

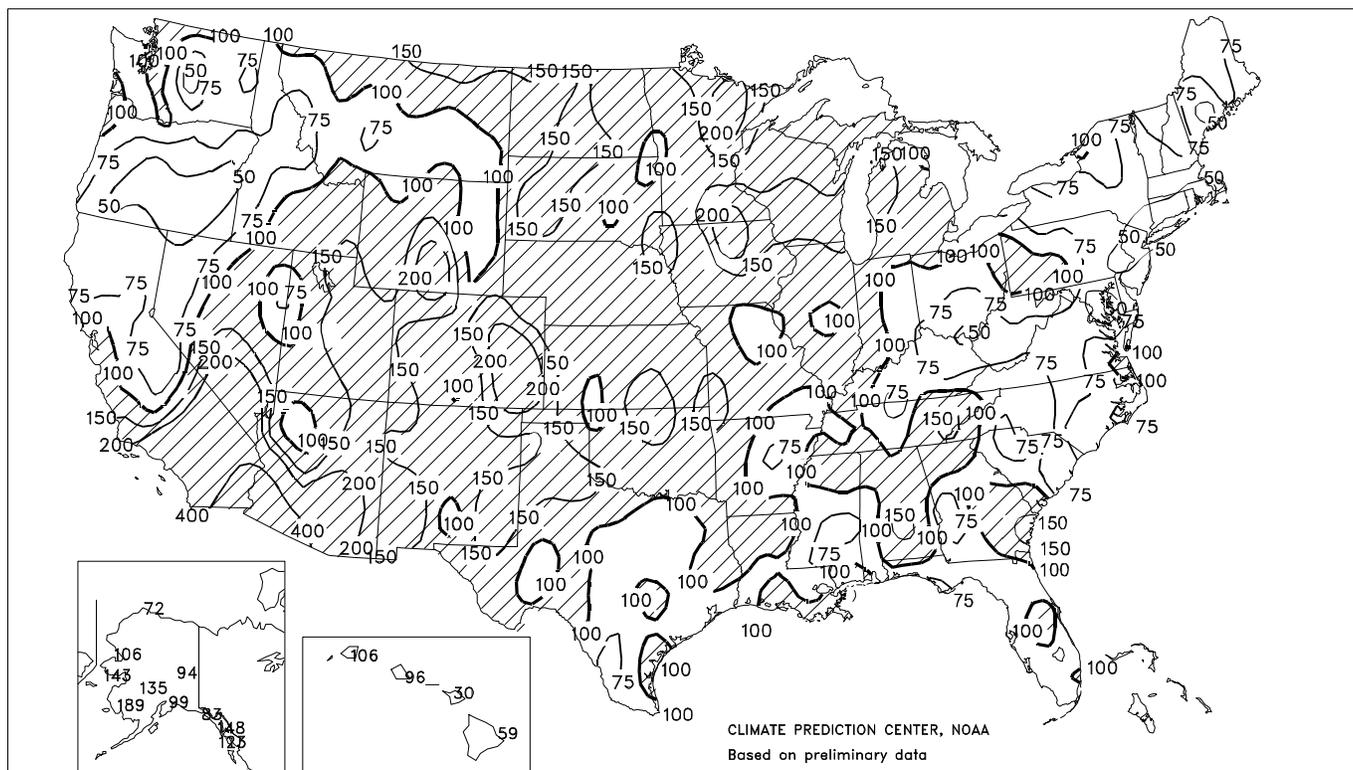
# WEEKLY WEATHER AND CROP BULLETIN

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

Percent of Normal Precipitation

APR 1-JUL 31 1999



## HIGHLIGHTS

August 1 - 7, 1999

**N**ear- to below-normal temperatures prevailed across the **Plains, Corn Belt, and Northeast**, benefiting summer crops following the late-July heat wave. Weekly temperatures averaged as much as 7°F below normal in the **central Plains** and **western Corn Belt**. Despite the cooler weather and scattered late-week showers, topsoil moisture remained limited and long-term drought continued to intensify from the **eastern Corn Belt** and **middle Ohio Valley** into the **Northeast**. Meanwhile, very hot (up to 5°F above normal, with maximum temperatures frequently 100 to 105°F), mostly dry weather continued to deplete soil moisture and stress livestock, pastures, and immature summer crops from **central Texas** into the **Southeast**. In

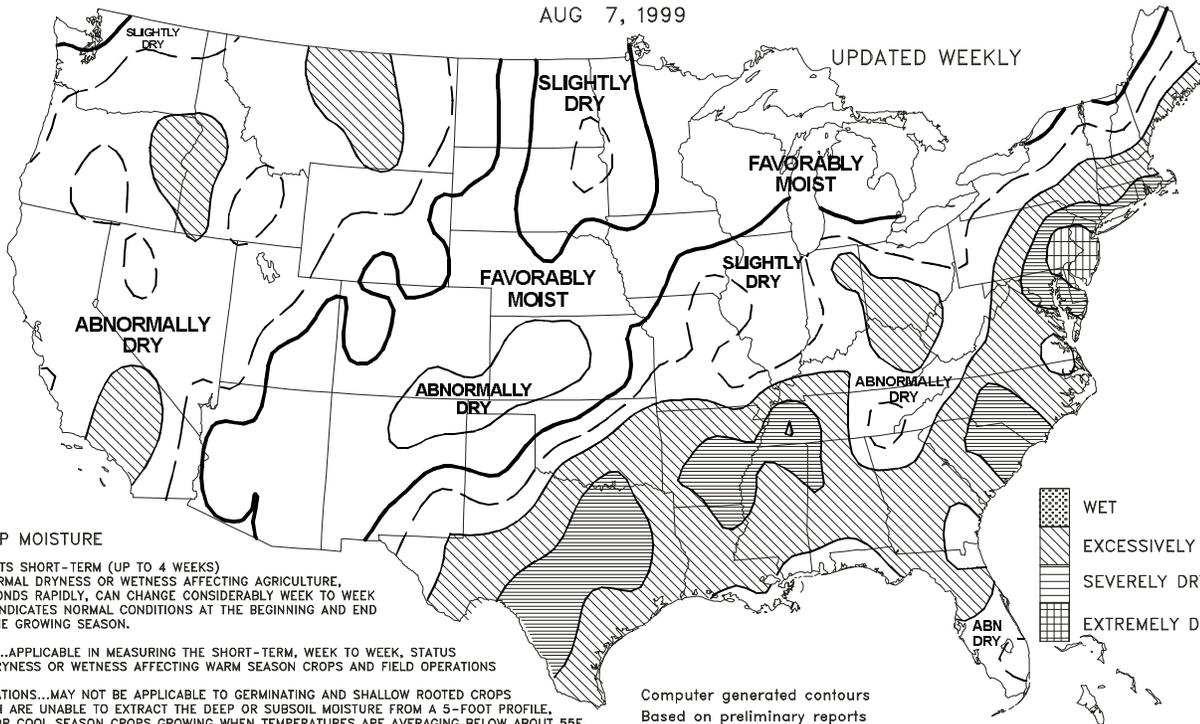
*(Continued on page 5)*

## Contents

Crop Moisture Maps .....	2
Palmer Drought Maps .....	3
Weather Data for the Delta & Pan Evaporation Map .....	4
Temperature Departure & Extreme Maximum Temperature Maps .....	5
Growing Degree Day Maps .....	6
National Weather Data for Selected Cities .....	7
<b>July Weather and Crop Summary .....</b>	<b>10</b>
<b>July Precipitation and Temperature Maps .....</b>	<b>12</b>
<b>July Weather Data for Selected Cities .....</b>	<b>13</b>
<b>July Maximum Temperature Map .....</b>	<b>14</b>
National Agricultural Summary .....	15
Crop Progress and Condition Tables .....	16
State Agricultural Summaries .....	19
<b>Pasture Condition Table .....</b>	<b>25</b>
International Weather and Crop Summary & <b>July Temperature/Precipitation Table .....</b>	<b>26</b>
Subscription Information & Total Precipitation Map .....	32

Crop Moisture  
 SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE  
 AUG 7, 1999

UPDATED WEEKLY



CROP MOISTURE

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

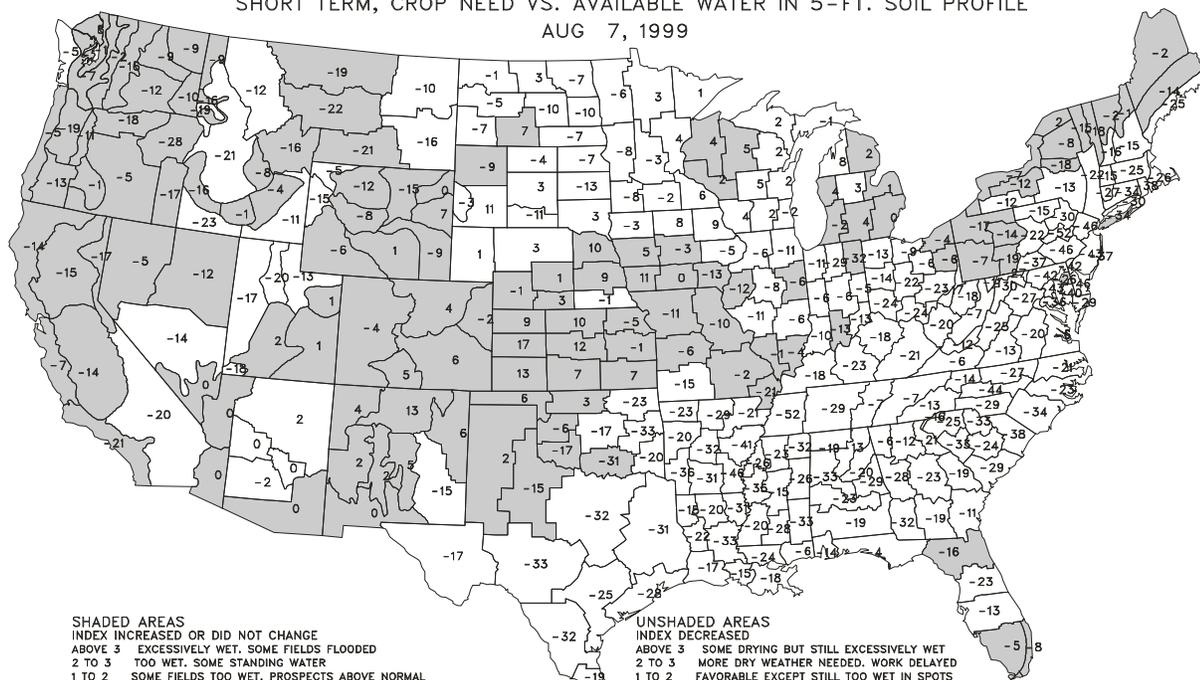
USES...APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS

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

Computer generated contours  
 Based on preliminary reports

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

Crop Moisture Index  
 SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE  
 AUG 7, 1999

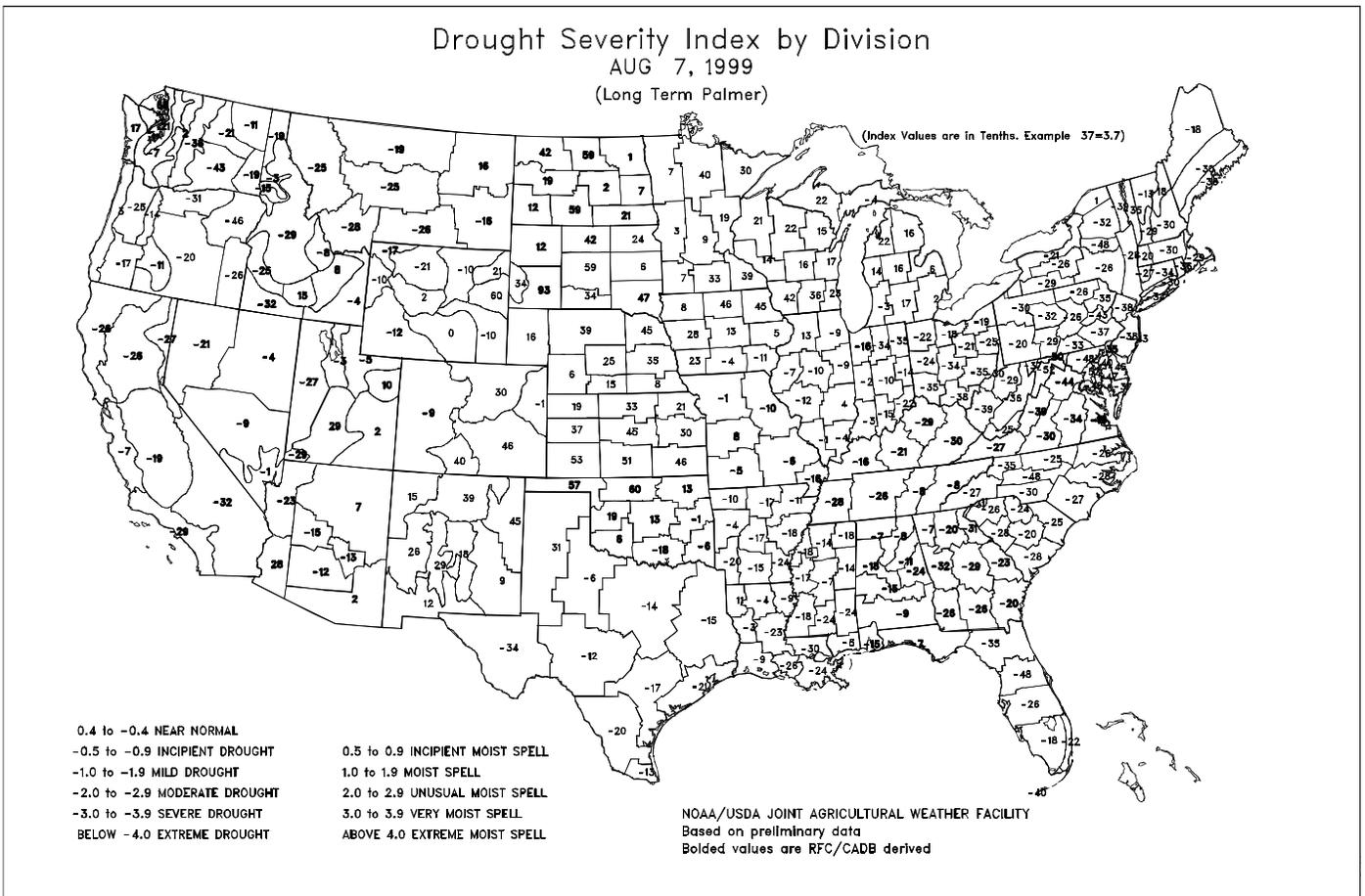
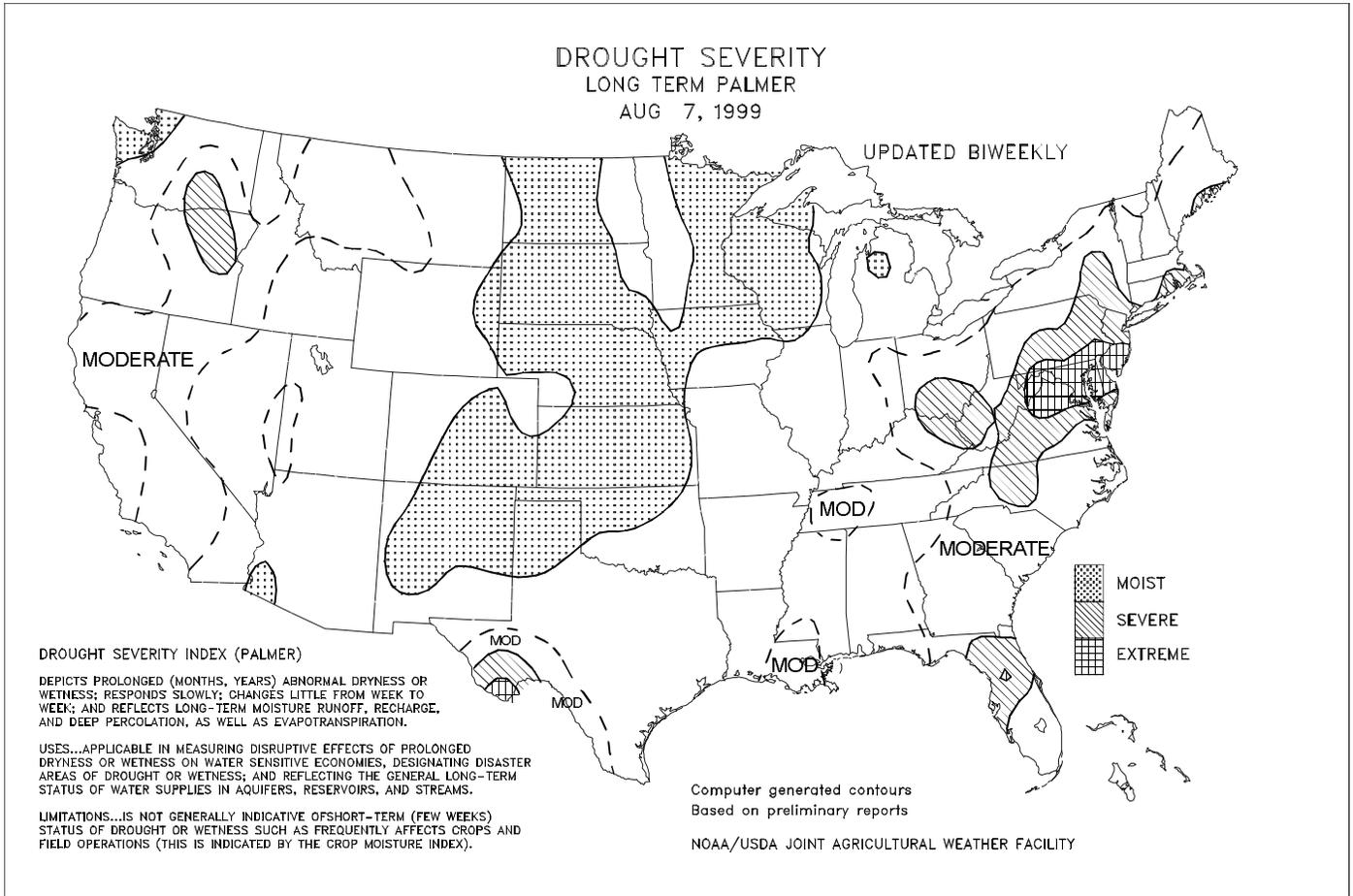


SHADED AREAS  
 INDEX INCREASED OR DID NOT CHANGE  
 ABOVE 3 EXCESSIVELY WET, SOME FIELDS FLOODED  
 2 TO 3 TOO WET, SOME STANDING WATER  
 1 TO 2 SOME FIELDS TOO WET, PROSPECTS ABOVE NORMAL  
 0 TO 1 MOISTURE ADEQUATE FOR PRESENT CROP NEEDS  
 0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED  
 -1 TO -2 SOME IMPROVEMENT BUT STILL ABNORMALLY DRY  
 -2 TO -3 DRYNESS EASED BUT FIELDS STILL EXCESSIVELY DRY  
 -3 TO -4 SEVERE DRYNESS CONTINUES, MORE RAIN URGENTLY NEEDED  
 BELOW -4 NOT ENOUGH RAIN, STILL EXTREMELY DRY

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

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

BASED ON PRELIMINARY DATA



**Weather Data for Selected Locations in the Delta**

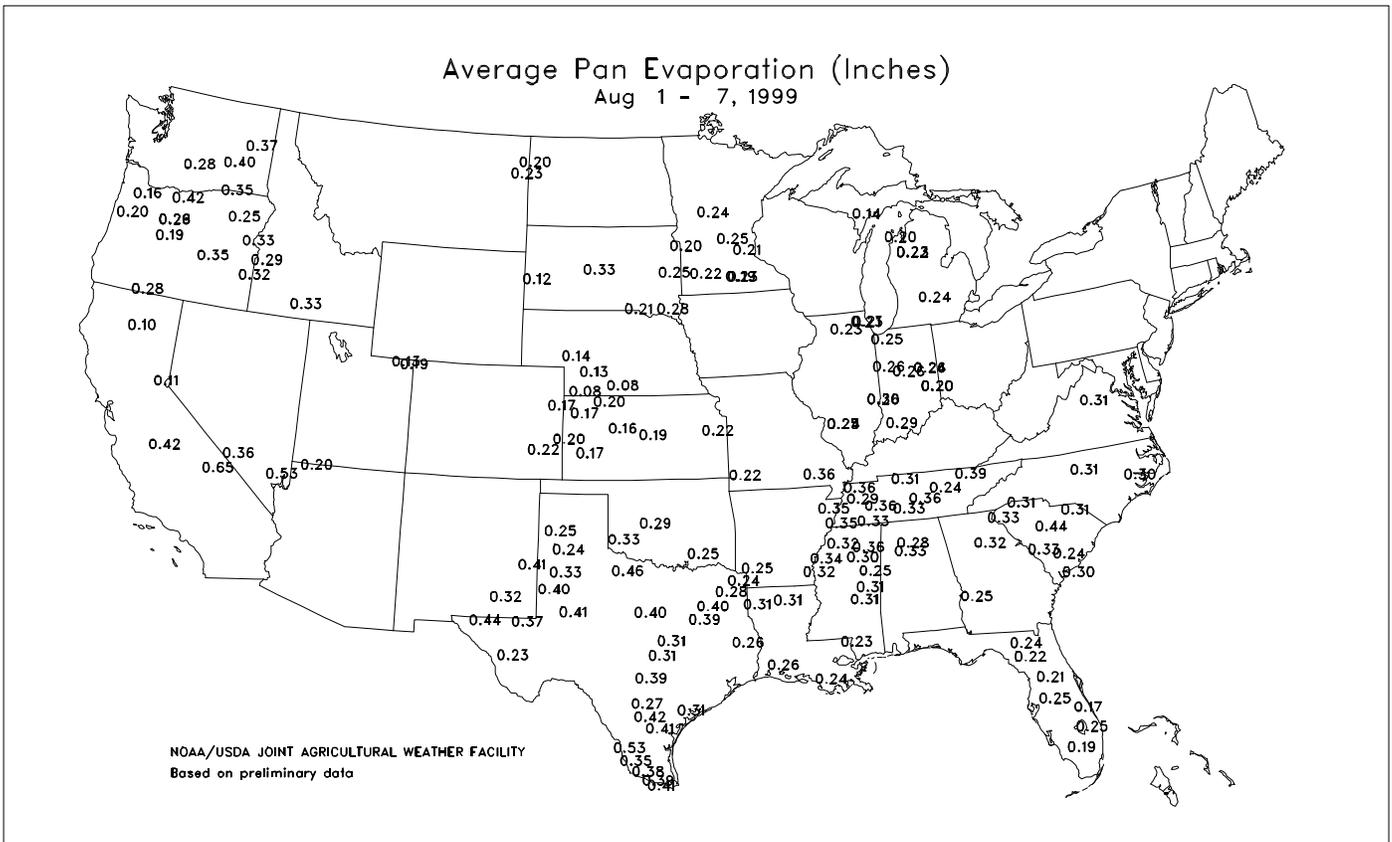
**Weather Data for the Week Ending August 7, 1999**

Data provided by the Mississippi State Delta Research and Extension Center and compiled by USDA/OCE/WAOB's Stoneville Field Office

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								4-INCH SOIL TEMP, °F		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	90 AND ABOVE	32 AND BELOW	PRECIP		
																		0.1 INCH OR MORE	5.0 INCH OR MORE	
MS BATESVILLE	94	69	96	74	82	4	0.00	-0.73	0.00	--	--	--	--	--	--	7	0	0	0	
BELZONI	99	72	102	67	86	5	0.00	-0.82	0.00	--	--	--	--	--	--	7	0	0	0	
CLARKSDALE	96	75	98	73	86	6	0.00	-0.72	0.00	--	--	--	--	--	--	7	0	0	0	
CLEVELAND	95	73	98	67	84	4	0.00	-0.60	0.00	--	--	--	--	--	--	7	0	0	0	
GREENVILLE	95	75	98	71	85	5	0.00	-0.67	0.00	--	--	--	--	--	--	7	0	0	0	
GREENWOOD	96	70	98	65	83	2	0.00	-0.71	0.00	--	--	--	--	--	--	7	0	0	0	
INDIANOLA 1S	95	72	99	68	84	--	0.17	--	0.17	4.61	--	31.98	--	92	84	7	0	1	0	
INVERNESS 5E	96	75	99	72	84	--	0.00	--	0.00	5.40	--	30.52	--	88	78	7	0	0	0	
LYON	95	70	100	64	83	--	0.00	--	0.00	6.49	--	--	--	--	--	7	0	0	0	
MOORHEAD	97	76	100	73	87	6	0.00	-0.85	0.00	--	--	--	--	--	--	7	0	0	0	
ONWARD	97	73	100	70	85	--	0.00	--	0.00	10.64	--	38.80	--	84	82	7	0	0	0	
ROLLING FORK	97	73	99	69	85	5	0.00	-0.66	0.00	--	--	--	--	--	--	7	0	0	0	
SIDON	97	72	99	68	85	--	0.00	--	0.00	--	--	--	--	100	91	7	0	0	0	
TUNICA	96	71	100	64	84	4	0.00	-0.65	0.00	--	--	--	--	--	--	7	0	0	0	
VICKSBURG	94	74	96	78	84	3	0.00	-0.76	0.00	--	--	--	--	--	--	7	0	0	0	
YAZOO CITY	96	72	97	69	84	2	0.00	-0.76	0.00	--	--	--	--	--	--	7	0	0	0	
STONEVILLE*	96	72	100	69	84	3	0.00	-0.65	0.00	3.94	50	35.04	106	100	87	7	0	0	0	

\* Based on 1964-93 normals.

**Delta Weather and Crop Summary:** A weak cold front crossed the region on Monday and briefly lowered temperatures. Heat soon returned, but the humidity remained relatively low for most of the week. The lower humidity increased evaporation rates, further reducing soil moisture in already dry fields and increasing crop stress. The condition of non-irrigated crops declined due to the very hot, dry weather.



(Continued from front cover)

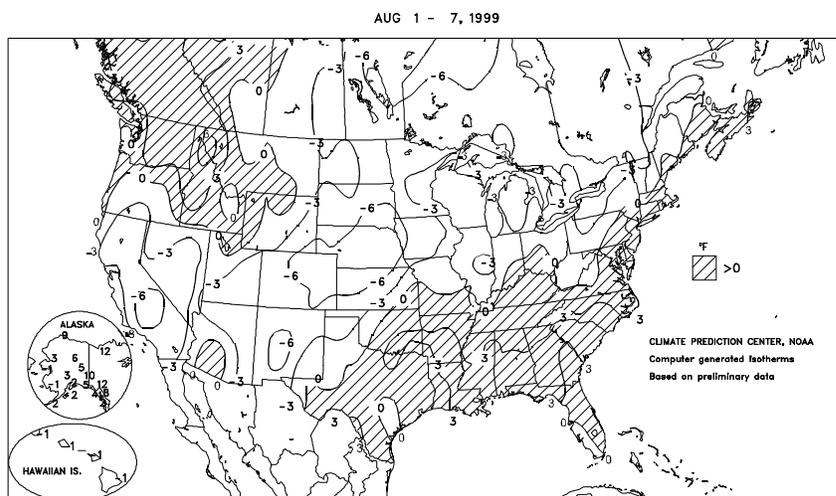
contrast, widespread rainfall (generally 1 to 3 inches, with locally higher totals) aided summer crop development and eased crop stress from the **central and southern Plains** to the **southwestern Corn Belt**. Across the **Southwest**, locally heavy seasonal showers continued to boost moisture reserves. In the **Northwest**, isolated showers briefly slowed small grain harvesting, but provided little relief from the 5-month drought. Mostly dry weather on the **northern Plains** favored harvesting of winter wheat and spring-sown small grains. In **California**, unusually cool weather (as much as 9°F below normal) slowed cotton development.

Heat continued nearly unabated across the **South**, resulting in more than three dozen daily-record highs. On August 1, **Charleston, SC** noted an all-time-record high of 105°F, breaking their standard of 104°F, set on July 20, 1986. Elsewhere on Sunday, highs soared to 107°F in **Augusta, GA** (1°F shy of their monthly record, established on August 21, 1983) and 104°F in **Raleigh-Durham, NC**. Triple-digit heat returned to **Raleigh-Durham** at week's end (100°F on Saturday), their tenth such occurrence this year. **Raleigh-Durham's** previous record of 8 days was established in 1952. In addition, **Raleigh-Durham's** streak of consecutive 90-degree days, 22 through week's end, was approaching their 1995 record of 24 days. From July 29 - August 3, **Miami Beach, FL** set or tied six consecutive daily-record highs (95, 93, 93, 93, 92, and 94°F). In **Dallas-Ft. Worth, TX**, the temperature attained 100°F for the first time this year on July 23, but has failed to reach the triple-digit mark only twice since. On Saturday, highs soared to 103°F in **Dallas-Ft. Worth** and 104°F in **Hot Springs, AR**.

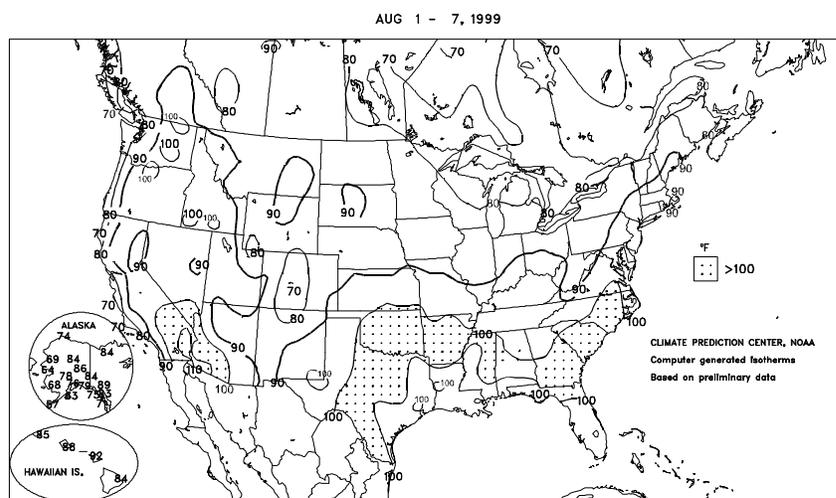
Heat also overspread the **Northwest**, where temperatures averaged up to 8°F above normal. On Wednesday, a high of 105°F in **The Dalles, OR** was among a handful of daily-record highs. Farther south, however, very cool weather, accompanied by scattered showers, persisted across **California**. On Saturday, **Bakersfield, CA** observed their first of two daily-record lows (56 and 57°F). **Redding, CA** tallied three consecutive record-low maximum temperatures (84, 75, and 83°F) from August 5-7. Elsewhere in **California**, daily-record rainfall totals were set or tied in locations such as **Eureka** (0.07 inch on Wednesday) and **Stockton** (a trace on Friday). Much-needed showers also dotted the **Northwest**, where **Salem, OR** tallied a daily-record total (0.36 inch) on August 7. Farther east, **Billings, MT** received 0.09 inch on August 4, their first measurable rain since July 22 and greatest 1-day total since 0.12 inch fell on July 2.

Rainfall has been especially scarce during the past 2 months across the **interior Northwest**, where June-July totals were as low as 0.05 inch (6 percent of normal) in **Goldendale, WA** and 0.03 inch (4 percent) in **Boardman, OR**. In contrast, widespread rainfall brought continued improvement from long-term drought in the **Southwest**. In **southern Arizona**, July rainfalls of 5.61 inches in **Willcox** and 7.14 inches in **Nogales** accounted for more than 70 percent of their respective 10-month (October 1998 - July 1999) totals. **Mt. Lemmon, near Tucson, AZ**, netted 11.04 inches (218 percent of normal) during July. **San Carlos Lake, north of Tucson**, rose more than 1 foot during the second half of July, the greatest rise in nearly 1 year, reaching 4.9 percent of capacity.

Departure of Average Temperature from Normal (°F)



Extreme Maximum Temperature (°F)



After midweek, heavy rain spread from the **central and southern Plains** to the **southwestern Corn Belt**. On August 4-5, **Colorado Springs, CO** netted their heaviest 24-hour rainfall on record (4.21 inches), breaking the former mark of 3.73 inches, set on August 1-2, 1976. On Friday, rainfall in **eastern Nebraska** totaled 1.85 inches in **Norfolk**, 2.05 inches in **Hastings**, and 2.28 inches in **Omaha-Valley**. At nearby **Omaha-Eppley Airfield**, the August 6-7 total reached 10.48 inches, nearly all of which fell in a 24-hour period. Meanwhile, **Midwestern** temperatures remained mostly below 90°F. On Friday in **Indiana**, **Indianapolis'** low of 58°F was their lowest reading since July 11. A day later in **northern Lower Michigan**, **Alpena** (41°F) posted a daily-record low.

Record-setting heat arrived across much of **Alaska** (except southwestern areas), pushing weekly temperatures as much as 10°F above normal. In **Juneau**, a maximum of 83°F on Monday was their highest reading since June 20, 1991. Two days later, **Juneau's** high of 80°F represented their fifth occurrence of 80-degree warmth this year. Their annual record of 7 days was set in 1951. In **northern Alaska**, **Umiat** posted a high of 88°F on August 4, tying their all-time record, set on June 21, 1991. August records were set in **Chalkytsik** (93°F on August 4), **Chandalar Lake** (86°F on August 5), and **Deadhorse** (81°F on August 5), and tied in **Ft. Yukon** (88°F on August 4) and **Circle City** (88°F on August 5). Just a little over 6 months earlier, on January 29, **Chandalar Lake** had registered an all-time-record low of -74°F.



National Weather Data for Selected Cities

Weather Data for the Week Ending August 7, 1999

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7503)

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	TEMP. °F		PRECIP.		
																90 AND ABOVE	32 AND BELOW	0.1 INCH OR MORE	50 INCH OR MORE	
AL	BIRMINGHAM	94	72	97	69	83	3	0.14	-0.76	0.14	12.28	125	37.30	104	91	45	7	0	1	0
	HUNTSVILLE	94	69	97	64	82	2	0.00	-0.85	0.00	8.14	83	35.29	97	83	36	7	0	0	0
	MOBILE	96	76	98	74	86	3	0.79	-0.81	0.44	12.66	94	33.20	82	96	51	7	0	5	0
	MONTGOMERY	96	74	98	72	85	4	0.00	-0.91	0.00	13.82	138	31.51	90	94	43	7	0	0	0
AK	ANCHORAGE	65	58	76	54	60	2	1.20	0.70	0.47	4.27	127	6.79	96	94	65	0	0	5	0
	BARROW	57	41	74	37	49	9	0.01	-0.23	0.01	1.04	71	1.50	68	97	64	0	0	1	0
	FAIRBANKS	76	54	86	52	65	5	0.33	-0.16	0.24	3.78	101	4.87	83	94	37	0	0	2	0
	JUNEAU	77	51	83	49	64	8	0.07	-1.02	0.07	6.86	82	33.32	127	97	46	0	0	1	0
	KODIAK	56	51	63	50	54	-2	3.55	2.56	3.37	15.62	165	38.25	105	97	80	0	0	3	1
	NOME	54	48	64	43	50	-1	0.45	-0.14	0.17	5.90	152	9.26	130	98	81	0	0	6	0
AZ	FLAGSTAFF	75	49	80	44	62	-4	0.33	-0.34	0.18	4.59	119	9.37	74	89	33	0	0	3	0
	PHOENIX	104	83	107	79	94	1	0.00	-0.22	0.00	2.96	253	4.38	116	49	22	7	0	0	0
	TUCSON	96	74	99	70	85	-1	0.39	-0.15	0.39	4.70	149	6.05	103	67	23	7	0	1	0
	YUMA	105	81	109	75	93	-1	0.00	-0.14	0.00	2.49	593	4.26	309	51	21	7	0	0	0
AR	FORT SMITH	97	74	102	72	85	3	0.03	-0.63	0.03	7.87	112	30.06	122	88	39	7	0	1	0
	LITTLE ROCK	96	74	100	71	85	3	0.00	-0.72	0.00	3.27	41	25.85	85	83	39	7	0	0	0
CA	BAKERSFIELD	88	62	95	58	75	-9	0.00	-0.01	0.00	0.00	0	5.42	141	75	29	4	0	0	0
	EUREKA	63	54	68	50	59	1	0.20	0.12	0.13	0.39	54	27.43	130	94	80	0	0	3	0
	FRESNO	89	63	95	58	76	-5	0.00	0.00	0.00	0.20	286	5.96	96	71	27	5	0	0	0
	LOS ANGELES	75	65	79	62	70	0	0.00	-0.03	0.00	0.96	999	7.18	92	86	56	0	0	0	0
	REDDING	89	62	98	56	76	-5	0.00	-0.07	0.00	0.41	52	16.93	89	71	25	4	0	0	0
	SACRAMENTO	84	58	91	55	71	-5	0.00	0.00	0.00	0.03	20	9.91	92	91	40	2	0	0	0
	SAN DIEGO	72	63	79	62	68	-5	0.00	0.00	0.00	0.04	44	5.08	82	92	70	0	0	0	0
	SAN FRANCISCO	68	57	71	55	62	-1	0.01	0.01	0.01	0.19	158	12.88	105	91	65	0	0	1	0
CO	ALAMOSA	73	51	77	46	62	-2	1.15	0.87	0.35	1.79	85	4.29	102	95	41	0	0	7	0
	CO SPRINGS	73	58	80	56	65	-5	6.57	5.63	3.82	10.28	175	21.93	202	97	61	0	0	6	3
	DENVER	75	58	83	55	67	-7	0.98	0.80	0.70	7.45	182	16.46	156	95	53	0	0	5	1
	GRAND JUNCTION	87	62	94	57	75	-4	0.01	-0.16	0.01	1.12	84	4.26	87	71	25	3	0	1	0
	PUEBLO	80	62	90	59	71	-5	2.25	1.75	1.16	4.30	112	12.11	165	97	53	1	0	5	2
CT	BRIDGEPORT	85	68	91	64	76	2	0.01	-0.77	0.01	1.77	22	21.04	82	80	42	1	0	1	0
	HARTFORD	88	61	96	55	74	1	0.00	-0.76	0.00	3.32	43	20.70	80	87	30	1	0	0	0
DC	WASHINGTON	92	72	98	69	82	2	0.00	-0.91	0.00	3.27	40	18.47	80	70	33	7	0	0	0
DE	WILMINGTON	90	68	96	63	79	3	0.00	-0.82	0.00	2.52	29	22.36	89	79	37	4	0	0	0
FL	DAYTONA BEACH	93	75	100	73	84	3	1.23	-0.09	0.98	13.80	108	24.41	90	96	54	4	0	2	1
	JACKSONVILLE	93	74	102	71	83	1	1.78	0.13	1.10	12.48	97	21.94	73	95	55	4	0	3	2
	KEY WEST	90	77	91	73	83	-1	4.07	3.08	2.49	11.68	121	20.89	101	87	63	4	0	3	2
	MIAMI	92	75	96	74	84	1	3.72	2.18	1.08	18.83	114	28.56	89	90	55	5	0	6	4
	ORLANDO	92	74	98	72	83	1	0.28	-1.31	0.19	19.25	119	30.90	103	97	54	6	0	5	0
	PENSACOLA	94	78	98	75	86	4	0.38	-1.38	0.23	15.88	102	33.40	95	96	59	7	0	2	0
	TALLAHASSEE	97	75	101	72	86	4	1.18	-0.68	1.18	16.01	91	32.97	77	95	43	7	0	1	1
	TAMPA	91	79	95	76	85	2	1.93	0.23	1.42	10.23	74	16.20	62	88	61	6	0	2	2
	WEST PALM BEACH	92	76	95	74	84	2	1.11	-0.13	0.90	16.40	106	28.08	83	94	53	7	0	4	1
GA	ATHENS	96	72	101	69	84	4	0.00	-0.93	0.00	10.44	107	25.00	77	85	37	7	0	0	0
	ATLANTA	92	74	98	71	83	4	0.00	-0.83	0.00	9.27	97	25.47	76	81	41	5	0	0	0
	AUGUSTA	98	69	107	63	83	3	0.00	-1.06	0.00	10.11	107	24.13	82	96	34	7	0	0	0
	COLUMBUS	97	77	100	73	87	5	0.00	-0.98	0.00	5.27	50	17.86	52	78	37	7	0	0	0
	MACON	97	72	101	68	85	3	0.00	-0.90	0.00	9.90	113	22.82	76	95	39	7	0	0	0
	SAVANNAH	95	72	102	69	84	2	0.00	-1.73	0.00	21.43	158	34.98	111	96	43	7	0	0	0
HI	HILO	82	68	84	64	75	-1	1.24	-0.96	0.37	6.25	35	73.73	95	93	64	0	0	6	0
	HONOLULU	87	74	88	70	80	-1	0.04	-0.07	0.04	0.72	58	6.97	59	80	47	0	0	1	0
	KAHULUI	88	68	92	61	78	-1	0.00	-0.11	0.00	0.12	16	6.59	50	87	48	2	0	0	0
	LIHUE	84	73	85	69	78	-1	0.26	-0.15	0.08	4.48	106	18.57	76	88	61	0	0	6	0
ID	BOISE	92	65	96	61	78	4	0.00	-0.08	0.00	0.47	38	6.29	86	55	20	5	0	0	0
	LEWISTON	93	66	101	60	80	4	0.01	-0.16	0.01	1.71	82	6.64	85	60	21	6	0	1	0
	POCATELLO	89	53	96	47	71	0	0.36	0.22	0.28	1.57	87	8.76	116	81	18	3	0	4	0
IL	CHICAGO/O'HARE	82	64	87	59	73	0	0.20	-0.73	0.20	8.88	107	26.69	138	86	42	0	0	1	0
	MOLINE	84	63	87	58	73	-1	0.44	-0.56	0.43	7.85	77	22.79	94	91	46	0	0	2	0
	PEORIA	82	63	85	59	73	-2	0.90	0.17	0.62	8.33	93	22.73	102	93	51	0	0	2	1
	ROCKFORD	81	61	86	57	71	-2	0.31	-0.63	0.31	9.48	99	26.01	119	95	46	0	0	1	0
	SPRINGFIELD	84	62	86	56	73	-2	0.24	-0.50	0.24	5.27	68	17.84	83	94	47	0	0	1	0
IN	EVANSVILLE	88	64	91	59	78	-2	0.05	-0.72	0.04	8.33	100	29.94	109	92	44	2	0	2	0
	FORT WAYNE	85	59	88	54	72	-1	0.35	-0.45	0.35	2.50	32	19.31	91	92	42	0	0	1	0
	INDIANAPOLIS	86	63	89	58	74	-1	0.17	-0.74	0.12	5.70	64	25.17	100	88	40	0	0	2	0
	SOUTH BEND	82	62	87	56	72	-1	0.15	-0.88	0.13	5.15	59	20.15	87	88	40	0	0	3	0
IA	BURLINGTON	87	66	90	59	76	1	0.29	-0.59	0.29	10.40	113	25.68	118	84	45	1	0	1	0
	CEDAR RAPIDS	81	59	84	55	70	-4	0.37	-0.54	0.33	11.04	115	25.74	124	97	52	0	0	2	0
	DES MOINES	80	64	84	59	72	-4	0.43	-0.51	0.24	7.28	79	20.93	102	90	53	0	0	2	0
	DUBUQUE	78	61	82	57	69	-3	0.35	-0.65	0.35	12.98	142	28.09	125	93	56	0	0	1	0
	SIOUX CITY	78	59	83	51	69	-6	0.00	-0.69	0.00	11.30	148	23.20	138	93	55	0	0	0	0
	WATERLOO	79	60	83	56	70	-3	0.90	0.00	0.84	19.20	188	34.76	180	95	57	0	0	4	1
KS	CONCORDIA	81	65	91	61	73	-6	1.49	0.88	0.62	6.14	69	21.64	113	97	65	1	0	5	1
	DODGE CITY	84	67	95	65	75	-5	2.49	1.81	1.54	7.51	107	17.86	120	97	60	2	0	5	2
	GOODLAND	79	61	87	58	70	-5	2.69	2.21	2.26	9.49	145	16.80	127	97	61	0	0	5	1
	TOPEKA	86	70	96	66	78	0	0.75	-0.09	0.26	7.54	76	25.64	117	91	57	2	0	4	0

Weather Data for the Week Ending August 7, 1999

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	TEMP. °F		PRECIP.	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
KY WICHITA	89	72	101	68	80	-1	0.24	-0.42	0.09	11.27	139	28.09	152	80	54	3	0	4	0
KY JACKSON	86	65	92	61	75	0	1.16	0.19	1.16	6.57	63	25.28	81	60	40	1	0	1	1
KY LEXINGTON	89	64	95	59	77	1	0.05	-0.94	0.05	7.72	80	23.60	83	85	37	3	0	1	0
KY LOUISVILLE	91	70	97	65	80	3	0.12	-0.78	0.12	8.61	97	29.59	104	81	40	5	0	1	0
KY PADUCAH	91	64	97	57	78	-1	0.18	-0.81	0.18	9.43	105	31.19	101	91	38	7	0	1	0
LA BATON ROUGE	96	75	97	71	85	3	0.00	-1.46	0.00	12.64	100	31.13	81	94	46	7	0	0	0
LA LAKE CHARLES	95	75	98	73	85	3	0.00	-1.17	0.00	13.71	121	28.64	90	94	49	7	0	0	0
LA NEW ORLEANS	95	78	98	77	87	5	0.01	-1.40	0.01	16.28	122	28.65	75	93	51	7	0	1	0
LA SHREVEPORT	97	75	100	73	86	3	0.00	-0.60	0.00	10.78	126	41.10	142	84	37	7	0	0	0
ME CARIBOU	74	52	86	45	63	-2	1.23	0.29	1.02	7.37	94	18.51	92	98	49	0	0	6	1
ME PORTLAND	81	58	94	53	69	0	0.25	-0.41	0.24	2.82	39	22.62	89	93	42	1	0	2	0
MD BALTIMORE	89	65	95	61	77	0	0.00	-0.88	0.00	4.10	50	18.90	77	85	37	3	0	0	0
MA BOSTON	83	66	94	61	75	1	0.49	-0.23	0.37	4.00	60	19.28	79	82	43	1	0	2	0
MA WORCESTER	82	61	90	56	72	2	0.18	-0.67	0.18	4.13	48	21.33	76	83	36	1	0	2	0
MI ALPENA	75	49	81	41	62	-5	0.48	-0.28	0.29	5.94	89	13.38	80	96	44	0	0	5	0
MI GRAND RAPIDS	80	59	83	54	69	-2	1.92	1.18	0.68	8.61	113	23.75	119	92	46	0	0	4	3
MI HOUGHTON LAKE	74	50	77	45	62	-5	1.73	1.03	1.31	12.54	199	20.19	128	96	49	0	0	4	1
MI MARQUETTE	70	50	76	42	60	-4	1.64	0.99	1.14	9.75	142	21.44	123	98	53	0	0	5	1
MI MUSKOGON	78	60	81	56	69	-1	0.90	-0.50	0.10	8.03	114	25.09	129	91	46	0	0	3	0
MI DULUTH	74	52	79	50	63	-3	0.47	-0.40	0.16	13.84	167	22.88	131	95	51	0	0	6	0
MI INTL FALLS	74	47	77	44	60	-6	0.75	0.03	0.75	10.30	125	20.43	137	98	46	0	0	1	1
MI MINNEAPOLIS	82	59	87	56	71	-2	0.09	-0.75	0.09	8.32	99	23.25	129	90	45	0	0	1	0
MI ROCHESTER	77	58	81	55	68	-3	0.15	-0.78	0.13	12.65	143	28.31	155	94	57	0	0	3	0
MI ST. CLOUD	81	53	86	49	67	-2	0.13	-0.72	0.12	7.99	93	16.85	100	94	45	0	0	2	0
MS JACKSON	97	74	100	70	85	4	0.00	-0.92	0.00	8.75	102	28.67	82	91	39	7	0	0	0
MS MERIDIAN	100	71	102	66	85	4	0.00	-0.92	0.00	6.30	65	25.44	69	94	31	7	0	0	0
MS TUPELO	96	72	99	66	84	4	0.00	-0.74	0.00	9.34	105	42.16	110	84	34	7	0	0	0
MO COLUMBIA	87	66	92	60	77	0	0.59	-0.14	0.59	5.77	66	20.89	87	89	43	2	0	1	1
MO KANSAS CITY	85	68	91	63	76	-2	1.21	0.33	0.57	10.39	104	29.98	131	90	57	2	0	3	2
MO SAINT LOUIS	87	70	90	65	79	-1	0.87	0.18	0.87	10.31	125	27.25	117	83	42	2	0	1	1
MO SPRINGFIELD	91	67	99	63	79	1	0.04	-0.85	0.04	5.12	59	27.75	111	95	44	4	0	1	0
MT BILLINGS	87	60	90	54	73	0	0.18	-0.01	0.09	2.45	79	7.60	75	71	28	1	0	3	0
MT BUTTE	83	47	87	40	65	2	1.06	0.78	0.54	3.18	86	8.64	106	95	27	0	0	4	1
MT GLASGOW	84	57	90	50	70	-2	0.00	-0.33	0.00	4.73	114	11.00	144	77	31	1	0	0	0
MT GREAT FALLS	83	52	91	38	68	-1	0.27	-0.06	0.13	2.63	66	7.54	72	92	33	2	0	3	0
MT KALISPELL	96	59	96	54	72	8	0.25	-0.04	0.20	3.08	85	8.71	85	78	28	2	0	2	0
MT MILES CITY	89	61	93	51	75	0	0.00	-0.27	0.00	2.60	56	7.58	77	70	24	3	0	0	0
MT MISSOULA	88	57	94	50	73	5	1.23	0.98	0.74	4.18	142	7.66	88	82	28	2	0	4	1
NE GRAND ISLAND	77	62	84	56	69	-7	1.08	0.47	0.91	9.01	123	19.78	118	99	63	0	0	3	1
NE LINCOLN	79	63	87	55	71	-6	1.05	0.31	0.98	8.84	113	22.17	124	97	60	0	0	2	1
NE NORFOLK	77	58	81	52	67	-7	1.85	1.24	1.85	11.35	137	22.47	129	93	57	0	0	1	1
NE NORTH PLATTE	76	60	84	57	68	-6	1.90	1.43	0.64	8.14	118	14.13	99	99	64	0	0	4	2
NE OMAHA	78	61	84	56	70	-7	4.18	3.44	3.84	10.98	136	27.25	145	96	60	0	0	3	1
NE SCOTTSBLUFF	78	58	87	53	68	-6	0.34	0.04	0.32	5.78	116	12.04	106	97	53	0	0	3	0
NE VALENTINE	82	57	89	52	69	-5	0.21	-0.38	0.15	8.37	128	15.38	118	94	46	0	0	3	0
NV ELY	83	50	88	45	66	-1	0.27	0.10	0.24	2.30	129	4.72	75	62	17	0	0	3	0
NV LAS VEGAS	100	77	105	74	88	-2	0.00	-0.11	0.00	2.32	400	3.13	129	26	14	7	0	0	0
NV RENO	85	55	92	50	70	-2	0.41	0.35	0.25	0.57	73	3.46	74	72	19	4	0	2	0
NH WINNEMUCCA	88	53	97	45	71	-2	0.04	-0.04	0.03	1.26	102	4.61	91	80	19	4	0	2	0
NH CONCORD	82	56	92	50	69	0	0.20	-0.57	0.13	6.48	90	21.15	101	85	38	1	0	4	0
NJ NEWARK	91	71	99	68	81	3	0.28	-0.86	0.28	1.70	20	21.41	80	69	27	6	0	1	0
NM ALBUQUERQUE	80	63	88	61	72	-6	1.81	1.42	0.91	3.88	165	6.22	130	92	44	0	0	4	1
NY ALBANY	85	58	91	52	71	0	0.03	-0.75	0.02	4.34	57	18.23	85	96	33	1	0	2	0
NY BINGHAMTON	78	58	83	52	67	-2	0.27	-0.50	0.12	5.82	74	16.76	86	97	43	0	0	4	0
NY BUFFALO	78	59	83	52	68	-2	0.89	-0.20	0.41	3.62	48	17.96	85	94	45	0	0	4	0
NY ROCHESTER	77	57	82	52	67	-3	1.81	1.07	1.13	6.11	94	18.80	103	95	41	0	0	4	2
NY SYRACUSE	78	59	84	53	69	-1	0.59	-0.21	0.23	4.92	59	18.04	81	91	43	0	0	3	0
NC ASHEVILLE	87	64	91	61	75	2	0.00	-1.07	0.00	8.24	84	25.70	87	97	47	1	0	0	0
NC CHARLOTTE	92	68	98	65	80	1	0.04	-0.83	0.04	7.45	91	20.57	77	87	43	5	0	1	0
NC GREENSBORO	90	68	96	64	79	2	0.00	-0.94	0.00	8.40	91	22.62	86	81	40	4	0	0	0
NC HATTERAS	85	77	90	74	81	2	0.98	-0.35	0.65	7.29	70	28.52	90	93	70	1	0	2	1
NC RALEIGH	96	68	104	64	82	4	0.08	-0.86	0.08	4.24	49	19.77	76	90	33	7	0	1	0
NC WILMINGTON	94	75	103	69	84	4	0.01	-1.71	0.01	8.21	52	30.84	89	87	47	6	0	1	0
ND BISMARCK	83	56	88	53	70	-1	2.20	1.79	1.73	8.33	158	18.67	173	92	42	0	0	3	1
ND DICKINSON	82	55	90	47	69	-2	0.03	-0.31	0.03	3.52	62	11.02	96	93	35	1	0	1	0
ND FARGO	80	56	88	52	68	-3	0.15	-0.43	0.12	4.19	69	11.88	95	91	41	0	0	3	0
ND GRAND FORKS	78	53	86	46	66	-4	0.58	0.02	0.46	5.69	93	14.86	127	94	41	0	0	4	0
ND JAMESTOWN	79	54	85	49	67	-5	0.38	-0.14	0.19	5.67	93	15.57	134	95	43	0	0	4	0
ND WILLISTON	81	53	89	45	67	-4	0.39	0.06	0.22	6.19	132	12.49	130	91	38	0	0	4	0
OH AKRON-CANTON	80	59	84	55	70	-2	0.85	0.05	0.32	7.82	97	22.45	99	96	57	0	0	4	0
OH CINCINNATI	87	63	93	56	75	0	0.00	-0.83	0.00	6.32	71	21.50	81	91	38	1	0	0	0
OH CLEVELAND	79	60	83	57	70	-2	0.57	-0.20	0.43	6.67	84	19.46	90	93	49	0	0	3	0
OH COLUMBUS	87	63	94	57	75	2	0.16	-0.74	0.12	3.83	41	17.79	74	88	39	2	0	2	0
OH DAYTON	85	62	91	58	74	0	0.05	-0.72	0.05	6.57	81	21.59	93	87	39	1	0	1	0
OH MANSFIELD	80	59	84	53	69	-3	0.81	-0.13	0.42	8.00	90	23.91	89	97	47	0	0	4	0

Based on 1961-90 normals

Weather Data for the Week Ending August 7, 1999

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	TEMP. °F		PRECIP.	
																90 AND ABOVE	92 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
OK TOLEDO	83	60	88	53	72	0	0.39	-0.35	0.32	5.22	67	21.28	108	90	43	0	0	3	0
OK YOUNGSTOWN	80	57	83	54	68	-2	0.53	-0.25	0.21	8.87	101	25.83	114	94	47	0	0	4	0
OK OKLAHOMA CITY	96	73	100	70	85	2	1.24	0.72	1.24	11.79	158	28.27	136	89	42	7	0	1	1
OR TULSA	96	78	103	72	86	3	0.20	-0.41	0.20	5.53	68	30.10	123	82	40	6	0	1	0
OR ASTORIA	67	56	72	50	61	1	0.30	0.07	0.28	4.57	120	54.42	151	94	73	0	0	4	0
OR BURNS	84	48	91	40	66	-1	0.28	0.14	0.27	0.59	43	5.64	96	76	23	2	0	2	0
OR EUGENE	78	54	88	46	66	-2	0.60	0.41	0.43	1.54	72	27.87	105	92	48	0	0	4	0
OR MEDFORD	84	60	93	57	72	-2	0.44	0.36	0.43	0.48	53	10.37	109	77	32	4	0	2	0
OR PENDLETON	90	61	98	56	75	2	0.34	0.23	0.16	0.86	77	5.41	77	74	29	4	0	4	0
OR PORTLAND	78	60	87	57	69	0	0.16	-0.03	0.10	2.40	104	25.30	130	86	46	0	0	4	0
PA SALEM	79	57	89	51	68	0	0.37	0.24	0.35	1.95	96	31.27	149	90	46	0	0	2	0
PA ALLENTOWN	90	61	97	56	76	2	0.00	-0.96	0.00	1.43	16	17.27	67	78	25	4	0	0	0
PA ERIE	78	62	81	56	70	-1	1.52	0.67	1.36	6.95	83	22.90	102	68	48	0	0	2	1
PA MIDDLETOWN	90	67	93	62	78	3	0.00	-0.74	0.00	5.00	61	18.97	77	78	31	5	0	0	0
PA PHILADELPHIA	91	71	96	66	81	4	0.00	-0.90	0.00	2.38	27	21.25	82	82	34	5	0	0	0
PA PITTSBURGH	81	59	84	55	70	-2	1.05	0.29	0.95	8.97	109	25.80	111	91	42	0	0	3	1
PA WILKES-BARRE	84	56	91	53	70	-1	0.28	-0.49	0.20	4.85	57	18.63	85	92	31	1	0	2	0
PA WILLIAMSPORT	85	58	91	54	71	-1	0.13	-0.67	0.12	6.76	74	21.71	88	92	34	1	0	2	0
RI PROVIDENCE	86	65	94	60	76	3	0.02	-0.78	0.02	1.04	14	22.36	84	81	34	1	0	1	0
SC BEAUFORT	94	75	101	73	85	4	0.00	-1.79	0.00	21.50	150	34.36	107	95	45	7	0	0	0
SC CHARLESTON	95	74	105	72	85	3	0.00	-1.70	0.00	5.51	37	18.90	58	94	41	7	0	0	0
SC COLUMBIA	97	73	104	67	85	4	0.00	-1.43	0.00	7.19	61	20.63	65	83	35	7	0	0	0
SC GREENVILLE	95	73	101	71	84	6	0.03	-0.90	0.03	6.65	64	20.96	64	78	35	7	0	1	0
SD ABERDEEN	80	56	88	51	68	-5	0.40	-0.12	0.40	8.43	132	14.91	115	97	48	0	0	1	0
SD HURON	83	57	89	51	70	-4	0.04	-0.45	0.04	4.34	67	11.34	80	96	48	0	0	1	0
SD RAPID CITY	80	57	85	52	69	-4	0.74	0.33	0.45	9.34	170	16.66	139	96	54	0	0	3	0
SD SIOUX FALLS	80	56	84	51	68	-6	0.01	-0.80	0.01	7.39	111	19.69	131	95	52	0	0	1	0
TN BRISTOL	87	62	91	59	75	0	1.06	0.27	1.04	11.15	129	26.31	101	98	47	1	0	3	1
TN CHATTANOOGA	94	70	98	65	82	3	0.00	-0.86	0.00	9.79	106	36.56	109	89	36	7	0	0	0
TN KNOXVILLE	89	67	93	61	78	1	0.00	-0.81	0.00	18.23	193	40.94	134	93	44	2	0	0	0
TN MEMPHIS	95	75	98	72	85	3	0.00	-0.79	0.00	6.05	74	34.60	108	71	37	7	0	0	0
TN NASHVILLE	93	70	97	65	82	2	0.02	-0.79	0.02	6.75	81	28.86	97	83	39	7	0	1	0
TX ABILENE	97	72	101	67	85	0	0.43	-0.13	0.43	5.07	92	13.18	95	77	32	7	0	1	0
TX AMARILLO	84	65	91	63	75	-4	1.16	0.43	0.77	7.64	109	22.26	177	93	51	1	0	5	1
TX AUSTIN	98	72	99	71	85	0	1.02	0.63	1.02	9.70	158	21.89	114	99	37	7	0	1	1
TX BEAUMONT	96	74	99	70	85	2	0.00	-1.16	0.00	12.49	103	24.33	74	96	48	7	0	0	0
TX BROWNSVILLE	97	75	99	73	86	1	0.13	-0.28	0.09	4.29	85	12.79	101	96	46	7	0	3	0
TX CORPUS CHRISTI	96	72	98	69	84	-1	0.00	-0.57	0.00	9.05	143	15.14	95	99	49	7	0	0	0
TX DEL RIO	100	77	101	75	88	3	0.00	-0.30	0.00	7.10	167	12.50	119	79	29	7	0	0	0
TX EL PASO	87	67	92	63	77	-4	1.13	0.77	0.55	4.56	177	4.71	113	88	44	2	0	5	1
TX FORT WORTH	101	79	103	78	90	4	0.00	-0.44	0.00	1.76	31	18.17	77	76	31	7	0	0	0
TX GALVESTON	93	81	96	80	87	3	0.00	-0.89	0.00	9.89	107	19.00	82	86	55	6	0	0	0
TX HOUSTON	98	74	100	72	86	3	0.03	-0.69	0.02	10.41	112	21.96	82	95	41	7	0	2	0
TX LUBBOCK	92	68	98	64	80	0	0.10	-0.45	0.10	5.41	95	14.74	135	86	37	5	0	1	0
TX MIDLAND	92	71	99	70	82	0	0.01	-0.32	0.01	3.49	97	6.33	79	77	32	6	0	1	0
TX SAN ANGELO	97	70	101	65	83	0	0.03	-0.27	0.02	5.39	146	11.74	105	82	33	7	0	2	0
TX SAN ANTONIO	98	75	99	72	86	0	0.24	-0.26	0.24	5.57	86	12.83	70	88	36	7	0	1	0
TX VICTORIA	96	72	99	71	84	-1	0.00	-0.57	0.00	7.02	80	19.76	92	100	43	7	0	0	0
TX WACO	100	76	101	73	88	1	0.00	-0.30	0.00	3.39	61	14.10	74	84	37	7	0	1	1
UT WICHITA FALLS	101	75	105	72	88	2	1.45	1.02	1.45	6.07	107	23.56	135	80	31	7	0	1	1
UT SALT LAKE CITY	91	67	97	63	79	1	0.00	-0.17	0.00	1.07	55	9.73	96	54	19	4	0	0	0
VT BURLINGTON	77	58	88	53	68	-3	0.72	-0.20	0.37	4.48	56	14.47	74	92	42	0	0	5	0
VA LYNCHBURG	89	62	95	55	75	0	0.35	-0.52	0.34	6.32	74	19.50	78	91	37	2	0	2	0
VA NORFOLK	89	74	97	70	81	3	0.08	-1.07	0.08	9.84	96	26.48	95	87	50	3	0	1	0
VA RICHMOND	92	68	99	64	80	2	0.12	-0.97	0.12	9.18	94	24.74	93	88	36	4	0	1	0
VA ROANOKE	89	65	95	59	77	1	0.21	-0.75	0.21	7.03	67	20.62	84	85	38	2	0	1	0
VA WASH/DULLES	91	62	97	58	78	1	0.01	-0.87	0.01	5.54	67	21.89	91	88	35	4	0	1	0
WA OLYMPIA	77	53	85	46	65	1	0.40	0.17	0.20	2.87	107	39.37	147	97	51	0	0	4	0
WA QUILLAYUTE	68	50	78	40	59	-1	0.00	-0.52	0.00	6.80	110	73.20	127	99	69	0	0	0	0
WA SEATTLE-TACOMA	75	57	80	53	66	-1	0.74	0.54	0.28	3.77	152	24.72	127	99	55	0	0	5	0
WA SPOKANE	89	63	96	58	76	6	0.44	0.27	0.42	1.93	91	8.94	92	71	25	4	0	2	0
WA YAKIMA	91	62	97	55	77	6	0.32	0.25	0.13	1.12	147	4.38	100	78	26	6	0	4	0
WV BECKLEY	81	57	86	54	69	-1	0.26	-0.59	0.25	5.48	58	21.83	84	96	49	0	0	2	0
WV CHARLESTON	86	61	93	57	74	-2	0.11	-0.90	0.11	6.75	70	21.86	83	99	44	1	0	1	0
WV ELKINS	82	50	89	47	68	-3	0.12	-0.90	0.12	3.84	38	22.86	82	99	40	0	0	1	0
WV HUNTINGTON	89	63	95	57	76	2	0.09	-0.87	0.09	3.15	35	17.54	67	89	30	3	0	1	0
WI EAU CLAIRE	81	58	85	55	70	-1	0.52	-0.47	0.20	8.62	94	23.13	121	95	47	0	0	3	0
WI GREEN BAY	76	57	79	51	66	-3	0.66	-0.10	0.43	10.32	143	18.83	113	97	53	0	0	5	0
WI LACROSSE	81	62	87	57	71	-2	0.46	-0.39	0.47	11.33	132	26.10	141	93	50	0	0	2	0
WI MADISON	78	60	83	56	69	-1	0.82	0.03	0.64	10.98	139	25.09	138	91	53	0	0	3	1
WI MILWAUKEE	77	64	82	61	70	-1	0.28	-0.52	0.28	12.81	170	29.41	150	84	51	0	0	1	0
WY CASPER	84	53	90	47	69	-3	0.00	-0.18	0.00	2.02	70	6.81	79	92	26	1	0	0	0
WY CHEYENNE	70	53	82	49	62	-7	0.51	0.09	0.25	5.02	110	13.02	129	96	55	0	0	4	0
WY LANDER	83	55	90	51	69	-2	0.51	0.40	0.32	1.70	71	10.56	117	86	27	1	0	4	0
WY SHERIDAN	86	57	92	50	71	1	0.01	-0.15	0.01	1.76	54	8.61	86	82	31	1	0	1	0

NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

## July Weather and Crop Summary

### Weather

A late-month heat wave brought the highest temperatures in 4 to 11 years across much of the Midwest and Ohio Valley, stressing livestock, pastures, and reproductive summer crops. Record-setting heat overspread the Southeast toward month's end, negating the benefits of late June and early July rainfall that had stabilized crop conditions. In the Mid-Atlantic region, where 13-month moisture deficits topped 18 inches in a few areas, the focus of extreme drought remained centered on an area that included eastern West Virginia, northern Virginia, and Maryland. Drought also intensified across the interior Northwest, where moisture deficits mounted in most areas for the fifth consecutive month. In contrast, a banner start to the summer rainy season across the Southwest improved water supplies and eased long-term drought, but caused localized flooding.

Midwestern, Northeastern, and Mid-Atlantic temperatures generally ranged from 2 to 5°F above normal. In contrast, readings averaged as much as 4°F below normal in California and on the northern High Plains. Damp, cloudy weather held temperatures as much as 2°F below normal in the Southwest. Despite the late-month heat wave, near-normal readings prevailed in the Gulf Coast States.

Monthly rainfall totaled more than 8 inches in a few areas across the upper Midwest, in the southern Appalachians, and along the eastern Gulf Coast. In the Southwest, the heaviest monsoon showers fell in Arizona, with 4 to 8 inches or more observed at some central and southeastern locations. In contrast, rainfall was less than 0.50 inch (and less than 50 percent of normal) in most of Oregon, southeastern Washington, the northern two-thirds of Nevada, the southern two-thirds of Idaho, and northwestern Utah. Farther east, totals were less than 2 inches (and less than 50 percent of normal) in a broad belt from north-central Texas to the middle Ohio Valley, including the east-central Plains and the southwestern Corn Belt. Similar dryness also occurred from northern Virginia to southern New England.

July temperatures averaged 76.6°F (5.7°F above normal) in Milwaukee, WI, marking their 20th consecutive month (December 1997 - July 1999) with readings at least 1°F above normal. Elsewhere in Wisconsin, Madison (74.9°F, or 3.9°F above normal) posted at- or above-normal monthly temperatures for the 20th consecutive month. Farther south, highs reached or exceeded 90°F in Louisville (airport), KY on 18 days in a row from July 16 to August 2, their longest such streak since a record-setting 21-day heat wave in August 1936. The heat wave peaked in Louisville on July 30, when temperatures soared to 106°F at the airport and 104°F at the official National Weather Service reporting site. Elsewhere, streaks of 90-degree heat reached 18 days (July 15 - August 1) in St. Louis, MO (their longest since another 18-day heat wave in July 1980) and 13 days (July 18-30) in Grand Island, NE (their longest since a 16-day hot spell in August-September 1990).

### July-Record Average Temperatures (°F)

Location	Avg.	Departure	Former Record
Harrisburg, PA	81.9	+6.2	80.4 in 1955
N.Y. Central Park	81.4	+4.6	80.9 in 1955
Columbus, OH	80.2	+7.0	80.2 in 1934
Atl. City Marina, NJ	78.4	+4.2	78.1 in 1993

### Hottest July (°F) Since...

Location	Avg.	Departure	Hottest Since...
Omaha, NE	79.2	+3.2	82.2 in 1974
Des Moines, IA	79.7	+3.1	80.9 in 1983
Washington, DC	82.9	+2.9	83.1 <sup>x</sup> in 1993
Baltimore, MD	80.0	+3.0	81.5 in 1995

X – denotes hottest July on record

High temperatures made an earlier appearance in the East, where hot weather settled in during the first week of July. New York City's Central Park (101°F on July 5 and 6) and Philadelphia, PA (100°F on July 5) recorded triple-digit heat for the first time since July 15, 1995. On Long Island, Islip, NY posted an all-time-record high of 102°F on July 5, breaking their 1991 standard by 1°F. In Central Park, the July 6 high represented only the 50th day of 100-degree heat during the 130-year period of record. In Raleigh-Durham, NC highs reached or exceeded 100°F on 7 days (July 5, 6, 9, 24, 28, 30, and 31), including a maximum of 104°F on the 31st. Their previous calendar-year record—8 days in 1952—was broken on August 1. Toward month's end, a July-record high was established in South Bend, IN (102°F on July 30), while all-time-record highs were tied in London, KY (101°F on July 30 and 31) and Greenville-Spartanburg, SC (104°F on July 31).

### July Record-High Temperatures (°F)

Location	High/Date	Former Record/Date
Kenosha, WI	104 on July 30	103 on July 13, 1995
Greenville, SC	104 on July 31	104 on July 29, 1952
South Bend, IN	102 on July 30	101 on July 29, 1941 and July 22, 1991
Islip, NY	102 on July 5	101 in July 1991
London, KY	101 on July 30, 31	101 on July 9, 1988
Klamath Falls, OR	100 on July 12	99 on July 21, 1994

### All-Time-Record High Temperatures (°F), Updated through August 7

Location	High/Date	Former Record/Date
Charleston, SC	105 on August 1	104 on July 20, 1986
Kenosha, WI	104 on July 30	103 on July 13, 1995
Greenville, SC	104 on July 31	104 on July 29, 1952 and June 27, 1954
London, KY	101 on July 30, 31	101 on July 9, 1988

### Number of July Days At or Above 90°F for Selected Locations

Location	Days, July 1999	Normal	Record/Year
Washington, DC	22	14	24 in 1987, 1993
Philadelphia, PA	20	9	21 in 1952, 1988, and 1995
N.Y. Central Park	18	7	20 in 1983
Des Moines, IA	17	10	26 in 1936
Billings, MT	16	12	24 in 1960
Pittsburgh, PA	12	3	17 in 1988
Milwaukee, WI	9	4	12 in 1955

### Calendar Days At or Above 100°F, Updated through August 7

Location	Days	Former Record/Year
Raleigh-Durham, NC	10	8 in 1952

**Highest Temperature (°F) Since...**

<u>Location</u>	<u>High/Date</u>	<u>Highest Since...</u>
Louisville, KY	104 on July 30	104 on September 6, 1954
Billings, MT	105 on July 24	105 on August 5, 1961
Lexington, KY	103 on July 30	103 on July 9, 1988
Ft. Wayne, IN	100 on July 30	100 on July 15, 1988
Columbus, OH	100 on July 31	100 on July 15, 1988
Bismarck, ND	106 on July 28	106 on July 27, 1988
South Bend, IN	102 on July 30	103 on August 1, 1988
St. Louis, MO	103 on July 29, 30	103 on August 17, 1988
Paducah, KY	101 on July 30	101 on July 27, 1993
Des Moines, IA	100 on July 29	101 on July 13, 1995
Minneapolis, MN	99 on July 25	101 on July 13, 1995
N.Y. Central Park	101 on July 5, 6	102 on July 15, 1995
Philadelphia, PA	100 on July 5	103 on July 15, 1995
Omaha, NE	100 on July 29	100 on August 13, 1995
Sioux Falls, SD	95 on July 29	96 on June 28, 1997
Indianapolis, IN	99 on July 30	99 on July 27, 1997

In addition to the heat, record July dryness affected several locations from the Ohio Valley into the northern Mid-Atlantic region, including New York City's Central Park (0.44 inches, or 10 percent of normal) and Allentown, PA (0.33 inch, or 8 percent). Thirteen-month (July 1998 - July 1999) precipitation deficits ranged from 12 to locally more than 18 inches in parts of the East, including 18.49 inches in Baltimore, MD, 16.51 inches in Washington, DC, and 15.70 inches in Greenville-Spartanburg, SC. July 1998 - July 1999 precipitation totaled only 58 percent of normal in Baltimore, 61 percent in Washington, and 72 percent in Greenville-Spartanburg. Limited relief from the long-term drought occurred in the interior Northeast, where Pittsburgh, PA (3.48 inches on July 28) received their greatest single-day July rainfall and highest 1-day total since 3.56 inches fell on October 15, 1954.

**Record-Low July Rainfall (Inches)**

<u>Location</u>	<u>Total</u>	<u>Normal</u>	<u>Former Record/Year</u>
Ft. Smith, AR	0.08	2.99	not available
Paducah, KY	0.28	4.19	0.52 in 1970
Allentown, PA	0.33	4.14	0.42 in 1955
N.Y. Central Park	0.44	4.35	0.49 in 1910

Meanwhile, sub-normal rainfall has affected the Interior Northwest throughout the growing season, but especially during the last 2 months. June-July totals were as low as 0.05 inch (6 percent of normal) in Goldendale, WA and 0.03 inch (4 percent) in Boardman, OR. Although only 0.04 inch (15 percent of normal) dampened Medford, OR during July, a 0.03-inch total on the 20th represented their first measurable rainfall since May 14.

Outside of the major drought areas in the East and Northwest, rapid topsoil drying occurred in many areas that previously had adequate to locally surplus moisture, especially from north-central Texas to the middle Mississippi Valley. In Ft. Smith, AR, July rainfall was a record-low 0.08 inch (3 percent of normal), just a month after 7.76 inches (229 percent) fell. A record-low total was also reported in Paducah, KY (0.28 inch, or 7 percent of normal), on the heels of June's 8.97-inch sum (221 percent). Similarly, only a trace fell in Wichita Falls, TX, following a 4.62-inch total (131 percent of normal) in June. Abilene, TX (0.06 inch, or 3 percent of normal) had their driest July since only a trace fell in 1970. Although July rainfall in Kansas City, MO totaled only 0.51 inch (12 percent of normal), their year-to-date precipitation (28.73 inches, or 131 percent) remained well above normal. In northern Texas, Amarillo's year-to-date total, 21.10 inches (178 percent of normal), was their greatest January-July precipitation since 21.79 inches fell in 1962.

Although July rainfall totaled 4.15 inches (175 percent of normal) in Tucson, their cumulative rainfall since October 1, 1998 (7.02 inches, or 86 percent), remained slightly below normal. With a monthly sum of 2.96 inches (357 percent of normal), Phoenix, AZ experienced their wettest July since 1984. Willcox, AZ (5.61 inches, or 210 percent of normal) had their wettest July on record. In Arizona, locations such as Willcox and Nogales (7.14 inches), July rainfall accounted for more than 70 percent of their respective 10-month (October 1998 - July 1999) totals. Especially heavy rainfall inundated the Santa

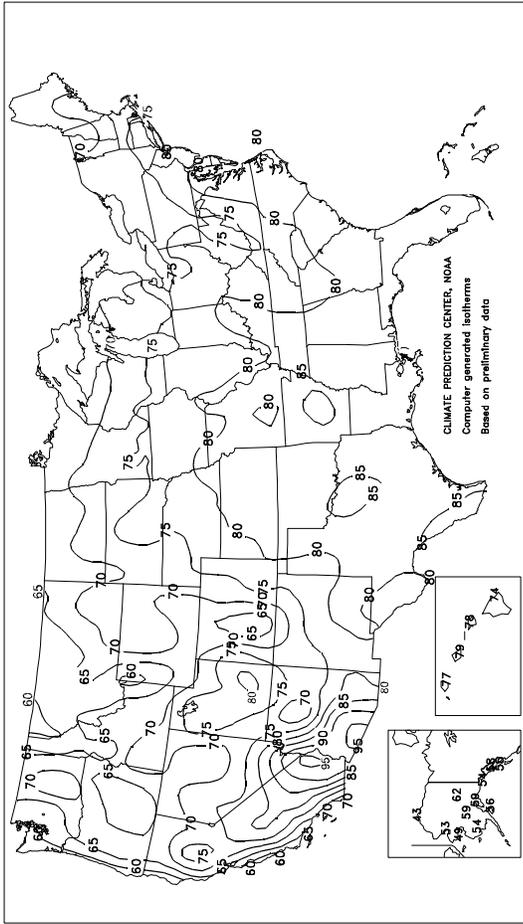
Catalina Mountains, near Tucson, on July 14-15, when an automated gauge at an elevation of 8,600 feet recorded 5.90 inches in a 12-hour period and 6.57 inches in 24 hours. On July 14, Tucson's 1.48-inch total was their greatest 1-day rainfall since 1.61 inches fell on October 26, 1996. San Carlos Lake, north of Tucson, rose more than 1 foot during the second half of July, the greatest rise in nearly 1 year, reaching 4.9 percent of capacity. Earlier in the month, flash flooding inundated portions of southern Nevada, including Las Vegas. July 8 rainfall officially totaled 1.29 inches in Las Vegas, with as much as 3 inches nearby. For the month, Las Vegas received 2.18 inches (623 percent of normal), 53 percent of their normal annual total.

A brief hot spell prior to mid-month interrupted an otherwise cool regime across much of the West. On July 12, highs soared to 115°F in California's Sacramento Valley at Redding and Red Bluff. Near the California coast, the highest temperatures of the year-to-date were reported in locations such as San Jose (101°F) and San Francisco (87°F). On the same day, Klamath Falls, OR (100°F) notched their highest July temperature on record, eclipsing a July 21, 1994, standard by 1°F. Cooler weather quickly returned, however, as Burns, OR (32°F) collected a daily-record low on July 15 and Cut Bank, MT (32°F) experienced a rare mid-summer freeze. In southern California, Thousand Oaks tallied a July-record low of 46°F on the 24th. For July, Bakersfield, CA had an average temperature of 79.7°F (4.4°F below normal), the 17th time in the past 18 months that readings averaged below normal. Temperatures reached or exceeded 100°F on only 15 days during July in Las Vegas, NV (normal is 26), breaking their record of 18 days, set in 1984. In Arizona, Tucson's highs were below 100°F on the last 25 days of the month, breaking their July record of 22 consecutive days, set in 1965 and 1976.

Temperatures averaged below normal across the northern High Plains and northern Rockies but displayed a large range. Kalispell, MT notched a July-record low of 30°F on the 3rd. Elsewhere in Montana, Great Falls' temperatures ranged from 36°F on the 16th to 99°F on the 28th. Even more remarkable, Havre, MT logged 39°F on July 26, then posted highs of 102°F on July 28 and 29. During the late-month heat wave, temperatures on the northern Plains surged to the highest levels in many years. On July 24, Billings, MT registered 105°F, their highest reading since August 5, 1961. Four days later in North Dakota, Bismarck's high of 106°F represented their first triple-digit heat since August 28, 1991. On the same day, Miles City, MT registered 108°F, tying a daily record set in 1947. Highs reached 111°F in Pierre, SD on July 28 and 29, setting or tying daily records that were established in 1933. By month's end, temperatures quickly returned to below-

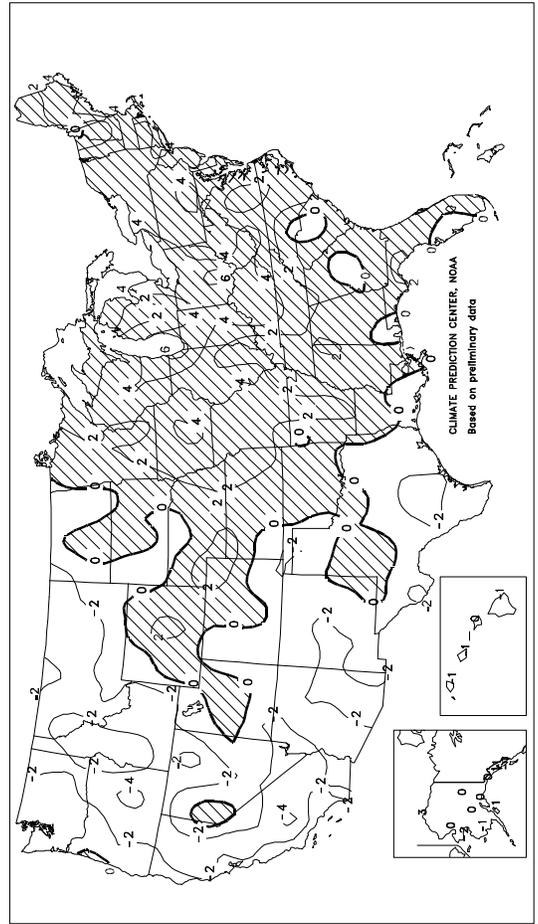
Average Temperature (°F)

JUL 1999



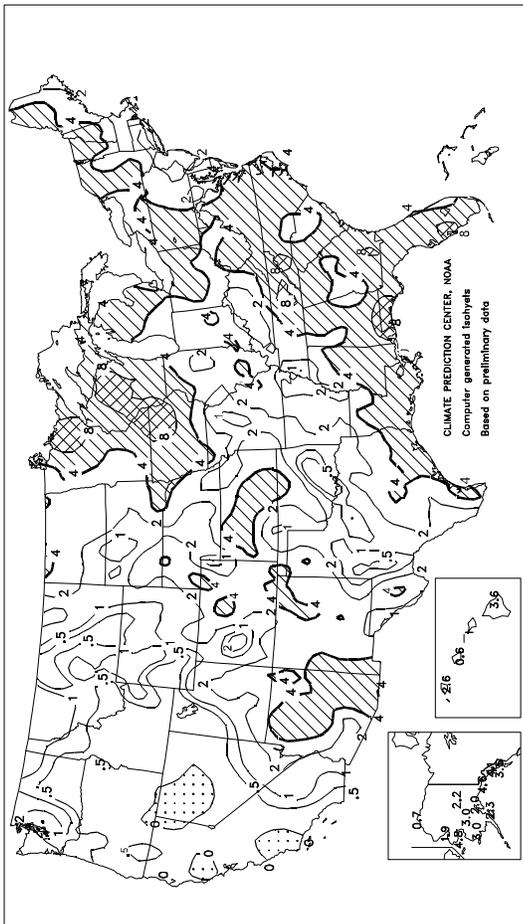
Departure of Average Temperature from Normal (°F)

JUL 1999



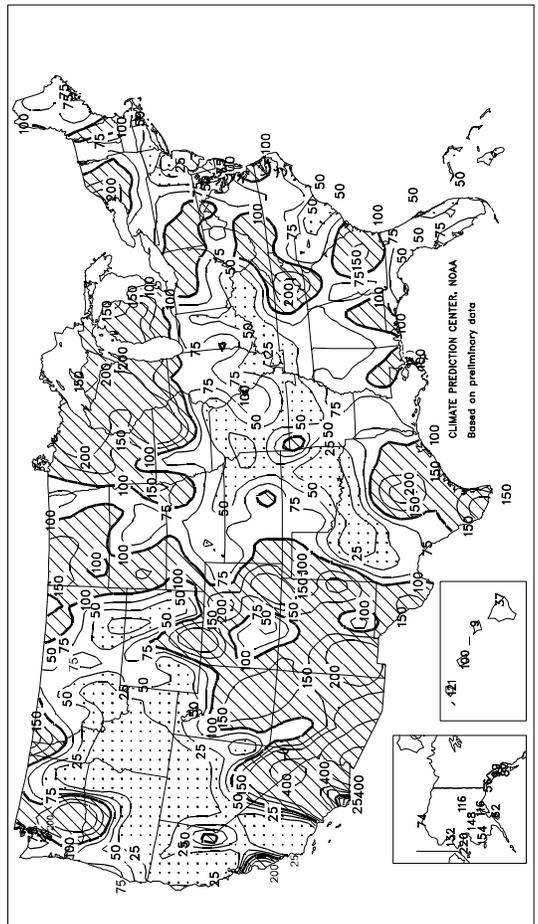
Total Precipitation (Inches)

JUL 1999



Percent of Normal Precipitation

JUL 1999



# TEMPERATURE AND PRECIPITATION SUMMARY

## July 1999

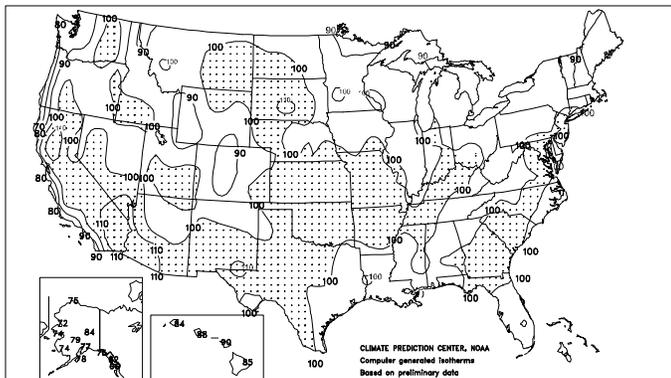
STATES AND STATIONS	TEMP, °F		PRECIP.		STATES AND STATIONS	TEMP, °F		PRECIP.		STATES AND STATIONS	TEMP, °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	82	2	3.11	-2.13	ME CARIBOU	67	1	2.94	-1.07	RI WILKES-BARRE	75	3	1.72	-2.03
AL HUNTSVILLE	80	2	2.53	-2.33	ME PORTLAND	71	2	1.62	-1.47	RI WILLIAMSPORT	76	3	3.68	-0.30
AL MOBILE	81	-1	4.31	-2.54	MD BALTIMORE	80	3	2.06	-1.64	RI PROVIDENCE	76	4	0.85	-2.35
AL MONTGOMERY	82	1	5.35	0.15	MA BOSTON	76	2	3.51	0.68	RI SC BEAUFORT	83	2	6.50	0.11
AK ANCHORAGE	59	0	1.97	0.26	MA WORCESTER	72	3	3.63	-0.26	RI SC CHARLESTON	82	1	3.19	-3.65
AK BARROW	43	3	0.67	-0.28	MI ALPENA	70	3	2.08	-0.84	RI SC COLUMBIA	82	1	2.56	-2.94
AK FAIRBANKS	62	-1	2.11	0.24	MI GRAND RAPIDS	74	3	2.88	-0.32	SD GREENVILLE	80	2	1.95	-2.68
AK JUNEAU	58	2	4.10	-0.06	MI HOUGHTON LAKE	70	2	4.49	1.90	SD ABERDEEN	72	0	2.80	0.05
AK KODIAK	56	2	2.29	-1.41	MI LANSING	73	2	3.65	1.13	SD HURON	76	1	1.30	-1.37
AK NOME	49	-2	4.78	2.61	MI MARQUETTE	73	2	4.78	1.91	SD RAPID CITY	72	-1	3.36	1.32
AZ FLAGSTAFF	64	-2	3.31	0.48	MI MUSKOGON	73	3	3.25	1.14	SD SIOUX FALLS	75	1	4.81	2.14
AZ PHOENIX	91	-2	2.96	2.13	MN DULUTH	67	2	8.47	4.87	TN BRISTOL	77	2	5.79	1.48
AZ TUCSON	84	-2	4.15	1.80	MN INT'L FALLS	67	0	6.22	2.63	TN CHATTANOOGA	81	3	2.82	-2.03
AZ YUMA	93	0	2.49	2.21	MN MINNEAPOLIS	76	3	4.55	1.03	TN KNOXVILLE	79	2	12.65	7.98
AR FORT SMITH	83	1	0.08	-2.90	MI ROCHESTER	73	2	8.73	4.52	TN MEMPHIS	84	1	3.63	-0.15
AR LITTLE ROCK	85	2	0.65	-2.97	MI ST. CLOUD	72	3	3.86	0.75	TN NASHVILLE	82	3	3.19	-0.79
CA BAKERSFIELD	80	-4	0.00	0.00	MS JACKSON	82	0	4.41	-0.09	TX ABILENE	83	-1	0.06	-2.03
CA EUREKA	57	0	0.04	-0.09	MS MERIDIAN	82	1	2.90	-2.25	TX AMARILLO	77	-1	2.87	0.25
CA FRESNO	81	-1	0.00	0.00	MO TUPELO	83	2	2.40	-1.89	TX AUSTIN	82	-2	5.31	3.27
CA LOS ANGELES	70	1	0.00	0.00	MO COLUMBIA	80	3	1.87	-1.80	TX BEAUMONT	83	0	2.45	-2.93
CA REDDING	79	-2	0.00	-0.16	MO KANSAS CITY	81	3	0.51	-3.87	TX BROWNSVILLE	84	-1	1.86	-0.05
CA SACRAMENTO	72	-4	0.00	-0.03	MO SAINT LOUIS	83	3	4.18	0.32	TX CORPUS CHRISTI	83	-1	3.07	0.67
CA SAN DIEGO	69	-2	0.00	0.00	MO SPRINGFIELD	80	2	1.28	-1.64	TX DEL RIO	84	-1	1.48	-0.37
CA SAN FRANCISCO	62	-1	0.00	0.00	MT BILLINGS	71	-1	0.25	-0.68	TX EL PASO	81	-1	1.99	0.44
CO ALAMOSA	65	0	0.31	-0.86	MT BUTTE	62	-1	0.08	-1.18	TX FORT WORTH	86	1	0.77	-1.54
CO CO SPRINGS	71	0	2.34	-0.57	MT GLASGOW	68	-2	2.22	0.50	TX GALVESTON	83	0	7.54	3.58
CO DENVER	74	1	3.94	2.01	MT GREAT FALLS	64	-4	0.63	-0.60	TX HOUSTON	83	0	5.12	1.52
CO GRAND JUNCTION	78	-1	0.51	-0.15	MT KALISPELL	62	-2	0.95	-0.16	TX LUBBOCK	80	1	0.79	-1.58
CO PUEBLO	77	0	1.86	-0.23	MT MILES CITY	74	-1	0.58	-0.98	TX MIDLAND	82	1	0.61	-1.10
CT BRIDGEPORT	77	4	0.78	-2.99	NE MISSOULA	65	-2	0.43	-0.49	TX SAN ANGELO	83	0	0.66	-0.40
CT HARTFORD	77	3	2.59	-0.61	NE GRAND ISLAND	78	2	1.45	-1.39	TX SAN ANTONIO	83	-2	1.97	-0.19
DC WASHINGTON	83	3	1.01	-2.79	NE LINCOLN	81	2	2.11	-1.11	TX VICTORIA	81	-2	2.19	-1.15
DE WILMINGTON	80	4	0.89	-3.33	NE NORFOLK	77	2	4.05	0.83	TX WACO	85	-1	3.75	1.84
FL DAYTONA BEACH	82	1	4.03	-1.38	NE NORTH PLATTE	76	2	0.93	-2.13	TX WICHITA FALLS	86	1	0.00	-1.72
FL JACKSONVILLE	83	1	3.53	-2.06	NE OMAHA	80	4	3.07	-0.44	UT SALT LAKE CITY	78	1	0.25	-0.60
FL KEY WEST	84	0	1.99	-1.62	NE SCOTTSBLUFF	75	1	1.72	-0.34	VT BURLINGTON	74	4	1.97	-1.68
FL MIAMI	84	1	4.03	-1.66	NE VALENTINE	74	0	3.76	0.69	VA LYNCHBURG	77	2	4.40	0.23
FL ORLANDO	83	1	5.15	-2.10	NV ELY	68	1	0.37	-0.36	VA NORFOLK	81	3	6.17	1.11
FL PENSACOLA	82	0	9.49	2.08	NV LAS VEGAS	88	-3	2.18	1.83	VA RICHMOND	80	2	2.77	-2.27
FL TALLAHASSEE	83	1	7.34	-1.48	NV RENO	74	2	0.10	-0.16	VA ROANOKE	79	4	5.96	2.05
FL TAMPA	83	1	3.65	-2.92	NV WINNEMUCCA	71	-1	0.01	-0.28	VA WASH/DULLES	78	3	2.53	-0.95
FL WEST PALM	83	1	1.67	-4.48	NH CONCORD	72	2	4.34	1.11	VA OLYMPIA	61	-2	0.63	-0.18
GA ATHENS	80	1	3.49	-1.40	NH NEWARK	81	3	1.01	-3.49	VA QUILLAYUTE	57	-2	1.96	-0.61
GA ATLANTA	79	0	3.44	-1.57	NM ALBUQUERQUE	77	-2	1.47	0.11	VA SEATTLE-TACOMA	62	-3	1.18	0.40
GA AUGUSTA	81	0	3.68	-0.56	NY ALBANY	74	2	2.24	-0.95	VA SPOKANE	66	-2	0.13	-0.55
GA COLUMBUS	83	1	2.36	-3.18	NY BINGHAMTON	71	2	2.27	-1.23	VA YAKIMA	67	-2	0.64	0.49
GA MACON	81	0	3.94	-0.37	NY BUFFALO	74	3	1.00	-2.07	VA BECKLEY	74	4	3.96	-0.75
GA SAVANNAH	83	1	7.18	0.80	NY ROCHESTER	74	4	1.78	-0.95	WV CHARLESTON	79	4	5.34	0.35
HI HILO	74	-1	3.53	-6.18	NY SYRACUSE	75	4	2.55	-1.26	WV ELKINS	72	3	1.88	-2.64
HI HONOLULU	79	-1	0.57	-0.04	NC ASHEVILLE	74	2	3.85	-0.67	WV HUNTINGTON	80	6	1.69	-2.96
HI KAHULUI	78	-1	0.03	-0.36	NC CHARLOTTE	79	-1	3.39	-0.55	WV EAU CLAIRE	75	4	4.26	0.31
HI LIHUE	77	-1	2.74	0.61	NC GREENSBORO	79	2	4.14	-0.38	WI GREEN BAY	72	3	5.67	2.58
ID BOISE	74	0	0.00	-0.34	NC HATTERAS	81	3	2.66	-2.32	WI LACROSSE	77	4	8.42	4.64
ID LEWISTON	72	-2	0.20	-0.47	NC RALEIGH	81	3	3.00	-1.02	WI MADISON	75	4	4.49	1.11
ID POCATELLO	68	-2	0.37	-0.28	NC WILMINGTON	83	3	4.54	-3.58	WI MILWAUKEE	76	6	5.57	2.09
IL CHICAGO/O'HARE	78	5	3.73	0.08	ND BISMARCK	71	1	2.52	0.38	WY CASPER	72	1	0.24	-1.02
IL MOLINE	79	4	1.43	-3.52	ND DICKINSON	70	0	1.51	-0.56	WY CHEYENNE	70	2	2.38	0.30
IL PEORIA	78	3	4.22	0.02	ND FARGO	71	0	2.34	-0.36	WY LANDER	71	0	0.11	-0.70
IL ROCKFORD	77	4	3.42	-0.69	ND GRAND FORKS	69	0	1.63	-1.09	WY SHERIDAN	70	0	0.04	-0.84
IL SPRINGFIELD	78	1	2.08	-1.45	ND JAMESTOWN	70	-1	2.98	0.22					
IN EVANSVILLE	79	1	2.00	-2.04	ND WILLISTON	68	-3	3.90	1.80					
IN FORT WAYNE	78	4	1.07	-2.37	OH AKRON-CANTON	76	4	5.78	1.70					
IN INDIANAPOLIS	79	4	2.96	-1.50	OH CINCINNATI	79	4	3.16	-1.07					
IN SOUTH BEND	78	5	2.40	-1.41	OH CLEVELAND	76	4	4.66	1.14					
IA BURLINGTON	81	6	2.58	-1.66	OH COLUMBUS	80	7	3.02	-1.30					
IA CEDAR RAPIDS	76	2	3.30	-0.82	OH DAYTON	78	4	2.82	-0.72					
IA DES MOINES	80	3	3.58	-0.20	OH MANSFIELD	73	1	5.52	1.48					
IA DUBUQUE	76	3	7.65	3.64	OH TOLEDO	77	5	2.97	-0.30					
IA SIOUX CITY	78	2	3.40	0.13	OH YOUNGSTOWN	74	4	5.56	1.50					
IA WATERLOO	77	4	12.97	8.13	OK OKLAHOMA CITY	82	0	1.94	-0.68					
KS CONCORDIA	80	1	1.41	-2.24	OR TULSA	84	1	0.40	-2.69					
KS DODGE CITY	81	0	2.05	-1.20	OR ASTORIA	59	-1	0.81	-0.35					
KS GOODLAND	77	2	1.30	-1.57	OR BURNS	63	-3	0.08	-0.31					
KS TOPEKA	82	4	0.59	-3.00	OR EUGENE	65	-2	0.27	-0.25					
KS WICHITA	82	1	3.48	0.36	OR MEDFORD	72	-1	0.04	-0.21					
KY JACKSON	78	4	2.75	-2.40	OR PENDLETON	70	-3	0.00	-0.37					
KY LEXINGTON	80	4	2.29	-2.71	OR PORTLAND	67	-1	0.51	-0.13					
KY LOUISVILLE	83	6	0.51	-4.01	OR SALEM	66	0	0.15	-0.42					
KY PADUCAH	81	3	0.28	-3.90	PA ALLENTOWN	78	4	0.33	-3.83					
LA BATON ROUGE	82	-1	5.97	-0.78	PA ERIE	76	4	2.43	-1.00					
LA LAKE CHARLES	82	0	3.90	-1.29	PA MIDDLETOWN	82	6	2.94	-0.65					
LA NEW ORLEANS	82	0	4.05	-2.07	PA PHILADELPHIA	81	5	1.22	-3.06					
LA SHREVEPORT	83	0	2.80	-0.87	PA PITTSBURGH	76	4	6.25	2.52					

Based on 1961-90 normals.

(Continued from page 11)

normal levels across the region. On July 31, Rapid City, SD recorded a high of 61°F, down from a maximum of 103°F just 3 days earlier. Similarly, Havre's high of 63°F was down 39°F from their July 29 peak. For the month, temperatures averaged 63.6°F (4.6°F below normal) in Great Falls, their fourth coolest July on record.

Extreme Maximum Temperature (°F)  
July 1999



Across the South, this year's heat waited until the end of July to make its first appearance, in sharp contrast to the spring and summer heat and drought of 1998. In Texas, temperatures reached the 100°F mark for the first time this year on July 23 in Dallas-Ft. Worth and July 24 in Waco. Through July, the number of days with 100°F heat—7 in Dallas-Ft. Worth and 5 in Waco—remained far behind 1998's final, near-record totals of 56 and 61 days, respectively. Houston's first 95°F reading of the year occurred on July 22, and their total of 8 days through July was well below the 56 such days observed during the first 7 months of 1998. Similarly, Galveston, TX recorded 10 days at or above 90°F through July 1999, compared with 27 such days through July 1998.

Farther north, rainfall totals contrasted sharply across the Corn Belt. In northeastern Iowa, Waterloo netted a July-record total (12.97 inches, or 269 percent of normal). Less than 150 miles to the southeast, in Moline, IL, only 1.43 inches (29 percent of normal) fell. Following torrential rains on July 18-19, when 24-hour totals reached 5.22 inches in Grand Meadow, MN and 5.75 inches in Osage, IA, flooding developed in and near northeastern Iowa. Additional heavy rain returned on July 20-21, dumping 7.10 inches in New Hampton, IA and an additional 5.00 inches in Osage. As a result, record flooding developed along the upper Cedar River and its tributaries. Crest records were established on the Shell Rock River at Shell Rock, IA (4.7 feet above flood stage on July 22, more than 5 inches above the record) and the Cedar River at Janesville, IA (6.1 feet above flood stage on July 22, nearly 10 inches above the record). Previous records at both gauging stations had been established on March 28, 1961. A day later, the Cedar River at Waterloo reached its third-highest level on record (nearly 9 feet above flood stage), slightly exceeding the 1993 crest. Elsewhere in the upper Midwest, monthly rainfall reached 8.73 inches (208 percent of normal) in Rochester, MN and 8.42 inches (222 percent) in La Crosse, WI. Rainfall totaled 8.47 inches (235 percent of normal) in Duluth, MN, their highest July total since 1958.

Between January 1 and August 4, U.S. wildfires scorched more than 2.7 million acres (nearly 4,300 square miles), 140 percent of the 10-year average. However, nearly 37 percent of the year-to-date burned acreage was in Alaska, where early- to mid-month warmth and dryness promoted the spread of wildfires. Cooler, wetter conditions overspread Alaska toward month's end, helping to contain wildfire activity. Barrow opened the month with a daily-record high of 75°F en route to a monthly average temperature of 42.8°F (3.5°F above normal). Despite a warm start in Fairbanks, including a high of 86°F on July 2, monthly temperatures averaged 61.5°F (1.0 degree below normal).

In Hawaii, very dry weather prevailed on the eastern islands (Hawaii and Maui). Only 0.03 inch (8 percent of normal) dampened Kahului, Maui, keeping their year-to-date total (6.58 inches, or 51 percent) well below normal. Persistently sub-normal rainfall has plagued much of Hawaii since October 1997.

## Fieldwork

As July began, most areas of the Corn Belt had adequate soil moisture to support crop development. By mid-month, corn and soybeans in the eastern Corn Belt and Atlantic Coast States were stressed by moisture shortages and above-normal temperatures. During the second half of the month, crop conditions continued to deteriorate as hot, dry weather extended westward into central and southwestern areas of the Corn Belt. In the northern Corn Belt, including most of Wisconsin and Iowa, and parts of Illinois, Minnesota, Nebraska, and South Dakota, numerous storms provided enough rainfall to maintain adequate soil moisture and prevent serious heat damage to crops. A few severe storms flooded low-lying fields in northern Iowa near mid-month. The hot weather promoted rapid development, as both corn and soybeans progressed ahead of normal, especially in the eastern Corn Belt. By August 1, 91 percent of the corn acreage was at the silking stage or beyond, compared with the average of 78 percent. Nearly one-fourth of the crop was at the dough stage or beyond, 8 percentage points ahead of normal. Soybeans blooming advanced to 85 percent and nearly one-half of the acreage was setting pods. Normally, 75 percent of the crop is blooming and 34 percent is setting pods by August 1.

Early-month storms recharged dry soils in the Southeast, and provided much-needed moisture for drought-stunted crops, especially in Georgia. Mid-month storms rejuvenated crops in the Atlantic Coastal Plains, but by the end of the month, crops were stressed by soil moisture shortages and excessive heat. Cotton development progressed behind the 5-year average during the first half of the month, when seasonal temperatures prevailed. After mid-month, above-normal temperatures accelerated development, and by August 1, acreage at the squaring stage or beyond was nearly complete, and more than three-fourths of the crop was setting bolls. Both stages were virtually equal to the 5-year average on August 1. Harvest began along the western Gulf Coast near the end of the month. In California, persistently cool weather hindered crop development.

The wheat harvest quickly accelerated in Kansas, Oklahoma, and Missouri after wet soils dried. By mid-month, the wheat harvest was nearly complete in Kansas and the Corn Belt, and combining was active in Colorado, Nebraska, and South Dakota. In the upper Mississippi Valley and across the northern Great Plains to the Pacific Northwest, small grain development accelerated, as cool early-month weather was replaced by record setting triple-digit temperatures during the second half of the month. The oat harvest began early and progressed ahead of normal in the Corn Belt. Most of the acreage in Iowa, Nebraska, and Ohio was harvested by the end of the month. In North Dakota, the harvest season was just starting. Growers began combining spring wheat and barley late in the month and by August 1, 20 percent of the spring wheat in South Dakota and 15 percent of the barley in Washington was harvested.

The rice crop developed ahead of normal along the western Gulf Coast, but lagged in inland areas of the lower Mississippi Valley and in California. Dry weather aided harvest progress in Texas and Louisiana, where 11 and 20 percent, respectively, was harvested by August 1.

## National Agricultural Summary

August 2-8, 1999

### HIGHLIGHTS

**Below-normal temperatures eased crop stress in the central and northern Great Plains and most of the Corn Belt. Heat continued to stress crops in the southern Corn Belt along the Ohio River Valley and most of the Southern and Atlantic Coast States. Late-week rain relieved moisture shortages in parts of the western Corn Belt and central Great Plains, while**

**moisture shortages increased in the eastern Corn Belt. Dry conditions aided small grain harvest across the Northern States from the Great Lakes to the Pacific Northwest, and row crop harvest in the Southern States from the Great Plains to the Atlantic Coastal Plains. Crop development remained slow in California due to cool weather.**

**Corn:** Acreage silking or beyond advanced to 97 percent complete, ahead of last year's 95-percent pace and the 90-percent average. More than one-fourth of the acreage entered the silking stage in South Dakota. Fields also rapidly began silking in Colorado and Pennsylvania. Corn in the dough stage or beyond was 41 percent, slightly ahead of last year's 38 percent and well ahead of the 28 percent average. In the Corn Belt, fields rapidly advanced to the dough stage, especially in Ohio, where 40 percent of the crop entered the dough stage. Ten percent of the crop was dented, compared with 9 percent last year and the average of 7 percent. Nearly all of the acreage in Georgia, and over half of the crop in Texas and North Carolina was denting. Progress was ahead of normal in the southern Corn Belt, as just over one-third of Missouri's acreage and just under one-third of Kentucky's crop was dented. Despite cooler temperatures, conditions continued to deteriorate in many areas of the Corn Belt due to increasing moisture shortages. Rain eased moisture shortages in parts of Nebraska, Iowa, and Missouri, while soils in most of the eastern Corn Belt remained too dry. Excessive heat compounded moisture shortages in the southern Corn Belt.

**Soybeans:** Ninety-one percent of the acreage was blooming, slightly ahead of last year's 90-percent progress and 6 percentage points ahead of the average. Nearly all of the crop was blooming in the Corn Belt and fields in the lower Mississippi Valley and Atlantic Coastal Plains rapidly progressed to the blooming stage. Cool, wet weather hindered progress in Kansas. Soybeans setting pods advanced to 65 percent, equal to a year ago, but well ahead of the 54-percent average for this date. Pod setting rapidly advanced in the Corn Belt, despite below-normal temperatures in most areas. Development continued well ahead of normal in the eastern Corn Belt, as nearly one-fourth of the acreage in Indiana and almost one-third of the crop in Ohio began setting pods. Warm weather accelerated development in the lower Mississippi Valley, where pod setting also progressed ahead of normal. Conditions deteriorated in the Southeast and Mississippi Delta due to a combination of excessive heat and lack of moisture. Conditions also declined in the eastern Corn Belt, but cooler weather partially eased the effects of dry soils. Rain boosted conditions in the western Corn Belt.

**Cotton:** Eighty-seven percent of the acreage was setting bolls, slightly behind last year, but equal to the average for this date. Above-normal temperatures promoted rapid development, as boll setting advanced more than 10 percentage points in Texas, Oklahoma, Arizona, and the Carolinas. Bolls were opening on 7

percent of the Nation's cotton acreage, 2 percentage points behind the average and 7 percentage points behind last year. Crop development was most advanced in Texas and Louisiana, where bolls were opening on 11 and 10 percent of the acreage, respectively. Hot, dry weather stressed cotton in the Southeast and Mississippi Delta, while cool weather hindered development in California.

**All Wheat:** The winter wheat harvest was 92 percent complete, equal to the 5-year average, but slightly behind last year. Spring wheat harvest was 20 percent complete, 8 percentage points behind last year's pace, but 6 percentage points ahead of the average. Dry weather aided rapid progress in the northern Great Plains. Growers harvested one-fourth of the winter wheat acreage in Montana, and over 40 percent of the spring wheat in South Dakota. The winter wheat harvest accelerated in the Pacific Northwest, but progress remained behind the 5-year average, especially in Washington and Idaho.

**Other small grains:** The barley crop was 13 percent harvested, well-behind last year's 33-percent pace, but just slightly behind the 17-percent average for this date. South Dakota growers were well ahead of average after harvesting over 40 percent of their crop. The oat crop was 61 percent harvested, 7 percentage points behind last year's rapid progress, but ahead of the 49-percent average. Mostly dry conditions aided rapid progress in the upper Mississippi Valley and Great Lakes region.

**Rice:** Sixty-nine percent of the acreage was headed and 13 percent was harvested. Above-normal temperatures promoted growth in the lower Mississippi Valley as fields rapidly entered the heading stage in Arkansas and Mississippi. Development lagged in California due to persistent cool weather. The harvest pace accelerated in Texas and Louisiana, where dry weather prevailed.

**Other crops:** Sorghum was 63 percent headed, and 26 percent was turning color. Development trailed last year's progress, when 71 percent was headed and 30 percent was turning color. Normally, 66 percent is headed and 29 percent is turning color by this date. Peanuts pegging advanced to 94 percent, compared with last year's 92-percent pace.

# Crop Progress and Condition

Week Ending August 8, 1999

Soybeans Percent Blooming				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AL	55	38	76	67
AR	80	67	79	70
GA	80	72	81	77
IL	96	94	90	85
IN	98	95	86	84
IA	98	95	97	95
KS	71	66	96	84
KY	77	69	51	57
LA	98	96	98	94
MI	96	90	95	81
MN	97	92	99	96
MS	99	97	100	89
MO	78	63	83	73
NE	96	84	97	93
NC	58	35	54	51
OH	100	95	94	89
SC	54	38	54	56
SD	91	82	92	86
TN	76	65	68	64
19 Sts	91	85	90	85

These 19 States planted 93% of last year's soybean acreage.

Soybeans Percent Setting Pods				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AL	35	20	54	40
AR	45	26	39	36
GA	52	36	57	48
IL	73	56	63	50
IN	77	53	51	46
IA	81	64	85	73
KS	37	26	69	51
KY	55	40	30	29
LA	88	70	86	73
MI	74	56	69	48
MN	59	31	86	68
MS	93	85	82	67
MO	35	21	50	38
NE	51	30	65	56
NC	28	15	29	26
OH	91	59	62	51
SC	20	14	18	25
SD	55	35	68	56
TN	50	40	40	33
19 Sts	65	46	65	54

These 19 States planted 93% of last year's soybean acreage.

Winter Wheat Percent Harvested				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AR	100	100	100	100
CA	99	98	99	99
CO	98	97	99	98
GA	100	100	100	100
ID	15	6	28	29
IL	100	100	100	100
IN	100	100	100	100
KS	100	100	100	100
MI	100	100	100	95
MO	100	100	100	100
MT	56	31	66	43
NE	99	97	97	98
NC	100	100	100	100
OH	100	100	100	100
OK	100	100	100	100
OR	61	48	64	64
SD	97	86	96	87
TX	100	100	100	100
WA	34	18	55	50
19 Sts	92	89	94	92

These 19 States planted 91% of last year's winter wheat acreage.

Corn Percent Silking				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
CO	83	67	91	77
GA	100	100	100	100
IL	99	97	95	93
IN	100	98	91	87
IA	98	92	98	94
KS	99	93	100	95
KY	98	97	95	88
MI	100	94	91	77
MN	99	96	99	96
MO	96	90	99	90
NE	98	93	98	92
NC	96	92	98	99
OH	100	95	93	85
PA	86	75	85	77
SD	86	59	87	77
TX	96	93	99	98
WI	94	91	93	82
17 Sts	97	91	95	90

These 17 States planted 90% of last year's corn acreage.

Corn Percent Dough				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
CO	8	2	22	17
GA	100	98	98	98
IL	64	44	45	35
IN	56	33	35	29
IA	21	6	26	15
KS	49	35	64	54
KY	68	58	39	46
MI	22	0	9	3
MN	10	1	16	8
MO	70	51	70	59
NE	35	12	38	31
NC	75	60	75	83
OH	70	30	27	22
PA	37	23	40	22
SD	27	15	37	18
TX	82	77	91	86
WI	31	20	39	19
17 Sts	41	24	38	28

These 17 States planted 90% of last year's corn acreage.

Corn Percent Dented				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
CO	0	NA	0	0
GA	92	NA	90	92
IL	19	NA	11	6
IN	13	NA	0	1
IA	0	NA	0	0
KS	9	NA	17	15
KY	30	NA	0	15
MI	0	NA	0	0
MN	1	NA	3	1
MO	35	NA	34	25
NE	3	NA	4	4
NC	55	NA	54	61
OH	10	NA	2	1
PA	3	NA	3	1
SD	1	NA	7	2
TX	59	NA	70	65
WI	0	NA	0	1
17 Sts	10	NA	9	7

These 17 States planted 90% of last year's corn acreage.

# Crop Progress and Condition

Week Ending August 8, 1999

Cotton Percent Setting Bolls				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AL	85	76	94	88
AZ	99	86	100	99
AR	99	97	98	98
CA	70	65	29	82
GA	93	85	96	97
LA	100	100	100	100
MS	100	98	100	100
MO	100	100	100	98
NM	80	75	97	92
NC	95	80	76	81
OK	67	55	82	70
SC	76	60	85	84
TN	99	93	98	97
TX	81	66	92	80
14 Sts	87	77	89	87

These 14 States planted 98% of last year's cotton acreage.

Cotton Percent Bolls Opening				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AL	2	NA	9	3
AZ	5	NA	1	22
AR	1	NA	2	1
CA	1	NA	1	3
GA	4	NA	14	6
LA	10	NA	23	8
MS	4	NA	7	5
MO	1	NA	0	0
NM	0	NA	2	4
NC	5	NA	2	2
OK	0	NA	0	1
SC	4	NA	4	2
TN	0	NA	2	0
TX	11	NA	24	16
14 Sts	7	NA	14	9

These 14 States planted 98% of last year's cotton acreage.

Oats Percent Harvested				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
IA	98	90	97	93
MI	79	45	83	46
MN	51	21	67	43
NE	92	86	93	92
ND	18	4	41	13
OH	97	84	79	73
PA	63	45	63	54
SD	69	48	70	58
WI	73	38	75	44
9 Sts	61	40	68	49

These 9 States planted 57% of last year's oat acreage.

Peanuts Percent Pegging				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AL	94	92	96	94
FL	93	93	96	NA
GA	98	97	99	99
NC	99	98	89	73
OK	94	88	98	96
SC	89	85	77	63
TX	87	82	87	NA
VA	100	98	98	59
8 Sts	94	92	94	NA

These 8 States planted 99% of last year's peanut acreage.

Sorghum Percent Headed				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AR	95	88	90	88
CO	24	7	34	29
IL	77	64	32	40
KS	55	36	68	56
LA	100	97	99	96
MS	94	91	100	97
MO	68	52	83	67
NE	52	28	75	56
NM	50	25	12	19
OK	57	23	43	45
SD	33	24	40	42
TX	74	66	82	84
12 Sts	63	48	71	66

These 12 States planted 99% of last year's sorghum acreage.

Sorghum Percent Coloring				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AR	42	22	35	36
CO	0	0	0	0
IL	32	9	2	5
KS	5	0	8	6
LA	77	65	75	62
MS	67	48	69	64
MO	15	9	17	15
NE	0	0	0	1
NM	2	0	0	0
OK	9	5	10	13
SD	22	20	7	5
TX	55	52	64	65
12 Sts	26	22	30	29

These 12 States planted 99% of last year's sorghum acreage.

Barley Percent Harvested				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
ID	5	2	13	15
MN	20	9	52	22
MT	14	5	14	10
ND	14	3	46	16
SD	61	19	66	48
WA	8	6	32	34
6 Sts	13	4	33	17

These 6 States planted 83% of last year's barley acreage.

Rice Percent Headed				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AR	69	40	67	65
CA	13	7	4	25
LA	98	87	95	86
MS	73	53	85	81
TX	93	89	95	92
5 Sts	69	50	67	67

These 5 States planted 96% of last year's rice acreage.

Rice Percent Harvested				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
AR	0	0	0	0
CA	0	0	0	0
LA	54	20	33	26
MS	0	0	0	0
TX	28	11	26	18
5 Sts	13	5	9	7

These 5 States planted 96% of last year's rice acreage.

# Crop Progress and Condition

Week Ending August 8, 1999

Spring Wheat Percent Harvested				
	Aug 8 1999	Prev Week	Prev Year	5-Yr Avg
ID	11	1	9	10
MN	23	6	31	22
MT	10	4	13	6
ND	13	3	30	10
SD	63	20	52	38
5 Sts	20	6	28	14
These 5 States planted 96% of last year's spring wheat acreage.				

Corn Crop Condition by Percent					
	VP	P	F	G	EX
CO	1	2	9	58	30
GA	14	18	30	31	7
IL	4	14	33	40	9
IN	9	20	41	26	4
IA	2	6	23	46	23
KS	1	5	21	62	11
KY	6	17	43	30	4
MI	5	10	17	46	22
MN	2	6	22	55	15
MO	13	20	43	20	4
NE	1	6	23	54	16
NC	3	14	33	44	6
OH	8	18	33	34	7
PA	31	33	23	12	1
SD	0	2	12	53	33
TX	1	1	18	62	18
WI	0	2	12	47	39
17 Sts	4	10	26	44	16
Prev Wk	3	9	25	46	17
Prev Yr	4	7	21	48	20

Cotton Crop Condition by Percent					
	VP	P	F	G	EX
AL	8	21	30	31	10
AZ	1	9	41	38	11
AR	0	5	29	48	18
CA	0	0	10	90	0
GA	9	17	35	29	10
LA	2	14	35	44	5
MS	2	9	26	48	15
MO	11	24	35	26	4
NM	2	4	21	55	18
NC	2	7	30	47	14
OK	0	16	20	58	6
SC	2	13	40	43	2
TN	5	23	43	27	2
TX	4	14	35	38	9
14 Sts	4	13	32	42	9
Prev Wk	2	11	31	46	10
Prev Yr	15	18	31	31	5

Soybeans Crop Condition by Percent					
	VP	P	F	G	EX
AL	6	17	42	29	6
AR	3	12	35	38	12
GA	16	22	36	23	3
IL	4	13	35	40	8
IN	6	15	45	30	4
IA	2	6	21	51	20
KS	1	8	32	51	8
KY	8	24	39	26	3
LA	1	12	30	49	8
MI	2	8	22	52	16
MN	3	7	25	55	10
MS	6	11	30	43	10
MO	11	25	38	24	2
NE	1	7	26	52	14
NC	3	8	30	45	14
OH	6	15	31	40	8
SC	4	18	46	32	0
SD	0	2	17	49	32
TN	11	23	34	29	3
19 Sts	4	12	30	43	11
Prev Wk	3	10	30	45	12
Prev Yr	3	8	23	48	18

Oats Crop Condition by Percent					
	VP	P	F	G	EX
IA	1	4	20	54	21
MI	1	3	29	54	13
MN	3	9	30	49	9
NE	0	0	9	40	51
ND	0	4	28	59	9
OH	1	5	45	44	5
PA	2	17	46	33	2
SD	0	0	13	67	20
WI	0	2	21	63	14
9 Sts	1	4	25	55	15
Prev Wk	1	6	23	54	16
Prev Yr	NA	NA	NA	NA	NA

Peanuts Crop Condition by Percent					
	VP	P	F	G	EX
AL	0	5	26	44	25
FL	0	0	23	54	23
GA	3	12	35	39	11
NC	0	0	11	78	11
OK	0	9	37	42	12
SC	0	12	40	37	11
TX	0	7	26	44	23
VA	0	0	4	68	28
8 Sts	1	7	27	47	18
Prev Wk	1	5	23	54	17
Prev Yr	6	15	30	43	6

Sorghum Crop Condition by Percent					
	VP	P	F	G	EX
AR	1	11	41	39	8
CO	0	0	7	65	28
IL	8	20	29	43	0
KS	1	4	18	67	10
LA	0	9	31	53	7
MS	2	6	26	56	10
MO	7	25	44	22	2
NE	2	7	32	56	3
NM	0	1	8	90	1
OK	0	3	15	78	4
SD	0	1	12	69	18
TX	1	8	28	45	18
12 Sts	1	7	24	56	12
Prev Wk	0	6	26	56	12
Prev Yr	8	15	23	43	11

Barley Crop Condition by Percent					
	VP	P	F	G	EX
ID	0	3	18	59	20
MN	11	15	38	31	5
MT	9	27	37	19	8
ND	0	5	28	54	13
SD	0	1	12	66	21
WA	10	25	44	21	0
6 Sts	4	13	31	41	11
Prev Wk	4	11	32	41	12
Prev Yr	2	6	30	46	16

Rice Crop Condition by Percent					
	VP	P	F	G	EX
AR	0	3	24	52	21
CA	0	0	10	90	0
LA	0	3	18	59	20
MS	1	5	20	59	15
TX	0	0	10	54	36
5 Sts	0	2	19	61	18
Prev Wk	0	1	22	57	20
Prev Yr	1	5	28	56	10

Spring Wheat Crop Condition by Percent					
	VP	P	F	G	EX
ID	0	1	13	69	17
MN	5	16	35	38	6
MT	5	15	31	40	9
ND	1	6	26	54	13
SD	0	4	15	52	29
5 Sts	2	9	27	49	13
Prev Wk	1	8	25	51	15
Prev Yr	2	7	32	47	12

## State Agricultural Summaries

*These summaries, issued weekly through the summer growing season, 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. The crop weather reports are also available on the Internet through the NASS Home Page on the World Wide Web at <http://www.usda.gov/nass/> or from JAWF at <http://www.usda.gov/oce/waob/jawf>.*

**ALABAMA:** Days suitable for fieldwork 6.9. Soil moisture supplies continues to declined because of hot, dry conditions. Topsoil 28% very short, 48% short, 24% adequate, 0% surplus. Dry condition have begun to impact crops yield potential, especially cotton, soybeans. Corn 83% doughed, 71% dented, 85% 1998, 86% avg.; 42% mature, 60% 1998, 50% avg.; 4% harvested, 23% 1998, 12% avg.; 9% poor, 26% fair, 48% good, 17% excellent. Pasture feed 5% very poor, 15% poor, 37% fair, 41% good, 2% excellent. Livestock 3% poor, 23% fair, 59% good, 15% excellent.

**ALASKA:** Days suitable for fieldwork 3.5. Topsoil 5% short, 95% adequate, Subsoil 15% short, 85% adequate. Weather conditions for the week were mild, damp. Daytime high temperatures were in the sixties, seventies, although eighties were not uncommon in the Tanana Valley. Lows were in the forties, fifties. Oats 80% in dough or earlier, 20% turning color. Barley 70% in dough, 30% turning color. Barley 10% poor, 30% fair, 50% good, 10% excellent. Hay 85% harvested. Average height of second crop hay, 13". Potato plants 80% bloomed. Wind damage to small grain crops, 85% none, 10% light, 5% moderate. Major activities included: Harvesting vegetables, weed control, cutting hay, harvesting hay when conditions allowed, grass seed harvest, machinery repair.

**ARIZONA:** Cotton continues to progress. Alfalfa harvest activity was reported as 35% not being harvested, 5% light, 19% moderate, 41% active. Alfalfa 2% poor, 21% fair, 65% good, 12% excellent. Monsoon rains continue to cause improvements to Range, Pasture feed. Last week central areas producers shipped a variety of melons including cantaloupe, crenshaw, golden honeydew, honeydew, orange flesh, santa claus, watermelons. Central Areas also shipped flame seedless grapes, parsley.

**ARKANSAS:** Days suitable for fieldwork 7. Topsoil 35% very short, 53% short, 12% adequate, 0% surplus. Summer continues with temperatures above normal, rainfall almost non-existent throughout the state. Most areas in the state had zero rainfall for the entire week. For the counties reporting rain it occurred late in the week with the higher totals on Sunday. Most crops were reported in good condition. Livestock were reported in good condition, but the hot, humid weather was causing deaths in poultry, livestock. The main farm activities were: Fertilizing cotton, corn, rice, warm season forages, finishing harvesting hay, planning for fall pastures. Other activities: Irrigating corn, soybeans, cotton, sorghum, rice, draining of rice, cultivating cotton, spraying cotton for boll weevils, bullworms, other fields for insects, weeds, putting down lime, scouting for sheath blight in rice, scouting, treating webworms in soybeans, spraying of rice, cotton, soybean fields for weeds, tree fruit, small fruit harvesting, melon harvesting, dusting, ear tagging cattle for external parasites, giving Brucellosis vaccinations, weaning calves. Cotton 99% setting bolls, 1% opening bolls, condition 5% poor, 29% fair, 48% good, 18% excellent; Soybeans 80% bloomed, 45% setting pods, condition 3% very poor, 12% poor, 35% fair, 38% good, 12% excellent; Sorghum 95% headed, 42% turning color, condition 1% very poor, 11% poor, 41% fair, 39% good, 8% excellent; Alfalfa condition 0% very poor, 7% poor, 38% fair, 42% good, 13% excellent; Other Hay condition 4% very poor, 18% poor, 46% fair, 30% good, 2% excellent; Range, pastures condition 4% very poor, 23% poor, 41% fair, 31% good, 1% excellent.

**CALIFORNIA:** Field activities progressed normally under nearly ideal conditions in most areas. Wheat harvest was complete in all but a few areas, harvested fields were being prepared for the fall crops. Rice was beginning to head. Rice fields were treated with herbicides for weeds, some fields were treated for rice blast. Cotton was setting bolls in the San Joaquin, Sacramento valleys; bolls were opening in the Imperial Valley. Cotton growers continued spraying for aphids, armyworms, leafhoppers, lygus. Garbanzo beans were harvested in the central, southern regions. Black-eyed beans were mature drying for harvest. Safflower, sugar beets were harvested in the Fresno County area. In other areas, new crop sugar beets were treated for worms. The lower San Joaquin valley harvest of corn for silage continued, while early fields of corn for grain were maturing. Sacramento valley sunflowers were treated for insects a final time before harvest. Alfalfa, bermuda grass were cut for hay or greenchopped, although

sprinkles delayed cutting, baling in a few areas. The harvest of grapes for fresh use gained momentum in the San Joaquin Valley. Varieties picked included Perlette, Flame Seedless. Vineyard floors were being prepared for the upcoming wine, raisin harvests. Other cultural activities last week included: Extensive weed control, irrigation of vineyards, orchards. Harvests of clingstone, freestone peaches continued. Nectarine, plum picking was ongoing. Stone fruit quality was good. Apple trees were treated for codling moth. Picking of early variety apples was active. Olive trees were maturing well; fruit set was good. Bartlett pear harvest continued in the Sacramento river delta area. Asian pear harvest was also active in the San Joaquin Valley. Tree limbs in almond orchards remain supported to bear the weight of the heavy nut set. The crop was nearing full maturity; some hull splitting was reported. Valencia oranges, lemons were picked in southern areas. Fresh market, processing tomatoes, bell peppers, watermelons, cantaloupe, honeydew melons were being harvested in the San Joaquin Valley. Aphid, worm sprays were applied to melons, tomatoes. Cauliflower was planted in the southern San Joaquin Valley. Fall melons were planted in the Imperial Valley, with some drip-irrigated fields already emerging. Other crops harvested last week included: Broccoli, carrots, cucumbers, garlic, leeks, lettuce, turnips, onions, potatoes, various greens, herbs. Pastures in areas were in mostly fair to good condition, with irrigated pastures fairing well. Some non-irrigated, high elevation pastures were in need of rain, cattle in the northern mountains were being shipped to market earlier than normal. Livestock were in fair to good condition. Cool weather benefitted dairy, beef cattle production. Grasshoppers were feeding on dry range grass in a few areas. Bees were pollinating seed alfalfa, melon fields in central areas.

**COLORADO:** Days suitable for fieldwork 2.5. Topsoil 6% very short, 7% short, 79% adequate, 8% surplus. Subsoil 9% very short, 14% short, 74% adequate, 3% surplus. Moderate temperatures, monsoonal rains dominated the week hampering haying activities, harvest of small grain crops. Spring wheat 75% turning color, 73% 1998, 82% avg.; 27% harvested, 19% 1998, 27% avg.; 9% poor, 17% fair, 54% good, 20% excellent. Spring 97% barley turning color, 90% 1998, 80% avg.; 17% harvested, 20% 1998, 23% avg.; 9% poor, 16% fair, 52% good, 23% excellent. Oats 81% turning color, 86% 1998, 85% avg.; 43% harvested, 42% 1998, 48% avg.; 3% poor, 15% fair, 73% good, 9% excellent. Dry onions 1% very poor, 2% poor, 14% fair, 55% good, 28% excellent. Sugar beets 4% poor, 13% fair, 48% good, 35% excellent. Dry beans 72% flowered, 81% 1998, 81% avg.; 1% poor, 16% fair, 67% good, 16% excellent. Summer potatoes 2% harvested, 6% 1998, 10% avg.; 1% very poor, 1% poor, 5% fair, 65% good, 28% excellent. Fall potatoes 4% poor, 12% fair, 43% good, 41% excellent. Alfalfa 52% 2<sup>nd</sup> cutting, 65% 1998, 72% avg.; 1% very poor, 4% poor, 20% fair, 57% good, 18% excellent. Pasture, range feed in mostly good condition.

**DELAWARE:** Days suitable for fieldwork 7.0. Topsoil 16% very short, 81% short, 3% adequate. Subsoil 14% very short, 84% short, 2% adequate. Field corn 16% very poor, 29% poor, 30% fair, 18% good, 7% excellent; 95% silked, 84% 1998, 90% avg.; 38% dough, 42% 1998, 38% avg.; 13% dented, 14% 1998, 12% avg.; 8% mature, 6% 1998, 2% avg.; 5% harvested for silage, 3% 1998, 2% avg. Soybeans 8% very poor, 22% poor, 33% fair, 36% good, 1% excellent; 39% bloomed, 34% 1998, 50% avg.; 29% setting pods, 18% 1998, 20% avg. Sorghum 4% poor, 67% fair, 29% good; 35% headed, 33% 1998, 50% avg.; 10% turned, 0% 1998, 1% avg. Sweet corn 51% harvested, 45% 1998, 56% avg. Snap beans 54% harvested, 45% 1998, 53% avg. Cantaloupes 28% harvested, 49% 1998, 54% avg. Watermelons 35% harvested, 31% 1998, 35% avg. Cucumbers 48% harvested, 49% 1998, 64% avg. Lima beans 37% harvested, 30% 1998, 18% avg. Tomatoes 30% harvested, 38% 1998, 41% avg. Potatoes 48% harvested, 47% 1998, 57% avg. Apples 19% fair, 81% good; 11% harvested, 7% 1998, 10% avg. Peaches 18% fair, 82% good; 44% harvested, 48% 1998, 52% avg. Clover, other hay 88% 2<sup>nd</sup> cutting, 100% 1998, 96% avg.; 80% 3<sup>rd</sup> cutting, 67% 1998, 37% avg.; 25% 4<sup>th</sup> cutting, 10% 1998, 3% avg. Alfalfa hay 78% 3<sup>rd</sup> cutting harvested, 61% 1998, 52% avg.; 10% 4<sup>th</sup> cutting, 9% 1998, 5% avg. Hay supplies 5% very short, 53% short, 42% adequate. Pasture 5% very poor, 68% poor, 17% fair, 10% good. Activities: Maintaining

irrigation, continued vegetable harvesting, livestock stressed by extremely hot temperatures.

**FLORIDA:** Topsoil moisture mostly short to adequate. Hot, humid weather persisted with several localities recording at least one daytime high of 100° or more. Temperatures averaged 1 to 40° above normal at major stations. Daytime highs averaged 90s, lows remained in 70s. Scattered showers brought varying amounts of rain. Precipitation ranged from about 0.25 in. Orlando to almost 6.00 in. Bradenton. Hay making continues. Some growers finished harvesting tobacco. Cotton, soybeans, sugarcane condition mostly normal. Some areas badly need rain. Corn harvesting underway. Peanut 23% fair, 54% good, 23% excellent. Peanuts pegging 93%. Tomato planting underway Palmetto-Ruskin, East Coast vegetable regions. Tomatoes good condition. Producers, Quincy area, finishing tomato planting. Bell pepper planting active, East Coast. Growers, southeastern coast, irrigating prior to laying plastic due to dry soils. Land preparation for fall vegetable planting active all central, southern Peninsula areas. Rain most citrus areas, some locations need more rain. A little irrigation in dry groves. Abundant new growth in well cared for groves, fruit of all sizes making good progress. Caretakers cutting cover crops, growers spraying, herbiciding, pushing, burning dead trees. Pasture feed 5% poor, 50% fair, 45% good. Condition of cattle; 5% poor, 25% fair, 70% good. Statewide, range, pasture feed quite varied by location. Western Panhandle; excessive rain, high humidity wearing down livestock. Eastern Panhandle; extreme heat, short rainfall stressed livestock. Second hay cutting about finished last week; slow growth of forage followed cutting. Central; pasture feed fair due to short soil moisture condition. West central; pastures looking pretty good following rains; grass growth improved. Some army worms reported. Southwest; pasture condition good. Statewide, cattle condition mostly good.

**GEORGIA:** Days suitable for field work 6.7. Soil moisture 32% very short, 48% short, 19% adequate, 1% surplus. Corn 77% mature, 84% 1998, 78% avg.; 21% harvested for grain, 19% 1998, 13% avg. Hay 9% very poor, 22% poor, 42% fair, 25% good, 2% excellent. Sorghum 7% very poor, 23% poor, 36% fair, 32% good, 2% excellent. Tobacco 62% harvested, 45% 1998, 67% avg. Watermelons 95% harvested, 96% 1998, 95% avg. Apples 26% fair, 47% good, 27% excellent; 6% harvested, 4% 1998, 6% avg. Peaches 96% harvested, 95% 1998, 98% avg. Pecans 5% very poor, 10% poor, 32% fair, 42% good, 11% excellent. Hot, dry weather the past two weeks adversely affected crops, pastures. Temperatures cooled slightly last week, but highs remained above 90° in many areas. The lack of significant rain resulted in soils continuing to dry. Broilers were stressed by the heat. Corn harvest continued ahead of the five year average pace. Silage harvest continued. Some soybean fields experienced fruit loss due to the high temperatures. Overall condition declined. There were isolated reports of lesser cornstalk borer damage in sorghum. Stressed dryland cotton shed some fruit, leaves. Peanut pegging neared completion. Tobacco harvest continued. Hay, pasture conditions declined last week. About one-third of the pastures were in poor to very poor condition. Pest control continued in pecan orchards. Apple harvest continued. Watermelon, peach harvests neared completion. Other activities included: Irrigating crops, preparing peanut, cotton harvesting machinery, as well as preparing land for planting fall vegetables.

**HAWAII:** Weather conditions remained fair for crops. Warm temperatures, accentuated by humid conditions, increased the need for irrigation, made fieldwork uncomfortable. Trade winds returned late in the week, brought cooler temperatures, a beneficial mixture of sunshine, showers to some areas. Maui islands remained relatively dry, in need of rain. A large brush fire has burned several thousand acres of dry pastureland on producers island. Banana harvesting will be steady, overall crop conditions were good. Papaya orchards in good to fair condition. Harvesting will be steady. Head cabbage conditions fair to good. Insect pressure increasing, but under control with regular spraying.

**IDAHO:** Days suitable for fieldwork 7.0. Topsoil 8% very short, 41% short, 51% adequate. Hot, dry conditions persist. Small grain harvest is becoming more active across the state. Irrigation supply 65% excellent, 28% good, 5% fair, 2% poor. Alfalfa hay 2nd 75% cutting, 76% 1998, 69% avg.; 3<sup>rd</sup> cutting 14%, 8% 1998, 6% avg. Oats 15% harvested, 8% 1998, 15% avg. Mint 16% harvested, 36% 1998, 57% avg. Peaches 13% harvested, 4% 1998, 29% avg.. Dry Peas 28% harvested, 41% 1998, 32% avg. Lentils 11% harvested, 7%, 1998 15% avg. Onions 2% harvested, 2% 1998, 1% avg. Prunes, plums 4% harvested, 0% 1998, 2%; avg. Hops 2% harvested, 1%, 1998 0% avg. Sweet Corn 4% harvested, 8% 1998, 3% avg.. Potatoes closing 97% middles, 93% 1998, 95 avg.; vines 1% dead/kill, 3%, 1998, 3% avg. Barley

74% turning color, 5% harvested, 13% 1998, 15% avg. Spring wheat 81% turning color, 11% harvested, 9% 1998, 10% avg. Winter wheat 98% turning color, 15% harvested, 28% 1998, 29% avg. Activities: Irrigating, weed control, monitoring for disease, spraying insects, harvesting small grains, fruit, mint, dry peas, lentils, hay.

**ILLINOIS:** Days suitable for fieldwork 6.8. Topsoil moisture 35% very short, 42% short, 22% adequate, 1% surplus. Last week, cooler temperatures prevailed which helped lower stress level on crops, however, rain is still needed. The continued lack of rain has caused soybean plant growth to slow with some reports of pods aborting. The corn crop concerns include ears not filling, poor pollination. The corn condition continues to deteriorate with 49% of the crop rated good to excellent. This is a seven point drop from August 1, a 25 point drop from July 16, when the heat wave began. Other activities for last week included: Hauling grain, mowing weeds, attending fairs, tending to livestock. Oats 99% ripe, 99% 1998, 95% avg. Oats 96% harvested, 90% 1998, 83% avg. Alfalfa 2nd 98% cut, 95% 1998, 93% avg. Alfalfa 3rd 39% cut, 27% 1998, 26% avg.

**INDIANA:** Days suitable for fieldwork 6.8. Topsoil 45% very short, 44% short, 11% adequate, 0% surplus. Subsoil 37% very short, 47% short, 16% adequate, 0% surplus. Scattered showers some areas. Topsoil, subsoil very dry, most areas. Corn, soybean condition declined. Corn 30% good to excellent. Soybean 34% good to excellent. Pastures, hay crops continue to deteriorate. Feeding hay some areas. Third cutting alfalfa, 53% complete, 24% 1998. Activities: Selling corn, soybeans, irrigating crops, cleaning grain bins, harvesting tobacco, mowing roads, pastures, baling hay, harvesting vegetables, repairing equipment, monitoring fields, attending fairs, caring for livestock.

**IOWA:** Days suitable for field work 6.6. Topsoil 14% very short, 31% short, 51% adequate, 4% surplus. Subsoil 6% very short, 25% short, 64% adequate, 5% surplus. Cool temperatures & weekend rains brought needed relief. Crops in southern areas continue to show stress from previous hot, dry weather. Corn 98% silked, 98% 1998, 94% avg.; 76% milk stage, 73% 1998, 50% avg.; 21% dough stage, 30% 1998, 16% avg.; 2% very poor, 6% poor, 23% fair, 46% good, 23% excellent. Soybeans 98% blooming, 99% 1998, 95% avg.; 81% setting pods, 85% 1998, 73% avg. Soybean 2% very poor, 6% poor, 21% fair, 51% good, 20% excellent. Oats 98% harvested, 97% 1998, 93% avg. Cooler temperatures relieved producers livestock. Some cases of pinkeye, fly problems reported. Some reports of southern areas farms feeding hay due to dry pastures. Range, pasture feed 4% very poor, 16% poor, 33% fair, 38% good, 9% excellent. Second cutting of alfalfa 92%, 91% 1998, 90% avg. Second cutting of clover 68% hay, 73% 1998, 64% avg. Hay 2% very poor, 10% poor, 29% fair, 46% good, 13% excellent.

**KANSAS:** Days suitable for fieldwork 3.5. Topsoil 2% very short, 22% short, 69% adequate, 7% surplus. Subsoil 2% very short, 20% short, 75% adequate, 3% surplus. Rain, cooler temperatures last week were a welcome relief from the heatwave that had dominated the State for several days. The rains replenished soil moisture levels, and were especially beneficial to dryland crops that were showing stress from the hot, dry conditions. Corn 1% mature, 3% 1998, 2% average. Sunflower 2% very poor, 2% poor, 19% fair, 65% good, 12% excellent. Sunflowers 68% blooming, 78% 1998, NA average. Ray flowers 6% dry, 14% 1998, NA average. Bracts 1% turning yellow, 4% 1998, NA average. Third cutting 69% alfalfa, 78% 1998, 71% average. Fourth cutting 6% alfalfa, 8% 1998, 7% average. Crop insect populations are rated at mostly light to none, with a few reports of greenbugs, aphids, corn borers, fall armyworms, grasshoppers, soybean leaf beetles, webworms in alfalfa, soybeans. With last week's rainfall, fieldwork was brought to a halt in some areas of the State. Where fieldwork was possible, producers were cutting hay, working summer fallow, wheat stubble, cultivating, spraying weeds. Hay, forage supplies 1% short, 85% adequate, 14% surplus. Stocker cattle continue to be moved off grass, with some excellent weight gains reported. Some cattle producers are reporting problems with pinkeye, anaplasmosis. Stock water supplies are mostly adequate.

**KENTUCKY:** Days suitable for fieldwork 6.0. Topsoil 66% very short, 31% short, 3% adequate. Subsoil 62% very short, 34% short, 4% adequate. Dry with seasonal temperatures most of the week. Light to moderate rain over most of the State on Sunday. Crops continue to be under severe stress due to lack of moisture. Burley tobacco blooming or beyond 78%, topped 57%. Dark tobacco 89% topped. Tobacco 13% very poor, 23% poor, 34% fair, 25% good, 5% excellent. Blank shank continues to be a

serious problem statewide. In many areas tobacco cutting has started on early set fields. Pasture feed 26% very poor, 34% poor, 29% fair, 11% good. Farmers continue to feed hay due to poor pasture conditions. Hay 27% very poor, 32% poor, 30% fair, 10% good, 1% excellent.

**LOUISIANA:** Days suitable for fieldwork 6.4. Soil 22% very short, 39% short, 37% adequate, 2% surplus. Corn 2% poor, 26% fair, 61% good, 11% excellent; 100% mature, 97% 1998, 88% avg.; 27% harvested, 42% 1998, 21% avg. Corn harvest continued with good yields being reported. Hay 42% final cutting, 38% 1998, 52% avg. Rice 73% ripe, 58% 1998, 40% avg. Rice harvest continued. Sorghum 36% ripe, 35% 1998, 26% avg.; 4% harvested, 3% 1998, 3% avg. Soybeans 9% leaves turning, 10% 1998, 4% avg. Sugarcane 1% poor, 8% fair, 61% good, 30% excellent; 6% planted, 0% 1998, 1% avg. Sugarcane producers were planting. Sweetpotatoes 2% poor, 23% fair, 69% good, 6% excellent; 7% harvested, 4% 1998, 4% avg. Livestock 5% poor, 24% fair, 58% good, 13% excellent. Vegetables 4% very poor, 21% poor, 38% fair, 36% good, 1% excellent. The hot weather had a significant impact on the quality of pastures.

**MARYLAND:** Days suitable for fieldwork 6.6. Subsoil 58% very short, 33% short, 9% adequate. Topsoil 48% very short, 41% short, 11% adequate. Corn 14% very poor, 30% poor, 35% fair, 20% good, 1% excellent; 93% silked, 89% 1998, 86% avg.; 46% dough, 43% 1998, 35% avg.; 18% dent, 17% 1998, 10% avg. Soybeans 8% very poor, 28% poor, 33% fair, 30% good, 1% excellent; 57% bloomed, 58% 1998, 55% avg.; 40% setting pods, 38% 1998, 27% avg. Sorghum 3% very poor, 17% poor, 49% fair, 31% good; 70% headed, 79% 1998, 57% avg. Tobacco 14% very poor, 24% poor, 45% fair, 17% good; 73% bloomed, 73% 1998, 78% avg.; 35% topped, 41% 1998, 44% avg.; 5% harvested, 13% 1998, 11% avg. Snap beans 52% harvested, 64% 1998, 60% avg. Cucumbers 65% harvested, 69% 1998, 68% avg. Potatoes 75% harvested, 100% 1998, 83% avg. Sweet Corn 70% harvested, 75% 1998, 60% avg. Tomatoes 51% harvested, 52% 1998, 49% avg. Cantaloupes 60% harvested, 69% 1998, 62% avg. Lima beans 13% harvested, 28% 1998, 12% avg. Watermelons 41% harvested, 50% 1998, 49% avg. Peaches 6% poor, 28% fair, 65% good, 1% excellent; 43% harvested, 53% 1998, 50% avg. Apples 2% poor, 20% fair, 67% good, 11% excellent; 6% harvested, 9% 1998, 5% avg. Clover, other hays 84% 2<sup>nd</sup> cutting harvested, 85% 1998, 80% avg.; 38% 3<sup>rd</sup> cutting, 65% 1998, 28% avg. Alfalfa 70% 3<sup>rd</sup> cutting harvested, 51% 1998, 56% avg.; 14% 4<sup>th</sup> cutting, 15% 1998, 5% avg. Pasture feed 46% very poor, 28% poor, 21% fair, 5% good. Hay supplies 11% very short, 43% short, 46% adequate. Activities: Continued irrigation, drought emergency in effect, feeding winter hay supplies to livestock due to poor pasture conditions.

**MICHIGAN:** Days suitable for fieldwork 6.0. Topsoil 13% very short, 23% short, 61% adequate, 3% surplus, subsoil 12% very short, 24% short, 62% adequate, 2% surplus. Hay 2% very poor, 7% poor, 17% fair, 49% good, 25% excellent. Dry beans 0% very poor, 3% poor, 11% fair, 68% good, 18% excellent. Hay 2nd cutting 82%, 94% 1998, 80% avg. Hay 3rd cutting 18%, 18% 1998, 7% avg. Corn in milk 74%, 44% 1998, 28% avg. Dry beans 93% blooming, 91% 1998, 76% avg. Dry beans 61% setting pods, 57% 1998, 48% avg. Temperatures, humidity came down after being hot. Scattered showers throughout brought rain, but crops showing signs of moisture stress in some areas. Corn crop progress continued ahead of normal as pollination was finishing. Dry conditions have hurt soybean growth. As soils dried sugarbeets beginning to show signs of moisture stress. Second alfalfa cutting completed in most areas although high humidity made curing difficult. Dry beans progressing well with some fields being treated for white mold. Cantaloup harvest was active, quality was good. Carrot harvest continued with rapid development. Harvest of cucumbers for pickles was active. Eggplant volume was increasing. Pepper harvest continued with improved quality. Pumpkin vine growth was exceptional on irrigated fields. Snap bean harvest was active with good yields, quality. Squash harvest continued. Sweet corn staggered plantings bunching up. Market tomato harvest continued, quality was good. Apples 2.5 inches diameter. Red Haven peach harvest was underway. Stanley plums coloring. Jersey blueberry harvest continued.

**MINNESOTA:** Days suitable for fieldwork 6.1. Topsoil 3% very short, 23% short, 66% adequate, 8% surplus. Corn 58% milking, 81% 1998, 48% avg. Spring Wheat 87% turning ripe, 98% 1998, 82% avg. Oats 95% turning ripe, 99% 1998, 95% avg. Barley 88% turning ripe, 99% 1998, 84% avg. Winter Wheat 58% harvested, 84% 1998, 57% avg. Rye 70% harvested, 91% 1998, 70% avg. Sweet corn 16% harvested, 35% 1998, 17% avg. Pasture feed 3% very poor, 13% poor, 30% fair, 49% good, 5% excellent. Sugarbeets 1% very poor, 4% poor, 21% fair, 58% good, 16% excellent.

Sunflowers 4% very poor, 13% poor, 31% fair, 47% good, 5% excellent. Dry beans 3% very poor, 12% poor, 38% fair, 40% good, 7% excellent. Following two weeks of very hot temperatures, crops, livestock got a break from the weather; the week was mostly dry, sunny, but not hot. Light soil areas and localities which have missed major rains for the past few weeks, reported soils were becoming too dry. Small grain harvest is past the halfway mark in the southern 2/3 of the state, is building toward full-scale in the major growing area of the Red River Valley.

**MISSISSIPPI:** Days suitable for fieldwork 6.8. Soil moisture 42% very short, 40% short, 17% adequate, 1% surplus. Corn 99% dough, 99% 1998, 96% avg.; 95% dent, 87% 1998, 78% avg.; 60% mature, 55% 1998, 35% avg.; 5% harvested, 16% 1998, 6% avg.; 54% silage harvested, 73% 1998, 52% avg.; 1% very poor, 8% poor, 24% fair, 51% good, 16% excellent. Cotton 4% open bolls, 7% 1998, 5% avg.; 2% very poor, 9% poor, 26% fair, 48% good, 15% excellent. Rice 73% heading, 85% 1998, 81% avg.; 0% mature, 1% 1998 4% avg.; 1% very poor, 5% poor, 20% fair, 59% good, 14% excellent. Sorghum 94% heading, 100% 1998, 97% avg.; 67% turning color, 69% 1998, 64% avg.; 17% mature, 13% 1998, 12% avg.; 4% silage harvested, 0% 1998, 7% avg.; 2% very poor, 6% poor, 26% fair, 56% good, 10% excellent. Soybeans 99% blooming, 100% 1998, 89% avg.; 93% setting pods, 82% 1998, 67% avg.; 18% turning color, 15% 1998, 6% avg.; 7% shedding leaves, NA 1998, NA avg.; 6% very poor, 11% poor, 30% fair, 43% good, 10% excellent. Sweet potatoes 5% harvested, 0% 1998, 1% avg.; 1% very poor, 1% poor, 14% fair, 84% good. Hay (warm-season) 75% harvested, 72% 1998, 75% avg. Watermelons 84% harvested, 84% 1998, 85% avg. Cattle, 2% very poor, 7% poor, 29% fair, 51% good, 11% excellent. Pasture 7% very poor, 18% poor, 32% fair, 40% good, 3% excellent. Hot, dry conditions continue across most areas of the state, stressing some crops. Corn is maturing ahead of 1998, the 5-year average. Insect pressure is more pronounced in certain areas of the state.

**MISSOURI:** Days suitable for fieldwork 6.5. Topsoil moisture 47% very short, 33% short, 20% adequate. Row crops, pasture continued to decline during the past week although cool temperatures, rain late in the week helped to minimize crop stress. Corn is 38% mature in the Bootheel while corn in most areas is mostly in dough to dent stages. Soybean blooming ahead of normal, but pod development behind normal due to hot, dry weather. Sorghum 36% coloring in Bootheel while just beginning elsewhere. Cotton bolls are beginning to open in the Bootheel. 3<sup>rd</sup> crop alfalfa cut 49%. Pasture feed 23% very poor, 29% poor, 34% fair, 14% good. Precipitation for week ending August 8, 1999 avg. 1.04 in.

**MONTANA:** Days suitable for fieldwork 6.6. Topsoil 30% very short, 52% short, 18% adequate. Subsoil 26% very short, 52% short, 22% adequate. A majority of the state did not receive precipitation. Sugar beets 18% fair, 52% good, 30% excellent. Winter wheat 90% ripe, 90% 1998, 74% avg.; 2% very poor, 7% poor, 51% fair, 30% good, 10% excellent. Spring wheat 89% turning, 99% 1998, 86% avg.; 30% ripe, 34% 1998, 26% avg. Barley 82% turning, 98% 1998, 84% avg.; 41% ripe, 35% 1998, 29% avg. Oats 80% turning, 92% 1998, 83% avg.; 30% ripe, 54% 1998, 31% avg.; 3% very poor, 8% poor, 22% fair, 49% good, 18% excellent. Corn 15% fair, 56% good, 29% excellent. Potatoes 31% fair, 46% good, 23% excellent. Dry beans 1% poor, 14% fair, 69% good, 16% excellent. Alfalfa 100% 1st cutting, 98% 1998, 99% avg.; 38% 2nd cutting, 31% 1998, 33% avg. Other hay 89% harvested, 84% 1998, 86% avg.

**NEBRASKA:** Days suitable for fieldwork 5.2. Topsoil 5% very short, 28% short, 65% adequate, 2% surplus. Subsoil 3% very short, 29% short, 67% adequate, 1% surplus. Temperatures 6 to 8° below normals. Precipitation across the State averaged from thirty-eight hundredths of an inch in the northwest to over seven inches in extreme eastern counties. Flooding was noted along the Missouri River. Corn 1% very poor, 6% poor, 23% fair, 54% good, 16% excellent. Irrigated corn 75%, dryland corn 63% in good or excellent; corn silk 98%, 98% 1998, 92% avg.; dough 35%, 38% 1998, above 31% avg. Soybeans 96% blooming, 97% 1998, 93% avg.; 51% setting pods, 65% 1998, 56% avg.; 1% very poor, 7% poor, 26% fair, 52% good, 14% excellent. Sorghum 52% headed, 75% 1998, 56% avg.; 2% very poor, 7% poor, 32% fair, 56% good, 3% excellent. Dry beans 3% poor, 24% fair, 68% good, 5% excellent; 95% blooming, 87% 1998, 89% avg.; dry bean setting pod 58%, 19% 1998, 56% avg. Wheat 99% harvest, 97% 1998, 98% avg. Oats 92% harvest, 93% 1998, 92% avg. Alfalfa 99% 2nd cutting, 96% 1998, 95% avg.; 17% 3rd cutting, 16% 1998, 17% avg.; 1% very poor, 4% poor, 25% fair, 59% good, 11% excellent. Pasture, range feed 2% very poor, 6% poor, 30% fair, 53% good, 9% excellent. Wild hay 3% poor, 19% fair, 63% good, 15% excellent. Livestock were doing better with last week's

cloudy, cool temperatures. Cooler weather last week gave livestock a chance to recover from last week's severe, sometimes killer heat. Producer activities: Haying, moving grain to market, caring for livestock, tilling summer fallow, mowing, shredding roadsides, soil preparation for fall seeded wheat.

**NEVADA:** NO WEATHER DATA AVAILABLE.

**NEW ENGLAND:** Days suitable for fieldwork 6.2. Topsoil 42% very short, 38% short, 20% adequate. Subsoil 46% very short, 35% short, 19% adequate. Pasture feed 35% very poor, 29% poor, 32% fair, 4% good. Maine potatoes <5% harvested; condition good to excellent. Massachusetts potatoes 20% harvested, 15% 1998, 15% avg.; condition good to fair. Rhode Island potatoes 20% harvested, 10% 1998, 5% avg.; condition fair to poor. Oats in Maine 15% harvested, 10% 1998, 5% avg.; condition good to excellent. Barley in Maine 20% harvested, 25% 1998; condition good to excellent. Field corn condition good to fair. Sweet corn 40% harvested, 40% 1998, 30% avg.; condition good to fair. Shade tobacco 60% harvested, 75% 1998, 55% avg.; condition good. Broadleaf tobacco 60% harvested, 45% 1998, 35% avg.; condition good. First cut hay 99% harvested, 95% 1998, 95% avg.; condition good to fair. Second cut hay 60% harvested, 60% 1998, 50% avg.; condition good to fair. Third cut hay 5% harvested, <5% 1998, 5% avg.; condition fair to poor. Apples <5% harvested, <5% 1998, <5% avg.; size average, condition good to fair. Peaches 45% harvested, 35% 1998, 20% avg.; size average to below average, condition fair. Pears size average to below average, condition fair to poor. Cranberries size average, condition good. Highbush blueberries 65% harvested, 70% 1998, 55% avg.; size average, condition good to fair. Wild blueberries 40% harvested, 35% 1998, 15% avg.; size average, condition good. Major farm activities included: Irrigating where possible; harvesting summer vegetables, tobacco, oats, barley; picking fruit including apples, peaches, blueberries. Cutting hay where possible. Potato harvest underway in Maine. Mowing weeds, hoeing fields, marketing produce at roadside stands, farmer's markets. Preparing equipment for field corn harvest. Spreading manure.

**NEW JERSEY:** Days suitable for fieldwork 7. Temperatures slightly above normal. Extremes 50°; 96°. Rainfall 0.19 in. north, 0.31 in. central, 0.13 in. south. Heaviest 24 hour total 0.34 in. at Trenton on the 8<sup>th</sup> to the 9<sup>th</sup>. Estimated soil moisture, in percent of field capacity, this past week Averaged 59% north, 37% central, 25% south. Four inch soil temperatures 74° north, 77° central, 77° south. Irrigation is occurring across the State. Irrigation ponds are drying out, well permits are being issued. Although some corn fields are still in fair condition, especially irrigated ones, most fields are in poor condition across the State. Yields are expected to be reduced significantly, many fields have already been lost. Harvesting of corn for silage is occurring, both yields, nutrient content are lower than normal. Single crop soybeans are reported to be between fair, poor condition while most of the double crop fields are in poor condition. Yields are also expected to be significantly decreased. Condition of the second alfalfa cutting is between fair to poor. No third cutting is expected in many areas. The condition of the second other hay crop is in poor condition, no second cutting is expected at all in some areas. Pasture feed is very poor in most of the State. Supplemental feeding of cattle is occurring extensively. Some farmers are already using their winter feed supplies. Respiratory problems have been reported, several animals have died. Milk production has been affected. Most irrigated vegetable fields are in good, fair condition, heat stress has affected even irrigated fields. Some sun damage has been reported in tomato and peppers fields. Blossom end rot has also been reported in some tomato fields, production is expected to decrease. Significant damage to the pumpkin crop is expected since the crop is mostly non-irrigated. Potato sizes have been reported to be somewhat smaller than normal. Harvest of tomatoes, squash, sweet corn, peppers, cucumbers, melons, eggplant, potatoes, other minor vegetables continued. Seeding of irrigated fall vegetables is occurring in southern areas. Harvest of peaches continued. Good quality have been reported, although sizes have being reported to be somewhat smaller than normal. Some premature fruit drop is occurring in central, northern areas. Apples are also being harvested in the southern counties. Its condition is between good, fair, also experiencing a reduced fruit size and premature fruit drop. Blueberry harvest is nearly complete in central areas.

**NEW MEXICO:** Days suitable for fieldwork 3.6. Heavy rain topping 40% to 50% of yearly normal was the highlight for much of the State last week. Areas of the east-central plains, eastern highlands averaged over 3" of moisture during a four-day period. Rainfall averaged just over 1", except for the far southeast plains which remained dry. Temperatures 3 to 6° below normal reflected cloudy and rainy weather except for the far southeast where

the absence of rain allowed temperatures to average 2° above normal. Farm, ranch activities were held to a minimum by wet fields and muddy roads. Rains continued to cause delays for hay and onion harvest along with loss of quality as crops sat in the field. Hot weather is now needed to mature crops. Pasture, range feed continued to improve with 1% very poor, 6% poor, 28% fair, 53% good, 12% excellent. Cattle, sheep remained stable with both being reported in mostly good condition, showing good weight gains.

**NEW YORK:** Days suitable: 6.2. Soil 68 % very short, 18 % short, 14 % adequate. Pasture feed 29 % very poor, 44 % poor, 18 % fair, 9 % good. Second cutting alfalfa 89 % complete, 84 % 1998, 74 % average. Condition of hay crops 36 % poor, 46 % fair, 18 % good. Corn 32 % poor, 41 % fair, 23 % good, 4 % excellent. Corn fields showing stress. Oats harvest 80 % complete; 42 % 1998, 33 % average. Wheat harvest virtually complete. Dry beans in critical need of rainfall. Early potato harvest began. Sweet corn harvest half complete, statewide. Cabbage taking hard hit from drought. Report of tree fruit drop due to drought stress. Sizing a concern. Hudson Valley peach, pear harvest underway. Ontario County peaches 85% harvested, apples 4% harvested.

**NORTH CAROLINA:** Days suitable for fieldwork 6.5, compared to 6.0 last week. Soil moisture levels continue to decline, 20% very short, 50% short, 28% adequate, 2% surplus. Hot weather coupled with little or no rainfall for most of the State. Farmers across the State continue to report a decline in crop conditions due to these excessive hot, dry conditions. Tobacco topping, suckering, harvesting, marketing were among the major activities. Cotton, soybean crops are developing on schedule, corn is running about a week behind. Other activities included weed control in all crops, baling hay, harvesting peaches, vegetables, crop scouting, tending livestock. Irrigation activities continued.

**NORTH DAKOTA:** Days suitable for fieldwork 6. Topsoil 4% very short, 21% short, 71% adequate, 4% surplus. Subsoil 2% very short, 16% short, 75% adequate, 7% surplus. Normal temperatures, dry conditions allowed producers to make harvest progress across most of the State. Durum wheat 74% milk, 96% 1998, 80% avg.; 25% turning, 72% 1998, 42% avg.; 2% combined, 9% 1998, 3% avg. Canola 64% turning, 84% 1998; 26% swathed, 42% 1998; 2% combined, 5% 1998. Corn 45% milk, 66% 1998, 46% avg.; 0% denting, 7% 1998, 2% avg. Dry edible beans 73% podding, 98% 1998, 87% avg.; 16% fully podded, 68% 1998, 37% avg.; 1% lower leaves yellowing, 17% 1998, 8% avg. Flaxseed 26% turning, 70% 1998, 33% avg. Potatoes 1% vines killed, 6% 1998, 1% avg. Soybeans 70% podding, 91% 1998, 86% avg.; 25% fully podded, 43% 1998, 31% avg. Sunflowers 46% blooming, 71% 1998, 56% avg. Scab, vomitoxin were reported in small grains harvested in the southeast, northeast districts. Sunflower midge was found in developing heads in the northeast district. Emerged crop condition: durum 6% poor, 42% fair, 47% good, 5% excellent; canola 4% poor, 23% fair, 57% good, 16% excellent; corn 2% very poor, 5% poor, 20% fair, 63% good, 10% excellent; dry edible beans 8% poor, 24% fair, 50% good, 18% excellent; flaxseed 4% poor, 25% fair, 58% good, 13% excellent; potatoes 5% poor, 9% fair, 48% good, 38% excellent; soybeans 3% very poor, 9% poor, 23% fair, 57% good, 8% excellent; sugar beets 5% poor, 13% fair, 55% good, 27% excellent; sunflower 1% very poor, 6% poor, 25% fair, 57% good, 11% excellent. Stock water 1% very short, 2% short, 89% adequate, 8% surplus. Hay 5% above normal.

**OHIO:** Days suitable for fieldwork 6.5. Topsoil 39% very short, 41% short, 20% adequate. Soybeans 91% setting pods, 62% 1998, 51% avg. Oats 97% harvested, 79% 1998, 73% avg. Alfalfa hay 46% 3<sup>rd</sup> cutting, 31% 1998, 18% avg. Other hay 80% 2<sup>nd</sup> cutting, 82% 1998, 69% avg. Other hay 20% 3<sup>rd</sup> cutting, 16% 1998, 5% avg. Corn 70% in dough, 27% 1998, 22% avg.; 10% dented, 2% 1998, 1% avg.; harvested for silage 1%. Summer apples 68% harvested, 71% 1998, 34% avg. Peaches 54% harvested, 59% 1998. Tobacco 30% topped, 28% 1998; 1% harvested. Processing tomatoes 1% harvested, 4% 1998, 1% avg. Potatoes 23% harvested, 15% 1998, 12% avg. Cucumbers 47% harvested. Pasture feed 32% very poor, 27% poor, 28% fair, 12% good, 1% excellent. Corn 8% very poor, 18% poor, 33% fair, 34% good, 7% excellent. Soybeans 6% very poor, 15% poor, 31% fair, 40% good, 8% excellent. Activities include: Mowing and seeding CRP ground, filter strips, plowing wheat stubble; hauling grain; cleaning out bins; baling hay and straw; spraying, harvesting vegetables; scouting for insects; detasseling seed corn; attending State, county fairs; installing tile waterways; mowing fence rows; hauling hay, water to livestock; irrigating specialty crops. Reported weed pressures include Canadian thistle, morning glory, sourdock, velvetleaf, buttonweed, foxtail, ragweed, hemp dogbane, milkweed, quack grass, poison ivy, broadleaf, chickweed, lambs quarter, Johnson grass. Reported insects

include spider mites in soybeans; leaf hoppers in alfalfa, potatoes; rootworms and earworms in corn; beetles in soybeans, corn. Reported diseases include root rot in soybeans; mildew on vegetables; gray leaf spot on corn; fungus on cucumbers; sudden death syndrome in soybeans. Much of the fruit, vegetable crops are suffering from low moisture, high temperature. In Fairfield County, one reporter mentioned that the dry conditions are beginning to affect the size of fall apples. In central and southern parts of the State, irrigation sources are drying up and crops have low yields. Fruits, vegetables in the North are mostly good. In Ashtabula County, sweet corn is reported in excellent shape. In Huron County, a reporter mentioned that the melon harvest has started with excellent quality. Northeast, tomatoes, melons, cucumbers, squash, blueberries are being harvested, while watermelons, cantaloupes are being harvested in the Southeast. Reporters in northern parts of the State mentioned slight improvements in pastures, grasses after recent rains, more moisture is needed. Pastures in parts of the central, east central districts, and much of the southern half of the state are either barren, dormant, or dried up. This past week provided some relief for heat stressed livestock as temperatures dropped. Still, many producers are liquidating herds as pastures, hay stocks, water sources continue to decline.

**OKLAHOMA:** Days suitable for fieldwork 5.3. Subsoil 7% very short, 29% short, 62% adequate, 2% surplus. Topsoil 13% very short, 37% short, 47% adequate, 3% surplus. Showers improve crop conditions, ease drought south. Rainfall delayed peanut irrigation briefly before hot, dry weather returned. Wheat 88% plowed, 87% 1998, 91% avg.; 12% seedbed prepared, 13% 1998, 18% avg.; some anhydrous ammonia applied southwest. Oats 91% plowed, 84% 1998, 92% avg.; 2% seedbed prepared, 14% 1998, 9% avg. Corn 1% very poor, 2% poor, 4% fair, 90% good, 3% excellent; 58% milk-to-soft, 94% 1998, 88% avg.; 8% mature, 12% 1998, 11% avg. Soybeans 7% poor, 23% fair, 65% good, 5% excellent; 60% flowering, 81% 1998, 80% avg.; 35% setting pods, 41% 1998, 51% avg. Peanuts 70% setting pods, 70% 1998, 73% avg. Cotton 91% squaring, 97% 1998, 98% avg.; made significant advances. Watermelons 55% harvested, 69% 1998, 49% avg. Alfalfa hay 6% poor, 33% fair, 57% good, 4% excellent; 86% 3<sup>rd</sup> cutting, 70% 1998, 76% avg.; 17% 4<sup>th</sup> cutting, 14% 1998, 15% avg. Rainfall enabled farmers to harvest a fourth cutting north. Other Hay 96% 1<sup>st</sup> cutting, 92% 1998, 95% avg.; 39% 2<sup>nd</sup> cutting, 5% 1998, 45% avg.; Livestock 2% poor, 17% fair, 73% good, 8% excellent. Cattle auctions reported fewer marketings. Feeder cattle prices 50 cents to \$2.00 per cwt. below last week

**OREGON:** Days suitable for fieldwork 6.8. Topsoil 27% very short 54% short 19% adequate. Subsoil 21% very short, 53% short, 26% adequate. Thunderstorms dumped rain on some areas of the State, stalling harvest and falling on hay and grass seed in the fields. Barley harvested 36%, 50% 1998, 41% avg. Spring wheat harvested 33%, 18% 1998. Winter wheat harvested 61%, 64% 1998, 64% avg. Range, pasture feed 3% very poor, 16% poor, 46% fair, 31% good, 4% excellent. Activities: Hay harvest continued in western area wheat harvest had started. Eastern Oregon continued grain harvest, wheat yields ranged from the teens to mid-thirties in Mid-Columbia Basin. Mint harvest continued in Northeast summer maintenance, irrigation, container movement are main nursery activities. Fall flowers starting to show in retail garden outlets. Christmas Trees look good, shearing continued. Sweet corn started showing at some stands, green bean, cucumber, cole crop harvests continued. Onions sizing in Willamette Valley, zucchini in high production. Early and fresh pack potato harvest continued in Northeast with yields, quality looking good. Some onions in Malheur County have mite problems, no threat of late blight to potatoes. In the Willamette Valley, blueberry harvest peaking, raspberry picking completed, Marion blackberry season well along, Evergreen blackberry harvest started. Tart cherry harvest finishing at the high elevations, early apples, peaches starting to be picked. Northeast, cherry harvest winding down. In the Rogue Valley, peach harvest continued, picking of earliest pear varieties expected to begin August 9 or 10. On the south coast, blueberry harvest remained active and cranberries beginning to show a blush of color. Livestock condition fair to excellent. Hay being fed in areas where pastures are dired up. Irrigated pastures excellent, using lots of water. Range and pasture land mostly dried up. In the Willamette Valley, recent rains improve grass growth a little. In the east, cooler weather slowed drying.

**PENNSYLVANIA:** Days suitable for field work 6.5. Soil moisture 61% very short, 30% short, 9% adequate. Corn silked 86% complete, 85% 1998, 77% avg.; dough 37% complete, 40% 1998, 22% avg. Soybean 35% very poor, 26% poor, 30% fair, 8% good, 1% excellent. Oats 98% turning yellow, 99% 1998, 97% avg.; 81% ripe, 83% 1998, 79% avg.; 63% harvested, 63% 1998, 54% avg.; 2% very poor, 17% poor, 46% fair, 33% good, 2% excellent. Potato harvest 16% complete, 6% 1998, 5% avg. Alfalfa 2<sup>nd</sup> cutting 91%

complete, 90% 1998, 79% avg.; 3<sup>rd</sup> cutting 54% complete, 44% 1998, 27% avg.; 4<sup>th</sup> cutting 4% complete, 5% 1998, 1% avg. Timothy clover 2<sup>nd</sup> cutting 35% complete, 45% 1998, 41% avg. Quality of hay made 2% very poor, 12% poor, 37% fair, 32% good, 17% excellent. Apple harvest 14% complete, 12% 1998, 8% avg.; 3% poor, 26% fair, 48% good, 23% excellent. Peach harvest 44% complete, 51% 1998, 29% avg.; 5% poor, 20% fair, 48% good, 27% excellent. Grape harvest 5% complete, 0% 1998, 1% avg. Activities include:

Harvesting oats, fruits, vegetables, tobacco; preparing for corn silage harvesting; machinery maintenance; filling silos; hauling manure; spreading lime, fertilizers; applying pesticides; caring for livestock; building and repairing fences; cutting hay and making haylage; baling straw; irrigating crops.

**SOUTH CAROLINA:** Days suitable for fieldwork 6.4. Soil moisture 24% very short, 59% short, 17% adequate. Apples 1% harvested, 1% 1998, 1% avg. Cantaloupes 98% harvested, 98% 1998, 94% avg. Corn 13% harvested, 16% 1998, 11% avg.; 7% very poor, 21% poor, 39% fair, 28% good, 5% excellent. Grapes 10% poor, 60% fair, 30% good. Hay 4% very poor, 14% poor, 43% fair, 36% good, 3% excellent. Peaches 81% harvested, 87% 1998, 85% avg.; 5% poor, 23% fair, 49% good, 23% excellent. Snapbeans 100% harvested, 100% 1998, 90% avg. Sorghum 52% turned color, 54% 1998; 4% very poor, 25% poor, 55% fair, 16% good. Sweet Potatoes 3% poor, 39% fair, 57% good, 1% excellent.

**SOUTH DAKOTA:** Days suitable for fieldwork 6.0. Topsoil 1% very short, 29% short, 64% adequate, 6% surplus. Subsoil 13% short, 77% adequate, 10% surplus. Cooler weather conditions, scattered showers gave much needed relief to cattle, crops. Row crops continued to progress ahead of the five-year average. Winter rye 28% excellent, 52% good, 19% fair, 1% poor. Alfalfa 21% excellent, 60% good, 18% fair, 1% poor. Sunflower 21% excellent, 55% good, 22% fair, 2% poor. Flaxseed 13% excellent, 71% good, 15% fair, and 1% poor. Winter wheat harvested 97%, 96% in 1998, 87% avg. Winter rye ripe 99%, 100% in 1998, 100% avg.; harvested 86%, 92% in 1998, 75% avg. Barley turning color 99%, 100% 1998, 97% avg.; ripe 89%, 93% 1998, 80% avg. Oats turning color 99%, 100% 1998, 97% avg.; ripe 91%, 95% 1998, 83% avg. Spring wheat turning color 98%, 100% 1998, 95% avg.; ripe 90%, 94% 1998, 76% avg. Flaxseed blooming 98%, 91% 1998, 93% avg.; ripe 47%, 90% 1998, 32% avg. Sunflower 50% blooming, 66% 1998, 57% avg.; ray flowers dry 9%, 27% 1998, 8% avg.; bracts yellow 5%, 26% 1998, 6% avg. Corn tasseled 96%, 97% 1998, 91% avg. Alfalfa second cutting 75%, 78% 1998, 71% avg.; 3rd cutting 15%, 17% 1998. Other hay harvested 80%, 82% 1998, 78% avg. Cattle 24% excellent, 69% good, 7% fair. Sheep 29% excellent, 66% good, 5% fair. Stock water supplies 13% surplus, 82% adequate, 5% short.

**TENNESSEE:** Days suitable for fieldwork 7.0. Topsoil 34% very short, 43% short, 23% adequate. Subsoil 25% very short, 45% short, 30% adequate. Corn 88% dough, 78% 1998, 80% avg.; 51% dent, 47% 1998, 43% avg.; 13% mature, 7% 1998, 5% avg.; 22% silage harvested, 9% 1998, 9% avg.; 5% very poor, 19% poor, 37% fair, 35% good, 4% excellent. Tobacco 70% topped, 53% 1998, 57% avg.; 3% very poor, 12% poor, 31% fair, 44% good, 10% excellent. Burley 10% harvested, 6% 1998, 6% avg. Dark air-cured 8% harvested, 6% 1998, 5% avg. Dark fire-cured 10% harvested, 4% 1998, 5% avg. Pasture feed 26% poor, 35% fair, 27% good, 2% excellent. Weather remained mostly hot, dry last week. A front did move into the State on Sunday bringing with it some much needed rain. Parts of western area picked up anywhere from one-quarter inch to one-half inch of rain, with some areas reporting even more. Unfortunately, however most areas of middle, eastern areas had little, if any rain. Although the rain was welcomed, more will be needed in order to stop the steady decline in crop conditions seen throughout the State over the past three weeks. Late planted crops and pastures are suffering the most during this recent drought. Farmers reported late planted corn is curling and leaves are prematurely drying down, while late planted tobacco in some areas has quit growing, forcing producers to irrigate. Cattle producers have begun feeding hay in some areas due to poor pasture conditions. Farmers were busy topping, harvesting tobacco, spraying cotton, cutting hay. Sorghum growers applied sprays to control both webworm, armyworm.

**TEXAS:** Rain, cooler temperatures beneficial crop development in High Plains. Irrigation needs reduced. Central, South remained mostly dry, hot allowing harvest to progress. Range, pastures conditions declining some areas as several weeks hot temperatures taken toll. Haying activity slowed as production exceeded current needs. Hot, dry conditions slowed regrowth on most central, south fields. Livestock conditions remained good, however

producers making supplemental feed decisions as pastures begin to decline.

**Crops:** Corn: Irrigation needs reduced in High Plains by cooler temperatures, good rainfall. Overall progress good. Some fields harvested for silage late week. Harvest increased in Blacklands where yields were good, aflatoxin levels very low. Harvest moved ahead under open, hot conditions in Central, along Upper Coast. Aflatoxin levels low these areas also. Harvest was virtually complete Coastal Bend. Yields good most fields.

Cotton: Insect numbers continued rise in Plains where producers busy spraying as conditions allowed. Progress normal most fields despite slightly cooler temperatures. Boll sets good. Bolls continued to open in Blacklands, Central where conditions favorable. Harvest increased along Upper Coast, Coastal Bend under mostly open conditions. Hot temperatures provided good maturity. Peanuts: Fields continued make good progress in Plains, North Central despite a slight increase in disease some fields, producers begun spraying. Scattered rainfall beneficial to dryland fields, however more needed for further development. Dryland fields South Central also need rain.

Rice: Harvest continued along Upper Coast under open conditions, hot temperatures. Yields, quality good. Sorghum: Progress good in Plains with many fields heading out, some early fields beginning turn color. Harvest along Upper Coast, Coastal Bend virtually complete. Soybeans: Good growth, development continued in Plains, rainfall beneficial. Harvest early varieties winding down along Upper Coast under open conditions.

**Commercial Vegetables:** Rio Grande Valley land preparation was main activity. San Antonio-Winter Garden some planting occurred during week. East, sweet potato harvest continued. High Plains onion, potato harvest slowed part week by rain. Trans Pecos harvest onion, cantaloups, watermelons continued. Peaches: Harvest beginning wind down in Hill Country by end week.

Pecans: A good crop still expected most areas, however nut drop increased where rain not fallen several weeks. Producers continued scout groves for insects, spraying occurred some areas.

**Range and Livestock:** Rainfall in Plains beneficial, however many parts Central, South dry, along with hot temperatures grasses have declined. Haying activity slowed. Hay supplies will be replenished as summer ends. Livestock conditions good across State. Hot temperatures have taken a toll on poultry operations.

**UTAH:** Days suitable for fieldwork 7. Topsoil 12% very short, 23% short, 60% adequate, 5% surplus. Subsoil 11% very short, 24% short, 65% adequate. Pasture, range feed 2% very poor, 8% poor, 35% fair, 54% good, 1% excellent. Corn: height 74 in., 64 in. 1998, 67 in. avg.; 61% silked, 44% 1998, 55% avg. Winter wheat 56% harvested, 41% 1998, 61% avg. Spring wheat 49% harvested, 36% 1998, 48% avg. Barley 50% harvested (grain), 37% 1998, 52% avg. Alfalfa hay 81% 2nd cutting, 82% 1998, 82% avg. Other hay 85% 1st cutting, 75% 1998, 80% avg. Oats 98% headed, 94% 1998, 92% avg.; 81% harvested for hay or silage, 75% 1998, 79% avg.; 21% harvested for grain, 19% 1998, 25% avg. Tart cherries 90% picked, 93% 1998, 90% avg. Peaches 9% picked, 5% 1998, 16% avg. Irrigation water supply 8% very short, 18% short, 74% adequate. Stock water supplies 4% very short, 20% short, 74% adequate, 2% surplus. Major activities included: Irrigating, harvesting small grains, hay. Most counties received rain this week.

**VIRGINIA:** Days suitable for fieldwork 6.6. Topsoil 32% very short, 43% short, 25% adequate. Subsoil 42% very short, 34% short, 24% adequate. Topsoil moisture supplies diminished considerably from the previous week. Temperatures subsided somewhat last week over most of the Commonwealth. Most localities continue to receive below normal rainfall. Pasture feed 31% very poor, 30% poor, 22% fair, 15% good, 2% excellent. Livestock 4% very poor, 10% poor, 29% fair, 52% good, 5% excellent. Hay, other 32% very poor, 36% poor, 19% fair, 10% good, 3% excellent. Hay, alfalfa 12% very poor, 31% poor, 38% fair, 15% good, 4% excellent. Corn for grain 92% silked, 79% 1998, 85% avg.; 44% dough, 39% 1998, 44% avg.; 20% dented, 15% 1998, 21% avg.; 16% very poor, 39% poor, 18% fair, 20% good, 7% excellent. Corn for silage 1% harvested, 0% 1998, 0% avg. Soybeans 42% blooming, 61% 1998, 55% avg.; 16% setting pods, 33% 1998, 28% avg.; 8% very poor, 20% poor, 35% fair, 30% good, 7% excellent. Tobacco, flue cured 14% harvested, 14% 1998, 17% avg.; 1% poor, 13% fair, 65% good, 21% excellent. Tobacco, burley 2% very poor, 5% poor, 24% fair, 46% good, 23% excellent. Tobacco, dark fire cured 10% harvested, 9% 1998, 7% avg.; 6% poor, 24% fair, 50% good, 20% excellent. Tobacco, sun cured 1% harvested, 0% 1998, 1% avg.; 31% poor, 30% fair, 39% good. Peanuts 100% pegged, 98% 1998, na% avg.; 4% fair, 68% good, 28% excellent. Cotton 100% squaring, 100% 1998, 100% avg.; 67% setting bolls, 98% 1998, 96% avg.; 8% fair, 59% good, 33% excellent. Summer potatoes 92% harvested, 94% 1998, 93% avg. Apples, summer 50% harvested, 75%

1998, 27% avg. Apples, All 2% very poor, 15% poor, 61% fair, 20% good, 2% excellent. Peaches 41% harvested, 54% 1998, 47% avg.; 13% very poor, 20% poor, 52% fair, 15% good. Some hay producers have been able to get multiple cuttings, however, quality, quantity are both greatly reduced. Livestock producers are being forced to continue to provide supplemental feed, water supplies for their herds. Culling of feeder cattle, marginal breeding stock continues. Fifty-five percent of corn acreage is poor or very poor condition. While most of the decrease in corn condition can be attributed to the extreme dry weather, corn ear worm infestation has caused problems in some fields. Corn is beginning to dry down in some areas. Few producers will probably be cutting some of their grain corn for green-chop to feed livestock. Soybean producers are hopeful for an increased amount of rainfall in mid-August in order to provide needed moisture. Currently the plants are behind schedule in blooming and setting pods. Tobacco harvest is beginning to pick for in all varieties. Overall crop condition appears good to excellent, many producers expect a good harvest. Peanut, cotton producers have better than normal expectations this year. Both crops are hardy and more resistant to heat and extreme temperatures than other row crops. Some isolated peanut producers have reported occurrence of diseases such as leaf spots and white mold which are caused by damp conditions. Fungicides are currently being applied to inhibit the spread of these diseases. Two-thirds of cotton plants are already setting bolls which will begin to open over the next couple of weeks. Summer fruits and vegetables such as apples, peaches, potatoes, tomatoes, and peppers are currently being harvested. Producers are also busy planting fall vegetables.

**WASHINGTON:** Days suitable for fieldwork 5.6. Topsoil 27% very short, 46% short, 27% adequate; subsoil 21% very short, 58% short, 21% adequate. Winter wheat harvest was in full swing in eastern areas, but was slowed by rain showers towards the end of the week. Yields were better than once anticipated, quality was high. Barley, spring wheat harvest was underway but were also slowed by rain showers. Those fields that were not ready to be harvested benefitted from the moisture. Winter wheat 34% harvested, 55% 1998, 50% avg. Winter wheat, dryland 9% very poor, 13% poor, 43% fair, 30% good, 5% excellent; irrigated 100% good. Spring wheat, dryland 18% very poor, 27% poor, 40% fair, and 15% good; irrigated 100% good. Harvested, 7%, 25% 1998, 29% avg. Barley, dryland 11% very poor, 28% poor, 48% fair, 13% good; irrigated, 100% good. Harvested 8%, 32% 1998, 34% avg. Potatoes 10% harvested, 14% 1998, 11% avg. Potatoes 5% fair, 61% good, 34% excellent. Hay, other roughage supplies were 2% very short, 3% short, 75% adequate, 20% surplus. Range, pasture, 18% very poor, 32% poor, 37% fair, 12% good, 1% excellent. Warm, dry weather caused pastures to turn brown but was helping hay producers that had hay down. Dairy producers were fertilizing fields, were making green chop. Field corn was being harvested for silage. A wide variety of vegetables were being harvested. Sweet corn growth was helped by the additional heat units early in the week. Raspberry harvest was coming to an end while blueberry and blackberry harvest got underway. Some hail damage was reported in the fruits in central areas. Soft fruits were still being harvested, apple harvest started. Labor availability was adequate as pear growers prepared to start harvest next week.

**WEST VIRGINIA:** Days suitable for fieldwork 6.2. Topsoil 58% very short, 37% short, 5% adequate. Despite some rain this past week, inadequate moisture supplies continue to affect crop, livestock, pasture feeds throughout the State. Hay 39% very poor, 41% poor, 18% fair, 2% good; Hay 2<sup>nd</sup> cut 48%, 49% 1998, 6% 5-yr avg. Corn 24% very poor, 54% poor, 17% fair, 5% good; Corn 71% Silked, 69% 1998, 75% 5-yr avg.; 35% doughing, 20% 1998, 27% 5-yr avg. Oats 29% very poor, 27% poor, 44% fair. Oats 77% harvested, 64% 1998, 62% 5-yr avg. Soybeans 19% very poor, 36% poor, 45% fair, 72% bloomed, 55% 1998, 79% 5-yr avg.; Setting 36% pods, 27% 1998, 47% 5-yr avg. Tobacco 31% very poor, 25% poor, 40% fair, 4% good, 12% Topped, 15% 1998, 44% 5-yr avg. Apples 25% very poor, 12% poor, 48% fair, 15% good. Peaches 26% very poor, 13% poor, 48% fair, 13% good. Cattle 6% very poor, 22% poor, 48% fair, 23% good, 1% excellent. Sheep 3% very poor, 29% poor, 55% fair, 12% good, 1% excellent.

**WISCONSIN:** Days suitable for fieldwork: 5.5 Soil 0% very short, 13% short, 78% adequate, 9% surplus. Cooler temperatures during the first week of August have been a big turnaround compared with the end of July. The hay harvest is still being hampered by intermittent showers that are making it difficult to put up good dry hay. Second crop is almost finished with a few started on third crop hay. Second Crop hay harvested: 88% 1999, 96% 1998, 80% avg. Many reporters have commented that third crop is a couple of weeks away from being harvested, that leafhoppers are still a problem in fields that have not been sprayed. Third Crop hay harvested: 18% 1999, 39% 1998, 11% avg. Farmers with small grains have been able to get back into

their fields, start harvesting again. Many farmers are almost done harvesting the winter wheat crop. Winter wheat harvested: 98% 1999, 99% 1998, 71% avg. The oat harvest is coming along nicely, but is a little behind 1998. Many reporters have noted that rain showers have slowed the oat harvest. An Oconto County reporter stated that there is a bit of serious lodging in small grains. The corn crop continues to look good. Many reports rated the corn at good to excellent. However, a Kenosha County reporter stated that corn stalks are turning brown. The soybean crop is still looking good. Most reports have it rated at mostly good to excellent, that the only problems in fields are in the low spots. Soybean conditions: 2% poor, 10% fair, 53% good, 35% excellent. Soybeans 89% bloomed: 1999, 91% 1998. Soybeans setting pods: 58% 1999, 70% 1998. Pasture Feed conditions: 3% poor, 20% fair, 54% good, 23% excellent.

**WYOMING:** Days suitable for fieldwork 6.0. Topsoil 5% very short, 48% short, 47% adequate. Winter wheat 88% harvested, 82% 1998, 75% avg.

Spring wheat 3% fair, 93% good, 4% excellent. Spring wheat 62% turning color, 100% 1998, 83% avg.; 38% mature, 61% 1998, 44% avg.; 26% harvested, 29% 1998, 19% avg. Barley 1% fair, 75% good, 24% excellent. Barley 85% turning color, 96% 1998, 92% avg.; 67% mature, 61% 1998, 60% avg.; 42% harvested, 18% 1998, 23% avg. Oats 1% poor, 5% fair, 84% good, 10% excellent. Oats 60% turning color, 90% 1998, 80% avg.; 27% mature, 56% 1998, 43% avg.; 9% harvested, 22% 1998, 18% avg. Sugarbeet 8% fair, 72% good, 20% excellent. Corn 4% fair, 91% good, 5% excellent. Corn 96% tasseled, 100% 1998, 91% avg.; 80% silked, 75% 1998, 68% avg.; 38% milk, 13% 1998, 31% avg. Dry bean 2% fair, 84% good, 14% excellent. Dry bean 96% bloom, 100% 1998, 98% avg.; 73% setting pods, 67% 1998, 67% avg.; leaves 6% turning, 0% 1998, 4% avg. Alfalfa 2nd 34% cutting, 28% 1998, 31% avg. Other 66% hay cut, 72% 1998, 73% avg. Range pasture feed 1% poor, 18% fair, 69% good, 12% excellent. Temperatures fell slightly, but conditions remained predominantly warm, dry for most of the State.

Pasture and Range Crop Condition by Percent Week Ending August 8, 1999											
	VP	P	F	G	EX		VP	P	F	G	EX
AL	5	15	37	41	2	NH	19	42	37	2	0
AZ	0	6	21	39	34	NJ	90	10	0	0	0
AR	4	23	41	31	1	NM	1	6	28	53	12
CA	0	0	45	55	0	NY	29	44	18	9	0
CO	2	4	16	64	14	NC	4	20	37	36	3
CT	41	59	0	0	0	ND	1	5	26	61	7
DE	5	68	17	10	0	OH	32	27	28	12	1
FL	0	5	50	45	0	OK	1	8	34	55	2
GA	10	23	43	21	3	OR	3	16	46	31	4
ID	0	4	43	39	14	PA	61	28	10	1	0
IL	14	19	40	26	1	RI	72	28	0	0	0
IN	21	31	37	11	0	SC	6	25	43	25	1
IA	4	16	33	38	9	SD	0	2	15	62	21
KS	0	4	26	63	7	TN	10	26	35	27	2
KY	26	34	29	11	0	TX	5	18	44	28	5
LA	2	15	34	44	5	UT	2	8	35	54	1
ME	19	27	42	12	0	VT	54	10	33	3	0
MD	46	28	21	5	0	VA	31	30	22	15	2
MA	0	60	40	0	0	WA	18	32	37	12	1
MI	7	14	27	43	9	WV	48	35	16	1	0
MN	3	13	30	49	5	WI	0	3	20	54	23
MS	7	18	32	40	3	WY	0	1	18	69	12
MO	23	29	34	14	0	48 Sts	8	15	33	38	6
MT	6	15	39	36	4						
NE	2	6	30	53	9	Prev Wk	7	12	32	41	8
NV	0	16	22	62	0	Prev Yr	11	16	28	37	8

## International Weather and Crop Summary

August 1 - 7, 1999

### HIGHLIGHTS

**EUROPE:** Showers slowed winter wheat and early spring grain harvesting in western Europe, while unseasonably warm, dry weather stressed spring-sown crops in the Northeast.

**FSU-WESTERN:** Showers and cooler weather stabilized conditions for summer crops in Russia, while soils remained unfavorably dry for crop development in Ukraine.

**FSU-NEW LANDS:** Hot, dry weather hastened maturity in spring grains in western Kazakstan, while showers and cooler weather favored crop development in major spring grain-producing areas of central Kazakstan and most of Russia.

**EASTERN ASIA:** Mostly dry weather returned to the North China Plain, increasing stress on reproductive to filling summer crops. Typhoon Olga hit the Korean Peninsula exacerbating flooding and causing some rice damage.

**AUSTRALIA:** Showers in the southeast benefited vegetative winter grains.

**SOUTH ASIA:** Heavy rain returned to rainfed rice areas of eastern India, but dry weather persisted in important oilseed and cotton areas farther west.

**SOUTHEAST ASIA:** Drier weather reduced rice moisture supplies in northern Vietnam, and torrential showers caused flooding and possible rice damage in western Luzon, Philippines.

**CANADA:** Cool, dry weather kept immature Prairie spring crops behind schedule in development.

**MEXICO:** Seasonal showers continued to benefit corn across the Southern Plateau.

**SOUTH AMERICA:** Rain favored wheat germination and development in northern Buenos Aires, while drier weather prevailed across the wheat belt of southern Brazil.

## July 1999

### MONTHLY DATA FROM SELECTED FOREIGN CITIES CLIMATE PREDICTION CENTER-NCEP-NWS-NOAA

\*\*\* DATA NOT AVAILABLE

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY	OSLO	13	3	24	-2	8	-1.0	49	-13
FINLAND	HELSINKI	12	3	21	-4	7	-2.5	12	-23
UKINGDOM	GLASGOW	**	**	**	**	7	**	**	**
	EDINBURGH	14	8	21	1	11	1.1	58	7
IRELAND	DUBLIN	15	8	19	3	12	1.1	38	-17
ICELAND	REYKJAVIK	10	5	14	1	7	0.7	68	24
DENMARK	COPENHAGEN	15	6	22	2	11	-1.3	37	-5
LUXEMBOR	LUXEMBOURG	19	10	29	5	15	2.5	32	-44
SWITZERL	ZURICH	19	11	29	7	15	3.0	287	181
	GENEVA	21	12	29	8	17	3.9	83	9
FRANCE	PARIS/ORLY	21	12	29	7	16	**	55	**
	STRASBOURG	22	11	31	7	16	2.7	74	-3
	BOURGES	21	12	28	7	16	3.1	69	-12
	BORDEAUX	23	14	29	9	18	3.8	90	14
	TOULOUSE	22	13	27	9	18	3.0	101	27
	MARSEILLE	24	15	31	10	20	2.7	26	-17
SPAIN	VALLADOLID	23	10	31	5	16	2.6	25	-22
	MADRID	24	11	32	6	18	1.0	27	-13
	SEVILLE	29	16	36	11	22	2.4	34	-5
PORTUGAL	LISBON	22	14	31	11	18	0.6	84	41
GERMANY	HAMBURG	18	8	29	0	13	0.8	45	-11
	BERLIN	20	9	31	3	15	0.6	26	-30
	DUSSELDORF	20	10	29	2	15	1.2	51	-9
	LEIPZIG	19	9	29	4	14	1.6	55	4
	DRESDEN	19	9	28	4	14	1.2	80	17
	STUTTGART	20	10	28	5	15	2.0	74	-5
	NURNBERG	20	9	29	3	15	1.3	75	10
AUSTRIA	VIENNA	20	11	31	3	15	0.3	89	27
	INNSBRUCK	21	10	29	5	16	2.3	199	108
CZECHREP	PRAGUE	19	8	28	2	14	1.0	42	-36
POLAND	WARSAW	18	7	28	1	12	-1.1	46	-11
	LODZ	18	7	29	1	13	-0.2	42	-9
	KATOWICE	19	7	28	0	13	0.4	30	-38
	PRZEMYSL	18	8	27	0	13	-0.6	63	-13
HUNGARY	BUDAPEST	21	11	30	5	16	0.2	101	47
YUGOSLAV	BELGRADE	22	13	30	6	18	0.3	61	-11
ROMANIA	BUCHAREST	22	9	31	0	16	-0.7	64	-7
BULGARIA	SOFIA	21	10	28	3	15	0.7	83	8
ITALY	MILAN	25	15	32	11	20	3.4	41	-56
	VERONA	23	15	30	11	19	2.2	56	-28
	VENICE	23	15	28	11	19	2.1	40	-26
	GENOA	22	17	26	14	19	1.7	13	-95
	ROME	23	14	29	9	19	1.7	85	50
	NAPLES	**	**	36	13	**	**	**	**
GREECE	THESSALONIKA	25	14	31	9	19	0.0	29	-18
	LARISSA	27	13	33	7	20	0.2	6	-31
	ATHENS	26	17	30	11	21	0.9	1	-23
TURKEY	ISTANBUL	22	14	30	8	18	2.4	5	-25
	ANKARA	23	5	28	-2	14	-2.9	10	-32
CYPRUS	LARNACA	28	17	37	13	23	2.0	0	-11
ESTONIA	TALLINN	12	3	23	-5	7	-2.6	6	-28
LITHUANI	KAUNAS	16	5	26	-1	10	-2.5	34	-21
BELARUS	MINSK	16	5	27	-3	10	-2.8	34	-27
RUSSIA	KAZAN	13	5	26	-4	9	-4.7	50	15
	MOSCOW	13	4	26	-4	9	-4.4	40	-14
	YEKATERINBUR	14	5	28	-3	9	-1.5	56	12
	OMSK	22	9	34	-1	15	3.6	8	-25
	NOVOSIBIRSK	23	10	32	-1	16	6.6	13	-20
	BARNAUL	24	8	33	-2	16	4.2	9	-29
	KHABAROVSK	15	5	23	0	10	-1.7	57	-1
	VLADIVOSTOK	14	7	22	5	11	1.0	142	73
	SARATOV	16	8	28	-2	12	-2.7	38	-12
	VOLGOGRAD	17	7	27	-3	12	-4.6	25	-7
	ASTRAKHAN	20	10	28	0	15	-3.4	18	-6
	KRASNODAR	20	10	26	1	15	-2.4	62	-1
	ORENBURG	19	7	31	-6	13	-2.3	65	36
KAZAKHST	TSELINOGRAD	22	8	35	0	15	1.8	21	-12
	KARAGANDA	21	8	34	1	15	1.5	23	-13
GEORGIA	TBILISI	21	11	28	3	16	-1.3	66	-12
UZBEKIST	TASHKENT	28	14	37	9	21	0.6	42	10

Based on Preliminary Reports

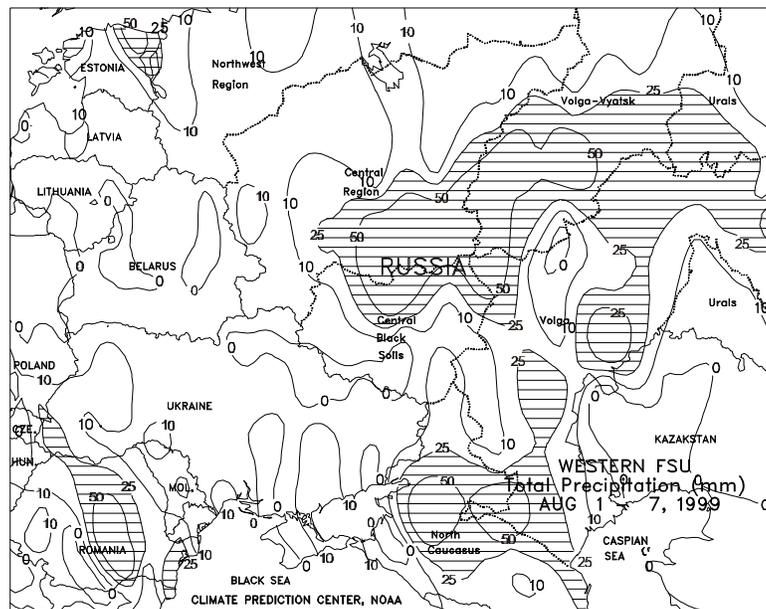
July 1999

COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY	CITY	TEMPERATURE (C)					PRECIPITATION (MM)			
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM			AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM	
TURKMENI	ASHKhabad	29	17	40	10	23	-0.2	1	-28		BETHAL	20	5	26	-1	12	0.8	25	6	
SYRIA	DAMASCUS	33	13	38	7	23	2.5	0	-5		DURBAN	25	15	28	10	20	0.9	37	-24	
ISRAEL	JERUSALEM	28	15	37	9	21	2.2	0	-4		CAPE TOWN	21	11	29	4	16	1.7	32	-36	
PAKISTAN	KARACHI	35	28	43	26	31	0.7	4	4	CANADA	TORONTO	21	10	32	4	16	3.2	38	-28	
INDIA	AMRITSAR	37	27	44	21	32	2.1	9	-10		MONTREAL	23	10	32	1	16	3.4	45	-24	
	NEW DELHI	40	27	44	22	33	1.0	18	-6		WINNIPEG	18	6	31	-4	12	0.4	95	35	
	AHMEDABAD	40	27	44	23	33	-0.5	5	-10		REGINA	17	5	27	-2	11	-0.6	69	18	
	INDORE	41	25	44	23	33	0.6	1	-16		SASKATOON	17	5	29	-2	11	-0.7	117	74	
	CALCUTTA	35	26	40	22	30	-1.0	110	27		LETHBRIDGE	17	2	29	-4	10	-1.7	50	-1	
	VERAVAL	32	27	33	26	30	1.2	0	-2		CALGARY	15	2	27	-6	9	-1.1	54	1	
	BOMBAY	33	26	36	23	30	-0.1	42	22		EDMONTON	15	4	29	-2	10	-1.8	85	41	
	POONA	35	22	41	18	29	-1.1	36	-9		VANCOUVER	15	7	26	2	11	-1.0	64	2	
	BEGAMPET	37	25	43	21	31	-1.4	90	56	MEXICO	GUADALAJARA	30	15	35	11	22	-1.8	10	-17	
	VISHAKHAPATNA	33	28	36	22	30	***	69	**		MEXICO CITY	25	15	30	12	20	1.6	56	5	
	MADRAS	37	27	41	25	32	-0.8	56	27		ACAPULCO	33	24	35	20	29	0.5	0	-21	
	MANGALORE	31	24	34	22	27	-1.8	527	294		BERMUDA	ST. GEORGES	26	20	28	17	23	0.7	72	-31
HONGKON	KINGS PEAK	27	23	31	16	25	***	216	**		BAHAMAS	NASSAU	29	22	33	18	26	0.3	116	3
N KOREA	PYONGYANG	20	9	26	4	14	0.1	27	-50		CUBA	HAVANA	30	23	35	21	27	1.0	0	-115
S KOREA	SEOUL	23	13	33	10	18	1.5	110	24		JAMAICA	KINGSTON	31	26	33	24	28	0.7	3	-65
JAPAN	SAPPORO	16	8	29	4	12	0.1	97	42		P RICO	SAN JUAN	32	24	33	22	28	0.8	105	-40
	NAGOYA	25	15	30	9	20	1.3	180	22		GUADELOU	RAIZET	32	24	33	22	28	1.5	32	-66
	TOKYO	24	17	32	11	20	1.6	109	-29		MARTINIQ	LAMENTIN	31	24	33	21	28	1.5	32	-83
	YOKOHAMA	23	16	31	10	20	1.7	119	-45		BARBADOS	BRIDGETOWN	31	25	32	24	28	0.6	13	-39
	KYOTO	26	15	30	8	20	1.8	168	12		TRINIDAD	PORT OF SPAIN	33	24	34	22	29	1.5	10	-87
	OSAKA	25	17	29	11	21	1.4	113	-27		COLOMBIA	BOGOTA	19	**	23	6	**	***	34	-48
THAILAND	PHETCHABUN	32	24	36	22	28	-1.2	247	87		VENEZUEL	CARACAS	31	23	32	22	27	0.1	14	-22
	BANGKOK	33	26	34	24	29	-0.7	410	189		F GUIANA	CAYENNE	30	23	31	21	26	0.5	564	-45
MALAYSIA	KUALA LUMPUR	33	24	34	23	29	1.3	397	205		BRAZIL	RECIFE	29	23	30	19	26	0.3	304	-3
VIETNAM	HANOI	30	24	36	21	27	-0.6	169	-27		BELO	25	15	30	10	20	-0.3	4	-25	
CHINA	HARBIN	19	7	31	1	13	-0.6	44	8		FRANCA	23	14	27	6	18	1.7	22	-35	
	HAMI	28	14	36	8	21	0.6	8	5		RIO DE JANEIRO	32	18	**	**	**	**	**	**	
	LANCHOW	24	11	30	7	17	0.6	75	37		LONDRINA	23	12	30	5	18	-1.4	47	-55	
	BEIJING	25	13	32	6	19	-0.9	32	4		SANTA MARIA	20	11	32	3	15	-0.8	222	93	
	TIENTSIN	26	15	33	9	20	-0.3	47	14		PORTO ALEGRE	20	11	29	6	16	-1.6	89	-26	
	LHASA	20	8	26	4	14	1.6	63	37		PERU	LIMA	22	16	25	15	19	0.2	0	0
	KUNMING	22	14	28	7	18	-0.9	215	123		BOLIVIA	LA PAZ	14	1	17	-3	7	-0.3	7	-7
	CHENGCHOW	27	16	37	10	21	0.5	31	-21		CHILE	SANTIAGO	19	5	25	-1	12	1.1	0	-40
	YEHCHANG	27	18	33	15	22	0.5	162	39		ARGENTIN	IGUAZU	23	12	30	3	18	***	145	**
	HANKOW	27	19	34	16	23	1.2	178	29		FORMOSA	24	13	32	5	18	-0.7	84	-34	
	CHUNGKING	25	19	31	15	22	***	145	**		CERES	21	9	32	0	15	-0.6	1	-28	
	CHIHKIANG	26	18	32	12	22	0.8	320	112		CORDOBA	19	10	31	1	14	0.1	120	99	
	WU HU	27	18	32	12	22	***	110	**		RIO CUARTO	18	10	26	3	14	0.8	4	-20	
	SHANGHAI	24	18	30	13	21	***	105	**		ROSARIO	20	9	31	1	14	0.5	51	3	
	NANCHANG	26	19	32	15	23	0.3	329	74		BUENOS AIRES	18	9	28	2	13	0.5	42	-34	
	TAIPEI	27	21	35	15	24	-0.1	280	61		SANTA ROSA	17	6	26	-1	12	0.5	222	194	
	CANTON	28	21	33	16	25	-0.8	190	-76		TRES ARROYOS	16	7	23	0	11	0.5	36	-31	
	NANNING	28	22	34	16	25	-0.8	111	-77		NEW CAL	NOUMEA	27	22	30	19	24	2.0	144	53
CANARY I	LAS PALMAS	24	19	27	15	21	1.2	0	-2		FIJI	NAUSORI	28	22	32	18	25	0.8	146	-108
MOROCCO	CASABLANCA	22	16	26	13	19	1.3	8	-11		SAMOA	PAGO PAGO	29	24	32	23	27	-0.2	524	274
	MARRAKECH	30	16	41	10	23	2.6	6	-18		TAHITI	PAPEETE	30	24	32	22	27	1.1	149	55
ALGERIA	ALGER	26	14	31	9	20	2.3	2	-34		AUSTRALI	DARWIN	31	21	33	17	26	-1.6	0	-29
	BATNA	30	13	38	5	22	5.7	8	-31		BRISBANE	23	15	25	10	19	0.2	77	-20	
TUNISIA	TUNIS	29	17	37	13	23	3.6	7	-15		PERTH	21	14	27	8	18	1.5	113	9	
NIGER	NIAMEY	41	29	45	24	35	0.8	28	-7		CEDUNA	22	11	30	2	16	1.5	13	-21	
MALI	TIMBUKTU	42	28	46	21	35	0.8	0	-4		ADELAIDE	18	11	25	4	15	0.7	44	-13	
	BAMAKO	37	27	41	23	32	0.9	14	-39		MELBOURNE	18	9	24	1	14	0.8	40	-17	
MAURITAN	NOUAKCHOTT	32	21	46	17	26	0.6	0	0		WAGGA	18	7	22	-1	12	0.3	41	-19	
SENEGAL	DAKAR	26	21	31	17	24	0.8	0	0		CANBERRA	17	4	21	-4	10	0.9	24	-21	
CHAGOS A	DIEGO GARCIA	29	26	30	24	27	0.0	212	22		INDONESI	DJAKARTA	31	24	33	14	27	0.0	60	**
LIBYA	TRIPOLI	33	19	47	13	26	3.0	0	-4		PHILIPPI	MANILA	33	28	35	25	30	0.5	82	-43
	BENGHAZI	29	20	40	14	24	1.7	2	-1											
EGYPT	CAIRO	32	19	37	16	26	0.6	0	0											
	ASWAN	**	**	43	21	**	***	**	**											
ETHIOPIA	ADDIS ABABA	26	12	29	8	19	0.9	30	-47											
KENYA	NAIROBI	25	14	28	11	20	0.4	6	-105											
TANZANIA	DAR ES SALAAM	29	22	32	20	25	-0.1	192	38											
GABON	LIBREVILLE	30	24	32	21	27	0.6	535	267											
TOGO	LOME	31	25	35	13	28	0.2	140	-8											
BURKINA	OUAGADOUGOU	37	27	42	22	32	0.6	54	-18											
COTE DI	ABIDJAN	32	26	34	22	29	1.3	174	-102											
MOZAMBIQ	MAPUTO	27	17	34	14	22	0.7	35	5											
ZAMBIA	LUSAKA	26	12	31	7	19	-0.1	0	-2											
ZIMBABWE	HARARE	24	11	27	9	18	2.2	0	-10											
S AFRICA	PRETORIA	23	9																	



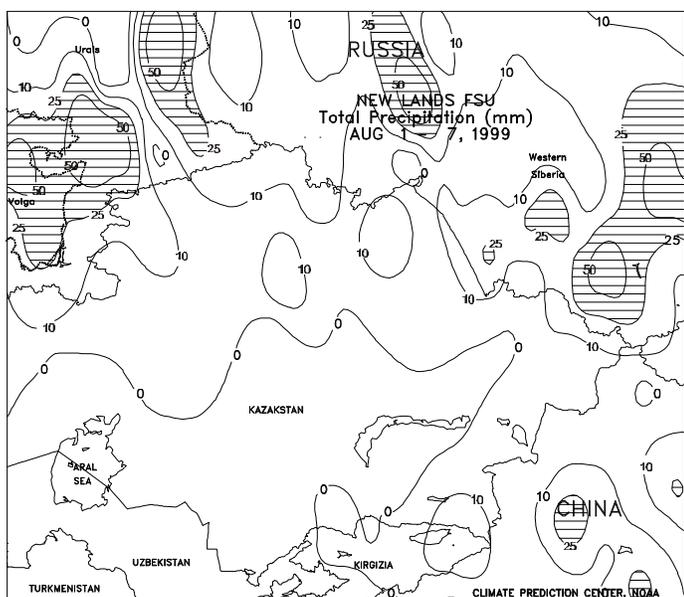
**EUROPE**

Widespread showers (20-70 mm) slowed winter wheat and early spring grain harvesting across much of England, France, the Benelux countries, and western and central Germany. These showers were beneficial, however, replenishing soil moisture reserves in areas that experienced relatively dry weather during the past 3 weeks. Showers (10-30 mm, with locally heavier amounts) also fell in northern and western sections of the Iberian peninsula, providing needed rains for non-irrigated crops. In contrast, seasonably dry weather dominated the remainder of the Iberian peninsula and much of central and southern Italy. In northern Italy, showers (25-53 mm) maintained ample crop moisture supplies in major corn- and soybean-producing regions. In eastern and far northern Europe, dry, unseasonably warm weather stressed spring-sown crops in extreme eastern Germany, northern and central Poland, and southern Scandinavia. Elsewhere in eastern Europe, light to moderate showers (10-35 mm, with locally heavier amounts) benefited developing spring-sown crops. Average temperatures across Europe continued to be unseasonably mild. Temperatures were generally 1 to 3 degrees C above normal, except 3 to 5 degrees C above normal in southern England, northern France, the Benelux countries, and much of Germany. Pockets of below-normal temperatures (generally 1 to 3 degrees C below normal) occurred in the western Iberian peninsula and southeastern Europe. In Greece, temperatures 2 to 4 degrees C below normal likely slowed cotton development.

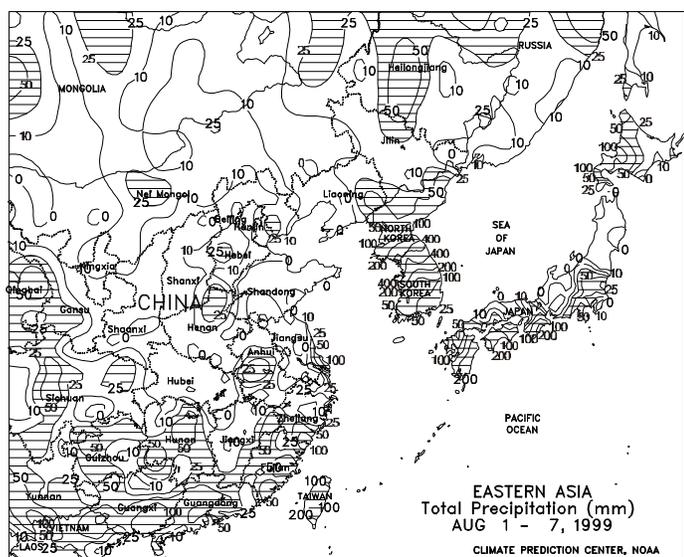


**FSU-WESTERN**

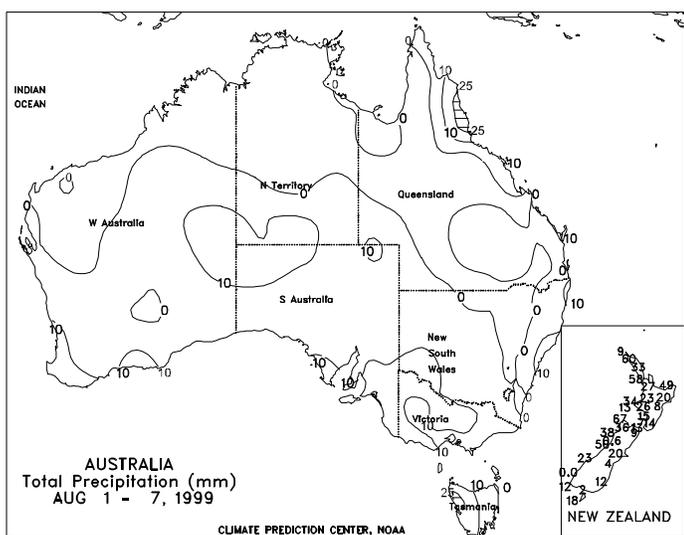
In Russia, light to moderate showers (10-50 mm, with local amounts in excess of 50 mm) accompanied a cooling trend, ending a prolonged period of oppressive heat and dryness in major summer crop-producing areas of North Caucasus, lower Volga Valley, and the southern portion of the Central Black Soils Region. The precipitation and cooler weather helped to stabilize conditions for corn, sunflowers, and sugar beets in the filling stage of development. Farther north, moderate to locally heavy rain (25-60 mm or more) continued to slow winter grain harvesting in the southern portion of the Central Region and the Volga Vyatsk. In Ukraine, mostly dry weather prevailed over the eastern two-thirds of the country, keeping soils unfavorably dry for summer crop development, but allowing rapid winter and spring grain harvesting. However, temperatures decreased during the week, lowering heat stress on summer crops. Reports as of August 6 indicated that grains and pulses, excluding corn, were about 80 percent harvested in Ukraine. In Belarus and the Baltics, unseasonably warm, dry weather helped winter and spring grain harvesting. Weekly temperatures averaged 1 to 3 degrees C above normal in Belarus and the Baltics and near to slightly below normal in Ukraine and Russia.



Unfavorably hot, dry weather continued to prevail in spring grain areas of western Kazakhstan and the southern Urals region in Russia. Early in the week, maximum temperatures in these areas ranged from 35 to 41 degrees C, hastening spring grain maturity. However, by week's end, temperatures fell to more seasonable levels. Elsewhere in Kazakhstan and Russia, variable amounts of precipitation (4-50 mm or more) accompanied a cooling trend, providing mostly favorable conditions for spring grains in the filling stage. In Russia, greatest amounts of moisture (25-64 mm) fell in the northern Urals and the Altay Kray region of Western Siberia. Light showers (5-19 mm) were observed in major spring wheat-producing areas of central Kazakhstan. Weekly temperatures averaged 2 to 4 degrees C above normal in Western Kazakhstan and the southern Urals and 1 to 3 degrees C below normal over the remainder of the region. In cotton-growing areas of Central Asia, unseasonably hot weather spread eastward across the region, increasing irrigation requirements and accelerating cotton development.



Mostly dry weather returned to the North China Plain, stressing reproductive to filling summer crops. Only scattered showers (10-50 mm) fell in Hebei and northern Henan. In Manchuria, moderate rain (20-50 mm) aided reproductive to filling soybeans in Heilongjiang and Jilin, while drier weather (less than 10 mm) prevailed across Liaoning. Temperatures averaged slightly above normal across the North China Plain and southern Manchuria (Liaoning), increasing crop stress. Cooler weather (temperatures slightly below normal) was reported in the rest of Manchuria. Across the Yangtze Valley, widely scattered showers (10-30 mm) provided some relief from excessive moisture, but isolated heavier showers (greater than 75 mm) caused additional local flooding. In portions of southern China (Fujian), heavy showers (40-90 mm) exacerbated flooding. The drier weather in the Yangtze Valley favored late double-crop rice replanting and development. On August 3, Typhoon Olga swept across the western coast of South Korea before making landfall near the border of North Korea. The storm produced heavy showers (100-250 mm) across South Korea and the southern third of North Korea. The heaviest rain (300-600 mm) fell near the border of the two countries, causing flooding and some rice damage. This was the third tropical system to hit the Korean Peninsula in 2 weeks. Heavy rain (100-300 mm) caused local flooding across southern Japan, while mostly dry weather prevailed across northern Honshu. Temperatures averaged 2 to 5 degrees C above normal across most of Japan, favoring reproductive to filling rice. Temperatures averaged near to slightly below normal across the Korean Peninsula.

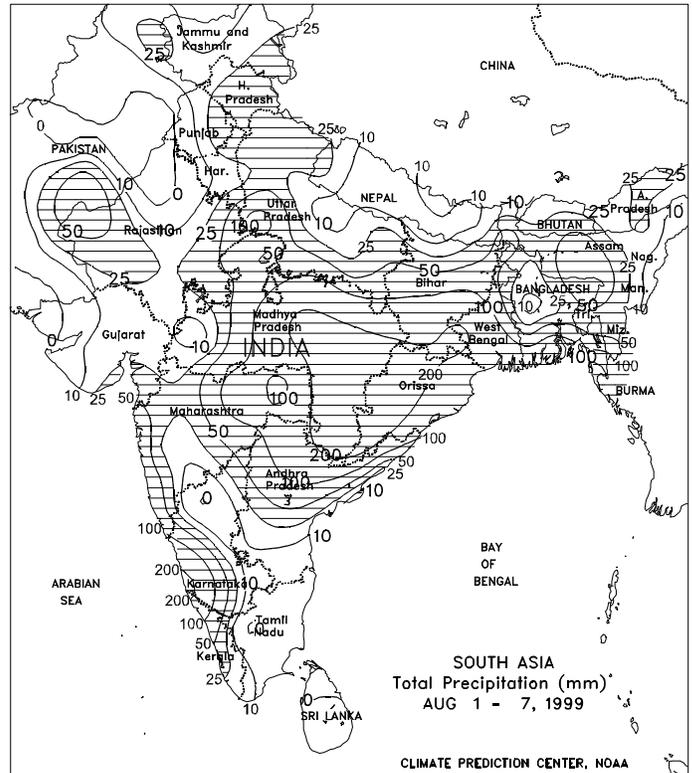


**AUSTRALIA**

Timely showers (10-25 mm) in the winter grain areas of Victoria and South Australia improved topsoil moisture levels for vegetative crop development. Temperatures averaging 1 to 2 degrees C below normal, coupled with continued occurrences of patchy frost, helped to reduce crop growth rates and evaporative losses. Farther north, dry weather dominated the main winter grain and oilseed areas of Queensland and New South Wales. Sub-freezing temperatures covered a broad section of central New South Wales, but frost was likely confined to isolated locations from the Darling Downs northward. Barley typically enters the heading phase of development by the end of the month in the more northerly growing areas, and additional moisture at this time would ensure normal development. Along the coast, mostly dry weather brought some relief to unharvested sugarcane that has been unfavorably wet for the past few months. In Western Australia, light showers (5 mm or less), accompanied by somewhat cooler-than-normal weather, kept topsoils favorably moist for tillering winter grains. In New Zealand, scattered showers (5-25 mm, locally exceeding 50 mm) benefited pastures and small grains.

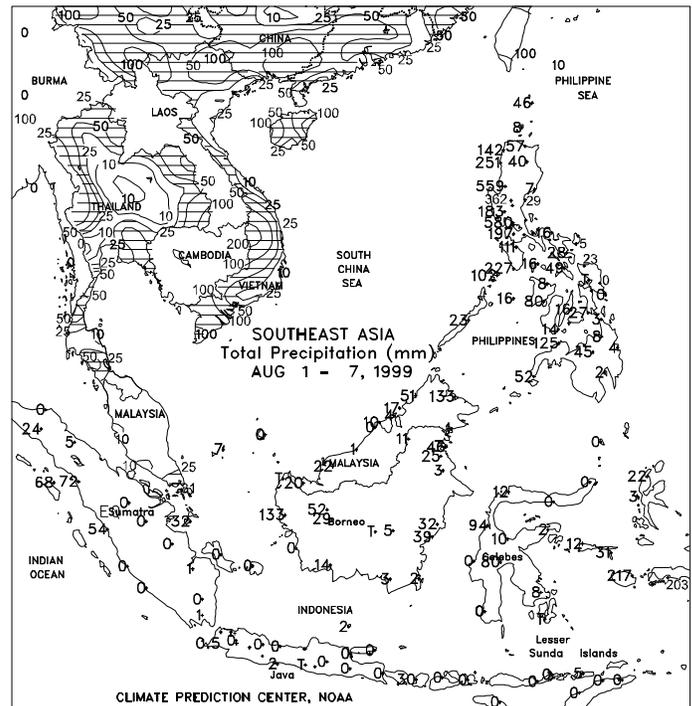
**SOUTH ASIA**

Very heavy rain (100-200 mm or more) covered a broad section of east-central India, resulting in additional flooding of primary rainfed rice land (eastern Madhya Pradesh, Orissa, and southern Bihar). Monsoon shower activity elsewhere was generally sporadic, with large sections of the northwest and southern interior receiving less than 25 mm. Although moderate showers (25-50 mm or more) benefited the main soybean areas of western Madhya Pradesh, below-normal rainfall (25 mm or less) failed to significantly improve prospects of groundnuts and cotton in Gujarat. Monsoon rainfall in west-central India typically peaks by mid-August, leaving little time for the drier locations to receive needed moisture. Farther south, much-needed rainfall reached summer crop areas of Maharashtra and northern Andhra Pradesh, but continuing dry pockets in Karnataka and southern Andhra Pradesh have raised concern for oilseeds, cotton, and coarse grains. The rainy season is somewhat longer in the south, providing more opportunity for improvement. In the far east, rainfall (10-50 mm) continued its gradual decline from recent weeks, allowing floodwaters to slowly recede.



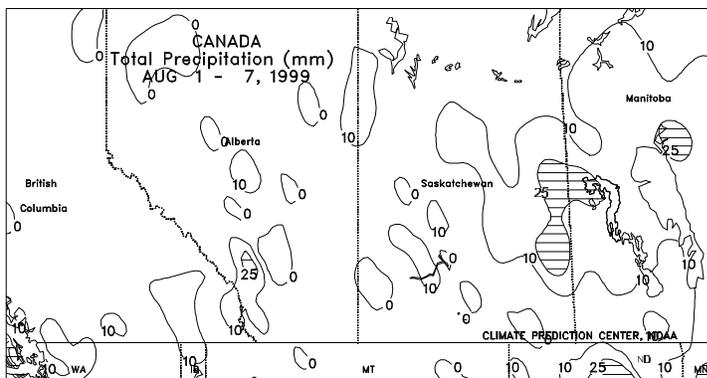
**SOUTHEAST ASIA**

Light to moderate showers (10-50 mm) fell across most of Thailand, increasing moisture supplies for rice and corn. Seasonable showers (25-50 mm, with isolated amounts greater than 80 mm) boosted irrigation supplies across central and southern Vietnam. In the Red River Valley, however, light showers (less than 15 mm) reduced moisture supplies for 10<sup>th</sup> month rice. Torrential showers (200-600 mm) caused flooding and possible rice damage in western Luzon, Philippines. Elsewhere in the Philippines, light to moderate showers (10-50 mm) maintained adequate moisture supplies. Unseasonably light showers (10-25 mm) prevailed across peninsular Malaysia, reducing moisture supplies for oil palm and other plantation crops. Dry weather dominated Java, Indonesia, where moisture supplies are adequate.



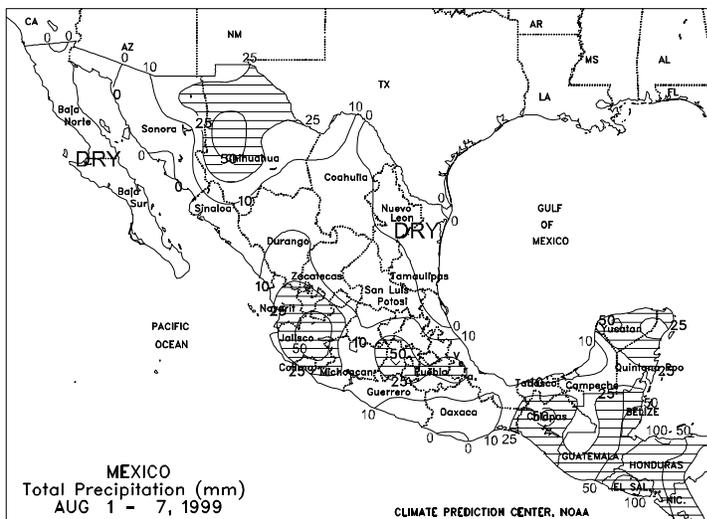
**CANADA**

Unseasonable dryness continued across the Prairies, favoring both haying operations and drydown of early maturing spring crops. The exception was the northeastern Prairies, where moderate showers (10-25 mm or more) benefited immature grains and oilseeds. Unlike recent weeks, low temperatures throughout the region remained above 2 degrees C in the major crop areas, reducing the potential for frost damage. Although sunny skies spurred crop development, temperatures continued to average 1 to 3 degrees C below normal at most locations, keeping crops well behind schedule in development. The greatest concern was in Saskatchewan, where 34 percent of grains had reached the dough stage by August 2 versus the 5-year average of 64 percent. In eastern Canada, milder, showery weather (temperatures averaging 1-2 degrees C below normal, rainfall totaling 10-25 mm or more) brought some relief to corn and soybeans that had been subjected to periods of moisture stress. However, the moisture slowed winter wheat harvesting.



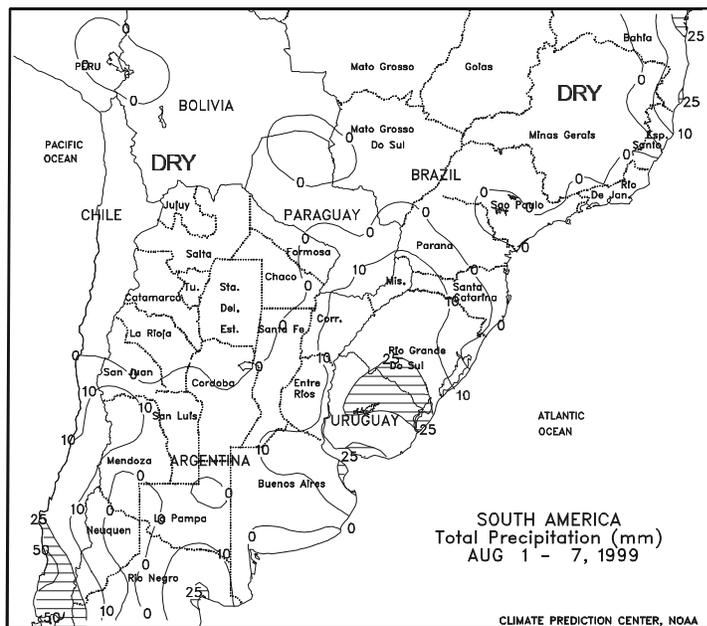
**MEXICO**

Seasonal showers (20-70 mm) continued to favor corn across the Southern Plateau. Monsoonal showers (10-80 mm) increased reservoir supplies in the northwest (Sonora and Chihuahua). Mostly dry weather (less than 10 mm) prevailed in the northeast. Temperatures averaged 1 to 2 degrees C above normal across most of Mexico and 1 to 2 degrees C below normal in the northwest.



**SOUTH AMERICA**

In central Argentina, light rain (5-15 mm) increased topsoil moisture for germinating to vegetative winter wheat. According to reports as of July 30, Argentine winter wheat planting was 87 percent complete, compared with 82 percent complete last year. Warm weather (temperatures 3-5 degrees C above normal) favored wheat development. In southern Brazil, dry weather covered the wheat belt from eastern Rio Grande do Sul northward into eastern Parana. Adequate soil moisture exists for vegetative to reproductive winter wheat. Warm, dry weather aided coffee and citrus harvesting in northern Sao Paulo and southern Minas Gerais.



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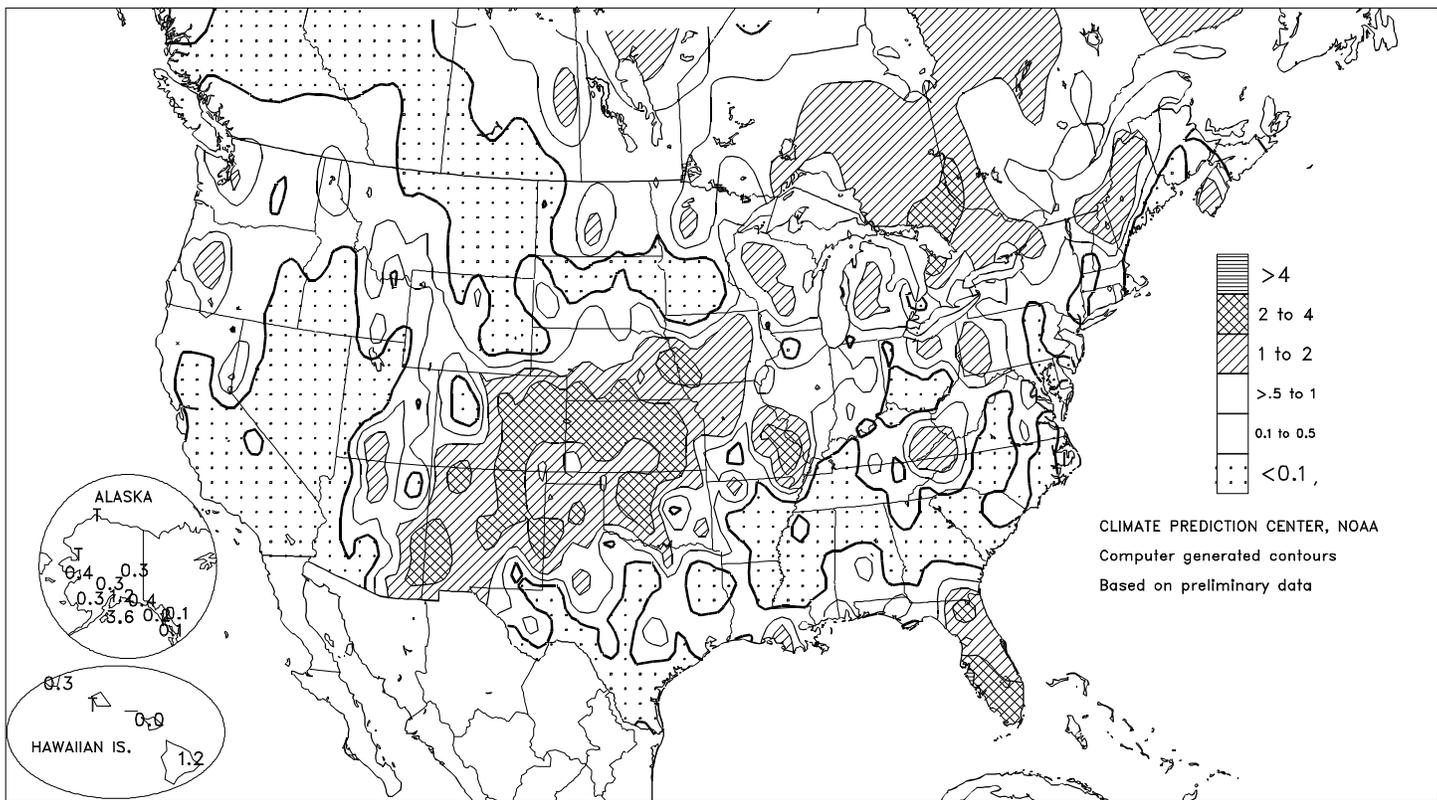
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AUG 1 - 7, 1999



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