

# WEEKLY WEATHER AND CROP BULLETIN

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

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

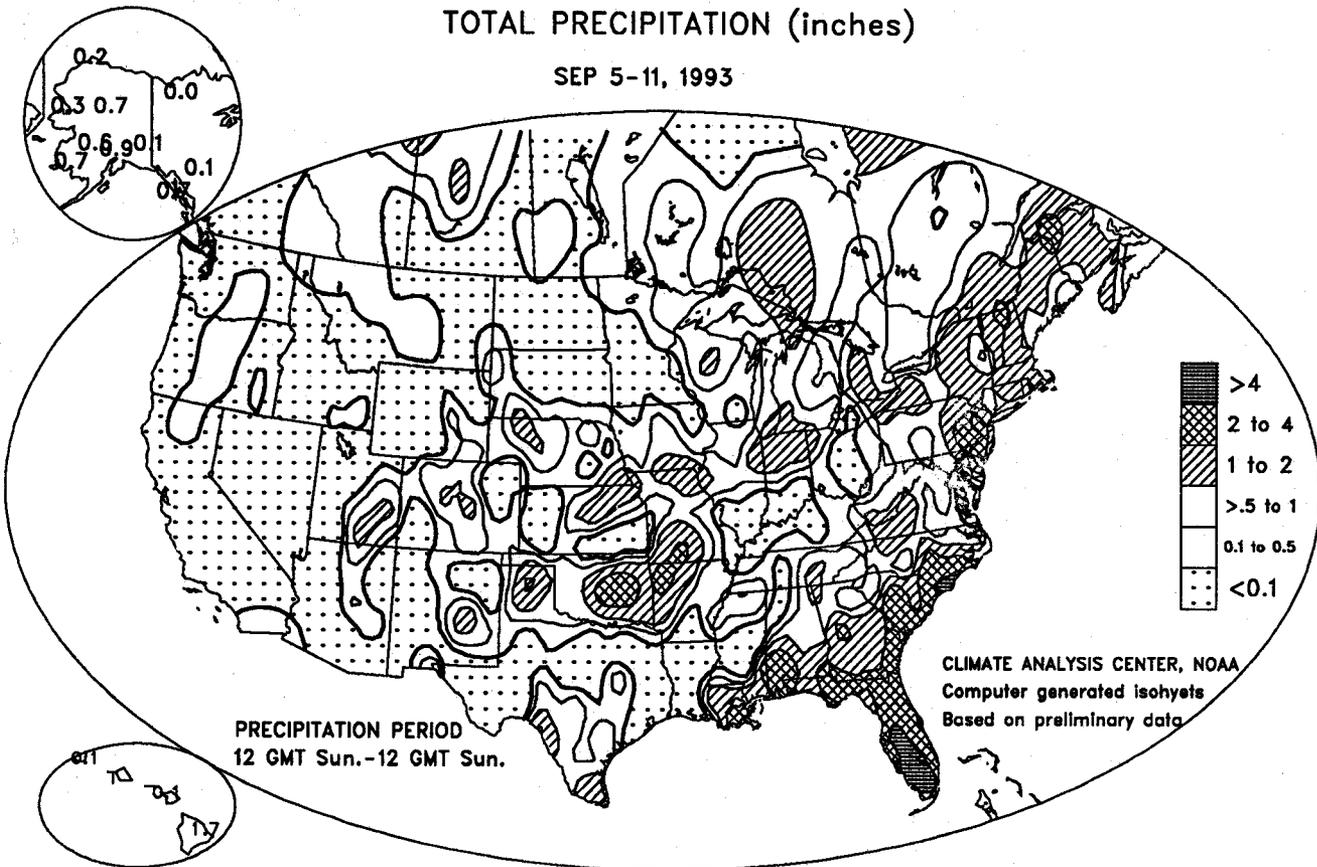
Volume 80, No. 37

Washington, D.C.

September 14, 1993

## TOTAL PRECIPITATION (inches)

SEP 5-11, 1993



## HIGHLIGHTS

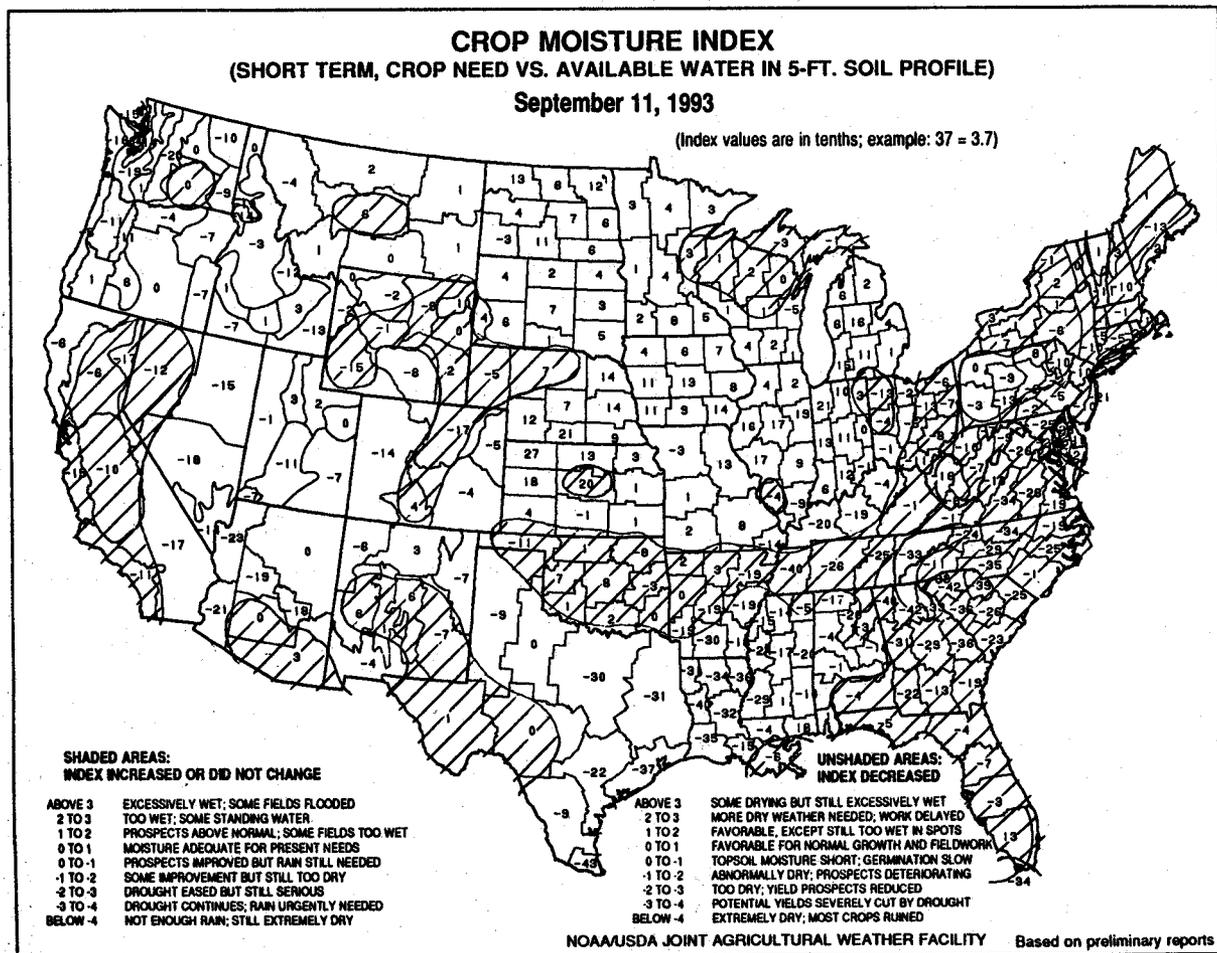
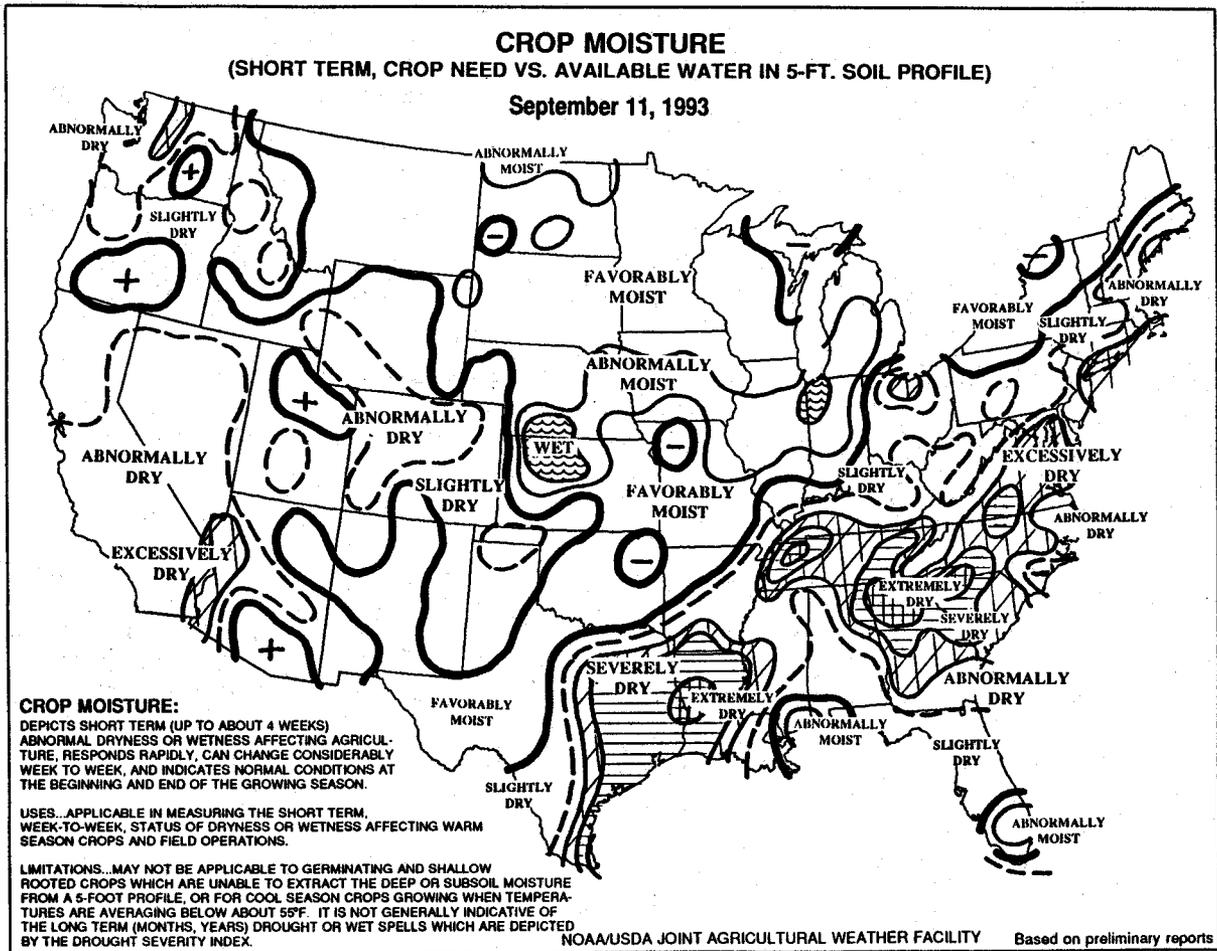
September 5 - 11, 1993

Typical summer-to-fall transition weather prevailed, featuring rapid temperature fluctuations and scattered thunderstorms. Small grains field activities, including spring wheat harvesting and winter wheat planting, proceeded under generally favorable conditions. Early in the week, rainfall slackened across the Corn Belt and shifted toward the Atlantic Coast States. Rain persisted in the coastal Southeast throughout the week, with totals reaching 7.11 inches in Miami, FL, 4.80 inches in Savannah, GA, and 3.40 inches in Wilmington, NC. In contrast, dry weather and record warmth covered the Pacific Northwest. On September 8, daily records were established in locations such as Olympia, WA (90°F) and Portland, OR (93°F). Meanwhile, a cold front swept southward east of the Rockies, delivering autumn-like weather. On Saturday morning, several daily record lows were tied or broken in the Ohio Valley. Cincinnati, OH noted 40°F. Farther west, temperatures briefly warmed in the High Plains in response to

the approach of a powerful early-season winter storm. In Casper, WY, a high of 91°F on Saturday did little to warn of the snow and near-freezing temperatures that would arrive within 36 hours.

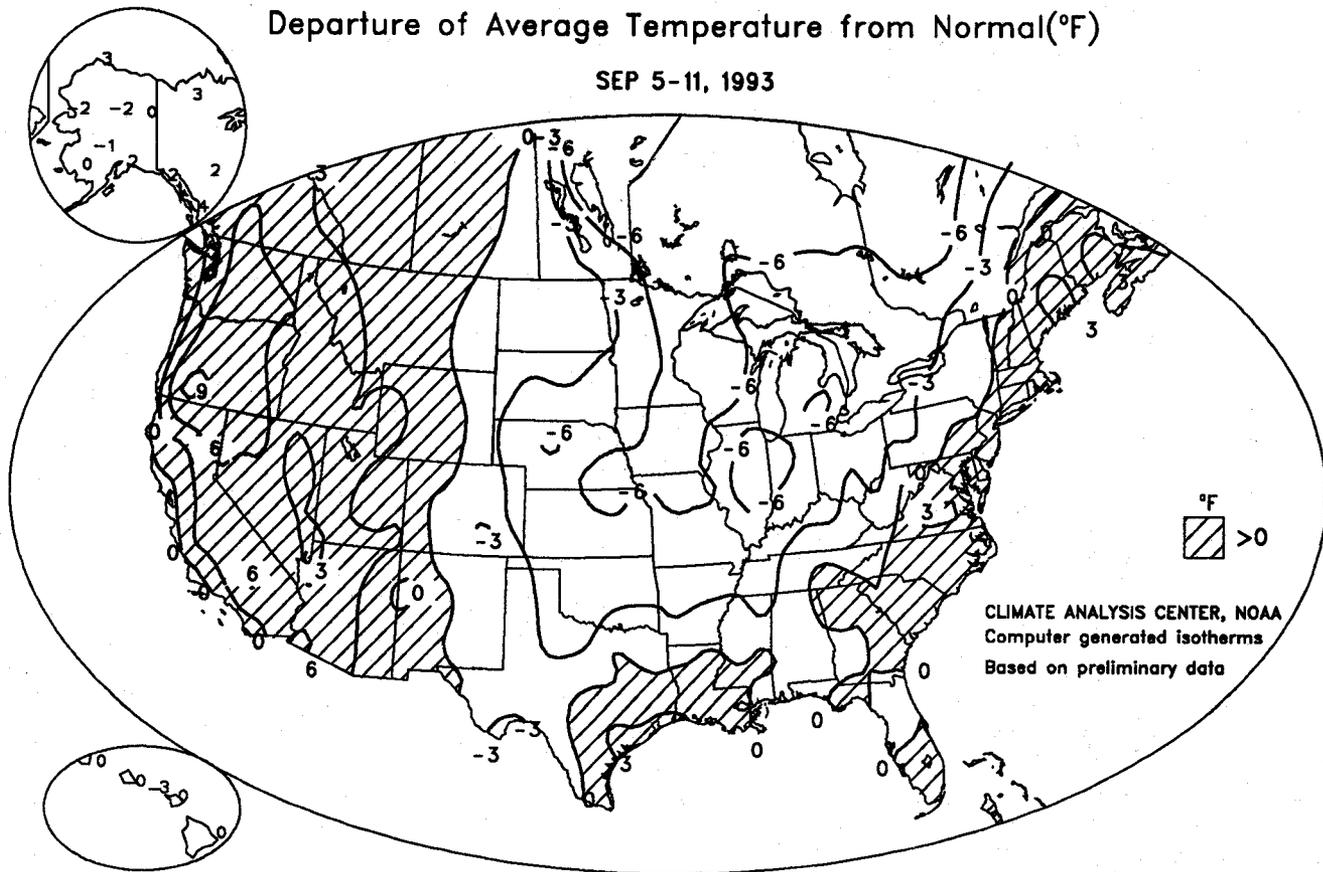
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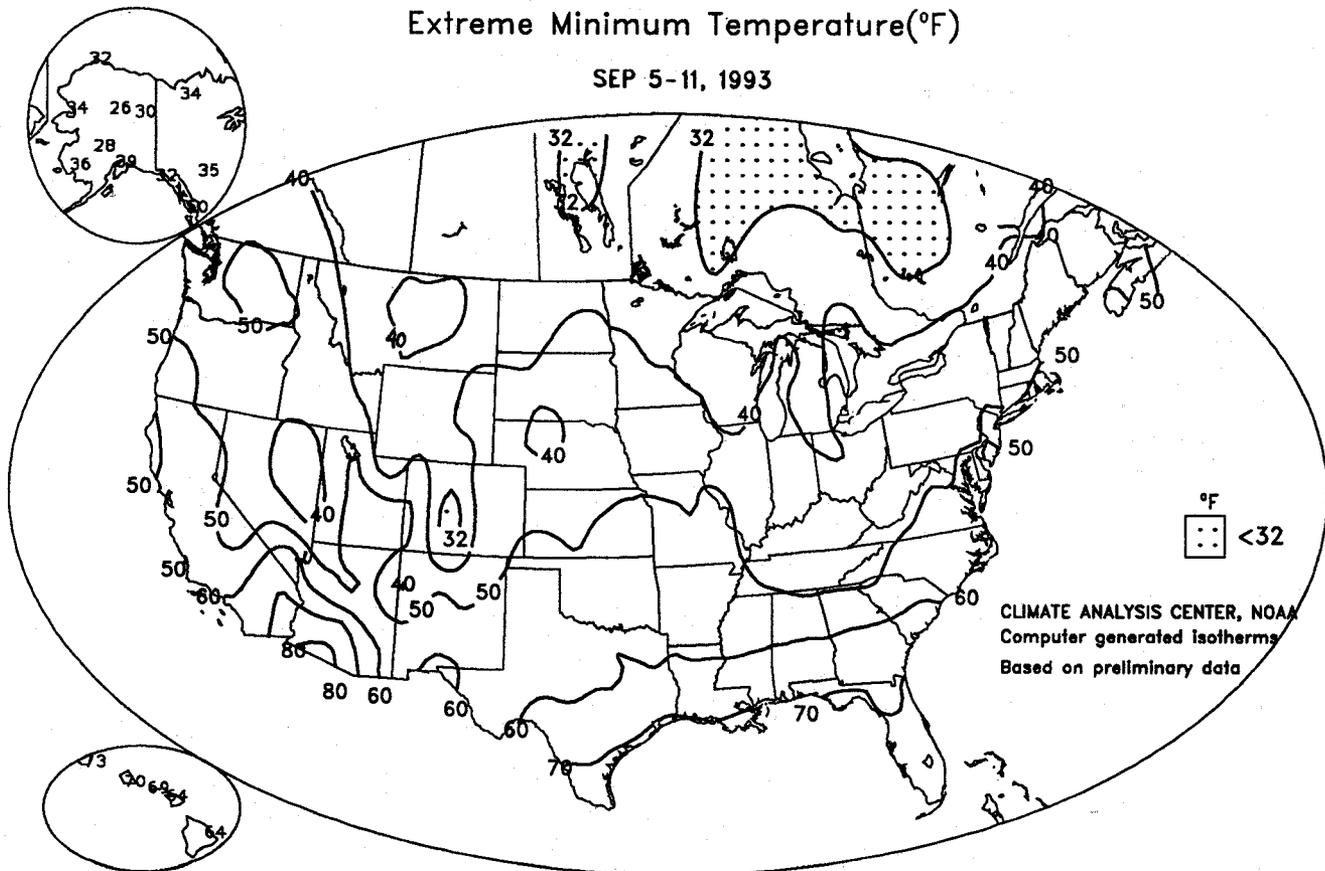
### Departure of Average Temperature from Normal(°F)

SEP 5-11, 1993



### Extreme Minimum Temperature(°F)

SEP 5-11, 1993



## CUMULATIVE GROWING DEGREE DAYS (CORN\*) April 1 - September 11, 1993

STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL	STATES AND STATIONS	TOTAL	DEP. FROM NORMAL
AL ANNISTON	3752	+ 68	SALINA	3177	- 108	OK ALTUS	3780	- 57
BIRMINGHAM	3782	+ 18	TOPEKA/BILLARD	3123	- 93	GAGE	3371	- 57
MOBILE	4089	- 144	WICHITA	3312	- 103	HOBART	3652	- 62
MONTGOMERY	3969	+ 135	KY LEXINGTON	3229	+ 117	MCALISTER	3932	+ 144
MUSCLE SHOALS	3787	+ 134	BOWLING GREEN	3445	+ 105	PONCA CITY	3681	+ 70
OZARK	4023	+ 73	PADUCAH	3565	+ 113	TULSA	3646	- 115
TUSCALOOSA	3926	+ 45	LA LAFAYETTE	4249	+ 0	OR BAKER	1767	- 139
AZ DOUGLAS	3613	+ 192	LAKE CHARLES	4304	- 25	EUGENE	1948	+ 3
FLAGSTAFF	2144	+ 230	MONROE	4069	+ 49	NORTH BEND	1426	+ 283
PHOENIX	4959	+ 563	NEW ORLEANS	4180	- 94	PENDLETON	2262	- 136
TUCSON	4255	+ 231	SHREVEPORT	4039	+ 126	REDMOND	1741	- 149
YUMA	5005	+ 476	ME AUGUSTA	2199	+ 215	PORTLAND	2156	+ 162
AR PRESCOTT	2961	+ 395	CARIBOU	1719	+ 196	SALEM	2100	+ 184
EL DORADO	3861	- 4	HOULTON	1771	+ 102	SEXTON SUMMIT	1247	- 271
FAYETTEVILLE	3437	+ 130	PORTLAND	2105	+ 240	PA ALLENTOWN	2982	+ 323
FORT SMITH	3830	+ 105	MD SALISBURY	3315	+ 262	PHILADELPHIA	3455	+ 658
JONESBORO	3732	- 8	MA WORCESTER	2247	+ 129	WILLIAMSPORT	2873	+ 309
LITTLE ROCK	3879	+ 146	MI JACKSON	2386	- 61	SC BRAUFORT	4250	+ 232
TEXARKANA	3968	- 37	LANSING	2377	- 89	CHARLESTON	4135	+ 198
CA BAKERSFIELD	3688	- 12	MUSKOGON	2339	+ 124	COLUMBIA	3956	+ 132
BLUE CANYON	1701	- 169	PELLSTON	1833	+ 45	FLORENCE	4065	+ 239
DAGGETT	4033	+ 106	SAULT STE. MARIE	1466	- 41	SUMTER/SHAW AFB	3923	+ 125
EUREKA	1330	+ 537	TRVERSE CITY	2184	+ 125	SD ABERDEEN	2249	- 14
FRESNO	3546	+ 273	MN DULUTH	1417	- 149	HURON	2281	- 211
MARYSVILLE	3355	+ 225	INT'L FALLS	1619	- 100	PIERRE	2301	- 197
MERCED	3331	+ 240	MINNEAPOLIS	2242	---	RAPID CITY	1982	- 324
MT SHASTA	1749	- 230	ROCHESTER	2044	---	SIoux FALLS	2330	- 216
PASO ROBLES	2793	+ 162	ALEXANDRIA	1940	- 197	WATERTOWN	1925	- 293
RED BLUFF	3230	- 110	MS BILOXI	4323	- 6	TN BRISTOL	3197	+ 119
RIVERSIDE	3389	+ 326	COLUMBUS	3854	+ 91	CHATTAHOOGA	3780	+ 254
SANTA ANA	3523	+ 603	JACKSON	4013	+ 176	CROSSVILLE	3222	+ 421
SAN DIEGO	2974	+ 187	MERIDIAN	3984	+ 101	MEMPHIS	3990	+ 108
SACRAMENTO	2993	+ 106	GREENWOOD	3988	+ 30	NASHVILLE	3663	+ 102
THERMAL	4298	- 67	MO COLUMBIA	3139	+ 54	TX ABILENE	4027	+ 20
CO ALAMOSA	1801	- 112	JOPLIN	3442	- 28	AMARILLO	3224	- 28
DENVER	2464	0	SPRINGFIELD	3295	+ 57	AUSTIN	4368	+ 64
EAGLE	1846	- 200	VICHY	3281	+ 40	BROWNSVILLE	4761	+ 49
GRAND JUNCTION	2854	- 153	MT HELENA	1611	- 231	COLLEGE STATION	4245	- 2
LA JUNTA	2945	- 68	KALISPELL	1566	- 269	DALHART	3083	+ 22
DE DOVER	3218	+ 75	MILES CITY	2058	- 334	DALLAS/FT WORTH	4241	+ 195
WILMINGTON	3304	+ 349	NE GRAND ISLAND	2631	- 204	GALVESTON	4739	+ 148
FL DAYTONA BEACH	4199	- 77	NORFOLK	2610	- 144	HOUSTON/INTCMTL	4362	+ 176
FORT MYERS	4596	+ 69	NORTH PLATTE	2433	- 138	KINGSVILLE/NAS	4719	+ 173
GAINESVILLE	4058	- 143	VALENTINE	2291	- 372	LARDO	4803	+ 146
JACKSONVILLE	4130	- 95	SCOTTSBLUFF	2305	- 165	LUBBOCK	3715	+ 204
FORT LAUDERDALE	4965	+ 351	SIDNEY	2254	- 36	MCALEEN	4832	+ 252
MIAMI	4909	+ 145	NV ELKO	1917	- 218	MIDLAND	3868	+ 36
MILTON	4122	+ 77	ELY	2000	0	PALACIOS	4541	+ 14
PENSACOLA	4255	- 54	LAS VEGAS	4390	+ 335	SAN ANTONIO	4423	+ 64
ST PETERSBURG	4605	- 71	RENO	2366	+ 115	VICTORIA	4461	+ 97
TALLAHASSEE	4077	- 37	WINNEMUCCA	2278	+ 3	WACO	4214	- 59
TAMPA	4445	- 36	NH CONCORD	2409	+ 247	WICHITA FALLS	3853	- 73
VERO BEACH	4401	+ 16	NJ NEWARK	3513	+ 546	WINK	3988	+ 80
W. PALM BEACH	4662	+ 110	NM ALBUQUERQUE	3362	+ 437	UT CEDAR CITY	2510	+ 19
GA ATHENS	3830	+ 200	CARLSBAD	3931	+ 169	VT BARRÉ-MONTPÉLIER	1997	+ 190
AUGUSTA	3986	+ 200	CLOVIS	3314	+ 186	BURLINGTON	2357	+ 271
BURNSWICK	4197	- 33	GALLUP	2499	+ 57	VA CHARLOTTESVILLE	3411	+ 207
COLUMBUS/METRO	4070	+ 135	TRUTH OR CONSEQ.	3576	+ 175	HAMPTON/LANGLEY	3727	+ 321
MACON	4000	+ 65	NY ALBANY	2572	+ 218	LYNCHBURG	3490	+ 400
SAVANNAH	4211	+ 175	ELMIRA	2464	+ 226	NORFOLK	3706	+ 298
ID BOISE	2283	- 151	GLENS FALLS	2350	+ 195	RICHMOND	3559	+ 241
BURLEY	2107	- 28	ROCHESTER	2401	+ 80	WA BELLINGHAM	1609	+ 199
IDAHO FALLS	1738	- 238	SYRACUSE	2430	+ 129	HOQUIAM	1450	+ 212
POCATELLO	1875	- 249	UTICA	2227	+ 70	SEATTLE-TACOMA	1795	+ 158
IL BELLEVILLE	3351	+ 124	WATERTOWN	2179	+ 7	SPOKANE	1821	- 164
CHICAGO/MIDWAY	2758	- 15	NC ASHEVILLE	3094	+ 233	TACOMA	1844	+ 102
DECATUR	2998	- 84	FAYETTEVILLE	3789	+ 191	HALLA WALLA	2460	- 66
PEORIA	2988	+ 151	GREENSBORO	3636	+ 308	WENATCHEE	2508	- 46
ROCKFORD	2651	+ 77	HICKORY	3500	+ 197	YAKIMA	2255	- 33
SPRINGFIELD	3102	+ 59	RALPHIGH	3669	+ 249	WV HUNTINGTON	3279	+ 387
QUINCY	2982	- 17	WILMINGTON	3954	+ 149	MARTINSBURG	3010	+ 133
IN INDIANAPOLIS	3032	+ 109	NEW BERN	3829	+ 140	MORGANTOWN	2926	+ 149
SOUTH BEND	2663	+ 101	ND BISMARCK	1888	- 236	WI EAU CLAIRE	2112	- 137
TERRE HAUTE	3104	+ 131	DICKINSON	1641	- 363	GREEN BAY	2161	+ 53
IA DES MOINES	2704	- 195	JAMESTOWN	1833	- 252	LACROSSE	2382	- 135
MASON CITY	2274	- 310	MINOT	1672	- 298	MADISON	2495	+ 42
OTTUMWA	2872	- 45	GRAND FORKS	1923	- 94	WAUSAU	1964	- 122
KS CHANUTE	3265	- 105	OH AKRON-CANTON	2663	+ 166	CASPER	2029	- 88
DODGE CITY	3008	- 189	COLUMBUS	2934	+ 210	LANDER	1903	- 179
GARDEN CITY	2882	- 257	DAYTON	2909	+ 53	SHERIDAN	1778	- 248
GOODLAND	2480	- 188	FINDLAY	2574	- 27	WORLDAND	2123	- 86
MEDICINE LODGE	3441	- 1	YOUNGSTOWN	2510	+ 175			
RUSSELL	3005	- 157	ZANESVILLE	2830	+ 164			

Based on 1951-80 normals.

\* Growing degree days for corn are computed to a 50°F base with the daily maximum temperature limited to 86°F or lower, and the daily minimum to 50°F or higher.

# National Weather Data for Selected Cities

Weather Data for the Week Ending September 11, 1993

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 Sept 1	PCT. NORMAL SINCE Sept 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE	MAXIMUM	MINIMUM	90 AND ABOVE	92 AND BELOW	TEMP. °F		PRECIP.	
																			.01 INCH OR MORE	.50 INCH OR MORE	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	85	62	88	53	74	-2	.0	-.9	.0	2.8	190	27.8	70	95	50	0	0	0	0	0	0	
MOBILE	87	70	92	67	79	-1	.3	-1.2	.3	1.5	61	46.7	97	98	68	2	0	0	3	0	0	
MONTGOMERY	89	66	93	63	78	0	.2	-.8	.2	.9	58	35.8	87	94	50	4	0	2	2	0	0	
AK ANCHORAGE	60	48	66	40	54	3	.6	.0	.6	1.3	127	9.7	97	91	66	0	0	0	4	0	0	
BARROW	42	33	46	32	38	4	.3	.1	.3	.6	236	3.6	112	94	69	0	2	2	5	0	0	
FAIRBANKS	63	40	72	30	52	2	.1	-.1	.1	.8	177	7.5	96	93	50	0	1	1	3	0	0	
JUNEAU	60	47	65	42	54	2	.2	-.2	.2	.4	19	32.0	98	99	72	0	0	0	1	0	0	
KODIAK	60	47	64	38	53	1	1.9	-.3	1.4	2.1	89	48.3	112	96	69	0	0	0	3	1	1	
NOME	49	39	53	32	44	-1	.5	-.1	.0	1.0	105	10.2	99	94	65	0	1	4	0	0	0	
AZ PHOENIX	105	80	109	78	93	5	.0	-.2	.0	.0	0	9.2	190	47	15	7	0	0	0	0	0	
PRESCOTT	89	58	92	54	73	7	.7	-.6	.7	.0	13.5	95	50	16	4	0	0	0	0	0	0	
TUCSON	100	70	102	69	85	3	1.1	-.1	1.1	.9	12.7	154	60	18	7	0	0	1	0	0	0	
YUMA	109	83	113	81	96	7	1.1	.0	1.1	1.1	80	3.6	176	60	18	7	0	0	2	1	0	
AR FORT SMITH	84	63	90	58	74	-2	.9	-.1	.8	1.4	125	30.9	110	91	46	2	0	0	2	0	0	
LITTLE ROCK	84	63	90	60	73	-3	.3	-.8	.3	.3	16	30.1	91	83	45	1	0	0	1	0	0	
CA BAKERSFIELD	97	67	100	63	82	4	.0	.0	.0	.0	0	6.6	166	50	21	7	0	0	0	0	0	
EUREKA	62	54	64	50	58	0	.0	-.1	.0	.0	13	30.4	140	93	61	0	0	0	3	0	0	
FRESNO	97	64	100	61	80	4	.0	-.1	.0	.0	0	11.5	163	72	21	7	0	0	0	0	0	
LOS ANGELES	76	63	80	61	70	-1	.0	-.1	.0	.0	0	18.5	230	96	68	0	0	0	0	0	0	
REDDING	97	60	103	55	79	2	.0	-.2	.0	.0	0	36.3	184	77	18	6	0	0	0	0	0	
SACRAMENTO	91	57	99	53	74	1	.0	-.1	.0	.0	0	19.1	175	89	30	4	0	0	0	0	0	
SAN DIEGO	76	64	81	63	70	-2	.0	-.1	.0	.0	0	15.5	243	93	69	0	0	0	0	0	0	
SAN FRANCISCO	69	56	76	54	63	-2	.0	-.0	.0	.0	0	19.4	158	32	56	0	0	0	0	0	0	
CO DENVER	80	51	90	45	65	0	.2	-.1	.2	.4	79	8.8	73	83	32	1	0	0	2	0	0	
GRAND JUNCTION	86	56	89	52	71	1	1.1	-.2	1.1	.1	22	9.1	132	63	19	0	0	0	1	0	0	
PUEBLO	81	47	93	44	64	-5	1.1	-.2	1.1	.2	40	12.4	134	93	30	1	0	0	2	0	0	
CT BRIDGEPORT	76	63	83	54	70	2	.8	-.1	.6	1.0	84	21.5	73	86	61	0	0	0	3	1	0	
HARTFORD	76	58	86	49	67	1	.8	-.1	.4	2.2	155	30.4	100	93	54	0	0	0	3	0	0	
DC WASHINGTON	83	67	88	58	75	1	1.0	-.2	.8	1.1	89	27.1	99	93	50	0	0	0	2	1	1	
FL APALACHICOLA	87	73	93	73	80	0	1.2	-.7	.5	2.3	79	36.6	92	92	11	1	0	0	7	1	1	
DAYTONA BEACH	88	72	91	70	80	0	1.2	-.4	.6	1.2	48	24.9	72	99	68	3	0	0	4	1	1	
JACKSONVILLE	90	71	94	69	80	0	4.7	3.0	2.8	5.0	188	31.0	86	99	66	3	0	0	6	3	3	
KEY WEST	92	80	93	76	86	2	.4	-1.0	.2	.6	28	22.5	84	79	61	7	0	0	2	0	0	
MIAMI	91	77	93	76	84	2	7.1	5.3	3.2	8.3	287	42.9	105	85	62	0	0	0	5	3	3	
ORLANDO	90	72	93	71	81	-1	3.3	1.8	1.5	4.2	169	37.8	100	96	62	5	0	0	7	2	2	
TALLAHASSEE	89	71	92	70	80	0	.9	-.5	.4	1.5	63	41.8	82	95	63	3	0	0	5	0	0	
TAMPA	91	75	92	72	83	1	1.7	-.1	.7	2.1	82	27.3	79	93	67	6	0	0	6	2	2	
WEST PALM BEACH	92	75	94	73	84	1	1.0	-.6	.4	1.0	40	39.9	97	97	59	7	0	0	5	0	0	
GA ATLANTA	87	67	90	58	77	2	.7	-.8	.7	1.0	78	34.8	93	87	43	1	0	0	0	0	0	
AUGUSTA	89	68	94	58	79	2	.1	-.7	.1	.1	8	26.4	77	94	50	4	0	0	2	0	0	
MACON	86	68	89	63	77	0	.8	-.1	.4	.8	70	36.8	109	93	59	0	0	0	3	0	0	
SAVANNAH	88	71	91	67	80	1	4.8	3.6	3.6	5.1	255	36.3	93	92	57	2	0	0	4	2	2	
HI HILO	85	68	87	64	77	0	1.8	-.2	1.1	2.9	90	72.7	83	88	64	0	0	0	5	1	1	
HONOLULU	90	74	91	70	82	1	.7	-.1	.7	.6	324	4.0	32	78	50	4	0	0	0	0	0	
KAHULUI	89	70	92	65	80	1	.7	-.1	.7	.6	0	7.5	55	72	54	2	0	0	0	0	0	
LIHUE	85	74	87	73	80	0	.7	-.4	.7	.3	46	10.6	40	77	60	0	0	0	1	0	0	
ID BOISE	88	52	95	46	70	5	.0	-.2	.0	.0	0	10.9	136	74	18	2	0	0	0	0	0	
LEWISTON	91	57	94	55	74	7	.0	-.2	.0	.0	0	10.8	124	52	16	4	0	0	0	0	0	
POCATELLO	85	42	88	40	64	2	.0	-.2	.0	.7	10	15.4	184	78	18	0	0	0	0	0	0	
IL CHICAGO	71	51	76	42	61	-6	.4	-.6	.2	.7	47	36.4	142	93	46	0	0	0	4	0	0	
MOLINE	74	51	78	43	63	-5	.5	-.4	.3	1.0	65	44.7	155	94	50	0	0	0	3	0	0	
PEORIA	75	51	79	44	63	-6	1.2	-.3	.9	3.9	273	44.6	171	95	47	0	0	0	3	0	0	
QUINCY	73	53	79	49	63	-6	.2	-.9	.1	2.5	146	27.9	99	89	50	0	0	0	4	1	0	
ROCKFORD	71	49	74	40	60	-6	.5	-.4	.2	.5	37	35.5	134	94	47	0	0	0	5	0	0	
SPRINGFIELD	75	52	83	45	64	-6	.7	-.1	.7	2.0	162	36.6	144	94	45	0	0	0	4	1	0	
IN EVANSVILLE	80	58	86	49	69	-4	.7	-.7	.7	1.8	154	29.0	88	92	45	0	0	0	0	0	0	
FORT WAYNE	74	51	81	40	63	-5	.8	-.1	.6	1.9	184	32.4	130	95	46	0	0	0	3	1	0	
INDIANAPOLIS	75	53	81	42	64	-5	1.1	-.6	.1	2.6	236	35.1	125	92	46	0	0	0	0	0	0	
SOUTH BEND	71	50	77	42	61	-6	.6	-.3	.5	3.1	228	34.0	125	95	46	0	0	0	5	1	0	
IA DES MOINES	72	52	77	49	62	-4	.3	-.6	.3	.4	26	46.9	143	91	47	0	0	0	2	1	0	
SIOUX CITY	72	49	82	45	61	-5	.5	-.2	.5	.5	47	28.3	140	93	48	0	0	0	2	1	0	
WATERLOO	71	48	76	43	60	-5	.4	-.4	.3	.4	31	47.1	182	97	53	0	0	0	2	0	0	
KS CONCORDIA	75	53	90	47	64	-6	.6	-.2	.4	.6	49	39.4	171	90	49	1	0	0	2	0	0	
DODGE CITY	81	55	96	50	68	-3	.1	-.4	.1	.1	10	23.4	131	89	35	3	0	0	1	0	0	
GOODLAND	74	51	93	48	63	-4	.7	-.4	.7	.1	11	17.1	113	92	43	1	0	0	1	0	0	
TOPEKA	77	54	85	50	65	-5	.5	-.4	.2	.7	48	37.5	142	95	49	0	0	0	2	0	0	
WICHITA	81	58	91	53	69	-3	.7	-.9	.7	.8	52	28.3	109	86	43	2	0	0	1	0	0	
KY BOWLING GREEN	82	57	86	46	69	-3	.7	-.9	.7	1.1	76	23.6	65	97	51	0	0	0	0	0	0	
LEXINGTON	78	56	83	44	67	-4	.7	-.8	.7	1.6	124	31.3	96	94	47	0	0	0	0	0	0	
LOUISVILLE	80	58	85	49	69	-3	.0	-.8	.0	1.0	85	34.7	107	93	47	0	0	0	0	0	0	
LA BATON ROUGE	90	69	91	65	79	-1	.1	-1.2	.1	.1	4	47.0	105	96	47	5	0	0	1	0	0	
LAKE CHARLES	94	70	96	68	82	2	.0	-1.4	.0	.0	0	44.9	118	91	43	7	0	0	0	0	0	
NEW ORLEANS	90	71	93	70	80	1	1.6	-.2	.5	1.6	71	42.8	94	98	65	3	0	0	4	1	0	
SHERBOURNE	92	65	93	63	78	1	.0	-.8	.0	.1	4	43.0	126	87	39	5	0	0	0	0	0	

Based on 1961-90 normals.

Weather Data for the Week Ending September 11, 1993

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 Sept 1	PCT. NORMAL SINCE Sept 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP.	
																		.01 INCH OR MORE	.50 INCH OR MORE		
ME CARIBOU	67	47	74	41	57	1	2.8	1.9	1.4	3.7	275	27.3	111	97	54	0	0	5	2		
PORTLAND	70	57	75	47	63	2	.9	-.2	.6	1.1	103	27.7	96	94	55	0	0	4	1		
MD BALTIMORE	83	63	90	51	73	2	.6	-.3	.4	.7	54	28.5	89	89	44	1	0	2	0		
SALISBURY	84	61	87	48	73	2	.9	-.3	.9	1.0	64	34.6	105	99	51	0	0	1	1		
MA BOSTON	73	61	77	56	67	0	1.7	1.0	1.3	2.5	217	27.9	100	90	69	0	0	4	1		
CHATHAM	70	59	73	54	65	1	1.2	1.3	1.1	1.2	91	24.3	81	96	61	0	0	2	1		
MI ALPENA	66	43	69	38	54	-.5	.5	-.3	.3	.6	48	20.0	97	97	53	0	0	3	3		
DETROIT	72	53	79	43	62	-.3	.6	-.3	.5	1.9	162	23.6	101	90	48	0	0	2	1		
FLINT	68	47	73	37	58	-.6	.3	-.6	.3	.6	44	23.0	109	97	50	0	0	2	0		
GRAND RAPIDS	68	48	72	37	58	-.6	1.1	1.0	.5	2.2	135	32.5	133	95	48	0	0	5	0		
HOUGHTON LAKE	66	45	70	38	55	-.4	.4	-.5	.2	.4	32	20.9	106	89	48	0	0	5	0		
LANSING	69	47	74	36	58	-.5	.3	-.7	.1	.7	46	26.3	121	97	55	0	0	4	0		
MARQUETTE	61	41	65	37	51	-.5	.6	-.3	.4	.7	50	21.9	93	93	43	0	0	3	0		
MUSKOGON	70	51	75	40	60	-.3	.7	-.3	.6	.9	61	27.7	131	91	46	0	0	2	1		
SAULT ST. MARIE	61	40	68	34	51	-.6	.9	-.0	.7	1.2	83	21.2	95	96	51	0	0	6	1		
MN ALEXANDRIA	69	47	75	44	58	-.3	T	T	T	.1	7	22.4	113	86	42	0	0	0	0		
DULUTH	60	41	64	37	50	-.7	.8	-.2	.6	.8	56	27.0	122	88	45	0	0	3	1		
INT'L FALLS	60	37	67	31	49	-.7	.3	-.5	.1	.6	45	18.0	98	95	43	0	1	4	0		
MINNEAPOLIS	69	47	73	44	58	-.6	.1	-.6	.1	.1	8	27.4	125	89	42	0	0	1	0		
ROCHESTER	67	44	71	41	55	-.6	T	T	T	T	3	33.2	147	95	47	0	0	2	0		
MS GREENWOOD	90	63	93	56	77	-.1	.0	-.7	.0	.0	0	30.0	79	95	34	4	0	0	0		
JACKSON	88	66	90	61	77	0	.0	-.7	.0	.6	53	34.3	88	96	39	1	0	0	0		
MERIDIAN	90	67	91	60	78	0	.0	-.8	.0	.6	46	39.3	96	92	46	4	0	0	0		
MO CAPE GIRARDEAU	79	60	85	51	69	-.3	.0	-.9	.0	2.5	184	33.4	102	90	49	0	0	0	0		
COLUMBIA	75	53	83	48	64	-.6	.1	-.9	.1	2.7	193	45.5	168	98	50	0	0	1	0		
KANSAS CITY	76	54	83	50	65	-.5	.4	-.8	.2	.7	38	39.6	142	94	44	0	0	4	0		
SANIT LOUIS	76	60	85	54	68	-.4	T	T	T	1.8	157	38.5	145	83	49	0	0	1	0		
SPRINGFIELD	77	58	85	52	67	-.4	1.1	1.1	.1	3.4	190	34.7	114	93	55	0	0	1	1		
MT BILLINGS	76	51	89	44	63	1	.5	-.2	.5	.6	123	12.0	104	74	31	0	0	1	1		
GLASGOW	74	47	88	43	61	1	.0	-.3	.0	.5	117	15.0	163	88	33	0	0	0	0		
GREAT FALLS	73	47	82	39	60	1	-.2	-.1	.2	.6	120	19.6	161	89	32	0	0	1	0		
HAVRE	75	46	85	41	61	1	.0	-.3	.0	.2	42	12.6	140	88	30	0	0	0	0		
HELENA	75	46	84	40	60	2	.1	-.3	.1	.5	96	16.8	181	91	29	0	0	1	0		
KALISPELL	77	43	83	39	60	4	-.1	-.3	.1	.3	49	18.3	155	93	31	0	0	1	0		
MILES CITY	78	45	90	38	61	-.2	T	T	T	T	6	17.1	153	81	29	1	0	1	0		
MISSOULA	82	46	88	41	64	6	.0	-.3	.0	.1	26	11.0	109	85	22	0	0	0	0		
NE GRAND ISLAND	73	49	87	44	61	-.5	-.2	-.5	.2	.2	19	29.0	144	94	48	0	0	2	0		
LINCOLN	73	50	86	47	62	-.6	.5	-.4	.5	.6	43	20.3	93	96	54	0	0	1	0		
WOLFORD	73	49	87	44	61	-.5	1.0	.4	1.0	1.0	107	29.5	145	94	44	0	0	1	1		
NORTH PLATTE	72	47	89	40	60	-.5	.3	-.1	.3	.3	54	22.7	140	95	42	0	0	2	0		
OMAHA	72	53	82	48	62	-.5	-.2	-.7	.2	.3	21	35.9	160	93	47	0	0	1	0		
SCOTTSBLUFF	75	47	92	41	61	-.3	-.2	-.0	.2	.2	62	17.8	142	94	43	1	0	3	0		
VALENTINE	75	44	94	38	60	-.6	-.2	-.4	.2	.5	55	16.9	92	89	35	1	0	2	0		
NV ELY	84	37	89	35	61	2	.0	-.2	.0	T	3	8.0	110	83	12	0	0	0	0		
LAS VEGAS	103	73	107	69	88	4	.0	-.1	.0	.0	0	4.6	158	37	11	7	0	0	0		
RENO	92	53	97	51	73	10	T	T	T	T	0	4.9	97	79	18	5	0	0	0		
WINNEVOCCA	92	48	97	45	70	8	T	T	T	T	15	6.2	112	77	14	7	0	1	0		
NE CONCORD	74	52	85	38	63	2	.9	-.2	.5	1.1	103	18.0	73	99	54	0	0	2	0		
NJ ATLANTIC CITY	80	59	85	46	70	1	.6	-.2	.6	1.0	80	27.8	96	99	54	0	0	1	1		
NM ALBUQUERQUE	87	60	90	56	73	2	-.1	-.2	.1	.1	19	6.8	105	69	24	1	0	2	0		
CLOVIS	83	57	90	55	70	0	-.3	-.1	.2	.3	34	12.2	89	82	35	1	0	2	0		
ROSWELL	88	60	95	57	74	0	.7	-.3	.7	.7	79	9.1	96	82	29	4	0	1	1		
NY ALBANY	72	53	82	48	63	-.1	.9	-.2	.4	1.5	129	29.3	115	95	55	0	0	4	0		
BINGHAMTON	68	51	77	44	60	-.2	.4	-.4	.2	1.4	110	29.6	115	93	57	0	0	5	0		
BUFFALO	70	52	74	47	61	-.3	.4	-.4	.4	1.6	113	25.9	100	91	50	0	0	4	0		
NEW YORK	78	65	86	57	72	1	.9	-.0	.4	1.0	78	29.1	98	88	57	0	0	4	0		
ROCHESTER	71	51	78	48	61	-.3	1.5	.8	1.0	2.8	238	19.5	88	98	51	0	0	4	1		
SYRACUSE	72	52	79	48	62	-.2	1.2	.3	.6	1.8	130	32.3	122	94	54	0	0	4	1		
NC ASHEVILLE	80	58	84	49	69	-.1	T	T	T	.9	54	29.3	73	98	50	0	0	2	0		
CHARLOTTE	86	67	91	57	77	-.1	-.8	-.8	.2	.2	16	26.8	87	89	43	2	0	0	0		
GREENSBORO	84	64	87	55	74	2	.3	-.5	.3	.8	62	35.2	109	93	54	0	0	1	0		
RATHTRAS	84	70	88	60	77	1	1.7	.4	.6	1.7	82	38.1	99	95	68	0	0	4	2		
NEW BERN	87	68	91	58	78	2	1.5	.4	1.4	1.5	69	34.5	83	95	47	2	0	2	1		
RALEIGH	84	66	88	53	75	1	.5	-.5	.5	2.0	160	27.2	89	89	57	0	0	2	1		
WILMINGTON	86	69	91	61	77	2	3.4	1.7	3.3	3.5	126	43.6	103	96	61	1	0	2	1		
ND BISMARCK	74	43	87	38	58	-.1	T	T	T	.1	12	24.9	197	91	36	0	0	1	0		
FARGO	73	45	85	39	59	-.3	T	T	T	T	3	18.4	121	89	37	0	0	1	0		
GRAND FORKS	70	44	79	39	57	-.3	.1	-.5	.0	.4	45	19.4	135	86	38	0	0	3	0		
WILLISTON	73	40	86	34	57	-.3	T	T	T	T	6	17.3	157	91	34	0	0	0	0		
OH ANDON-CANTON	73	52	79	41	62	-.3	T	T	T	2.0	159	26.3	99	92	47	0	0	2	0		
CINCINNATI	76	54	81	40	65	-.5	T	T	T	1.3	123	27.9	93	94	48	0	0	1	0		
CLEVELAND	73	54	79	46	63	-.3	.4	-.5	.4	2.3	175	27.2	106	93	45	0	0	4	0		
COLUMBUS	77	53	82	40	65	-.1	T	T	T	.8	63	27.2	100	92	43	0	0	0	0		
DAYTON	76	53	81	43	64	-.4	T	T	T	1.9	187	37.4	141	89	45	0	0	0	0		

Based on 1961-90 normals.

Weather Data for the Week Ending September 11, 1993

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 Sept 1	PCT. NORMAL SINCE Sept 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE		.50 INCH OR MORE	
																		TEMP. °F	PRECIP.	OR MORE	OR MORE
TOLEDO	73	51	79	40	62	3	.6	-.1	.5	2.5	224	22.4	96	96	53	0	0	0	0	1	0
YOUNGSTOWN	73	51	78	44	62	3	.6	-.1	.5	2.5	22.4	96	96	53	0	0	0	0	0	1	0
OK OKLAHOMA CITY	83	60	96	54	71	1	1.4	-.7	.1	1.8	138	24.8	93	93	49	0	0	0	0	2	0
TULSA	81	59	87	57	70	1	1.3	-.5	.2	1.0	73	27.5	113	93	51	1	0	0	0	0	0
OR ASTORIA	66	54	73	50	60	1	1.1	-.2	1.1	2.2	134	29.9	105	95	46	0	0	0	0	2	0
BURNS	86	45	92	50	60	1	1.1	-.4	1.1	1	16	34.4	91	98	47	0	0	0	0	1	0
MEDFORD	97	57	102	56	77	9	.0	-.1	.0	0	8.0	123	54	14	1	0	0	0	0	0	0
PENDLETON	89	57	94	55	73	7	.0	-.2	.0	0	12.9	126	82	19	6	0	0	0	0	0	0
PORTLAND	86	56	93	50	71	6	.0	-.1	.0	0	11.8	154	64	19	4	0	0	0	0	0	0
SALEM	86	52	94	45	69	5	.0	-.4	.0	0	22.3	106	94	39	0	0	0	0	0	0	0
PA ALLENTOWN	77	59	84	48	68	1	.0	-.3	.0	0	25.4	115	88	36	3	0	0	0	0	0	0
ERIE	71	55	77	49	63	1	1.5	-.4	.5	1.9	122	34.0	110	94	57	0	0	0	0	1	1
HARRISBURG	77	62	85	53	70	1	1.0	-.1	2.6	2.0	121	24.2	88	91	54	0	0	0	0	1	1
PHILADELPHIA	80	64	88	53	72	3	2.3	1.5	2.3	4.3	344	33.4	117	93	54	0	0	0	0	3	1
PITTSBURGH	76	55	81	45	65	1	1.0	-.5	.5	1.0	66	28.0	86	87	52	0	0	0	0	4	0
SCRANTON	72	55	81	46	64	1	.2	-.5	.2	1.6	139	26.8	100	89	46	0	0	0	0	1	0
RI PROVIDENCE	77	60	86	52	69	2	1.2	-.4	.3	2.9	230	25.5	99	96	53	0	0	0	0	3	0
SC CHARLESTON	85	71	91	62	78	3	1.0	-.2	.9	1.1	83	26.6	86	96	59	0	0	0	0	3	1
COLUMBIA	87	68	91	55	77	1	2.5	1.2	1.6	2.5	124	41.3	103	93	67	1	0	0	0	4	2
FLORENCE	87	69	92	59	78	2	1.2	-.3	1.0	1.2	78	27.7	72	97	53	3	0	0	0	3	1
GREENVILLE	84	61	87	50	72	1	1.2	-.3	.7	1.3	90	25.7	77	92	47	3	0	0	0	2	1
SD ABERDEEN	75	46	85	41	61	1	.0	-.9	.0	7	50	29.5	80	98	50	0	0	0	0	1	0
HURON	74	47	85	42	60	1	.0	-.5	.0	1	16	24.3	140	92	42	0	0	0	0	0	0
RAPID CITY	75	47	83	43	61	1	.5	-.4	.0	0	25.2	154	92	43	0	0	0	0	0	0	0
SIoux FALLS	71	48	80	43	59	1	.5	-.2	.5	5	108	16.8	122	87	33	1	0	0	0	2	1
TN CHATTANOOGA	89	62	93	51	76	1	.3	-.7	.3	3	0	31.8	173	94	45	0	0	0	0	0	0
KNOXVILLE	84	59	88	47	72	1	.8	-.5	.2	7	65	28.4	83	98	46	0	0	0	0	1	0
MEMPHIS	86	65	89	57	75	1	.5	-.4	.5	7	50	29.3	81	93	43	0	0	0	0	2	0
NASHVILLE	85	61	89	50	73	1	.4	-.5	.3	7	49	30.5	90	90	41	0	0	0	0	2	0
TX ABILENE	89	62	93	56	76	1	.1	-.7	1	1	9	12.0	69	75	33	4	0	0	0	1	0
AMARILLO	82	57	90	53	69	1	.7	-.2	.6	7	80	16.0	101	95	39	1	0	0	0	2	1
AUSTIN	97	70	101	63	84	1	.7	-.7	.0	3	21.7	98	78	34	7	0	0	0	0	1	0
BEAUMONT	96	76	98	70	84	3	.0	-.5	.0	0	51.5	131	93	34	7	0	0	0	0	0	0
BROWNSVILLE	93	76	95	73	84	1	.0	-.4	.0	0	17.1	99	92	57	6	0	0	0	0	0	0
CORPUS CHRISTI	94	74	98	70	84	1	.2	-.1	.2	2	9	29.2	141	91	52	6	0	0	0	1	0
DEL RIO	89	70	93	66	79	1	.4	-.2	.4	5	53	13.2	75	80	43	6	0	0	0	1	0
EL PASO	91	65	96	63	78	2	1.1	-.7	1.1	1.1	161	8.0	132	67	29	5	0	0	0	1	1
FORT WORTH	92	66	97	61	79	2	.0	-.1	.0	2	12	20.5	80	77	35	5	0	0	0	1	0
GALVESTON	91	79	93	77	85	4	.0	-.5	.0	1.7	75	32.3	112	78	56	6	0	0	0	0	0
HOUSTON	95	70	99	65	82	3	.0	-.3	.0	0	45.7	127	84	43	6	0	0	0	0	0	0
LUBBOCK	86	59	90	51	72	1	.2	-.4	.2	2	21	11.6	84	83	36	1	0	0	0	2	0
MIDLAND	86	61	89	57	74	1	.0	-.8	.0	7	57	13.5	127	89	37	0	0	0	0	1	0
SAN ANGELO	90	63	92	58	76	1	.0	-.8	.0	0	3	11.8	85	86	38	5	0	0	0	0	0
SAN ANTONIO	97	69	101	65	83	1	.1	-.7	1	1	10	27.5	128	79	34	7	0	0	0	2	0
VICTORIA	96	73	101	68	84	4	.4	-.1	.4	9	38	42.8	141	89	41	7	0	0	0	1	0
WACO	94	64	97	55	79	2	.0	-.8	.0	0	19.3	88	77	32	7	0	0	0	0	0	0
WICHITA FALLS	88	61	96	58	75	3	.2	-.7	.2	3	18	21.2	93	92	41	3	0	0	0	1	0
UT CEDAR CITY	88	50	92	45	69	3	.0	-.3	.0	1	15	8.0	97	40	11	2	0	0	0	0	0
SALT LAKE CITY	88	58	94	52	73	5	.0	-.3	.0	0	14.5	129	69	20	2	0	0	0	0	0	0
VT BURLINGTON	71	52	79	48	62	0	.5	-.3	.3	1.5	113	24.2	101	93	53	0	0	0	0	5	0
VA NORFOLK	84	68	90	56	76	2	.1	-.9	1	2.6	166	26.8	81	96	55	1	0	0	0	1	0
RICHMOND	86	65	90	51	76	3	.9	-.1	.6	1.2	93	31.2	100	94	47	2	0	0	0	4	1
ROANOKE	82	60	86	48	71	1	1.2	-.4	1.1	2.7	206	27.8	96	93	44	0	0	0	0	2	1
WA QUILLAYUTE	87	49	74	42	58	0	.1	-.8	.1	1	6	44.8	74	98	43	0	0	0	0	1	0
SEATTLE-TACOMA	79	54	85	52	67	5	.0	-.4	.0	0	20.6	98	96	39	0	0	0	0	0	0	0
SPOKANE	83	52	88	48	67	5	.0	-.2	.0	0	10.5	100	81	23	0	0	0	0	0	0	0
YAKIMA	89	50	92	47	70	6	.0	-.1	.0	0	4.6	95	90	23	4	0	0	0	0	0	0
WV BECKLEY	76	54	79	44	65	0	.3	-.5	.3	1.3	100	27.0	91	97	44	0	0	0	0	2	0
CHARLESTON	79	55	86	45	67	3	.1	-.7	.1	1.3	100	26.3	86	98	44	0	0	0	0	1	0
HUNTINGTON	80	56	85	46	68	0	.7	-.1	.7	1.8	142	29.2	93	97	46	0	0	0	0	1	1
PARKERSBURG	77	54	82	42	66	4	.0	-.7	.0	1.2	106	28.0	92	95	47	0	0	0	0	0	0
WI GREEN BAY	67	45	71	38	56	1	.3	-.6	.2	6	41	27.3	131	93	45	0	0	0	0	3	0
LACROSSE	68	47	73	42	58	1	.0	-.7	.0	0	36.7	159	93	44	0	0	0	0	0	0	0
MADISON	70	46	74	37	58	1	.3	-.6	.3	3	23	37.2	157	90	43	0	0	0	0	3	0
MILWAUKEE	72	55	77	47	63	1	.2	-.7	.1	2	14	30.0	127	85	43	0	0	0	0	3	0
NAUSAU	65	43	71	37	54	1	.8	-.3	.2	9	56	28.6	118	89	41	0	0	0	0	4	0
WY CASPER	77	48	91	42	63	2	.6	-.4	.3	7	213	12.9	136	89	30	1	0	0	0	2	0
CHEYENNE	71	47	84	40	59	1	.8	-.5	.7	9	181	13.3	112	90	35	0	0	0	0	3	0
LANDER	77	48	87	44	62	1	.1	-.2	.0	1	17	12.8	131	71	28	0	0	0	0	2	0
SHERIDAN	75	47	91	39	61	1	.4	-.0	.4	4	81	14.3	131	92	33	1	0	0	0	1	0

Based on 1961-90 normals.

# August Weather in Historical Perspective

Regional weather variability, a hallmark of the summer of 1993, continued in August. Temperatures ranged from 2.9°F below normal in the West North Central region, which recorded its 12th coldest August (table 1 and figure 1), to 2.9°F above normal in the Central region (15th hottest August). Extreme temperatures were also observed in the Southeast (12th hottest) and the Northeast (14th hottest), as well as the Northwest (14th coldest). Climatological records have been kept since 1895.

Similarly, monthly precipitation varied from 75 to 80 percent of normal in the Southeast (16th driest August), Northeast (24th driest), and South regions (30th driest), to nearly 150 percent of normal in the East North Central region, which notched its 5th wettest August on record. South-central Texas, which comprises a portion of the South region, was especially dry. Dry spells approached or surpassed the 2-month mark in several

Texas cities, including Austin, San Antonio, and Corpus Christi. But farther north, unwanted heavy rainfall returned before mid-month after a temporary reprieve. Iowa, a part of the East North Central region, endured considerable flash flooding as soils remained saturated.

Heavy rains during the past 6 months have resulted in the wettest March to August period on record in the primary Corn and Soybean Belt (fig. 2). An average of more than 28 inches of rain has deluged the Corn and Soybean Belt since March 1 (about 130 percent of normal), easily surpassing the record previously set in 1973. By way of comparison, the 1993 total represents nearly twice the amount of water that fell on the region during the most recent major Corn Belt drought (1988), when March to August rainfall was only two-thirds of normal.

--Brad Rippey

Table 1. Temperature and precipitation rankings for August 1993, based on the period 1895-1993. 1 = Driest/Coldest, 99 = Wettest/Hottest.

Region	Precipitation	Temperature
Northeast	24	86
East North Central	95	70
Central	57	85
Southeast	16	88
West North Central	73	12
South	30	74
Southwest	57	24
Northwest	76	14
West	25	26
National	43	50

Figure 2

PRIMARY CORN AND SOYBEAN BELT PRECIPITATION MARCH-AUGUST, 1895-1993

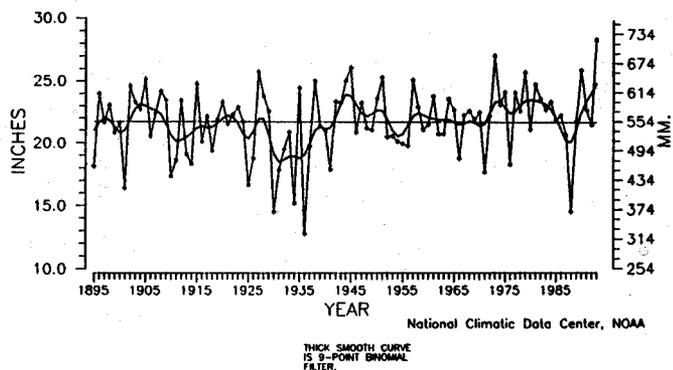
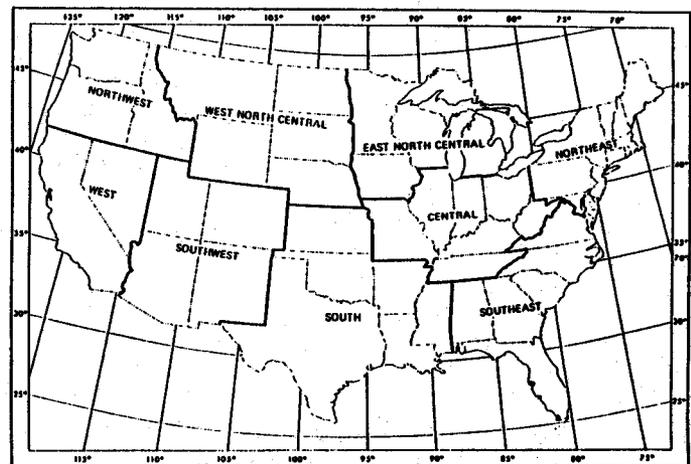
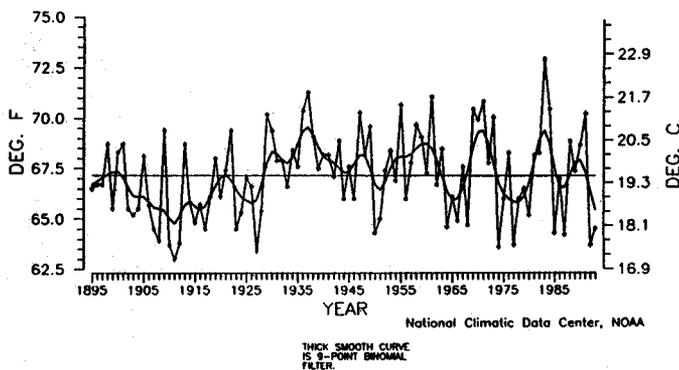
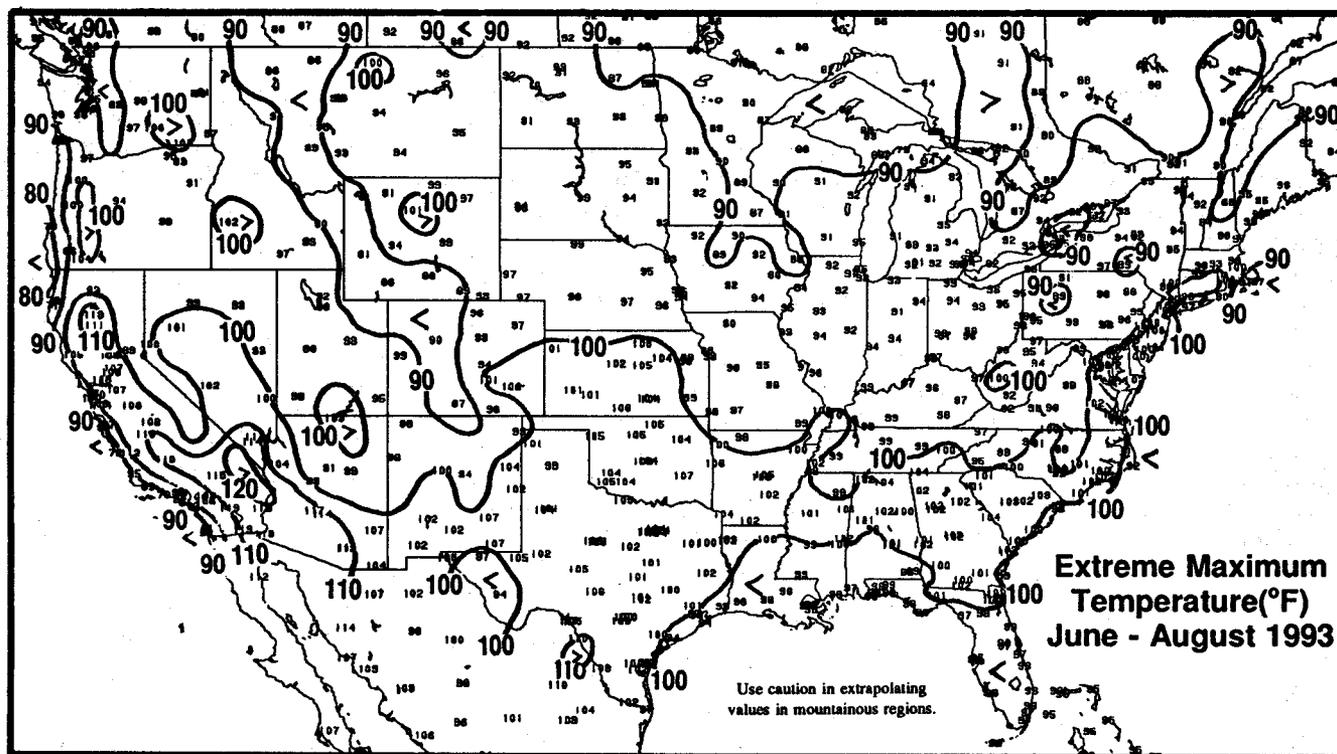


Figure 1

WEST-NORTH CENTRAL REGION TEMPERATURE AUGUST, 1895-1993





Heat stress was largely absent from the Corn Belt for a second consecutive summer, although an August heat surge pushed temperatures into the middle and upper 90's in Ohio. Summer temperatures failed to reach the 90°F mark in portions of the western Corn Belt, in part due to consistently saturated soils. Temperatures never climbed above 89°F in locations such as Minneapolis, MN and Ft. Dodge, IA. Similarly, extreme heat was seldom observed in the Northwest, where Spokane, WA cracked the 90°F barrier only three times after a 92°F reading on May 12. In contrast, merciless heat (and dryness) baked the South and East. Newark, NJ hit 100°F or higher a record nine times during the summer, while Columbia, SC reached that level 17 times in July alone.

## Summer Weather Review

**HIGHLIGHTS:** Never before in recorded history did the middle Mississippi and lower Missouri River climb higher than during the summer of 1993. Although the instantaneous volume of water passing St. Louis, MO was more than 300,000 cubic feet per second greater during the flood of 1844, constriction of the Mississippi channel due to levee-building allowed the river to crest more than 8 feet higher in 1993. Four States (IA, MO, MN, and SD) each lost more than 1 million acres of crops due to flooding or excessive wetness. Crop acreage losses (for corn, soybeans, sorghum, oats, barley, wheat, hay, and dry beans) in the 9 hardest-hit States totaled 7.8 million acres, 2.8 million acres of which were not planted, and 5.0 million acres of which were lost after planting.

Weather patterns were remarkably consistent during the summer of 1993. On a typical day, a steamy ridge of high pressure camped over the Southeast, while an energetic trough of low pressure spun over the Northwest. In between, north Pacific energy and Gulf of Mexico moisture combined to deposit more than twice the normal summer rainfall in much of the Missouri and upper Mississippi River basins.

**JUNE:** Frequent and intense rainfall in the upper Mississippi Valley was the culminating event in a year-long spate of surplus precipitation. By month's end, barge traffic was halted north of St. Louis as multiple crests developed on the upper Mississippi River. But in the Southeast, weather conditions changed abruptly from cool to hot and dry. Extreme heat during the second week in June was the first of many stressful periods for crops in the Southeast. Monthly temperatures averaged as much as 4°F above normal in the Carolinas.

Tropical activity was limited to two systems. A tropical depression brushed southern Florida with heavy rain and gusty winds on June 1, while Tropical Storm Arlene spread inundating rains across the western Gulf coast for several days beginning on June 19. Ironically, when heavy rain ceased in late June across eastern Texas, it would not return for 2 months.

**JULY:** Temperature anomalies intensified, resulting in astounding monthly departures as large as -10°F in the Northwest and +6°F in the Southeast. Consequently, copious rainfall continued from Kansas to Iowa, further swelling rivers. Casualties included an assortment of entire towns, flood-plain cropland, and water treatment plants.

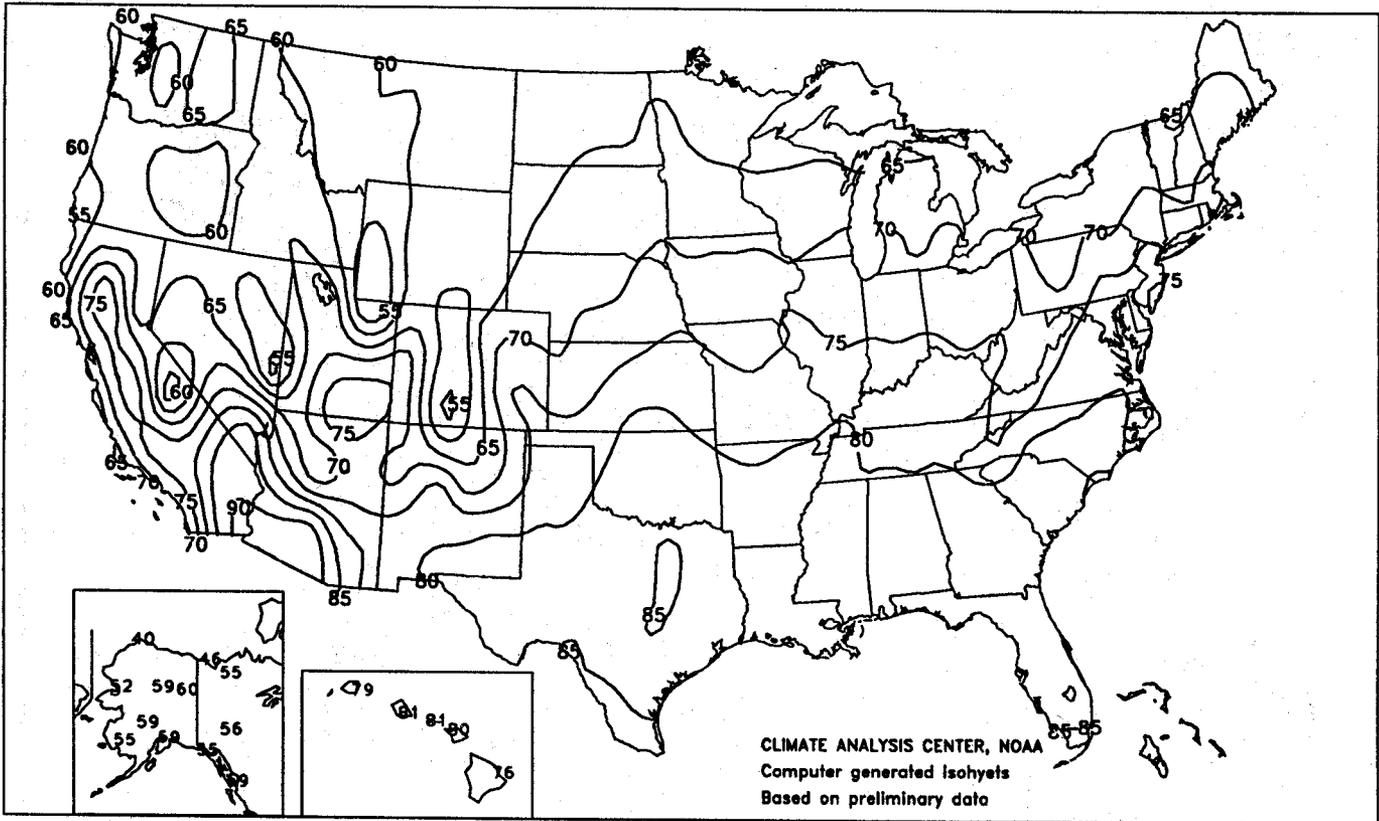
Temperatures in the Southeast topped 90°F on every day of the month in several locations, including Chattanooga, TN and Atlanta, GA. Greenville-Spartanburg, SC endured its second of 3 consecutive months with less than 1 inch of rain.

**AUGUST:** Record crests on the middle Mississippi and lower Missouri Rivers converged on St. Louis, MO on August 1. Although the river would not fall below flood stage at St. Louis for another 6 weeks, barge traffic cautiously resumed before the end of the month.

The sheer persistence of the trough/ridge couplet throughout the summer resulted in considerable record-breaking. For example, it was the wettest summer on record in Des Moines, IA (29.06 inches), the driest on record in Columbia, SC (5.10 inches), the hottest on record in Chattanooga, TN (+4.7°F), and the coldest on record in Pocatello, ID (-6.5°F). At month's end, Hurricane Emily grazed North Carolina's Outer Banks, producing wind gusts to 100 mph.

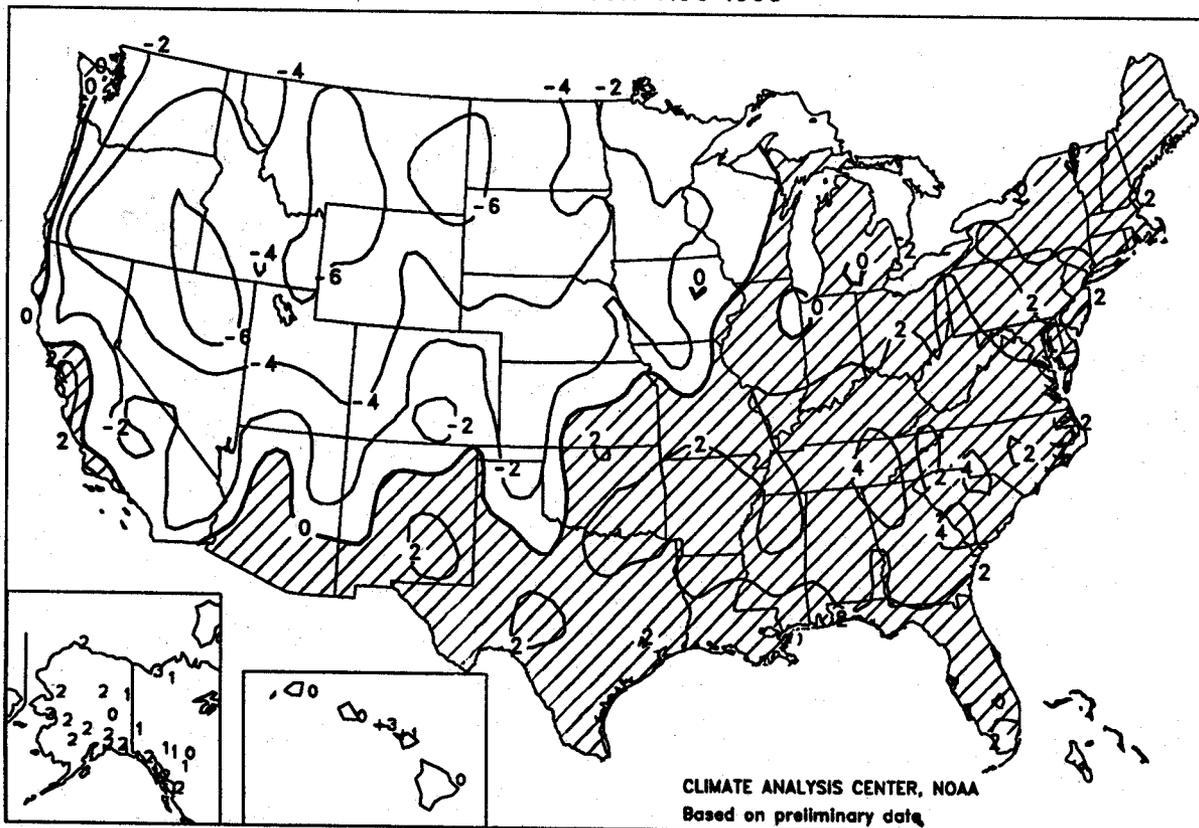
SUMMER Average Temperature(°F)

JUN-AUG 1993



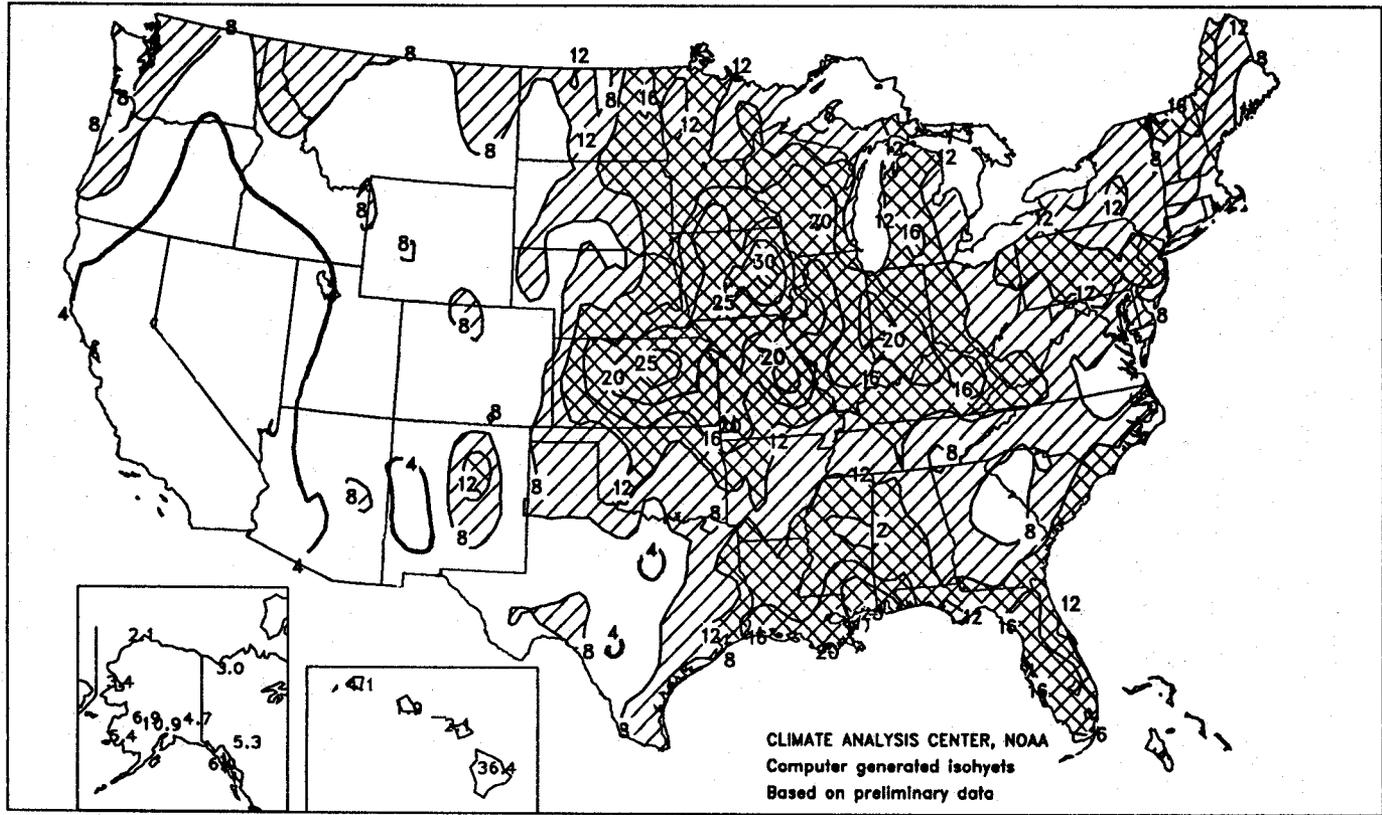
SUMMER Departure from Normal Average Temperature(°F)

JUN-AUG 1993



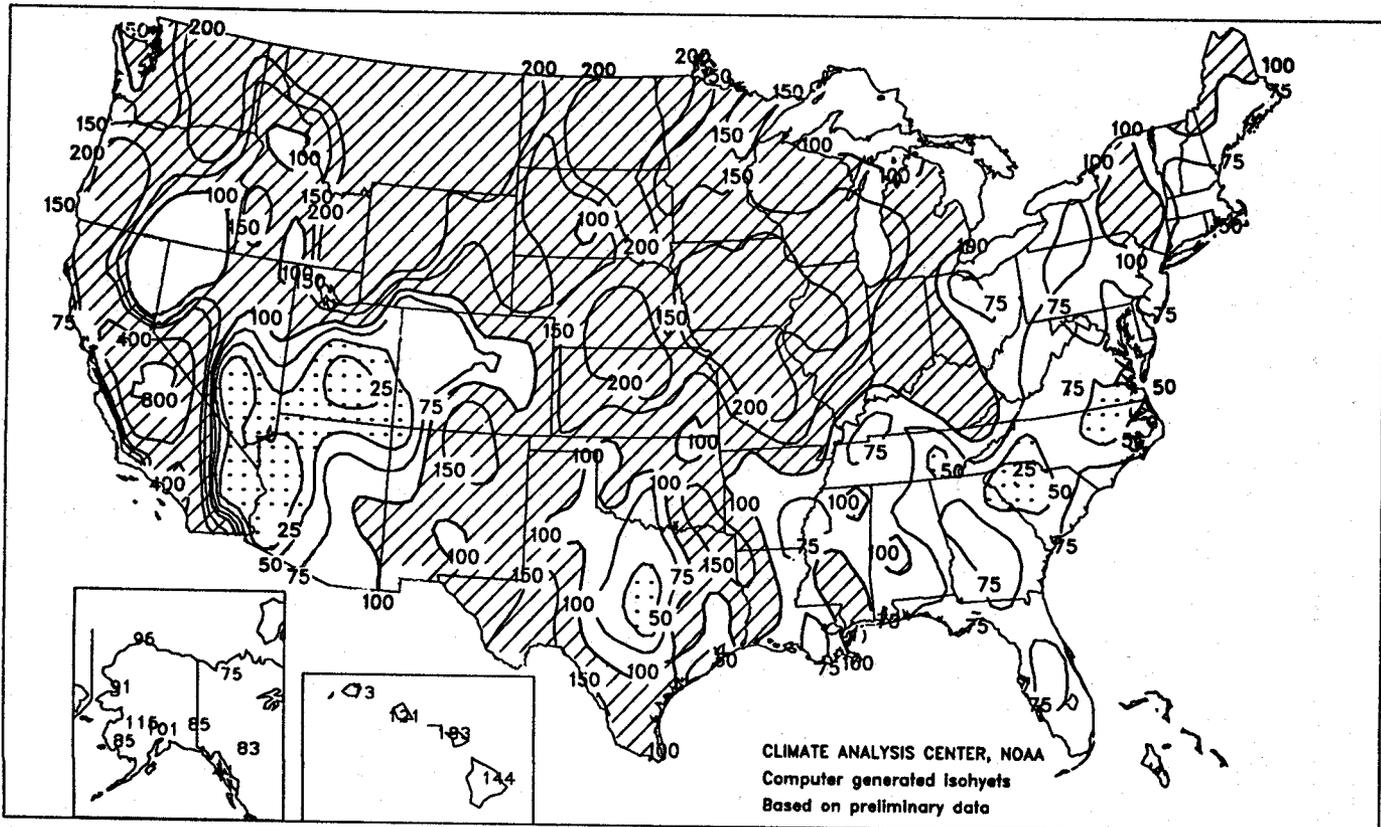
### SUMMER TOTAL PRECIPITATION (inches)

JUN-AUG 1993



### SUMMER PERCENT OF NORMAL PRECIPITATION

JUN-AUG 1993



# Summer Weather in Historical Perspective

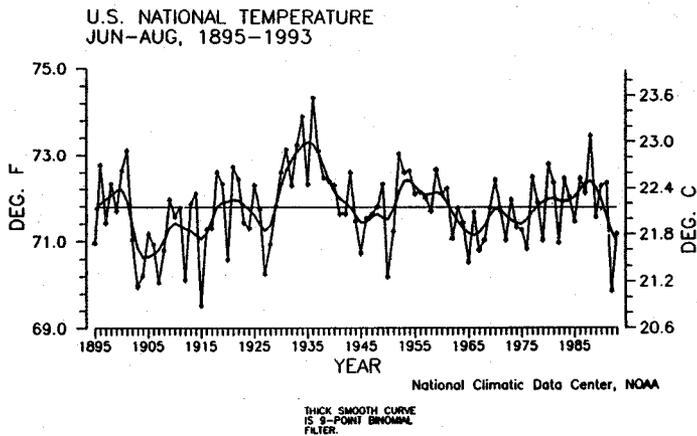
Although national data for the summer of 1993 indicate that it was a cool (fig. 1), damp period (fig. 2), regional and State data reflect the extremes that have characterized the 1993 growing season. For example, it was the wettest summer since at least 1895 in the West North Central region (table 1), but the driest on record in the Southeast (fig. 3). Similarly, the Northwest experienced its coldest summer ever (fig. 4), while the Southeast suffered through its second hottest summer (fig. 5).

Broken down State-by-State, it was the hottest or second-hottest summer in the past 99 years in Florida, New Jersey, North Carolina, and South Carolina (table 2). In contrast, 6 States (ID, MT, NV, OR, UT, and WA) experienced a coldest, or second-

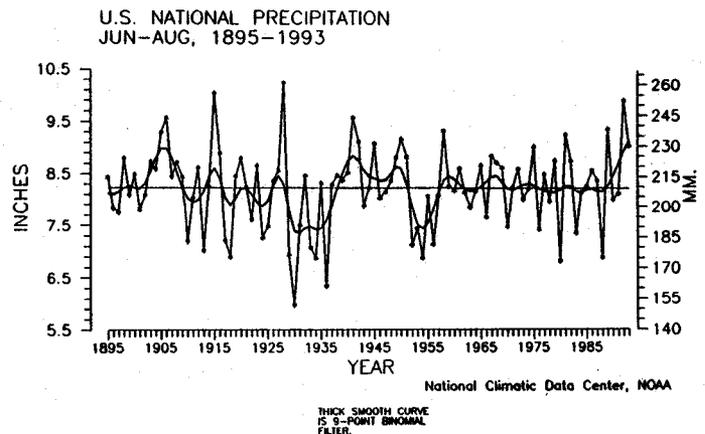
coldest summer. A multitude of States in the Missouri and upper Mississippi River drainage basins experienced record wetness (table 3) during the summer (ID, IL, IA, MN, MT, ND, and SD), while acute dryness afflicted much of the East.

Summer rainfall in the Mississippi River Basin (and its tributaries) was approximately 140 percent of normal, easily surpassing the record previously set in 1915 (fig. 6). Data from selected river gauging stations (fig. 7 and 8) at Hermann, MO (Missouri River) and Keokuk, IA (Mississippi River) show that rivers in the flood region had been running quite high since late 1992, and were thus quite easily pushed out of their banks by heavy spring and summer precipitation.

**Figure 1**



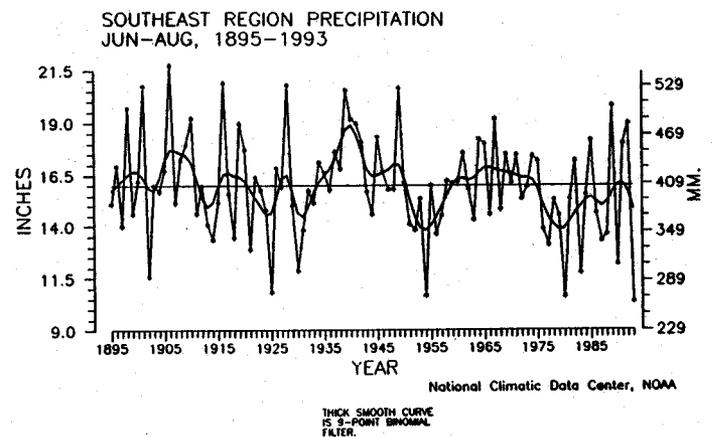
**Figure 2**



**TABLE 1. TEMPERATURE AND PRECIPITATION RANKINGS FOR JUN-AUG 1993, BASED ON THE PERIOD 1895-1993. 1 = DRIEST/COLDEST, 99 = WETTEST/HOTTEST.**

REGION	PRECIPITATION	TEMPERATURE
NORTHEAST	14	88
EAST NORTH CENTRAL	99	30
CENTRAL	91	87
SOUTHEAST	1	98
WEST NORTH CENTRAL	99	2
SOUTH	43	86
SOUTHWEST	9	29
NORTHWEST	97	1
WEST	76	6
NATIONAL	87	24

**Figure 3**



**Figure 4**

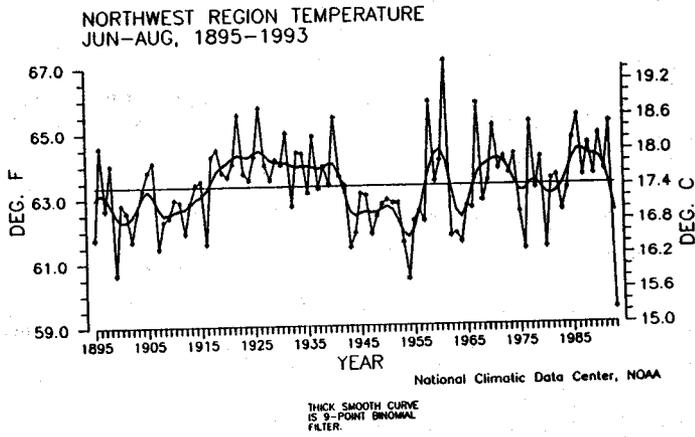


TABLE 2. TEMPERATURE RANKINGS FOR JUN-AUG 1993, BASED ON THE PERIOD 1895 TO 1993. 1 = COLDEST, 99 = WARMEST.

STATE	RANK	STATE	RANK	STATE	RANK	STATE	RANK
AL	95	IA	31	NE	10	RI	96
AZ	74	KS	34	NV	2	SC	98
AR	92	KY	91	NH	84	SD	6
CA	35	LA	93	NJ	98	TN	94
CO	14	ME	67	NM	67	TX	81
CT	83	MD	91	NY	81	UT	1
DE	84	MA	83	NC	98	VT	89
FL	99	MI	56	ND	5	VA	95
GA	96	MN	16	OH	85	WA	2
ID	1	MS	87	OK	87	WV	95
IL	61	MO	82	OR	1	WI	33
IN	69	MT	1	PA	92	WY	3

**Figure 5**

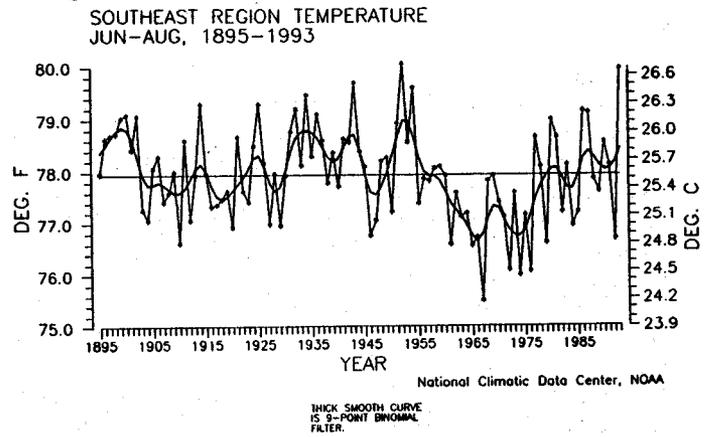
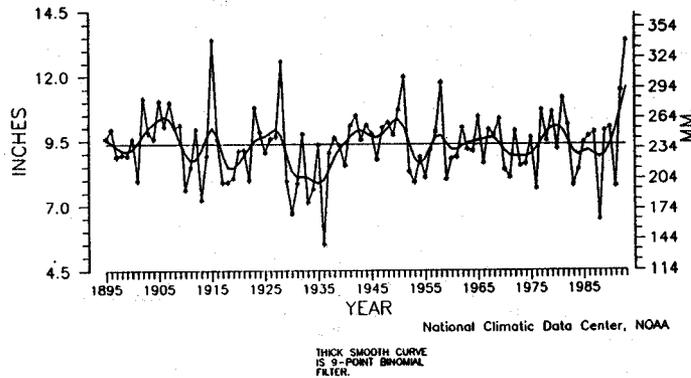


TABLE 3. PRECIPITATION RANKINGS FOR JUN-AUG 1993, BASED ON THE PERIOD 1895 TO 1993. 1 = DRIEST, 99 = WETTEST.

STATE	RANK	STATE	RANK	STATE	RANK	STATE	RANK
AL	18	IA	99	NE	97	RI	3
AZ	3	KS	95	NV	54	SC	1
AR	28	KY	60	NH	2	SD	99
CA	90	LA	31	NJ	15	TN	7
CO	28	ME	16	NM	26	TX	38
CT	31	MD	8	NY	31	UT	33
DE	30	MA	7	NC	2	VT	26
FL	2	MI	88	ND	99	VA	2
GA	5	MN	99	OH	31	WA	90
ID	99	MS	40	OK	25	WV	5
IL	99	MO	94	OR	93	WI	96
IN	88	MT	99	PA	24	WY	94

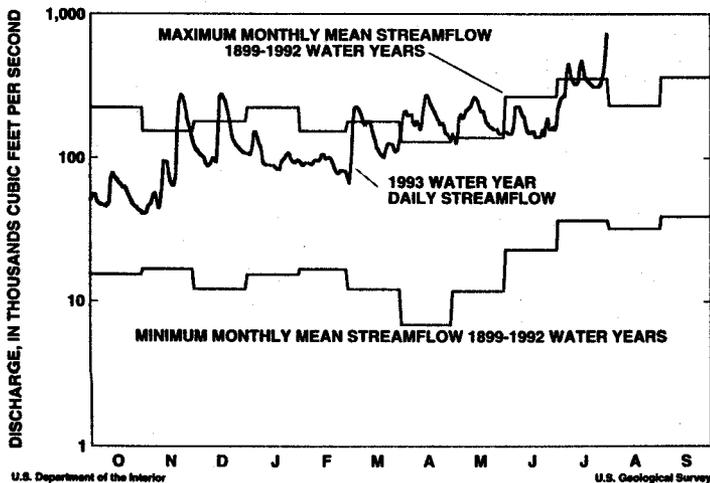
**Figure 6**

MISSISSIPPI RIVER BASIN & TRIBUTARIES  
JUN-AUG PRECIPITATION, 1895-1993



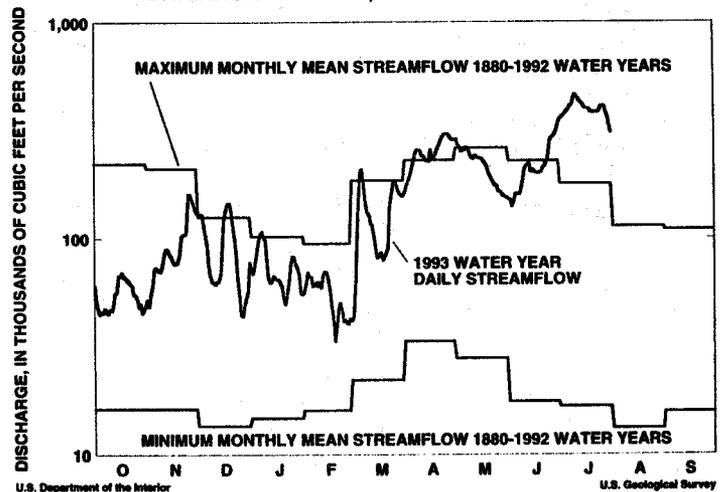
**Figure 7**

MISSOURI RIVER AT HERMANN, MISSOURI  
DRAINAGE AREA 524,200 SQUARE MILES



**Figure 8**

MISSISSIPPI RIVER AT KEOKUK, IOWA  
DRAINAGE AREA 119,000 SQUARE MILES



## National Agricultural Summary

September 6 - 12, 1993

**HIGHLIGHTS:** Rain fell across the Atlantic Coast States and much of the Gulf Coast, bringing welcomed moisture to those areas. Scattered showers fell across the central Great Plains, aiding winter wheat germination. Temperatures across the central portion of the Nation were below normal, which slowed row crop development. Dry, warm conditions allowed small grain and fruit harvests to advance in the West.

**SMALL GRAINS:** Winter wheat planted in the 19 major wheat-producing States reached 11 percent (%), compared with 15% by this time in 1992 and 11% average. Progress was greatest in Washington, Colorado, South Dakota, and Nebraska, where each planted at least an additional 10% of their acreage. Some producers in the Great Plains were still waiting for moisture before planting their fields. Winter wheat harvest in the Northwest continued with Idaho at 67% complete, Oregon at 98% complete, and Washington State 98% complete. The spring wheat harvest reached 57% complete, compared with 64% last year and 91% average. The harvest progress increased by at least 20 percentage points in Idaho and Minnesota. Spring wheat condition increased with 51% of the crop rated good to excellent, compared with 45% last week. Harvest of other small grains continued in the Northwest and the upper Great Plains. Planting of other small grains was underway in the Southeast.

**CORN:** Corn in the dough stage in the 17 major producing States reached 85%, compared with 89% a year ago and 97% average. Corn reaching the dough stage in Minnesota and South Dakota was more than 2 weeks behind average. Corn in the dent stage was 57%, compared with 59% last year and 82% average. Less than 40% of the crop was dented in Iowa, Minnesota, and Wisconsin. About 14% of the Nation's crop was rated mature, compared with 15% last year and 40% average. Maturity was near or ahead of average in the Southeast and much of the Ohio Valley. Cool temperatures slowed crop progress across many areas of the Corn Belt. However, corn condition improved slightly with 53% of the crop rated good to excellent, compared with 51% last week.

**SOYBEANS:** Soybean setting pods in the 19 major producing States averaged 97%, compared with 99% a year ago and 97% average. About 9% of the acreage had dropped leaves, compared with 15% last year and 26% average. Leaf dropping progress in the upper Great Plains and much of the middle Mississippi Valley was almost 2 weeks behind average. Showers in the Southeast slowed premature pod and leaf drop. The dry weather in Tennessee continued to hurt the soybean crop. The crop in Illinois made significant progress but still lagged average. Nationally, soybean condition improved slightly from last week, with 47% of the crop rated good to excellent, compared with 46% last week.

**COTTON:** Cotton boll opening progress advanced to 55%, compared with 40% last year and 45% average. Progress was ahead of average in all States except Mississippi and New Mexico. Hot weather caused the premature opening of some bolls in Georgia. Dry conditions stressed the crop in Tennessee. Scattered showers in Texas reduced the need for irrigation in some fields. For the Nation, cotton crop condition increased, with 54% good to excellent, compared with 50% last week.

**SORGHUM:** Grain sorghum coloring in the 12 major States, excluding New Mexico, averaged 73%, compared with 61% last year and 75% average. Coloring progress was behind average in the

northern Great Plains and Missouri. Sorghum mature reached 36%, compared with 36% last year and 46% average. Maturity was behind average in the central Mississippi Valley and northern Great Plains. Progress was at least 20 points behind average in Nebraska and South Dakota. Harvest continued in Texas and began in Louisiana. Sorghum condition improved with 64% of the crop being good to excellent, compared with 61% last week.

**RICE:** Progress of the rice harvest reached 29%, compared with 42% last year and 34% average. Disease problems continued to affect some of the Arkansas crop. Harvest in Texas continued with below-average yields noted. Rice condition improved from last week, with 73% rated good to excellent.

**OTHER FIELD CROPS:** Insect problems persisted in some peanut fields in southern Virginia. Scattered showers over Georgia aided peanut harvesting. Some peanut fields showed leafspot and southern blight in the Edwards Plateau region of Texas. Harvest of the North Carolina flue-cured tobacco crop advanced but lagged last year and normal. The cool, dry conditions helped the tobacco harvest in Tennessee. The dry bean harvest was active, but progress was behind average in Idaho and Minnesota. The potato harvest advanced nationwide. Harvest progress in Idaho reached 7% complete. The onion harvest was also active, with progress in Idaho and Colorado behind average.

**FRUIT AND NUTS:** The Florida citrus groves remained in good to excellent condition. In California, the Valencia orange harvest advanced with good quality fruit picked. The apple harvest advanced across the Nation. In New York, cooler temperatures were needed to improve color. In Washington, the early variety apple harvest neared completion and the red delicious harvest began. The California peach and nectarine harvests neared completion as the plum harvest reached 75% complete. Insect damaged some pecans in the Trans-Pecos region of Texas. The almond harvest gained momentum and the early walnut harvest started in California.

**VEGETABLES:** Previous weather conditions caused mold, small fruit size, and delayed maturity for some processing tomatoes in Ohio. Vegetable planting remained active in Arizona, California, Texas, and Florida for the fall and winter crops. The harvest of late-summer vegetables continued.

**PASTURE AND LIVESTOCK:** Pasture feed conditions generally improved in the East and Southeast with the scattered showers. In the West, pasture feed conditions remained good, although good quality feed was short in some areas. Pasture feed conditions in the central part of the Nation remained adequate. Supplemental feeding continued in some areas of Texas and increased in some areas of California. Livestock in the western parts of the Nation started moving to fall pastures. Livestock conditions remained generally good nationwide. Feed supplies were mostly adequate, although hay supplies were short in some parts of east Texas.

### Crop Progress

for the Week Ending September 12, 1993

#### RICE (Percent Harvested)

	Current	Last Wk	1992	Avg.
AR	14	6	30	14
CA	0	0	5	1
LA	71	61	77	75
MS	11	5	33	25
TX	61	42	72	88
5 States	29	21	42	34

These 5 States produced 97% of the 1992 rice crop.

#### COTTON (Percent Bolls Opening)

	Current	Last Wk	1992	Avg.
AL	52	37	22	47
AZ	95	90	89	87
AR	47	25	26	39
CA	75	45	95	68
GA	68	41	36	44
LA	80	50	77	73
MS	60	50	65	71
MO	46	30	14	38
NM	40	27	35	42
NC	66	46	29	52
OK	30	12	12	9
SC	73	41	52	50
TN	67	40	24	41
TX	43	34	23	29
14 States	55	39	40	45

These 14 States produced 99% of the 1992 cotton crop.

#### SPRING WHEAT (Percent Harvested)

	Current	Last Wk	1992	Avg.
ID	43	22	98	92
MN	68	48	43	89
MT	20	12	65	88
ND	54	38	60	91
SD	95	90	91	98
5 States	57	43	64	91

These 5 States produced 96% of the 1992 spring wheat crop.

#### WINTER WHEAT (Percent Planted)

	Current	Last Wk	1992	Avg.
AR	0	0	0	0
CA	0	0	0	0
CO	20	8	25	21
GA	0	0	1	1
ID	5	0	19	9
IL	0	0	0	1
IN	2	0	1	2
KS	5	3	10	5
MI	5	2	4	3
MO	2	0	1	2
MT	5	0	10	17
NE	20	3	23	20
NC	1	0	2	2
OH	0	0	0	0
OK	14	6	16	9
OR	7	4	7	5
SD	23	9	29	31
TX	20	12	19	19
WA	30	17	51	32
19 States	11	5	15	11

These 19 States produced 90% of the 1992 winter wheat crop.

#### SOYBEANS (Percent Setting Pods)

	Current	Last Wk	1992	Avg.
AL	83	77	88	86
AR	95	85	93	88
GA	90	84	99	95
IL	98	97	100	99
IN	100	99	100	100
IA	99	96	100	100
KS	100	95	98	98
KY	94	75	95	90
LA	93	91	96	99
MI	100	100	100	99
MN	99	91	99	100
MS	93	87	99	90
MO	98	94	100	98
NE	100	98	100	100
NC	86	80	85	85
OH	100	100	100	100
SC	83	70	90	85
SD	97	90	100	100
TN	95	89	95	92
19 States	97	93	99	97

These 19 States produced 95% of the 1992 soybean crop.

#### SOYBEANS (Percent Dropping Leaves)

	Current	Last Wk	1992	Avg.
AL	25	23	16	18
AR	7	3	8	5
GA	25	23	12	14
IL	7	2	31	31
IN	12	4	22	29
IA	2	0	8	24
KS	15	5	20	35
KY	13	7	22	17
LA	18	13	26	14
MI	14	1	3	15
MN	5	0	5	45
MS	5	2	20	14
MO	4	2	17	14
NE	4	0	8	31
NC	10	0	8	5
OH	31	12	12	26
SC	1	0	1	3
SD	17	4	12	55
TN	10	5	10	13
19 States	9	3	15	26

These 19 States produced 95% of the 1992 soybean crop.

#### CORN (Percent Dough)

	Current	Last Wk	1992	Avg.
CO	92	75	76	90
GA	100	100	100	100
IL	94	92	90	96
IN	99	97	99	99
IA	64	52	89	99
KS	99	97	98	99
KY	99	99	99	99
MI	95	60	50	80
MN	71	35	88	97
MO	95	91	100	100
NE	97	86	100	100
NC	95	93	94	98
OH	100	100	100	100
PA	91	78	80	81
SD	76	66	78	99
TX	100	96	99	100
WI	68	57	57	83
17 States	85	75	89	97

These 17 States produced 94% of the 1992 corn crop.

#### CORN (Percent Dent)

	Current	Last Wk	1992	Avg.
CO	53	26	48	63
GA	100	100	100	100
IL	71	56	68	84
IN	82	61	67	82
IA	32	20	59	92
KS	80	70	75	90
KY	96	85	93	95
MI	40	15	10	50
MN	25	8	38	79
MO	79	71	90	93
NE	65	37	68	88
NC	94	91	94	93
OH	83	65	61	70
PA	58	29	38	40
SD	41	21	43	78
TX	95	94	93	97
WI	34	17	20	59
17 States	57	40	59	82

These 17 States produced 94% of the 1992 corn crop.

#### CORN (Percent Mature)

	Current	Last Wk	1992	Avg.
CO	3	0	6	27
GA	100	100	100	100
IL	14	5	15	44
IN	16	8	9	34
IA	4	0	15	49
KS	50	35	55	65
KY	65	33	52	54
MI	3	0	0	10
MN	2	0	1	32
MO	23	20	39	57
NE	4	0	7	37
NC	88	78	83	86
OH	18	7	5	13
PA	7	1	3	8
SD	4	1	5	40
TX	72	66	70	80
WI	7	2	3	24
17 States	14	8	15	40

These 17 States produced 94% of the 1992 corn crop.

**SORGHUM**  
(Percent Coloring)

	Current	Last Wk	1992	Avg.
AR	96	87	99	88
CO	41	20	41	49
IL	70	40	77	70
KS	65	50	35	60
LA	97	94	100	95
MS	95	93	100	94
MO	72	56	82	77
NE	57	26	43	77
NM	58	24	40	NA
OK	71	53	74	79
SD	28	6	24	70
TX	88	84	78	83
12 States	73	59	60	NA

Excl. States with NA 73 60 61 75

These 12 States produced 99% of the 1992 grain sorghum crop.

**SORGHUM**  
(Percent Mature)

	Current	Last Wk	1992	Avg.
AR	58	46	81	70
CO	18	8	6	9
IL	12	0	16	31
KS	5	3	4	20
LA	87	69	97	84
MS	76	72	93	76
MO	30	23	42	37
NE	0	0	1	29
NM	7	3	4	NA
OK	20	14	10	12
SD	8	0	2	28
TX	73	70	70	73
12 States	36	32	36	NA

Excl. States with NA 36 32 36 46

These 12 States produced 99% of the 1992 grain sorghum crop.

**Crop Condition**  
(Percent)

for the Week Ending September 12, 1993

**RICE**

State	VP	P	F	G	EX
AR	0	0	8	92	0
CA	0	0	10	85	5
LA	0	0	75	25	0
MS	0	10	45	40	5
TX	0	0	16	84	0
5 State	0	1	26	72	1
Prev Week	0	1	29	69	1
Prev Year	N/A	N/A	N/A	N/A	N/A

**SPRING WHEAT**

State	VP	P	F	G	EX
ID	1	2	15	67	15
MN	15	42	37	5	1
MT	1	2	14	50	33
ND	3	14	26	57	0
SD	4	27	32	35	2
5 State	5	18	26	45	6
Prev Week	3	18	34	39	6
Prev Year	N/A	N/A	N/A	N/A	N/A

**CORN**

State	VP	P	F	G	EX
CO	3	7	21	55	14
GA	19	20	40	21	0
IL	0	1	12	75	12
IN	0	1	16	76	7
IA	2	21	58	19	0
KS	0	0	18	54	28
KY	0	4	47	47	2
MI	1	4	20	50	25
MN	15	41	38	6	0
MO	1	19	46	33	1
NE	0	2	21	67	10
NC	17	44	30	8	1
OH	3	14	37	39	7
PA	3	10	32	43	12
SD	4	12	42	40	2
TX	0	5	15	70	10
WI	1	7	38	50	4
17 State	3	12	32	46	7
Prev Week	3	12	34	44	7
Prev Year	2	3	16	61	18

**SORGHUM**

State	VP	P	F	G	EX
AR	0	0	58	42	0
CO	2	4	22	61	11
IL	0	0	17	75	8
KS	0	0	20	54	26
LA	0	7	50	43	0
MS	0	5	50	45	0
MO	0	5	53	41	1
NE	0	1	46	47	6
NM	0	14	45	41	0
OK	0	0	27	73	0
SD	1	4	63	32	0
TX	0	5	27	58	10
12 State	0	3	33	53	11
Prev Week	0	6	33	52	9
Prev Year	0	4	16	56	24

**COTTON**

State	VP	P	F	G	EX
AL	0	12	66	22	0
AZ	0	0	10	80	10
AR	0	0	33	67	0
CA	0	0	0	85	15
GA	8	26	54	12	0
LA	0	0	75	25	0
MS	0	35	49	16	0
MO	0	8	75	17	0
NM	0	0	9	83	8
NC	0	15	75	10	0
OK	0	0	50	41	9
SC	4	64	29	3	0
TN	0	10	35	55	0
TX	0	4	30	65	1
14 State	0	9	37	52	2
Prev Week	2	6	42	47	3
Prev Year	1	6	49	40	4

**SOYBEANS**

State	VP	P	F	G	EX
AL	0	22	47	31	0
AR	0	2	67	31	0
GA	25	31	34	10	0
IL	0	0	17	70	13
IN	0	1	13	78	8
IA	2	11	60	27	0
KS	0	0	32	50	18
KY	0	4	52	43	1
LA	0	24	56	20	0
MI	1	4	20	55	20
MN	11	40	43	5	1
MS	5	30	45	20	0
MO	0	9	57	34	0
NE	0	0	18	66	16
NC	4	17	58	21	0
OH	3	11	35	42	9
SC	13	36	45	6	0
SD	3	18	46	30	3
TN	0	18	51	31	0
19 State	2	11	40	41	6
Prev Week	3	11	40	40	6
Prev Year	1	2	19	64	14

VP - Very Poor P - Poor F - Fair  
G - Good EX - Excellent

## State Summaries of Weather and Agriculture

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

**ALABAMA:** Rainfall none to 1.34 in. north; none to 1.18 in. central; 0.44 to 3.56 in. south. Temperatures 1 to 6° below normal north; 1 to 4° below normal central; 4° below normal to normal south. Lows 43 to 57° north; 47 to 63° central; 61 to 67° south. Highs 86 to 90° north; 87 to 93° central; 88 to 92° south.

Days suitable for fieldwork 5.4. Soil moisture 39% short, 57% adequate, 4% surplus. Corn mature 94%, 97% 1992, 96% avg.; harvested 46%, 47% 1992, 57% avg.; 20% very poor, 30% poor, 41% fair, 9% good. Sorghum harvested 16%, 16% 1992, 37% avg.; 4% poor, 81% fair, 15% good. Peanuts dug 9%, 18% 1992, 27% avg.; combined 7%, 9% 1992, 18% avg.; 28% poor, 72% fair. Pasture feed condition 15% poor, 53% fair, 32% good. Primary activities: Scouting, spraying fields, harvesting vegetables, sorghum, corn, land preparation for seeding small grains, general care of livestock, poultry, catfish.

**ALASKA:** Temperatures throughout the State slightly above normal. Most areas received several days of rain or drizzle.

Days suitable for haymaking 2, while 4 days were available for grain, potato harvest. Barley harvest was 80% complete, equal to last year's progress. Second crop hay harvest was 30% complete, slightly behind 1992. Commercial potato harvest 40% complete versus 50% 1992. Topsoil 15% short, 85% adequate. Subsoil moisture 40% short, 60% adequate.

**ARIZONA:** Storm activity over most areas 5th to 6th. Clear skies remainder of week, most of the State. Showers east, southeast 7th to 11th. Temperatures varied normal to 5° above normal. Extremes 39°; 95° higher elevations; 56°; 113° deserts.

Cotton continues good progress; 95% bolls open, 89% 1992, 87% avg. Harvest gaining momentum, western areas, 10% harvested, 10% 1992, 4% avg. Other activities included: Final irrigating, pesticide applications, pest monitoring, defoliating. Weeds light to moderate, insects moderate. Whitefly, aphids active western areas. Alfalfa good. Harvest active all producing areas. Weeds moderate, insects light to moderate; disease light. Rain damage light all areas. Ground preparation vegetable crops active all areas. Central areas, cantaloupe, watermelons, honeydews harvested. Western area lemon harvest continues. Apples, sweet corn, chilies, watermelons harvested eastern production areas.

**ARKANSAS:** Mild week, temperatures averaging a little below normal. Scattered showers middle of week, heaviest rain occurred in the northwest region of State. Extremes 48°; 96°. Rainfall none to 2.34 in.

Days suitable for fieldwork 6. Moderate rate of crop growth. Soil moisture supplies 57% short, 43% adequate. Straighthead, blast diseases in rice fields. Boll weevils in cotton fields. Soybean irrigation continued. Armyworm larvae infestation in soybean fields. Sunflowers fair condition. Sorghum harvesting continued. Corn harvested 58%, 56% 1992, 63% avg.; 3% very poor, 5% poor, 45% fair, 47% good. Fertilizer applied to pastures. Producers continued to report armyworm larvae infestation in pastures. Livestock good, external parasites reported.

**CALIFORNIA:** Hot, dry weather prevailed.

Growers drained rice; harvest expected shortly. Wild rice harvest continued. Cotton good growth. Defoliation, harvest active desert areas, San Joaquin Valley defoliation expected shortly. Fields treated aphids, mites, irrigation water shut off most fields. Safflower harvest winding down. Alfalfa seed, corn grain, silage harvested. Planting new sugarbeets progressed. Alfalfa hay harvested, good yields, quality reported. Table grape harvest continued. Raisin harvest increased, growers started rolling trays. Wine grape harvest gained momentum. Almond harvest full swing. Harvest early walnuts began. Peach, nectarine harvests virtually

complete. Autumn Giant, Angeleno plums harvested. Plum harvest 75% complete. Prune harvest complete. Gala, Granny Smith apples, pomegranates, Asian pears harvested. Date harvest progressed Coachella Valley. Avocado harvest continued Riverside County. Valencia orange harvest progressed, good quality. Growers irrigated, sprayed to control weeds, worms. Harvest southern areas lemons continued. Broccoli movement moderate Salinas good quality, fairly heavy Santa Maria. Broccoli planting underway Coachella Valley. Broccoli treated worms. Carrot packing Fresno area. Cauliflower volume fairly light, variable quality in Salinas, moderate Santa Maria. Celery harvest moderate central coast, good quality. Sweet corn harvest ongoing San Joaquin Valley. Head lettuce output moderate, variable quality Salinas. Santa Maria lettuce fairly heavy. Fall lettuce thinned San Joaquin Valley; planting ongoing Coachella Valley. Yellow onion harvest nearing completion central coast. Early fall potato harvest started Tulelake area. Sweet potatoes going storages San Joaquin Valley. Processing tomato harvest full swing central coast, other areas. Fresh market tomatoes treated worms. Picking watermelon, cantaloupe, honeydew, crenshaw, other melons continued, good quality. Bell pepper packing full swing central coast. Other crops harvested include: Cucumbers, garlic, snap beans, squash, various oriental vegetables. Range, pastures unchanged. Weather hot, dry most areas. Water, feed supplies adequate, nutrient value low. Use of supplemental feeding increasing. Livestock remained good.

**COLORADO:** A cold front moved through the State on the 5th bringing generally less than 0.10 in. rain to the eastern foothills. Rain was more widespread on the 7th, early on the 8th with most areas reporting measurable rainfall. Amounts were mostly between 0.10 to 0.30 in. although Trinidad received 0.74 in. Cooler air with this system prompted frost advisories on the night of the 8th at some of the higher elevations. Temperatures 2 to 4° below normal in many areas, 6 to 9° below normal in the Eastern Plains.

Days suitable for fieldwork 5.3. Soil moisture 4% very short, 25% short, 64% adequate, 7% surplus. Alfalfa 3rd cutting 40%, 37% 1992, 43% avg. Spring barley harvested 89%, 87% 1992, 87% avg. Oats harvested 87%, 82% 1992, 82% avg. Winter wheat seeded 20%, 25% 1992, 21% avg. Dry beans cut 50%, 34% 1992, 37% avg.; harvested 31%, 15% 1992, 20% avg. Corn dough stage 92%, 76% 1992, 90% avg.; denting 53%, 48% 1992, 63% avg.; mature 3%, 6% 1992, 27% avg. Corn silage harvested 14%, 9% 1992, 20% avg. Sorghum turning color 41%, 41% 1992, 49% avg.; mature 18%, 6% 1992, 9% avg. Summer potatoes harvested 62%, 83% 1992, 61% avg. Dry onions harvested 47%, 54% 1992, 51% avg. Fall potatoes harvested 15%, 9% 1992, 4% avg.; 10% poor, 15% fair, 60% good, 15% excellent. Dry onion 2% poor, 12% fair, 65% good, 21% excellent. Corn 3% very poor, 7% poor, 21% fair, 55% good, 14% excellent. Sugarbeets 1% very poor, 3% poor, 15% fair, 60% good, 21% excellent. Dry bean 2% very poor, 4% poor, 22% fair, 59% good, 13% excellent. Livestock mostly good to excellent. Pasture, range feed mostly good.

**FLORIDA:** Scattered to numerous showers, thunderstorms occurred across State. Rainfall generally 1.00 to 3.00 in., varied from near 0.50 in. to locally more than 3.00 in. Miami, Ft. Myers airports over 7.00 in. Most locations rain on 4 to 6 days. Temperatures within 1 to 2° of normal. Highs; low to mid 90s. Lows; mid 60s northwest, to mid 70s lower southeast coast.

Soil moisture adequate, scattered areas of surplus moisture. Peanut harvest gaining momentum. Making preparations to start cotton harvest. Haymaking active where plant growth adequate. Tobacco marketing active. Sugarcane planting starting. Soybeans, sugarcane continue to make good progress. Citrus groves very good to excellent. Adequate moisture, current water levels good. Abundant new growth, fruit making about normal progress. Small quantities of white,

colored grapefruit shipped this week. Caretakers cutting cover crops, spraying, fertilizing. Growers active preparing land or planting all areas of State. Harvesting cucumbers north. Harvesting of snap beans, sweet corn expected north within two weeks. Crop condition good throughout State. State's pastures feed fair to excellent. Pasture feed 35% fair, 40% good, 25% excellent. State's cattle herds fair to excellent.

**GEORGIA:** Temperatures 1 to 3° below normal except extreme southeast, 1 to 2° above. Highs upper 80s northeast to lower 90s extreme southeast. Coolest lows lower 40s northeast, low to middle 60s elsewhere, except upper 60s extreme southeast. Rain 1 to 2 days north, 2 to 5 days central, south. Most weekly rain totals under 0.25 in. north, over 1.00 in. only few local areas. Central, south 1.00 to 2.00 in. more common less than 0.50 in. to over 3.00 in.

Days suitable for fieldwork 5.1. Soil moisture 23% very short, 29% short, 43% adequate, 5% surplus. Corn 19% very poor, 20% poor, 40% fair, 21% good; 79% harvested for grain, 65% 1992, 73% avg.; Another good harvest week. Cotton 8% very poor, 26% poor, 54% fair, 12% good; 2% harvested, 0% 1992, 4% avg.; premature opening of bolls continues. Sorghum 8% very poor, 29% poor, 53% fair, 10% good; 40% harvested for grain, 24% 1992, 28% avg. Peanuts 8% very poor, 22% poor, 62% fair, 8% good; 13% dug, 11% 1992, 21% avg.; 5% threshed, 5% 1992, 11% avg.; showers will aid digging. Soybeans 25% very poor, 31% poor, 34% fair, 10% good; 100% blooming, 100% 1992, 99% avg.; showers slowing premature leaf drop and pod shed. Tobacco 17% very poor, 46% fair, 37% good; 94% harvested, 99% 1992, 98% avg. Wheat planting few fields in areas receiving rain. Other small grain planting getting underway rain areas. Other vegetables 1% very poor, 1% poor, 66% fair, 32% good. Apples 15% poor, 42% fair, 43% good; 46% harvested, 40% 1992, 51% avg. Pecans 4% very poor, 2% poor, 26% fair, 67% good, 1% excellent. Hay, pastures showing some improvement. Supplemental feeding of hay to cattle on pastures continues north. Cattle fair to good. Hogs good.

**HAWAII:** Warm, humid conditions, some rain. Daytime temperatures near 90°. Rainfall none to 2.20 in.

Normal field operations underway with favorable weather. Irrigation, spraying for insect control heavy to moderate. Pastures in North Kona, Hawaii island parched, rain needed. Banana orchards on Oahu, Kauai affected by Hurricane Iniki a year ago rebounding with increased output. Banana production heavy to moderate with active harvesting. Sugarcane, pineapple harvesting making normal progress.

**IDAHO:** Temperatures 7° above to 1° below normal. Precipitation none to 0.05 in. east, none elsewhere.

Days suitable for fieldwork 7. Soil moisture 7% short, 89% adequate, 4% surplus. Winter wheat harvested 79%, 100% 1992, 99% avg. Spring wheat, 3% headed, 54% turning color, 43% harvested. Spring barley, 1% headed, 40% turning color, 59% harvested. Oats harvested 60%, 93% 1992, 87% avg. Potatoes closing middles 13%, turning 80%, harvested 7%; 1% very poor, 3% poor, 18% fair, 71% good, 7% excellent. Alfalfa second cutting 96%, 99% 1992, 99% avg. Alfalfa third cutting 24%, 63% 1992, 42% avg. Dry peas harvested 68%, 100% 1992, 100% avg. Lentils harvested 36%, 100% 1992, 98% avg. Peaches harvested 76%, 100% 1992, 96% avg. Prunes, plums harvested 47%, 100% 1992, 85% avg. Apples harvested 8%, 22% 1992, 8% avg. Mint first cutting 100%, 100% 1992, 98% avg. Hops harvested 73%, 85% 1992, 54% avg. Onions harvested 30%, 55% 1992, 39% avg. Dry beans harvested 13%, 44% 1992, 34% avg. Field corn silage harvested 17%, 36% 1992, 17% avg. Irrigation water supplies 1% poor, 9% fair, 73% good, 17% excellent. Activities: Harvesting potatoes, grain, small grains. Nez Perce county reports smut, sprout, Hessian fly problems in wheat. Bonneville county reports dwarf bunt was discovered in winter wheat, small grain harvest is expected to last into October. Late developing barley in Teton county is being harvested as forage instead of grain due to hard frosts. Power County reports concern over aphids, wheat curl mite in newly seeded dryland wheat. Pasture, range feed 94% of normal. Livestock good.

**ILLINOIS:** Autumn-like weather prevailed across the State last week as an early, late cold front kept average temperatures 1 to 5° below normal. High 70s, average lows 50s. Precipitation was generally light with many areas receiving 0.10 in. or less, except around Windsor where amounts were greater.

Days suitable for fieldwork 4.75 in. Corn crop's progress just edged passed last year's crop, remains slightly behind the average. Soybeans turning yellow 32%, 63% 1992, 61% avg.; made significant progress from last week, still lag behind the average. Alfalfa cut, third crop 71%, 81% 1992, 84% avg. Soil moisture 2% short, 60% adequate, 38% surplus. Farm activities: Preparing for harvest, hauling grain, cleaning storage bins, harvesting seed corn, mowing, tending livestock, baling hay. Pasture feed condition 94% of normal.

**INDIANA:** High temperatures lower 70s north to the mid 70s to around 80° south. These readings 4 to 8° below normal north, 2 to 6° below normal south. Lows averaged mostly in the upper 40s to mid 50s, except for near 60° far south. These readings were mostly 3 to 9° below normal, except for close to normal over the far north, far south. Rainfall 0.25 to 1.00 in. across the north, central, less than 0.10 in. across the south.

Days suitable for fieldwork 5. Corn, soybean maturity ratings continues to increase. Some corn has been harvested in southern areas. Pastures feed 90% of normal, 88% last week. Topsoil 5% short, 83% adequate, 12% surplus. Subsoil 6% short, 87% adequate, 7% surplus. Tobacco harvested 58%, 68% 1992, 52% avg. Silos filled with corn silage 30%, 19% 1992, 35% avg. Wheat acreage tilled 18%, 15% 1992, 32% avg.

**IOWA:** Temperatures 2 to 3° below normal. Extremes 39° northeast; 90° south. Driest week in 6 months. Rainfall none south to 2.38 in. northwest; average 0.20 in. (normal 0.84 in.).

Days suitable for fieldwork 4.6. Topsoil 43% adequate, 57% surplus. Subsoil 13% adequate, 87% surplus. Corn in or past milk stage 94%, 100% 1992, 100% normal. Soybeans with leaves turning color 10%, 39% 1992, 57% normal. Second crop alfalfa hay harvested 95%, 100% 1992, 100% normal. Third crop alfalfa hay harvested 31%, 68% 1992, 86% normal. Second crop clover hay harvested 77%, 100% 1992, 100% normal. Pasture feed condition 4% very poor, 8% poor, 34% fair, 45% good, 9% excellent. Hay 2% very poor, 30% poor, 43% fair, 23% good, 2% excellent. Livestock mostly good condition.

**KANSAS:** Temperatures 5 to 7° below normal. Precipitation fell all areas, ranged 0.06 in. west central to 0.81 in. northeast.

Days suitable for fieldwork 5.0. Topsoil 26% short to very short, 66% adequate, 8% surplus. Subsurface 7% short to very short, 88% adequate, 5% surplus. Only few corn acres northeast in dough stage. Cool temperatures kept corn acreage from drying out, slowed harvest. Corn harvested 10%, 10% 1992, 15% avg. Seeding fall wheat underway all areas. Soybean podding virtually finished, only few acres southeast not yet podding. Third cutting alfalfa essentially complete. Fourth cutting 35%, 35% 1992, 45% avg. Ranges, pastures feed good condition.

**KENTUCKY:** Normal temperatures, lack of rain. Highs 80°, lows upper 50s. Little rainfall western, central. East 0.75 in. Deficits statewide 0.50 in.

Days suitable fieldwork 5.6. Soil moisture 14% very short, 48% short, 37% adequate, 1% surplus. Burley 60% cut, 70% 1992, 71% avg, dark tobacco cut 73%. Tobacco in fields 44% fair, 56% good. Corn harvest 8% 1993, 5% 1992, 7% avg. Soybeans mostly good to fair. Hay crops need rain, 3% very poor, 20% poor, 42% fair, 33% good, 2% excellent.

**LOUISIANA:** Temperatures 1.2° below to 2.3° above normal. Extremes 55°; 97°. Rainfall none most areas to 1.37 in. southeast.

Days suitable for fieldwork 6.2. Soil moisture 33% very short, 43% short, 17% adequate, 7% surplus. Corn 7% poor, 56% fair, 37% good; 85% harvested, 88% 1992, 90% avg.; harvest made good progress in the north, while the south was nearing completion. Cotton 1% harvested, 1% 1992, 6% avg. Few fields were harvested, defoliant

was applied in some fields. Hay 69% final cutting, 82% 1992, 64% avg. Rice 98% headed, 99% 1992, 99% avg.; 87% ripe, 92% 1992, 87% avg. Harvest progressed in the north, while the south was nearing completion of first ratoon crop. Sorghum 56% harvested, 78% 1992, 65% avg. Soybeans 100% blooming, 100% 1992, 100% avg.; 39% turning color, 53% 1992, 33% avg.; 1% harvested, 4% 1992, 2% avg. Armyworms caused problems in late soybeans while early soybean harvest began in some areas. Sweet potatoes 11% poor, 37% fair, 52% good; 33% harvested, 30% 1992, 36% avg. Sugarcane 2% poor, 5% fair, 93% good; 63% planted, 23% 1992, 37% avg. Made excellent progress, crop was still short and some areas were dry. Livestock 39% fair, 56% good, 5% excellent. Pasture feed 18% very poor, 2% poor, 11% fair, 69% good. Pastures suffered in the north from drought. Vegetables 6% very poor, 16% poor, 62% fair, 16% good. Harvesting of a variety of vegetables was active.

**MARYLAND & DELAWARE:** **MARYLAND:** Rainfall 0.84 in., normal 0.86 in. Temperature 75.1°, normal 69.9°. Extremes 46°; 96°.

Days suitable for fieldwork 6.1. Topsoil 17% very short, 50% short, 33% adequate. Subsoil 22% very short, 72% short, 6% adequate. Corn poor to fair; 96% dough, 80% 1992, 93% avg.; 81% dent, 61% 1992, 79% avg.; 46% mature, 24% 1992, 40% avg.; 11% grain harvested, 3% 1992, 8% avg.; 50% silage harvested, 11% 1992, 42% avg. Soybean poor to mostly fair; 91% setting pods, 87% 1992, 89% avg.; 23% turned, 9% 1992, 14% avg.; 3% shedding leaves, 2% 1992, 3% avg. Sorghum fair to good; 32% turned, 40% 1992, n/a avg.; 10% mature, 9% 1992, n/a avg. Tobacco poor to fair; 88% topped, 99% 1992, 93% avg.; 61% cut, 71% 1992, 69% avg. Pasture feed very poor to poor; hay supplies short to mostly adequate. Alfalfa hay 98% third cut, 95% 1992, 94% avg.; 56% fourth cut, 30% 1992, 36% avg. Other hay 47% third cut, 58% 1992, 37% avg.; 43% fourth cut, 13% 1992, 8% avg. Sweet corn 97% harvested, 92% 1992, 94% avg. Tomatoes 94% harvested, 88% 1992, 92% avg. Peaches 97% picked, 91% 1992, 93% avg. Apples 30% harvested, 23% 1992, 34% avg.

**DELAWARE:** Precipitation 2.38 in., normal 0.93 in. Temperature 74.8°, normal 70.4°. Extremes 60°; 90°.

Days suitable for fieldwork 6.3. Topsoil 17% very short, 50% short, 33% adequate. Subsoil 17% short, 66% adequate, 17% adequate. Corn poor; 97% dough, 97% 1992, 98% avg.; 83% dent, 84% 1992, 90% avg.; 44% mature, 14% 1992, 39% avg.; 8% grain harvested, 1% 1992, 8% avg.; 74% silage harvested, 60% 1992, 57% avg. Soybeans poor to fair; 85% setting pods, 80% 1992, 88% avg.; 12% turned, 3% 1992, 7% avg. Sorghum fair; 20% turned, 15% 1992, n/a avg. Alfalfa hay 32% fourth cut, 26% 1992, 42% avg. Other hay 49% third cut, 74% 1992, 70% avg.; 0% fourth cut, 13% 1992, 12% avg. Pasture severe drought; hay supplies short. Sweet corn 99% harvested, 93% 1992, 93% avg. Watermelons 98% harvested, 94% 1992, 96% avg. Potatoes 87% harvested, 87% 1992, 87% avg. Tomatoes 95% harvested, 77% 1992, 87% avg. Peaches 96% harvested, 95% 1992, 98% avg. Apples 44% harvested, 18% 1992, 35% avg.

**MICHIGAN:** Extremes 32°; 79°. Precipitation 0.18 to 1.51 in.

Days suitable for fieldwork 4.5. Soil moisture 65% adequate, 35% surplus. Dry beans 95% turning, 75% 1992, 80% avg.; 70% dropping leaves, 35% 1992, 50% avg.; 2% very poor, 8% poor, 30% fair, 45% good, 15% excellent. Corn silage 7% harvested, 5% 1992, 15% avg. Oats 95% harvested, 90% 1992, 98% avg.; 3% very poor, 10% poor, 32% fair, 40% good, 15% excellent. Potatoes 55% harvested, 45% 1992, 40% avg. Hay 100% second cutting, 95% 1992, 97% avg.; 40% third cutting, 45% 1992, 50% avg.; 3% very poor, 7% poor, 25% fair, 45% good, 20% excellent. Pasture feed 90% of normal. Major activities: Harvesting potatoes, hauling manure, repairing equipment, picking fruit, cutting silage, some fall tillage.

**MINNESOTA:** Temperatures 2 to 5° below normal for State. Extremes 31°; 91°. Precipitation 0.13 to 0.74 in. below normal for State. Precipitation 0.05 to 0.73 in. Greatest weekly precipitation 0.78 in.

Days suitable for fieldwork 5.8. Topsoil 1% short, 66% adequate, 33% surplus. Rye 41% seeded, 44% 1992, 61 avg. Winter wheat 35% seeded, 47% 1992, 65% avg. Spring wheat 68% combined, 43% 1992, 89% avg. Barley 90% combined, 60% 1992, 91% avg. Sweet corn for processing 57% harvested, 67% 1992, 81% avg. Hay grain 24% stubble plowed, tilled, 24% 1992, 55% avg. Potatoes 21% harvested, 15% 1992, 21% avg. Flax 10% harvested, 7% 1992, 53% avg. Dry beans 11% harvested, 12% 1992, 42% avg. Corn 71% dough, 88% 1992, 97% avg.; 25% dent, 38% 1992, 79% avg.; 2% mature, 1% 1992, 32% avg.; 4% silage cut, 2% 1992, 20% avg. Soybeans 17% yellowing, 34% 1992, 72% avg.; 5% shedding leaves, 5% 1992, 45% avg. Corn 15% very poor, 41% poor, 38% fair, 6% good. Soybeans 11% very poor, 40% poor, 43% fair, 5% good, 1% excellent.

**MISSISSIPPI:** Temperatures 75°, 1.8° below normal. Extremes 46°; 98°. Coastal region received the most amount of rain with over an inch, while the other regions of the State received a minimal amount. Rainfall 0.34 in., 0.58 in., below normal. Soil temperature 83°.

Days suitable for fieldwork 6.4, 5.2 1992, 5.2 avg. Soil moisture 12% very short, 60% short, 24% adequate, 4% surplus. Corn 98% dent, 100% 1992, 100% avg.; 89% mature, 97% 1992, 88% avg.; 35% harvested, 44% 1992, 50% avg.; 76% silage harvested, 92% 1992, 91% avg.; 7% poor, 62% fair, 31% good. Cotton 60% open bolls, 65% 1992, 71% avg.; 35% poor, 49% fair, 16% good. Rice 50% mature, 81% 1992, 74% avg.; 11% harvested, 33% 1992, 25% avg.; 10% poor, 45% fair, 40% good, 5% excellent. Sorghum 95% turning color, 100% 1992, 94% avg.; 76% mature, 93% 1992, 76% avg.; 33% harvested, 58% 1992, 47% avg.; 71% silage harvested, 77% 1992, 82% avg.; 5% poor, 50% fair, 45% good. Soybeans 93% podding, 99% 1992, 90% avg.; 22% coloring, 49% 1992, 36% avg.; 5% shedding, 20% 1992, 14% avg.; 5% very poor, 30% poor, 45% fair, 20% good. Sweet potatoes 30% harvested, 30% 1992, 41% avg.; 10% poor, 60% fair, 30% good. Hay 90% harvested, 91% 1992, 87% avg. Livestock 6% fair, 86% good, 8% excellent. Pasture feed 89% of normal. Activities: Insect control, hay, corn harvesting.

**MISSOURI:** Temperatures 3 to 6° below normal. Rainfall 0.61 in., varying from 0.04 in. southeast to 1.05 in. south central.

Days suitable for fieldwork 4.7, ranging 3.4 northeast to 6.1 southeast. Topsoil 12% short, 68% adequate, 20% surplus. Corn harvested 6%, 7% 1992, 13% avg.; harvested by districts: 36% in southeast, 5% or less other districts. Soybeans turning color 72%, 82% 1992, 77% avg. Third crop alfalfa 73%, 86% 1992, 95% avg. Pasture feed 1% poor, 37% fair, 53% good, 9% excellent.

**MONTANA:** Temperatures 3 to 6° above normal west, central; near normal east. Light precipitation statewide, moderate amounts central.

Days suitable for fieldwork 5.9. Topsoil 11% short, 82% adequate, 7% surplus. Subsoil 9% short, 83% adequate, 8% surplus. Winter wheat harvested 67% complete, 95% 1992, 98% avg. Barley 1% very poor, 4% poor, 21% fair, 51% good, 23% excellent; harvested 26% complete, 78% 1992, 89% avg. Oats 1% poor, 21% fair, 54% good, 24% excellent; harvested 21% complete, 79% 1992, 89% avg. Sugarbeets 2% poor, 15% fair, 58% good, 25% excellent. Second cutting alfalfa hay 63% complete, 90% 1992, 89% avg. Other hay 75% complete, 100% 1992, 100% avg. Pasture, range feed at 104% of normal, unchanged from last week.

**NEBRASKA:** Temperatures 1 to 3° below normal. Light precipitation first half of week varied from none to 0.50 in.

Days suitable for fieldwork 5.1. Topsoil 8% short, 84% adequate, 8% surplus. Subsoil 3% short, 81% adequate, 16% surplus. Soybeans turning color 34%, 38% 1992, 64% avg. Alfalfa 1% poor, 17% fair, 68% good, 14% excellent; 72% third cutting, 86% 1992; 5% fourth cutting, 10% 1992. Dry beans 13% poor, 36% fair, 46% good, 5% excellent; 85% leaves turning, 47% leaves dropping, 11% harvested. Pasture, range 102% of normal.

**NEVADA:** Thundershowers over northern, central portions of State caused brief, heavy rain, some small hail. Amounts generally less than 0.25 in. Temperatures above normal all divisions. Extremes 27°; 108°.

Small grain, garlic harvests about complete. Hay, alfalfa seed, onion harvests continuing. Digging potatoes progressing normally. Ground being prepared for fall planting winter grains. Livestock movement beginning off high country ranges.

**NEW ENGLAND:** Precipitation 0.37 to 2.66 in. in region. Temperatures 56 to 64° north; 59 to 69° south. Maximum temperatures 74 to 87° north; 78 to 86° south. Minimum temperatures 34 to 44° north; 33 to 48° south.

Days suitable for fieldwork 5.5. Soil moisture 9% very short, 22% short, 58% adequate, 11% surplus. Available grazing 13% very short, 32% short, 52% adequate, 3% surplus. Fieldwork progress 1 day behind schedule. Pasture feed 67% of normal. Maine early potato harvest 10%, 10% 1992, 10% avg. Connecticut, Massachusetts potatoes 40% harvested, 50% 1992, 35% avg. Rhode Island potatoes 60% harvested, 45% 1992, 60% avg. Potato fair to good region wide. Maine oat fair. Maine oats harvested 75%, 55% 1992, 70% avg. Field corn fair. Field corn 5% harvested, 5% 1992, 10% avg. Second cutting hay 85% harvested, 90% 1992, 90% avg.; fair to good. Third cutting hay 35% harvested, 30% 1992, 50% avg.; good. Outdoor tobacco 100% harvested; good. Sweet corn harvested 90%, 80% 1992, 80% avg.; fair to good. Apples 20% harvested, size medium, color fair to good; good. Peaches 70% harvested, size medium; good. Pears 40% harvested, size medium; good. Raspberries 85% harvested, size medium; fair to good. Highbush blueberries 95% harvested, size medium; fair to good. Cranberries size medium; good. Major farm activities: Chopping corn, harvesting second, third cuttings of hay. Seeding cover crops on harvested fields. Picking fall vegetables, squash, pumpkins for roadside stands. Early varieties of potatoes being harvested. Harvesting tree fruits.

**NEW JERSEY:** Temperatures near normal. Extremes 38°; 90°. Rainfall 0.78 in. north, 1.34 in. central, 0.96 in. south. Heaviest 24 hour total 1.76 in. on 7th, 8th. Estimated soil moisture, in percent field capacity, averaged 64% north, 63% central, 46% south. Four inch soil temperatures 67° north, 70° central, 72° south.

Soil moisture content is adequate on average. Rainfall still needed in some areas. Fall vegetable planting remains active. Peach harvest complete in moisture areas. Apple harvest is still active. Pasture conditions normal. Amounts of feed requirements pastures are supplying is also average.

**NEW MEXICO:** Temperatures very close to normal for State. Extremes 32° northwest; 92° east. Most mountain, eastern plains stations reported some precipitation with higher totals approaching 1.00 in.

Days suitable for fieldwork 6.5. Soil moisture 54% short, 46% adequate. Crop conditions: Alfalfa 12% fair, 84% good, 4% excellent with harvest delayed by rain. Corn 5% fair, 85% good, 10% excellent with silage harvest active. Winter wheat planting active with 57% in the ground. Chile harvest continued; crop at 14% fair, 72% good, 14% excellent. Onions, lettuce mostly good. Pecans 2% poor, 24% fair, 74% good. Apples 43% fair, 57% good; harvest active. Cattle, sheep poor to excellent, mostly good. Range feed 75% of normal.

**NEW YORK:** Widespread showers, thunderstorms brought 1.00 to 2.00 in. of rainfall to much of State. Week began with temperatures in the mid 70s to mid 80s. Midweek temperatures fell, highs reached 60s, 70s, lows in the 50s. By the 11th highs were in the 60s, lows in the 40s. Extremes 44°; 95°.

Days suitable for fieldwork 4.6. Soil moisture mostly adequate. Pasture feed 82% of normal. Corn fair to good. Silage harvest underway. Hay good. Alfalfa second cutting nearly finished, third cutting 62% complete, 26% 1992, 35% avg. Oats 91% harvested, 72% 1992, 92% avg. Winter wheat seeding began. Potato harvest in full swing. Dry bean harvest beginning. Vegetable harvests winding down. Onion, potato harvesting continued active. Pumpkin, melon crops good. Apples good. Cooler temperatures needed for coloring. Bartlett pear harvest winding down. Grape harvest continued.

**NORTH CAROLINA:** Temperatures near normal to 2° above normal. Precipitation 6.19 in. at Laurinburg to 0.18 in. at Charlotte.

Days suitable for fieldwork 5.5. Soil moisture 10% very short, 52% short, 37% adequate, 1% surplus. Crop condition: Pasture 9% very poor, 28% poor, 46% fair, 17% good; field tobacco 6% poor, 49% fair, 45% good; corn 17% very poor, 44% poor, 30% fair, 8% good, 1% excellent; hay 5% very poor, 22% poor, 54% fair, 19% good; cotton 15% poor, 75% fair, 10% good. Peanuts 19% poor, 58% fair, 19% good, 4% excellent; soybeans 4% very poor, 17% poor, 58% fair, 21% good; sweet potatoes 9% poor, 55% fair, 33% good, 3% excellent; apples 5% poor, 52% fair, 38% good, 5% excellent; sorghum 7% very poor, 19% poor, 68% fair, 6% good; hay, roughage supplies 4% very short, 44% short, 49% adequate, 3% surplus. Apples harvested 30%, 48% 1992, 36% avg.; flue-cured tobacco harvested 65%, 80% 1992, 77% avg.; burley tobacco harvested 32%, 32% 1992, 44% avg.; corn for silage harvested 65%, 56% 1992, 63% avg.; corn for grain 36%, 20% 1992, 22% avg.; sorghum for grain 24%, 17% 1992, 15% avg.; sweet potatoes harvested 7%, 7% 1992, 13% avg.; cotton open bolls 66%, 29% 1992, 52% avg.; corn soft dough 95%, 94% 1992, 98% avg.; corn dented 94%, 94% 1992, 93% avg. Corn mature 88%, 83% 1992, 86% avg. Soybeans flowered 92%, 92% 1992, 95% avg. Soybeans setting pods 86%, 85% 1992, 85% avg.; Soybean drop leaf 10%, 8% 1992, 5% avg.; second cutting of the hay crop 86% completed. Third cutting of the hay crop is 47% completed. Major activities: Harvesting, marketing tobacco, harvesting corn for silage. Other activities included: Harvesting vegetables; harvesting apples; cutting hay; harvesting corn for grain; defoliating cotton; harvesting sweet potatoes; tending livestock.

**NORTH DAKOTA:** Scattered light precipitation over the State 0.03 in. east central to 0.20 in. north central. Temperatures 1° above normal to 1° below normal. Extremes 31° west central, southwest; 92° south central.

Days suitable for fieldwork 6.2. Topsoil 15% short, 72% adequate, 13% surplus. Subsoil 78% adequate, 22% surplus. Mostly dry conditions last week allowed most farmers to make good progress harvesting small grains, however, certain areas were still too wet. Spring wheat 3% very poor, 14% poor, 26% fair, 57% good; durum 3% very poor, 7% poor, 29% fair, 61% good; barley 9% poor, 47% fair, 44% good; oats 3% poor, 19% fair, 75% good, 3% excellent. Hard red spring wheat 54% harvested, 60% 1992, 91% avg. Durum wheat 25% harvested, 38% 1992, 85% avg. Oats 70% harvested, 82% 1992, 96% avg. Barley 79% harvested, 83% 1992, 97% avg. Winter wheat 91% harvested, 97% 1992, 100% avg. Late season crop development continued to lag last year, was several weeks behind average. Corn for grain 13% very poor, 48% poor, 38% fair, 1% good; corn for silage 3% very poor, 18% poor, 60% fair, 19% good; flax 4% poor, 23% fair, 64% good, 9% excellent; sugarbeets 12% poor, 20% fair, 68% good; potatoes 72% fair, 28% good; dry beans 20% poor, 63% fair, 17% good; soybeans 11% very poor, 12% poor, 64% fair, 13% good; sunflowers 4% poor, 62% fair, 34% good. Flax 7% harvested, 8% 1992, 54% avg. Corn for grain 13% denting to dented and beyond, 33% 1992, 79% avg. Corn for silage 3% cut, 7% 1992, 43% avg. Dry beans 33% mature and beyond, 58% 1992, 86% avg. Soybeans 6% mature and beyond, 8% 1992, 54% avg. Sunflowers 5% bracts turned brown and beyond, 4% 1992, 32% avg. Potatoes 17% dug, 17% 1992, 20% avg. Range, pasture feed conditions 96% of normal. Hay 83% of normal. Alfalfa hay second cutting 87% complete, other hay 90%.

**OHIO:** Cold fronts on the 6th, 10th brought autumn-like weather. Temperatures 1 to 5° below normal. Highs were in the 70s. Lows upper 40s in the north to the middle 50s in the south. Some lows in the 30s on the 11th. Rainfall was generally light, occurred early, late in the week. Most areas saw under 0.50 in. with many areas getting under 0.10 in.

Days suitable for fieldwork 6.0. Topsoil 60% short, 39% adequate, 1% surplus. Subsoil moisture short. Processing tomatoes harvested 62%, 46% 1992, 55% avg. Potatoes harvested 45%, 35% 1992, 40% avg. Alfalfa 3rd cut harvested 80%, 63% 1992, 73% avg.; other hay 40%, 34% 1992, 42% avg. Corn harvested for silage 28%, 8% 1992, 23% avg.; for grain 1%, 0% 1992, 0% avg. Pasture feed 14% very

poor, 27% poor, 36% fair, 22% good, 1% excellent. Hay 7% very poor, 19% poor, 43% fair, 29% good, 2% excellent. Soybean harvest started central, west-central. Fourth-cutting alfalfa started south. Rain, cooler temperatures improved hay, pasture conditions but more rain needed to continue improvement. Tomato growers are concerned by mold, small fruit size, delayed maturity. Sweet corn harvest nearly complete. Sweet corn, apples rate good.

**OKLAHOMA:** Temperatures 2° below normal southeast district to 5° below normal north central district. Precipitation 0.64 in. Panhandle to 3.30 in. central.

Days suitable for fieldwork 5.2. Topsoil 34% short, 64% adequate, 2% surplus. Subsoil 42% short, 58% adequate. Corn 84% mature, 97% 1992, 81% avg.; 38% harvested, 41% 1992, 41% avg. Soybeans 85% setting pods, 83% 1992, 85% avg.; 29% mature, 23% 1992, 11% avg.; 3% harvested, 2% 1992, 1% avg. Peanuts 14% fair, 86% good; 97% setting pods, 96% 1992, 97% avg.; 32% mature, 20% 1992, 26% avg. Alfalfa 71% 4th cut, 69% 1992, 76% avg.; 8% 5th cut, 14% 1992, 11% avg. Pastures 92% of normal. Feeder prices firm, calf prices steady.

**OREGON:** Above normal temperatures statewide. Southwestern valleys 10° above normal, Willamette Valley, north central areas 8° above normal, south central areas 6° above normal, northeastern areas 4° above normal, coastal areas 1° above normal. Scant precipitation, statewide. Astoria 0.10 in., rest of coastal area barely above trace.

Soil moisture 17% short, 83% adequate. Winter wheat 98% harvested. Winter wheat 7% planted. Barley 78% harvested. Winter grain harvest winding down, statewide. Spring grain harvest continued. Grass seed harvest, mint harvest complete, hop harvest winding down; Willamette Valley. Haying activities continue; statewide. Willamette Valley snap beans, sweet corn harvest continued, cauliflower, table beets, onion harvest underway. Columbia Basin early potato, onion, carrot harvest continued. Malheur County potato, onion harvest continued. Cranberry color good, harvest expected October; southern coast. Evergreen blackberry harvest continued, prune, peach harvest winding down, hazelnuts filled, beginning to drop, apple, plum harvest continued, Asian pears slow development; Willamette Valley. Bartlett pear harvest continues upper Hood River, complete Medford districts. Anjou pear harvest underway larger fruit than expected, lower Hood River. Gala apple harvest continued, Hood River and Milton-Freewater districts. Livestock good to excellent. Supplemental feeding underway, western areas. Cattle movement to fall pastures underway, Northeastern areas. Range, pasture conditions remain above normal both sides of Cascades Range, 106% of normal overall.

**PENNSYLVANIA:** Slightly above normal temperatures, slightly below normal precipitation. Average temperature 69°, 3° above normal. Extremes 35°, 90°. Precipitation 0.71 in., 0.14 in. below normal.

Days suitable for fieldwork 5. Soil moisture 32% short, 66% adequate, 2% surplus. Ensilage corn harvested 19% complete, 10% 1992. Soybean crop 5% very poor, 10% poor, 28% fair, 41% good, 16% excellent. Wheat planted 22% complete, 14% 1992. Oats harvest 98% complete, 94% 1992. Barley planted 21% complete, 15% 1992. Tobacco harvest 75% complete, 63% 1992. Potato harvest 40% complete, 51% 1992. Third cutting alfalfa 76% complete, 61% 1992. Fourth-cutting alfalfa 43% complete, 20% 1992. Second cutting clover-timothy 97% complete, 84% 1992. Quality of hay made 20% poor, 50% fair, 30% good. Feed from pastures severe drought. Apple harvest 38% complete, 35% 1992. Peach harvest 97% complete, 83% 1992. Grapes harvest 38% complete, 27% 1992. Fall plowing 42% complete, 31% 1992. Activities: Making hay, filling silos; planting wheat, barley; harvesting corn silage; getting corn grain harvest equipment ready; plowing; cleaning, storing, repairing equipment; hauling manure; fixing fence; caring for livestock.

**PUERTO RICO:** No data available.

**SOUTH CAROLINA:** Rainfall 0.90 in. Temperatures nearly normal, overnight lows 40 to 50°.

Days suitable for fieldwork 6.2. Soil moisture 38% very short, 45% short, 17% adequate. Corn very poor to poor; 95% mature, 100% harvested, 32% 1992, 29% avg. Soybeans 13% very poor 36% poor, 45% fair, 6% good; 95% blooming, 100% 1992, 98% avg.; 83% setting pods, 90% 1992, 85% avg.; 6% leaves turning, 9% 1992, 9% avg. Cotton 4% very poor, 64% poor, 29% fair, 3% good; 73% open bolls, 52% 1992, 50% avg. Tobacco fair; 75% harvested, 93% 1992, 91% avg.; 28% stalks destroyed, 46% 1992, 33% avg. Sweet potatoes fair; 13% harvested, 13% 1992, 20% avg. Fall hay poor; 49% harvested, 65% 1992, 60% avg. Peaches fair; 95% harvested, 100% 1992, 100% avg. Apples poor to fair; 36% harvested, 35% 1992, 58% avg. Pasture 32% very poor, 56% poor, 11% fair, 1% good.

**SOUTH DAKOTA:** Temperatures near normal to 5° below normal. Extremes 24°, 96°. Rainfall was quite spotty in the north with amounts around 0.10 in. or less. Amounts across the south between 0.10 to 0.25 in. Maximum 0.57 in.

Days suitable for fieldwork 5.8. Topsoil 5% very short, 40% short, 46% adequate, 9% surplus. Subsoil 3% very short, 18% short, 61% adequate, 18% surplus. Flax 3% poor, 37% fair, 60% good. Sunflowers 1% poor, 21% fair, 72% good, 6% excellent. Flax 73% harvested, 57% 1992, 86% avg. Sorghum 1% silage harvested, 9% 1992, 24% avg. Corn 3% silage harvested, 1% 1992, 31% avg. Central, northwest remained dry. Row crop progress was slowed due to cool nights. Farmers reported row crops were behind, needed warm weather, a late frost. Winter grains seeding was in full swing, some farmers were waiting for a rain before planting. Grass hoppers were reported in western two-thirds. Livestock 1% fair, 73% good, 26% excellent. Pasture feed 94% of normal. Pinkeye, footrot in some areas. Corn, sorghum silage harvest has started.

**TENNESSEE:** Temperatures 3° below normal across State. Extremes 42°, 93°. Rainfall was scattered, light, averaging 0.50 in. below normal.

Days suitable for fieldwork 5.8. Soil moisture 14% very short, 52% short, 34% adequate. Corn 95% dent stage, 95% 1992, 90% avg.; 57% mature, 55% 1992, 60% avg.; 9% grain harvested, 8% 1992, 10% avg.; 67% silage harvested, 49% 1992, 58% avg.; 1% very poor, 17% poor, 63% fair, 19% good. Cotton 67% open bolls, 24% 1992, 41% avg.; 10% poor, 35% fair, 55% good. Sorghum 94% turning color, 92% 1992, 88% avg.; 51% mature, 54% 1992, 49% avg.; 13% harvested, 13% 1992, 11% avg.; 3% poor, 60% fair, 37% good. Soybeans 95% setting pods, 94% 1992, 92% avg.; 10% dropping leaves, 10% 1992, 13% avg.; 18% poor, 51% fair, 31% good. Tobacco 56% burley harvested, 70% 1992, 70% avg.; 65% dark air harvested, 75% 1992, 70% avg.; 69% dark fire harvested, 73% 1992, 67% avg. Cool, dry weather facilitated tobacco, corn silage harvests. Soybean dropped in dry weather. Most areas need more moisture for filling of soybean pods. Some cotton fields also need rain. First time in nearly two months some cotton poor. Applications of defoliants is increasing, cotton harvest has begun on a limited scale. Some second cutting of grass hay, quantity, quality are low. Farmers fertilizing pastures, waiting on more rain to start fall seedings.

**TEXAS:** Crop district rainfall generally light last week, ranging from 0.02 in. northern East Texas to 1.44 in. in Lower Valley. All divisions were below normal, except for departures of +0.45 in. Lower Valley +0.10 in. Northern Low Plains. Some of larger individual station 3.53 in. Harlingen, 2.10 in. Stephenville. Temperatures ran below normal in High Plains, Low Plains, Trans-Pecos, South Texas last week. Other crop districts slightly above normal. Departures from normal across State -7° Southern High Plains to +3° Upper Coast. Soil temperatures low to mid 80s, 72° Bushland USDA Station to 92° Beaumont ARS Station.

**Crops:** Corn grain harvest underway in High Plains where conditions allowed; Blacklands producers were plowing corn stubble; harvest virtually complete in South, South Central, along Upper Coast; 84% normal, 89% 1992. Cotton stripping machinery being prepared in Edwards Plateau; harvesting, applying of defoliants continued in Blacklands. Irrigation decreased dramatically on Plains. Harvesting

good in South Texas. Cotton 79% normal, 62% 1992. Rice harvesting continued. Later rice yields appear to be better than early yields, still below average. Rice 85% normal, 82% 1992. Grain Sorghum limited harvesting has started in High Plains. Harvesting was in full swing in Low Plains where conditions allowed. Producers were winding down harvest in Cross Timbers. Sorghum 81% normal, 81% 1992. Small grains moisture conditions for ground preparation, planting improved most areas. Some areas in South Central Texas still too dry to plant. Light scattered showers should help germination in High Plains where producers were actively sowing wheat. Peanuts crop may benefit from isolated showers. In South Texas irrigated crop made good progress, dry land crop continued to suffer. Some leafspot, southern blight problems showed up in some fields in Edwards Plateau. Peanuts 71% normal, 83% 1992. Soybeans producers were applying stink bug controls to late maturing fields along Upper Coast where harvesting continued.

**Commercial Vegetables:** In Rio Grande Valley, land preparation continued, onion planting was underway. Pepper, tomato plants made good progress. San Antonio-Winter Garden, land preparation, cabbage planting continued. East Texas, sweet potato harvest continued. Harvesting of vegetables was confined mainly to irrigated fields. High Plains, harvest of cabbage, onion, watermelon continued. Trans-Pecos, some producers were busy preparing seed beds to plant onions. Pepper harvest continued, while some limited harvesting of watermelon occurred. Pecans good crop expected in Cross Timbers. Insect problems in some trees in Trans-Pecos. In South Central Texas, some producers were cleaning up under trees in preparation for harvest.

**Range and Livestock:** Range, pasture feed conditions improved across State where rain was received. Supplemental feeding continued. Hay supplies short in many parts of East Texas. Livestock conditions remained good for most part.

**UTAH:** Temperature maximums 4° above normal, minimums 2° above normal. Precipitation was light except for the Uinta Basin which was moderate to heavy. No precipitation in Dixie.

Days suitable for fieldwork 6.9. Soil moisture 71% short, 29% adequate. Irrigation water supply 10% short, 90% adequate. Stockwater supply 23% short, 77% adequate. Winter wheat seeded 48%, 46% 1992, 41% avg. Spring wheat harvested 92%. Barley harvested 91%. Oats harvested for grain 69%, 92% 1992. Corn mature 22%, 51% 1992, 34% avg.; corn silage harvested 3%, 42% 1992, 21% avg. Alfalfa hay 3rd cutting 62% complete, 81% 1992, 69% avg. Alfalfa seed harvested 62%, 58% 1992. Peaches picked 83%, 96% 1992. Apples picked 10%, 30% 1992, 15% avg. Pears picked 79%, 98% 1992. Potatoes harvested 18%, 48% 1992, 24% avg. Onions harvested 25%, 57% 1992, 34% avg. Cattle moved from summer range 13%, 27% 1992, 18% avg. Sheep moved from summer range 14%, 24% 1992. Pasture, range feed good to excellent.

**VIRGINIA:** Temperatures 6° above normal. Extremes 48°; 96°. Precipitation variable, ranging 0.25 to 2.52 in.

Days suitable for fieldwork 5.9. Topsoil 20% very short, 54% short, 26% adequate. Pasture 17% very poor, 38% poor, 37% fair, 8% good. Corn dented 85%, 84% 1992, 87% avg.; mature 75%, 66% 1992, 68% avg.; silage harvested 45%, 36% 1992, 50% avg.; harvested for grain 25%, 12% 1992, 22% avg. Soybean 9% very poor, 48% poor, 41% fair, 2% good. Peanut 25% very poor, 63% poor, 12% fair. Flue tobacco 55% harvested, 72% 1992, 65% avg. Fire tobacco 60% harvested, 83% 1992, 87% avg. Sun tobacco 75% harvested, 74% 1992, 78% avg. Burley tobacco 35% harvested, 47% 1992, 57% avg. Dry soil conditions hampering seeding of winter grains, forage crops. Summer apples 95% harvested, fall apples 14% harvested. Fruit size smaller than normal, cool temperatures adding color. Livestock mostly fair to good. Spider mites are problem in peanuts in several counties.

**WASHINGTON:** Temperatures 1° below normal to 7° above normal west; 4° above normal to 9° above normal east. No precipitation statewide.

Days suitable for fieldwork 7.0 for the second week in a row. Soil moisture 14% short, 86% adequate. Irrigation water supply 16% short, 84% adequate. Hay, other roughage 6% short, 84% adequate, 10% surplus. Range, pasture feed 8% poor, 48% fair, 32% good, 12% excellent. Winter wheat dryland 75% good, 25% excellent; irrigated 100% good. Spring wheat dryland 10% fair, 90% good; irrigated 100% good. Barley dryland 80% good, 20% excellent; irrigated 100% good. Potatoes 100% good. Dry beans 100% good. Corn 2% fair; 98% good. Warm, dry weather dominated the State. Cereal grain harvest continues to wind down. Fall field preparation, seeding was underway; seedzone moisture good to excellent. Apple harvest continued with Gala harvest slowing, Golden Delicious harvest starting. D'Anjou, Bosc pears were also being picked. Calf weights looked good as weaning time arrived.

**WEST VIRGINIA:** Temperature 66°. Extremes 36°; 89°. Precipitation 0.31 in.

Days suitable for fieldwork 5.9. Soil moisture 29% very short, 57% short, 14% adequate. Tobacco 6% fair, 94% good; 100% topped, 43% harvested. Hay 11% very poor, 47% poor, 22% fair, 20% good; 83% 2nd cut, 68% 3rd cut. Pasture feed 13% very poor, 45% poor, 26% fair, 16% good; 58% of normal. Cattle 26% fair, 74% good. Sheep 24% fair, 76% good. Apples poor to fair. Corn 8% poor, 30% fair, 62% good; 99% dough stage, 26% mature, 17% harvested. Soybeans 56% fair, 44% good; 100% setting pods. Farm activities: Moving livestock, feeding livestock, cutting hay, harvesting tobacco, chopping silage, harvesting corn, harvesting apples, general maintenance.

**WISCONSIN:** Cool temperatures reminded crops that frost is just around the corner. Some northern areas of the State received a light frost frequently, not hard enough to kill anything. Temperature 57°; 6° below normal. Extremes 29°; 87°. Precipitation 0.20 to 0.80 in.

Days suitable for fieldwork 5.7. Soil moisture 12% short, 74% adequate, 14% surplus. Pasture feed 84% of normal, 72% 1992, 71% avg. General condition of crops: 4% poor, 34% fair, 60% good, 2% excellent. Oats 96% harvested, 85% 1992. Corn 1% very poor, 7% poor, 38% fair, 50% good, 4% excellent; 68% in dough, 57% 1992, 83% avg.; 34% in dent, 20% 1992, 59% avg.; 7% mature, 3% 1992, 24% avg. Soybean 1% poor, 25% fair, 64% good, 10% excellent; acreage with leaves turned 24%, 22% 1992, 43% avg. 3rd cut alfalfa 56% harvested, 50% 1992, 57% avg. Many farmers were cutting hay, finishing the harvest of their small grains. Progress of all crops were slowed this past week because of the cool temperatures. Farmers continue to harvest third crop alfalfa, reporting favorable yields, condition. Corn crop continues to be behind normal, last weeks temperatures did not help. Some farmers are concerned that if their corn does not reach maturity they will have no place to store it as silage. There have been reports that some farmers are beginning to harvest their corn for silage. Soybeans continue to look good, just like the corn, they need more time to mature. Oats harvesting should be completed this week. Lima bean harvesting in full swing. Planting of winter wheat, rye is being reported across the State. Apples are being harvested, available at roadside stands. Conditions are varying from wormy, scabby to trees being loaded with apples. Farmers enjoyed last weeks cool temperatures while harvesting their tobacco.

**WYOMING:** Temperatures 1 to 4° below normal; a few spots in the west above normal. Precipitation was above normal in the eastern third, below normal elsewhere. A cold front was just starting to move across the State 12th night bringing freezing temperatures, snow.

Days suitable for fieldwork 6.2. Topsoil 20% short, 80% adequate. Spring wheat 45% harvested, 90% 1992, 95% avg. Oats 48% harvested, 86% 1992, 90% avg. Barley 76% harvested, 88% 1992, 92% avg. Winter wheat 95% harvested, 100% 1992, 100% avg. Winter wheat planted for harvest 39%, 58% 1992, 54% avg. Corn dented 21%, 38% 1992, 55% avg.; mature 1%, 10% 1992, 13% avg. Dry beans windrowed 53%, 54% 1992, 56% avg.; combined 4%, 23% 1992, 26% avg. Alfalfa 2nd cutting completed 84%, 86% 1992, 94% avg. Alfalfa 3rd cutting completed 11%, 25% 1992, 33% avg. Light to moderate frost damage during the week in half of State. Corn mostly fair. Sugarbeets, dry beans fair to good. Pasture, range feed good to excellent. Stockwater supplies adequate.

## International Weather and Crop Summary HIGHLIGHTS

September 5 - 11, 1993

**FSU:** In western Russia, wet weather in northern areas delayed late spring grain harvesting and planting of 1994 winter grain crops. In the New Lands, generally dry weather favored rapid spring grain harvesting.

**EUROPE:** Wet weather slowed corn and sugar beet harvesting.

**SOUTH ASIA:** Showers increased moisture for summer crop development and winter wheat planting in central and eastern India.

**EASTERN ASIA:** Typhoon Zola hit southern Japan, bringing more heavy rain and flooding. Favorable weather existed for maturing summer grains across most of China.

**SOUTHEAST ASIA:** Showers improved rice and sugarcane prospects in Indochina and the Philippines.

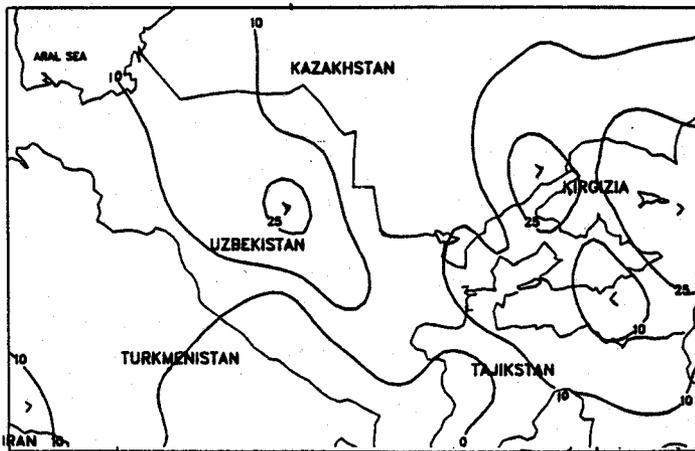
**AUSTRALIA:** Rains continued to benefit winter wheat across eastern and southern Australia.

**SOUTH AMERICA:** Rain boosted topsoil moisture for winter wheat in Argentina.

**CANADA:** This season's first hard freeze hit the Prairies.

**MEXICO:** Tropical activity continued to bring heavy showers across the west coast.

CENTRAL FSU...TOTAL PRECIPITATION (mm)  
AUG 1993



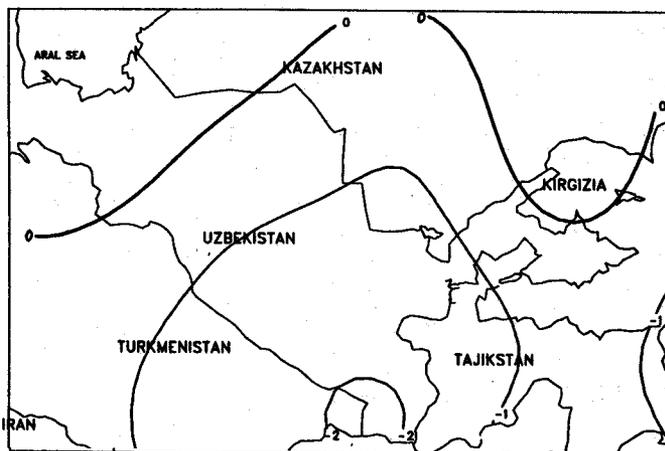
CENTRAL FSU...PERCENT OF NORMAL PRECIPITATION  
AUG 1993



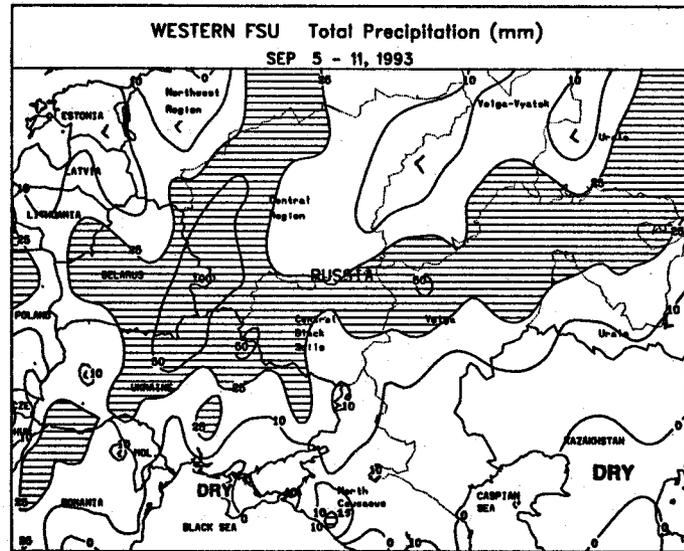
CENTRAL FSU... AVERAGE TEMPERATURE (°C)  
AUGUST 1993



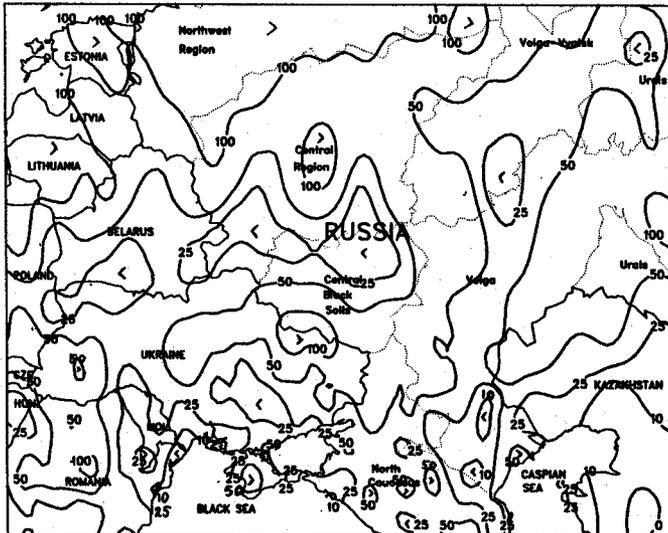
CENTRAL FSU...TEMPERATURE ANOMALY (°C)  
AUG 1993



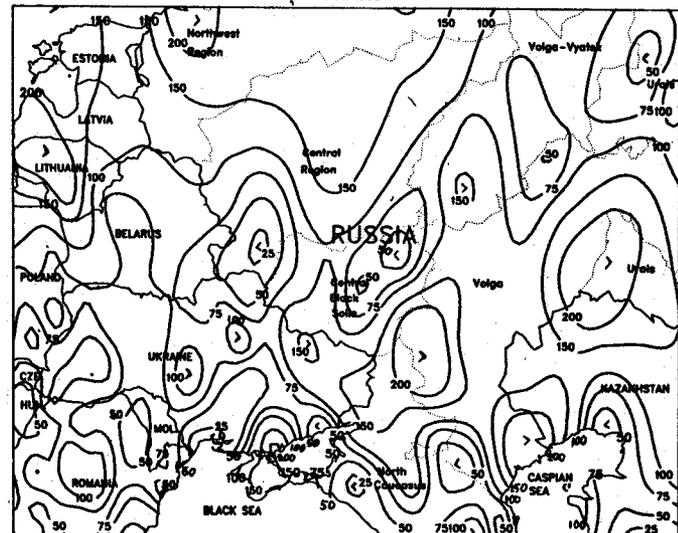
**FSU-WESTERN:** Soaking rain (25-50 mm, with local amounts in excess of 75 mm) covered Belarus, the western portions of Central Region, northern Ukraine, Black Soils Region, and middle Volga Valley. Furthermore, persistent rain in these areas has saturated topsoils, delaying the spring grain, potato, and sugar beet harvests. The wet weather has also slowed the planting of 1994 winter grain crops. Further south, light showers (2-16 mm) over the southern half of Ukraine and North Caucasus caused only brief delays in corn and sunflower harvesting. Weekly average temperatures were 2-4 degrees Celsius (C) below normal in the north and 1-3 degrees C below normal in the south. In August, spring grain harvesting was well underway and planting of the 1994 winter grain crop began in northern areas. The combination of frequent showers and unseasonable cool weather in the Baltic States, Northwest Region, Central Region, Volga Valley, and Urals slowed crop development and harvesting. In Ukraine, unseasonably hot, dry weather from August 1 to 23 favored rapid spring grain harvesting but stressed corn in the filling stage. Light to moderate rain began over Ukraine on August 24 and lasted until month's end, preventing further deterioration in corn.



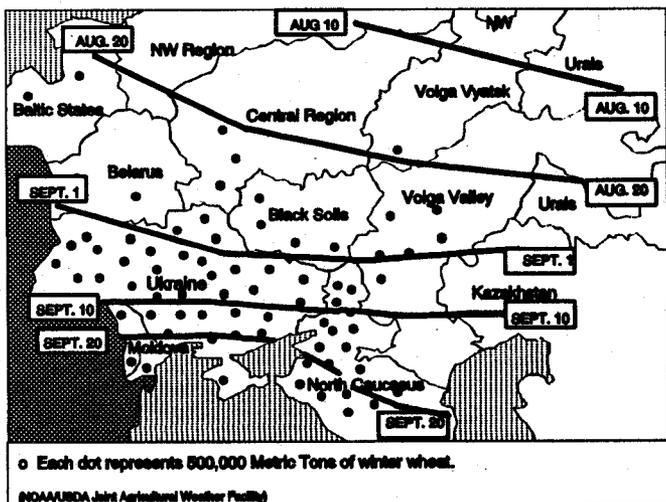
WESTERN FSU...TOTAL PRECIPITATION (mm)  
AUG 1993



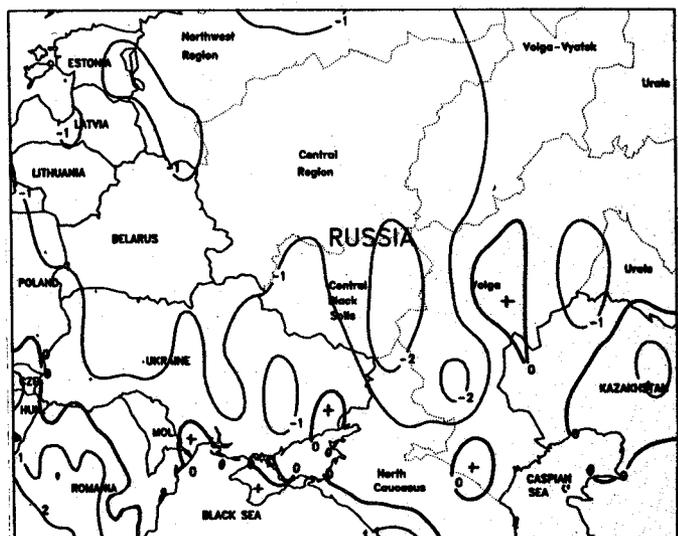
WESTERN FSU...PERCENT OF NORMAL PRECIPITATION  
AUG 1993

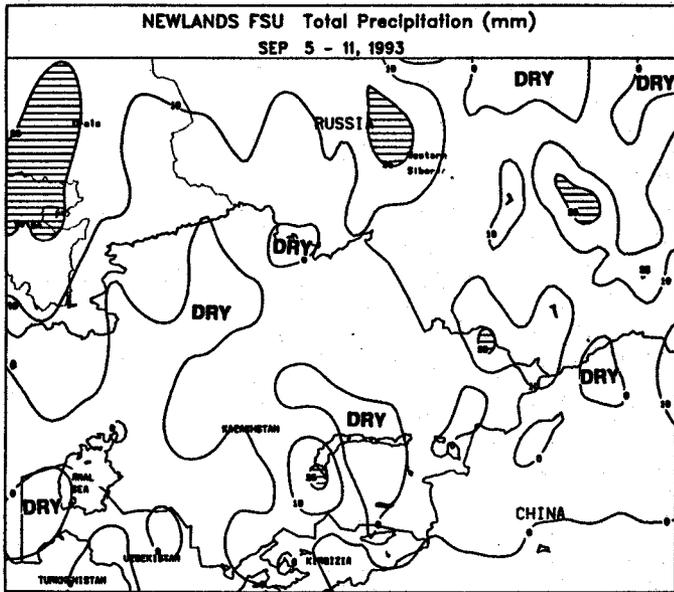


**FORMER SOVIET UNION (WESTERN)  
OPTIMUM WINTER WHEAT PLANTING DATES**

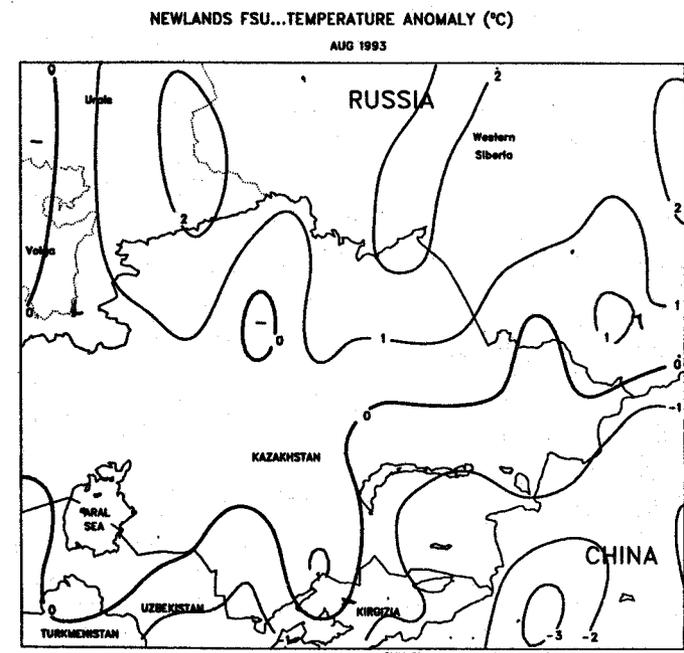
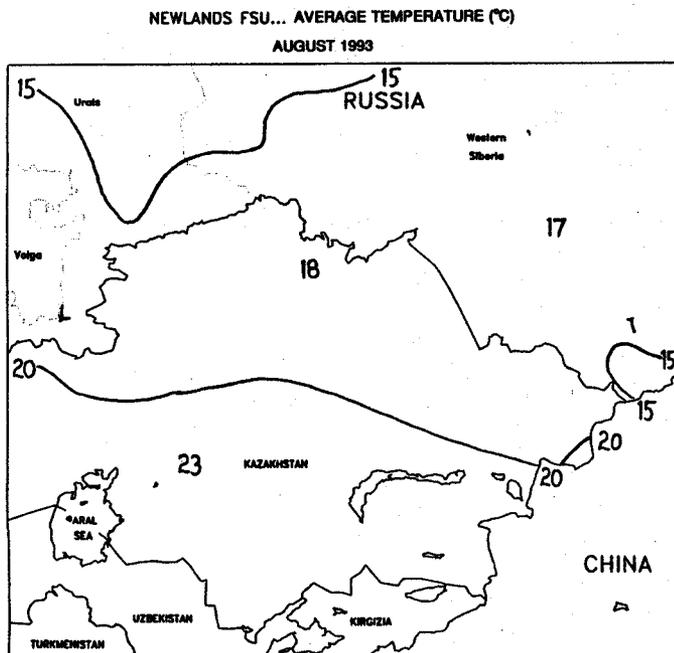
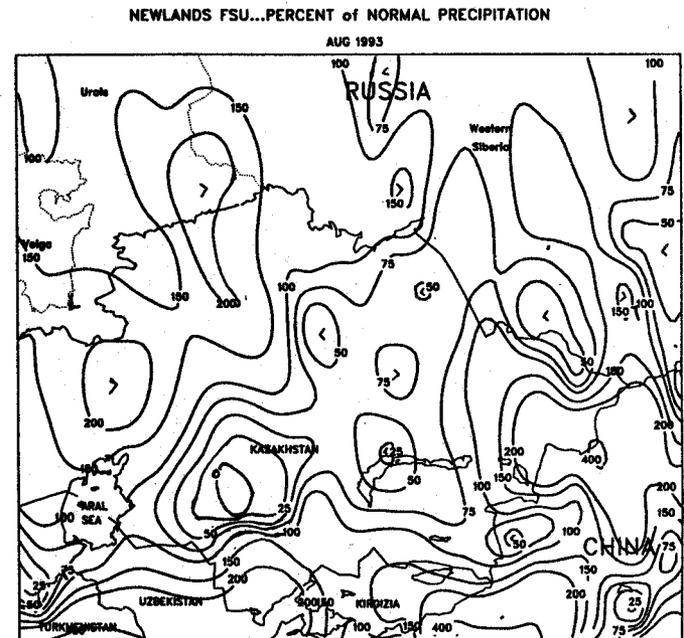
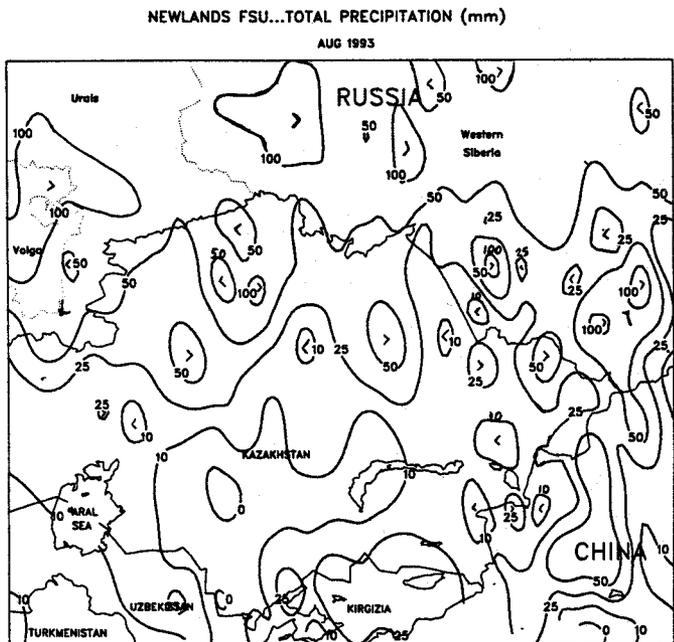


WESTERN FSU...TEMPERATURE ANOMALY (°C)  
AUG 1993

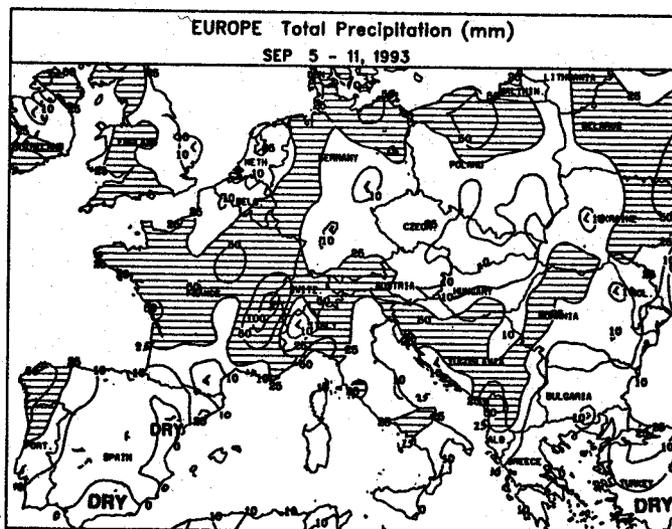




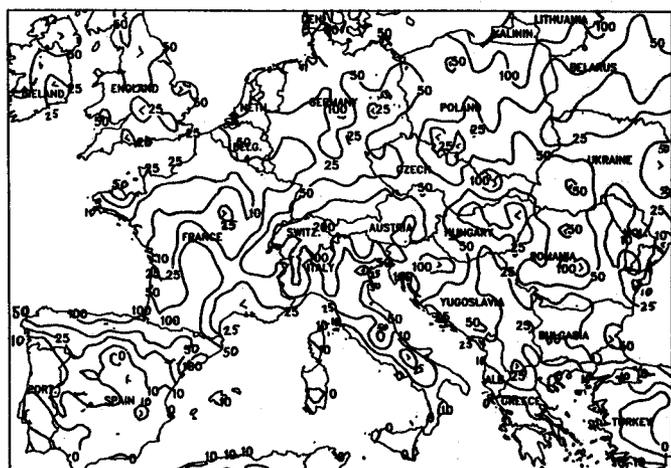
**FSU-NEW LANDS:** Generally dry weather favored rapid spring grain harvesting. Precipitation amounts in Western Siberia and Eastern Siberia were mostly below 10 mm. Little, if any, rain covered Kazakhstan. As of September 6, reports indicated the grain harvest in Kazakhstan was about 27 percent complete. Weekly average temperatures were near normal over the region. In August, near- to above-normal precipitation maintained adequate to abundant moisture for spring grains in Kazakhstan and Western Siberia. However, more than twice the normal amount of rain covered the Urals, creating excessive moisture conditions for crops. In cotton areas of Central Asia, cotton harvesting in Uzbekistan was beginning later than usual. Unseasonably cool weather during the growing season slowed crop development, causing the cotton crop to ripen later than usual.



**EUROPE:** Widespread rain delayed fieldwork across Europe. Rainfall ranged from 20 to 85 mm across much of northern Europe, slowing grain and sugar beet harvesting in England and northern portions of Germany and Poland. Early corn harvesting was also hampered by wetness in France, Italy, and western Romania, where 20-90 mm of rain fell. Variable shower activity covered most other crop areas, allowing some fieldwork in southern Poland, Slovakia, Hungary, and Bulgaria. While wet weather reached into Denmark as well, most Scandinavian crop areas had favorably dry harvest weather. Lowest minimum temperatures in Scandinavia fell 1 to 3 degrees C below freezing, and generally cool weather prevailed across Europe. August monthly rainfall was mostly below to near average across the north, improving field conditions for harvesting following the wet July. Above-average rainfall persisted in northern Poland, and brought late-season moisture to stressed crops in Romania and Bulgaria. However, the rain may have come too late for maturing corn. Below-average August rainfall persisted in Hungary, resulting in slightly less cumulative rainfall for the 1993 corn growing season than in 1992, and far below normal accumulations.



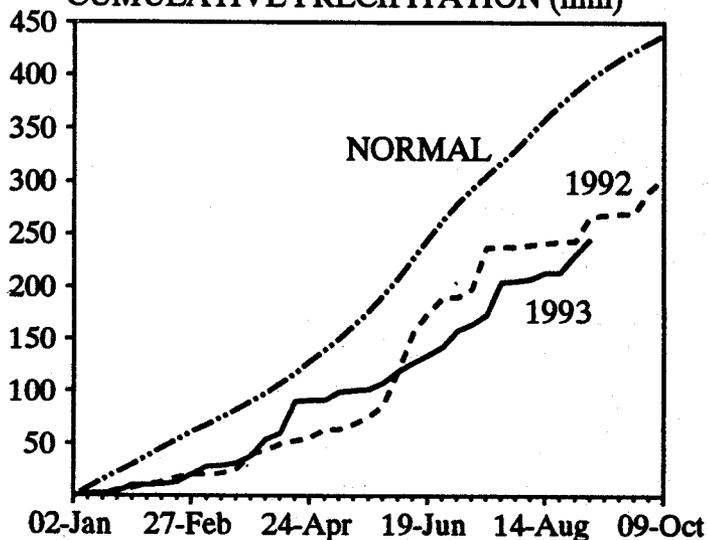
EUROPE...TOTAL PRECIPITATION (mm)  
AUG 1993



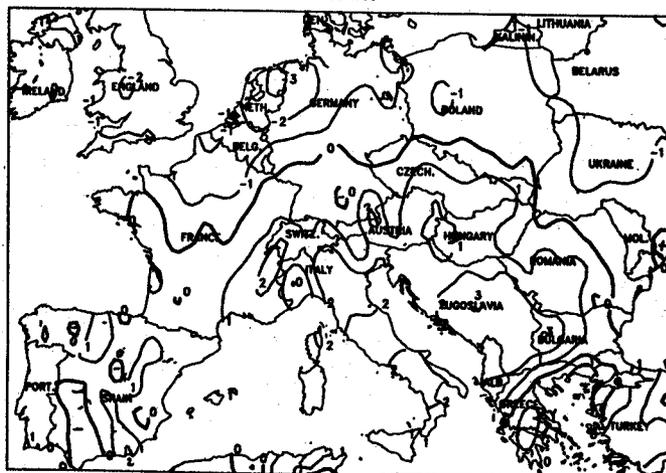
**MAP UNAVAILABLE:  
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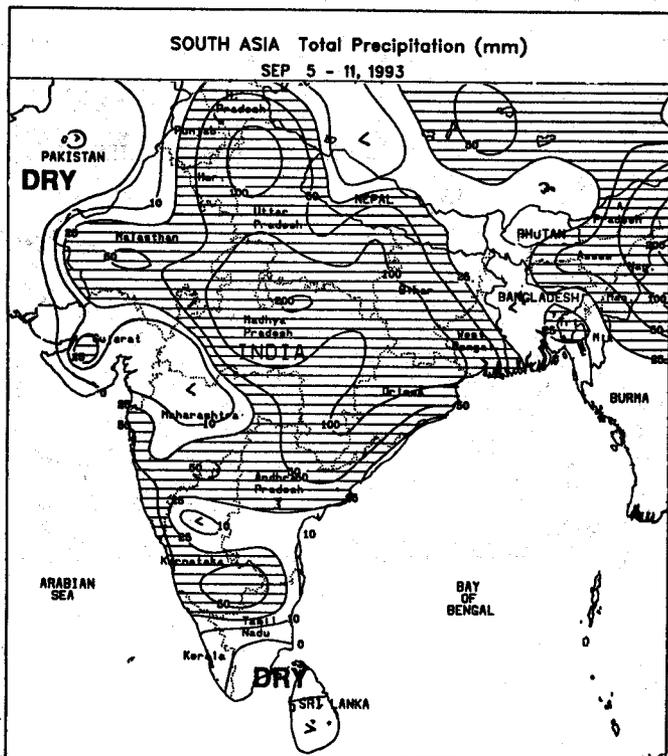
### HUNGARY

CUMULATIVE PRECIPITATION (mm)

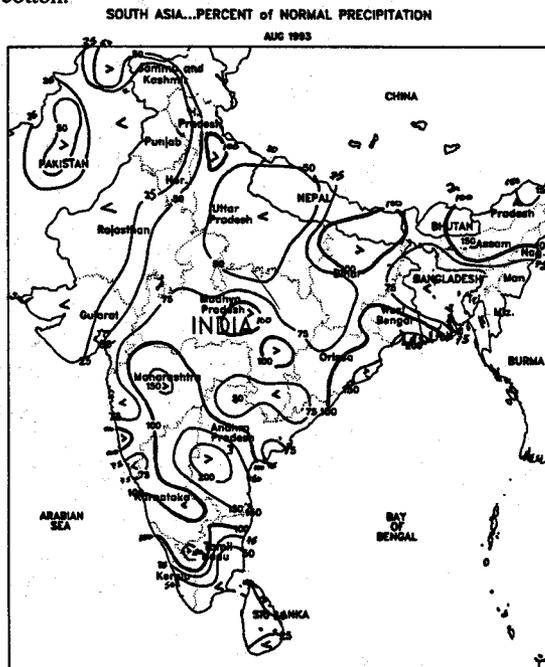


EUROPE...TEMPERATURE ANOMALY (°C)  
AUG 1993



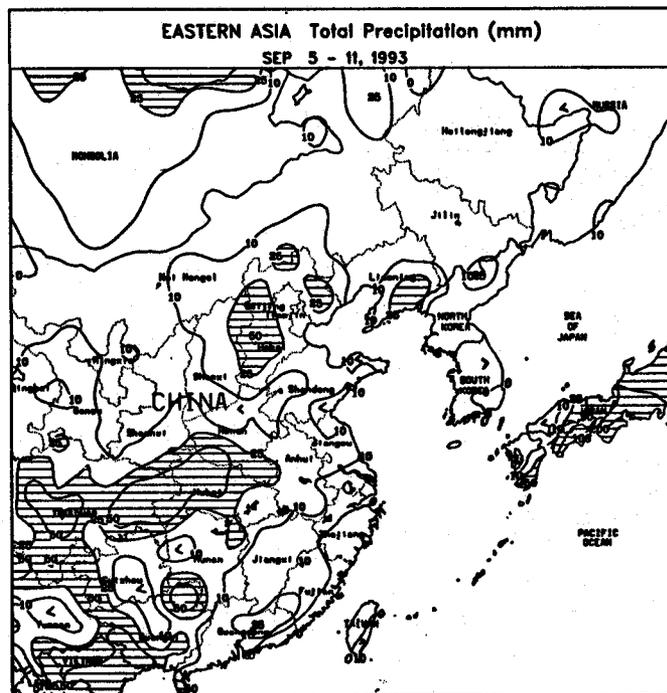


**SOUTH ASIA:** Moderate to heavy showers (30-100 mm or more) continued over central and eastern India, increasing moisture for immature summer crops and boosting reservoirs for upcoming winter wheat plantings. Rainfall tapered off over India's southern interior, but amounts ranged from 10 to 62 mm in Andhra Pradesh, Karnataka, and portions of Maharashtra. An isolated shower (39 mm in Rajkot) was reported in Gujarat's groundnut region. In the north, heavy showers (50 mm or more) reached into eastern Punjab State, India, but rainfall was light to the west. Upper air data suggest that the monsoon began its seasonal withdrawal from Pakistan about on schedule. In August, rainfall was near to above normal in southern and eastern crop areas and below normal in central and northwestern regions. Warmer-than-normal weather accompanied the dryness in the northwest, from Gujarat to India's northern States, and Pakistan. Although precipitation was below normal over much of central India, rainfall totaling 100-200 mm or more and seasonable temperatures benefited rainfed grains, oilseeds, and cotton.

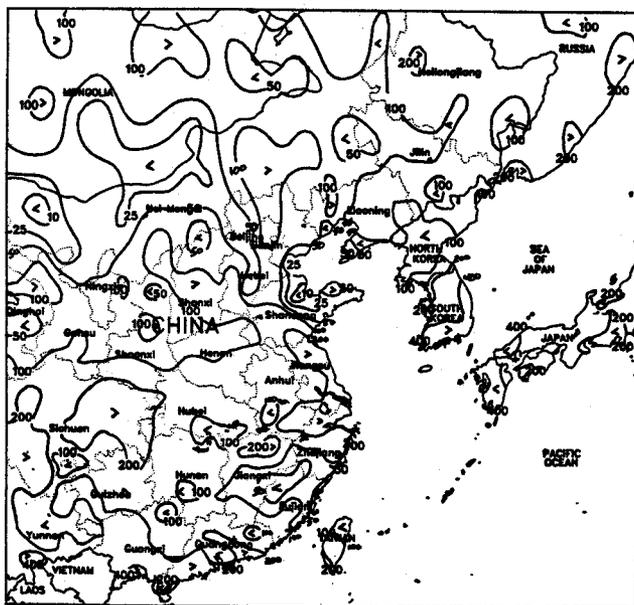


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**EASTERN ASIA:** Tropical Cyclone Zola hit southern Japan (southern Honshu Island) on September 8, with sustained winds of 45-55 mph, helping to produce weekly rainfall totals of 100-250 mm, with isolated amounts greater than 250 mm. Zola was the sixth typhoon to hit southern Japan since late July. The unusually high number of typhoons coupled with vigorous frontal systems have made this summer one of the wettest and coldest in Japan since 1980. During August, Japan received near- to above-normal rainfall (especially across the south), and temperatures averaged 1-2 degrees C below normal. These weather conditions were the basis for a 9-percent reduction from last year in the official USDA September estimate of Japanese rice production. In China, mostly dry weather favored maturing corn and soybeans across Manchuria. Scattered light to moderate rains (5-40 mm) fell across the North China Plain, favoring late-filling summer crops but only slowing early harvesting. Moderate to heavy rains (30-90 mm) covered eastern Sichuan and western Hubei, delaying summer crop harvesting and possibly damaging mature cotton. Mostly sunny weather with only light showers (5-15 mm) favored filling late double-crop rice across southwestern China. Weekly temperatures averaged near normal across most of China, while Manchuria averaged 1-3 degrees C above normal. During August, most of China received near- to above-normal rainfall, favoring filling summer grains and reservoirs. Portions of Shandong and Hebei received below-normal rainfall, but soil moisture and reservoir supplies should have been adequate for summer crops. August temperatures averaged 1-2 degrees C below normal from the Yangtze Valley northward to the North China Plain.

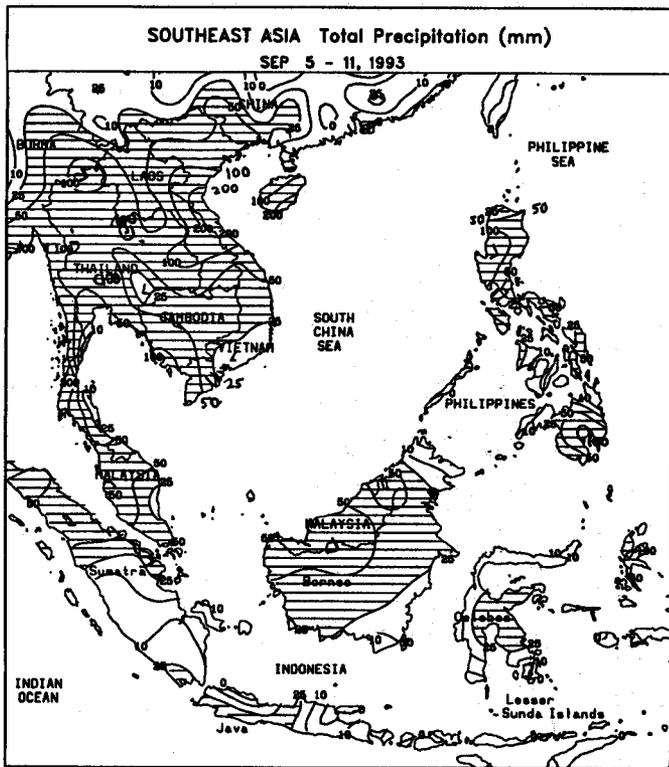


EASTERN ASIA...TOTAL PRECIPITATION (mm)  
AUG 1993



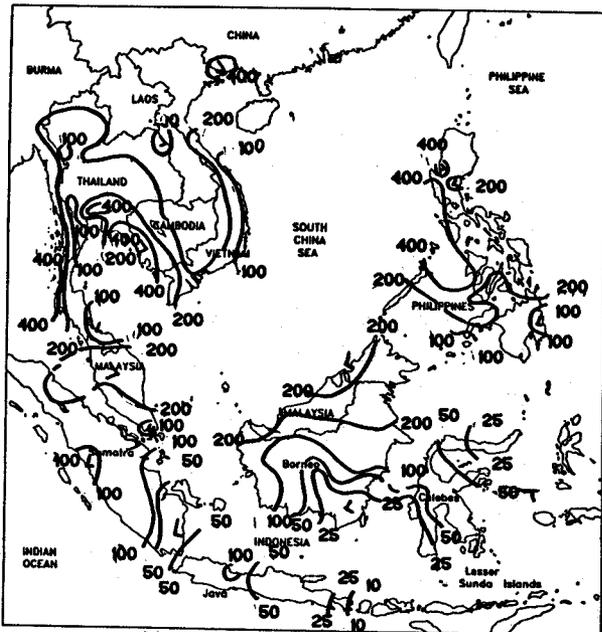
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(See back cover for special maps.)

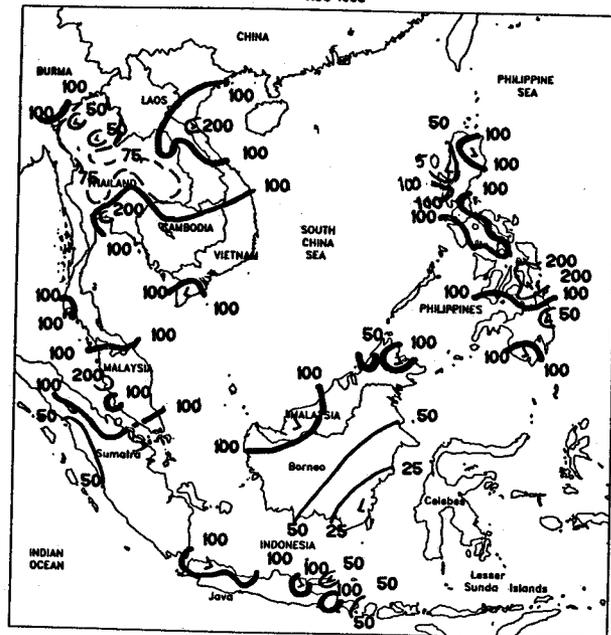


**SOUTHEAST ASIA:** Moderate to heavy showers (35-100 mm or more) continued across Indochina, increasing moisture for rice but causing some flooding. Rainfall picked up near Malaysia, with moderate showers (25-72 mm) reported in most oil palm and rice areas. In the Philippines, moderate to heavy showers (35-100 mm or more) covered most crop areas, benefiting immature grains and sugarcane. The rain in the north was partly due to Typhoon Abe, which passed just north of Luzon. In August, rainfall was below normal over most Thai grain areas, further reducing moisture for main-season rice as well as sugarcane. However, in late-August, tropical activity picked up over the western Pacific, spurring an increase in rainfall over the region. August rainfall was near to above normal in primary grain and sugarcane areas of the Philippines, due partly to Tropical Storms Tasha and Winona late in the month.

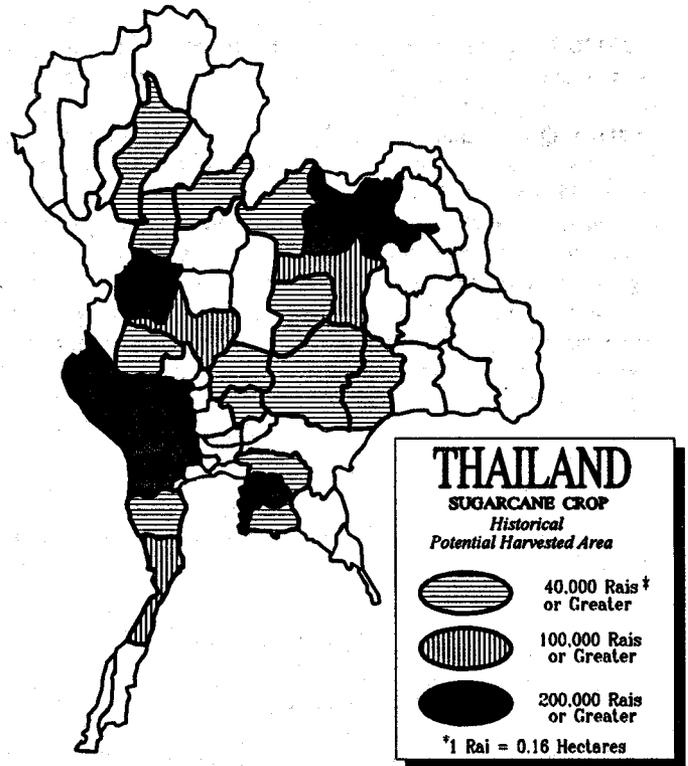
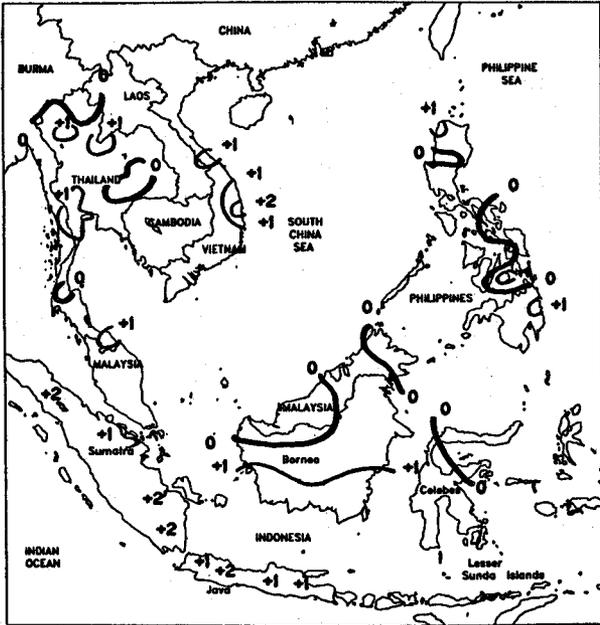
SOUTHEAST ASIA...TOTAL PRECIPITATION (mm)  
AUG 1993



SOUTHEAST ASIA...PERCENT OF NORMAL PRECIPITATION  
AUG 1993

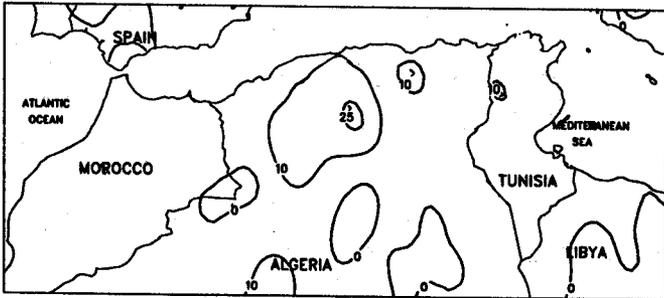


SOUTHEAST ASIA...TEMPERATURE ANOMALY (°C)  
AUG 1993

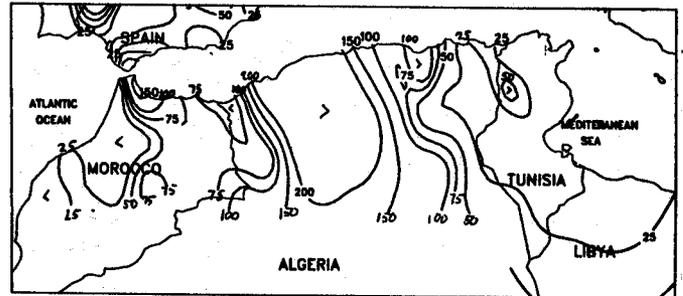


Source: Center for Ag. Statistics, Thailand (1989/90)

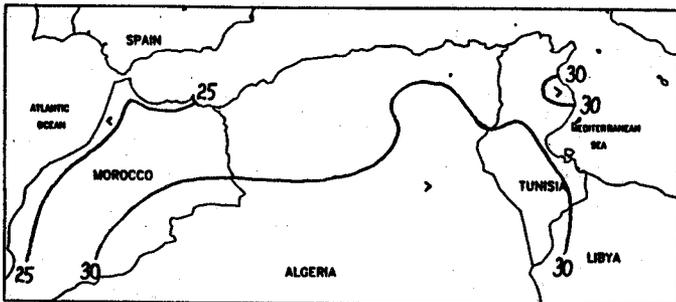
NORTHWEST AFRICA...TOTAL PRECIPITATION (mm)  
AUG 1993



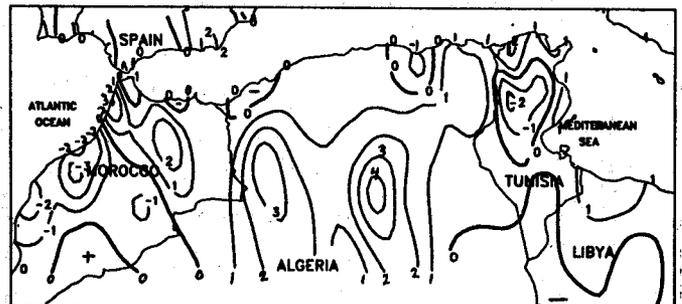
NORTHWEST AFRICA...PERCENT of NORMAL PRECIPITATION  
AUG 1993



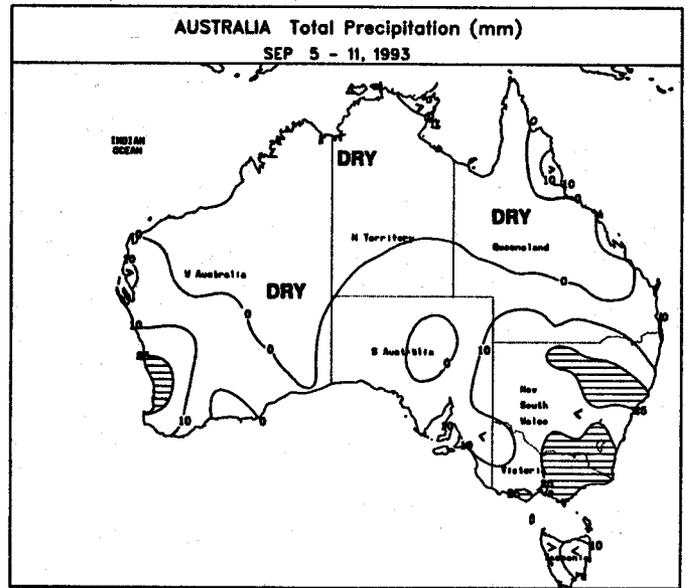
NORTHWEST AFRICA... AVERAGE TEMPERATURE (°C)  
AUGUST 1993



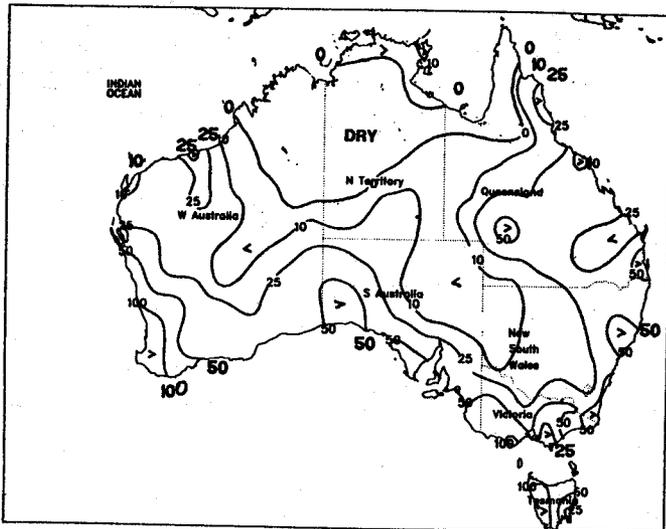
NORTHWEST AFRICA...TEMPERATURE ANOMALY (°C)  
AUG 1993



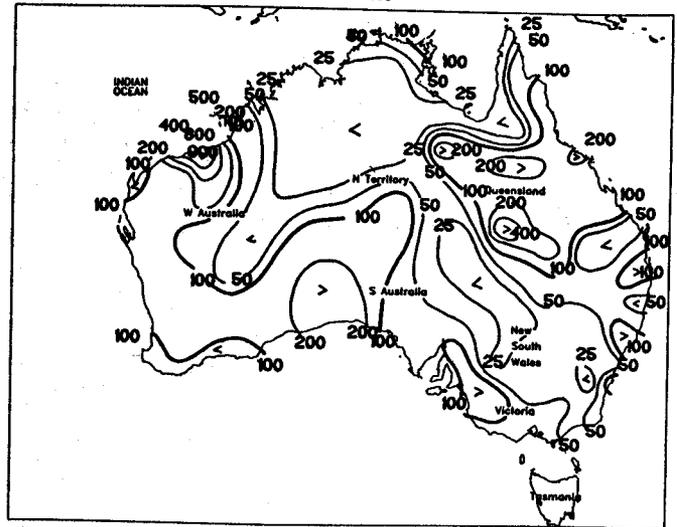
**AUSTRALIA:** Moderate rain (11-40 mm) continued across New South Wales and Victoria, benefiting vegetative winter wheat. Light rain (2-8 mm) favored vegetative to early reproductive wheat across southern Queensland, but timely rains are still needed during September to prevent significant yield reductions. Light to moderate rain (6-25 mm) aided vegetative wheat across South and Western Australia. Weekly temperatures averaged near normal across most of the major winter grain areas. During August, the eastern most regions received below-normal rainfall (25-75 percent of normal precipitation), with only isolated areas reporting near-normal rainfall. However, early September rains have reversed the drying trend. The wheat areas of Western and South Australia received near to slightly below-normal August rainfall.



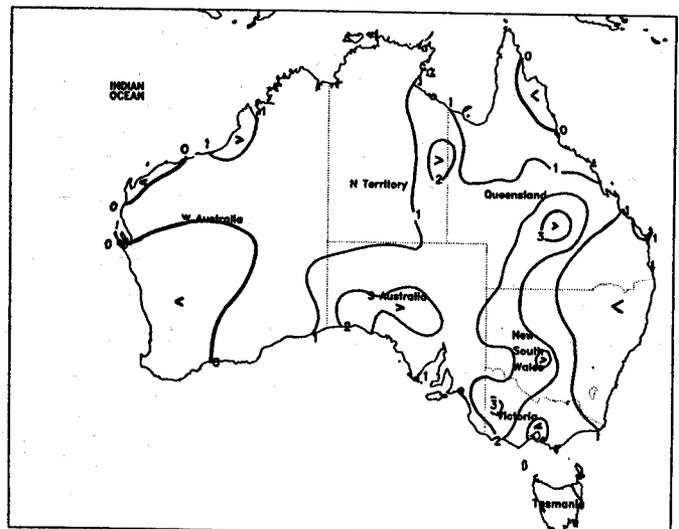
AUSTRALIA...TOTAL PRECIPITATION (mm)  
AUG 1993



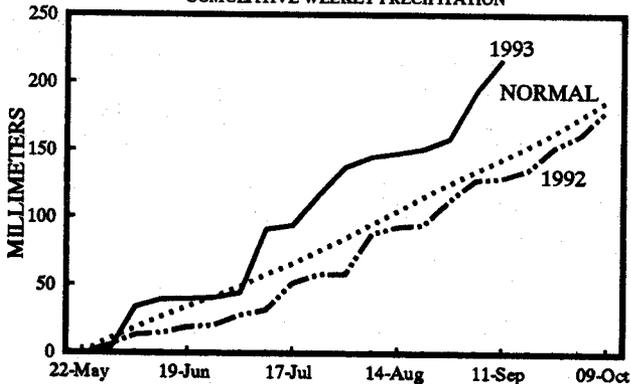
AUSTRALIA...PERCENT OF NORMAL PRECIPITATION  
AUG 1993

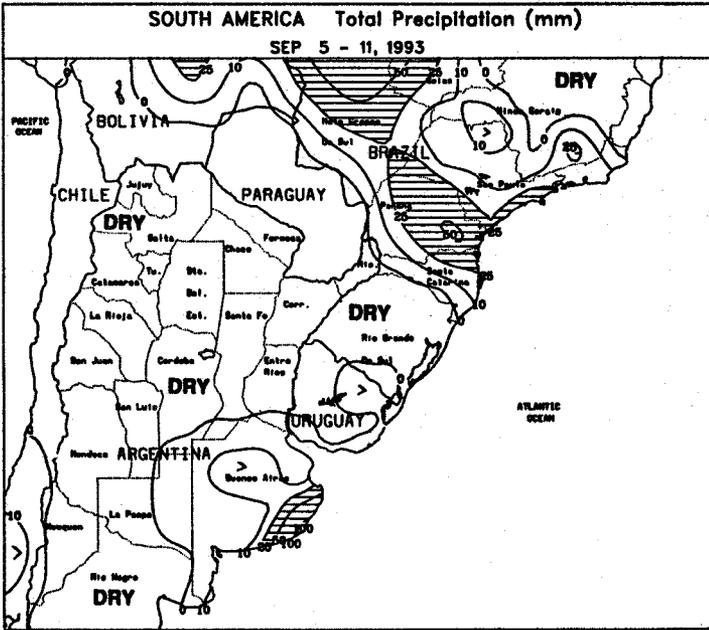


AUSTRALIA...TEMPERATURE ANOMALY (°C)  
AUG 1993



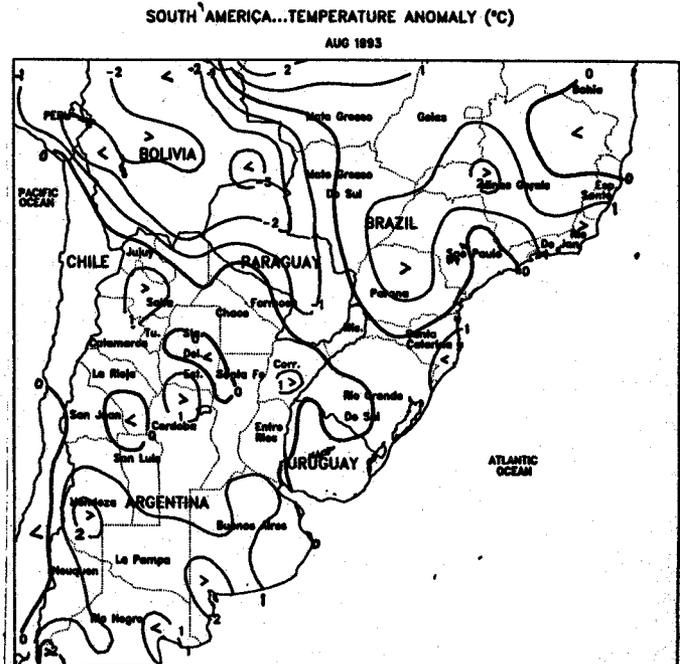
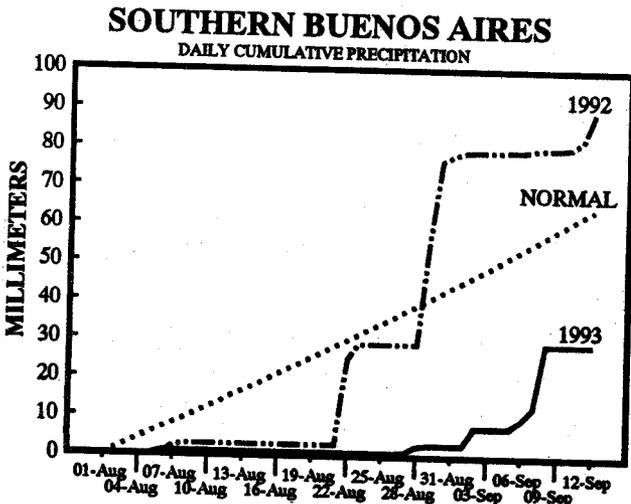
AUSTRALIA - NEW SOUTH WALES WHEAT REGION  
CUMULATIVE WEEKLY PRECIPITATION



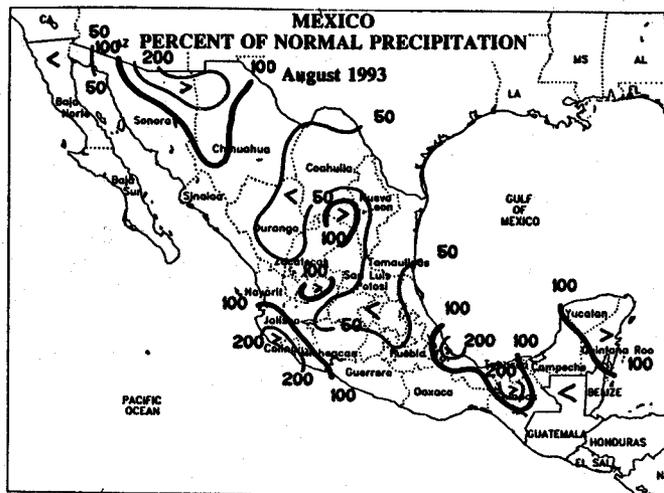
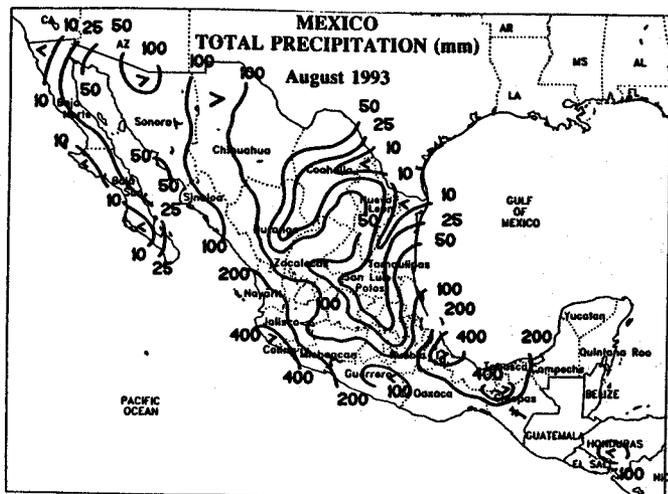
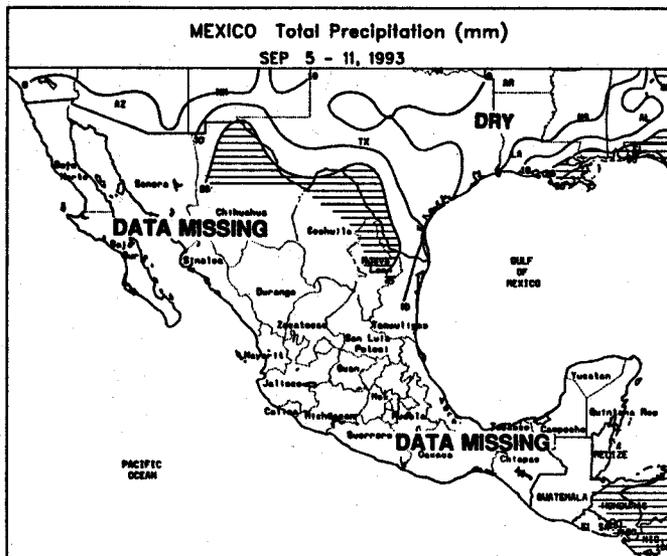


**SOUTH AMERICA:** In Argentina, light to moderate showers (3-22 mm) covered central and southern Buenos Aires, boosting topsoil moisture for vegetative winter wheat. Further north, drier weather prevailed for wheat more advanced in development. Topsoil moisture may still be low across the region, but subsoil moisture supplies should be adequate. Across southern Brazil, light to moderate showers fell from Parana northwestward into Mato Grosso do Sul and Mato Grosso, favoring early soybean and corn planting. However, the rains may delay early wheat harvesting in Parana. Weekly temperatures averaged 1-3 degrees C above normal across most of southern Brazil and near to slightly below normal across central Argentina. During August, rainfall averaged near to slightly below normal across central Argentina, favoring vegetative wheat. Southern Buenos Aires averaged 20-50 percent of normal August rainfall. Most of southern Brazil experienced below-normal rainfall, while southern Goias, western Minas Gerais, and eastern San Paulo reported above- to much-above-normal rainfall.

**MAP UNAVAILABLE:  
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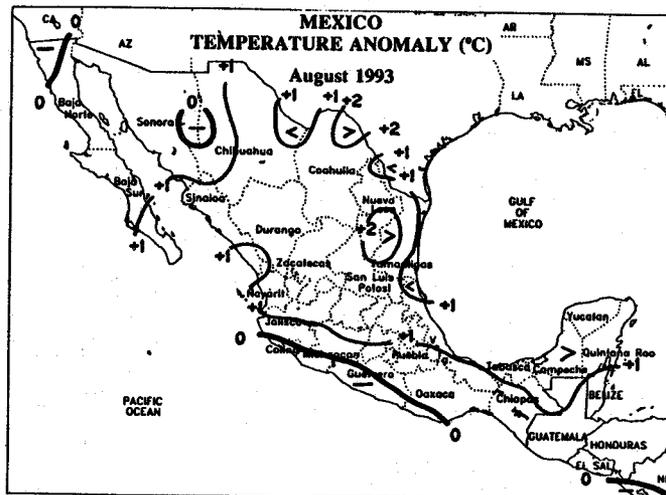
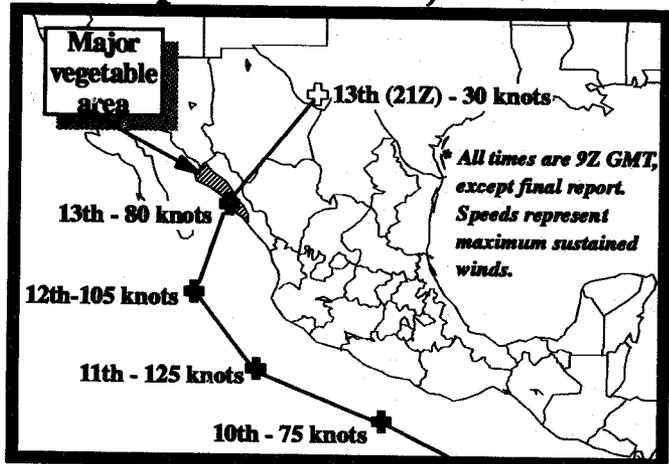


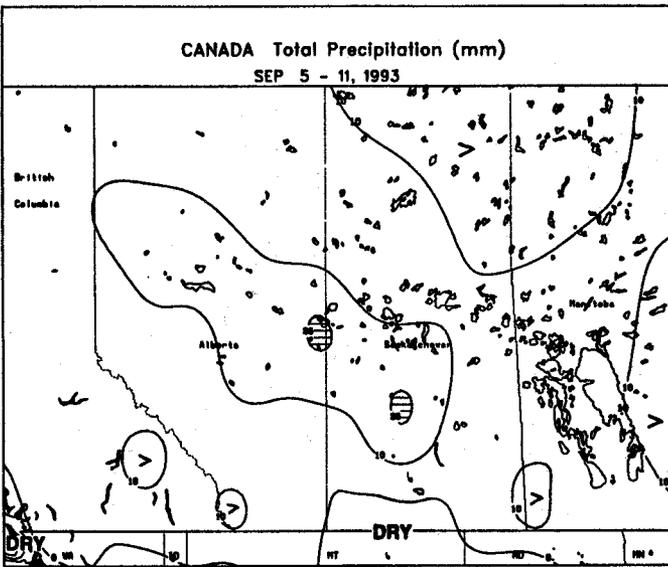
**MEXICO:** Weekly rainfall and temperature data were missing for the entire country and rainfall intensity was based from satellite imagery. Hurricane Lidia brushed the western Mexican states of Michoacan to Jalisco, producing heavy rain and flooding. By the end of the week, Lidia was poised to strike central Sinaloa. Tropical Pacific moisture streamed from western Mexico into the north-central areas, spawning scattered moderate to heavy showers. Light to moderate showers were observed over the Southern Plateau Corn Belt. During August, rainfall averaged near to above normal across most of the country, partly due to increased tropical activity across the west coast. The Southern Plateau Corn Belt received below-normal rainfall (30-70 percent of normal), but adequate soil moisture reserves should have prevented any serious corn yield reductions.



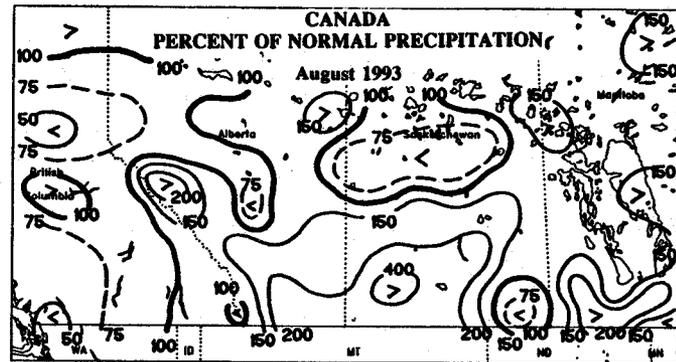
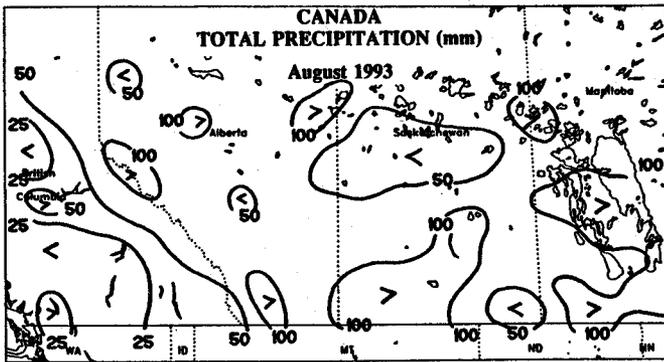
# Hurricane Lidia

## September 9 - 13, 1993

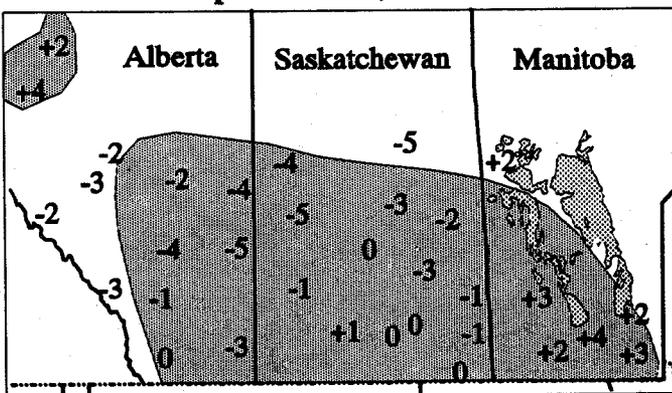




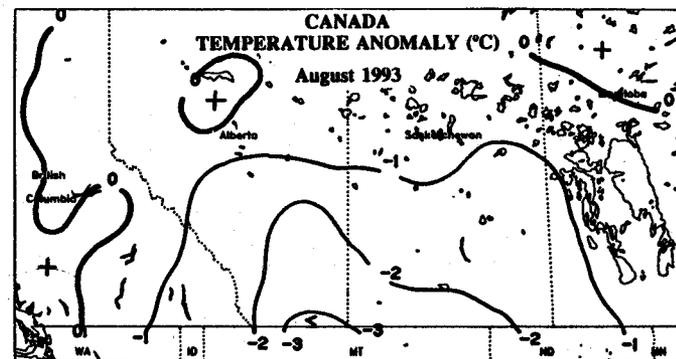
CANADA: On the morning of September 13, the Canadian Prairies reported their first freeze of the season, with preliminary reports of -2 degrees C or lower over much of Alberta and northwestern Saskatchewan. More details will be included in next week's summary. Prior to the freeze, temperatures were generally near normal and, until heavy showers moved in on September 12, rainfall was light, aiding late crop growth and fieldwork. Late-week showers (10-26 mm), some falling as snow, halted fieldwork in the northwest. Cool, wet weather (precipitation totaling 9-26 mm, temperatures 2-3 degrees C below normal) in Ontario was unfavorable for maturing summer crops. During August, cool, wet weather across the Prairies reduced grain and oilseed quality and put crops further behind in development. Scattered frost, limited mainly to northern crop areas, caused some minor damage. In Ontario, periods of rain mixed with sunny weather early in the month aided summer crop development. Late-month drier, warmer weather helped summer crop development and aided final winter wheat harvests.



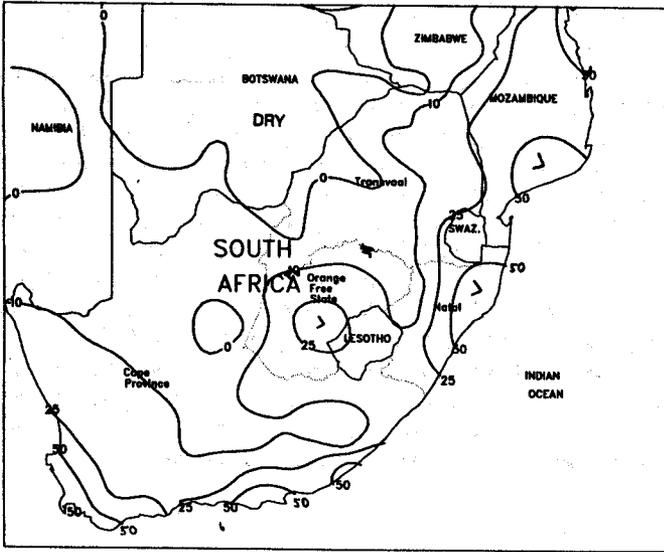
**Minimum Temperatures (Celsius)  
September 13, 1993**



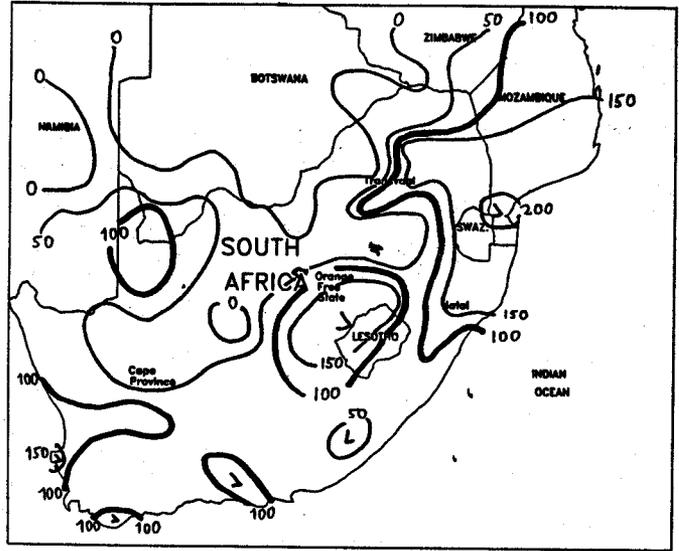
● Primary Crop Areas



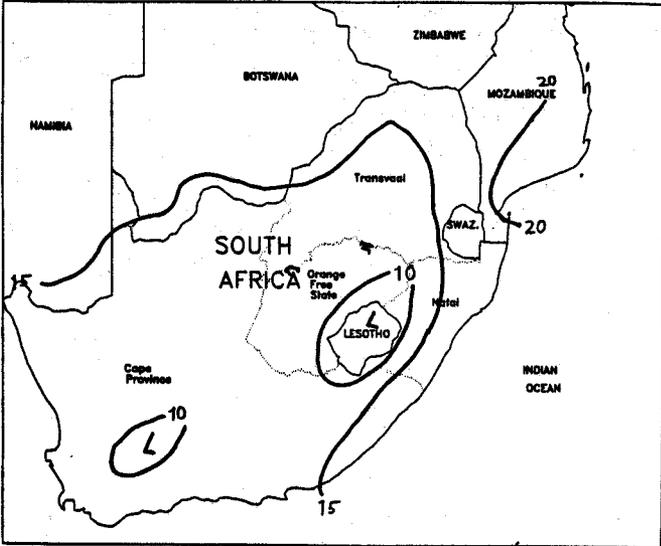
SOUTH AFRICA...TOTAL PRECIPITATION (mm)  
AUG 1993



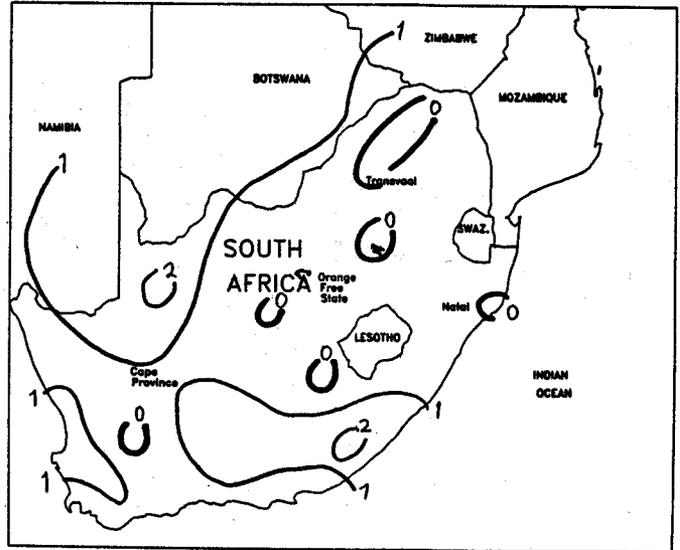
SOUTH AFRICA...PERCENT OF NORMAL PRECIPITATION  
AUG 1993



SOUTH AFRICA...AVERAGE TEMPERATURE (°C)  
AUGUST 1993



SOUTH AFRICA...TEMPERATURE ANOMALY (°C)  
AUG 1993



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

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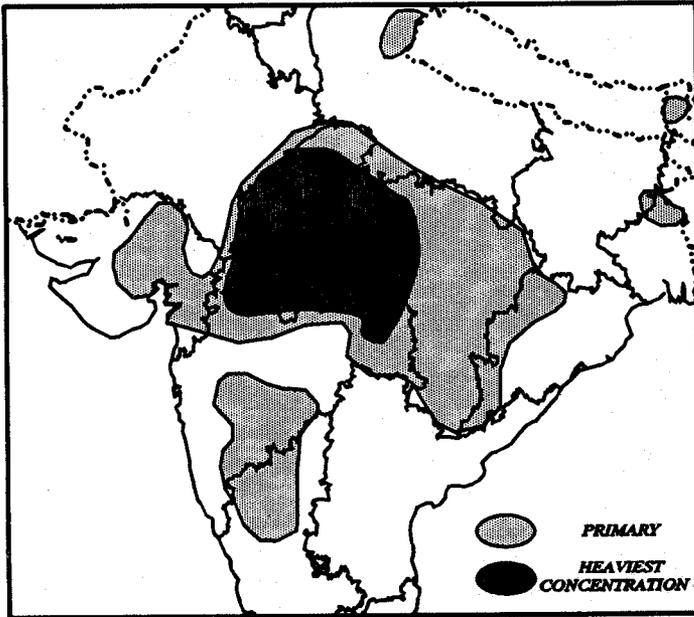
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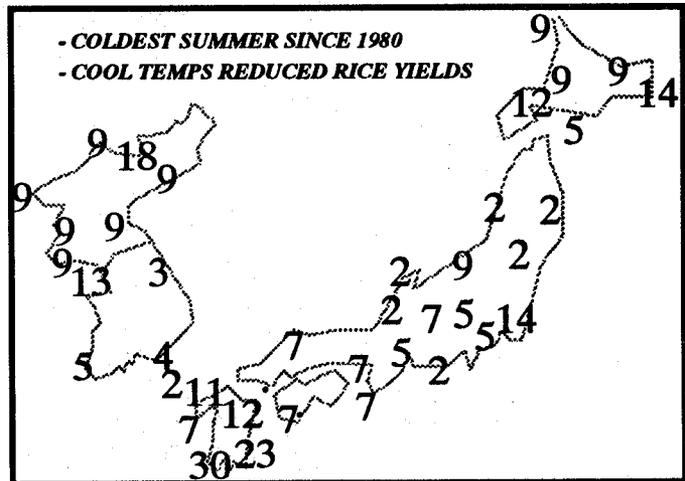
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**SOUTH ASIA SOYBEAN AREA**



**JAPAN & KOREA**

**SUMMER TEMPERATURE PERCENTILE RANKINGS**



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