

Weekly Weather & Crop Bulletin

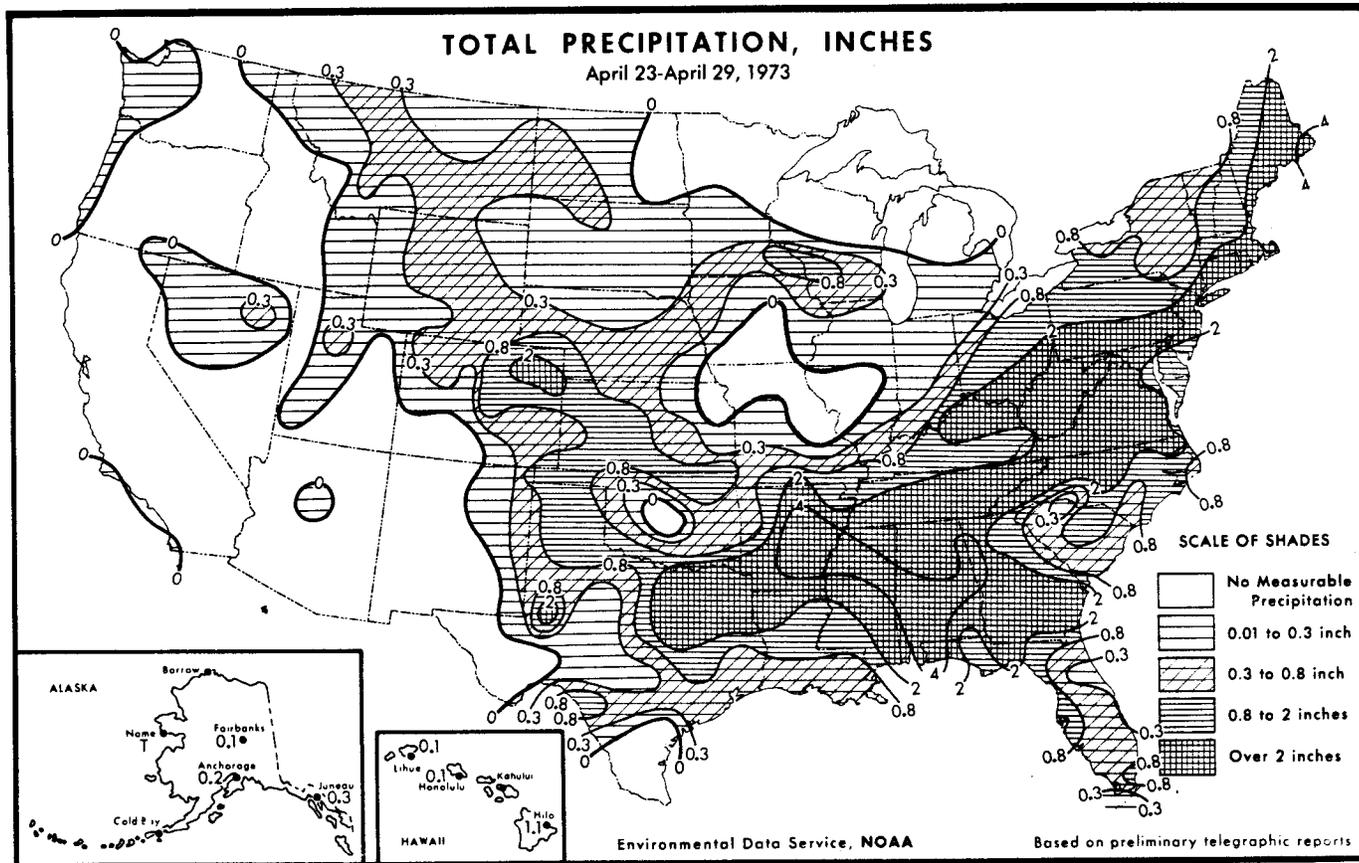
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NATIONAL WEATHER SUMMARY

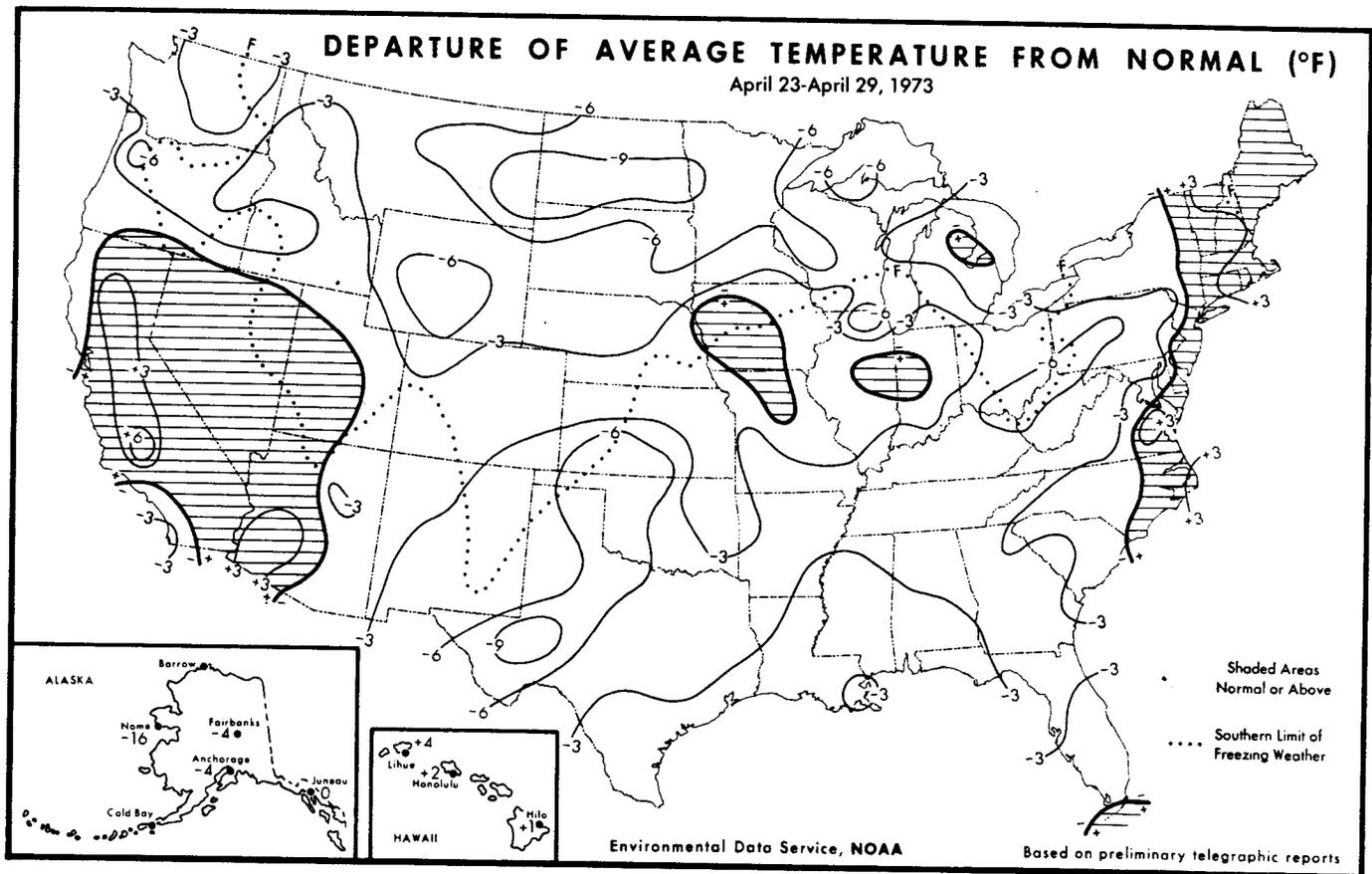
HIGHLIGHTS: From Dubuque, Iowa, to Reserve, La., 1,400 miles of the Mississippi, swollen by weeks of rain and snow, flooded fields and cities. The record flood crest, moved slowly between Iowa and Illinois early in the week and hit a 43.5-foot peak at St. Louis on Sunday. The worst flood ever, it broke the 1785 mark, 42.0 feet. Meanwhile, torrential rains drenched the Deep South and part of eastern Texas.

PRECIPITATION: It was damp in the East, and dry in the West. The drought area in the Pacific Northwest received less than 0.3 inch of rain. However, in the Deep South, Texas, and parts of the Plains, violent spring storms erupted, bringing thunderstorms, torrential rains, hail, and tornadoes. Some already water logged fields in Mississippi, Alabama, Arkansas, and Georgia re-

ceived an additional 4.00 to 5.00 inches of rain.

On Monday a High brought cool air from Canada, which settled over the Nation's mid-section. Another High in the Atlantic off Florida moved warm moist air from the Gulf into the South and Texas. Where warm met cold a front formed, extending from central Texas, through Arkansas, along Kentucky's northern border, up the Appalachians into Maine. Along the front, and to its south and east, rainy and violent weather developed. Monday rainfall at Little Rock, Ark., measured 4.30 inches for a week's total of 4.72 inches. Three funnel clouds also appeared at Little Rock, and 1 1/4-inch hail pelted Hot Springs, which also received 4.30 inches of rain.

Tuesday, the torrential rains moved east, and northern Mississippi received from 1.50 to 2.05 inches. A tornado destroyed a school at Sumner,



Miss., while to the west golf-ball-sized hail pelted Waco, Tex.

Violent weather persisted. Wednesday large hail fell from the Southern Plains to the South Atlantic States. Baseball-sized hail fell at San Antonio, Tex.; tornadoes struck Little Rock, Ark., Decatur, Ala., and central Tennessee. Three struck northern Florida and two southwest Georgia.

Torrential rain poured, mainly in Mississippi and Alabama. Marion Junction, Ala., had 4.50 inches of rain and Plantersville got 4.10 inches.

To the northwest of the front the cool air spilled snow south over the Plains. Three inches accumulated in Wyoming and 5 inches fell in Colorado.

Thursday it rained on much of the East Coast, while the severe thunderstorms continued along the Gulf. Port Arthur, Tex., was pelted by golf-ball-sized hail and blown by wind gusts of up to 100 m.p.h. Locally heavy rain continued: Alma, Ga., reported 2.54 inches. Sixteen tornadoes were sighted from Mississippi to Florida, the most destructive struck Panama City Beach, Fla., and injured six.

Friday the rain continued east. Areas in the Florida Panhandle got 4.00 to 4.24 inches; Asheville, N.C., recorded 3.01 inches. A High over the Plains brought fair skies to most of the Nation's midsection. By Saturday, rain was confined mostly to the Northeast. Relatively

clear skies and dry conditions moved into the Southeast. Sunday skies were clear almost nationwide: Only a few showers fell, mainly in New England and in Wisconsin.

TEMPERATURE: The Nation experienced a cooler than average week. While it averaged from 3° to 6° below normal over most of the middle of the country, sections of Montana and North Dakota were from 9° to 12° subnormal and parts of Kansas, Oklahoma and Texas were 6° to 9° below normal.

Only New England, parts of the Atlantic Seaboard, central California and parts of Arizona, Utah, and Nevada enjoyed above average temperatures.

Unseasonable warmth started the week. Eighty degree weather held from the Gulf Coast to the Middle Atlantic States, with a record 77° recorded at Portland, Maine. Then, cold air settled over the Midwest, where afternoon highs reached only the 30's in the Upper Mississippi Valley and Upper Great Lakes regions.

However, freezing limited itself mainly to the Great Lakes area and the Canadian Border in the west most of the week. Friday morning the frost line did move south. Freezing temperatures were felt throughout the western Great Plains. They extended into central New Mexico. Over the weekend it warmed up as brisk southerly winds as high as 30 m.p.h. brought temperatures in the low 70's to southern Nebraska and Iowa.

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: Winter wheat development behind last year in Great Plains -- growth good.

* Spring wheat seeding rapid in northern Plains.

* Cotton planting in South stalled by rains and flooding. * Wet land delayed corn land preparation and planting in North Central States.

SMALL GRAINS: Winter wheat in the central and southern Great Plains made good growth last week although development is behind last year due to cool, wet weather. Planting of spring wheat and other small grains made faster than normal progress in the heavy producing northern States. Kansas winter wheat continued making good growth with plentiful moisture. About 60 percent of the Kansas acreage is jointing, somewhat behind normal. Nebraska wheat is in good to fair condition. Oklahoma wheat is 18 percent headed, about 1 week behind the 48 percent a year ago. Winter wheat in Colorado is 19 percent jointed compared to 50 percent last year. Hail damaged some wheat and oats in Texas.

Light precipitation benefited small grain crops in the northern Plains and Montana. Much reseeded of winter wheat was accomplished in northern Idaho. Dry weather continued to worsen the draught in the Pacific Northwest. The condition of winter wheat in most States east of the Great Plains ranges from fair to good with damage from flooding occurring to bottomland acreage.

Spring planting of small grains continued to make rapid progress in the heavy producing northern States of the Dakotas, Minnesota, and Wisconsin. Small grain planting progress is well ahead of normal in these States, but progress is far behind the average in other North Central States due to wet fields.

Spring wheat is 40 percent seeded in North Dakota and 76 percent seeded in Minnesota where normally seeding is 31 percent complete by this date. By contrast, oats in Iowa are only 60 percent planted compared to an average of 90 percent.

COTTON: Extremely heavy rains and severe flooding of record proportions continued to plague the South's cotton farmers last week. The Army Corps of Engineers estimates that about 11 million acres are flooded of which about 8.5 million acres are in Mississippi, Arkansas, and Louisiana. Cotton land preparation and planting has been and continues to be badly delayed especially in the flooded areas of the Delta where time remaining to plant cotton is running out. Cotton is usually planted in this area during April through about May 25.

Less than 2 percent of the intended cotton acreage has been planted in Mississippi compared to an average of 41 percent usually planted by now. Almost no cotton is planted in Arkansas compared to the normal 33 percent and less than one percent is planted in Louisiana versus 80 percent last year. Farmers in these 3 States alone indicated in March their intentions to plant about one-fourth of the Nation's intended cotton acreage. Concern is growing that much flooded acreage will just not dry out in time to plant cotton. Texas cotton is 10 percent planted, behind last year's 30 percent. Hail damaged some early stands of Texas cotton.

CORN: Land preparation and corn planting made very little progress last week in the North Central and South Central Regions due to wet fields,

but farmers in most South Atlantic States made good progress planting corn. Corn is usually planted in the North Central Region during May 1 through June 15 so the planting season is just getting underway. Persistent wet weather last fall and this spring has delayed plowing and land preparation for corn. Spring plowing of land intended for corn and soybeans in the North Central States is only about 30 percent done compared to about 75 percent a year earlier. Last year, wet weather kept Midwest farmers from planting until about May 15 and the bulk of the corn acreage was then planted during the last 2 weeks of May. Now Corn Belt farmers are hoping for 6 to 10 days dry weather to permit full scale plowing and planting. Corn planting started and advanced to 5 percent in Iowa, the Nation's leading corn producing State. Planting was limited to well drained soils. Minnesota corn acreage is 4 percent planted, ahead of normal. A few scattered fields were planted in other North Central States.

SOYBEANS: Very few soybeans were planted last week. Soybeans in the south are usually planted from May 1 to July 5 so southern farmers will be concentrating on cotton planting as fields dry. Fields in the North Central States are just too wet to work and here most farmers will try to plant corn first. Usually soybeans in the Corn Belt are planted from May 10 to June 20, thus full scale soybean planting is a few weeks away.

OTHER CROPS: Sorghum planting in Texas is 38 percent planted compared to 46 percent last year. Texas rice is only 46 percent seeded compared to 97 percent last year. Texas rice is only 46 percent seeded compared to 97 percent last year while Louisiana rice is 40 percent seeded, 80 percent last year. Warm, dry weather favored Idaho potato planting. Tobacco in Kentucky, North Carolina and South Carolina is in mostly good condition. Transplanting in South Carolina is behind last year.

Fruits and Nuts: Fruit trees of all types are blooming now somewhat ahead of normal in the North Atlantic States and in the Great Lakes area. Fruit crops in the South Atlantic Region are in generally good condition. Rains benefited Florida citrus groves, but some growers are irrigating. Texas citrus harvest continues with some irrigating. Pecan trees in South Texas are blooming. Warmer temperatures in California were favorable for fruit and nut crops. Utah fruit prospects are mostly good to excellent.

Vegetables: Vegetable planting is off to a fast start in the Northeast with favorable weather. Planting is well advanced on Maryland's Southern Shore.

Planting and transplanting was active in the Mid and South Atlantic States. Most Florida vegetables continue in good supply. Onion harvesting is peaking in the Texas Lower Rio Grande Valley and is gaining momentum in the San Antonio area. Lettuce cutting is increasing in California and market tomato picking is underway in the Imperial Valley.

PASTURES AND LIVESTOCK: Pastures in the North Central States continue to improve. Lush pastures in many States are causing tetany problems for grazing cattle. Continued cold, stormy weather in the Rocky Mountains has increased livestock losses.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Apr. 29, 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 . . .	61	-5	2.8	+1.9	La. Baton Rouge . . .	70	-1	.5	-.6	Youngstown . . .	47	-4	1.3	+ .4
Mobile . . .	69	-2	3.8	+2.5	Lake Charles . . .	70	-1	.5	-.5	OKLA. Okla. City . . .	60	-4	T	-.8
Montgomery . . .	65	-2	4.3	+3.3	New Orleans . . .	68	-3	.3	-.8	Tulsa . . .	61	-2	1.4	+ .4
ALASKA Anchorage . . .	36	-4	.2	+ .1	Shreveport . . .	65	-4	3.9	+2.8	OREG. Astoria . . .	48	-3	.1	-1.0
Barrow . . .	33	-4	.1	0	MAINE Caribou . . .	45	+3	2.4	+1.8	Burns . . .	47	-3	0	-.2
Fairbanks . . .	41	0	.3	-.4	Portland . . .	51	+4	2.6	+1.8	Medford . . .	54	0	0	-.3
Juneau . . .	38	---	1.4	---	MD. Baltimore . . .	56	-3	2.9	+2.1	Pendleton . . .	51	-4	0	-.3
Kodiak . . .	11	-16	T	-.1	MASS. Boston . . .	55	+3	1.8	+1.0	Portland . . .	52	-3	T	-.5
Nome . . .	47	0	.1	-.2	Chatham . . .	51	---	2.2	---	Salem . . .	48	-6	T	-.5
ARIZ. Flagstaff . . .	75	+4	0	-.1	MICH. Alpena . . .	43	-1	T	-.6	PA. Allentown . . .	52	-2	1.7	+ .8
Phoenix . . .	67	-2	0	-.1	Detroit . . .	50	-1	T	-.7	Erie . . .	46	-2	1.2	+ .3
Tucson . . .	56	-4	0	-.1	Flint . . .	47	-1	.2	-.5	Harrisburg . . .	52	-4	2.4	+1.7
Winslow . . .	76	+3	0	0	Grand Rapids . . .	48	-3	.1	-.6	Philadelphia . . .	57	+1	3.4	+2.6
Yuma . . .	63	-2	.6	-.5	Houghton Lake . . .	45	0	T	-.6	Pittsburgh . . .	48	-6	2.5	+1.8
ARK. Fort Smith . . .	63	-3	4.7	+3.6	Lansing . . .	46	-5	.1	-.7	Scranton . . .	48	-5	1.3	+ .5
Little Rock . . .	73	+7	0	-.2	Marquette . . .	39	-5	0	-.7	R.I. Providence . . .	55	+4	2.4	+1.5
CALIF. Bakersfield . . .	49	-2	T	-.6	Muskegon . . .	46	-4	.2	-.5	S.C. Charleston . . .	66	-2	.7	+ .1
Eureka . . .	68	+4	0	-.3	S. Ste. Marie . . .	39	-4	0	-.5	Columbia . . .	64	-3	1.3	+ .4
Fresno . . .	62	-1	0	-.2	MINN. Duluth . . .	37	-7	T	-.6	Greenville . . .	63	-2	.7	-.2
Los Angeles . . .	68	+4	0	-.4	Internatl Falls . . .	46	-4	.2	-.3	S.D. Aberdeen . . .	45	-6	.2	-.2
Red Bluff . . .	60	-3	T	-.1	Minneapolis . . .	46	-3	1.1	+ .6	Huron . . .	45	-6	.3	-.2
San Diego . . .	57	0	0	-.3	Rochester . . .	42	-7	.1	-.4	Rapid City . . .	46	-4	.3	-.1
San Francisco . . .	67	+5	0	-.2	St. Cloud . . .	67	-1	1.7	+ .7	Sioux Falls . . .	47	-5	.2	-.4
Stockton . . .	49	-1	1.0	+ .5	MISS. Jackson . . .	66	-2	3.0	+1.8	TENN. Chattanooga . . .	61	-4	3.4	+2.5
COLO. Denver . . .	55	-2	.2	+ .1	Meridian . . .	58	0	T	-.8	Knoxville . . .	59	-4	3.0	+2.1
Grand Junction . . .	53	-2	.5	+ .2	MO. Columbia . . .	57	-3	T	-.9	Memphis . . .	63	-3	2.9	+1.9
Pueblo . . .	54	+2	2.9	+2.1	Kansas City . . .	58	-1	T	-.9	Nashville . . .	60	-4	2.9	+2.0
CONN. Bridgeport . . .	55	+3	2.0	+1.2	St. Louis . . .	56	-4	.7	-.3	TEX. Abilene . . .	62	-6	1.4	+1.1
Hartford . . .	59	-1	1.9	+1.2	Springfield . . .	47	-4	.5	+ .2	Austin . . .	67	-4	.1	-.9
D.C. Washington . . .	69	-1	.9	-.1	MONT. Billings . . .	44	-6	.1	-.2	Beaumont . . .	70	-1	.5	-.5
FLA. Apalachicola . . .	71	0	.5	---	Glasgow . . .	44	-5	.4	+ .2	Brownsville . . .	74	-2	0	-.4
Daytona Beach . . .	73	-2	.7	+ .1	Great Falls . . .	45	-4	.2	0	Corpus Christi . . .	73	-1	T	-.5
Ft. Myers . . .	67	-4	.5	-.3	Havre . . .	45	-4	.1	-.1	Dallas . . .	---	---	---	---
Jacksonville . . .	77	0	.1	-.5	Helena . . .	46	-3	.1	-.2	Del Rio . . .	71	-4	1.5	+1.2
Key West . . .	71	-3	.9	+ .1	Kalispell . . .	41	-11	.5	+ .2	El Paso . . .	63	-4	0	-.1
Lakeland . . .	75	-1	1.7	+ .7	Miles City . . .	47	-1	.1	-.1	Fort Worth . . .	65	-3	2.9	+2.0
Miami . . .	74	0	.7	-.1	Missoula . . .	52	-3	.4	-.2	Galveston . . .	71	-1	.3	-.4
Orlando . . .	66	-5	3.8	+2.8	NEBR. Grand Island . . .	55	-2	.2	-.4	Houston . . .	70	0	.7	-.1
Tallahassee . . .	71	-3	.9	+ .3	Lincoln . . .	53	-1	.7	+ .2	Lubbock . . .	59	-4	.7	+ .4
Tampa . . .	75	-1	.7	---	Norfolk . . .	50	-3	.6	+ .1	Lubbock . . .	60	-9	.5	+ .3
W. Palm Beach . . .	60	-3	1.6	+ .7	N. Platte . . .	55	0	.3	-.3	Midland . . .	64	-6	.2	-.4
GA. Atlanta . . .	63	-4	.8	0	Omaha . . .	48	-3	.1	-.4	San Angelo . . .	70	-1	.5	-.2
Augusta . . .	64	-5	3.5	+2.7	Valentine . . .	47	+1	0	-.2	San Antonio . . .	72	-1	T	-.5
Macon . . .	67	-2	2.5	+1.6	NEV. Ely . . .	71	+2	0	0	Victoria . . .	65	-5	2.2	+1.2
Savannah . . .	73	+1	1.1	-1.5	Las Vegas . . .	51	0	T	-.1	Waco . . .	60	-8	.8	+ .1
HAWAII. Hilo . . .	77	+2	.1	-.1	Reno . . .	51	+1	T	-.2	Wichita Falls . . .	50	-1	0	-.2
Honolulu . . .	---	---	---	---	Winnemucca . . .	50	+2	1.1	+ .3	UTAH. Blanding . . .	54	0	.6	+ .2
Kahului . . .	77	+4	.1	-.5	N.H. Concord . . .	55	0	1.4	+ .6	Salt Lake City . . .	54	+4	.7	+ .1
Lihue . . .	49	-5	0	-.2	N.J. Atlantic City . . .	56	0	2.9	+2.1	VT. Burlington . . .	50	-3	2.5	+1.8
IDAHO. Boise . . .	53	-2	T	-.3	Trenton . . .	57	-3	T	-.1	VA. Lynchburg . . .	57	-3	1.9	+1.1
Lewiston . . .	49	-2	T	-.2	N.MEX. Albuquerque . . .	59	-4	0	-.2	Norfolk . . .	63	+1	1.9	+1.8
Pocatello . . .	60	-4	.9	0	Roswell . . .	52	+1	.6	-.1	Richmond . . .	65	+3	2.6	+1.8
ILL. Cairo . . .	50	-3	.1	-.6	N.Y. Albany . . .	59	-4	.6	-.1	Roanoke . . .	56	-4	2.9	+2.2
Chicago . . .	54	-1	.1	-.6	Binghamton . . .	46	-2	.7	0	WASH. Colville . . .	49	-1	T	-.2
Moline . . .	55	0	.3	-.7	Buffalo . . .	46	-2	1.2	+ .5	Omak . . .	53	0	0	-.2
Peoria . . .	47	-6	.2	-.6	New York . . .	57	+2	2.5	+1.7	Quillayute . . .	46	-3	.1	-1.3
Rockford . . .	56	-2	T	-.9	Rochester . . .	48	-2	.8	+ .2	Seattle-Tacoma . . .	49	-3	.2	-.3
Springfield . . .	58	-4	.4	-.5	Syracuse . . .	49	-2	1.0	+ .3	Spokane . . .	47	-5	0	-.2
IND. Evansville . . .	52	-2	.1	-.6	N.C. Asheville . . .	57	-3	3.7	+3.0	Walla Walla . . .	54	-4	0	-.3
Ft. Wayne . . .	55	0	.2	-.7	Charlotte . . .	62	-2	.3	-.5	Yakima . . .	53	-1	0	-.1
Indianapolis . . .	51	-1	.2	-.6	Greensboro . . .	59	-2	2.1	+1.3	W. Va. Beckley . . .	51	-4	2.2	+1.3
South Bend . . .	54	-2	.2	-.6	Hatteras . . .	66	+4	.6	+ .1	Charleston . . .	55	-4	2.8	+2.0
IOWA. Burlington . . .	56	+2	T	-.6	Raleigh . . .	61	-2	2.2	+1.4	Huntington . . .	52	-7	2.2	+1.4
Des Moines . . .	50	-2	.5	-.3	Wilmington . . .	67	+1	2.5	+1.8	Parkersburg . . .	52	-6	3.0	+2.3
Dubuque . . .	54	0	.5	-.1	N. DAK. Bismarck . . .	41	-9	.2	-.1	WIS. Green Bay . . .	45	-3	0	-.6
Sioux City . . .	56	-1	.2	-.4	Fargo . . .	40	-9	T	-.5	La Crosse . . .	47	-6	1.5	+ .9
KANS. Concordia . . .	51	-7	1.6	+1.1	Williston . . .	43	-6	.6	+ .3	Madison . . .	48	-2	.6	-.1
Dodge City . . .	50	-2	1.1	+ .7	OHIO. Akron-Canton . . .	49	-4	1.2	+ .4	Milwaukee . . .	43	-5	.3	-.3
Goodland . . .	57	-2	T	-1.0	Cincinnati . . .	52	-5	1.7	+ .9	WYO. Casper . . .	41	-7	.5	+ .1
Topeka . . .	56	-6	.5	-.1	Cleveland . . .	48	-3	1.6	+ .8	Cheyenne . . .	44	-3	.8	+ .3
Wichita . . .	54	-4	2.6	+1.7	Columbus . . .	51	-4	1.3	+ .5	Lander . . .	40	-8	.7	+ .1
KY. Lexington . . .	56	-3	2.1	+1.2	Dayton . . .	49	-3	T	-.7	Sheridan . . .	44	-4	.8	+ .3
Louisville . . .	---	---	---	---	Toledo . . .	---	---	---	---	P.R. San Juan . . .	---	---	---	---

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 office of the Statistical Reporting Service, U.S.D.A. in cooperation with NOAA Climatologists.

ALABAMA: Sharp change to colder Friday brought clearing skies and ended 3 days of locally heavy rain. Very heavy rain central Tuesday, 4.00 to 5.00 inches common, and 6.80 inches at Melvin, Choctaw County. Four-day totals over 6.00 inches at many stations. Warm until Friday but frost reported northeast valleys weekend, with low of 33° Valley Head Saturday and Sunday. High for week 85° Selma Tuesday. Heavy rains halted planting cotton, corn and peanuts. Further flooding of lowland fields many areas. Rain and wet ground delayed plowing and application of fertilizer and herbicides to soybean land. Planting cotton about 25% complete Tennessee Valley but less than 20% complete statewide compared to slightly over 50% a year ago. Corn planting about 20% complete compared with about 50% last year. Slightly over 13% peanuts in ground compared with 75% year earlier. Hay crops making good growth in fields receiving adequate fertilizer. Small grain prospects continued favorable with about 60% acreage headed.

ARIZONA: Temporary shift in weather pattern brought near normal temperatures during week and interrupted string of 7 consecutive weeks subnormal temperatures. Mostly light showers north-central and white mountains and gusty winds associated with cooling trend dropped temperatures below normal Sunday. Temperatures well above freezing Yuma and Salt River Valley areas. Cotton planting near completion Yuma, but continues other cotton producing areas. Emergence continues at a steady rate in warmer central and southwest. Warmer weather helped some emergence southeast. Small grains good growth. Safflower good progress. Sorghum planting continues south half. Early plantings making good growth, recent plantings satisfactory. Harvest sugar beets near Yuma County, yield prospects favorable; good progress Bonita area. First cutting alfalfa hay, Salt River Valley and southwest virtually complete. Some second cuttings started. First cutting continues Graham and Cochise County. Lettuce harvest continued in central making satisfactory growth Cochise County. Mixed vegetable harvest making seasonal progress. Cantaloupes Yuma making good progress but harvest may be delayed until early June due cool weather. Valencia orange harvest continued. Grapefruit picking limited. Insect controls applied as needed. Groves good condition, good bloom. Arizona ranges improved as warm temperatures arrived. Desert green and providing good grazing. Wind depleting soil moisture. Stockwater adequate. Cattle and calves good. Calving underway. Sheep and lambs fair to good.

ARKANSAS: Heavy rain south, over 4.00 inches with 4.56 inches Camden early week. Rain ended late week. Rainfall less than 1.00 inch northwest with Danville 0.39 inch the lowest. Considerable flooding all major rivers. Temperatures: from near normal to 5° subnormal, ranging from mid-60's south to 58° north-central. Extremes: 83° Hot Springs on 23rd, 30° Calico Rock in north-central on 28th. Mild early in week but cooled midweek, then warmer again over weekend. Heavy rains, extreme flooding delaying fieldwork. Damage to crops, livestock, buildings, and machin-

ery widespread. No cotton planted, about 33% normal. Rice less than 5% seeded, about 67% normal. Seeding from airplanes in mud and water started. Almost no land prepared for soybeans and sorghums. Wheat and oats fair to good, some flooded--most heading. Apple and grape prospects good to excellent, peaches fair to good. Strawberry development delayed. Tomato transplanting completed, staking in progress. Pasture condition mostly good, except flooded area. Hay prospects good. Cattle mostly good, a few losses by drowning.

CALIFORNIA: Temperatures averaged above normal except spotty subnormal averages extreme north coast; along south coast. Interior valleys warmed considerably. Southern desert above 100° on 27th for first time this year. Precipitation confined to scattered thundershowers north 26th, 27th; however no measurable amounts. Night and morning low overcast, some fog along coast. Small grains continue good development, maturing rapidly. Grain hay cutting active, some barley combined Imperial Valley. Digging overwintered sugar beets and planting continues, some 1973 Imperial Valley plantings being harvested. Virtually all safflower planted. Cotton planting active, hope to complete this week. Rice planting gaining momentum. Corn and milo planting active. First cutting alfalfa quite active Sacramento Valley, other northern areas. Some fields south approaching second cutting. Maturity, development fruit, nut crops aided warmer temperatures. Strong winds later week caused small damage walnuts, almonds, prunes. Some peach, nectarine losses due hail Fresno. Spring orchard spraying, cultivation practices continue. Irrigation common many valley areas. Fruit sets, crop prospects vary greatly. Good crops apricots, cherries, grapes, nectarines, pears, prunes, and walnuts appear likely. Prospects other crops rated near normal. Cooler April weather slowed grape maturity, many vineyards just beginning show fruit. Sulphuring, drilling fumigants continue many vineyards. Harvesting Valencia oranges picking up tempo, above normal cullage necessary. Lemon picking south coast active, excellent crop reported. Processing asparagus full swing Delta, cutting active Orange County, ending El Centro. Broccoli demand higher, moderate supplies Salinas, steady volume Santa Maria. Cabbage constant level Oxnard, decreasing San Diego. Light harvest cauliflower Salinas, cutting full swing Orange. Celery active Orange. Lettuce movement increasing, currently producing areas good conditions. Cutting full swing Westside, San Joaquin. Santa Maria sizing problems due early season bad weather, increased harvesting Salinas. Strawberry picking strong Orange, Los Angeles. Plant conditions strengthened central coast, fruit production increasing. Picking full production southern San Joaquin. Warm weather aided tomato plant growth most areas. Market tomato picking underway Imperial Valley, fair quality. Lower elevation rangeland browning; range feed plentiful. Sheep shearing central valley. Lambing, calving well along. Bee colonies doing well on range clover and citrus areas. Egg, milk production on seasonal upswing.

COLORADO: Precipitation between 23rd and 26th mostly rain or rain and snow mixed lower elevations and snow mountains. Scattered snow northern mountains evening of 28th and 29th. Average temperatures below normal, ranging from 5° at Lake George to 16° at Rye. Precipitation greatest Kansas Basin with amounts near 2.50 inches at Akron and Bonny Dam. Field activities curtailed mid-week eastern slope, rest of State fieldwork active. Planting spring grain crops 3 weeks late. Spring barley 48% seeded, 16% emerged; oats 34% planted, 12% emerged. Sugar beet seeding active during week, 18% complete, 3 weeks behind normal. Condition crops lower, cool temperatures limiting growth. Winter wheat 19% jointed compared with 50% last year. Soil moisture adequate to surplus all areas. Range grass growth very slow. Livestock fair, supplemental feeding necessary most areas.

FLORIDA: Sunny, warm early week. Cold frontal passage Thursday brought first measurable rain and cooler temperatures. Weekend minimum temperatures, mid-40's far south as central Florida. Rainfall averaged 2.50 inches panhandle and 0.50 to 1.00 inch elsewhere, mainly as showers accompanying front. North Florida corn planted and tobacco setting almost complete. Mildew and septoria showing up in wheat. Peanut planting started. Sugarcane harvesting almost complete with 5 mills complete, 2 to finish shortly. Pastures upper portion improved but other areas declined because of short soil moisture. Cattle and calves show slight decline. Rains beneficial to citrus, high winds continue to dehydrate. Some growers irrigating during fruit set period. Valencia fruit very good. Most vegetables continue in good supply. Potatoes, sweet corn increasing. Cabbage good, declining. Tomatoes steady, sharp increase first-half of May. Celery continues steady. Watermelons increasing through May to June peak. Lettuce, other leafy vegetables declining seasonally.

GEORGIA: Heavy to excessive rainfall statewide. Totals ranged 1.00 to over 6.00 inches. Rains generally heaviest south and central. Alma had 4.00 inches during 24 hours ending Thursday morning and almost 7.00 inches for 3-day period. Rainfall lightest east-central. Temperatures warm beginning, mild at midweek under cloudy rainy skies, much cooler during weekend as cool, dry air moved over State Friday. Averaged 2° to 5° below normal. Soil moisture mostly surplus statewide. Planting problems persist. Planting active first part in central and south. Heavy rains beginning midweek stopped fieldwork. Tobacco transplanting 94% complete, some silting and drowning. Corn 55% planted compared with over 80% normal. Cotton 31% planted, 5% emerged compared with 60-70% normal plantings and 25-50% emerged. Peanuts 26% seeded, about one-third normal. Soybeans less than 1% planted, also late. Considerable replanting above crops expected south due to flooding, washing, silting and crusting. Small grains fair to mostly good, rain-related diseases becoming more serious. Pastures and livestock good. Vegetable and melon crops mostly fair to good, excess moisture depressed condition.

HAWAII: Weather favorable despite earthquake. No serious crop damage reported. Light showers beneficial. Crop progress fair to good. Adequate vegetable and fruit supplies. Sugarcane production on schedule--pineapple on uptrend. Pastures and cattle fair to good.

IDAHO: Temperatures warmed to near normal. Pre-

cipitation spotty and light. Totals less than 0.25 inch. Agriculture helped by warm, dry days. Seeding finally started east. Much reseeding winter wheat north continues. Irrigation mostly general. Spring wheat, barley and mixed grains seeding over 80% done except east where 33% complete. Emerged stands spring grains mostly good. Potatoes 75% planted southwest, 15% southcentral, 10% east. Sugar beet seeding complete southwest, 67% done southcentral, and 25% in east. Dry peas and lentil seeding 75% complete main areas. Soil moisture short except parts of south-central and east. Apples full bloom, no frost protection needed.

ILLINOIS: Temperatures: 2° to 4° subnormal. Frequent showers and thunderstorms south produced rains up to 2.00 inches. About 1.00 inch fell in showers and thunderstorms over extreme north Sunday. Otherwise little or none north and central. Winter wheat 10% excellent, 66% good, 21% fair, 3% poor--some flood damage. Legumes mostly good. Oat seeding 45% complete. Plowing corn, soybean land just over 35% complete. Corn planting just starting. Pastures 23% excellent, 65% good, 12% fair--supplying 65% roughage requirements. Soil moisture 95% surplus, 5% adequate. Main activities machinery repair, livestock care. Limited fieldwork as less than 1 day suitable.

INDIANA: Cool, normal sunshine, low humidity. Rainfall: (week ending Friday) from 0.75 inch northeast to 2.00 inches northwest and south-central. Weekend rainfall 0.20 inch north and central. Temperatures 2° subnormal ranging from 32° north on 28th to 70's south on 29th. One day averaged suitable for fieldwork. April 28 and 29 permitted additional progress. Topsoil and subsoil moisture still surplus. Fieldwork 16 days behind. Plowing made some advance, now 20% complete, 55% in 1972, 60% average. Corn planting still limited to few fields, 2% in 1972 but 0% average. Oats 25% seeded, 45% in 1972, 75% average. Clover 55% seeded. No wheat headed but 10 inches high, 9 inches in 1972, 8 inches average. Oats 2 inches high, same as last year and average. Pastures continue to improve.

IOWA: Seasonal temperatures and subnormal precipitation in all but west where heavy showers at midweek produced upward to 2.81 inches rain at Carroll. Four days suitable for fieldwork. Corn planting started near end of week; operations limited to well drained soils. Plowing 50% compare with 1972 and 67-71 average of 80%. Oats seeding 60%, behind last year's 85% and 5-year average of over 90%. About 5% corn planted, slightly less than normal. Early indications of 6% alfalfa and clover seedings winterkilled. Pasture feed mostly average to below average. Subsoil moisture 73% surplus, 27% adequate, subsoil moisture 77% surplus and 23% adequate.

KANSAS: One moderately strong weather system moved eastward first of week bringing precipitation which averaged 1.00 to 1.25 inch west and south to 0.25 inch or less northeast. Temperatures: from 2° to 7° subnormal. Frost southwest on 27th and south-east on 28th. New record low of 30° Dodge City 27th and 1 to 2 inches snow northwest late on 25th and early 26th. Spring fieldwork accelerated until midweek rain and snow slowed progress. Wheat made good growth, plentiful moisture all areas. Wheat crop 60% jointing, somewhat behind usual. Oat seeding 67% completed, compared with 97% average. Spring barley planting 75% complete, 95% average. Corn planting 3% complete, 24% last year, 22% average. Sugar beet planting limited

progress. Alfalfa growing well but some weevil damage. Pastures greening nicely. Livestock being moved to native pastures where growth sufficient. Spring calving nearly complete. Farrowing made good progress.

KENTUCKY: Temperatures near normal first of week, dipped to 10° to 15° subnormal by end week. Freezing temperatures east on 29th. Rainfall 1.50 to 2.50 inches with little or none 28th and 29th. Rain soaked soil continued to idle farmers. Some drying over weekend but flooded bottomland several weeks to tillage. Plowing at near standstill, much behind normal. Corn 2% planted, 9% last year and 57% 1971. Tobacco beds mostly good, need sunshine. Emerged plants 70% have leaves size of dime or less, comparable last year. Some tobacco beds not yet sown. Barley 66% heading, many fields showing freeze damage. Wheat 13% headed, alfalfa 11 inches. Spraying for weevils active as weather permits. Grass tetany problem in cattle. Pastures lush with livestock fair to good.

LOUISIANA: Weather mild to warm first of week. Scattered thundershowers statewide midweek accompanied by locally damaging winds. Clear, dry and cooler weather dominated weekend. Temperatures: 2° to 5° subnormal. Extremes 89° at New Iberia Wednesday and 43° Shreveport Saturday. Precipitation amounts less than 1.00 inch most central and south. Some sections north 1.00 to more than 3.00 inches. Greatest 1-day total 2.75 inches at Curtis Wednesday morning. Very little fieldwork--excessive moisture further delayed land preparation and planting. New river crests and additional flooding of lowlands from backwater expected. Some scattered cotton and corn planting in light soils. Some rice water-planted. Less than 1% cotton planted compared with 80% year ago. Corn 20% planted, 85% year ago. Rice 40% seeded, 80% year ago. Sweet potato transplanting getting underway. Sugarcane getting grassy--some acreage covered with backwater. Wheat and oats heading--condition fair. Ryegrass and oats ready to cut for hay. Pasture feed below average--considerable acreage flooded. Livestock fair to good--movement from low areas to market continued.

MARYLAND AND DELAWARE: Turned wet and cold 23rd through 27th. Daytime temperatures low 80's Monday, mostly 70's Tuesday and Wednesday, fell sharply to mostly 50's Thursday and Friday. Averaged 2° to 5° above normal. Precipitation spread over west and north-central early week, general over 2 States later with heavy amounts reported Wednesday and Friday. Totals from 0.75 to 1.25 inch southern Eastern Shore, except 2.00 inches near Pocomoke, 2.00 to 3.00 inches central and 2.50 to 3.40 inches north-central and western sections. Precipitation ended early 28th, fair with warming trend 29th. Good progress until midweek rains. Corn planting 33% done southern shore. Small grains gaining except where too wet. Tobacco plant beds good prospects. Vegetable planting well advanced southern shore, delayed elsewhere. Apple orchards full bloom, prospects good. Peach prospects vary with variety and location. Hay and pasture crops growing well.

MICHIGAN: Cool dry weather. Weak storms passing south of State. Temperature: 2° to 6° subnormal upper peninsula, 1° to 5° subnormal lower peninsula. Precipitation totals: none upper peninsula, generally traces north and southeast and 0.20 to 0.50 inch south-west lower peninsula. Weekend temperatures fell to 20's most of State with heavy frost some areas of central and northern fruit

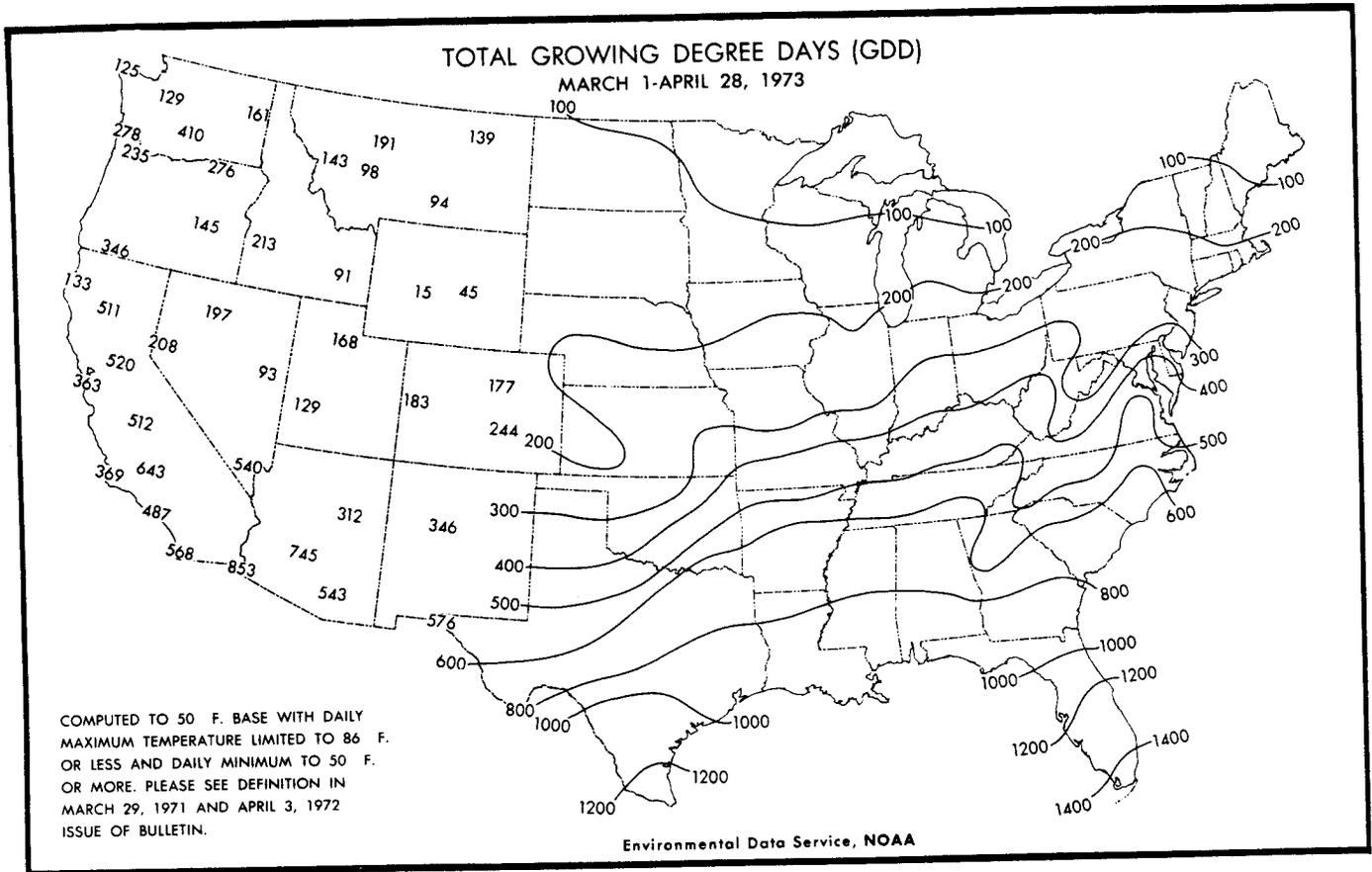
belt. Wet fields delayed fieldwork many locations. Considerable progress in drier areas. Soil moisture mostly adequate to surplus. Averaged 4.2 days suitable for fieldwork. Only 24% acreage intended for spring planting plowed. Oats 33%, sugar beets 28%, potatoes 6% planted. Some field corn planted. Wheat developing well. Tart cherries, sweet cherries, peaches, full bloom southwest. Apple bloom started. Some frost damage to tart cherries northwest. Asparagus harvest underway southwest.

MINNESOTA: Temperatures: from 8° subnormal upper northwest to 2° subnormal lower southeast. Extremes lower 70's south third on 24th to upper teens 27th extreme north. Precipitation ranged generally subnormal except for western sections of northeast and upper northeast section of northwest where 0.70 to 1.10 inch recorded. Topsoil and subsoil moisture adequate most parts except short northwest and surplus southeast. Spring planting ahead of normal--spring wheat 76%, normal 31%; oats 72%, normal 39%; barley 59%, normal 24%; flax 32%, normal 13%. Corn 4% planted, 39% ground prepared. No soybeans planted, 18% ground prepared. Emergence of spring wheat 13%, oats 16%, barley 4%, flax 5%. Processing peas 30% planted, processing sweet corn 2%.

MISSISSIPPI: Wind damage and further flooding; 37 injuries and near \$1 million damage already reported. Tornadoes 25th in and near Tallahatchie and Jones Counties. Significant increase in flood waters several west-central counties. Average temperatures about 3° above normal. Rather warm through Wednesday a cooling trend thereafter. Extremes 88° Columbia on 25th and 34° Tupelo on 29th. Rainfall heaviest midweek with some flash flooding several counties. In addition to 6.67 inches at Rosedale on 25th, 1-day measurements over 6.00 inches reported Simpson and Jackson Counties and over 7.00 inches Clarke County. Generally fair skies with mild afternoons and cool nights over weekend. Virtually no agricultural activity except caring for livestock. Fieldwork averaged 0.4 day compared with 0.3 day previous week and 5.5 days a year ago. Too much soil moisture. Land preparation 37% complete. Corn 22% planted, last year 57%. Less than 2% of cotton acreage planted compared with 55% a year ago and a normal of 41% by May 1. Small grains fair to good -- wheat 75% and oats 85% headed. Irish potatoes, truck crops, pastures and livestock fair to good. Peaches very poor to good.

MISSOURI: Temperatures: About 2° subnormal north and about 2° above normal south, near normal central. Scattered frosts Saturday morning across State as lows generally in 30's. Heavy rains end week and throughout weekend brought totals to 2.00 to over 6.00 inches from southwest through northeast. Southeast totals ranged from 2.00 to over 10.00 inches. By weekend, crest of flood on Mississippi River passed St. Louis. Missouri River falling moderately from record flood crests which occurred midweek. Less than 1 day suitable for fieldwork. Nearly 2 days suitable in northwest. Plowing remains 11% complete. Corn 1% planted, 23% year ago. No reports of cotton planted. Oats 8% sown, completed this time last year -- reports indicate very few more will be sown. Wheat mostly fair. Pastures fair to good. Soil moisture remains surplus.

MONTANA: Cool week, temperatures averaging 8° below normal. Precipitation occurred mostly early in week with smaller amounts over weekends. Central divisions received significant amounts, western divisions remained dry. Spring wheat and



barley planting 40% complete, oats 35% sugar beets 55%, potatoes and beans 5%. Topsoil moisture adequate south-central, west, short to adequate elsewhere. Winter wheat fair to good. Prospective supplies irrigation water mostly average. Range feed and stockwater supplies short to adequate. Growth rate hay and range grasses slowed some areas, 75% cattle and sheep receiving supplemental feed. Calving 85% complete, lambing 80%, shearing 65% done. Cattle and sheep 15% moved to summer ranges. Significant livestock losses from last week's storm showing up some counties.

NEBRASKA: Rainfall generally heavy during midweek. Heaviest amounts south and east, north-central driest. Minimum temperatures near normal. Friday coldest with frost common. Highs mostly 50's except weekend readings 70's. Four days suitable for fieldwork. Wet fields delaying soil preparation and planting. Fieldwork consisted soil preparation, spreading fertilizer, shredding stalks, some planting, and completing harvest. Corn planting begun, little completed. Sugar beet planting 75% complete. Small grain seeding nearing completion many areas. Wheat generally good to fair. Alfalfa and wild hay good. Heavy winterkill alfalfa Dawson County area. Range and pasture feed 16% above average, 61% average, 23% below average. Many cattle moved to pastures, grazing limited. Few cases grass tetany. Calving nearing completion many ranches. Feedlots drying but some still muddy.

NEVADA: Temperatures: 3° to 4° above normal in all but extreme south where temperatures near normal. High for week Las Vegas 93°, coldest Ely 23°. Elko received heaviest rainfall 0.64 inch April 29. Fall planted grains and alfalfa

appear good. Planting small grains and cotton active. Irrigating underway. Cattle moving to spring and summer ranges with calving and lambing well along.

NEW ENGLAND: Temperatures: Near normal to 4° above. Precipitation light early week persistent and mostly heavy latter half. Totals 2.00 to 4.00 inches Maine, parts southern New England, ranged to under 1.00 inch northwest. Rivers flooding Maine end of week, some new record stages northern Maine. Soil moisture adequate to surplus all areas. All types fruit trees blooming. Asparagus being cut, few other vegetables planted southern areas. Some stock on pastures.

NEW JERSEY: Very wet, temperatures averaging about normal. Temperatures: From mid-80's on 23d to low-30's on morning of 30th. Precipitation averaged 2.10 inches over north, 2.50 inches over central and southern interior and 2.30 inches along coast. Soil moisture adequate. Preparation and planting active. Asparagus harvest increasing. Warmer weather needed. Spinach and greens continue to move. Early planted snapbeans coming up. Planting fresh market tomatoes. Potatoes 90% planted central. Apples and blueberries full bloom. Strawberries beginning to bloom. Preparation for field corn and soybeans active on well drained fields.

NEW MEXICO: Light precipitation eastern plains, north and central mountains but with local heavy amounts of 1.00 to 2.00 inches northeast plains falling mostly on Tuesday and Wednesday. Temperatures continued average below normal, greatest departures 5° or more southeast. Minimum temperatures early week west, on Friday elsewhere. Maximum temperatures Saturday. Mostly open weather

prevailed. Snow around Clovis. Rains, Tucumcari east to Texas border. Small grains good, grazing negligible. Alfalfa being cut, good. Cotton 35% planted. Lettuce, onions good Mesilla Valley, Albuquerque-Los Lunas. Chili peppers being planted, Corrales. Cattle, calves mostly good. Ranges poor to mostly good.

NEW YORK: Temperatures: 1° to 4° subnormal over west and south-central but 2° to 5° above normal east. Cooler weather west and north early week spread over rest of State by midweek. Highs 80° Bridgehampton and 81° New York City on Monday. Low 31° Elmira and Rochester Wednesday morning. All interior stations recorded lows in 30's. Heaviest rainfall Thursday and Friday southeast, then northward rest of State Friday and Saturday but with lesser amounts. Precipitation averaged up to 1.75 inches above normal coastal southeast and up to 0.50 inch above normal many other south-east and west sections. Maximum 2.51 inches New York City. Most of week favorable for fieldwork. Plowing and fitting full swing. Oat planting ahead of last year, about 40% in. Corn planting continues -- beginning in some areas while well underway in others. Wheat and hay good with limited winterkill. Long Island potato planting about 80% complete, Upstate planting underway. Planting onions ranges from 60% to 90% complete Upstate. Early lettuce satisfactory. Celery planting well underway Orange County. First fields sweet corn and cabbage planted Upstate. Strawberries beginning to bloom Long Island. Fruit development ahead of normal-- Hudson Valley peaches, pears and sweet cherries full bloom. Sweet cherries west blooming. New shoots appearing in vineyards. Tying nearly complete, growers applying fertilizers and chemical weed control.

NORTH CAROLINA: Temperatures averaged much above normal dropping below normal over weekend. Highs in 80's dropping to 60's and 70's. Low 40's and 50's dropping to 30's with scattered frost and light freeze some areas 29th. Rain 25th through 27th with totals 0.25 inch to 5.00 inches mostly near 2.00 inches. Scattered thunderstorms with some hail and high winds. Soil moisture adequate. Fieldwork averaged 3.8 days. Corn planting 45% complete. Still behind last 2 years. Flue-cured beds 2% excellent, 53% good, 45% fair. Plants in field 50% good, 50% fair. Cotton crop 34% planted. Peanut planting gaining momentum. Small grains and pastures good shape. Fruit and truck crops fair to good condition.

NORTH DAKOTA: Cool week: 10° to 15° subnormal. Extremes 67° and 15°. Warmest early week and coldest toward weekend. Precipitation averaged well below normal central, east-central and north-east to near normal southwest. Snow 24th up to 4 inches at Napoleon. Precipitation several days, heaviest near midweek. Greatest amount 0.70 inch at Botteneau. Quite windy on 21st. Fieldwork made rapid gains after temporary delay due moisture received Easter weekend. Planting progress well ahead of normal and much ahead 1972. Over 40% spring wheat and 25% durum planted. Moisture generally adequate for germination but additional welcome some areas east. Temperatures cool, some farmers waiting to obtain weed kill before planting. Development spring pastures slow.

OHIO: Sunshine well below normal, particularly over central and south. Intense storm on 27th produced gale-force winds on Lake Erie; local flooding along southern Lake Shore. Temperatures: Subnormal. Coldest 28th, readings in 30's, frost many locations. Highest 70° Dayton 24th, lowest 26° Toledo 28th. Low of 31° on 28th

new record for date Columbus; equaled record Cleveland. Rain somewhere every day, amounts of 0.50 inch or more over south half on 23rd. Heavy rains on 27th produced 1.00 inch or more many sections. Precipitation light extreme northwest, Toledo reporting 0.02 inch, heaviest south and southeast ranging from 2.00 to 3.00 inches. Field activity curtailed last week. Slightly over 2 days favorable fieldwork; northeast showed most progress. Other areas limited working well-drained soils. First 27 days April less than 6 favorable fieldwork, compared 9 days 1972, 25 days 1971. Soil moisture 86% surplus, 14% adequate. Plowing corn and soybean land about 35% complete; normal progress 75%. Corn planting just getting started, 5-year average 10% planted. Oat seeding 30% done, well behind 50% 1972, normal, 75%. Potatoes and sugar beets both 10% planted. Tobacco beds 70% sown. Winter wheat mostly fair, some water damage low-lying areas.

OKLAHOMA: Temperatures: Near to slightly above normal east to 5° subnormal panhandle and north-central. Precipitation averaged 0.40 inch west-central to slightly over 4.00 inches southeast. Weekend mild and dry. Rain delayed fieldwork many counties. Wheat 18% headed; one week behind 48% year ago. Barley 15% headed; 51% last year. Oats 9% headed; 43% year earlier. Alfalfa weevil causing problems. First cutting alfalfa 13% completed. Corn acreage 7% seeded - just starting in panhandle, slow growth. Soybean seedbed preparation slow because wet fields. Fruit crop prospects good most areas - few northwest localities heavy loss from earlier freeze. Ranges and pastures greening, development slow, little grazing. Livestock mostly good.

OREGON: Temperatures averaged 1° to 2° subnormal. Few stations in east daily minima in 20's. Precipitation reverted to dry conditions. Only traces all areas east of Cascades, and a trace to 0.09 inch in Cascades, none in southwestern valleys and extreme south coast, a trace to 0.29 inch remainder of coast, and trace to 0.02 inch in Willamette Valley. Dry range conditions continue. Need moisture for grass. Grain and hay development good to excellent. Planting spring grains continues late areas. Potato planting nearly complete Columbia Basin, Malheur County, starting central, preparation stages south. Sugar beet and onion planting complete. Planting underway - green beans, beets, corn, broccoli. Some weevils appearing in green peas. Apples blooming Medford, Hood River, complete - Milton-Freewater. Cranberry growth starting. Fall calf contracts being offered - few takers.

PENNSYLVANIA: Cool, wet. Temperatures: 5° to 8° subnormal and 10° to 15° below previous week. General cooling trend with daytime highs mostly 50's to 70's and overnight lows in 40's first half, lowering to 40's and 50's with lows below freezing central and north weekend. Rainfall on 5 out of 7 days totaled 1.00 inch north, 2.50 inches central and southeast, 3.20 inches parts of southwest for wettest week since mid-December. Rainy weather halted fieldwork. Topsoil moisture 66% surplus, 34% adequate. Spring plowing and seeding oats 50% complete. Limited corn planted. Some apples blooming 1 week ahead of normal. Peaches entering petal-fall stages. Pollinating conditions unfavorable. Strawberries starting to bloom.

PUERTO RICO: Very heavy rains early week over north caused serious flooding along coast. Island average rainfall 4.80 inches or about

3.50 inches above normal. Highest weekly total 17.97 inches north-central coast. Highest 24 hour total 8.70 inches. Agricultural drought in north and interior divisions ended by heavy Easter rains. Southern divisions much relieved but need more rain to terminate drought. Water rationing continues some southern towns. Agricultural operations interrupted by rains and flooding north. Soil erosion reported some interior zones. Divisional temperatures averaged 79° coast and 72° interior. High 93°, low 52°. Sugarcane harvest north interrupted by heavy rains. Ratoon development much improved. Coffee flowering and bean development greatly improved. Weed control fertilizing and soil preparation operations again underway. Some newly planted tobacco zones damaged by heavy rains. Pastures lower elevations damaged by flooding but expected to recover satisfactory. Southwestern zones received little or no rain and still too dry for pasture recovery. Minor flood crops damaged in a few northern zones, but good recovery expected and new plantings begun.

SOUTH CAROLINA: Temperatures: 2° to 6° above normal first of week to several degrees below near end. High 84° Columbia, low 30° Cedar Creek. Scattered frost few areas northwest morning of 29th. General rains Thursday. Rainfall heaviest in west averaging 2.00 inches in mountains to 0.50 to 1.00 inch southwest. Favorable weather enhancing overdue field activities. Tobacco good 64% transplanted, 85% last year. Cotton 35% planted, 57% last year. Corn stands fair to good--59% planted, 79% last year. Small grains fair to good. Pastures, hay crops good. Peaches good for undamaged orchards. Peanuts 35% planted, 28% last year. Spring vegetables fair to good. Watermelons 82% planted, about same last year.

SOUTH DAKOTA: Light precipitation midweek and on 30th. Four to 5 inches snow midweek in northeast. Temperatures averaged near normal to 6° below normal. Extremes ranged from 77° at Yankton on 29th to 19° at Conde and Montrose on 27th. Topsoil moisture adequate statewide. Crop and pasture growth slow. Fieldwork hampered some by cool, wet weather. But still good progress. Spring plowing 50% complete, normal 44%, last year 35%. Spring wheat seeding 81% complete: Normal 73%, last year 46%. Oats seeding, at 81% complete is 6 points ahead of normal and 26 points ahead of last year. Barley seeding 79% complete compared to normal of 64% and last year's 47%. Flax seeding 19% complete; normal 14%, last year 2%. Corn planting 1% complete; normally and last year corn planting not started yet. Livestock condition good. Calving about 70% complete.

TENNESSEE: Cloudy, wet, cold fronts. Temperatures: 2° to 4° subnormal. Considerable rainfall of 3.00 inches most areas. Near freezing temperatures mountains 29th. Sunny, windy weather enhanced drying conditions weekend. Fieldwork at standstill. Considerable cropland west still underwater. Most remaining acreage has excessive moisture. Corn and cotton planting 2 weeks behind. Additional delay will result less acreage & 33% planted these crops. Wheat 17% oats 13%, and barley 33% headed -- 1 week behind normal development. Some dwarf-mosaic disease in wheat, oats.

TEXAS: Heavy showers, thunderstorms dumped flooding rains, over 5.00 inches several points, north-central and Northeastern Texas, large hail few points east of Pecos River. Wet weather

dominated North Texas early in week. South Texas dried out as temperatures rose 80's and low 90's. Rainfall ended North Texas midweek. Fair, cool weather Friday. Morning temperatures below freezing northern portion panhandle, upper 30's from El Paso northeastward across high plains to upper Red River Valley. South winds brought warm trend weekend. Planting of cotton, corn, sorghum, peanuts, rice little progress. Thunderstorms and moderate heavy hail damaged wheat, oat and early stands of cotton, corn, sorghum. Wheat, oats furnishing good to excellent grazing. Major crops - percent planted: cotton 10, last year 30; corn 68, last year 82; sorghum 38, last year 46; peanuts 14, last year 17; rice 46, last year 97. Lower Rio Grande Valley onion harvest at peak. Cabbage harvest active. Carrot digging continues. Laredo onion harvest continues. Honeydew melons beginning to run. Coastal Bend watermelons showing good progress. Harvest of onions and cabbage nearing completion. San Antonio-Winter Garden onion harvest gaining momentum. Some supplies lettuce left. Carrot and cabbages supplies available. Potato digging underway. Several hundred acres of watermelons damaged or destroyed by hail. East Texas replanting of watermelons nearing completion. In Knox-Haskell area early seeded watermelons have emerged. North Texas cantaloupes and watermelons planted and beginning to emerge. In Trans-Pecos onions making good growth. On High Plains some onions damaged by high winds and blowing dust. Carrot planting continues. Most onions, potatoes developing well. Peach crop suffered setback by hail storm in Central Texas. Citrus harvest continues, groves require irrigation. Pecan trees blooming in southern areas.

UTAH: Few widely scattered showers early week. Moderate to locally heavy rain and snow northwest over weekend. Average temperatures: From near normal to 7° below. Soil temperature at 4-inch depth ranged from mid-40's Cache Valley to near 50° Salt Lake City, mid-50's Richfield and mid-60's St. George. Soil moisture adequate to surplus statewide. Irrigation water supplies excellent. Progress of planting crops very poor because of delays from wet fields. Condition winter wheat only fair leading Box Elder County but good all other counties except San Juan in southeast. This county has nearly 80%--28,000 acres--winterkilled winter wheat. Hopefully some will be replanted to spring wheat if fields dry in time. Planting spring grains, corn, vegetable crops, sugar beets far behind average--situation serious. Fruit prospects mostly good to excellent for apricots, sweet and sour cherries, peaches, pears, apples in major areas--some spotted areas where freeze damage has occurred. Current range feed prospects poor to excellent. Movement livestock to spring rangelands behind usual date.

VIRGINIA: Heavy rains near middle. Totals averaged 2.25 inches, some over 3.5 inches. Highs mid-80's beginning, upper 50's middle, averaged 4° above normal. Lows above freezing. Extremes 86° and 35°. Fieldwork early week stopped by rain Wednesday. Topsoil 80% surplus moisture. Fieldwork 2.5 days. Planting behind last year. Growing crops better. Corn 20% planted. Prepared fields for soybeans, peanuts, and tobacco. Few planted. Cotton planted. Loose smut, yellow dwarf and mildew on barley. Mildew on wheat. Rust on oats. Sowed spring oats. Began cutting rye silage. Sprayed alfalfa weevils. Clover-

timothy hay excellent. Hay cutting expected in week or two. Apples full bloom north. Petal fall Roanoke. Pastures excellent, grass tetany losses. Sheared sheep. Tomatoes transplanted all areas and direct seeded Northern Neck. Set cabbage Carroll County. Eastern Shore planted Irish potatoes, snap beans, and cucumbers. Potatoes and snap beans coming up. Strawberries full bloom.

WASHINGTON: Western Washington: Temperatures averaged 1° to 3° subnormal. Scattered showers beginning and end of week. Harvest of field rhubarb, tulips active. Planting early vegetables, silage corn underway. Strawberries blooming. Green chopping of grass and rye continues. Pasture growth good. Eastern Washington: Temperatures averaged 2° subnormal, no precipitation. Apples, late cherries blooming. Asparagus harvest continues. Some thinning of sugar beets underway. Hop yard stringing continues. Corn and bean planting has begun. Soil moisture short in dryland areas. Winter injury showing in alfalfa and seed grass fields. Pasture short. Livestock good.

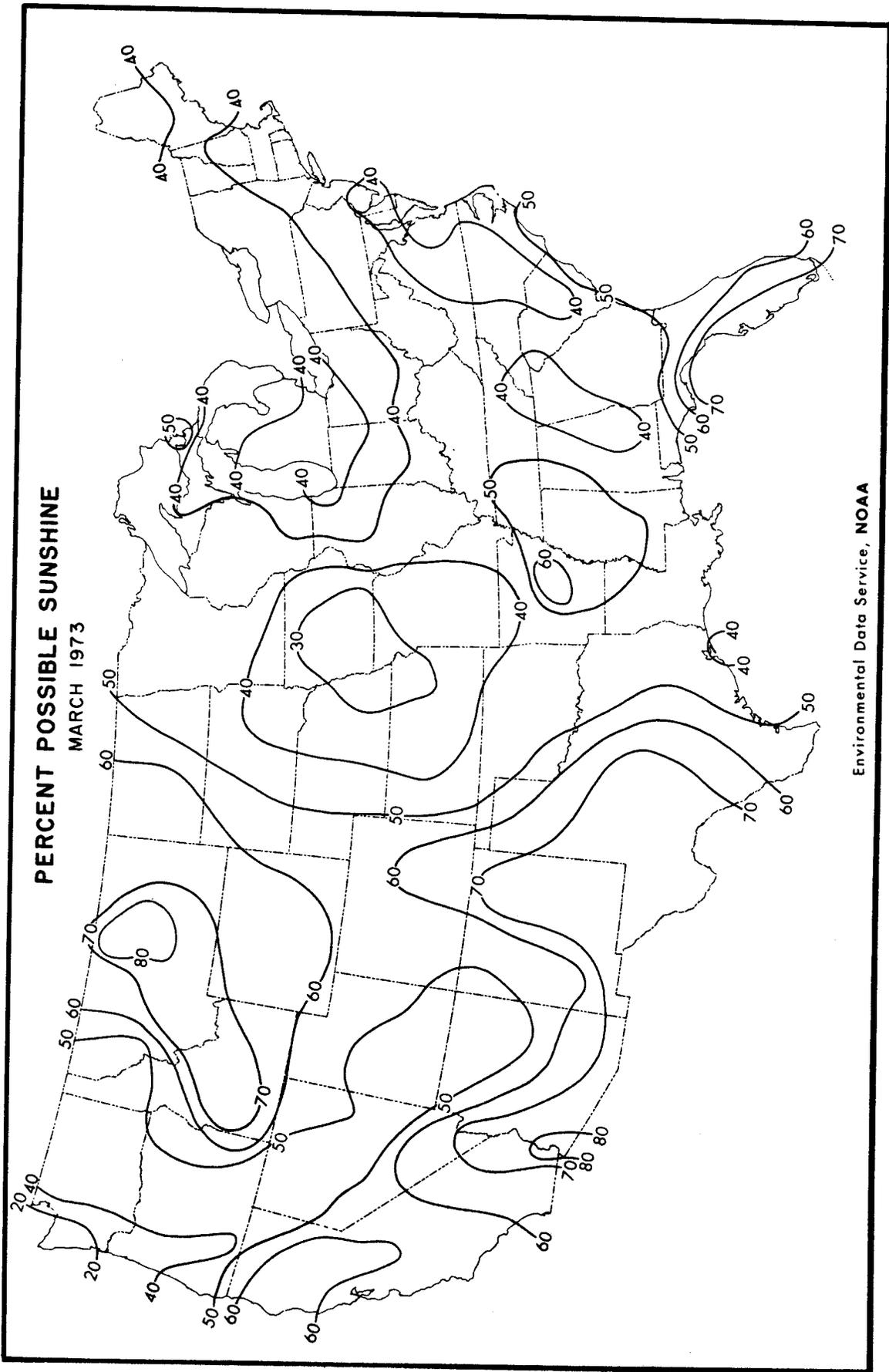
WEST VIRGINIA: Pleasant daytime temperatures in 80's early in week. Colder air Monday brought cloudiness and rain rest of week dropping daytime temperatures to 40's and 50's. Rivers full as rainfall totaled more than 1.00 to 2.00 inches most locations. Friday morning temperatures into 30's with snow higher elevations. Soil moisture,

93% surplus. Fieldwork 2 days. Small grains fair to good. Spring oats 30% seeded. Potatoes 30% planted. Nearly all tobacco beds seeded, 80% emerged. Livestock good. Pasture mostly good -- too wet for grazing. Fruit condition still uncertain.

WISCONSIN: Sunny, cool, dry. Temperatures 2° to 4° subnormal, near or below freezing nights. Showers returned to south early Sunday. Active week of fieldwork. Spring plowing, oats seeding near half done. Progress well ahead last year when under 10% finished. Some farmers done with oats south and west. A few acres corn planted extreme south. Peas and potatoes going in. Tobacco beds started. Early oats, pastures, hay fields looking good. Some poor stands new seedings plowed up but winterkill not nearly as severe as 1972. Winter grains look good. Soil moisture 25% adequate, 75% surplus.

WYOMING: Generally moderate rains and snows over east half also portions of Big Horn and Wind River drainages. Generally light rains and snows elsewhere. Worland reported most precipitation 1.39 inch. Temperatures averaged 1° to 11° below normal. Highs ranged from upper-50's to lower-70's, most lows in 15° to 25° range. Extremes 73° at Deaver and Basin and 10° at Foxpark. Losses of calves and lambs heavy some areas due to storm. Planting sugarbeets underway. Spring wheat 20%, oats 15%-20% and 30% barley planted.

Standard copy for the Weekly Weather and Crop Bulletin is prepared by: Dr. Richard E. Felch, Agricultural Climatologist; Arlon M. Scott, Agricultural Statistician; John C. Ryan, Editor.



PERCENT POSSIBLE SUNSHINE - SOLAR RADIATION

March 1973

The Weekly Weather and Crop Bulletin will now publish a new monthly map which shows the percent possible sunshine over the United States during the preceding month. Also new: A table which gives the average total solar radiation received at selected stations.

Percent possible sunshine is obtained by dividing the total number of hours which sunshine occurred during the month by the total number of possible daylight hours. The total number of possible hours of daylight varies by month, since it is a function of location and time of year. The number of hours of sunshine is normally measured with a Campbell-Stokes sunshine recorder which measures the duration of bright sunshine. It is sensitive to direct radiation only, and has a threshold value of approximately $0.3 \text{ cal.cm}^{-2} \text{ min}^{-1}$.

Total solar radiation has two components - direct and diffuse or sky radiation. Sky radiation is the downward directed component of the solar radiation that has been scattered by the atmosphere. The most common instrument for measuring total solar radiation is the Eppley pyranometer. This instrument is highly sensitive to radiation between 0.34 and 2.6 microns. The instrument is calibrated to measure incoming energy in terms of langley. One langley is equal to $1 \text{ gm-cal cm}^{-2} \text{ min}^{-1}$, or the receipt of energy at the rate of 1 gm-cal of energy on a square cm. surface each minute. March, for example, has an average of 300 to 500 langleys per day.

We hope that you will find this information useful and informative. Your comments and suggestions are welcome.

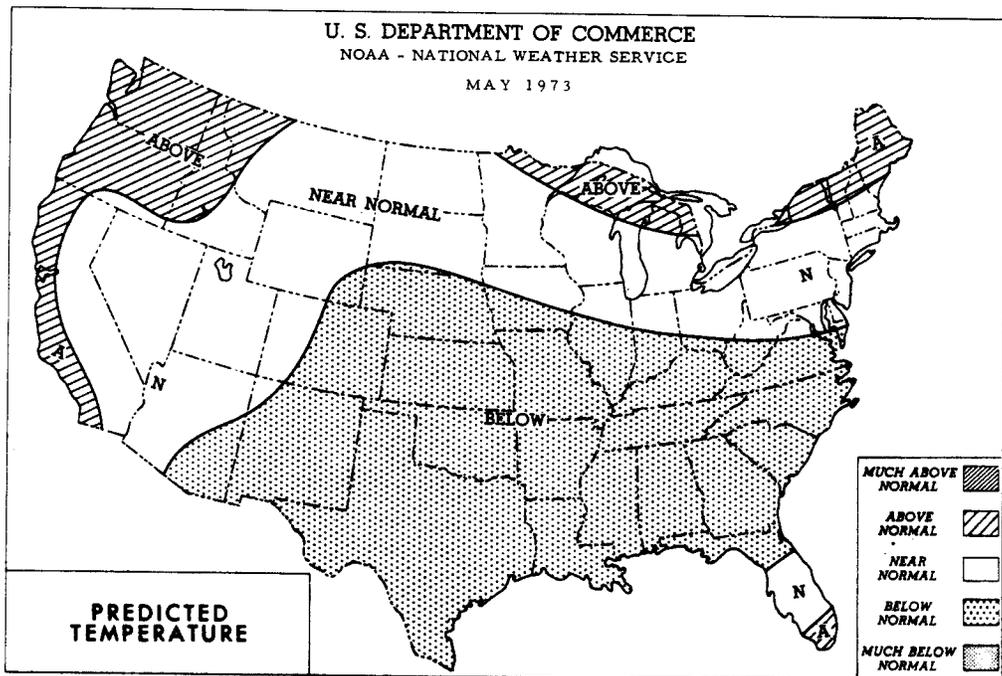
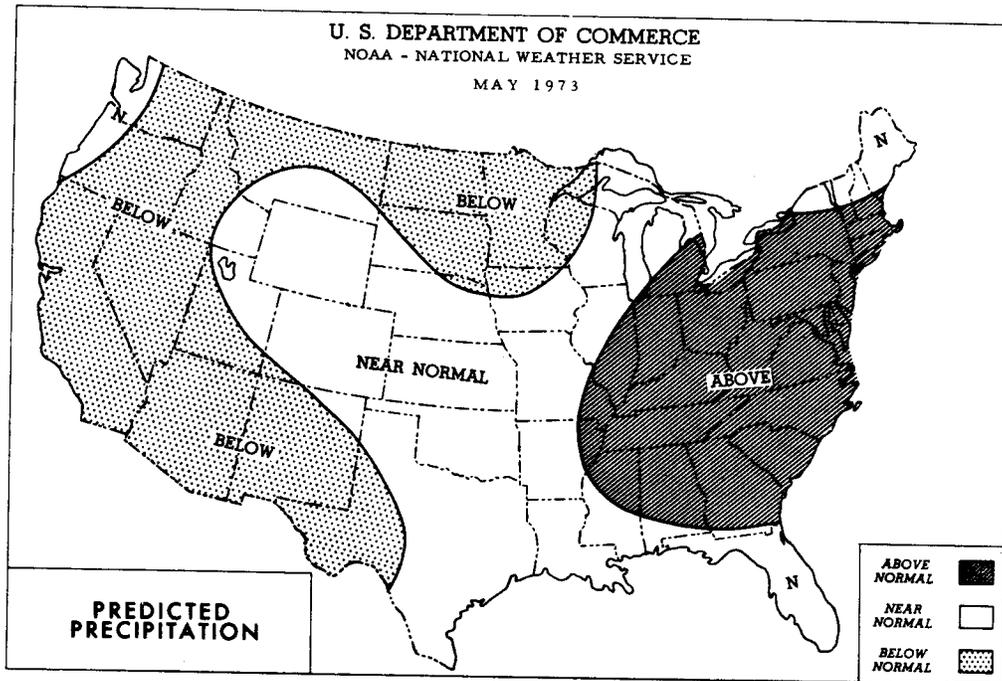
AVERAGE DAILY SOLAR RADIATION

March 1973

Station	Daily average (langleys)	Normal
Bethel, Alaska	287	270(18) ^{1/}
Phoenix, Ariz.	389	513(22)
Little Rock, Ark.	271	364(19)
Fresno, Cal.	345	426(41)
Los Angeles, Cal.	445	429(18)
Grand Junction, Colo.	433	437(20)
Miami, Fla.	431	475(20)
Boise, Idaho	398	349(20)
Indianapolis, Ind.	265	315(19)
Kansas City, Kans.	300	
Caribou, Maine	300	359(19)
Milton, Mass.	245	317(38)
Omaha, Neb.	210	350(39)
Las Vegas, Nev.	392	512(22)
Reno, Nev.	336	403(6)
Albuquerque, N.M.	407	504(23)
Cape Hatteras, N.C.	426	414(20)
Greensboro, N.C.	276	373(18)
Bismarck, N.D.	249	359(18)
Oklahoma City, Okla.	289	397(20)
Medford, Oreg.	296	341(21)
Charleston, S.C.	322	404(22)
Rapid City, S.D.	336	385(22)
Nashville, Tenn.	292	328(28)
Oak Ridge, Tenn.	262	330(21)
Brownsville, Tex.	547	
Fort Worth, Tex.	357	
San Antonio, Tex.	437	
Seattle-Tacoma, Wash.	267	265(19)
Spokane, Wash.	263	318(19)
Madison, Wis.	257	320(53)
Lander, Wyo.	448	451(18)

^{1/} Number in parentheses indicates length of record for station normal in years.

AVERAGE MONTHLY WEATHER OUTLOOK



The above prognostic charts show the expected categories of average temperature and total precipitation for the period indicated. They were extracted from the Extended Forecast Division's publication "Average Monthly Weather Outlook" which contains additional information necessary for complete interpretation.

WORLD WEATHER AND AGRICULTURE

WEATHER REDUCES WORLD WALNUT CROP

Production in the six primary walnut producing nations in 1972 was approximately 8 percent below last year's record harvest. Sharply reduced production in the United States accounted for virtually all of the decline. Foreign production totaled 72,000 tons, well above last year's 66,000 tons but still below the 1966-70 average of 77,600 tons. French production increased by 44 percent above last year's very poor crop. Although a yield of 26,000 tons is below the average of 29,000 tons, it is outstanding considering the severe storm damage to trees in 1971. The Italian crop was reduced from 23,000 tons last year to 17,000 tons because of adverse weather. Iran reported a small decline while Turkey and India recorded mild increases. United States production was placed at 115,900 tons, 15 percent less than last year. Heavy insect infestation and rain during the latter part of the harvest period are cited for the lower output.

ARGENTINE PEARS HIT BY HIGH WINDS

Hailstorms and severe frost recently in the Rio Negro Valley and Neuquen Province had caused a 57 percent reduction in the apple crop, and a 59 percent decline in pear production. Since then pear orchards in both areas have suffered additional damage from strong winds, causing a further reduction in Williams and d'Anjou pear production.

ARGENTINE SUNFLOWER CROP REDUCED

Latest reports now place the 1973 Argentine sunflowerseed harvest at a maximum of 1 million metric tons owing to heavy rains over the northern growing areas of the country during recent weeks. Weather conditions during the next few weeks are considered to be the critical factor in determining the final outcome of this year's harvest.

Foreign Agriculture
April 9, 1973

DRY WINTER IN ENGLAND

In England and Wales the winter of 1972-73 has been the driest in the past ten years. Following a prolonged dry spell which began in the summer of 1972, rainfall since July 1972 has only been lower during the past fifty years in 1933-34.

The situation is particularly acute in the northeastern parts of England and eastern Scotland. Soil moisture levels are at their lowest levels in many years. If dry conditions continue it could seriously affect this year's crop.

IOWA'S WORST SPRING SNOWSTORM

Paul Waite
National Weather Service, NOAA
Des Moines, Iowa

On April 8, 9, and 10, 1973, the worst spring snowstorm on record struck a large portion of Iowa. Fierce northerly winds, coupled with the unseasonably late, heavy snow, wrought extensive losses to the livestock and turkey industry, caused additional flooding, and delayed spring field work still further. Fourteen storm related deaths were reported, and millions of dollars were lost or spent because of interruptions to business and commerce, property damage losses, and the cost of cleaning up after the storm.

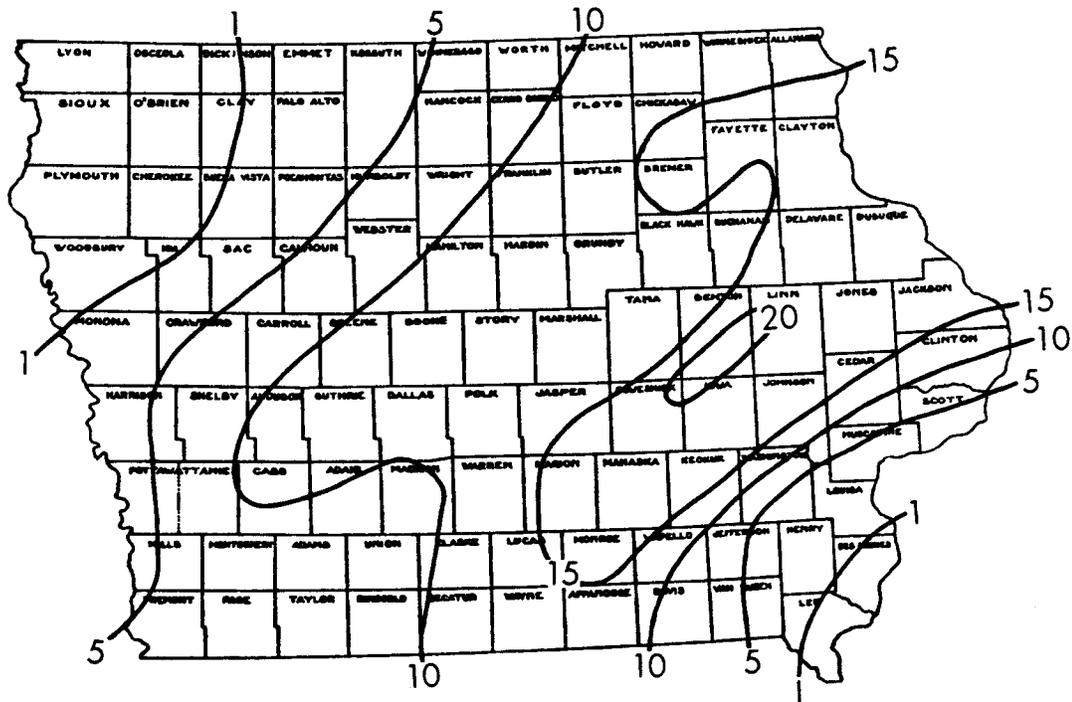
Five to 15 inches of snow blanketed all but the northwest, some extreme western counties and a few southeastern counties of the Hawkeye State. The snowfall pattern is shown in the map above. Driven by 40 to 50 m.p.h. winds, which gusted to 65 m.p.h., the snow piled into drifts up to 16 feet deep. Travel was impossible by the 9th, and most areas were still isolated as the storm subsided on the morning of the 10th when the snow ended and the winds diminished. Dubuque received 19.2 inches which is a new record snowfall from a single snowstorm during any month. Belle Plaine measured 20.3 inches and Grundy Center recorded 19.0 inches of snow with a water content of 3.8 inches.

The effects of the storm were compounded by the unusually warm March weather. Many stock and poultry men had taken advantage of summer range which had greened early. Consequently, a large number of new born livestock and young turkeys were unprotected. USDA's Agricultural Stabilization and Conservation Service has valued poultry and livestock losses at \$19 million. Farmers lost 78,137 calves, 22,235 cows, 6,874 feeder cattle, 5,647 sheep, 19,329 hogs, 25,210 pigs, and 214,400 turkeys.

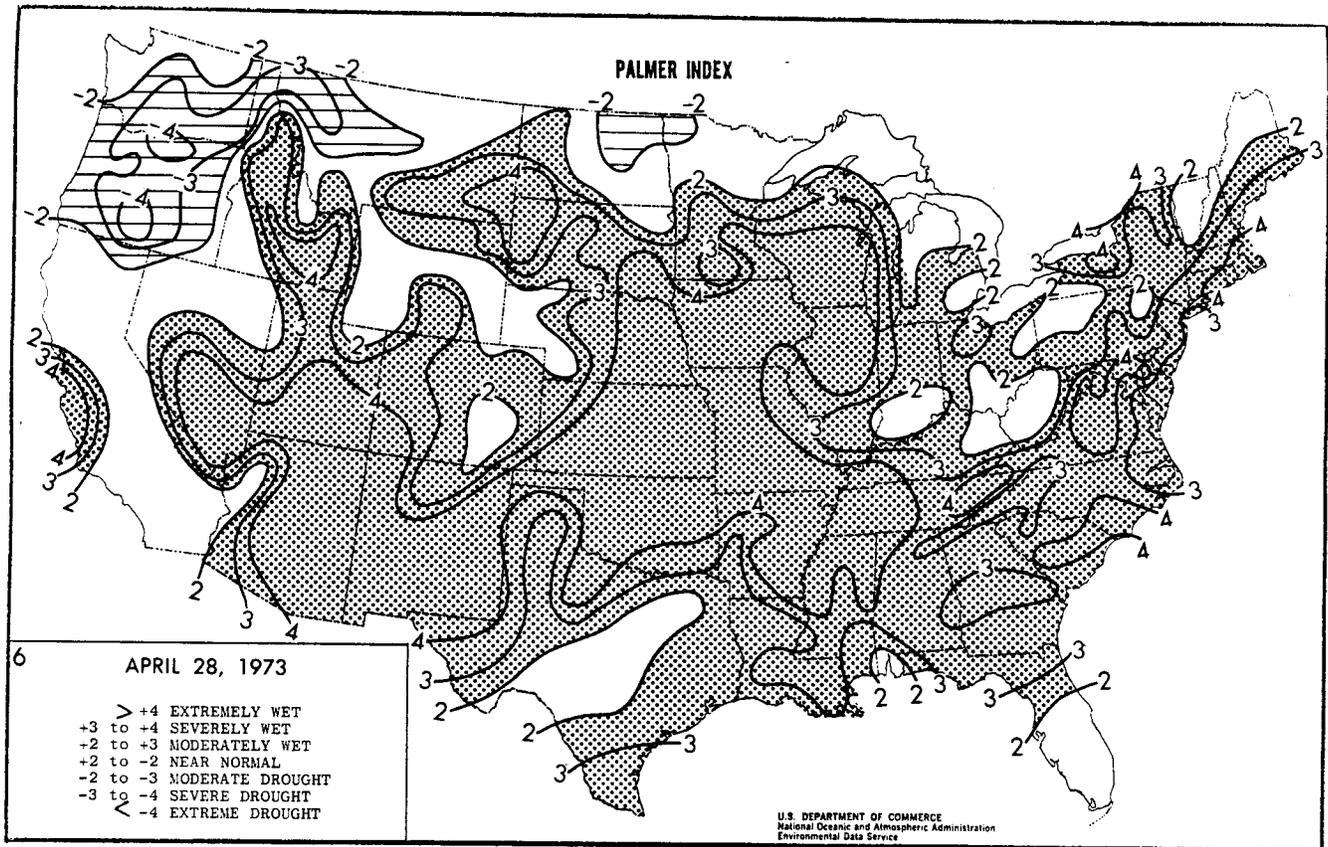
Iowans were further snowbound because on April 1 all studded tires had to be removed from Iowa vehicles. Also, snow fences were down, and snow removal equipment had been stored or converted to summer use.

Many migratory birds were caught in the storm and losses may be substantial to blue birds and purple martins which had recently arrived. Losses to other species of wildlife were also probably quite significant.

Altogether, this late April snowstorm exceeded any previous storm so late in the season in Iowa. In many places the snow depths and windfury have not been matched in decades for a single storm at any time during the year. Iowa's previous record snow for April occurred in 1893 when the State received an average of 6 inches of snow. The storm this month eclipsed the 1893 storm by a deep margin.

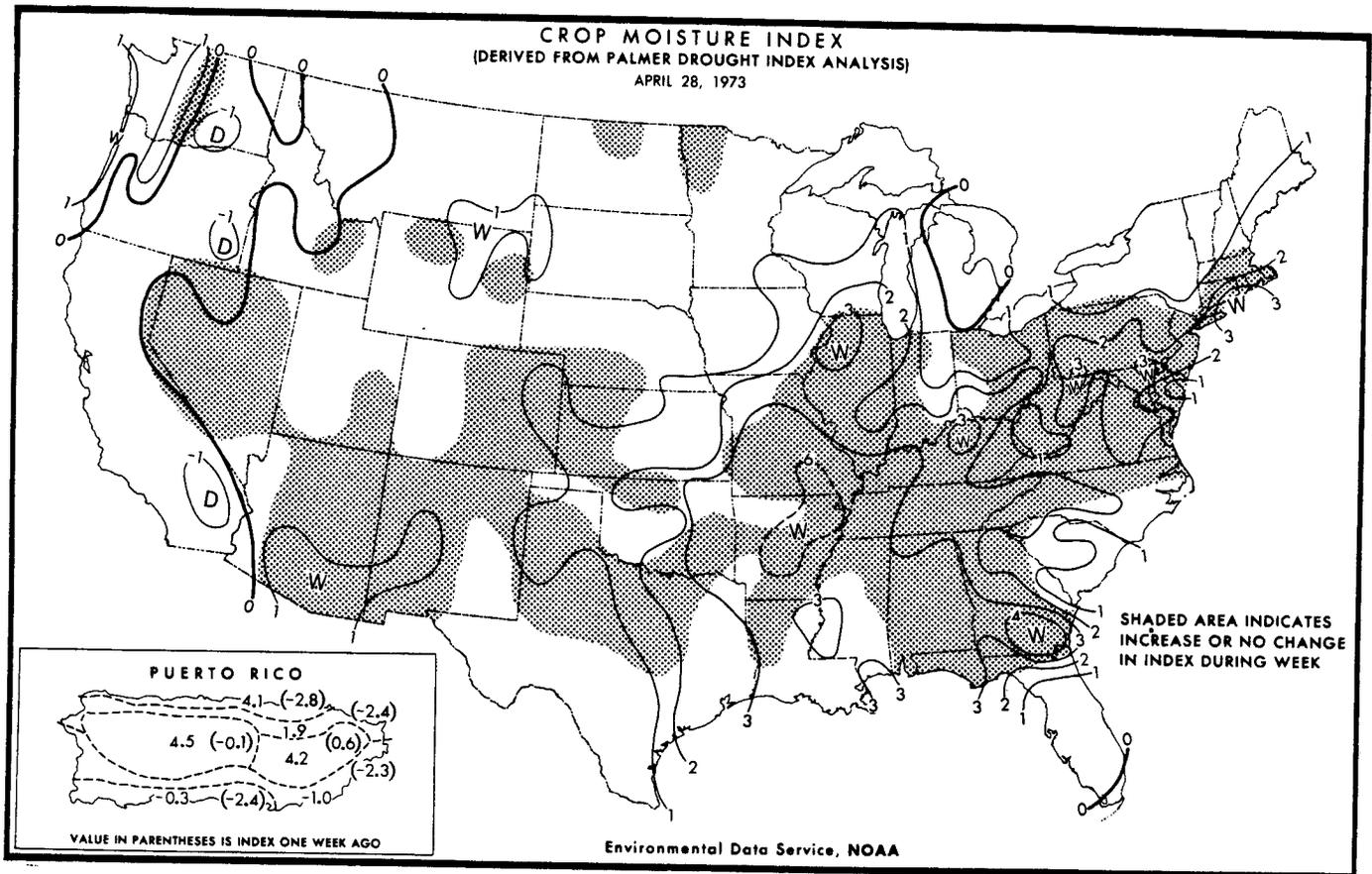


The distribution of snowfall (in inches) over Iowa from the snowstorm of April 8, 9 and 10, 1973, the worst spring storm on record for the State.



The above map depicts the long term abnormalities of moisture. Large positive indexes indicate saturation of soils, full reservoirs, and rainfall running into rivers.

Abnormal wetness continues in in most of the nation although many areas are beginning to dry very slowly. Most of this week excessive rain, and resulting increase in wetness index, occurred in the south and east central U.S. Excess moisture running into streams have caused extensive flooding in bottom lands. Some rice being sowed by airplane into flooded fields. Conversely, Northwestern U.S. has a drought condition. Washington and Oregon are becoming drier while the dry areas of Idaho and Montana are improving. Dry conditions in Eastern N. Dakota is spreading into N.W. Minnesota.



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.

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