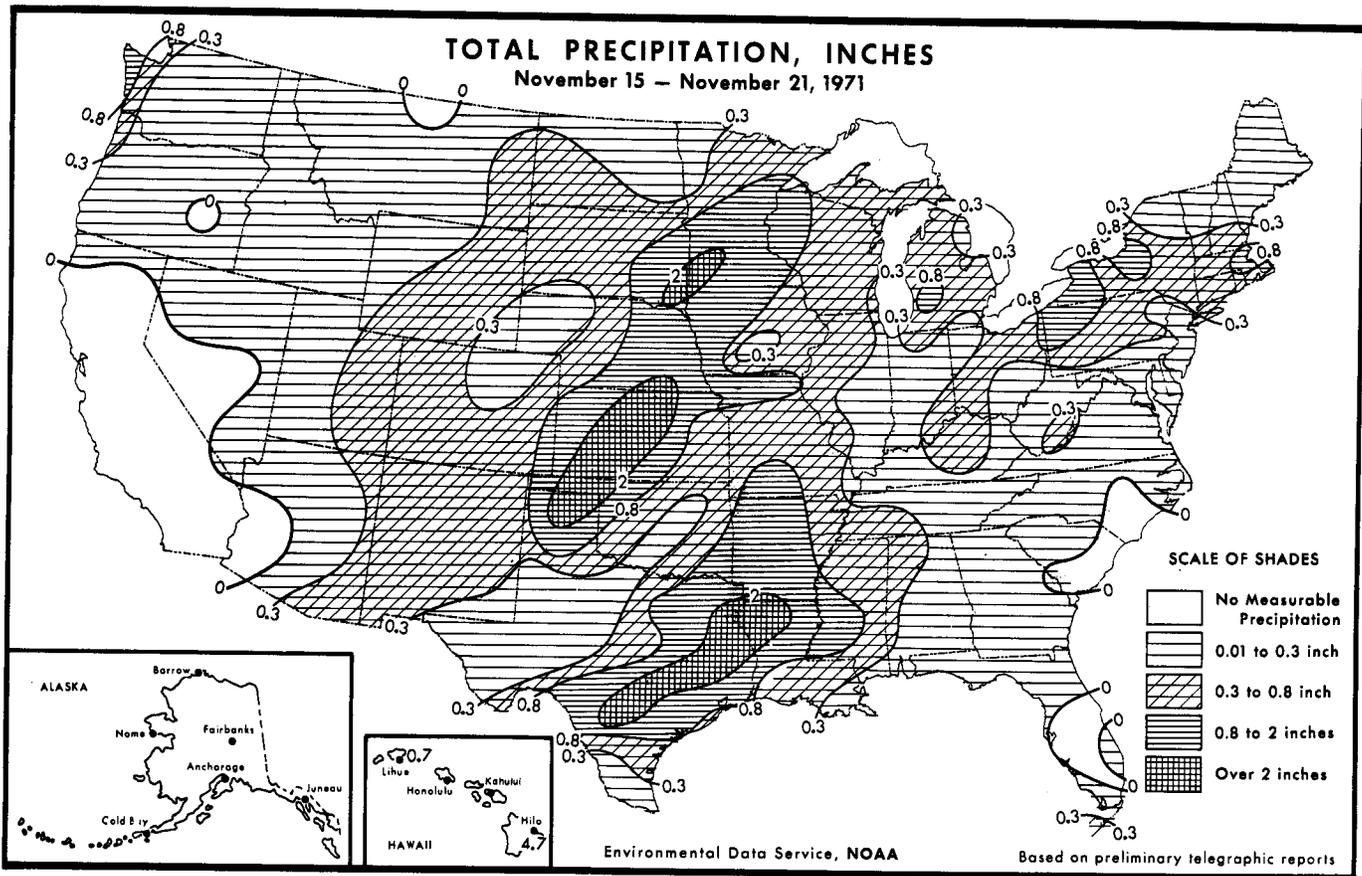


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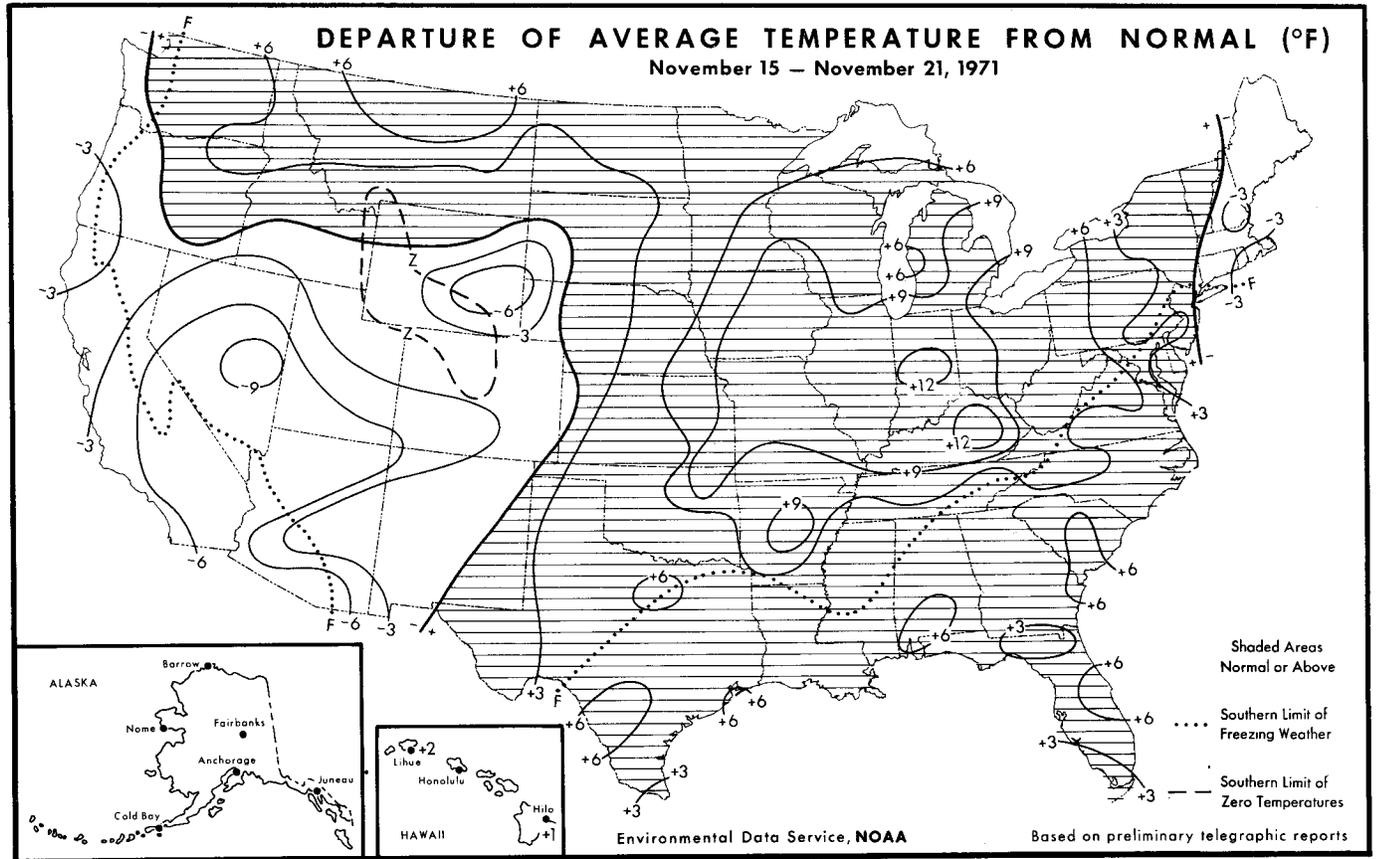
NATIONAL WEATHER SUMMARY

HIGHLIGHTS: Winter cold and snow prevailed over the Rocky Mountains and spread eastward over the Great Plains. Indian summer continued west of a High pressure area centered over the Southeast. Thunderstorms occurred along the cold front separating the cold and warm air masses. The weekend brought cooler weather to the East and warmer weather to the West.

PRECIPITATION. Only sparse precipitation fell over most of the Nation early in the week. Light rain fell in the Pacific Northwest, snow flurries occurred in the Rocky Mountains, and rain and freezing rain fell in eastern New York. The snow increased and spread to the northern Great Plains and the Upper Mississippi River Valley. It

blanketed parts of several States from Montana to Minnesota and southward to the northern portions of Arizona and New Mexico. Snow accumulated to 1 inch at Las Vegas, N. Mex., and to 6 inches or more in Wyoming and Colorado. Thunderstorms occurred along the cold front that stretched from Wisconsin to Texas. Shower totals ranged widely from less than an inch in the northern Great Plains to over 4.00 inches at a few spots in northeastern Texas.

The weekend brought several inches of snow to the lee of the Great Lakes and flurries to areas at some distance from the Lakes. In some places the snow was accompanied by strong gusty winds, the visibility was reduced, and automobile travel became hazardous.



TEMPERATURE: Cool autumn weather prevailed over much of the West early in the week. Afternoon temperatures ranged from the 40's in the Northwest to the 60's in the Southwest. Early morning temperatures were below freezing over much of the area. The freezing line plunged progressively southward reaching the Mexican Border Thursday morning when Douglas, Ariz., registered 28°. Sub-zero weather occurred in the central Rockies. Rawlins, Wyo., registered 11° below zero Thursday morning. In sharp contrast to the autumn chill over the West, Indian summer weather prevailed over the central Great Plains. A High pressure area was centered over the Southeast. On the back side of the High, southerly breezes warmed the Mississippi River Valley and the Great Lakes region. Southern Wisconsin warmed to the 60's, Lafayette, Ind., registered 73° on two afternoons, and St. Louis, Mo., recorded 81°

Monday, November 15. A cold front stretched from northern Wisconsin to western Texas Monday. It moved slowly but steadily eastward dropping temperatures as it advanced eastward. Sharp temperature contrasts existed across the front. Kirksville, Mo., warmed to 62° Thursday afternoon but Ottumwa, Iowa, a short distance north of Kirksville, recorded only 48°. Chicago, Ill., enjoyed several days with temperatures 22° to 30° above normal in the warm air but the highest temperature Friday was only 38°. Freezing temperatures occurred as far south as Port Gibson, Miss., about 30 miles south of Vicksburg Friday morning. Downslope winds warmed Montana over the weekend. Great Falls and Billings registered 60° Saturday afternoon. This was 2° warmer than Atlanta, Ga.

L. W. Dye

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: Rains interrupted cotton and sorghum harvesting in Texas. * Corn and soybean harvesting nearly ended in most States. * Next year's wheat crop in great shape.

SMALL GRAINS: Good fall rains and moderate temperatures have put wheat crop prospects in a favorable position as winter approaches. Crop prospects improved during the week and the majority of the acreage is in excellent shape. Growth and stooling of the 1972 crop are good in Nebraska -- however, greenbug damage was noted. Moisture greatly improved the Kansas outlook, but some rust was seen in south-central areas. Some waterlogging occurred in western Kansas. Oklahoma has adequate moisture, except for the western third of the State. Snow and rain decreased the threat of wind damage to the Colorado crop. Wind damage has been non-existent in other States this fall. Grains are emerging evenly in the Pacific Northwest, with some seeding continuing in the Southwest.

Drying fields allowed North Carolina, Virginia and Maryland grain growers to resume seeding. The situation wasn't so good from Mississippi to Florida where fields are too dry for seeding. Emerged acreage in this area is making only limited growth. Rains hit Arkansas allowing seeding to resume in the Delta. Fall-sown grains are also showing signs of moisture shortages in Illinois.

CORN: Rain north of a line from western Kansas to northern Wisconsin hampered corn harvesting in the western Corn Belt. Fields are soft in this area, and many farmers are waiting for freezing weather before they send harvesting equipment back into the fields. In the eastern Corn Belt, picking made steady headway and is completed on many farms. Crop harvesting progress is 1 to 2 weeks ahead of normal in Iowa, Illinois, and Indiana, the Nation's three big corn producing States. The problem of where to store this year's huge crop still lingers in these States. Some farmers and elevators are stockpiling corn on the ground. Corn Belt harvest ranges from Illinois' 98 percent to Wisconsin's 75 percent of the crop picked. Minnesota and Wisconsin are the only States where picking is behind last fall.

For the second straight week corn picking made excellent progress from the Gulf of Mexico to New York. This was especially satisfying to growers in North Carolina and Virginia who are late in getting in the crop due to heavy October rains. Kentucky and Tennessee growers are putting their corn pickers away until next fall -- as only a few fields remain to be picked.

SOYBEANS: Most soybean combines are already in the machine sheds until next fall in the North Central States. Combining is over in most States with only a few fields remaining to be picked in the western Corn Belt.

Dry weather along the mid-Atlantic Coast kept soybean combines running all week as growers worked to get as much harvested as possible -- after the rain-soaked fall. Combining is well ahead of last fall in Arkansas, Louisiana and Mississippi -- 90 percent is cut. Shipping of soybeans resumed at Mobile, Alabama, giving some relief to the tight storage situation.

COTTON: It was more of the same in Texas as wet weather stopped cotton harvesting on the High and Low Plains. Texas growers were able to pick only 2 percent of their crop during the week. This makes 30 percent of this year's crop ginned, drastically behind last season's 73 percent. Generally clear skies speeded picking from Arkansas and Louisiana to the Carolina's. Picking is far ahead of last fall in the Delta States -- about 85 percent picked. Ginnings are behind schedule in Georgia and the Carolina's. In the Southwest, rains delayed picking in New Mexico and southeast Arizona. Cotton pickers worked steadily in other Arizona areas. California growers made good headway -- some acreage is being picked for the 2nd time in the San Joaquin Valley.

OTHER CROPS: Over 90 percent of the sorghum grain crop is harvested on the Great Plains. Wet fields are keeping the harvest rate behind last year. Some grain is being artificially dried in California. Harvest is also back on track in North Carolina as fields remain workable. Burley tobacco growers were busy getting leaves ready for market -- markets open this week. Peanut harvesting made substantial progress in North Carolina and Virginia and is nearly over. Sugar beet digging entered the final stages in the West. California growers are planting the 1972 crop. The Louisiana sugarcane crop is nearly half harvested while grinding is underway in Florida. The sugarcane harvest continued uninterrupted in Hawaii. Over half of the State's sugar mills are already closed for the season.

Fruits and Nuts: Picking of the 1971 California fruit crop is drawing to a close. The grape, walnut, almond, and olive harvest is over. Florida citrus trees remain in excellent shape. Citrus shipments are increasing from Texas, with picking of navel oranges, lemons, and tangerines active in the Salt River Valley of Arizona. Pecan harvesting is the big event in most Southern orchards. Most fruit growers in the North are busy with orchard cleanup or are grading supplies for shipping.

Vegetables: Supplies of vegetables continue to increase from Florida. All commodities are in good supply with the exception of lettuce. Rains interrupted carrot digging on the Texas High Plains. Seeding of winter vegetables and spring onions is past the peak in the Lower Valley. Lettuce cutting continued in the Salt River Valley, Pima, and Pinal County areas of Arizona. California supplies are seasonal. Most vegetable harvesting has terminated in the North and Atlantic Coast States, but some carrots, cabbage, and cauliflower are still moving to market.

PASTURES AND LIVESTOCK: Feeding of hay and other roughages increased on many farms. In the South, most summer grasses were killed by the recent cold spell, and winter pastures are not growing due to the dry weather. A large number of herds are grazing in harvested corn and sorghum fields throughout the Country, thus helping to conserve hay supplies. Many herds were also pasturing on fall-seeded wheat fields in Oklahoma and Kansas.

Livestock marketing is still fairly active as stockmen sell their surplus animals before winter.

Steve J. Pscodna
Agricultural Statistician

Temperature and Precipitation Data for the Week Ending Midnight, November 21, 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 . . .	56	+ 3	.1	-. 8	New Orleans . . .	63	+ 4	.2	-. 6	OKLA, Okla. City . .	52	+ 5	T	-. 4
Mobile . . .	64	+ 6	T	-. 8	Shreveport . . .	59	+ 4	3.1	+2.1	Tulsa . . .	55	+ 9	.3	-. 2
Montgomery . . .	59	+ 6	T	-. 8	MAINE, Caribou . . .	28	- 1	.2	-. 5	OREG, Astoria . . .	45	- 1	.7	-1.8
ALASKA, Anchorage . .	---	---	---	---	Portland . . .	36	- 2	.1	-. 9	Burns . . .	36	+ 1	T	-. 3
Barrow . . .	---	---	---	---	MD, Baltimore . . .	48	+ 3	T	-. 7	Medford . . .	37	- 5	T	-. 6
Fairbanks . . .	---	---	---	---	MASS, Boston . . .	44	0	.9	0	Pendleton . . .	45	+ 5	.1	-. 2
Juneau . . .	---	---	---	---	Chatham . . .	43	---	.3	---	Portland . . .	44	- 1	.1	+1.2
Nome . . .	---	---	---	---	MICH, Alpena . . .	43	+ 9	.3	-. 3	Salem . . .	44	- 1	T	-1.4
ARIZ, Flagstaff . . .	27	- 8	.2	0	Detroit . . .	46	+ 6	.4	-. 1	PA, Allentown . . .	42	+ 1	.4	-. 4
Phoenix . . .	55	- 2	T	-. 1	Flint . . .	46	+10	.5	0	erie . . .	46	+ 8	1.3	+ .5
Tucson . . .	49	- 8	.7	+ .5	Grand Rapids . . .	45	+ 8	1.6	+1.0	Harrisburg . . .	45	+ 2	.3	-. 4
Winslow . . .	38	- 2	.1	0	Houghton Lake . . .	42	+ 9	.4	-. 2	Philadelphia . . .	48	+ 4	.1	-. 7
Yuma . . .	55	- 6	0	0	Lansing . . .	46	+ 9	.4	-. 1	Pittsburgh . . .	47	+ 7	.5	-. 1
ARK, Fort Smith . . .	55	+ 6	1.4	+ .7	Marquette . . .	40	+ 7	.7	-. 3	Scranton . . .	42	+ 3	.3	-. 4
Little Rock . . .	58	+10	1.4	+ .4	Muskegon . . .	43	+ 4	.6	-. 2	R. I, Providence . . .	40	- 3	.3	-. 7
CALIF, Bakersfield . .	49	- 6	0	-. 1	S. Ste. Marie . . .	38	+ 6	.5	-. 3	S. C, Charleston . . .	61	+ 6	T	-. 5
Eureka . . .	47	- 4	0	-1.1	MINN, Duluth . . .	31	+ 5	1.5	+1.1	Columbia . . .	60	+ 7	T	-. 6
Fresno . . .	47	- 6	0	-. 2	Internatl Falls . .	27	+ 5	.6	+ .2	Greenville . . .	54	+ 3	.1	-. 5
Los Angeles . . .	57	- 6	0	-. 3	Minneapolis . . .	36	+ 7	1.3	+1.0	S. DAK, Aberdeen . .	32	+ 3	.6	+ .5
Red Bluff . . .	54	0	0	-. 6	Rochester . . .	40	+10	1.0	+ .6	Huron . . .	34	+ 4	1.0	+ .9
San Diego . . .	59	- 3	T	-. 2	St. Cloud . . .	34	+ 6	1.8	+1.5	Rapid City . . .	31	- 3	.5	+ .4
San Francisco . . .	54	- 1	0	-. 4	MISS, Jackson . . .	59	+ 5	1.8	+ .9	Sioux Falls . . .	36	+ 5	2.1	+1.8
Stockton . . .	50	- 2	0	-. 3	Meridian . . .	58	+ 5	.4	-. 3	TENN, Chattanooga . .	53	+ 5	.1	-. 8
COLO, Denver . . .	34	- 2	.1	0	MO, Columbia . . .	52	+10	.6	0	Knoxville . . .	53	+ 5	.3	-. 5
Grand Junction . . .	35	- 3	.4	+ .3	Kansas City . . .	54	+11	.4	0	Memphis . . .	54	+ 5	.4	-. 6
Pueblo . . .	36	- 3	.4	+ .3	St. Louis . . .	53	+10	.5	-. 1	Nashville . . .	55	+ 7	.1	-. 7
CONN, Bridgeport . . .	45	+ 1	.4	-. 6	Springfield . . .	51	+ 7	1.4	+ .8	TEX, Abilene . . .	57	+ 5	T	-. 2
Hartford . . .	39	- 2	.8	-. 2	MONT, Billings . . .	35	+ 1	.1	0	Amarillo . . .	45	0	1.6	+1.4
D. C, Washington . . .	51	+ 4	T	-. 7	Glasgow . . .	34	+ 7	T	-. 1	Austin . . .	63	+ 5	2.5	+2.0
FLA, Apalachicola . .	62	+ 2	T	-. 6	Great Falls . . .	39	+ 6	T	-. 2	Beaumont . . .	62	+ 3	1.3	+ .4
Ft. Myers . . .	72	+ 3	T	-. 3	Havre . . .	36	+ 8	T	-. 1	Brownsville . . .	69	+ 2	.2	-. 1
Jacksonville . . .	64	+ 3	T	-. 4	Helena . . .	35	+ 4	T	-. 1	Corpus Christi . . .	68	+ 5	.4	0
Key West . . .	75	+ 1	.4	-. 2	Kalispell . . .	36	+ 6	.1	-. 2	Dallas . . .	60	+ 6	.8	+ .2
Lakeland . . .	70	+ 4	T	-. 3	Miles City . . .	34	+ 3	.3	+ .2	Del Rio . . .	64	+ 6	.9	+ .8
Miami . . .	75	+ 3	0	-. 7	Missoula . . .	34	+ 5	.1	-. 1	El Paso . . .	48	- 2	.1	0
Orlando . . .	72	+ 7	0	-. 3	NEBR, Grand Island .	41	+ 5	1.5	+1.3	Fort Worth . . .	60	+ 6	.9	+ .3
Tallahassee . . .	61	+ 3	.1	-. 5	Lincoln . . .	45	+ 5	1.8	+1.5	Galveston . . .	67	+ 5	.4	-. 5
Tampa . . .	70	+ 4	T	-. 3	Norfolk . . .	38	+ 4	1.1	+ .9	Houston . . .	63	+ 5	.9	0
GA, Atlanta . . .	55	+ 4	.1	-. 6	North Platte . . .	36	+ 2	.7	+ .6	Lubbock . . .	52	+ 5	.2	+ .1
Augusta . . .	58	+ 5	0	-. 5	Omaha . . .	44	+ 8	1.1	+ .8	Midland . . .	54	+ 3	.1	0
Macon . . .	59	+ 4	T	-. 6	Valentine . . .	34	+ 2	.3	+ .2	San Angelo . . .	59	+ 5	T	-. 2
Savannah . . .	63	+ 6	T	-. 4	NEV, Ely . . .	24	- 9	T	-. 1	San Antonio . . .	67	+ 8	2.3	+2.0
HAWAII, Hilo . . .	74	+ 1	4.7	+1.6	Las Vegas . . .	46	- 6	.1	+ .1	Victoria . . .	66	+ 5	.9	+ .4
Honolulu . . .	---	---	---	---	Reno . . .	33	- 5	T	-. 1	Waco . . .	61	+ 5	.8	+ .3
Kahului . . .	76	+ 1	T	-1.5	Winneemucca . . .	31	- 4	T	-. 2	Wichita Falls . . .	56	+ 5	.2	-. 1
Lihue . . .	77	+ 2	.7	-. 3	N. H, Concord . . .	32	- 5	.3	-. 6	UTAH, Blanding . . .	31	- 6	.7	+ .6
IDAHO, Boise . . .	38	0	T	-. 3	N. J, Atlantic City . .	46	0	.1	-. 8	Salt Lake City . . .	34	- 2	T	-. 3
Lewiston . . .	38	- 1	.2	-. 1	Trenton . . .	52	+ 7	.1	-. 6	VT, Burlington . . .	36	+ 2	.1	-. 6
Pocatello . . .	26	- 8	.3	+ .1	N. MEX, Albuquerque . .	41	- 2	.6	+ .5	VA, Lynchburg . . .	51	+ 5	.1	-. 5
ILL, Cairo . . .	55	+ 8	.2	-. 7	Roswell . . .	48	+ 3	.4	+ .3	Norfolk . . .	55	+ 4	T	-. 7
Chicago . . .	49	+11	.2	-. 3	N. Y, Albany . . .	40	+ 2	.4	-. 3	Richmond . . .	52	+ 6	.1	-. 6
Moline . . .	47	+ 9	.7	+ .2	Binghamton . . .	41	+ 4	.8	+ .2	Roanoke . . .	51	+ 5	.2	-. 4
Peoria . . .	48	+10	.5	0	Buffalo . . .	46	+ 8	1.5	+ .6	WASH, Colville . . .	36	+ 4	T	-. 5
Rockford . . .	46	+10	.5	-. 1	New York . . .	47	0	.3	-. 5	Omak . . .	---	---	---	---
Springfield . . .	51	+11	.2	-. 4	Rochester . . .	44	+ 5	.8	+ .2	Quillayute . . .	43	- 1	1.7	-1.5
IND, Evansville . . .	53	+10	.3	-. 5	Syracuse . . .	40	0	1.2	+ .5	Seattle-Tacoma . . .	45	+ 2	.2	-1.1
Fort Wayne . . .	48	+10	.3	-. 3	N. C, Asheville . . .	52	+ 6	T	-. 5	Spokane . . .	36	+ 2	.1	-. 4
Indianapolis . . .	52	+12	.3	-. 5	Charlotte . . .	55	+ 5	.2	-. 4	Walla Walla . . .	45	+ 3	.1	-. 3
South Bend . . .	48	+10	.5	-. 1	Greensboro . . .	54	+ 7	T	-. 6	Yakima . . .	39	+ 3	0	-. 2
IOWA, Burlington . . .	48	+10	.6	+ .1	Hatteras . . .	56	0	T	-1.0	W. VA, Beckley . . .	48	+ 7	.5	-. 2
Des Moines . . .	45	+10	.3	-. 1	Raleigh . . .	54	+ 5	T	-. 7	Charleston . . .	50	+ 6	.2	-. 5
Dubuque . . .	45	+11	.4	-. 2	Wilmington . . .	59	+ 4	T	-. 6	Huntington . . .	53	+ 8	.2	-. 5
Sioux City . . .	40	+ 5	1.2	+ .9	N. DAK, Bismarck . . .	30	+ 3	.5	+ .3	Parkersburg . . .	51	+ 7	.3	-. 3
KANS, Concordia . . .	46	+ 6	3.2	+3.0	Fargo . . .	31	+ 5	.3	+ .1	WIS, Green Bay . . .	41	+ 8	.4	-. 1
Dodge City . . .	45	+ 4	2.8	+2.6	Williston . . .	29	+ 3	.4	+ .3	La Crosse . . .	42	+ 9	.8	+ .3
Goodland . . .	36	- 1	1.1	+1.0	OHIO, Akron-Canton . .	46	+ 6	.6	+ .1	Madison . . .	41	+ 8	.4	-. 2
Topeka . . .	50	+ 8	.5	+ .2	Cincinnati . . .	54	+10	.4	-. 3	Milwaukee . . .	42	+ 7	.2	-. 4
Wichita . . .	47	+ 4	1.5	+1.1	Cleveland . . .	48	+ 8	.6	-. 1	WYO, Casper . . .	26	- 6	.3	+ .1
KY, Lexington . . .	56	+12	.5	-. 3	Columbus . . .	49	+ 9	.3	-. 3	Cheyenne . . .	30	- 3	T	-. 1
Louisville . . .	55	+11	.5	-. 3	Dayton . . .	52	+11	.4	-. 3	Lander . . .	26	- 3	.3	+ .1
LA, Baton Rouge . . .	62	+ 4	.4	-. 7	Toledo . . .	47	+ 9	.2	-. 3	Sheridan . . .	34	+ 2	.3	+ .1
Lake Charles . . .	64	+ 5	.7	-. 4	Youngstown . . .	46	+ 8	1.4	+ .7	P. R., San Juan . . .	80	+ 2	.2	-1.5

* 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: Unseasonably warm with sunny days and clear nights Monday through Thursday. Scattered light showers Friday, then clearing and becoming much colder over weekend. Freezing temperatures over all but the extreme south Sunday night. Precipitation for week light with only northern section having as much as 0.25 inch. Excellent progress made with harvest. Slightly more than 4/5 cotton harvested, ahead last year. Excellent corn crop about 80% picked, slightly behind year ago. Soybean harvest making good progress. About 2/3 combined compared with 3/5 last year. Loading ships resumed Port of Mobile, giving some relief to tight storage situation. Soil moisture getting short north Alabama. Farmers making slow progress seeding remaining small grain acreage and emerged crops making only limited growth. Pecan harvest continues--yields and quality variable. Most summer grasses killed by recent cold spell. Winter pastures not growing due dry weather, especially south.

ARIZONA: Temperatures were below normal over State with freezing temperatures reported several nights in colder sections of both Salt River Valley and Yuma area. Showers fell at higher elevations beginning of week and on weekend with light snow above about 5,000 feet. Most weekly totals were less than 1.00 inch. Cotton harvest full swing central and southwest, but slowed by rain southeast. Yields reduced by damage from pink bollworms. About 2/3 of crop harvested. Central and southeast most advanced. Farmers dispersing residue harvested fields to reduce infestation next year. Sorghum harvest progressing rapidly. Preparation land for seeding small grains underway. New alfalfa fields making good growth. Fall lettuce harvest continued Salt River Valley, Pima, and Pinal Counties. Harvest continued Wellton area Yuma County, getting underway other areas. Harvest navels, sweets, lemons, grapefruit, and tangerines continued Salt River Valley. Lemon harvest full swing Yuma. Range conditions fair to good. Stockwater adequate. Cattle and calves good. Sheep fair to good.

ARKANSAS: Trend to cooler weather through week. Means in range 3° to 7° above normal. Precipitation late in week with amounts ranging from near 2.00 inches southwest, south-central, and central portions to about 0.50 inch to 1.50 inches elsewhere. Largest amount at El Dorado with 2.16 inches. Highest temperature 80° at Texarkana on 15th. Lowest 18° at Gilbert on 22d. Harvest good progress although temporarily delayed by rain midweek. Cotton 90% to 95% picked--soybeans 90% combined. Many driest areas received moisture, and seeding winter grains now progressing Delta. Recent seedings coming up, older acreage making growth. Fall fieldwork--stalk cutting--disking and plowing good progress. Livestock fair to good. Pastures short, feeding hay and other roughages continued.

CALIFORNIA: Average temperatures 4° to 8° below normal except Sacramento Valley. This is 5th straight week with much below normal temperatures most of State. Strong northerly winds several days. Light to moderate precipitation northern

half on 13th with snow above 4,000 feet. Amounts over 1.00 inch north coast, Sierra Nevada; about 0.25 inch north of Delta. Harvest rice, field corn, and beans nearing completion. Combining milo continues--some grain being sent to driers. Sugar beet harvest past peak. Planting 1972 crop continues. Second cotton picking continues San Joaquin Valley. Some alfalfa being cut for green chop or silage. Land preparation and seeding small grains continue. Cultural practices underway. Walnut and grape harvests virtually complete. Almond harvest completed. Picking olives for oil. Navel oranges harvest slow. Color developing well, maturity problem. Size, quality good. Cold weather slowed grass growth. Calving, lambing continues--Central Coast, Sacramento Valley. Turkey movement active. Artichoke harvest light. Light supplies broccoli, cauliflower available from Santa Maria, Salinas. Carrot digging Central Coast moderately active. Celery volume increasing Oxnard, bood volume Santa Maria, Salinas, but past peak. Sweet corn picking very light southern California. Palo Verde lettuce harvest increasing; limited volume Westside; Bakersfield active. Green pepper harvest very limited. Potato harvest very slow Tule Lake, Madera. Sweetpotatoes active. Market tomatoes limited Chula Vista, Oceanside; good volume Oxnard.

COLORADO: Cold with general rain and snow. Moderately heavy precipitation except very light some parts northern plains. Three to 9 inches snow most lower areas, up to 15 inches in mountains. Rain, snow, and cold temperatures statewide past week. Topsoil moisture adequate all areas except southeast where supplies are short to adequate. Snow drifted by wind eastern plains. Wind damage threat to winter wheat decreased. Condition excellent all areas, except good to excellent southwest. Winter wheat providing pasture 14%. Winter barley condition good to excellent. Harvest progress varied due general storm. Sugar beet harvest complete, except for scattered fields southwest and southeast. Corn and sorghum grain harvest 83% and 94% complete respectively. Range and pasture condition good to fair. Beet tops and stubble fields providing ample forage. Condition livestock good.

FLORIDA: Moderating temperatures continued over Florida most of week. However, a cold front swept across state on weekend, November 20 and 21, dropping minimum temperatures into 30's in north. Weekly temperatures average 1° to 3° above normal due to daytime highs in low 80's throughout State early part of week. Rainfall sparse with only widely scattered showers during week becoming slightly more numerous in vicinity and just ahead of cold front. Divisional averages well below 0.10 inch except 0.30 inch in Keys. Tavernier had greatest rainfall, 0.40 inch. Soybean and cotton harvest active. Grinding sugarcane underway. Small grains need moisture. Dry weather slowing progress winter foliage crops. Forage adequate most areas, but quality declining seasonally. Most cattle good. Citrus tree condition excellent. Trees entering dormancy. Very little new growth. Color break advancing, except

Valencias. Rain needed. Irrigation limited use. Total supplies Florida vegetables continue increase with most commodities except lettuce good supply. Tomatoes, celery, escarole, chicory, pole and bush beans, peppers, and squash moderate to good supply and increasing. Sweet corn and cucumbers good, but declining volume. Radishes, eggplant, and chinese cabbage steady. Strawberries set and growing well. Potato planting 2 to 3 weeks behind schedule Dade County. White varieties being planted Ft. Myers-Immokalee area. Planting most other crops for winter harvest on schedule. Setting cabbage Hastings very active.

GEORGIA: Mild and sunny until Friday with highs mostly in 70's and lows in 40's and 50's. Cloudy with light rain late Friday and Friday night followed by clear and cool weekend. Much colder Sunday night with lows in 20's north and low 30's south Monday morning. First freeze of fall much of extreme south. Averages for week ranged from 3° to 6° above normal. Rainfall generally less than 0.25 inch. Harvest corn, cotton, soybeans, pecans remains active. Some areas need rain which is delaying completion fall seeding and land preparation. Small grains fair to good condition.

HAWAII: Rainfall increased most areas providing ample soil moisture. Cold weather, however, slowed crop growth. Harvesting sugarcane continued uninterrupted. Over half of 23 sugar mills completed season's harvest. Operations pineapple plantations confined to planting, fertilizing, and weeding. Pasture and cattle condition fair to good.

IDAHO: Average temperatures ranged from normal north and southwest to 2° to 8° below normal south-central and eastern highlands. Precipitation ranged 0.18 inch at Salmon to 1.13 inches at Pocatello and averaged 0.25 inch north, 0.50 inch southwest and south-central, and 0.75 inch eastern highlands. Sugar beet harvest moving into final stages. Field corn harvest southwest near completion. Fall plowing, seedbed preparation made good progress. Sorting and hauling potatoes and onions for shipment active.

ILLINOIS: Precipitation occurred Thursday and Friday across State as a major change of airmass moved across midwest. Amounts varied from 0.10 to 0.50 inch. Temperatures averaged much above normal as Indian summer weather prevailed until Friday when sharp drop of temperature lowered lows to freezing. Corn harvest 98% complete; last year 90% complete; remaining mostly located northeastern portion. Progress 1 to 2 weeks ahead normal. Storage space shortage still problem. Intended corn, soybean, acreage 60% plowed, last year 40%. Pastures providing 40% livestock roughage requirement, last year 60%. Pastures mostly fair to good. Moisture shortages cause of most pasture problems. Soil moisture 75% short, 25% adequate. Dry soil conditions many areas causing wind erosion concern. Fall-sown grains show moisture shortage signs many areas. Low ponds, dry wells cause major concern. Days suitable for fieldwork 5 1/2. Main activities harvesting corn, shredding stalks, spreading fertilizer and plowing.

INDIANA: Very warm early in week, then very cold on weekend with temperatures in 20's and snow cover northern 1/3 of State. Heaviest near Lake Michigan and up to 6 inches deep. Some record high temperatures for date broken early in week as temperatures climbed to middle 70's. Precipitation

generally 0.10 to 0.50 inch during week. Deficiency in past 4 weeks of 0.50 to 1.50 inches. Six days suitable fieldwork. Corn 85% harvested, 60% average. Considerable corn lacking storage and being stored on ground--mostly in northwestern 1/3 State. Soybeans 95% combined, 80% in 1970. Sorghum grain 85% harvested, 80% last year. Wheat nearly all emerged, stands good to excellent. Topsoil and subsoil moisture short to mostly adequate. Pastures fair to good.

IOWA: A cool cloudy week with moderate to heavy precipitation. Corn almost 95% harvested. Last year about 85% and 5-year average 80%. Soybean harvest virtually complete well ahead last year. Other field activities include fertilizer application, stalk shredding, and fall plowing. Little over 4 days suitable fieldwork. Topsoil moisture supply; 17% surplus, 82% adequate and less than 1% short. Recent fall rains replenishing subsoil moisture.

KANSAS: Widespread precipitation at midweek. Generally 0.75 to 2.50 inches western portion and northern 1/3, mostly 0.10 to 1.25 inches elsewhere. Rains over 4.00 inches parts south-central and southwest. Local flash flooding Edwards County. Snow depths 2 to 3 inches portions northwest 18th but snow melted rapidly. Weekly mean temperatures averaged near normal northwest and generally much above seasonal elsewhere. Fall harvest activities delayed large areas western Kansas because wet fields. Sorghum grain harvest 89% complete, compared 90% last year, average 87%. Corn harvest 91% complete, same last year, average 80%. Soybean acreage 91% complete, 84% year earlier. Sugar beet digging neared completion southwest. Wheat moisture supplies and grazing prospects greatly improved. Little wheat rust south-central. Some waterlogging western Kansas. Cold wet weather caused temporary supplemental feeding and stress newborn animals.

KENTUCKY: Sunny and unseasonably mild to warm 1st 4 days. Afternoon temperatures in 70's, record maxima several locations 1 or more days. Colder, cloudy, and windy over weekend. Temperatures on 21st 5° to 10° below normal. Temperatures for week averaged 7° to 11° above normal. General rain 18th-19th, first significant rain in about 2 weeks. A few light showers north on 20th, some snow flurries eastern 1/3 on 21st. Weekly precipitation totals less than 0.10 to about 0.90 inch. Excellent weather for grain harvest. Corn nearing completion, soybeans 80% to 85% combined. Earlier freeze improved harvest conditions. Little tobacco stripping until moisture near end period. Dry conditions causing light deliveries to warehouses for opening market November 22. Fall seedings look good, grains need colder weather to slow down vegetative growth. Most livestock still on fall pasture.

LOUISIANA: Warm through Wednesday north, through Thursday south. Cooler remainder of week but average temperatures 4° to 8° above normal. Temperature extremes: 84° Jennings Wednesday; 32° Homer Friday. Showers heavy north and west relatively light most of south as cool air moved in midweek. Weekly rain totals more than 3.00 inches northwest, more than 2.00 inches portions of southwest to north-central. Most places remainder of State less than 1.00 inch. Greatest 1-day total, 2.83 inches measured at De Ridder Friday morning. Harvest cotton and soybeans stopped by heavy rain north Thursday, but showers light south and sugarcane harvest made good

progress. Cotton 80% harvested, soybeans 90%, sugarcane 45%. Scattered harvest sorghum grain and sweetpotatoes continued, but nearing completion. Pecan harvest active north, nearing completion south. Fall plowing and seeding small grain well advanced. Some reseeded winter pastures dry southeastern dairy area. Generally, pasture feed supply below average.

MARYLAND AND DELAWARE: Temperatures above normal except near normal last 2 days, averaged 2° to 6° above normal. Extremes: 60's and low 70's, mid-20's to mid-30's. Only light precipitation for 2d week except 0.50 to 1.00 inch in Garrett County where the season's first heavy snow, 5 to 10 inches in northern and western sections, occurred on 21st. Weather favorable for fieldwork. Corn harvest caught up to average of 91%. Soybean combining active, 74% harvested, last year 71%, average 86%. Small grain seeding continues after row crop harvest. Late seedings show rapid growth. Pasture mostly average or above. Late growth hay still being cut for greenchop.

MICHIGAN: Unseasonably mild, wet north, fair south until turning sharply colder at midweek. Cold with light snow, locally heavy in lee of Lakes as period ended. Temperature averages, 7° to 9° above average Upper Peninsula and 5° to 10° above average Lower Peninsula. Precipitation totals 1.50 inches west decreasing to 0.30 inch southeastern Upper Peninsula. 0.25 inch interior to near 0.75 inch elsewhere in Lower Peninsula.

MINNESOTA: Second consecutive week temperatures have been above normal. Average temperatures varied from 5° above normal in north to 10° above normal in southeast. Extremes: 64°, 6°. An exceptionally wet week with precipitation amounts from 1.00 to 2.00 inches except in extreme northwest and north-central. Much of northern 2/3 State received recordbreaking rainfall during October. This week's precipitation amounts continue to keep these areas extremely wet. Rain stopped corn picking through much central districts. Picking near completion south. Corn 87% picked, normal 87%; moisture content 24%. Wet areas central districts have less than 60% corn picked. Days fieldwork possible: 1 1/2 central and 3 in south.

MISSISSIPPI: Dry until Thursday evening; then rain most of State except coastal division; amounts varied up to 1.75 inches at Jackson Airport. Average temperatures were 5° to 10° above normal. Weekly extremes: 83° Wednesday at Greenwood and 32° Friday at Port Gibson. Temperature dropped to 22° at Tupelo this Monday morning, scattered precipitation southern half of State ended Saturday and amounts were less than 0.25 inch. Soil moisture very short southeast, short south-central, adequate northwest, other areas short to adequate. Average 5 days suitable fieldwork. Corn 90%, cotton 89%, soybeans 91% and pecans 53% harvested. Hay and roughage and feed grain supplies mostly adequate. Winter wheat, fall oats, and pastures mostly fair. Livestock mostly good.

MISSOURI: Cold front crossed State Friday November 19 ending extended period of unseasonably warm weather. For week, temperatures averaged 12° above normal. Showers accompanying cold front brought 0.50 to 1.00 inch of rain to most of State. Harvest corn, soybeans, grain sorghum and cotton; 91%, 94%, 92%, and 92% completed, respectively. Fall plowing 64% complete. Soil

moisture short to adequate with ponds and lakes low. Pastures mostly fair.

MONTANA: Mild week as temperatures averaged up to 8° above normal. Light snow midweek that melted rapidly weekend. Topsoil moisture short to adequate. Winter wheat condition generally good. Wind damage to winter wheat fields very light. Sugar beet digging continues, but nearly completed. Range cattle and sheep good.

NEBRASKA: Most of the 1.00 to 2.00 inches of moisture that fell in south-eastern half of State entered ground. The Panhandle and north-western Sandhills received little moisture. Damp conditions hampered harvest remaining fields. Corn harvest 94% complete, compared 82% normally harvested this date. Sorghum harvest 98% finished. One percent soybean crop remains to be harvested. Recent moisture beneficial to winter wheat and fall-seeded legumes. Moderate temperatures and moisture allowed good growth and stooling of wheat. Few reports green bug damage received. Fall plowing and stalk shredding continued as conditions permitted. Livestock conditions unchanged. Few reports sickness or disease. Continued grazing stalk fields helps conserve hay and forage feed supplies.

NEVADA: Cold week. All stations averaged about 7° below normal. Light precipitation all divisions. Ground cover of snow at Austin. Cotton harvest Pahrump Valley making favorable progress and nearly 1/2 complete. Limited acreage green onions, radishes, and lettuce harvested Moapa Valley. Harvest greenhouse tomatoes begun southern Nevada. Winter feed supplies and stockwater adequate most areas. Range feed and livestock generally good condition.

NEW ENGLAND: Quite cold at beginning but mild by midweek. Week averaged mostly a little above normal. Precipitation in southern half at beginning of week mostly light. More general over weekend but with widely variable totals. Weekly totals ranged from less than 0.10 inch in parts of north to about 1.50 inches in parts of southeast. Major snow storm for so early in the season in southern New Hampshire and eastern Massachusetts on 21d and 22d, mostly 2 to 8 inches, but 12 inches reported on Blue Hill, Milton, Mass., Monday morning. Roads very slippery.

NEW JERSEY: Cold at beginning and end of week, mild midweek. Temperatures ranged from mid-20's to mid-60's and averaged near normal. Precipitation was light averaging 0.10 inch. Greatest total was 0.20 inch at New Brunswick.

NEW MEXICO: General precipitation early in week with totals of 1.00 to 2.00 inches in northern mountains, central highlands, and east-central plains. Totals generally light south and west. Substantial snowfall in mountains allowed opening of some ski areas. Temperatures averaged from 3° below normal in west. Highest temperatures mostly on weekend. First subzero temperatures of season some northern localities on Friday. Soil moisture mostly adequate, some isolated areas short. Rains delayed harvest sorghum, cotton. Winter wheat good, grazing active. Pecan harvest underway, other crops near completion. Ranges fair to good. Livestock good.

NEW YORK: Gradual warming trend through 19th, turning much colder by end of week. Maximums mid- to upper 60's western 1/3 on 18th and 19th with

55° to 60° elsewhere. Buffalo had 68° and Batavia 69°. By 21st, maximums 35° to low 40's interior Upstate to near 50° coastal. Minimums upper teens to low 20's Hudson Valley and northern sections early week ranging up to low 40's Lake Erie mid-week. Precipitation early week. Total 0.30 to 0.60 inch western half with 0.25 inch Long Island and 0.10 inch eastern half Upstate. Weekend storm mostly light rain but changed to snow 21st in western and northern sections. Storm included 3 to 7 inches snow near Great Lakes and 1 to 3 inches central and northern interior.

NORTH CAROLINA: Mild week with highs in 60's and 70's and lows above freezing except in mountains. Turning colder over weekend. Scattered light showers with cold turn. Precipitation totals light to none. Snow flurries in mountains; accumulations to 1 inch north. Soil moisture generally adequate. Full work week across State. Harvest very active; corn 75% complete, cotton 62%, soybeans 40%, sorghum grain 70%, lespedeza 75%, peanuts 95% threshed. Seeding small grains 60% complete. Pasture condition mostly good. Labor supply adequate for demand.

NORTH DAKOTA: Cloudy with occasional light rain changing to snow flurries midweek. Partly cloudy Sunday. Precipitation totals less than 0.10 inch to 0.75 inch. Snow accumulation light to 4 inches. Temperatures averaged 3° to 9° above normal. Some corn, soybeans, sunflowers and few fields sugar beets remain to be harvested Red River Valley. Small acreage sugar beets western counties abandoned. Livestock generally good condition. Feed supplies adequate. Farmers and ranchers winterizing farm buildings and preparing for winter.

OHIO: Temperature 10° to 12° above normal through 19th and 2° to 5° below normal over weekend. Rain entire State 19th. Snow common northeast over weekend. Farmers continue cleanup harvest corn and soybeans. Harvest most other crops virtually complete. Pastures looking good. Some farm activities include corn stalk chopping and fall plowing.

OKLAHOMA: Precipitation varied 0.04 inch southwest to 1.95 inches in Panhandle. Temperatures averaged 3° to 10° above normal. Peanut harvest nearing completion, cotton harvest well underway most localities, sorghum grain delayed by rain, pecan harvest fair progress. Livestock continue favorable gains on small grain pastures. Surface and subsoil moisture generally adequate, except parts western 1/3. Peanut harvest 94% completed. Heavy losses many areas especially south-central. Most cotton bolls open, harvest 16% completed. Damp weather delayed operations. Rains, wet fields delayed sorghum grain harvest important Panhandle. Crop nearly 4/5 harvested. Pecan harvest nearly 1/4 completed, poor fill, light weight many localities. Livestock good to excellent condition. Most pastures have fair to good supply mature feed. Demand stocker cattle still strong.

OREGON: General rains first half of week with returning sunshine east side at close, fog west side. Cooler midweek averaged temperatures from 3° below normal southwest to 4° above normal east border. Minima 30° to 38° along coast, 14° to 33° elsewhere. Maxima 46° to 66°. Rains 2 to 5 days totaled 0.70 to 2.00 inches along coast, 0.20 to 0.60 inch elsewhere. Still some filberts to be picked. Walnut picking continues with frost damage some areas. Harvest late vegetable crops continues. Farmers busy with orchard cleanup work, pruning berry canes.

PENNSYLVANIA: Mild, dry week. Temperatures well above normal until weekend when cold Arctic air set off heavy snow squalls western counties. Maximum in 60's in many area midweek, but only 30's and 40's Sunday. Minima mostly 30's and 40's, with 20's widespread Monday morning. Weekly temperatures 2° to 4° above normal, 4° to 8° above normal west. Extremes 73° and 16°. Weekly precipitation under 0.25 inch most of central and southeast, 0.25 to 0.50 northeast, and 0.50 to 1.00 west except over 1.50 inches in Lake Erie area. Snow cover Monday morning trace to 2 inches, 1 to 3 inches southwest, except up to 15 inches Laurel Mountains, and 3 to 10 inches northwest. Harvesting corn for grain, soybeans and sorghum grain continues as weather permits.

PUERTO RICO: Dry cool week. Average rainfall of 0.80 inch about 0.70 inch below normal. Moderate showers up to 2.80 inches in western Cordilleras and eastern Luquillo Mountains but generally less than 0.50 inch central north coast and central interior. Little or no rain on south coast. Temperatures averaged 78° to 79° on coast and 74° to 75° interior with average departure of 0.5° below normal. Highest maximum 92°; lowest minimum 54°. Sugarcane developing well. Coffee plantations report good progress with harvesting operations. Pastures good to excellent island-wide and good progress seeding and fertilizing new crop. Minor crops developing well with good progress cultivating and other fieldwork.

SOUTH CAROLINA: Sunny and mild most of week with very light rain on 19th as cold front brought in cooler weather. Temperatures averaged 56° to 64° which is 5° or 6° above normal. Very good week for all farmwork. Cotton 79% harvested. Soybeans 97% mature, 27% harvested. Sorghum 82%, corn 90% complete. Pecan harvest underway, condition good. Pastures good. Winter grazing 90% seeded, 88% emerged. Wheat 43% planted, 32% emerged. Oats 57% planted, 48% up. Condition fall vegetables good. Charleston-Beaufort areas setting winter collards active, greens in short supply.

SOUTH DAKOTA: Weekly temperatures averaged from near normal to 5° above normal. Extremes ranged from 3° at Newell on 19th to 63° at Alexandria and Menno on 15th. Precipitation fell as widespread rain and snow throughout much of week. Totals ranged from about 0.25 inch portions of west to over 2.00 inches in parts of east. Snowfall ranged from trace to about 7 inches. Heaviest snowfall occurred in and near the Black Hills and in a band from near Pickstown through Watertown. Belle Fourche reported 7 inches of snow on 16th. Watertown reported 5 inches of snow on 18th. Topsoil moisture rated adequate, except for northeast area where rated as surplus. Subsoil moisture mostly adequate. Very little corn acreage remains unharvested. Wet fields will have to be frozen before harvest can be completed. Many calves going to market. Grazing stubble fields slowed or stopped at present due wet weather. Supplemental feeding commenced most areas. Winter feed supplies good. Some local respiratory problems due wet rains and freezing weather. Fall-seeded grains good to excellent.

TENNESSEE: Stagnant high pressure system with moderate to heavy levels of air pollution until cold fronts crossed State Friday and Sunday. Precipitation on 19th and 20th totaled mostly between 0.25 inch and 0.50 inch. Average temperatures above normal. Crop harvest nearing completion under favorable weather. Fields and crop

prices generally good 1971. Soybeans 80% combined, 2 weeks ahead last year. Cotton 85% picked, 70% year earlier. Corn harvest 90% complete. Small grains good growth under mild weather. Wheat 80% seeded. Pastures well above average for time of year. Days favorable fieldwork averaged 5.1. Reported soil moisture supplies 53% adequate, 46% short, and 1% surplus.

TEXAS: Cold front first of week brought heavy showers to northwest, central, and East Texas. Three- to 4.00- inch rainfall centers were reported in northeastern Panhandle while 3.00 to 5.00 inches fell in narrow strip from Austin northeastward to Mount Pleasant. Gilmer reported 5.30 inches and Hawkins 5.08 inches within 24 hours. Two to 3.00 inches fell along the Louisiana border north of Orange. More cloudy rainy weather moved into northern half of State Monday. Wet weather stopped harvest cotton, sorghum on High and Low Plains. Frost stopped vegetative growth, but will help harvest. Planting wheat, oats, nearing completion. Growth good to excellent. Grazing above normal. Timely rains will help oat prospects East Texas. Percent harvested major crops; cotton 30, 73 last year; sorghum 91, 99 last year; peanuts 88, 87 last year; soybeans 78, 88 last year; sugar beets 44, 70 last year. Percent planted; wheat 97, 98 last year; oats 96, 99 last year; flax 40, 63 last year. Fall pepper, cucumber harvest past peak South Texas, but continues fairly active. Fall tomato harvest underway Lower Valley. Cabbage carrot harvest underway Lower Valley-Winter Garden with spinach cutting underway Winter Garden. Light harvest broccoli, cauliflower beginning. Seeding winter vegetables, spring onions past peak Lower Valley, but continuing. High Plains carrot digging interrupted by rains. Citrus harvest gaining momentum. Pecan harvest 55%, 51% last year.

UTAH: Recurring periods of rain and snow continued first part of week, clearing skies latter part. Light precipitation reported southeast over weekend. Accumulations of precipitation generally light to moderate, except locally heavy over and near mountains. Temperatures averaged from near normal to 7° below normal. Clearing permitted some harvesting sugar beets, only 5% remain unharvested. Sugar factories operating at peak. Grading, sorting, and marketing dry onions, potatoes, and apples from storage full progress. Apple cider being pressed Utah County. Breeding range ewes nearly completed. Turkey processing down from early November peak, but will increase next week for final push to complete slaughter 1971 crop, about mid-December.

VIRGINIA: Temperatures above normal becoming below normal over weekend. Light rain beginning Friday with snow flurries in mountains Sunday. Second week of favorable weather.

Harvest and seeding progressed rapidly. Topsoil moisture adequate. Corn picking especially active Piedmont and west of Blue Ridge. Nearly 80% harvested. Peanuts 90% harvested. Soybeans 60% combined, compared with 33% last week. Wheat 80% planted. Pastures productive. Sweet-potatoes harvested Eastern Shore.

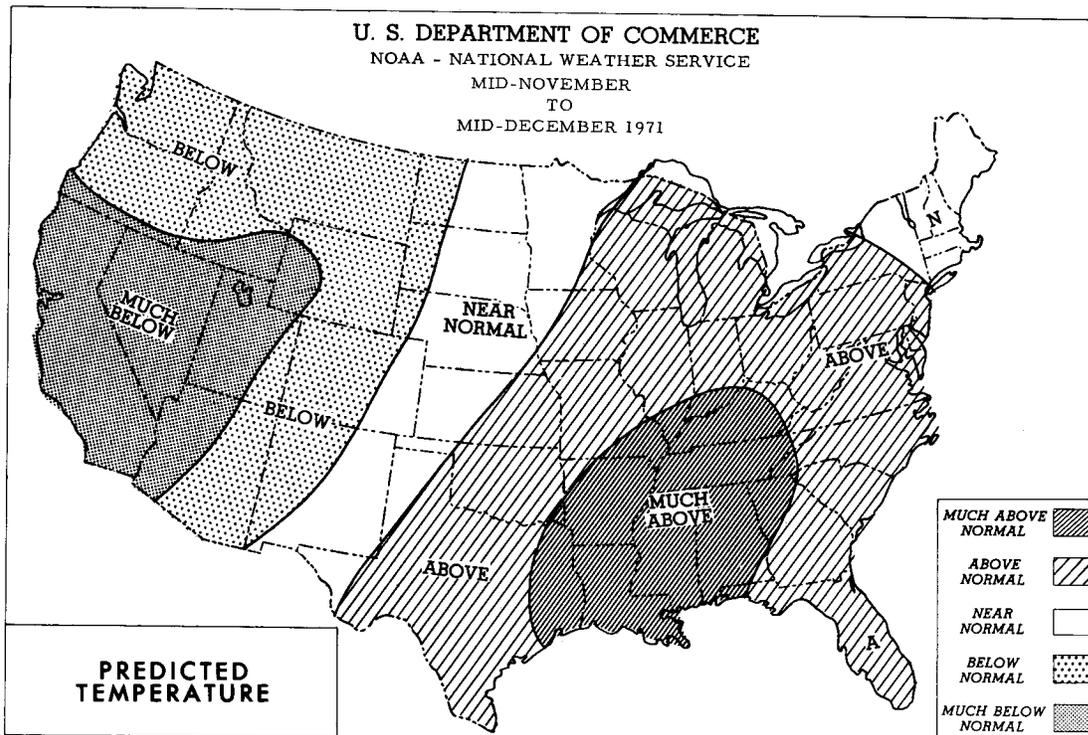
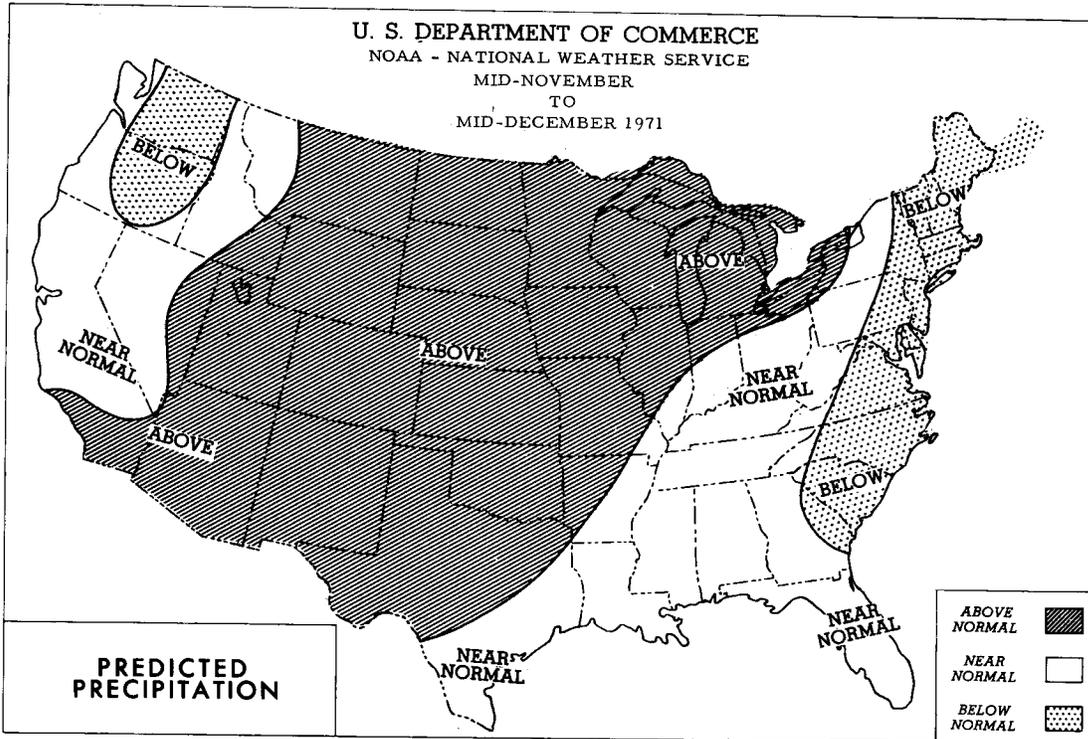
WASHINGTON: Western Washington: Considerable clouds and frequent showers although warm and dry for month of November. Some carrots and potatoes left to dig. Christmas tree harvest at halfway point. Clouds and rain together with cool nighttime temperatures stopped most vegetative growth with field activities at minimum. Eastern Washington: Considerable night and morning valley fog with cool minimum temperatures. Clear to partly cloudy over higher elevations. Subnormal precipitation with average temperatures above normal. Some sugar beet and carrot digging continuing; otherwise, pruning, rodent control, plowing, and fertilizing main activities. Winter wheat looking good and spraying for control greenbug aphids continuing. Livestock doing well. Winter livestock feed adequate.

WEST VIRGINIA: Dry and unseasonably warm weather abruptly changed by cold frontal rains November 19 and 20 followed by snow flurries and wind November 21 and 22. Snow depths about 4 inches in mountains but up to 10 inches at Mt. Storm. Supplemental feeding livestock minimal due relatively mild weather. Corn harvest final stages. Apple harvest complete.

WISCONSIN: Mild week. Turn to colder weekend. Record high temperatures near 70° in south Wednesday. In contrast near zero readings in north Sunday night. Precipitation mostly as rain showers. Heaviest in north Wednesday when between 1.00 and 2.00 inches fell many areas. Also some mostly light snow off Lake Superior late in period. Corn harvest slowed many sections by frequent showers. About 3/4 crop harvested. Much remaining acreage on soft ground and farmers waiting for frost to enter ground. Soil moisture mostly adequate to surplus.

WYOMING: Light to moderate precipitation occurred statewide, Alva 5 SE most moisture with 1.06 inches. Temperatures averaged near to slightly below normal. Maxima were mostly high 30's to low 50's southwest half, 50's and 60's northeast. Minima were mostly 5° to -15° southwest half, 5° to 20° northeast. Temperature extremes were 71° at Guernsey Dam and -18° at Foxpark. Grain and sugar beet harvest continued. Sugar beet harvest completed most communities, but others have 15% to dig. Corn for grain harvest nearing completion. Most livestock good, with some supplemental feeding begun.

AVERAGE MONTHLY WEATHER OUTLOOK



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

GROWING DEGREE DAYS - A SUMMARY OF THE 1971 GROWING SEASON

Growing degree days (GDD) provide a means for evaluating the progress of the growing season based on daily temperature conditions. The GDD's for a given day are calculated according to the definition:

$$\text{GDD} = \frac{T \text{ max } (\leq 86^{\circ}\text{F}) + T \text{ min } (\geq 50^{\circ}\text{F})}{2.0} - 50^{\circ}\text{F}.$$

Maximum temperatures above 86°F are entered as 86°, and minimums below 50°F are entered as 50°. These restrictions are designed to take into account the differing responses of plants to quite high or low temperatures. At daily average temperatures below 50°F, growth and development of a corn plant is virtually stopped. Above 86°F, an increase in temperature does not result in an increase in the rate of growth and development in corn. In fact, temperatures above 86° may be detrimental although the system assumes that growth continues at the maximum rate at temperatures above 86°. This method of calculating GDD was introduced through the Bulletin in 1969, and adopted by the Hybrid Seed Corn Industry as a basis for a uniform maturity rating the following spring.

The "normal" accumulations of GDD, based on 20-year means for the period 1949-1968 were published most recently in the March 29, 1971, issue of the Bulletin for 47 stations across the United States. Using these data, the mean GDD accumulation for any desired period during the growing season may be easily calculated.

Although the real-time usefulness of the information is limited, a look at the pattern of GDD accumulations in 1971 is still worthwhile. The GDD accumulations for each week were published throughout the year, and will not be reprinted here. However, several maps showing the departure from normals on several dates are presented. Maps showing departures from normal are included for the period from March 1 to each of the following dates: May 1, June 5, July 3, July 31, September 5, October 9 and October 30. In addition a map showing the departures from normal for the period July 4 to September 5 is also shown. Finally, the total accumulation for the period March 1 to October 30 is reprinted. Some of the features of these maps will be discussed, particularly with regard to the 1971 corn crop.

On May 1 (Figure 1), when most corn producers are busy gearing up for planting, the western half of the Corn Belt was slightly above normal to normal while the eastern half was slightly below normal. This situation existed because of the warm April which helped to warm the soil after a cold March. May was generally a cool month across the Corn Belt, as temperatures averaged 1° to 3° below normal. This was reflected in the GDD accumulations as they averaged 50 to 75 GDD below normal during the period May 2 to June 5. This resulted in total departures of 75 to 150 GDD below normal over much of the Corn Belt by June 5 (Figure 2).

The situation changed sharply during June when temperatures averaged 3° to 6° above normal across the Corn Belt and generally above normal over most of the Nation. By early July (Figure 3) the western half of the Corn Belt was again showing positive departures from normal with central Iowa over 100 GDD's above normal. Des Moines accumulated 109 GDD's more than normal between June 5 and July 4.

Accumulations were generally below normal during July and August as temperatures turned cool (Figures 4 and 5). By early September, the entire Corn Belt was below normal except for parts of northern Illinois, Iowa, Minnesota and South Dakota. Figure 8 shows the actual departures for the period July 4 to September 5. Accumulations were generally 50 to 100 GDD below normal across much of the Corn Belt, and below normal over the eastern half of the Nation.

Figures 6 and 7 show the departures accumulated from March 1 to October 9 and 30, respectively. During September and October accumulations were generally above normal by 100 to 200 GDD's. As of October 9, the northern portions of the Corn Belt were above normal while the southern portions were below normal. Portions of Iowa, Wisconsin and Illinois were 150 GDD's above normal. This situation was reflected in the current reports on crop conditions. The bulk of the corn crop was safe from frost at that time, with harvesting well ahead of normal in many areas, but behind in many southern areas. By the end of October, much of the Corn Belt was 50 to 100 GDD's above normal for the season. Portions of Wisconsin and Iowa were 250 GDD above normal. The actual total accumulation through October 30 are reprinted in Figure 9.

This year was a season of extremes, with alternating periods of warm and cold weather persisting for several weeks at a time. A warm April helped to warm up the cold soils, but a cool, wet May delayed planting in some areas. A hot June pushed the corn crop ahead of normal, but was followed by cooler than normal temperatures in July and August. The cooler temperatures appeared to provide excellent conditions for silking and filling while acting as a deterrent to the development of the Southern Corn Leaf Blight. A warm fall provided excellent conditions for the completion of filling, dry-down and harvesting.

In 1972, we are planning to present this type of information on a regular basis as part of the Bulletin. This will provide a real-time aspect to the data which may be useful in making the various decisions which must be made as the growing season progresses.

R. E. FELCH

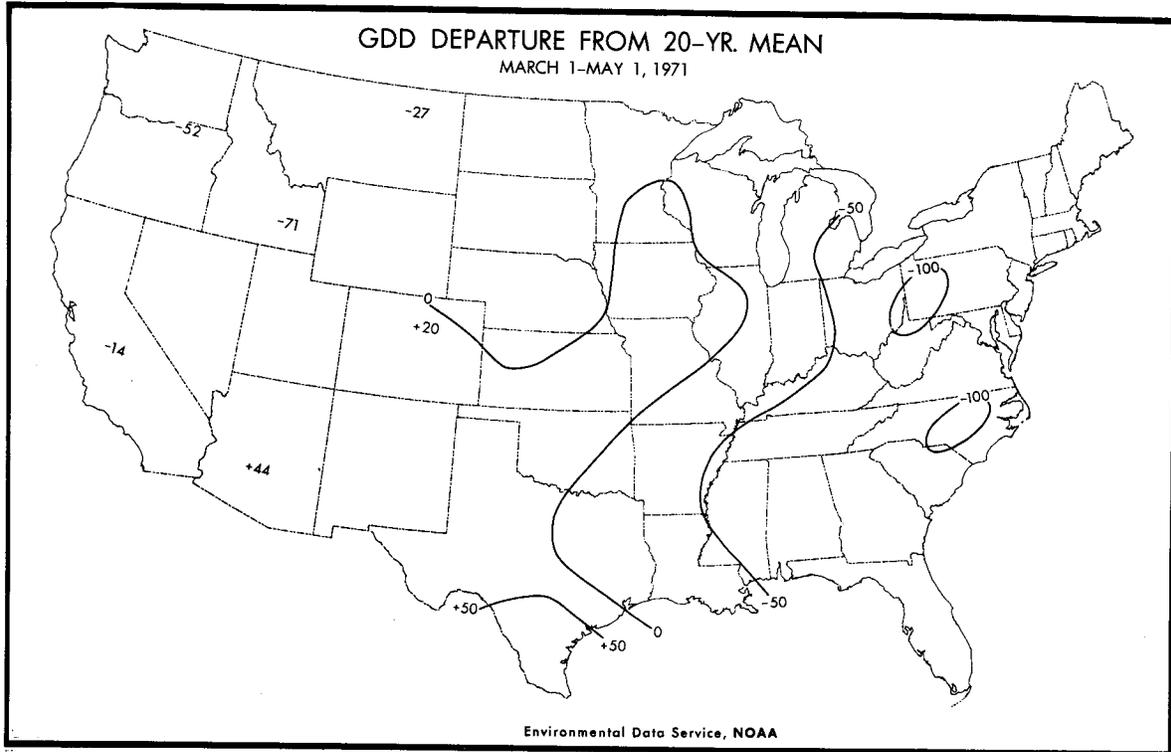


Figure 1. The departure from normal of growing degree day accumulations for the period March 1 to May 1, 1971.

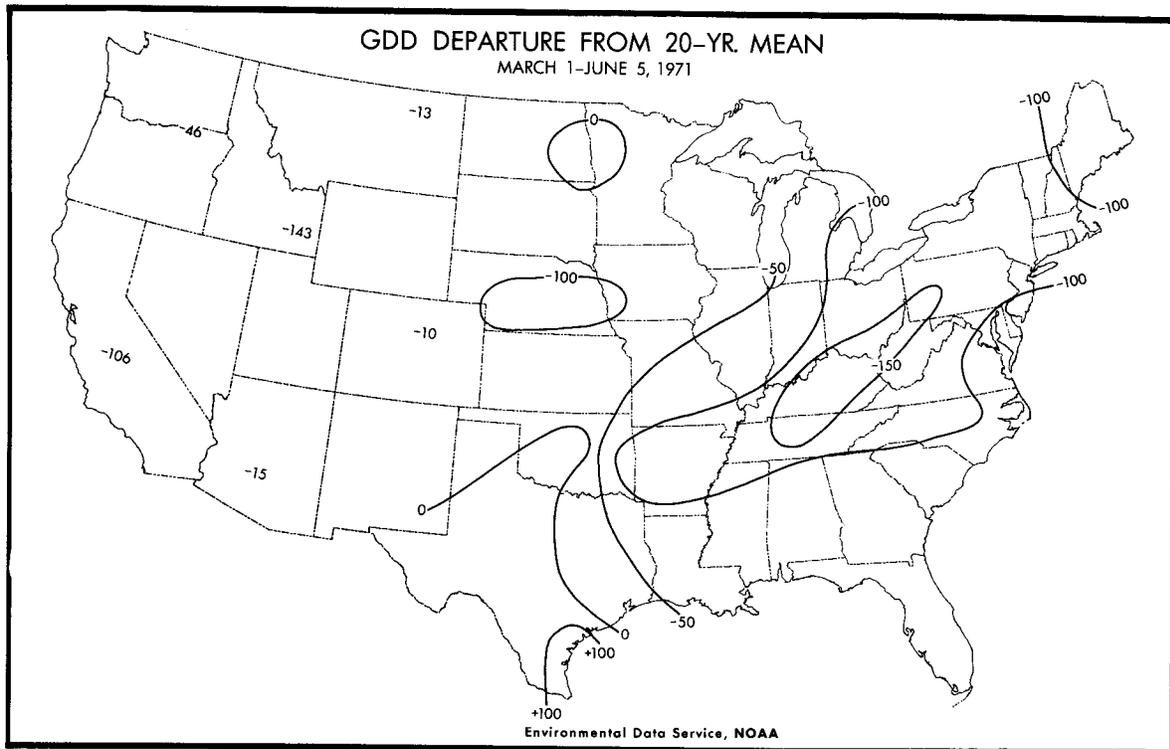


Figure 2. The departure from normal of growing degree day accumulations for the period March 1 to June 5, 1971.

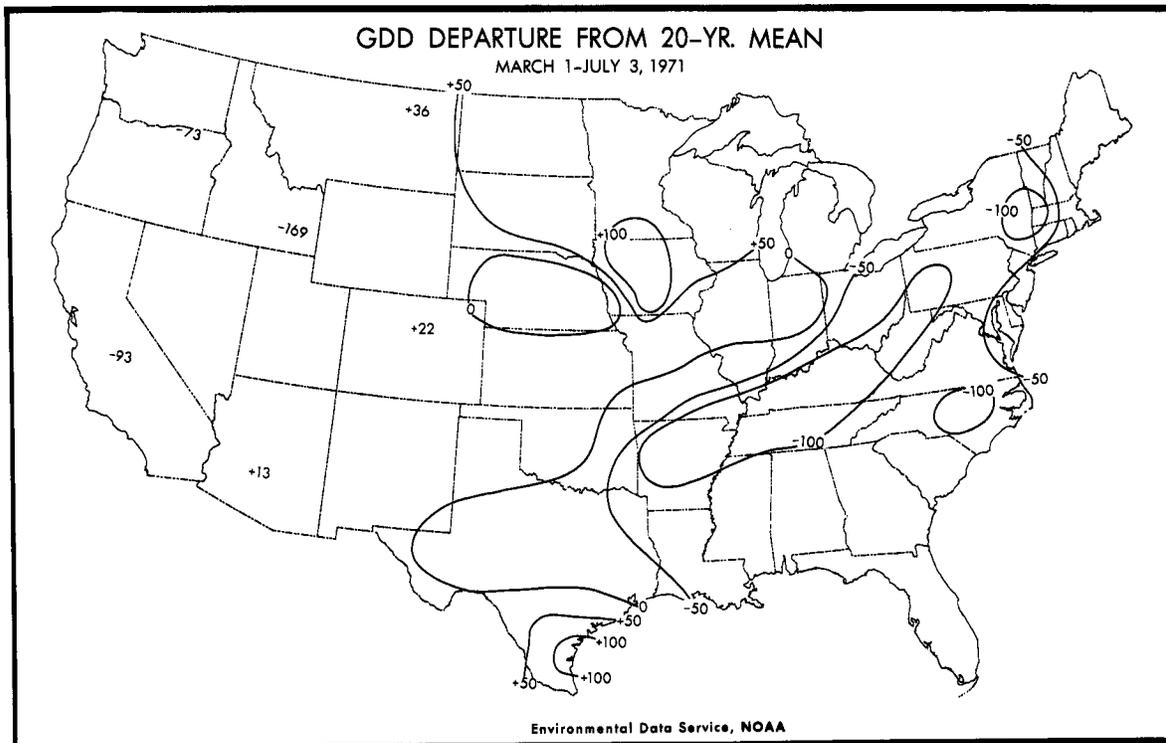


Figure 3. The departure from normal of growing degree day accumulations for the period March 1 to July 3, 1971.

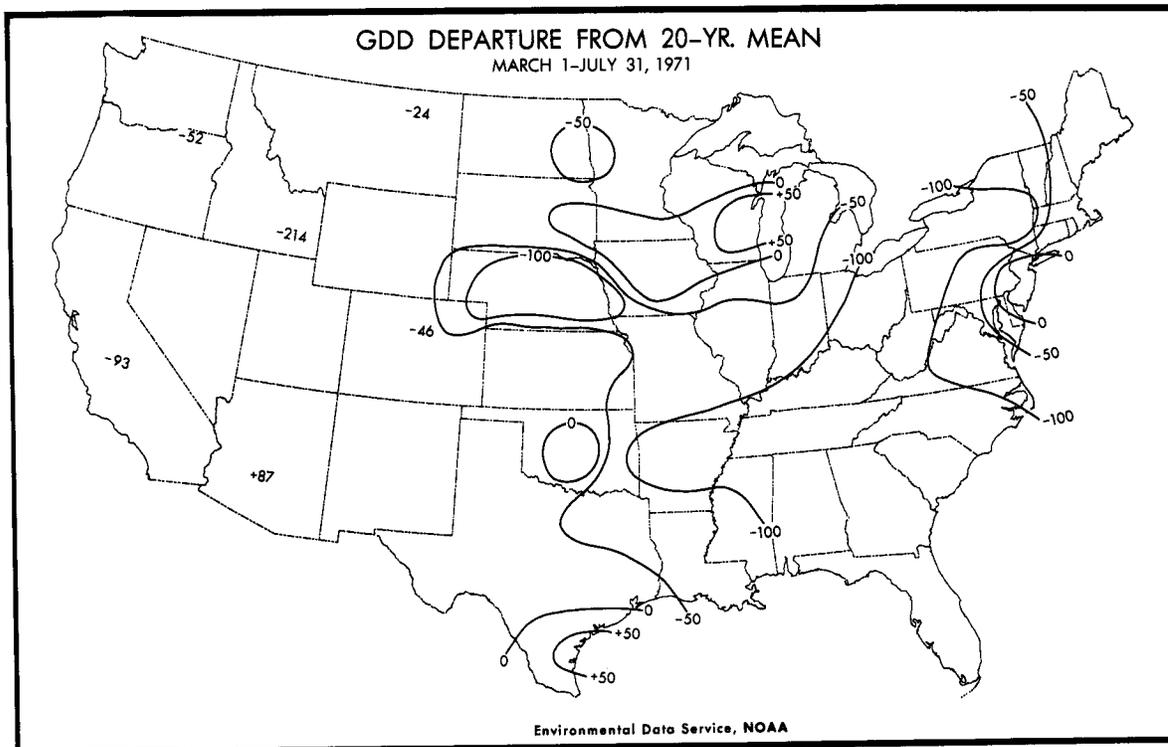


Figure 4. The departure from normal of growing degree day accumulations for the period March 1 to July 31, 1971.

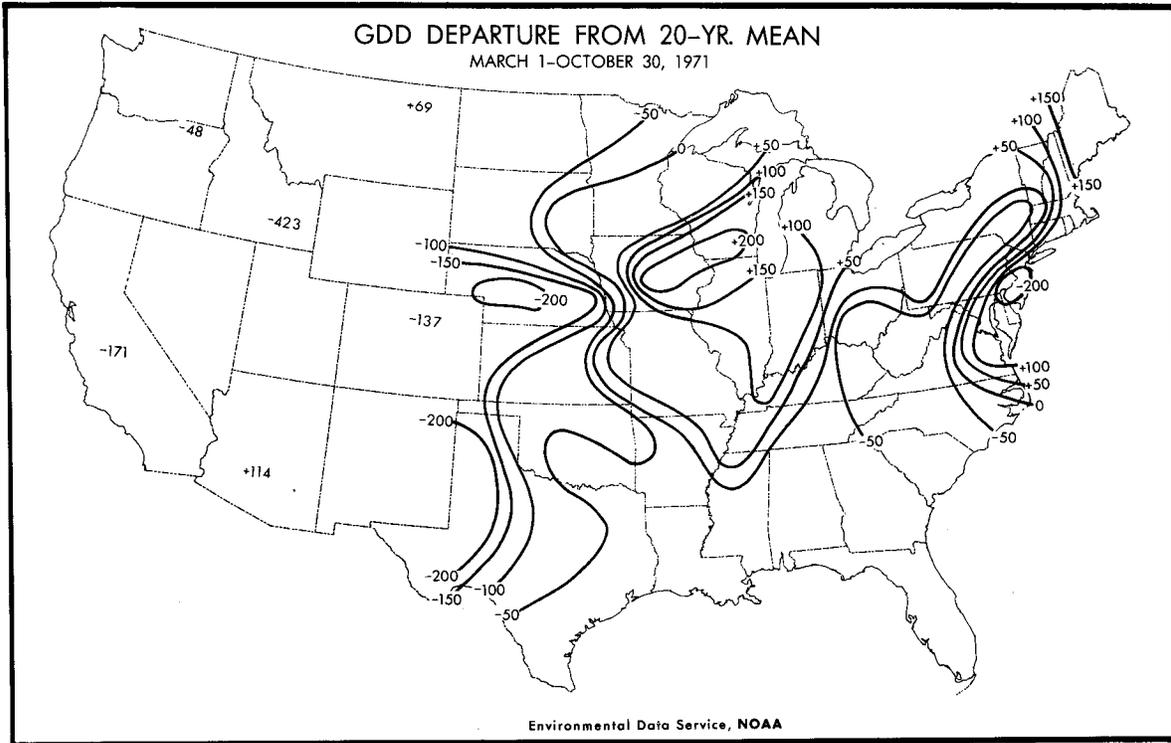


Figure 7. The departure from normal of growing degree day accumulations for the period March 1 to October 30, 1971.

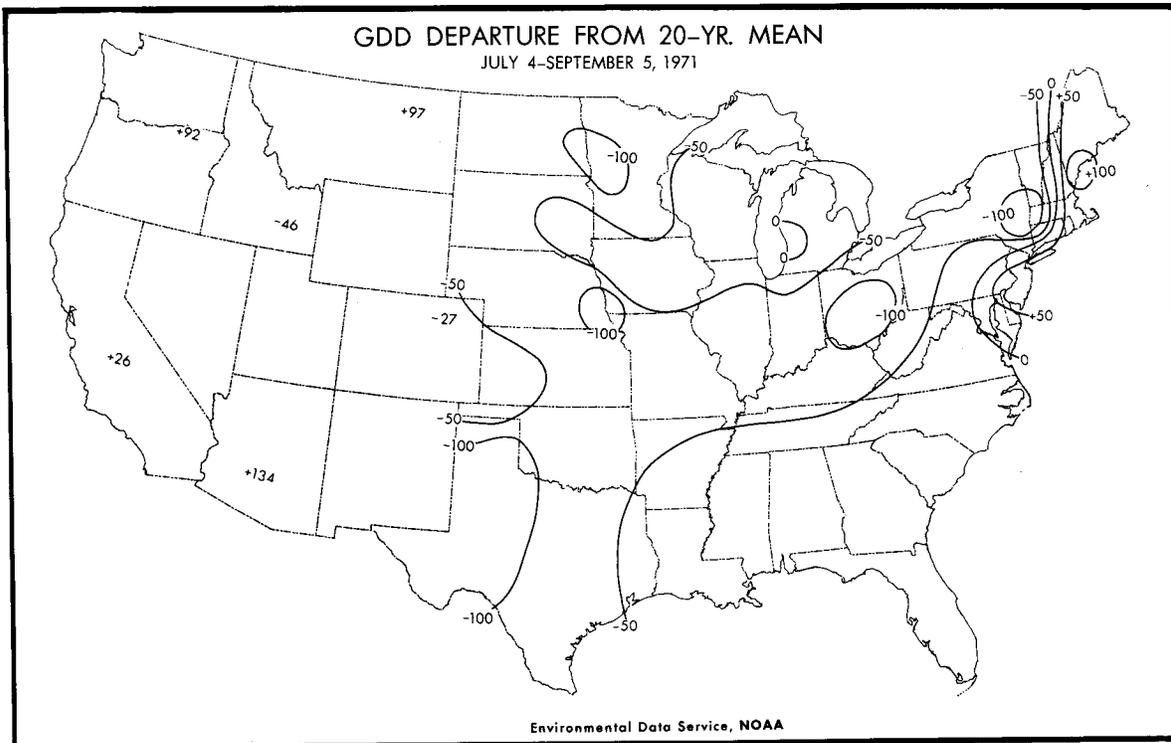


Figure 8. The departure from normal of growing degree day accumulations for the period July 4 to September 5, 1971.



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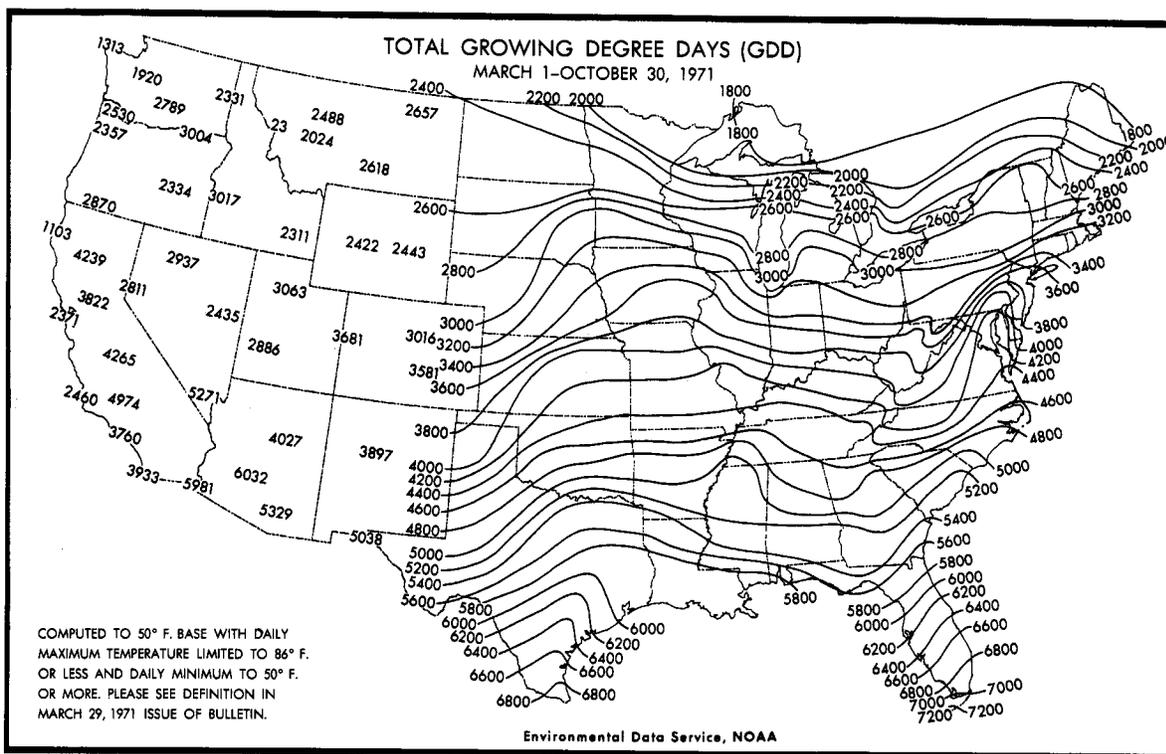


Figure 9. Total growing degree day accumulation for the period March 1 to October 30, 1971.