

# Weekly Weather & Crop Bulletin

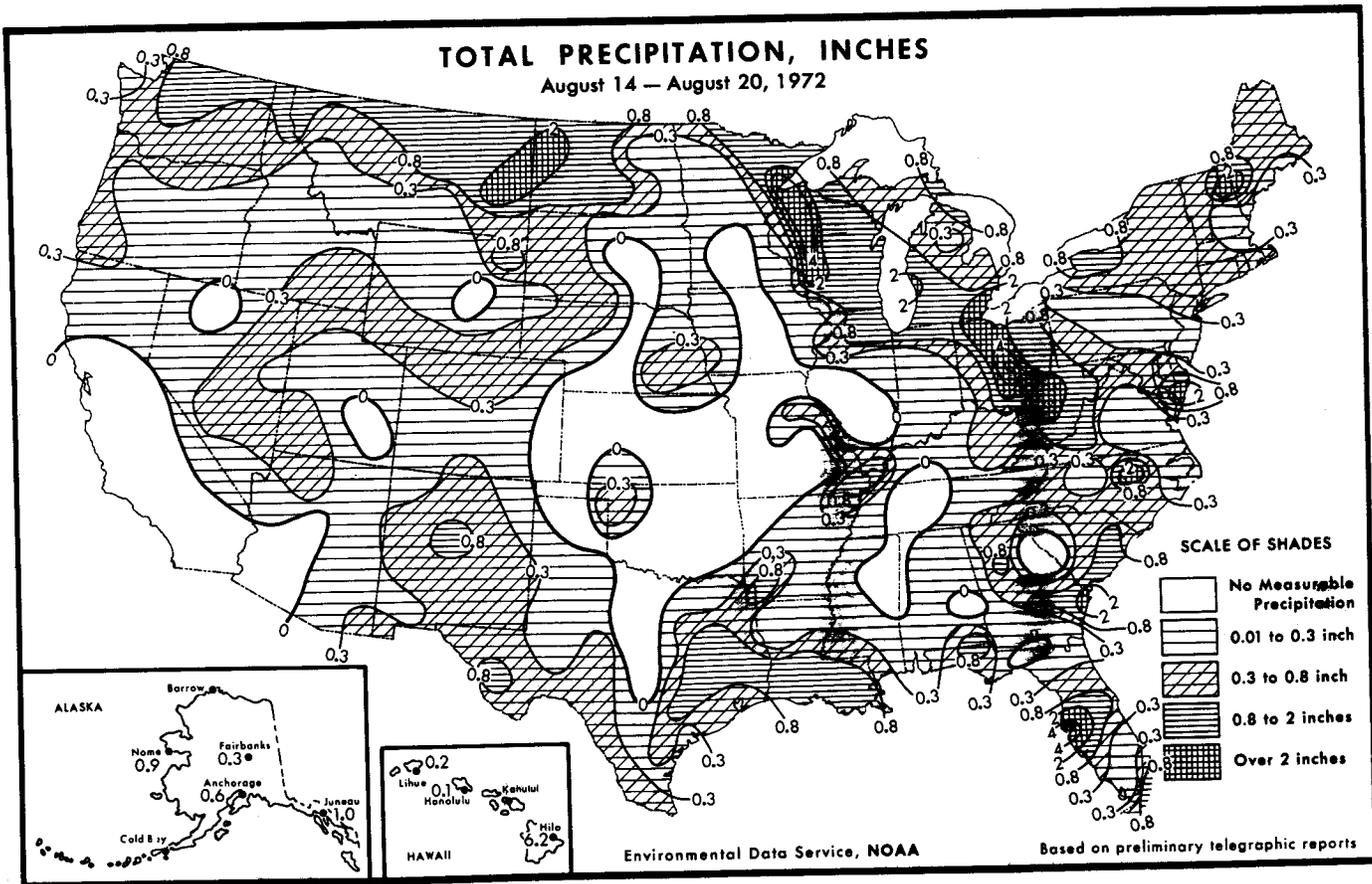
U. S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Environmental Data Service

U. S. DEPARTMENT OF AGRICULTURE  
Statistical Reporting Service

1872-Centennial-1972

Volume 59 No. 34

Edited by Lucius W. Dye AUGUST 21, 1972 Washington, D. C.



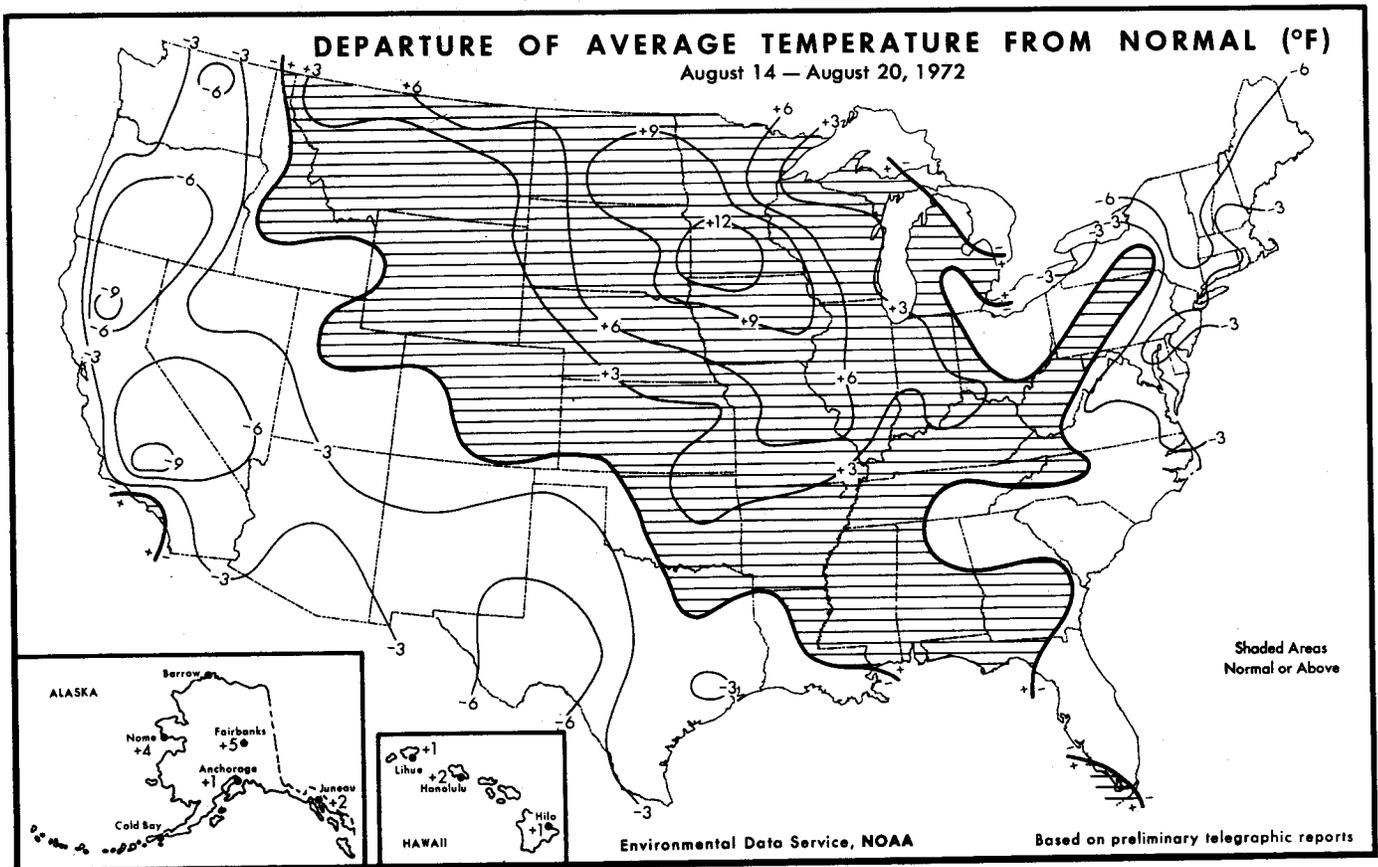
## NATIONAL WEATHER SUMMARY

**HIGHLIGHTS:** Summer heat continued over mid-America. Cooler-than-normal weather persisted over the Northeast. The West cooled. Heavy thunderstorm activity spotted the central and eastern portions of the Nation.

**PRECIPITATION:** Thundershowers spotted the warm humid areas in the South. These areas extended from the southern Great Plains to the middle and southern Atlantic coast. In general, these showers were mostly light. Other thundershowers, some locally heavy, occurred in connection with fronts. These were over the northern Great Plains and eastward to the Great Lakes. A tornado near Chrisholm in northeastern Minnesota Wednesday injured 1 person, destroyed a barn, killed a horse, and leveled trees. Several tornadoes touched down in Ohio Thursday afternoon.

One of the storms destroyed several dwellings in northeastern Ohio. Another unroofed some barns and broke windows a few miles north of Mansfield. A tornado took off the tops of some trees at Green Bottom, W. Va., Thursday afternoon.

Severe thunderstorms hit Wisconsin and Michigan late Friday and early Saturday. Other thunderstorms struck Minnesota Sunday. Areas in the Rochester vicinity received hail with heavy showers. Hail as large as golf balls and water measured 3 feet in depth at Plainview. Heavy thunderstorm activity also occurred in spots in the South. A thunderstorm, accompanied by winds gusting to 60 m.p.h. dumped almost an inch of rain in an hour at Atlanta, Ga., Sunday. Other thunderstorms occurred in the Pacific Northwest, the Rocky Mountains, and from the Ohio River Valley to southern New England.



**TEMPERATURE:** A persistent southerly flow of moist tropical air kept maximum temperatures in the 90's over most of mid-America. The mercury at Bismarck, N. Dak., reached 100° Tuesday and Philip, S. Dak., recorded 101° Thursday. The 90° heat spread eastward and, by Thursday covered all of Indiana and western Ohio. The high humidity made the sweltering heat more uncomfortable. Nighttime temperatures remained in the high 60's and 70's. While the hot humid weather persisted over the Great Plains and the Deep South, cool air, slipping down from Canada, brought early autumn weather to the Northeast with maximums in the 60's and low 70's from Maryland to Maine by Thursday. Torrid weather continued in the Southwestern Deserts with maximums exceeding 100° on most afternoons. Onshore ocean breezes in the Pacific

Northwest kept daytime temperatures along the Coast in the 60's. Inland areas in the Northwest were comfortably warm.

Tropical heat persisted over much of mid-America over the weekend. Maximums generally reached the high 80's and low 90's. Minneapolis, Minn., registered 97° Sunday afternoon. High humidity made the heat feel more uncomfortable. Cooler air from Canada caused relatively pleasant weekend in the Northeast.

Temperatures averaged below normal west of the Rocky Mountains, over the southern Rockies and the High Plains of Texas, and along the Atlantic coast. Parts of California averaged 6° to 10° cooler than normal. In contrast, much of the northern Great Plains averaged 6° to 10° warmer than normal.

L. W. Dye

#### A CHANGE IN FACES

Mr. Steve J. Pscodna, Agricultural Statistician, who has written the National Agricultural Summaries for the Bulletin since July, 1970 ended his tenure this week. Later this month Steve will be leaving Washington, transferring to the North Carolina State Statistical Reporting Service Office in Raleigh. We have enjoyed working with Steve and appreciate his fine work. We wish him well in his new position.

His able replacement is Mr. Arlon M. Scott. We welcome Arlon to the Staff of the Weekly Weather and Crop Bulletin.

L. W. Dye

## NATIONAL AGRICULTURAL SUMMARY

**AGRICULTURAL HIGHLIGHTS:** Hot, dry weather spurred corn and soybean development in the Nation's mid-section. \* Rain needed in the South. \* Showers improve pastures in Pacific Northwest. \* Cool weather slows Northeast vegetable supply.

**SMALL GRAINS:** Farmers in the North-Central States made good headway harvesting small grains during a favorable week of above normal temperatures and dry weather. Harvest progress continues to lag behind normal in Minnesota and North Dakota. Some areas remained wet from showers and cool temperatures which occurred back in July and early August.

Rains and thunderstorms slowed small grain harvest in the Pacific Northwest where wheat combining was in full swing. The Montana winter wheat crop is 45 percent combined while spring wheat is only 10 percent cut.

South Dakota combining is finishing. The oat crop in Minnesota is 53 percent harvested compared to a normal 72 percent.

High humidity and wet fields are plaguing Wisconsin farmers. Small grain harvesting from Iowa east to Ohio is in the mop-up phase. Land preparation for fall-sown small grains is very active throughout the Nation.

**CORN:** Hot weather and little rainfall over most of the Corn Belt spurred development of the Nation's corn crop, but depleted topsoil moisture. The sunshine and above normal temperatures followed 3 straight weeks of cool weather in the leading corn producing States. Corn crop maturity is still running about 7 days behind last year's pace. In Iowa, 98 percent of the crop is in good to excellent condition, with 63 percent in or past the dough stage and 20 percent dented. About 86 percent of the Illinois crop is good to excellent, with 80 percent in the dough stage and 35 percent dented. Corn development in Indiana lags the 1971 season more than a week. The favorable hotter weather in Minnesota brought the crop along nicely. Development in Ohio and Michigan was slow due to near or below normal temperatures and thunder-showers. Only 45 percent of Ohio's corn is in the dough stage compared to 60 percent last year.

Corn picking was active in Texas and Florida--picking was light in Alabama. Corn silage making was in full swing in most eastern States.

**COTTON:** Cotton made good development in California and Arizona, while the dry, hot weather in the South hastened maturity and increased the need for rain. Texas cotton is 8 percent harvested compared to 6 percent last year. The first bale was ginned in Alabama on August 15. Mississippi cotton is making good progress with some bolls opening in southern counties--insect controls continued. More rain is needed in Arkansas, Louisiana and Alabama for normal development of the top crop. The fair weather permitted farmers to step up the spraying schedule for insects in Tennessee where nearly 95 percent of the crop is setting bolls.

**SOYBEANS:** Hot temperatures benefitted the soybean crop. After 3 weeks of cool temperatures in the Nation's central section, summer temperatures returned to push the crop toward maturity. Soybeans are setting pods at a slightly slower pace than last season. Illinois plants have 95 percent of their pods set, whereas pods are set on only 81 percent of Iowa plants. Podding is ahead of normal in both States.

Prospects are good across the South, but fields are becoming dry and a good rain is needed. Frequent August rains have increased both insects and weeds in southern Louisiana fields.

**OTHER CROPS:** Farmers were finally able to make hay when the sun shined this season. Dry weather was a welcomed change for dairymen who had been making hay between rains. Hot temperatures pushed sorghum maturity on the Great Plains. The crop is heading rapidly. Hot, dry weather is prematurely maturing the crop in several Oklahoma areas. Tobacco harvesting is nearly over in Georgia and South Carolina. Flue-cured cutting is past the peak in North Carolina and increasing across Virginia. Some early cutting also began in Kentucky. Georgia peanut farmers started digging in a few fields. The Alabama crop could use a good rain. The sugar beet outlook remains good in Idaho and Colorado. A few potatoes were dug in southwest Idaho. Digging also began in western New York. Louisiana sweetpotato digging speeded up following rain showers. Harvest of North Carolina "yams" got underway.

**Fruits and Nuts:** Harvesting 1972 crop peaches is about over in the South. Picking summer apples, pears and peaches expanded in Northern orchards. The New Jersey blueberry harvest is about complete. The first hops of the season were harvested in Washington and Oregon. Harvesting apples, pears and peaches was also active in the Northwest. Grape harvesting widened in California. Picking new crop Florida grapefruit is expected to start soon. New crop Arizona citrus made good growth.

**Vegetables:** Unseasonably cool weather is slowing the development of vegetable crops in New England and most commodities are in short supply. New York onions are also developing slowly. Orange County, New York celery is half cut. Plenty of vegetables are available in New Jersey. Supplies also increased in the Pacific Northwest. Picking of California crops is rather light. South Carolina watermelons are 93 percent picked. Seeding and transplanting of fall vegetables is active in Florida.

**PASTURES AND LIVESTOCK:** Pastures became drier over most of the Nation. Grazing is basically adequate in the South, but rain is needed. Pastures in the Midwest declined as scorching temperatures hit this region for the first time in a month. A few livestock deaths were attributed to the heat in eastern Nebraska. Rains benefitted pastures along the Canadian Border from the Pacific Northwest to the Great Lakes.

Steve J. Psodna  
Arlon M. Scott  
Agricultural Statisticians

Temperature and Precipitation Data for the Week Ending Midnight, L.s.t., AUGUST 20, 1972

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 . . .	81	0	T	-1.1	New Orleans . . .	80	-2	1.4	+ .2	OKLA. Okla. City . . .	83	0	T	- .6
Mobile . . .	83	+ 1	.1	-1.1	Shreveport . . .	83	- 1	.2	- .3	Tulsa . . .	87	+ 5	0	- .7
Montgomery . . .	82	0	0	- .9	MAINE. Caribou . . .	57	- 6	.5	- .3	OREG. Astoria . . .	61	- 0	.3	- .1
ALASKA. Anchorage . . .	57	+ 1	.6	0	Portland . . .	62	- 5	.2	- .3	Burns . . .	61	- 7	.1	0
Barrow . . .	---	---	---	---	MD. Baltimore . . .	73	- 2	.5	- .7	Medford . . .	64	- 7	.4	+ .4
Fairbanks . . .	59	+ 5	.3	- .2	MASS. Boston . . .	72	0	.2	- .7	Pendleton . . .	68	- 4	.4	+ .3
Fairbanks . . .	59	+ 5	.3	- .2	Chatham . . .	64	---	.8	---	Portland . . .	66	- 1	.6	+ .4
Juneau . . .	57	+ 2	1.0	- .2	MICH. Alpena . . .	62	- 3	1.1	+ .4	Salem . . .	62	- 4	.1	0
Nome . . .	53	+ 4	.9	0	Detroit . . .	74	+ 3	2.2	+1.6	PA. Allentown . . .	69	- 3	T	-1.0
ARIZ. Flagstaff . . .	60	- 4	T	- .6	Flint . . .	70	+ 2	.6	- .1	Erie . . .	66	- 1	.1	- .5
Phoenix . . .	88	0	T	- .2	Grand Rapids . . .	73	+ 2	1.5	+ .9	Harrisburg . . .	72	- 3	T	- .7
Tucson . . .	81	- 2	.1	- .6	Houghton Lake . . .	68	+ 2	.3	- .3	Philadelphia . . .	74	0	T	-1.1
Winslow . . .	74	- 4	.2	- .2	Lansing . . .	70	- 1	1.3	+ .6	Pittsburgh . . .	72	+ 1	.4	- .3
Yuma . . .	87	- 5	0	- .1	Marquette . . .	67	+ 1	.7	0	Scranton . . .	67	- 3	.4	- .4
ARK. Fort Smith . . .	83	0	0	- .6	Muskegon . . .	73	+ 2	2.4	+1.7	R.I. Providence . . .	68	- 3	.6	- .4
Little Rock . . .	83	+ 2	0	- .6	S. Ste. Marie . . .	63	- 1	.9	+ .2	S.C. Charleston . . .	80	0	.4	-1.0
CALIF. Bakersfield . . .	72	-10	0	0	MINN. Duluth . . .	67	+ 3	6.9	+6.0	Columbia . . .	79	- 2	.6	- .6
Eureka . . .	60	+ 3	.1	+ .1	Internatl Falls . . .	71	+ 8	1.6	+ .8	Greenville . . .	77	- 2	T	-1.0
Fresno . . .	72	- 7	0	0	Minnesota . . .	83	+13	T	- .7	S. DAK. Aberdeen . . .	83	+11	.2	- .3
Los Angeles . . .	74	+ 1	0	0	Rochester . . .	80	+10	.2	- .7	Huron . . .	81	+ 8	0	- .4
Red Bluff . . .	72	- 9	T	0	St. Cloud . . .	78	+ 9	T	- .8	Rapid City . . .	76	+ 4	.5	+ .1
San Diego . . .	70	- 2	0	0	MISS. Jackson . . .	83	+ 1	.1	- .6	Sioux Falls . . .	84	+12	.1	- .7
San Francisco . . .	64	+ 1	T	0	Meridian . . .	82	0	0	- .7	TENN. Chattanooga . . .	76	- 4	.3	- .5
Stockton . . .	69	- 7	0	0	MO. Columbia . . .	84	+ 8	0	- .9	Knoxville . . .	78	0	.1	- .6
COLO. Denver . . .	73	+ 1	.5	+ .2	Kansas City . . .	85	+ 5	0	-1.0	Memphis . . .	82	+ 1	T	- .6
Grand Junction . . .	75	- 1	.3	0	St. Louis . . .	84	+ 7	0	- .8	Nashville . . .	80	0	T	- .6
Pueblo . . .	77	+ 2	.2	- .2	Springfield . . .	83	+ 5	T	- .8	TEX. Abilene . . .	78	- 5	T	- .3
CONN. Bridgeport . . .	70	- 2	.5	- .5	MONT. Billings . . .	72	0	T	- .2	Amarillo . . .	76	- 4	T	- .7
Hartford . . .	68	- 3	1.2	+ .4	Glasgow . . .	74	+ 6	1.4	+1.0	Austin . . .	83	- 2	T	- .4
D.C. Washington . . .	73	- 4	1.3	- .8	Great Falls . . .	69	+ 2	.5	+ .2	Beaumont . . .	80	- 2	.5	- .8
FLA. Apalachicola . . .	83	+ 1	.1	-1.6	Havre . . .	74	+ 6	.2	0	Brownsville . . .	82	- 2	.4	- .3
Ft. Myers . . .	83	0	3.9	+2.2	Helena . . .	67	0	.5	+ .3	Corpus Christi . . .	83	- 2	T	- .6
Jacksonville . . .	80	- 3	.2	-1.3	Kalispell . . .	68	+ 5	.4	+ .2	Dallas . . .	87	+ 2	T	- .4
Key West . . .	85	+ 1	.8	- .2	Miles City . . .	75	+ 2	2.0	+1.8	Del Rio . . .	80	- 6	.7	+ .4
Lakeland . . .	82	- 1	1.0	- .6	Missoula . . .	66	+ 1	.1	0	El Paso . . .	77	- 4	.3	0
Miami . . .	82	- 1	1.1	- .5	NEBR. Grand Island . . .	81	+ 5	.6	+ .1	Fort Worth . . .	84	- 2	T	- .4
Orlando . . .	83	0	1.8	+ .3	Lincoln . . .	86	+ 8	.2	- .6	Galveston . . .	84	0	.4	- .5
Tallahassee . . .	82	+ 1	T	-1.5	Norfolk . . .	82	+ 7	.1	- .5	Houston . . .	80	- 3	.3	- .6
Tampa . . .	82	- 1	6.1	+4.2	North Platte . . .	78	+ 3	T	- .5	Lubbock . . .	74	- 5	.1	- .3
GA. Atlanta . . .	78	- 1	1.2	+ .4	Omaha . . .	83	+ 8	.5	- .4	Midland . . .	75	- 7	.3	0
Augusta . . .	80	0	0	- .9	Valentine . . .	80	+ 7	.5	0	San Angelo . . .	79	- 7	.5	+ .2
Macon . . .	81	0	.8	- .1	NEV. Ely . . .	61	- 5	.2	+ .1	San Antonio . . .	82	- 2	T	- .5
Savannah . . .	81	0	2.5	+1.0	Las Vegas . . .	81	- 6	.1	0	Victoria . . .	83	0	.1	- .6
HAWAII. Hilo . . .	77	+ 1	6.2	+3.6	Reno . . .	62	- 4	.1	- .1	Waco . . .	85	- 1	T	- .4
Honolulu . . .	82	+ 2	.1	- .1	Winnemucca . . .	67	- 1	T	0	Wichita Falls . . .	84	- 2	T	- .4
Kahului . . .	80	+ 1	.2	- .3	N.H. Concord . . .	67	- 1	.1	- .6	UTAH. Blanding . . .	69	- 2	T	- .3
Lihue . . .	72	0	.1	0	N.J. Atlantic City . . .	69	- 5	.1	-1.0	Salt Lake City . . .	76	+ 1	.1	- .1
IDAHO. Boise . . .	70	- 2	.7	+ .6	Trenton . . .	73	- 1	.1	-1.0	VT. Burlington . . .	61	- 6	.6	- .1
Lewiston . . .	69	- 2	.9	+ .8	N.MEX. Albuquerque . . .	73	- 3	1.0	+ .7	VA. Lynchburg . . .	74	- 1	.1	- .9
Pocatello . . .	83	+ 3	1.1	+ .4	Roswell . . .	76	- 1	.2	- .1	Norfolk . . .	74	- 4	.3	-1.0
ILL. Cairo . . .	83	+ 3	1.1	+ .4	N.Y. Albany . . .	64	- 7	.5	- .2	Richmond . . .	74	- 2	.2	-1.0
Chicago . . .	80	+ 6	.3	- .4	Binghamton . . .	68	+ 1	.6	- .2	Roanoke . . .	73	- 3	1.6	+ .6
Moline . . .	82	+ 8	.6	- .2	Buffalo . . .	66	- 3	1.1	+ .4	WASH. Colville . . .	65	- 1	1.0	+ .8
Peoria . . .	80	+ 5	T	- .6	New York . . .	71	- 5	.7	- .4	Omak . . .	63	- 6	1.0	+ .9
Rockford . . .	78	+ 5	.9	0	Rochester . . .	68	- 2	.9	+ .3	Quillayute . . .	60	0	.3	- .2
Springfield . . .	81	+ 5	0	- .6	Syracuse . . .	71	0	.7	0	Seattle-Tacoma . . .	63	- 2	.8	+ .6
IND. Evansville . . .	79	+ 1	T	- .7	N.C. Asheville . . .	74	0	1.0	+ .2	Spokane . . .	66	- 2	.5	+ .4
Fort Wayne . . .	74	+ 1	.5	- .2	Charlotte . . .	78	- 1	.3	- .6	Walla Walla . . .	68	- 6	.3	+ .2
Indianapolis . . .	78	+ 4	.1	- .6	Greensboro . . .	77	0	T	-1.0	Yakima . . .	65	- 4	.6	+ .6
South Bend . . .	75	+ 3	1.5	+ .7	Hatteras . . .	77	- 1	.1	-1.2	W.VA. Beckley . . .	70	0	1.1	+ .2
IOWA. Burlington . . .	81	+ 6	T	- .8	Raleigh . . .	76	- 1	2.2	+1.1	Charleston . . .	79	+ 5	2.2	+1.4
Des Moines . . .	82	+ 7	0	- .9	Wilmington . . .	78	- 2	.6	- .9	Huntington . . .	75	+ 1	.6	- .1
Dubuque . . .	80	+ 9	.1	- .7	N.DAK. Bismarck . . .	80	+10	1.1	+ .7	Parkersburg . . .	75	0	3.5	+2.6
Sioux City . . .	83	+ 8	.2	- .4	Fargo . . .	81	+11	.1	- .6	WIS. Green Bay . . .	73	+ 4	1.7	+1.0
KANS. Concordia . . .	83	+ 3	T	- .7	Williston . . .	72	+ 3	2.9	+2.6	La Crosse . . .	81	+ 9	3.0	+2.2
Dodge City . . .	80	0	.1	- .5	OHIO. Akron-Canton . . .	71	- 1	1.7	+1.0	Madison . . .	75	+ 5	1.7	+ .9
Goodland . . .	76	+ 1	0	- .5	Cincinnati . . .	79	+ 5	T	- .8	Milwaukee . . .	74	+ 6	.5	- .2
Topeka . . .	81	+ 2	0	-1.0	Cleveland . . .	70	- 1	3.0	+2.3	WYO. Casper . . .	72	+ 2	T	- .2
Wichita . . .	84	+ 3	T	- .6	Columbus . . .	73	- 1	4.5	+3.9	Cheyenne . . .	68	0	.5	+ .2
KY. Lexington . . .	77	0	.8	+ .1	Dayton . . .	76	+ 2	.4	- .2	Lander . . .	71	+ 2	.1	0
Louisville . . .	81	+ 5	.3	- .4	Toledo . . .	70	- 1	3.0	+2.2	Sheridan . . .	72	+ 2	.2	0
LA. Baton Rouge . . .	83	0	1.5	+ .4	Youngstown . . .	69	- 2	.4	- .4	P.R. San Juan . . .	82	+ 2	.8	- .6
Lake Charles . . .	81	- 1	1.2	+ .1										

\* 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:** Sunny, hot, and dry week. Very little shower activity. Isolated showers south Monday and north and central Sunday but many areas received no rain during week. Temperatures over weekend about 5° above normal, generally hottest of year. Dothan had 101° Saturday. All crops need rain. Soil moisture short over much of State, especially south. Cotton opening scattered fields central and southern counties. "First Bale" ginned August 15. Growers maintained insect control program. Moisture needed to push late corn to maturity. Light harvest underway several southern and central counties. Most soybeans blooming with nearly 2/3 setting pods. Moisture generally adequate, but rain needed several areas. Growers made good progress controlling leaf spot, weeds, and cutworms, but peanuts need moisture to mature good crop that has been set. Much fair to good quality hay saved. Grazing mostly adequate, but short several counties.

**ALASKA:** Warm and wet. Cloudiness kept nighttime temperatures up. A few daytime highs in 70's but mostly 60's. Seasonal cumulative degree days close to normal but seasonal rainfall is still far below normal. Soil moisture generally adequate throughout agricultural areas. Oats and barley for grain completely headed with 75% turning color. Grain harvest expected to begin this week in Tanana Valley weather permitting. Condition of potatoes and vegetables good.

**ARIZONA:** Temperatures below normal with humidity also below normal. Showers light and widely scattered with weekly totals considerably below normal. Strong winds and blowing dust in irrigated valleys in south. Cotton continues to develop, mature with no major problems. Maturing, opening rapidly Yuma, Mohave Counties. Normal insect problems. Some hail damage southeast. Sorghum development normal, reaching maturity Yuma County. Sugar beet harvest complete, Yuma County. Good condition with minor leaf spot damage southeast. Alfalfa hay harvest progressing normally. Fall lettuce planting completed Cochise County. Lettuce and chili peppers making good growth. Land preparations continued central and western areas for lettuce and vegetables. Thinning fall cantaloupes underway Yuma. Vines making good growth. Insect controls applied as needed. New crop citrus making good growth. Harvest early lemons expected next week Yuma area. New crop prospects generally favorable. Ranges poor to fair. Eastern part State had some moisture. Southwestern areas dry. Stock water short to adequate. Cattle, calves excellent condition Graham, fair to good condition remainder of State.

**ARKANSAS:** Widely scattered showers western Arkansas. Precipitation mostly less than 0.10 inch. Greatest amount 0.64 inch at Mena in extreme west-central portion. Mean temperatures ranged from near normal to 5° above normal. Greatest positive departures were in north with Harrison averaging 5° above normal. Positive departures of 1° and 3° noted in Arkansas Valley. Warm through week with warmest temperatures weekend. Temperatures near 100° or above common. Highest temperature was 105° at Morrilton in central Arkansas on August 20. The lowest

temperature 62° at Calico Rock on 15th and 17th and at Brinkley on 16th. Crop prospects mostly good, but rain needed. Maturity cotton hastened. Few bolls open. Rain needed for normal development top crop. Good rice crop maturing. Few fields combined. Large acreage soybeans under varying degrees stress from dry weather. Early soybeans blooming and setting pods. Late acreage generally making slow progress. Feed grains fair to good. Limited combining grain sorghums begun. Hay harvest continued, but crops short most areas. Apple and grape harvest active. Peach harvest about over. Good volume melons, but supply declining. Peak harvest okra during week. Pastures short nearly all areas. Increased feeding hay few driest areas. Most herds satisfactory condition, despite short grazing.

**CALIFORNIA:** Showers and thunderstorms in south and in Sierras with amounts ranging from a trace to 1.20 inches in Wilderness State Park. Cooling throughout State with departures of +2° to +6° in central valley and +10° in Sierras. Harvest continues active. Cotton development continues good. Dry beans, rice maturing. Apple harvest Sebastopol, Watsonville areas. Picking red delicious started. Grape harvest continues. Tokay harvest started Lodi. Laying Thompsons, Zante currant raisins continues. Packing Red Malaga, Ribiers, Italias, Thompsons fresh market continues. Harvesting Thompsons, Tokays wineries underway. Late varieties freestone peaches, nectarines, plums shipped, decreased volume expected season nears end. Harvesting clingstone peaches active. Harvesting pears, Placer, El Dorado, Lake, Mendocino Counties nearing completion. Harvest early almond varieties underway all parts State. Walnuts continue size well. Harvesting prunes well underway all areas. Valencia orange harvest remains active, most to processors. Harvest avocados, lemons continues light. Picking grapefruit active. Broccoli, cauliflower harvest light Santa Maria, Salinas. Carrots light harvest central coast. Celery supplies light Salinas Valley. Sweet corn continues south. Honeydew active San Joaquin. Salinas lettuce light, but increasing. Onion continues central valley. Bell peppers continue San Joaquin, south, increasing Salinas. Chili pepper underway south. Merced, Modesto sweet-potato underway. Potato digging Stockton. New strawberry plantings underway. Market tomatoes active south, northern San Joaquin. Processing tomatoes near completion some San Joaquin areas, active Sacramento Valley. Watermelon harvest lower. Range grass conditions remain dry valley, foothill areas. Livestock grazing permanent irrigated pasture, grain stubble these areas. Stock on mountain meadows gaining well. Supplemental feeding continues low elevations maintaining good livestock condition. Water supply low, shortages many areas. Fire danger less due morning dews, cooler weather. Milk, egg output return seasonal normal levels.

**COLORADO:** Temperatures 1° to 6° above normal with greatest departures in eastern plains. Scattered showers most of central and southwest with little or no rain southeast. Surface

soil moisture short statewide. Some wheat seeding southeast. Harvest spring barley complete except western slope and scattered fields northeast. Corn development progressed substantially, 85% silk and 40% dough. Condition excellent with light insect infestation. Sorghum 82% headed, 7% turning color. Dry beans 12% cut, condition fair southwest, very good other areas. Condition sugar beets excellent. Harvest late summer potatoes nearly complete Arkansas Valley, 43% complete statewide. Alfalfa hay harvest 85% complete, 1st cutting, 16% 2d cutting. Ranges and pastures very dry many areas. Condition fair statewide. Livestock condition good.

**FLORIDA:** Continued hot and humid. Temperatures near normal with most daytime highs in mid-90's. The 100° mark was reached at Pensacola and Tallahassee. Rainfall averaged 1.00 to 2.00 inches in central and south but below 0.50 inch in northern sections and Keys. Many stations had rainfall totals of over 2.00 inches, led by over 6.00 inches at Tampa. Field corn harvest continues. Soybeans and peanuts showing effects dry conditions. Adequate moisture most locations favored growth grass. Prospects surplus grass for hay now very good. Trees flushed with summer growth as soil moisture improves. Harvest new crop grapefruit expected shortly. Seeding and transplanting fall vegetables continue. Planting celery, cucumbers, sweet corn, green peppers, and tomatoes very active.

**GEORGIA:** Rainfall light to locally moderate north and southeast in scattered showers near beginning and end of period. No rain or only light sprinkles fell in dry southwest and south-central sections. These areas and others scattered over State have had very little rain in last 2 or 3 weeks. Temperatures near seasonal first half of week but much warmer last half when highs reached mid- to upper 90's all areas except mountains. Averages ranged from near normal to 2° above normal. Soil moisture mostly adequate to short northern half, short to very short southern half. Principal activities application insect and disease control measures, haying, preparation peanut harvesting equipment, harvest of apples, vegetables, peaches, and tobacco with peaches and tobacco nearing completion. Some land preparation for seeding winter pastures where soil moisture sufficient. Condition corn, cotton, peanuts and soybeans fair to good. Cotton 5% open, peanuts 3% dug, some early corn harvested. Cattle and pasture good.

**HAWAII:** Weather clear but windy. Rainfall varied from light to moderate. On August 20, Tropical Storm Diana passed in northeasterly direction of Island Chain. High surfs caused damage to beach homes in Puna area of Hawaii. Winds and rain heavier than usual but damage to crops relatively light. All farm operations normal. Harvesting continued light for bananas and papayas, but adequate for vegetables. More rain needed for low-lying pastures. Cattle condition fair to good.

**IDAHO:** An influx of moisture from south triggered air-mass thundershowers that brought heavy precipitation all sections of State. Several stations reported more than 1.00 inch east portion, 0.50 to 0.85 inch north, and generally lesser amounts elsewhere. Temperatures averaged near normal. Cooler last part of week. Freezing temperatures at several higher valley stations; temperatures fell to freezing or lower last 3 days at Three Creek, Owyhee County. Small grain harvest rapid progress south Idaho. Midweek rains slowed grain

harvest in north. Wheat harvest about 40% complete north. Southwest and south-central areas wheat harvest nearing completion; eastern harvest about 3/4 finished. Barley harvest near completion southwest and south-central areas but less than 1/2 complete other areas. Some potato harvest southwest. Sugar beets made rapid growth. Early dry beans being windrowed; later fields good development. Some grasshopper damage in mature fields of small grains.

**ILLINOIS:** Hot, humid. Temperatures averaged about 2° to 8° above normal. Most of rain came early in week with generally below normal amounts west-central area and near or above normal over remainder of Illinois. Reports of over 2.00 inches infrequent. Corn 80% in dough stage with 35% dented. Condition good to excellent 86%, year ago 91%. Soybeans 95% set pods--slightly ahead of normal. Condition 90% good to excellent, 1971 94%. Oat crop 95% combined--behind normal. Alfalfa hay 2d crop 90% cut, 3d crop cutting underway 20%. Condition mostly good to excellent. Plowing for winter wheat 40% finished. Pastures continue to improve slowly. Soil moisture short 20%, adequate 72%, and surplus 8%. Average 5.7 days suitable for fieldwork.

**INDIANA:** Warm week. Temperatures averaged 5° above normal and reached 95° on 18th at 3 stations. Precipitation slight in southeast but about 0.75 inch in northwest coming early and late in week. Humidity above normal. About 6 days suitable fieldwork. Warmer weather aided crop development, but progress of corn and soybeans still lags 1971 more than a week. Pastures edged lower. Good week for haying.

**IOWA:** Hottest driest week of summer. Temperatures 9° or 10° above normal and negligible precipitation falling at weekend. Hot dry week spurred corn and soybean development. Condition growing crops mostly good to excellent. Corn condition 73% excellent, 25% good and 2% fair. Corn 63% in or past dough stage, 20% dent stage; slightly behind last year. Soybeans 81% setting pods, 88% last year and 77% for 5-year average. Soybean crop condition 50% excellent, 48% good and 2% fair. Oats harvest completed. Second cutting clover hay 75% complete; 3d cutting alfalfa hay 35% done. Pastures mostly good to excellent, still above average. Topsoil moisture 83% adequate, 13% short, and 4% surplus. Almost 7 full days available fieldwork.

**KANSAS:** Hot and dry. Weekly mean temperatures averaged 0.5° to 4° above seasonal. Maxima 80's and 90's early in period, warming to 92° to 102° after 14th. Hottest weather south-central and southeast August 20. Highest reading 108° at Wellington. Minima mostly 60's and 70's. Cool front 20th dropped maxima to 80's extreme northwest. Few showers of 0.50 inch northeast late in period but most rainfall totals under 0.10 inch. Hot weather pushed row crop development, but depleted surface moisture. Corn 77% dough stage; 82% last year, average 76%. Corn 32% dented, 40% year ago, average 44%. Corn 6% mature. Sorghums progressed well with acreage 68% headed, 70% year ago, average 66%. Sorghums 10% coloring, 14% last year. Soybeans 75% setting pods, 79% last year, average 70%. Ground preparation active for fall-seeded grains. Alfalfa and prairie hay harvest full swing. Silo filling active. Pasture and range feed adequate, but could use moisture. Pinkeye, flies, and heat problems for cattle.

**KENTUCKY:** Temperatures averaged near to 5° above normal. Rainfall spotty, totals less than 0.10 inch over much of State but at some scattered locations totals 0.50 to 1.00 inch. Very warm and humid but cooler in east on 20th. Showers 1 or more locations on 4 days. On 19th, 1 injury due to wind in southern Bluegrass and local wind damage scattered locations in Bluegrass and east. Practically all days favorable fieldwork. Soil moisture adequate to short bulk State, shortest northern counties. Corn advancing well, nearly 1/3 in dent, less than 1/4 still in milk stage or earlier. Soybeans growing rapidly, nearly 2/3 podded or podding. Tobacco work active, many farmers spraying and topping, some early cutting begun. About 3/4 burley topped compared 50% week ago, dark types 85% topped. Little priming expected. Considerable hay activity, 3d cutting alfalfa nearly 80% completed, lespedeza 1/4 harvested. Pastures continue to supply adequate forage. Livestock in excellent condition.

**LOUISIANA:** Temperatures ranged from 2° below normal to 1° above normal. Showers statewide. Temperature extremes: 98° Amite Thursday and Monroe Monday and 64° Winnfield on Monday. Weekly rain totals ranged from zero to more than 1.00 inch north to more than 2.00 inches south. Greatest 1-day total 2.18 inches measured at Jeanerette 7 a.m. Tuesday. Fieldwork active north, but delayed by showers south. Insect and weed controls, haying, and land preparation chief activities in north. In southern parishes rice combining, sweetpotato digging and sugar cane planting took priority. Rice harvest 35% to 40% complete--will be in full swing this week if weather permits. Sweetpotato digging speeded up following showers. Cotton and soybeans in north need more rain--soybeans in south look good, but worms and weeds are increasing following frequent August rains. Fall sugarcane planting underway in several parishes. Pastures normal or above in south, but beginning to dry in north. Livestock good condition.

**MARYLAND AND DELAWARE:** Temperatures averaged below normal for 3d straight week, this time 2° to 4° below normal. Rainfall from showers and thunderstorms of 17th and 18th scattered and variable, a few totals reached 1.00 inch but most less than 0.50 inch. Corn and soybean prospects about same. Good general rain still needed. Harvests tobacco, hay, vegetables, and peaches made good progress. Digging potatoes also active. Peach harvest full swing with Loring, Blake varieties. Redskins are ready now. Fall apples good condition, but rain still needed. Fieldwork possible until Thursday most areas.

**MICHIGAN:** Seasonal temperatures except briefly cooler mid- and late in period. Significant showers most areas midweek, isolated showers remainder of week. Temperature averages normal east to 3° above normal west Upper Peninsula; 2° below normal northeast to 2° above normal southwest Lower Peninsula. Precipitation totals: 0.50 to 0.75 inch except locally over 5.00 inches southwest Upper Peninsula, 1.00 to 2.50 inches Lower Peninsula except 0.10 to 0.50 inch in band from Traverse City to the Thumb area. Field crops showing good growth, but ripening is slow. Rain and wet fields slowed most harvest work. Soil moisture continues adequate to surplus nearly all areas. State averaged 2 3/4 days suitable for fieldwork. Harvest hay and small grains very slow, many

fields rain damaged. Early potato harvest well along, late fields just starting. Cornfields look very good, but development slow. Only 1/3 of crop dough stage compared with 70% last year, 60% silk. Pasture feed supplies continue average or above except some areas south of Kalamazoo.

**MINNESOTA:** Temperature averaged 10° above normal except 4° above normal along Lake Superior. Extremes 103°, 43°. Little to no rain except north-central and northeast districts and the very southeast counties where precipitation varied from 0.50 to more than 6.00 inches. Several local flash floods occurred during week. Duluth on 16th had 2.51 inches rainfall, then on 20th 2.95 inches rain fell in about 1 1/2 hours caused one of the most damaging floods in Duluth history. Almost all streets, alleys within and near downtown area will require some kind of repair. Many homes and business establishments had heavy flood damage. Estimates of damages are expected to be in the millions. Other local flooding was at Winona on 18th and 19th and Castle Danger area east of Two Harbors on 15th. Both caused some road and street damages. High temperatures increased corn and soybean development. Small grain harvest made good progress, but is still late; some central areas remain wet. Corn in dough stage 24%, normal 23%. Soybeans setting pods 85%, normal 88%. Flax harvest began in south. Topsoil moisture short to adequate south. Adequate with areas of surplus elsewhere except northern northwest district which is very dry. Small grains percent combined: Spring wheat 23, normal 43; oats 53, normal 72; barley 52, normal 73; winter wheat 86, normal 86; rye 80, normal 93; flax 9, normal 19.

**MISSISSIPPI:** Showers on 1 to 3 days; greatest 1-day amount of 2.42 inches measured on 13th at Vaiden. Weekly temperatures averaged 3° below normal up to normal. Extremes: 98° and 61°. On 12th, one person killed by lightning at Ruleville 3E. Over weekend: Temperatures slightly higher, sunny and dry. Days suitable fieldwork averaged 5 1/2 days. Soil moisture short to adequate; some areas need additional rain. Sweetpotatoes 26%, hay 67%, and water-melons 78% harvested. Cotton opening southern counties. Cotton making good progress as insect control continues. Soybeans 61% blooming, 50% setting pods, mostly good condition; last year 56% setting pods, fair to good. Corn nearly 2/3 dented, fair to good condition; last year 3/4 dented. Hay crops, rice, pecans, pastures, and livestock mostly good condition.

**MISSOURI:** A very hot week. Temperatures averaged 5° to 8° above normal as temperatures climbed into the 90's every day. Above-normal humidity added to the discomfort. Showers early in week in southeast. Only a few widely scattered showers elsewhere. A few amounts exceeded 1.00 inch, but most areas received none. Days suitable fieldwork 6. Corn mostly good condition, 77% dough stage, 42% dent stage; 67% dented this time last year. Soybeans mostly good condition, 73% setting pods, 78% last year. Cotton mostly good, bolls just beginning to open. Grain sorghum 85% headed, 89% last year; 14% matured compared 20% last year. Third cutting alfalfa 63% cut. Harvest 74% complete last year. Soil moisture adequate northwest and Bootheel, mostly short elsewhere.

**MONTANA:** Temperatures averaged near normal southern plains to 6° above normal northern plains. Generally scattered light showers west and south-central. Heavier showers other sections, with 1.00 inch or more common central and east. Winter wheat 45% harvested, 50% ripe, 5% turning. Rain slowed or halted harvest, stimulated sucker and weed growth some fields. Spring wheat 10% harvested, 40% ripe, 40% turning, 10% headed. Barley 20% harvested, oats 30%. Rains improved grass. Range feed supply adequate all areas, except central and south-central. Cattle and sheep condition good. Haying delayed by rains; 2d cutting alfalfa 50% complete, wild hay harvest 80% complete. Topsoil moisture adequate south-central and far east, short to adequate elsewhere.

**NEBRASKA:** Hot and dry. Temperatures averaged 3° to 8° above normal, the largest departures occurring in southeast. A majority of stations reporting no rain to 18th, although scattered thundershowers did provide local relief in Panhandle and northwest portion of north-central division at midweek. An influx of somewhat cooler air triggered widely scattered thundershowers over weekend. These rains not well distributed and under 0.50 inch. Hot temperatures caused rapid depletion topsoil moisture. Crop maturity advanced rapidly, mostly adequate subsoil moisture supplies. Farmers with irrigation busy applying water to their crops. Row crops rated good to excellent. About 40% corn reached dough stage and 15% reached dent stage. Sorghum maturity advanced to 15% heads turning color. Leaves turning color 5% soybeans acreage. Haying operations made good progress, and 50% 3d crop harvested. Heat and humidity caused much discomfort to livestock with small number deaths reported eastern areas.

**NEVADA:** Cool week with all divisions reporting 3° to 4° below normal except extreme south with 10° below normal. Spotty light to moderate precipitation as thundershowers entire State from trace at Yerington to 0.71 inch at Carson City. Flooding at Las Vegas fore week. Second cutting alfalfa hay about 3/4 complete northern and central areas. Preparation for alfalfa seed harvest underway important seed areas. Small grain harvest remains active many areas. Cotton Pahrump Valley progressing favorably. Livestock good condition. Ranges helped by recent storms, but remain dry and need moisture.

**NEW ENGLAND:** Quite cool for 2d week in a row. Daily maxima again mostly only in 60's and 70's. Cold mornings first part of week with some lows down to record levels for August 16. A few readings near freezing, with 33° at Berlin, N. H. Means mostly 2° to 7° below normal. Week fairly dry most areas but scattered light showers frequent. Most general rains on 14th and 18th with many heavy local thundershowers in south on 14th, some with large hail. Total rainfall extremely variable but mostly 0.10 to 0.50 inch in northern States and locally over 1.00 inch in southern 3 States with up to 4.50 inches in northwestern Connecticut. Supply vegetable crops short due unseasonably cool weather. Some hay put into barn, but quality low. Apples and pears making good progress and being spot picked some areas. Maine potato crop continues to look good.

**NEW JERSEY:** 4th consecutive week of cold weather. A few stations in North reported as much as 0.50 inch of rain but some areas had no measurable

rainfall. North Jersey averaged 0.20 inch, South Jersey, 0.10 inch, and the coastal division near zero. Temperatures averaged from 1° to 5° below normal ranging from low 90's on 14th to mid-40's on 16th. Soil moisture very short, all areas could use a soaking rain. Plenty fall vegetables well advanced. Most summer crops moving normal pace. Growers irrigating heavily. Blueberry harvest about completed. Field crops showing effects of dry week. Field corn in critical stage, needs rain. Second cutting hay about complete, 3d cutting general. Corn silage making increasing. Pastures deteriorating rapidly.

**NEW MEXICO:** Scattered light showers general first part of week. Showers continued into last part of week with some locally heavy rains. Rainfall amounts in excess of 1.00 inch central valleys with near 2.00 inches southwest mountains and southeast plains. Warmest first of week with cooling trend latter part of week. Northern half of State slight below normal daytime temperatures with nights near normal. Southern half of State generally 3° to 8° below normal. Soil moisture conditions vary from excellent to very poor. Preparation land for fall-sown small grains active. Sorghum grain and cotton good condition. Haying, digging potatoes, and other harvest operations very active. Range conditions generally good. Livestock good condition.

**NEW YORK:** Cool week especially in north and east. Maximums mostly in 70's but ranged from 60's on 17th up to low or mid-80's southern half on 14th. Minimums near 40° interior Upstate on 16th with 45° to low 50's elsewhere. Nights mild early and late week. Widespread showers 14th and 15th totaled 0.50 to 1.00 inch generally. Heaviest averaged 1.50 inches Mohawk Valley with 1.80 inches at Oswego and Utica. Lightest totals 0.20 to 0.40 inch southwest, and eastern Long Island. Sunshine abundance latter half of week. Wheat harvest over 70% complete most areas. Oat crop fair to good with harvest about 20% along. Oats lodging badly some central areas and northern counties. Corn development continues slow because of cool weather. Corn in fair condition - blight and some insect damage reported. Dry beans progressing, fair to good condition. Second cutting alfalfa well along and start made in 3d crop. Pastures fair to good condition. Few fields processing potatoes dug in western New York. Size small, specific gravity good. Digging increasing Long Island, size small. Onions developing slowly. Orange county harvest increasing. Supply and quality of lettuce improving in Oswego County. Celery 50% harvested Orange County. Snap beans and sweet corn about 50% harvested. Kraut harvest increasing. Continue harvest of summer apples. Peach harvest underway.

**NORTH CAROLINA:** Temperatures near normal. Highs mostly 80's, occasionally low 90's. Lows mostly 60's. Widely scattered showers each day, more prevalent on 18th; a few local thunderstorms. Daily amounts none to 2.00 inches and totals for week none to 3.00 inches. Average less than 1.00 inch. Soil moisture mostly adequate, except Piedmont and northern Mountains. Crop conditions little change -- flue-cured tobacco, corn, peanuts, soybeans, hays, pastures, Irish and sweetpotatoes good. Cotton poor to good. Apples good -- harvest major varieties. Burley tobacco mostly fair, harvest beginning. Flue-cured harvest past peak--marketing active. Harvest early corn coastal plains. Sweetpotato harvest beginning.

**NORTH DAKOTA:** Hot and humid with scattered thunderstorms and heavy winds. Rainfall totals ranged from very light to 3.06 inches. Highest west-central. Temperatures averaged 7° to 12° above normal. Maximum temperature 102°, minimum 48°. Harvest of small grains picked up momentum past week. Hot weather speeding crop development. Harvest running behind normal. Small central part State needs moisture for late seeded crops, pastures and alfalfa. Pasture feed adequate. Some yearlings moving to market.

**OHIO:** Tornadoes on 17th and 19th. The tornado on 17th touched down in several locations destroying several homes and barns and downing trees and power lines. No deaths or injuries reported. Minimum temperatures ranged from the mid-40's to lower 70's. On 16th Oberlin reported a low of 46°. Maximum temperatures ranged from mid-70's to mid-90's. Rainfall quite heavy some locations because of thunderstorm activity. On 17th, the climatologist office had 2.25 inches in 2 hours. Mansfield had 3.85 inches on same day. Six days favorable for fieldwork. Soil moisture supplies: 28% short; 56% adequate; 16% surplus. Below-normal temperatures continue to keep crop development and maturity behind average. Corn 45% dough stage, and less than 10% dented, but not hard. Last year 60% was dough stage and 30% dented, but not hard. Soybean crop has 30% of pods set, leaves green compared to average of 55% and last year 70% pod set, leaves green. Oat harvest 95% complete. About 1/3 timothy seed harvested. Potato harvest 20% complete compared to 15% last year. Second cutting alfalfa is 90% along and second cutting clover-timothy is 70% complete. Over 1/4 of land plowed for winter wheat planting. Tobacco acreage 1/2 topped.

**OKLAHOMA:** Only isolated rainshowers during the week with totals generally less than 0.20 inch. Temperatures averaged 15° above normal in northern 1/3 of State and near normal in southern 2/3. Dry hot weather pulled condition cotton down sharply while condition other row crops declined slightly. Condition all row crops below year ago. Soil moisture supplies continue decline. Surface moisture reports short all areas. Corn 9/10 dough stage and nearly 4/10 mature. Small amount harvested. Sorghum 90% heading and 50% dough stage, nearly 10% mature. Hot dry weather prematurely maturing crop several areas. Cotton setting bolls, but squares dropping due to heat. Nearly 3/4 peanuts spiking. Pasture and range condition continues to decline--rated poor to fair. Supplemental feeding necessary several areas.

**OREGON:** A long dry spell approaching drought conditions some areas was broken by rains during latter half of week. Amounts only a trace to 0.05 inch in extreme south and southeast but elsewhere weekly totals ranged from about 0.10 to 1.45 inches. Amounts quite variable from point to point, and no particular area was favored. The rains broke a dry spell of about 25 to 50 days most areas, and Medford in southwestern valleys had gone 66 days without rain. The cool trend of preceding week continued. Maxima for week were 66° to 73° on coast and 80° to 90° over the remainder except 90° to 98° in south-central and southeast. Minima ranged from 33° in high plateau to 54° in southeast. Grain harvest 85% complete Willamette Valley and Columbia Basin Counties, northeast and central counties 10% to 75% completed. Harvest activities slowed by thunderstorms. Bartlett pears coming on at Medford and Hood River. Early peaches continue. Sweet corn picking underway Willamette

Valley. Snap bean harvest continues - pace slowed by cool wet weather. Still short pole bean pickers some areas. Hop harvest just getting underway Salem, grass seed harvest practically done. Sugar beet seed swathed and some combining. Field burning behind schedule due unfavorable weather conditions. Ranges improved some and fire danger decreased with recent thundershowers.

**PENNSYLVANIA:** Generally dry week much of State. Scattered showers brought 0.50 to nearly 1.50 inches parts of west and extreme north, but less than 0.25 inch large area from Lake Erie to south-east. Some sections under 0.10 inch. Temperatures near normal west, 2° to 6° below normal central and east, with generally warm days and cool nights. Warm dry weather provided ideal conditions for fieldwork. Topsoil moisture reported short by 2/3 reporters. Pasture conditions declining all areas. Corn 70% silked. Harvesting early potatoes and ensilage corn full swing. Fall seeding wheat and barley gaining momentum.

**PUERTO RICO:** Heavy rains and thunderstorms from northwest corner, western interior east coast and some parts of north coast gave an islandwide average rainfall of 1.11 inches or 0.59 inch below normal. Southern divisions received little or no rain. Highest weekly total 5.22 inches western interior. Agricultural drought greatly eased except some parts south. Temperatures cooler than normal islandwide with coasts averaging 80° to 81° and interior divisions 75°. Mean departure 2.4° below normal. Highest maximum 93°, lowest minimum 67°. Weather most favorable for development sugarcane sprouts. Some areas need more rain. Harvesting coffee started. Recent rains helped field activities planting and transplanting coffee trees but also caused some beans to fall. Some areas need more rains for better bean development. Tobacco farmers preparing seedbeds and soil tracts for future plantings. Rainy weather most zones favored recovering pastures as well as sowing and fertilizing, except southern divisions where little or no rain occurred. Good weather sowing all minor crops and abundance plantains and bananas.

**SOUTH CAROLINA:** Temperatures averaged about 2° below normal. Rainfall spotty varying from 0 to 3.00 inches. West Pelzer, Calhoun Falls, Johnston, Kershaw and Beaufort all had more than 2.00 inches. Driest area was northeast. All crops improving. Tobacco 93% harvested, 86% last year. Cotton fair to good condition--essentially all plants squared, 95% set bolls, 17% open bolls; 100% set bolls and 10% open bolls last year. Corn good to excellent condition--87% in or past dough stage, 70% mature; 100% in or past dough stage, 53% mature and 4% harvested last year. Soybeans good condition--56% bloomed, 22% set pods, 2% leaves turning; 81% blooming and 41% set pods last year. Peanuts good condition--37% harvested, 24% in 1971. Lespedeza and pastures good. Peaches good--94% picked, 95% last year. Watermelons 93% harvested, 95% last season. Planting fall cucumbers and snap beans underway Charleston-Beaufort area.

**SOUTH DAKOTA:** Hot and dry week over most of State. Weekly temperatures averaged from 4° above normal parts West to 13° above normal portions East. Extremes ranged from 51° Maurine and Marcus on 18th to 103° at Vivian on 14th. Precipitation fell as widely scattered showers and thundershowers with most areas reporting totals less than 0.25 inch, although Lemmon received 1.21 inches. Wide-ly scattered hail was reported. Weather condi-

tions favored small grain harvest and combining finishing most areas. Warm, sunny weather continued to push growth and development row crops and maturity advanced rapidly. Corn 49% dough stage equal to normal, but 9 points below 1971. Soybeans 80% podded, normal 86%, last year 95%. Sorghum headed 57%, last year 95%. Flax 28% harvested, normal 36%, last year 54%. Topsoil moisture becoming depleted many areas, rain needed to maintain crop development. Isolated hail few areas caused light to moderate crop damage. Fall plowing stubble fields underway many areas. Pastures need moisture and maturing some areas, but generally good to excellent condition. Livestock condition good, but flies and pinkeye still problem. Grasshoppers numerous few areas.

**TENNESSEE:** Hot, dry and hazy most of week. Temperatures averaged slightly above normal except below seasonal southeast. Showers parts of central and east on 20th. Totals variable from 0.10 inch to 1.50 inches. No significant rain west. Hay and tobacco harvest and fall seeding were major farm activities. Although some fields weedy due delayed cultivation and wet fields, soybeans continue to make good growth. Soybeans 90% blooming and over 40% setting pods. Over 90% corn in dough stage and 55% dented. Fair weather allowed cotton farmers to step up insect controls. Nearly 95% cotton setting bolls. Tobacco farmers welcome dry weather. Burley harvest over 20% complete, dark air-cured 25% and dark-fired nearly 30%. Fall plowing over 40% done. Pasture conditions remain above average. Lespedeza cutting over 35% complete. Days favorable fieldwork averaged 5.2. Soil moisture; 83% adequate, 13% short, and 4% surplus.

**TEXAS:** Widely scattered mostly light thundershowers dotted many sections of State. Most frequent in Lower Rio Grande Valley. Showers missed North-Central and East Texas, the Panhandle, and the Low Plains. Pre-harvest and harvesting activities of cotton are being hampered throughout most of State by scattered thundershowers. Sorghum harvest making progress in East-Texas and the Blacklands with some delayed due to wet fields. Corn and peanut harvest are progressing in South Texas. Major crops percent harvested: cotton 8, 6 year ago; sorghum 39, 36 year ago; corn 25, 23 year ago; rice 80, 79 year ago; peanuts 14, 4 year ago. High Plains, light supplies potatoes remain available. Onion harvest nearing completion. Carrot digging continues. Picking cucumbers and peppers remain active. Watermelon harvest underway. In the Trans-Pecos, tomato harvest underway. Pecos cantaloupe harvest nearing completion. In North Texas, light supplies watermelons and cantaloupes remain available. Tomatoes and cucumbers available in light supplies. Central and East Texas dryland sweetpotato harvest underway with average yields. Irrigated crop shows good potential. Limited quantities of watermelons are available. Winter Garden, planting fall crop continues. Established fields carrots, cabbage, spinach, and peppers show fair growth. At Laredo, field setting peppers and tomatoes complete. Lower Rio Grande Valley, land preparation and planting fall vegetables hampered by rains. Peach harvest nearing completion. Pecan crop outlook remains good. Citrus trees excellent.

**Pasture and Livestock:** Range and pasture conditions over much of the State continue to be bolstered by scattered rainfall. Much of North-east Texas pastures continue to suffer. Light scattered rainfall affords little relief from dry conditions. Number of reported screwworm cases

continue to increase. Fall shearing is making progress on the Edwards Plateau.

**UTAH:** Considerable shower and thunderstorm activity especially west. Locally moderate to heavy moisture reported in west with some crop damage from hail. Precipitation in east light. Rain-fall in west improved soil moisture, but supplies continue short in north, and very short in south. Average temperatures ranged from 2° to 7° above normal in east and 2° to 5° below normal in west. Accumulated growing degree days continue well above normal, ranging generally between 100 and 400 degrees above normal. Soil temperatures, at 4-inch depth, ranged from mid-70's Cache County and Richfield, to upper 70's Salt Lake City and low 90's St. George. Feed supplies on ranges now in use poor to fair. Feed prospects fall and winter ranges poor throughout State. Second crop alfalfa hay cutting 85% completed, 90% year ago. Percent grain acreage cut, 95 winter wheat, 85 spring wheat, 90 barley, and 75 oats. Production prospects good for field corn, potatoes, sugar beets and dry onions. Vegetable crop harvest 65% complete sweet corn, 80% snap beans. Tomato harvest started August 17.

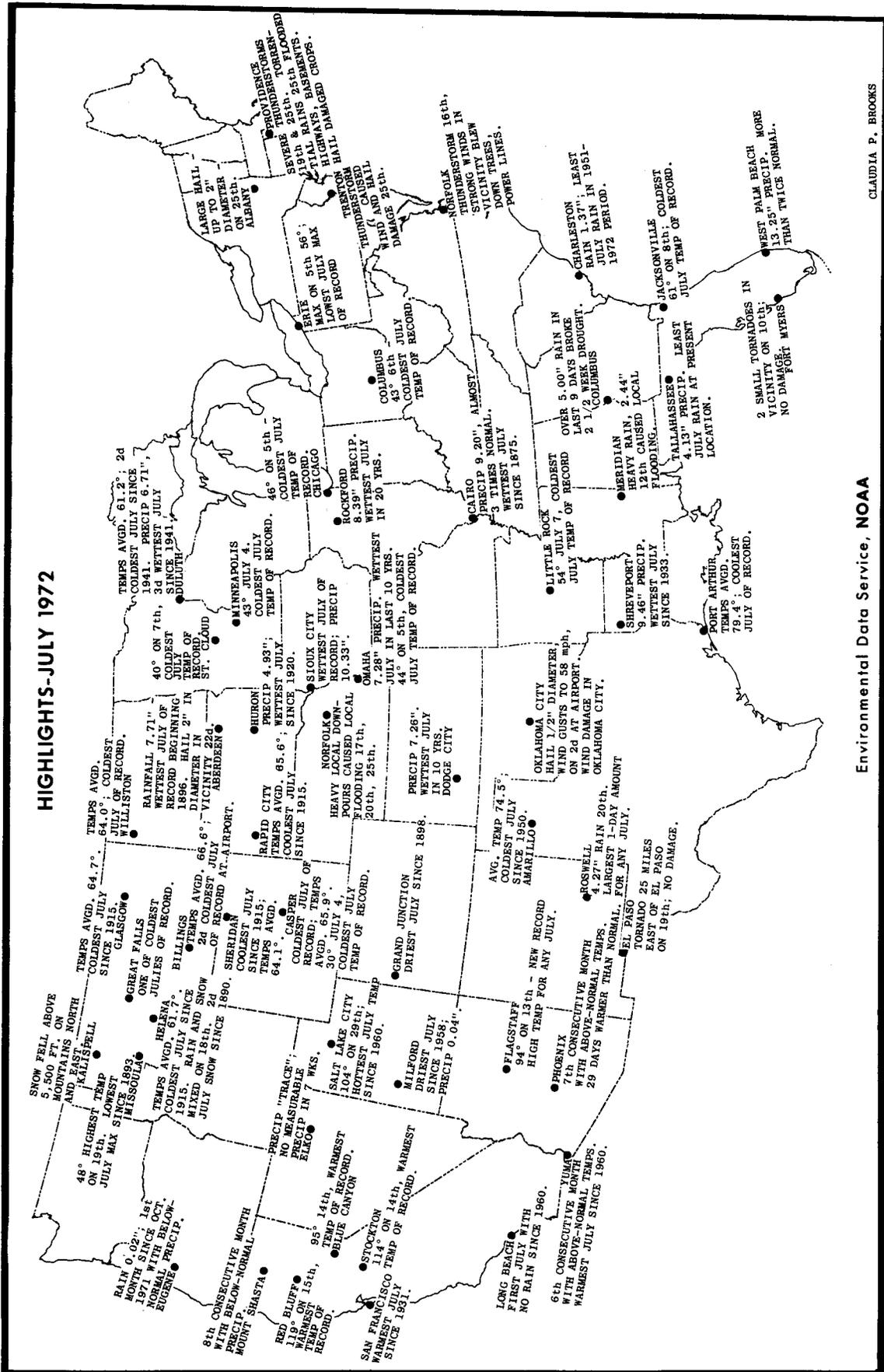
**VIRGINIA:** Temperatures mostly around normal except below normal at midweek and Sunday. Scattered showers and thundershowers. Crop growth good. Topsoil moisture mostly adequate. Corn silage harvest well advanced southeast. Flue-cured tobacco 28% harvested, fire-cured 8%. Pastures excellent. Haying progressed well. Harvested peaches, early apples, tomatoes, and watermelons.

**WASHINGTON:** Western Washington: Showery periods Tuesday through Friday. Precipitation above normal. Temperatures averaged 2° below normal. Rains made it possible to resume logging operations. Pastures in good shape with feed supply adequate. Harvesting of vegetable crops included bush beans and cucumbers. Harvesting small grains, grass, and vegetable seed started. Sixty percent blueberries harvested, rain delayed picking. East-central: Scattered showers last of week. Precipitation above normal. Temperatures 1° to 4° below normal. Bartlett pear harvest in full swing and workers picking some peaches and summer apples. Fire blight problems in pear orchards prolonged in Yakima Valley with rain and wind. Fall apples showing good size. Winds caused some damage to hops and corn. Hop harvest started. Rains delayed grain and hay harvesting. Wheat harvest southern counties virtually completed. Seeding winter wheat main activity in south and central dryland grain areas. Harvest of potatoes and sweet corn interrupted by rains. Pastures improved by rains, in good condition. Eastern Washington: Scattered showers last of week. Precipitation above normal. Temperatures 1° to 2° below normal. Wheat harvest delayed. Most grain northeast remained in field with less than half elsewhere. Heavy rains and hail caused some damage to standing grain several areas as well as some flooding in low places.

**WEST VIRGINIA:** Heavy thunderstorms August 17 to 19 with cold frontal system. Warmest of month this week but still only near normal temperatures. Farm activities at brisk pace due favorable weather. Fieldwork possible 4 days. Harvesting hay and mowing pastures major farmwork. Moisture adequate to surplus. Barley crop harvested. Wheat 90% and oats 80% harvested. Corn growth boosted by recent rains. Corn growth stages, 25% pre-silked, 55% silked and 20% dough stage.

WISCONSIN: Thunderstorms moved through the State Monday with high humidity and cloudiness remaining until hot humid air replaced the much cooler air Wednesday followed by more rain and slightly moderating temperatures Saturday and Sunday. Rain-fall amounts in the Northwest portion averaged over 2.00 inches. The high humidity and wet conditions have continued to plague farmers making grain and hay harvest at or near standstill. Oats are about 1/3 harvested, 2d hay crop about 1/2 harvested and of poor quality, 3d crop outlook good. Hot weather and high moisture helped corn growth, but maturity stage somewhat behind the earlier cool temperatures. Pastures are excellent. Tobacco, soybeans, cabbage, apples making excellent growth due to warm wet conditions. Harvesting a problem for sweet corn which is maturing too fast for canners. Soil moisture 60% adequate to 40% surplus. All growing conditions good, harvesting conditions poor.

WYOMING: Scattered showers occurred statewide, Bondurant reported the most moisture with 1.38 inch. Temperatures averaged 2° to 9° above normal. Maxima were mostly 80° to 95° west of Divide and Upper Platte Drainage, 90's to low 100's elsewhere. Minima mostly 30's and 40's west of Divide, 40's to 50's east. Temperature extremes: 104° at Gillette and 29° at Bondurant. Agricultural activities include harvesting grain and 2d crop alfalfa, irrigating row crops, seedbed preparation for winter wheat, and some movement livestock. Virtually all winter wheat harvested. Oats and barley harvest moved ahead rapidly. About half spring wheat harvested. Over half 2d cutting alfalfa and about 85% other hays harvested. Windrowing dry beans expected to begin around 1st and 2d week September. Surface moisture supply short to adequate with subsoil moisture on short side.



HIGHLIGHTS-JULY 1972

Environmental Data Service, NOAA

CLAUDIA P. BROOKS

## BLACK HILLS DISASTER - JUNE 9 AND 10, 1972

Walter Spuhler  
Climatologist for South Dakota

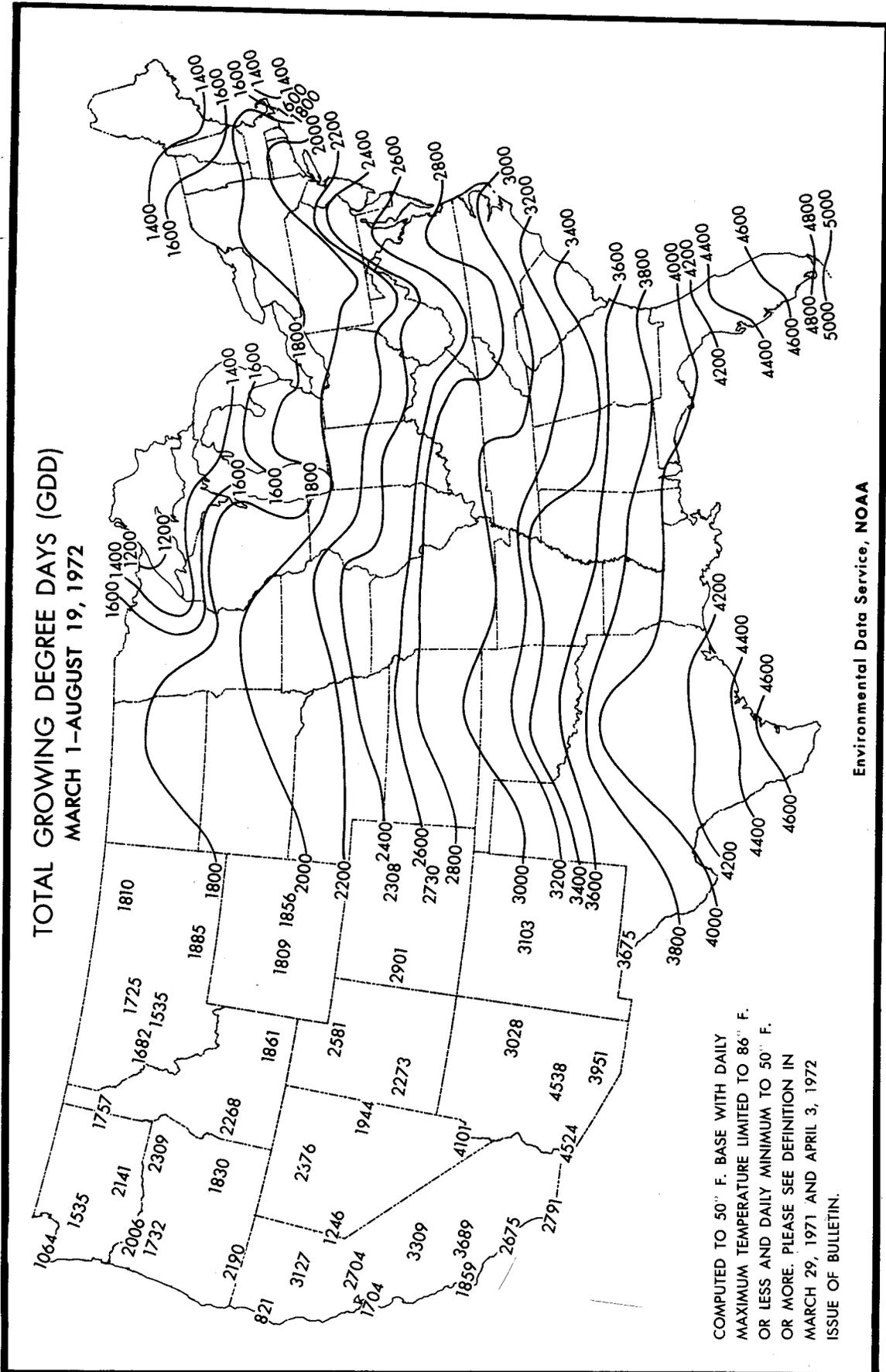
A flash flood in Rapid City and vicinity on June 9 and 10, 1972, caused the greatest natural disaster in the history of South Dakota. There were 241 deaths with 1 person missing and presumed dead. A total of 2,932 persons were injured with 118 hospitalized. Flood damage was over \$100 million. There were 750 homes destroyed with major damage to 2,261 homes and minor damage to 3,117 homes. There were about 50 small businesses destroyed or had major damage. Of these, about 30 had losses of over \$200,000 with one reporting a loss of about \$1,000,000. It was estimated between 1,000 and 2,000 cars were damaged by the flood and many were damaged beyond repair. A total of 6,570 families suffered losses.

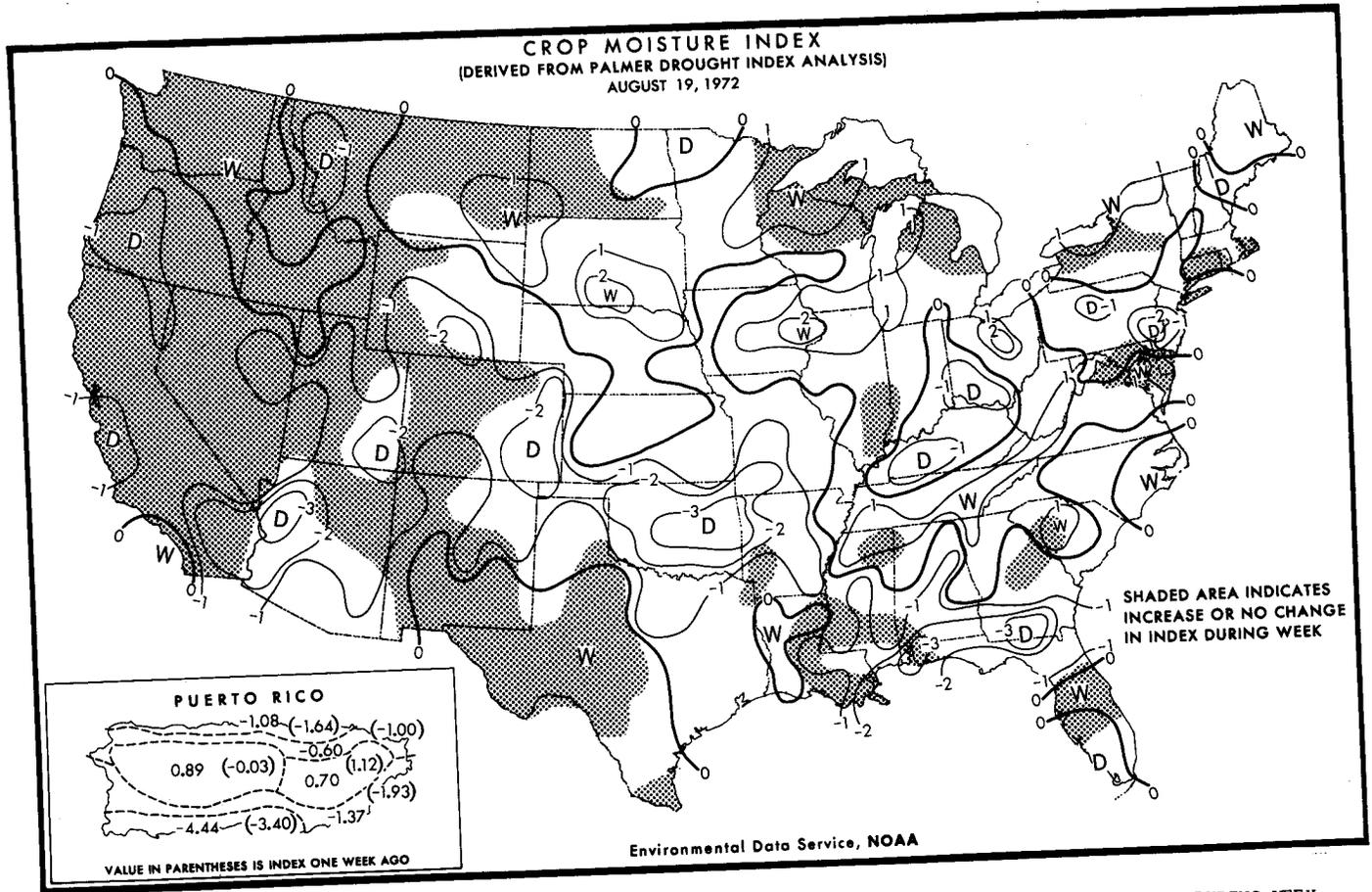
The flooding was caused by heavy rain of up to 14 or more inches over the east slopes of the northern Black Hills. Much of the area from Keystone to Sturgis received 6 inches or more rain. Most of the rain fell in a period of 4 hours or less. In some areas the heavy rain started about 4:00 p.m. on the 9th, but in much of the area the heavy rain started about 6:00 to 7:00 p.m. or later.

The flood damage occurred along the numerous creeks that drain the east slopes of the northern Black Hills. The greatest damage occurred along Rapid Creek which flows through Rapid City. The damage was compounded by the collapse of Canyon Lake Dam located just above Rapid City adding to the wall of water rushing down Rapid Creek through the city.

Other creeks along which extensive damage was reported were: Bear Butte Creek which flows through Sturgis, Battle Creek and Grizzly Creek which flow through Keystone, Spring Creek which flows through Rockerville, Box Elder Creek which flows through Black Hawk and Ellsworth Air Force Base, and Elk Creek which flows through Piedmont.

The heavy rains were associated with a unique combination of weather conditions. A very slowly southward moving cold front extended along a northwest-southeast line near Rapid City on the 6:00 p.m., e.s.t., surface weather map of June 9. The surface flow of air was generally from the east over a gradual upslope across South Dakota and a rapid upslope over the east slopes of the Black Hills. The surface dew points over the State were high, mostly in the 60's. Winds at the 500 mb. level, about 19,000 feet, were light southerly, 10 knots or less, on the 7:00 p.m., e.s.t., 500 mb. map which resulted in little or no eastward movement of the thunderstorms when they developed over the east slopes of the Black Hills. There was a high moisture content in the layer of air up to the 500 mb. level with the air conditionally unstable as indicated by the Rapid City 7:00 p.m., e.s.t., radiosonde observation.





INDEX DECREASED DURING WEEK  
(Unshaded Areas)

INDEX INCREASED OR DID NOT CHANGE DURING WEEK  
(Shaded areas)

INDEX

- ABOVE 3.0 SOME DRYING, BUT STILL EXCESSIVELY WET.
- 2.0 to 3.0 MORE DRY WEATHER NEEDED, WORK DELAYED.
- 1.0 to 2.0 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS.
- 0 to 1.0 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK.
- 0 to -1.0 TOPSOIL MOISTURE SHORT; GERMINATION SLOW.
- 1.0 to -2.0 ABNORMALLY DRY, PROSPECTS DETERIORATING.
- 2.0 to -3.0 TOO DRY, YIELD PROSPECTS REDUCED.
- 3.0 to -4.0 POTENTIAL YIELDS SEVERELY CUT BY DROUGHT.
- BELOW -4.0 EXCEPTIONALLY DRY, MOST CROPS ABOUT RUINED

INDEX

- ABOVE 3.0 EXCESSIVELY WET, SOME FIELDS FLOODED.
- 2.0 to 3.0 TOO WET, SOME STANDING WATER.
- 1.0 to 2.0 PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET.
- 0 to 1.0 MOISTURE ADEQUATE FOR PRESENT NORMAL NEEDS.
- 0 to -1.0 PROSPECTS IMPROVED, BUT RAIN STILL NEEDED.
- 1.0 to -2.0 SOME IMPROVEMENT, BUT STILL TOO DRY.
- 2.0 to -3.0 DROUGHT EASED, BUT STILL SERIOUS.
- 3.0 to -4.0 DROUGHT CONTINUES, RAIN URGENTLY NEEDED.
- BELOW -4.0 NOT ENOUGH RAIN, STILL EXCEPTIONALLY DRY.

The map above is based on weekly areal mean values of temperature and precipitation for 350 climatological divisions. Weather during previous weeks has been taken into account through successive weekly computations of both topsoil and subsoil moisture. The map shows recent crop moisture conditions; i.e., areas in which crops have been hindered by abnormal dryness or wetness, and areas where moisture conditions have been favorable.

This is a generalized picture; local variations caused by the occurrence or absence of heavy rain or by soil differences are not shown. Shallow rooted crops and crops in areas with poor soils are likely, on occasion, to suffer more than indicated. Conditions may be better than shown in areas having exceptionally good soils.

The legend applies primarily to growing rather than matured vegetation. Interpretation of the

effects on crops and native vegetation must, therefore, take account of the stage of growth as well as the status and trend of moisture conditions. The trend is indicated by the shading which denotes areas where the index did not decrease below its value of a week previous; i.e., conditions did not become noticeably drier during the week. A trend toward drier occurred in the unshaded regions. The lines show the crop moisture situation according to the computed index values which may be interpreted using the legends above. One legend applies to the unshaded areas, the other to the shaded. Centers of relative maximum and minimum index values are marked for easier recognition - W for wet and D for dry. In irrigated regions the index values merely reflect departures from ordinary irrigation requirements.

Agricultural Climatology Service Office  
South Building Mail Unit  
U. S. Department of Agriculture  
Washington, D.C. 20250

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