

# Weekly Weather & Crop Bulletin

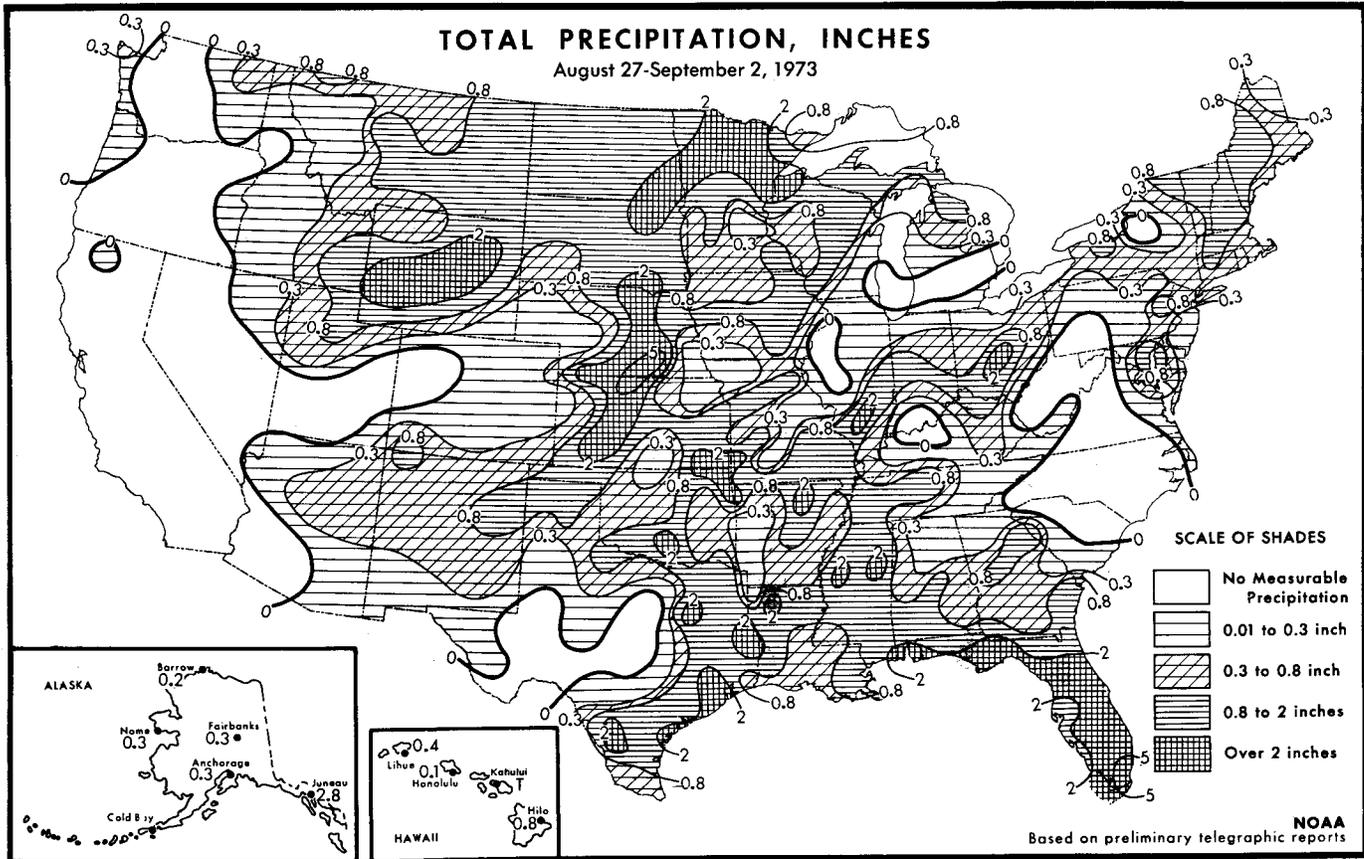
U. S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration

U. S. DEPARTMENT OF AGRICULTURE  
Statistical Reporting Service

Volume 60, No. 36

Sep. 3, 1973

Washington, D. C.



## NATIONAL WEATHER SUMMARY

**HIGHLIGHTS:** The eastern two-thirds of the Nation endured record-breaking heat. The most significant rainfall, which fell mainly on the northern and central plains, was associated with a slow moving cold front which was being blocked by the massive High over the East.

**PRECIPITATION:** The Nation enjoyed mostly sunny skies; however some areas east of the Rockies were spotted with areas of 2.00 in. or more rainfall. Florida received some rainfall every day, accumulating from 2.00 to 5.00 in. over most of the State.

Most of the Nation's significant rainfall, and even some snowfall in the Rockies, came Labor Day weekend. This activity was associated with a cold front stalled over the Dakotas through Wyoming all week. By Sunday, the front had advanced to Minnesota and through Kansas and Nebraska. The precipitation associated with the front brought from 0.80 in. to 2.00 in.

rain to some drought areas--mainly in the Dakotas and east Montana. Over the Labor Day weekend, 1.00 to 5.00 in. rain fell from the Dakotas to southern Kansas.

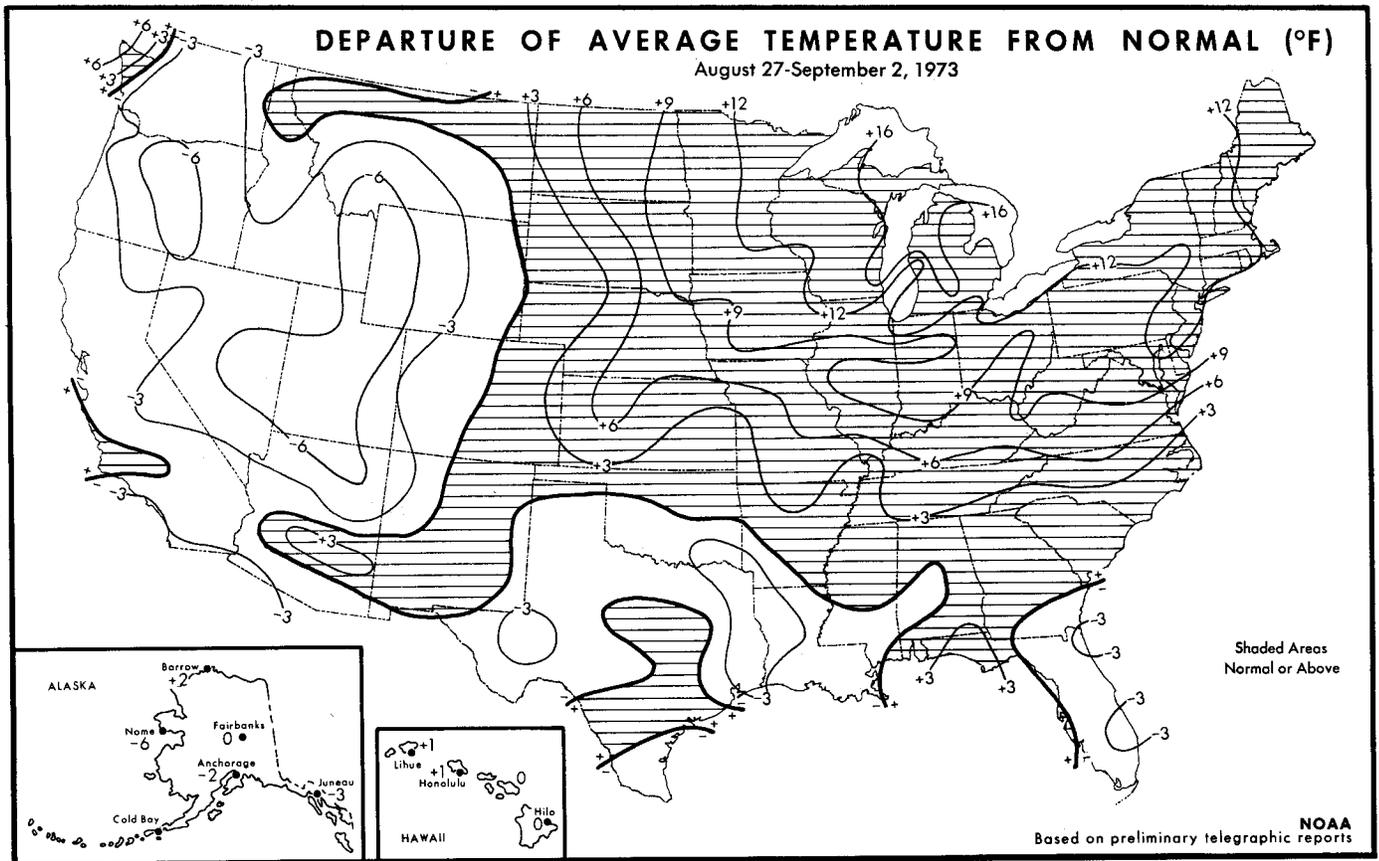
Monday was mostly clear. Scattered showers fell, mainly in the Gulf States: Corpus Christi, Tex., received 1.26 in. morning rain.

Tuesday and Wednesday rains were also widely scattered, mostly confined to the Gulf States. Galveston, Tex., received 2.52 in. from heavy thundershowers Wednesday.

Thursday's rain was likewise scattered, but activity began in the Dakotas, as the cold front began to move eastward. Pickstown, S. Dak., recorded 1.21 in. afternoon rain. Later Thursday, Alexandria, Minn., reported 1.44 in. rainfall in 6 hours.

Friday, the heaviest rain fell on Miami, Fla., 2.37 in., but thunderstorms were widely scattered over the eastern half of the Nation.

Saturday shower activity was heavy along a



line from Minnesota to Texas and the Gulf States.

In 15 minutes, 1.00 in. of rain drenched Brewster, Nebr. Nearly 3.50 in. swamped International Falls, Minn. Thundershower activity diminished after dark. Also Saturday, light snow fell over the northwestern Plains and northern Rockies.

Cold Sunday morning rains fell from Utah to Idaho, also Lander, Wyo., reported 0.82 in. rain and Pocatello, Idaho, 0.67 in. Late Sunday rains were associated with the front: Pickstown, S. Dak., 1.80 in., Grand Island, Nebr., 1.17 in.

In the South weather watchers followed tropical storm Delia, which lay 415 miles southwest of New Orleans, La. Winds from Delia reached 45 to 50 mph sustained velocities. As the week ended Delia was approaching the Galveston, Tex., area.

**TEMPERATURE:** The eastern two-thirds of the Nation suffered from intense record breaking heat. A massive High over the southeast pumped hot, humid air northward. In the Upper Great Lakes area, temperatures averaged 16° above normal. Throughout most of the Corn Belt, Northeast, and eastern Plains temperatures were 9° to 12° above the norm.

In contrast, a wave of cool Canadian air invaded parts of the western Plains, Rockies and Pacific Northwest, which averaged from 3° to 6° subnormal. Redmond, Ore., fell below freezing Saturday morning, recording a cold 29°. However, the stationary High barred the colder air from most of the Plains until the weekend.

Monday heat reigned from the Plains to the Atlantic. The thermometer broke 100° over most

of the Plains, with Pierre, S. Dak., recording 110°. Traverse City, Mich., scored a record 96°, while Milwaukee, Wisc., had the hottest day in 18 years with a record 99°.

Tuesday temperatures began in the 70's and 80's across the eastern two-thirds, but the slowly advancing cold front cooled the western Plains. Bismarck, N. Dak., had a Tuesday high of 88°, compared to Monday's 107°. While most of the western Dakotas stayed in the low 80's--10° to 20° under Monday--hot, humid, hazy weather, associated with a stagnant airmass over the Ohio Valley, hung over the eastern two-thirds. Baltimore, Md., hit a record 101°. Wilmington, Del., and Harrisburg, Pa., had 100°; Marquette, Mich., 96°.

Wednesday morning Midway airport at Chicago, Ill., fell to 74°, the lowest reading in 4 days. Record-high minimum lows had been set for 4 consecutive days at Midway. The High, centered over Pennsylvania, brought many record highs or tied them on Wednesday: Lansing, Mich., and Milwaukee, Wisc., 96°; Trenton, N. J., 95°; Rochester, N. Y., 94°.

Thursday morning temperatures fell into the 70's, in most of the East, while behind the cold front which ran through the Dakotas and Nebraska, Evanston, Wyo., recorded 44°. The High, over Virginia Thursday, continued to stall the cold front and again brought new records to the East: Boston, Mass., 99°, and Atlantic City, N. J., 96°.

Early Friday, cooler air advanced through the Northwest and the western Plains, where temperatures dropped into the 40's and 50's. The

Continued on p. 16.

## NATIONAL AGRICULTURAL SUMMARY

**AGRICULTURAL HIGHLIGHTS:** Small grain harvesting progressed well and neared final stages, but dry weather continued to delay winter wheat seeding in many States. Abnormally hot weather pushed corn and soybean maturity; late planted acreage suffered from heat and dryness. Cotton condition improved.

**SMALL GRAINS:** Small grain harvesting made good progress and neared the final stages. Heavy weekend showers abruptly halted combining in North Dakota where hard red spring wheat is about 85% harvested and durum wheat is 65% harvested. Small grains are nearly all combined in Minnesota and in Wisconsin where oats are 88% combined. The flaxseed harvest is 90% done in South Dakota and 50% done in Minnesota. Spring wheat harvesting is 90% complete in Montana, 75% complete in Idaho and 80% complete in Wyoming. The spring planted small grain harvest is winding down in Washington but continued in Oregon.

Prolonged hot, dry weather continued to hold back winter wheat land preparation and seeding in the Dakotas, Colorado, Washington, and Oregon. Widespread rain in the Dakotas helped soil moisture but more is needed. Winter wheat seeding started in Kansas, Oklahoma and in the Texas Panhandle where lack of moisture slowed progress to 7% complete.

**CORN:** An abnormally hot week with light rainfall across the Corn Belt pushed the corn crop closer to maturity. The heat took its toll on late planted corn acreage especially where soils were dry. Condition of the crop declined slightly in Michigan and Illinois and dropped significantly in Nebraska because of much stress to dryland corn there.

The Corn Belt crop is about 90% in or beyond the dough stage, 56% in the dent stage and about 12% mature and safe from frost. Crop development lags behind normal progress in Ohio, Indiana, Iowa, Missouri and Kansas. Additional rain and warm weather is needed to develop late planted acres.

Corn harvesting increased in the South as more of the crop matured. Texas corn is 25% harvested versus 43% in 1972 while the South Carolina crop is 19% harvested versus 11% in 1972. Rain is urgently needed by late corn in Kentucky and Tennessee.

**COTTON:** Seasonally hot weather and scattered rains favored most Southern cotton improving its condition slightly to good in most States. Dry soil caused some shedding of squares and small bolls in southern Alabama and Oklahoma. Additional rain is needed to develop the crop in these areas plus Arkansas and the Texas High Plains. Cotton in most States is less than 10% open. Spraying continued active although insects were less than usual in many States.

Rains hampered cotton harvesting in the Texas Lower Rio Grande Valley while the first bales were ginned from the Blacklands and southcentral Texas; statewide 4% is harvested versus 16% in 1972. California cotton looks good with good bollset and some open bolls. Pink boll worms are less than in 1972. The Arizona crop progressed well. Near Yuma, bolls matured and opened

rapidly while some cotton was defoliated for early picking.

**SOYBEANS:** Unseasonably high temperatures plus late week scattered rainfall across the Corn Belt increased the pace of soybean development but caused condition to edge downward in Illinois and Nebraska. Late planted acreage suffered the most especially where soil moisture was short and reporters in 7 North Central States (Ohio, Illinois, Michigan, Missouri, the Dakotas, and Nebraska) rated over half of the topsoil short of moisture.

About 88% of the Corn Belt soybean acreage has pods set and leaves yellowed on 21%. Although pod set ran slightly behind 1972 in almost every Corn Belt State, most States show more acreage with leaves turning.

The Southern soybean crop stayed in good condition with pods set on about 75% of the acreage. Dryness hurt late planted acreage in Kentucky and Arkansas.

**OTHER CROPS:** The third cutting of alfalfa hay is 85% complete in Nebraska and 58% complete in Iowa. Hay baling continued at a rapid pace in Texas, but supplies of wire and twine were short. Haying neared completion in California.

Sorghum grain harvesting made good progress in Texas at 43% complete versus 41% in 1972. The Kansas crop is 25% coloring behind average progress of 40%. Nebraska sorghum coloring is ahead of normal at 55%.

Flue-cured tobacco harvesting is 50% done in Virginia and 85% done in North Carolina. Tobacco cutting was active in Kentucky with burley 22% cut.

Peanuts are 8% dug in Georgia and 15% dug in Texas. Light digging continued in Alabama.

Potato harvesting was active in southwest Idaho. Aroostook County, Maine potatoes need rain urgently.

Rice harvesting was slow in Texas at 47% complete versus 94% in 1972 and in Louisiana at 25% complete versus 75% in 1972.

**FRUITS AND NUTS:** Harvest of Red Delicious apples began in New Jersey; some were also picked in Virginia and California. North Carolina's apple harvest is 30% complete, Indiana 25% complete. An excellent apple crop is developing in Washington.

The new citrus crop looks good in all major producing areas. Rains in Florida and Texas maintained good soil moisture.

**VEGETABLES:** Continued hot, dry weather over the Northeast and Great Lakes area advanced vegetable development and harvesting which continued actively.

Lettuce shipments were light near Salinas and Santa Maria, California and fresh market tomato harvesting continued in the central valley area.

**PASTURES AND LIVESTOCK:** Hot, dry weather decreased pasture conditions nationwide. Widespread rains over the northern Great Plains during the weekend did bring some relief to parched soils but the drought-plagued Northwest remained rainless. Livestock there are pasturing on combined grain and grass seed fields.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Sep. 2, 1973

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 . . .	80	0	.2	-.8	La. Baton Rouge . . .	81	-1	.6	-.7	Youngstown . . .	79	+11	.4	-.3
Mobile . . .	82	+1	2.1	+.9	Lake Charles . . .	80	-2	.5	-.5	OKLA. Okla. City . . .	79	-2	.4	-.3
Montgomery . . .	81	0	.7	-.1	New Orleans . . .	80	-1	1.4	+.2	Tulsa . . .	80	+1	.8	0
ALASKA. Anchorage . . .	51	-2	.3	-.3	Shreveport . . .	78	-5	.1	-.4	OREG. Astoria . . .	57	-3	T	-.4
Barrow . . .	38	+2	.2	0	MAINE. Caribou . . .	69	+10	.1	-.7	Burns . . .	58	-6	0	-.1
Fairbanks . . .	50	0	.3	-.1	Portland . . .	74	+11	.3	-.3	Medford . . .	67	-2	T	-.1
Juneau . . .	49	-3	2.8	+1.6	MD. Baltimore . . .	85	+12	1.2	0	Pendleton . . .	65	-4	T	-.1
Kodiak . . .	---	---	---	---	MASS. Boston . . .	80	+12	.5	-.4	Portland . . .	62	-3	T	-.2
Nome . . .	41	-6	.3	-.6	Chatham . . .	73	---	.4	---	Salem . . .	60	-5	.1	0
ARIZ. Flagstaff . . .	60	-2	.3	-.3	MICH. Alpena . . .	78	16	1.3	.6	PA. Allentown . . .	82	+13	1.0	+.1
Phoenix . . .	89	+3	T	-.3	Detroit . . .	81	+12	T	-.7	Erie . . .	77	+12	.5	-.2
Tucson . . .	81	-1	T	-.6	Flint . . .	80	+14	T	-.7	Harrisburg . . .	83	+11	.1	-.7
Winslow . . .	70	-5	.4	+.1	Grand Rapids . . .	81	+13	0	-.7	Philadelphia . . .	86	+15	T	-1.1
Yuma . . .	86	-4	T	-.1	Houghton Lake . . .	78	+15	.7	+.1	Pittsburgh . . .	80	+11	T	-.7
ARK. Fort Smith . . .	80	0	.1	-.6	Lansing . . .	83	+16	T	-.7	Scranton . . .	78	+11	.1	-.7
Little Rock . . .	82	+2	.9	+.3	Marquette . . .	80	+17	1.4	+.8	R.I. Providence . . .	80	+13	.4	-.5
CALIF. Bakersfield . . .	80	0	0	0	Muskegon . . .	78	+10	.1	-.7	S.C. Charleston . . .	81	+2	.1	-1.2
Eureka . . .	56	-1	T	0	S. Ste. Marie . . .	78	+17	.9	+.2	Columbia . . .	81	+2	0	-1.2
Fresno . . .	75	-3	0	0	MINN. Duluth . . .	72	+13	2.1	+1.2	Greenville . . .	79	+2	0	-1.0
Los Angeles . . .	70	-3	0	0	Internat'l Falls . . .	72	+13	3.5	+2.7	S.D. Aberdeen . . .	78	+11	2.0	+1.5
Red Bluff . . .	77	-2	0	0	Minneapolis . . .	80	+13	.2	-.6	Huron . . .	77	+8	1.2	+.8
San Diego . . .	69	-3	0	0	Rochester . . .	77	+11	1.3	+.4	Rapid City . . .	70	+2	.7	+.3
San Francisco . . .	62	-1	T	0	St. Cloud . . .	77	+12	.2	-.6	Sioux Falls . . .	80	+11	1.5	+.7
Stockton . . .	73	-2	0	0	MISS. Jackson . . .	80	0	1.3	+.7	TENN. Chattanooga . . .	80	+2	.1	-.7
COLO. Denver . . .	69	0	.1	-.2	Meridian . . .	80	0	.8	+.1	Knoxville . . .	80	+4	.1	-.6
Grand Junction . . .	71	-2	T	-.3	MO. Columbia . . .	80	+6	.1	-.8	Memphis . . .	80	+1	.8	+.2
Pueblo . . .	73	+2	.1	-.3	Kansas City . . .	79	+3	1.0	0	Nashville . . .	82	+4	1.8	+1.3
CONN. Bridgeport . . .	81	+12	.3	-.7	St. Louis . . .	82	+7	.2	-.6	TEX. Abilene . . .	82	0	.3	0
Hartford . . .	81	+13	1.7	+.8	Springfield . . .	80	+4	.1	-.7	Amarillo . . .	78	-1	.6	0
D.C. Washington . . .	85	+11	.2	-1.0	MONT. Billings . . .	63	-4	1.3	+1.1	Austin . . .	83	0	.1	-.3
FLA. Apalachicola . . .	86	+5	4.4	+2.5	Glasgow . . .	65	+1	.9	+.6	Beaumont . . .	80	-1	T	-1.3
Daytona Beach . . .	81	0	2.8	---	Great Falls . . .	62	-1	1.1	+.8	Brownsville . . .	81	-2	.6	-.1
Ft. Myers . . .	82	-1	1.2	-.5	Havre . . .	62	0	.3	+.1	Corpus Christi . . .	83	-1	2.0	+1.4
Jacksonville . . .	79	-3	1.8	+.2	Helena . . .	57	-5	.2	0	Dallas . . .	---	---	---	---
Key West . . .	82	-2	3.9	+2.8	Kalispell . . .	67	+7	.2	-.1	Del Rio . . .	84	0	T	-.5
Lakeland . . .	80	-2	1.3	-.3	Miles City . . .	67	-1	1.6	+1.3	El Paso . . .	78	0	.2	-.1
Miami . . .	80	-2	5.4	+3.7	Missoula . . .	59	-2	.1	-.1	Fort Worth . . .	83	0	0	-.4
Orlando . . .	81	-2	2.0	+.5	NEBR. Grand Island . . .	79	+7	2.3	+1.7	Galveston . . .	83	0	3.1	+2.0
Tallahassee . . .	81	0	3.9	+2.4	Lincoln . . .	81	+7	T	-.8	Houston . . .	80	-2	2.3	+1.4
Tampa . . .	82	0	2.0	+.1	Norfolk . . .	79	+7	1.2	+.6	Lubbock . . .	75	-2	.1	-.3
W. Palm Beach . . .	80	-3	3.9	---	N. Platte . . .	75	+4	.1	-.4	Midland . . .	77	-3	T	-.4
GA. Atlanta . . .	78	+1	.1	-.7	Omaha . . .	79	+7	.3	-.6	San Angelo . . .	82	-2	.1	-.2
Augusta . . .	80	+1	T	-.8	Valentine . . .	71	+2	1.9	+1.4	San Antonio . . .	83	+1	T	-.5
Macon . . .	81	+1	.5	-.4	NEV. Ely . . .	56	-7	T	-.1	Victoria . . .	83	+1	1.2	+.5
Savannah . . .	80	0	.8	-.8	Las Vegas . . .	81	-3	0	-.1	Waco . . .	85	+1	T	-.4
HAWAII. Hilo . . .	76	0	.8	-1.7	Reno . . .	62	-1	0	0	Wichita Falls . . .	82	-2	.6	+.2
Honolulu . . .	81	+1	.1	-.1	Winnemucca . . .	61	-3	T	0	UTAH. Blanding . . .	64	-4	T	-.3
Kahului . . .	79	0	T	0	N.H. Concord . . .	76	+12	1.9	+1.2	Salt Lake City . . .	65	-6	1.7	+1.5
Lihue . . .	79	+1	.4	-.2	N.J. Atlantic City . . .	82	+11	.2	-.8	VT. Burlington . . .	77	+13	1.3	+.6
IDAHO. Boise . . .	65	-3	T	-.1	Trenton . . .	84	+13	T	-1.1	VA. Lynchburg . . .	81	+8	0	-1.0
Lewiston . . .	68	-1	T	-.1	N.MEX. Albuquerque . . .	74	0	.6	+.3	Norfolk . . .	81	+4	.1	-1.2
Pocatello . . .	60	-6	1.0	+.8	Roswell . . .	75	+1	.4	0	Richmond . . .	81	+7	.2	-.9
ILL. Cairo . . .	80	+2	.7	-.1	N.Y. Albany . . .	78	+12	.3	-.4	Roanoke . . .	81	+7	0	-.9
Chicago . . .	84	+12	T	-.8	Buffalo . . .	76	+12	.6	-.2	WASH. Colville . . .	62	-1	.4	+.1
Moline . . .	82	+11	T	-.8	Binghamton . . .	78	+12	.3	-.4	Omak . . .	62	-4	.2	+.1
Peoria . . .	81	+9	.1	-.6	New York . . .	85	+12	.3	-.8	Quillayute . . .	54	+6	.2	-.4
Rockford . . .	80	+10	.1	-.8	Rochester . . .	81	+14	1.3	+.7	Seattle-Tacoma . . .	60	-3	T	-.3
Springfield . . .	83	+10	T	-.6	Syracuse . . .	80	+13	T	-.7	Spokane . . .	65	0	.2	+.1
IND. Evansville . . .	81	+7	0	-.7	N.C. Asheville . . .	74	+2	T	-.8	Walla Walla . . .	66	-5	T	-.1
Ft. Wayne . . .	79	+9	.3	-.4	Charlotte . . .	80	+2	0	-.9	Yakima . . .	62	-4	T	-.1
Indianapolis . . .	81	+10	.8	+.1	Greensboro . . .	80	+6	0	-.9	W. Va. Beckley . . .	75	+7	T	-.9
South Bend . . .	82	+13	T	-.8	Hatteras . . .	79	+2	T	-1.1	Charleston . . .	80	+8	0	-.7
IOWA. Burlington . . .	80	+8	T	-.8	Raleigh . . .	80	+4	0	-1.1	Huntington . . .	82	+10	0	-.7
Des Moines . . .	81	+10	.8	-.2	Wilmington . . .	80	+1	0	-1.6	Parkersburg . . .	83	+10	0	-.8
Dubuque . . .	80	+13	.3	-.6	N. DAK. Bismarck . . .	73	+7	1.5	+1.1	WIS. Green Bay . . .	80	+14	.2	-.5
Sioux City . . .	80	+9	.5	-.1	Fargo . . .	76	+10	3.0	+2.3	La Crosse . . .	79	+11	.4	-.5
KANS. Concordia . . .	80	+4	.4	-.3	Williston . . .	68	+4	.9	+.6	Madison . . .	79	+13	.3	-.5
Dodge City . . .	81	+5	2.5	+2.0	OHIO. Akron-Canton . . .	79	+9	.6	-.1	Milwaukee . . .	82	+17	T	-.8
Goodland . . .	75	+4	.2	-.3	Cincinnati . . .	79	+7	.8	+.1	WYO. Casper . . .	64	-3	2.1	+2.0
Topeka . . .	78	+3	.2	-.8	Cleveland . . .	81	+12	.3	-.5	Cheyenne . . .	60	-6	2.4	+2.3
Wichita . . .	81	+2	T	-.6	Columbus . . .	80	+9	2.3	+1.7	Lander . . .	63	-3	1.6	+1.5
KY. Lexington . . .	81	+7	.3	-.4	Dayton . . .	82	+10	.1	-.5	Sheridan . . .	63	-3	1.6	+1.5
Louisville . . .	83	+9	0	-.7	Toledo . . .	80	+12	T	-.8	P.R. San Juan . . .	83	+7	1.5	0

## CONDENSED STATE SUMMARIES

The Bulletin capsulizes nationally important weather and crop conditions. Every Monday SRS publishes more detailed data in State Weekly Weather and Crop Bulletins in cooperation with the National Weather Service, NOAA. Voluntary weather observers, crop reporters, and county extension agents contribute weekly observations for these reports.

**ALABAMA:** Statewide trend of dry, warm weather. Driest north where many sections totaled less than 1.00 in. during August. Temperatures averaged 3° to 4° above normal, highs mostly in 90's. Crops made fair development. Locally heavy thunder-showers provided needed moisture few localities south and central, but good rain needed statewide. Cotton opening many fields lower half of State and few scattered fields north. Dry weather caused heavy shedding of top crop. Slightly over 40% corn mature, harvest underway south and central but slow as moisture content remains high. Soybeans 75% setting pods, earliest fields beginning to yellow. Light digging of peanuts continued with about 1,302 tons inspected through September 4. Large volume of hay saved. Pastures need rain badly in many counties.

**ALASKA:** Precipitation subnormal throughout south-central Alaska and slightly above normal in Tanana Valley. Soil moisture supply adequate to surplus all farm areas. Cool wet weather retarded growth all crops and made harvesting difficult. Quality and yield of second crop grass for hay expected to be lowered due to unfavorable weather. Potato harvest for storage underway.

**ARIZONA:** Moist unstable air statewide through Thursday with scattered afternoon, evening thunder-showers eastern half daily. Widely scattered activity spread into west Thursday night. Westerly winds aloft imported dry subsiding air mass Friday. Dry weather continued through weekend. Temperatures near normal northwest, southcentral, 2° to 5° subnormal elsewhere. Some near freezing minimums Sunday morning at elevations above about 7,000 feet. Cotton crop good progress. Some upland fields about stopped fruiting, Pima County. Bolls maturing, opening accelerated rate Yuma. Some lodging, boll rot on insect injured bolls near Yuma. Insect controls applied. Some cotton Yuma defoliated for early picking. Harvest sorghum continues steady Yuma. Later plantings maturing. Insect damage minimal. Sugar beets good Cochise County; final planting preparation Yuma. Some alfalfa seed harvested with fair yields Yuma. Alfalfa hay harvest continued. Land preparation and planting lettuce, melons, mixed vegetables well advanced central, western areas. Weeding, thinning of early plantings active Pima, Pinal Counties. Lettuce Cochise County continued good growth. Thinning later planted fields still underway. Limited harvest new crop lemons last week Yuma. Early lemon quality good. Some fruit showing wind damage scars. Harvest limes continued Salt River Valley. Groves good, new crop sizing well. Desert ranges extremely dry and prospects late fall, winter feed currently poor. Lower ranges dry, growth new feed retarded many areas. Higher ranges green. Stockwater adequate but diminishing rapidly. Cattle, calves mostly good. Sheep, lambs fair to good.

**ARKANSAS:** Scattered showers statewide. Batesville 2.40 in., Gilbert 2.19 in., Eudora 2.11 in. Temperatures 2° subnormal southeast and central Arkansas Valley, 3° above normal westcentral and northeast. Extremes: 98° Hot Springs, 58° Calico Rock. Dry weather caused some crop deterioration.

Over-all prospects still fair to good and boosted by widespread showers end of week. Much cotton cutting out and dry weather causing some premature opening. Showers will aid in sizing of bolls. Insect problems continue less than usual. Rice good and few fields combined. Full scale harvest expected by mid-September.

Bulk of soybean crop setting and filling pods. Need for rain critical some areas. Recent showers very beneficial but amounts light many areas. Feed grains maturing, combining early sorghums begun. Hay harvest continues but yields lowered by dry weather. Land preparations for early seeding of small grains underway. Harvest apples, grapes, melons and okra active. Peach harvest over. Pastures generally short but most furnishing sufficient grazing for livestock. Few producers feeding hay in driest counties.

**CALIFORNIA:** Thundershowers scattered over north mountains late week and weekends and south deserts weekend plus a few in the Sierras. Temperatures somewhat subnormal inland early week but they warmed to above normal by midweek and then returned to subnormal end of week. Weekly averages near normal along north coast and subnormal elsewhere. Sunny skies shone on inland areas.

Field preparation underway. Early rice harvest started, in full swing next 7 to 10 days. Safflower harvest nearly over. Corn harvest increased. Milo developed well. Cotton looks good, boll set good, some open bolls. Some wilt showed, pink boll worm infestation below 1972. Alfalfa harvest continued. Haying near completion. Dry bean harvest underway. Sugar beets grew well; some field army-worm invasion.

Grape harvest very active: fresh, raisin, wine, Thompson seedless. Grape fresh market Delano, Fresno, Lodi expected to continue. Late varieties of peaches, prunes, nectarines, plums harvested. Watsonville harvest delicious apples underway. Bartlett pear harvest nearly over. Almond harvest well underway. Walnut growers prepare harvest. New citrus crop looks good. Picking 1973-74 desert lemon crop expected start mid-September.

Broccoli, cauliflower movement Salinas normal. Brussels sprouts harvest underway. Cantaloupe harvest light Firebaugh-Mendota, cool weather slowed maturity. Carrot digging continued Salinas, volume below normal. Picking sweet corn continued San Francisco Bay, south. Honeydew harvest at peak Sacramento Valley. Salinas, Santa Maria lettuce shipments light. Bell pepper harvest started Salinas, continued San Joaquin Valley. Potato digging delta district continued good progress. Sweet potato harvest continued Modesto. Fresh market tomato picking continued central valley. Processing tomato harvest increased San Joaquin, Sacramento Valleys. Watermelon harvest continued northern San Joaquin Valley.

Starting move livestock off high rangeland onto lower pastures. Several fires burn in brush and grasslands. Fire hazard high. Supplemental feeding increased as pasture, rangeland feed depleted. Livestock pastured stubble San Joaquin Valley. Water supplies stable most areas. Movement bees to range areas increasing.

**COLORADO:** Temperatures ranged generally above normal statewide. Extremes: Highest, 102°, La Junta; lowest, 28°, Walden. Southcentral and southwest received good amounts of rain. Colorado River Basin averaged just over 0.33 in., Rio Grande River Basin 0.40 in. Durango received 1.66 in. rain. Hot, dry weather hastened corn maturity, hindered winter wheat planting. Planting winter wheat started locally--areas rain showers, 3% seeded. Moisture needed for general planting. Harvest oats 90% complete, spring barley 60% cut. Corn good to excellent, 62% in dough, 16% dented; 1972 76%, 35%. Harvest summer potatoes continuing. Potatoes, dry beans, sugar beets good to excellent. Dry beans 4% cut, 1% threshed. Harvested peaches and pears in volume. Second cutting alfalfa 85% harvested, third cutting 19% complete. Pastures, ranges providing adequate forage. Livestock good to excellent.

**FLORIDA:** Temperatures subnormal to normal. Daily showers, thundershowers most numerous and widespread end week. Rainfall mostly moderate, few very light and some very heavy; largest totals south. Soil moisture adequate.

Field crops good. Corn harvest active. Peanut digging started but frequent showers limited cultivation. Many fields grassy. Soybeans poor to good. Grass and sorghum silage made. Haying continued. All but one tobacco market closed. Pastures, cattle good to excellent. Citrus trees and new crop fruit excellent. Heavy rains all areas, some groves too wet. Fruit sizing well, drop normal. Light pole bean harvest west. First plantings cabbage Hastings area, land preparation continued elsewhere. Celery transplanting active Everglades early crop planting over northcentral. Planting snap beans, cucumbers, peppers, squash, tomatoes continued active.

**GEORGIA:** Temperatures near normal except up to 3° above extreme northwest. Warming trend north midweek; little daily change elsewhere. Scattered coastal showers, widely scattered showers mountains. Isolated 2.00 in. amounts coast and south border. Dry elsewhere. Soil moisture short to very short, adequate in southeast. Peanuts good, white mold a problem, 8% dug. Corn good, silage harvest almost over, light harvest for grain. Cotton fair to good, insect control active. Soybeans good but need rain during fruiting stage. Haying active. Pecans, pastures, cattle good.

**HAWAII:** Showers most windward areas, more rain needed. Crop progress fair to good under heavy irrigation. On Maui, ban on irrigation will reduce vegetable production. Hauling water started to save near mature crops. Sugar and pineapple harvests active. Dry weather reduced yields most areas. Most pastures dry; supplemental feeding.

**IDAHO:** General warming statewide to highs from mid-80's to low 90's midweek; however, average temperatures ranged from 2° to 6° subnormal. Storm front dropped temperatures sharply Friday, and brought light rain to most of State. Heavier precipitation and low minimum temperatures reported Saturday in southeast as storm moved eastward. Mountains, Soda Springs, Malad reported snow.

Weather favored harvesting operations. Winter wheat 95% harvested. Spring wheat and barley past 75%. Potato digging active southwest, a few fields elsewhere. Potatoes generally developed well. Processing sweet corn and onion harvest full swing. Onion storage started. Picking prunes, peaches, early apples, plums and pears. Ranges and dryland pastures short forage supplies. Livestock moving from ranges early.

**ILLINOIS:** Few scattered midweek thunderstorms statewide, but subnormal precipitation. Much warmer than normal, highs in 90's set some records. Pastures declined, hot, dry weather; condition 17% excellent, 44% good, 31% fair, 8% poor. Soil moisture 57% short, 42% adequate, 1% surplus. Averaged nearly 7 days suitable fieldwork.

Farmers cut and baled hay, plowed for winter wheat, prepared equipment and storage for fall harvests. Corn conditions 17% excellent, 68% good, 14% fair, 1% poor; 1972 88% either good or excellent. Corn 80% dent stage, 1972 67%, 1970-72 average 80%. Corn 30% mature or safe from frost, 1972 20%, average 32%. Soybean conditions 13% excellent, 68% good, 19% fair; 1972 94% either good or excellent. Soybeans 95% setting pods, normally virtually all setting pods; about 25% turning yellow, 1972 23%, average 45%. Third crop alfalfa hay about 60% cut, average 62% cut; condition mostly good to excellent. Plowing winter wheat nearly 75% complete, about normal progress.

**INDIANA:** Hot. Temperatures 10° above normal. Few showers 30th. Most in north. Soil temperatures, evaporation and humidity high. Fieldwork: 6 days. Topsoil moisture short to mostly adequate. Subsoil moisture mostly adequate. Corn 90% in or past dough, 5% mature and 45% dented, close to 1972 progress. Soybeans 85% podded, 10% turning yellow. In 1972, 90% soybeans podded but 5% turning yellow. Wheatland 55% plowed, 50% average, 60% 1972. Rye and barley 5% seeded, about average. Tobacco 15% harvested, same as 1972. Apples 25% picked. Peaches 45% harvested. Pastures mostly fair.

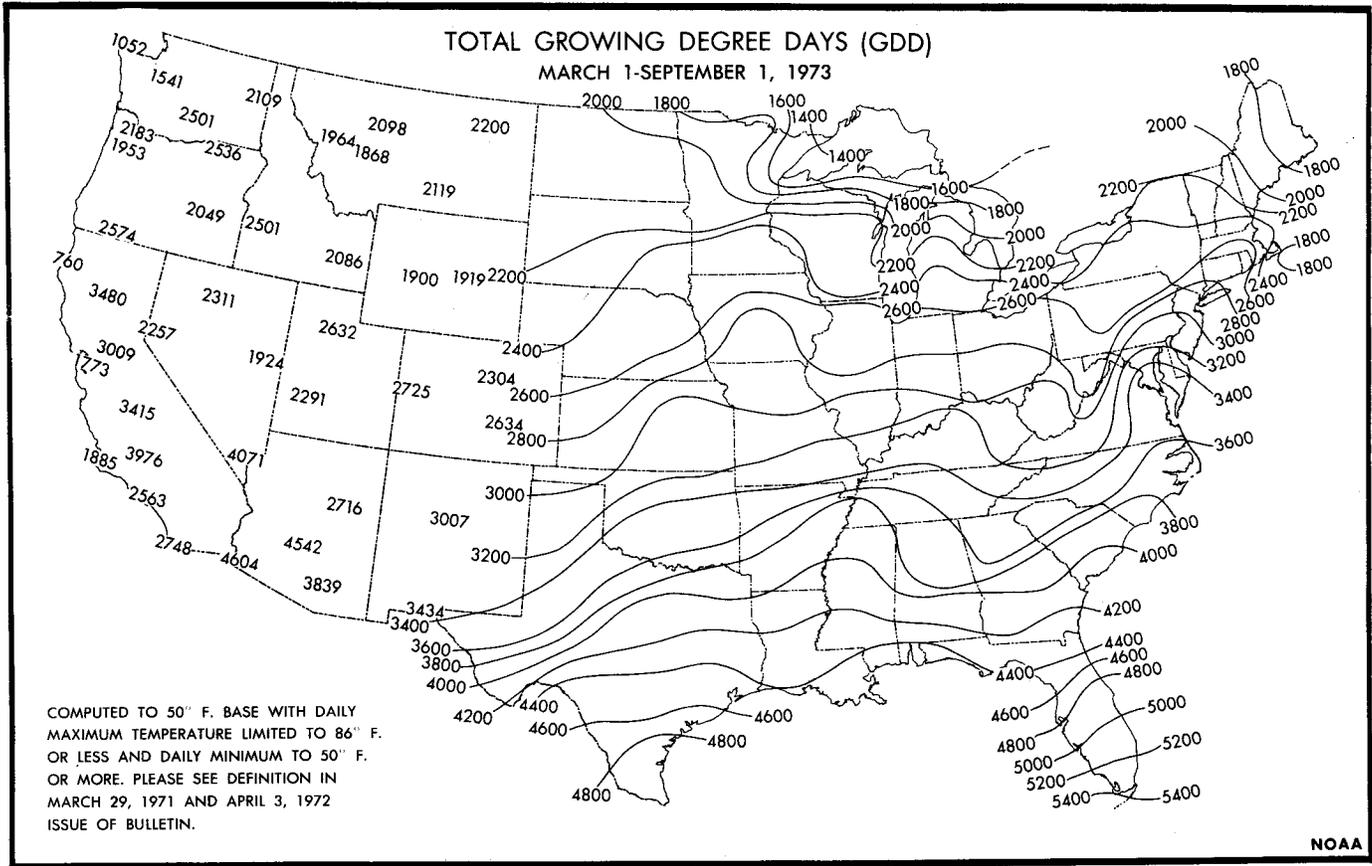
**IOWA:** Warm, sunny, humid week with subnormal rainfall. Heaviest shower activity moved eastward across State Saturday alleviating short moisture conditions in many areas. Crop conditions range from very poor to excellent with over 90% either good or excellent. Fieldwork: 7 days. Corn 85% dough stage, average 91%; 52% dent stage, average 72%. Soybeans setting pods 91%, average 95%; leaves starting to turn in 20% of fields, average 28%. Third cutting alfalfa 58% harvested, average 45%. Second crop clover 73% harvested, average 86%. Hay crops condition ranges from very poor to excellent with over 86% either good or excellent. Pastures 2% very poor, 5% poor, 23% fair, 49% good, 21% excellent. Topsoil moisture 30% short, 69% adequate, 1% surplus. Subsoil moisture 12% short, 84% adequate, 4% surplus.

**KANSAS:** Hot, dry week; cooler and wetter weekend. Heavy precipitation southeast and northcentral, over 6.00 in. Labette County. Temperatures 6° above normal west, 2° to 4° above normal southeast. Pastures, ranges good, becoming dry. Cattle good.

Farmers harvested silage, prepared fields, fertilized wheatland.

Wheat seeding began. Grain sorghum 90% headed, same 1972, average 85%. Grain sorghum coloring 25%, 1972 30%, average 40%. Corn acreage 85% in or past dough stage, 90% 1972 and average. Corn acreage dented 50%, 70% 1972 and average. Corn acreage fully mature 20%, 1972 25%, average 40%. Most soybean acreage setting pods. Third cutting alfalfa 85% complete, same 1972 and average. Fourth cutting alfalfa 15% complete, 10% 1972 and average. New alfalfa acreage 20% seeded.

**KENTUCKY:** Mostly hot, dry. Temperatures 5° to 10° above normal. Warmest week of season most



areas. Isolated rainfall amounts to 0.75 in., but most stations recorded little or none. All days suitable fieldwork. Soil moisture 84% short, 16% adequate. Late corn, soybeans, and hay crops need rain urgently.

Corn 46% dented, 40% dough, 14% milk. Hot days forcing maturity and reducing yields late planted acreage. Soybeans all stages maturity, leaves yellowed 22% acreage. Heavy bloom drop-page late beans in dry areas. Tobacco cutting active, burley 22% cut, dark-types 19% cut. Burley spotty, some good but many crops below average to poor. Weather favored cutting, fog and humidity hampered curing. Plowing for fall seeding nearly 25% complete. Pastures deteriorated sharply last 10 days, but still generally average or better. Few stockmen began to supplement pasture.

LOUISIANA: Average to 4° subnormal temperatures, ranging from low 90's to mid-60's. Extremes: 93°, 67°. Precipitation several days. Greatest 24-hour total 2.02 in. Fieldwork: 5.3 days. Soil moisture generally adequate, scattered areas short. Cotton good, late planted fruiting heavily, boll worm infestation several areas--control active. Soybeans good, early fields maturing. Rice 25% harvested, 1972 75%; yields good. Rains caused lodging, slowed harvest. Sugarcane planting increased, some holding up due to short stalks, borer control, herbicide application active. Sweet potatoes good to fair, yield and grade lowered, lack of rain, excess grass. Digging stopped some fields, hoping for rain to increase size. Haying active, 75% harvested, yields good. Pastures average. Livestock good.

MARYLAND-DELAWARE: Hot and dry. Temperatures 7° above normal. Extremes: upper 90's to mid-50's, except upper 80's and low 50's Garrett County. Rain extremely sparse, only 3 stations reported rainfall. Crops matured rapidly. Some deterioration in drier northcentral and northeastern areas. Corn 70% denting, 1972 58%, average 63%. Scattered early fields picked. Soybeans generally favorable, 85% podding, ahead of 1972 and average. Tobacco 52% cut, 1972 42%, average 66%. Peach harvest nearing end. High temperatures delayed coloring red apples, picking started slowly.

MICHIGAN: Temperatures 13° to 18° above normal with hot, humid days and warm nights. Highs in upper 80's or lower 90's over lower and mostly in 80's over upper State. Lansing above 90° daily, 99° Tuesday. Precipitation from showers and thundershowers mainly late week. Rainfall averaged less than 0.10 in. southeast lower and 0.20 to 0.60 in. southwest lower. Most north lower and upper State got more than 0.50 in. with many areas in excess of 1.00 in. in heavier showers.

Heat matured fall crops but reduced yields on drier soils. Soil moisture generally short. Average 5.8 days suitable fieldwork. Early planted corn and soybeans progressed rapidly to maturity. Later planted, dry soil fields suffered. About 87% corn in dough stage or more advanced, 31% dent, 2% mature. Soybeans 90% setting pods or more advanced, 9% leaves turning yellow. Early planted beans ripening fast, 5% harvested. Sugar beets need rain. Heat hurt fall potatoes. Second cutting hay 82% harvested. Pasture feed supplies near average. Peach harvest about over southwest, active central and northwest. Pear, plum harvest started. Vegetables sped toward harvest.

MINNESOTA: Temperatures 10° to 13° above normal, high humidities. Warmest early week, gradual daily moderations thereafter. Precipitation: 0.25 to 0.50 in. subnormal except westcentral, northwest northcentral and northeast, where late week strong thunderstorms generated local heavy rains, 1.00 in. to near 3.00 in. above normal.

Small grain harvest (oats, spring wheat, barley) nearly complete, few days ahead of average. Flax combining 50% complete. Corn, soybean development ahead of average with 50% corn denting and 50% soybeans yellowed. Seeding winter wheat and rye over 25% complete. Sunflowers and potatoes mostly good. Sugar beet, dry bean harvest underway. Fall plowing of hay and grain stubble fields 40% complete.

MISSISSIPPI: Rainfall widespread in significant amounts. Temperatures near normal. Soil moisture short to adequate. Averaged 5.3 days suitable fieldwork. Corn, sorghums, rice, sweet potatoes, pecans and hay crops fair to good. Cotton, soybeans, pasture and livestock mostly good. Cotton 3% open. Soybeans 80% podding, 12% turning. Sorghums 87% headed, 13% mature. Corn 14% dough stage, 48% dented, 30% mature. Rice 68% headed. Hay 82% harvested. Sweet potatoes 22% harvested.

MISSOURI: Hot, dry week. Rainfall spotty in thundershowers, at least half of State got little or none. Temperatures: 6° to 7° above normal and much of west half hit 95° to 100° on at least 3 or 4 days. Fieldwork: 6 days suitable. Corn fair to good, 85% dough, 55% dent; 1972 100% dough and 83% dent. Soybeans 79% setting pods, 1972 88%. Sorghum 89% headed, 11% mature; 1972 27% mature. Cotton bolls 1% open, 1972 10%. Alfalfa third crop 81% harvested. Pastures 30% poor, 47% fair, 23% good. Soil moisture supply 79% short, 21% adequate. Motor fuel supply for current farm work week remained adequate.

MONTANA: Generally warm, dry first of week, then turning cooler. Showers after midweek. Most temperatures slightly subnormal except west and southeast. Precipitation from 0.10 in. subnormal west to 2.26 in. above normal southeast. Weekend rain improved soil moisture.

Grain harvest neared final stages. Winter wheat mostly done. Spring wheat 90% complete, barley and oats 85%. Dry bean and corn silage harvest just started. Second cutting alfalfa 75% done. Range feed short; some relief from crop residues in harvested grain fields. Winter hay supplies mostly adequate east third, very short northwest, elsewhere very short to adequate.

NEBRASKA: Temperatures continued above normal. Rain statewide weekend. Hot, dry weather and fuel shortages for irrigators caused crop decline. Rain and cooler weather over Labor Day weekend alleviated moisture shortage but much irreversible damage incurred, particularly soybeans, dryland corn. Soil moisture declined. Topsoil 14% adequate, 86% short. Subsoil 36% adequate, 64% short.

Farmers irrigated, hayed, prepared seedbeds for wheat, worked summer fallow, put up silage. Range and pasture 10% above average, 38% average, 52% below average.

Corn, sorghum and soybeans mostly good. Corn 21% excellent, 57% good, 18% fair, 4% poor; dough 95%, dent 65%, mature 10%; all same as 1972 and average. Weekend rains will help but crop has suffered much damage. Sorghum 28% excellent, 64% good, 8% fair; heads turned 55%, same 1972, 50% average. Soybeans 19% excel-

lent, 71% good, 10% fair; leaves turning 25%, 1972 35%, 30% normal. Third cutting alfalfa 85% completed, 35% fourth crop; 14% excellent, 61% good, 25% poor. Wild hay 13% excellent, 44% good, 39% fair, 4% poor. Sugar beets very good. Cutting early dry beans, white mold present.

NEVADA: Temperatures varied from 3° subnormal southcentral to 7° below extreme south. Extremes: 101° Las Vegas, Logandale, 24° at Ely. Precipitation varied from none to 0.71 in. Mountain City. Small grain harvest nearly 85% complete. Alfalfa seed harvest underway. Good condition with 15% harvested. Second cutting alfalfa hay 85% complete with third cutting underway some areas. Fifth cutting alfalfa in progress extreme south. Harvest other hays nearly over. Range feed remained good to excellent but moisture needed. Livestock thriving.

NEW ENGLAND: Highs in upper 80's and 90's, new records set. High humidity. Scattered thunderstorms, local heavy rains. Corn developed well. Farmers made much hay except in north New Hampshire and Vermont. Corn borers, earworms, armyworms prevalent in all corn. Vegetables good supply. Cranberries irrigated. Aroostook County, Maine, potatoes need rain badly.

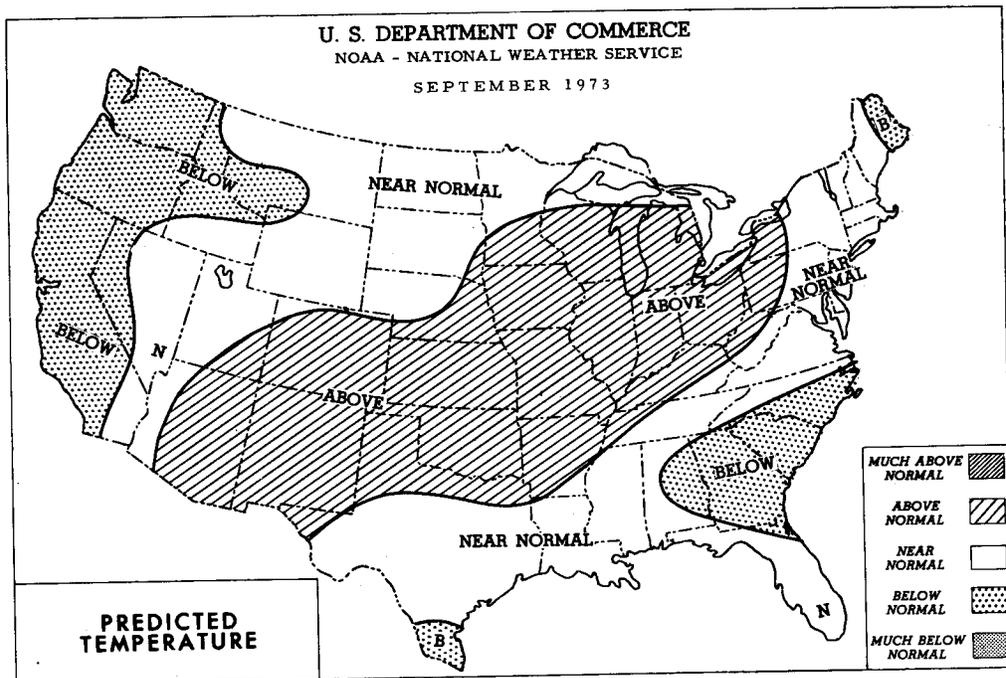
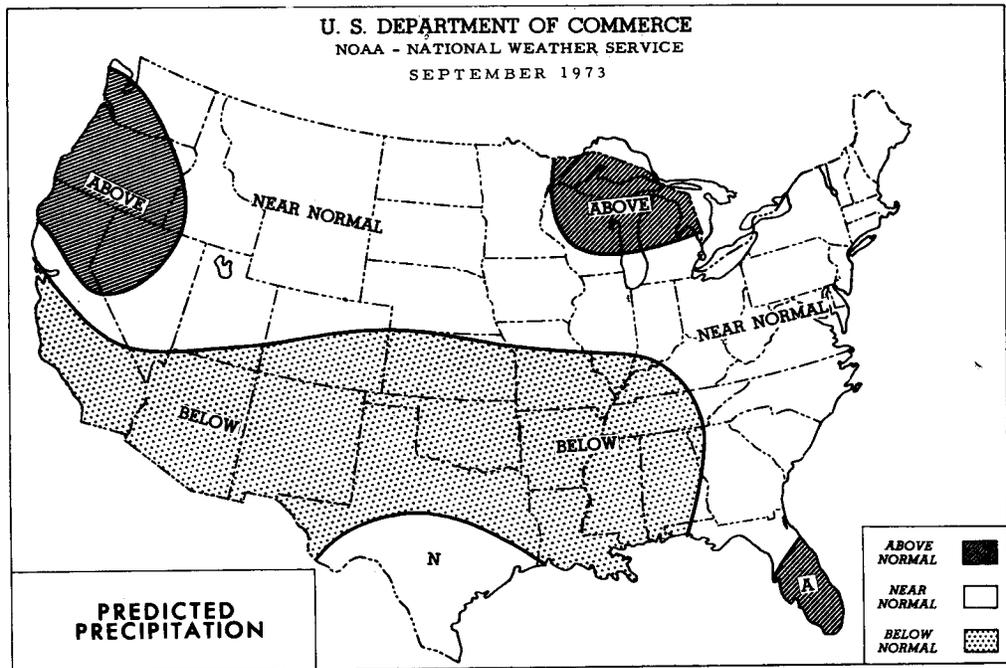
NEW JERSEY: Very hot, in fact, hottest week of year. Generally dry week. Temperatures averaged 9° to 16° above normal. Extremes: 100°, Newark; 62° Newton. Widely scattered thunderstorms brought weekend rain to north and coast weekend. Heaviest: 2.70 in. Little Falls, Passaic County Saturday. A good soaking rain badly needed. Extreme heat, dry weather caused losses and hurt quality. Crops matured rapidly. White potato harvest about 75% over. Peaches moved well. Red delicious apple harvest begun south. Farmers began to prepare and plant fall grain and cover crops. Some fourth cutting alfalfa made.

NEW MEXICO: Thundershowers statewide. Heaviest precipitation midweek over Rio Grande Valley and adjacent mountains where from 1.00 to 2.00 in. fell. Elsewhere, a few hundredths to 0.50 in. fell. Temperatures 2° subnormal. Cotton fair to good. Alfalfa good. Irrigated grain sorghum mostly complete heading, dryland well advanced. Corn good condition, well into dough stage. Other irrigated crops good. Apple picking started. Soil moisture supply short. Ranges fair to good. Livestock good.

NEW YORK: Heat wave longest and most severe of summer: Temperatures statewide much above normal, especially throughout central and along St. Lawrence Valley. Massena averaged 17° warmer than normal. Eastern tip Long Island Sound 11° above normal, one of smallest departures reported. Rainfall spotty mostly from thunderstorms. Hot weather stimulated corn growth where adequate moisture was available. Rain needed many areas for plant growth and development.

Silage corn harvest began some areas. Oat harvest nearly over, 85% harvested. Second cutting alfalfa near completion, third cutting 30% complete. Continued hot, dry weather advanced vegetable crop development statewide. In central and western onion sections, topping underway. Orange County onion crop about 85% harvested. Potato harvesting increased most Upstate areas. Bartlett pear harvest near completion. Grape harvest started (Aurora variety) Finger Lakes area. Prolonged heat plus high humidity held back development of apples.

### AVERAGE MONTHLY WEATHER OUTLOOK



These prognostic charts show the expected categories of average temperature and total precipitation for the period indicated. They are taken from the Weather Service's publication Average Monthly Weather Outlook which contains additional information necessary for complete interpretation.

**NORTH CAROLINA:** A stagnant high pressure system dominated. Temperatures normal early week but soared into low and mid-90's statewide thereafter. Rain covered a strip 50 miles wide south-east counties to coast. Fieldwork averaged 5.1 days. Soil moisture became short statewide, especially south.

Flue-cured tobacco harvest over 85% complete. Growers in border and eastern belts marketing crop. Barning still active in middle and old belts. Corn harvest spreading, should be active next 2 weeks. Cotton good, bolls opening, weather ideal, boll worms becoming problem. Soybeans bothered by heat and increasing worm populations. Dusting first time majority fields. Peanuts very good, digging expected mid-September. Good haying, second cuttings made. Mountain pastures good, fair Piedmont, coastal plains need rain. Apple harvest 30% complete.

**NORTH DAKOTA:** Temperatures began cool (60's and 70's) peaked in 100's by midweek, then cooled to 80's end week. Extremes: Bismarck 107°, Bismarck and Watford City 43°. Above normal statewide with eastcentral 18° above. Precipitation again mostly scarce. Northcentral and eastcentral were 0.52 and 0.59, respectively, above normal while southeast, southcentral, central and southeast divisions were 0.30 or more subnormal. Rain showers over weekend brought welcome relief to many divisions. Fargo reported total of 3.16 in. and Bismarck next with 1.55 in.

Harvest made early-week good progress but halted abruptly with heavy weekend showers. Combining of hard red spring wheat about 85% complete, durum 65% and oats and barley over 90%. Soil moisture conditions greatly improved for late crops and pastures.

**OHIO:** Hot, humid weather persisted through early week, only minor moderation by weekend. Scattered thundershowers over much of State late week; first rain in 10 days some sections. Hot, dry weather hurt crops some areas. Hot weather was vital 10 days ago, now rain needed to improve crops. Nearly entire week favored fieldwork. Soil moisture 54% short, 46% adequate. Corn 55% dented, 10% mature and safe from frost; normals 70% and 15%. Soybeans 70% pods set--leaves green, 10% leaves yellowing; normally 90% and 25%. Corn silage 10% harvested. Potatoes 60% dug, 30% average progress. Tobacco 15% cut, 1972 25%. Fall plowing 50% done, slightly behind normal.

**OKLAHOMA:** Temperatures 2° above normal north-east, 1° to 2° subnormal elsewhere. Rainfall ranged from 0.20 in. central upward to 0.70 in. southeast. Scattered Saturday thundershowers. Row crops lost condition from hot temperatures, and moisture shortage worsened. Showers in Panhandle will activate wheat seeding. Heavy Labor Day rains southwest will cause some reworking of seedbeds.

Fertilizing intended wheat acreage active. Corn ensiled and earliest fields high moisture grain harvested. Cotton showed stress; shedding squares, small bolls but holding good color with 90% acreage setting bolls. Peanuts and soybeans lost little condition. Peanuts 92% spiking. Soybeans 60% setting pods. Haying continued with light yields late cuttings. Pastures, ranges provided ample grazing but rains needed for growth.

**OREGON:** Southwestern valleys, south coast near to few degrees above normal, all other section 2° to 4° below. Highest temperatures low 80's west of Cascades, near 90° east, southwest valleys. Lows mild except local frost northeast. Rain 0.75 in. early week coast, Willamette Valley. Few showers end of week. East totaled under 0.10 in., few locations measured 0.27 in.

Spring grain harvest continued. Red clover, bentgrass seed harvest continued, alfalfa seed began. Table beet harvest underway. Pole bean harvest about complete, bush bean, sweet corn continued. Harvest peaches, pears, apples continued. Onions moved to storage. Land preparation fall seeding continued--moisture short. Cattle pasturing on combined grain, grass seed fields.

**PENNSYLVANIA:** Hottest temperatures statewide since July 1972, at some places highest since July 1966. Record and near record breaking heat pushed temperatures 10° to 14° above normal with afternoon highs generally in 90's and overnight lows mid-60's and upper 70's. Extremes 101°, 55°. Weekend showers and thunderstorms brought up to 0.50 in. rainfall northern tier counties and 1.00 in. parts southeast. Large areas central and west driest since February.

Topsoil moisture 50% adequate, 50% short. Corn 20% dented, 50% dough, remainder predough. Limited chopping of corn for silage. Oat combining 92% complete. Dryness slowed fall plowing, 50% finished. Hay quality fair to good. Pastures declined again. Early grape harvest expected. Elberta peaches full swing, Redskins winding up and Rio-Oso-Gem underway. McIntosh apple harvest expected next week. Processing tomatoes 2 weeks late, but quality good.

**PUERTO RICO:** Rainfall averaged 1.50 in. or about 0.30 in. subnormal. Heavy local rain-showers west and east interior. Highest weekly total 7.16 in. west. Temperatures averaged 80° coasts and 76° interior. Extremes: 95°, 59°. Sugarcane developed well except in some north zones where dryness retarded growth. New crop coffee developed well except in some eastern-interior zones where more rain needed for optimum growth. Pastures generally fair to good except poor some north and central zones due moderate agricultural drought. Minor crop zones planted. Good yield of yams and plantains. Northern zones need more rain for young crop.

**SOUTH CAROLINA:** Hottest, driest week of summer. Temperatures 2° to 5° above normal. Rainfall varied from none to local showers. Exception: East and south portions that got more than 0.50 in. Spraying cotton and soybeans active. Soil moisture short to adequate. Tobacco harvest complete. Cotton fair to good, 92% set bolls, 10% open bolls; 1972 98% set bolls, 8% open bolls. Corn good condition, 97% dough stage, 68% mature, 19% harvested; 1972 98%, 82%, 11%, respectively. Soybeans fair to good, 76% bloomed, 74% set pods, 8% leaves turning; 1972 76%, 58%, 4%, respectively. Peanuts 48% harvested, 1972 51%. Lespedeza, pastures, grain sorghum, hay crops fair to good. Grapes 78% harvested, 1972 90%. Pecans good. Planting fall vegetables began.

**SOUTH DAKOTA:** Temperatures much above normal for third week--100°+ common. Cooler air restored near normal temperatures. Precipitation very light in portions west and northcentral; else-

where rains of 1.00 in. or more. Near-drought conditions continued, seasonal precipitation 3.00 to 6.00 in. subnormal. Labor Day weekend rains should improve condition.

Conditions last week mostly too dry for fall plowing or fall grain seeding. Heat hurt row crops. Silage cutting in full swing. Corn 97% in dough stage or past, 1972 79%, normal 87%; 47% in dent, 1972 40%, normal 67%; 20% safe from frost, 1972 7%, normal 11%. Flaxseed 90% harvested, 1972 46%. Sorghum 60% showing head color, 1972 28%, normal 45%. Pastures dry and short, water supplies low.

**TENNESSEE:** Showers scattered statewide, but more numerous west. Rainfall averaged near 0.60 in. west, 0.01 in. mid-state, and 0.08 in. east. Temperatures 1° to 3° above normal. Hot, dry weather caused concern in rainless areas. Pastures deteriorated rapidly; condition now poor and below average. Fall armyworms damaged pastures and lawns. Tobacco and hay harvest rapid progress. Soybean prospects still generally good, but many areas need rain, 75% set pods. Cotton mostly good with 5% open bolls. Tobacco harvest full swing, completion neared halfway mark. Late corn fields showed stress from hot, dry weather. Corn 25% mature. Fall plowing 40% complete. Seeding wheat, oats, barley started.

**TEXAS:** Moist unstable air flowed from the Gulf across south and east and caused widespread showers and thunderstorms. Shower activity yielded average 1.00 to 2.00 in. rain, several points exceeded 3.00 in. along coastal plains. Showers widely scattered over most of west and north, with rainfall averaging near to slightly subnormal. Clouds and showers held mercury 1° to 3° subnormal. Above normal readings common from upper Red River southward to Edwards Plateau.

Wheat seeding started high plains, short moisture delaying progress. Elsewhere farmers preparing seedbeds. Rains delayed cotton harvest Lower Rio Grande Valley. First bales ginned Blacklands, southcentral. High Plains dryland cotton needs rain, prospects good to excellent. Corn and peanut harvest behind schedule. Sorghum harvest progressed well. Rice harvest far behind schedule, progress slow. Major crops percent harvested: Cotton 4, 1972 16; corn 25, 1972 43; sorghum 43, 1972 41; peanuts 15, 1972 17; rice 47, 1972 94. Major crops percent planted: Wheat 7, 1972 7; oats 1, 1972 2.

High Plains: Onion harvest virtually complete. Potato harvest almost over Hereford. Pepper, cabbage harvest continued. Cucumber supplies declined. Trans-Pecos: Cantaloupe harvest complete. North Texas: Supplies of cantaloupes, watermelons remained available. San Antonio-Winter Garden: Land preparation continued. Light cucumber picking started. Lower Rio Grande Valley: Wet fields limited vegetable seeding. Tomatoes, peppers made good growth. Citrus continued good growth, rain maintained excellent soil moisture.

Hot, dry weather caused range deterioration west, grazing abundant east. Hay baling continued rapid pace east, south; third and fourth cutting underway. Baling wire and twine short supply statewide.

**UTAH:** Few isolated very light showers and thunderstorms south portion late week. Heavy precipitation north. Near record 24-hour accumulations for

September few stations northcentral. Temperatures near to a little subnormal, well below over weekend. Killing frost over Labor Day weekend in Sevier County, severely damaged corn and other crops. Light frosts few other areas. North and some other areas escaped freeze damage.

A longer than usual growing season lasting well into October needed to mature most late crops which got off to slow start. Spring wheat 90% harvested, barley 90%, oats 75%. Third crop alfalfa hay 10% harvested, dry onions 5%, sweet corn 75%, snap beans 85% and tomatoes 15% harvested. Early variety peaches about completed, pear harvest started. Winter wheat for 1974 about 15% planted. Feed on high summer ranges rated fair to good, feed prospects on fall and winter rangelands good.

**VIRGINIA:** Hot, dry statewide. Temperatures 5° above normal; highs mostly mid- to upper 90's; extremes: 98°, 55°. Very dry, some widely scattered showers, heaviest less than 0.33 in. Topsoil moisture down, over 50% short. Averaged 5.6 days suitable fieldwork, highest since June. Corn combining and drying increased Tidewater. Silage making past peak Tidewater, very active Piedmont, little cut west of Mountains. Flue-cured tobacco 50% pulled, 1972 59%. Six markets open September 4. Fire-cured 30% cut, sun-cured 17% cut. Burley 11% cut southwest. Haying full swing. Pastures deteriorated but still productive. Carroll County cabbage cut. Tomato picking continued. Eastern Shore Irish and sweet potatoes dug. Picked peaches, summer apples picked, occasional pick Red and Golden Delicious.

**WASHINGTON:** West: Temperatures 1° to 3° subnormal. Precipitation ranged from none to 0.60 in. Harvest broccoli, cauliflower continued, good yields, quality. Some frost damage corn, bean plantings. Cooler weather reduced cucumber yields. Small grain harvest winding down, some planting fall seeded crops. Pastures poor, fertilizing underway stimulate fall growth. Feed supplies short, supplemental feeding underway.

East: Temperatures averaged 3° subnormal. Shower activity late week, heaviest northern sections. Excellent apple crop developing, early varieties being picked. Peach, pear, prune harvest continued, good quality, quantity. Harvest dry beans, sweet and silage corn continued. Potato digging, mint cutting underway. Third cutting alfalfa progressed rapidly. Feed supplies critically low, poor pasture and range conditions. Supplemental feeding cattle underway. Grain harvest virtually complete. Major field activities weed control, soil preparation. Farmers hesitant to seed, fertilize until more rain arrives.

**WEST VIRGINIA:** Temperatures above normal, highs in 90's, lows in 60's. Slow moving high pressure system caused hazy conditions. No rain most areas. First time this season soil moisture mostly short. Excellent week for harvesting hay, averaged 5.7 days suitable fieldwork. Sultry weather decreased milk production. Fall webworms and bagworms infestation heavy northern panhandle. Corn mostly good, 80% dough or dent stage. Potato harvest active, 40% dug. Oat harvest nearing completion. Pastures remain mostly good.

**WISCONSIN:** Temperatures 13° above normal. One of warmest weeks in recent years with daily highs often above 90° and night lows not dropping below 70°. Warmest southeast. Rainfall heavy north Thursday

Continued on p. 16.

## WORLD WEATHER AND AGRICULTURE

## THE INDIAN MONSOON

Although rather erratic, summer or the southwest monsoon activity in India has brought normal to above normal rainfall to 31 of the 35 weather zones for the period June 1 to August 8, 1973. These 31 zones account for approximately 84 percent of the total kharif (full-harvested) cereal grain production. This compares favorably to last year at this time when only 11 weather zones, accounting for only 22 percent of the total kharif cereal production, were normal or above normal. Prospects for the kharif foodgrain harvest are considered good.

The actual rainfall for each weather subdivision is shown in Table 1.

Table 1. Rainfall Situation for the South-West Monsoon Season for India, 1973.

Weather Sub-Division	Cumulative Rainfall June 1- August 8	
	Actual	Normal
Tamil Nadu	130	111
Gangetic West Bengal	584	656
Orissa	590	663
East Uttar Pradesh	457	531
Bihar Plains	491	578
East Madhya Pradesh	531	708
Coastal Andhra Pradesh	190	292
South Interiors Mysore	299	225
Plains of West Uttar Pradesh	464	438
East Rajasthan	298	320
West Madhya Pradesh	646	572
Gujarat Region	394	532
Telangana	441	437
North Interior Mysore	391	320
Assam and Meghalaya	953	982
Bihar Plateau	487	632
West Rajasthan	133	140
Punjab	437	282
Madhya Maharashtra	343	298
Haryana, incl. Delhi	455	314
Kerala	1053	1183
Rayalaseema	177	173
Vidarbha	503	606
Sub-Himalayan West Bengal	1195	1313
Jammu and Kashmir	148	156
Saurashtra and Kutch	297	358
Konkan	1610	1750
Marathwada	376	356
Himachal Pradesh	677	778
Hills of West Uttar Pradesh	825	809
Nagaland, Manipur, Mizora and Tripura	681	724
Coastal Mysore	2075	2231
Arunchal Pradesh	2305	2040
Bay Islands	847	931
Arabian Sea Islands	784	682

## USSR CROP WEATHER

The harvest of winter grains continues throughout the USSR. Harvesting is nearing completion in southern areas and just beginning in the northern grain-producing areas. A mild winter and a warm, moist spring resulted in the grain maturing one to two weeks earlier than usual. Vegetative growth was heavy and yields exceptional in many areas. Persistent and sometimes heavy rainfall during July caused considerable lodging and harvesting was very difficult, particularly in the European USSR. Har-

vest weather improved considerably during the first half of August. The July rainfall will provide a boost to the fall harvested crops.

## DRY WEATHER CONTINUES IN NIGERIA

Rainfall in Nigeria is below normal for the second consecutive year, particularly in northern areas. The dry conditions are affecting both corn and sorghum production.

Sorghum is planted in the north after the first good rains which normally occur in late May through June. Rainfall was only spotty this year, with good rains finally occurring during early July. Some areas north of 12°N latitude had not received sufficient rains for planting by early August. Actual yields will be determined by how long the rains continue. For good yields, the rains must continue into late September and early October.

The bulk of Nigeria's corn crop is grown in the south where there is an early and a late corn crop. There is just a late crop in the north which is normally planted in May-June. In the south the early crop is normally planted in March-April and the late crop in August-September. The early rains in the south were late and spotty, reducing the number of acres planted. Most of the corn in the north is grown below 11.5°N, and rains in this area have not been affected significantly by the drought to the north.

DROUGHT CONDITIONS REDUCING  
SOUTH AFRICAN WHEAT CROP

The combination of poor rainfall this year and little or no carryover moisture from last year is reducing prospects for this year's wheat crop in South Africa. During the second half of 1972, normal summer rains failed to materialize over large expanses of the grain and feed producing areas. The dry conditions severely affected the planting of summer cereals. Unfavorable weather conditions have continued into 1973 and the growth of summer cereals is retarded. Prospects for late plantings virtually disappeared.

After the dry summer, the moisture content of fallow lands, left for winter wheat production, was very low and could not be planted. In the eastern Free State winter rains are below normal and crops will be reduced.

## AUSTRIAN GRAIN OUTLOOK EXCELLENT

In 1972-73, conditions in Austria's major grain growing areas were characterized by a mild, almost snowless winter, a dry spell in May, ample precipitation in June, and predominantly calm weather conditions during the main harvesting season. There was virtually no winterkill, and the potential ill effects of inadequate rainfall in May were mitigated by the presence of subsoil moisture carried over from an unusually wet April. In short, overall production conditions in the eastern plains where most of the country's grain is grown were much more favorable than in 1972 when hailstorms and floods hit grain crops just before and during the harvest. Thus, available information indicates good prospects for a bumper crop.

**APPLE AND PEAR CROP IN GERMANY GOOD**

According to the first official production forecast, West Germany's apple crop in 1973 will amount to 1.7 million metric tons, indicating an increase of 38 percent over the (below average) crop in 1972, but a decline of 10 percent below the previous six year average. Pear production is forecast at about 0.37 million metric tons which represents an increase of 8 percent over the 1972 crop but a decline of about 18 percent below the previous six year average.

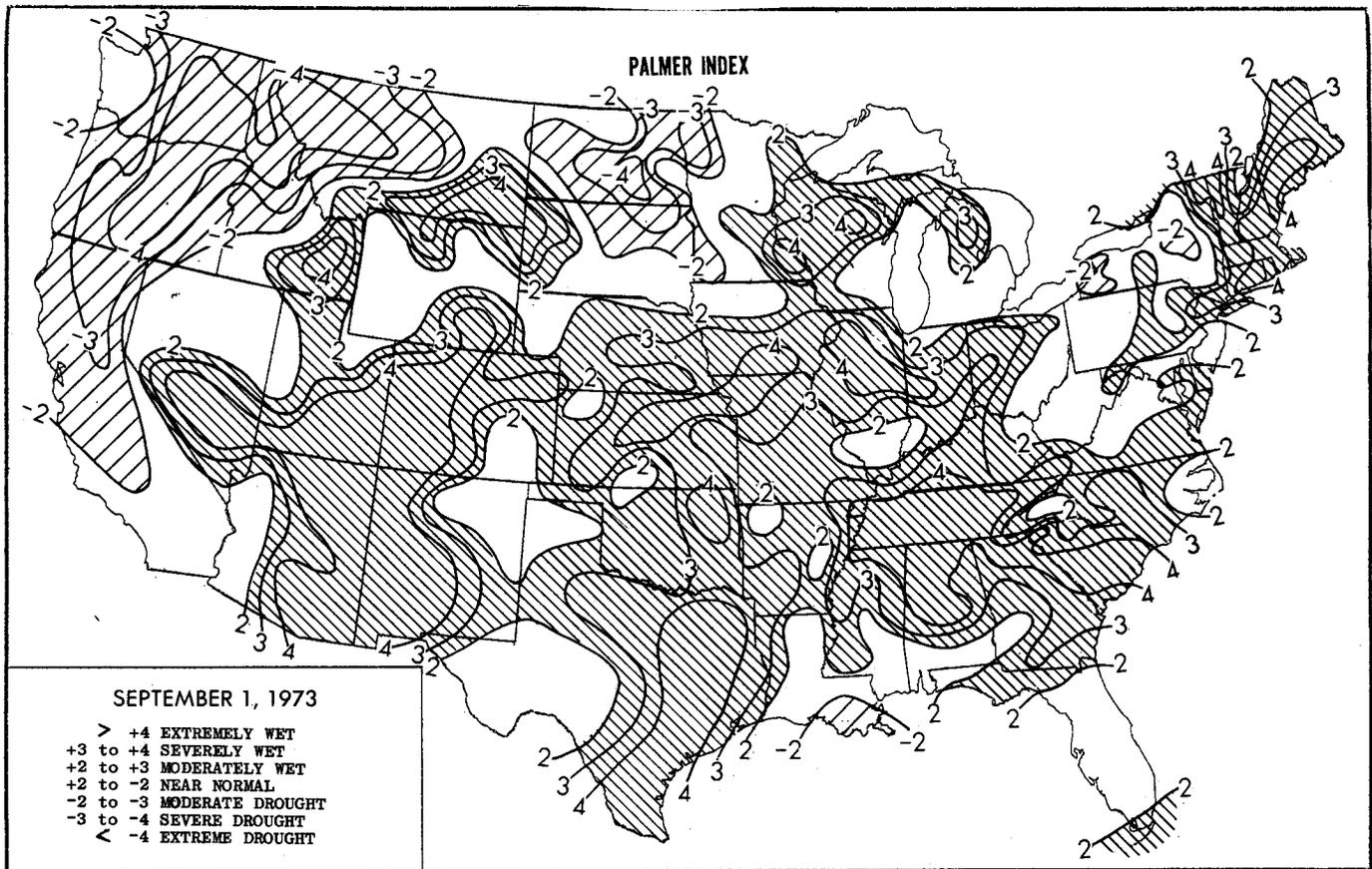
Due to a relatively mild winter, tree damage was reported as negligible for all types of fruit trees. To a certain extent, however, early frosts damaged blossoms in some areas of the country. Relatively unfavorable weather conditions during the blossoming period also reduced insect flight. More favorable weather conditions which prevailed in late spring and early summer favored a fairly good development of the fruit. Though precipitation was below normal in spring, it was still regarded as sufficient to support normal fruit development. Above normal rainfall in July, however, more than balanced out the earlier deficit. The

quality of the growing crop is regarded as excellent with only very limited pest damage.

**HOP PRODUCTION IN GERMANY MAY BE RECORD**

Harvesting of the early varieties of hops was expected to begin about August 25 and last through early September followed by the late varieties in mid-September. These dates are considered "quite normal".

Extremely hot weather during June and the first 10 days of July with relatively low but sufficient moisture proved beneficial to growth and blossoming. By mid-July the hops gardens looked very promising with long and strong side branches and peronospora well under control. Above normal incidence of spider mites, some of which have proven resistant to the common acaricides, cause some difficulties and the well-known wilt disease is quite serious. The recent cool weather, interspersed with showers, may have an effect on the Alpha level, but generally will not have an adverse effect on the crop. All in all, the 1973 hops crop will set a new post-war record.



THE PALMER INDEX MAP

The Palmer Index (PI) indicates the cumulative effect of departures from normal moisture on agriculture, hydrology, economy and on any activity affected by abnormally wet or dry conditions. Positive values indicate a wet spell and negative ones a dry spell.

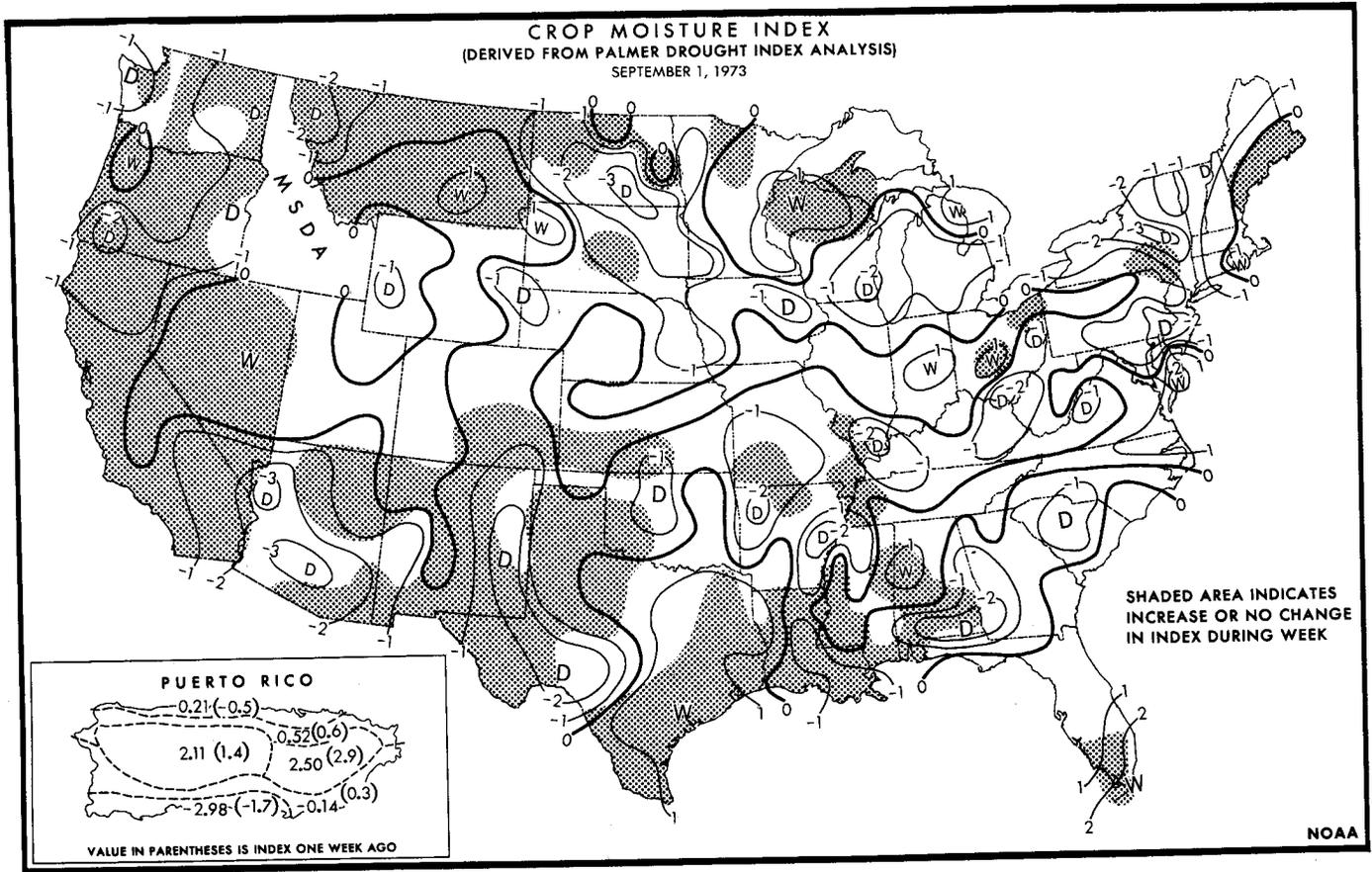
The values are weighted for climatology so that the index means the same thing for a normally dry climate and for a climate that expects to be wet. For example, a -3 index occurring in Nevada would indicate the same effect locally as a -3 in Georgia. There has been no weighting for irrigation; an area normally irrigated would not be as dry as indicated on the map. However, a large negative index would indicate a large requirement for irrigation water.

High correlation exist between the index and persistence of forest fires, but not necessarily on the ignition of fires. A low PI value shows the area has been dry for some time and the dryness is deep, although some surface moisture may be present from recent rains.

Refer to *Weekly Weather and Crop Bulletin*, July 2, 1973, Vol. 60, No. 27, p. 18 for further description of the Palmer Index.

The current map is very similar to the July 2, 1973's published map. This indicates that the wet and dry spells that had been established persist.

Some differences do stand out. The drought area in the north central plains has pushed further south, although recent rains may have helped this area. The drought in the Pacific Northwest continues and has spread east into Montana.



**SHADED AREAS:** Index increased or did not change last week

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 good, 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
- Below -4.0 Not enough rain, still extremely dry

**UNSHADED AREAS:** Index decreased last week

Index

- Above 3.0 Some drying, but still excessively wet
- 2.0 to 3.0 More drying weather needed, work delayed
- 1.0 to 2.0 Favorable, except still too wet in spots
- 0 to 1.0 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 Extremely dry, most crops near ruin

The map gives a general picture of how wet or dry the Nation was last week. It shows areas where abnormal wetness or dryness have hindered crops and areas where moisture conditions have favored them.

The lines show the crop-moisture situation according to an index computed from values of temperature and precipitation by areas...350 climatological divisions, which correspond roughly to SRS's crop reporting districts. Previous weekly computations of soil moisture account for the effects of prior weather.

Shaded areas are those where precipitation increased the index last week or where soils did not dry. Unshaded areas dried last week.

The centers of wet or dry areas are marked: W=wet; D=dry. The map lines mark off crop situations. Use the legend to interpret.

Local variations caused by isolated rain or by soil differences are not shown. While shallow rooted crops in poor soils may suffer more than the map shows, conditions may be better where soils are good. Also, legends apply to growing rather than mature plants. Any map interpretation must consider both the growth stage and moisture status and trend. In irrigated regions, the index values reflect only departures from ordinary irrigation requirements.



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night where 2.00 to 4.00 in. fell along a line from Grantsburg to Iron Mountain. Some rain also south Sunday, with generally light amounts except for locally heavy downpours.

Hot weather helped mature corn. Corn 60% dough, 1972 65%, normal 60%. Early corn well dented, late corn needs more warm weather and delayed frost. Oats harvesting 88% done, 1972 55%, normal 90%. Yields poor except on early oats, straw short. Second crop hay harvest 80% finished, 1972 60%, normal 85%. Second crop short but rains helping third crop growth. A little third crop hay made. New seedlings very good growth except where too dry. More rain needed for pastures to provide fall grazing. Soybeans made fine progress, pods filled well and leaves turning yellow on early beans. Tobacco harvest underway. Hot weath-

er matured sweet corn crop rapidly. Harvest continued for snap beans, lima beans, beets, carrots, potatoes, mint, and apples. A few farmers started fall plowing. Soil moisture 45% short, 50% adequate, 5% surplus.

WYOMING: Warm week except far west where temperatures averaged near or slightly subnormal. Extremes: 100°, Colony, 22°, Bondurant. Precipitation sparse. Harvest of small grains continued. Oats 60% cut, barley 70% harvested. Spring wheat 80% cut. Prospects for row crops mostly fair to good with 10% of dry beans windrowed. Corn mostly dough stage, silage cutting started. Potato harvest just started. Second cutting alfalfa 70% cut. Winter wheat drilling 20% completed. Soil moisture short with a few adequate reports.

Continued from p. 2.

eastern heat wave continued and high humidities

Saturday cool Canadian air entered the Rockies bringing some snow. Redmond, Ore., recorded 29°. But, heat still gripped most of the Nation. Baltimore, Md., recorded 99°, establishing another record.

Sunday, the cooler air spread throughout the Inter-mountain area: Ely, Nev., recorded in the morning 25°; Casper, Wyo., recorded 45° at 2 p.m. To the East, the heat continued: Topeka, Kans., 94°, Philadelphia, Pa., 95°.

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