

# Weekly Weather & Crop Bulletin

U. S. DEPARTMENT OF COMMERCE  
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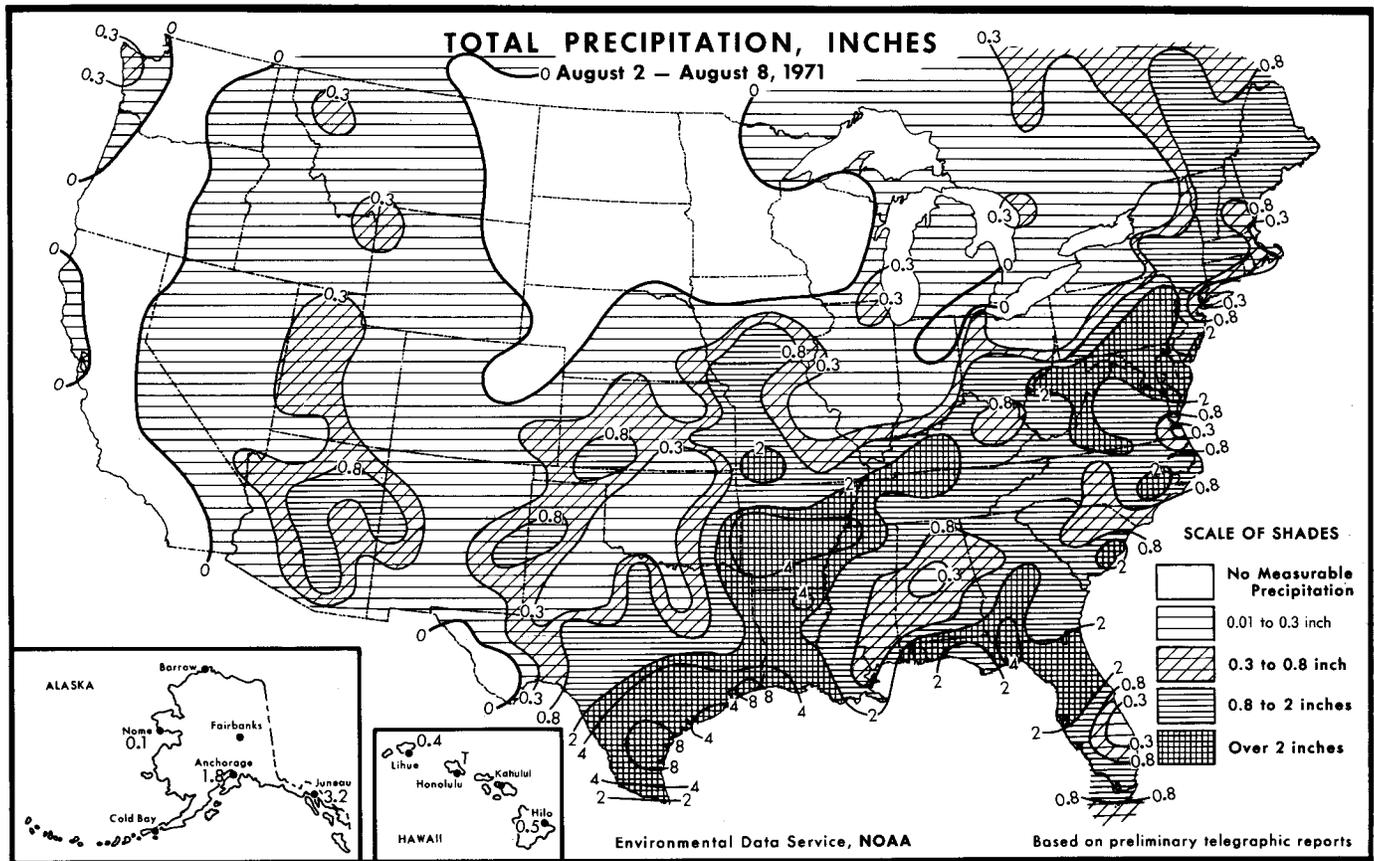
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Edited by Lucius W. Dye

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## NATIONAL WEATHER SUMMARY

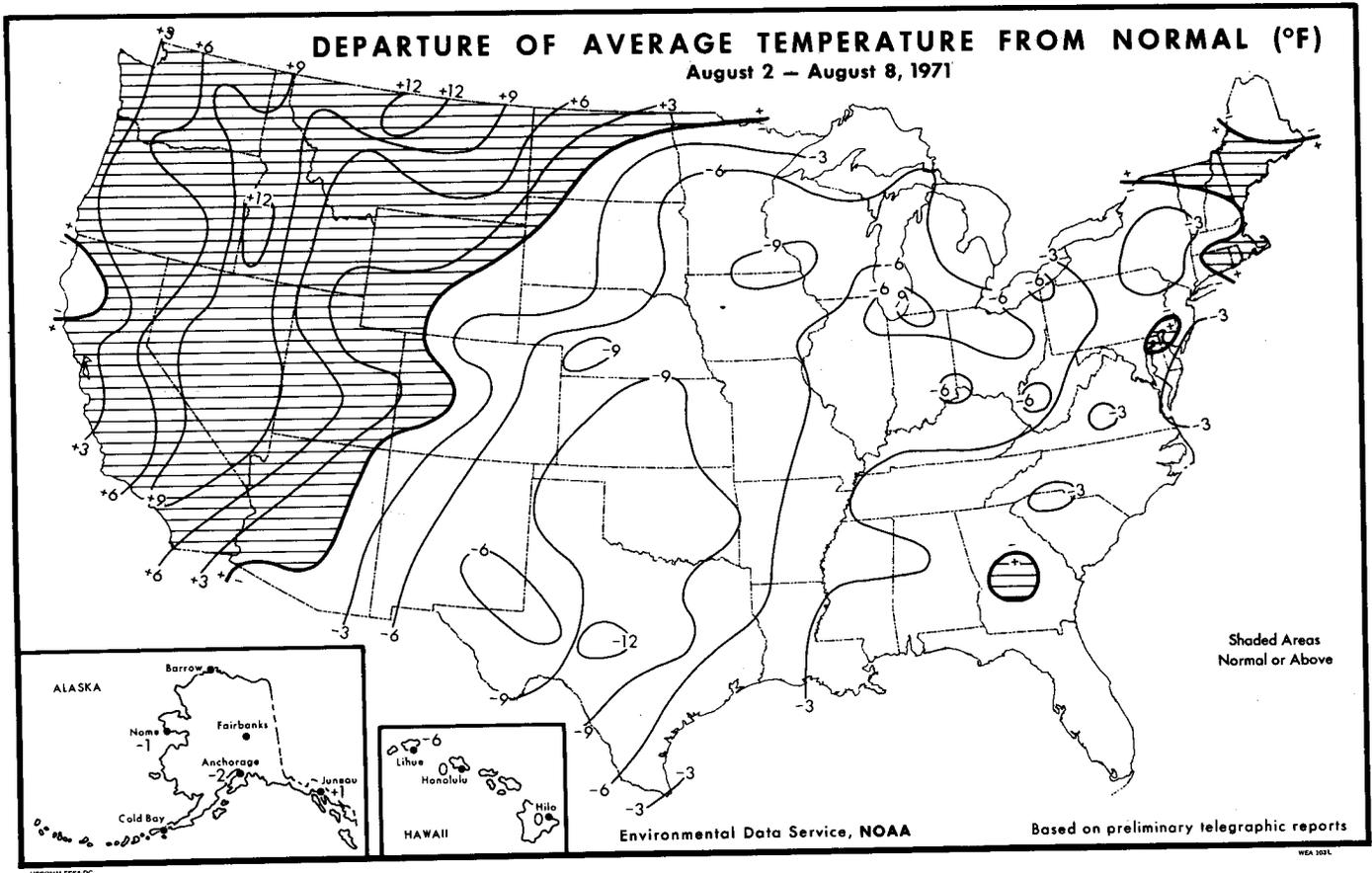
**HIGHLIGHTS:** Summer heat continued over the West as autumn chill came to the Northeast. Rain showers fell over the eastern half of the Nation. They were especially heavy in southern Texas.

**PRECIPITATION:** Showers and thunderstorms occurred from southern New England to the Lower Rio Grande Valley along the front marking the leading edge of a large HIGH which pushed from south-central Canada into the United States. Especially heavy showers occurred in southern Texas. From midnight Sunday to noon Monday, 8.75 inches of rain fell at Laredo, Tex. Laredo's total for the 48-hour period ending Tuesday morning was 10.22 inches. This is more rain than has fallen at Laredo in their previous wettest month. Camp Bullis, near San Antonio, received 13.10 inches of rain in the

48-hour period ending Tuesday morning.

The weather system moved slowly, and much of the eastern half of the Nation received generous rains in the first half of the week. From 6.00 to 12.50 inches of rain in eastern and north-eastern Baltimore, Md., caused 16 deaths and millions of dollars property damage. As the weekend approached, the front became quasi-stationary from northern Texas to the Carolinas. The showers diminished or stopped except across the Southland south of the front. Light sprinkles dotted the central Rocky Mountains and the central Great Plains.

No rain or only light widely scattered sprinkles fell over the Dakotas, Minnesota, and nearby portions of neighboring States.



**TEMPERATURE:** A large HIGH moved slowly from Canada to the Upper Mississippi River Valley early in the week. It brought autumn chill to the North-Central and Northeast. Maximum temperatures in the 70's were common from the Red River of the North to New England. By Thursday, the cool air had spread southward to Kentucky and Virginia and temperatures over much of the Northeast resembled those expected in mid-September. At Huntington, W. Va., the thermometer reached only to 70° Thursday afternoon. Early morning temperatures in the North-Central and Northeast were generally in the 40's and 50's.

Summer heat continued over the West. Maximums climbed to 100° to 110° in the Southwestern Deserts almost everyday and from 100° to 105° for several consecutive days at Havre, Mont. Early morning temperatures across the South

ranged from the 80's in the Southwest to the 70's over the South-Central and Southeast.

As the weekend approached, a large HIGH became centered over the Ohio River Valley. Warm air flowed northward back of the High. The northern Great Plains warmed to the 90's. Williston, N. Dak., registered 101° Saturday. A warming trend occurred over the Northeast but not sufficient to offset the cool weather earlier in the week.

Temperatures averaged warmer than normal west of the Rocky Mountains and over parts of the northern Great Plains and below normal over most of the rest of the Nation. Most of the central and southern Great Plains averaged 6° to 14° cooler than normal.

L. W. Dye

**AGRICULTURAL HIGHLIGHTS:** All crops generally are ahead of normal development, but farm activities in the Southern States were hindered by rains during the week. Harvest of small grains were active in the Northern States. Pastures in most areas are adequate and livestock are mostly in good condition.

**SMALL GRAINS:** Harvest of spring-sown grains made good progress in the Northern States from the Great Lakes to the Pacific Northwest. In Montana, the dry weather was ideal for small grain harvest with 30% of the winter wheat, 5% of the spring wheat, and 10% of the barley and oats harvested. Barley and wheat harvest continues in Oregon. Harvest of small grains in South Dakota, well ahead of normal, is fast coming to a close. Spring wheat harvest is the least advanced with over 75% complete. In Colorado, winter wheat harvest on the eastern slopes is near completion, with 95% state-wide. Combining of winter barley is 97% complete, spring barley is 75%, and oats 63% complete. Harvest of winter wheat is well underway in Idaho, with 50% combined in the south, and 10% in the south and east. Winter barley is 25% complete in the north.

Harvest in the North Central States is ahead of normal. Minnesota's small grain harvest is nearly complete in the southern districts and well along in the northwest. Spring wheat is 21% combined, normal is 11%; oats are 50%, normal 37%; barley 42%, normal 30%; rye 73%, normal 71%; and winter wheat 67%, normal 45% complete. In Michigan harvest of winter wheat is over 90% complete and oats are 60%. In Ohio over 95% of the oats are harvested, normal is 85%.

**CORN:** In the Corn Belt States the crop is ahead of normal. Temperatures were unseasonably cool over most of the Corn Belt during the week with rains light to moderate. In Iowa, corn conditions were 42% excellent, 55% good, 2% fair, and 1% poor. Nearly 50% of the crop is in or past the dough stage with 10% in the dent stage. Corn conditions in Illinois are 51% excellent, 43% good, and 6% fair. About 70% is in the dough stage, 15% dented, both are ahead of last year. Corn in Nebraska is about all silked with 10% in the dough stage. In Indiana, 90% of the corn has silked with 10% dented. Thirty-percent of the corn in Minnesota is in the milk stage, normal is 17%. Virtually all of the corn in Ohio has silked with 40% dough. Corn conditions in Missouri were 75% good, and 24% fair, with 62% in the dough stage.

In the Southern States, more than half of the crop is in the dough stage of maturity. In South Carolina the crop is in good to excellent condition with 90% in or past the dough stage with 23% mature. About 3/5 of the Oklahoma crop is dough. Generally, the development of the crop continues above last year in other States. Due to showers from the High Plains to the Lower Rio Grande Valley corn harvest in Texas came to a halt with only 9% harvested.

Southern corn leaf blight infection increased in the Corn Belt during the week in spite of relatively cool temperatures. Lesions are becoming more apparent in some areas as maturity advances.

**SOYBEANS:** Generally, soybeans are making good to excellent progress. In Iowa, 37% of the crop is in excellent condition, 57% good, 5% fair, and 1% poor. Over 75% of the soybeans are setting pods. Soybean conditions in Illinois are 55% excellent, 39% good, and 6% fair, with about 85% setting pods compared with 55% a year ago.

Arkansas soybeans are good to excellent on well drained soils with some yellowing and limited losses of acreage in low lying fields due to rains. Soybeans in Indiana are 65% podded compared with 50% last year. In Minnesota, 70% are setting pods, normal is 56%. One-quarter of the soybeans are setting pods in Mississippi, despite excessive rainfall. Nearly half of the Missouri soybeans are setting pods compared with 35% last year. In Ohio, 85% of the crop is setting pods. In South Dakota, soybean development is equal to normal at 67% podded.

Soybeans are looking good in Kentucky with 30% podding. In Alabama, development is satisfactory with 54% blooming and 19% setting pods, somewhat behind last year.

**COTTON:** Rain from the High Plains to the Lower Rio Grande Valley of Texas, halted cotton harvest at about 3% with some damage resulting. However, dryland cotton prospects improved in northern and western areas. Cotton growth in California is good, but insects are increasing. In Arizona the crop is making satisfactory development, but flowering rates have slowed in central and southwest areas, with some bolls beginning to open. Cotton is doing well in New Mexico, but not without some infestation of bollworms and beet army worms. In Arkansas, the cotton crop urgently needs open weather for setting bolls. Rains have delayed the application of insecticides, thus causing a rapid build up of weevils and worms. Cotton development in Alabama is good with 94% of the crop setting bolls. A small amount is being harvested in southern counties. About 90% of the Tennessee cotton is setting bolls.

**OTHER CROPS:** Grain sorghum harvest in Texas was delayed during the week on account of rain. About 28% of the crop is combined compared with 25% last week and 23% a year ago. Harvest of milo continues in the desert of California, and is expected to begin in the San Joaquin Valley in about three weeks. Early sorghum in the Yuma area of Arizona is nearing maturity. In Kansas, 41% of the sorghum is headed with greenbugs and corn leaf aphids causing some damage. Sorghum development in Nebraska progressed to where 75% of the crop is headed. Nearly 2/5 of the crop in Oklahoma is in the dough stage.

Tobacco harvest was active during the week, with 76% harvested in Georgia, and 71% in South Carolina. In North Carolina, flue-cured tobacco continues to improve with harvest of types 11, 12, and 13 continuing active. Harvest of shade and stalk cut tobacco is also active in the Connecticut Valley. Kentucky's tobacco crop is in fair condition with over 1/3 of the burley blooming and 11% topped. Rains delayed tobacco topping, weed, and insect control in Tennessee where only about 15% of the burley is harvested.

Peanut digging is light in Georgia, with white mold and leaf spot widespread. Alabama is also experiencing mold and leaf spot damage. Harvest just underway in Texas. In Oklahoma 2/5 of the peanuts are spiking. Rice in Arkansas generally is good, with earliest fields fully headed. Rice in the Sacramento Valley of California is heading. In Texas, the first rice cutting is 40% complete compared with 19% last year. About 1/2 of the rice crop in Louisiana is ready for harvest, but lodging is heavy.

(Continued on page 13)

Temperature and Precipitation Data for the Week Ending Midnight, 1st., August 9, 1971

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure*	Total	Departure*		Average	Departure*	Total	Departure*		Average	Departure*	Total	Departure*
ALA.Birmingham	79	-3	.2	-1.0	New Orleans	81	-2	.8	-.4	OKLA.Okla. City	74	-10	.1	-.4
Mobile	82	-1	2.1	+.3	Shreveport	79	0	6.2	+2.2	Tulsa	74	-9	.6	0
Montgomery	81	-2	.7	-.3	MAINE.Caribou	63	-2	1.2	+.3	OREG.Astoria	64	+2	T	-.3
ALASKA.Anchorage	55	-2	1.8	+1.3	Portland	71	+2	1.2	+.6	Burns	75	+3	T	0
Barrow	---	---	---	---	MD.Baltimore	76	0	2.2	+1.0	Medford	76	+4	T	0
Fairbanks	---	---	---	---	MASS.Boston	75	0	T	-.8	Pendleton	82	+8	T	0
Juneau	57	+1	3.2	+2.1	Nantucket	69	---	.3	---	Portland	74	+6	0	-.1
Nome	49	-1	.1	-.8	MICH.Alpena	63	-4	T	-.7	Salem	71	+4	0	-.1
ARIZ.Flagstaff	66	+1	1.0	+.3	Detroit	69	-6	0	-.6	PA.Allentown	72	-2	2.5	+1.4
Phoenix	91	+2	.5	+.3	Flint	65	-5	T	-.8	Erie	64	+7	T	-.7
Tucson	83	-2	1.1	+.4	Grand Rapids	66	-6	.1	-.5	Harrisburg	74	-2	3.0	+2.2
Winslow	80	0	.6	+.3	Houghton Lake	62	-5	.1	-.5	Philadelphia	76	+1	.8	-.2
Yuma	93	0	.1	0	Lansing	64	-8	.1	-.6	Pittsburgh	68	-4	.3	-.5
ARK.Fort Smith	75	-9	5.2	+4.6	Marquette	63	-5	T	-.7	Scranton	68	+4	2.5	+1.6
Little Rock	77	-5	7.5	+6.9	Muskegon	64	-8	T	-.6	R.I.Providence	75	+2	.4	-.4
CALIF.Bakersfield	90	+6	0	0	S.Ste.Marie	60	-6	.2	-.4	S.C.Charleston	80	0	1.1	-.6
Eureka	56	-1	T	0	MINN.Duluth	61	-6	T	-.9	Columbia	81	-1	.6	-.8
Fresno	84	+4	T	0	Internat'l Falls	66	0	T	-.8	Greenville	77	-3	1.1	-.1
Los Angeles	83	+9	0	0	Minneapolis	65	-8	0	-.7	S.DAK.Aberdeen	68	-6	0	-.5
Red Bluff	83	0	0	0	Rochester	63	-10	0	-.8	Huron	70	-5	0	-.5
San Diego	78	+6	0	0	St. Cloud	63	-9	0	-.9	Rapid City	73	-1	0	-.4
San Francisco	65	+2	T	0	MISS.Jackson	80	-2	1.6	+.7	Sioux Falls	67	-7	0	-.8
Stockton	82	+5	0	0	Meridian	80	-2	.4	-.6	TENN.Chattanooga	79	-2	1.1	+.1
COLO.Denver	71	-3	0	-.3	MO.Columbia	72	-7	.3	-.5	Knoxville	77	-1	1.5	+.5
Grand Junction	81	+3	T	-.2	Kansas City	74	-8	1.0	+.3	Memphis	79	-3	4.4	+3.7
Pueblo	71	-6	T	-.5	St. Louis	74	-5	T	-.4	Nashville	79	-1	2.5	+1.7
CONN.Bridgeport	74	-1	.2	-.8	Springfield	73	-6	2.3	+1.7	TEX.Abilene	74	-10	.3	-.1
Hartford	74	+1	1.0	+.1	MONT.Billings	81	+6	.1	-.1	Amarillo	70	-10	1.1	+.6
D.C.Washington	77	-1	2.8	+1.7	Glasgow	81	+10	0	-.3	Austin	76	-9	5.2	+4.7
FLA.Apalachicola	81	-1	.8	-.9	Great Falls	82	+12	.1	-.2	Beaumont	76	-7	9.1	+7.9
Ft. Myers	81	-2	1.3	-.4	Havre	83	+13	T	-.3	Brownsville	82	-3	1.8	+1.2
Jacksonville	81	-2	2.0	+.4	Helena	73	+4	.1	-.1	Corpus Christi	80	-5	7.9	+7.2
Key West	83	-1	.4	-.5	Kalispell	75	+9	.4	+.1	Dallas	78	-8	.2	-.2
Lakeland	81	-1	2.2	+.6	Miles City	83	+8	0	-.3	Del Rio	77	-10	.9	-.6
Miami	81	-1	1.9	+.4	Missoula	75	+8	.3	+.1	El Paso	74	-8	.1	-.2
Orlando	83	0	.7	-1.0	NEBR.Grand Island	72	-6	.2	-.4	Fort Worth	77	-10	.7	+.3
Tallahassee	80	-1	4.2	+2.6	Lincoln	71	-9	.5	-.2	Galveston	80	-4	2.4	+1.4
Tampa	81	-1	2.1	+.2	Norfolk	70	-7	.1	-.5	Houston	78	-5	4.6	+3.6
GA.Atlanta	78	-1	.8	-.1	North Platte	68	-9	T	-.5	Lubbock	72	-8	.1	-.3
Augusta	79	-2	1.8	+.8	Omaha	69	-7	.1	-.9	Midland	79	-4	.2	-.1
Macon	83	+1	2.1	+1.1	Valentine	72	-3	0	-.6	San Angelo	72	-14	1.4	+1.1
Savannah	81	-1	.9	-.5	NEV.Ely	70	+2	.2	+.1	San Antonio	77	-8	5.4	+4.9
HAWAII.Hilo	76	0	.5	-2.1	Las Vegas	93	+9	.4	+.3	Victoria	79	-5	3.1	+2.3
Honolulu	79	0	T	-.1	Reno	75	+8	T	0	Waco	76	-10	1.3	+.9
Kahului	---	---	---	---	Winnemucca	79	+9	.1	+.1	Wichita Falls	78	-9	1.1	+.7
Lihue	73	-6	.4	-.1	N.H.Concord	69	-1	.5	-.2	UTAH.Blanding	72	0	.1	-.2
IDAHO.Boise	87	+12	T	0	N.J.Atlantic City	72	-4	3.6	+1.4	Salt Lake City	80	+3	.7	+.5
Lewiston	84	+10	T	-.1	Trenton	75	-1	1.0	0	VT.Burlington	69	0	.7	-.1
Pocatello	76	+3	.1	0	N.MEX.Albuquerque	72	-6	.1	-.2	VA.Lynchburg	73	-3	.9	-.1
ILL.Cairo	75	-6	1.7	+1.0	Roswell	74	-4	.8	+.4	Norfolk	75	-3	T	-1.4
Chicago	69	-7	.2	-.5	N.Y.Albany	68	-4	1.5	+.8	Richmond	76	-2	1.3	-.1
Moline	70	-5	.1	-.7	Binghamton	64	-4	.2	-.6	Roanoke	74	-2	2.1	+.9
Peoria	71	-5	.1	-.6	Buffalo	68	-2	.1	-.6	WASH.Colville	76	+7	0	-.2
Rockford	68	-7	.3	-.6	New York	76	-2	.3	-.9	Omak	80	+9	0	-.1
Springfield	71	-6	.1	-.5	Rochester	69	-2	T	-.6	Quillayute	61	0	.4	0
IND.Evansville	75	-4	.8	+.1	Syracuse	69	-3	1.1	+.4	Seattle-Tacoma	70	+5	0	-.2
Fort Wayne	68	-6	0	-.7	N.C.Asheville	74	-1	1.1	+.2	Spokane	79	+9	T	-.1
Indianapolis	71	-4	.1	-.6	Charlotte	77	-3	1.0	0	Walla Walla	84	+8	.1	+.1
South Bend	65	-9	.1	-.7	Greensboro	75	-2	.5	-.7	Yakima	77	+6	0	-.1
IOWA.Burlington	70	-6	.8	0	Hatteras	77	-1	1.1	-.5	W.VA.Beckley	69	-2	1.1	+.2
Des Moines	70	-6	1.1	+.4	Raleigh	76	-2	1.3	0	Charleston	79	-6	.9	-.2
Dubuque	66	-7	.1	-.7	Wilmington	79	-1	.1	-1.5	Huntington	71	-4	.6	-.3
Sioux City	70	-8	T	-.6	N.DAK.Bismarck	70	-2	0	-.4	Parkersburg	71	-5	3.2	+2.3
KANS.Concordia	71	-10	.2	-.6	Fargo	66	-6	0	-.6	WIS.Green Bay	63	-8	T	-.6
Dodge City	72	-10	.8	+.3	Williston	75	+4	0	-.4	La Crosse	64	-10	0	-.8
Goodland	70	-8	T	-.6	OHIO.Akron-Canton	67	-6	.1	-.7	Madison	65	-7	0	-.7
Topeka	72	-8	.3	-.6	Cincinnati	71	-6	1.0	+.2	Milwaukee	64	-5	.4	-.3
Wichita	72	-10	.1	-.6	Cleveland	68	-4	---	---	WYO.Casper	71	-2	.1	-.1
KY.Lexington	73	-4	.6	-.2	Columbus	69	-6	.9	+.2	Cheyenne	66	-4	.2	-.2
Louisville	73	-4	1.4	+.7	Dayton	70	-5	1.6	+.9	Lander	74	+3	T	-.1
LA.Baton Rouge	81	-2	1.2	+.1	Toledo	66	-7	.4	-.3	Sheridan	76	+4	T	-.2
Lake Charles	79	-4	4.0	+3.8	Youngstown	67	-4	.1	-.8	P.R. San Juan	84	+3	1.1	-.3

\* Departures are from 30-year means (1931-60). Based on preliminary reports

## CONDENSED STATE SUMMARIES

These summaries provide brief descriptions of condition and activities important on a national scale. Detailed reports of crop and weather conditions during the growing season are contained in State issues of Weekly Weather and Crop Bulletins published by field offices of the Statistical Reporting Service, U.S.D.A. in cooperation with NOAA Climatologists

**ALABAMA:** Mostly sunny days and fair nights with only widely scattered thundershowers throughout week. Temperatures for week averaged near normal. Rainfall light to moderate except for a few locally heavy rains. A few showers each day. Corn prospects remain favorable. DEW Line reports increased blight with the disease showing up on plants, apparently from N-Cytoplasm seed. Cotton development good with 94% setting bolls. Small amount being harvested in southern counties. Soybean development satisfactory with 54% blooming and 19% setting pods, somewhat behind last year. Weeds a problem on late fields. Peanuts being weeded and fungicides applied. White mold showing up and leaf spot continues a problem. Mature vegetables hurt by rain, especially tomatoes. Melon harvest underway, quality good. Irish potato harvest near completion. Sweetpotatoes in excellent condition. Pecans fair. Pastures adequate and livestock mostly in good condition.

**ALASKA:** Heavy rains occurred in all agricultural areas except Upper Tanana Valley. Cumulative amounts are now near or above normal all areas except all of Tanana Valley. Cloudiness kept maximum temperatures below normal everywhere with minimums near or above normal. Cumulative growing degree days above average, cumulative precipitation below average Tanana Valley. Warm sunny weather needed to insure crop maturity. Topsoil moisture adequate throughout Railbelt. Potatoes 90% in bloom with hilling mostly complete. Second crop brome about 12 inches in height. Lettuce harvest began. Crop prospects on Kenai Peninsula continue poor, due to late season and adverse weather conditions.

**ARIZONA:** Temperatures were near normal over State and humidity was above normal. Showers were widespread over State with heaviest rainfall in mountains in central, eastern, and southeastern sections. Strong winds accompanied thunderstorms in most areas. Cotton making satisfactory development. Flowering rates slowed central, southeast areas. Some bolls beginning to open. Controls for pink bollworms, cotton bollworms, lygus bugs being applied. Early sorghum Yuma area nearing maturity. Plantings making satisfactory progress throughout State. Safflower harvest continues, but nearing completion. Spring-planted sugar beets making good progress. Land preparations active central, south. Lettuce planting active Cochise County. New crop citrus fruit making good growth. Insect controls being applied as needed. Higher elevation ranges show improvement due to recent summer showers. Desert, lower elevation ranges continue poor. Supplemental feeding, water hauling continue.

**ARKANSAS:** Weekly mean temperatures averaged 6° to 10° below seasonal normals, ranging from low to upper 70's over State, except Eudora where 80° was average. Daily extremes ranged from 95° Judsonia on 8th to 59° Greers Ferry and Terry Lock and Dam on 3d. Showers throughout most of week brought precipitation to entire State. 1.00 to 3.00 inches common and up to 5.00 or more inches reported several sections. Heaviest at Little Rock with weekly total of 7.29 inches. Frequent rains with some local flooding and drowning out of crops in low spots

in fields. A few northwestern and north-central counties need additional rain, but soil moisture adequate to excessive all other areas. Cotton urgently needs open weather for setting bolls. Application of insecticides delayed by rapid buildup of weevils and worms. Rice generally good and earliest fields fully headed. Soybeans good to excellent on well drained soils. Some yellowing and limited losses of acreage in low lying fields. Blooming and pod set general on earliest acreage. Late beans growing well but urgently need cultivation to control weeds and grass. Much corn and sorghum near maturity. Economic loss from Southern corn leaf blight expected to be small. Haying delayed but rains greatly improved prospects for later cuttings. Fruit and vegetable harvest remains active, but peach harvest nearly over in south. Pastures improved all areas. Good to excellent grazing over most of State.

**CALIFORNIA:** Temperatures 3° to 6° above normal most areas, with 10° above in Los Angeles Basin. Near normal north and central coast, parts of Sacramento Valley and southeastern Desert. Isolated thundershowers southern mountains and desert. Small grain harvest active north and coast. Cotton growth good. Insects increasing. Safflower harvest active San Joaquin; increasing Sacramento. Alfalfa cutting active. Dry bean progress good; cutting Sacramento Valley. Sugar beets declining desert; active San Joaquin, starting Sacramento Valley. Corn progress good. Milo harvest continues desert; start in three weeks San Joaquin. Rice heading Sacramento Valley. Rail movement of fruit up sharply. Export shipments continue, hindered by dock strike. Temperatures continued warm, enhancing development. Grapes making good growth. Harvest clingstone peaches full swing. Harvest freestone peaches, plums, nectaines seasonal peaks. Quality sizes good. Pear harvest accelerating. Picking apples gaining momentum. Almond growers preparing harvest. Walnuts progressing well. Valencia orange harvest continues, high percentage of fruit products. Lemon, grapefruit, and avocado harvests continue. Hot weather dries range. Livestock condition good. Feed supplies adequate. Milk, egg production down. Broccoli, cauliflower, light but normal Santa Maria-Salinas. Westside cantaloupe very active last week, expect lighter this week. Salinas carrots near normal. Celery, Salinas and Santa Maria supplies increased last week, continue same level this week. Southern California sweet corn active. Honeydews Central Valley active, Sacramento Valley increasing. Central Coast lettuce shipments normal. Potatoes slow all areas. Coastal strawberry harvesting continues, most supplies going to processors. Tomatoes practically complete Merced; increasing Stockton area; underway King City area. Watermelon, Modesto active; Stockton area underway.

**COLORADO:** Temperatures below normal except near normal extreme west. Day temperatures near seasonal, nights cool. Light to moderate precipitation central mountains and south, light or none other areas. Few locally heavy rains, some with hail. Scattered showers southern part of State. Hail damage to crops San Luis Valley and Arkansas Valley. Winter wheat harvest eastern slopes

nearly complete, 95% statewide. Winter barley 97% harvested. Combining of spring barley 75% complete, oats 63%. Good crop growth and development. Sorghum 23% headed. Corn 78% tasseled. Topsoil and subsoil moisture short most areas. Late summer potato harvest 10% complete. Fall potatoes hard-hit by hail San Luis Valley area. Second cutting alfalfa 77% complete, 3d cutting underway southeast. Rain slightly improved pasture conditions most areas. Livestock condition good.

**FLORIDA:** Temperatures averaged 1° to 3° below normal as afternoon high temperatures depressed by cloudiness associated with afternoon showers and thunderstorms. Rainfall amounts averaged 1.50 to 2.50 inches over most of State with many stations reporting over 3.00 inches for the week. Local severe thunderstorms, occasionally accompanied by hail and gusty winds, occurred at various places throughout State. Jacksonville International Airport reported 1.90 inches of rain in 1 hour, while Brooksville and Tallahassee reported 4.80 and 4.21 inches, respectively, for the week. Moisture adequate for field crops. Rains delaying haying. Harvest and sales of flue-cured tobacco continue. Crops making good progress. Most corn past dangerous stage from blight. Pasture and livestock good to excellent. Weaning and marketing calves active. Citrus tree condition excellent. Heavy flushes of new growth fruit, sizing well, moisture excellent. Land preparation for fall crops very active throughout vegetable growing areas. Soil moisture and weather conditions excellent for good germination and growth in most areas, but the water table in some south Florida areas still below normal levels. Seeding of tomatoes, pepper, eggplant, and cucumbers increasing in south and west-central areas. Transplanting of celery started in Everglades. Some eggplant being set.

**GEORGIA:** Frequent and sometimes heavy showers continued over Georgia. Amounts ranged from less than 0.50 inch along the lower coast and in a few other scattered areas to over 4.00 inches in much of the northeast and north-central. Jasper had 8.05 inches for week and 4.90 inches on 1 day. Showers decreased slightly during the weekend but a few heavier amounts fell Sunday. Georgia Experiment Station near Griffin had 2.83 inches within a short period Sunday evening. Maximum temperatures were in the 80's and low 90's which is slightly below normal for early August. Minimums were more seasonal in the 60's and low 70's. Averages ranged from slightly below normal most areas to slightly above at few places. Soil moisture throughout State adequate to mostly surplus. Major activity marketing tobacco. Tobacco harvest 76% complete. Peach harvest 94% complete. Light digging of peanuts underway. Mold and leaf spot widespread in peanuts. Pesticide application difficult for all crops due to weather condition. Crops, pastures, and cattle conditions good. Light volume of truck crop movement. Quality affected by excessive moisture.

**HAWAII:** Scattered light showers all areas. Growing condition generally favorable where water available. Insect and disease damage increasing. Intensive spray programs in progress. Sugarcane harvesting on schedule. Problem on storage becoming imminent with west coast shipping strike. Pineapple harvesting active. Shipments of processed fruit at a standstill. Fruits and vegetables adequate supply. Many lowland pastures showing effects of the dry weather. More

rain needed to prevent range grasses from drying. Cattle in fair to good condition.

**IDAHO:** Continued hot and dry. Temperatures for week averaged 5° to 10° above normal except in east. Temperatures reaching 100° were general north and southwest. Precipitation was again spotty and limited to thundershower activity. Isolated showers left slightly above normal precipitation except at Coeur d'Alene where 0.54 inch was recorded to exceed considerably the 0.12 inch weekly normal. Hot weather accelerated irrigation all crops. Some spring grains suffer. Winter wheat harvest well underway. Corn responding well to heat and irrigation. Near 10% winter wheat, 25% winter barley, and 10% peas harvested in north. About 50% wheat combined in south. In east near 10% winter wheat harvested. Several range fires occurred due to lightning storms.

**ILLINOIS:** Cool, dry week except south. Precipitation ranged from none most locations at the west southwest to almost 4.00 inches at Carbondale in the southwest. Temperatures were moderate, 3° to 7° below normal and ranged from a low of 45° at McLeansboro to a high of 87° at two southern stations. Corn 51% excellent, 43% good, 6% fair. About 70% dough stage, over 15% dented, both ahead of last year. Potential for blight damage remains high some areas. Some T-Cytoplasm corn heavily infected--especially southeast and south-central counties. Spraying helpful to infected corn. Blight lesions increasing. Soybeans 55% excellent, 39% good, 6% fair. About 85% setting pods, 55% a year ago. Alfalfa hay condition, excellent 24%, good 44%, fair 26%, poor 6%. Virtually all second crop harvested. Third crop harvest slow. Pastures excellent 23%, good 38%, fair 27%, poor 12%. About 30% land intended for winter wheat plowed. Six days favorable fieldwork. Soil moisture 33% short, 65% adequate, 2% surplus.

**INDIANA:** Fourth consecutive cool week. Temperatures averaged 5° below normal and ranged from 47° to 89°. Precipitation scattered north and central but up to 3.00 inches near Ohio River. Relative humidity low in north, high in south. Evaporation losses near normal. Two days cloudy in north, more in south. Five days suitable. Topsoil and subsoil moisture adequate. Corn 90% silked, and 10% dented, same as last year. Blight still moderate to mild. Blight became serious this time last year. Soybeans 65% podded, 50% last year. Some fields turning yellow. Wheat land 35% plowed, 15% average. Apples 10% picked. Peaches 35% harvested. Pastures declined, but still fair to good.

**IOWA:** Cool dry week with temperatures averaging 6° to 8° subnormal. Northern districts were without precipitation. Amounts elsewhere were light to locally moderate. Generally corn and soybeans making good to excellent progress. Over 6 days suitable for fieldwork. Corn condition 42% excellent, 55% good, 2% fair, and 1% poor. Nearly 50% of corn in or past dough stage, with 10% in or past dent stage. About the same as last year. Southern corn leaf blight more severe in local areas than last year. It is more severe in eastern Iowa, but intensity increasing in west and north. Soybean condition 37% excellent, 57% good, 5% fair, and 1% poor. Over 75% of soybeans setting pods. Soybeans further advanced than last year and five year average. Alfalfa hay 3d cutting 20% complete, 2d cutting clover hay nearly

60% completed. Condition of hay crop mostly good. Amount of feed supplied by pastures: 19% below average, 70% average, 11% above average. Pasture condition mostly good to fair. Topsoil moisture 41% short, 57% adequate, and 1% surplus.

**KANSAS:** Unseasonably cool for 3d consecutive week, means averaged 7° to 10° below normal; precipitation spotty and variable. Portions extreme north-central and extreme east-central received over 2.00 inches but most of State had under 0.50 inch. Few localities west received over 1.00 inch. Locally damaging hail western Kansas 4th and 5th. Stones up to 2 1/2 inches diameter near Scott City on 5th. Row crops made satisfactory growth, but cool temperatures slowed maturity. Some western and northeastern areas need rain. Corn 62% dough stage, average 52%, and 16% dented, average 21%, with only 3% corn fully matured. Southern corn leaf blight in 38 counties, moderate damage in some fields. About 10 counties spraying. Sorghums 41% headed, average 37%. Sorghum grain 4% colored, 9% last year. Greenbugs and corn leaf aphids caused some damage. Soybeans growing well with 61% setting pods, average 51%. Pasture feed good most areas. Cattle marketings light, some pinkeye and mosquitoes. Third cutting alfalfa 47% harvested, same as average. Grasshopper infestation increased. Prairie hay harvest full swing.

**KENTUCKY:** Showery and cool first 5 days. Weekend sunny. Afternoon temperatures climbing to within several degrees of seasonable. Temperatures for week averaged 3° to 6° below normal. Rainfall moderate to heavy, and heaviest in south. Extremes from about 0.50 inch at several locations to 5.45 inches at Mayfield. Flash flooding at Salyersville in eastern Kentucky on the night of 4th and in southeastern Kentucky in portions of Owsley and Harland Counties on the 5th. Soil moisture 78% surplus, 20% adequate. Excessive moisture limited fieldwork. Tobacco fair condition, over 1/3 burley blooming with 11% topped, compared to 53% blooming and 21% topped last year. Corn good to excellent condition. Almost 60% dough stage or beyond. Leaf blight serious in most fields planted with T-Cytoplasm and susceptible portions of Blends. Soybeans looking good, 30% podding. Pastures continue in excellent condition.

**LOUISIANA:** Rainy spell continued into 3d week with daily showers and thundershowers statewide through Thursday and again Sunday. Very weak tropical depression moved into southeast late Sunday. Temperatures moderate for August due to clouds and showers. Weekly departures 2° to 6° below normal. Largest departures north and central areas of south. Extremes: 93° Lake Charles and Shreveport and 66° Curtis, Homer and Clinton. Weekly rain totals mostly moderate to heavy. Amounts ranged from less than 1.00 inch to more than 4.00 inches. Greatest 1-day total, 3.10 inches at Minden measured Tuesday morning. Showers almost daily continued and little or no fieldwork possible for 2d consecutive week. Soil moisture generally excessive and dry weather needed to prevent crop deterioration. All cotton fruiting, insect control very difficult. Growth rank many areas. About 1/2 of rice crop ready for harvest, lodging heavy. Sugarcane growth excellent, borers more active. Early soybeans fruiting, some down. Late planting growing rapidly, some fields weedy. Early corn and sorghum grain maturing. Yield prospects fair to good. Sweetpotatoes look good, excessive mois-

ture lowering yield prospects some areas. Considerable hay ready to cut, but too wet. Pasture feed above average. Livestock good.

**MARYLAND AND DELAWARE:** Heavy rainfall over 2-State area. Totals very heavy in north-central Maryland on 1st and 2d. 6.00 to 12.50 inches fell in east and northeast Baltimore metropolitan area causing 16 deaths and property damages in the millions. Weekly rainfall elsewhere mostly 1.00 to 6.00 inches, least in south. Temperatures averaged slightly below normal. Extremes mostly 80's, 50's. Soil moisture adequate. Corn and soybean prospects improved. Cantaloupe, watermelons, and tomato harvest underway. Peach harvest full swing. Recent rains improved pastures and prospects for late cuttings of hay.

**MICHIGAN:** Unseasonably cold early, pockets light frost north, slow warming through weekend. Isolated light showers early in period. Temperatures averages 5° to 8° below normal Upper Peninsula, 3° to 9° below normal Lower Peninsula. Precipitation limited to none or a trace most areas; exception 0.10 to 0.25 inch along narrow band from Benton Harbor to central Thumb area. Only a few light and scattered showers were received in Michigan. Soil moisture critically short in most central and southern areas. State averaged 5 to 6 days suitable for fieldwork. Corn development fair to good in south-central and southwestern areas, and fair to poor in the remainder of the State. Corn is about 70% silked, wheat harvest over 90% completed, oats 60% harvested with lower yields reported. Dry bean development fair to good with earlier plantings starting to turn color. Soybean development fair in central and south-central, poor in other areas. Dry weather slowing setting of pods. Potato digging underway with about 10% harvested. Second cutting hay poor due to drought, over 50% completed. Pasture and feed supply considerably below average. Tomato and carrot harvest has begun, pickle harvest about 40% complete. Summer apple harvest in full swing with about 19% of early varieties harvested. Peach harvest just starting with sizes ranging from fair to good.

**MINNESOTA:** Dry week, very cold first part of period but warm to hot over weekend. Mean temperatures varied from 10° below normal in southeast to normal across the northern border. Extremes: 93°, 33°. There has been no precipitation across State for the past 12 days or since July 29. There has been no significant precipitation since the 2d week of July except north and scattered areas in east and southeast. Moisture short southern 2/3 of State, adequate northern 1/3. Corn 30% milk stage, normal 17%. Soybeans 70% setting pods, normal 56%. Flax 46% turning ripe, normal. Flax 8% cut, normal 7%. Southern corn leaf blight remains at trace levels. Small grain harvest nearly complete in south and well along in northwest. Small grains combined: Spring wheat 21%, normal 11%; oats 50%, normal 37%; barley 42%, normal 35%; rye 73%, normal 71%; winter wheat 67%, normal 45%.

**MISSISSIPPI:** Weekly average temperatures were below normal for 3d week and most stations were 6° to 8° below normal. Temperatures dropped to 52° at Holly Springs on July 31, and rose to 94° at Merrill on August 5. Generally 2 to 5 days with showers and weekly totals mostly over 1.50 inches. A 1-day amount of 3.75 inches at Merrill was measured morning of July 31. Over the weekend: Stations reported 1 to 3 days with thunder-

showers and temperatures were slightly warmer with 95° at Greenwood on Sunday. Continued wet weather limited fieldwork to an average of less than 2 days last week. Soil moisture adequate in all areas. Insect and weed population building up due to lack of field activity. Hay harvest has slowed to a crawl. Over 1/2 of corn acreage now in dough stage, and 1/4 of soybeans setting pods. Despite excessive rainfall, condition of crops still mostly good. Harvest of watermelons progressing favorably.

**MISSOURI:** Third straight week of below-normal temperatures. Temperatures averaged 5° to 10° below normal this week, and 4° to 8° below normal for the past 3 weeks. Rainfall was light and spotty with most areas receiving less than 0.50 inch, except in the Bootheel where precipitation averaged 1.75 inches. Corn 75% in good condition, 24% fair, with 62% in dough stage, 55% last year. Southern corn leaf blight showing increasing injury most areas of State. Aerial spraying active. Protective fungicides apparently suppressing blight when started early enough. Nearly 50% soybeans setting pods, 35% last year. Cotton 81% setting bolls, ahead of 1970. Grain sorghum heading 75%, 59% year ago. Third cutting of alfalfa 50% complete, 39% last year.

**MONTANA:** Hottest week of summer as temperatures averaged 5° to 13° above normal. Greatest departures from normal occurred in central and north-central divisions. Havre equaled or exceeded 100° on 6 days. Scattered light showers midweek western half of State, no precipitation eastern half. Topsoil moisture continues short. Crop maturity ahead of last year, speeded by lack of precipitation and recent hot weather. Dry weather ideal for grain harvest. Crops harvested: winter wheat 30%, spring wheat 5%, barley 10%, oats 10%. Harvest of spring grains not started in some areas. Range feed supplies northern half and East of the Divide generally short, other areas of State mostly adequate.

**NEBRASKA:** Cool weather continued for 6 consecutive weeks of below-normal temperatures. Dry week in west. Scattered mostly light showers in east, but locally heavy. Crop conditions remain good to excellent. Top soils dry. Most corn has silked and 10% dough stage. Insect populations increasing and a few fields were sprayed. Southern corn leaf blight has been found in 9 additional counties, mostly central. Further spread and development of Southern corn leaf blight on upper leaves in some eastern and south-eastern fields has made spraying necessary. Sorghum development progressed to 75% headed. Green bug population has declined, except in a few areas of the southwest. Soybean development near normal. Good progress made in haying operations. Livestock very good.

**NEVADA:** Another hot week in Nevada. Temperatures at all divisions have reached 6° to 7° above normal. Light to heavy precipitation all divisions from trace at Reno to 1.29 inches at Caliente that caused flooding on the east side. Flooding in Las Vegas on Charleston Boulevard. Second cutting of alfalfa hay progressing favorably all areas of State. Fourth cutting ending and 5th cutting beginning in southern valleys. Harvest of wild hay and clo-tim hay nearing 3/4 complete. Small grain harvest active in western and central areas. Cotton development Pahrump Valley late. Bolls just starting to set. Livestock on ranges remain in good condition.

**NEW ENGLAND:** Frequent scattered showers and some thunderstorms much of week but weekend sunny and dry in most areas. Temperature near seasonal levels with no unusual extremes except maxima on Wednesday only in 60's and 70's. Rainfall totals extremely variable from near nothing to about 3.00 inches, but mostly 0.50 inch to 1.50 inches. Some local washing and flooding rains on August 3 and 4. Corn for silage making good growth, ear development favorable. Pastures showing green again. Some farmers making unexpected 2d and 3d cuttings of hay. Harvest of blueberries for canning in Maine progressing normally. Potatoes in Aroostook County, Maine making good growth. Early varieties of apples, peaches, pears and plums at local markets. Harvest of shade and stalk cut tobacco active in Connecticut Valley. Cranberries sizing. Water supply still short.

**NEW JERSEY:** Temperatures averaged very near normal over most of State. Rainfall early in week averaged 0.90 inch over the northern 1/3 of State and 1.5° elsewhere. Soil moisture remains extremely varied among areas. Processing tomato harvest moving into full swing. White potato harvest increasing. Corn, tomatoes, cabbage, peppers, onions, squash, eggplant, and beans in moderate supply. Melon harvest increasing. Blueberry harvest declining rapidly. Peach picking increasing. Summer variety apples available. Later varieties sizing in response to rain. Grain combining complete in some areas. Second and 3d cutting of hay being made. Field corn, soybeans, and pasture benefited from rain.

**NEW MEXICO:** Mostly light scattered showers throughout week becoming more general and heavier on weekend. Some 1.00 inch showers in eastern plains and west-central portion of State. Cooling in midweek. Below-average temperatures with 5° to 9° below normal in eastern half of State. Moisture conditions throughout State very short to adequate. Rains have been widely scattered throughout State. Sorghum grains in good conditions. Cotton doing well with infestation of boll worms, and beet army worms. Harvesting of alfalfa continues active throughout State. Range condition poor to good. Livestock responding to ranges which received moisture, with supplemental feeding continuing in dry areas.

**NEW YORK:** Cool midweek but warming trend underway on weekend. Maximum mid-60's to low 70's interior on 4th increasing to mid-80's by 8th. Minimums in 40's widespread Upstate on 5th and 6th. Precipitation early week totaled 1.0 to 2.0 inches east-central and southeast, decreasing to 0.30 inch or less western half. Sunny and dry mid-and late week. Wet weather slowed field activity during the week. Corn continues to develop rapidly, mostly in excellent condition. Wheat harvest 35% complete. Some fields sprouting. Few fields of oats harvested as early crop is reaching maturity, some lodging. Dry beans in good to excellent condition. Wet weather and poor drying condition hampered cutting of hay. Second cutting of alfalfa 65% complete. Rains promoting regrowth of hay and pastures. Long Island potato harvest starting. Light digging of early varieties for fresh market active in few Upstate areas. In Orange County harvest of early onions underway and cutting of celery continues at volume. Celery harvest active in Wayne County. Iceberg lettuce volume declining in Orange County, but heavy in Oswego County. All areas reaching peak volume in sweet corn harvest. Supplies of fresh market snap beans,

cabbage, cucumbers, and tomatoes increasing, good quality. Pepper harvest just beginning. Fruit crops making normal progress in both Hudson Valley and western New York. Tart cherry harvest continues, but peaked. Picking of early summer variety apples in all areas continues. Grape development good.

**NORTH CAROLINA:** Frequent showers during work week, diminishing over weekend. Total amounts 0.25 inch to 5.00 inches mostly 1.00 to 2.00 inches. Heaviest amounts southern mountains and lightest coastal plains. Temperatures averaging slightly below normal. Soil moisture adequate to surplus. Mountains surplus. Flue-cured tobacco good and improving. Harvest of types 11, 12, and 13 continues active. Corn good with little change. Southern corn leaf blight probably present all counties in susceptible types. Cotton, peanuts, soybeans, hay, sweet potatoes and other crops generally good. Apple and peach harvest continues. Peaches passed peak. Labor supply generally adequate, short some areas.

**NORTH DAKOTA:** Temperatures ranged from 0° to 4° above normal in west and 1° to 5° below normal elsewhere with southeast section being coldest. No precipitation. Hot dry last few days accelerated swathing, combining. Harvesting small grains in full swing most of State as harvest crews can put in long hours. Row crops need moisture and continued warm weather to mature. Pastures deteriorating quite fast. Many areas where lack of moisture becoming critical.

**OHIO:** Cloudy and cool through 5th. Fair and cool remainder of week. Daily mean temperatures averaged 4° to 6° below normal. Rainfall was widespread on 3d and 4th. The 2-day totals ranged from none at Cleveland to 2.98 inches at Marietta. Unofficial reports of 4.00 inches were received from 2 south-central locations. Five days favorable for fieldwork. Soil moisture 20% short, 70% adequate, 10% surplus. Corn virtually all silked, and 40% in dough stage. Last year 95% silked, and 40% in dough stage. Average 80% silked, and 15% in dough stage. Soybeans, 85% setting pods, 30% pods set, last year same, normal 20% pods set. Oat 95% harvested, above 90% last year, and 85% usual. Potatoes 15% harvested, last year and normal 10% harvested. Second cutting alfalfa 85%, clover-timothy 60% harvested. Land 25% plowed for winter wheat planting. Tobacco 20% topped, last year 25%, normal 20% topped. Southern corn leaf blight confirmed in 74 of Ohio's 88 counties with below normal temperatures preventing development of disease.

**OKLAHOMA:** Unseasonably cool temperatures and general showers improved drought conditions. Rainfall ranged from 0.30 inch northeast to 2.40 inches east-central. Southwest rainfall averaged 1.20 inches and west-central 1.50 inches. Temperatures averaged 6° to 11° below normal. Extremes: 98° and 47°. Surface soil moisture declined during week ending Friday now rated 52% short, 48% adequate. General weekend rains will help replenish short supplies. Condition of row crops held steady. Most irrigated acreage good to excellent. Dry-land acreage mostly fair to good, except soybeans good to excellent. Crops southwestern Oklahoma mostly poor to fair. Harvest of corn for silage progressing eastern and south-central Oklahoma. Moderate to heavy insect damage

in some sorghum and cotton fields. About 3/5 corn, 2/5 sorghum crop in dough stage. Cotton 1/3 setting bolls, 2/5 peanuts spiking, and 1/4 soybeans setting pods. Pasture condition held steady. Grazing improving eastern 2/3 State, still limited western Oklahoma.

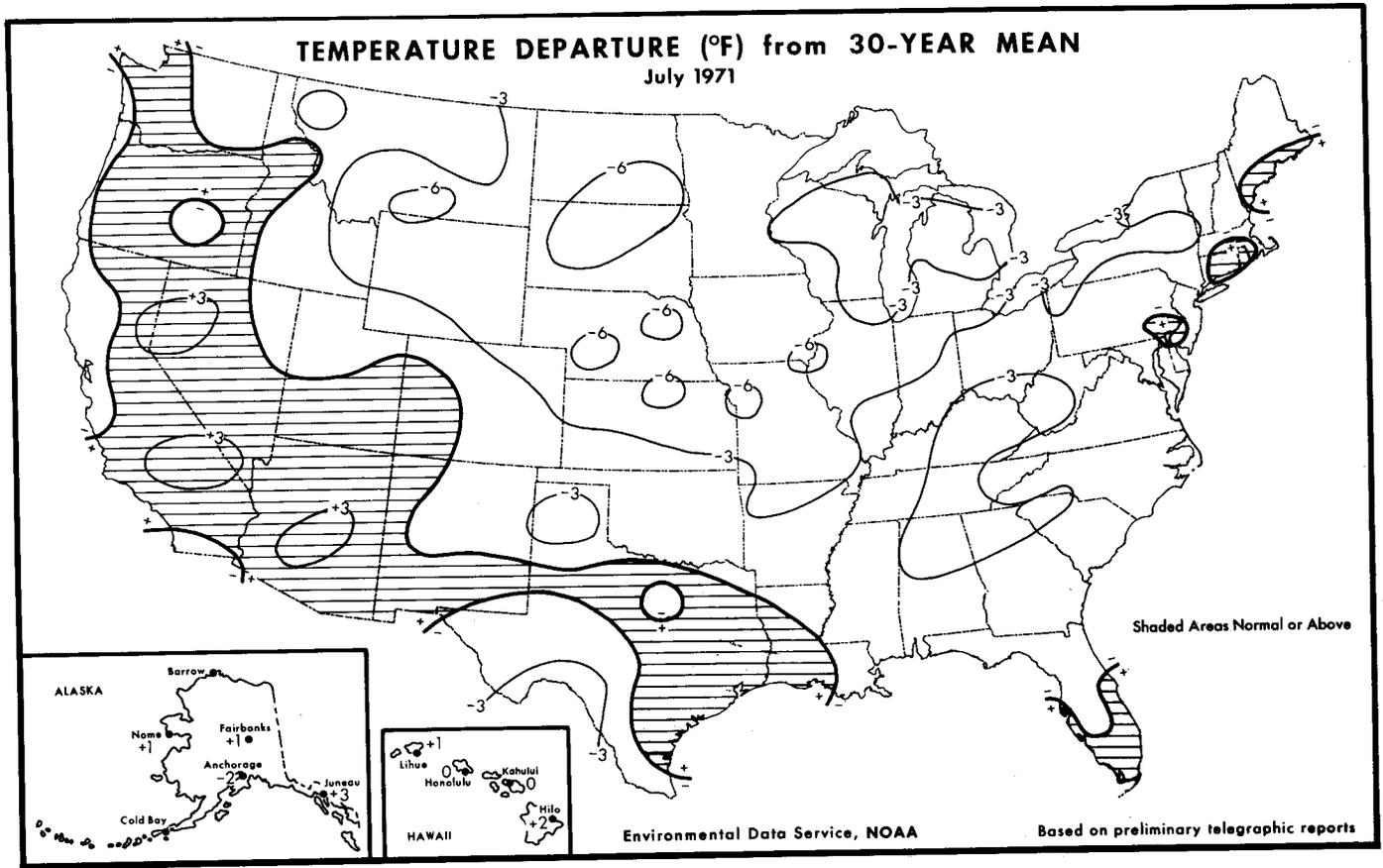
**OREGON:** Hot weather accompanied by lightning and thundershowers over mountains first 2 days of week and daily morning cloudiness west of Cascades. Temperatures averaged 2° to 5° above normal west of Cascades, 6° to 11° above east-side. Minima 45° to 66°. Maxima 70° to 72° along coast, 82° to 108° elsewhere. Light precipitation limited to traces or amounts up to 0.06 inch except locally 0.41 inches central Oregon. First of week, lightning-set fires in mountains numbered 440 but acreage small. Barley and wheat harvest continues. Grass seed harvest past its peak. Peppermint harvest activity increasing. Early peaches being picked. Boysenberry and Marion blackberry harvest continues with a few raspberries yet to be picked. Early prune harvest started at Milton-Freewater. Bush beans maturing all at once, thus making it difficult for processing plants to keep up. Continued hot weather causing blossom drop in pole beans. Potato harvest active at Hermiston and Ontario.

**PENNSYLVANIA:** Wet early in week, clear and dry last 4 days. Heavy showers of 1.00 to over 2.00 inches south and east Monday through Wednesday. No rain in State Thursday through weekend. Weekly totals 1.00 to 3.50 inches southeast, decreasing to less than 0.25 inch northwest. Temperatures 2° to 4° below normal. Maximum 91°, minimum 43°. Fieldwork early part of week at standstill due to rain. Soil moisture reported 2/3 surplus, 1/3 adequate. Corn developing rapidly. Second cutting alfalfa hay continues southern and central areas, 3d cutting underway southeast. Digging of potatoes continues. Harvest of early apples and peaches underway, good supplies for local market. Sweet corn and tomato harvest for fresh market continues.

**PUERTO RICO:** Rainfall islandwide averaged 1.16 inches or 0.39 inch below normal. Rainfall was well distributed as most stations reported shower activity during week. Eastern interior had greatest divisional average, almost 2.00 inches, while northern slopes received lowest, just over 0.50 inch. Crop moisture conditions about normal. Temperatures averaged about 81° coastal and slopes divisions and 75° to 76° interior, with average departure of 0.2° above normal. Extremes: 95° and 56°. Recent rains beneficial to new plantings and ratoons most sugarcane areas. Coffee zones generally had good weather for most field activities. Pastures growing and developing normally islandwide, looking green and abundant. Minor crop farmers reported less field activities due to frequent showers in some areas.

**SOUTH CAROLINA:** Most locations had rain every day. 4.00 inches fell in the mountains, 2.00 to 3.00 inches in upper Piedmont and Ridge area and 1.00 to 1.50 inches elsewhere. Temperatures averaged about 8° below normal. Soil moisture adequate to excessive all areas. Tobacco good to excellent, 71% harvested. Cotton mostly good, 94% squaring, 5% bolls opening. Corn good to excellent, 90% dough stage, 23% mature. Soybeans good to excellent, 48%

(Continued on page 12)



## WEATHER - JULY 1971

**TEMPERATURE:** July was a cool month over most of the Nation. The Far West, particularly the Desert Southwest, eastern Texas, and the southern part of Florida averaged slightly warmer than normal. Monthly mean temperatures were cooler than the 30-year means over the rest of the Country. Most of the northern and central Great Plains averaged 3° to 6° cooler than normal.

The Southwest and Northeast averaged warmer than normal in the first 10 days of July. The Northwest and Southeast averaged cooler than normal during that period. The last 3 weeks were warm in the Far West and cool over the rest of the Nation except for a few days at midmonth when warm weather prevailed over the southern Great Plains.

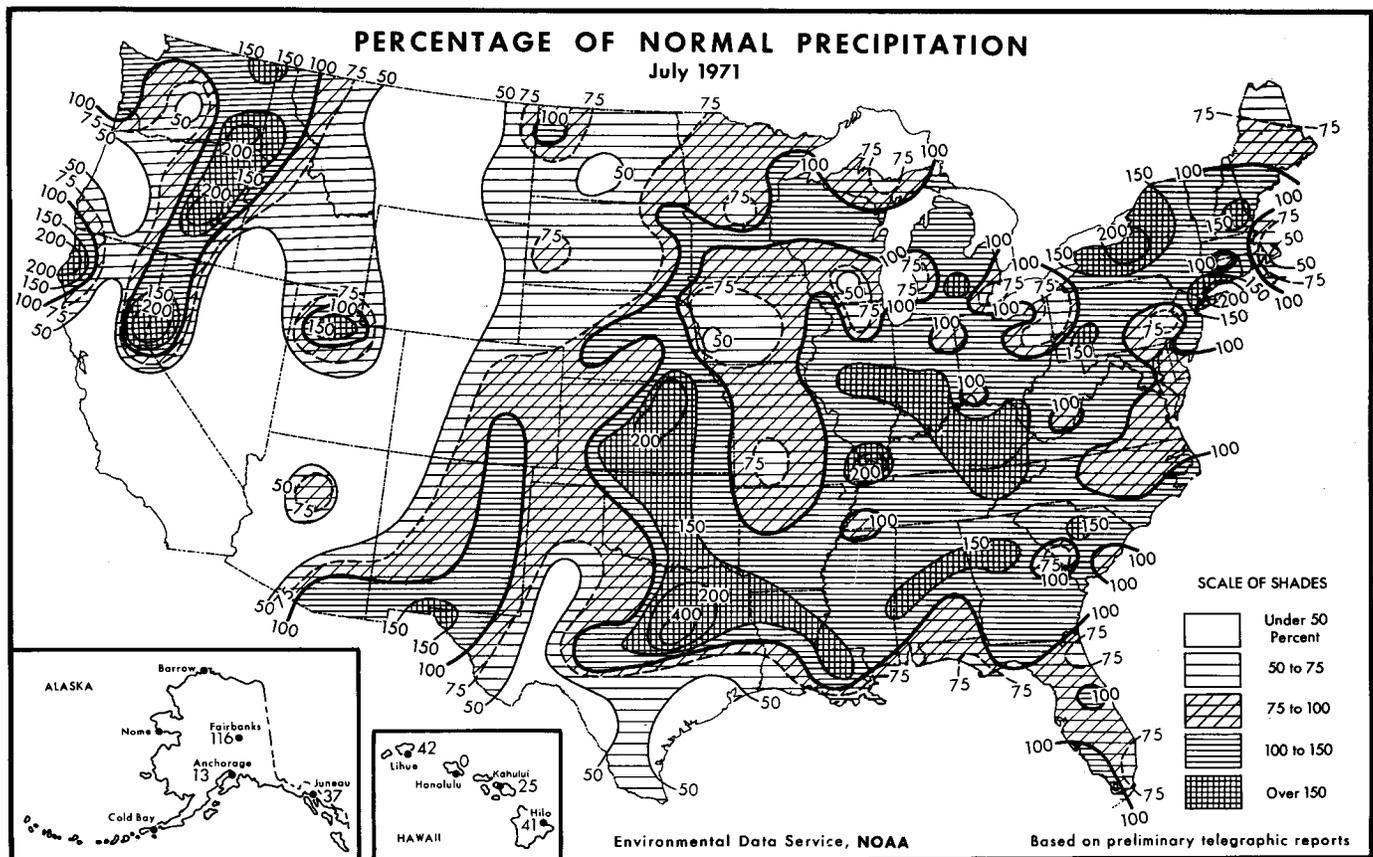
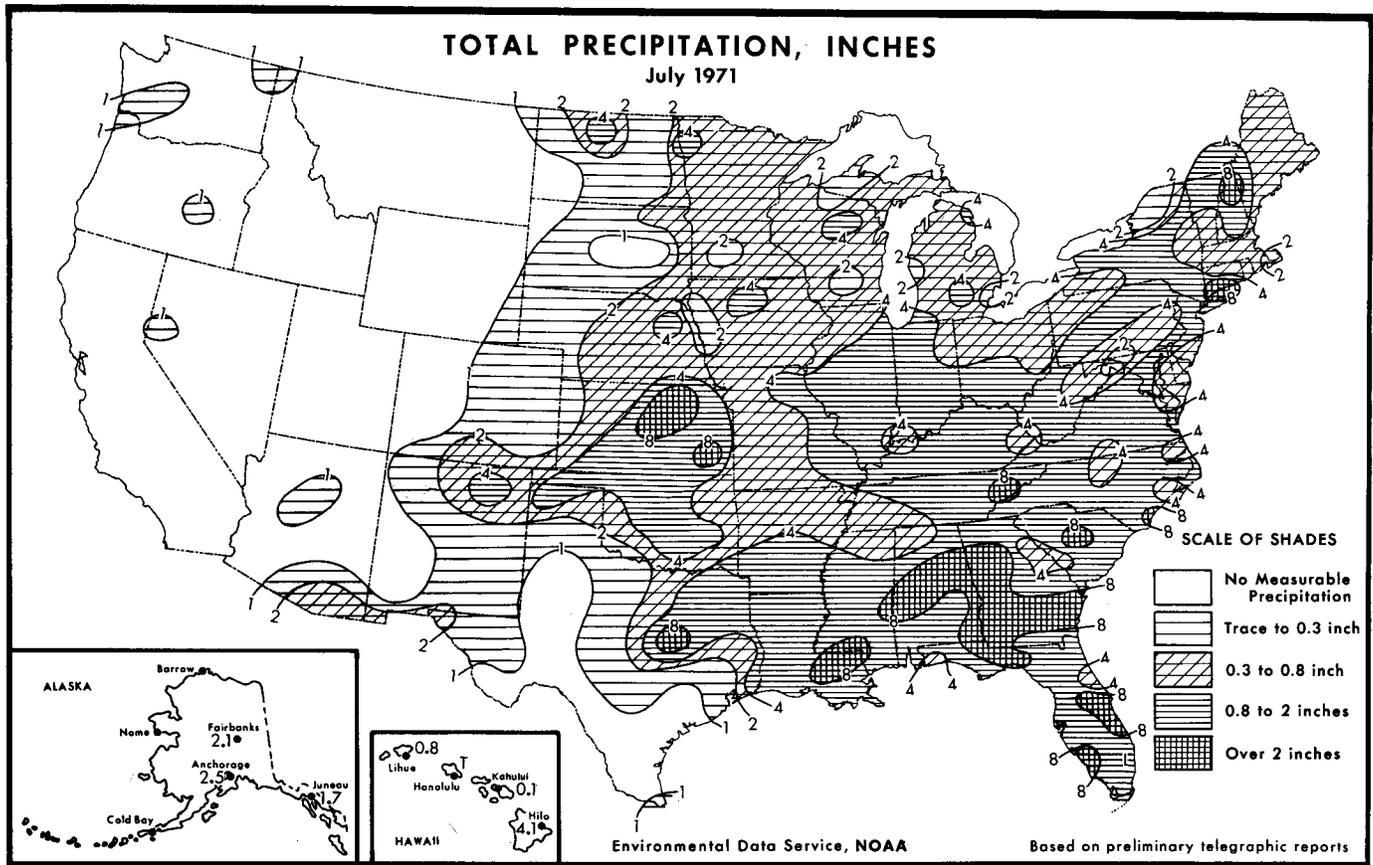
The last few days were especially cool from Montana to New Mexico and eastward to New York and the Carolinas. Some spots in the central Great Plains registered lower temperatures than had previously occurred in the month of July. At some places, the July mean temperatures were the lowest of record.

**PRECIPITATION:** Most of the July rainfall was produced by typical summer thunderstorms. Most of the thunderstorms were not severe but brought rainshowers. A few were accompanied by damaging hail, strong winds, and torrential flood-producing downpours. Spots in the central Great Plains received heavy rains early in July. A station near Harland, Kans., received 6.75 inches of rain on July 3. More afternoon and evening thunder-

storms occurred in parts of the Corn Belt in the 3d week of July. An outbreak of severe thunderstorms occurred in the Upper Mississippi River Valley on July 12. Winds in the Rochester, Minn., vicinity gusted to 87 m.p.h., blew a bus off the road and downed trees and powerlines. Tornadoes occurred at scattered locations in Iowa on that date. Only July 16, light to heavy showers fell over portions of the Missouri and Ohio River Valleys, in the Northeast, and parts of the Southeast. The drought intensified in Texas. Duststorms occurred in some dry areas. Numerous frontal thunderstorms, some accompanied by heavy showers, strong gusty winds, and hail. Thundery weather continued over much of the Southeast in the last week of July. These storms occurred in the warm humid air that covered the area and along the leading edge of an advancing mass of polar air.

July precipitation totals ranged widely. Most of the West received less than 1.00 inches of rain during the entire month. Spots in the Southeast received more than 8.00 inches. More than 8.00 inches fell in northeastern Texas but less than 1.00 inch fell in South Texas and much of the Plains. Precipitation over the Corn Belt ranged from 1.00 inch to more than 5.00 inches or more from 75% to 150% of normal.

L. W. Dye



(SOUTH CAROLINA continued from page 9)  
 blooming, 10% setting pods. Sorghum and peanuts good to excellent. Peaches good, harvest 83% completed compared with 90% last year. Grapes good, apples good to excellent. Hay crops, pastures good to excellent. Watermelons only fair to good, 88% harvested. Preparations underway for planting fall vegetables coastal areas.

**SOUTH DAKOTA:** Weekly temperatures averaged from near normal in west to 8° below normal in portions of east. Extremes ranged from 37° at Brookings on 3d to 99° at Porcupine on 4th and at Philip on 8th. No precipitation over most of State during week although there were a few isolated reports of precipitation. One of the greatest amounts in lower elevations was 0.11 inch at Kennebec on 4th. A local heavy shower of 1.18 inch fell at Buskala Ranch in Blackhills on 4th. Topsoil moisture short throughout the State. Some areas have now been without significant precipitation for several weeks. Row crops, pastures, and some hay fields showing signs of dry conditions. Severity of moisture shortages varies by location from light to damaging. Rain needed throughout the State. Several areas developing subsoil moisture shortages. Harvest of small grains fast coming to a close. Spring wheat over 75% harvested. A few late northern and western areas are generally the only areas where harvest is still underway. Harvesting well ahead of normal. Development of row crops as follows: corn over 15% in dough stage, well ahead of normal; sorghum 65% headed, 20 points ahead of normal; flax harvest underway with 14% harvested; soybean development equal to normal at 67% podded. Second cutting alfalfa and wild hay harvest finishing up. Some tilling of stubble fields underway. Southern corn leaf blight now reported in a total of 15 counties, but infestation still light. Green bug still a problem in sorghum. Some localized damage by grasshoppers. Some cattle being placed on stubble fields. A few yearlings and lambs starting to market. Fly problem reducing, but pinkeye still prevalent in many areas.

**TENNESSEE:** Third wet week in row with total precipitation mostly 1.00 to 2.00 inches in east and 3.00 to 4.00 inches in west. Memphis had 4.53 inches for week and 2.56 inches in 24-hour period. Flash flooding in many places in southwest Tennessee. Clearing and mostly sunny during weekend. Average temperatures for week near to slightly below normal. Showers almost daily brought most farm activities to standstill. Excess rain damaging some crops, especially tobacco and tomatoes. Soybeans developing normally. Excess moisture delays weed and insect control. About 65% blooming and 20% setting pods. Corn continues ahead of schedule. About 95% silked, 70% in dough stage, and 35% dented. Control on cotton hampered. About 90% of cotton setting bolls. Tobacco topping, weed and insect control delayed. About 15% burley harvested. Tomatoes rotting on vines. Other fruit and vegetable production below normal. Pasture conditions continue good, but hay harvest behind schedule. Days suitable for fieldwork during week averaged 1 1/3 days. Soil moisture 71% surplus, and 29% adequate.

**TEXAS:** Showers continued daily Tuesday through Friday in most sections of State with heaviest amounts in eastern half of Texas. Small 2.00 to 3.00 inch rainfall centers were common. 6.00 to 7.00 inches fell within 24 hours in Yoakum-Schulenburg area Tuesday. Except on High Plains, shower activity decreased Saturday and Sunday. Temperatures southern half of State were cooler than previous week. Rain covered State from High Plains to Lower Rio Grande Valley. Harvest of cotton, corn, peanuts, rice, and sorghum came to a halt. Some damage to cotton, corn, sorghum, and rice stands, result of the rain. Dryland cotton, sorghum, peanuts, and soybean prospects improved in north and west. Additional rain needed on Low Plains for crops and pastures. Range and livestock responded to rain and continue to show improvement. Harvest of major crops: cotton 3%, 3% last year; corn 9%, 6% last year; sorghum 28%, 23% last year; peanuts 1%, less last year; rice, first cutting 40%, 19% last year. High Plains potato and onion harvest past peak with supplies declining. Carrot digging remains light. Light supplies of cabbage and cucumbers, with tomatoes, cantaloupe and green pepper harvest soon to begin. Planting fall lettuce Hereford area nearly complete. Cantaloupe harvest continues Pecos, North Texas. Watermelon harvest nearly complete south-central, declining East Texas, but increasing North Texas. Heavy rains interrupted vegetable harvest East Texas and land preparation South Texas. Citrus benefited from showers. Peach harvest declining. Pecan prospects boosted by rains, but nut set below normal.

**UTAH:** Scattered showers and thunderstorms latter part of period. Locally moderate to heavy accumulations. Average temperatures ranged from near normal to 7° above normal. Soil temperatures ranged from upper 70's Cache Valley to low 80's Salt Lake City and mid-90's St. George. Accumulated growing degree days continue to lag behind last year in western sections of State, but generally ahead in mountains and east portion. Grain hay and sour cherry harvest advanced rapidly during 1st week of August. Winter wheat 70% harvested, Spring wheat 35%, oats 25%, barley 45%. Second crop alfalfa hay 55% cut, clover and wild hay 80% cut. About 80% or sour cherry croppicked. Sugar beets and potatoes making good progress. Some early crop potatoes being dug Davis County. Snap bean and sweet corn harvest started some areas and will begin this week other areas of northern Utah. High country summer range feed still available, but prospect for fall feed poor many localities.

**VIRGINIA:** Mostly cloudy with showers and thunder-showers until weekend. Temperatures mainly below normal and precipitation totals mostly heavy. Soil moisture improved. Frequent showers limited fieldwork. Crop growth stimulated. Corn improved. Southern corn leaf blight damage limited. More severe Tidewater. Flue-cured tobacco 17% harvested. Haying slowed by showers. Clipping pastures to control weeds. Cultivating late soybeans. Some fields sprayed for insects. Peanuts sprayed for leaf spot, weeds, and root worms. Harvested peaches and early apples. Tomato harvest general. Eastern Shore planting fall Irish potato seed crop, snap beans, and cucumbers. Irish potato harvest almost completed.

(Continued on back page)

## PERSISTENCE OF DROUGHTS THAT EXISTED ON AUGUST 1. (1931-1970)

STATE	AREA	Number of Drought Periods (1931-1970)	Percent of cases when drought also existed 2, 3, 4 and 10 months later			
			OCT. 1	NOV. 1	DEC. 1	JUNE 1
N. MEX	Northwest	19	70	70	55	50
"	Northern Mts.	23	88	79	67	63
"	Southwest Mts.	16	71	53	53	53
"	Central Valley	20	86	81	67	67
"	Central Highlands	16	82	82	82	65
"	Southern Desert	16	65	65	65	82
ARIZ.	Northwest	22	91	87	83	74
"	Northeast	17	72	72	67	50
"	North Central	17	61	50	44	39
"	East Central	12	54	54	46	31
"	Southwest	15	75	69	50	50
"	South Central	16	59	53	47	53
"	Southeast	15	63	50	50	63

## ADDITIONAL DATA ON PERSISTENCE OF JULY DROUGHTS

The article "Persistence of July Drought" in the August 2, 1971, issue of this Bulletin is expanded here to include the rest of New Mexico and all of Arizona. The table above summarizes all the instances during the last 40 years (1931-1970), when drought conditions were in effect at the end of July in each of the 13 climatological divisions in New Mexico and Arizona.

On an average there were 17 droughts in these areas during this period. On the basis of this small sample, there are about 7 chances out of 10 that a drought existing on August 1 will persist through September and October. The chance of a drought continuing through November decreases to about 1 in 2. In general the chance of a drought persisting through May of the following year remains about 1 in 2.

The percentages listed here and in the previous article suggest that an area of rather high persistence covers the eastern two-thirds of New Mexico and extends northeastward through the Oklahoma panhandle. There is also an area of high persistence over northwest Arizona. In these areas about 80 percent of the July droughts have continued through October.

Over southern New Mexico and northwest Arizona drought conditions continued through May of the following year about 75 percent of the time. Curiously, an area of markedly less persistence is noted from west central New Mexico into central Arizona during this same period.

Wes Byrd

(OTHER CROPS continued from page 3)

**Fruits and Nuts:** Rail movement of fruit in California was up sharply, but export shipments continue to be delayed due to the dock strike. California grapes are making good growth, and the harvest of freestone peaches, plums, and nectarines are at their seasonal peaks. Almond growers are preparing for harvest, and walnuts are progressing well. Harvest of Valencia oranges, lemons, grapefruit and avocados is continuing. Citrus in Texas benefited from the showers during the week. Pecan prospects were also boosted by the rains, but the nut set is below normal. A good cherry crop is still being harvested in Door County Wisconsin. Tart cherry harvest continues in New York, but has reached its peak. Fruit crops are making normal progress in both the Hudson Valley and western New York. Grape development is good. New crop citrus fruit is making good growth in Arizona. Apricot and peach harvest is continuing in Washington.

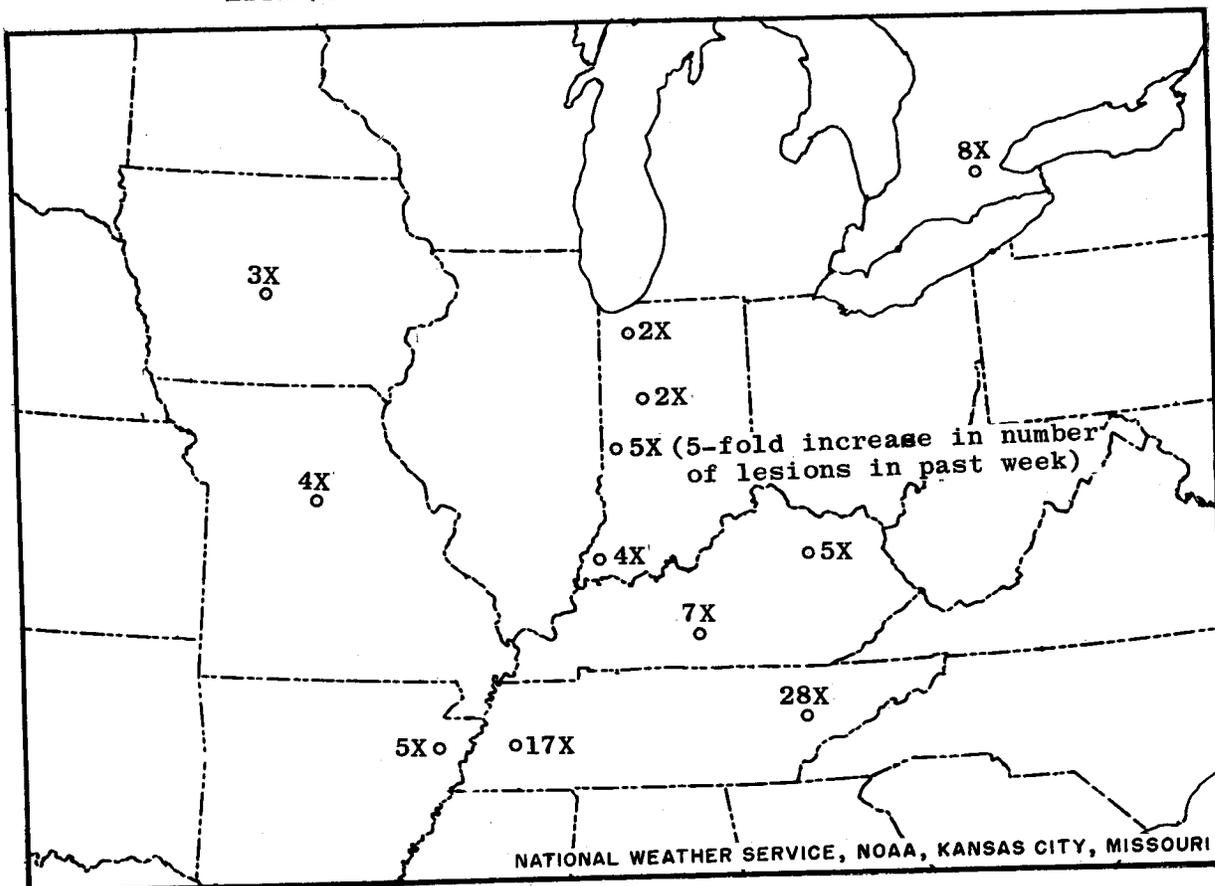
**Vegetables:** Planting of lettuce is active in Cochise County Arizona. In California, broccoli and cauliflower harvest is light, but normal in the Santa Maria-Salinas areas. Salinas and Santa Maria celery supplies increased last week and are expected to continue at the same level this week. Southern California sweet corn harvest is active. Central coast

lettuce shipments are normal. Tomato harvest is practically complete at Merced, but increasing in the Stockton area. In Florida, seeding of tomatoes, peppers, eggplants, and cucumbers is increasing in south and west-central areas. Transplanting of celery has started in the Everglades. In Orange County New York, harvest of early-seeded onions is underway and the cutting of celery continues at volume. Iceberg lettuce volume declining in Orange County, but heavy in Oswego County. All areas of New York are reaching peak volume in the harvest of sweet corn. Supplies of fresh market snap beans, cabbage, cucumbers and tomatoes are increasing.

**PASTURES AND LIVESTOCK:** Pastures in most areas are adequate and livestock are mostly in good condition. Several range fires occurred in Idaho from lightning storms. Pasture conditions were mostly good to fair in Iowa with topsoil moisture 41% short, 57% adequate, and 1% surplus. Prairie hay harvest is in full swing in Kansas. In Texas, range and livestock conditions responded to the rains and continue to show improvement. Pasture conditions held steady in Oklahoma. But grazing is improving in the eastern 2/3 of the State, but still limited in western Oklahoma.

Phillip Hardy  
Agricultural Statistician

### CORN BLIGHT SIMULATION ESTIMATED JULY 30 - AUG. 5 MULTIPLICATION RATE



#### ANOTHER COOL WEEK—BLIGHT HOLDING

Southern Corn Leaf Blight continues to mark time in the Midwest. Temperatures averaged at least 5° to 6° below normal in most of the Corn Belt last week (see map on page 2) and, as was the case a week ago, blight remains potentially damaging but not yet severe in most areas. Rains in southern Iowa and along the Ohio River have increased this potential locally but dew remains the big threat. Temperatures rose over the weekend to more normal levels. If corn is wet with dew for at least 6 to 9 hours and early morning temperatures are generally above 65°, ear and stalk damage could still be appreciable. Just as low temperatures retarded blight development, so did they slow corn maturity, keeping it vulnerable to the fungus.

The above map shows how the computed number of lesions has increased at each location since last week's map was prepared. Primarily because of continuing cool weather, the computed number of lesions expected multiplied only 2 to 5 times in major corn producing areas. Last week we reported a "multiplier" of about 10 at the same locations. These multipliers are produced on a National Weather Service computer in Kansas City under the guidance of Mr. L. A. Joos, Central Region Climatologist, (and former supervisor of this Bulletin).

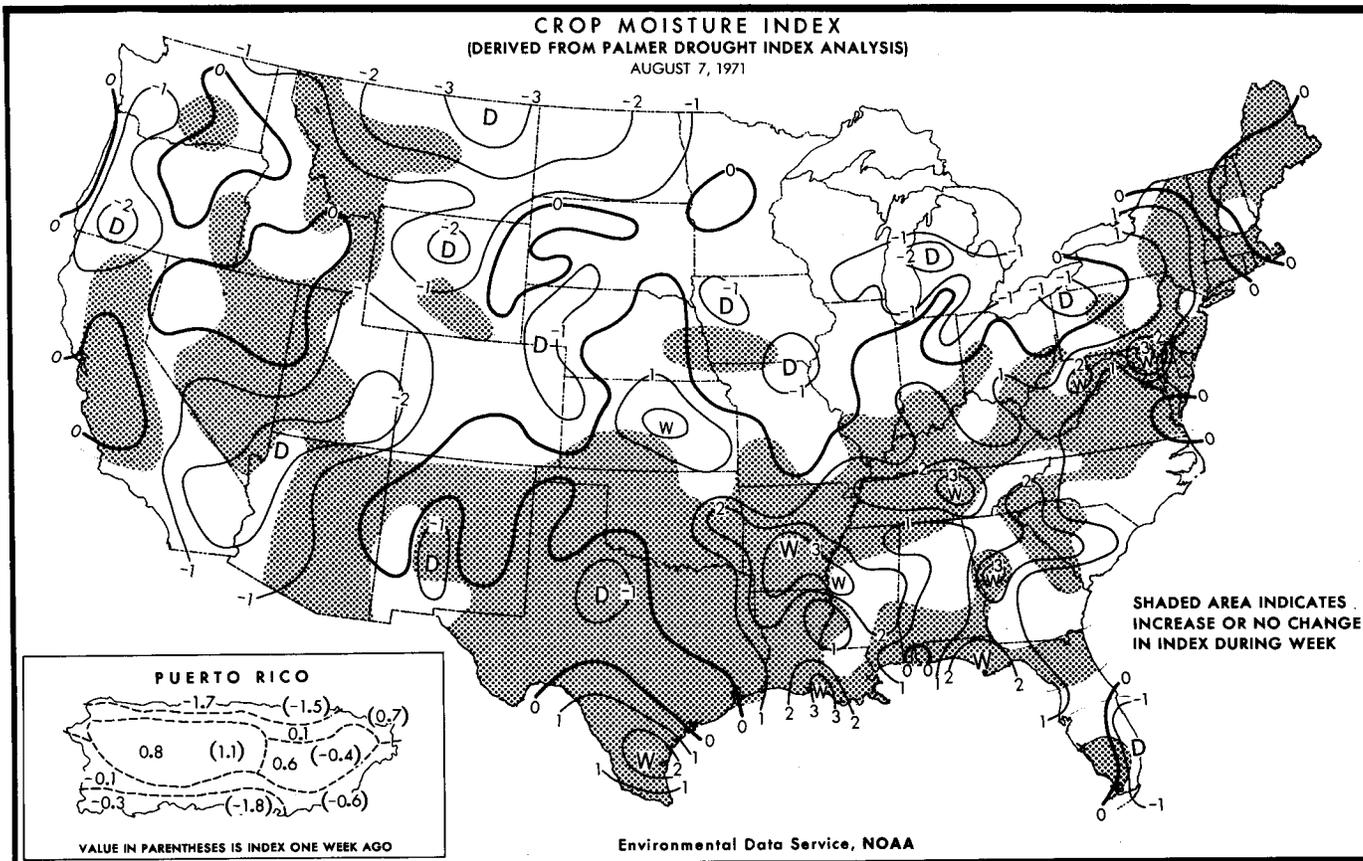
The Waggoner computer simulator continues to produce large multipliers farther south, but still small compared with last year. Where temperatures have been more normal, as in Tennessee, the recent rate of increase in number

of lesions is estimated to be 17 to 28 times, for example. But last year the computed number of lesions in Georgia was 25 times what the computer says this year. Apparently the planting of some 90% of the corn acreage in the Southeast in less susceptible hybrids has combined with weather less favorable than in 1970 to keep spread of the organism down this year.

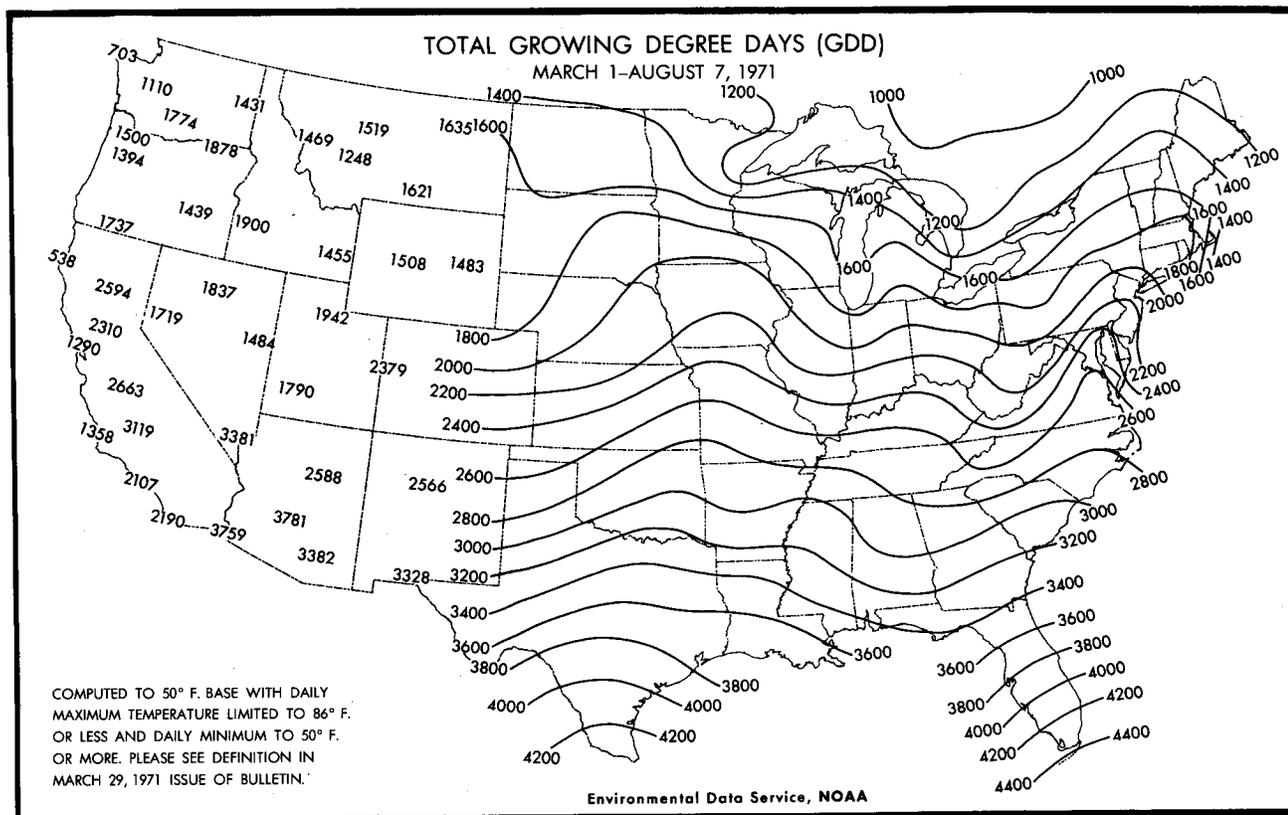
Only about 50% of the corn in Nebraska, Iowa, Illinois and Indiana is planted to hybrids which are not susceptible to the attacking fungus; and some 60% of the Nation's corn is produced in these four States where corn isn't yet mature; therefore, the crop won't be safe for another few weeks.

As we stressed when we started this series of articles on evaluation of blight weather in the July 12 Bulletin, the method is still experimental. We don't know exactly how large a multiplier must be to constitute a big threat in a given area but our results have followed actual development in relative size. The program produces estimates also of total number of lesions and percentage of leaf area affected. These have not been published but will be discussed in a summary article in the Bulletin at the end of the growing season. That article will give Dr. Waggoner, Mr. Joos and Prof. Newman and Mr. Stirm at Purdue University, and many others a chance to discuss the EPIMAY program much more meaningfully than we have in these short stories each week.

Gerald L. Barger



SEE LAST WEEK'S BULLETIN FOR LEGEND





# FIRST CLASS MAIL

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Questions and comments are invited; please send to Editor in Agricultural Climatology Service Office, address above.

(Continued from page 12)

**WASHINGTON:** Western Washington: Warm and dry with average temperatures 3° to 5° above normal, except coastal section about normal. A little rain mainly along north coast. Green pea and broccoli harvest continuing. Corn, beans, and squash doing well in warm weather. Raspberry harvest at peak and blueberry picking underway. Non-irrigated pastures becoming short and need moisture badly. Eastern Washington: Hot and dry with average temperatures 5° to 10° above normal. Few showers in southeastern part. Dryland wheat harvest progressing many areas. Lentil swathing and dry pea combining underway. Early potato and mint harvest continuing. Sweet corn beginning Yakima Valley. Apricot and peach harvest continuing. Third cutting hay started in early areas. Range and pasture land need moisture.

**WEST VIRGINIA:** Long rainy spell finally ended August 4 after unusually heavy falls in mountains and eastern Panhandle. Over 4.00 inches at Mathias gave flash floods nearby Monday and Wednesday. Cool sunny weather from Thursday through weekend. Wet weather held farm activity to a slow pace. All areas have adequate to surplus moisture. Remaining acreage of small grains is deteriorating rapidly from wet conditions. Hay and pastures are in lush condition. Soil too wet to work tobacco, only 1% topped. Most corn in good condition. Face flies and pinkeye prevalent in cattle herds. Peach harvest progressing rapidly. Red Havens nearly complete with Sun Havens coming on.

**WISCONSIN:** Mostly sunny but cool with low humidities and low nighttime temperatures. Warming late in period. No rain during week and soil moisture reserve very low most areas, crops and pastures suffering, particularly in the south. Good weather for oat harvest. About 1/3 of acreage combined against 1/2 last year.

ields variable depending on local rainfall. Straw often very short in the south. Corn over 2/3 in silk. Crop still looking good but rain badly needed in main corn-growing counties. Plants starting to curl and fire specially on lighter soils and knolls. Blight infestation showed an upswing during week in spite of recent cool, dry weather. Overall severity level moved from light to moderate. Some evidence of lesions on husk, shank, and sheath. Tobacco being topped. Soybeans still doing well though, like other crops, in need of rain. Early potato harvest going on. Sweet corn harvest pushed by warm weather late in period. A good cherry crop still being harvested in Door County. Second crop haying about 40% completed. Generally enough hay in the north from first cutting. Pastures fair to good north, but mostly poor south. Soil moisture reported 95% short, and 5% adequate.

**WYOMING:** Scattered very light showers State-wide. Few isolated heavy southeast. Laramie most, 1.22 inches. Temperatures averaged above normal western half, below normal eastern half. Maximums mostly mid-80's to low 90's west of Divide and Upper Platte Drainage, high 80's and 90's elsewhere. Minimums mostly mid-30's and 40's west of Divide, 40's to low 50's east. Temperature extremes: Basin 101° and Foxpark 28°. Main agriculture activities included harvesting small grains, haying and irrigating. About 25% of winter wheat harvested, slightly behind last year. About 30% spring wheat mature, 65% spring wheat mature, 65% in hard dough, and 10% harvested. Oats 65% in hard dough, 10% mature, 5% harvested. Barley 1/3 in each of hard dough and mature stages, 15% harvested. About 1/3 2d cutting alfalfa completed, 85% of other tame hays cut, 55% wild hay harvested. Soil moisture ranges from short to adequate.