

WEEKLY WEATHER AND CROP BULLETIN

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

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

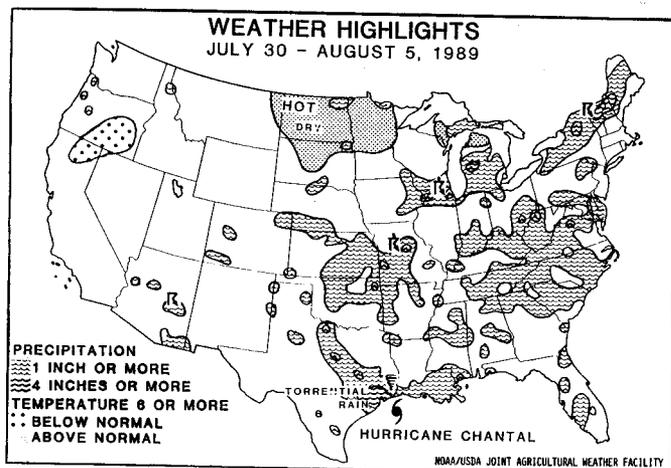
Volume 76, No. 31

Washington, D.C.

Aug. 8, 1989

National Weather Summary

July 30 - August 5, 1989



U.S. MONTHLY MAPS AND SUMMARIES

TUESDAY: Hurricane Chantal crossed into eastern Texas, causing torrential rain before weakening to a tropical depression by evening. Strong thunderstorms were scattered over the Rockies and from the southern Plains to the Atlantic coast. Sunny and hot weather remained across the northern Plains.

WEDNESDAY: Rain from the remnants of Hurricane Chantal doused southeastern Texas to central Oklahoma, while tropical Storm Dean intensified to a hurricane 500 miles east of San Juan, Puerto Rico. Thunderstorms produced damaging winds in advance of an approaching cold front across the Dakotas as thunderstorms were again scattered along the Gulf and Atlantic Coast States.

THURSDAY: Thunderstorms continued in the hot, humid air ahead of the cold front moving slowly across the North Central States. Hurricane Dean remained stationary 175 miles northeast of San Juan.

FRIDAY: Severe thunderstorms developed from Iowa to New England in advance of the cold front. Over four and a half inches drenched the Chicago area. Very hot, humid air prevailed south of the front. Hurricane Dean drifted northward.

SATURDAY: Thunderstorms with damaging winds extended from Oklahoma, across the Ohio Valley, and into New England as the front plunged southeastward. Brisk northerly winds brought much cooler air into the upper Mississippi Valley. Hurricane Dean roared toward Bermuda.

HIGHLIGHTS: Scattered showers and thunderstorms continued to be widespread from the southern Intermountain Plateau and central Rockies to the Atlantic coast. Heavy rain soaked the lower Missouri Valley at the beginning of the week as Hurricane Chantal developed in the Gulf. Chantal slammed into the northern Texas coast, causing torrential rain before moisture from its remnants spread rain from north-central Texas, across the Great Lakes, and into the Northeast. Hot, dry weather again plagued the northern Plains before a cold front caused isolated rain and much lower temperatures at midweek. The cold front moved across the Corn Belt at week's end and ushered much cooler air into the North Central States.

SUNDAY: Rain was widespread from the central High Plains to the Atlantic coast as heavy amounts flooded fields and streams across eastern Kansas and central Missouri. Six inches of rainfall in 12 hours inundated Columbia, MO. Thunderstorms were widely scattered over the Rockies and Intermountain Plateau. Temperatures climbed into triple digits in the central and southern Plains, while a tropical depression formed in the Gulf off the Yucatan Peninsula.

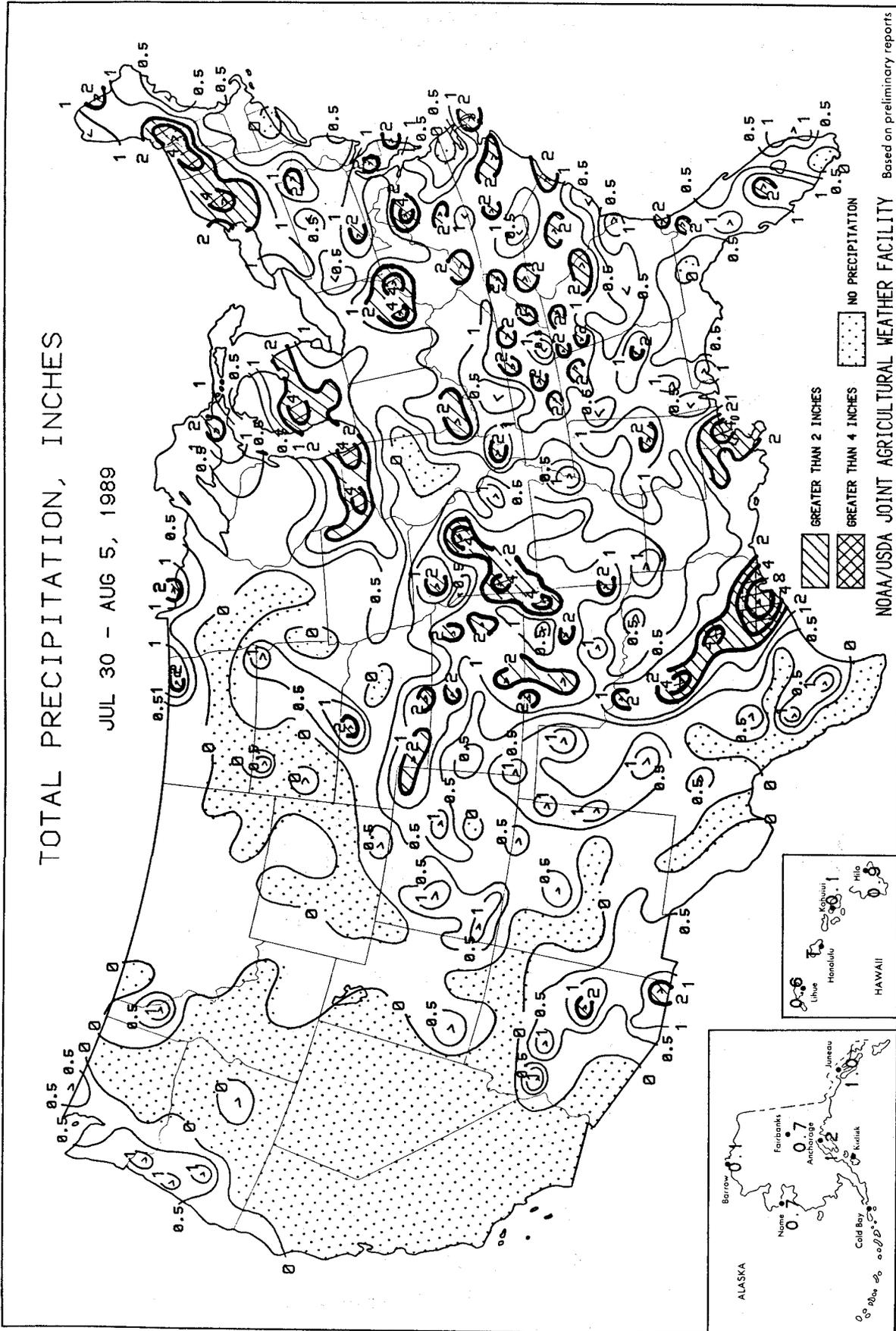
MONDAY: The tropical depression strengthened to Hurricane Chantal as it spun toward Galveston, TX, and caused heavy rain along the central Gulf coast. Thunderstorms were again spread over the Rockies, the Southwest, and from the central Plains to the middle and southern Atlantic coast. Temperatures soared into the hundreds over the northern Plains and northern and central Rockies as a number of records were broken or tied.

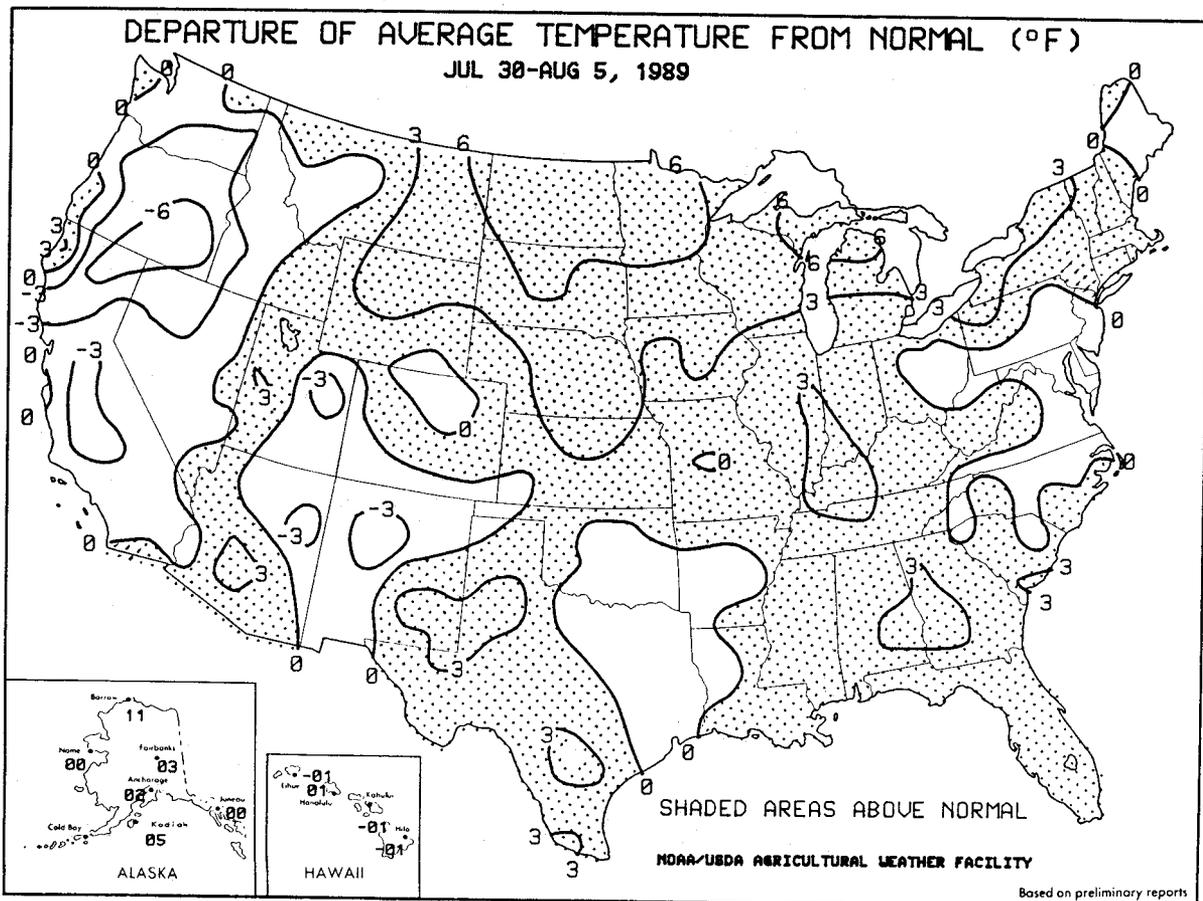
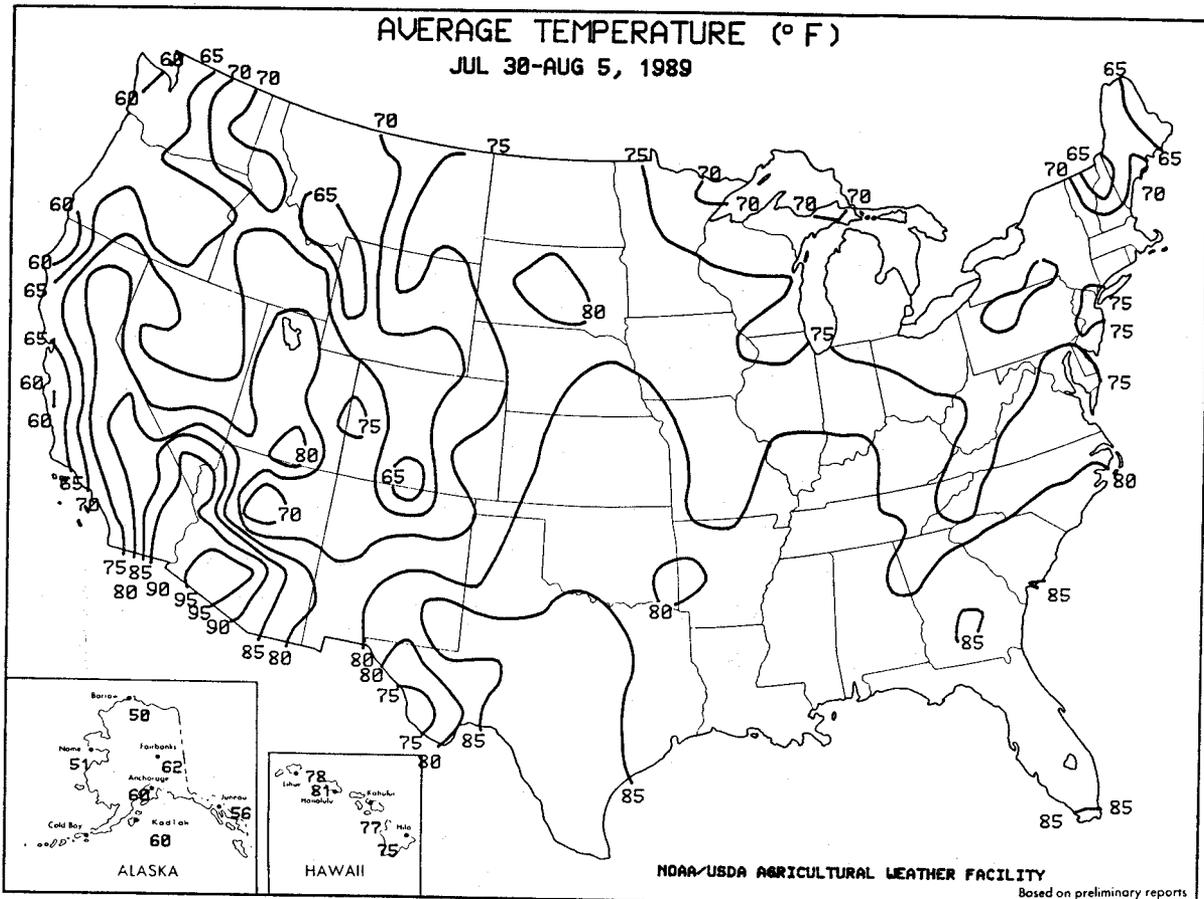
Contents

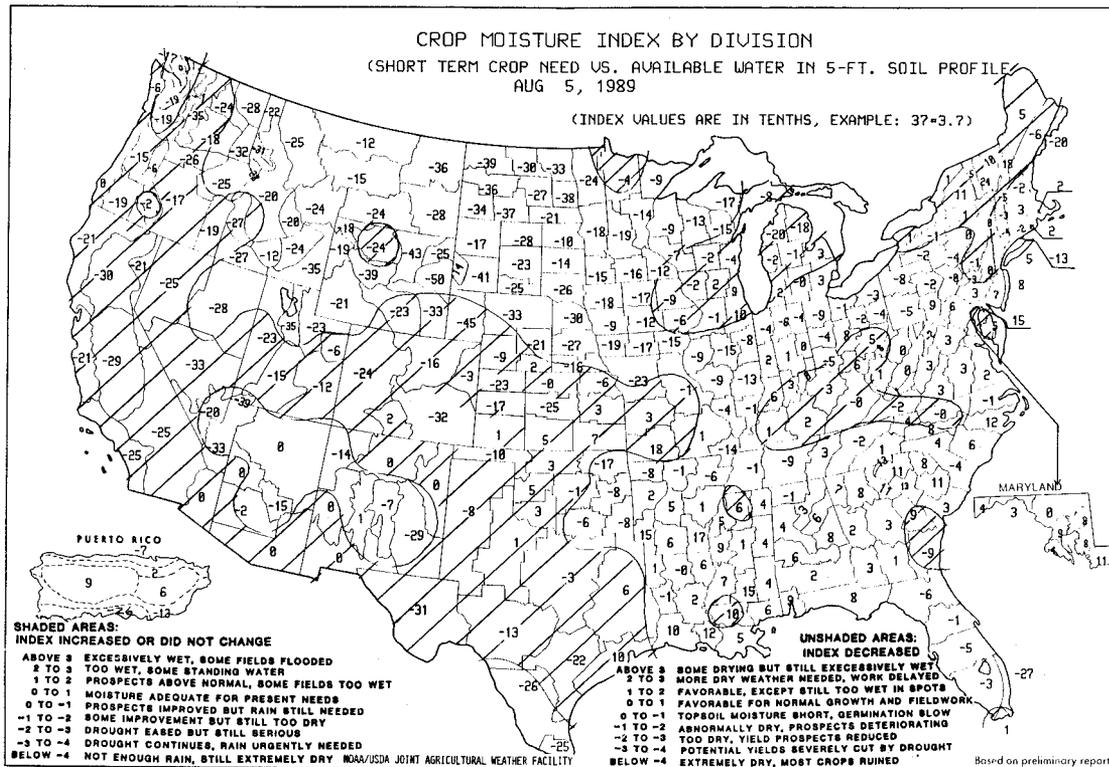
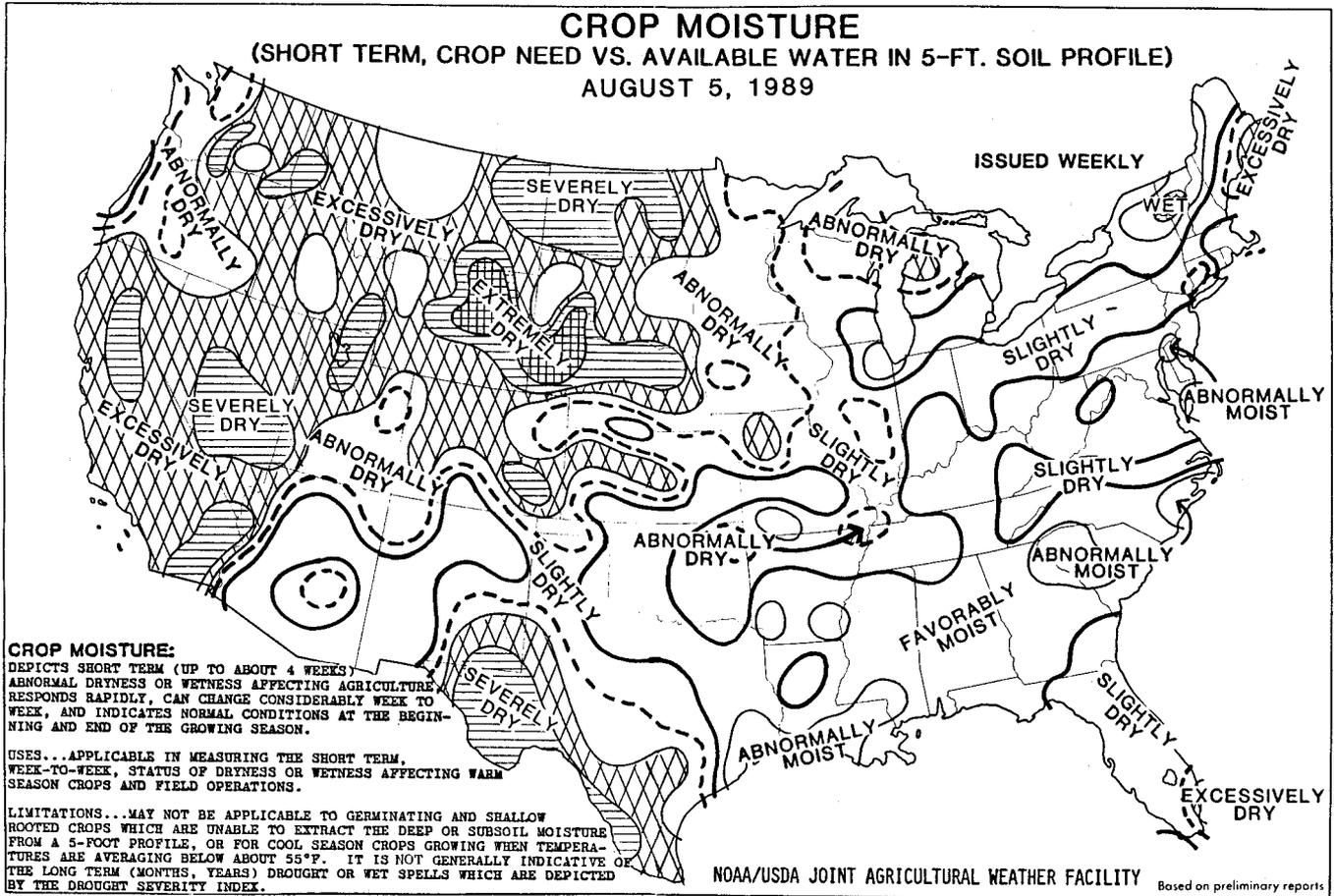
	Page
National Weather Summary	1
Total Precipitation	2
Average Temperature & Departure Maps	3
Crop Moisture Maps	4
Total Growing Degree Days & Departure	5
National Weather Data for Selected Cities	6
July Weather and Crop Summary	9
July Weather in Historical Perspective	10
July Precipitation and Percentage of Normal	11
July Average Temperature and Departure	12
July Weather Data for Selected Cities	13
National Agricultural Summary	14
Crop Progress and Condition Tables	15
State Summaries of Weather and Agriculture	17
International Weather and Crop Summary & July Temperature and Precipitation Table	23
Subscription and Mailing Permit Information	28

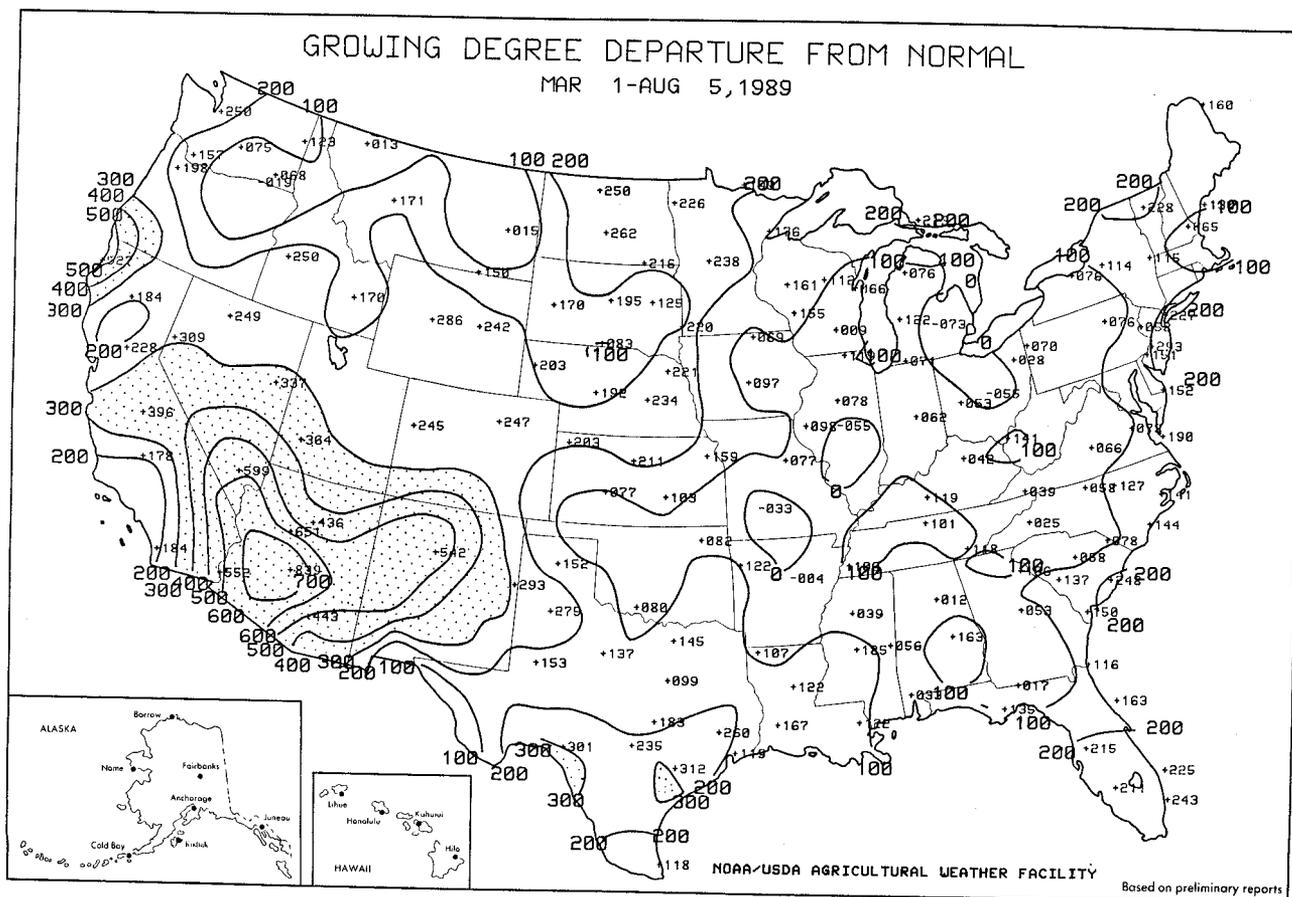
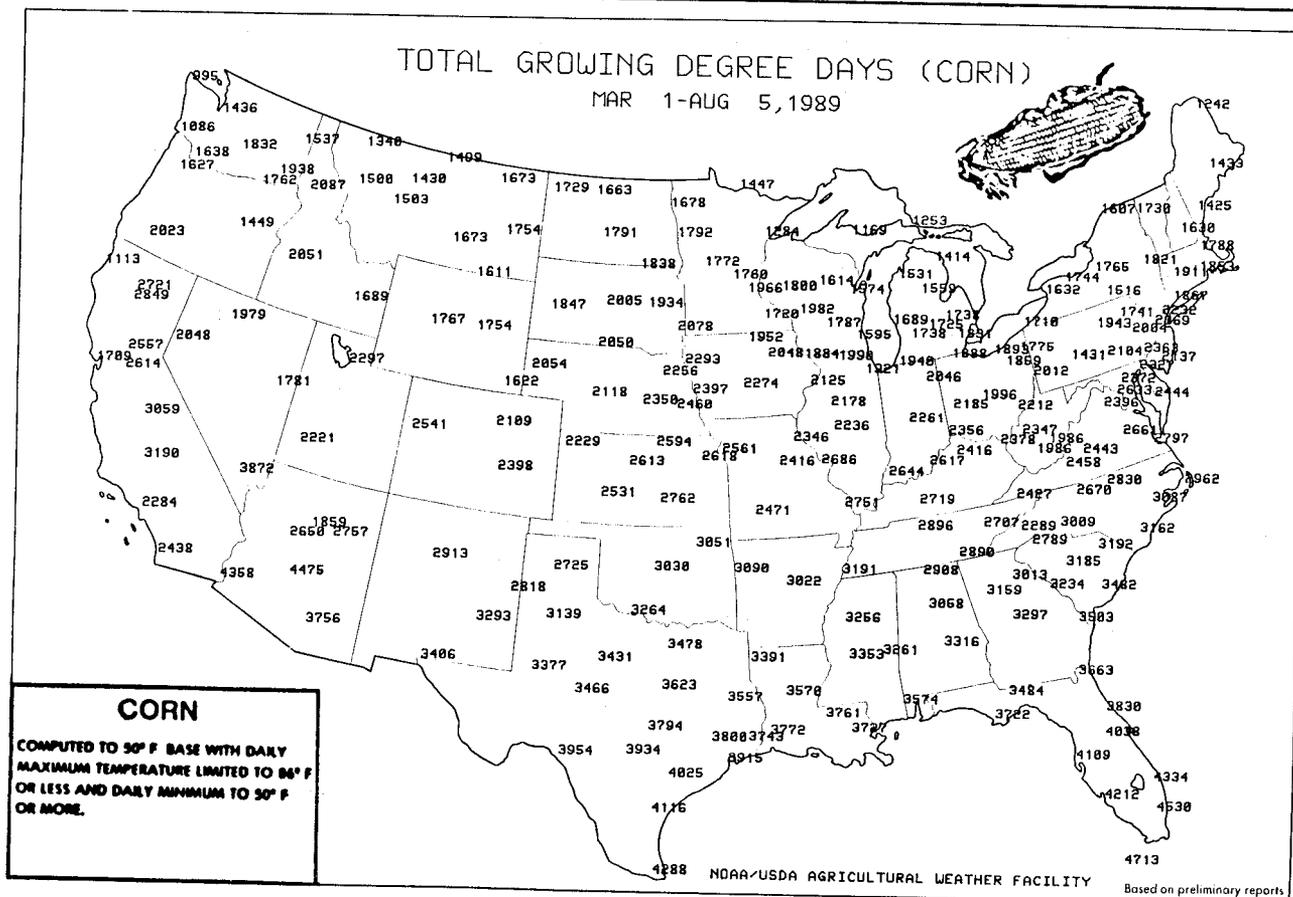
TOTAL PRECIPITATION, INCHES

JUL 30 - AUG 5, 1989









National Weather Data for Selected Cities

Weather Data for the Week Ending August 5, 1989

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERA- TURE		PRECIPI- TATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	93	71	95	70	82	2	T	-1.0	T	21.4	221	44.3	124	94	49	7	0	1	0
MOBILE	93	74	96	73	84	1	.2	-1.4	.2	17.0	122	36.1	89	97	51	6	0	1	0
MONTGOMERY	94	73	96	70	83	1	1.4	.6	1.3	23.3	287	46.6	147	98	52	7	0	2	1
AK ANCHORAGE	65	55	73	51	60	2	1.2	-7	.9	5.2	155	8.8	130	95	65	0	0	4	1
BARROW	55	46	63	42	50	11	.1	-1.1	.1	3.7	273	4.6	210	99	84	0	0	3	0
FAIRBANKS	70	55	75	49	62	3	.7	-.2	.3	3.9	114	6.6	117	96	59	0	0	7	0
JUNEAU	62	51	65	48	56	0	1.9	-.9	.9	6.0	77	18.4	74	98	72	0	0	6	2
KODIAK	68	52	73	48	60	5	.6	-.3	.5	11.7	141	25.2	79	96	68	0	0	2	0
NOME	54	48	58	43	51	0	.7	0	.4	5.2	136	12.2	181	100	89	0	0	6	0
AZ PHOENIX	107	86	109	84	96	5	.4	-.2	T	.1	12	2.4	69	50	22	7	0	2	0
PRESCOTT	87	62	91	60	75	2	1.5	-.6	.9	3.2	75	6.0	59	71	28	2	0	2	2
TUCSON	99	75	103	70	87	2	.3	-.3	.2	1.7	55	3.6	65	72	29	6	0	5	0
YUMA	105	82	108	79	94	0	0	-1.1	0	2.6	3.4	311	67	26	7	0	0	0	0
AR FORT SMITH	92	73	96	71	82	0	1.2	-.5	.8	12.6	174	39.4	161	97	56	6	0	2	1
LITTLE ROCK	90	73	94	71	82	-1	.1	-.6	.1	11.1	144	38.5	125	90	60	4	0	2	0
CA BAKERSFIELD	95	62	100	58	79	0	0	0	0	0	0	2.3	59	60	20	5	0	0	0
EUREKA	66	55	69	52	60	4	.1	0	.1	.3	43	19.2	86	89	72	0	0	1	0
FRESNO	95	62	99	58	79	0	0	0	0	0	0	4.8	69	68	16	7	0	0	0
LOS ANGELES	76	62	80	62	69	-1	0	0	0	T	0	3.2	39	93	63	0	0	0	0
REDDING	93	59	100	54	76	-7	0	-1.1	0	1.0	90	19.6	79	62	17	5	0	0	0
SACRAMENTO	92	56	97	54	74	-2	T	0	T	.4	331	8.9	84	85	22	4	0	0	0
SAN DIEGO	77	67	80	66	72	1	0	0	0	T	200	2.0	31	87	61	0	0	0	0
SAN FRANCISCO	72	54	77	52	63	1	0	0	0	T	8	7.4	59	91	52	0	0	0	0
CO DENVER	85	61	93	55	73	-1	.1	-.3	.1	3.8	101	11.0	106	84	36	2	0	1	0
GRAND JUNCTION	91	65	94	63	78	0	.2	0	.2	.7	68	4.2	97	65	21	5	0	2	0
PUEBLO	93	62	99	56	78	1	T	-.5	T	1.9	57	4.7	68	75	22	5	0	0	0
CT BRIDGEPORT	82	66	90	61	74	0	0	-8.0	0	9.0	131	29.6	122	79	55	1	0	0	0
HARTFORD	86	63	94	55	75	1	.4	-.5	.4	10.0	143	31.1	124	94	50	2	0	1	0
DC WASHINGTON	85	70	94	65	78	-1	.1	-.9	.1	11.7	147	32.5	141	93	58	3	0	2	0
FL APALACHICOLA	92	75	96	73	84	2	T	-1.6	T	15.9	122	30.2	99	95	53	7	0	1	0
DAYTONA BEACH	93	71	95	70	82	1	.2	-1.1	.2	4.5	35	18.9	70	96	51	7	0	1	0
JACKSONVILLE	94	72	96	69	83	1	3.4	1.7	2.0	14.0	105	24.0	78	96	51	7	0	3	2
KEY WEST	91	80	93	77	86	1	.8	-1.1	.8	8.5	92	14.6	77	85	61	6	0	1	1
MIAMI	92	78	94	75	85	2	1.2	-.2	.7	14.9	92	20.3	64	86	53	7	0	2	1
ORLANDO	94	74	95	72	84	1	.1	-1.5	.1	11.5	71	21.5	70	95	48	7	0	1	0
TALLAHASSEE	95	71	97	70	83	1	.4	-1.5	.3	24.2	147	40.6	99	99	46	7	0	3	0
TAMPA	93	74	95	73	84	1	.8	-1.0	.5	16.3	117	21.0	76	93	52	7	0	2	1
WEST PALM BEACH	92	76	94	74	84	1	1.3	.1	1.2	8.5	57	19.8	62	93	55	7	0	2	1
GA ATLANTA	91	73	94	71	82	3	.3	-.6	.2	17.2	197	39.5	122	91	50	4	0	2	0
AUGUSTA	94	71	97	68	83	2	2.1	1.2	1.7	17.4	195	34.6	120	98	48	7	0	4	1
MACON	94	73	97	70	83	2	.3	-.7	.3	11.5	130	32.8	109	97	47	7	0	1	0
SAVANNAH	95	73	98	72	84	3	1.7	-.1	.8	12.9	91	22.0	69	96	47	7	0	4	2
HI HILO	82	67	83	65	75	-1	.9	-1.4	.6	29.8	181	128.1	170	93	60	0	0	6	1
HONOLULU	86	74	89	72	81	1	T	-1.1	T	2.5	226	15.2	111	77	48	0	0	1	0
KAHULUI	88	69	88	64	77	-1	.1	0	.1	2.1	328	28.2	238	86	53	0	0	1	0
LIHUE	82	73	83	71	78	-1	.6	.2	.2	8.6	219	39.0	159	90	70	0	0	4	0
ID BOISE	89	53	98	47	71	-4	0	-1.1	0	.1	9	6.5	90	52	18	3	0	0	0
LEWISTON	86	61	95	58	73	-1	T	-2.2	T	1.7	83	8.4	107	49	23	2	0	0	0
POCATELLO	89	54	101	48	72	0	T	-1.1	T	.8	49	6.7	100	65	18	3	0	1	0
IL CHICAGO	83	67	90	63	75	2	4.2	3.5	3.5	12.1	149	18.3	89	92	56	1	0	2	2
MOLINE	89	67	96	59	78	3	.7	-.2	.6	7.1	73	18.4	78	95	59	3	0	3	1
PBORIA	86	67	91	61	77	2	.6	-.3	.6	4.0	48	14.0	64	97	59	3	0	1	1
QUINCY	88	69	95	60	78	2	.2	-.8	.1	3.0	33	9.8	42	92	55	3	0	2	0
ROCKFORD	84	65	90	59	75	1	1.7	-.8	1.2	11.7	121	19.5	86	100	64	1	0	2	2
SPRINGFIELD	87	69	93	62	78	2	T	-.8	T	4.1	53	17.6	82	97	59	3	0	0	0
IN EVANSVILLE	91	73	93	69	82	4	2.7	1.9	2.1	11.8	147	36.5	135	96	62	4	0	2	2
FORT WAYNE	85	66	89	60	75	2	1.4	.6	.7	9.2	121	21.8	101	99	61	0	0	3	1
INDIANAPOLIS	86	68	87	65	77	2	1.6	.8	1.6	11.6	130	28.4	114	96	65	0	0	2	1
SOUTH BEND	84	65	90	60	75	2	1.0	.1	.7	10.2	124	20.7	92	93	59	1	0	3	1
IA DES MOINES	88	70	96	62	79	3	.3	-.6	.3	6.1	77	14.4	74	94	56	2	0	1	0
SIOUX CITY	88	69	92	65	79	3	.1	-.6	.1	7.7	98	12.3	73	89	53	2	0	1	0
WATERLOO	88	66	97	59	77	5	.2	-.7	.1	4.3	45	10.6	50	100	53	3	0	3	0
KS CONCORDIA	96	70	106	67	83	3	.5	-.3	.4	7.6	93	13.7	77	92	38	6	0	2	0
DOUGL CITY	93	69	100	68	81	0	.9	-.3	.9	10.0	154	15.2	109	89	39	5	0	2	1
GOODLAND	91	65	97	63	78	2	.2	-.3	.1	9.5	174	13.7	122	91	35	4	0	3	0
TOPEKA	90	72	94	69	81	2	1.8	.9	1.6	10.0	102	19.9	95	94	60	4	0	4	1
WICHITA	93	73	103	71	83	1	1.1	.4	.7	13.0	160	21.7	121	90	49	6	0	4	1
KY BOWLING GREEN	94	71	97	70	83	4	.1	-.8	0	15.5	164	46.0	144	96	57	6	0	2	0
LEXINGTON	87	69	90	67	78	2	1.2	.2	.6	9.0	90	37.1	125	95	58	2	0	4	1
LOUISVILLE	89	72	93	70	80	2	1.7	.8	1.1	12.4	150	39.9	144	92	58	4	0	3	1
LA ALEXANDRIA	92	73	95	69	83	0	.1	-1.0	0	16.0	175	48.2	142	94	55	6	0	2	0
BATON ROUGE	92	76	97	73	84	2	2.1	.7	1.6	30.1	270	57.3	161	100	56	5	0	2	1
LAKE CHARLES	91	77	93	75	84	2	.8	-.4	.7	31.3	306	51.3	167	96	62	5	0	3	1
NEW ORLEANS	91	74	94	73	83	0	2.3	.8	1.8	18.3	148	34.8	95	100	63	5	0	2	2

Based on 1951-80 normals

Weather Data for the Week Ending **AUGUST 5, 1989**

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMPERATURE		PRECIPITATION	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	93	73	95	70	83	0	.5	-.1	.4	22.0	295	49.2	175	97	54	7	0	3	0
ME CARIBOU	76	55	82	44	65	0	.7	-.3	.3	5.6	71	16.7	83	96	61	0	0	4	0
PORTLAND	78	61	82	54	69	1	.4	-.3	.2	7.1	113	24.5	99	99	59	0	0	4	0
MD BALTIMORE	83	67	92	60	75	0	1.3	-.8	.8	13.4	160	35.8	145	97	65	2	2	2	2
SALISBURY	84	66	91	58	75	0	1.3	-.8	.8	11.6	131	28.9	110	96	60	2	0	2	0
MA BOSTON	81	66	90	61	73	0	.6	-.1	.3	8.2	134	21.5	86	95	56	1	0	2	0
CHATHAM	75	62	78	59	69	0	.1	-.7	.1	9.5	151	29.3	111	93	76	0	0	2	0
MI ALPENA	87	59	93	52	73	6	.4	-.3	.2	3.3	49	12.1	71	98	45	3	0	4	0
DETROIT	83	64	88	59	73	1	.6	-.2	.4	8.4	121	19.1	101	93	52	0	0	2	0
FLINT	84	62	88	54	73	2	1.6	-.9	.9	9.2	140	18.5	106	96	54	0	0	2	2
GRAND RAPIDS	83	62	91	56	73	1	1.7	1.0	.9	7.9	111	18.4	94	97	51	1	0	3	2
HOUGHTON LAKE	83	63	88	52	73	3	1.0	.3	1.0	4.5	69	13.3	82	89	52	0	0	2	1
LANSING	84	62	90	51	73	3	1.8	1.2	1.0	6.3	92	18.3	105	96	54	1	0	3	2
MARQUETTE	83	59	92	48	71	2	3.5	-.2	.3	6.9	91	16.8	77	91	47	3	0	3	0
MUSKEGON	83	63	88	56	73	6	3.5	2.9	2.8	5.8	108	15.7	90	94	56	0	0	3	1
SAULT ST. MARIE	84	58	86	45	71	6	1.1	.4	1.1	4.3	64	14.9	83	99	52	0	0	3	1
MN ALEXANDRIA	89	67	99	58	78	7	7	-.8	T	2.8	37	8.7	56	88	42	4	0	0	0
LUTHLITH	82	61	92	50	72	6	.2	-.7	.1	5.1	60	14.4	82	96	57	2	0	3	0
INT'L FALLS	84	60	93	47	72	6	2.5	1.7	2.1	10.5	132	15.5	106	98	55	3	0	4	1
MINNEAPOLIS	86	68	94	64	77	4	0	-.8	0	7.0	86	16.8	101	93	53	2	0	0	0
ROCHESTER	84	63	94	60	74	4	.7	-.2	.7	6.4	78	14.1	81	98	54	1	0	1	1
MS GREENWOOD	93	74	94	72	83	1	.3	-.5	.3	22.9	272	49.8	143	94	56	7	0	1	0
JACKSON	94	72	96	71	83	1	.6	-.4	.5	13.2	158	34.7	103	100	51	7	0	2	1
MERIDIAN	94	71	96	69	83	1	2.6	1.6	2.4	20.0	211	47.1	134	96	51	7	0	2	1
MO CAPE GIRARDEAU	91	74	94	72	82	0	.3	-.5	.3	14.6	187	38.6	138	94	58	4	0	1	0
COLUMBIA	87	69	93	64	78	3	5.9	5.3	5.9	10.6	145	23.2	102	94	62	3	0	1	1
KANSAS CITY	89	72	95	68	81	0	.2	-.7	.1	8.3	88	18.0	81	93	57	3	0	3	0
SAINT LOUIS	90	74	96	67	82	3	.5	-.2	.5	6.9	89	21.7	99	88	53	4	0	1	1
SPRINGFIELD	88	70	93	67	79	1	2.1	1.4	1.3	7.5	86	23.1	95	95	61	2	0	2	2
MT BILLINGS	92	61	104	56	77	3	T	-.1	T	1.8	59	10.0	101	67	18	4	0	1	0
GLASGOW	90	63	101	54	76	5	.3	0	.3	2.2	50	7.5	98	65	24	4	0	3	0
GREAT FALLS	82	54	90	47	68	2	.2	0	.1	5.2	128	13.5	127	82	27	1	0	3	0
HAVRE	86	58	97	52	72	1	.1	-.2	.1	2.7	72	7.4	91	58	27	3	0	1	0
HELENA	83	54	93	49	69	0	.3	0	.2	3.2	99	8.5	109	83	29	1	0	2	0
KALISPELL	82	53	98	47	67	2	T	-.3	T	2.7	81	10.8	112	77	30	2	0	0	0
MILES CITY	93	66	104	57	79	4	.2	-.1	.2	4.3	96	12.0	121	65	23	5	0	2	0
MISSOULA	85	52	99	44	68	1	T	-.2	T	3.0	108	8.7	103	76	25	2	0	1	0
NE GRAND ISLAND	91	70	97	65	81	4	.3	-.3	.2	7.1	104	10.8	68	94	46	4	0	2	0
LINCOLN	93	71	103	65	82	4	.1	-.6	.1	6.7	89	10.1	57	91	45	6	0	1	0
NORFOLK	91	69	99	61	80	4	.4	-.3	.2	5.9	74	11.2	67	93	46	3	0	2	0
NORTH PLATTE	91	65	99	59	78	3	.8	.3	.6	5.5	79	10.3	73	93	40	4	0	3	1
OMAHA	90	72	101	68	81	3	.4	-.5	.4	7.6	90	12.2	64	88	53	2	0	1	0
SCOTT'SBLUFF	90	59	99	54	75	0	T	-.3	T	1.5	29	5.8	53	82	31	4	0	1	0
VALENTINE	93	63	98	59	78	3	1.7	1.2	1.4	5.6	95	8.8	73	79	30	6	0	2	1
NV ELY	89	52	94	45	70	2	T	-.1	T	1.6	107	4.5	78	40	12	2	0	0	0
LAS VEGAS	104	79	107	75	92	1	T	-.1	T	.1	9	1.3	57	26	10	7	0	0	0
RENO	89	50	94	43	69	0	0	-.1	0	1.5	251	4.4	94	51	10	4	0	0	0
WINNEMUCCA	91	45	96	40	68	4	0	-.1	0	.3	27	2.7	56	37	9	4	0	0	0
NH CONCORD	84	58	87	49	71	1	.5	-.2	.2	8.3	130	21.8	106	98	44	0	0	5	0
NJ ATLANTIC CITY	84	65	93	57	74	1	.9	-.2	.7	10.3	136	30.0	122	97	58	2	0	4	1
NM ALBUQUERQUE	88	63	93	61	76	3	.6	.2	.4	1.7	82	3.1	75	78	27	3	0	2	0
CLOVIS	92	66	96	64	79	1	1.1	.5	.7	7.8	131	9.0	88	87	30	6	0	2	1
ROSWELL	98	72	103	68	85	5	.1	-.4	.1	1.3	42	2.8	53	64	22	7	0	1	0
NY ALBANY	85	62	93	56	74	2	.4	-.3	.3	12.8	190	26.2	127	96	50	1	0	4	0
BINGHAMTON	78	60	86	56	69	1	.8	0	.6	10.2	135	24.8	115	95	57	0	0	4	1
BUFFALO	82	65	86	56	74	3	.2	-.7	.1	9.0	143	25.5	124	91	51	0	0	3	0
NEW YORK	84	71	93	65	78	1	.3	-.7	.2	12.5	168	33.4	134	82	48	2	0	2	0
ROCHESTER	85	64	90	54	75	3	1.6	.9	.9	8.3	142	22.4	123	93	47	2	0	3	1
SYRACUSE	85	63	92	54	74	3	2.0	1.2	1.7	9.6	121	21.3	94	93	50	1	0	2	1
NC ASHEVILLE	84	64	90	59	74	0	2.6	1.7	2.4	18.9	230	36.8	137	99	56	1	0	3	1
CHARLOTTE	90	70	95	66	80	1	.1	-.7	.1	9.5	118	28.7	105	93	52	3	0	2	0
GREENSBORO	87	68	91	62	77	0	1.1	.1	1.0	10.1	114	30.8	118	95	55	2	0	3	1
HATTERAS	86	72	89	68	79	0	3.5	2.2	2.0	11.3	107	43.6	142	94	63	0	0	2	2
NEW BERN	89	72	93	68	81	1	.9	-.6	.7	15.5	120	37.0	116	96	58	3	0	2	1
HALEIGH	88	68	94	63	78	0	1.1	.8	.8	13.1	150	35.1	135	98	56	2	0	3	1
WILMINGTON	90	72	95	67	81	0	2.0	.4	1.2	19.0	134	41.2	127	96	57	3	0	4	1
ND BISMARCK	92	63	101	55	78	7	T	-.4	T	2.5	47	7.4	69	80	29	4	0	0	0
FARGO	91	66	100	56	79	7	T	-.7	T	2.1	31	9.3	73	87	36	5	0	0	0
GRAND FORKS	90	64	103	51	77	8	T	-.6	T	1.9	30	7.0	61	87	35	4	0	0	0
WILLISTON	92	64	105	56	78	7	T	-.3	T	2.4	51	7.4	80	71	25	5	0	1	0
OH AKRON-CANTON	80	62	88	59	71	0	.7	-.1	.4	11.5	148	28.1	124	98	59	0	0	2	0
CINCINNATI	87	69	90	67	78	2	1.6	.8	1.0	9.6	108	33.7	130	94	60	1	0	2	2
CLEVELAND	82	63	91	58	72	0	.5	-.2	.3	8.5	116	28.6	133	99	58	1	0	2	0
COLUMBUS	83	65	87	59	74	0	1.6	.7	1.0	14.5	168	31.7	133	99	57	0	0	3	1

July Weather and Crop Summary

Weather

HIGHLIGHTS: Thunderstorms remained scattered across the eastern half of the Nation, with some storms producing torrential rain. Heavy rain in the Southeast early in the month resulted from the remains of Tropical Storm Allison, while Hurricane Chantal developed in the Gulf at month's end. Hot, dry weather prevailed across the northern Plains, while thunderstorms brought very beneficial rain to parts of the western Corn Belt. Below-normal temperatures persisted in the central and southern Plains and middle Mississippi Valley.

JULY 1: The remnants of Tropical Storm Allison spread rain from the lower Mississippi Valley into Alabama and the Tennessee and lower Ohio Valleys. Thunderstorms continued over the central Plains and Florida.

JULY 2-8: Hot, dry weather continued to plague parts of the western Corn Belt and northern Plains. A stagnant upper level ridge kept sizzling temperatures over the Southwest to the northern Plains. The heat covered much of the Nation at week's end. The remains of Tropical Storm Allison spread heavy rain from the central Gulf coast into the Southeast and eastern Corn Belt. Thunderstorms drenched the Atlantic Coast States and middle Missouri Valley with locally heavy rain. Torrents of rain deluged southern Maryland to central New Jersey with up to 13 inches.

JULY 9-15: The week was a fairly typical July week, with temperatures near to slightly above normal and abundant thunderstorms throughout most of the country. Much needed rain fell across portions of the Rockies and western Corn Belt. The week began hot and humid across the Nation, but by Wednesday, a high pressure system brought cool temperatures and clear skies to the northern sections. The cold front ahead of the high pressure system produced persistent thunderstorms across the central Plains, Gulf Coast, and Middle Atlantic States.

JULY 16-22: Scattered thunderstorms and showers were widespread over most of the eastern two-thirds of the Nation. Welcomed rain fell across the western Corn Belt and portions of the northern Plains. Persistent heat continued to plague the Southwest, while cool air moved into the Central United States.

JULY 23-29: Thunderstorms dotted the Nation from the Intermountain Plateau to the Atlantic coast, with isolated storms causing heavy rain. Parts of the western Corn Belt received very beneficial rain at week's end, while a cold front brought relief from the heat and humidity to the northern Plains, Corn Belt, Great Lakes, and northern and mid-Atlantic seaboard.

JULY 30-31: Hurricane Chantal developed in the Gulf and churned toward the northern Texas coast. Heavy rain drenched central Missouri as thunderstorms were spread over the Rockies and from the central Plains to the Atlantic coast. Hot, dry weather continued over the northern Plains.

Crop Development

Early in July, hot, dry weather stressed crops in the northern Great Plains and western Corn Belt. Soil moisture was mostly short to adequate. About mid-July, rain improved conditions in the western Corn Belt, but additional rain was still needed. The last week of July, rain again improved soil moisture in the western Corn Belt and also in the central and southern Great Plains. At month's end, soil moisture was mostly adequate to short in those areas. Rain slowed crop development and fieldwork in the Delta and much of the East during the entire month. Soil moisture was mostly adequate to surplus. The West remained seasonably dry, with soil moisture supplies mostly short to adequate.

Corn was mostly good to fair during July. Crop development lagged behind normal during the month. In middle to late July, rain improved crop condition in the western Corn Belt. By July 30, silking was 74 percent (%) finished, 8 percentage points behind the 5-year average. Fourteen percent of the crop had ears in the dough stage, 11 points behind normal. Harvest was underway in Georgia, Texas, and portions of the Delta.

Soybeans were mostly good to fair during July. Rain hampered planting and crop development in the Delta during the month. Excess moisture stressed soybeans in Arkansas, Louisiana, and Mississippi, where crop condition was mostly fair to poor. Flooding forced replanting in those areas early in July. At month's end, soybeans were mostly good in Illinois and Indiana and good to fair in Iowa. In the 19 major producing States, crop development lagged behind normal, especially in Ohio, where the percentages of acreage blooming and setting pods were both more than 30 points behind normal. By July 30, in the major producing States, 66% of the acreage had bloomed and 29% was setting pods. Normally, 73% would be blooming and 37% would be setting pods.

Sorghum was mostly good to fair in July. By July 30, 33% of the acreage was headed, 9 points behind normal. Seventeen percent of the acreage had turned color, equal to the average. Sorghum was good to excellent in Kansas and good to fair in Nebraska and Texas.

Cotton was mostly fair to good during July. Crop development lagged behind normal in the Delta and Southeast during the month. Excessive moisture lowered crop condition in portions of the Delta. By the end of July, the percentage of cotton acres setting bolls lagged more than 20 points behind normal in Louisiana and Mississippi. In the 14 major producing States, 88% of the acreage was squaring, 6 points behind normal at month's end. Fifty-seven percent of the acreage was setting bolls, 9 points behind normal. Harvest was underway in Texas. Bolls were opening in southern California. In Arizona, cotton was mostly good to excellent. Rain, hail, and wind damaged some fields the last week of the month in southwestern Arizona.

In early July, winter wheat was mostly fair to poor. Harvest advanced slower than normal during the month. Rain slowed harvest in the central Great Plains during mid-July. By July 30, harvest was 85% complete, 2 points behind normal. Harvest was complete or nearly complete in 13 of the 20 major producing States. Harvest was underway in the Pacific Northwest but lagged behind normal. Harvest also lagged behind normal in Michigan. Early in July, spring wheat was mostly fair to good. Lack of moisture stressed the crop and by month's end it was mostly fair. Harvest was 12% complete, 2 points behind normal. Harvest had not begun in Idaho and Montana.

July Weather in Historical Perspective

Areally averaged temperature across the Nation for July 1989 was above the long-term mean and ranked as the 18th hottest on record (fig. 1). Temperature and precipitation rankings for nine U.S. regions (see Weekly Weather and Crop Bulletin, June 20, 1989, Vol. 76, No. 24) are shown in table 1. Near-record warmth occurred in the Southwest (4th hottest July) and West North Central (5th hottest). The Southwest was also dry (8th driest July) as well as the East North Central (12th driest).

Marked contrasts in the State precipitation rankings for the January-July 1989 period are shown in table 2. High wet rankings are listed for States along the Gulf and Atlantic coasts and in the Ohio Valley, while low dry rankings occur in many Western and North Central States.

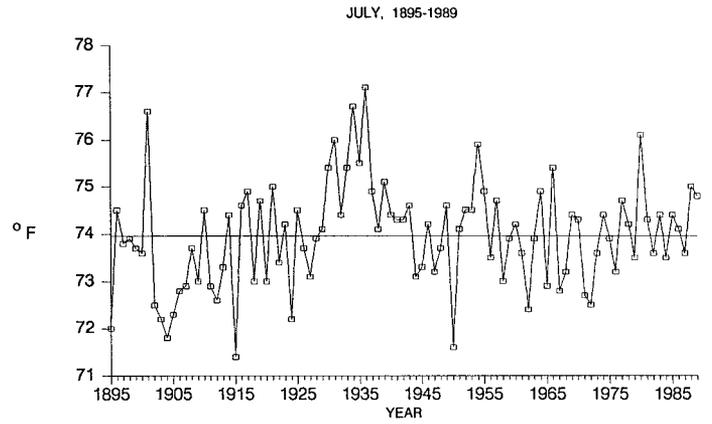
The period from October 1988 to July 1989 ranked as the 4th wettest in Tennessee (fig. 2). This followed three such periods of below-normal precipitation. The same period in Iowa (fig. 3) was the 7th driest and followed the very dry weather from October 1987 to July 1988 (2nd driest on record).

Table 1. Temperature and Precipitation Rankings for July 1989, based on the period 1895-1989. 1 = driest/coldest, 95 = wettest/hottest.

Region	Precipitation	Temperature
National	23	78
Northeast	46	41
East North Central	12	78
Central	73	37
Southeast	74	43
West North Central	21	91
South	41	20
Southwest	8	92
Northwest	38	48
West	19	70

Figure 1

U.S. NATIONAL TEMPERATURE



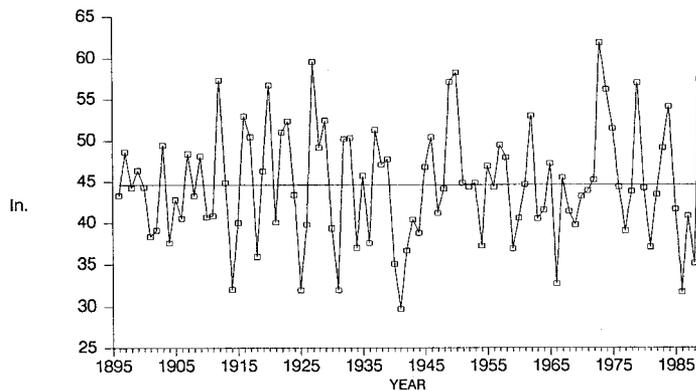
National Climatic Data Center, NOAA

Table 2. Precipitation Rankings for January-July 1989, based on the period 1895 to 1989. 1 = driest, 95 = wettest.

State	Rank	State	Rank	State	Rank	State	Rank
AL	88	IA	6	NE	5	RI	86
AZ	8	KS	39	NV	20	SC	54
AR	87	KY	92	NH	37	SD	11
CA	19	LA	90	NJ	93	TN	94
CO	7	ME	34	NM	13	TX	66
CT	86	MD	95	NY	76	UT	13
DE	94	MA	79	NC	93	VT	42
FL	32	MI	14	ND	13	VA	90
GA	62	MN	16	OH	91	WA	41
ID	31	MS	88	OK	77	WV	94
IL	28	MO	35	OR	44	WI	9
IN	83	MT	64	PA	94	WY	18

Figure 2 TENNESSEE STATEWIDE PRECIPITATION

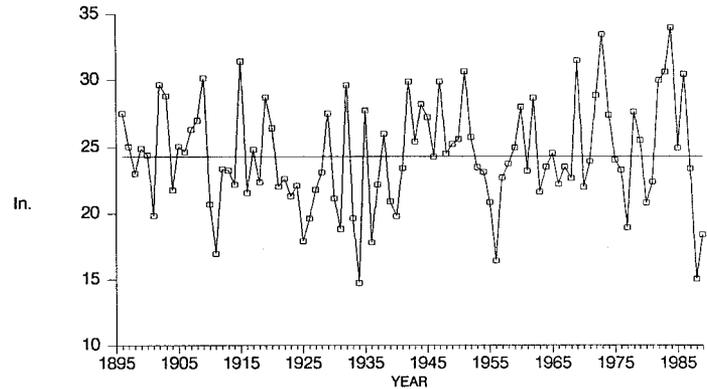
OCTOBER-JULY, 1895-96 to 1988-89



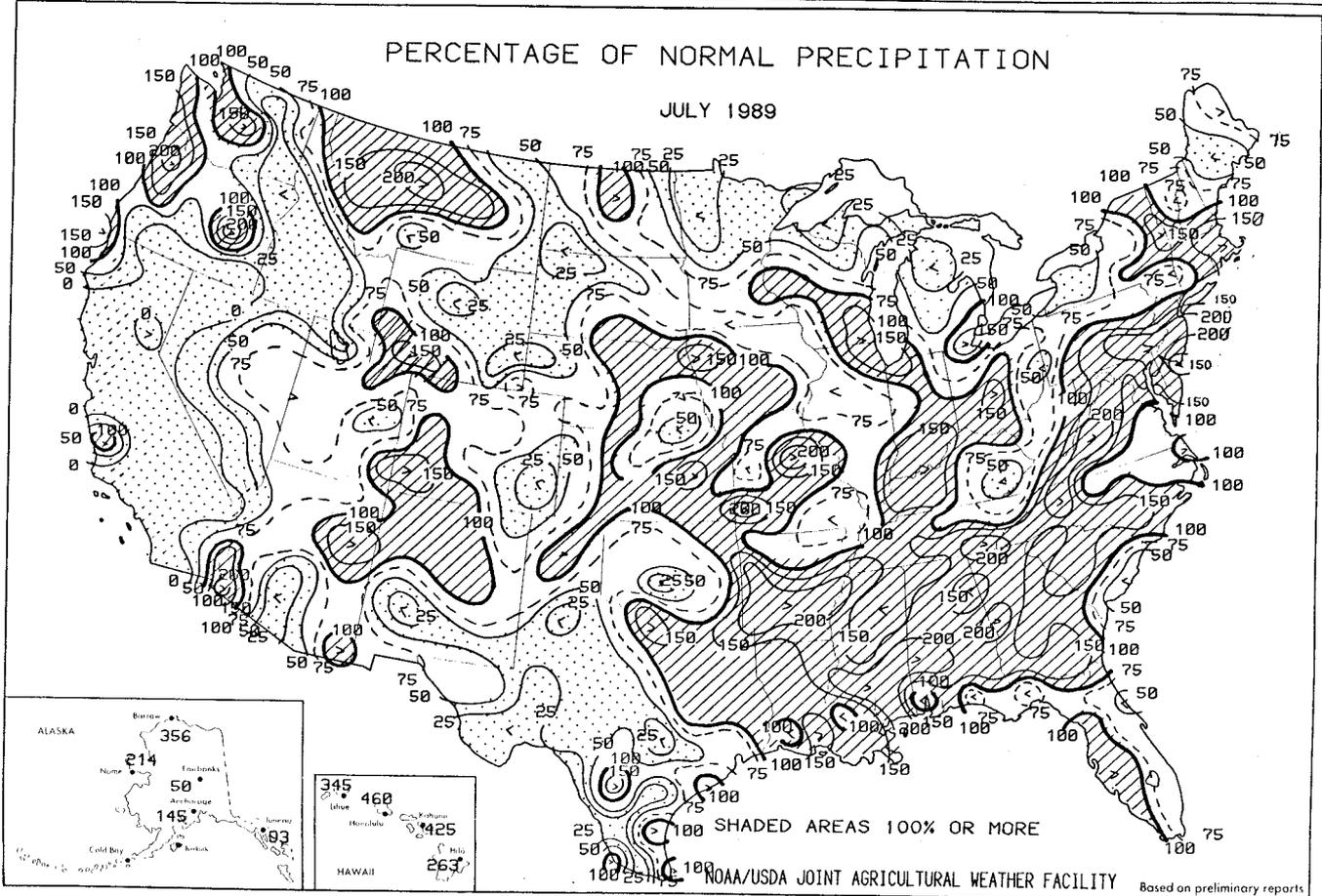
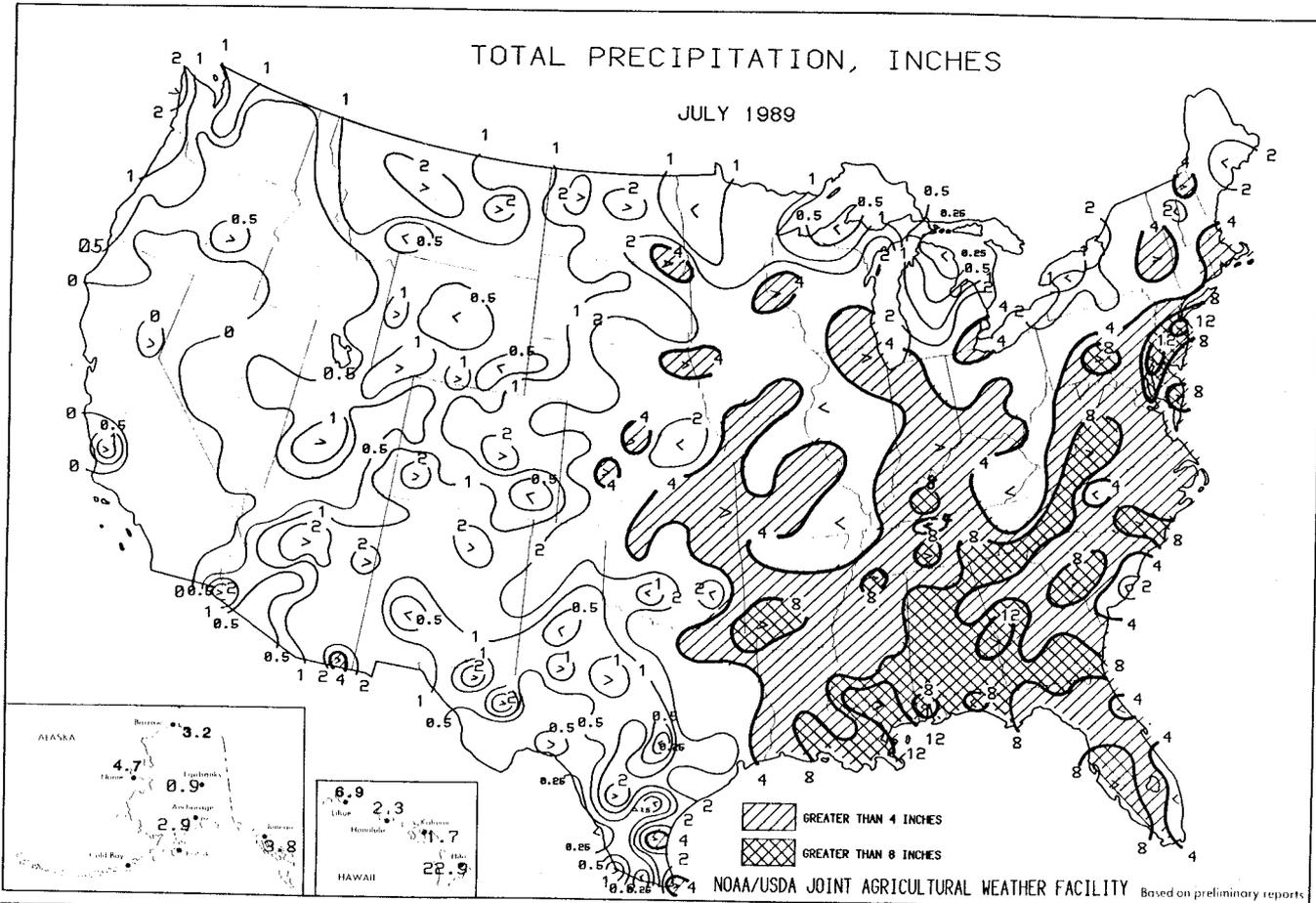
National Climatic Data Center, NOAA

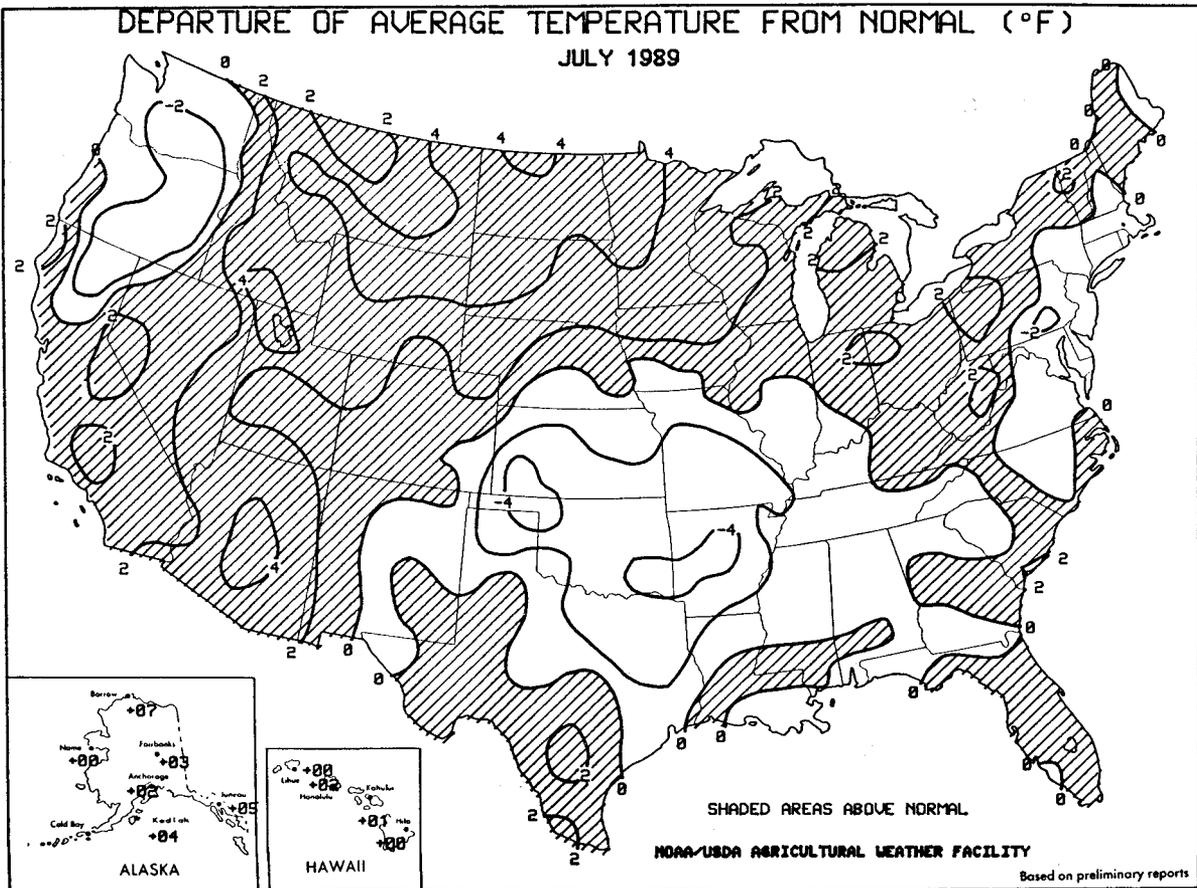
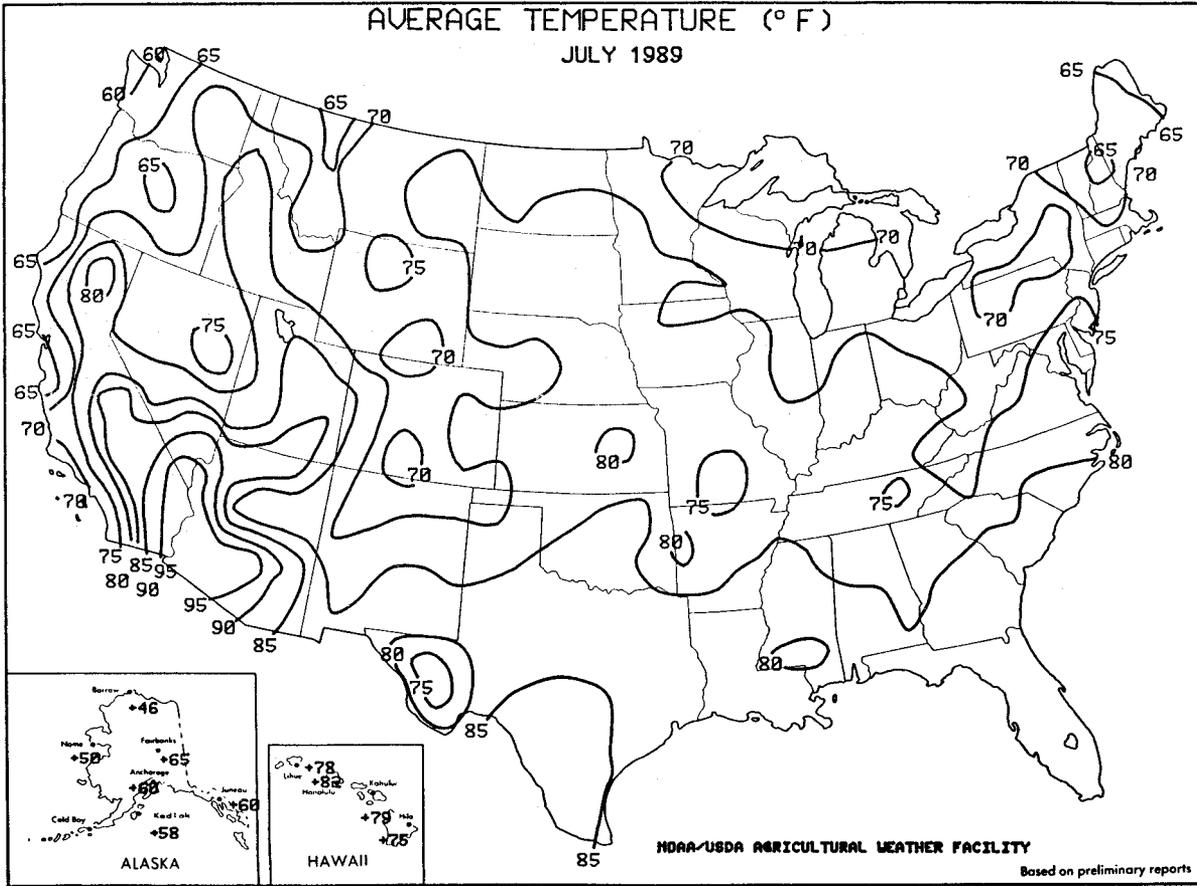
Figure 3 IOWA STATEWIDE PRECIPITATION

OCT-JULY, 1895-96 to 1988-89



National Climatic Data Center, NOAA





Temperature and Precipitation Data for July 1989

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
AL BIRMINGHAM	79	-1	8.3	2.9	LOUISVILLE	78	0	6.9	2.8	DAYTON	76	1	3.6	0.2
HUNTSVILLE	78	-1	5.4	0.3	PADUCAH	78	-1	7.1	3.4	MANSFIELD	73	1	4.0	0.3
MOBILE	81	-1	7.2	-0.6	LA ALEXANDRIA	82	-1	5.4	0.9	TOLEDO	73	1	6.3	3.1
MONTGOMERY	81	-1	8.8	4.0	BATON ROUGE	82	0	6.3	-0.8	YOUNGSTOWN	72	1	3.3	-0.7
AK ANCHORAGE	60	1	2.9	1.0	LAKE CHARLES	82	0	5.3	0.0	OK OKLAHOMA CITY	80	-3	1.9	-1.1
BARROW	46	7	3.2	2.3	NEW ORLEANS	81	-1	8.3	1.6	TULSA	80	-3	4.1	0.6
FAIRBANKS	65	3	0.9	-0.9	SHREVEPORT	81	-2	4.5	0.9	OR ASTORIA	60	0	1.6	0.6
JUNEAU	60	4	3.8	-0.3	ME CARIHOU	65	0	2.6	-1.4	BURNS	86	-3	0.7	0.4
KODIAK	58	3	3.9	0.3	PORTLAND	69	1	2.5	-0.3	EUGENE	65	-2	0.5	0.2
NOME	50	-1	4.6	2.4	MD BALTIMORE	76	-1	7.4	3.5	MEDFORD	70	-2	T	-0.2
AZ FLAGSTAFF	68	2	2.3	-0.2	SALISBURY	76	-1	6.6	2.2	PENDLETON	70	-3	0.1	-0.2
PHOENIX	97	5	0.1	-0.6	MA BOSTON	73	-1	5.1	2.4	PORTLAND	66	-2	0.9	0.5
PRESCOTT	77	4	3.2	0.1	MI ALPENA	67	-1	5.5	2.6	SALEM	65	-2	0.8	0.4
TUCSON	90	4	1.4	-1.0	DETROIT	69	2	0.2	-2.9	PA ALLENTOWN	73	-1	4.1	0.0
WINSLOW	79	0	1.7	0.6	FLINT	71	1	4.2	1.1	ERIE	72	2	1.4	-2.0
YUMA	96	2	2.6	2.4	GRAND RAPIDS	72	0	2.7	-0.2	HARRISBURG	74	-2	7.2	3.9
AR FORT SMITH	80	-2	7.1	4.0	HOUGHTON LAKE	70	3	0.6	-2.3	PHILADELPHIA	76	-1	9.4	5.6
LITTLE ROCK	78	-4	5.4	1.8	LANSING	71	1	0.9	-1.6	PITTSBURGH	74	2	1.6	-2.2
CA BAKERSFIELD	83	-2	0.0	0.0	MARQUETTE	65	1	0.9	-2.3	SCRANTON	70	-2	2.8	-0.6
BISHOP	78	1	0.0	-0.2	MUSKOGON	72	2	1.4	-1.0	WILLIAMSPORT	73	0	3.4	-0.5
EUREKA	60	3	0.1	0.0	SAULT ST. MARIE	67	3	0.6	-2.4	RI PROVIDENCE	72	0	5.6	2.6
FRESNO	83	1	0.0	0.0	MN ALEXANDRIA	75	5	0.8	-2.3	SC CHARLESTON	83	2	1.9	-5.4
LOS ANGELES	69	0	T	0.0	DULUTH	69	3	1.1	-2.9	COLUMBIA	81	0	9.4	4.1
REDDING	80	-3	0.0	-0.2	INT'L FALLS	70	4	1.5	-2.3	FLORENCE	81	0	6.5	0.8
SACRAMENTO	76	0	0.0	-0.1	MINNEAPOLIS	76	3	3.5	0.0	GREENVILLE	78	0	5.1	0.6
SAN DIEGO	70	0	0.0	0.0	ROCHESTER	72	2	3.3	-0.5	SD ABERDEEN	75	3	2.0	-0.4
SAN FRANCISCO	63	1	0.0	0.0	ST. CLOUD	73	3	1.7	-1.7	HURON	76	2	1.1	-1.2
SANTA MARIA	62	0	T	-0.1	MS GREENWOOD	81	-1	6.1	1.6	RAPID CITY	77	4	0.8	-1.3
STOCKTON	77	-1	0.0	-0.1	JACKSON	81	-1	4.5	-0.1	SIoux FALLS	77	3	1.4	-1.3
CO ALAMOSA	66	1	1.5	0.2	MERIDIAN	81	-1	11.1	5.8	TN BRISTOL	75	0	3.8	-0.4
CO. SPRINGS	72	1	2.3	0.6	TUPELO	80	-1	6.3	1.7	CHATTANOOGA	79	0	9.9	5.4
DENVER	76	2	1.6	-0.3	MO COLUMBIA	76	-2	7.4	4.3	KNOXVILLE	77	0	2.7	-1.6
GRAND JUNCTION	81	1	0.3	-0.2	KANSAS CITY	78	-2	4.8	0.7	MEMPHIS	81	-1	7.6	3.5
PUEBLO	77	0	0.6	1.2	SAINT LOUIS	79	0	4.6	1.0	NASHVILLE	79	0	3.2	-0.6
CT BRIDGEPORT	72	-2	3.4	0.0	SPRINGFIELD	75	-3	4.8	1.2	TX ABILENE	83	-1	1.0	-1.1
HARTFORD	72	-1	3.4	0.3	MT BILLINGS	75	3	0.5	-0.3	AMARILLO	76	-3	2.7	0.1
DC WASHINGTON	78	-1	5.7	1.8	GLASGOW	75	5	1.0	-0.8	AUSTIN	86	1	0.7	-1.8
FL APALACHICOLA	82	0	7.0	-0.1	GREAT FALLS	70	1	3.0	2.0	BEAUMONT	83	0	7.7	1.9
DAYTONA BEACH	83	2	2.4	-3.1	HAVRE	71	1	1.4	0.1	BROWNSVILLE	84	0	2.1	0.6
FT. MYERS	83	0	8.8	0.2	HELENA	72	4	1.6	0.5	CORPUS CHRISTI	84	0	1.0	-1.4
JACKSONVILLE	83	0	9.0	2.6	KALISPELL	68	3	1.2	0.3	DEL RIO	87	1	0.3	-1.4
KEY WEST	84	-1	5.9	2.3	MILKS CITY	77	2	1.3	-0.2	EL PASO	82	-1	1.2	-0.4
MIAMI	83	1	3.5	-2.4	MISSOULA	71	4	1.6	0.8	FORT WORTH	83	-3	2.6	0.4
ORLANDO	83	1	4.7	-3.3	NE GRAND ISLAND	77	0	2.2	-0.5	GALVESTON	83	0	2.6	-1.2
TAHAHASSEE	81	0	6.5	-2.3	LINCOLN	78	1	2.0	-1.2	HOUSTON	83	-1	1.9	-1.7
TAMPA	83	1	8.9	1.5	NORFOLK	77	1	3.7	0.5	LARDO	90	1	0.2	-0.9
WEST PALM BEACH	83	1	3.5	-2.5	NORTH PLATTE	74	0	1.9	-1.1	LUBBOCK	81	1	0.3	-2.1
GA ATHENS	79	0	6.2	1.0	OMAHA	78	0	3.2	-0.4	MIDLAND	83	1	0.3	-1.4
ATLANTA	80	1	7.7	2.9	SCOTTSBLUFF	77	3	0.3	-1.6	SAN ANGELO	83	-1	0.4	-0.9
AUGUSTA	81	0	8.2	3.8	VALENTINE	77	2	2.9	0.3	SAN ANTONIO	87	2	0.7	-1.2
MACON	80	-1	6.2	1.8	NV ELKO	71	1	0.2	-0.1	VICTORIA	84	0	2.5	-0.1
SAVANNAH	83	2	4.9	-2.5	ELY	70	3	0.6	-0.1	WACO	84	-2	2.0	0.2
HI HILO	75	0	22.9	14.3	LAS VEGAS	93	3	0.1	-0.4	WICHITA FALLS	83	-3	3.2	1.2
HONOLULU	82	2	2.3	1.8	RENO	72	3	0.0	-0.3	UT BLANDING	—	—	2.0	1.0
KAHULUI	79	1	1.7	1.3	WINNEMUCCA	73	1	T	-0.2	CEDAR CITY	76	2	1.0	-0.1
LIIHUE	78	0	6.9	4.9	NH CONCORD	69	0	3.6	0.7	SALT LAKE CITY	81	4	0.4	-0.3
ID BOISE	77	3	T	-0.2	NJ ATLANTIC CITY	74	-1	6.4	2.4	VT BURLINGTON	72	2	3.7	0.3
LEWISTON	75	1	0.1	-0.5	NM ALBUQUERQUE	79	0	1.5	0.2	VA LYNCHBURG	76	0	8.3	4.4
POCATELLO	73	2	0.1	-0.3	CLOVIS	76	-2	2.2	-0.7	NORFOLK	79	1	4.9	-0.3
CAIRO	—	—	2.2	-1.8	ROSWELL	82	1	1.1	-0.3	RICHMOND	78	0	4.0	-1.1
CHICAGO	74	1	5.9	2.6	NY ALBANY	72	0	5.9	2.9	ROANOKE	76	0	10.1	6.7
MOLINE	76	1	3.1	-1.8	BINGHAMTON	69	0	3.5	0.0	COLVILLE	66	-2	0.3	0.5
PEORIA	75	0	2.2	-1.8	BUFFALO	71	1	0.9	-2.0	QUILLAYUTE	59	0	2.4	0.1
QUINCY	77	1	2.0	-2.3	NEW YORK	76	-1	5.5	1.8	SEATTLE-TACOMA	65	0	0.6	-0.1
ROCKFORD	75	2	7.6	3.1	ROCHESTER	73	1	1.0	-1.5	SPOKANE	69	-1	0.4	-0.1
SPRINGFIELD	75	-1	3.1	-0.4	SYRACUSE	71	0	2.2	-1.5	YAKIMA	69	-2	0.1	-0.1
IN EVANSVILLE	78	0	7.8	3.9	NC ASHEVILLE	73	0	8.3	3.9	WV WALLA WALLA	73	-3	T	-0.4
FORT WAYNE	76	2	2.5	-0.9	CHARLOTTE	80	1	6.3	2.4	BECKLEY	71	2	4.3	-0.4
INDIANAPOLIS	76	1	6.2	1.9	GREENSBORO	77	0	3.0	-1.3	CHARLESTON	76	1	3.0	-2.3
SOUTH BEND	74	1	5.9	2.3	HATTIESBURG	79	1	5.2	-0.2	ELKINS	71	2	5.3	0.6
IA DES MOINES	77	1	3.7	0.5	NEW HERN	80	1	5.9	-0.9	HUNTINGTON	76	0	6.5	2.0
DUBUQUE	74	2	3.0	-1.3	RALEIGH	78	0	5.5	1.1	PARKERSBURG	75	0	2.6	-1.5
SIoux CITY	77	2	5.8	2.4	WILMINGTON	81	0	9.9	2.5	GREEN BAY	71	1	2.3	-1.0
WATERLOO	76	3	2.7	-2.0	ND BISMARCK	76	6	1.8	-0.3	LA CROSSE	76	2	2.6	-1.2
KS CONCORDIA	79	-1	1.4	-2.0	FARGO	76	5	0.6	-2.7	MADISON	72	1	5.0	1.2
DODGE CITY	77	-3	3.4	0.4	GRAND FORKS	74	5	0.5	-2.4	MILWAUKEE	72	1	6.2	2.6
GOODLAND	76	0	1.1	-1.3	WILLISTON	76	5	0.9	-0.9	WAUSAU	71	2	2.9	-1.1
TURKKA	78	-1	5.2	1.2	OH AKRON-CANTON	73	1	2.8	-1.2	CASPER	74	3	0.3	-0.8
WICHITA	79	-2	4.1	0.4	CINCINNATI	77	1	6.0	1.7	CHEYENNE	71	2	1.7	-0.2
KY BOWLING GREEN	79	0	8.3	4.0	CLEVELAND	73	1	3.0	-0.3	LANDER	74	3	0.3	-0.4
JACKSON	75	2	2.2	-2.7	COLUMBUS	74	0	6.8	2.8	SHERIDAN	71	1	0.6	-0.3
LEXINGTON	76	0	—	-0.8					SAN JUAN	82	0	5.5	0.6	

Based on 1951-80 normals.

National Agricultural Summary

JULY 31 - AUGUST 6, 1989

HIGHLIGHTS: Additional rain was needed in the western Corn Belt and central and northern Great Plains. Soil moisture was mostly short to adequate in those areas. A somewhat drier week improved the cotton condition in the Delta, but soil moisture was still mostly adequate to surplus. Rain was needed to promote range and pasture growth in most of the West, where soil moisture was mostly short to adequate.

Winter wheat harvest was 90 percent (%) complete, 1 percentage point behind the 5-year average. Spring wheat was mostly fair with harvest 33% complete, 6 points ahead of normal. Corn was mostly good to fair. Ninety percent of the acreage was in the silking stage or beyond, 2 points behind normal. Twenty-seven percent of the acreage was in the dough stage, 13 points behind normal. Soybeans were mostly good to fair with 78% of the acreage bloomed, 4 points behind normal. Forty-eight percent of the acreage was setting pods, 6 points behind normal. Cotton was mostly fair to good with 95% of the acreage in the squaring stage, 3 points behind normal. Seventy-four percent of the acreage was setting bolls, 6 points behind normal. Sorghum was mostly good to fair with 46% of the acreage headed, 10 points behind normal. Nineteen percent of the acreage was turning color, 1 point behind normal.

SMALL GRAIN: Winter wheat harvest was 90% complete, 1 point behind normal. Harvest was complete or nearly complete except in the Pacific Northwest. Harvest was progressing at a near normal pace in Oregon and Washington but lagged behind normal in Idaho and Montana. In Montana, harvest was 19 points behind the 45% average, and in Idaho, harvest lagged 12 points behind the 27% average. Harvest advanced 25 and 26 points in Oregon and Washington, respectively. In Michigan, harvest advanced 30 points and was 95% complete, equal to the average.

Spring wheat was mostly fair with harvest 33% complete, 6 points ahead of normal. Harvest began in Idaho and Montana but lagged behind normal. Harvest advanced more than 20 points in Minnesota, North Dakota, and South Dakota. Harvest was ahead of normal in those States.

CORN: Corn was mostly good to fair. Ninety percent of the acreage was in the silking stage or beyond, slightly behind the 92% average. Twenty-seven percent of the acreage was in the dough stage, 13 points behind normal. In Ohio, corn was mostly good to fair. The percentage of acreage in the dough stage was 31 points behind normal. Stages of development varied widely throughout the State. Corn was mostly good in Illinois and good to fair in Iowa. Harvest continued in Georgia and Texas.

SOYBEANS: Soybeans were mostly good to fair with 78% of the acreage bloomed, 4 points behind normal. Forty-eight percent of the acreage was setting pods, 6 points behind normal. In Ohio, soybeans were mostly fair to good. The percentage of acres setting pods lagged 37 points behind the 64% average. Soybeans were mostly good in Illinois and Indiana and good to fair in Iowa. Soybeans were mostly fair to poor in the Delta. In southern Arkansas, some fields were yellowing and losing leaves because of excess moisture.

COTTON: Cotton was mostly fair to good. Ninety-five percent of the acreage was in the squaring stage, 3 points behind normal. Seventy-four percent of the

acreage was setting bolls, 6 points behind normal. A drier week improved crop condition and development in the Delta. In Mississippi, cotton was mostly fair. The percentage of acreage setting bolls lagged 17 points behind the 93% average. In Texas, cotton was mostly fair. Harvest continued in the Rio Grande Valley and Coastal Bend area. Hot, dry weather caused some shedding of small bolls in the Low Plains area. Cotton was mostly excellent to good in Arizona and mostly good in California.

SORGHUM: Sorghum was mostly good to fair with 46% of the acreage headed, 10 points behind normal. Nineteen percent of the acreage was turning color, 1 point behind normal. Sorghum was mostly good in Kansas and fair in Nebraska. In Texas, sorghum was mostly good to fair. Harvest was 40% complete, 2 points behind normal. Harvest was nearly complete in the Rio Grande Valley and Coastal Bend area.

OTHER FIELD CROPS: Rice was mostly good to fair with heading 46% complete, 9 points behind normal. Harvest was underway in Louisiana and Texas. In Arkansas, some early planted fields were drained in preparing for harvest. Tobacco was mostly good in Georgia and South Carolina. Harvest was 72% complete in Georgia and 37% complete in South Carolina. In North Carolina, tobacco was mostly good to fair with harvest 23% complete. Burley tobacco harvest started in Kentucky and Tennessee. Peanuts were mostly good in Georgia, good to fair in North Carolina, and good to excellent in Alabama.

FRUIT AND NUTS: Florida citrus groves had abundant new growth. Hot, dry weather forced producers to irrigate in most areas. Peach harvest was nearly complete in Georgia. Apples were mostly fair to good with harvest 13% complete. Pecans were mostly good to fair. In North Carolina, peaches were mostly good to fair with harvest 84% complete. Peaches were mostly fair to good in South Carolina. In Michigan, tart cherry harvest was nearly complete and apple harvest was underway. New crop lemons and grapefruit were sizing satisfactorily in western Arizona. In California, date harvest was complete in Riverside County. Wine grape harvest was underway in the San Joaquin Valley. Almond harvest was expected to begin soon.

VEGETABLES: In Florida, fall vegetable planting activity increased. A limited supply of summer vegetables was still available. Watermelon harvest continued at a near normal pace in Georgia and South Carolina. Irish potato harvest was 94% complete, 3 points behind normal in North Carolina. In Texas, fall vegetable planting was underway in the Rio Grande Valley. Onion and potato harvests were nearly complete in the High Plains. Carrot harvest began. Heavy rains delayed land preparation for fall vegetable plantings in portions of Arizona. Vegetable harvests continued in California. Supplies were generally moderate to light with good to variable quality. Carrot harvest began in the Huron district and slowed seasonably in the Kern district. Cantaloupe and honeydew harvests remained active in the Westside area. In Oregon, early potato harvest began in the Hermiston district.

PASTURES AND LIVESTOCK: Pastures were in good to excellent condition in the Delta and the East. In the western Corn Belt, pastures were mostly fair. High temperatures stressed livestock in the northern Great Plains, where pastures were mostly fair to poor. Lack of rain caused range condition to deteriorate in most of the West.

Crop Progress

FOR WEEK ENDING AUGUST 6, 1989

CORN
% SILKING

	1989	1988	AVG.
COLO	67	77	84
GA	100	100	100
ILL	96	100	99
IND	89	95	95
IOWA	99	100	97
KANS	90	98	90
KY	94	91	91
MICH	85	85	85
MINN	89	97	89
MO	100	100	96
NEBR	96	99	95
N C	97	98	98
OHIO	71	80	88
PA	38	57	69
S DAK	79	83	68
TEX	98	99	99
WIS	81	85	83

17 STATES 90 94 92

THESE 17 STATES PRODUCED 94% OF THE 1988 CORN CROP.

CORN
% DOUGH

	1989	1988	AVG.
COLO	4	18	27
GA	98	98	99
ILL	57	66	67
IND	27	32	46
IOWA	12	40	32
KANS	50	55	45
KY	32	28	40
MICH	0	2	15
MINN	8	27	17
MO	70	72	71
NEBR	20	44	32
N C	75	76	81
OHIO	10	24	41
PA	3	4	12
S DAK	13	36	14
TEX	85	82	85
WIS	9	27	22

17 STATES 27 42 40

THESE 17 STATES PRODUCED 94% OF THE 1988 CORN CROP.

COTTON
% SQUARING

	1989	1988	AVG.
ALA	100	100	100
ARIZ	100	100	100
ARK	100	100	100
CALIF	100	100	100
GA	100	100	100
LA	99	99	100
MISS	95	100	100
MO	100	100	100
N MEX	100	100	100
N C	94	98	97
OKLA	75	99	90
S C	98	94	99
TENN	100	100	100
TEX	93	99	96

14 STATES 95 99 98

THESE 14 STATES PRODUCED 99% OF THE 1988 COTTON CROP.

RICE
% HEADED

	1989	1988	AVG.
ARK	28	24	44
CALIF	15	10	15
LA	76	72	81
MISS	45	37	65
TEX	93	99	93

5 STATES 46 43 55

THESE 5 STATES PRODUCED 97% OF THE 1988 RICE CROP.

SPRING WHEAT
% HARVESTED

	1989	1988	AVG.
IDAHO	4	23	12
MINN	35	60	30
MONT	9	46	14
N DAK	32	74	23
S DAK	67	96	54

5 STATES 33 68 27

THESE 5 STATES PRODUCED 87% OF THE 1988 SPRING WHEAT CROP.

COTTON
% SETTING BOLLS

	1989	1988	AVG.
ALA	83	97	96
ARIZ	100	97	98
ARK	93	98	98
CALIF	95	95	93
GA	97	100	96
LA	86	91	95
MISS	76	94	93
MO	99	99	99
N MEX	85	90	86
N C	70	82	84
OKLA	45	75	45
S C	79	68	86
TENN	92	93	87
TEX	59	75	67

14 STATES 74 85 80

THESE 14 STATES PRODUCED 99% OF THE 1988 COTTON CROP.

SOYBEANS
% BLOOM

	1989	1988	AVG.
ALA	55	56	61
ARK	37	31	47
GA	70	76	75
ILL	94	99	96
IND	87	95	92
IOWA	100	100	95
KANS	55	85	70
KY	66	69	65
LA	71	54	71
MICH	70	85	85
MINN	95	99	96
MISS	42	46	62
MO	77	87	80
NEBR	98	98	95
N C	34	40	40
OHIO	68	94	86
S C	38	45	44
S DAK	83	92	80
TENN	52	52	62

19 STATES 78 84 82

THESE 19 STATES PRODUCED 95% OF THE 1988 SOYBEANS CROP.

SOYBEANS
% SETTING PODS

	1989	1988	AVG.
ALA	28	29	33
ARK	15	12	23
GA	35	32	37
ILL	80	84	74
IND	31	47	48
IOWA	82	91	77
KANS	30	50	40
KY	22	23	24
LA	36	29	44
MICH	15	35	35
MINN	60	89	66
MISS	22	24	27
MO	43	53	52
NEBR	50	70	62
N C	11	12	15
OHIO	27	60	64
S C	12	11	17
S DAK	52	66	44
TENN	18	21	26

19 STATES 48 59 54

THESE 19 STATES PRODUCED 95% OF THE 1988 SOYBEANS CROP.

WINTER WHEAT
% HARVESTED

	1989	1988	AVG.
ARK	100	100	100
CALIF	99	99	99
COLO	95	95	95
GA	100	100	100
IDAHO	15	38	27
ILL	100	100	100
IND	100	100	100
KANS	100	100	100
MICH	95	100	95
MO	100	100	100
MONT	26	93	45
NEBR	100	100	99
N MEX	100	100	NA
N C	100	100	100
OHIO	99	100	100
OKLA	100	100	100
OREG	55	60	62
S DAK	99	100	89
TEX	100	100	100
WASH	45	44	47

20 STATES 90 95 NA

EXCL. STATES WITH NA 90 94 91

THESE 20 STATES PRODUCED 90% OF THE 1988 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

GRAIN SORGHUM
% HEADED

	1989	1988	AVG.
ARK	78	73	NA
ILL	63	72	NA
KANS	20	35	35
LA	83	82	93
MISS	74	77	87
MO	72	71	74
NEBR	50	75	66
OKLA	55	45	50
S DAK	46	63	39
TENN	80	76	82
TEX	73	72	77
11 STATES	48	57	NA
EXCL. STATES WITH NA	46	57	56

THESE 11 STATES PRODUCED 96%
OF THE 1988 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

GRAIN SORGHUM
% COLORING

	1989	1988	AVG.
ARK	19	18	NA
ILL	5	10	NA
KANS	0	2	3
LA	37	30	59
MISS	38	34	50
MO	23	18	27
NEBR	0	0	0
OKLA	15	20	15
S DAK	1	7	0
TENN	16	27	35
TEX	62	60	61
11 STATES	19	19	NA
EXCL. STATES WITH NA	19	19	20

THESE 11 STATES PRODUCED 96%
OF THE 1988 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

Crop Condition

PERCENT
FOR WEEK ENDING AUGUST 6, 1989

SORGHUM

STATE	VP	P	F	G	EX
ARK	0	2	34	49	15
ILL	0	0	27	72	1
KANS	1	5	19	51	24
IA	3	14	38	42	3
MISS	0	5	55	40	0
MO	0	1	18	76	5
NEBR	0	25	47	25	3
OKLA	0	0	8	90	2
S DAK	4	10	45	40	1
TENN	0	3	17	73	7
TEX	1	7	21	53	18
11 STATE	1	9	26	49	15
PREV YEAR	1	11	38	43	7

SPRING WHEAT

STATE	VP	P	F	G	EX
IDAHO	1	15	15	57	12
MINN	2	16	69	13	0
MONT	4	10	29	47	10
N DAK	10	20	62	8	0
S DAK	5	10	51	33	1
5 STATE	7	16	55	20	2
PREV YEAR	34	39	21	5	1

RICE

STATE	VP	P	F	G	EX
ARK	0	0	37	58	5
CALIF	0	0	10	75	15
LA	0	7	45	48	0
MISS	0	0	65	25	10
TEX	0	0	37	54	9
5 STATE	0	1	37	55	7
PREV YEAR	0	2	36	59	3

SOYBEANS

STATE	VP	P	F	G	EX
ALA	0	6	38	52	4
ARK	2	14	72	12	0
GA	1	0	8	74	17
ILL	0	0	13	74	13
IND	0	1	13	71	15
IOWA	0	1	29	64	6
KANS	0	6	2	40	52
KY	0	5	28	64	3
LA	8	32	38	22	0
MICH	0	5	20	50	25
MINN	2	9	32	53	4
MISS	5	35	40	20	0
MO	0	3	32	62	3
NEBR	0	17	46	31	6
N C	0	3	19	75	3
OHIO	2	13	40	40	5
S C	0	0	11	77	12
S DAK	1	0	17	73	9
TENN	2	3	45	50	0
19 STATE	1	7	29	54	9
PREV YEAR	6	26	45	21	2

CORN

STATE	VP	P	F	G	EX
COLO	0	2	24	61	13
GA	0	0	9	52	39
ILL	0	0	23	63	14
IND	0	2	10	67	21
IOWA	0	2	30	61	7
KANS	0	4	2	38	56
KY	0	1	12	51	36
MICH	0	5	15	50	30
MINN	3	9	27	55	6
MO	0	11	36	48	5
NEBR	1	14	30	38	17
N C	0	2	10	71	17
OHIO	2	11	36	44	7
PA	5	11	22	38	24
S DAK	3	9	18	59	11
TEX	3	11	10	46	30
WIS	1	1	5	63	30
17 STATE	1	5	23	55	16
PREV YEAR	18	33	31	15	3

COTTON

STATE	VP	P	F	G	EX
ALA	0	1	48	51	0
ARIZ	0	0	0	43	57
ARK	0	20	45	35	0
CALIF	0	0	5	90	5
GA	0	2	8	88	2
IA	4	8	68	16	4
MISS	0	30	35	35	0
MO	0	7	27	66	0
N MEX	0	0	30	60	10
N C	0	0	25	72	3
OKLA	0	0	65	35	0
S C	0	0	3	82	15
TENN	5	0	53	42	0
TEX	0	25	48	24	3
14 STATE	0	16	40	39	5
PREV YEAR	1	2	28	60	9

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

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 1.00 in. or less; over 2.50 in. local areas. Temperatures 2° above normal.

Days suitable for fieldwork 5.3. Soil moisture 13% short, 72% adequate, 15% surplus. Mostly hot, dry conditions increased field activities, hay harvest. Corn 79% dented, 80% 1988, 85% avg.; 52% mature, 64% 1988, 66% avg.; 24% harvested, 30% 1988, 22% avg.; 1% fair, 57% good, 42% excellent. Cotton 83% setting bolls, 97% 1988, 96% avg.; 2% bolls opened, 4% 1988, 3% avg.; 1% poor, 48% fair, 51% good. Soybeans 55% blooming, 56% 1988, 61% avg.; 28% setting pods, 29% 1988, 33% avg.; 6% poor, 38% fair, 52% good, 4% excellent. Peanuts 9% fair, 55% good, 36% excellent. Sorghum 4% harvested, 5% 1988, 4% avg.; 15% fair, 66% good, 19% excellent. Livestock, pastures good to excellent. Primary activities: Controlling insects, weeds in row crops; applying fungicides to peanuts, soybeans; harvesting, marketing vegetables, preparing land, planting fall vegetables; cutting, baling hay; clipping pastures; routine care of livestock, poultry, catfish.

ALASKA: Haying activity stalled due to rain. Highs 3° below normal to 2° above normal. Lows 3 to 9° above normal. Precipitation 0.78 in. below normal, 3.27 in. above normal.

Days suitable for haying 0.0. Topsoil 2% short, 90% adequate, 8% surplus. Subsoil 5% short, 95% adequate. Barley 70% turning color. Barley 5% poor, 5% fair, 65% good, 25% excellent. Most potatoes in bloom.

ARIZONA: Monsoon moderately active July 29th, 30th, 31st, drier air moving in; thunderstorms August 1st. Thunderstorms mostly confined to north central, east. Activity 2nd limited to White Mountains, southeast; sunny, dry conditions elsewhere. Thunderstorms active 3rd, extensive, locally heavy rain southeast; several reports of 1.00 in. in less than one-half hour, light amounts of rain north, central. Thunderstorms 4th; monsoon 5th confined to Mogollon Rim, southwest, east central, southeast; rain generally 0.25 in. to 1.00 in., except very little to none over extreme west, south central. Temperatures 2° below to 4° above normal.

Cotton squaring 100%, 100% 1988, 100% avg.; setting bolls 100%, 97% 1988, 98% avg.; bolls opening 25%, 25% 1988, 15% avg.; 57% excellent, 43% good. Insect activity moderate Maricopa, Pima, Yuma counties; continued spraying for white flies, cotton boll worms, pink boll worms; other areas light insect activity; weeds light. Alfalfa good; into fifth cutting. Isolated rain damage, moderate to light; weed, insect infestations reported moderate to light; hay, roughage supplies surplus south, adequate elsewhere. Field corn tasseling, good. Sorghum good. New crop lemons, grapefruit continued developing, sizing satisfactorily west; watermelons shipped, fall vegetable field preparations delayed by heavy rains. Cantaloupe harvest continued central areas; honeydews, mixed melons, watermelons harvested. Cabbage harvest continued east; apple harvest delayed by rain.

ARKANSAS: Temperatures nearly normal. Rain early part, dry last of week. Extremes 63°; 99°. Rainfall none to 2.23 in.

Days suitable for fieldwork 6.0. Soil moisture 5% short, 76% adequate, 19% surplus. Soybeans 97% planted, 100% 1988, 100% avg. Soybeans 95% emerged, 99% 1988, 100% avg. Corn 18% fair, 55% good, 27% excellent. Main activities: Some late soybean planting; soybean cultivation, weed control; cotton insect control; rice fungicide applications; scouting rice for sheath blight and blast diseases; disking set aside acreage; cutting, baling hay; clipping pastures; harvesting fruits, vegetables. Cotton squaring rate, boll count increased remarkably due to better weather. Early planted rice fields being drained in preparation for harvest. Soybeans yellowing, losing leaves due to excess water, southern areas. Sorghum yield potential excellent. Corn harvest expected mid-August. Hay cutting advanced rapidly, quality about average. Pastures excellent. Livestock good.

CALIFORNIA: Upper level trough along pacific northwest coast resulted in weak high pressure over much of State. Temperatures remained nearly normal. Small disturbance along northern tip of State, 1st resulted in local cooling trend.

Field crop activities continued active, good weather entire week. Rice plantings continued heading out. Army worm control done. Cotton continued well, good boll set. Mites, aphids problems, control done. Safflower, sugarbeet, alfalfa hay harvests remained active. Alfalfa seed harvest continued Fresno County. Blackeye bean, field corn fertilized, irrigated. Picking Gravenstein apples, Sonoma County. Avocado picking slowed. Date harvest completed, Riverside County. Picking Mission figs began, Fresno County. Harvesting flame seedless, thompson seedless table grapes, San Joaquin Valley. Wine grape harvest began, San Joaquin Valley. Picking freestone peaches, plums, nectarines over two-thirds completed. Clingstone peach harvest active. Asian, Bartlett pear harvests continued. Prunes coloring well; limb damage from heavy crop. Picking grapefruit, non-desert areas. Valencia orange harvest slow. Almond harvest imminent. Walnuts sprayed for husk fly. Artichokes light supply generally good quality. Broccoli moderate supply generally good quality. Carrot volume Kern district dropping seasonally. Huron district carrot harvest started. Cauliflower fairly light supplies variable quality. Moderate supplies celery generally good quality. Head lettuce moderate supply. Cantaloupe, honeydew harvests remained active westside. Planting fall crop desert melon. Strawberries moderate supply variable quality Salinas area. Processing, market tomato harvest continued active good quality, yields. Livestock fair, good condition, Statewide. Dry conditions cause deterioration range pasture. Water supplies well below normal, stock ponds drying. Livestock moved summer feeding. Supplemental feeding continued.

COLORADO: Cooler temperatures accompanied by moderate to heavy rains over most of the State, except southeast which remained dry, above normal temperatures. Rain none to 3.40 in. Temperatures 3° below to 4° above normal.

Days suitable for fieldwork 5.2. Soil moisture 22% very short, 40% short, 32% adequate, 6% surplus. Alfalfa 2nd cutting 54% complete. Barley 87% turning color; 50% harvested. Corn 67% silked; 4% dough. Oats 77% turning color; 40%

harvested. Dry onions 2% harvested; sorghum 13% headed. Dry beans 65% flowered. Summer potatoes 12% harvested; winter wheat 95% harvested. Livestock, range, pasture fair to good.

FLORIDA: Temperatures 1 to 3° above normal. Extremes 65° Glen St. Mary; 100° Lakeland. Scattered thunderstorms early week. Rain under 0.50 in. Isolated totals exceeded 2.00 in. Greatest weekly total 3.35 in. Jacksonville.

Soil moisture adequate Panhandle; adequate to short northern Peninsula; adequate central, southern Peninsula. Rainfall limited. Harvest active hay, corn for grain; near complete tobacco. Soybeans, peanuts, sugarcane made normal progress. Pasture conditions good to excellent Peninsula; fair to excellent Panhandle. Cattle good to excellent condition. Hot, dry weather requiring irrigation in use most citrus growing areas. Abundant new growth, new crop fruit making good progress, early fruit testing underway, caretakers controlling cover crops, summer sprays slow due to dryness, late summer herbiciding underway. Typical summer weather continued over vegetable producing areas. Land preparation very active. Planting gaining. Limited supply summer vegetables continued available.

GEORGIA: Rain 1.00 in. north, extreme east, less than 1.00 in. elsewhere. Greatest total 4.20 in. Glascock County. Rain two days. Temperatures 2 to 4° above normal. Extremes 59° Blairsville; 101° Albany.

Days suitable for fieldwork 5.2. Soil moisture 12% short, 79% adequate, 9% surplus. Corn 88% dent, 92% 1988, 94% avg.; 52% mature, 66% 1988, 75% avg.; 7% harvested, 9% 1988, 18% avg.; grain, silage harvest active. Cotton 1% bolls open, 3% 1988, 5% avg.; Insects increasing, spraying active. Peanuts 8% fair, 91% good, 1% excellent; spraying for diseases, insects. Tobacco 10% poor, 12% fair, 59% good, 19% excellent; 72% harvested, 54% 1988, 64% avg.; harvest very active. Watermelons 94% harvested, 94% 1988, 95% avg. Apples 60% fair, 36% good, 4% excellent; 13% harvested, 11% 1988, 22% avg. Peaches 96% harvested, 97% 1988, 98% avg. Pecans 1% poor, 33% fair, 62% good, 4% excellent. Hay baling active. Hay, pasture good to excellent. Cattle, hogs good.

HAWAII: Variable weather, hot humid days, beneficial showers, provided mostly favorable growing conditions. Active irrigation, spraying necessary. Temperatures low 60s to high 80s with variable winds 5-25 mph. Rainfall none to 3.10 in.

Days suitable for fieldwork 7.0. Papaya production steady. Sugar, pineapple harvesting continuous. Banana production increased.

IDAHO: Temperatures up to 7° below normal with midweek cooling trend. Precipitation limited, remained well below normal over most of State.

Days suitable for fieldwork 7.0. Soil moisture 6% very short, 20% short, 73% adequate, 1% surplus. Winter wheat 15% harvested, 38% 1988, 27% avg. Spring wheat fair, good; 4% harvested, 23% 1988, 12% avg. Spring barley 5% harvested, 24% 1988, 16% avg. Oats 16% harvested, 28% 1988, 16% avg. Potatoes good, 18% turning. 2nd cutting alfalfa hay 59% harvested, 70% 1988, 56% avg. Lentil harvesting underway. Dry peas 11% harvested. Peaches 30% harvested. Mint 66% harvested. Rain needed to sustain pasture, range growth.

ILLINOIS: Temperatures normal to 2° above normal. Precipitation under 0.50 in., heavier extreme north.

Days suitable for fieldwork 5.75. Soil moisture 59% short, 40% adequate, 1% surplus. Corn dented 7%, 19% 1988, 22% avg. Alfalfa 3rd crop cut 35%, 44% 1988, 36% avg.; 3% poor, 41% fair, 48% good, 8% excellent. Oats harvested 95%, 100% 1988, 97% avg. Pasture 1% very poor, 11% poor, 46% fair, 36% good, 6% excellent.

INDIANA: Temperatures 1 to 2° above normal. Lows to mid 60s, highs mid 80s. Precipitation variable, up to 1.00 in.

Days suitable for fieldwork 5.7. Topsoil 16% short, 78% adequate, 6% surplus. Subsoil 11% short, 85% adequate, 4% surplus. Corn, soybean condition good. Alfalfa hay 86% cut twice, 95% 1988, 94% avg. Pasture 2% poor, 25% fair, 68% good, 5% excellent. Oats 88% combined, 93% 1988, 92% avg. Farmers continue to scout fields for insects, disease.

IOWA: Temperatures 1 to 3° above normal. Extremes 43°; 101°. Rainfall none to 3.00 in., average 0.41 in.

Days suitable for fieldwork 6.0. Topsoil 75% short, 25% adequate. Subsoil moisture 100% short. Corn 60% in milk stage, 75% 1988, 68% avg. Third crop alfalfa 10% harvested, 11% 1988, 8% avg. Second crop clover 90% harvested, 89% 1988, 79% avg. Hay 3% very poor, 25% poor, 47% fair, 24% good, 1% excellent. Considerable heat stress on livestock. Pasture 22% very poor, 37% poor, 35% fair, 6% good.

KANSAS: Temperature normal southern third, 3° above normal northeast, 2° above normal west central; remainder of area 1° above normal.

Days suitable for fieldwork 6.0. Topsoil 43% short, 54% adequate, 3% surplus; subsoil 35% short, 65% adequate. Corn in silking stage 90%. Corn stands making good growth, 50% dough stage. Sorghum headed reached 20%. Soybean blooming underway; 55%. Second cutting alfalfa complete; third cutting 50%.

KENTUCKY: High temperatures near normal, 90° or higher. Lows 5° above normal, lower 60s to around 70°. Precipitation generally adequate, over 1.00 in.

Days suitable fieldwork 5.3. Soil moisture 6% very short, 20% short, 72% adequate, 2% surplus. Corn developing very well, 7% reached dent stage. Soybeans good, single crop beans blooming, podding; double crop beans late, will need favorable late summer, early fall weather. Tobacco fair, crop is very uneven. Fields bloomed short. Burley 79% blooming or topped, few fields cut. Dark types 60% blooming or topped. Hay good, hay quality reduced by rain on some cut hay. Pastures 1% very poor, 1% poor, 16% fair, 60% good 22% excellent.

LOUISIANA: Temperatures 1 to 2° above normal. Extremes 64°; 102°. Rainfall 0.14 to 1.93 in.

Days suitable for fieldwork 3.9. Soil moisture 67% adequate, 33% surplus. Corn dough stage 100%, 99% 1988, 98% avg.; mature 72%, 60% 1988, 69% avg.; harvested 20%, 9% 1988, 16% avg.; 3% poor, 20% fair, 71% good, 6% excellent. Cotton squaring 99%, 99% 1988, 100% avg.; setting bolls 86%, 91% 1988, 95% avg.; open bolls 0%, 3% 1988, 7% avg.; 4% very poor, 8% poor, 68% fair, 16% good 4% excellent. Hay first cutting 94%, 99% 1988, 100% avg.; hay final cutting 8%, 8% 1988, 12% avg. Peaches harvested 100%, 97% 1988, 97% avg.; 36% poor, 64% fair. Rice headed 76%, 72% 1988, 81% avg.; ripe 25%, 18% 1988, 26% avg.; harvested 14%, 10% 1988, 17% avg.; 7% poor, 45% fair, 48% good. Sorghum headed 83%, 82% 1988, 93% avg.; turning color 37%, 30% 1988, 59%

avg.; ripe 5%, 6% 1988, 21% avg.; 3% very poor, 14% poor, 38% fair, 42% good, 3% excellent. Soybeans planted 100%, 100% 1988, 100% avg.; emerged 100%, 100% 1988, 100% avg.; blooming 71%, 54% 1988, 71% avg.; setting pods 36%, 29% 1988, 44% avg.; 8% very poor, 32% poor, 38% fair, 22% good. Signs of recovery from surplus soil moisture being observed. Sugarcane 6% poor, 18% fair, 76% good. Sugarcane bores continue to be a concern. Sweet potatoes planted 100%, 100% 1988, 100% avg.; harvested 5%, 4% 1988, 7% avg.; 17% poor, 50% fair, 33% good. Vegetable 8% very poor, 30% poor, 45% fair, 15% good, 2% excellent. Pasture 2% poor, 10% fair, 80% good, 8% excellent. Livestock 8% fair, 87% good, 5% excellent.

MARYLAND & DELAWARE: **MARYLAND:** Precipitation 0.93 in. Temperature 73°, normal 77°. Extremes 53°; 94°.

Days suitable for fieldwork 5.4. Topsoil 5% short, 90% adequate, 5% surplus. Subsoil 90% adequate, 10% surplus. Field corn good; silked 74%, 94% 1988, 91% avg.; dough stage 33%, 30% 1988, 49% avg. Soybeans good; bloomed 44%, 47% 1988, 52% avg.; set pods 24%, 14% 1988, 21% avg. Tobacco fair to good; bloomed 50%, 54% 1988, 84% avg. Oats fair to good; harvested 54%, 80% 1988, 87% avg. Pasture good to excellent.

DELAWARE: Precipitation 1.72 in. Temperature 74°, normal 77°. Extremes 56°; 97°.

Days suitable for fieldwork 4.2. Topsoil 100% adequate. Subsoil 100% adequate. Soybeans good; bloomed 63%, 30% 1988, 50% avg.; set pods 5%, 5% 1988, 22% avg. Field corn good to excellent; silked 98%, 94% 1988, 92% avg.; dough stage 70%, 12% 1988, 40% avg. Pasture good to excellent. Peaches fair. Peaches 90% harvested, 44% 1988, 42% avg. Apples good.

MICHIGAN: Temperatures 1 to 8° above normal. Extremes 45°; 96°. Precipitation 0.08 to 3.53 in. across State.

Days suitable for fieldwork 5.5. Soil moisture 35% short, 60% adequate, 5% surplus. Corn 85% silked, 85% 1988, 85% avg.; dough 0%, 2% 1988, 15% avg.; 5% poor, 15% fair, 50% good, 30% excellent. Soybeans 70% bloomed, 85% 1988, 85% avg.; setting pods 10%, 35% 1988, 35% avg.; 5% poor, 20% fair, 50% good, 25% excellent. Wheat 95% harvested, 100% 1988, 95% avg. Dry Beans 50% blooming, 70% 1988, 80% avg. Major activities: Small grain combining, baling straw, harvesting hay, preparing wheat ground for fall planting. Tart cherry harvest expected to finish this week. Quality mixed in southwest, excellent in north. Summer apple harvest beginning. Redhaven peaches starting to come to market. Vegetable growers harvesting onions, celery, tomatoes, cucumbers, melons. Carrot harvest expected to begin shortly.

MINNESOTA: Temperatures 3 to 6° above normal. Extremes 40°; 103°. Precipitation 0.04 to 1.27 in. Greatest weekly total 2.55 in.

Days suitable for fieldwork 5.9. Topsoil 38% very short, 39% short, 23% adequate. Spring wheat 99% turning ripe, 99% 1988, 90% avg.; 63% cut, 85% 1988, 50% avg.; 35% combined, 60% 1988, 30% avg. Oats 99% turning ripe, 99% 1988, 97% avg.; 94% cut, 98% 1988, 82% avg.; 77% combined, 89% 1988, 60% avg. Barley 99% turning ripe, 99% 1988, 96% avg.; 89% cut, 90% 1988, 73% avg.; 65% combined, 79% 1988, 51% avg. Corn 89% silking, 97% 1988, 89% avg.; 41% in milk, 84% 1988, 59% avg.; 8% in dough, 27% 1988, 17% avg. Soybeans 95% blooming, 99% 1988, 96% avg.; 60% setting pods, 89% 1988, 66% avg. Winter Wheat 93% harvested, 99% 1988, 78% avg. Rye 95% harvested, 99% 1988, 77% avg. Sweet corn 21% harvested, 31% 1988, 20% avg. Soybean 2% very poor, 9% poor, 32% fair, 53% good, 4% excellent. Corn 3% very poor, 9% poor, 27%

fair, 55% good, 6% excellent. Spring Wheat 2% very poor, 16% poor, 69% fair, 13% good. Sugarbeets 4% very poor, 7% poor, 41% fair, 48% good. Alfalfa 12% very poor, 33% poor, 38% fair, 16% good, 1% excellent.

MISSISSIPPI: Normal weather. Temperatures 82°. Extremes 64°; 98°. Rainfall 0.93 in., 0.04 below normal.

Days suitable for fieldwork 3.9, 5.9 1988, 4.9 avg. Soil moisture 5% short, 60% adequate, 35% surplus. Corn good; 98% silked, 97% 1988, 99% avg.; 20% mature, 17% 1988, 26% avg.; silage 20% harvested, 30% 1988, 39% avg.; grain harvest beginning. Cotton fair; 76% setting bolls, 94% 1988, 93% avg. Hay 49% harvested, 62% 1988, 68% avg. Peaches 91% harvested, 84% 1988, 92% avg. Rice fair; 45% heading, 37% 1988, 65% avg. Sorghum fair; 74% heading, 77% 1988, 87% avg.; 5% mature, 3% 1988, 11% avg.; silage 18% harvested, 29% 1988, 24% avg. Soybeans fair; 22% podding, 24% 1988, 27% avg. Pastures, livestock good. Activities: Hay harvest, cotton insect control, soybean cultivation.

MISSOURI: Temperatures 3° above normal north, near normal south. Rainfall mostly light except extreme southwest over 2.00 in.

Days suitable for fieldwork 5.4. Topsoil 41% short, 58% adequate, 1% surplus. Subsoil 61% short, 39% adequate. Crop conditions improved by week ago rain, crops still limited by moisture shortage, particularly northwest. Corn dough stage varies 51% northeast to 100% southeast. Sorghum heading one half complete north to 98% southeast. Alfalfa third cutting 50%, 62% 1988, 57% avg. Other hay harvested 92%, 100% 1988, 97% avg. Pasture 2% very poor, 13% poor, 38% fair, 45% good, 2% excellent. Livestock water 14% critically short, 16% short, 70% adequate.

MONTANA: Precipitation highly variable. North central, central received most, 0.01 to 0.65 in. Temperatures normal west, central. East temperatures up to 5° above normal.

Days suitable fieldwork 6.1. Topsoil 41% short, 59% adequate. Subsoil 46% short, 54% adequate. Winter wheat 1% very poor, 7% poor, 26% fair, 47% good, 19% excellent. Barley 2% very poor, 9% poor, 21% fair, 45% good, 23% excellent; 9% harvested, 40% 1988, 16% avg. Oats 3% very poor, 11% poor, 24% fair, 47% good, 15% excellent; harvested 3%, 44% 1988, 18% avg. Second cutting alfalfa 35% harvested, 59% 1988, 41% avg. Other hay 75% cut, 81% 1988, 81% avg. Pasture, range feed 2% very poor, 7% poor, 26% fair, 53% good, 12% excellent.

NEBRASKA: Temperatures warmer than normal across State. Extremes 54°; 103°. Rainfall from scattered thunderstorms, traces to over 2.00 in.

Days suitable for fieldwork 5.2. Topsoil 61% short, 39% adequate. Subsoil 90% short, 10% adequate. Oats 100% harvested, 98% 1988, 95% avg. Alfalfa hay 3% very poor, 15% poor, 51% fair, 31% good; 30% third cutting, 40% 1988, 24% avg. Grasshoppers, greenbugs, corn leaf aphids causing damage in east. Greenbugs in sorghum in north, spider mites in corn in Panhandle. South central spraying for corn root worms. Pasture, range feed 25% very short, 61% short, 14% adequate. Hay roughage 12% very short, 62% short, 26% adequate. Slow weight gains due to hot, humid weather. Cattlemen in east, Panhandle supplementing pastures. Main activities: Cutting hay, weed, insect control, irrigating.

NEVADA: Fairly strong upper trough brought 10° cooling west, north early. Temperatures back to normal or above by end of period. Most areas dry

throughout week, a few traces extreme south. Extremes 30°; 108°.

Haying, small grain harvesting favored by hot, dry weather. Ranges continuing to deteriorate. Stockwater supplies dwindling.

NEW ENGLAND: Precipitation less than 0.50 in. Massachusetts, Connecticut, Rhode Island, 0.50 to 1.00 in. southern Vermont, southern New Hampshire, southern Maine, greater than 2.00 in. northern Vermont, northern New Hampshire, northern Maine. Precipitation greater than 6.00 in. northern areas of Vermont, New Hampshire. Temperatures mid to upper 60s north to low to mid 70s south. Temperatures above normal.

Days suitable for fieldwork 6.0. Fieldwork progress 2.0 days behind. Soil moisture north 58% short, 34% adequate, 8% surplus; south 10% short, 80% adequate, 10% surplus. Grazing availability north 55% short, 45% adequate; south 25% short, 50% adequate, 25% surplus. Maine potato good. Connecticut River Valley potato fair to good. Rhode Island potato good. Maine oat fair to good. Field corn good. Sweet corn 25% harvested, 23% 1988, 25% avg.; good. Shade tobacco 33% harvested; good. Outdoor tobacco 20% harvested, fair to good. First crop hay 97% cut, 100% 1988, 100% avg.; fair to good. Second crop hay 40% cut, 48% 1988, 50% avg.; good. Apple good to excellent; peach good to excellent; pear good. Raspberries 85% harvested; good. Blueberries 60% picked; good. Fruit sizing: apples medium, raspberries medium, blueberries medium. Cranberries good. Major farm activities: Haying, vegetable harvesting, fungicide, insecticide application, tobacco harvesting.

NEW JERSEY: Temperatures slightly above normal. Extremes 50°; 96°. Rainfall 0.89 in. north, 0.29 in. central, 0.13 in. south. Heaviest 24-hour total 0.69 in. on 2nd, 3rd. Estimated soil moisture percent field capacity averaged 78% north, 70% central, 64% south. Four inch soil temperatures averaged 71° north, 73° central, 74° south.

Fieldwork active. Summer vegetables moderate to good supply. Fall vegetable planting progressed well. Limited Irish potato digging continued. Blueberry picking light. Peach harvest active. Summer apple picking increased. Cranberry prospects generally good. Field corn growth good, early fields in silk stage. Soybeans planted early look good, late planting weedy with poor stands. Hay baling active.

NEW MEXICO: Temperatures near normal statewide. Showers brought rainfall to most areas.

Days suitable for fieldwork 5.9. Soil moisture 69% short, 31% adequate. Cotton squaring 100%; 85% setting bolls; 30% fair, 60% good, 10% excellent. Cattle 8% poor, 84% fair, 8% good. Sheep 90% fair, 10% good. Range, pastures 40% poor, 50% fair, 10% good.

NEW YORK: Early week temperatures near seasonable levels. Heat, humidity increased during week. Showers, thunderstorms numerous 2nd, 3rd. Very heavy rain fell locally on 4th north of Mohawk Valley.

Days suitable for fieldwork 5.9. Soil moisture mostly adequate, some areas need rain. Pastures fair, hay, corn good. Second cutting of alfalfa 39% complete, 55% 1988, 50% avg. Third cutting getting underway. Wheat 40% complete, 78% 1988, 73% avg. Oats 19% harvested, 21% 1988, 15% avg. Orange County onion harvest active. Beets, cauliflower, broccoli, sweet corn, tomatoes, wax beans, cabbage harvest underway. Western New York apples sizing well, good. Recent favorable weather has reduced disease pressure on grapes.

NORTH CAROLINA: Temperatures 1 to 2° above normal across State. Extremes 51°; 95°. Precipitation 0.12 to 3.53 in.

Days suitable for fieldwork 5.0. Soil moisture 3% short, 76% adequate, 21% surplus. Pasture 9% fair, 79% good, 12% excellent. Livestock feed from pasture 82%. Crop conditions: tobacco 4% poor, 38% fair, 58% good; sweet potatoes 31% fair, 62% good, 7% excellent; peaches 12% poor, 20% fair, 68% good; apples fair to good; truck crops 37% fair, 61% good, 2% excellent; peanuts 14% fair, 83% good, 3% excellent; sorghum 3% poor, 25% fair, 69% good, 3% excellent; hay 1% poor, 15% fair, 77% good, 7% excellent. Hay second cutting 60% complete, third cutting 21% completed. Hay, roughage 1% short, 85% adequate, 14% surplus. Harvesting completed: peaches 84%, 73% 1988, 77% avg.; Irish potatoes 94%, 95% 1988, 97% avg.; tobacco 23%, 25% 1988, 22% avg.; 87% topped; corn silage 9%, 13% 1988, 15% avg. Major activities: Cultivating crops; topping, spraying, harvesting tobacco; cutting hay. Other activities: spraying crops; harvesting peaches, truck crops; marketing vegetables, peaches; tending livestock; general farm maintenance. Damage from water, disease in some tobacco fields. Labor shortages in Piedmont, southern Coastal Plain.

NORTH DAKOTA: Temperatures 5 to 7° above normal. Precipitation none to 0.22 in. State below average for growing season, -1.47 in. southeast to -4.50 in. east central.

Days suitable for fieldwork 7.0. Topsoil well below average, 50% very short, 50% short; 5 year avg. 22% very short, 27% short, 50% adequate, 1% surplus; subsoil well below average, 74% very short, 24% short, 2% adequate; average 23% very short, 28% short, 48% adequate, 1% surplus. Small grains fair to poor. Harvest ahead of average. Spring wheat 10% very poor, 20% poor, 62% fair, 8% good; durum 8%, 23%, 61%, 8%; oats 15%, 29%, 48%, 8%; barley 6%, 29%, 56%, 9%; flax 8%, 30%, 55%, 7%; corn 3%, 33%, 35%, 29%; sunflower 10%, 20%, 51%, 19%; dry edible beans 28% poor, 66% fair, 6% good; soybeans 12%, 67%, 21%; potatoes 24% poor, 76% fair. Spring wheat 32% combined, 74% 1988, 23% avg.; durum 15%, 48% 1988, 13% avg.; oats 41%, 78% 1988, 31% avg.; barley 56%, 80% 1988, 40% avg. Row crops still stressed; dry edible beans 15% fully podded & beyond, 69% 1988, 45% avg.; flax 23% turning ripe & beyond, 61% 1988, 32% avg.; sunflower 58% bloom & beyond, 81% 1988, 56% avg.; potatoes 51% rows filled, 79% 1988, 69% avg. Pasture 10% very poor, 55% poor, 32% fair, 3% good.

OHIO: High temperatures mid 80s. Low temperatures mid 60s, with some lows near 50° in extreme northwest. Rainfall 0.11 to 2.07 in. In general, rainfall in northern half of State 0.25 to 0.75 in.; southern half, over 1.00 in. Base 50 growing degree days totalled 165 to 175, above normal.

Days suitable for fieldwork 5.6. Soil moisture 12% short, 82% adequate, 6% surplus. Activities included cultivating soybeans, baling hay, straw, harvesting oats, mowing pastures, seeding alfalfa, harvesting fresh market vegetables, topping tobacco, controlling suckers in tobacco. Corn, pasture good. Soybeans, hay, oats fair to good. Stages of corn development varied widely throughout State; some underdeveloped corn to be harvested for silage. State fair underway.

OKLAHOMA: Temperatures 2° below normal southwest to 1° above normal Panhandle. Precipitation 0.07 in. south central to 2.31 in. west central.

Days suitable for fieldwork 5.7. Topsoil 15% short, 82% adequate, 3% surplus. Subsoil 15%

short, 85% adequate. Wheat 100% harvested, 100% 1988, 100% avg.; 15% seedbed prepared, 40% 1988, 5% avg. Cotton 65% fair, 35% good; 75% squaring, 99% 1988, 90% avg.; 45% setting bolls, 75% 1988, 45% avg. Sorghum 8% fair, 90% good, 2% excellent; 55% heading, 45% 1988, 50% avg.; 15% coloring, 20% 1988, 15% avg. Soybeans 20% setting pods, 15% 1988, 25% avg. Peanuts 35% setting pods, 55% 1988, 50% avg. Corn 3% mature, 5% 1988, 20% avg. Pastures good. Cattle good; marketings, prices down slightly from preceding week.

OREGON: Coastal temperatures slightly above normal, Willamette Valley slightly below, remainder of State below normal. Klamath Falls 6° below normal, highest departure. Maximum temperatures in 80s or low 90s except southwest, southeast reached upper 90s. Coast, Willamette Valley received 0.50 in. or more of rain. Rainfall east of Cascades less than 0.10 in. except Morrow had 0.18 in. Soil moisture 75% short, 25% adequate. Winter wheat 34% fair, 58% good, 8% excellent. Barely 46% harvested, 59% 1988, 62% avg. Wheat harvest started mid Willamette Valley, continued elsewhere except some north Willamette Valley areas where rain stopped harvest of wheat and grass seeds. Second cutting alfalfa started south. Mint being harvested Malheur County, expected soon north Willamette Valley. Watermelon harvest continues, excellent quality Columbia Basin. Harvest of canberries in late stages. Raspberry harvest complete Willamette Valley. Pear crop looking good, harvest expected to begin this week for Bartletts, Medford District. Late sowing of green peas, snap beans; harvest of broccoli, cucumbers, squash, snap beans continued Willamette Valley. Early potato harvest continued Hermiston district; good yields, quality. Potato growers used sprinklers for frost protection Klamath Basin. Seed potatoes in full bloom Wallowa County. Sweet corn harvest underway Malheur County, also onion seed. Livestock mostly good. Rangeland extremely dry northeast mountains; forest, range fires out of control in some cases; livestock lost to fires; cooler temperatures, higher humidity eased fire problems somewhat late in week. Range, pasture mostly good southeast except Malheur quite dry; areas beginning to dry out; a lot of yearling cattle contracted. Range, pasture fair to good west.

PENNSYLVANIA: Cool, wet at beginning, end of period. Warm, muggy in between. Temperature 72°, 1° above normal. Extremes 51°; 93°. Precipitation 0.67 in., 0.19 in. below normal.

Days suitable for fieldwork 5.0. Soil moisture 10% short, 70% adequate, 20% surplus. Corn 59% pre-silk, 39% 1988, 20% avg.; 38% silk, 57% 1988, 68% avg.; 3% dough, 4% 1988, 12% avg.; 5% very poor, 11% poor, 22% fair, 38% good, 24% excellent. Soybean 2% very poor, 6% poor, 25% fair, 50% good, 17% excellent. Wheat harvest 83% complete; 88% 1988. Oat harvest 41% complete, 60% 1988. Barley harvest 92% complete, 95% 1988. Potato harvest 10% complete, 3% 1988. Second cutting alfalfa 49% complete, 78% 1988. Third cutting alfalfa 9% complete, 23% 1988. Second cutting clover-timothy 31% complete, 50% 1988. Quality of hay made fair. Feed from pastures average. Apple harvest 5% complete, 7% 1988. Peach harvest 16% complete, 18% 1988. Fall plowing 4% complete, 8% 1988. Activities: Harvesting hay, haylage, barley, wheat, oats, potatoes, vegetables, apples, peaches; weed control; maintaining machinery; caring for livestock.

PUERTO RICO: Rainfall 0.92 in. was 0.44 in. below normal. Highest weekly rainfall 2.90 in. at Lares, 2.36 in. at Pico Del Este-Luquillo, 2.18

in. at Isabela Aes. Highest 24 hour total 1.63 in. at Isabela Aes. San Juan WSFO mean temperature 83° plus 0.9 total rainfall 0.77 minus 0.45. Temperatures 82 to 83° on Coast, 77 to 78° in Interior. Mean station temperatures 67° at Pico Del Este-Luquillo to 84° at Roosevelt Roads N.S. Extremes 61°; 96°.

SOUTH CAROLINA: Rainfall 1.50 in. mountains to 0.80 in. northeast. Temperatures above normal, warmest of year.

Days suitable for fieldwork 5.1. Soil moisture 5% short, 90% adequate, 5% surplus. Cotton 3% fair, 82% good, 15% excellent; 79% setting bolls, 68% 1988, 86% avg. Soybeans 11% fair, 77% good, 12% excellent; 38% blooming, 45% 1988, 44% avg.; 12% setting pods, 11% 1988, 17% avg. Tobacco good; 37% harvested, 41% 1988, 44% avg. Corn good; 87% dough stage, 86% 1988, 92% avg.; 44% matured, 30% 1988, 49% avg.; 4% harvested, 3% 1988, 6% avg. Sorghum good; 14% harvested, 7% 1988, 7% avg. Watermelons good; 85% harvested, 88% 1988, 87% avg. Peaches fair to good; 77% harvested, 78% 1988, 84% avg. Disease buildup on peanuts, condition good. Hay, pastures good.

SOUTH DAKOTA: Temperatures 2 to 8° above normal. Extremes 51°; 104°. Growing season precipitation 3.21 in. above normal at one station all other stations below normal as much as 5.75 in.

Days suitable 5.7. Topsoil 34% critically short, 47% short, 19% adequate. Subsoil 43% critically short, 48% short, 9% adequate. Small grains harvested. Corn good to fair; sorghum fair to good; soybeans good. Major activities: Combining, haying, working stubble, baling, hauling straw, summer fallow work, fencing.

TENNESSEE: Stationary front caused showers early week. High pressure dominated late week. Cold front set off weekend showers. Temperatures averaged slightly below normal northeast, slightly above normal elsewhere. Below normal rainfall below normal most areas except east where rainfall was normal.

Days suitable for fieldwork 3.7. Soil moisture 4% short, 81% adequate, 15% surplus. Corn 64% dough, 65% 1988, 68% avg.; 24% dent, 28% 1988, 34% avg.; 2% mature, 2% 1988, 6% avg.; 1% poor, 15% fair, 58% good, 26% excellent. Tobacco 38% topped, 27% 1988, 44% avg. Burley 4% harvested, 0% 1988, 4% avg. Dark fired 2% harvested, 0% 1988, 2% avg. Dark air-cured 4% harvested, 0% 1988, 2% avg. Alfalfa 100% 2nd cutting, 98% 1988, 100% avg. Hay 2% poor, 26% fair, 60% good, 12% excellent. Weed, pest control main activities.

TEXAS: Early last week Hurricane Chantal landfall upper Texas coast, creating scattered showers, thunderstorms east, westward across Rolling Plains, brushed eastern sections High Plains. Dry, stable weather conditions returned during later the week. Thunderstorms again developed Panhandle, north weekend unusually strong cold front into Texas. Temperatures below normal northern half State; above normal temperatures elsewhere. Precipitation below normal south, southwest, Trans-Pecos. Above normal rainfall elsewhere.

Crops: Corn harvest progressed midweek throughout central, Blacklands after rain delays early week. Harvest halted Upper Coast, Chantal moved inland. Fields continued dry down Cross Timbers. Fields excellent progress High Plains under steady irrigation. Some early fields entering dent stage. Most harvest completed Coastal Bend. Harvest continued Valley, parts south. Corn 67% dented, 66% 1988, 67% avg.; 51% mature, 63% 1988, 57% avg.; 36% harvested, 32%

1988, 26% avg. Grain sorghum harvest winding down Coastal Bend, Valley fields. Harvest moved ahead central, Blacklands, only some delays. Fields rapidly maturing throughout Cross Timbers, Low Plains. Fields High Plains some improvement with warmer temperatures, scattered rain. Greenbugs increase. Irrigation steady. Grain sorghum mature 48%, 50% 1988, 51% avg.; 40%, 44% 1988, 42% avg. Cotton harvest moved ahead Valley, Coastal Bend with little delay. Bolls continued open central, Blacklands. Spraying operations active some fields. Shedding small bolls continued Low Plains because hot, dry conditions. Fields set bolls High Plains. Scattered showers helped some dryland fields; most dryland fields need more rain. Spraying increased. Irrigation steady where available. Cotton open bolls 11%, 11% 1988, 11% avg.; 5%, 6% 1988, 4%. Rice harvest continued portions Upper Coast not affected by rains from Chantal. Fields showing losses from heavy rains. Rice 24% harvested, 13% 1988, 19% avg. Peanut progress good most areas. Southern fields exception, as continued dry conditions hurt germination dryland fields. Irrigation steady throughout Cross Timbers, other portions of the State. Harvest early variety soybeans continued Upper Coast. Heavy rains caused some damage. Progress good northeast, High Plains. Irrigation steady. Other field crops: Oats 100% harvested, 100% 1988, 100% avg. Sunflowers 100% planted, 100% 1988, 100% avg.

Commercial Vegetables: Rio Grande Valley, land preparations, some planting. East Texas, harvest continued; disease, insects limited production many fields. Trans-Pecos, chile harvest continued. Peppers look good. Late season melons harvested. High Plains, onion, potato harvest winding down. Harvest cucumbers, cabbage, peppers continued. Carrot harvest getting underway. Pecans need moisture over many areas as enter filling stage. Irrigation steady where available. Aphids biggest problem now; other insects also present.

Range and Livestock: Pastures east produce ample forage, hay. Other areas could use some moisture to improve conditions. Livestock markets active southern areas. Livestock numbers dwindled ranges, pastures south because lack of forage. Most other areas have enough forage to hold body conditions at fair to good levels. Flies becoming problem to cattle.

UTAH: Temperatures 3° above normal. Precipitation mostly light except moderate at few isolated areas.

Days suitable for fieldwork 6.7. Soil moisture 95% short, 5% adequate. Winter wheat 73% harvested, 85% 1988, 63% avg. Barley 53% harvested, 69% 1988, 50% avg. Spring wheat 36% harvested, 69% 1988, 39% avg. Oats 65% ripe, 73% 1988, 52% avg. Oats for grain 16% harvested, 24% 1988, 15% avg. Oats for hay 63% harvested, 68% 1988, 66% avg. Corn height 70 in., 76 in. 1988, 73 in. avg.; 65% tasseled, 88% 1988, 71% avg. Alfalfa hay second cutting 84% completed, 88% 1988, 76% avg. Peach harvest continued. Range, pasture poor, irrigation water supply short, stockwater supply short. Hay, roughage feed short to adequate. Major farm activities: Cutting, hauling second crop hay, irrigating corn, harvesting wheat, barley.

VIRGINIA: Warm, humid. Temperatures 3 to 4° below normal. Precipitation scattered, trace to 3.10 in.

Days suitable for fieldwork 4.5. Topsoil 7% short, 62% adequate, 31% surplus. Corn 82% silked, 63% 1988, 77% avg.; 52% at or beyond dough stage, 35% 1988, 45% avg.; 24% at or beyond dent stage, 7% 1988, 17% avg. Soybeans 53% bloomed,

21% 1988, 48% avg.; 29% at or beyond pod stage, 3% 1988, 11% avg. Peach harvest 60% complete. Apple harvest, flue-cured tobacco harvest just started. Corn 6% fair, 57% good, 37% excellent. Soybeans 28% fair, 55% good, 17% excellent. Tobacco 5% poor, 21% fair, 48% good, 26% excellent. Pastures 10% fair, 48% good, 42% excellent. Alfalfa, other hay 24% fair, 76% good to excellent. Crops generally in very favorable condition, ahead of schedule.

WASHINGTON: Temperatures 2° above normal to 5° below normal, east; normal, west. Precipitation none to 0.05 in., east; 0.07 to 0.71 in., west.

Days suitable for fieldwork, 6.6. Soil moisture 45% short, 55% adequate. Range, pasture 25% short, 75% adequate. Hay, other roughage 14% short, 66% adequate, 20% surplus. Cereal grain harvest continued. Winter wheat harvested 45%, 44% 1988, 47% avg. Spring wheat harvested 23%, 25% 1988, 34% avg. Barley harvested 40%, 43% 1988, 48% avg. Other crops harvested: Potato harvested 9%, 8% 1988, 8% avg; second cutting alfalfa hay 85%, 80% 1988, 82% avg; third cutting alfalfa hay 10%, 11% 1988, 9% avg. Harvest continued: Peaches, apricots, prunes, summer apples, raspberries, blueberries, green peas, seed vegetables, onions, carrots, sweet corn, broccoli, mint, grass seed, dry peas, lentils.

WEST VIRGINIA: Temperature 74°, 1 to 3° above normal. Extremes 51° Greenbank; 94° Moorefield. Precipitation 1.07 in.

Days suitable for fieldwork 5.1. Soil moisture 5% short, 90% adequate, 5% surplus. Corn excellent to good; 63% silked, 15% dough stage. Wheat, barley fair to good. Wheat 81% harvested; barley 91% harvested. Oats good to fair; 90% ripe, 44% harvested. Tobacco poor to very poor. Apples fair. Peaches poor. Hay good to fair, 1st cut 83% complete, 2nd cut 25% complete. Farm activities: Hay harvesting, combining small grains, clipping pastures.

WISCONSIN: Temperature 75°, 4° above normal. Extremes 41°; 96°. Precipitation 0.20 to 2.10 in.

Days suitable for fieldwork 5.7. Soil moisture 44% short, 55% adequate, 1% surplus. Pasture 68% of normal, 25% 1988, 65% 5 year avg. General condition of crops 2% poor, 19% fair, 70% good, 9% excellent. Soybean 8% fair, 71% good, 21% excellent. Corn 1% very poor, 1% poor, 5% fair, 63% good, 30% excellent; 81% silked, 85% 1988, 83% avg.; dough 9%, 27% 1988, 22% avg. Oats 39% harvested, 73% 1988, 53% avg. Second cut hay 71% completed, 78% 1988, 73% avg. Winter wheat harvest 70% completed, 39% 1988, 80% avg.

WYOMING: Temperatures above normal. Rainfall continued below normal.

Days suitable for fieldwork 7.0. Topsoil 86% short, 14% adequate. Subsoil 93% short, 7% adequate. Winter wheat 5% turning color, 0% 1988, 0% avg.; 25% mature, 15% 1988, 20% avg.; 70% harvested, 85% 1988, 80% avg. Barley 5% headed, 0% 1988, 5% avg.; 25% turning color, 10% 1988, 15% avg.; 55% mature, 35% 1988, 45% avg.; 15% harvested, 55% 1988, 35% avg. Spring wheat 0% headed, 0% 1988, 5% avg.; 30% turning color, 10% 1988, 20% avg.; 45% mature, 30% 1988, 35% avg.; 25% harvested, 60% 1988, 40% avg. Oats 10% headed, 5% 1988, 10% avg.; 25% turning color, 20% 1988, 30% avg.; 45% mature, 45% 1988, 40% avg.; 20% harvested, 30% 1988, 20% avg. Alfalfa second-cutting 45% complete, 50% 1988, 45% avg. Other hays 65% harvested, 80% 1988, 75% avg. Potatoes 95% in bloom, 95% 1988, 90% avg. Dry beans 80% in

International Weather and Crop Summary

July 1989

July 30 - August 5, 1989

MONTHLY DATA FROM SELECTED FOREIGN CITIES
CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
*** = DATA NOT AVAILABLE

HIGHLIGHTS

USSR ... In Western USSR, wet weather in the west causes harvest delays. Persistent dryness in the southern Ukraine helps harvest but stresses summer crops. In the New Lands, rain in the west arrives too late to help spring grains approaching maturity. Dry weather stresses filling spring grains in West Siberia.

EUROPE ... Cool, wet weather covers much of the north and east, benefiting summer crops but delaying winter grains harvest.

SOUTH ASIA ... Mostly dry weather reduces moisture reserves for crops advancing through reproduction in southern and central India.

EASTERN ASIA ... Tropical Storm Lola produces heavy rain and flooding in the lower Yangtze Valley. Favorably dry weather develops over sections of Manchuria and the Korean Peninsula.

SOUTHEAST ASIA ... Dry pockets persist over Thailand's southwestern corn region although showers elsewhere favor immature grains.

SOUTH AMERICA ... Widespread rain favors growth in south-central Brazil. Adequate soil moisture promotes rapid wheat planting in Argentina.

AUSTRALIA ... Rain covers most southern winter grain areas.

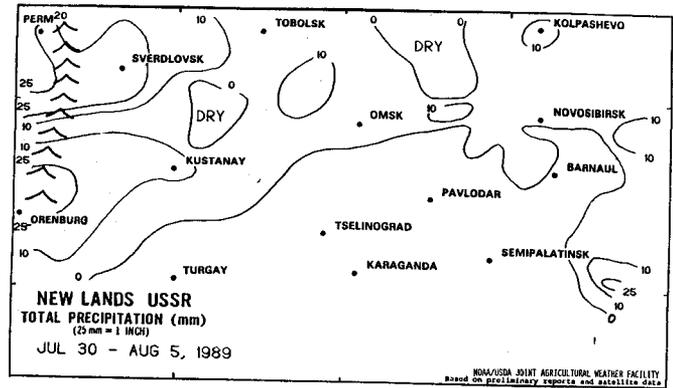
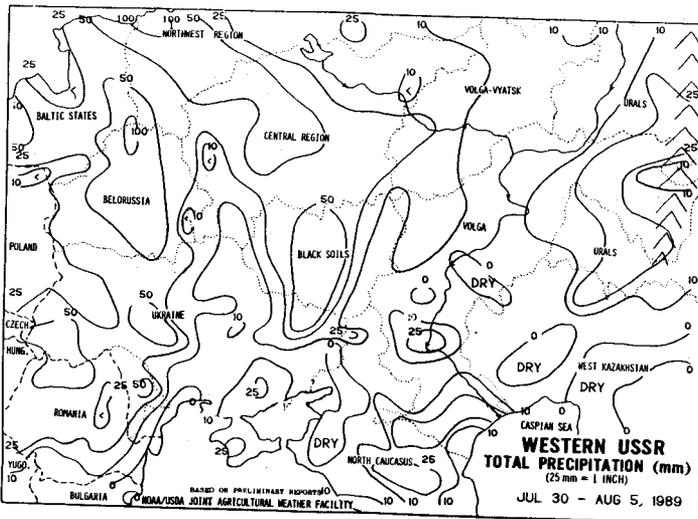
CANADA ... Early week hot weather stresses immature crops in the central and southeastern Prairies.

MEXICO ... Beneficial rain for irrigation and crop development falls in the northwest and most of the Southern Plateau.

COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
	AVG MAX	AVG MIN	HI	LO	DPART	F/NRM	DPART	
NORWAY OSLO	22	11	29	6	17	1.6	104.1	11.6
SWEDEN STOCKHOLM	23	12	31	7	18	0.5	15.4	-54.5
FINLND HELSINKI	23	12	30	5	17	0.4	62.8	-8.9
U KING GLASGOW	22	11	28	4	17	1.0	20.8	-62.0
EDINBURGH	22	11	28	8	16	1.9	12.4	-52.1
BIRMINGHAM	24	13	32	7	18	2.5	37.0	-15.4
LONDON	25	13	34	10	19	3.0	16.8	-32.0
IRELND DUBLIN	22	13	28	9	18	2.9	9.7	-49.6
ICELND REYKJAVIK	12	8	15	6	10	-1.1	72.8	25.2
DENMRK COPENHAGEN	22	13	30	9	18	-0.1	43.4	-27.7
LUXEMB LUXEMBOURG	23	14	31	8	18	1.1	81.5	15.3
SWITZL ZURICH	24	15	30	11	19	1.7	189.6	59.2
GENEVA	28	15	35	10	21	2.2	44.8	-23.6
FRANCE PARIS	27	14	33	7	20	2.1	26.3	-24.3
STRASBOURG	26	15	32	9	20	1.7	46.5	-14.5
BOURGES	27	15	36	11	21	1.8	65.3	14.5
BORDEAUX	29	17	38	14	23	3.6	41.2	-13.0
TOULOUSE	30	17	36	12	23	2.7	18.6	-28.8
MARSEILLE	32	21	34	16	26	2.8	5.3	-9.0
SPAIN VALLADOLID	33	15	38	12	24	2.7	11.6	-5.4
MADRID	36	18	41	13	27	2.3	28.2	21.1
SEVILLE	38	20	43	16	29	2.6	0.1	-0.7
E GRMY LEIPZIG	24	14	32	9	19	1.0	47.7	-15.3
DRESDEN	23	14	32	7	19	0.4	68.9	-40.1
W GRMY HAMBURG	22	13	33	7	18	1.0	87.3	0.6
BERLIN	24	15	33	9	19	0.6	50.9	-9.8
DUSSELDORF	24	15	33	8	20	1.1	53.9	-21.0
STUTTGART	24	14	30	8	19	1.0	70.1	-8.0
NURNBERG	25	14	32	6	19	1.2	31.0	-39.0
MUNICH	23	13	29	7	18	0.9	175.3	49.8
AUSTRI VIENNA	26	15	32	7	20	0.1	43.2	-25.9
INNSBRUCK	23	13	29	8	18	0.5	136.7	1.8
CZECH PRAGUE	23	12	31	7	18	0.0	89.9	18.1
POLAND WARSAW	24	13	33	8	18	0.3	45.7	-30.4
LODZ	24	13	31	6	18	0.3	53.1	-37.8
KATOWICE	23	13	32	7	18	0.1	81.6	-12.4
PRZEMYSL	23	13	32	8	18	0.2	44.6	-54.5
HUNGAR BUDAPEST	27	16	34	10	22	0.7	27.0	-40.5
YUGOSL SARAJEVO	26	13	32	6	19	0.4	101.1	26.2
ROMANI BUCHAREST	29	15	34	9	22	-0.5	13.7	-51.2
BULGAR SOFIA	26	15	31	9	20	0.5	18.4	-44.1
ITALY MILAN	28	18	32	15	23	0.3	87.2	24.8
VERONA	29	19	33	14	24	1.0	131.9	72.0
VENICE	27	19	30	15	23	-0.3	261.0	193.7
GENOA	28	22	34	19	25	0.7	13.5	-14.2
ROME	29	19	33	16	24	0.0	107.1	94.3
NAPLES	32	20	35	18	26	2.9	18.9	-2.4
GREECE THESSALONIKA	30	20	34	16	25	-2.1	43.2	18.2
LARISSA	32	19	38	15	25	-2.2	37.4	18.7
ATHENS	32	23	34	21	27	-0.9	0.1	-1.7
TURKEY ISTANBUL	28	20	31	17	24	0.4	0.1	-20.9
ANKARA	28	14	35	9	21	-2.6	8.4	-11.6
CYPRUS LARNACA	32	22	35	20	27	-0.3	0.1	-0.9
USSR TALLINN	23	12	31	7	17	1.0	72.0	-5.1
LENINGRAD	23	15	31	12	19	1.4	128.4	51.6
KAUNAS	23	13	32	9	18	0.3	64.6	-8.0
MINSK	22	13	30	10	18	0.2	97.4	17.6
KAZAN	25	16	31	11	20	1.1	120.1	54.3
MOSCOW	24	15	31	9	19	1.0	57.5	-27.6
SVERDLOVSK	28	15	36	7	21	3.3	27.5	-56.5
OMSK	30	16	37	4	23	3.2	4.9	-60.5
KUSTANAY	32	18	37	10	25	4.4	14.5	-33.2
KRASNOYARSK	25	13	33	6	19	0.1	55.8	-20.3
NOVOSIBIRSK	26	15	35	5	21	2.2	32.5	-25.9
BARNAUL	25	15	33	5	20	0.1	115.9	55.0
KHABAROVSK	27	18	32	14	22	1.5	149.5	32.6
VLADIVOSTOK	20	15	27	9	17	-0.2	154.1	30.4
KIEV	24	15	32	10	19	-0.3	64.3	-15.4
LVOV	23	12	31	5	18	-0.1	30.1	-67.3
KIROVOGRAD	26	13	33	9	20	-1.5	14.7	-46.6

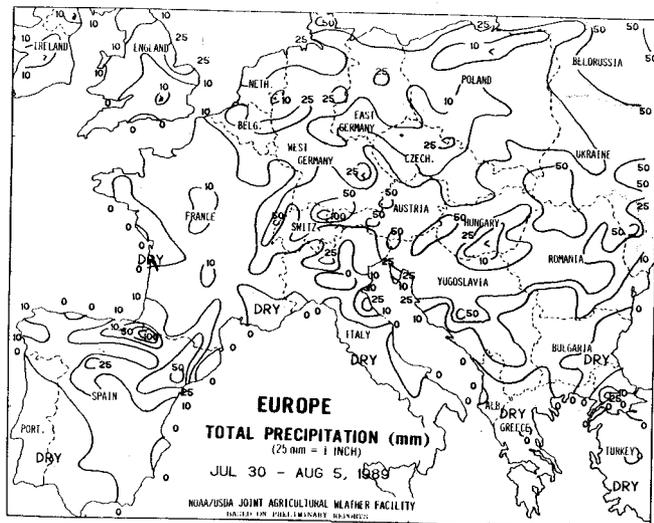
BASED ON PRELIMINARY REPORTS

COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)		
July 1989		AVG	AVG	HI	LO	DPART	DPART	DPART	DPART	July 1989		AVG	AVG	HI	LO	DPART	DPART	DPART	DPART
		MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM			MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM
USSR	ODESSA	26	17	32	11	22	-0.1	11.2	-36.4	TANZAN	DAR ES SALAAM	29	19	30	15	24	-0.1	7.5	-23.2
	YALTA	28	19	31	14	24	-0.7	34.9	-13.1	GABON	LIBREVILLE	26	22	28	19	24	-0.1	56.7	55.5
	VORONEZH	24	14	32	9	19	-0.7	129.7	61.8	TOGO	LOME	28	24	31	20	26	1.2	107.3	6.8
	SARATOV	25	18	31	11	21	0.5	76.5	30.3	B FASO	OUAGADOUGOU	33	24	37	20	28	1.2	203.8	13.8
	KHARKOV	24	15	30	11	19	-1.5	63.5	4.7	IVRY C	ABIDJAN	29	24	31	22	26	1.2	186.5	-125.6
	VOLGOGRAD	27	17	34	11	22	-1.6	116.6	89.4	MOZAMB	MAPUTO	25	14	28	10	20	1.2	0.1	-19.0
	ROSTOV	27	18	32	13	23	-0.8	58.1	4.5	ZAMBIA	KABWE	23	9	27	6	16	0.2	0.1	0.1
	ASTRAKHAN	32	21	37	16	26	1.1	20.6	-1.2	ZIMBAB	HARARE	21	8	26	5	15	1.6	1.4	0.0
	KRASNODAR	27	18	32	14	23	-1.1	140.6	94.8	S AFRI	PRETORIA	19	5	24	1	12	1.3	3.5	-2.4
	ORENBURG	31	18	38	10	24	2.3	42.7	2.7		KROONSTAD	18	-2	23	-7	8	-0.6	0.1	-7.9
	TSELINOGRAAD	30	17	39	8	23	3.5	6.1	-44.3		JOHANNESBURG	17	2	23	-5	10	0.0	0.1	-6.8
	KARAGANDA	28	15	34	6	21	0.8	80.0	36.8		BETHAL	17	-1	22	-7	8	-0.4	0.3	-7.7
	TBILISI	32	20	38	12	26	1.5	17.5	-27.6		DURBAN	22	12	27	8	17	0.9	62.2	28.1
	TASHKENT	36	20	41	17	28	1.0	8.5	4.5		CAPE TOWN	18	6	24	1	12	0.1	123.0	50.0
	ASHKHABAD	40	24	42	19	32	1.2	0.7	-0.3	CANADA	TORONTO	28	15	33	9	22	1.0	70.8	-0.6
SYRIA	DAMASCUS	37	17	41	12	27	0.2	0.1	0.1		MONTREAL	28	16	33	10	22	0.8	29.6	-60.4
ISRAEL	JERUSALEM	28	18	32	15	23	-0.2	0.1	0.1		WINNIPEG	28	16	35	13	22	2.3	29.7	-46.3
PAKIST	KARACHI	33	28	38	26	31	0.2	2.9	-96.9		REGINA	29	15	36	8	22	2.6	64.4	11.1
INDIA	AMRITSAR	35	26	39	23	30	-0.2	195.7	11.3		SASKATOON	28	14	37	9	21	2.1	28.5	-25.1
	NEW DELHI	36	28	40	25	32	0.9	40.2	-194.6		LETHBRIDGE	27	12	34	6	19	0.5	45.7	2.1
	AHMEDABAD	33	26	37	24	29	-0.2	247.7	-19.1		CALGARY	25	11	32	5	18	1.5	50.6	-14.8
	INDORE	31	23	34	21	27	0.4	65.1	-219.9		EDMONTON	23	13	28	10	18	0.8	101.3	12.5
	CALCUTTA	32	26	34	24	29	0.2	366.2	44.6		VANCOUVER	22	13	24	11	17	0.1	34.4	2.3
	VERAVAL	30	27	32	25	29	0.5	435.9	135.4	MEXICO	GUADALAJARA	27	16	34	14	22	0.4	384.7	127.6
	BOMBAY	31	26	32	24	28	0.9	792.7	-152.7		MEXICO CITY	21	13	27	11	17	0.3	77.6	-47.6
	POONA	29	22	32	21	25	0.2	184.9	-8.4		ACAPULCO	33	25	36	23	29	0.2	110.0	-124.5
	BEGAMPET	30	23	34	20	25	-0.2	421.6	258.4		BERMUD ST. GEORGES	30	26	32	21	28	1.3	48.0	-60.3
	MADRAS	34	25	38	23	29	-1.1	148.2	28.5		BAHAMA NASSAU	32	25	33	20	28	0.6	58.8	-97.8
	MANGALORE	28	23	31	21	26	-0.4	790.5	-268.4		CUBA HAVANA	31	24	34	20	28	0.4	144.0	39.0
H KONG	HONG KONG	31	27	34	22	29	0.6	239.1	-77.4		JAMAIC KINGSTON	33	26	35	22	29	0.8	4.7	-36.9
N KREA	PYONGYANG	26	19	30	13	22	-1.3	394.3	-2.7		P RICO SAN JUAN	32	26	32	24	29	1.0	0.0	-127.1
S KREA	SEOUL	29	22	33	17	25	0.6	354.1	-3.8		GUADNL RAIZET	32	25	33	22	28	1.3	29.6	-75.5
JAPAN	SAPPORO	25	18	33	10	22	1.4	37.5	-42.8		MARTINQ LAMENTIN	30	25	32	23	28	1.7	65.0	-156.1
	NAGOYA	29	22	34	17	26	0.0	134.0	-84.4		BARBAD BRIDGETOWN	31	25	32	23	28	0.7	44.3	-85.6
	TOKYO	27	22	32	15	25	-0.6	136.0	11.3		TRINID PORT OF SPAIN	31	23	33	22	27	1.3	90.3	-169.2
	YOKOHAMA	27	21	37	15	24	-0.4	177.6	36.7		COLOMB BOGOTA	18	8	21	3	13	-0.1	44.6	7.3
	KYOTO	30	22	34	16	26	0.4	137.5	-78.5		VENEZU CARACAS	31	24	32	20	27	1.0	72.8	22.3
	OSAKA	31	24	35	18	27	0.5	103.8	-88.8		F GUIA CAYENNE	30	23	32	22	26	0.8	139.7	-120.5
THAILN	PHETCHABUN	33	25	36	24	29	0.8	110.7	-60.9		BRAZIL FORTALEZA	29	23	30	21	26	-0.6	192.3	85.0
	BANGKOK	33	26	35	24	29	0.7	148.3	-24.6		RECIFE	27	21	30	19	24	-0.1	503.4	199.2
MALAYS	KUALA LUMPUR	32	24	34	23	28	1.6	76.1	-53.8		BELO HORIZONTE	24	14	30	9	19	0.5	35.7	-16.2
VIETNM	HANOI	33	27	36	24	30	0.8	167.3	-155.3		CAMPO GRANDE	25	14	30	1	20	0.7	35.5	-0.6
CHINA	HARBIN	27	17	32	13	22	-1.2	129.8	-30.9		FRANCA	24	13	28	10	19	1.5	29.0	13.0
	HAMI	34	18	38	12	26	-0.7	2.7	-3.8		RIO DE JANEIRO	22	17	30	14	19	-1.9	111.5	64.3
	LANCHOW	28	17	34	12	23	0.4	56.8	-7.1		LONDRINA	24	12	28	7	18	1.4	72.4	-4.1
	BEIJING	30	22	36	17	26	-0.1	127.9	-65.0		SANTA MARIA	18	8	27	4	13	-1.2	20.4	-122.6
	TIENTSIN	30	23	35	19	26	-0.1	116.9	-73.0		PORTO ALEGRE	17	9	25	5	13	-1.7	36.0	-92.0
	LHASA	24	11	32	7	17	1.1	72.6	-65.2	PERU	LIMA	20	16	22	11	18	1.2	1.1	-0.1
	KUNMING	24	16	28	12	20	0.2	175.8	-36.5	BOLIVI	LA PAZ	13	-4	15	-8	5	-2.5	10.1	1.2
	CHENGCHOW	30	22	36	18	26	-1.5	178.6	24.2	CHILE	SANTIAGO	16	1	28	-4	9	0.5	74.1	7.2
	YEHCHANG	31	24	39	19	27	-0.9	339.6	118.9	ARGENT	IGUAZU	21	9	28	-2	15	***	67.7	***
	HANKOW	32	25	38	20	28	-0.5	138.5	-17.6		FORMOSA	21	11	29	1	16	-1.2	75.4	27.4
	CHIHKIANG	32	22	36	17	27	-0.4	82.3	-65.5		CERES	19	5	29	-3	12	-0.3	0.1	-17.8
	SHANGHAI	30	24	35	20	27	-1.2	216.3	82.0		CORDOBA	18	4	28	-8	11	0.6	0.1	-7.6
	NANCHANG	33	26	39	19	29	-0.7	180.2	54.2		RIO CUARTO	17	4	26	-4	11	1.5	1.0	-8.8
	TAIPEI	34	27	38	23	30	2.0	415.9	182.0		ROSARIO	16	3	26	-6	10	-0.5	26.0	-13.6
	CANTON	34	26	38	22	30	1.3	75.4	-137.7		BUENOS AIRES	15	4	24	-2	10	-0.1	43.2	-22.2
	NANNING	33	25	39	22	29	1.1	91.5	-103.7		SANTA ROSA	14	2	21	-8	8	0.5	61.0	43.2
CNRY I	LAS PALMAS	28	22	33	20	25	1.7	0.1	0.1		TRES ARROYOS	12	3	19	-2	7	-0.1	60.7	8.8
MOROCC	CASABLANCA	27	21	33	18	24	2.1	0.8	0.8	MIDW I	MIDWAY ISLAND	29	24	30	19	27	1.2	73.9	-59.2
	MARRAKECH	38	21	44	10	29	1.7	0.6	-0.1	N CALD	NOUMEA	24	17	27	15	20	0.7	89.7	6.6
ALGERI	ALGER	33	20	41	16	27	2.6	1.0	-0.8	FIJI	NAUSORI	26	20	30	15	23	0.0	67.1	-56.9
	BATNA	34	17	38	11	25	0.4	6.6	-0.5	SAMOA	PAGO PAGO	28	24	33	16	26	-0.1	166.1	0.8
TUNISI	TUNIS	34	21	39	17	27	1.3	10.7	6.9	TAHITI	PAPEETE	29	21	30	18	25	0.6	70.9	15.2
NIGER	NIAMEY	36	25	39	20	31	2.1	93.0	-73.9	N ZEAL	AUCKLAND	14	6	18	1	10	-0.6	86.4	-45.5
MALI	TIMBUKTU	38	27	46	21	32	0.5	35.9	-22.6	PA N G	PORT MORESBY	29	24	31	22	26	0.6	83.0	60.9
	BAMAKO	31	24	35	21	27	0.9	111.4	-129.7	AUSTRAL	DARWIN	30	21	33	18	25	0.7	0.1	-1.5
MAURIT	NOUAKCHOTT	33	25	42	22	29	1.6	0.1	-15.3		MOREE	15	5	22	-2	10	-0.7	56.9	20.0
SENEGL	DAKAR	30	25	34	20	27	0.4	86.8	3.4		BRISBANE	19	9	24	3	14	-1.2	45.6	-14.9
CHAG A	DIEGO GARCIA	28	24	29	23	26	-0.3	214.9	74.1		PERTH	16	8	20	2	12	-1.1	129.3	-38.2
LIBYA	TRIPOLI	34	20	40	17	27	0.6	0.1	0.1		CEDUNA	15	7	19	4	11	-0.6	106.2	66.4
	BENGHAZI	30	22	36	20	26	0.5	0.1	0.1		ADELAIDE	13	7	18	1	10	-1.1	70.8	7.0
EGYPT	CAIRO	34	22	37	21	28	0.4	0.1	0.1		MELBOURNE	12	5	17	-1	9	-0.8	45.0	2.7
	ASWAN	41	27	43	21	34	-0.1	0.1	0.1		WAGGA	11	3	17	-2	7	-0.4	42.0	-6.8
ETHIOP	ADDIS ABABA	20	11	23	8	16	0.4	222.1	-28.7		CANBERRA	10	2	16	-4	6	0.5	41.8	1.8
KENYA	NAIROBI	22	11	27	6	17	0.1	34.4	20.9	PHILIP	MANILA	32	24	34	22	28	0.3	305.2	-31.7

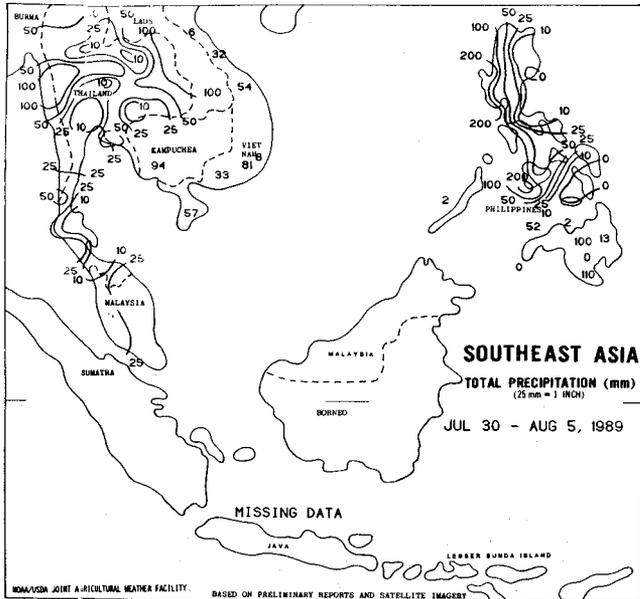


In the New Lands, widespread precipitation (10-40mm) over the Urals came too late to help spring grains which were maturing. Unseasonable, warm dry weather over Kazakhstan favored spring grain maturation and helped early harvesting. Minimal rain (precipitation less than 10mm) covered spring grains in West Siberia which ranged from maturing in the west to filling in the east. Well below-normal precipitation since early June in major spring grain producing areas of the Urals, Kazakhstan, and parts of West Siberia, along with periods of hot weather in July, has adversely affected yield prospects. Weekly average temperatures were 1-3 degrees C above normal in the west and 1-3 degrees C below normal in the east. Near-freezing temperatures on July 31 over the northern fringe of the spring grain area may have produced scattered frost.

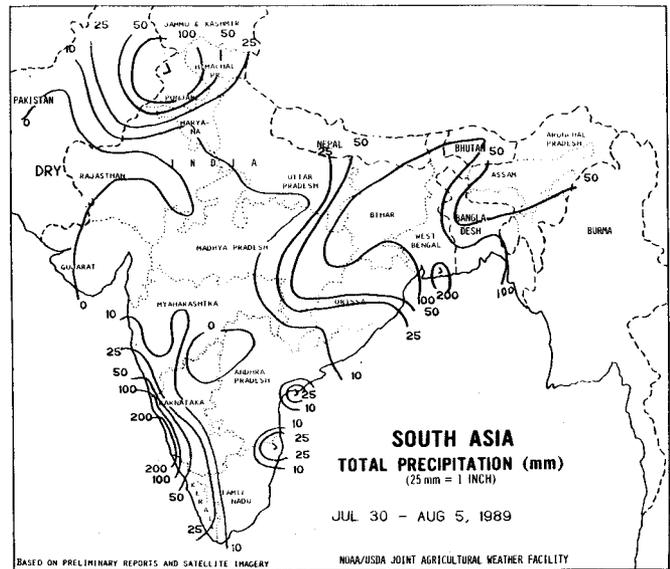
USSR ... In Western USSR, wet weather covered the Baltic States, Belorussia, the western Ukraine, the Central Region, and the Black Soils Region, causing delays in winter and spring grain harvesting. Precipitation amounts in these areas generally ranged from 30 to 60mm, with isolated areas receiving rainfall in excess of 70mm. In the southern Ukraine, scattered, light precipitation continued the below-normal precipitation pattern that has covered the region since early July. Although the dry weather helped winter grain harvesting, it stressed corn and sunflowers which advanced through the reproductive phase of development. Elsewhere, light precipitation (around 10mm) in the Volga Vyatsk, Volga, and the northern North Caucasus caused only minor delays in winter and spring grain harvests. Weekly average temperatures were 1-3 degrees Celsius (C) below normal in the west and near normal in the east.



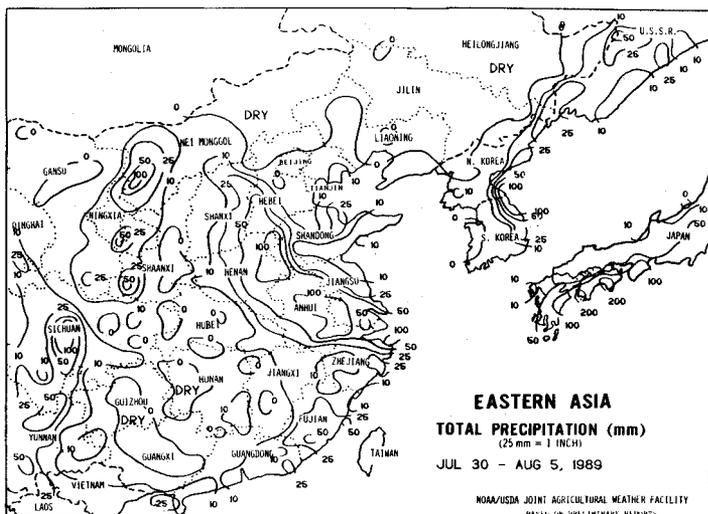
EUROPE ... A strong frontal system brought widespread moderate to heavy rain (10-40mm), with scattered amounts in excess of 40mm) and unseasonably cool temperatures (from 2 to 5 degrees C below normal) to much of northern and eastern Europe early in the week. The cool, wet weather benefited sugar beets and reproductive to filling summer grains and oilseeds but caused extensive delays in winter grain harvest. Elsewhere, scattered light to moderate showers (5-15mm, with isolated amounts in excess of 25mm) fell across sections of Great Britain, France, and northern Italy. Hot, stressful weather (maximum temperatures from 38 to 41 degrees C) covered much of Spain and Portugal early in the week, followed by scattered rain (5-25mm, with isolated amounts in excess of 25mm) and moderating temperatures on the 3rd.



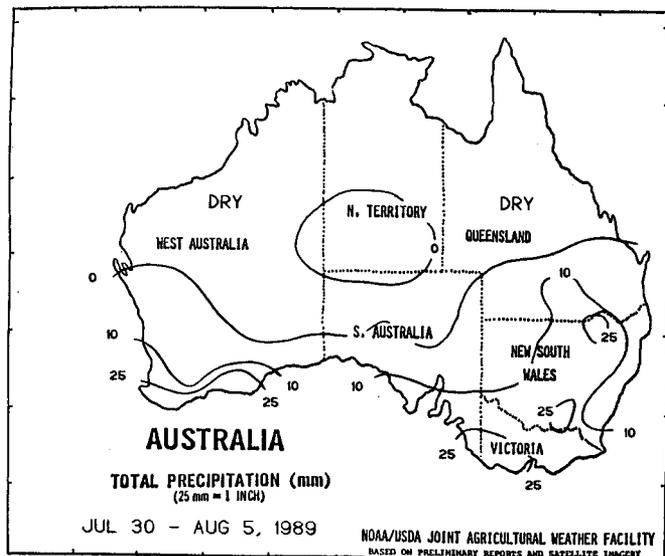
SOUTHEAST ASIA ... Dry pockets persisted over Thailand's central corn region, with amounts of less than 10mm continuing over southwestern portions of the growing region that have received only 50-75 percent of normal rainfall this season. Beneficial rain (21-50mm or more), however, covered most other corn regions and continued from the previous week over rainfed rice areas of the north and east, benefiting immature grains. Temperatures averaged 1-2 degrees C above normal, maintaining high evaporation rates. In the Philippines, excessive rainfall (100-200mm or more) continued along the west coast of Luzon, worsening flooding conditions. The heavy rain extended southward to the west-central islands but, except for isolated areas of Mindanao, rainfall continued below normal over most other growing areas.



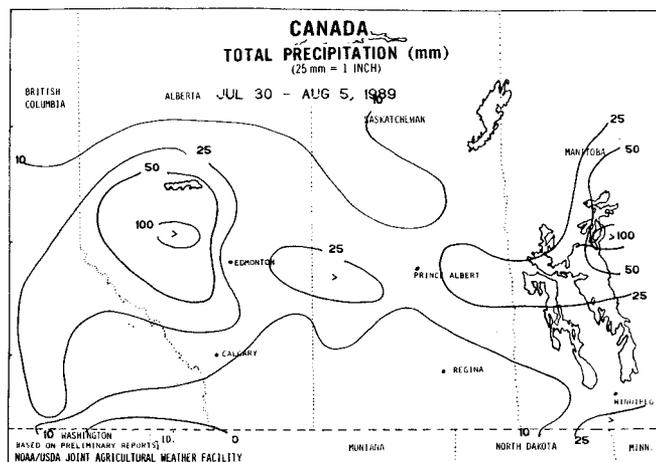
SOUTH ASIA ... Drier weather returned to most of southern and central India, with amounts of 10mm or less covering the area extending from Tamil Nadu to western Madhya Pradesh and Rajasthan. Temperatures averaged near to slightly above normal, with high temperatures exceeding 35 degrees C along the southeast coast and growing regions in Rajasthan and Madhya Pradesh. A return to a more favorable rainfall pattern is critical for summer crops in central and southern regions that are currently advancing through reproduction. This is especially true in Madhya Pradesh and Rajasthan, which have been drier than normal for most of the season. Heavy showers (50-100mm or more) continued in the east from eastern Madhya Pradesh to Bangladesh and in the northern growing regions of Pakistan and India's Punjab state, improving moisture reserves but causing local flooding. Some crop damage was likely in northern Pakistan and north-central India on July 30, as local amounts exceeded 100mm. Rainfall tapered off from the previous week in far eastern India, bringing some relief to flooded areas.



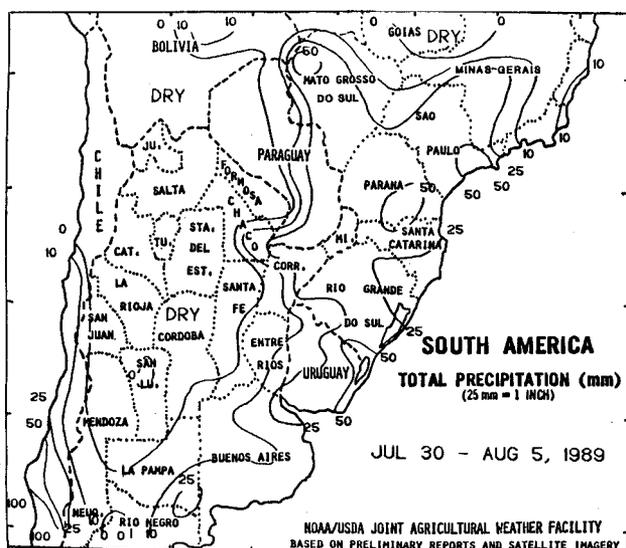
EASTERN ASIA ... Tropical Storm Lola moved into northern Zhejiang and southern Jiangsu Provinces late on the 3rd, bringing high winds, torrential rains (75-125mm, with isolated amounts up to 155mm), and localized flooding. Remnants of the storm produced further heavy rain (50-164mm) and flooding late in the week in much of Anhui and eastern Henan Provinces. In the west, scattered heavy thunderstorms caused isolated heavy rains (50-197mm) and flooding to southern Sichuan and northern Yunnan, while other crop areas remained mostly dry. In Manchuria, dry and warm weather (average temperatures 1-3 degrees C above normal) covered much of Heilongjiang, Jilin, and Liaoning, allowing progress in spring wheat harvest after three consecutive weeks of above-normal rainfall. Favorably dry weather also developed in much of the Korean Peninsula with the exception of coastal eastern South Korea, where isolated heavy rainfall (30-149mm) continued. At the end of the reporting period, Typhoon Mac hit southeastern sections of Honshu in Japan, with heavy rains and winds in excess of 65 knots (33 meters/second).



AUSTRALIA ... A frontal system brought widespread rain (10-30mm, with scattered amounts in excess of 30mm) to much of New South Wales, southeastern Queensland, Victoria, and southern South Australia. The precipitation kept soils adequately to excessively wet across most crop areas. Heavy rain (25-40mm) also fell across southern winter grain areas of Western Australia, while light rain (less than 10mm) covered those in the north. Mostly dry weather favored the sugarcane harvest in coastal eastern Queensland. Minimum temperatures fell to freezing or slightly below freezing values late in the week in growing areas of south-central Queensland and northern New South Wales, with little or no effect on semidormant winter grains. Average weekly temperatures returned to below normal across most crop areas.



CANADA ... Dry, hot weather spread from central Saskatchewan to Manitoba early in the week, stressing immature crops and hastening maturity of spring wheat over some southern regions. Weekly temperatures averaged 3-4 degrees C above normal across the affected area, with high temperatures ranging from 35 to 38 degrees C. Cooler weather and scattered showers (1-25mm) returned the latter half of the week, bringing some relief, but most heat stressed areas of Saskatchewan received only 1-4mm of rainfall. Drier weather also covered much of southern Alberta, but light to moderate rain (10-25mm or more) benefited reproductive grains and oilseeds across northern Saskatchewan and northern Alberta, including the Peace River Valley. Temperatures averaged 1-3 degrees C above normal in the northern growing areas, but high temperatures ranged from 28 to 32 degrees C.



SOUTH AMERICA ... In south-central Brazil, widespread rain fell over the wheat areas, providing beneficial moisture for immature crops in the north and early growth in the south. Weekly rainfall generally averaged 20-40mm in Rio Grande do Sul, 40-65mm in Parana, 25-50mm in southern Mato Grosso do Sul, 10-59mm in Sao Paulo, and 10-34mm in southern Minas Gerais, where early coffee flowering normally begins in August. In Argentina, early-week showers (10-25mm) provided additional soil moisture in eastern Buenos Aires. Little or no rain fell over the remainder of the wheat areas. Generally favorable topsoil moisture has pushed wheat plantings to about 90 percent, well ahead of last year's drought-affected pace. Moisture is limited in northern margins of the wheat belt. Elsewhere, beneficial rain continued to improve conditions in Uruguay and central Chile.

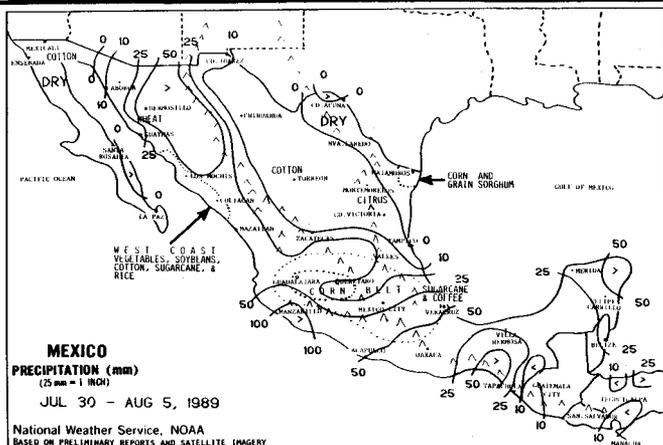
The Weekly Weather and Crop Bulletin (ISSN 0043-1974) is published weekly and jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the Weekly Weather Chronicle. It is issued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

Annual subscriptions: domestic \$35, foreign \$50 (in U.S. funds by international money order or check drawn on U.S. bank) payable to U.S. Department of Commerce, NOAA. POSTMASTER: Send address changes to Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington, D.C. 20250. Order subscriptions from the office and address listed above. Second class postage paid at Washington, D.C. and additional mailing offices.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service/Climate Analysis Center
Managing Editor Douglas Le Conte
Meteorologists Tom Heddinghaus
Vilhelm Bjerknæs, Bob Stefanski, Wes Byrd,
and Jeffrey Savadel

Subscriptions (202) 447-7917 . . Jeanette Hill

U.S. DEPARTMENT OF AGRICULTURE
Economics Management Staff
Editor Sharon Lee
National Agricultural Statistics Service
Agricultural Statistician . . . Tom Kurtz (202) 447-2157
World Agricultural Outlook Board
Agricultural Weather Analysts. . Ray Motha,
Tom Puterbaugh, Mark Brusberg, and Jeff Andresen



(Continued from p. 22)

bloom, 100% 1988, 85% avg.; 50% setting pods, 75% 1988, 75% avg. Corn 70% tasseled, 80% 1988, 80% avg.; 30% silked, 60% 1988, 60% avg.; 10% milk, 10% 1988. Ranges, pastures poor to mostly fair. Stockwater 75% short, 25% adequate. Livestock feed from pastures 95%. Hay, roughage for remainder of season 15% very short, 40% short, 45% adequate.

MEXICO ... Significant rain fell again in the northwest and across much of the Southern Plateau corn belt, providing beneficial moisture for crop development and irrigation reservoirs. In the northwest, frequent showers produced 25-95mm of weekly rainfall, and temperatures dropped to more seasonal readings, easing the high rate of moisture demand in recent weeks. Frequent rain also benefited immature corn throughout the Southern Plateau, with weekly rainfall generally averaging 30-80mm and isolated amounts of 100mm or more. Pockets of lighter rain (18mm or less) were again located in north-central portions of the major corn producing region, where deficient moisture persists. Minimal rain fell in the north-central rangelands and in the northeast, while tropical showers were scattered throughout the south.

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

WEEKLY NEWS BULLETIN
SECOND CLASS

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

SECOND CLASS MAIL
POSTAGE AND FEES PAID
NOAA PERMIT NO.

ISSN 0043 1974