105	59	80	8	T	-.7	T	3.5	41	10.4	61	92	43	4	0	0	0
TN CHATTANOOGA	93	71	99	70	82	4	1.4	.6	.9	10.1	100	26.4	75	96	50	6	0	2	1
KNOXVILLE	95	71	101	68	83	6	1.0	.3	.9	7.3	71	21.7	67	95	44	6	0	2	1
MEMPHIS	96	77	99	75	87	6	.3	-.5	.3	7.7	77	24.9	71	86	46	7	0	1	0
NASHVILLE	98	73	103	71	86	7	1.6	.9	1.3	5.8	61	17.7	54	92	39	6	0	2	1
TX ABILENE	97	74	98	70	85	2	1.0	.4	1.0	6.7	109	12.7	85	74	33	7	0	2	1
AMARILLO	91	65	95	63	78	1	.4	-.3	.3	8.7	107	18.5	133	90	37	5	0	2	0
AUSTIN	96	75	98	73	86	1	.5	0	.5	7.0	114	15.7	81	92	39	7	0	1	1
BEAUMONT	94	76	97	75	85	2	.3	-1.0	.3	13.5	93	30.6	87	98	55	7	0	1	0
BROWNSVILLE	88	75	94	72	82	-2	2.1	1.5	.9	6.1	107	13.2	104	97	68	4	0	4	2
CORPUS CHRISTI	92	76	95	72	84	-1	.7	-.2	.5	4.8	58	9.2	52	96	58	6	0	4	0
DEL RIO	93	74	95	72	83	-2	.4	0	.4	8.4	194	10.3	101	83	41	7	0	1	0
EL PASO	90	67	94	66	79	-2	.5	.3	.3	5.9	201	7.3	165	94	38	4	0	3	0
FORT WORTH	99	77	102	74	88	3	T	-.4	T	5.7	101	14.2	71	80	37	7	0	1	0
GALVESTON	91	80	95	76	85	2	.5	-.5	.5	9.2	93	23.5	100	84	59	5	0	1	0
HOUSTON	95	75	98	73	85	2	.1	-.9	.1	8.3	80	18.4	64	95	49	7	0	1	0
LUBBOCK	94	69	98	65	81	4	T	-.5	T	4.5	70	9.7	80	84	39	7	0	2	0
MIDLAND	93	67	95	65	80	-1	0	-.4	0	8.7	212	12.2	145	87	36	7	0	0	0
SAN ANGELO	95	68	96	66	82	-1	.5	.1	.5	4.3	104	10.0	95	90	33	7	0	1	1
SAN ANTONIO	97	76	99	74	86	2	1.1	.5	1.1	12.9	200	16.7	95	92	40	6	0	1	1
VICTORIA	96	76	99	74	86	2	.1	-.7	.1	4.8	54	9.1	42	94	45	7	0	2	0
WACO	102	75	103	72	88	3	T	-.4	T	7.3	134	14.4	73	84	32	7	0	1	0
WICHITA FALLS	101	73	104	69	87	3	.3	-.1	.3	3.9	64	14.0	82	85	31	7	0	1	0
UT BLANDING	88	58	92	56	73	2	.4	.1	.2	3.0	122	7.6	111	79	30	2	0	3	0
CEDAR CITY	89	57	94	49	73	1	T	-.3	T	2.5	109	9.8	148	45	15	4	0	1	0
SALT LAKE CITY	93	63	96	56	78	4	T	-.2	T	.3	13	6.4	63	46	14	6	0	0	0
VT BURLINGTON	78	56	93	45	67	0	.8	-.1	.4	7.0	73	14.6	69	95	50	1	0	4	0
VA NORFOLK	93	75	98	73	84	6	2.4	1.2	1.8	11.0	90	28.0	94	93	49	7	0	2	2
RICHMOND	92	72	99	70	82	5	1.1	0	.5	11.9	98	26.8	94	95	53	6	0	3	1
ROANOKE	95	69	102	65	82	7	1.3	.4	.9	8.8	95	19.1	75	92	40	6	0	2	1
WA QUILLAYUTE	64	52	67	47	58	-1	1.3	.6	.9	5.3	75	57.4	99	97	66	0	0	5	1
SEATTLE-TACOMA	70	53	74	50	62	-2	.3	0	.2	2.3	83	17.0	83	97	56	0	0	2	0
SPOKANE	78	52	82	48	65	-3	T	-.2	T	1.3	64	8.7	87	70	26	0	0	0	0
YAKIMA	81	50	85	43	66	-3	0	-.1	0	1.0	108	3.5	75	78	29	0	0	0	0
WV BECKLEY	89	65	96	62	77	9	1.1	.3	.9	8.2	74	20.3	70	88	43	5	0	2	1
CHARLESTON	93	69	101	64	81	8	1.5	.6	1.1	5.6	49	17.2	59	95	44	5	0	3	1
HUNTINGTON	93	69	100	66	81	7	.9	0	.5	9.0	84	21.6	76	98	47	5	0	3	1
PARKERSBURG	92	69	101	66	81	7	2.8	2.0	1.9	9.2	89	19.4	74	99	48	5	0	4	1
WI GREEN BAY	84	62	99	50	73	6	.5	-.3	.5	5.2	62	11.4	62	97	50	2	0	2	0
LACROSSE	90	69	103	57	80	9	.7	-.2	.5	8.6	84	14.7	71	94	54	4	0	2	1
MADISON	91	66	102	51	78	9	.6	-.3	.5	6.3	62	13.3	64	91	44	4	0	2	1
MILWAUKEE	86	68	100	61	77	7	.6	-.1	.4	4.7	51	15.1	73	92	56	3	0	2	0
WAUSAU	85	63	99	54	74	7	T	-.9	T	6.2	59	11.7	55	90	45	3	0	0	0
WY CASPER	91	56	95	49	73	5	T	-.1	T	1.0	37	4.7	57	55	12	6	0	0	0
CHEYENNE	85	55	93	48	70	3	.1	-.2	0	5.6	117	13.0	127	84	27	3	0	4	0
LANDER	89	58	94	54	74	5	0	-.1	0	1.2	51	5.9	62	41	9	4	0	0	0
SHERIDAN	94	56	100	51	75	7	0	-.2	0	.9	24	7.5	69	63	18	6	0	0	0
PR SAN JUAN	89	77	91	75	83	1	1.8	.5	1.2	9.7	71	33.8	111	88	66	4	0	4	2

National Agricultural Summary

August 15 to 21, 1988

HIGHLIGHTS: Severe heat stressed crops throughout most of the eastern half of the Nation. The extreme high temperatures and the lack of moisture hastened crop maturity. Soil moisture remained short but showed some improvement in the Delta and eastern Corn Belt. Fieldwork averaged 5 to 6 days in most areas.

Winter wheat harvest neared completion in the Pacific Northwest. Acreage remained to be harvested in Idaho, Oregon, and Washington. Spring wheat harvest reached 94 percent (%) completion, compared with 70% in 1987 and the 59% 5-year average. Corn was 9% mature, 2 percentage points above normal. Fifty-two percent of the acreage was in the dent stage, 16 points ahead of normal. Eighty-five percent of the acreage reached the dough stage, compared with 75% normally. Soybeans setting pods were slightly ahead of normal. Blooming neared completion except in the Delta and Southeast. Soybeans turned yellow in some Corn Belt States. Sorghum was 84% headed, 7 points above average. Sorghum turning color trailed 1 point behind normal at 34% completion. Cotton opening bolls reached 14% completion, compared with 15% normally. Rice was 78% headed, 2 points below normal. Livestock was mostly fair.

SMALL GRAINS: Winter wheat harvest neared its end in Washington, climbing 40 points ahead of the previous week to 90% completion. Harvest still trailed 4 points behind 1987 but was 3 points above normal. Oregon's harvest progressed normally at 88% completion. In Idaho, harvest reached 82% completion, 28 points above the average. Three percent of the acreage remained to be harvested in Montana. Winter wheat seeding was underway in Minnesota and Wyoming. Producers prepared land for fall seeding in Arkansas and North Carolina.

Spring wheat was 94% harvested, compared with 70% in 1987 and 59% normally. Harvest was finished in South Dakota and neared completion in Minnesota and South Dakota. Harvest was more than 30 points ahead of normal in those States, with acreage remaining to be combined. Idaho and Montana's harvest climbed 12 and 14 points, respectively, ahead of the previous week.

CORN: Corn was mostly poor to fair, virtually the same as the previous week. Extreme heat hastened maturity from the Great Plains through the Corn Belt to the Delta. In the 17 major producing States, 85% of the acreage reached the dough stage, accelerating 17 points ahead of the previous week and 10 points ahead of average. The hot, dry weather forced acreage in the dent stage 23 points above the previous week to 52% completion. Corn was maturing slightly ahead of normal at 9% completion. Corn had not reached the mature stage in the northern Great Plains, northern Corn Belt, Ohio, and Pennsylvania. Harvest was becoming more prevalent across the Southeast and Delta.

SOYBEANS: Soybeans were mostly fair, virtually unchanged from the previous week. Soybeans suffered immensely as the high temperatures stretched across most of the eastern half of the Nation. The heat forced early maturity, with soybeans turning yellow much sooner than normal in Minnesota, Illinois, Indiana, Iowa, and Alabama. Soybeans began dropping leaves in Minnesota. In Georgia, soybeans dropped pods in the driest fields. In Ohio, soybean producers battled spider mites and velvetleaf weeds. Soybean blooming was virtually finished except in the Southeast and Delta. Eighty-two percent of the acreage set pods, just slightly ahead of normal, but 7 points behind 1987.

SORGHUM: Sorghum was mostly fair to good. Heading was 7 points ahead of normal at 84% completion. Sorghum turning color rose 9 points ahead of the previous week but still trailed 1 point behind the 35% average. Kansas growers encountered light to moderate greenbug activity in south central areas. Sorghum began maturing in southern Oklahoma. In Texas, harvest was 54% finished. Harvest was underway in South Carolina, Arkansas, Alabama, and Louisiana.

COTTON: Cotton was mostly good to fair in the eastern half of the Nation. Condition was mostly good in the Southwest. In Georgia, bolls opened slowly. Armyworms were a serious problem and difficult to control. Oklahoma's cotton experienced heat stress, with some stands wilting and plants dropping bolls. Persistent rain slowed cotton harvest in the Rio Grande Valley and at Coastal Bend. High temperatures opened bolls rapidly in central and Blackland areas of Texas. Prolonged dryness caused heavy boll shedding in scattered fields in the Plains. Cotton grew well in California. Growers selectively harvested early planted fields in western Arizona. Upland cotton was maturing and bolls were opening early, while American-Pima bolls gradually opened. In the 14 major producing States, cotton bolls opening fell 1 point behind the 15% average. Bolls opening was behind normal in all States except Alabama, Arizona, California, North Carolina, and Texas.

OTHER FIELD CROPS: Rice was 78% headed, compared with 91% in 1987 and 80% average. Heading was finished in Texas but lagged behind normal except in California. Slightly more than half the acreage was harvested in Texas. Producers drained rice fields in Arkansas and California. In Louisiana, harvest was 26% finished. Lodging worsened in southern areas.

Peanuts were mostly good in the Southeast. Georgia's peanuts improved but none were dug. Harvest was underway in South Carolina. Texas peanut prospects look good in irrigated fields. Many dryland peanuts could use moisture to prevent stress.

In Florida, tobacco harvest entered the final stages. Flue-cured harvest neared the halfway point in North Carolina. Burley harvest was underway but lagged behind normal in Kentucky, Tennessee, and Virginia.

FRUITS AND NUTS: In Florida, daily precipitation produced much new foliage in citrus groves. New crop fruit progressed normally with no droppage problems. Recent moisture increased insects and diseases in many Texas citrus groves. Moisture is needed to prevent pecan fruit droppage in Texas. Nut shells hardened in southern areas, but nuts in most northern and central areas were in the water stage. East Texas groves reached the dough stage. Raisin harvest started in California. Nectarine harvest was very active. Grapefruit harvest continued but valencia orange harvest slowed. Almond tree shaking gained momentum, and walnut orchards were prepared for harvest. Arizona's citrus sized and developed normally.

(continued to back cover)

State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service.

ALABAMA: Rainfall totals mostly 0.50 to 1.00 in.; over 1.00 in. across north. Temperatures averaged 5° above normal north; 1 to 3° above normal central, south; 1° below normal along coast.

Days suitable for fieldwork 6.3. Soil moisture 28% very short, 53% short, 13% adequate, 6% surplus. Mostly warm, humid conditions prevailed. Soybeans 79% blooming, 77% 1987, 84% avg.; 49% setting pods, 57% 1987, 61% avg.; 12% turning color, 10% 1987, 6% avg.; 13% poor, 39% fair, 48% good. Corn 94% dented, 100% 1987, 96% avg.; 75% mature, 86% 1987, 80% avg.; 46% harvested, 42% 1987, 34% avg.; 16% very poor, 35% poor, 42% fair, 7% good. Cotton 14% bolls opened, 14% 1987, 10% avg.; 2% very poor, 33% poor, 48% fair, 16% good, 1% excellent. Sorghum 22% harvested, 14% 1987, 11% avg.; 8% very poor, 6% poor, 57% fair, 25% good, 4% excellent. Peanuts 1% fair, 68% good, 31% excellent. Hay, roughage supplies 64% short, 36% adequate. Pasture feed supplies 9% very short, 41% short, 50% adequate. Livestock fair to good; pastures mostly fair. Primary activities: Harvesting corn, sorghum, hay, vegetables, peaches; spraying for insects, diseases on row crops; managing fish ponds, harvesting catfish; maintaining harvest equipment; routine care of livestock, poultry.

ALASKA: Most areas of Railbelt received some precipitation but skies chiefly sunny, warm for harvest progress. Lows ranged normal to 5° warmer than normal. Highs ranged 5° cooler than normal to 8° warmer than normal. Seasonal precipitation totals ranged 1.73 in. below normal to 4.19 in. above normal.

Days suitable for haying, other fieldwork 4.0. Topsoil moisture 14% short, 86% adequate. Subsoil moisture 13% short, 87% adequate. Second crop hay nearly advanced to 25% harvested compared with 15% 1987. Barley for grain 30% harvested, up 20% from 1987 when wet weather hampered harvest. Commercial potato harvest continued for early markets. Prospects for small grains, hay, potatoes mainly average or better for this time of year.

ARIZONA: Monsoon 14th; increased moisture, thunderstorms. Western two-thirds hot, sunny; eastern one-third scattered activity, locally heavy rain 15th, 16th. Thunderstorms increased 17th, developed further west, north. Thunderstorms central 18th, 19th. Cloudy skies, locally heavy downpours 20th. Rainfall amounts between 0.50 to 2.50 in. Average temperatures varied from 2° below to 7° above normal.

Cotton harvest underway, picking selected early fields west. Upland bolls maturing, opening early. American-pima bolls gradually opening. Whitefly populations increased. Elsewhere, cotton progressed normally; slight rain damage from storms 19th, 20th. Insect infestation levels improved central. Crop 75% good, 25% excellent. Weekend rains damaged alfalfa being cured. Weed, insect damage statewide light to moderate. Hay, roughage supplies 80% adequate, 20% surplus. Preparation fall vegetable fields west. Citrus groves good, fruit sizing, developing normally. Cantaloupe, honeydew melon harvest continued central. Few watermelons harvested. Apple harvest, packing continued east. Green chili harvest continued.

ARKANSAS: Hot with widely scattered showers. Most rainfall amounts less than 1.00 in. Temperature extremes 64°; 104°. Rainfall totals none to 2.69 in.

Days suitable for fieldwork 7.0. Soil moisture supplies 97% short, 3% adequate. Main farming activities: Cutting hay; applying fertilizers, pesticides; irrigation; draining rice fields; harvesting fruits; preparing land for fall seedings. Rice 5% ripe, 12% 1987, 11% avg. Sorghum 13% mature, 53% 1987. Sorghum 1% harvested, 18% 1987, 11% avg. Corn 13% harvested, 34% 1987, 25% avg. Hay, roughage supplies 13% very short, 80% short, 7% adequate. Pasture, range 11% very poor, 44% poor, 38% fair, 7% good. Rains helped small areas, but did little for overall hay, pasture supplies. Stockwater supplies 46% short, 54% adequate. Ponds drying up, becoming stagnant. Poultry deaths in Lafayette, Montgomery Counties due to extreme heat.

CALIFORNIA: Upper level low off coast responsible for cooler than normal temperatures.

Moderate, open weather, good crop development, normal field activities. Cotton growth good. Weeds severe some rice. Few early fields drained. Safflower, corn silage, sugarbeet, wild rice, alfalfa seed harvests progressed. Dry bean harvest increased. Alfalfa, sudan harvests normal. Irrigation, pest control normal. Apple harvest continued. Hass avocado harvest neared completion. Date bagging complete. Grape harvest; raisins started, tables progressed, wine active. Nectarine harvest very active. Packing peaches, plums continued. Prune harvest neared completion. Asian, bartlett pear harvest active. Fig harvest progressed. Grapefruit harvest continued. Valencia orange harvest slow. Shaking almonds gained momentum. Prepared walnut orchards for harvest. Weather, good quality vegetables harvested. Artichokes light; broccoli, cauliflower, carrots, celery, lettuce moderate Salinas. Santa Maria similar except cauliflower, celery fairly light. Cantaloupe, mixed melons harvested Merced-Atwater, Riverside, Sacramento Valley, Westside. Onion harvest very active Westside. Summer potatoes harvested Riverside. Strawberries seasonally decreased, central coast. Sweetpotato harvest began Selma, Merced-Atwater areas. Fresh market tomatoes harvested Merced-Atwater, Westside areas. Processing tomatoes decreased northern Sacramento Valley, harvested Merced-Atwater, Westside. Lettuce, cauliflower, celery; planted, transplanted Huron. Potatoes planted Riverside. Tomatoes, strawberries planted south coast. Tulelake potatoes showed good growth. Livestock good. Non-irrigated pastures, rangeland northern counties, drying fast, increased fire danger. Hay crops northern counties looked better than normal. Livestock movement Redding heavy. Supplemental feeding continued. Water supplies well below normal statewide, adequate few northern areas. Hay, roughage supplies generally adequate, some shortage central valley. Hay, roughage 15% short, 85% adequate.

COLORADO: High pressure prevailed over Southern Great Plains circulating steady flow of moisture over State. Precipitation ranged none to 1.93 in. Average temperature normal to 3° above normal.

Days suitable for fieldwork 6.0. Soil moisture 7% very short, 49% short, 44% adequate. Hay, roughage supplies 8% short, 86% adequate, 6% surplus. Dry beans 7% cut. Barley 71% harvested. Oats 54% harvested. Dry onions 9% harvested. Summer potatoes 23% harvested. Livestock mostly good to excellent. Ranges, pastures fair to good.

FLORIDA: Scattered to widely scattered thunderstorms each day. Locally heavy rains, few more than 6.00 in., especially western Panhandle, lower east coast. Clouds kept temperatures below normal early week but sunshine, warmer than normal weekend.

Soil moisture generally adequate. Cotton, peanuts, soybeans good progress. Corn, grain sorghum harvest active. Tobacco harvest clean-up stage. Daily rains prevented haymaking some areas. Sugarcane continued good growth. Hay, roughage supplies statewide; 30% short, 70% adequate. Most pastures good to excellent as additional areas received heavy rains. Few dry pockets remained Panhandle, upper Peninsula. Cattle continued to improve; varied from fair to mostly good to excellent Panhandle, northern Peninsula; good to excellent elsewhere. Citrus good; daily rains, much new foliage. New crop fruit normal progress; no droppage problems. Caretakers busy with regular care practices. Hot days, warm nights continued vegetable producing areas. Rain slowed land preparation, planting. Crops being planted included celery, cucumbers, eggplant, peppers, tomatoes.

GEORGIA: Rainfall exceeded 1.00 in. north, east; 0.50 to 1.00 in. elsewhere. Rain about 3 days most locations. Temperatures 5° above normal north, 1 to 3° above normal elsewhere. Extremes 61° Blairsville, 99° Calhoun.

Days suitable for fieldwork 5.9. Soil moisture 12% very short, 52% short, 33% adequate, 3% surplus. Corn 24% harvested; 10 days behind average. Beet armyworms serious problem in cotton, control difficult, bolls opening slow. Peanuts improved, none dug. Driest soybean fields dropping pods, insect populations increased. Apples good, harvest average. Pecans fair to good. Pastures improved slightly, mostly fair. Hay mostly fair, supplies 27% very short, 55% short, 18% adequate. Cattle fair to good, hogs mostly good.

HAWAII: Favorable weather. Mostly sunny after overnight showers. Heavier rainfall over weekend as shower area moved up island chain. Daytime temperatures above normal all week. Return of trade winds helped relieve some heat stress. Daily temperatures ranged low 70s to low 90s. Rainfall none to 2.30 in. Winds, mostly trades 10 to 20 mph.

Days suitable for fieldwork 7.0. Chinese cabbage production moderate. Head cabbage good, output moderate. Cucumber production moderate. Snap bean production light. Papaya harvesting active. Banana production of Cavendish varieties heavy. Tomato production light. Watermelon production above 1987.

IDAHO: Precipitation scattered, below normal. Temperatures below normal.

Days suitable for fieldwork 7.0. Irrigation water supply fair. Soil moisture 28% very short, 32% short, 40% adequate. Potatoes good; 50% turned, few vines dying, killed. Spring wheat 72% harvested, 58% 1987, 33% avg. Spring barley over 70% harvested, 61% 1987. Winter wheat 82% harvested, 54% avg. Oats 61% harvested. Dry peas 79% harvested, 89% 1987. Lentils 66% harvested, 66% avg. Peaches 70% harvested. Plum harvest just underway. Mint 82% harvested. Onion, processing sweet corn harvest underway. Second cutting alfalfa wrapping up, 3rd cutting 10% harvested. Hay, roughage supplies 38% short, 50% adequate, 12% surplus. Pastures poor, fair. Livestock good.

ILLINOIS: Temperatures averaged 6 to 10° above normal. Precipitation averaged less than 0.50 in., few widely scattered exceptions of 1.00 in.

Days suitable for fieldwork 6.5. Soil moisture 89% short, 11% adequate. Soybeans 12% turning yellow, 18% 1987, 7% avg. Alfalfa 3rd crop cut 67%, 65% 1987, 58% avg.; 6% very poor, 33% poor, 51% fair, 10% good. Hay, roughage supplies 13% very short, 64% short, 23% adequate. Pasture 40% very poor, 39% poor, 20% fair, 1% good.

INDIANA: Temperatures 5 to 9° above normal statewide. Lows 50s to low 60s, highs upper 90s to 105°. Precipitation scattered. Totals less than 0.25 to 1.00 in.

Days suitable for fieldwork 6.3. Topsoil moisture 77% short, 23% adequate. Subsoil moisture 88% short, 12% adequate. Corn, soybean, pasture conditions declined. Pastures 15% very poor, 51% poor, 31% fair, 3% good. Soybeans 5% turning yellow, 9% 1987, 5% avg. Wheat land 14% plowed, 13% 1987, 16% avg. Silos 6% filled, 13% 1987, 4% avg. Tobacco harvest underway. Hot temperatures caused severe stress on crops.

IOWA: Temperatures 8 to 11° above normal. Extremes 55°; 106°. Moderate to heavy rain west half, far south; 0.03 to 6.61 in.; average 1.10 in.

Days suitable for fieldwork 6.7. Topsoil moisture 98% short, 2% adequate; subsoil moisture 100% short. Hay 35% very poor, 41% poor, 21% fair, 3% good. Third crop alfalfa 75% harvested, 49% 1987, 34% avg. Hay being fed to supplement pastures 12% light, 48% moderate, 40% heavy. Availability of hay for feed 5% very short, 32% short, 58% adequate, 5% surplus. Soybeans 18% leaves turning, 9% 1987, 4% avg. Livestock under heat stress midweek cooler weekend. Litter sizes smaller. Watering of livestock continuous problem. Pastures 78% very poor, 17% poor, 5% fair.

KANSAS: Temperatures ranged 82° northwest to 87° northeast; 4° above normal southwest, 11° above normal northeast. Thunderstorms produced scattered rain, less than 0.50 in. Ranged 0.01 in. north central to 0.49 in. east central.

Days suitable for fieldwork 6.5. Topsoil moisture 73% short, 27% adequate, decrease from previous week. Sub surface moisture 71% short, 29% adequate. Irrigators kept busy keeping up with water demand. Corn silage being harvested several locations. Greenbugs in sorghum light to moderate south central, generally scarce east central. Parasitism by beneficial insects major factor controlling these pests. Corn earworm infestations heavy southeast, some treatments necessary. Hay, roughage supplies 4% very short, 46% short, 50% adequate. Pastures poor, all areas showing decrease. Third cutting alfalfa 95%, 4th cutting underway where regrowth possible. Major activity included preparing wheat ground for seeding, baling forage sorghums.

KENTUCKY: Record heat wave first 4 days, highs reached 100 to 105°. Later, temperatures near normal; however, average high and low temperatures 5 to 10° above normal. Numerous thundershowers 18th and 19th. Precipitation totals averaged 0.25 to 0.75 in.; 1.50 to 2.50 in. localized areas.

Days suitable for fieldwork 5.7. Soil moisture 46% very short, 48% short, 6% adequate. Extreme heat stressed crops, livestock. Tobacco 1% very poor, 6% poor, 41% fair, 52% good. Burley 75% topped, darks 80% topped. Burley 9% cut, 36% 1987, 20% avg. Darks 9% cut. Tobacco variable but many big leafed crops. Black shank, aphids, dry weather major problems. Pastures 15% very poor, 45% poor, 31% fair, 9% good. Late season hay crops poor to fair. Hay, roughage supplies 46% very short, 48% short, 6% adequate.

LOUISIANA: Temperatures normal to 3° above normal. Temperature extremes 69°; 101°. Rainfall averaged 0.27 to 2.62 in.

Days suitable for fieldwork 4.0. Soil moisture 2% very short, 16% short, 50% adequate, 32%

surplus. Corn 92% mature; 24% harvested. Rice 41% ripe; 26% harvested. Lodging worsened south. Sorghum 17% ripe; 4% harvested, both well below normal. Sweetpotatoes fair to good; 12% harvested. Sugarcane good; 5% planted. Hay final cutting 14%. Peaches 100% harvested. Hay, roughage supplies 10% very short, 44% short, 42% adequate, 4% surplus. Livestock feed obtained from pasture 88%. Livestock, pastures, pecans fair to good. Vegetables fair. Aerial blight increased in soybeans. Stink bugs causing problems in soybeans, east central areas. Army worm problem in pasture, hay, western areas. Main activities: Fertilizing pastures, hay; harvesting hay, sorghum, corn, sweetpotatoes, rice.

MARYLAND & DELAWARE: Maryland: Precipitation averaged 0.51 in. Average temperature 82°, normal 75°. Temperature extremes 56°; 104°.

Days suitable for fieldwork 5.5. Topsoil moisture 40% short, 60% adequate. Subsoil moisture 80% short, 20% adequate. Current hay supplies 50% short, 50% adequate. Corn 30% poor, 60% fair, 10% good. Corn 75% dough, 75% avg. Soybeans 40% fair, 60% good. Soybeans 85% bloomed, 75% avg. Soybeans 60% podded, 50% avg. Tobacco 50% fair, 50% good. Tobacco 85% bloomed, 70% avg. Tobacco 65% topped, 50% avg. Tobacco 20% harvested, 25% avg. Alfalfa 3rd cutting 75%, 80% avg. Apples, peaches 35% poor, 20% fair, 45% good. Peaches 50% harvested, 65% avg. Apples 15% harvested, 15% avg.

Delaware: Precipitation averaged 0.12 in. Average temperature 82°, normal 75°. Temperature extremes 61°; 100°.

Days suitable for fieldwork 6.0. Topsoil moisture 30% short, 70% adequate. Subsoil moisture 70% short, 30% very short. Current hay supplies 30% short, 70% adequate. Corn 100% fair. Corn 75% dough, 75% avg. Soybeans 30% fair, 70% good. Soybeans 85% bloomed, 80% avg. Soybeans 45% podded, 50% avg. Alfalfa 3rd cutting 90%, 90% avg. Apples, peaches 100% good. Peaches 75% harvested, 75% avg. Apples 20% harvested, 10% avg.

MICHIGAN: Temperatures ranged 2 to 7° above normal. Temperature extremes 41°; 100°. Precipitation ranged 0.05 to 3.01 in. across State.

Days suitable for fieldwork 5.0. Soil moisture 50% short, 50% adequate. Corn 45% dough, 95% 1987, 60% avg.; 10% dent, 40% 1987, 10% avg.; none mature, 2% 1987, none avg.; 15% very poor, 30% poor, 35% fair, 18% good, 2% excellent. Soybeans 95% bloomed, 100% 1987, 98% avg.; 65% setting pods, 90% 1987, 75% avg.; 8% very poor, 20% poor, 37% fair, 30% good, 5% excellent. Dry beans 65% setting pods, 85% 1987, 75% avg.; 10% very poor, 20% poor, 40% fair, 25% good, 5% excellent. Pastures supplying 35% livestock feed supply. Hay, roughage supplies 30% very short, 55% short, 15% adequate. Major activities: Corn silage harvesting, oats combining, hay harvesting, apple, peach picking; vegetable harvest.

MINNESOTA: Temperatures averaged 3 to 9° above normal. Temperature extremes 41°; 106°. Precipitation averaged 0.03 to 1.30 in. Greatest weekly total 3.15 in.

Days suitable for fieldwork 5.6. Topsoil moisture 29% very short, 47% short, 22% adequate, 2% surplus. Spring wheat 99% combined, 94% 1987, 66% avg. Corn 96% dough, 97% 1987, 59% avg.; 65% denting, 63% 1987, 19% avg. Soybeans 43% yellow, 22% 1987, 6% avg.; 10% dropping leaves, 2% 1987, none avg. Sweet corn 68% harvested for processing, 66% 1987, 47% avg. Potatoes 12% harvested, 2% 1987, none % avg. Winter wheat 10% seeded, 11% 1987, 5% avg. Rye 21% seeded, 13% 1987, 5% avg. Hay, grain 48% stubble plowed, 44% 1987, 22% avg. Soybeans 14% very poor, 35% poor, 41% fair, 10% good. Field corn 27% very poor, 48% poor, 23% fair, 2% good. Hay supplies for remainder of feeding season 28% very short, 51% short, 20% adequate, 1% surplus. Livestock feed now obtained from pastures 26%.

MISSISSIPPI: Mostly hot, humid with scattered showers. Line of thundershowers moved across State over weekend. Average rainfall 2.80 in. Greatest rainfall on coast up to 6.58 in.

Days suitable for fieldwork 5.4, 5.3 1987, 5.5 avg. Soil moisture 20% very short, 40% short, 35% adequate, 5% surplus. Corn poor to good; 37% mature, 56% 1987, 63% avg.; 3% harvested. Sorghum poor to good; 68% coloring, 83% 1987, 81% avg. Cotton fair to good; 9% open bolls, 23% 1987, 20% avg. Rice 75% heading, 97% 1987, 87% avg. Soybeans poor to good. Livestock fair to good. Sweetpotatoes 7% harvested, 6% 1987, 9% avg. Hay 69% harvested 79% 1987, 75% avg. Hay, roughage supplies 14% very short, 60% short, 26% adequate. Peanuts 18% harvested, 18% 1987. Watermelons 82% harvested, 88% 1987, 83% avg. Peaches 96% harvested, 100% 1987, 95% avg. Pasture mostly good to fair. Sorghum silage 35% harvested, corn silage 64% harvested. Activities: Irrigating, haying, spraying for insects.

MISSOURI: Temperatures 4 to 10° above normal, many 100+ readings. Rainfall southwest 1.25 in., southeast 0.50 in., northern half less than 0.25 in.

Days suitable for fieldwork 6.4. Topsoil moisture supplies 96% short, 4% adequate. Extreme heat affecting crops. Alfalfa 3rd cutting 77% , 98% 1987, 75% avg. Livestock feed from pasture 55%. Supplies of hay, roughage 26% very short, 68% short, 6% adequate. Stockwater supplies 21% critically short, 51% short, 28% adequate. Pastures 37% very poor, 36% poor, 24% fair, 3% good.

MONTANA: Temperatures above normal. Warmest southeast at 6 to 8° above normal. Very little rainfall except isolated showers near Canadian border.

Days suitable for fieldwork 6.7. Topsoil moisture 95% short, 5% adequate. Subsoil moisture 93% short, 7% adequate. Winter wheat 97% harvested, 78% 1987, 81% avg. Barley 77% harvested, 40% 1987, 46% avg. Oats 77% harvested, 27% 1987, 44% avg. Cattle, calves 2% very poor, 10% poor, 43% fair, 40% good, 5% excellent. Sheep, lambs 1% very poor, 7% poor, 49% fair, 41% good, 2% excellent. Cattle 30% moved from summer range, none 1987, 8% avg. Sheep 29% moved from summer range, none 1987, 8% avg. Range, pasture feed 45% very poor, 33% poor, 18% fair, 4% good. Hay, roughage supplies 37% very short, 34% short, 25% adequate, 4% surplus. Second cutting alfalfa 78% harvested, 63% 1987, 60% avg. Other hay 91% harvested, 92% 1987, 91% avg.

NEBRASKA: Light amounts of rain across State but most parts hot, dry. Temperatures across State 3 to 9° above normal. Extremes 49°; 104°.

Days suitable for fieldwork 5.9. Topsoil moisture 66% short, 34% adequate. Subsoil moisture 70% short, 30% adequate. Alfalfa hay 3% very poor, 22% poor, 41% fair, 34% good. Alfalfa hay 3rd cut 70%, 64% 1987, 44% avg. Pasture, range feed supplies 14% very short, 29% short, 57% adequate. Hay, roughage supplies 4% very short, 19% short, 73% adequate, 4% surplus.

NEVADA: South to southwest air flow kept skies virtually cloud free first half. Some clouds midweek, scattered thunderstorms south, none north. Hottest spot 116° extreme south.

Melon harvest well along. Ranges continued to provide insignificant grazing. More cattle drifting down to lower elevation pastures, meadows.

Hay roughage supplies 33% short, 60% adequate, 7% surplus.

NEW ENGLAND: Precipitation averaged 2.00 to 3.00 in. northern Maine, 1.00 in. remainder north, less than 0.25 in. south. Average temperatures low to mid 60s northern and central Maine, northern New Hampshire, Vermont, upper 60s western and central Massachusetts, northwestern Connecticut, southern New Hampshire, low to mid 70s remainder Connecticut, Rhode Island, eastern Massachusetts. Temperatures near normal.

Days suitable for fieldwork 6.0. Fieldwork 2.0 days behind. Soil moisture 22% short, 78% adequate. Grazing availability 20% short, 80% adequate. Hay, roughage 15% short, 85% adequate. Percent of feed now being obtained from pastures 42%. Maine potatoes good. Rhode Island potatoes good; 15% harvested, 18% 1987, 22% avg. Connecticut River Valley potatoes 15% harvested, 7% 1987, 9% avg.; fair to good. Maine oats 10% harvested, 3% 1987, 7% avg.; fair to good. Field corn fair to good. Sweet corn 55% picked, 50% 1987, 49% avg.; fair to good. Shade tobacco good; 70% harvested. Outdoor tobacco 50% cut; fair to good. Second crop hay 70% cut, 75% 1987, 72% avg.; fair to good. Third crop hay 25% harvested, 28% 1987, 26% avg.; fair to good. Apple fair to good; size medium. Peaches 55% picked; fair to good. Blueberries good; 80% harvested. Major farm activities: Harvesting fruits, vegetables; haying, insect control.

NEW JERSEY: Temperatures averaged near normal. Extremes 37°; 101°. Rainfall averaged 0.10 in. north, 0.44 in. central, 1.65 in. south. Heaviest 24-hour total 1.10 in. on 17th, 18th. Estimated soil moisture percent field capacity averaged 47% north, 35% central, 46% south. Four inch soil temperatures averaged 74° north, 76° central, 77° south.

Current cooler weather beneficial. Rainfall varied. Most crops still need rain. Summer vegetable harvest active. Irish potato digging increased. Peach picking continued active. Summer variety apple harvest continued light; fall varieties sizing. Field corn, soybeans need rain. Hay fields, pastures benefited from showers, cooler temperatures. Additional rain needed. Hay, roughage supplies continued 50% short, 50% adequate.

NEW MEXICO: Low temperature 45° Chama, high temperature 99° Truth or Consequences. Measurable rainfall statewide.

Days suitable for fieldwork 6.1. Soil moisture 27% short, 73% adequate. Cotton 15% bolls open; behind 1987, average. Cotton 5% poor, 45% fair, 50% good. Cattle 6% poor, 19% fair, 69% good, 6% excellent. Sheep 15% fair, 77% good, 8% excellent. Ranges 25% fair, 75% good. Hay, roughage stock supplies 30% short, 70% adequate. Shortages occurred due to continued rainfall.

NEW YORK: Temperatures averaged 2 to 5° above normal. Week began with very hot, humid conditions; cold fronts which passed across State midweek brought normal temperatures during middle of week, below normal temperatures by weekend. Precipitation amounts at or below normal. Most areas received some rainfall. Heaviest amounts over northern areas.

Days suitable for fieldwork 6.2. Soil moisture short to adequate. Wheat harvest neared completion. Second cutting alfalfa 79%, 80% 1987, 79% avg. Third cutting just beginning. Oats 65% harvested, 72% 1987, 55% avg. Pastures mostly fair. Hay, corn fair to good. Hay, roughage supplies 67% short, 33% adequate. More locally grown vegetables appeared at markets. Orange County onion, lettuce growers disking under hail and tornado damaged fields from July storm. Sweet corn needs rain. Snap bean yields improving, harvest at peak.

NORTH CAROLINA: Temperatures averaged 3 to 8° above normal statewide. Temperature extremes 58°; 107°. Precipitation ranged none to 1.78 in. across State.

Days suitable for fieldwork 6.2. Soil moisture 18% very short, 49% short, 32% adequate, 1% surplus. Pasture 8% very poor, 25% poor, 33% fair, 32% good, 2% excellent. Flue-cured tobacco 45% harvested, 44% 1987, 44% avg. Tobacco 1% very poor, 2% poor, 31% fair, 62% good, 4% excellent. Peanuts 4% poor, 22% fair, 59% good, 15% excellent. Sweetpotatoes 25% fair, 69% good, 6% excellent. Peaches 86% harvested, 88% 1987, 92% avg.; 23% fair, 71% good, 6% excellent. Truck crops 10% poor, 38% fair, 51% good, 1% excellent. Hay, roughage supplies 2% very short, 17% short, 79% adequate, 2% surplus; condition 5% very poor, 25% poor, 39% fair, 29% good, 2% excellent. Livestock feed obtained from pasture 64%. Apples 8% harvested, 2% 1987, 4% avg. Apples fair to good. Major farm activities: Tobacco harvesting, marketing; baling hay; harvesting truck crops, corn silage, peaches, sorghum, apples; spraying soybeans, cotton, peanuts; shearing Christmas trees; land preparation for fall planting; tending livestock, general farm maintenance.

NORTH DAKOTA: Temperatures continued above normal, averaged 4 to 8° higher. Extremes 48°, 105°. Record highs in southeast on 16th. Widely varied precipitation from none southwest, south central up to 1.28 in. north central.

Days suitable for fieldwork 6.4. Topsoil moisture improved; 58% very short, 34% short, 8% adequate. Subsoil moisture diminished; 81% very short, 16% short, 3% adequate. Small grain harvest nearly complete. Spring wheat 95% combined, 66% 1987, 56% avg; durum 85%, 47% 1987, 40% avg.; oats 96%, 72% 1987, 67% avg.; barley 98%, 82% 1987, 76% avg. Most row crops deteriorated. Corn for grain 24% very poor, 58% poor, 13% fair, 5% good; corn for silage 24%, 66%, 7%, 3%; sunflower 19%, 32%, 34%, 15%; dry edible beans 4%, 40%, 48%, 8%; soybeans 20%, 34%, 35%, 11%; potatoes none, 72%, 24%, 4%; flax 26%, 46%, 27%, 1%. Row crops progressed ahead of average development. Sunflowers 58% flowers dried and beyond, 43% 1987, 28% avg.; corn for grain 42% denting to dented and beyond, 31% 1987, 20% avg.; corn silage 19% cut, 1% 1987, 1% avg.; potatoes 4% dug, 5% 1987, 2% avg.; dry edible beans 72% leaves yellow and beyond, 56% 1987, 42% avg.; soybeans 46% lower leaves yellowing and beyond, 39% 1987, 26% avg.; flax 24% combined, 6% 1987, 6% avg. Hay, roughage supplies 27% very short, 65% short, 8% adequate. Pastures improved; 80% poor to very poor, 19% fair, 1% good; furnished 62% roughage requirements. Stockwater supplies becoming critical. Spider mite activity still in bean fields while powdery mildew found in some sugarbeet fields.

OHIO: Average low temperatures near normal north upper 50s. South 4 to 11° above normal upper 60s. Average high temperatures low to mid 80s north, 1 to 3° above normal; around 90° south, 4 to 8° above normal. Cold front weekend brought 0.50 to 2.50 in. rain.

Days suitable for fieldwork 6.2. Soil moisture 70% short, 29% adequate, 1% surplus. Crops, livestock stressed by continued drought conditions. Cool weather weekend brought great relief. Corn poor; suffering from smut, weeds. Soybeans battling spider mites, velvetleaf; fair to poor. Hay, pasture held on another week; hay fair to poor, pasture poor. Hay, roughage supplies 29% very short, 46% short, 24% adequate, 1% surplus.

Harvest of potatoes, tomatoes, apples, corn silage continued.

OKLAHOMA: Temperatures averaged 2° above normal south central to 6° above normal northeast. Precipitation averaged 0.10 in. central to 0.55 in. west central.

Days suitable for fieldwork 6.7. Topsoil moisture 90% short, 10% adequate. Subsoil moisture 65% short, 35% adequate. Cotton 25% fair, 75% good; 1% open bolls, none 1987, none avg. Experiencing plant stress; bolls dropping, stands wilting. Sorghum 5% poor, 35% fair, 60% good; 70% heading, 75% 1987, 75% avg.; 40% coloring, 45% 1987, 30% avg. Some maturing southern counties. Peanuts 80% setting pods, 80% 1987, 80% avg. Soybeans 40% setting pods, 65% 1987, 45% avg. Corn 25% mature, 50% 1987, 35% avg. Pastures fair. Supplemental feed comprised 20% livestock feed. Hay, forage supplies 15% very short, 40% short, 45% adequate. Cattle good; marketings average, prices steady to slightly higher than previous week.

OREGON: Temperatures near or few degrees below normal. Except southern half coast, portions of Lake, Baker Counties. Measurable rain along coast, north Willamette Valley. Astoria 0.85 in.; Bonneville Dam 0.53 in. Ukiah, Enterprise, Baker measurable rain.

Soil moisture 58% short, 45% adequate. Winter wheat 88% harvested, 90% 1987, 88% avg. Barley 81% harvested, 71% 1987, 80% avg. Hay, roughage supplies 18% short, 69% adequate, 13% surplus. Grass seed harvest nearly finished. Wheat, barley yields look good. Field burning resumed. Alfalfa 2nd cuttings progressing well; many growers finished. Hay regrowth minimal. Mint harvest continued. Apples, pears, peaches being harvested. Raspberry harvest finished. Evergreen blackberry harvest begun Willamette Valley. Filberts developing nicely Lane County. Vegetable harvest begun Willamette Valley. Sweet corn, snap beans for processing being harvested. Onion, potato harvest continued, early potato harvest neared completion; northeast. Irrigation water supply out Lakeview. Stockwater shortages continue Harney County. Livestock good. Range, pasture fair to good.

PENNSYLVANIA: Hot, humid beginning of week; cool, dry end of week. Rainfall 20th. Average temperature 73°, 3° above normal. Temperature extremes 46°; 103°. Average precipitation 0.50 in., 0.34 in. below normal.

Days suitable for fieldwork 5.0. Soil moisture 80% short, 20% adequate. Corn 89% silk, 99% 1987, 96% avg.; 40% dough, 72% 1987, 57% avg.; 5% dent, 23% 1987, 14% avg. Ensilage corn 9% harvested, 9% 1987. Corn 13% very poor, 29% poor, 35% fair, 19% good, 4% excellent. Soybean 9% very poor, 22% poor, 31% fair, 30% good, 8% excellent. Oat 91% harvested, 93% 1987. Tobacco 19% harvested, 25% 1987. Potato 25% harvested, 25% 1987. Second cutting alfalfa 90%, 91% 1987. Third cutting alfalfa 46%, 49% 1987. Fourth cutting alfalfa 6%, 4% 1987. Second cutting clover-timothy 76%, 72% 1987. Hay, roughage supplies 25% very short, 53% short, 22% adequate. Livestock feed now obtained from pastures 18%. Quality of hay good to fair. Feed from pastures below average. Apple harvest 17%, 15% 1987. Peach 49% harvested, 56% 1987. Fall plowing 18%, 23% 1987. Activities: Harvesting corn silage, oats, hay, haylage, tobacco, fruit, potatoes, other vegetables; fall plowing; controlling weeds, insects; caring for livestock; maintaining machinery.

PUERTO RICO: Island average rainfall 2.23 in., 0.63 in. above normal. Highest weekly total rainfall 4.10 in. Yauco, 4.03 in. San Sebastian, 3.85 in. Sabana Grande. Highest 24-hour total 3.80 in. Corral Viejo. Total rainfall since January 1st 35.01 in., 3% above normal. San Juan WSFO mean temperature 83°, 1° above normal. Total rainfall 1.95 in., 0.60 in. above normal. Divisional temperature averaged about 80 to 82° on coasts, 76 to 77° interior, mean station temperature ranged 68° Pico Del Este-Luquillo to 84° Roosevelt Roads. Lowest minimum temperature 55° Adjuntas. Highest maximum temperature 94° several places.

SOUTH CAROLINA: Temperatures topped 100° for 3 consecutive days. Rainfall ranged 1.60 in. Walhalla to less than 0.09 in. Orangeburg.

Days suitable for fieldwork 6.1. Soil moisture 6% very short, 82% short, 12% adequate. Cotton 87% setting bolls, 98% 1987, 100% avg.; 2% open bolls, 5% 1987, 16% avg.; 1% very poor, 2% poor, 89% fair, 8% good. Soybeans 80% blooming, 81% 1987, 76% avg.; 41% setting pods, 48% 1987, 41% avg.; 10% poor, 59% fair, 31% good. Tobacco fair to good; 63% harvested, 70% 1987, 70% avg. Corn 93% dough stage, 100% 1987, 96% avg.; 48% matured, 82% 1987, 78% avg.; 10% harvested, 16% 1987, 19% avg.; poor to fair. Peanuts fair; 1% harvested, 1% 1987. Sorghum fair; 9% harvested, 19% 1987, 12% avg. Peaches fair; 93% harvested, 90% 1987, 93% avg. Pastures fair. Livestock fair to good. Hay, roughage supplies 17% very short, 70% short, 13% adequate.

SOUTH DAKOTA: Average temperatures 5 to 11° above normal. Extremes 50°; 114°. Mostly dry across State except for Black Hills. Northwest, north central 2.00 to 5.00 in. below normal for growing season.

Days suitable for fieldwork 6.0. Topsoil moisture 40% critically short, 52% short, 8% adequate. Hay, roughage supplies 9% very short, 52% short, 36% adequate, 3% surplus. Livestock feed obtained from pastures 76%.

TENNESSEE: Hot, humid conditions prevailed through 18th. Cold front brought cooler temperatures weekend. Temperatures averaged above normal, especially west. Precipitation occurred late week, averaged 0.25 to 0.75 in. west, 1.00 to 3.50 in. or more rest of State.

Days suitable for fieldwork 6.0. Soil moisture 40% very short, 50% short, 10% adequate. Hay roughage supplies 15% very short, 71% short, 13% adequate, 1% surplus. Pasture feed 43% normal. Corn 66% dented, 87% 1987, 69% avg.; 14% mature, 33% 1987, 22% avg.; 11% very poor, 28% poor, 54% fair, 6% good, 1% excellent. Tobacco 64% topped, 87% 1987, 87% avg.; 4% very poor, 11% poor, 57% fair, 27% good, 1% excellent. Burley 12% harvested, 34% 1987, 22% avg. Dark fired 16% harvested, 27% 1987, 20% avg. Dark air-cured 12% harvested, 29% 1987, 18% avg. Cattle fair. Pastures fair to poor. Spraying for boll weevils. Red aphid infestation in tobacco.

TEXAS: Tropical wave brought mostly unwanted rainfall Lower Rio Grande Valley, far south hampered cotton harvest. Remnants tropical depression triggered thunderstorms east, southeast, some heavy storms occurred late week north. Rainfall below normal west, central, Upper Coast. Above normal Lower Valley. Temperatures much below normal Lower Valley, south, Southern High Plains, much above normal Northern High Plains. Readings close to normal elsewhere.

Crops: Corn harvest virtually completed Upper Coast; scattered fields remained because rain. Harvest continued central, Blacklands. Many fields yielding better than expected. Fields entered dent stage Plains. Fields cut for silage, good yields. Irrigation steady. Corn 60% harvested, 53% 1987, 45% avg. Grain sorghum harvest virtually complete central, winding down Blacklands. Overall yields above average. Harvest winding down east, fair

yields. Fields continued turn color Plains, Cross-Timbers. Some fields matured, harvest begin soon. Later fields Plains could use rain. Irrigation steady. Buildup of insects. Sorghum 56% mature, 55% 1987, 58% avg.; 54% harvested, 50% 1987, 52% avg. Cotton harvest Valley, Coastal Bend slowed in final stages by persistent rain. Continued rain could hurt quality remaining fields. Bolls opening rapidly under hot temperatures central, Blacklands. Defoliation increased, some harvest underway. Conditions good Plains; prolonged dryness scattered fields heavy shedding of bolls. Many dryland fields could use rain to hold good crop. Produces continued to spray bollworms, boll weevils. Trans-Pecos producers spraying boll weevils. Irrigation steady. Cotton 96% setting bolls, 99% 1987, 92% avg.; 11% harvested, 6% 1987, 6% avg. Rice harvest continued along Upper Coast as weather permitted. Yields good. Rice 54% harvested, 79% 1987, 63% avg. Peanut prospects good irrigated fields. Many dryland fields could use rain to prevent any stress. Leaf spot irrigated fields. Fields pegging many areas. Soybeans steady progress Plains steady irrigation. Pods beginning set many fields. Upper Coast, harvest early beans slowed by scattered showers. Rain should help later maturing varieties. Sugarbeets good progress High Plains. Irrigation steady. Other Field Crops: Peanuts none harvested, 1% 1987, 1% avg. Soybeans none harvested, 1% 1987, 1% avg.

Commercial Vegetables: Rio Grande Valley, planting slowed by widespread rain. Increase insects, disease many citrus groves with recent moisture. East harvest sweetpotatoes underway. Early quality good. Harvest truck crops, watermelons continued. High Plains harvest carrots beginning. Cucumber, potato, pepper harvest continued. Watermelon, cantaloupe harvest underway. Trans-Pecos harvest tomatoes, green chilies continued. Cantaloupe harvest winding down. Pecans many areas need more moisture to hold nuts. Spraying operations continued. Shells hardening south. Most central, northern areas water stage. East groves dough stage. Irrigation steady Trans-Pecos.

Range and Pasture: Rain south, Valley boost forage growth. Many other parts State need rain to increase growth, greening. Livestock some drier areas beginning to loose weight. Statewide hay, roughage supplies increased some with recent rains. Current supplies 14% very short, 38% short, 41% adequate, 7% surplus.

UTAH: Precipitation none to very light. Temperatures 2° below to 2° above normal.

Days suitable for fieldwork 6.8. Soil moisture 67% short, 33% adequate. Spring wheat 94% harvested, 79% 1987, 54% avg. Barley 96% harvested, 82% 1987, 71% avg. Oats for grain 82% harvested, 50% 1987, 42% avg. Corn 48% dough, 66% 1987, 42% avg. Alfalfa 3rd cutting 30%, 9% 1987, 9% avg. Pasture, range 13% very poor, 44% poor, 35% fair, 8% good. Irrigation water 19% very short, 35% short, 46% adequate. Stockwater supplies 6% very short, 46% short, 48% adequate. Hay, roughage 25% short, 60% adequate, 15% surplus. Livestock good to excellent.

VIRGINIA: Very hot, dry till end period. Temperatures ranged into 90s, 100+ many days. Precipitation minimal until 20th. Statewide rain on 20th, many totals near 1.00 in.

Days suitable for fieldwork 6.4. Topsoil moisture 37% very short, 49% short, 11% adequate, 3% surplus. Slight decline in crop conditions as heat persisted. Corn poor to fair, good some southern counties, few other areas. Corn 70% in or beyond dough stage, 74% 1987, 80% avg.; 46% in or beyond dent stage, 58% 1987, 58% avg.;26% mature, 46% 1987, 37% avg. Soybeans fair north, good south. Soybeans 77% in or beyond bloom stage, 77% 1987, 84% avg.; 51% in or beyond pod setting stage, 53% 1987, 55% avg. Peanuts good to excellent. Flue-cured tobacco excellent; 25% harvested, 17% 1987, 25% avg. Burley tobacco poor; 4% harvested, 14% 1987, 7% avg. Sprayed burley for aphids. Some hay making, some hay reseeding. Hay, pastures vary, poor to excellent. Mostly poor to fair, excellent some southern counties. Peaches 50% harvested. Apples 20% harvested. Hay, roughage supplies 3% very short, 53% short, 31% adequate, 13% surplus.

WASHINGTON: Unseasonally cool low pressure system produced below normal temperatures, broke 33 day dry spell. Rainfall confined primarily to western area, small amount northeast, central areas of State.

Days suitable for fieldwork 6.5. Soil moisture 70% short, 30% adequate. Winter wheat 90% harvested, 94% 1987, 87% avg. Yields varied, quality generally excellent. Planting fall cereals underway some areas, most areas waiting for additional moisture. Conditions especially dry southeast area. Early potato harvest continued Columbia Basin. Dry bean harvest began Benton County. Potato, dry bean crops good. Corn silage growers preparing for harvest. Recent hot weather benefited corn. Second cutting alfalfa hay winding down, 3rd cutting full swing. Hay, other roughage feed supplies 70% adequate, 30% surplus. Bartlett pear harvest underway Chelan County. Fruit size small, finish excellent. Gala apple, elberta peach harvests underway Benton County. Blueberry harvest continued western area. Green pea harvest completed eastern area, later stages western area. Cucumber harvest underway Skagit, King, Pierce Counties. Cauliflower, broccoli harvests underway Skagit County. Tomatoes, squash, other late season vegetable harvests also underway. Range, pastures mostly short southeast area, short to adequate elsewhere.

WEST VIRGINIA: Average temperature 77°; 4 to 8° above normal. Extremes 49° Terra Alta, 105° Creston. Average precipitation 1.36 in., 0.34 to 0.75 in. above normal.

Days suitable for fieldwork 5.6. Soil moisture 70% very short, 30% short. Corn poor to fair; 76% silked, 53% dough. Apples poor to fair. Peaches fair to good. Pasture poor to very poor. Cattle, calves fair to good. Sheep, lambs fair to poor. Feed supplies 27% very short, 46% short, 27% adequate. Feed from pasture 76%. Farm activities: General farm maintenance, haying, clipping pasture, livestock care.

WISCONSIN: Extreme heat 15th to 17th, temperatures averaged 74°, 6° above normal. Extremes 44°; 108°. Precipitation 0.20 to 1.00 in., highest amounts south.

Days suitable for fieldwork 6.0. Soil moisture 84% short, 16% adequate. Crops 16% very poor, 39% poor, 35% fair, 10% good. Corn 14% very poor, 40% poor, 33% fair, 13% good. Heat prematurely drying corn. Corn 67% in dough, 74% 1987, 55% avg. Corn 36% in dent, 36% 1987, 16% avg. Silo filling starting. Oats 87% harvested, 91% 1987, 83% avg. Second crop hay 87% cut, 85% 1987, 84% avg. Third crop better condition. Third crop hay 27% cut, 21% 1987, 16% avg. Feed, roughage supplies 28% very short, 68% short, 4% adequate.

WYOMING: Temperatures above normal. Rainfall well below normal.

Days suitable for fieldwork 7.0. Topsoil moisture 79% short, 21% adequate. Winter wheat small amount mature, none 1987, 5% avg.; most harvested, 100% 1987, 95% avg. Barley none turning color, 5% 1987, 5% avg.; 20% mature, 20% 1987, 25% avg.; 80% harvested, 75% 1987, 70% avg. Spring

(continued to back cover)

GRAIN SORGHUM
% HEADED

	1988	1987	AVG.
ARK	92	99	NA
ILL	90	100	NA
KANS	75	80	60
LA	95	99	98
MISS	98	100	95
MO	91	100	90
NEBR	95	97	91
OKLA	70	75	75
S DAK	92	89	78
TENN	90	100	99
TEX	89	96	89
11 STATES	84	90	NA
EXCL. STATES WITH NA	84	89	77

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

NA - NOT AVAILABLE.

CORN
% MATURE

	1988	1987	AVG.
COLO	0	0	0
GA	91	89	92
ILL	8	20	6
IND	2	25	6
IOWA	16	14	3
KANS	25	30	10
KY	6	21	8
MICH	0	2	0
MINN	0	3	1
MO	14	32	17
NEBR	0	0	0
N C	45	52	53
OHIO	0	12	3
PA	0	0	0
S DAK	0	0	0
TEX	66	66	65
WIS	0	0	0
17 STATES	9	15	7

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 AUGUST 21, 1988

SOYBEANS

STATE	VP	P	F	G	EX
ALA	0	13	39	48	0
ARK	0	4	76	20	0
GA	0	8	41	51	0
ILL	5	34	49	12	0
IND	3	34	52	11	0
IOWA	14	44	38	4	0
KANS	0	4	40	28	28
KY	12	14	61	13	0
LA	0	18	25	48	9
MICH	8	20	37	30	5
MINN	14	35	41	10	0
MISS	1	28	32	39	0
MO	22	20	44	13	1
NEBR	0	35	46	17	2
N C	2	8	38	44	8
OHIO	17	30	38	15	0
S C	0	10	59	31	0
S DAK	1	10	68	15	6
TENN	5	12	57	26	0
19 STATE	8	27	46	17	2

COTTON

STATE	VP	P	F	G	EX
ALA	2	33	48	16	1
ARIZ	0	0	0	75	25
ARK	0	0	22	68	10
CALIF	0	0	15	65	20
GA	16	13	59	12	0
LA	0	0	44	56	0
MISS	0	0	53	42	5
MO	0	0	45	55	0
N MEX	0	5	45	50	0
N C	3	0	29	58	10
OKLA	0	0	25	75	0
S C	1	2	89	8	0
TENN	0	4	24	68	4
TEX	0	1	30	59	10
14 STATE	0	1	33	57	9

CORN

STATE	VP	P	F	G	EX
COLO	0	1	11	56	32
GA	1	29	42	28	0
ILL	14	48	35	3	0
IND	6	55	35	4	0
IOWA	24	44	30	2	0
KANS	7	9	10	57	17
KY	15	37	44	4	0
MICH	15	30	35	18	2
MINN	27	48	23	2	0
MO	29	40	22	8	1
NEBR	1	17	32	45	5
N C	5	17	35	40	3
OHIO	24	35	33	8	0
PA	13	29	35	19	4
S DAK	14	39	37	9	1
TEX	0	2	21	42	35
WISC	14	40	33	13	0
17 STATE	15	38	31	14	2

RICE

STATE	VP	P	F	G	EX
ARK	0	5	32	58	5
CALIF	0	0	10	85	5
LA	0	1	35	62	2
MISS	0	0	62	38	0
TEX	0	0	12	68	20
5 STATE	0	2	29	63	6

GRAIN SORGHUM

STATE	VP	P	F	G	EX
ARK	0	10	45	41	4
ILL	0	10	64	26	0
KANS	1	11	47	32	9
LA	0	10	50	40	0
MISS	1	32	24	43	0
MO	7	18	49	25	1
NEBR	0	18	59	23	0
OKLA	0	5	35	60	0
S DAK	3	12	60	25	0
TENN	3	14	61	22	0
TEX	1	4	26	62	7
11 STATE	1	11	44	39	5

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

CROP PROGRESS 1/

FOR WEEK ENDING AUGUST 21, 1988

SPRING WHEAT
% HARVESTED

	1988	1987	AVG.
IDAHO	72	58	33
MINN	99	94	66
MONT	82	37	44
N DAK	95	66	56
S DAK	100	97	87
5 STATES	94	70	59

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

RICE
% HEADED

	1988	1987	AVG.
ARK	75	94	78
CALIF	60	65	54
LA	88	96	92
MISS	75	97	87
TEX	100	100	100
5 STATES	78	91	80

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

SOYBEANS
% BLOOM

	1988	1987	AVG.
ALA	79	77	84
ARK	72	90	82
GA	93	98	94
ILL	100	100	100
IND	99	100	99
IOWA	100	100	100
KANS	97	95	85
KY	86	94	82
LA	81	93	91
MICH	95	100	98
MINN	100	100	100
MISS	74	80	86
MO	93	100	92
NEBR	100	100	100
N C	77	73	76
OHIO	99	100	99
S C	80	81	76
S DAK	100	100	100
TENN	76	87	88
19 STATES	94	96	95

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

SOYBEANS
% SETTING PODS

	1988	1987	AVG.
ALA	49	57	61
ARK	43	62	51
GA	73	78	73
ILL	97	100	92
IND	92	100	84
IOWA	100	100	96
KANS	85	80	65
KY	44	66	43
LA	55	81	75
MICH	65	90	75
MINN	100	99	95
MISS	53	56	51
MO	79	90	78
NEBR	96	95	91
N C	38	39	42
OHIO	88	99	92
S C	41	48	41
S DAK	97	98	83
TENN	56	71	56
19 STATES	82	89	80

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

COTTON
% BOLLS OPENING

	1988	1987	AVG.
ALA	14	14	10
ARIZ	50	50	48
ARK	9	26	17
CALIF	10	20	8
GA	7	25	20
LA	16	23	23
MISS	9	23	20
MO	5	28	10
N MEX	15	20	37
N C	15	11	0
OKLA	1	0	0
S C	2	5	16
TENN	8	16	9
TEX	16	17	13
14 STATES	14	19	15

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

CORN
% DOUGH

	1988	1987	AVG.
COLO	66	47	49
GA	100	100	100
ILL	88	100	89
IND	89	100	86
IOWA	96	90	71
KANS	90	95	75
KY	87	94	81
MICH	45	95	60
MINN	96	97	59
MO	92	100	92
NEBR	85	92	79
N C	94	93	93
OHIO	74	98	88
PA	40	72	57
S DAK	88	83	49
TEX	97	100	96
WIS	67	74	55
17 STATES	85	92	75

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

CORN
% DENT

	1988	1987	AVG.
COLO	14	13	10
GA	100	100	98
ILL	56	81	51
IND	33	82	36
IOWA	76	69	35
KANS	50	55	30
KY	46	72	50
MICH	10	40	10
MINN	65	63	19
MO	72	89	71
NEBR	45	58	28
N C	79	81	84
OHIO	17	75	39
PA	5	23	14
S DAK	50	42	15
TEX	76	80	80
WIS	36	36	16
17 STATES	52	65	36

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

GRAIN SORGHUM
% COLORING

	1988	1987	AVG.
ARK	55	82	NA
ILL	36	50	NA
KANS	10	25	10
LA	52	78	85
MISS	68	83	81
MO	37	70	66
NEBR	30	39	18
OKLA	40	45	30
S DAK	34	33	19
TENN	52	78	56
TEX	64	66	69
11 STATES	34	46	NA
EXCL. STATES WITH NA	34	45	35

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

NA - NOT AVAILABLE.

International Weather and Crop Summary

August 14 - 20, 1988

HIGHLIGHTS

USSR ... In Western USSR, showers continue in the upper Volga, parts of the Central Region, and the Volga Vyatsk, increasing soil moisture for winter grain planting but delaying the spring grain harvest. In the New Lands, isolated showers in Kazakhstan cause only brief harvest delays.

EUROPE ... Dry weather favors winter grain harvesting across the north early in the week. Scattered showers offer limited relief to crops in the southeast.

SOUTH ASIA ... Drier-than-normal weather persists in parts of the south, but elsewhere, rainfall favors summer crops in or nearing reproduction.

EASTERN ASIA ... Widespread rain covers most crop areas. Heavy rain possibly causes flooding in the northeast, east, central, and south.

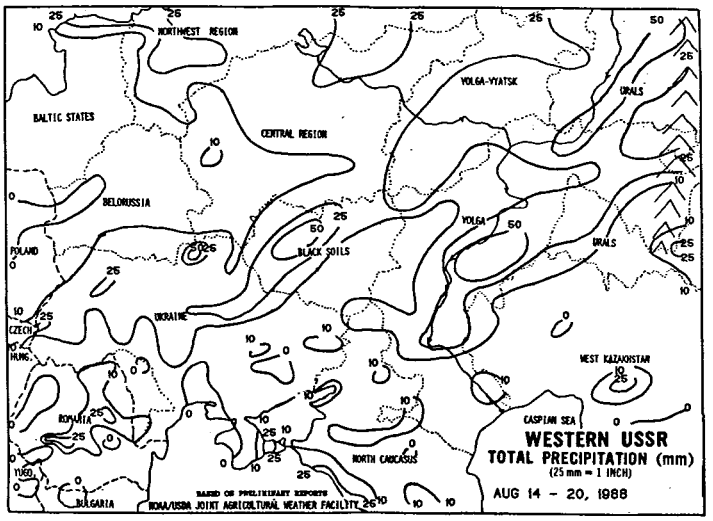
SOUTHEAST ASIA ... Below-normal rainfall in central and eastern Thailand favors corn harvesting but limits moisture for rainfed rice.

SOUTH AMERICA ... Beneficial rain helps wheat planting in southern Buenos Aires, but Argentina's western wheat areas continue unfavorably dry. Showers fall in southern Brazil while seasonably dry weather prevails in the north.

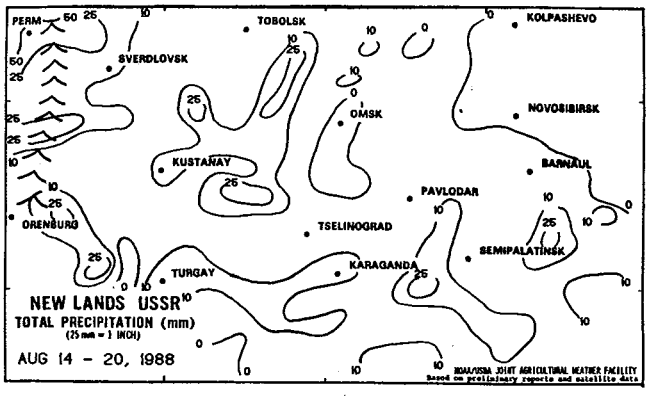
AUSTRALIA ... Much warmer-than-normal temperatures cause winter grains to become actively vegetative across eastern growing areas.

MEXICO ... Widespread rain soaks most crop areas.

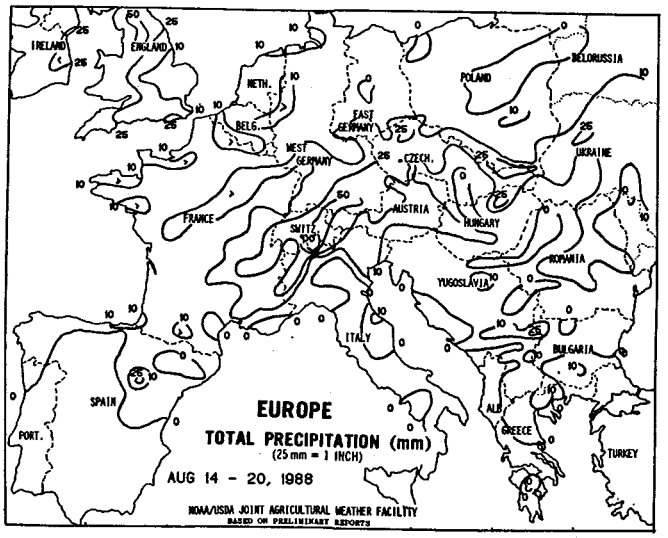
CANADA ... Cooler, wet weather helps some immature, late planted crops in the central Prairies, but slows spring wheat harvesting.



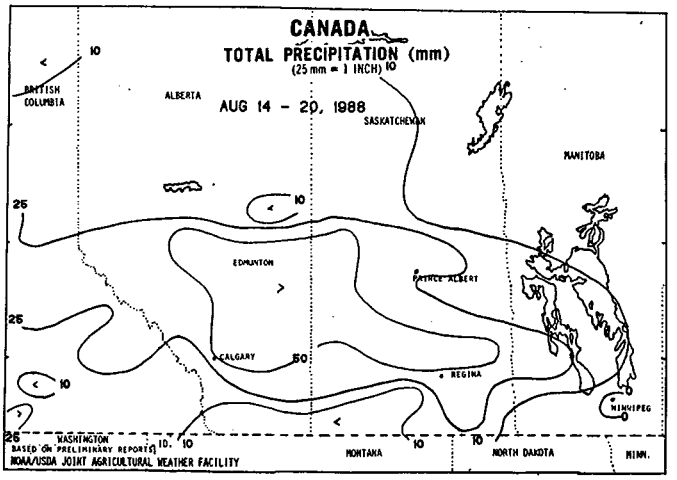
USSR ... In Western USSR, winter grain planting is normally underway in the Central Region, the Volga Vyatsk Region, and the upper Volga. Widespread light to moderate showers (10-35mm) continued in these areas, increasing topsoil moisture for planting. However, the rain may have caused some delays in spring grain harvesting. Midweek showers (10-25mm) over the northern half of the Ukraine benefited corn in the filling stage. Mostly dry weather in the southern Ukraine and the North Caucasus favored corn and sunflower maturation. Harvest of these crops usually begins in late August and continues through September. Highest weekly temperatures ranged from 30 to 33 degrees C in the south and 23 to 28 degrees C in the north. Weekly average temperatures were near to above normal in the west and north, and below normal in the east.



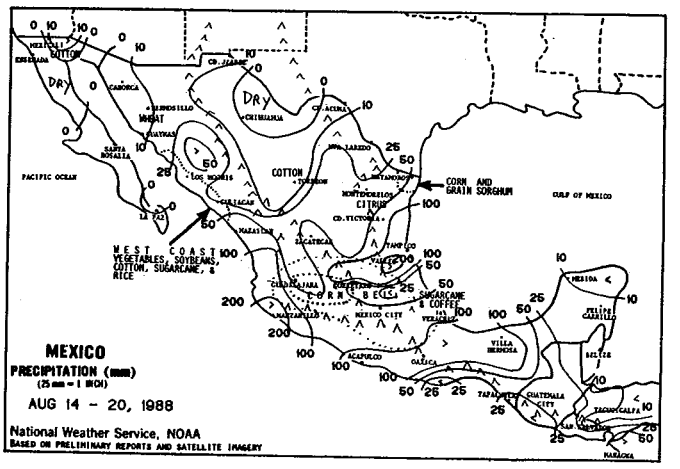
In the New Lands, widespread showers continued over the eastern portion of the upper Volga and the northern Urals, slowing spring grain maturation and delaying early harvest. Isolated showers in Kazakhstan caused only brief harvest delays. In West Siberia, unseasonable warm, dry weather in southernmost areas favored crop maturation. Minimal rain covered northern areas, where spring grains were likely filling. Weekly average temperatures were 1-3 degrees C above normal over much of the region.



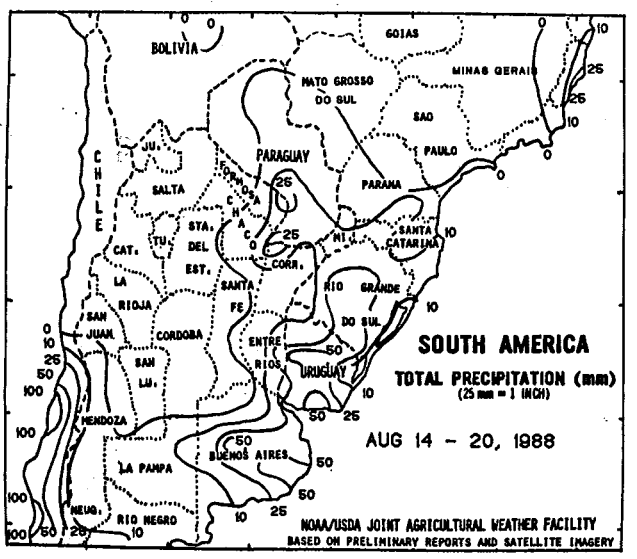
EUROPE ... Favorably dry weather benefited winter grain harvest across northern growing areas early in the week, followed by scattered light to moderate rain (5-15mm) and fieldwork delays by week's end. Southwestern Europe remained mostly dry. Early-week scattered light to moderate showers (5-15mm) helped filling summer crops across southeastern Europe, although area coverage and rainfall were insufficient to correct long term moisture deficiencies which have existed over much of the region for the past 1-2 months. Crop stress in the Balkans was further increased by daily maximum temperatures in the 32-38 degrees C range, leading to weekly mean temperatures 3-6 degrees C above normal. Mean temperatures across the remainder of Europe ranged from near normal in the extreme west to above normal elsewhere.



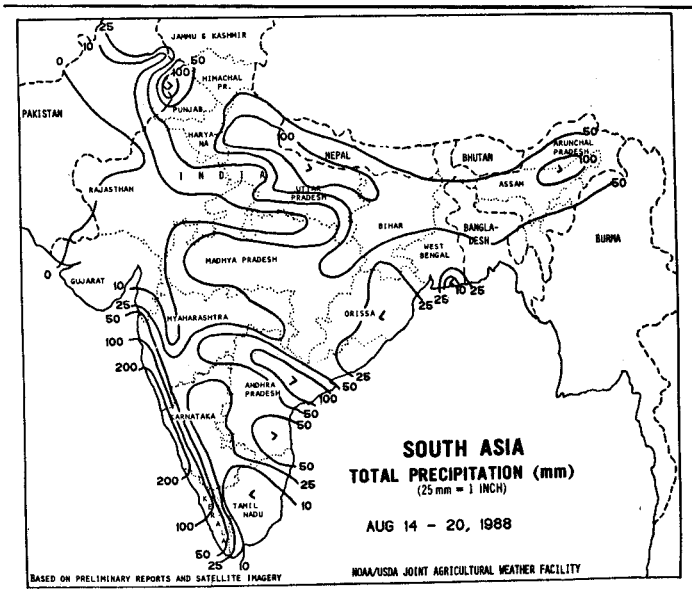
CANADA ... Moderate to heavy rain (25-50mm or more) and cooler weather covered crops from northern and central Alberta to the northern grain regions of Manitoba, benefiting some immature, late planted crops but delaying spring wheat harvesting. In most Prairie crop regions, especially northern Alberta, drier, warmer weather is now needed to aid maturing grains and oilseeds. Rainfall averaged less than 10mm in southern Alberta, southwestern Saskatchewan, and the southern half of Manitoba's crop region, favoring harvesting. Crop harvesting in the Canadian Prairies usually runs to mid-September, but may be delayed in some regions due to this season's late sowings and uneven germination.



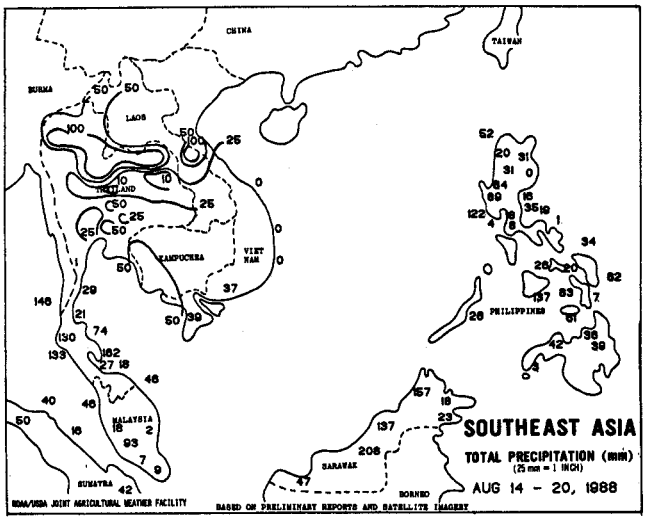
MEXICO ... Widespread showers covered most of the country, producing beneficial moisture for crop development. Significant rain fell along the west coast farming region, easing irrigation requirements. Dry weather in the north-central region helped early cotton harvesting, but locally heavy showers (50-100mm) along the northeast coast slowed fieldwork. Heavy rain (100-292mm) caused local flooding in both northeastern and far western portions of the Southern Plateau corn belt. Substantial rain (15-75mm) fell elsewhere in the Southern Plateau. Locally heavy tropical rain (100-155mm) soaked southern Mexico except for the Yucatan peninsula where only light showers fell.



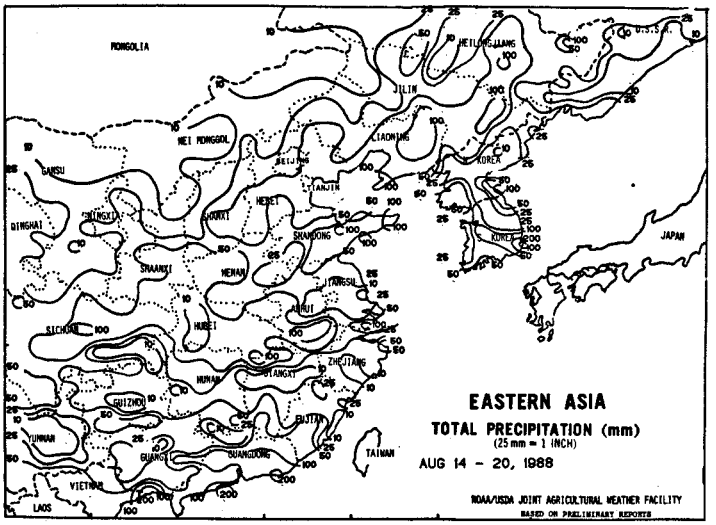
SOUTH AMERICA ... In Argentina, early-week showers and thunderstorms produced substantial rainfall (10-73mm) over most of southern and eastern Buenos Aires, improving topsoil moisture for wheat planting and crop establishment. The rain stimulated planting and was followed by late-week scattered showers. However, dryness persisted over northwestern Buenos Aires and Cordoba, where soil moisture is unfavorably low for wheat emergence and in Santa Fe, where moisture is limited in the south. Showers spread into southern Brazil, benefiting wheat growth in Rio Grande do Sul and Santa Catarina. Weekly rainfall averaged 10-34mm in much of these two states. Light showers (mostly less than 5mm) fell in southern Parana, while seasonably dry weather prevailed throughout the coffee areas from northern Parana through Minas Gerais.



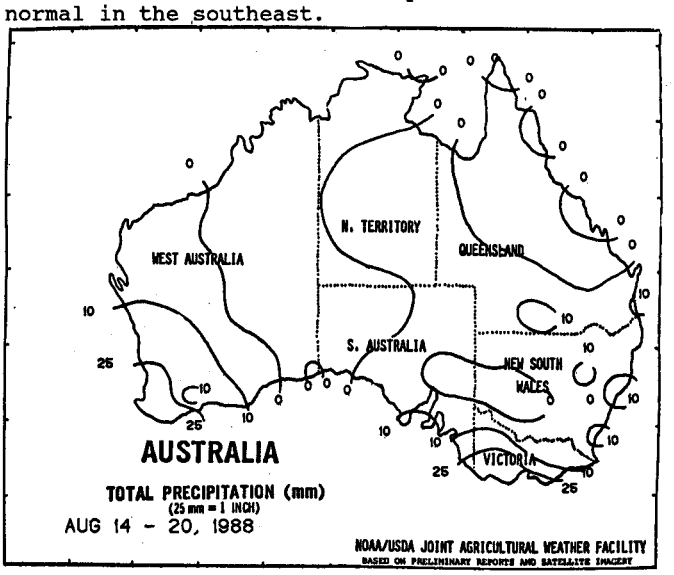
SOUTH ASIA ... Rainfall averaged less than 25mm over most interior crop regions of Maharashtra and parts of central Karnataka, limiting moisture for grains and oilseeds in or nearing reproduction. Mostly dry weather covered Gujarat, but rainfall increased from the previous week over crop regions of Madhya Pradesh, easternmost Maharashtra, Andhra Pradesh, and all but central Karnataka, ranging from 25 to 80mm in most regions. Most grains and oilseeds in central India are nearing the moisture critical reproductive phase, but groundnut and cotton plantings in Gujarat were likely delayed by excessive rainfall. Elsewhere, beneficial rain (25-50mm or more) maintained favorable conditions for heading rice in the east. Heavier rain (50-100mm or more) fell from northern Bihar to western Uttar Pradesh and, locally, over northern Pakistan, likely causing more flooding.



SOUTHEAST ASIA ... Moderate to heavy rain (50-100mm or more) covered most of northern and northeastern Thailand, benefiting rainfed rice. However, rainfall averaged less than 25mm over a large portion of central and eastern Thailand, favoring corn harvesting but limiting moisture in parts of the eastern Khorat Plateau for rainfed rice. Scattered, mostly moderate rain (25-50mm or more) fell elsewhere in Thailand and, except for Vietnam's central coast, most of Indochina. In the Philippines, moderate showers (25-50mm or more) covered most major crop regions, benefiting immature grains.



EASTERN ASIA ... A slow moving frontal system brought widespread rain (25-50mm, with scattered amounts greater than 50mm) to nearly all crop areas in China, the Korean Peninsula, and Japan. It was the most widespread rainfall across the region in several months. The rain helped alleviate dryness in parts of the Yangtze Valley and in Liaoning and Jilin Provinces, where recent heat and dryness had stressed filling spring-sown crops. Very heavy rain (100-200mm, with isolated amounts greater than 200mm) may have caused flooding in parts of Manchuria, the Yangtze Valley, southern coastal China, Taiwan, and southern Japan. Mean temperatures across the region ranged from below normal in northwestern crop areas to above normal in the southeast.



AUSTRALIA ... A strong frontal system brought moderate to heavy rain (15-30mm) to crop areas in Western Australia by midweek, spreading to southeast coastal areas by week's end. Abnormally warm weather, ranging from 3 to 7 degrees C above normal for the week, caused some semi-dormant winter grains to become vegetative across eastern winter grain areas of Queensland and New South Wales. Temperatures across remaining crop areas ranged from near normal in the west to above normal in the south. Light to moderate showers (5-15mm) benefited vegetative crop growth across southern Queensland and northern New South Wales. Harvest weather for sugarcane continued mostly favorable, with only scattered light showers (less than 10mm) along Queensland's east coast.

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(continued from p.16)

VEGETABLES: Rain slowed land preparation and planting in Florida. Celery, cucumbers, eggplant, peppers, and tomatoes were planted. Widespread rain slowed vegetable planting in the Texas Rio Grande Valley. California vegetable harvest consisted mostly of broccoli, cauliflower, carrots, celery, lettuce, cantaloups, and mixed melons. Lettuce, cauliflower, and celery were planted and transplanted in the Huron area.

PASTURES AND LIVESTOCK: Pastures were mostly poor to fair. Livestock was mostly fair. Heat caused stress and loss in some States.

(continued from p.22)

wheat none turning color, 5% 1987, 5% avg.; 10% mature, 20% 1987, 30% avg.; 90% harvested, 75% 1987, 65% avg. Oats 5% turning color, 10% 1987, 15% avg.; 30% mature, 30% 1987, 35% avg.; 65% harvested, 60% 1987, 50% avg. Corn 95% silked, 85% 1987, 65% avg.; 80% milk, 50% 1987; 35% dough, 25% 1987, 40% avg. Dry beans 90% setting pods, 85% 1987, 95% avg.; 60% leaves turning color, 40% 1987, 40% avg. Alfalfa 2nd cutting 80%, 65% 1987, 65% avg. Other hay 95% harvested, 90% 1987, 85% avg. Winter wheat small amount 1989 crop planted, small amount 1987. Ranges, pastures poor to fair. Livestock feed obtained from pastures 80%. Hay, roughage supplies 10% very short, 60% short, 30% adequate. Calf, lamb weights mostly lighter or equal to 1987. Livestock to be wintered cattle 85%, sheep 85%.

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