

Weekly Weather & Crop Bulletin

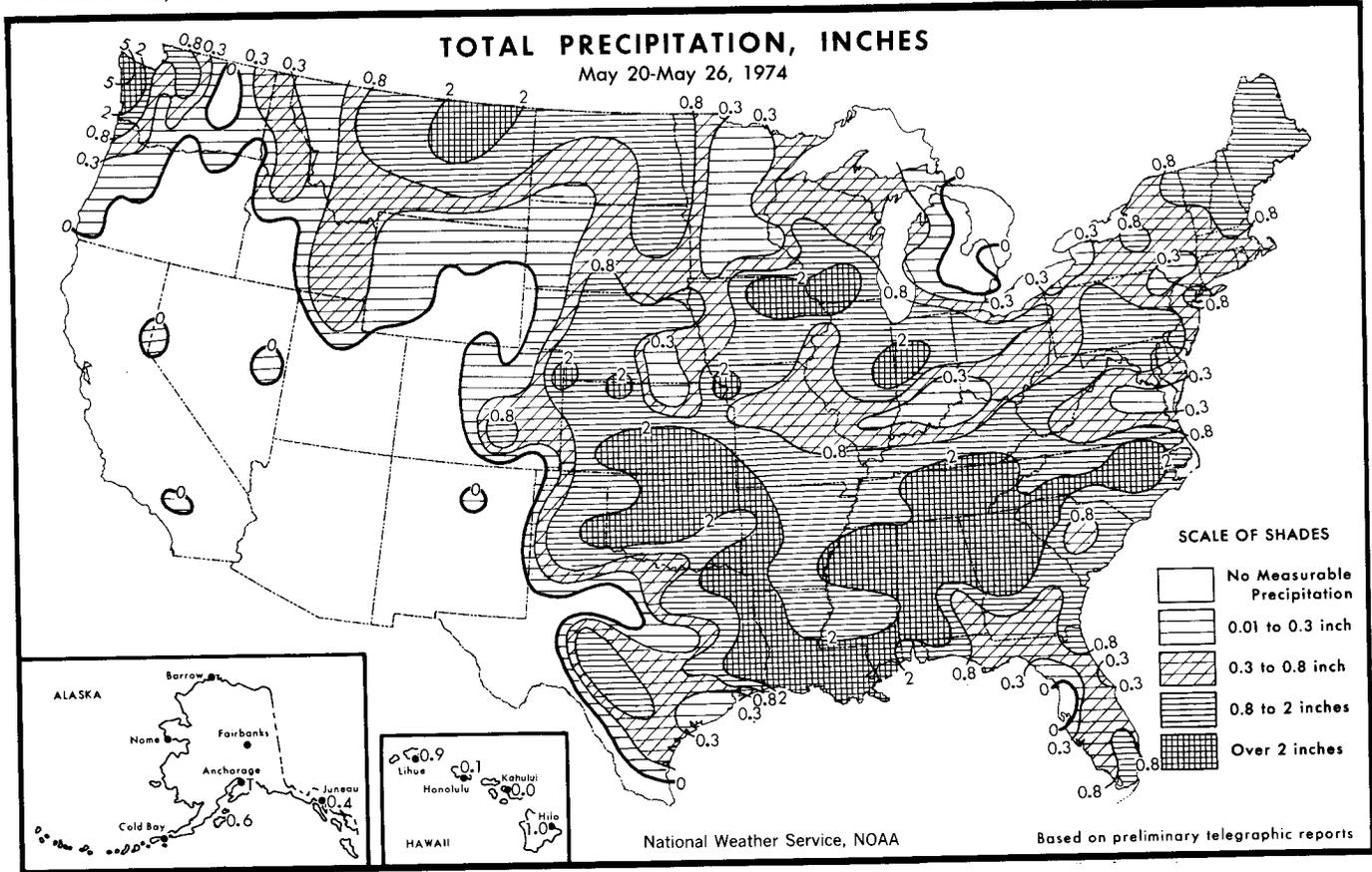
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NATIONAL WEATHER SUMMARY

HIGHLIGHTS: Rain fell across the eastern two-thirds of the Nation last week with amounts over 2.25 in. reported in an area from Oklahoma stretching southward through the Gulf Coast States.

Spring thunderstorms and scattered showers brought much needed precipitation to significantly dry areas of western Kansas and northcentral Montana during the week. Some weekly rainfall totals included: Kansas--Dodge City, 2.51 in. and Wichita, 2.49 in.; Montana--Glasgow, 2.34 in. and Havre, 1.89 in. Again, little or no precipitation was reported in the dry southwestern states.

While most of the Nation enjoyed a mild spring week, temperatures averaged 4° to 6° above normal in western Texas and throughout California's Central Valley. The Nation's northcentral section including parts of Montana, North Dakota and South Dakota reported temperatures averaging as much as 6° below normal.

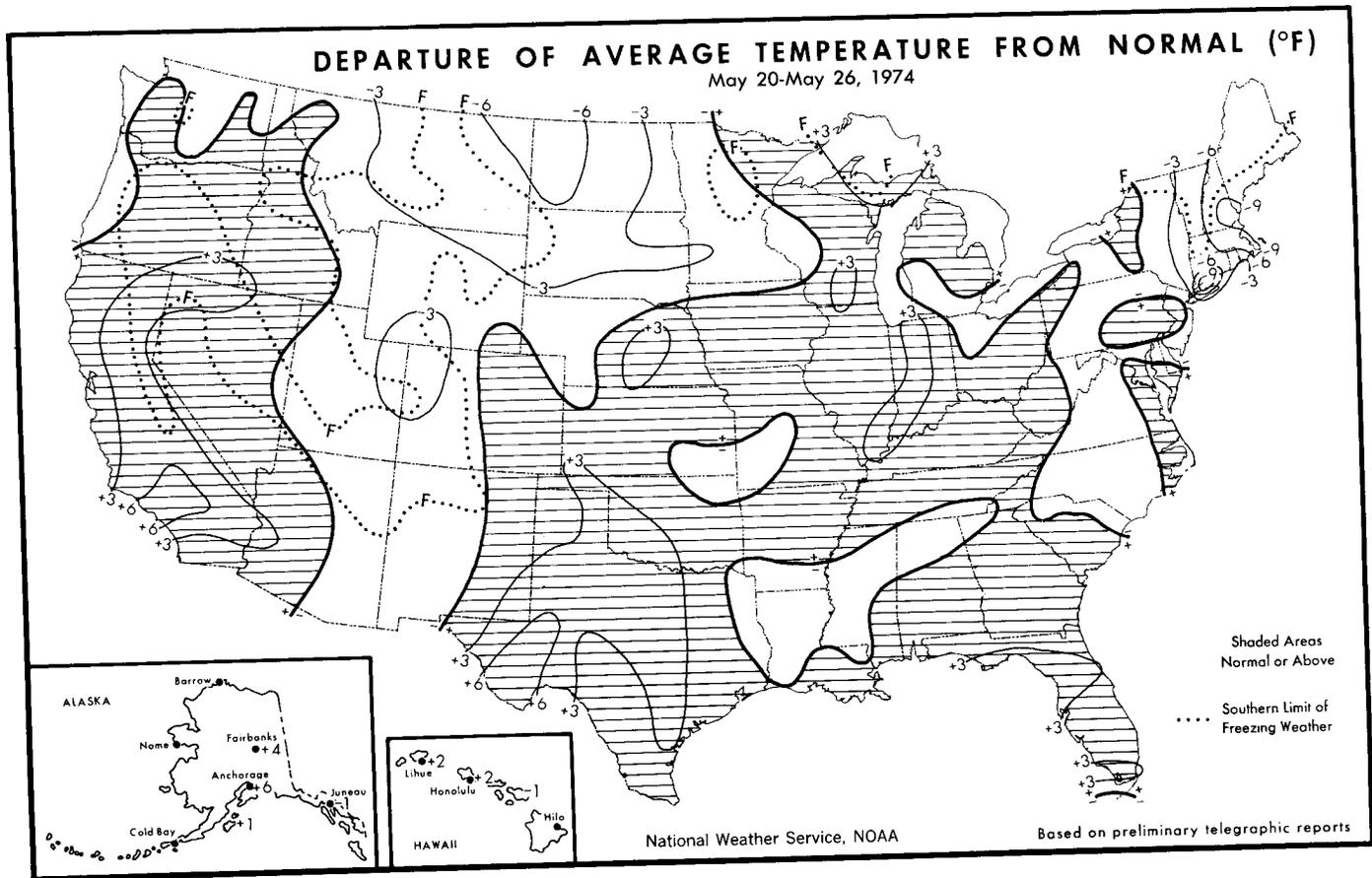
PRECIPITATION: Locally heavy precipitation of 2.00

in. or more soaked the Nation's midsection including: Nebraska, Iowa, Indiana, Wisconsin, Missouri, Illinois, and Oklahoma. Rain also fell across the Pacific Northwest.

Some of the heaviest rainfall during the week occurred in the following cities: Tulsa, Okla., 4.16 in.; Lake Charles, La., 4.76 in.; Birmingham, Ala., 3.22 in. and Knoxville, Tenn., 4.11 in.

Early in the week thunderstorms spread from the Plains east through the Mississippi and Ohio Valley to the lower Atlantic Coast. The storm produced heavy rain, hail and damaging winds throughout Alabama. Tuscaloosa, Ala., reported numerous downed power lines and several small buildings were demolished at Rainbow City, Monday night.

Severe weather swept through the Nation's midsection on Tuesday. Rains averaging from 3.00 in. to 5.00 in. fell within an hour and a half on top of already saturated ground and caused flooding in Clermont, Ind. Damaging winds knocked down trees and power lines at Caledonia in southeast Minnesota



and golfball-size hail struck near Minnesota City, Minn., and at Bridgeview, Ill. Before the storm diminished high winds destroyed 35 buildings and damaged about 150 other buildings between Morrison and Lyndon in westcentral Illinois.

Wednesday, heavy rains fell from the Great Lakes to the Gulf of Mexico ahead of a cold front reaching from Michigan through Missouri into western Texas.

Thunderstorms developed before daybreak on Thursday and spread over most of eastern Kansas and into parts of Missouri, Iowa and Oklahoma by midday. Heaviest rains during the day occurred over southeast Kansas where several places reported 1.00 in. to 2.00 in. amounts.

Friday, a narrow band of thunderstorms erupted along a cold front from the Northeast Coast across the Ohio River southeastward through Oklahoma. Locally heavy rains caused minor flooding in Tulsa, Okla., during the day. Late Friday evening, more severe thunderstorms occurred in the Plains region. Heavy rain accompanied by 50 mph gusts swept across Pleasanton, Neb., and Bladen, Neb., measured 1.75 in. of rain in only 45 minutes during the storm.

Saturday morning, Tulsa, Okla., already soggy from heavy rains earlier in the week, got another 1.00 in. of rain.

TEMPERATURE: Mild temperatures dominated the Nation's weather last week. Only sections of western Texas and California's Central Valley reported temperatures 3° to 6° above normal for the week. Temperatures averaged 3° to 6° below normal in Montana, South Dakota and North Dakota. Some New England coastal cities reported temperatures averaging 6° to 9° below normal for the week.

Early in the week unseasonably cold weather spread from the northern Rockies through the southern Plateau. The lowest temperatures for this late in the spring were recorded Monday morning at Tucson, Ariz., 44°; Winslow, Ariz., 31°, and Grand Junction, Colo., 34°.

The cold weather continued in the Rocky Mountain region and the northern Atlantic Coast States on Tuesday morning. Record lows for this date were set at Concord, N.H., with 28°, Caribou, Me., 31°; and Albany, N.Y., 34°.

Wednesday, a cold front lying from the Great Lakes to the southwestern Plains separated warm humid air in the east and south from cooler drier air in the Northcentral States. A warm front dipped into New England. Temperatures in Vermont, Massachusetts and Connecticut and Rhode Island reached the 80's and low 90's while most spots in Maine stayed in the 40's and 50's.

Thursday, it was chilly in the upper plains where the readings were 10° to 20° below normal. Ninety degree readings indicated temperatures around 5° above normal in parts of the Southwest.

Friday, temperatures soared into the 90's in the interior of northern California and continued hot from southern California to Texas. A few readings in the 90's were found along the southern Atlantic Coast. Coolest spots were under the clouds in New England, the Great Lakes and Pacific Northwest where it only reached the 50's.

During the weekend chilly temperatures spread from the upper and middle Mississippi Valley into the Northeast where clouds and rain held the temperatures into the 60's and low 70's. Clear skies in the Desert Southwest pushed temperatures into the upper 90's.

NATIONAL AGRICULTURAL SUMMARY

HIGHLIGHTS: Rains benefited winter wheat in the Great Plains but held up spring wheat planting in northeastern North Dakota. Wet conditions slowed corn and soybean planting in the Corn Belt for the second consecutive week to less than average progress. Corn planting is about the same rate of completion as a year ago, but soybean planting behind a year ago in the Corn Belt. Cotton planting made good progress.

SMALL GRAINS: Rains late last week benefited winter wheat in the Great Plains but halted the harvest getting underway in southwest Oklahoma. The moisture was especially helpful in southwest Kansas where topsoil was dry. Wet weather in North Dakota continued to keep farmers in the northeast area from planting spring wheat.

The Kansas wheat crop remained in satisfactory condition with 90% of the acreage headed compared to 70% last year and 85% average and about 5% of the crop is turning color, equal to normal. Over 80% of the Oklahoma wheat crop is in the dough stage, one week earlier than a year ago while condition is down in the fair to good range following much hail damage, root rot, and dry, hot winds during the week.

The Texas wheat harvest increased to 9% complete versus 2% a year ago, and yields are turning out better than expected but below 1973. Colorado wheat is developing much faster than normal; 63% of the crop is headed versus 16% a year ago and 36% average. Conditions of the Colorado crop ranges from fair to good in the southeast and east central and good to excellent elsewhere. Nebraska wheat remained good to excellent with 60% headed. Winter wheat is improving in Montana and the Pacific Northwest.

CORN: Rain soaked soils limited corn planting in most of the Corn Belt to less than 2 days last week and overall planting progress stood about the same as a year earlier.

By May 26, the North Central States corn crop was 75% planted compared to 74% in 1973 and the 5-year average of 81%. This was a gain of only 13 percentage points over the previous week. Planting progress ranged from 45% complete in Indiana to 90% complete in Ohio and Kansas.

Iowa farmers have 84% of their corn planted versus 83% in 1973 and 95% average. Illinois corn planting progress at 68% complete is behind both last year's 77% and the 88% average. The situation is the same in Indiana--45% planted versus 65% both last year and average. Ponds of water standing in many recently planted Corn Belt fields will necessitate spot re-planting. Corn planting continued to windup in the South.

COTTON: Cotton planting made good progress in most areas but rains interrupted fieldwork. Planting advanced 20 percentage points in Texas to 70% complete by May 26 compared with 75% complete a year earlier. Cotton in the southern half of Texas is making excellent progress.

Elsewhere in the South, planting of cotton neared completion except Oklahoma and Tennessee are at the half-way mark. Mississippi cotton is 96% planted while the Arkansas crop is 90% planted. Some replanting will be required due to local flooding. Cotton is up to good stands with adequate to surplus moisture in most areas.

In the West, cotton is nearly all planted except in northern New Mexico. The California crop is developing normally while the Arizona

crop is rated good with 50% of the Yuma area cotton fully squared.

SOYBEANS: Frequent rainfall and wet soils last week delayed soybean planting progress in the Corn Belt to less than that of both a year ago and the 5-year average for this date. Intended Corn Belt acreage was only 25% planted by May 26 versus 30% a year ago and the average of 47%. Meanwhile, in the Southern States, which account for about one third of the U.S. soybean acreage, planting advanced to 35% complete compared to 20% a year earlier.

In Illinois and Indiana, soybean planting is only 10% done, well behind last year and average. Last year at this time, Illinois soybeans were 30% planted and the 3-year average is 58% done. Iowa soybean planting reached 28% complete versus 37% in 1973 and 62% average completion by this time. Planting progress in Minnesota is lagging also at 39% done versus the 52% average. Ohio farmers continued to lead all States with 55% of their soybeans planted compared to only 25% last year and 40% average.

OTHER CROPS: Sorghum planting made good progress last week in the major producing Plains States and is running near normal. Texas sorghum is 71% planted versus 77% in 1973 while the Kansas crop is 25% planted versus 15% in 1973. Nebraska sorghum is 50% planted, equal to last year.

Flue-cured tobacco in North Carolina is 89% set; burley is 13% set. Burley setting was very active in Kentucky and advanced to 23% set versus only 3% a year ago.

Peanut condition in Georgia is good. Peanut acreage is 34% planted in Texas versus 26% in 1973.

Potato planting in Idaho reached 80% complete while some potatoes were planted in southern Aroostook Co., Me.

FRUITS AND NUTS: Apples were in full bloom in central Maine and New Hampshire during last week's poor pollination weather. Tart cherry set in New York is extremely variable but the set is generally light. Apples, pears, and plums are in full bloom in northwest Michigan.

Florida citrus trees are rated in very good condition with new crop fruit making good growth. In California, Valencia orange harvesting was active and the almond crop is developing well.

Hail and frost damaged fruit trees in some areas of Washington.

VEGETABLES: Vegetable planting and transplanting stayed on schedule in the North Atlantic States. Spring vegetable harvesting continued in the mid-Atlantic States while harvesting increased in Southern States.

In Florida watermelon movement increased sharply and tomatoes continued in full volume. Moderate supplies of tomatoes are available in extreme South Texas and harvest started in East Texas. In California, harvesting increased for lettuce at Salinas and fresh market tomatoes at Imperial and San Diego.

PASTURES AND LIVESTOCK: Cool, wet weather slowed growth of pastures in most Canadian Border States. Warmer temperatures over Wisconsin and Michigan improved pastures. Range and pasture conditions continued to decline in the drought-plagued Southwest. Spring calving is almost over in the Mountain States. Sheep shearing is nearing completion in Texas and Wyoming.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., May 26, 1974

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 . . .	72	0	3.2	+2.4	La. Baton Rouge . . .	78	+2	2.7	+1.8	Youngstown . . .	61	+1	1.0	+ .2
Mobile . . .	77	+1	1.1	+ .1	Lake Charles . . .	76	-1	4.8	+3.7	OKLA. Okla. City . .	73	+3	2.8	+1.6
Montgomery . . .	75	+1	.6	- .2	New Orleans . . .	76	0	4.5	+3.5	Tulsa . . .	71	0	4.2	+3.0
ALASKA. Anchorage .	54	+6	T	- .1	Shreveport . . .	74	-1	2.4	+1.3	OREG. Astoria . . .	53	0	1.9	+1.3
Barrow . . .	-	-	-	-	MAINE. Caribou . . .	44	-8	.9	+ .2	Burns . . .	56	+2	0	- .3
Fairbanks . . .	55	+4	T	- .2	Portland . . .	49	-6	1.4	+ .7	Medford . . .	60	+1	T	- .4
Juneau . . .	48	-1	.4	- .3	MD. Baltimore . . .	65	-1	.9	+ .1	Pendleton . . .	62	+2	T	- .3
Kodiak . . .	46	+1	.6	- .1	MASS. Boston . . .	53	-8	.6	- .2	Portland . . .	59	+1	.5	0
Nome . . .	38	0	-	- .1	Chatham . . .	52	-2	.6	-	Salem . . .	56	-1	.1	- .4
ARIZ. Flagstaff . .	53	+1	0	- .1	MICH. Alpena . . .	55	+2	T	- .6	PA. Allentown . . .	63	+1	.6	- .2
Phoenix . . .	80	+2	T	0	Detroit . . .	60	0	T	- .8	Erie . . .	57	0	.2	- .6
Tucson . . .	74	-1	0	0	Flint . . .	60	+2	T	- .7	Harrisburg . . .	67	+2	1.3	+ .5
Winslow . . .	63	-2	0	- .1	Grand Rapids . . .	57	-2	T	- .7	Philadelphia . . .	66	+1	.9	+ .1
Yuma . . .	81	+1	T	0	Houghton Lake . . .	57	-2	.3	- .4	Pittsburgh . . .	61	-1	.6	- .2
ARK. Fort Smith . .	73	+1	.8	- .4	Lansing . . .	59	0	T	- .8	Scranton . . .	60	-1	.3	- .5
Little Rock . . .	73	+1	1.5	+ .3	Marquette . . .	57	+5	.5	- .2	R.I. Providence . . .	56	-3	.7	- .1
CALIF. Bakersfield .	75	+4	0	0	Muskegon . . .	58	0	.2	- .4	S.C. Charleston . . .	75	+1	1.4	+ .4
Eureka . . .	54	+1	0	- .4	S. Ste. Marie . . .	53	+2	.1	- .6	Columbia . . .	76	+2	.8	0
Fresno . . .	73	+4	0	0	MINN. Duluth . . .	53	+1	.4	- .4	Greenville . . .	71	0	2.1	+1.5
Los Angeles . . .	71	+7	0	0	Internatl Falls . .	54	-1	.3	- .4	S.D. Aberdeen . . .	56	-2	1.8	+1.2
Red Bluff . . .	72	+3	0	- .2	Minneapolis . . .	58	-2	.1	- .7	Huron . . .	55	-4	.9	+ .2
San Diego . . .	65	+1	0	0	Rochester . . .	58	-1	.6	- .3	Rapid City . . .	54	-3	.1	- .6
San Francisco . . .	60	+1	0	- .1	St. Cloud . . .	56	-1	.3	- .6	Sioux Falls . . .	58	-2	.7	- .1
Stockton . . .	71	+4	0	- .1	MISS. Jackson . . .	74	0	1.5	+ .5	TENN. Chattanooga .	68	-2	3.2	+2.4
COLO. Denver . . .	60	-1	T	- .6	Meridian . . .	75	+1	1.2	+ .4	Knoxville . . .	71	+1	4.1	+3.4
Grand Junction . .	61	-3	0	- .1	MO. Columbia . . .	66	0	.5	- .6	Memphis . . .	74	+1	.9	0
Pueblo . . .	64	+1	.8	+ .4	Kansas City . . .	69	+2	.4	- .6	Nashville . . .	72	+2	2.9	+2.0
CONN. Bridgeport . .	52	-9	.4	- .4	St. Louis . . .	70	+2	.3	- .6	TEX. Abilene . . .	79	+5	T	- .9
Hartford . . .	57	-4	.4	- .4	Springfield . . .	67	0	1.1	0	Amarillo . . .	70	+2	1.4	+ .7
D.C. Washington . .	69	+1	.8	- .1	MONT. Billings . . .	53	-3	.8	+ .3	Beaumont . . .	80	+3	1.6	- .3
FLA. Apalachicola .	79	+3	.6	- .1	Glasgow . . .	51	-5	2.3	+1.9	Austin . . .	77	+1	1.3	+ .2
Daytona Beach . . .	79	+3	.2	- .5	Great Falls . . .	52	-3	1.5	+ .9	Beaumont . . .	81	+1	0	- .6
Ft. Myers . . .	80	+1	.3	- .8	Havre . . .	52	-5	1.9	+1.5	Brownsville . . .	81	+1	.6	- .2
Jacksonville . . .	78	+2	1.2	+ .4	Helena . . .	51	-3	.6	+ .1	Corpus Christi . . .	82	+3	.6	- .2
Key West . . .	81	-1	.9	+ .3	Kalispell . . .	53	+1	T	- .5	Del Rio . . .	83	+3	0	- .6
Lakeland . . .	79	+1	.5	- .4	Miles City . . .	53	-5	.9	+ .4	El Paso . . .	74	0	0	- .1
Miami . . .	82	+3	.8	- .8	Missoula . . .	52	-2	.2	- .2	Fort Worth . . .	77	+3	1.4	+ .4
Orlando . . .	80	+3	.4	- .4	NEBR. Grand Island	67	+4	.1	- .8	Galveston . . .	79	+2	-1	- .7
Tallahassee . . .	79	+3	.6	- .4	Lincoln . . .	65	+1	.6	- .3	Houston . . .	79	+2	.2	-1.0
Tampa . . .	81	+3	T	- .7	Norfolk . . .	65	+3	.8	- .1	Lubbock . . .	75	+5	.8	0
W. Palm Beach . . .	80	+2	.5	- .8	N. Platte . . .	60	0	1.1	+ .3	Midland . . .	80	+6	T	- .5
GA. Atlanta . . .	73	+2	1.7	+ .9	Omaha . . .	65	+2	.6	- .4	San Angelo . . .	78	+2	1.1	+ .5
Augusta . . .	74	+1	.9	+ .1	Valentine . . .	58	-1	.9	+ .2	San Antonio . . .	79	+2	1.0	+ .3
Macon . . .	77	+2	2.7	+1.9	NEV. Ely . . .	52	0	T	- .2	Victoria . . .	81	+3	.3	- .6
Savannah . . .	77	+2	1.2	+ .1	Las Vegas . . .	76	+1	0	0	Waco . . .	79	+3	T	-1.0
HAWAII. Hilo . . .	74	0	1.0	-1.1	Reno . . .	57	+1	T	- .1	Wichita Falls . . .	78	+4	.4	- .7
Honolulu . . .	79	+2	.1	- .1	Winnemucca . . .	59	+3	0	- .2	UTAH. Blanding . . .	58	-1	0	- .1
Kahului . . .	75	-1	0	- .1	N.H. Concord . . .	49	-9	1.0	+ .3	Salt Lake City . . .	59	-1	.3	0
Lihue . . .	78	+2	.9	+ .4	N.J. Atlantic City .	63	-1	.3	- .5	VT. Burlington . . .	54	-3	1.5	+ .8
IDAHO. Boise . . .	61	+2	T	- .3	Trenton . . .	65	+1	.3	- .5	VA. Lynchburg . . .	65	-2	.6	- .2
Lewiston . . .	62	+2	T	- .4	N.MEX. Albuquerque	66	-1	T	- .1	Norfolk . . .	70	+1	.6	- .3
Pocatello . . .	56	0	1.1	+ .8	Roswell . . .	73	+2	0	- .3	Richmond . . .	68	0	.3	- .5
ILL. Cairo . . .	72	+1	1.1	- .1	N.Y. Albany . . .	56	-4	.4	- .4	Roanoke . . .	66	0	.5	- .3
Chicago . . .	64	+2	1.4	+ .6	Binghamton . . .	57	0	.4	- .5	WASH. Colville . . .	57	+1	.3	- .1
Moline . . .	65	+2	.6	- .3	Buffalo . . .	57	0	.2	- .4	Omak . . .	58	-1	T	- .3
Peoria . . .	65	+1	1.0	+ .2	New York . . .	64	0	1.0	+ .2	Quillayute . . .	50	-2	7.0	+6.1
Rockford . . .	63	+2	1.3	+ .4	Rochester . . .	58	-1	.4	- .2	Seattle-Tacoma . . .	58	-2	.4	0
Springfield . . .	67	+1	1.7	+ .9	Syracuse . . .	59	0	1.3	+ .6	Spokane . . .	55	-1	.4	0
IND. Evansville . .	71	+3	.8	- .2	N.C. Asheville . . .	66	+1	1.7	+ .9	Walla Walla . . .	63	+1	.1	- .3
Ft. Wayne . . .	63	+1	1.2	+ .3	Charlotte . . .	70	-1	2.0	+1.3	W. Va. Beckley . . .	61	+1	.7	- .2
Indianapolis . . .	67	+3	.4	- .5	Greensboro . . .	68	-1	1.8	+1.1	Charleston . . .	66	0	.9	+ .1
South Bend . . .	64	+3	1.1	+ .4	Hatteras . . .	72	+3	1.0	+ .2	Huntington . . .	68	+2	1.1	+ .2
IOWA. Burlington . .	65	+1	.8	0	Raleigh . . .	68	-1	2.3	+1.5	Parkersburg . . .	67	+1	.6	- .2
Des Moines . . .	65	+2	1.3	+ .3	Wilmington . . .	72	-1	1.5	+ .5	WIS. Green Bay . . .	58	+1	.4	- .3
Dubuque . . .	61	+1	2.6	+1.5	N. DAK. Bismarck . .	53	-4	.2	- .4	La Crosse . . .	60	-1	.8	- .1
Sioux City . . .	65	+2	1.5	+ .6	Fargo . . .	55	-2	1.0	+ .5	Madison . . .	61	+3	2.2	+1.4
KANS. Concordia . .	66	+1	.1	-1.0	Williston . . .	50	-6	.9	+ .5	Milwaukee . . .	58	+2	1.0	+ .3
Dodge City . . .	68	+2	2.5	+1.7	OHIO. Akron-Canton	62	+1	.5	- .4	WYO. Casper . . .	53	-2	T	- .4
Goodland . . .	61	0	.8	+ .2	Cincinnati . . .	66	+1	.2	- .6	Cheyenne . . .	55	+1	T	- .6
Topeka . . .	69	+2	.8	- .2	Cleveland . . .	61	0	.7	- .1	Lander . . .	53	-2	.1	- .5
Wichita . . .	68	0	2.5	+1.6	Columbus . . .	65	+2	.8	- .1	Sheridan . . .	52	-3	.2	- .4
Wichita . . .	68	0	.6	- .4	Dayton . . .	64	0	.7	- .1	P.R. San Juan . . .	81	+1	1.1	- .4
Lexington . . .	67	0	.6	- .4	Toledo . . .	61	0	.4	- .4					
Louisville . . .	68	+1	.2	- .8										

Based on 1941-70 normals.

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: Warm and humid most of week with above normal temperatures. Heaviest rains 22d and 26th bring monthly accumulations above normal most sections. Rainfall 2.00 in. over north 26th. Lighter amounts, generally below 1.00 in. south.

Planting of cotton, corn, soybeans and peanuts neared completion. Soybean planting active as producers completed planting other row crops. Cotton planting almost finished except for few scattered fields being replanted due to poor stands. Earliest planted cotton made good growth. Few remaining fields of corn to be planted mainly north. Farmers cultivated and side-dressed earliest acreage. Peanut planting virtually complete, crop emerged to even stand and making satisfactory growth. Soybeans about 50% planted, 30% last year. Considerable soybean acreage to follow Irish potatoes and wheat. Cutting of hay, mainly small grains and pastures, limited due to wet weather.

ALASKA: Seasonal temperatures prevailed. Precipitation continued light with most areas about 0.50 in. below normal.

Planting of grain about 50% completed in Tanana Valley, lesser amounts in rest of Railbelt. Grass growth ahead of last several years in most areas. Soil moisture supply adequate but becoming short in Clearwater area of district Number 1. Livestock in good condition.

ARIZONA: Very dry week. Widely scattered showers northwest Thursday, amounts from traces to 0.25 in. Temperatures near normal. Quite cool early week, very hot Saturday, Sunday. Extremes: 12° at Hawley Lake on 20th, 115° at Gila Bend on 26th.

Cotton good condition. Yuma area 50% of crop fully squared, first blooms showing soon. Maricopa County squaring 15% of fields. Both areas some problems with mites. Other areas growth coming on, nights warmer. Small grains rapidly maturing, over 80% showing color southwest, central areas where harvest underway. Sorghum planting increased as ground preparation, pre-irrigation continued. Harvest sugarbeets continues Yuma, Maricopa Counties. Yields, sugar content good. Alfalfa hay harvest continued all areas except north.

Lettuce harvest underway Cochise County. Watermelons, cantaloups good growth Yuma, Salt River Valley. Harvest potatoes, dry onions continued full swing. Limited shipments apricots, nectarines underway. Harvest grapefruit, Valencias continued, Valencia harvest in Salt River Valley virtually complete. New fruit looks good, groves good. Lack of rain put most ranges under heavy stress. Some reports lower elevations severe stress on cattle, especially those with calves. Higher elevations holding livestock mostly fair. Stockwater, soil moisture very short. Supplemental feeding continued.

ARKANSAS: Temperatures near normal. Highs mainly 70's and 80's, except low 90's early week. Lows mainly 50's and 60's. Rain fell at least twice during week totaling at least 1.00 to over 2.00 in.

Rains midweek glowed field activity. Soil moisture adequate to surplus except southwest and west. Fertilizer supply short. Nitrogen very short. Cotton up to good stand, early fields cultivated and post-emergence herbicides applied. Cotton 90% planted. Rice 95% planted, short season varieties

remain to be planted, good stand with very little grass or weeds, fields flooded and fertilizer applied. Soybeans 30% planted, about normal. Rain and wet soils slowed planting. Early beans cultivated and treated with herbicides. Wheat looks good and maturing fast. First fields combined south. Oats beginning to mature. All corn planted except north. Sorghum 67% planted. Haying full swing, but rain damaged crop at midweek. Pastures supplying adequate to surplus forage. Cattle good. Strawberry harvest practically complete.

CALIFORNIA: Precipitation mostly none. Temperatures much below normal early week, lows below freezing foothills and coastal valleys north. It warmed to above normal by end of week with highs in 90's central valley and over 100° in desert south-east.

Harvest barley increasing San Joaquin Valley. Wheat rapidly maturing, yield prospects very good. Alfalfa second cutting. Sugarbeets harvesting Imperial Valley. Planting corn, sorghum, dry beans, rice. Cotton developing normally. Grape crop developing. Almond crop developing well. Apples being thinned. Apricots sizing well, fruit set light. Olives blooming. Valencia orange harvest active, fruit quality fair to good.

Asparagus mostly to processors. Broccoli good supply Salinas, Santa Maria. Cauliflower shipments moderate. Kern County carrots continued, desert winding up. Celery cutting strong Oxnard. Sweet corn continues Coachella. Lettuce increased Salinas, quality improved. Onion digging continued desert; Stockton, Fresno harvest continued. Kern potatoes continued. Strawberry picking south mostly processors; Salinas volume and quality good. Fresh market tomato increased Imperial, San Diego. Watermelon harvest beginning Imperial. Livestock remain good, non-irrigated pastures, rangelands continue dry. Movement cattle onto irrigated pastures, summer ranges increased. Extreme fire hazards expected summer range. Water sufficient most areas. Hay production good. Milk, egg production seasonally normal; increasing number small eggs, young birds into production.

COLORADO: Temperatures 1° to 6° above normal eastern plains and 1° to 3° below normal western valleys and mountains. Extremes: 93° at Fort Morgan on 20th, 14° at Hesperus on 20th. Below normal early week, above normal late week.

Dry weather continued. Planting, irrigation of crops continued. Dryland winter wheat poor extreme southeast, fair to good southeast and eastcentral, good to excellent other areas. Winter wheat jointed except west slope, 63% headed versus 16% 1973 and 36% 1969-73 average. Winter barley 50% headed.

Corn 93% planted, 71% emerged, mostly good. Sorghum 23% planted, sugarbeets 87% emerged, stands generally good. Planting dry beans 16% complete, 5% emerged. Fall potatoes 80% planted, small acreage emerged.

Alfalfa good to excellent except dryland and frost damage southwest. First cutting 2% complete. Ranges and pastures declining, fair to good except southeast poor. Topsoil moisture short to very short. Subsoil moisture short except north-west adequate.

FLORIDA: Warm days and mild nights with scattered afternoon and evening thundershowers persisted. Showers less numerous on Saturday. Rainfall amounts moderate to locally heavy at isolated locations. Temperatures averaged near normal.

Soil moisture and pastures greatly improved; however, additional rain badly needed in south. Growth of corn, cotton, peanuts and tobacco making good progress. Some late corn planting continued. Soybean planting advanced rapidly. Sugarcane condition good, spraying and cultivating active. Cattle mostly good north, only fair south.

Citrus trees very good condition, trees flushing new growth, new crop fruit making good growth but more rain needed. Vegetable loadings chiefly from central areas northward, southern areas essentially completed. Potato shipments heavy, expected steady. Watermelon movement increased sharply. Tomatoes continued full volume, mostly from Palmetto-Ruskin. Sweet corn movement good from Everglades, increasing from Zellwood. Snapbeans, celery, cabbage, escarole declining seasonally. Lettuce, other leafy vegetables essentially complete. Peppers, cucumbers steady. Carrots, squash, eggplant, other crops in seasonal supply.

GEORGIA: Temperatures averaged 1° to 2° above normal south and 2° to 4° above central and north. Widely scattered showers late week brought 1.00 to 2.00 in. amounts except spotty and variable amounts southcentral and southeast. Locally more than 5.00 in. at Columbus and Athens.

Soil moisture adequate except spot surpluses mostly north and spot shortages southeast. Fieldwork at high levels. Haying very active. Late crop plantings continued quite active. Cotton fair to mostly good, 4% squaring. Tobacco good, harvest just beginning. Corn fair to mostly good. Reports of nitrogen shortages much more numerous. Peanuts good, some spot shortages of herbicides and insecticides. Soybeans 53% planted and sorghums 40% planted, about normal. Wheat 17%, oats 12% combined, maturing rapidly. Peaches poor to fair, harvest slowly increasing, fruit size small. Cattle good. Pastures and truck crops mostly good. Cabbage, squash, snap beans and tomatoes moving.

IDAHO: Sunny skies and warming most of State midweek followed by scattered showers north and cloudiness south. Temperatures still averaged below normal with 0.50 to over 1.00 in. precipitation north and east.

Cool weather slowed crop development. Fall seeded grains generally good condition. Reaching boot stage southern areas, a few fields heading. Less advanced than year ago north and east. Late areas continued planting spring grains. A few early seeded spring grain fields at boot stage. Potatoes 80% planted statewide, ranging from virtually complete southwest and southcentral to 70% east. Dry beans 40% planted. Pastures and ranges dry south, improved by rains east, good moisture supplies north.

ILLINOIS: Temperatures 1° to 3° above normal. Precipitation moderate to heavy, 1.00 to 2.00 in. much of State, 2.00 to 4.00 in. eastcentral.

Corn 68% planted, 77% 1973, 1971-73 average 88%. Frequent rainfall delayed planting. New plantings fair to good condition 88%. Replanting some acreage many areas. Soybeans 10% planted, 30% 1973, average 58%. Nearly all winter wheat heading stage, average 90%. About 60% filling, average 47%, good to excellent condition 87%. About 15% oats heading stage, 10% 1973, average 12%, just starting filling stage, fair to good condition 83%. First cutting alfalfa hay about 5% complete. Red clover hay cut-

ting just starting. Pastures good to excellent 95%. Soil moisture 10% adequate, 90% surplus. Averaged 1 day suitable fieldwork.

INDIANA: Another wet week but some drying weather over the holiday weekend. Rainfall averaged 1.00 to 1.50 in most areas. Temperatures ranged from 36° on much soil in north to 92° extreme southeast.

Rain-soaked soils limited field activities. Fieldwork averaged 1 day. Topsoil and subsoil moisture adequate to mostly surplus. Ponds of water will necessitate replanting of some spots in corn and soybean fields. Plowing still 90% complete, about average, 85% 1973. Corn 45% planted, 65% average and 1973. Planted corn 45% emerged, averaged 2 in. high, stands rated fair to mostly good, growth slowed by cool, wet conditions. Soybeans 10% planted, 30% average, 20% 1973. Soybeans 15% emerged. Wheat 65% headed, 50% average, 40% 1973. Oats 6 in. high, same as 1973. Alfalfa hay 5% cut, average 10%. Pastures advanced, rated mostly good.

IOWA: Temperatures averaged near normal. Precipitation above normal in band from westcentral through central to southeast, subnormal elsewhere.

Fieldwork still slowed by rain and wet fields, 2.4 days suitable. Corn 84% planted, average 95% 1973 83%. Plantings range from about 60% eastcentral to 96% northwest. Corn emerged 56%, 1973 26%, with stand 89% of normal. Statewide 7% corn replanted or to be replanted. Soybeans 28% planted, average 62%, 1973 37%. Planting ranges from 48% northwest to 10% eastcentral. Oats, hay stands and pasture fair to excellent. Topsoil moisture 40% adequate, 60% surplus.

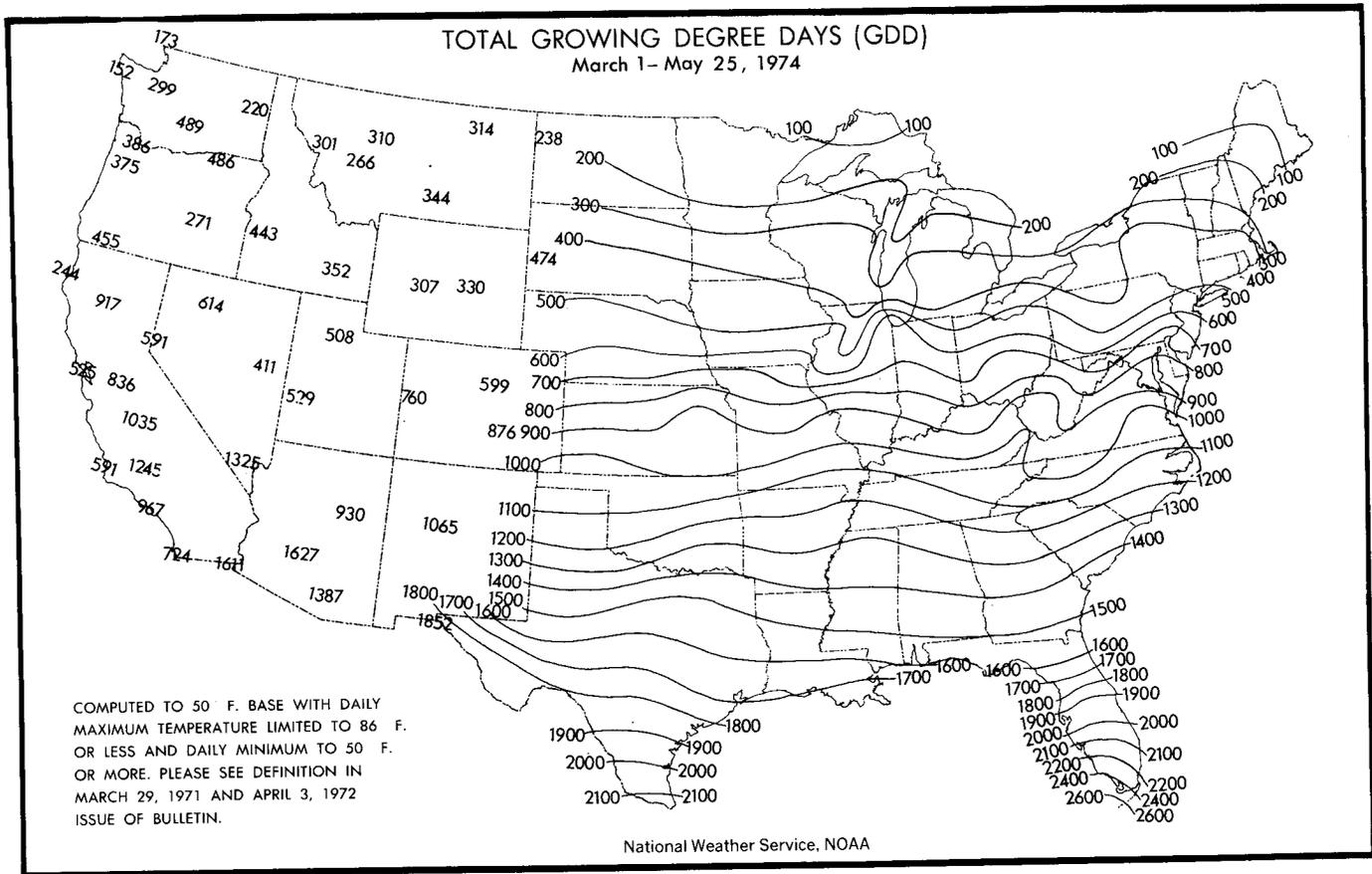
KANSAS: Temperatures averaged above normal. Rain some place in State on 6 days. Rains beneficial but larger amounts well scattered. Some severe weather occurred southcentral 4 successive nights from 21st through 24th.

Corn 90% planted, 70% 1973, 80% average. Sorghum 25% planted, 15% 1973, 25% average. Soybean acreage 25% planted, 10% 1973, 25% 10-year average. First cutting of alfalfa 55% complete, 45% 1973, 40% average. Alfalfa weevil damage reducing yield on first cutting. Wheat crop satisfactory condition, late week rains helpful dry areas of southwest, spotty hail damage. Wheat 90% headed, 70% 1973, 85% average. Wheat turning 5%, equal to normal. Wheat streak mosaic west and central counties. Livestock doing very well.

KENTUCKY: Very warm early week, then cooling Friday through Sunday. Averaged near normal Wednesday, Thursday and again Friday. Precipitation totals 0.50 to 1.50 in. midweek.

Soil moisture adequate to excessive, surplus mostly in west. Only 3.5 days favorable fieldwork. Corn planting slowed, now 81% completed, versus 55% in 1973. About 1 acre in 5 planted no-till. Soybean planting made some progress, now nearly 25% complete, well ahead last year. Burley setting very active, crop 23% set, only 3% 1973, plants generally adequate. Wheat blooming, some turning, barley harvest expected to begin June 5 to 9. Over 33% first cutting alfalfa harvested. Light strawberry picking underway, prices good, reported averaging \$8.50 per crate. Armyworms damaging wheat, corn and grasses, spraying started some areas.

LOUISIANA: Temperatures near normal. Heavy rains much of south early week, scattered thundershowers statewide over weekend. Weekly totals from 2.00 to more than 8.00 in. Temperature extremes: 92° Monroe Monday and Carville Friday, 57° Ashland and Homer Thursday. Greatest 1-day rain 8.58 in.



Hammond Wednesday morning.

Cultivation, planting and vegetable harvest main activities. Soil moisture adequate with surplus southeast tier parishes, also southwest corner. Fieldwork possible 3.8 days. Cotton good stand, growing well, some insects; 95% planted, 70% 1973, 90% 1972. Corn 95% planted, all growth stages. Soybeans planting good progress, 45% complete, 20% 1973, 55% 1972; stands mostly good. Some replanting necessary in south. Sugarcane growth good, layby operations underway. Rice good, weed control fair to good, topdressing continued. Sweetpotato transplanting 75% complete, ahead of normal. Pastures improved, slightly above average. Cattle good.

MARYLAND AND DELAWARE: Temperatures normal to 4° above. Highs mid-80's to low 90's except 79° Garrett County. Lows low 40's to low 50's. Precipitation scattered, some damaging hail on 24th. Rainfall scattered, less than 0.25 to over 2.75 in., lighter south.

Good progress fieldwork. Scattered hail damage reported, heaviest local areas north Caroline County. Corn 88% planted, 1973 76%, average 81%. Stands good. Soybeans 22% planted, ahead of last year but near normal. Wheat heading all areas. Barley nearing maturity in south. Some fields sprayed for armyworms. Strawberry harvest past peak in south. Vegetable prospects good.

MICHIGAN: Temperatures averaged near normal south lower and 2° to 6° above north lower and upper peninsula. Near or above normal temperatures early week, cooler late in week. Precipitation less than

0.10 in. over lower peninsula and eastern upper, except 0.10 to 0.40 extreme west lower, and 0.50 to 1.50 in. central and west upper peninsula.

Wet soils limited fieldwork. Soil moisture mostly surplus. Only 3.8 days fieldwork. Plowing 78% complete. Corn 52% planted, 1973 59%, average 70%. Soybeans 9% planted, 1973 20%, average 31%. Oats 94% planted, average 94%. Potatoes 68% planted, average 64%. Sugarbeets 96% planted. Crusted soils causing poor emergence of corn and sugarbeets. Wheat, hay and pastures growing well. Pasture feed supply average. Apples, pears, plums full bloom northwest, petal fall or more advanced elsewhere. Asparagus harvest at peak southwest, active west-central.

MINNESOTA: Cool and cloudy week. Temperatures normal to 2° below except 1° above east. Precipitation totals averaged 0.25 to 0.50 in. subnormal east half and south to 0.75 in. below much of eastcentral.

Wet conditions continued preventing start of small grain planting in many important northern counties until late in week. Elsewhere, most small grains planted and emerged. Corn planting largely completed. Soybean seeding fully underway. Below normal temperatures slowing hay, pasture growth but condition fair to good. Soil moisture mostly adequate except surplus in northwest and somewhat short in westcentral and southwest. Major crops percent planted: Spring wheat 49%, 5-year average 85; Oats 77, average 89; Barley 39, average 80; Flax 52, average 67; Corn 78, average 78; Soybeans 39, average 52; Potatoes 23; average 47; Sugarbeets 32, average 62; Green processing peas 86, average 82; Sweet corn 54, average 59.

MISSISSIPPI: Scattered showers over most of State. Temperatures averaged near normal. Extremes: 95° at Scott on 19th, 56° at several places north on 22d and 23d. Greatest 24-hour rainfall 2.67 in. at McComb on 22d.

Soil moisture mostly surplus. Fieldwork: 2.2 days. Cotton 96% planted, normal 91%. Some re-planting required. Soybeans 40% seeded, normal 38%. Planting of corn 90%, rice 98%, sorghum 40% and sweetpotatoes 45% complete. Of acreage seeded, cotton 87%, soybeans 51%, rice 95% and corn 82% up to a stand. Winter wheat 55% and oats 60% ripe. Field crops, pastures and livestock mostly good.

MISSOURI: Warm week with scattered showers and thundershowers. Highs mostly upper 80's and near 90° early week but cooler late week with readings in 60's and 70's. Rainfall totals excess of 2.00 to 3.00 in. some local areas. A few stations got less than 0.25 in. Flood crest of 2 to 7 ft. above flood stage moved through State on both Missouri and Mississippi Rivers inundating bottom farm lands along both rivers.

Fieldwork: 2 days suitable. Corn 79% planted, 71% normal. Soybeans 22% planted, 25% normal. Sorghum 38% planted, 35% normal. Cotton 91% planted, 83% normal. Winter wheat fair to good, 88% headed. Alfalfa first cutting 26% harvested, 35% normal. Soil moisture adequate to surplus.

MONTANA: Cold and wet early week. Significant warming by week's end. Precipitation generally well above normal except west. Heavy snows over mountains, and central and northcentral divisions early week.

Grain crops and ranges responding well to rains. Warm weather needed for better growth. Soil moisture adequate except localized shortages northwest and northcentral. Winter wheat mostly in tillering stage, some fields starting to boot. Small grains mostly good except northwest and northcentral, where condition fair to good. Spring seeding nearing end with 90% spring wheat and barley, 70% corn and potatoes, 55% beans seeded. Nearly 60% livestock now on summer ranges.

NEBRASKA: Temperatures near normal or above. Abundant rainfall first and end of week. Largest amounts northeast up to 1.25 in. Panhandle dry.

Winter wheat 85% good to excellent condition, about 60% headed, north half of State mostly late boot stage. Hard winds and rain caused lodging east. Wheat streak mosaic spotty in southcentral and southwest. Corn 95% planted, normal 85%, hard washing rains caused crop damage and soil erosion east. Sorghum 50% planted, same as 1973 and near normal. Soybeans 40% planted, 45% 1973 and normal. Alfalfa and wild hay condition good to fair. First crop alfalfa 25% cut for hay, green chop and dehydration. Alfalfa weevils major problem south. Fieldwork: 5.5 days suitable. Topsoil moisture 48% adequate, 40% short, 12% surplus. Subsoil moisture 77% adequate, 17% short, 6% surplus. Pasture, range feed 80% adequate, 18% short, 2% surplus. Livestock good. Some cattle lost in flash flooding.

NEVADA: Temperatures averaged 2° above normal except south portion averaged 2° subnormal. Extremes: Logandale 107°, McDermitt 13°. Precipitation confined to 3 stations, Wendover 0.19 in., Ely 0.10 in. and Reno 0.01 in.

Range feed only fair. Emerged grains look good. Planting spring grain continued extreme north, east and high central valleys. Livestock in good condition. Death losses normal.

NEW ENGLAND: Near or below freezing temperatures many north and west areas 20th and 21st. Skies almost continuously cloudcovered and showers or occasional rain persisted over most sections from Wednesday through Sunday. Some light snow mixed with rain extreme north Maine on morning of 25th.

Much crop growth and fieldwork progress first half of week, other than in northernmost areas. Some potatoes planted south Aroostook Co., Me. Tomato, cabbage, pepper plants set out. Harvested asparagus, scallions, radishes south. Later strawberry blossoms not hurt by frost, crop prospects good. Apples full bloom central Maine, New Hampshire during poor pollination weather. About 50% corn planted south, some fertilizers and herbicides short supply. Haylage making to begin in south.

NEW JERSEY: Temperatures averaged near normal. Extremes: 37° on 21st at Long Valley, 89° on 22nd at Toms River. Rainfall averaged 0.68 in. north, 0.55 in. central and 0.74 in. south, heaviest daily total 1.26 in. at Hamonton on 24th. Hail and strong winds north on 24th.

Vegetable planting continues to advance on schedule. Cool weather slowed crop development. Asparagus volume continued moderate. Lettuce harvest increased. Strawberry volume increased. First cutting alfalfa underway. Early planted field corn up. Planting of corn and soybeans continued at a fast pace. Showers beneficial.

NEW MEXICO: Very cool north and central early week with local freezing temperatures Tuesday morning all areas except east and south. Some low readings: 11° at Chama, 15° at Ruidoso, 16° at Quemado. General warming into 80's and 90's middle and late week. Continued very dry.

Moisture very short. Alfalfa fair to good, first cut virtually complete, second starting south, 30% complete north. Cotton planting south virtually complete, early fields 75% emerged, stands fair to good, spider mite damage reported. Cotton north 73% planted. Irrigated sorghum planting half done, early fields up to fair stands. Irrigated wheat good, 75% headed. Irrigated corn good. Irrigated barley fair. Onions, lettuce, good. Apples fair. Range poor. Cattle, sheep fair.

NEW YORK: Temperatures ranged from 1° to 4° below normal east third to near normal elsewhere. Precipitation irregular, averaged above normal from Mohawk Valley and Finger Lakes northward and below normal elsewhere.

Fieldwork picked up in south and west but continued slow northeast. Corn 35%, oats 65% planted. Hay and pastures made good growth, some hay cut for grass silage. Early crops that have emerged generally good condition but need warmer, drier weather. Upstate potatoes nearly all planted. Tomato, snap bean and cabbage planting continued. Seeded and transplant cabbage looks good. Orange County lettuce planting nearly complete, both lettuce and onions look good. Pollinating conditions adequate for apples west. McIntosh in petal fall stage. Peach and pear set appears fair to good. Tart cherry set varies but generally light. Vineyards making normal progress with minimum frost damage.

NORTH CAROLINA: Temperatures averaged 1° to 2° above normal with widespread precipitation. Rainfall totaled 1.00 to 2.00 in. most sections. Rains resulted in adequate to surplus soil moisture and limited field work to 2.6 days. Corn 92% planted, same as 1973 but ahead of 10-year average 87%. Flue-cured tobacco 89% set, burley 13%. Soybeans 44% planted, behind 1973 and normal.

Cotton 97% planted, peanuts 89%. Sweetpotato setting 33% complete. Pastures and small grains continue good condition. Peaches only fair. Spring vegetable harvest continued. Labor supplies adequate but demands increasing.

NORTH DAKOTA: Temperatures across state averaged 6° to 10° subnormal. Highs ranged from 86° at Wahpeton to 43° at Fortuna. Lows ranged from 26° at Pretty Rock and Breien to 61° at Fargo. Showers and thunderstorms produced precipitation ranging from 0.10 in. below normal in southwest to 1.25 in. above normal northeast. Greatest weekly rainfall over 3.00 in at Devils Lake.

Slow progress seeding crops east. Weekend rains temporarily halted fieldwork again that area. Greatest seeding delay season to date in northeast third. Seeding well advanced westcentral and south. Cool season grass growth much improved. Below normal temperatures continue to curtail growth warm-season grasses.

OHIO: Highs ranged 70's and 80's early week, 60's end of week. Rainfall 22nd, 23rd, and 24th totaled 0.33 to 1.12 in.

Winter wheat nearly 50% headed, 15% 1973, and 20% normal. Corn planting over 90% complete, 50% 1973 and 75% normal. Soybean planting 55% finished, 25% 1973 and 40% normal. Wheat and oat conditions good. Tobacco 10% set. First crop hay cutting begun. Over 4 days of fieldwork. Moisture supplies adequate to surplus.

OKLAHOMA: Temperatures averaged 4° to 7° above normal. Precipitation averaged 0.01 in. southeast to 1.85 in. northcentral through Friday. Weekend warm and wet in most areas. Weekly total through Sunday over 2.00 in. most areas.

Wheat harvest underway past week in southwest halted by rains. Over 80% crop in dough stage, one week earlier than 1973. Hail late week caused heavy damage, mostly northcentral. Crop condition down to fair to good following hail, root rot, and dry hot winds. Some test fields barley cut. Baling oats for hay increased. Planting row crops made only moderate progress but rainfall most areas improved outlook. Corn 67% and sorghum over 50% planted, both ahead of 1973. Cotton mostly good about 50% planted with nearly 20% up to stand. Peanuts about 25% planted, rated good. First cutting alfalfa 75% complete, better second cutting in prospect. Livestock good. Ranges grasses improved.

OREGON: Another cool, wet, week. Greatest cooling southwest valleys and southeast. Highs in 50's and 60's early week, lows in east in upper 20's. Rainfall reached 1.00 in. or more north coast. Central coast near 0.50 in., from none to 0.30 in. elsewhere.

Crop conditions fair to good, development slow. Fall seeded grain crops heading. Early hay cutting reported. Spraying continued. Asparagus, radish harvest continued. Early planted vegetables in Willamette Valley damaged by cold, wet conditions. Potato planting near completion. Condition of fruit crops good. Livestock fair to good. Pastures, range, good, growth slow.

PENNSYLVANIA: Changeable conditions through week from sunny and seasonable early week to warm with showers and thunderstorms midweek and cool, cloudy but mostly dry weekend. Despite temperatures 4° to 8° above normal midweek, weekly averages near to 4° below normal with weekend highs only 50's and 60's and lows 30's to 50's. Extremes: 90° and 29°. Rainfall 1.3 in. westcentral and Harris-

burg area to 0.25 in. mostly northeast quarter.

Most soil in good condition for spring planting and for hay and pasture growth. Corn 70% planted, about 2 weeks ahead of 1973. Potato planting 75% completed. Alfalfa weevil causing damage south and central. Strawberries slowly beginning to ripen south, crop prospects vary widely. Set of tree fruits varies widely.

PUERTO RICO: Average rainfall 1.40 in. or 0.65 in. subnormal. Highest weekly total 5.47 in. at Lares. Highest 24-hour total 2.34 in. at Lares. Temperatures averaged about 79° coasts and 74° interior. Extremes: 93°, 54°.

Sugarcane harvest ending and activities centered mainly in planting, cultivating, and fertilizing. Ratoon development retarded due lack of rain mainly south coast. Coffee zones hurt seriously due dry weather although recent rains will help recovery of trees. Dry weather favored harvest and curing of tobacco. Pastures hurt by drought mostly south coast. Pastures in other areas expected to start recovering. Planting of food crops planned most east and west interior areas if rains continue, but other nonirrigated areas mostly south coast suffering due prolonged drought.

SOUTH CAROLINA: Rainfall above normal all but south. Scattered thundershowers throughout week. Temperatures averaged above normal, highest temperatures first and last of week.

Soil moisture adequate to excessive. Heavy rains interrupted fieldwork some areas. Cotton 93% planted; condition, stand fair to good; cultivating active. Corn 98% planted; condition, stand good; cultivating, applying nitrogen. Bud worms predominant tobacco pest, applying control measures. Considerable tobacco acreage laid by; some suckering started; stand, condition, root system good. Soybeans 48% planted, 39% 1973; condition good. Sweetpotatoes 56% planted. Peanuts 92%, sorghums 32% planted. Some wheat, oats combined. Pastures, hay good. Still thinning some late peach varieties, harvesting few early varieties. Harvesting some snapbeans, squash, cucumbers. Tomato harvest starts Charleston County this week.

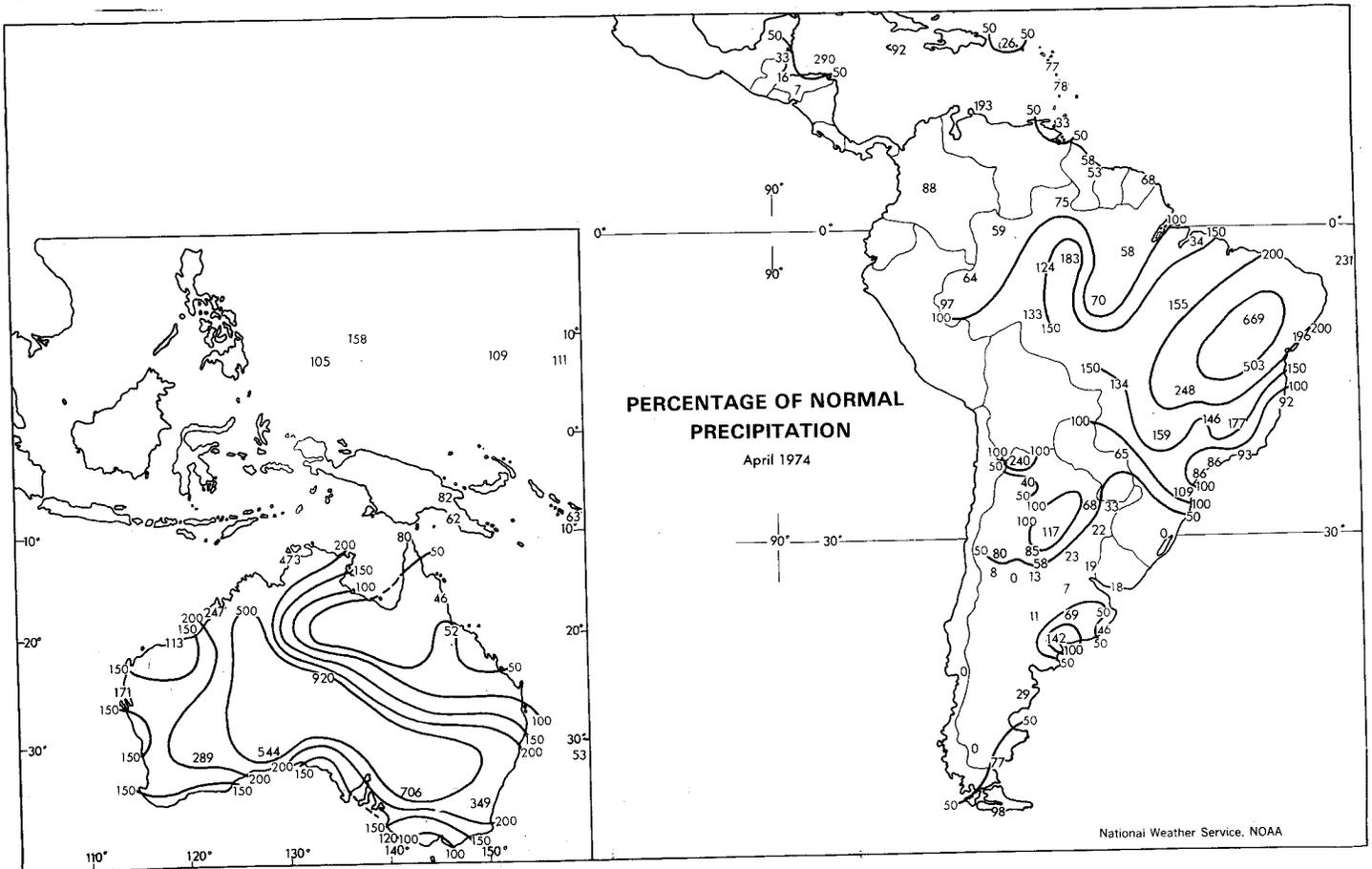
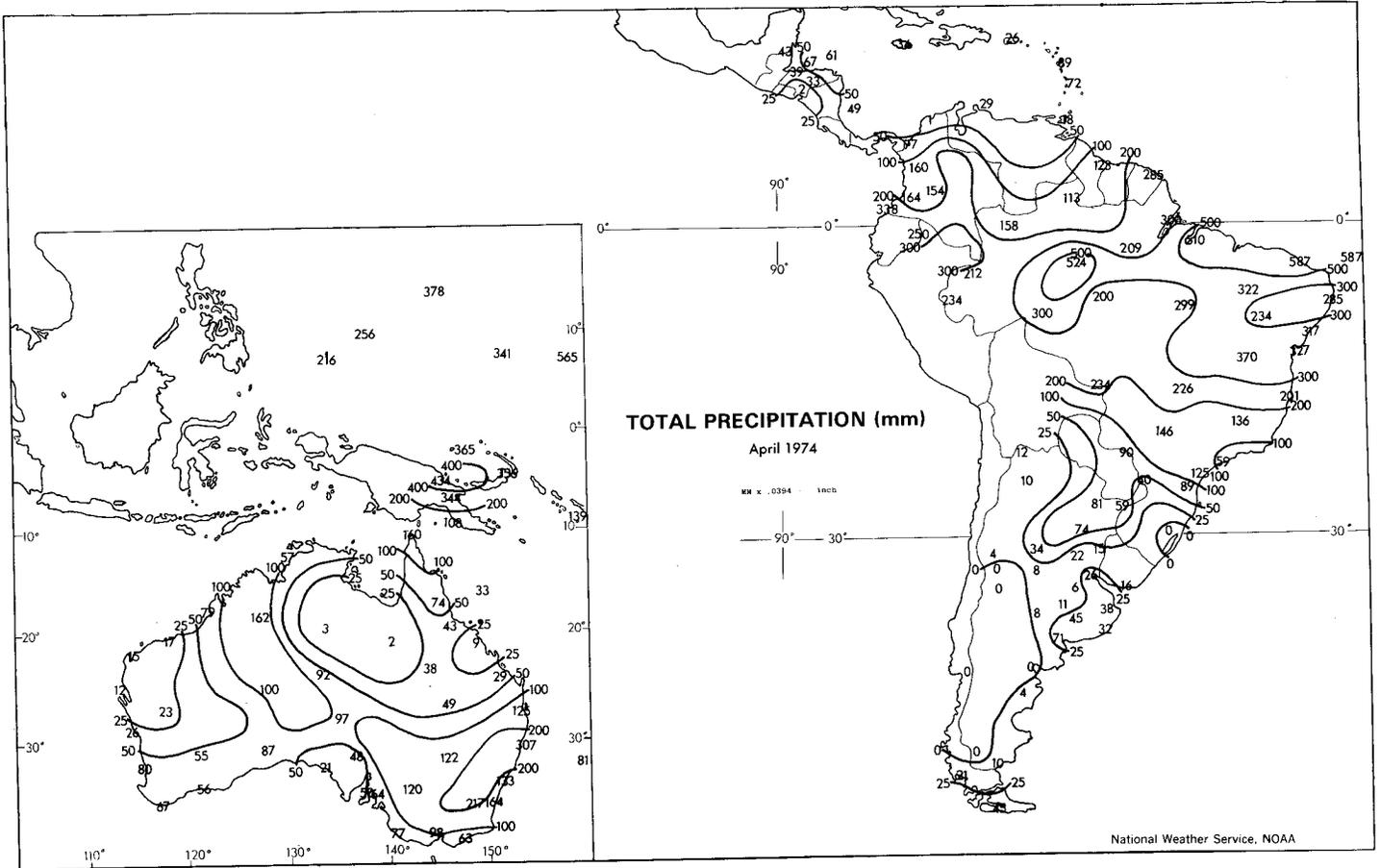
SOUTH DAKOTA: Temperatures generally averaged 1° to 3° subnormal. Extremes: 89° at Wagner on 20th, 27° at Ralph on 24th. Rainfall above average northeast, below normal elsewhere.

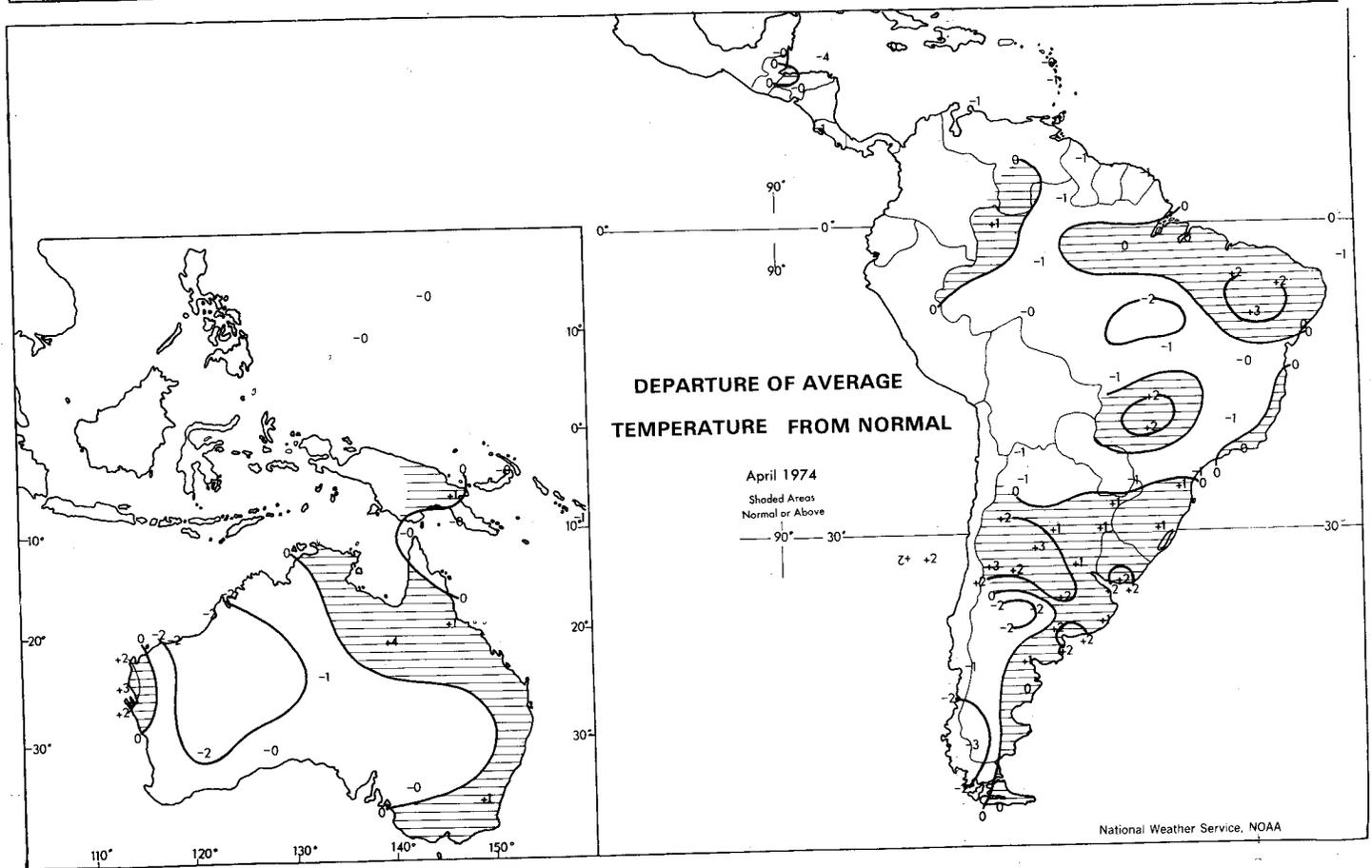
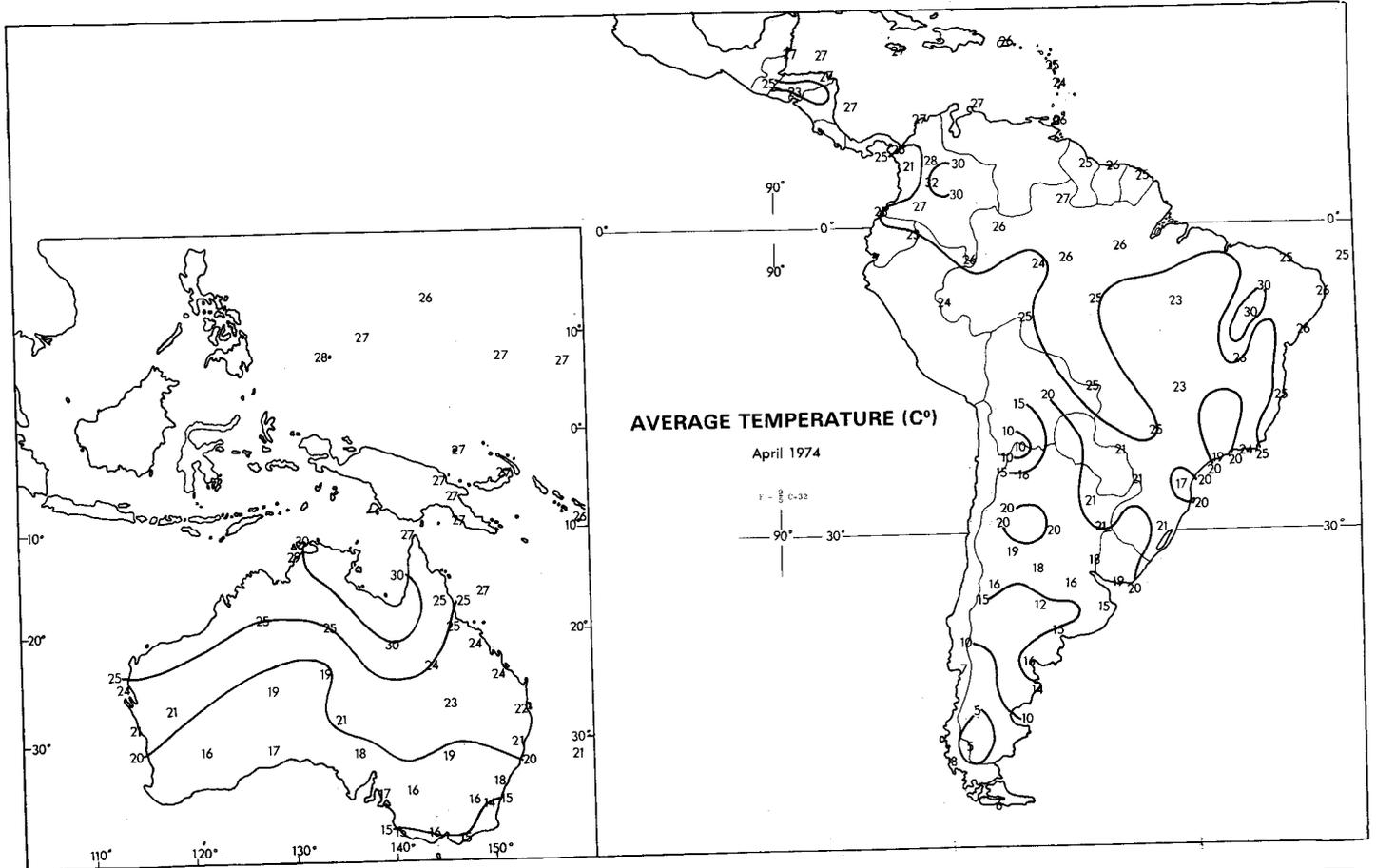
Cool weather statewide and drought conditions in southwest have slowed crop and pasture growth. Scattered frosts set back some small grains and alfalfa. Streak mosaic in some winter wheat. Corn 85% and soybeans 49% planted, both behind normal. Flax 84% planted, normal. Sorghum 29% planted, ahead of normal. Winter wheat 64%, rye 66% in boot, ahead of normal. Cattle good. Stock dams low in southwest. Pasture feed adequate.

TENNESSEE: General rains 21st and 22d caused local flooding. Weak cold front 24th lowered temperatures. General rain again Sunday followed by clearing Sunday night. Temperatures averaged near normal.

Rains halted planting and haying. Plant growth slowed by cool, wet weather; disease and insect damage to small grains. Wheat and oats 90% headed, ahead of 1973 but normal. Small grains turning yellow earlier than usual: Wheat 50%, oats 40% and barley 70%. Cotton acreage only 50% planted, 40% 1973, 75% average. Stands spotty. Corn 60% planted, 40% 1973, 70% average. Soybeans 5% planted, same as 1973, normal 15%. Considerable hay damaged or lost, open weather badly needed.

(Continued on page 14.)





1973 PHENOLOGY IN EASTERN AND CENTRAL NORTH AMERICA¹Richard J. Hopp² and Randall P. Hickin³Vermont Agricultural Experiment Station
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The phenological networks in eastern and central North America as part of the regional research project NE-69 have been discussed on previous occasions in the WEEKLY WEATHER AND CROP BULLETIN (1, 2). Genetically identical 'Red Rothomagensis' lilacs are used as indicator plants at more than 700 observation sites from Oklahoma to North Dakota and from North Carolina to the Atlantic Provinces and the Gaspé peninsula in Quebec (3, 4).

At the end of the 1972 season, observations on one or more phenophases of 'Red Rothomagensis' lilac were available from up to 230 sites for periods of 4 to 12 years. These data were used to develop predictive models for average dates of occurrence based on latitude, longitude, and elevation of the sites. The models showed an average northerly progression of the phenological events at the rate of 5 days for each degree of latitude, 4 days for each degree of longitude, and 2 days for each 120 m elevation. The R^2 values of the regression equations ranged from 0.84 to 0.96. A model was also developed based on latitude, longitude, and elevation to predict date of first flowers when the first leaf date is known. It is expected that the accuracy of the models will increase once climatological parameters, such as growing degree days and solar-thermal units, are included in the models. These studies are under way at the New York State Agricultural Experiment Station, Geneva, N.Y.

In 1973 the NE-69 phenological observations were used to provide additional ground truth in connection with the NASA funded Phenology Satellite Experiment which uses ERTS-1 data to describe the "green wave," the northerly progression of plant development in spring. Under the leadership of the Division of Atmospheric Sciences, Cornell University, 18 agricultural experiment stations are participating in the NASA project.

The 1973 phenological observations clearly show the effect of the spring weather conditions on plant development. The accompanying maps allow comparisons of the 1973 isophanes showing the northerly advance of the date of first leaf and first flowers of 'Red Rothomagensis' lilac (Figures 1 and 2) with the isophanes of the average dates of these two phenological events (Figures 3 and 4). The departure from the average was not uniform throughout the NE-69 study area. In general, the dates of first leaf in 1973 were about 14 days earlier than average in the eastern section and about 9 days earlier in the western section. The western borders of Pennsylvania and West Virginia form the dividing line between the two sections. Details of the departure can readily be seen on the maps.

The "early spring" was not sustained. By the time the first flowers of 'Red Rothomagensis' lilac

opened, the earliness--that is the departure from the average--was reduced to 6 days in the East. In many parts of the western section the dates of first flowers approached the average dates.

In the Province of Quebec, close to 300 observation sites were established in 1971 and 1972, and six sites in the Atlantic Provinces, as part of the NE-69 project. Data were made available by Laval University, Quebec, and the Research Branch, Canada Department of Agriculture, Nappan, N.S. The dense network in Quebec was designed to test the accuracy of the borders of the 12 agricultural regions of the province that were established 10 years ago (5).

The available Canadian data for 1973 made it possible for the first time to extend the isophanes of phenological events of 'Red Rothomagensis' lilac in the Northeast beyond national boundaries, along the St. Lawrence River valley, across the Gaspé peninsula, and into the Atlantic Provinces. Figures 1 and 2 show this extension of the northerly progression of spring by up to 4 weeks.

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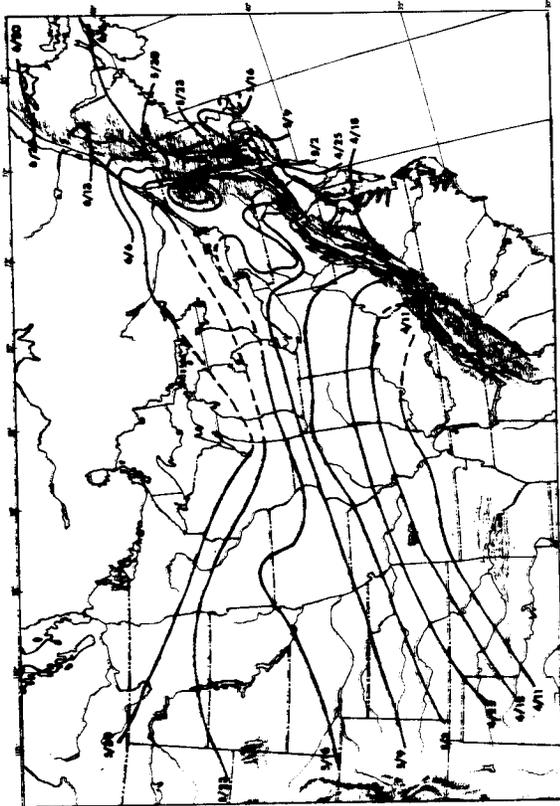


Figure 2. 1973 dates of first flowers of 'Red Robionomagnalis' lilac.

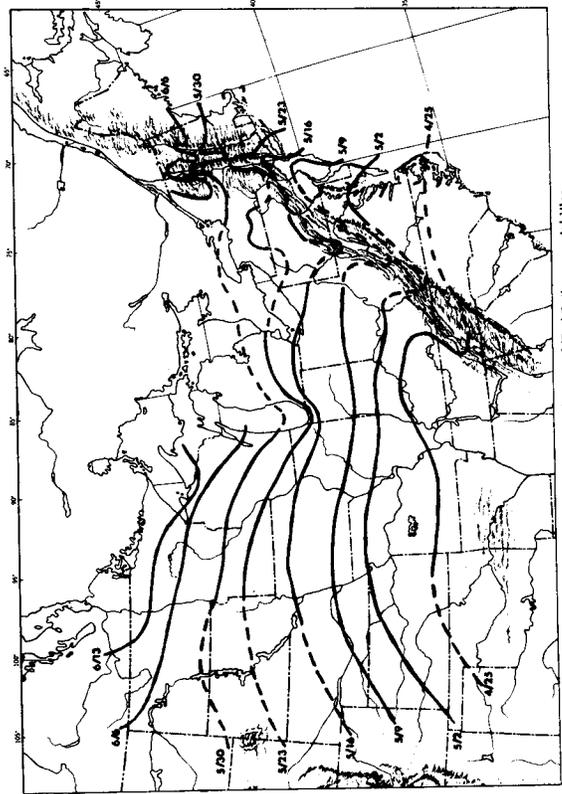


Figure 4. Average dates of first flowers of 'Red Robionomagnalis' lilac.

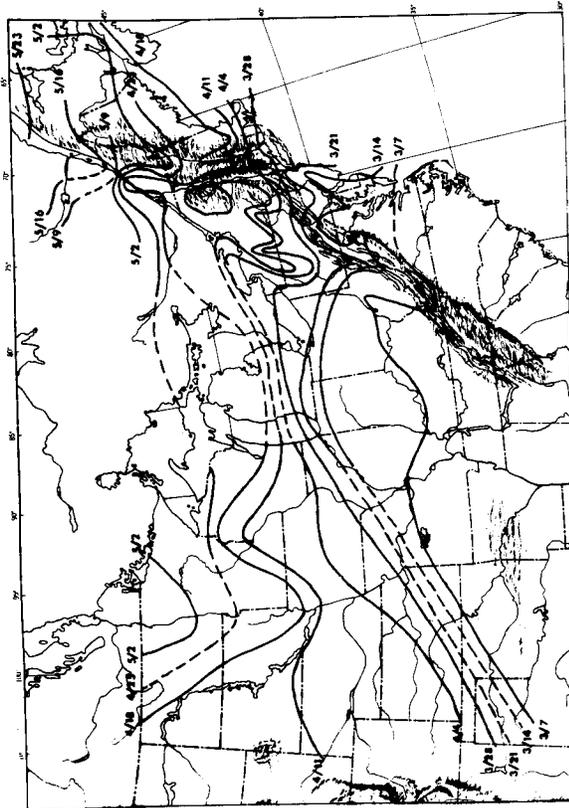


Figure 1. 1972 dates of first leaf of 'Red Robionomagnalis' lilac.

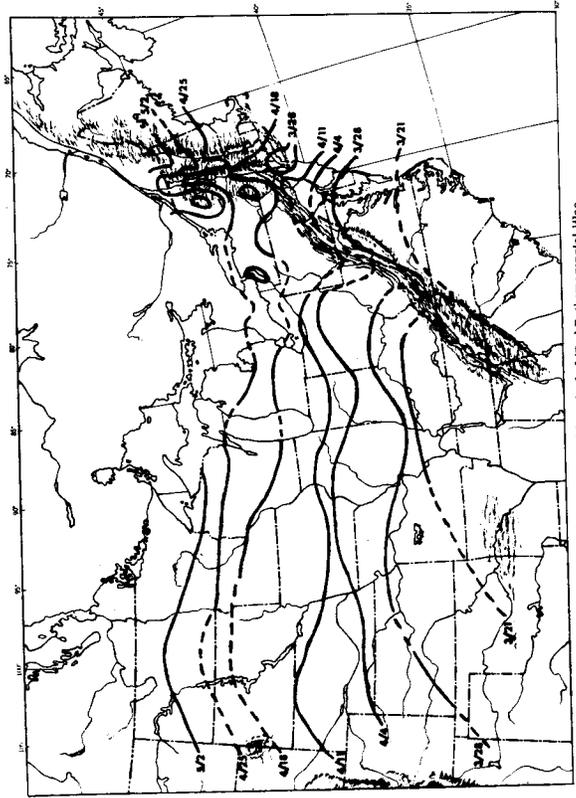


Figure 3. Average dates of first leaf of 'Red Robionomagnalis' lilac.

(Continued from page 9.)

Strawberry harvest reached peak May 20, rains reduced yields. Tobacco about half transplanted near normal.

TEXAS: Above normal rainfall portions east and northwest late week. Some areas north of Beaumont got nearly 5.00 in. Rainfall helped some sections, most State remains below normal. Cool late week.

Harvest wheat, oats, flax rapid progress. Yields better than expected some areas, but still below last year. Planting cotton, corn, sorghum, rice, peanuts, soybeans good progress. Cotton, sorghum excellent progress south half. Some insect problems encountered but control measures generally adequate. Major crops percent harvested: wheat 9, 1973 2; oats 22, 1973 16; flax 91, 1973 83; barley 11, 1973 0. Major crops percent planted: cotton 70, 1973 75; corn 99, 1973 99; sorghum 71, 1973 77; peanuts 34, 1973 26; rice 96, 1973 86; soybeans 22; 1973 24.

Lower Rio Grande Valley: Light supplies of onions and potatoes still available. Watermelon, cantaloup, honeydew melon, and pepper harvest full swing. Tomatoes good growth, moderate supplies available. Coastal Bend: Watermelon harvest underway. San Antonio-Winter Garden: Onion harvest full swing, carrot harvest complete. Potato digging active. Central: Sweetpotatoes, sweet corn and tomatoes beginning to ripen. East: Tomato harvest started. Sweetpotato planting continued. North Texas: Watermelons making normal progress. Knox-Haskell: First potato harvest expected next week. Trans-Pecos: Onions showing good growth. High Plains: Early potato harvest should begin in about 2 weeks.

Pecan trees being sprayed statewide for pecan casebearer. Walnut caterpillar appeared south central. Light peach harvest underway many areas east and south central. Supplies increased from central Texas. Citrus harvest complete. Irrigation of groves continued. Range and livestock good condition. Grazing adequate to abundant south half, adequate north. Hay harvest active, first cuttings yields good to excellent. East prospects second cutting excellent, west half State needs rain. Sheep shearing nearing completion Edwards Plateau, Trans-Pecos. New screw-worm cases confirmed several counties south half.

UTAH: No appreciable moisture. Average temperatures ranged from near normal to 6° below.

Weather favorable for fieldwork 3 to 5 days northwest, 7 days elsewhere. Some light frost damage to early tender crops in all except lowest elevation valleys. Hard frost in San Juan County damaged wheat. Fruit crop prospects fair to good except poor to fair for apricots. Planting well along for field corn, sweet corn, tomatoes, and snap beans. Potato planting about complete in north, about 25% southwest. Winter wheat mostly fair to good, poor in San Juan County. Winter wheat about 33% jointed. Range feed mostly good, north, poor to fair south. Soil moisture short south. Most livestock on spring or intermediate ranges, in good condition.

VIRGINIA: Temperatures averaged near normal. Extremes: 93°, 42°. Rainfall heavy southwest, light to moderate elsewhere. Greatest amount 2.57 in. at Bristol, least 0.10 at Wakefield.

Fieldwork: 4.6 days. Soil moisture 77% adequate, 14% short, 9% surplus. Corn 87% planted, 1973 85%. Peanuts 88% planted, 1973 86%. Soy-

beans 30% planted, 1973 26%. Tobacco set: Flue-cured 57%, 1973 52%; fire-cured 38%, 1973 27%; burley 18%, 1973 17%, sun-cured 27%, 1973 27%. Armyworms in corn and small grains, spray programs effective. Hay yields show improvement with recent rains. Eastern Shore sweetpotato transplanting good progress. Cabbage, spinach and strawberries harvested. Potatoes good condition. Cabbage set southwest. Pastures remain good to excellent.

WASHINGTON: West: Cooler than normal. Highs in 60's, lows 40's. Rain 0.30 to over 4.00 in. Strawberry, early raspberry fields blooming. Growers concerned with strawberry root rot. Blueberry fields showing extensive mummyberry disease. Planting vegetable crops, new strawberry fields. Alfalfa harvest beginning. Pastures improving.

East: Temperatures 4° to 6° subnormal. Precipitation 0.02 to 0.70 in. Farmers planting beans, corn, potatoes. Asparagus harvest active. Training hops, fertilizing, weeding and thinning sugarbeets active. Alfalfa harvest full swing. Hail damage pears, apples, cherries. Chemical thinning apple trees. Frost damage to fruit trees some areas. Winter wheat, bluegrass stands improving. Stripe rust in some wheat fields. Ranges, livestock good.

WEST VIRGINIA: Temperatures averaged above normal entire State. Highs in 80's, 90° at Clay. Lows in mid-40's to mid-50's. Precipitation mostly on 22d and 23d below normal in southern and northeast but about normal elsewhere.

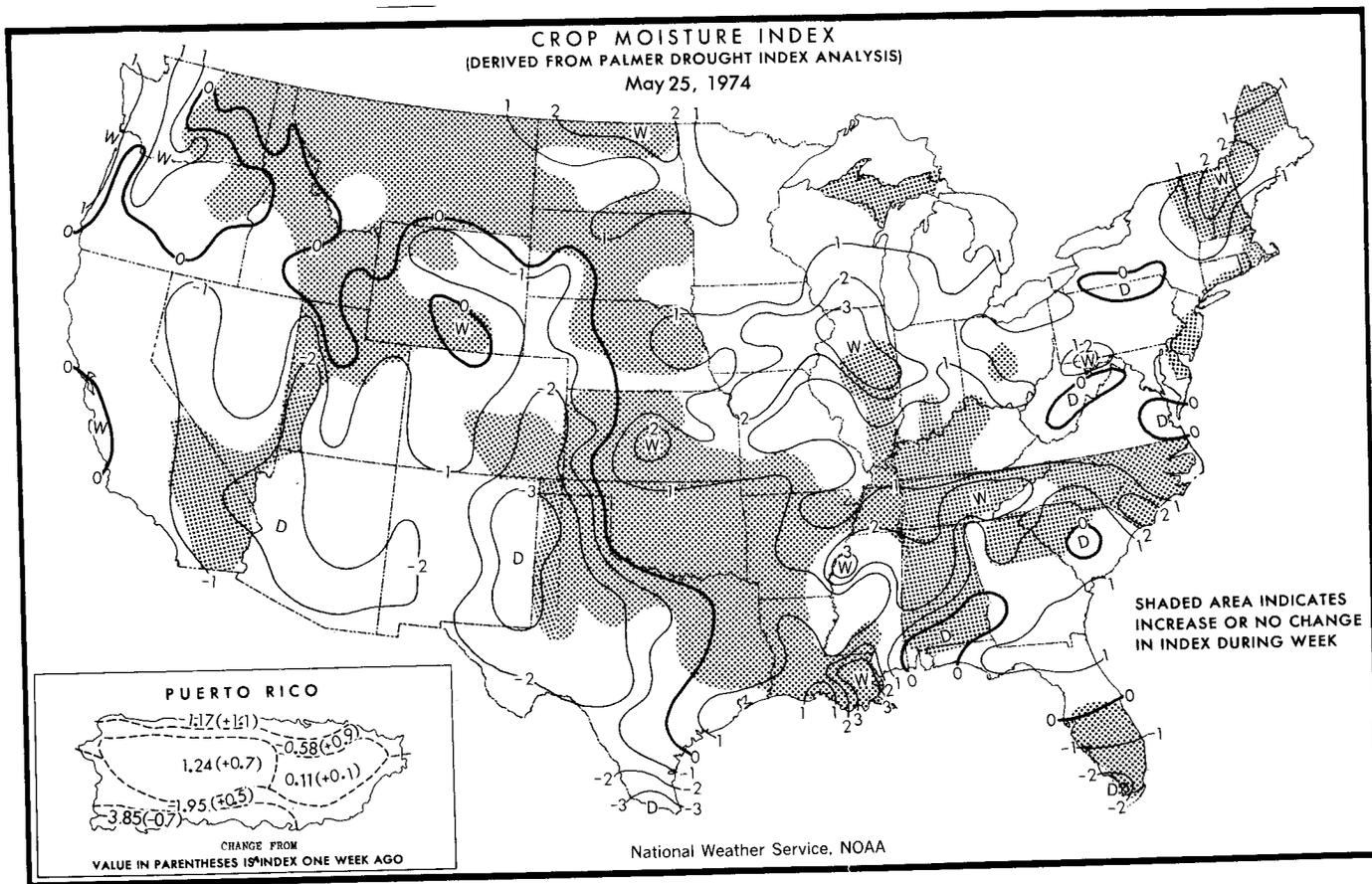
Soil moisture mostly adequate. Planting corn and other crops along with gardening kept many farmers busy 4.1 days favorable for fieldwork. Corn planting more than 80% complete. First cuttings of hay started. All crops including fruit showed improvement. Cattle plagued with flies. Some pinkeye reported.

WISCONSIN: Temperatures averaged slightly above normal. Warm early week, in high 80's Tuesday. Cooler after midweek. Precipitation averaged from 0.50 in. northwest to 1.40 in. southeast. Weather mostly fair on Memorial Day weekend.

Corn planting made good progress in north and west. Corn 50% planted, 1973 45%, normal 55%. Early planted corn just emerging after nearly month in cold, wet soils. Spring plowing 90% done, 1973 70%, normal 90%. Oats 98% sown, 1973 90%, normal 98%. Early oats doing good except where too wet. Hay fields very good, a few farmers started green chopping. Pastures improved. Planting vegetables active central sands area, slowed by wet spots south and east. Early peas mostly good. Sweet corn planting behind normal. Potato planting nearing end. Tobacco beds growing slow. Apple trees had heavy bloom. Cherries and some strawberries in bloom. Soil moisture 55% adequate, 45% surplus.

WYOMING: Cool, dry week. 1° to 5° below normal. Lows in low 20's to mid-30's, highs in 60's to mid-80's. Precipitation light.

Spring wheat, oats, barley, sugarbeets 90% to 100% planted, 80% to 90% emerged. Corn 80% planted, 40% emerged. Potatoes 50%, dry beans 20% seeded. Sugarbeet thinning just begun. Winds depleted soil moisture and caused crop deterioration, delayed range growth. Soil moisture short to adequate. Rain needed badly most areas. Irrigation of crops continued. Spring calving almost over. Range ewes 80% lambled, shearing nearly finished. Stockwater supply adequate. Livestock moved to ranges.



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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