

# Weekly Weather & Crop Bulletin

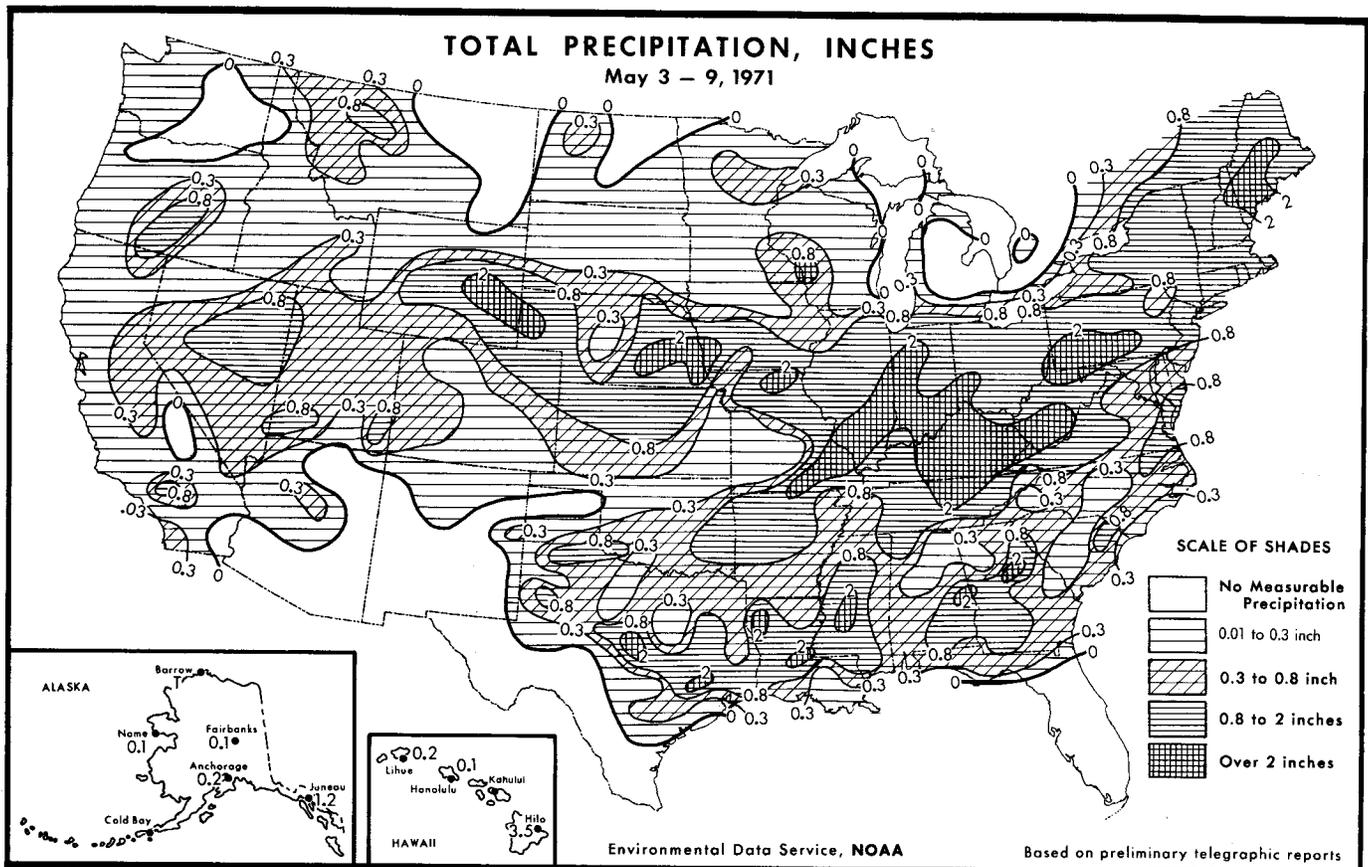
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Edited by Lucius W. Dye

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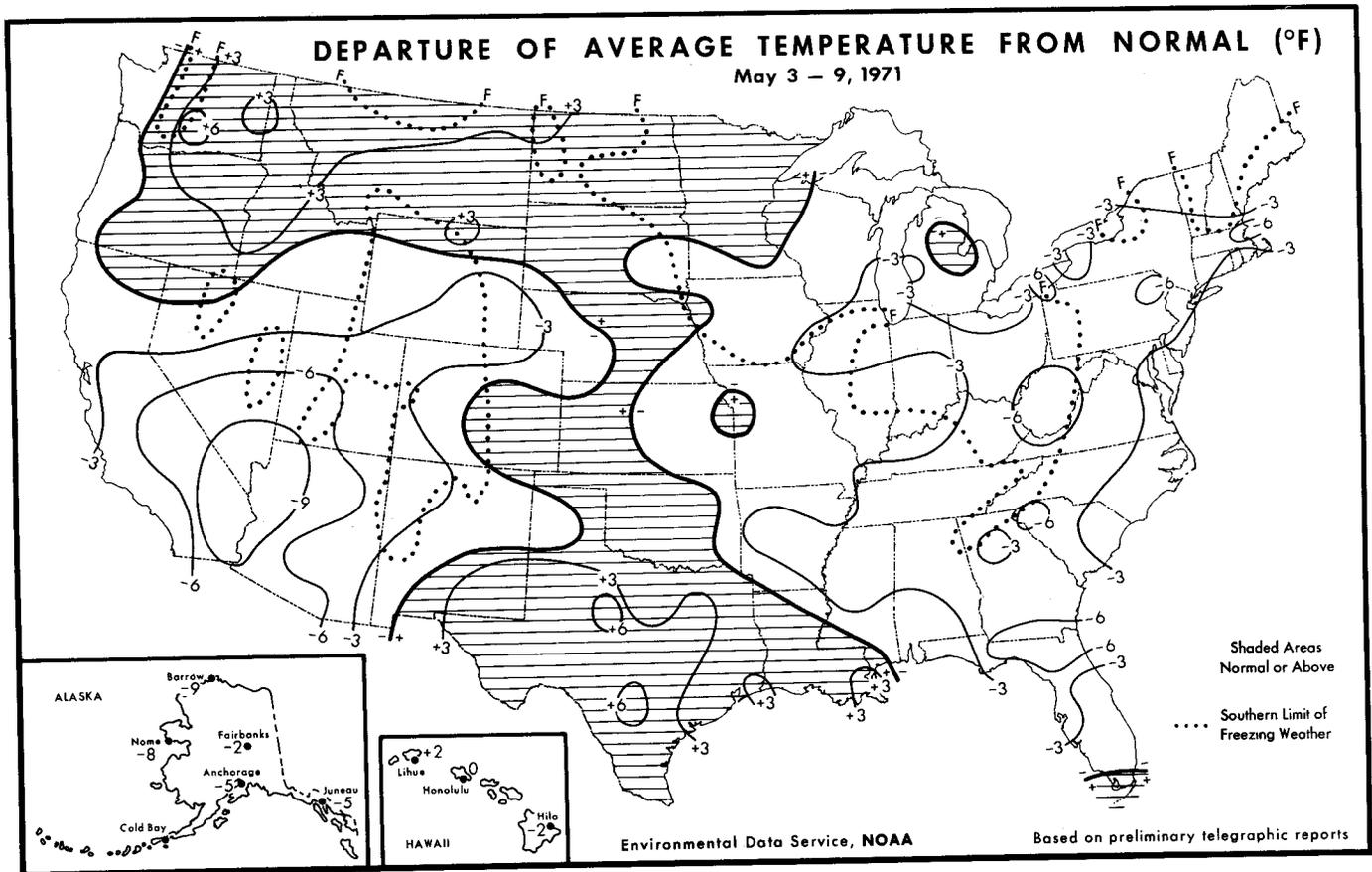
## NATIONAL WEATHER SUMMARY

**HIGHLIGHTS:** The Southwest and East averaged cooler than normal. Tornadoes and severe thunderstorms occurred in the central and southern Great Plains. Florida continued dry.

**PRECIPITATION:** Chilly rain and drizzle fell in the northeast early in the week. Seven inches of snow fell at Mt. Washington, N.H., Monday evening. Fair weather was the rule over most of the rest of the Nation. A storm began shaping up in the central Rocky Mountains early in the week and moved slowly to the nearby Great Plains. Scattered thunderstorms, some accompanied by wind and hail, occurred over the Great Basin and the Rocky Mountains. The wind at Guadalupe, Tex., gusted to 76 m.p.h. Tuesday afternoon and a pilot reported blowing dust at 15,000 feet altitude. By Wednesday tornadoes were occurring in several States including Nebraska, Iowa,

Kansas, Missouri, Oklahoma, and Arkansas. A score of tornadoes caused extensive property damage and at least 1 death. Showers and thunderstorms occurred from the central and southern Great Plains to the middle Atlantic coast. By Thursday, thunderstorms were popping out over much of the eastern half of the Nation. More tornadoes touched down Thursday from Iowa to Indiana and southward to Texas and Kentucky. Some of the tornadoes in Oklahoma and Texas touched down in open country and caused little damage. Others demolished dwellings and other buildings in towns and villages and on farms. A tornado southwest of Rothville, Mo., Thursday evening pushed a train off the track.

Warm moist Gulf air flowed northward over mid-America late in the week. Tornadoes struck several States in the Great Plains and severe thunderstorms with hail, strong winds, and



heavy rain occurred over much of the eastern half of the Nation. Hail as large as baseballs fell from some of the thunderclouds in Texas.

The drought intensified in the Florida Peninsula which received no rain or only light widely scattered showers.

**TEMPERATURE:** A high pressure area over the middle of the Nation early in the week brought mild temperatures to much of the West and Central and cool weather to the East. Philip, S. Dak., and Valentine, Nebr., registered 80° Monday afternoon. Subfreezing weather occurred Tuesday morning in the high Rocky Mountains in Wyoming and Colorado and from Michigan to the southern Appalachians. Rome, Ga., registered 32° Tuesday

morning. Mild weather continued across the Southland. Afternoon temperatures reached the 80's from southern California to Texas and in Florida.

At midweek the West cooled and the Deep South warmed. Much of the area from Missouri to the Carolinas and southward to the Gulf of Mexico warmed to the 80's Thursday afternoon. Laredo, Tex., registered 98° Friday afternoon. The northern Great Plains warmed to the 70's and 80's by Saturday afternoon. Temperatures averaged above normal from the northern Great Plains to the Rio Grande and the western Gulf Coast and below normal west of the Rocky Mountains and east of the Mississippi.

L. W. Dye

## NATIONAL AGRICULTURAL SUMMARY

**AGRICULTURAL HIGHLIGHTS:** Corn planting continued rapidly.\* Rains improved soil moisture in the southern Corn Belt.\* Great Plains winter wheat prospects brightened by rain and warm temperatures.\* Cotton replanting will be necessary in the South--due cool weather.\* Soybean planting increased.

**SMALL GRAINS:** Rain and warmer temperatures improved winter wheat prospects on the Great Plains. The crop made good development in most States. Rain improved the crop outlook in Oklahoma, but dry-land Texas prospects remain dim. The crop is maturing rapidly in the southern Plains, with 11 percent of the Oklahoma acreage in the dough stage. Heading in Kansas is 27 percent complete, compared to the 24 percent average.

Both fall and spring seeded grains made excellent growth on the northern Great Plains. Early seeded acreage is emerging to good stands. Seeding in South Dakota should end this week, while in North Dakota, planting is only nearing completion in the southeast corner. Montana spring grain seeding is about 2/3 complete.

In the Northwest, crops reacted favorably to the warmest weather of the year. Growth and moisture are good. The Washington wheat and barley crops are good, and 95 percent of the Montana acreage is good to excellent.

Spring grain seeding made rapid progress in the Lake States. Growth is still retarded due to cool spring weather throughout most of the East. However, the rains were very timely for filling heads in the South. Grains are ripening fast in many States, with combining underway in the Deep South.

**CORN:** For the second straight week corn planting made excellent progress in the Corn Belt. Corn growers in Iowa and Illinois were able to plant 1/3 of their acreage during the week. Over 60 percent of the acreage is now seeded in these leading corn producing States. Good rains brought much needed moisture to the heart of the Corn Belt; and will aid seed germination and plant growth. Heavy rains halted planting in local areas, but the delay was short and the moisture beneficial. Cold temperatures continued to plague plant growth and slow germination. Northern Corn Belt States made good progress in seeding as no rain fell.

Outside the Corn Belt planting is well advanced with some Southern States nearly finished. Kentucky and Louisiana growers had to reseed some acreage. Planting continues behind schedule in Oklahoma and Texas.

**SOYBEANS:** Soybean planting gained momentum across the Nation. Planting progress varies from just starting in the northern Corn Belt to 16 percent of the acreage seeded in Missouri and Mississippi. Needed rain arrived in the north central States to improve soil moisture and help seed germination. Planting should be extremely active this week if nice weather prevails.

**COTTON:** Record low temperatures (frost) damaged young cotton seedlings throughout the South. Some replanting will be necessary. Hard rains and hail in central and southern Alabama also damaged cotton fields. Growers will need to reseed. Acreage seeded is generally ahead of last year, but cool weather has got the crop off to a slow start. Tennessee growers are 2 weeks ahead in seeding due to ideal field conditions.

Dry planting conditions exist in Texas. Seed-

ing remains behind a year earlier. The planting deadline in the southern tip is past, with many fields unplanted. Oklahoma planting will increase following last week's rain.

Replanting California cotton continues. Damping off and hail were responsible for damaging the fields. Some early fields in Arizona are beginning to set squares.

**OTHER CROPS:** Sorghum acreage is nearly half seeded in Texas, behind last year's progress. Planting made good headway in other States. Green bugs are causing serious damage to many Arizona fields. Rice growers are in the final stages of planting both in the South and California. Planting of the Nations 1971 sugar beet crop is nearly complete in most States. The Nebraska crop is emerging to good stands. Crusting soil is hampering emergence in Idaho. Peanut planting made good headway in Georgia, 90 percent of the acreage is in. Seeding also accelerated in the Carolinas. Emerged Alabama stands are uneven and acreage sown lags behind a year earlier. Potato planting got underway in Aroostock County, Maine. Southwest Idaho growers have 60% of their crop in. Half the Colorado acreage is planted.

**Fruits and Nuts:** Nonirrigated citrus trees are beginning to wilt in drought plagued Florida. Irrigated trees are good, but the water supply is low. California valencia orange picking increased. Loss due to earlier frost damage is greater than anticipated.

Frost damaged apple orchards in northern Georgia. A heavy premature peach drop occurred in the Piedmont area of South Carolina. Peach prospects are poor in Texas, but picking started in Southern areas. Cold weather continues to slow fruit bud development in the East. However, some tart and sweet cherry trees started blossoming in Michigan and New York. Fruit prospects are good in the Pacific Northwest. Washington apples are in full bloom.

**Vegetables:** Planting is active in the northern growing areas of the Nation, however warmer temperatures are needed. Lettuce and celery are being planted in Orange County, New York.

Irrigating is active in Florida vegetable areas with the warm days and cool nights not conducive to growth. Shipments continue to increase with harvest moving north. Light picking of tomatoes for fresh market started in Imperial Valley, California. Frost and hail damaged processing tomatoes in Merced County.

Onion pulling is nearing completion in the Lower Valley of Texas. Cabbage and carrot supplies are also declining from all South Texas areas.

**PASTURES AND LIVESTOCK:** Pastures in the northeast will soon be providing improved grazing after last week's much needed rain. Warmer temperatures would be welcome to increase grass growth. Southern pastures are supplying good amounts of feed, but are still below normal. The exception is Florida, where grass is very short. Even if abundant moisture is received, the recovery potential of stressed pastures is uncertain.

Movement of livestock to summer pastures has been delayed over most of the Country due to slow grass growth. More farmers than usual are having to give supplement feed to cattle on pastures. Ranchers in the Southwest continue to cull their herds closely, and many herds are grazing on abandoned wheat acreage. Pastures are improving in the Northwest. Oregon spring lambs are starting to move to market.

Steve Pscodna  
Agricultural Statistician

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., May 9, 1971

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure*	Total	Departure*		Average	Departure*	Total	Departure*		Average	Departure*	Total	Departure*
ALA.Birmingham . . .	65	- 5	T	- .8	New Orleans . . .	75	+ 3	T	-1.0	OKLA.Okla. City . . .	66	0	.5	- .6
Mobile . . .	72	- 1	1.5	- .6	Shreveport . . .	72	+ 1	2.1	+1.0	Tulsa . . .	67	+ 1	.3	- .9
Montgomery . . .	67	- 3	1.5	+ .7	MAINE.Caribou . . .	45	- 1	1.0	+ .4	OREG.Astoria . . .	50	- 2	T	- .8
ALASKA.Anchorage . . .	38	- 5	.2	+ .1	Portland . . .	49	- 1	2.3	+1.5	Burns . . .	53	+ 1	1.2	+1.0
Barrow . . .	4	- 9	T	0	MD.Baltimore . . .	59	- 3	.5	- .3	Medford . . .	57	+ 1	.1	+ .2
Fairbanks . . .	41	- 2	1	0	MASS.Boston . . .	51	- 6	1.1	+ .3	Pendleton . . .	62	+ 4	0	= .2
Juneau . . .	39	- 5	1.2	+ .5	MICH.Athens . . .	48	- 2	1.2	- .5	Portland . . .	57	0	.1	- .4
Nome . . .	23	- 8	.1	- .1	CHATHAM . . .	46	- 2	.1	- .5	Salem . . .	53	- 2	T	- .5
ARIZ.Flagstaff . . .	43	- 6	.8	+ .6	Detroit . . .	54	- 2	.2	- .6	PA.Allentown . . .	53	- 5	1.1	+ .2
Phoenix . . .	68	- 5	T	- .1	Flint . . .	52	0	0	- .7	Erie . . .	47	- 7	.6	- .3
Tucson . . .	65	- 6	0	0	Grand Rapids . . .	52	- 2	T	- .8	Harrisburg . . .	57	- 3	1.1	+ .2
Winslow . . .	56	- 6	T	- .1	Houghton Lake . . .	50	+ 1	T	- .6	Philadelphia . . .	57	- 3	2.7	+1.9
Yuma . . .	67	- 9	T	0	Lansing . . .	52	- 2	0	- .8	Pittsburgh . . .	52	- 5	.5	- .4
ARK.Fort Smith . . .	65	- 3	1.9	+ .7	Marquette . . .	45	- 2	T	- .6	Scranton . . .	50	- 7	.5	- .4
Little Rock . . .	65	- 4	1.0	- .3	Muskegon . . .	50	- 3	T	- .7	R.I.Providence . . .	54	0	1.4	+ .6
CALIF.Bakersfield . . .	51	- 1	.1	- .5	S.Ste.Marie . . .	46	- 1	T	- .6	S.C.Charleston . . .	68	- 3	.4	- .3
Eureka . . .	60	- 6	.4	+ .3	MINN.Duluth . . .	47	+ 1	.4	- .3	Columbia . . .	67	- 3	.1	- .8
Fresno . . .	60	- 4	1	0	Internat'l Falls . . .	50	+ 2	.1	- .4	Greenville . . .	62	- 6	.6	- .1
Los Angeles . . .	60	- 4	.1	- .2	Minneapolis . . .	55	+ 1	.3	- .3	S.DAK.Aberdeen . . .	55	+ 1	T	- .5
Red Bluff . . .	61	- 5	.1	- .2	Rochester . . .	53	0	.3	- .4	Huron . . .	54	- 1	T	- .5
San Diego . . .	60	- 3	.5	+ .4	St. Cloud . . .	53	+ 1	.2	- .5	Rapid City . . .	54	0	.2	- .3
San Francisco . . .	56	- 1	T	- .2	MISS.Jackson . . .	68	- 3	2.1	+1.1	Sioux Falls . . .	54	- 2	T	- .7
Stockton . . .	60	- 4	.4	+ .3	Meridian . . .	69	- 2	.6	- .3	TENN.Chattanooga . . .	63	- 4	.7	- .1
COLO.Denver . . .	53	0	.4	- .2	MO.Columbia . . .	61	- 1	1.5	+ .5	Knoxville . . .	62	- 3	1.3	+ .5
Grand Junction . . .	57	- 3	.6	+ .4	Kansas City . . .	65	+ 2	T	- .9	Memphis . . .	66	- 2	.4	- .6
Pueblo . . .	59	+ 1	.1	- .3	St. Louis . . .	61	0	2.0	+1.2	Nashville . . .	62	- 4	.9	+ .1
CONN.Bridgeport . . .	53	- 3	1.8	+1.0	Springfield . . .	61	- 1	T	-1.2	TEX.Abilene . . .	75	+ 6	.1	- .9
Hartford . . .	52	- 4	1.6	+ .9	MONT.Billings . . .	56	+ 1	.3	- .1	Amarillo . . .	63	- 1	.1	- .5
D.C.Washington . . .	60	- 3	.6	- .3	Glasgow . . .	57	+ 3	T	- .3	Austin . . .	77	+ 4	.2	- .7
FLA.Apalachicola . . .	70	- 3	0	- .6	Great Falls . . .	56	+ 4	1.0	+ .6	Beaumont . . .	77	+ 4	1.7	+ .5
Ft. Myers . . .	72	- 5	0	- .5	Havre . . .	57	+ 4	T	- .3	Brownsville . . .	82	+ 4	0	- .4
Jacksonville . . .	67	- 7	T	- .8	Helena . . .	53	+ 1	.1	- .2	Corpus Christi . . .	79	+ 3	T	- .5
Key West . . .	79	+ 1	0	- .5	Kalispell . . .	54	+ 3	.7	+ .4	Dallas . . .	74	+ 3	.1	-1.0
Lakeland . . .	74	- 2	0	- .6	Miles City . . .	57	+ 1	T	- .3	Del Rio . . .	80	+ 4	T	- .6
Miami . . .	77	0	T	-1.4	Missoula . . .	56	+ 4	.6	+ .2	El Paso . . .	72	+ 3	0	- .1
Orlando . . .	75	- 1	0	- .7	NEBR.Grand Island . . .	59	+ 1	2.8	+2.0	Fort Worth . . .	71	0	.3	- .7
Tallahassee . . .	65	- 8	.4	- .4	Lincoln . . .	60	0	2.6	+1.9	Galveston . . .	74	0	0	- .7
Tampa . . .	72	- 4	0	- .7	Norfolk . . .	58	+ 1	.9	+ .2	Houston . . .	75	+ 2	.2	- .7
GA.Atlanta . . .	64	- 2	.1	- .6	North Platte . . .	54	- 2	.2	- .4	Lubbock . . .	69	+ 4	.1	- .4
Augusta . . .	65	- 4	T	- .6	Omaha . . .	57	- 1	3.1	+2.3	Midland . . .	74	+ 3	.2	- .2
Macon . . .	67	- 4	.4	- .4	Valentine . . .	56	+ 2	.4	- .1	San Angelo . . .	77	+ 5	T	- .9
Savannah . . .	68	- 3	.6	- .2	NEV.Ely . . .	43	- 6	1.7	+1.5	San Antonio . . .	80	+ 7	.3	- .5
HAWAII.Hilo . . .	71	- 2	3.5	+1.0	Las Vegas . . .	62	-10	.7	+ .7	Victoria . . .	78	+ 3	T	- .9
Honolulu . . .	76	0	.1	- .2	Reno . . .	51	- 2	.6	+ .5	Waco . . .	77	+ 4	.1	- .9
Kahului . . .	76	+ 2	.2	- .5	Winnemucca . . .	52	0	.3	+ .1	Wichita Falls . . .	72	+ 2	.1	- .9
Lihue . . .	76	+ 2	.2	- .5	N.H.Concord . . .	49	- 3	1.4	+ .7	UTAH.Blanding . . .	50	- 4	1.1	+ .9
IDAHO.Boise . . .	62	+ 5	.1	- .2	N.J.Atlantic City . . .	56	- 2	.4	- .4	Salt Lake City . . .	54	- 3	.6	+ .3
Lewiston . . .	62	+ 5	T	- .3	Trenton . . .	55	- 5	1.0	+ .2	VT.Burlington . . .	49	- 1	1.3	+ .6
Pocatello . . .	52	- 2	T	- .3	N.MEX.Albuquerque . . .	60	- 2	.1	- .1	VA.Lynchburg . . .	59	- 4	1.0	+ .3
ILL.Cairo . . .	64	- 3	1.6	+ .7	Roswell . . .	69	+ 4	0	- .3	Norfolk . . .	64	- 1	1.0	+ .2
Chicago . . .	52	- 5	1.2	+ .4	N.Y.Albany . . .	50	- 5	1.4	+ .6	Richmond . . .	61	- 4	.7	- .1
Moline . . .	54	- 4	.4	- .5	Binghamton . . .	49	- 3	.8	+ .1	Roanoke . . .	58	- 6	1.2	+ .4
Peoria . . .	54	- 5	1.3	+ .4	Buffalo . . .	50	- 2	.7	+ .1	WASH.Colville . . .	57	+ 4	.2	- .1
Rockford . . .	52	- 4	.9	0	New York . . .	55	- 4	1.1	+ .3	Omak . . .	62	+ 6	T	- .2
Springfield . . .	59	- 2	1.2	+ .4	Rochester . . .	48	- 6	1.3	+ .7	Quillayute . . .	50	- 1	.1	-1.0
IND.Evansville . . .	62	- 2	1.1	+ .2	Syracuse . . .	50	- 4	1.5	+ .7	Seattle-Tacoma . . .	54	0	.1	- .3
Fort Wayne . . .	53	- 4	1.7	+ .9	N.C.Asheville . . .	59	- 3	.3	- .3	Spokane . . .	57	+ 2	T	- .3
Indianapolis . . .	57	- 2	1.3	+ .4	Charlotte . . .	62	- 5	.5	- .2	Walla Walla . . .	62	+ 2	0	- .3
South Bend . . .	52	- 4	1.2	+ .4	Greensboro . . .	61	- 3	.2	- .5	Yakima . . .	63	+ 6	0	- .1
IOWA.Burlington . . .	55	- 4	1.2	+ .3	Hatteras . . .	65	0	.5	- .3	W.VA.Beckley . . .	51	- 7	2.2	+1.2
Des Moines . . .	56	- 2	1.5	+ .7	Raleigh . . .	63	- 3	.1	- .8	Charleston . . .	56	- 7	2.0	+1.2
Dubuque . . .	53	- 2	.3	- .6	Wilmington . . .	67	- 1	.2	- .4	Huntington . . .	56	- 6	1.7	+ .9
Sioux City . . .	59	+ 1	.5	- .2	N.DAK.Bismarck . . .	54	0	T	- .4	Parkersburg . . .	56	- 6	1.7	+ .9
KANS.Concordia . . .	59	- 1	1.3	+ .6	Fargo . . .	53	0	.1	- .3	WIS.Green Bay . . .	50	- 7	.1	- .6
Dodge City . . .	61	0	.6	- .1	Williston . . .	56	+ 3	T	- .3	La Crosse . . .	54	- 2	.9	+ .1
Goodland . . .	54	- 1	1.2	+ .7	OHIO.Akron-Canton . . .	53	- 4	1.5	+ .6	Madison . . .	51	- 2	.1	- .6
Topeka . . .	61	- 1	.4	- .6	Cincinnati . . .	58	- 3	2.0	+1.1	Milwaukee . . .	47	- 4	T	- .7
Wichita . . .	63	- 1	.6	- .3	Cleveland . . .	53	- 1	1.2	+ .4	WYO.Casper . . .	47	- 4	2.3	+1.8
KY.Lexington . . .	56	- 5	2.3	+1.5	Columbus . . .	54	- 4	1.8	+ .9	Cheyenne . . .	46	- 4	1.3	+ .8
Louisville . . .	59	- 2	2.3	+1.4	Dayton . . .	56	- 3	2.0	+1.2	Lander . . .	49	- 2	1.2	+ .5
LA.Baton Rouge . . .	75	+ 2	.1	- .8	Toledo . . .	54	- 1	.9	+ .1	Sheridan . . .	55	+ 3	T	- .5
Lake Charles . . .	74	+ 1	.4	- .6	Youngstown . . .	51	- 4	1.3	+ .4	P.R. San Juan . . .	81	+ 3	1.1	- .3

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

## CONDENSED STATE SUMMARIES

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

**ALABAMA:** Minimum readings in 30's early in week were lowest of record for so late in spring over much of State. Increasing cloudiness and much warmer by Thursday with scattered showers beginning in northern sections and becoming statewide by Saturday. Temperatures for week a little cooler than usual. Rainfall quite variable locally but moderate in most sections. Cold weather early period slowed crop development statewide. Light frost damaged young cotton several northern counties and many fields will be replanted. Packing rains and hail will necessitate replanting additional fields central and southern counties. Cotton getting off to slow start due cold weather, but 3/4 crop planted, compared with 2/3 year earlier. Corn made favorable progress with earliest fields being cultivated and fertilized. Statewide, 2/3 corn planted, same as last year. Peanut planting about 4/5 complete, but many stands uneven. Recent rains will aid small grain and potatoes. Vegetable crops making satisfactory progress, but need warm weather. Pastures providing good grazing. Livestock good condition.

**ALASKA:** April weather was on the cold side with spotty precipitation, mostly on the short side. This past week, mostly cool daytime and near normal nighttime temperatures. Still a few freezing temperatures at night. Precipitation mostly average or above. Continued wintry conditions most areas resulting later spring farm activities. Planting small grains and potatoes Tanana Valley and Kenai Peninsula expected to begin about last week of May. Some vegetable planting Matanuska Valley began late April. Small grain and potato planting expected to begin May 15. Fields higher elevations still snow-covered along most of Rail-Belt. Grass mostly dormant. Livestock condition generally good with minimal losses.

**ARIZONA:** Temperatures were below normal over State most of week. Showers fell at higher elevations in northern part of State on 6th and 7th but most weekly water totals were light. Strong winds and blowing dust occurred most agricultural sections. Cotton developing slowly due below normal temperatures since mid-April. Stands generally good, although spotty some later-planted fields. Squaring reported early fields Yuma area. Small grain prospects good. Cool weather favorable for filling. Many fields turning color. Considerable lodging barley. Planting sorghum continues limited scale, emergence, growth slow. Green bugs causing serious damage many fields. Harvest sugar beets underway. Yield prospects favorable. Alfalfa hay harvest active. Spring lettuce harvest active. Yuma cantaloupes progressing satisfactorily. Harvest grapefruit, valencia oranges limited scale Yuma, Salt River Valley. Ranges poor to fair. Supplemental feeding, hauling stock water continue. Livestock fair condition. Cattle culling heavier than normal.

**ARKANSAS:** Weekly temperatures averaged from low 60's to 70°. Daily extremes: 33° to 89°. Showers rather general over State during week occurring midweek and over weekend. Largest amounts 2.00 to 3.00 inches southwest. Weekend rains and warmer weather highly beneficial crop growth and germination. Soil moisture mostly adequate. Cotton about

2/3 seeded. Considerable acreage up to stand. Earlier cool weather hurt young seedlings, causing some replanting. Rice acreage virtually all seeded. Most fields up to stand. Soybean planting gaining momentum. Corn planting virtually complete. Sorghum planting progressing and coming up. Hay crop improving. Alfalfa hay being cut. Fruit prospects continue favorable. Tomatoes staked, pruned. Early fruit set good. Strawberry picking in progress, but late. Early varieties slow ripening. Planting vegetable crops well along. Pastures improving, still not furnishing normal grazing many areas. Livestock satisfactory.

**CALIFORNIA:** For 3d week average temperatures below normal. Negative departures from zero in extreme north to 6° southern Sierra and low desert. Rain on several days northern 2/3; snow at higher elevations. Total amounts generally less than 0.50 inch except in mountains. Dryland wheat and barley good north, mostly fair to poor southern areas. Some barley harvest Desert. Alfalfa growth slow. Oats being cut for hay and silage. Sugar beets mostly planted; weeding and thinning. Some cotton replanting underway due damping off and hail damage. Corn planting continues. Rice mostly planted. Milo and bean planting continues. Cool, wet weather slowing growth deciduous fruit. Cherries ripening. Thinning peaches, plums, and nectarines; brown rot problems anticipated. Harvest navel oranges winding up; valencia harvest increasing. Loss due frost damage greater than anticipated. Valley ranges drying; higher ranges good condition. Cool weather slowing mountain growth. Lambs moving to market; shearing continues. Moderate volume broccoli, cauliflower Salinas Valley and Santa Maria. Oxnard cabbage supplies moderate volume. Carrot digging Imperial Valley peak level. Carrot harvest Coachella Valley to be completed May 20. Cutting celery active Oxnard District. Steady supplies moving from Orange County. Harvest sweet corn Coachella Valley to begin this week. Lettuce cutting increasing Salinas, Watsonville, King City area; good volume Santa Maria, Guadalupe. Movement late spring potato crop Kern County slow. Strawberry harvest active all districts. Rain caused scattered damage. Planting sweetpotato crop underway Merced and Fresno Counties. Light picking market tomatoes Imperial Valley. Tomatoes for processing damaged Merced County frost and hail.

**COLORADO:** Warm and dry first of week; cool, cloudy, rainy, latter part with snow some mountain areas. Precipitation totals light to moderate except heavier amounts 0.50 inch to over 1.00 inch northeast plains and southwest. Hail some eastern localities. Limited fieldwork most areas. Spring barley 93% seeded, 66% emerged. Spring oats 92% seeded, 76% emerged. Seeding corn, potatoes and sugar beets 29, 54, 84% complete, respectively. Seed germination and emergence slowed by cool temperatures. Sugar beets 38% emerged and late summer potatoes 18%. Condition all small grains excellent. Winter wheat 67% jointed, winter barley 49%. Condition alfalfa excellent. Insect damage light. Light freeze damage to peaches in bud. Range and pastures improving. Livestock good.

FLORIDA: Ridge of high pressure dominated Florida weather. Temperatures averaged 2° to 5° below normal as record-low temperatures on Tuesday morning offset daily high temperatures near 90°. Precipitation was scattered with most sections recording from 0.10 inch to 0.50 inch. Scattered severe thunderstorms with some isolated hail and rainfall amounts near 1.50 inches. Soybean planting begun. Corn, peanut planting nearing completion. Tobacco good stands. Sugarcane under irrigation. Drought in south Florida critical. Central very short on grass. North fair to good. Recovery potential stressed pastures uncertain. Supplemental feeding continues. Citrus tree condition good to poor. Good maintained by irrigation. Reserve water low. Nonirrigated groves showing wilt. Valencia harvest heavy. Grapefruit declining. Rough conditions continue vegetable areas, irrigation needed. Warm days, cool nights not conducive to growth. Spring vegetable, potato and melon shipments continue increase. Harvest progressing northward. Most commodities available. Shipments led by potatoes, sweet corn, cabbage, tomatoes, celery. Melon, cucumber harvest increasing. Hastings potato supplies expected increase this week, with full volume until late May.

GEORGIA: Cold beginning of week with below freezing temperatures in mountainous areas and near 40° in extreme south. Scattered frost reported over north. Most places reported record low temperatures for May and for so late in spring. Lowest reported was 26° at Blairsville. Near normal temperatures returned as the warming trend set in late in week. Averages for week were 1° to 5° below normal. Scattered showers occurred extreme north midweek and more widespread showers occurred May 8. Several tornadoes in central, with numerous occurrences of hail in central and south on May 8th. Rainfall exceeded 2.00 inches in a few places in thundershowers, but amounts were mostly less than 0.50 inch. Soil moisture adequate most areas. Planting very active but still lagging. Cool temperatures hurting most crops. Cotton 3/4 planted, about 1/2 up. Much replanting necessary. Corn 88% planted and no blight reported. Peanut planting made big jump, now 90% complete. Soybeans about 15% planted. Small grain prospects bright. Cattle and pastures mostly good. Some frost damage to apples and crops north. Truck crops fair to good with considerable hail damage southwest.

HAWAII: Clear, dry weather favorable for crop growth and maturity. Irrigation increasing seasonally. Sugarcane harvesting active all plantations. Picking pineapple on uptrend. Supplies bananas light. Papayas increasing with warm weather and longer hours daylight. Vegetables ample supply. Watermelon harvesting increasing. Cattle and pastures continue fair to good.

IDAHO: Temperatures for week averaged 2° to 10° above normal with greatest departures southwest and north. No freezing temperatures reported agricultural areas. Highest temperatures were in 80's except in 70's higher valleys. Precipitation was scattered and light, mostly coming as showers or thundershowers midweek north to end of week east. Oakley, Cassia County, recorded 0.57 inch for the greatest reported. Totals elsewhere ranged zero to 0.49 inch. Crops reacting favorably to warmer weather. Previous rains caused some crusting which is hampering sugar beet emergence. Moisture good all areas. Range

and pasture forage supplies excellent. Potato planting 60% complete southwest, about 25% elsewhere. Fruit bloom and set very good.

ILLINOIS: Rain averaged just under 1.00 inch north and from 1.00 to 2.00 inches central and south. Temperatures averaged from 4° below normal north to near 2° below central and south. Two-thirds Illinois corn crop planted compared 1/5 year earlier. Most advanced districts are west, central, and west southwest, each reports 4/5 planted. Corn reported good most areas State despite some yellowing and uneven stands. Germination slowed by cool temperatures. Farmers received welcome rain most areas. Soybeans 10% planted, 2% last year. Planting most advanced southwest. Winter wheat and oats mostly good, growth slowed many areas. Red clover and alfalfa hay mostly good condition, alfalfa weevil some areas. Pastures fair to good, growth slower than usual supplying 70% livestock roughage requirement. Soil moisture short by 41%, adequate 54%, surplus 5%. Average 5 days suitable fieldwork. Main activities corn and soybean planting, seedbed preparation.

INDIANA: Needed rains ranged from 1.00 inch north to 2.00 inches south. Air and soil temperatures below normal. Soil temperatures in 50's except lower near Lake Michigan. Air temperatures from 29° to 40° morning of 3d but above freezing after the 4th. Growing degree days below normal, except above normal extreme southwest. Four days suitable fieldwork. Both topsoil and subsoil moisture rated short to mostly adequate. Corn 40% planted, 20% average. Corn 10% emerged. Stands fair to good. Soybeans 5% planted, same as average. Oats 4 inches high, 5 usual. Wheat 5% headed, same as usual. Barley 20% headed, same as usual. Pastures remain fair.

IOWA: Temperatures seasonal. Precipitation moderate to heavy south, light north. Hard freeze 3d in north and west, frost elsewhere. Tornado and hail with severe thunderstorm southwest on 5th. More than 5 days suitable allowed fieldwork to progress rapidly. Plowing for 1971 crops nearing completion. Nearly 60% corn acreage planted, 65% last year and 5-year average above 30% planted. About 5% corn emerged. Soybean planting started, about 5% in, same as last year, 5-year average near 5% sown. Pastures providing average to below-average forage. Growth spurred late week by rains. Topsoil moisture reports indicate 24% short, 71% adequate and 5% surplus.

KANSAS: Significant rains southwest, northeast and central. Generally 0.25 inch to 1.00 inch, locally over 2.00 inches. Light to moderate precipitation elsewhere. Weekly mean temperatures averaged normal to below normal. Daily temperatures extremely variable, maxima ranged from 90's southwestern Kansas 4th to 50's northwest on 6th. Minima generally above freezing entire period. Row crop planting progressed well. Corn 58% planted, 43% last year, 40% average. Sorghums 12% planted, 4% last year, 5% average. Soybean planting limited to few fields eastern areas. Some cutting alfalfa hay southeast and south-central. Wheat 27% headed, 24% average. More than half State short topsoil moisture, compared with about 1/4 week earlier. Pastures and ranges supplying 3/4 livestock roughage requirements, compared 1/2 week earlier. Cattle remain on graze out wheat.

**KENTUCKY:** A cool wet week. Temperatures averaged 1° to 7° below normal, coolest in south, Bluegrass, and east. Rainfall occurring chiefly 5th to 8th totaled 2.00 to 3.00 inches in most areas, more than 4.00 inches south-central and eastern points, less than 0.60 inch one area in southwest. Some flooding in east over weekend, chiefly along areas of upper Cumberland and Big Sandy Rivers. Possible tornado southern Bluegrass afternoon of 6th with no injuries reported by considerable wind damage. Only 3 1/2 days favorable fieldwork result of mid-week rains. Soil moisture mostly adequate to surplus. Corn planting 69% completed, soybean seeding just underway. Corn slow to emerge, poor stands necessitated some replating. Ground preparation for setting tobacco, plants variable. Growth in beds retarded by cold, dry weather. Small grain growth slowed, barley near fully headed, wheat reported 43% in head. Good apple and peach crop expected, generally escaped freeze damage. Pastures improving.

**LOUISIANA:** Temperatures 2° to 4° above normal except extreme east where 1° to 2° below. Cool beginning, mild to warm remainder. Scattered showers and thunderstorms Thursday through weekend. Rain totals moderate to heavy north and central, moderate to light or locally none south, especially southeast. Temperature extremes: 89° Baton Rouge and Bogalusa Thursday; 42° Calhoun and Tallulah Tuesday. Greatest 24-hour rain amount 3.15 inches at Bunkie measured 8 a.m. Friday. Planting slowed by dry soil, but fair to good progress made central and northeast. Rains on Thursday halted fieldwork over northern half State. Dry soil slowing operations south. Cotton planting advanced to 70% completion, corn 95%, rice 95%, soybeans 15%, all about same as year ago. Early planting showing mostly good stands, but some replanting necessary. Soil moisture still short south and limiting growth sugarcane and corn. Haying active south, mostly rye grass and oats. Pastures improved, but still below average. Livestock mostly good condition.

**MARYLAND AND DELAWARE:** Beneficial rains on 5th, 8th totaled mostly 1.00 to 2.50 inches in north and west and 0.50 to 1.00 inch in south and east. Weekly maximum was 3.10 inches at McHenry in Garrett County, Maryland. Temperatures, below normal for 2d week, averaged 1° to 4° below normal in east and 4° to 6° below normal in west. Extremes mostly low 70's to low 80's except in 60's in Garrett County, mid-30's to low 40's except mid-20's to mid-30's in west. Soil moisture adequate west and north, shortage elsewhere. Corn planting chief farm activity, 40% planted, average 31%. Rains timely for small grain. Barley nearly all headed south. Wheat approaching heading stage. Hay and pasture growth short. Vegetable planting continues. Strawberry harvest expected to start about May 20 in south. Tobacco marketing work will be active if humidity remains high.

**MICHIGAN:** Temperatures for week averaged from near normal to 2° below normal. It was cold early in week with minimum temperatures on 3d and 4th in mid- to upper 20's in many areas including the fruit regions of western Lower Michigan. There was a gradual warming trend remainder of period. The extreme southern portions of Lower Michigan received from 0.75 to slightly over 1.00 inch of moisture. Other than this, the remainder of State received insignificant amounts of precipitation. Cool weather retarded fruit bud development and dry soils slowed crop growth. Soil moisture short southern and central Lower Peninsula,

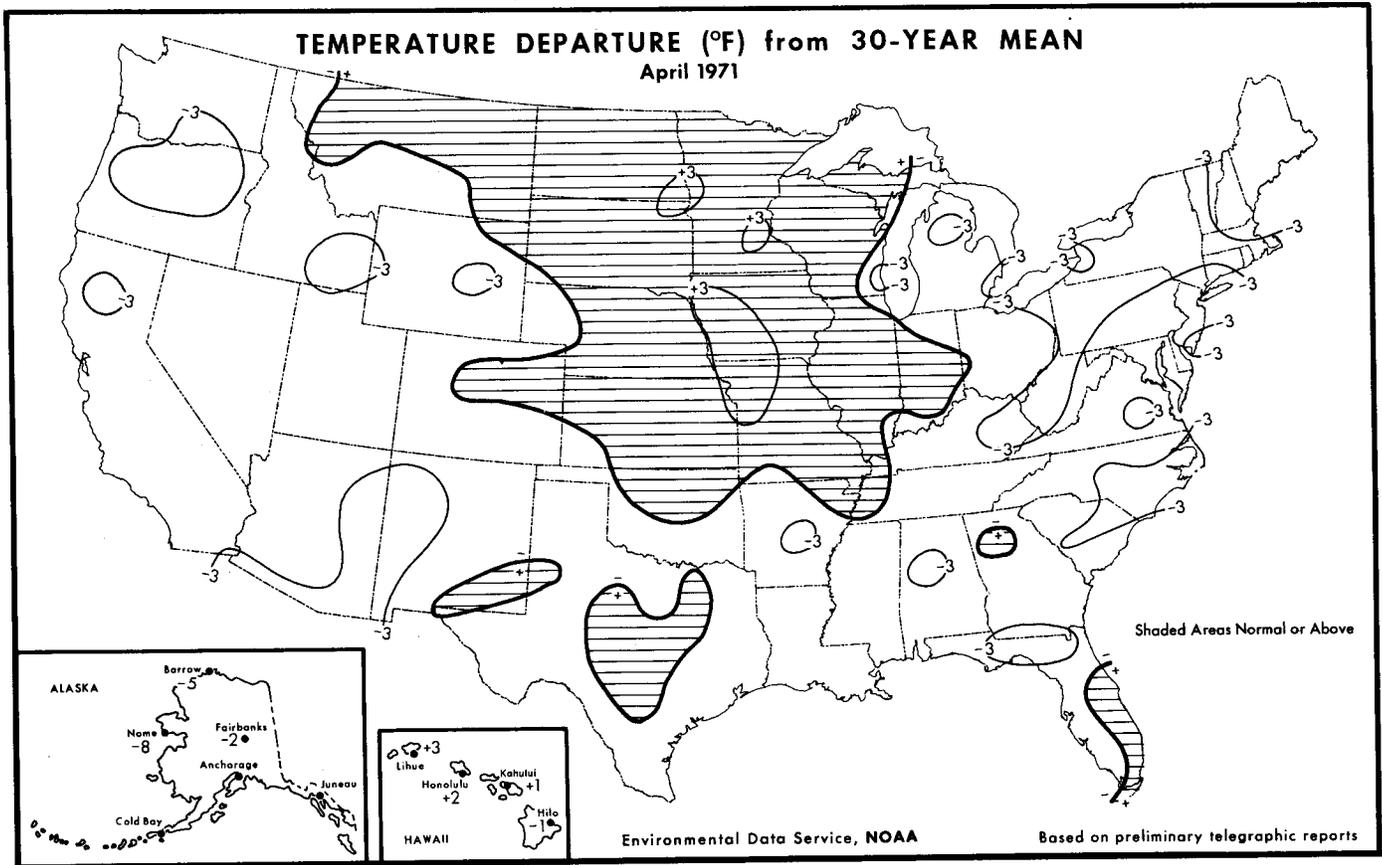
adequate Upper Peninsula and northern Lower Peninsula. Fieldwork progress ahead of normal. State averaged 5.5 days suitable fieldwork. Over 70% acreage plowed for spring planted crops. For State: Oats over 80%, sugar beets 90%, fall potatoes 35%, corn 40% planted. Dry soils and cool weather retarded growth wheat, alfalfa, pastures, and germination oats, corn, and sugar beets. Fruit bud development less than normal. Sweet cherries in bloom, plums and peaches partial bloom, tart cherries starting bloom southwest, less advanced elsewhere. Apples pre-pink southwest. Cold dry weather delayed start asparagus harvest.

**MINNESOTA:** Temperatures were normal during week. Extremes: 82°, 16°. Generally sunny and dry conditions across State. Western half received little or no precipitation, eastern half about 0.25 inch, except eastern part of southeast district which received about 0.75 inch of rainfall. All lakes clear of ice. Moisture since April 1, about 50% of normal across State, normal 3.00 inches. Corn planting south and small grain seeding north progressed rapidly during week. Percent small grain seeded: Spring wheat 75, normal 49; oats 80, normal 62; barley 62, normal 36; flax 48, normal 31. Small grain emergence ahead normal. Corn planted 36%, normal 22%; soybeans 3%, normal 2%. Planting peas, sweet corn, sugar beets, potatoes ahead normal. Top-soil moisture generally adequate, except short to adequate west-central and southwest districts; subsoil moisture adequate. Rye, hay fields, and pastures fair to good condition, winter wheat fair.

**MISSISSIPPI:** Fair except for severe thunderstorms on 6th and during weekend. Record-low temperatures for May at Jackson, Tupelo, and other locations on 4th. Mostly small hail on 6th, some golf ball size reported. Weekly rainfall totals Friday morning ranged from zero in coastal area to over 2.00 inches in scattered sections. Weekly temperature averages were mostly 6° to 9° below normal. Over the weekend, rainfall totals ranged from 0 to 1.55 inches at Scott with most locations around 1.00 inch. Tornado on 9th at Singleton with 1 death and several injured. Other tornadoes on 8th without casualties at Auburn community north of McComb, to north of Fontainebleau near junction Interstate 10 and Highway 57, and at 8 miles north of Moss Point. Soil moisture mostly short to adequate southern counties, remainder adequate to surplus. Average 4 1/2 days suitable fieldwork. Winter wheat 10% ripe, 5% harvested. Oats 5% ripe, 3% harvested. Corn 63%, cotton 51%, soybeans 16%, sorghum 27%, sweet potatoes 18% planted. Cotton 15%, corn 50%, soybeans 2% up to stand. Cotton, corn, soybeans, Irish potatoes, peaches and truck crops mostly fair to good. Pasture and livestock fair to mostly good.

**MISSOURI:** Week started cold with frost or freezing temperatures on Monday, May 3. Frequent showers brought substantial rainfall to eastern half of State, but amounts were well below normal in western 1/3. Tornadoes occurred in Joplin and Rothville and Marceline areas. Hail at many locations Wednesday, May 5, but crop damage was minimal due to earliness of season. Crop growth retarded due cool temperatures and, in western 1/3 State, lack of rainfall. Farmers were able to work fields 5 days. Nearly 80% corn in the ground. Grain sorghum planting 1/3 complete. About 4/5 cotton planted. Soybean planting progressing with 16% crop in. 20% wheat crop headed. Overall wheat crop in fair condition. Soil moisture is adequate.

(Continued on page 10)



#### WEATHER - April 1971

**TEMPERATURE:** April temperatures averaged above normal over the northern and central Great Plains, in a small area in central Texas and along the east coast of the southern half of the Florida peninsula, and below normal over most of the rest of the Nation.

The Far West experienced relatively cool weather throughout the entire month of April. The Great Basin, the Rocky Mountains, and the western edge of the central Great Plains averaged warmer than normal through the first half of April but cooled quickly shortly after midmonth. Ely, Nev., registered 18° and Bryce Canyon, Utah, 15° on the morning of the 19th, and Truckee, Calif., recorded 13° on the 21st. Many stations in the Great Basin averaged several degrees cooler in the 4th week of April than in the 2 previous weeks. The Northeast also cooled in the last 10 days of April. In contrast, spots in southern Texas and the Florida Peninsula recorded record high temperatures in the last 10 days of April. The mercury at Galveston, Tex., reached 86° on the 23d. This is the highest temperature of record for so early in the season at Galveston. Similar temperature records were equaled or exceeded in the Florida Peninsula.

**PRECIPITATION:** Sunny cloudless skies prevailed over much of the Nation in the first 10 days of April. Most of the Southwest quarter of the Nation received no rain and only light scattered sprinkles fell in the Great Plains. Strong winds filled the air with sand and dust in the Great Basin and in the western portions of the Great Plains.

A low pressure system crossed the Florida Peninsula and moved northward along the Atlantic

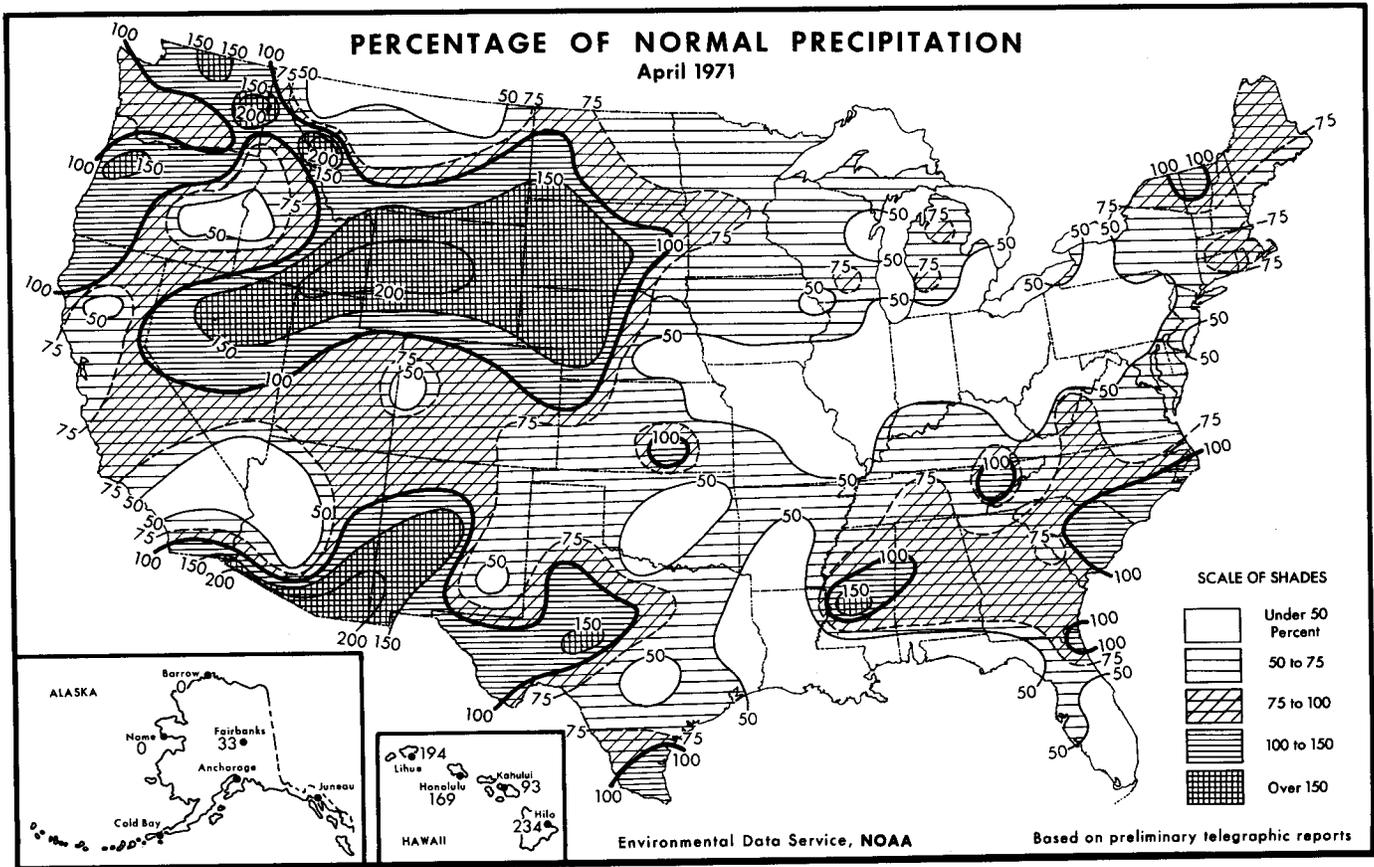
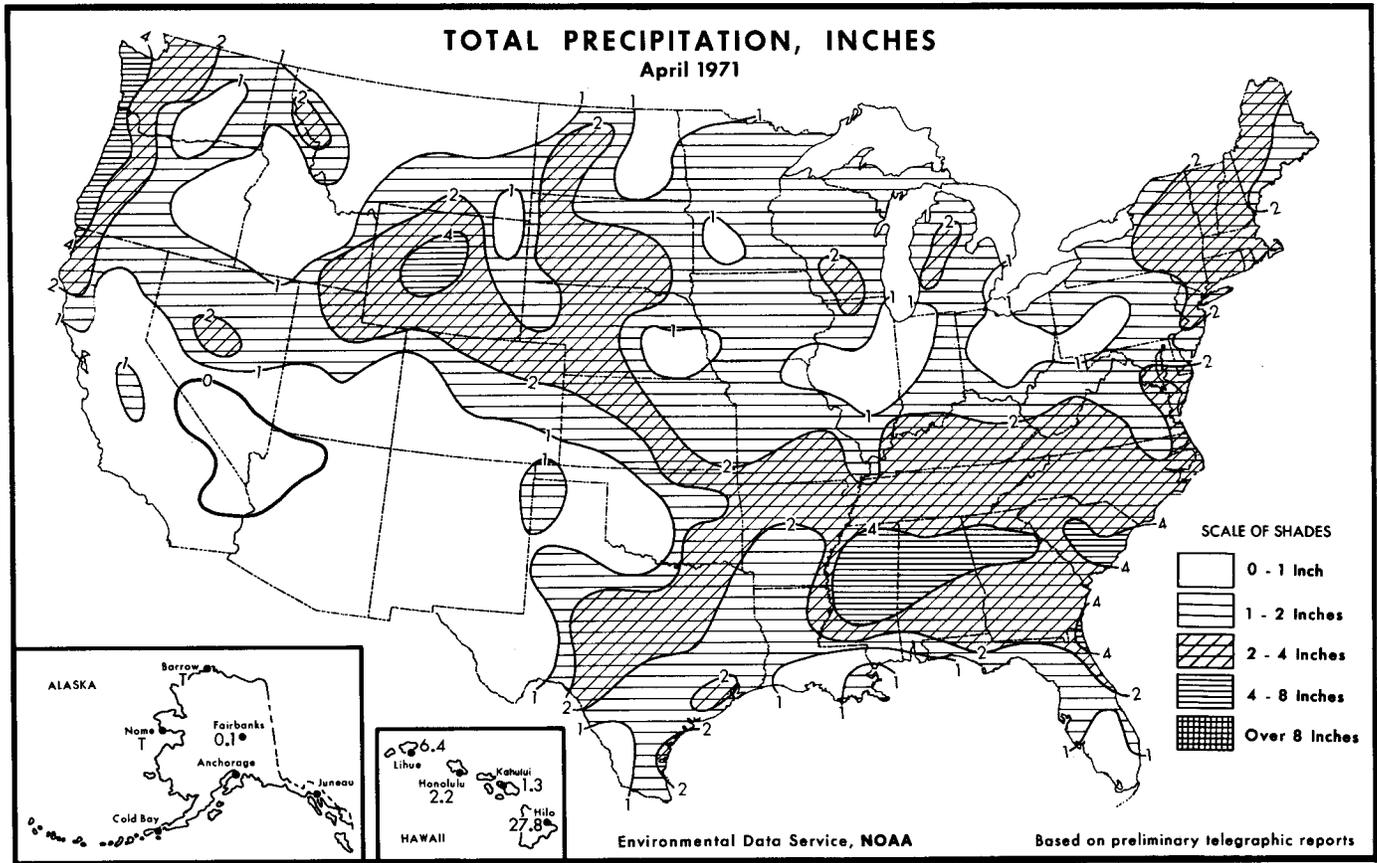
coast bringing 1.00 inch or more of rain to coastal areas from central Florida to southern New England. The drought in southern Florida intensified. Rain fell from the Lower Ohio River Valley to the southern Atlantic coastal States and heavy snow blanketed portions of Missouri and Illinois before spreading eastward to Tennessee, then northeastward to New England.

About midmonth, a Low off the California coast moved southeastward to northern Mexico. It produced some light to moderate showers in the thirsty area from southern California to western Texas and moderate to heavy showers over central and eastern Texas. The showers brought some relief to areas that had received little rain in several months and caused flash flooding along some of the streams.

The last 10 days of the month were especially stormy in parts of the Nation. A storm centered in the central Rocky Mountains dumped heavy snow in the mountains and heavy rains in the nearby Great Plains. Some streams in Nebraska and Oklahoma overflowed their banks. Large hail and a few tornadoes occurred in spots in the Deep South in the last week of April and another western storm dumped heavy snow in Rocky Mountains in Wyoming and nearby parts of neighboring States.

Monthly precipitation totals were generally less than 1 inch from California to western Oklahoma and extreme western Texas. Southern Florida received from about 0.05 inch to 0.75 inch. Totals exceeded 4.00 inches along the Washington and Oregon coast and from central Mississippi to northern Georgia. Elsewhere, April totals ranged, in general, from 1.00 to 4.00 inches, being greatest east of the Mississippi River and south of the Ohio River.

L. W. Dye



(Continued from page 7)

**MONTANA:** Scattered rains early in week, little or none eastern 1/3, locally heavy west Wednesday and Thursday. Warmest week of year to date, scattered frost confined to mountain valleys. Soil moisture adequate. Winter wheat 15% excellent condition, 80% good and 5% fair. Percent planted: spring wheat and barley, 70, oats 60, sugar beets 90, and potatoes 30. Cattle and sheep good to excellent condition. Calving 90% complete. Lambing and shearing 85% complete. Range cattle 45% and range sheep 40% receiving supplemental feed. Range cattle and sheep moving to summer ranges.

**NEBRASKA:** Seasonal temperatures. Cloudy weather with frequent showers. Precipitation totals light from southwest to north-central, moderate to heavy elsewhere. Rains beneficial to crops, but have slowed row crop planting. Wheat continues to make good development with conditions from good to excellent. Spring small grains making favorable progress. Corn planting advanced to 25% complete; prior to precipitation; normal 35%. Few acres sorghum and soybeans planted. Sugar beets emerging to good stands. Condition hay crops improving. Livestock good with cattle starting move to pastures and ranges.

**NEVADA:** Cold wet week. Temperatures all stations below normal. Moderate precipitation in northwest, heavy precipitation in northeast with Wells reporting 2.39 inches. Light to moderate in south with 0.74 inch in Las Vegas. Planting spring crops still in progress. Cutting 1st crop alfalfa hay nearing completion southern valleys. Planting cotton continues Pahrump Valley. Ranges good northern part State, but dry southern areas and moisture needed. Calving and lambing well along, except northeast areas. Death losses about normal.

**NEW ENGLAND:** Week cold and wet with rain daily somewhere. Heavy rain general early in week and in Massachusetts over the weekend. Rainfall totals mostly 1.00 to 2.00 inches but some from 2.00 to 3.00 inches along line from northwestern Connecticut to central Maine. Temperatures averaged 1° to 5° below normal except near normal in coastal Maine. Subfreezing 1 or more mornings in much of north and locally on 7th as far south as northwestern Connecticut. Growing season still running 7 to 14 days late. Fieldwork delayed due to unsettled weather. Early vegetables still being planted, but growth almost at standstill. Potato planting full swing southern areas and just starting Aroostook County, Maine. Apple buds in tight cluster to more advanced stage. Peaches in early bloom. Field corn planting should get underway this week. Soil moisture adequate in all areas, except surplus northwestern Vermont.

**NEW JERSEY:** A cold wet week with temperatures averaging from 3° to 6° below normal. Rain nearly every day averaged 1.00 inch over north and about 0.70 inch elsewhere. Weekend rainfall very beneficial. Warm weather now needed to improve germination and growth of early crops. Asparagus production slowed by cool dry weather past few weeks. Limited volumes spinach and greens moving. Preparation and planting most crops on schedule. Early-planted potatoes are up. Apples, blueberries and strawberries in bloom. Field corn planting has begun. Fall seeded grains growing nicely. Pasture conditions will improve due rains.

**NEW MEXICO:** Light showers mostly second half of week in northern half of State, with totals near 0.50 inch along Colorado border. Continued dry in south. Temperatures averaged below normal except in southeast. Warmest Monday. Much cooler midweek with minor warming on weekend. Surface and subsoil moisture are extremely short supply. Most dryland wheat grazed out. Irrigated wheat fair to good condition. Cotton up to stand. Alfalfa 1st cutting underway. Lettuce cutting active. Ranges very dry. Stockwater short supply. Livestock fair condition. Heavy supplemental feeding continues.

**NEW YORK:** Cool week although temperatures near normal middle of period. Maximums in low 40's interior on 3d warming to 65° to 70° on 3 days through 7th. Minimums mostly 35° to 45°. Precipitation early week totaled from 0.90 to 1.25 inches northern and east-central, decreasing to 0.10 to 0.30 inch southwest and near Great Lakes. Additional rain 8th, 9th totaled mostly 0.50 to 1.00 inch southern half with 0.25 inch or less northern 1/3. Snow cover 12 to 18 inches remains in western Adirondacks as of May 7th. Cool weather and rain restricted field activity to about 3 to 4 days. Soil moisture adequate most areas. Plowing, fitting and planting continues, weather permitting. Oats about 35% planted, some emerging. Corn 5 to 10% in. Pastures and hay growth behind normal. Wheat fair condition central areas, good elsewhere. Long Island potatoes ready to break ground. Upstate potato planting resumed following rain; starting mucklands. Early-seeded onions Orange County and Elba area emerging. Lettuce 1/2 planted Orange County. Celery transplanting continues. Sweet corn 40% planted Hudson Valley. Fruit development still slow Hudson Valley and Western N. Y. Spraying and fertilizing programs continue. Sweet and tart cherry blossoms beginning to appear western areas and Hudson Valley. Warm days will bring blossoms out rapidly. Grape tying, weed spraying and fertilizing continues.

**NORTH CAROLINA:** Average temperatures unchanged 4th consecutive week. Now 5° below normal. Highest in 80's, lowest near 40° except some frost and freeze mountains. Showers 7th through 9th with amounts variable trace to 1.00 inch averaging 0.50 inch. Weather during work week mostly fair, but some showers northern mountains and western slopes. Soil moisture mostly adequate, except short northeast and southwest. Weekend rains will improve moisture northeast. Crop plantings accelerated. Corn and cotton 80% complete, tobacco 45%, peanuts 40% and soybeans 15%. Cool weather slowed plant growth. Small grains mostly good. Tobacco in fields fair northeast, good southeast and fair to good other areas. Tobacco plant supplies mostly adequate, except short some local areas. Condition peaches, Irish potatoes, vegetables, and pastures mostly good.

**NORTH DAKOTA:** Temperatures average near normal southeast to 3° above normal northwest. Rainfall mostly less than 0.10 inch except in west-central where amounts to 0.75 inch fell over weekend. Fieldwork and seeding made good progress. Small grain planting nearing completion southeast, slower elsewhere. Early-seeded small grains have emerged to good stand, but weeds becoming problems. Pastures making good growth. Cattle good with calving and lambing nearing completion.

**OHIO:** A cloudy wet week. Five locations reported more than 2.00 inches of rain on 6th. Findley received 4.04 inches in 3 days, 5th to 7th. Weekly rainfall amounts averaged 0.90 inch in northeast to 2.30 inches in southwest. Wide-spread cloudiness kept temperatures below seasonal levels much of week. Some locations reported above-normal temperatures for first time in 18 days on 9th. Record or near-record low temperatures were recorded on 4th. Five days favorable fieldwork. Rain improved soil moisture supplies. Soil moisture now 21% short, 70% adequate, and 9% surplus. Plowing for corn and soybeans virtually complete, last year 85%, usual 75%. Corn planting 70% complete, last year 30%, usual 25%. Soybeans 10% planted, last year and average 5%. Potato planting nearly 80% finished, last year 45%, normal 55%. Livestock obtaining 40% forage requirement from pasture compared with 55% last year.

**OKLAHOMA:** Rainfall averaged 0.04 inch in Panhandle, to 2.34 inches southeast. Temperatures averaged from 2° below normal to 2° above normal. Extremes: 97° and 39°. Severe storms caused approximately \$400,000 damage eastern part of State on 5th. Weekend rains materially improved soil moisture except northwest of State. Wheat condition remained about steady with some improvement central district. Crop rapidly maturing, now 85% headed, 11% dough, slightly ahead year ago. Oats and barley some improvement. Oats nearly 3/4 headed, 1/10 dough, sharply ahead year earlier. Barley about 90% headed, 6% dough. Planting row crops made little progress, but seedbed preparation good headway. About 25% acreage corn up to stand, 44% planted. Grain sorghum 7% in. Only small acreage cotton, peanuts, soybeans seeded, but momentum expected to pick up following rains. Slightly over 1/5 1st cutting alfalfa complete, crop mostly poor to fair result drought and insect damage. Livestock condition improved, some supplemental feeding and culling of herds continues western Oklahoma.

**OREGON:** Mild sunny week provided warmest days of season with 1 to 3 showery days mostly mid-period. Temperatures averaged near normal west of Cascades and 3° to 10° above on east side. Weekly minima 33° to 46° except 26° to 31° at higher locations east side. Maxima 58° to 60° central coast with elsewhere 66° to 79° except 84° to 90° along north-central and east-central borders. Several days of light showers throughout week totaled mostly 0.05 to 0.15 inch except 0.83 inch at Lakeview and 1.00 inch at Burns. Farmers busy with spring fieldwork and crop planting. Planting sweet corn and bush beans active. Some early plantings emerging. Tree fruit prospects continue to look good. Orchard ground being worked down. Strawberrys in bloom. Red and black raspberry bud clusters out. First spring lambs moving to market.

**PENNSYLVANIA:** A cold wet week. Six-week drought broken at most locations. Low pressure dominated as rain fell on 6 days at many stations. Heaviest rains midweek with nearly 4.00 inches at Confluence during the 3-day period Wednesday to Friday. Greatest weekly totals were in southwest where over 2.00 inches reported all stations. Remainder of State received over 1.00 inch except along northern tier counties where only about 0.50 inch fell. Temperatures averaged nearly 6° below normal. The 4th straight week of subnormal temperatures. High, 76° at several stations on 5th.

Low, 26° at Eagles Mere on 4th. Recent rain improved prospect for germination and plant growth. Cool temperatures continued delay plant growth and development. Corn planting about 1/5 completed. Oat seeding winding up. Winter grain, hay and pasture behind schedule due cool temperatures, stand and color are good. Apple trees blooming south central. Early strawberries in bloom. Tomato planting started southeastern counties. Cutting asparagus south and central underway.

**PUERTO RICO:** Island average rainfall 1.40 inches or about normal. Highest amount 5.13 inches western interior stations. Good distribution except south coast where averaged about 0.10 inch. Crop moisture conditions generally near normal except too dry some sections south coast. Temperatures averaged 78° to 79° on coast and 74° interior or about normal. Highest maximum 93°, lowest minimum 56°. Sugarcane harvesting and grinding operations moving well. Good development ratoons and seeding young plantations made some progress. Coffee zones good progress cultivating and fertilizing. Tobacco continued good progress cutting and drying. Pastures generally good to excellent islandwide. Minor crops active seeding cultivating and fertilizing.

**SOUTH CAROLINA:** Very light rain at beginning of week. Amounts near 0.10 inch except 0.25 to 0.50 inch in 4 isolated locations. Thunderstorm activity beginning as week ended. Temperatures were 7° below normal as unusually cold air invaded the State. Most of State had lows in the 30's on the 4th and light frost was experienced in the northwest. Ample soil moisture practically all areas. Transplanting tobacco virtually complete, some resetting. Condition stands and plants good. Side dressing, cultivation, applying insect control. Corn 90% planted, virtually complete, eastern half State. Condition stands and plants fair to good. Cotton 80% planted. Much replanting early plants due recent cold weather. Stands and plants fair to good condition. Soybeans 6%, peanuts 60%, sweet potatoes 41%, sorghum 13% planted. Peaches fair to good; heavy premature drop Piedmont. Small grains, 85% headed, 6% turning color. Hoeing, thinning watermelons. Vegetable crops fair to good condition, cutting cabbage and side dressing. Cultivation tomatoes and cucumbers.

**SOUTH DAKOTA:** Weekly temperatures averaged from near normal to 4° above normal. Extremes ranged from 26° at Ralph on 6th to 83° at Wood on 3d. Precipitation fell mostly beginning and end of week with totals ranging from a trace to over 1.00 inch. The greatest amounts fell in southern part of State and Black Hills. Plowing and planting made good headway. Seeding small grains almost complete. West and north-central areas should finish this week. Plowing over 3/4 done. Many fields spring-seeded grains emerged and show good stands. Few low field pockets remain too wet to work. Cool night temperatures slowed plant growth and development, particularly extreme southern part State. Many areas reported light frost but little damage to crops. About 19% corn and 55% flaxseed planted. Pastures improving and more livestock moving to them. Wet weather caused local scour problems. Livestock generally good.

**TENNESSEE:** Temperatures averaged 3° to 5° below normal. Extremes: 83°, 31°. Rainfall light in west 1/3 of State, except locally

heavy in central portion on 6th and 7th. Good rains in east half, with greatest total, 3.38 inches, at Crossville. Tornado activity in Huntingdon area Friday evening caused at least three deaths, and around 100 injuries. Damage loss is expected to exceed \$2 million. Dry weather with few showers hastened planting. Cotton and corn planting remain ahead last year. Cotton nearly 65% planted, 2 weeks ahead last year's pace. Corn 70% acreage planted compared 40% last year. Small grains rapidly heading. Wheat 62%, oats 39%, and 76% barley headed. Few reports leaf rust on wheat. Alfalfa hay 1st cutting 5% complete. Tobacco plants making good growth. Some frost damage to plants. Pasture condition fair. Plowing 90% complete, still ahead last year's pace. Days favorable for field work 4.6. Soil moisture reported 34% short, 54% adequate and 12% surplus.

TEXAS: Showers increased during week with locally heavy amounts of 1.00 to 2.00 inches falling in central and East Texas Thursday and again Saturday. Locally heavy rains also fell in parts of southern High Plains and Low Rolling Plains Saturday while portions of northeast Texas received 2.00 to 3.00 inch downpours Sunday. The rains were most welcome but much more is needed to make a dent in the current drought. Dry planting conditions hampered planting activities throughout State. More rainfall will be required to revive depleted ranges, stimulate growth rates of spring-planted crops, increase planting rates. Planting deadlines for cotton, corn, and sorghum have arrived for southern tip finding many fields unplanted, due drought conditions. Texas irrigated wheat crops continue to improve, while dryland prospects look dim. Range conditions continue poor. Primary activities among Texas farmers and ranchers were tending livestock, planting, cultivation and irrigation. Percent planted to date: sorghum 47, 56 year ago; cotton 31, 38 year ago; corn 85, 93 year ago; rice 95, 89 year ago; peanuts 12, 21 year ago. Onion harvest nearing completion Lower Valley with shipments declining. Harvest Laredo, Coastal Bend also nearly completed. Harvest other spring vegetables gaining momentum Lower Valley with light to moderate supplies, sweet corn, green peppers, cantaloupes cucumbers, watermelons, honeydew melons available. Potato digging past peak Lower Valley, continues active Winter Garden. Cabbage, carrot harvest nearly complete all South Texas areas. Irrigated watermelons good prospects South Texas but dryland watermelons poor. High Plains potato, onions good progress. Carrots, cucumbers, tomatoes, peppers being seeded. Citrus harvest nearly completed Lower Valley. Peach prospects poor, harvest beginning south Texas. Pecans blooming and setting nuts.

UTAH: Recurring periods of rain and snow again during past week most sections of State. Locally heavy accumulations. Temperatures quite warm at beginning of period but cooled over weekend. Soil moisture adequate most agricultural areas. Accumulated growing degree days since March 1 continues well above year ago. No freeze damage of importance to date. Irrigation water in reservoir storage best ever in Utah history. Stream flow irrigation water outlook good most areas. Grain and sugar beets nearly all planted. Corn about 1/3 planted, potatoes just starting. Alfalfa hay fair to good all areas. Completion

now 90% for calving, 80% for shearing and 50% for lambing. Movement to spring range lands 60% completed for cattle and sheep.

VIRGINIA: Temperatures mainly normal to below with warmest at midweek. Light showers at beginning and mainly heavy showers and thunder-showers Wednesday through Saturday. Rain still needed except in southwest. Dry soils and low temperatures limited plant growth. Corn planting ranged from 9/10 complete southeast to 1/4 west. Tobacco plants remain small. Few flue cured fields set. Cotton 1/2 planted, peanuts 20% planted; soybean planting beginning. Pastures short. Feeding hay very heavy. Hay growth short. Small grains deteriorating. Setting tomato plants. Few strawberries picked.

WASHINGTON: West of Cascades: Average temperatures 3° above normal. Few scattered light showers, amounts less 0.10 inch. Corn and peas being planted. Early-planted peas coming up. First radish crop harvested. Berry crops making good growth. Strawberries starting to bloom. Pastures improving. Calves and lambs look good. East of Cascades: Dry and mostly sunny throughout week. Average temperatures 3° to 5° above normal. Apples in full bloom. Good set expected in stone fruits. Beet thinning, planting corn, training hops, and cutting asparagus continues. Asparagus quality and yield good. Few beet fields damaged by strong winds. Early-planted green peas showing good growth. Wheat and barley look good. Spring seeding about completed. Few stands spotty.

WEST VIRGINIA: Drought-breaking rains began May 5, ended May 8, and totaled over 2.00 inches most areas. Below-normal temperatures continued with frost May 4 many areas. Considerable warmup May 9. Major activities during week were plowing, mending fences, gardening and caring for livestock. About 4 days suitable fieldwork. Soil moisture adequate over most of State. Percent planted for spring oats, potatoes, and corn: 88, 81, and 20%, respectively. Pasture growth below normal due cool weather. Livestock good condition due supplemental feeding.

WISCONSIN: Pleasant spring weather. Sunny days and cool nights. Temperatures near normal. Extremes of 20° and 75°. Rain showers most areas on Tuesday. Main farm activity preparing corn ground. Nearly 20% corn planted, about same as last year. Oats seeding finishing up. Potatoes, peas, cabbage and sweet corn going in. Hay fields and pastures good, but slow due cool nights. Not many cows out. Manure hauling continues active. Soil moisture 85% adequate, remainder short.

WYOMING. Light to heavy showers most of State. Heavy amounts mostly in Wind River and Lower Platte Drainages. Wheatland reported most moisture with 3.57 inches. Temperatures averaged near to above normal most of Wyoming, well above in Bighorn Basin. Maxima mostly in 70's state-wide. Minima mostly 20's west of Divide, high 20's and 30's east. Temperature extremes: 80° at several stations and 18° at Fox Park. Fieldwork was slow, wet fields. Sugar beet planting falling well behind normal, less than 2/3 planted. About 20% emerged. Approximately 1/3 oats and 45% barley up. Soil moisture supplies adequate to surplus.

## OVERWINTERING OF HELMINTHOSPORIUM MAYDIS RACE T IN MISSOURI

by

Oscar H. Calvert<sup>1</sup>, James D. McQuigg<sup>2</sup>, M. S. Zuber<sup>3</sup>, A. Moustafa<sup>4</sup>

In early October 1970, leaves, leaf sheaths, ears with kernels and husks of Texas male sterile (cms T) corn hybrid (*Zea mays* L.) naturally infested with the T race of *Helminthosporium maydis* were collected on the University of Missouri (UMC) Bradform farm, 10 miles SE of Columbia. These dried plant parts were divided into 16 lots. Each lot was subdivided to make three overwintering survival treatments: (1) Placed in a 25-pound mesh bag held inches above the surface of the soil in an open clean-plowed corn field on the UMC Rollins Botton Nursery, 2 miles SW of Columbia; (2) Placed on the surface; and (3) Buried 8 inches below the surface of the soil. These three treatments simulated corn standing, lodged, and plowed under, respectively. Saran-screen cages covered the first 2 treatments to thwart removal by rodents. The treatments were placed in the field October 26 and sampled by lots at regular intervals through the winter. Samples were moistened and placed in 8-inch Petri-dish moist chambers for 3-4 days incubation for sporulation of the fungus. The incubated materials were immersed in 5 percent sucrose solution and subjected to one minute of comminution in a Waring blender. The resulting suspension was filtered through 20 x 14 mesh gauze and the concentrations of *H. maydis* spores were counted in 8 fields in a Levy haemocytometer.

Spores were power sprayed through a DeVilbiss nasal atomizer on to 5 leaf-stage of cms T and normal (N) cytoplasm hybrid seedlings. A Waltham humidifier running 30 seconds out of 60 furnished 100 percent relative humidity for the first 16 hours of incubation. After 2 weeks in the greenhouse at 26-28 degrees C., a disease index was obtained by multiplying the percent of each leaf affected with symptoms by 1 if only flecking was observed; or by 2 if there was leaf spotting without chlorotic halos; by 3 if halos surrounded the spots; by 4 if the leaf spots were coalescing, and by 5 if blighting was complete. This resulted in disease index values on the range 0 to 500.

Results.

The weather in the Columbia, Missouri, vicinity was somewhat colder and drier than normal during October 1970 to March 1971. (Table 1). Overwintering *H. maydis* Race T (except for samples from buried material) remained virulent and able to induce Southern Corn Leaf Blight on laboratory plants from October 1970 through March 1971. Transmission of the disease from the buried material was halted sometime between December 21 and January 18. (Table 2).

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- 2 Environmental Data Service, NOAA, U.S. Department of Commerce, and Atmospheric Science Department, University of Missouri, Columbia.
- 3 Agricultural Research Service, U.S. Department of Agriculture, and Agronomy Department, University of Missouri, Columbia.
- 4 Plant Pathology Department, University of Missouri, Columbia.

TABLE I  
WEATHER DATA FOR COLUMBIA, MISSOURI<sup>1</sup>

Year	Month	Temperature (F)				Precipitation (Inches)		
		Mean	Dep.*	Max	Min	Total	Dep.*	Snowfall
1970	Oct	56.0	-2.7	81	33	2.71	-0.41	0.0
	Nov	42.9	-0.4	70	10	1.37	-0.90	T
	Dec	37.4	+3.6	71	23	1.76	-0.20	4.0
1971	Jan	27.2	-3.1	61	3	1.62	-0.09	1.0
	Feb	32.2	-1.6	69	-2	2.39	+0.58	2.2
	Mar	41.8	-0.1	82	16	0.78	-1.87	1.9

\* Dep = departure from normal

<sup>1</sup> National Weather Service Station, Regional Airport

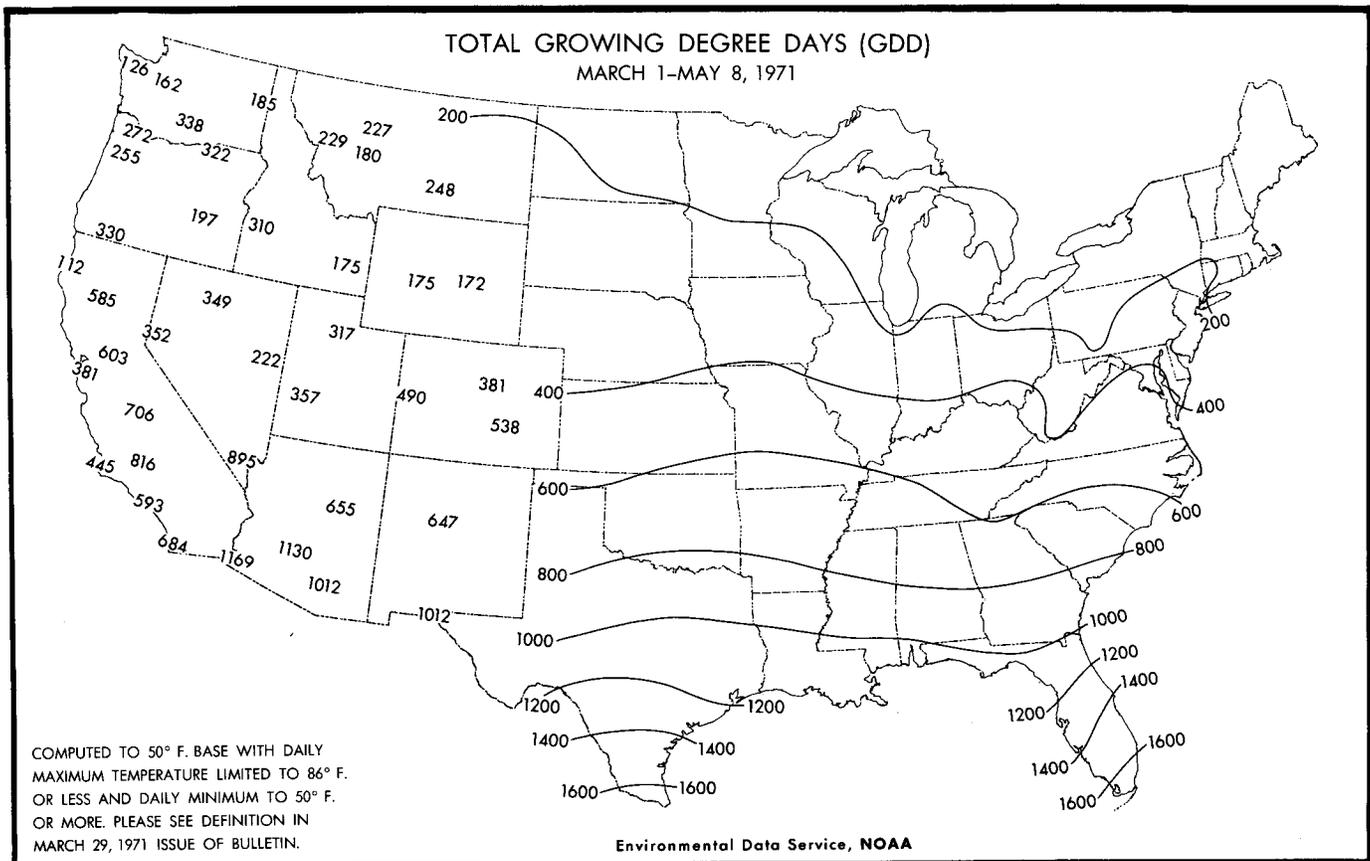
TABLE II

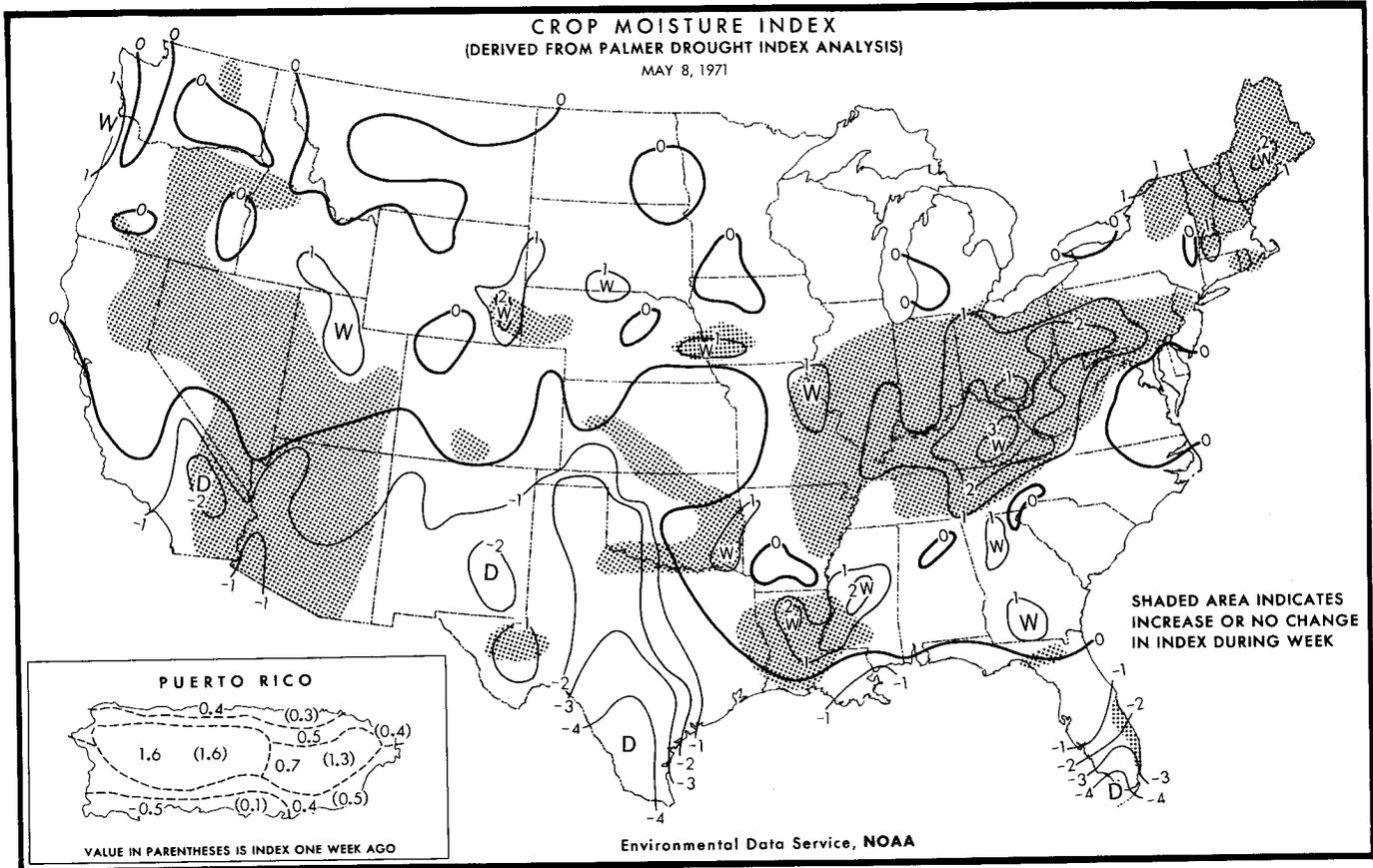
OVERWINTERING SURVIVAL OF HELMINTHOSPORIUM MAYDIS RACE T AS SHOWN BY DISEASE INDEXES.  
(Disease Index from 0 (No Disease) to 500 (Maximum Blighting))

Inoculum Overwintering	Hybrid Cytoplasm	Disease index obtained on the following dates:									
		Oct 26	Oct 30	Nov 23	Dec 21	Jan 18	Feb 1	Feb 15	Mar 1	Mar 29	
Above Soil	cms T*	408	400	281	425	458	398	425	450	328	
	N <sup>1</sup> **			175	225	212	208	233		265	
	N <sup>2</sup> **					140	279	263		218	
	N <sup>3</sup> **					166	266	325		233	
On Surface	cms T	400	296	181	462	323	448	395	375	316	
	N <sup>1</sup>			50	228	100	250	208		204	
	N <sup>2</sup>					190	261	245		237	
	N <sup>3</sup>					180	211	223		233	
Buried	cms T	475	150	118	416	1	3	0	10	15	
	N <sup>1</sup>			38	186	0	3	0		25	
	N <sup>2</sup>					0	1	0		21	
	N <sup>3</sup>					0	0	0		8	

\* Texas male sterile cytoplasm.

\*\* Normal cytoplasm.





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.

LITTLE CHANGE IN DROUGHT AREAS

Dry weather continued in southern Florida and southern Texas, where drought conditions intensified. The drought area expanded in the Texas-Oklahoma Panhandle area, although the intensity remained similar to last week. Since the data were collected for the above map, scattered showers in parts of southwestern Oklahoma, and west-central and central Texas have brought local improvement in those areas. However, widespread rains are necessary to bring a general easing of the dry condition.

An area of wet soils developed from eastern Tennessee northeastward into southwestern Pennsylvania, as heavy showers halted fieldwork and resulted in some flooding of small streams.

J. J. Rahn

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SPECIAL ARTICLE THIS ISSUE

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