

Weekly Weather & Crop Bulletin

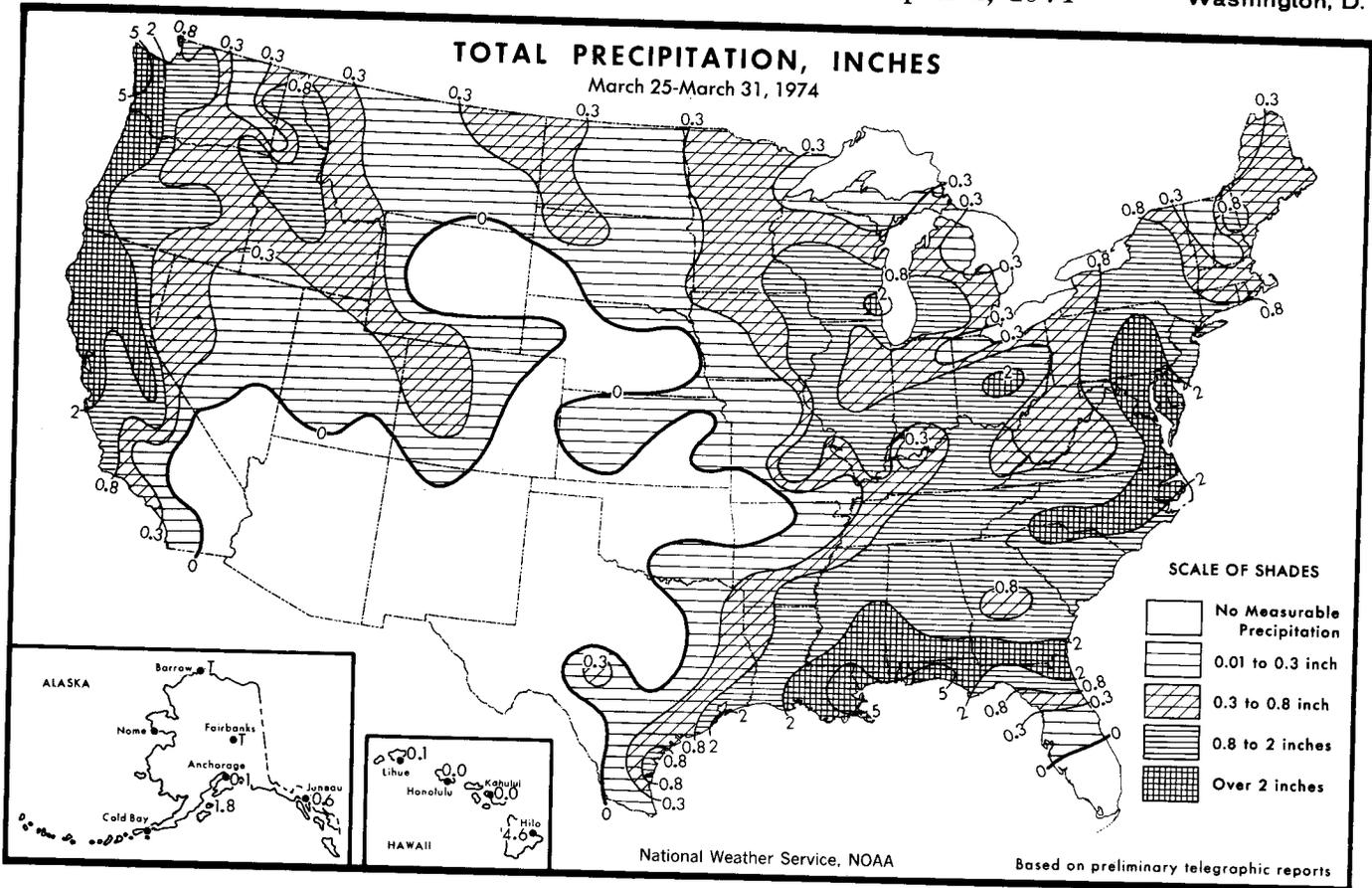
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NATIONAL WEATHER SUMMARY

HIGHLIGHTS: Rapidly changing weather patterns characteristic of early spring, produced hail, high winds and heavy precipitation over most of the Nation last week.

Only the southwestern section of the country, including Arizona, New Mexico and Texas remained dry. And a record dry spell continued in El Paso, Tex., as only .79 in. of rain has fallen since September, 1973.

Temperatures in the western two-thirds of the Country were above normal for the week while colder than normal temperatures were recorded over the Great Lakes and New England tier of states. The mercury topped seasonal levels along the Florida Peninsula registering temperatures as much as 8° above normal.

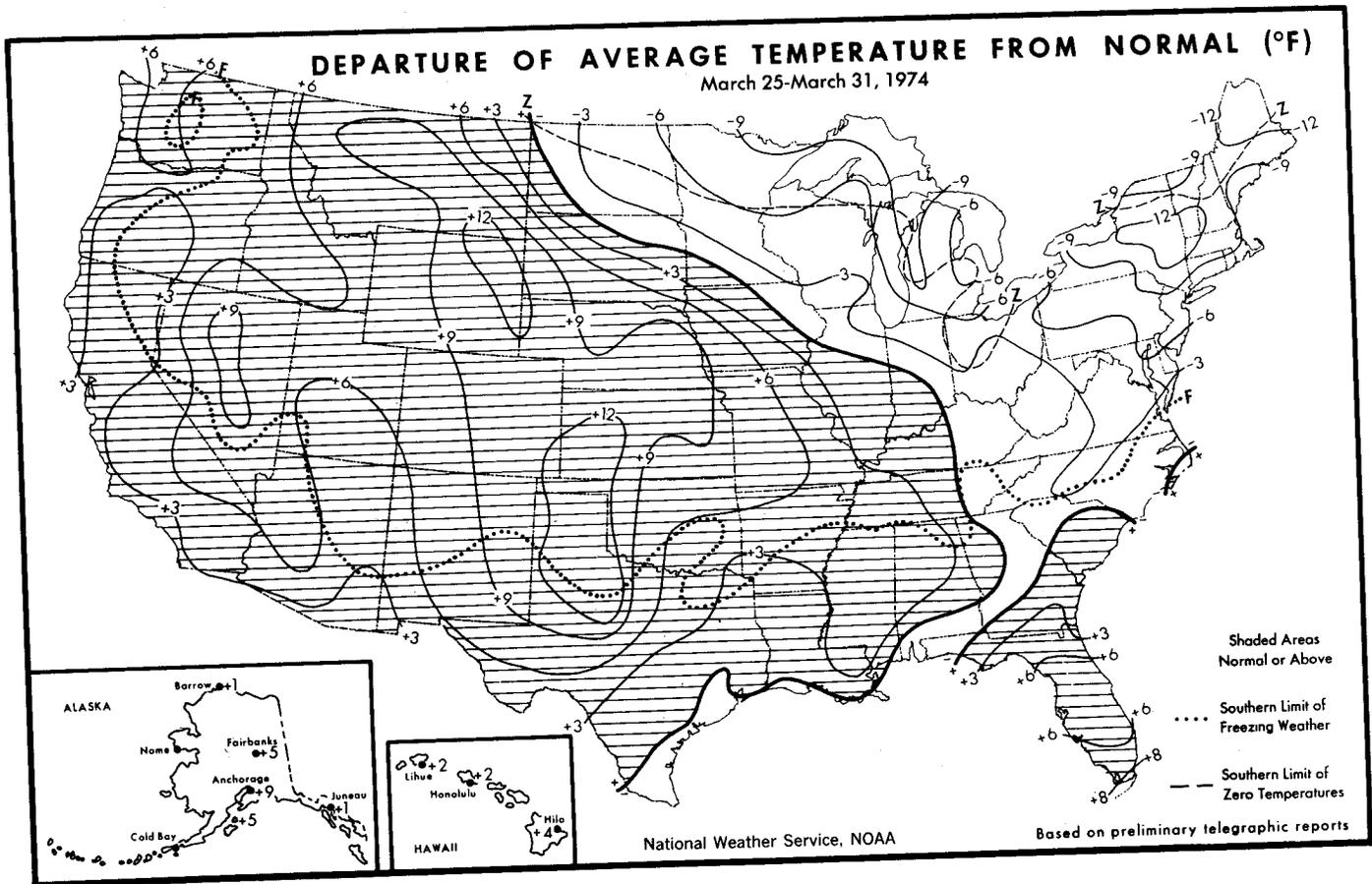
PRECIPITATION: A vigorous storm system again drenched the Pacific Coast. Weekly totals included: Astoria, Ore., 2.46; Eureka, Calif., 4.47; San Francisco, Calif., 2.07.

Throughout the week heavy precipitation, hail, high winds and dense fog plagued the Gulf Coast States. Over 5.00 in. of rain fell on both New Orleans, La., and Pensicola, Fla., and near continuous precipitation dampened the entire eastern seaboard during the week.

Early in the week a stationary front lying across northern Florida and into the Gulf spawned a low center which moved northeastward, offshore. Rain and showers fell along the south Atlantic Coast but freak snowstorms occurred in North Carolina and Virginia. Norfolk got a whopping 7.00 in. of snow, Greensboro, N.C., received 4.00 in. of snow and Panama City, Fla., reported 1.86 in. of rain.

Wild weather swept across Texas on Tuesday. Gusts up to 65 mph were reported near Galveston late in the morning, .50 in. hail fell near Beaumont, Tex., a funnel cloud was sighted near Houston and tornadoes touched down near Corpus Christi.

Midweek, thunderstorms triggered by a front stretching across the Gulf Coast occurred from



Louisiana to Alabama and reached north into Arkansas and Tennessee. Nearly 2.50 in. of rain soaked McComb, Miss., and isolated storms dumping as much as 5.00 in. of rain, caused local flooding in Louisiana.

On Thursday, another frontal system moved inland from off the Washington Coast producing more rain in the Pacific Northwest and northern California. Salinas, Calif., reported nearly 1.50 in. of rain within six hours. Late Thursday evening, a tornado roared through Ruston, La., causing considerable damage and personal injury. Another tornado was sighted near Tuscaloosa, Ala., accompanied by baseball size hail.

Midday Friday, high winds howled across the central and southern plains with gusts topping 60 mph at Laramie, Wyo. Windstorms were also occurring in the South. Two tornadoes were reported near Claxton, Ga., and 60 mph winds swept through Jefferson, Ga. Later in the day as the tornadoes and severe thunderstorms moved rapidly northeastward across portions of the Ohio and the Tennessee Valley, egg-size hail pelted Mendoria, Ill., and Bolivar, Tenn., reported golf ball-size hail. Wind gusts reached 54 mph at Springfield, Ill.

By the weekend, an Atlantic Coast storm had intensified and moved northeastward, whipping winds and water into the northeast coasts. Before the northeastern storm diminished, Atlantic City, N.J., measured over 1.00 in. of rain and Scranton, Pa., added 2 in. of snow to the ground.

TEMPERATURE: A large section of the Nation on both sides of a line from Great Falls, N.D., to Goodland, Kans., and southward to Lubbock, Tex., recorded

temperatures well above normal. Both Sheridan, Wyo., and Lubbock, Tex., reported average temperatures 12° above normal. The opposite situation prevailed in the lakes area and Northeast, where temperatures were below normal.

Monday, a record cold Arctic air mass for this late in March wedged between the Great Lakes and the Ohio Valley. Temperatures plummeted to record lows at Toledo, Ohio, with 6° below zero; Detroit, Mich., 4°; and Indianapolis, Ind., 5°. Midweek, the cold front passed through the Northeast, leaving behind cooler temperatures. Coolest spots were in the northern sections of North Dakota, Minnesota, Michigan and Maine, where the mercury held in the 20's.

Temperatures over the southern and central plains warmed to above seasonal levels Wednesday afternoon with temperatures in the low 80's common in much of Texas into southwestern Kansas.

Thursday, the warmest temperatures in the Nation was 91° recorded at Clewiston, Fla., and Cotulla, Tex., and Del Rio, Tex. A record low for Thursday was set shortly before midnight at Portland, Me., with a reading of 12° above zero.

Friday, the extreme Northeastern U.S. was fair and quite cool with readings in the teens common in New York and New England with a few spots dipping below zero. Temperatures reached record highs on Friday in southeast Texas and Louisiana. Alexandria, La., reached 90°; Victor, Tex., 93° and on Galveston Island, Tex., a record 81° was reported. On Sunday, the weather remained warm in Texas and the Southeast after highs of the upper 80's and 90's on Saturday but below freezing temperatures spread through the upper plains and into the central Great Lakes.

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: Winter wheat in the Great Plains is in good condition with adequate soil moisture in most areas and very little damage reported from recent freezing weather. Wetness restricted fieldwork in much of the Nation's eastern half. Recent cold hit peach trees hardest in mid-Mississippi Valley.

SMALL GRAINS: Winter wheat in the Great Plains is in generally good condition with no significant damage reported from recent freezing temperatures. Subsoil and topsoil moisture is mostly adequate except for shortages in parts of western Kansas, southwest Oklahoma and northwest Texas. Spring small grain planting began in South Dakota last week and is ahead of average in Kansas.

Kansas wheat is rated good with very little winterkill reported. Cutworms in southwest Kansas have not caused widespread damage. The recent freezing weather lowered Oklahoma wheat condition some although 70% is rated good or better. About 42% of the wheat acreage there is jointing which is behind last year's development but ahead of average. In Texas, wheat on the low plains has reached the boot stage while to the south most of the crop is heading out.

Warmer than normal temperatures promoted rapid growth of wheat in Nebraska and the crop remained in good condition. Colorado winter wheat condition ranges from good to excellent with some local wind damage reported last week. South Dakota fall planted small grains are mostly fair to good. Subfreezing temperatures last week frosted small grains in much of the eastern Corn Belt but first reports indicate no serious damage occurred.

Montana wheat is greening and stooling (except in northeast) in fair to good condition with adequate topsoil moisture except for shortages in central and southeast areas. Winterkill appears light to moderate. Small grains made good growth in Washington but additional warm weather is needed to achieve normal stand size. Spring wheat planting there is underway. Fall seeded grains in Oregon are in fair to good condition. Small grains are heading out in all areas of California and showing good growth except in flooded low spots.

OTHER CROPS: Wet weather restricted fieldwork in much of the eastern half of the Nation. Warm, sunny days over the central and southern Plains States provided excellent outdoor working conditions. Field preparations and early planting are well along in most southern areas except for parts of Tennessee, Mississippi, Alabama, and Georgia where wetness has caused delays.

Corn planting advanced to 39% complete in Texas compared to 33% last year while Georgia farmers have 7% of their corn planted which is about normal. A few early fields of corn were planted in Virginia.

Cotton planting is 7% done in Texas versus 6% a year earlier and planting from the Blacklands southward continues rapidly. Cotton planting just started in Georgia. In California, cotton is up with good stands in the Imperial Valley but some areas of the San Joaquin Valley may need replanting. Sorghum is 32% planted in Texas, ahead of last year's 24% while rice planting at 52% complete is far ahead of the 15% done this time a year ago.

FRUITS AND NUTS: Extremely cold temperatures about March 22 appear to have hit fruit crops hardest in the mid-Mississippi River Valley region while heavier producing areas to the east were generally not hurt.

In Virginia, peach cold damage varies from locally extensive in the south and east to very little elsewhere. The Virginia apple crop is in good condition with some orchards budding in the southern Piedmont.

Most Florida citrus trees and fruit remaining for harvest are in good to excellent condition, but more rain is needed in southern growing areas. Most Texas citrus are going to processing plants. Navel orange harvesting continued in California, some larger sizes were graded out due to granulation.

Oregon fruit growers readied frost protection devices last week as peaches started to bloom and cherry buds swelled.

Early walnut trees in California and pecan trees in south Texas started leafing out.

VEGETABLES: Shipments of cabbage, tomatoes and peppers increased from Florida while sweet corn, celery, escarole and lettuce declined.

Onion supplies increased while cabbage and carrot harvesting continued in the Lower Rio Grande Valley of Texas. Other crops there made good progress. The recent freeze killed some tomatoes and sweet corn in East Texas.

In California, lettuce moved in good volume at Palo Verde, celery supplies of good quality increased in the south, and carrot digging continued in the central coast and Parris-Hemet areas.

Tomato transplanting peaked in South Carolina while cabbage transplanting is in full swing in North Carolina.

PASTURES AND LIVESTOCK: Warmer than normal temperatures over the western two-thirds of the Nation turned more ranges to green and generally boosted pasture conditions. Most Southcentral and South Atlantic pastures are furnishing seasonal amounts of grazing.

Lambing and calving are well along in most areas with no unusual death losses. Livestock in most areas except the South continued receiving supplemental feed.

Standard copy for the Weekly Weather and Crop Bulletin is prepared by: Richard E. Felch, Lyle M. Denny, Orus W. Byrd, National Weather Service, NOAA; Arlon M. Scott, Nancy Burt, Statistical Reporting Service, USDA.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., March 31, 1974

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA.Birmingham . . .	61	+ 4	1.0	-.3	La.Baton Rouge . . .	66	+ 3	3.7	+2.5	Youngstown . . .	33	- 7	.8	0
Mobile . . .	62	- 1	4.1	+2.5	Lake Charles . . .	63	0	1.5	+ .7	OKLA.Okla. City . . .	59	+ 6	0	-.6
Montgomery . . .	61	+ 1	1.1	-.2	New Orleans . . .	67	+ 3	5.2	+4.0	Tulsa . . .	61	+ 8	0	-.7
ALASKA.Anchorage . . .	36	+ 9	.1	0	Shreveport . . .	61	+ 1	.5	-.5	OREG.Astoria . . .	49	+ 4	2.5	+1.2
Barrow . . .	-10	+ 1	T	-.1	MAINE.Caribou . . .	16	-13	.4	-.1	Burns . . .	42	+ 3	.8	+ .6
Fairbanks . . .	21	+ 5	T	-.1	Portland . . .	28	- 8	.6	-.2	Medford . . .	47	+ 1	1.8	+1.5
Juneau . . .	35	+ 1	.6	-.2	MD.Baltimore . . .	41	- 6	2.4	+1.6	Pendleton . . .	51	+ 5	.5	+ .3
Kodiak . . .	38	+ 5	1.8	+1.0	MASS.Boston . . .	32	-10	.7	-.2	Portland . . .	53	+ 6	2.8	+2.1
Nome . . .	---	---	---	---	Chatham . . .	34	-10	.5	---	Salem . . .	51	+ 4	4.0	+3.2
ARIZ.Flagstaff . . .	43	+ 6	T	-.4	MICH.Alpena . . .	25	- 6	.2	-.3	PA.Allentown . . .	36	- 7	1.8	+1.0
Phoenix . . .	69	+ 7	0	-.1	Detroit . . .	33	- 7	.8	+ .2	Erie . . .	33	- 4	.4	-.3
Tucson . . .	63	+ 3	0	-.1	Flint . . .	33	- 5	.7	+ .1	Harrisburg . . .	42	- 4	2.4	+1.7
Winslow . . .	52	+ 4	0	-.1	Grand Rapids . . .	29	- 9	1.7	+1.0	Philadelphia . . .	39	- 7	1.9	+1.1
Yuma . . .	69	+ 3	0	0	Houghton Lake . . .	24	- 8	.2	-.3	Pittsburgh . . .	38	- 5	.7	-.1
ARK.Fort Smith . . .	59	+ 4	0	-.9	Lansing . . .	31	- 7	1.4	+ .8	Scranton . . .	30	-11	1.7	+1.1
Little Rock . . .	59	+ 4	.1	-1.0	Marquette . . .	26	- 6	.2	-.3	R.I. Providence . . .	32	- 9	.4	-.5
CALIF.Bakersfield . . .	63	+ 5	.2	0	Muskegon . . .	30	- 8	1.6	+1.0	S.C.Charleston . . .	60	0	1.4	+ .4
Eureka . . .	54	+ 5	4.5	+3.5	S. Ste. Marie . . .	19	-10	.3	-.1	Columbia . . .	60	+ 2	1.5	+ .5
Fresno . . .	60	+ 4	1.2	+ .8	MINN.Duluth . . .	22	- 7	.2	-.3	Greenville . . .	54	- 1	2.0	+ .8
Los Angeles . . .	61	+ 1	.3	-.1	Internatl Falls . . .	19	- 9	.5	+ .2	S.D.Aberdeen . . .	33	- 1	.1	-.2
Red Bluff . . .	54	- 1	2.7	+2.2	Minneapolis . . .	31	- 4	.7	+ .3	Huron . . .	38	+ 3	.8	+ .5
San Diego . . .	62	+ 3	.3	0	Rochester . . .	31	- 3	1.4	+ .9	Rapid City . . .	46	+11	T	-.3
San Francisco . . .	56	+ 2	2.1	+1.6	St. Cloud . . .	28	- 5	.5	+ .1	Sioux Falls . . .	39	+ 3	.3	-.1
Stockton . . .	58	+ 3	1.7	+1.3	MISS.Jackson . . .	63	+ 3	1.3	+ .1	TENN.Chattanooga . . .	54	0	1.2	0
COLO.Denver . . .	51	+11	.2	-.2	Meridian . . .	64	+ 4	2.2	+ .8	Knoxville . . .	53	- 1	1.2	+ .2
Grand Junction . . .	53	+ 8	.3	+ .1	MO.Columbia . . .	53	+ 6	.1	-.5	Memphis . . .	60	+ 5	.5	-.7
Pueblo . . .	55	+11	T	-.2	Kansas City . . .	54	+ 8	T	-.7	Nashville . . .	56	+ 3	.8	-.3
CONN.Bridgeport . . .	35	- 7	1.5	+ .7	St. Louis . . .	52	+ 4	.7	-.1	TEX.Abilene . . .	71	+13	T	-.3
Hartford . . .	31	- 9	.7	-.2	Springfield . . .	55	+ 7	T	-.8	Amarillo . . .	61	+12	0	-.2
D.C.Washington . . .	45	- 4	2.3	+1.6	MONT.Billings . . .	44	+ 8	T	-.3	Austin . . .	64	+ 1	1.3	+ .6
FLA.Apalachicola . . .	67	+ 4	1.8	+ .8	Glasgow . . .	36	+ 5	.5	+ .4	Beaumont . . .	64	+ 1	1.3	+ .6
Daytona Beach . . .	73	+ 7	.2	-.5	Great Falls . . .	44	+10	.1	-.2	Brownsville . . .	69	- 1	.1	0
Ft. Myers . . .	75	+ 5	0	-.7	Havre . . .	41	+ 9	.2	0	Corpus Christi . . .	67	- 1	1.2	+ .9
Jacksonville . . .	67	+ 3	2.0	+1.2	Helena . . .	42	+ 8	.1	-.1	Del Rio . . .	70	+ 4	0	-.2
Key West . . .	79	+ 3	0	-.4	Kalispell . . .	42	+ 8	.4	+ .2	El Paso . . .	64	+ 6	0	-.1
Lakeland . . .	76	+ 8	.1	-.9	Miles City . . .	44	+ 9	.1	-.1	Fort Worth . . .	64	+ 5	0	-.7
Miami . . .	76	+ 3	T	-.6	Missoula . . .	44	+ 7	.4	+ .2	Galveston . . .	64	0	2.0	+1.4
Orlando . . .	76	+ 8	.3	-.5	NEBR.Grand Island . . .	51	+10	T	-.4	Houston . . .	64	0	.6	0
Tallahassee . . .	66	+ 3	1.8	+ .6	Lincoln . . .	52	+10	T	-.4	Lubbock . . .	65	+12	0	-.2
Tampa . . .	76	+ 8	.1	-.7	Norfolk . . .	48	+10	T	-.4	Midland . . .	67	+ 9	0	-.1
W.Palm Beach . . .	77	+ 6	0	-.8	N.Platte . . .	48	+ 9	T	-.3	San Angelo . . .	68	+ 7	0	-.2
GA.Atlanta . . .	56	+ 1	1.2	-.1	OMaha . . .	51	+11	T	-.5	San Antonio . . .	65	+ 1	T	-.4
Augusta . . .	58	0	1.1	+ .1	Valentine . . .	44	+ 8	.2	0	Victoria . . .	66	+ 1	.4	0
Macon . . .	60	0	.5	-.6	NEV.Ely . . .	43	+ 7	.1	-.1	Waco . . .	64	+ 3	0	-.6
Savannah . . .	62	+ 1	1.1	+ .2	Las Vegas . . .	65	+ 7	0	-.1	Wichita Falls . . .	64	+ 7	T	-.5
HAWAII.Hilo . . .	75	+ 4	4.6	+1.6	Reno . . .	45	+ 3	.4	+ .3	UTAH.Blanding . . .	46	+ 5	0	-.2
Honolulu . . .	75	+ 2	0	-.6	Winnemucca . . .	49	+ 9	.2	+ .1	Salt Lake City . . .	50	+ 7	.1	-.3
Kanului . . .	73	0	0	-.5	N.H.Concord . . .	26	-11	.2	-.4	VT.Burlington . . .	26	- 9	.2	-.3
Lihue . . .	74	+ 2	.1	-.9	N.J.Atlantic City . . .	40	- 5	1.9	+1.0	VA.Lynchburg . . .	47	- 3	.6	-.1
IDAHO.Boise . . .	49	+ 5	.4	+ .2	Trenton . . .	37	- 8	1.8	+1.0	Norfolk . . .	50	- 2	2.6	+1.9
Lewiston . . .	50	+ 5	.3	+ .1	N.MEX.Albuquerque . . .	56	+ 7	0	-.1	Richmond . . .	46	- 5	1.5	+ .8
Pocatello . . .	45	+ 6	.6	+ .4	Roswell . . .	63	+ 9	0	-.1	Roanoke . . .	49	0	.6	-.1
ILL.Cairo . . .	56	+ 3	.2	-.9	N.Y.Albany . . .	27	-12	.8	+ .2	WASH.Colville . . .	43	+ 3	.5	+ .3
Chicago . . .	38	- 4	.9	+ .1	Binghamton . . .	27	- 9	1.6	+ .9	Omak . . .	46	+ 4	.2	0
Moline . . .	40	- 1	1.0	+ .3	Buffalo . . .	29	- 8	.6	-.1	Quillayute . . .	47	+ 5	6.3	+4.1
Peoria . . .	44	+ 1	.6	-.2	New York . . .	37	- 8	1.0	+ .1	Seattle-Tacoma . . .	51	+ 6	1.6	+ .9
Rockford . . .	37	- 3	.7	-.1	Rochester . . .	27	-11	1.0	+ .4	Spokane . . .	43	+ 3	1.2	+ .9
Springfield . . .	46	+ 1	.8	0	Syracuse . . .	26	-12	1.7	+1.0	Walla Walla . . .	52	+ 4	1.0	+ .6
IND.Evansville . . .	51	+ 2	.2	-.9	N.C.Asheville . . .	49	- 1	1.7	+ .7	Yakima . . .	49	+ 5	.6	+ .5
Ft. Wayne . . .	37	- 4	.2	-.5	Charlotte . . .	51	- 3	2.6	+1.6	W.Va.Beckley . . .	44	- 1	.5	-.4
Indianapolis . . .	45	0	1.0	+ .1	Greensboro . . .	49	- 3	1.4	+ .6	Charleston . . .	47	- 2	.5	-.4
South Bend . . .	36	- 4	.4	-.4	Hatteras . . .	55	+ 1	1.1	+ .3	Huntington . . .	48	- 1	.7	-.2
IOWA.Burlington . . .	45	+ 3	.9	+ .1	Raleigh . . .	51	- 2	1.7	+ .9	Parkersburg . . .	46	- 1	.7	-.2
Des Moines . . .	46	+ 6	.3	-.3	Wilmington . . .	57	- 1	1.6	+ .8	WIS.Green Bay . . .	29	- 6	.5	0
Dubuque . . .	36	- 2	1.0	+ .2	N.DAK.Bismarck . . .	29	- 3	.1	-.1	La Crosse . . .	33	- 4	1.6	+1.1
Sioux City . . .	47	+ 8	.1	-.3	Fargo . . .	26	- 5	.3	0	Madison . . .	34	- 2	1.6	+1.1
KANS.Concordia . . .	55	+11	T	-.4	Williston . . .	31	0	.3	+ .1	Milwaukee . . .	33	- 3	2.1	+1.5
Dodge City . . .	58	+13	T	-.3	OHIO.Akron-Canton . . .	36	- 5	1.1	+ .3	WYO.Casper . . .	45	+10	T	-.3
Goodland . . .	51	+11	.1	-.1	Cincinnati . . .	45	- 1	1.0	+ .1	Cheyenne . . .	45	+11	.1	-.2
Topeka . . .	56	+10	0	-.7	Cleveland . . .	37	- 4	.5	-.3	Lander . . .	43	+ 8	T	-.4
Wichita . . .	55	+ 7	T	-.5	Columbus . . .	42	- 2	2.5	+1.7	Sheridan . . .	47	+12	T	-.4
KY.Lexington . . .	47	- 1	.9	-.2	Dayton . . .	41	- 3	1.1	+ .3	P.R.San Juan . . .	79	+ 2	.1	-.4
Louisville . . .	50	+ 1	.8	-.3	Toledo . . .	34	- 7	.2	-.4					

Based on 1941-70 normals.

CONDENSED STATE SUMMARIES

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

ALABAMA: Scattered thundershowers across State 28th and 29th produced baseball-sized hail near Tuscaloosa Thursday night with rains 2.00 to 3.00 in. common in central. Thunderstorms followed by abrupt change to sunny and windy over weekend. Temperatures in 80's most sections Sunday.

Farmers made very limited progress completing land preparation for spring planting. Only about 2 to 3 days suitable for fieldwork. Few additional fields planted to corn as weather permitted. Wet ground and low soil temperatures curtailed grower's efforts to get an early start planting cotton, but should start in several localities next few weeks. Small grains continued to make good growth. Rust, mildew and smut observed in several wheat fields south and central. Rain delayed cultivation of Irish potatoes in Baldwin county area and completion of planting on Sand Mountain. Pastures developing nicely and furnishing seasonally short to adequate grazing.

ARIZONA: Dry week. Only precipitation sprinkles higher elevations north, Saturday. Temperatures mostly 2° to 4° above normal. Afternoon highs near record levels 29th, 30th. General cooling 10° Sunday. Moderate winds most of week, gustiness Saturday, Sunday peak 30 to 40 mph most of State.

Small grain development rapid, 75% of crop at or past jointing, higher elevation areas 10% to 20% jointed. Safflower progress satisfactory, bud development Yuma County. Early planted cotton Yuma area up to stand. Planting active Aguila, Salome, Parker. Planting Pima County expected full scale first half April. Limited activity sorghum, early planting Yuma area, seedbed preparations other desert areas. Spring sugar beets progressing favorably, good yields expected. Fall harvested crop developing normally. Haying picking up desert areas.

Lettuce harvest west nearing completion. Harvest active Salt River Valley, start soon southcentral. Lettuce satisfactory growth, Cochise County. Harvest mixed vegetables continued steady rate central, west areas. Cantaloupes, watermelons good progress. Grapevine growth well underway, early varieties showing 12 in., no bloom yet. Harvest Valencia oranges, grapefruit continued. Activity increased but limited Valencias, very limited grapefruit. Insect treatments underway. Citrus groves very good condition, good vegetative growth. Ranges poor, need moisture throughout State. Livestock fair to good Salt River Valley, poor to fair other areas. Stockwater, soil moisture supplies short. Most lambs Maricopa County shipped to market.

ARKANSAS: Very cold early week, low 26th mostly in 30's. Lowest readings north, 24° at Gilbert. Warming trend during week, in 80's and 90's by end of week. Fort Smith warmest, 94° on 31st. Temperatures 3° to 8° above normal for week. Rainfall varied ranging from less than 0.25 in. northwest two-thirds where numerous locations received less than trace, to about 1.00 in. southeast third. Arkansas City wettest with 1.27 in. falling mid-week.

Farmers better prepared for spring planting this year that last. Cool temperatures early and showers later in week postponed planting. Fuel

supply adequate over State. Fertilizer short to very short. Topsoil moisture average to above average. Land preparation for cotton, rice complete. Farmers waiting for dry fields and warm temperatures. Some seedbed preparation underway for soybeans, sorghum. Freeze to small grains limited to leaf blade damage. Wheat made good growth and jointing. Peach crop 50% to 75% of normal following March freeze.

CALIFORNIA: Storms moving through State brought cloudy skies and rain to all areas except the south-east interior. Amounts generally exceeded 2.00 in. over most of north. Some northern mountain areas got over 10.00 in. locally. Average temperatures above normal all areas, lows remained above freezing in all lower valley areas.

Rains halted field preparation. Small grains showed good growth. Some flooding in low areas causing grain to stress. Heading out in all areas. aphid control underway. Pre-irrigation continues in cotton. Cotton up with good stands Imperial Valley, but some areas San Joaquin Valley may need replanting. Harvest of overwintered sugar beets halted, digging in Imperial Valley starts mid-month. Alfalfa continued good growth.

Grape vines leafing out most areas. Early varieties walnuts starting to leaf out and buds pushing on later varieties. Almond set reported good but varies depending on variety. Cherries full bloom, problems with brown rot. Jacket rot, blight could develop in pears if rain continues. Apple orchards treated to combat mildew and scab. Prune bloom ranges full to about over depending on area. Apricot set good. Navel orange harvest continued, some larger sizes graded out due to granulation. Light Valencia picking started; size, grade good. Avocado, grapefruit harvests slow. Lemon picking interrupted by rain. Date pollination continued.

Artichokes good supply. Asparagus harvested as weather permitted. Broccoli moderate Salinas-Watsonville area. Cauliflower light central coast. Carrot digging continued central coast, Perris-Hemet; good quality. Celery supplies up in south, good quality. Lettuce good volume Palo Verde. Strawberries increased south coast, some damage reported central coast. Processing tomato planting continued San Joaquin Valley, no fieldwork Sacramento Valley, rain.

Rangelands, pastures, generally very good statewide. However, drying weather needed in north. Scattered lambing, calving continued in north. Shearing in full swing Westside, San Joaquin Valley. Costs continue hamper feedlot operations. San Joaquin Valley bee colonies moved into citrus, rangeland areas. Colony strength good. Egg prices declined, result of increased spring egg production.

COLORADO: Unseasonably warm through midweek but changeable weather was rule after 27th. Pacific cold fronts brought moderate to heavy snow to north and central mountains and light to moderate rain and/or snow to lower elevations north and westcentral. Precipitation totals generally 0.10 in. to 0.50 in. over north two-thirds, little or no moisture reported over south third. Temperatures averaged 11° to 13° above normal east and 6° to 8° above seasonal west. Highs climbed to 80's parts of southeast on 30th. Highest was 83° at Lamar.

Pacific front late in week dropped daytime readings to 50's north and west but highs in southeast mostly in 60's.

Fieldwork increased east. Oats 14% planted, 3% emerged compared 6% planted year ago. Spring barley 14% planted, 3% emerged. Limited acreage sugar beets and potatoes planted. Emerged oats and spring barley good condition. Winter wheat good to excellent condition although local areas wind damage past week. Soil moisture adequate. Ranges and pastures continued to green. Livestock good.

FLORIDA: Warm with moderate to heavy rainfall north and central, dry south. Rainfall totals excess 2.00 in. at many locations north while zero southern peninsula. Temperatures averaged above normal.

Soil moisture adequate to surplus west, north, and central but short in south. Planting delayed by rainfall midweek. Small grains made good growth. Wheat beginning to head. Young plant and stubble cane good condition. Harvest of older cane about complete, most mills closing. Pastures poor to fair. Cattle and calves fair to good. Most citrus trees and fruit remaining for harvest good to excellent condition. Bloom in all stages, more rain needed south.

Cabbage, tomatoes, peppers increased, maintained heavy volume levels. Snap bean supplies about normal. Cucumbers, potatoes continued upward. Sweet corn, celery, escarole, lettuce declined. Strawberries falling off seasonally, some fields open for public picking. First loading watermelons recorded.

GEORGIA: Much day to day variations in temperatures and weather patterns. Statewide temperatures averaged 3° or 4° subnormal with freezing or near freezing temperatures north Monday morning. Rainfall averaged 1.00 to 2.00 in. with isolated 3.00 in. northwest and south. Severe weather west and northwest on 29th, across north early on 30th.

Soil moisture adequate to mostly surplus statewide. Fieldwork delayed most areas. Tornadoes and high winds damaged some buildings and trees. Tobacco transplanting slightly above normal at 41% complete. Corn 7% planted, near normal. Cotton planting underway. Small grains fair to mostly good but some disease problems. Pastures and livestock good.

HAWAII: Sunny periods favorable to crop progress throughout State. Irrigation beginning to be active most areas because dry weather. Banana production expected to continue at seasonal low for several weeks. Papaya production gradually increasing. Adequate supply of vegetables. Pastures and cattle in good condition. Strike continued at sugar plantations. Active harvesting of pineapples for fresh fruit market.

IDAHO: A series of Pacific fronts brought recurring periods of showers, wind, and unsettled weather most of week. Temperatures averaged near normal with highs mostly in 60's and lows in upper teens and 20's. East received 0.50 to near 1.00 in. precipitation, while rest of State got about 0.25 in. Mild temperatures and precipitation increased snow melt causing some streams to rise.

Moderate amount of land preparation and seeding southwest, southcentral. Too wet and cold in east for fieldwork. Fall seeded grains good condition southwest and southcentral. Grass greening lower elevation grazing areas. Livestock moving to spring ranges. Feed supplies adequate for anticipated needs.

ILLINOIS: Temperatures 1° to 3° below normal north, 2° to 6° above normal south. Below normal temperatures entire State early week, warming trend latter part of week especially south.

Precipitation heavy most of State. Heavy rain 29th, 0.50 to 1.00 in. most areas. Snowfall 3 to 7 in. central portion on 30th. Limited amount fieldwork due to wet conditions.

INDIANA: Temperatures averaged 4° above normal and ranged from 24° at Ft. Wayne on 26th to 84° at South Bend on 27th. General precipitation of 0.50 in. late in period but over 2.00 in. Lafayette area. Soil temperatures in 40's. Warmest in sunny south.

Thawing soils and rain prevented fieldwork. Main activities included usual chores, caring for livestock and preparing for the 1974 crop season. Peach crop severely damaged by record low temperatures on 24th and 25th. Small grains frosted, but first reports indicate no serious damage.

IOWA: Mostly cloudy skies ruled week with sunshine at week's end. Warmer weather returned following a prolonged cold spell with temperatures averaging from 5° below normal northeast, 6° to 8° above normal southwest. Extremes: 20° at Cresco on 26th, 77° at Council Bluffs on 31st. Precipitation above normal east to well below normal west. Amounts varied from around 2.00 in. eastcentral from thunderstorms on 29th to less than 0.10 in. west. Scattered small hail reported over south-east on 29th.

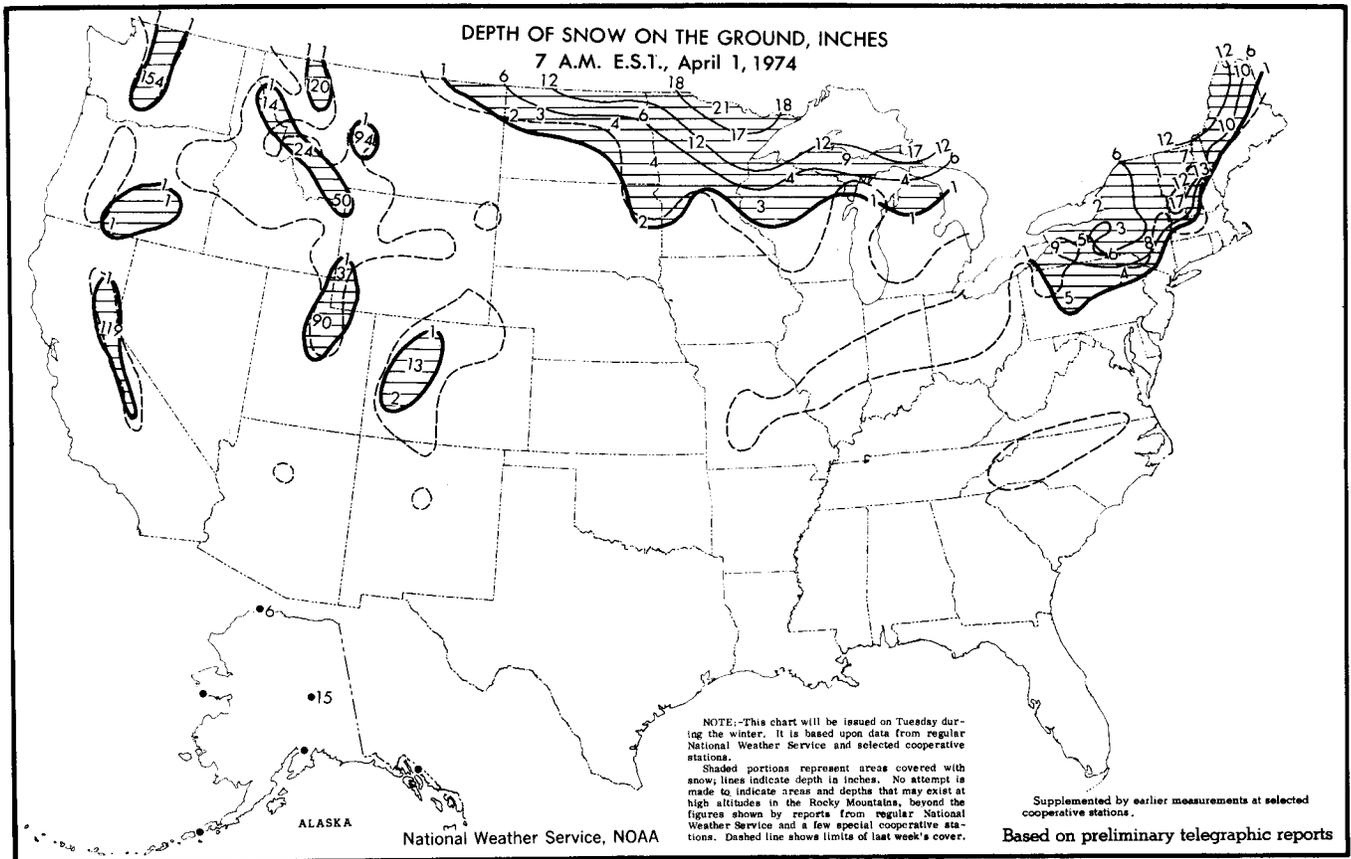
KANSAS: Very light precipitation. Temperatures averaged 14° above normal northwest and westcentral to 9° above normal southeast and southcentral. Southeast Kansas readings in lower 90's on 31st. Typically windy with velocity in excess of 50 mph 29th.

No significant damage of winter wheat crop from freeze of March 21 to 23. Wheat generally good condition, cutworm infestations southwest, no widespread damage. Very little to no winter kill reported. Spring oats 70% planted, 15% a year ago, 60% average. Spring barley 65% planted, 20% a year ago, 45% average. Grasses doing well. Alfalfa weevil in scattered localities. Subsoil and topsoil moisture adequate to surplus except some southwest and westcentral counties short. Cattle moving off wheat pastures southern one-third of State.

KENTUCKY: Rainfall averaged 0.50 to 1.00 in. late week. Temperatures averaged near normal but ranged from lows in 20's to highs in 70's.

Rain and wet soils limited fieldwork to about 3.5 days. Soil moisture adequate to surplus. Plowing for spring crops 50% completed. Tobacco beds 75% seeded, with 15% having plants up. Pasture growth slowed by cool weather, furnishing only 33% of cattle roughage requirements. About 80% of farms still have livestock on winter feed. Winter kill small grains light, 5% or less, except in extreme west where 10% of wheat may be lost. Fuel supplies considered adequate by 80% of reporters. Fertilizer considered short by 70% of reporters. Nitrogen especially short followed by phosphate, potash generally adequate.

LOUISIANA: Precipitation light to moderate north, locally excessive portions of south. Weekly totals ranged from 0.50 to 1.50 in. north and 1.00 to more than 6.00 in. southeast. Greatest 1-day rain total. 5.64 in. at Reserve 27th. Warming trend after rains ended but dry air mass brought cooler weather briefly. Rapid warming over weekend. Tem-



peratures averaged 2° to 5° above normal. Extremes: 92° at Shreveport on 31st, 33° at Cotton Valley and Tallulah on 25th.

Rains early week stopped all land preparations. Some pastures sprayed for weed control. Ditching active latter part week. Fieldwork: 1.8 days favorable. Soil moisture surplus most areas. Corn 20% planted. Rice planting active early week, 10% planted. Rice growers opening drains to remove water late week. Tomato setting active northeast. Frost and cold damaged some plants north. Rain slowed strawberry harvest. Pastures average. Cattle fair to good.

MARYLAND AND DELAWARE: Temperatures cool, averaging normal or below. Highs ranged upper 60's. Low of 6° Garrett County, upper teens to mid-20's elsewhere. Precipitation exceeded 2.00 in. over two States. Heavy rain and wind on Saturday, clearing Sunday.

Low temperatures endangered tender vegetation but little economic loss. Some probable loss of fruit bloom but too early to tell effect on production. Potato planting active Dover area. Field preparation for spring crops continued during week except some heavy soil areas too wet.

MICHIGAN: Precipitation fell mainly first and last of week as snow north and during last half week south as snow, sleet, freezing rain. Glaze coated much of south half toward end of week and persisted until warming and rains at close of week. Heavy snow fell some westcentral areas. Precipitation totaled over 1.00 in. southwest up to 1.00 in. central, northwest and southeast lower and generally

under 0.33 in. elsewhere. Precipitation continued much below normal central and west upper.

A new daily record low of 16° below zero set on 25th at Houghton Lake and a daily record low was tied at Detroit. Temperatures averaged 5° to 10° below normal. Coldest 25th and warmest on 31st. Up to 6 in. snow remains on ground in north lower and over 1 ft. some upper areas.

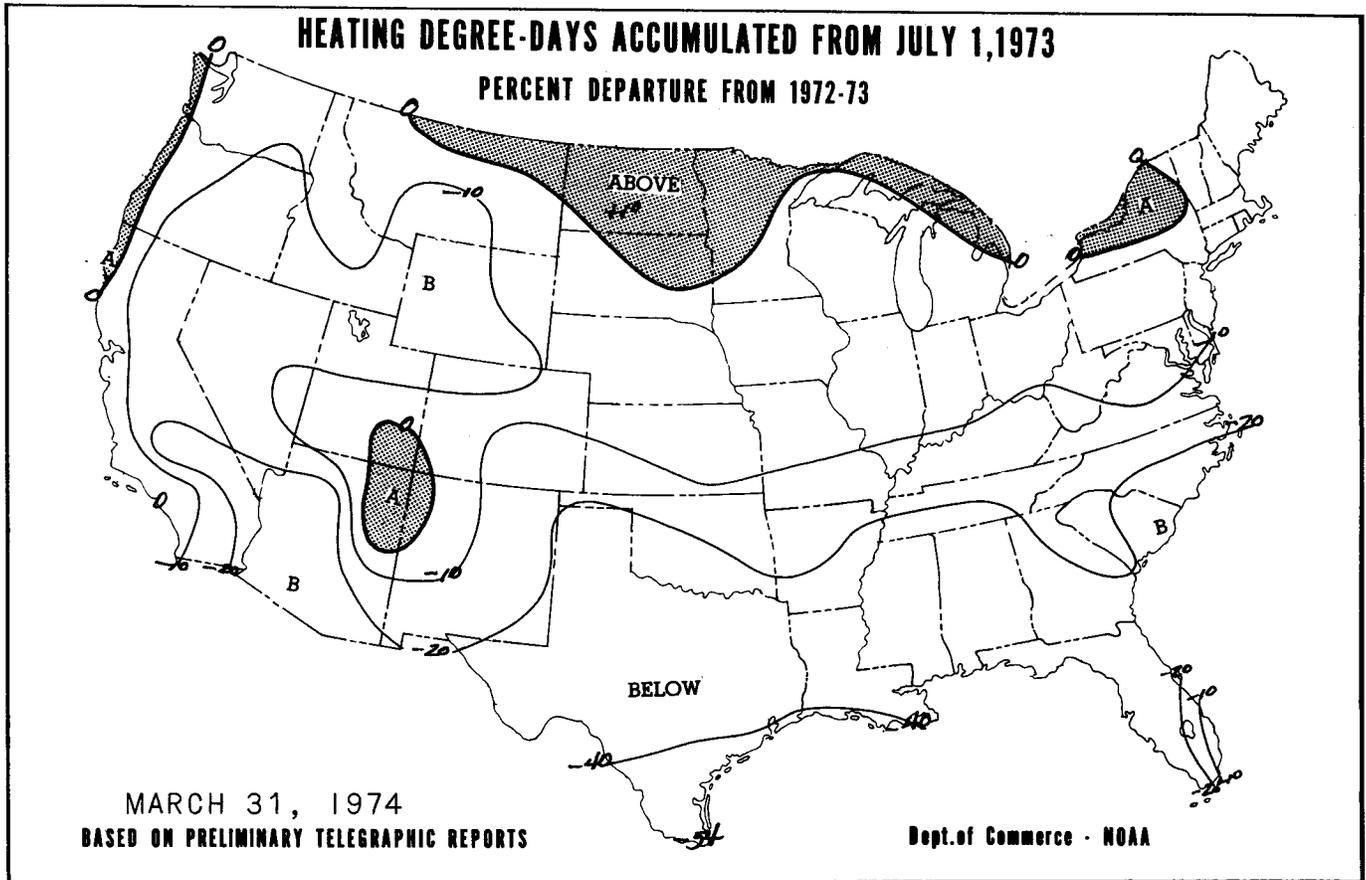
MINNESOTA: Temperatures averaged 3° to 9° subnormal statewide except normal to 3° above southwest. Subzero lows early week, highs near 60° in southwest by week's end.

Precipitation below normal except for above normal in parts of north-central and northeast and all of southeast. About 2 to 4 in. new snow fell over southeast to as much as 13 in. over parts of north-central and northeast on 29th and 30th. Heavy snow mixed with rain in South falling along a 100 mile wide band from Breckenridge to Duluth late the 31st continuing April 1.

MISSISSIPPI: Cool temperatures with some rainfall over most sections. Temperatures generally 2° to 6° above normal. Extremes: 90° at Waynesboro on 28th, 23° at Ripley on 23d. Rainfall ranged up to 1.50 in. over north and central, 1.50 to 4.00 in. south. Greatest 24-hour rainfall of 4.43 in. at Hattiesburg on 27th. Week-end warm, dry.

Soil moisture adequate to excessive, mostly surplus. Fieldwork averaged 2.1 days suitable. Land preparation for spring planting 54% complete, 24% in 1973. Irish potatoes 86% planted.

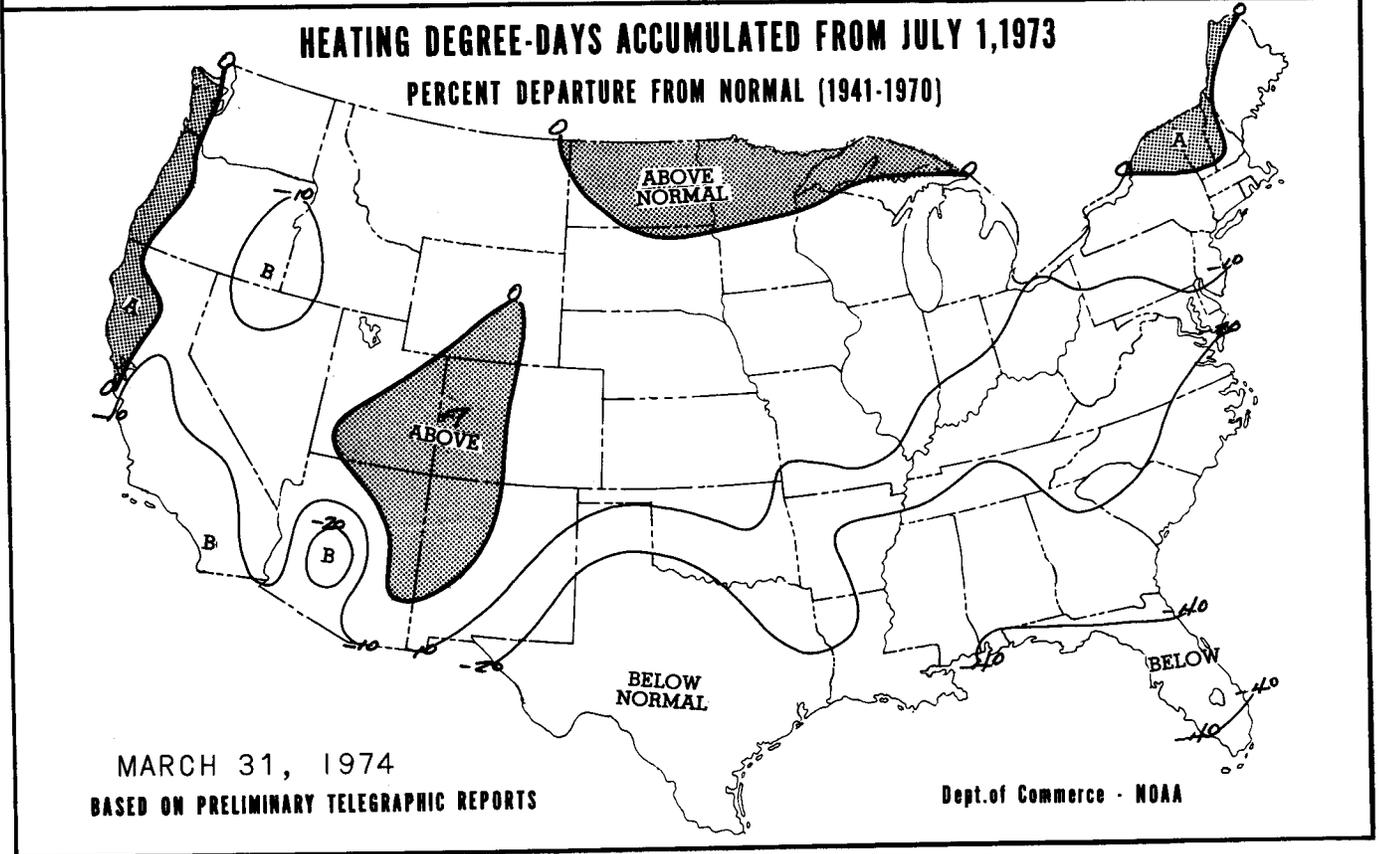
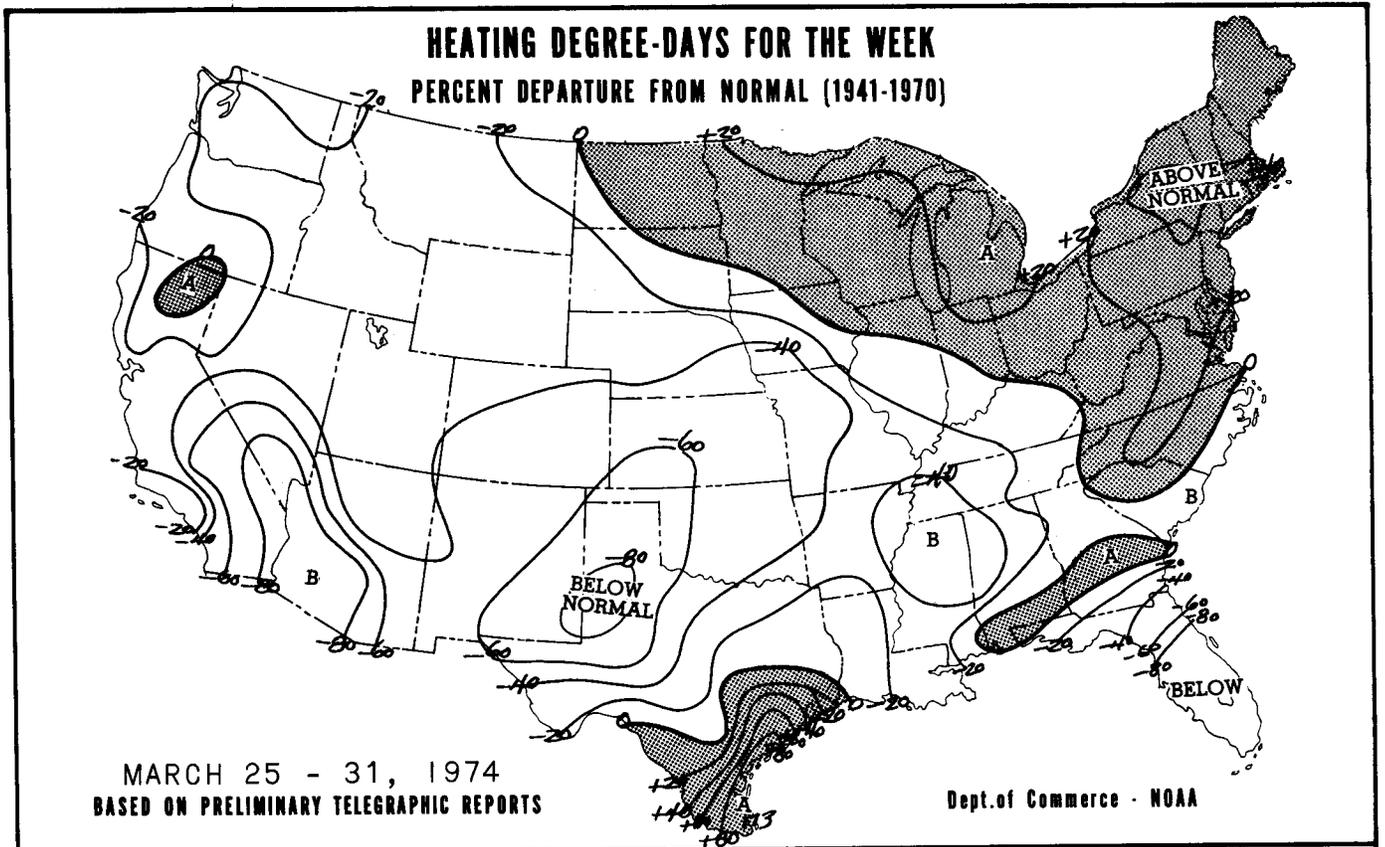
(Continued on page 12.)



HEATING DEGREE DAYS

As the 1973/74 heating season draws to a close, it is on a happy note. For the most part, the season has been much warmer than normal, and warmer than the 1972/73 heating season as shown in the adjoining maps. With the exception of a portion of the northern Plains, the southern Rockies, and the Oregon and Washington coast, the Nation averaged much warmer than usual.

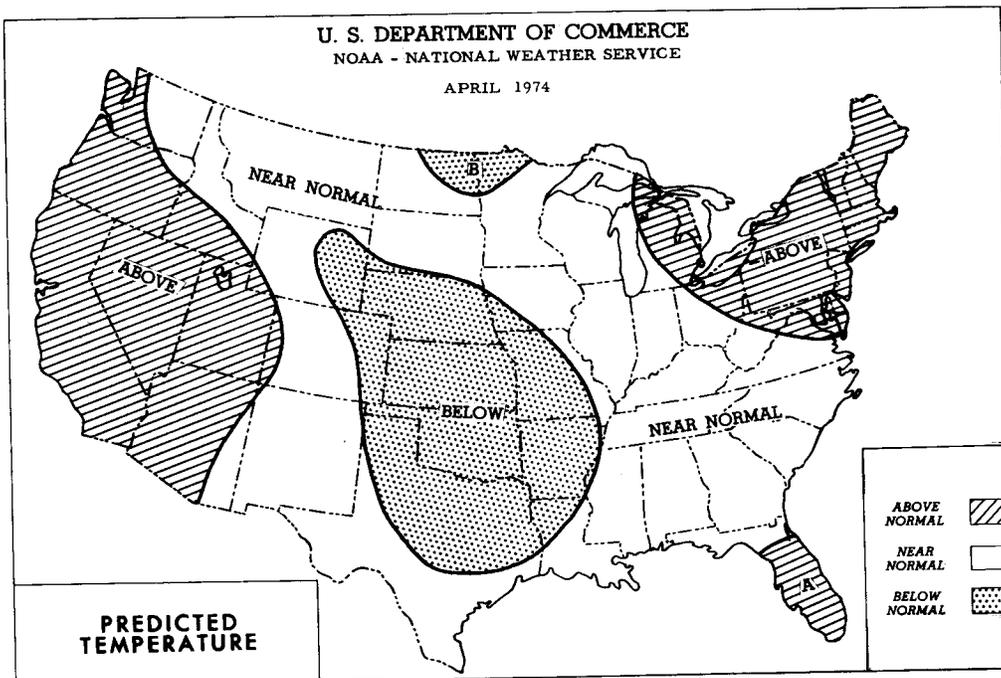
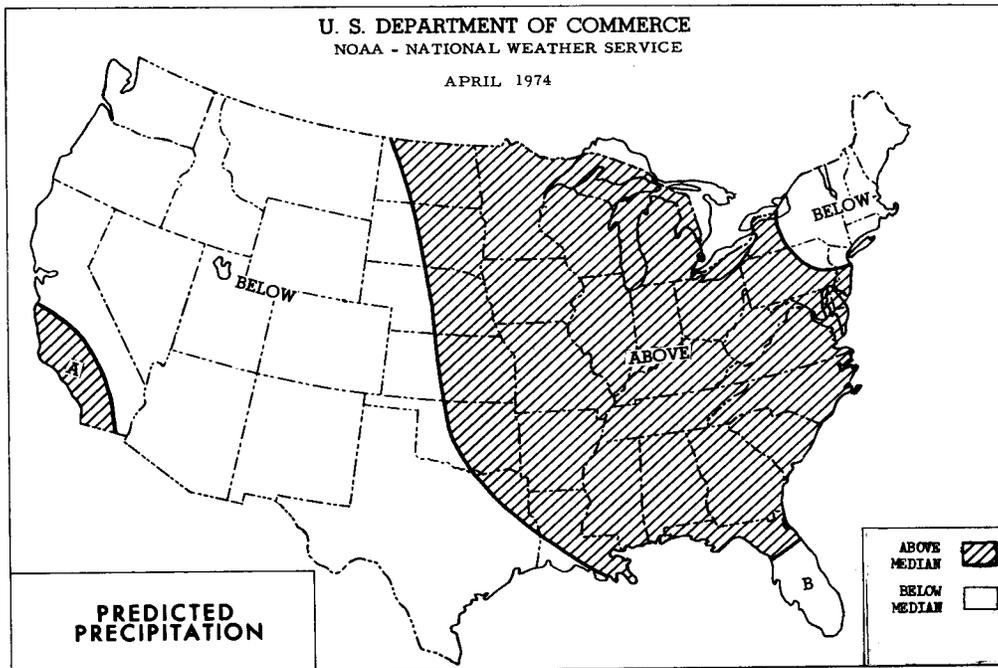
Because of the continued interest in the heating degree-day situation we will continue to publish the heating degree-day table for the next several weeks. However, because of space considerations, we will no longer publish the maps, at least on a regular basis, until next fall. During the summer months our regular monthly heating degree-day table will be expanded to permit the user to have year-around record of heating degree-day accumulations. If there are any special needs for the maps, we will attempt to supply them.



Heating Degree Days (Base 65°) For Week Ending March 31, 1974

States and Stations	Weekly		Seasonal † Accumulation			States and Stations	Weekly		Seasonal † Accumulation			States and Stations	Weekly		Seasonal † Accumulation		
	TOTAL	Departure*	TOTAL	Departure*	Departure From 1972-73		TOTAL	Departure*	TOTAL	Departure*	Departure From 1972-73		TOTAL	Departure*	TOTAL	Departure*	Departure From 1972-73
ALA. Birmingham . . .	40	-23	1991	-717	-768	Portland	255	53	5877	-465	-448	Tulsa	42	-48	3169	-307	-606
Mobile	34	-2	988	-656	-533	MD. Baltimore . . .	167	42	3932	-347	-151	OREG. Astoria . . .	112	-27	4313	183	231
Montgomery	40	-7	1539	-646	-515	MASS. Boston . . .	228	68	4569	-315	-222	Burns	161	-22	5733	-248	-451
ARIZ. Flagstaff . . .	152	-46	5430	-524	-1359	MICH. Alpena . . .	282	46	6882	-284	-39	Medford	118	-12	3752	-390	-424
Phoenix	0	-29	1088	-404	-426	Detroit	222	48	5447	-180	-60	Pendleton	93	-39	4099	-428	-692
Tucson	16	-23	1603	-28	-603	Flint	227	36	5738	-359	21	Portland	83	-42	3667	-301	-94
Winslow	89	-32	4259	12	56	Grand Rapids . . .	247	60	5806	-126	-66	Salem	98	-31	3991	23	-264
Yuma	0	-14	904	-77	-269	Houghton Lake . . .	285	56	6882	-263	36	PA. Allentown . . .	203	47	4638	-525	-311
ARK. Fort Smith . . .	46	-31	2876	-311	-726	Lansing	236	49	5913	-110	-208	Erie	224	31	5277	-552	-244
Little Rock	47	-30	2482	-712	-564	Marquette	272	43	6901	-68	-132	Harrisburg	181	45	4220	-506	-249
CALIF. Bakersfield . .	19	-31	1667	-356	-461	Muskegon	247	55	5872	-47	181	Philadelphia . . .	180	47	4021	-355	-150
Eureka	73	-39	3573	35	102	S. Ste. Marie . . .	322	72	7771	78	327	Pittsburgh	185	31	4602	-657	-221
Fresno	36	-29	2218	-190	-481	MINN. Duluth . . .	298	49	8486	200	-100	Scranton	246	77	5470	-71	-106
Los Angeles	53	-3	1178	-259	-1	Internatl Falls . .	320	59	9038	-75	364	R.I. Providence . .	232	64	4751	-395	-147
Red Bluff	72	1	2459	61	469	Minneapolis	234	20	7025	-312	-11	S.C. Charleston . .	41	-5	1279	-793	-535
San Diego	20	-23	946	-286	-81	Rochester	234	18	7094	-148	-146	Columbia	44	-12	1493	-1010	-798
San Francisco	60	-17	2454	33	92	St. Cloud	259	32	7739	-57	-29	Greenville	78	3	2525	-465	-361
Stockton	49	-25	2269	-241	-359	MISS. Jackson . . .	29	-20	1631	-589	-582	S. DAK. Aberdeen .	222	4	7627	30	636
COLO. Denver	98	-75	5062	-96	-451	Meridian	26	-23	1461	-841	-652	Huron	188	-20	6792	-342	61
Grand Junction . . .	84	-57	5381	333	475	MO. Columbia . . .	85	-46	4422	-214	-341	Rapid City	133	-74	5947	-312	-494
Pueblo	73	-75	4579	-234	-728	Kansas City	68	-65	4505	-219	-351	Sioux Falls	184	-19	6611	-336	-206
CONN. Bridgeport . . .	210	49	4283	-431	-564	St. Louis	91	-29	4254	-111	-190	TENN. Chattanooga .	77	-4	2656	-633	-799
Hartford	236	63	5105	-476	-135	Springfield	70	-47	3714	-480	-555	Knoxville	79	-2	2643	-615	-569
DEL. Wilmington . . .	168	33	3910	-521	33	MONT. Billings . . .	126	-74	5783	-406	-765	Memphis	39	-36	2352	-722	-906
D.C. Washington . . .	136	27	3097	-777	-429	Glasgow	203	-32	7462	-346	161	Nashville	61	-27	2723	-752	-463
FLA. Apalachicola . .	17	-8	763	-568	-365	Great Falls	145	-70	6280	-195	-173	TEX. Abilene	31	-27	2012	-483	-1068
Daytona Beach	0	-15	491	-389	-225	Havre	170	-62	7073	-579	69	Amarillo	32	-77	3199	-618	-1184
Ft. Myers	0	-4	233	-224	-111	Helena	158	-57	6625	-301	-905	Austin	36	3	1274	-419	-723
Jacksonville	13	-11	865	-438	-265	Kalspell	160	-55	6542	-636	-461	Brownsville	30	19	413	-239	-481
Key West	0	0	41	-21	-20	Miles City	143	-64	6346	-547	-387	Corpus Christi . . .	37	23	693	-237	-498
Lakeland	0	-9	375	-294	-231	Missoula	149	-47	6228	-472	-421	Del Rio	23	0	1052	-455	-624
Miami	0	0	131	-75	-7	NEBR. Grand Island	95	-77	5656	-79	-239	El Paso	20	-33	2214	-375	-481
Orlando	0	-10	400	-295	-100	Lincoln	87	-76	5664	53	-126	Fort Worth	37	-17	1784	-510	-725
Tallahassee	19	-6	1017	-512	-407	Norfolk	117	-69	5904	-331	-333	Galveston	32	6	716	-488	-613
Tampa	0	-11	406	-303	-196	North Platte	115	-69	5990	72	-377	Houston	37	11	1097	-314	-679
W. Palm Beach	0	0	172	-127	-11	Omaha	98	-75	5690	-231	-236	Lubbock	16	-73	2506	-820	-1274
GA. Atlanta	62	-13	2150	-774	-547	Valentine	145	-57	6020	-358	-496	Midland	14	-43	1950	-573	-1149
Augusta	50	-4	1833	-614	-371	NEV. Ely	148	-57	6227	-165	-702	Beaumont	33	3	1071	-414	-714
Macon	47	1	1483	-685	-447	Las Vegas	7	-49	2336	-129	-561	San Angelo	20	-25	1584	-552	-966
Savannah	39	0	1201	-688	-307	Reno	138	-21	4639	-364	-900	San Antonio	24	-4	1188	-351	-574
IDAHO. Boise	111	-38	4525	-479	-548	Winnemucca	112	-64	4876	-648	-959	Victoria	36	14	825	-387	-626
Lewiston	101	-37	4439	-268	-304	N.H. Concord	266	70	6351	-12	-479	Waco	37	-6	1574	-428	-920
Pocatello	140	-44	5807	-191	-691	N.J. Atlantic City .	172	32	3906	-501	-98	Wichita Falls . . .	30	-37	2191	-588	-981
ILL. Cairo	62	-30	3219	-400	-411	Trenton	193	56	4066	-362	-137	UTAH. Salt Lake C	100	-54	4900	-284	-645
Chicago	188	27	5237	-203	-73	N.MEX. Albuquerque	58	-53	3951	-1	-413	VT. Burlington . . .	271	59	6658	-184	-244
Moline	172	7	5554	-201	76	Roswell	20	-65	2864	-628	-590	VA. Lynchburg . . .	126	20	3374	-514	-359
Peoria	148	-8	5234	-251	-200	N.Y. Albany	267	83	6028	-31	152	Norfolk	103	10	2491	-718	-460
Rockford	196	19	5770	-309	5	Binghamton	267	66	5833	-448	-359	Richmond	133	35	3061	-588	-314
Springfield	129	-13	4682	-369	-299	Buffalo	252	55	5671	-271	0	Roanoke	112	2	3264	-659	-473
IND. Evansville	100	-14	3609	-657	-606	New York	195	54	4002	-363	-331	WASH. Quillayute . .	127	-31	4900	253	156
Fort Wayne	197	32	5237	-262	-16	Rochester	262	73	5513	-309	44	Seattle-Tacoma . . .	97	-41	3936	-280	-295
Indianapolis	140	-2	4384	-636	-314	Syracuse	273	86	5749	-52	134	Spokane	151	-22	5617	-180	-31
South Bend	209	36	4967	-710	-206	N.C. Asheville	109	2	3076	-768	-379	Walla Walla	90	-29	3847	-394	-563
IOWA. Burlington . . .	141	-18	5248	-297	-195	Hatteras	72	-10	1711	-785	-419	Yakima	112	-32	4880	-331	-320
Des Moines	129	-47	5535	-498	-443	Charlotte	98	22	2568	-471	-498	W.VA. Beckley . . .	149	7	4109	-835	-476
Dubuque	200	11	6264	-192	-38	Greensboro	111	18	3112	-451	-475	Charleston	123	10	3530	-650	-394
Sioux City	125	-57	5746	-511	-300	Raleigh	102	17	2571	-715	-572	Huntington	119	4	3499	-706	-554
KANS. Concordia	72	-76	4878	-192	-338	Wilmington	55	-1	1570	-759	-539	Parkersburg	131	8	3812	-557	-231
Dodge City	47	-90	4278	-288	-799	N.Dak. Bismarck . .	248	15	8213	290	759	WIS. Green Bay . . .	247	34	6734	-299	186
Goodland	98	-75	5240	-119	-546	Fargo	269	33	8495	336	545	LaCrosse	229	36	6406	-220	-51
Topeka	68	-67	4615	-168	-266	Williston	238	0	8061	58	342	Madison	218	14	6440	-330	57
Wichita	69	-51	4277	-38	-444	OHIO. Akron-Canton	201	33	4805	-657	-113	Milwaukee	225	26	5928	-469	-163
KY. Lexington	116	-4	3589	-724	-259	Cleveland	189	20	4697	-678	-300	WYO. Casper	139	-73	6320	-31	-690
Louisville	105	-12	3440	-809	-367	Columbus	156	9	4371	-724	-254	Cheyenne	141	-72	5918	-118	-775
LA. Baton Rouge	20	-9	1022	-615	-527	Cincinnati	137	7	4147	-435	-268	Lander	156	-53	6489	-185	-1571
Lake Charles	26	-3	1072	-400	-623	Dayton	166	17	4579	-470	-167	Sheridan	126	-83	6277	-246	-531
New Orleans	19	-7	915	-521	-590	Toledo	215	45	5513	-104	9						
Shreveport	43	-2															

AVERAGE MONTHLY WEATHER OUTLOOK



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

(Continued from page 7.)

Winter wheat and oats fair to good with 65% of both crops jointing. Freezing temperatures and heavy frost 22d caused varying degrees of damage to fruit trees, Irish potatoes, and truck crops. Early maturing fruit crops are a complete loss in north counties. Peach trees very poor to good. Pastures and livestock mostly fair to good. Truck crop conditions poor to good. Supplies of fertilizer available at 76% short and 14% adequate remained about same as previous week. Tractor fuel supplies available improved, 85% adequate and 15% short.

MISSOURI: Temperatures moderated rapidly from record lows of from 0° to 17° on 24th to 60's and 70's on 26th. Morning readings remained above freezing after 26th with afternoon highs in 60's and 70's. Heavy snowfall of previous weekend melted rapidly early week. No precipitation until 28th and 29th when scattered thundershower activity moved across State accompanied by scattered hail and locally damaging winds. Rainfall generally less than 0.50 in. A few local areas got from 0.50 to 1.63 in.

Two days suitable for fieldwork. Plowing 35% complete, 11% in 1973, 38% normal. Oats seeding 41% finished, 2% in 1973, normal 31%. Soil moisture 53% adequate, 47% surplus.

MONTANA: Unsettled, showery weather most of week. Mainly rain lower elevations, snow in mountains. Well above normal precipitation across west, southwest and northeast. Generally below elsewhere. Temperatures averaged about 5° to 10° above seasonal normals.

Winter wheat fair to good. Topsoil moisture adequate except central and parts of southeast. Subsoil moisture mostly short north-central, central and part of northwest, other areas mostly adequate. Winter wheat greening except in northeast. Winterkill light to moderate with greatest amount in southcentral and central. Winter wheat stooling mostly fair to good. Fieldwork started southcentral and southeast. Calving near 50% complete. Lambing about 45% done. Shearing also near 45% complete.

NEBRASKA: Above normal temperatures. Precipitation mostly trace amounts. Maximum temperatures highest of season, frequently in 70's.

Good progress in seedbed preparations. Soil moisture generally adequate. Some areas had high winds late in week causing soil erosion. Winter wheat good, growth and development rapid last week. Alfalfa and wild hay good. Army cutworms still problem, being sprayed. Hay carryover expected normal. Fieldwork: 6 days suitable. Main farm activities: Shredding stalks, discing and plowing, planting spring crops, fencing and caring for livestock. Fertilizer supplies generally short: 86% of counties report short supplies, and 14% adequate. Pasture, range feed supplies 10% short and 90% adequate. Livestock good.

NEVADA: Temperatures above normal. Extremes: 80° Las Vegas, 15° McDermitt. Precipitation confined to north and central. Greatest amount 0.95 in. McDermitt. Reno had 0.78 in. Trace of snow on ground at Austin and McDermitt.

Below normal temperatures and gusty winds delayed fieldwork most areas. Rain and snow improved soil moisture. Fall-planted grains mostly good. Irrigating alfalfa started. Harvesting green onions and radishes gained momentum in Moapa

Valley. Livestock good. Calving, lambing full swing.

NEW ENGLAND: A warming trend peaked on 26th over most sections but two surges of cold air followed and low temperatures Friday morning generally below zero over north and in low teens over many southern areas. Newport, Vt. was 12° below zero. Warming again over weekend to 30's and 40's.

Some light precipitation fell nights of 26th, 27th, but a large ocean storm spread heavier amounts over south late Friday night reaching all sections during weekend. It began as snow over most areas but changed quickly to rain over south and to a mixture over most northern areas. Total liquid amounts about 0.50 in.

NEW JERSEY: Cold, wet week. Temperatures averaged 9° subnormal north and 4° to 7° subnormal central and south. Extremes: 15° at Long Valley and Newton on 26th, 56° at Buckshuten on 28th. Total precipitation averaged 1.20 in. along coast strip and 1.80 in. elsewhere. Highest weekly total 2.44 in. at Downstown. Many central and northern sections reported measurable snowfall on 29th with 3 to 4 in. north and 1 to 3 in. central. Fieldwork halted due to excessive soil moisture. Much early vegetable acreage already seeded. Peach bloom expected in 10 to 14 days. Pastures greening. Warmer temperatures would be beneficial.

NEW MEXICO: A dry week with only a few sprinkles of rain at any reporting point. Cool early week with daytime temperatures climbing into 70's and 80's by weekend then turning cooler on Sunday. Considerable afternoon windiness last half of week with strong drying winds statewide on Sunday averaging over 35 mph and peak speeds exposed places above 50 mph. Considerable blowing dust Sunday.

Little rain, moisture short. Ranges, livestock fair, supplemental feeding. Wheat fair, some jointing. Potato planting nearly complete Portales. Onions, lettuce good. Land preparation, irrigation continued.

NEW YORK: Temperatures averaged far below normal. Extremes: 16° below zero Saranac Lake on 29th, 55° at Elmira on 26th. Cold weather prevailed most of week.

Precipitation near to above normal. A complex storm system spread snow across west and south Friday with 4 to 8 in. falling in southern Catskills and lower Hudson Valley. On Saturday precipitation overspread remainder of State falling as a mixture in northeast but generally changing back to rain elsewhere. Precipitation changed back to snow Saturday night over many interior sections with 6 to 8 in. accumulating in central by Sunday morning.

NORTH CAROLINA: Weather variable from one day to next. Two or three rainy periods with some snow. Few places had scattered thunderstorms with strong gusty winds. Temperatures ranged from lows in upper 20's and low 30's to highs around 80° southeast on 24th. Snow up to 5 in. fell northern Piedmont 25th.

Rainy weather restricted farm activities. Fieldwork averaged 1.8 days suitable. Soil moisture generally adequate to surplus. Small grains good, should improve with warmer weather. Pastures generally good. Feed grains, hay and roughage adequate. Tobacco beds 71% good, 29% fair. Cutworm damage to tobacco plant beds increased. Irish potato planting over 80% com-

plete coastal plains. Cabbage transplanting full swing.

NORTH DAKOTA: Temperatures started cold, then mild by weekend. Extremes: 57° at Ft. Yates, 28° below zero at Pembina. Temperatures averaged below normal. Precipitation sparse, more than 0.20 in. below normal. Greatest amount at Cooperstown where 0.28 in. fell on 29th. Weekend remained mild with scattered precipitation.

Cool, damp and changing weather conditions causing some pneumonia and scours in calves. Farmers getting anxious for warmer weather to permit fieldwork. Limited grain movement to market. Farmers hauling seed and fertilizer to farms.

OHIO: Record low of 4° below zero at Toledo on 25th was latest date of below zero temperature in State. Lows in 20's on 26th and below freezing on 27th. Warmer rest of week with high of 67° at Marietta on 28th. Little precipitation early week. Light rains, freezing rain, and snow northwest and scattered showers some sections 28th. Showers and thunderstorms south half on 29th with 2.00 in. central. Severe thunderstorms and tornado watch southwest on 29th. Clearing on 31st.

Damage from cold temperatures to peach fruit buds ranged from minimal along the lake to 90% in central areas. Slight damage occurred to early apple varieties which are a small portion of State's apple crop. Wheat general condition good, some reports of virus and root rot damage.

OKLAHOMA: Temperatures averaged 3° above normal southeast to 12° above normal panhandle. Precipitation only traces. Weekend warm and dry.

Freeze damage throughout State lowered wheat condition but loss of acreage will be small. Condition 70% good or better with dry soils southwest and brown mite infestations panhandle contributing to lower ratings. Wheat 42% jointing, 51% year ago, but ahead of average. Early oats and barley fields now starting to joint. Plowing for row crops well advanced. Only small portion prepared for seeding. Freeze totaled or greatly reduced fruit production, gardens and truck crops severely set back. Freeze damage heavy to first cutting alfalfa. Heavy weevil infestations, spraying active. Pastures greening up but supplemental feeding widespread as cattle mostly off small grains.

OREGON: Most precipitation fell latter part of week, ranging from near normal to well above. In west, Medford least with 0.74 in., Eugene wettest with 2.71 in. East averaged 0.10 to 0.40 in. Temperatures averaged 3° to 6° above normal. Highs at midweek ranged from upper 50's to lower 70's, Grants Pass warmest with 71°. Lows first of week dropped into 20's most of east. Elsewhere, lows in 30's, lower 40's.

Fall seeded crops, hay fair to good condition. Spring seedbed preparation delayed by rain west. Fertilizing, spraying continued. Peaches starting to bloom, cherry buds swelling. Frost protection devices readied. Strawberry plant growth slow getting started. Livestock fair to good.

PENNSYLVANIA: Unsettled weather most of week. Rapid warming under sunny skies early week, colder and cloudy remainder with precipitation weekend. Temperatures averaged from 3° subnormal west to 9° subnormal extreme east for coldest week statewide since mid-February. Extremes: 12° 26th morning northcentral Mountains, 60° 26th afternoon Lower Susquehanna Valley.

Major winter-type storm on weekend produced precipitation from snow, sleet, freezing rain and rain in amounts of 0.50 to 1.00 in. extreme West, nearly 3.00 in. parts of northcentral and 1.00 to 2.50 in. elsewhere. Central and northeast got 6 to 18 in. new snow. Wettest week since December. Spring plowing underway as soils permitted.

PUERTO RICO: Rainfall averaged 0.55 in. or 0.02 in. below normal. Highest weekly total rainfall 2.93 in. at La Mudacaguas followed by 2.50 in. at Pico Del Esteluquillo. Highest 24-hour total 1.40 in. at La Mudacaguas. Temperatures averaged about 76° on coasts and 71° interior. Extremes: 91° at Guayama, 47° at Adjuntas.

Dry weather favored normal continuation of sugarcane harvest but not favorable development recent plantings. Weather favored coffee bean drying and most field operations. Abundant flowering reported some sections. Good weather for tobacco harvesting and drying in shed. Rainfall urgently needed in pasture areas for good development. Lack of rain affecting development food crops although dry weather favored preparation of soil for planting. Plantains, bananas and pigeon peas harvested in Morovis.

SOUTH CAROLINA: Temperatures averaged several degrees above normal. Below freezing readings in mountains on 25th, scattered frost there 26th. Rainfall 1.00 to 1.50 in. over much of State, a few locations reported around 2.00 in. Cold front near end of previous week brought very cold air with some snow in higher elevations west, rain elsewhere at beginning of period. Intense low pressure area in west early Friday preceded by thundershowers, followed by strong wind. Minor damage reported.

Tomato transplanting at peak. Tobacco transplanting slowed due to cooler weather, rain. Fertilizing pastures and preparing land for spring planting.

SOUTH DAKOTA: Week began cool, warmed steadily. Temperatures averaged from 3° subnormal northeast with highs mostly in 30's to 11° above normal southwest with highs in 60's and 70's. Extremes: 4° below zero at Gettysburg on 25th, 79° at Philip and Winner on 28th. East portion received most precipitation, 0.50 in. or more. Most of State showing deficiency of moisture for first 3 months of 1974, some in excess of 1.00 in.

Fall sown grains in variable condition, mostly fair to good. Some soil blowing, but extent of damage undetermined. Army cutworms causing damage in southcentral, southeast. Oat and barley seeding less than 1% complete. Spring wheat about 1% planted. Spring plowing 3% complete. Most fieldwork occurred in south. Fieldwork to get underway statewide within next 10 days. Livestock generally good. Lambing mostly complete, calving underway. Feed supplies short to adequate, some limiting of feed due to short supplies.

TENNESSEE: High pressure dominated most of week with a frontal passage midweek. Temperatures averaged near normal east, 2° to 4° above normal mid and west portions. Scattered showers and thundershowers occurred mid and last part of week. Rainfall amounts averaged around 0.50 in. with local amounts to around 1.00 in.

Rains and excessive soil moisture continued to delay field preparation. Planting of spring crops will be late. Yellow dwarf virus showing up in many wheat, oats and barley fields. All but most severely damaged could still recover if favorable weather prevails. Tobacco beds nearly

90% set, same as last year and average. Some beds suffering from excessive moisture which is favorable for development of black root rot. Planting increased acreage of potatoes, wet soil causing delays some areas. Early blooming strawberries damaged by freeze but later strawberries should survive. Cabbage planting more than half completed. March 22-23 freeze appears to have done most damage to peach, pear and plums in west two-thirds of State. Most apples and peaches in east had not reached bloom stage, and were not hurt.

TEXAS: Freezing temperatures northern high plains, first of week. Light to moderate rainfall east half, west continued dry. Late week temperatures 8° to 10° warmer north half, 3° to 5° above average south. Above average rainfall coastal plains. Rainfall elsewhere well below normal. Spring rains not started west Texas.

Wheat in boot stage low plains, heading out from cross-timbers to south. Oats excellent grazing south half State where much of crop will be grazed out. Planting cotton, corn, sorghum, rice continues rapid pace from blacklands southward. Some early stands corn, sorghum to be replanted following recent cold, wet weather. Early peanuts planted south. Major crops, percent planted: Cotton 7, 1973 6; Corn 39, 1973 33; Sorghum 32, 1973 24; Rice 52, 1973 15; Peanuts 2, 1973 7.

Lower Rio Grande Valley: Onion supplies continued to increase, yield and sizes becoming erratic. Lettuce harvest virtually complete. Cabbage and carrot harvest continued. Tomatoes, cantaloupes and honeydews continued good progress. Bell peppers and cucumbers progressing well. Coastal Bend: Watermelons and cucumbers made good growth. Onions satisfactory growth. Laredo: Onion crop continued good progress with harvest to get underway shortly. San Antonio-Winter Garden: Light spinach cutting continued. Cantaloupe planting underway. Most watermelons planted. Onions made good growth. East Texas: Freeze killed some tomatoes and sweet corn. Most lost tomatoes will be replanted. Watermelons and cucumber planting continued. Trans-Pecos: Lettuce and onions made good growth. Planting of early cantaloupes continued. High Plains: Onion and potato planting active.

Damage to peach crop from March 23-25 freezes varies widely. Pecans leafing in south and budding other areas. Citrus harvest for fresh market declined, bulk of crop now going to processing plants. Pasture conditions improved in east, furnishing excellent grazing. Short moisture plagues wheat and native pastures on high and low plains, Edwards Plateau. Goat shearing neared completion statewide, sheep shearing approaching halfway mark.

UTAH: Light showers in northwest midweek and north and west sections over weekend. Accumulated amounts of moisture light to moderate. Temperatures averaged from 2° to 6° above normal for the period.

Range lambing on west desert, some shearing. Calving well along. Outbreak of brucellosis Utah-Idaho border area causing concern, cattle movement in that area presently restricted. Outlook for spring and summer range feed good to excellent. Spring plowing and other fieldwork underway most lower valleys. Virtually no rain or snow has fallen for four weeks in south and central farming areas and topsoil moisture drying out rapidly. Subsoil moisture still favorable. Winter wheat fields greening up. Shortages of seed potatoes and fertilizers noted. Potato and apple marketing nearly completed. Apricot trees not yet in bloom.

VIRGINIA: Temperatures averaged 3° below normal. Extremes were 77°-18°. Precipitation moderate to heavy during week end with average amounts of .50 in to 2.50 in., and 3.00 to 7.00 in. of snow in Holland and Norfolk areas early in the week.

Topsoil moisture supply 85% adequate, 11% surplus, 4% short. Fieldwork averaged 4.2 days suitable allowing good progress in land preparation, fertilizing, liming and pasture seeding. Small grains remain good to excellent but aphids, especially in barley, requiring spraying. Tobacco plant beds good. A few early fields of corn planted. Pastures good to excellent, providing above average forage. Irish potato planting on Eastern Shore in full swing. Peach cold damage varies: Generally locally extensive in south and east areas, very little damage in later producing areas. Apple crop in good condition with no cold damage, some orchards in bud stage in southern Piedmont.

WASHINGTON: West: Temperatures slightly above normal. Precipitation varied, 0.10 to 5.00 in. along coast. Heavy winds occasionally. Damp conditions impeded field activities, limited crop development. Flower picking continued, rhubarb harvest winding down. Blueberries budding, raspberries leafing out. Pastures normal. East: Temperatures above normal. Precipitation below normal. Planting underway for potatoes, beets, wheat and peas. Extreme windstorms, periods heavy rainfall inhibited fertilizing, spraying activities. Cereal crop growth good, additional warm weather needed to achieve normal stand size. Cattle feeding on ranges. Calving, lambing nearly complete.

WEST VIRGINIA: Temperatures slightly below normal. Precipitation was below normal except for the north eastern panhandle, which was slightly above normal. Most rainfall was recorded during Friday and Saturday. Snow in the higher elevations over the week-end.

Plowing of gardens resumed early week as excess moisture began to leave soil. Hillsides beginning to turn green and trees budding in lower elevations. Livestock good. Adequate supply of hay for feed. Some preparation of tobacco beds.

WISCONSIN: Winter weather was reported over Wisconsin during past week. Early week temperatures averaged 5° below normal, with near or below zero readings in northwest. Daytime highs were above freezing in south and averaged 20's to low 30's in north. Mixed snow and rain occurred daily with 1.00 in. to over 5.00 in. snow in north and central. Weekly precipitation totaled nearly 2.00 in. in southeast but tapered off to .25 in northwest.

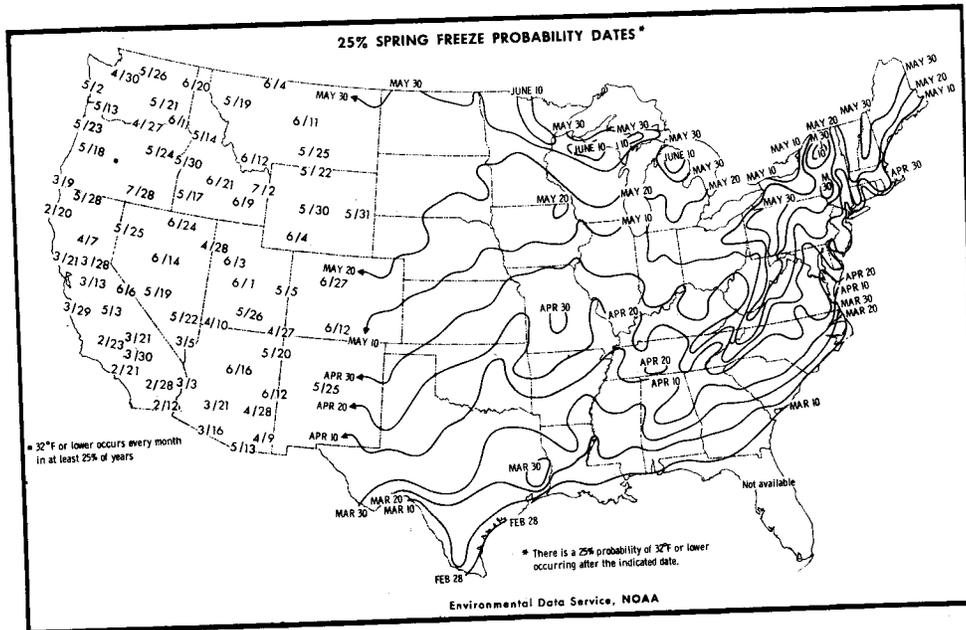
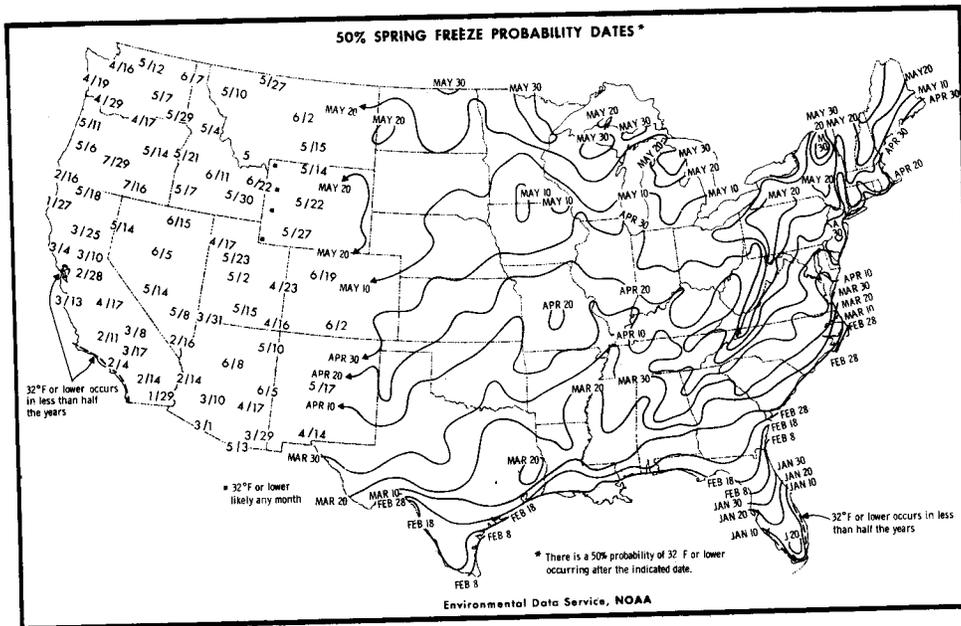
WYOMING: Temperatures for week mostly near to little above normal. Temperature extremes: Big Piney being 29.8 and Torrington 41.5°. Early week lowest temperature at Chugwater -5°. End of week highest temperature 70° at Basin... Moorcroft... and Torrington. Precipitation widespread but averaged below normal; Platte drainages received most.

Winds depleted soil moisture, more topsoil moisture needed. Most winter wheat good. Some hay will be carried over due to mild winter. Calving and lambing in progress. Normal death losses reported. Shearing in full swing. Livestock generally good with supplemental feeding continuing most areas. Ranges just beginning to green up.

SPRING FROST DATES

One of the major considerations in determining when to plant is the chance of a late spring freeze still occurring. As a guide to both the agricultural producer and the home gardener, we are reprinting the maps below which were prepared by J.J. Rahn and first published in the Bulletin (WWCB 58(14):16). The 50 percent probability map is comparable to the average frost date. In other words, the last spring frost will occur after this date 1 out of 2 years. The 25 percent probability map shows the date after which the last spring freeze will occur only 1 year in 4.

These maps were prepared from material provided by various State and Federal agencies. The scale requires considerable smoothing, so the maps cannot account for local, small-scale differences. However, growers who have been in an area for some time are usually aware of the local temperature characteristics. These maps differ somewhat from the corresponding map in standard climatological atlases because more weight has been given to the less urban stations which more nearly reflect conditions in farming areas. No analysis was attempted in mountainous areas.





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Heating Degree Days (Base 65° F.)

March 1974

ALA. Birmingham . . .	161	MAINE, Caribou . . .	1359	OKLA. Okla. City . . .	330
Mobile . . .	106	Portland . . .	958	Tulsa . . .	341
Montgomery . . .	144	MD, Baltimore . . .	613	OREG, Astoria . . .	623
ALASKA, Anchorage . . .	1285	MASS, Boston . . .	809	Burns U. . .	866
Barrow . . .	2642	Chatham . . .	856	Medford . . .	619
Fairbanks . . .	1778	MICH, Alpena . . .	1146	Pendleton . . .	571
Juneau . . .	1242	Detroit . . .	901	Portland . . .	545
Nome . . .	1685	Flint . . .	924	Salem . . .	580
ARIZ, Flagstaff . . .	754	Grand Rapids . . .	967	PA, Allentown . . .	755
Phoenix . . .	77	Houghton Lake . . .	1171	Erie . . .	915
Tucson . . .	161	Lansing . . .	940	Harrisburg . . .	684
Winslow . . .	505	Marquette U . . .	1180	Philadelphia . . .	667
Yuma . . .	69	S. Ste. Marie . . .	1330	Pittsburgh . . .	729
ARK, Fort Smith . . .	304	MINN, Duluth . . .	1373	Scranton . . .	934
Little Rock . . .	255	Internatl Falls . . .	1493	R. I. Providence . . .	808
CALIF, Bakersfield . . .	174	Minneapolis . . .	1092	S. C. Charleston . . .	150
Eureka U. . .	455	Rochester . . .	1098	Columbia . . .	161
Fresno . . .	260	St. Cloud . . .	1235	Greenville . . .	290
Los Angeles U . . .	162	MISS, Jackson . . .	165	S. DAK, Aberdeen . . .	1058
Red Bluff . . .	340	Meridian . . .	125	Huron . . .	948
Stockton . . .	309	Vicksburg U . . .	---	Rapid City . . .	840
San Diego . . .	176	MO, Columbia . . .	566	Sioux Falls . . .	929
San Francisco . . .	354	Kansas City . . .	559	TENN, Chattanooga . . .	322
COLO, Denver . . .	672	St. Louis . . .	539	Knoxville . . .	304
Grand Junction . . .	513	Springfield . . .	454	Memphis . . .	235
Pueblo . . .	552	MONT, Billings . . .	896	Nashville . . .	320
CONN, Bridgeport . . .	868	Glasgow . . .	1089	TEX, Abilene . . .	181
Hartford . . .	868	Great Falls . . .	974	Amarillo . . .	368
D. C. Washington . . .	490	Havre . . .	1036	Austin . . .	108
FLA, Apalachicola . . .	61	Helena . . .	956	Beaumont . . .	85
Ft. Myers . . .	1	Kalispell . . .	965	Brownsville . . .	40
Jacksonville . . .	82	Miles City . . .	950	Corpus Christi . . .	56
Key West . . .	0	Missoula . . .	910	Dallas . . .	---
Lakeland U. . .	6	NEBR, Grand Island . . .	691	Del Rio . . .	53
Miami . . .	0	Lincoln . . .	704	El Paso . . .	178
Orlando . . .	15	Norfolk . . .	783	Fort Worth . . .	173
Daytona Beach . . .	30	North Platte . . .	765	Galveston U. . .	61
Tallahassee . . .	94	Omaha . . .	724	Houston . . .	95
Tampa . . .	17	Valentine . . .	849	Lubbock . . .	222
GA, Atlanta . . .	241	NEV, Ely . . .	809	Midland . . .	121
Augusta . . .	209	Las Vegas . . .	188	San Angelo . . .	115
Macon . . .	160	Reno . . .	688	San Antonio . . .	74
Savannah . . .	124	Winemucca . . .	646	Victoria . . .	75
IDAHO, Boise . . .	687	N. H. Concord . . .	1025	Waco . . .	145
Lewiston . . .	637	N. J. Atlantic City . . .	632	Wichita Falls . . .	212
Pocatello . . .	815	Trenton U . . .	692	UTAH, Blanding R . . .	---
ILL, Cairo U. . .	319	N. MEX, Albuquerque . . .	373	Salt Lake City . . .	603
Chicago . . .	803	Roswell . . .	233	VT, Burlington . . .	1101
Moline . . .	812	N. Y. Albany . . .	1005	VA, Lynchburg . . .	497
Peoria . . .	736	Binghamton . . .	1016	Norfolk . . .	377
Rockford . . .	887	Buffalo . . .	989	Richmond . . .	455
Springfield . . .	642	New York . . .	713	Roanoke . . .	440
IND, Evansville . . .	480	Rochester . . .	983	WASH, Colville . . .	808
Fort Wayne . . .	804	Syracuse . . .	1004	Omak . . .	---
Indianapolis . . .	616	N. C. Asheville . . .	423	Quillayute . . .	705
South Bend . . .	791	Charlotte . . .	320	Seattle-Tacoma . . .	573
IOWA, Burlington . . .	749	Greensboro . . .	403	Spokane . . .	814
Des Moines . . .	775	Hatteras R. . .	276	Walla Walla U. . .	547
Dubuque . . .	946	Raleigh . . .	346	Yakima . . .	652
Sioux City . . .	783	Wilmington . . .	209	W. VA, Beckley . . .	594
KANS, Concordia . . .	606	N. DAK, Bismarck . . .	1167	Charleston . . .	500
Dodge City . . .	510	Fargo . . .	1298	Huntington . . .	501
Goodland . . .	715	Williston U . . .	1204	Parkersburg U. . .	551
Topeka . . .	657	OHIO, Akron-Canton . . .	780	WIS, Green Bay . . .	1087
Wichita . . .	529	Cincinnati U. . .	591	Madison . . .	979
KY, Lexington . . .	514	Cleveland . . .	777	Milwaukee . . .	959
Louisville . . .	487	Columbus . . .	628	WYO, Casper . . .	885
LA, Baton Rouge . . .	70	Dayton . . .	691	Cheyenne . . .	862
Lake Charles . . .	81	Toledo . . .	883	Lander . . .	893
New Orleans . . .	71	Youngstown . . .	878	Sheridan . . .	902
Shreveport . . .	152				

Preliminary reports from airport locations, except those marked U for urban and R for rural.
 *Estimated.