

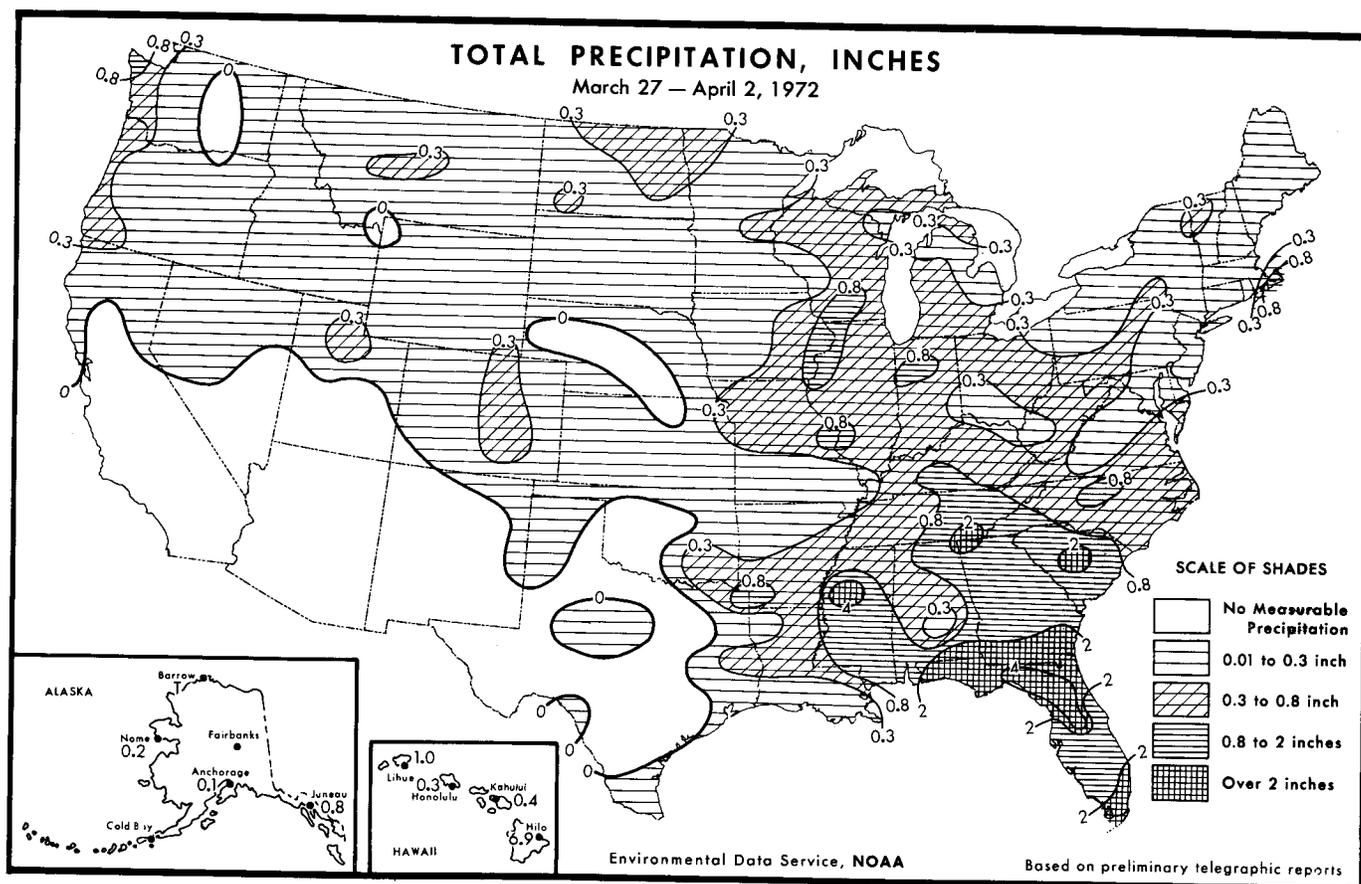
# Weekly Weather & Crop Bulletin

U. S. DEPARTMENT OF COMMERCE  
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U. S. DEPARTMENT OF AGRICULTURE  
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Edited by Lucius W. Dye

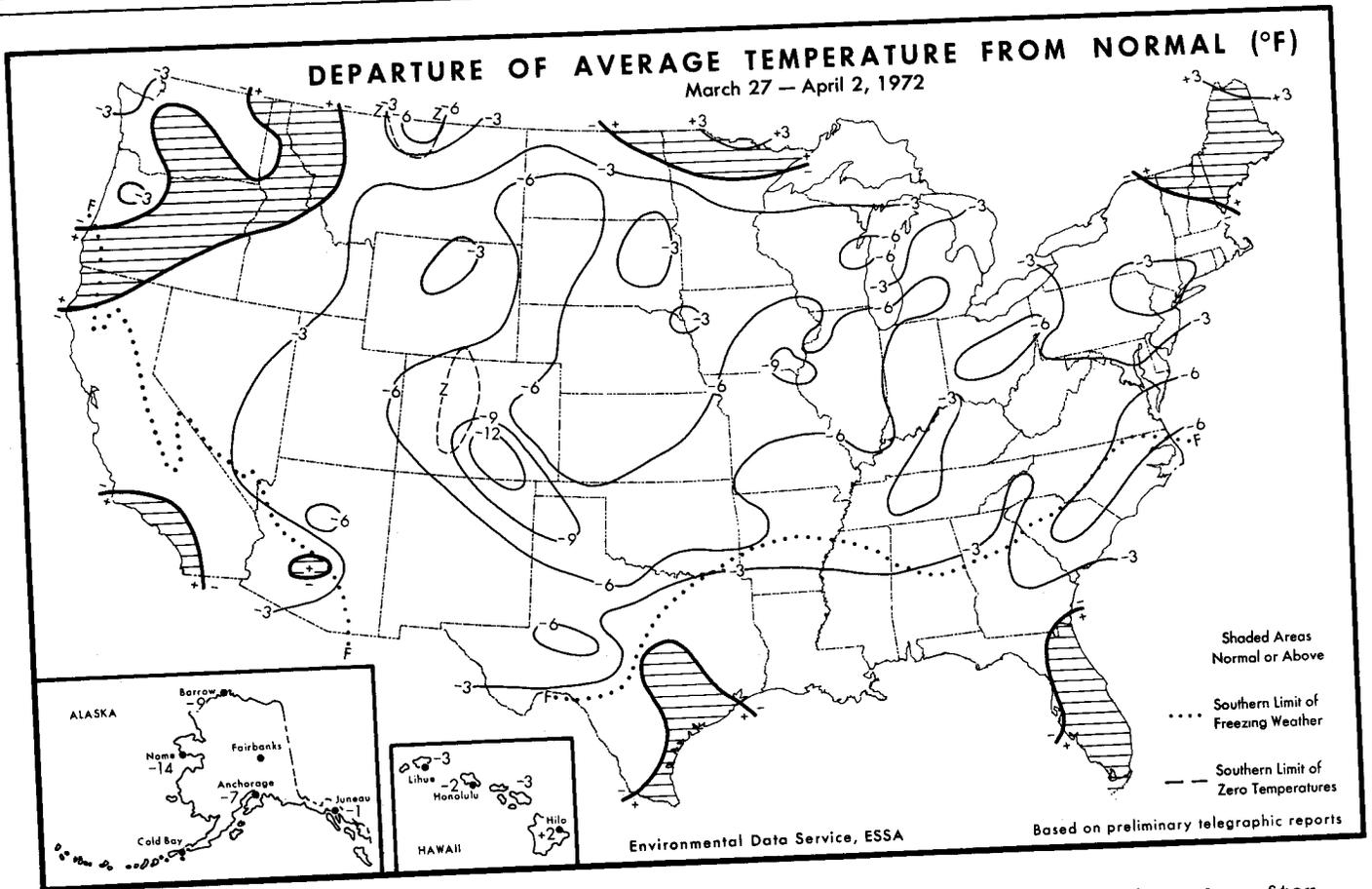
APRIL 3, 1972 Washington, D. C.



**HIGHLIGHTS:** Cold weather returned to the Northwest and North-Central and continued in the Northeast. The South was also cooler than the previous week. Snow fell in some northern locations. Thunderstorms and a few tornadoes spotted the Southeast. The Southwest continued dry.

**PRECIPITATION:** A severe late winter storm brought a variety of disagreeable weather to mid-America in the first half of the week. Heavy snow fell over the northern Great Plains from Montana to the Great Lakes. Light snow fell in the northern and central Rocky Mountains and intermittent snow glazed highways from the Great Lakes to New England. Gusty winds, blowing snow and drifting snow snarled automobile traffic, delayed air travel, and closed schools. Eleven inches of

snow fell in 12 hours Wednesday at Moline, Ill., and 9 inches accumulated at Madison, Wis. Five to 8 inches covered the Chicago, Ill., area and 10 inches fell at Rockford, Ill. So much for the cold side of the storm. Rain and drizzle fell on the warm side of the storm on Monday followed by showers, thunderstorms, strong winds, hail, and a few tornadoes Tuesday, Wednesday, and Thursday. The showers fairly well covered the area from Kansas to the Ohio River Valley and southward to the Gulf of Mexico. Hail approaching the size of baseballs fell in spots in Arkansas and Louisiana. High winds blew down a house, trees, and a power line 6 miles south of El Dorado, Ark., Tuesday afternoon. In the late evening, a tornado occurred at Clinton, Ark., and, in western Tennessee, high winds destroyed a



tractor shed and uprooted trees.

The storm center moved across the Great Lakes to Ontario Thursday but a new storm developed over the Gulf of Mexico, moved across the Florida Peninsula, and headed northward along the coast. It spilled several inches of rain over the northern part of Florida and parts of Georgia and the Carolinas. Hail fell in spots and up to 8 inches of snow fell in the mountains in western North Carolina. As the storm moved northeastward it caused considerable cloudiness and light rain from North Carolina to New England.

A weekend storm brought snow flurries to the northern and central Great Plains with rain farther south. Blustery winds accompanying the snow made conditions hazardous for young livestock. Rain fell late in the week along the northern Pacific Coast with snow in the Cascades and northern Rocky Mountains. Much of the Southwest received no rain or only light widely scattered sprinkles and need rain badly.

**TEMPERATURE:** Cold northerly winds kept temperatures below freezing Monday afternoon from the Continental Divide to western Wisconsin. Warm moist air covered the southern Great Plains.

Little Rock, Ark., registered 84° Monday afternoon, Nashville, Tenn., recorded 76° Tuesday, and the mercury at Pikeville, Ky., reached 75° Wednesday when Lower Michigan was still near the freezing mark. The North-Central States continued cold because of the northerly winds and the deep snow. And the snow remained on the ground because of the cold weather. The cold air spread southward as the week advanced. Birmingham, Ala., and Atlanta, Ga., registered 30° Sunday morning. Spots in the Rocky Mountains recorded subzero weather on 1 or 2 days. The mercury at Leadville, Colo., plunged to 9° below zero Thursday morning. Temperatures ranged mostly in the 70's and 80's across the Southland except Tuesday they reached the 90's in the Lower Rio Grande Valley. McAllen, Tex., registered 100° Tuesday.

Temperatures averaged below normal over most of the Nation. Parts of the central Great Plains averaged 6° to 10° colder than normal. Above-normal weekly mean temperatures occurred along the western Gulf Coast, over most of the Florida Peninsula, in northern New England, and from Los Angeles to San Diego, Calif.

L. W. Dye

## NATIONAL AGRICULTURAL SUMMARY

**AGRICULTURAL HIGHLIGHTS:** Early week freeze damages fruit crop in west. \*Cold wintry weather slowed fieldwork. Some non-irrigated grain fields being abandoned or pastured in Texas and California.

**SMALL GRAINS:** Cold spring weather slowed small grain growth across the country. Temperatures were generally 3° to 6° below normal. A spring storm brought freezing temperatures to Kansas. It is too early to fully determine the extent of freeze damage to the Kansas wheat crop; but damage is expected to be light. Some early Kansas fields are entering the jointing stage. The cooler weather did have one benefit for the Great Plains wheat crop -- cool temperatures were less demanding on moisture supplies which are already scarce. The cool dry weather hurt Oklahoma wheat, as condition of the crop dropped about 10% during the week -- it is now rated 70% good or better. Some dryland wheat acreage on the southern High Plains and Low Plains of Texas is being grazed out due to poor grain prospects. Dry farmed grains are also being pastured or abandoned in some drier California areas. Dryland wheatfields in New Mexico are also under stress. A soaking rain would be extremely helpful to the grain crops in the Southwestern 2/3rds of the Nation. Frost also damaged grain fields in Arizona.

In the South grains are mostly in good condition. However, rust, mildew, and smut are causing severe damage to wheatfields in southern counties of Alabama and Georgia, plus northern Florida. Some Georgia fields have been plowed under. Moisture is plentiful in the South, but warmer temperatures are needed to stimulate growth.

Seeding of spring grains made slow progress in the north central States. Scattered snow, rain and thawing temperatures generally left fields unworkable. Some oat fields were seeded in Illinois, Iowa, and Ohio. Oats are 83% planted in Kansas, while Colorado growers have 43% of their acreage seeded.

**OTHER CROPS:** Numerous showers limited farm activities to the driest fields in the South. Cold, wintry weather delayed fieldwork throughout the North. Some plowing and disking were done in southern Iowa. Illinois farmers have 2/3rds of their corn and soybean acreage plowed.

Soggy fields slowed corn planting in the South, but some acreage was planted in the Carolinas and Georgia. Planting was active from the southern Low Plains to the Rio Grande Valley in Texas. More cotton farmers also got into the planting act -- seeding was heavy in California, Arizona and Texas. A few fields were seeded in Georgia. Frost halted plant growth in California and Arizona. Tobacco plant beds are in good condition. Some transplanting began in the North Carolina Border Belt. A tornado destroyed 37 shade tobacco barns in Florida. Colorado sugar-beet growers have 8% of their intended acreage seeded. Sugarcane harvesting is active in Hawaii. Florida harvesting is complete. Alfalfa was frost damaged in many Western regions.

**Fruits and Nuts:** Early week cold weather meant disaster for Western orchardmen. After 6 straight weeks of above normal temperatures, fruit trees were blooming well ahead of normal -- then disaster struck. An early spring storm brought freezing temperatures into the West. Thermometers dropped to the teens and low twenties in some fruit areas causing extensive damage. The extent of damage is not fully accessible at this time, but heavy losses are expected. Growers tried to combat freezing temperatures with extensive use of orchard heating equipment -- but bud damage was noted in most orchards. Orchards were damaged from Washington and California across the Rocky Mountains to northern Texas and Oklahoma. General rains improved the condition of Florida orange trees -- full bloom is evident. Citrus harvest continues at moderate levels in Florida, California, Arizona, and Texas.

**Vegetables:** Planting gained momentum along the Atlantic Coast. Lettuce, cabbage, and peas were planted as far North as New Jersey. South Carolina watermelons are 35% in. Watermelons are beginning to bloom in the Texas Coastal Bend area. Tomatoes and green peppers are being set in East Texas.

Heavy downpours brought Florida vegetable harvesting to a halt March 31. Many growers pumped out fields and some delay in harvesting is expected. Arizona harvesting conditions are good statewide. Lettuce cutting started in Salinas Valley, California. Frost curtailed artichoke shipments from the Castroville area. Strawberry picking was active in South Texas. Louisiana also has a light, but steady supply of berries.

**PASTURES AND LIVESTOCK:** Pastures continued to dry up in the Southwest. Only traces of rain fell in a few areas. Windy conditions dried soils fast during the week. Many ranchers are starting to worry as soil moisture and stockwater supplies are nearing critical shortage levels.

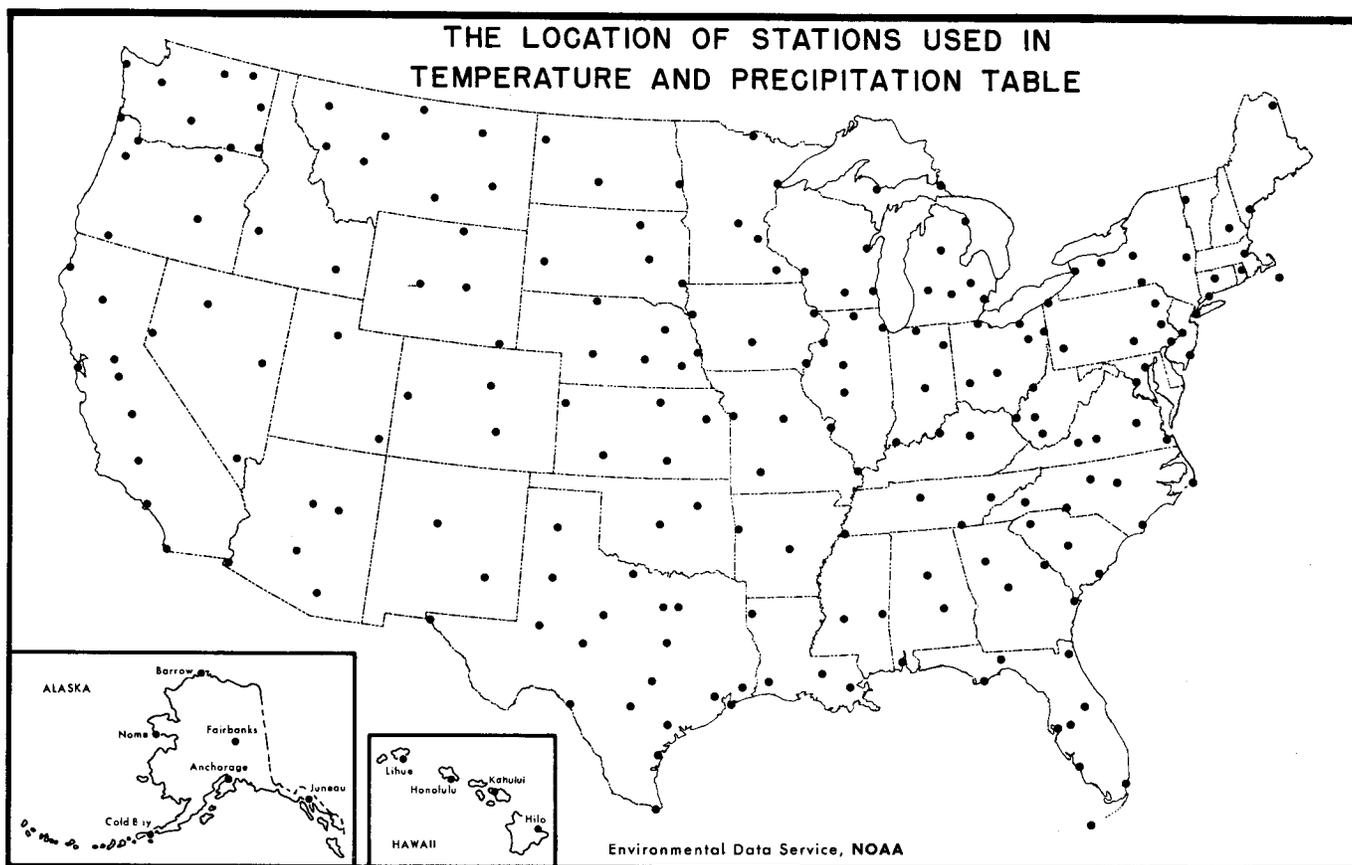
Below normal temperatures slowed pasture growth across the Nation. However, moisture is adequate in most regions except in the Southwest and spring growth should be rapid once warmer weather arrives. Pastures greened up considerably in Indiana. Illinois pastures are supplying about 20% of the roughage requirements. Supplemental feeding is still necessary on farms in the northern half of the Nation. Good rains will boost Florida pasture growth, but continued dry weather deteriorated the grazing outlook in Oklahoma and western Arkansas. Calving, lambing, and farrowing are well along on most ranches. Wyoming sheepmen have completed shearing some farm flocks.

Steve J. Pscodna  
Agricultural Statistician

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., APRIL 2, 1972

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 . . .	55	- 3	.6	- .7	New Orleans . . .	63	- 1	.3	- .8	OKLA. Okla. City . .	47	- 6	T	- .6
Mobile . . .	62	- 1	1.8	0	Shreveport . . .	59	- 1	T	-1.1	Tulsa . . .	47	- 6	T	- .8
Montgomery . . .	59	- 1	.2	-1.2	MAINE. Caribou . . .	31	+ 3	.1	- .5	OREG. Astoria . . .	45	- 1	.6	- .9
ALASKA. Anchorage . .	21	- 7	.1	0	Portland . . .	37	+ 1	T	-1.0	Burns . . .	41	0	T	- .2
Barrow . . .	-19	- 9	T	0	MD. Baltimore . . .	46	- 2	.1	- .7	Medford . . .	47	+ 1	.3	0
Fairbanks . . .	-	-	T	0	MASS. Boston . . .	41	- 1	T	-1.0	Pendleton . . .	47	0	T	- .2
Juneau . . .	32	- 1	.8	+ .1	Chatham . . .	38	-	1.0	-	Portland . . .	46	- 2	.3	- .3
Nome . . .	- 1	-14	.2	0	MICH. Alpena . . .	29	- 3	.3	- .3	Salem . . .	44	- 3	.1	- .7
ARIZ. Flagstaff . . .	31	- 8	0	- .3	Detroit . . .	35	- 5	.3	- .3	PA. Allentown . . .	40	- 3	.1	- .6
Phoenix . . .	63	+ 1	0	- .1	Flint . . .	33	- 4	.2	- .4	Erie . . .	32	- 5	.1	- .6
Tucson . . .	56	- 5	0	- .1	Grand Rapids . . .	32	- 6	.6	0	Harrisburg . . .	43	- 2	.2	- .5
Winslow . . .	44	- 5	T	- .1	Houghton Lake . . .	28	- 5	.3	- .1	Philadelphia . . .	44	- 2	T	- .8
Yuma . . .	64	- 2	0	- .1	LaSaug . . .	31	- 7	.4	- .2	Pittsburgh . . .	40	- 2	.3	- .5
ARK. Fort Smith . . .	49	- 7	T	- .8	Marquette . . .	31	- 1	.6	+ .1	Scranton . . .	37	- 4	.3	- .4
Little Rock . . .	52	- 4	.5	- .7	Muskegon . . .	35	- 3	.5	0	R. I. Providence . . .	40	- 2	.1	- .9
CALIF. Bakersfield . .	60	+ 1	0	- .2	S. Ste. Marie . . .	29	- 1	.3	- .2	S. C. Charleston . . .	57	- 3	1.0	+ .2
Eureka . . .	49	0	.2	- .6	MINN. Duluth . . .	27	- 1	.1	- .4	Columbia . . .	52	- 7	2.0	+1.0
Fresno . . .	57	- 1	0	- .4	Internat'l Falls . .	30	+ 3	.2	- .1	Greenville . . .	51	- 5	1.1	+ .1
Los Angeles . . .	62	+ 2	0	- .3	Minneapolis . . .	30	- 5	.2	- .2	S. DAK. Aberdeen . .	34	- 2	.1	- .3
Red Bluff . . .	55	- 1	0	- .5	Rochester . . .	30	- 5	.2	- .3	Huron . . .	34	- 2	.1	- .3
San Diego . . .	60	0	T	- .3	St. Cloud . . .	29	- 4	.3	0	Rapid City . . .	29	- 7	.1	- .2
San Francisco . . .	53	- 1	T	- .4	MISS. Jackson . . .	58	- 2	1.7	+ .5	Sioux Falls . . .	33	- 4	T	- .4
Stockton . . .	55	- 1	0	- .4	Meridian . . .	58	- 2	.8	- .6	TENN. Chattanooga . .	50	- 6	2.1	+ .9
COLO. Denver . . .	34	- 6	.5	+ .1	MO. Columbia . . .	40	- 7	.7	0	Knoxville . . .	49	- 5	1.1	+ .2
Grand Junction . . .	39	- 7	T	- .2	Kansas City . . .	42	- 6	.7	- .1	Memphis . . .	52	- 4	.4	- .8
Pueblo . . .	31	-13	.8	+ .6	St. Louis . . .	42	- 6	1.0	+ .1	Nashville . . .	53	- 1	.7	- .4
CONN. Bridgeport . . .	41	- 1	.2	- .7	Springfield . . .	44	- 5	.1	- .8	TEX. Abilene . . .	57	- 2	.2	- .1
Hartford . . .	39	- 3	.2	- .6	MONT. Billings . . .	34	- 4	.1	- .2	Amarillo . . .	43	- 9	.1	- .1
D. C. Washington . . .	47	- 3	.1	- .6	Glasgow . . .	31	- 2	T	- .1	Austin . . .	65	+ 2	T	- .6
FLA. Apalachicola . .	63	- 1	3.0	+2.0	North Falls . . .	34	- 1	.1	- .1	Beaumont . . .	61	- 3	T	- .8
Ft. Myers . . .	71	+ 1	4.1	+3.5	Helena . . .	26	- 7	.1	- .1	Brownsville . . .	71	+ 1	T	- .3
Jacksonville . . .	66	+ 1	2.9	+2.1	Kalispell . . .	33	- 3	.3	+ .1	Corpus Christi . . .	68	0	.1	- .3
Key West . . .	76	+ 2	.6	+ .1	Miles City . . .	37	+ 1	.1	- .1	Dallas . . .	58	- 2	0	- .8
Lakeland . . .	-	-	-	-	Missoula . . .	31	- 6	.1	- .1	Del Rio . . .	65	- 2	.1	- .2
Miami . . .	73	+ 1	2.4	+1.8	NEBR. Grand Island .	40	+ 2	.2	0	El Paso . . .	54	- 4	0	- .1
Orlando . . .	69	+ 1	4.6	+3.7	Lincoln . . .	36	- 5	T	- .4	Fort Worth . . .	59	- 1	T	- .7
Tallahassee . . .	61	- 2	4.0	+2.8	Norfolk . . .	37	- 7	.1	- .4	Galveston . . .	65	+ 1	.1	- .6
Tampa . . .	68	0	1.0	+ .2	North Platte . . .	35	- 4	.2	- .3	Houston . . .	63	0	0	- .7
GA. Atlanta . . .	54	- 2	.8	- .4	Omaha . . .	35	- 5	T	- .4	Lubbock . . .	49	- 5	T	- .2
Augusta . . .	55	- 4	1.9	+1.0	Valentine . . .	36	- 5	.2	- .3	Midland . . .	53	- 6	T	- .1
Macon . . .	58	- 3	1.5	+ .4	NEV. Ely . . .	32	- 5	.1	- .3	San Angelo . . .	56	- 6	T	- .2
Savannah . . .	61	- 1	1.0	+ .1	Las Vegas . . .	33	- 4	T	- .2	San Antonio . . .	63	- 1	T	- .5
HAWAII. Hilo . . .	73	+ 2	6.9	+3.7	Reno . . .	55	- 3	0	- .1	Victoria . . .	66	0	T	- .5
Honolulu . . .	72	- 2	.3	- .2	Winnemucca . . .	42	- 2	T	- .2	Waco . . .	62	0	T	- .8
Kahului . . .	70	- 3	.4	- .3	N. H. Concord . . .	39	- 2	.2	0	Wichita Falls . . .	52	- 6	T	- .4
Lihue . . .	69	- 3	1.0	+ .1	N. J. Atlantic City .	35	- 2	T	- .7	UTAH. Blanding . . .	40	- 3	T	- .3
IDAHO. Boise . . .	43	- 2	.1	- .2	Trenton . . .	40	- 5	.3	- .6	Salt Lake City . . .	41	- 3	.6	+ .2
Lewiston . . .	46	0	.1	- .2	N. MEX. Albuquerque .	43	- 2	.1	- .7	VT. Burlington . . .	33	0	.7	+ .1
Pocatello . . .	37	- 3	T	- .2	Roswell . . .	45	- 4	0	- .1	VA. Lynchburg . . .	47	- 3	.2	- .7
ILL. Cairo . . .	48	- 5	.2	- .9	N. Y. Albany . . .	49	- 5	0	- .1	Norfolk . . .	46	- 7	.6	- .1
Chicago . . .	36	- 7	.5	- .3	Binghamton . . .	37	- 2	.3	- .3	Richmond . . .	46	- 6	.4	- .4
Moline . . .	38	- 4	1.2	+ .5	Buffalo . . .	49	- 5	0	- .1	Roanoke . . .	46	- 4	T	- .8
Peoria . . .	35	- 8	.6	- .2	New York . . .	36	- 1	.3	- .4	WASH. Colville . . .	42	0	T	- .2
Rockford . . .	33	- 7	.6	+ .1	Rochester . . .	41	- 4	.2	- .7	Omak . . .	44	- 1	0	- .2
Springfield . . .	39	- 7	.4	- .4	Syracuse . . .	36	- 2	.1	- .5	Quillayute . . .	41	- 4	.8	-1.4
IND. Evansville . . .	44	- 6	.6	- .4	N. C. Asheville . . .	36	- 2	.3	- .5	Seattle-Tacoma . . .	46	+ 1	.2	- .5
Fort Wayne . . .	37	- 5	.8	+ .1	Charlotte . . .	48	- 2	.9	+ .1	Spokane . . .	41	- 1	.2	- .1
Indianapolis . . .	40	- 4	.7	- .2	Greensboro . . .	49	- 5	.8	- .1	Walla Walla . . .	49	0	T	- .3
South Bend . . .	35	- 5	.7	- .1	Hatteras . . .	47	- 5	.9	+ .1	Yakima . . .	46	+ 1	0	- .1
IOWA. Burlington . . .	34	- 9	1.1	+ .3	Raleigh . . .	50	- 4	.5	- .2	W. VA. Beckley . . .	40	- 5	.4	- .7
Des Moines . . .	34	- 7	.3	- .2	Wilmington . . .	47	- 7	.6	- .1	Charleston . . .	45	- 4	.2	- .8
Dubuque . . .	30	- 8	.8	+ .1	N. DAK. Bismarck . .	53	- 5	.4	- .4	Huntington . . .	46	- 4	.2	- .8
Sioux City . . .	37	- 2	.1	- .3	Fargo . . .	26	- 7	.1	- .1	Parkersburg . . .	44	- 4	.6	- .3
KANS. Concordia . . .	40	- 5	T	- .4	Williston . . .	27	- 5	.2	- .1	WIS. Green Bay . . .	29	- 6	.7	+ .3
Dodge City . . .	42	- 4	.1	- .2	OHIO. Akron-Canton .	27	- 4	.1	- .1	La Crosse . . .	33	- 4	.2	- .4
Goodland . . .	42	- 4	.1	- .2	Cincinnati . . .	35	- 7	.3	- .4	Madison . . .	31	- 4	.9	+ .4
Topeka . . .	37	- 3	.1	- .2	Cleveland . . .	43	- 3	.3	- .6	Milwaukee . . .	32	- 5	.4	- .1
Wichita . . .	41	- 6	.2	- .4	Columbus . . .	43	- 3	.3	- .6	WYO. Casper . . .	31	- 5	.1	- .2
KY. Lexington . . .	43	- 5	.5	- .4	Dayton . . .	36	- 5	.2	- .6	Cheyenne . . .	27	- 8	.5	+ .1
Louisville . . .	45	- 3	.6	- .4	Toledo . . .	37	- 7	.4	- .4	Lander . . .	33	- 3	.2	- .2
LA. Baton Rouge . . .	62	- 2	.2	-1.2	Youngstown . . .	38	- 6	.1	- .7	Sheridan . . .	33	- 2	.2	- .2
Lake Charles . . .	62	- 2	.1	- .8		35	- 5	.4	- .2	P. R. San Juan . . .	81	+ 3	1.0	+ .6

\* 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:** Numerous showers and quite warm early in period. Much cooler and partly cloudy with few scattered showers Wednesday through Friday. Mostly fair and cool over weekend with temperatures low enough for frost over north and central. Average temperatures slightly cooler than normal. Rainfall generally moderate. Weekly totals ranged from less than 0.25 inch to near 2.00 inches. Preparation seedbeds and application fertilizers and chemicals carried priority. Numerous showers limited these activities to driest fields. Small grains continued to make good growth. Generally, disease damage light. Rust, mildew, and smut have hit many wheatfields south Alabama. Late spring potatoes made excellent growth with most acreage up to stand. Early plantings Sand Mountain Irish potatoes were breaking ground. Chilton County peach growers spraying trees. Tomatoes Geneva-Houston Counties suffered from mold, wet soil. Livestock remain in fair to good condition. Clovers furnishing good grazing.

**ARIZONA:** Skies mostly clear again this week but temperatures averaged below normal for first time since early in February. No measurable precipitation. Planting cotton nearing completion Yuma, but continues central area. Cold weather slowed early planting in southeast. Heading and grain development progressing barley, wheat Yuma and central areas. Freezing temperatures southeast

March 29 damaged some fields. Sorghum planting tapered off Yuma and Salt River Valley. Field preparations generally complete southeast. Sugar beets making satisfactory development. Baling and cubing alfalfa hay continues. Spring lettuce harvest full swing Salt River Valley, central areas. Harvesting conditions good statewide. Harvest winter lettuce remains active Yuma. Harvesting cabbage, carrots, green onions Salt River Valley, southern Yuma County. Valencia oranges, grapefruit being picked Salt River Valley, Yuma. Groves both areas good. Range conditions continue steady decline. Soil moisture, stockwater nearing critical levels. Current windy conditions drying surface soils.

**ARKANSAS:** Severe wind and hail damage evening of 28th in south-central Arkansas with some hail damage in eastern extremity of west-central portion. Several funnel clouds sighted afternoons and evenings of 27th and 28th, mainly in eastern, central, and southern portions of State. Mean temperatures range 1° to 8° below normal with greatest departures in west-central and northwest portions and least in southwest and southeast portions. Highest 88° Texarkana on 27th. Lowest 22° at Calico Rock and Gilbert on 30th. Precipitation 1.00 inch to a little over 2.00 inches across southern 1/4 of State and 0.50 inch or more portions of central, northeast, and east-central

sections. Driest in northwest and west-central sections with amounts ranging from 0.01 inch to less than 0.25 inch. Most precipitation at Camden with 2.02 inches. Seedbed preparations made mostly good progress except east-central areas where fields were wet. Soil moisture short to very short, except east-central. Cooler temperatures slowed growth small grains and pastures. No planting major crops although seedbed preparations well advanced. Fruit crops, particularly peaches, in heavy bloom. Livestock mostly good condition. Grazing limited, particularly western sections due dry weather.

**CALIFORNIA:** Below freezing minimums valley locations several days; average temperatures mostly 2° to 4° below normal, 5° to 10° cooler than last week. Colorado River Valley 7° below normal. Light precipitation north both weekends, amounts generally less than 0.10 inch. Freezing temperatures night March 26 caused extensive damage southern portion San Joaquin Valley. Particular damage to raisin grape and shipping fruit region. Continued dry. Water use high. Dry farmed small grains sheeped or abandoned some areas. First cutting alfalfa well along. Cotton planting active. Frost damage emerged plantings minimal. Early corn emerging. Coachella Valley shattering perlette grapes. Pollination dates underway. Harvest navel oranges continues moderate levels. Harvest valencia oranges begun. Picking lemons, grapefruit continues. Artichokes Castroville curtailed by recent frost. Asparagus very active; more to processors. Broccoli, cauliflower continued moderately. Cabbage limited cutting South Coast. Carrots active Deserts. Celery cutting active Oxnard, Orange; San Diego completed. Lettuce past peak Blythe; Oxnard, Santa Maria increasing; Salinas started. Strawberries continues southern California. Planting, processing tomatoes. Light rains northern areas stimulated range growth. Range grasses central and southern California areas continue to mature and brown. Early fat lambs going to market--reportedly light. Stockwater supplies decreasing. Permanent pastures being irrigated.

**COLORADO:** Cold wave and general storm through week. Some warming over weekend. Daily maximums dropped 30°. Most areas in mountains below zero. Light to moderately heavy snow mountains and east. Light or none lower western areas. High winds and severe drifting many areas. Topsoil moisture short most areas. Short to adequate southeast. Subsoil moisture supplies short to adequate statewide. Winter wheat condition good. Light wind damage northwest. Condition winter barley good to fair, rye good. Light insect infestation all grain eastern plains. Oats 43% seeded, late summer potatoes 1% planted, sugar beets seeded on 8% intended acreage. Considerable freeze damage to fruit crops past week--extent uncertain. Range and pasture conditions fair to good. Livestock good. Calving nearly 2/3 complete.

**FLORIDA:** Unsettled weather. Temperatures averaged near normal with considerable day-to-day fluctuation. A succession of squall lines starting on the 28th preceded a cold frontal passage on 31st. High gusty winds, thunderstorms, heavy rain, and several tornadoes accompanied squall lines. Rainfall averaged 2.00 to 4.00 inches most sections except below 1.00 inch in Keys. Rains limited planting field crops. Tornado destroyed 37 shade tobacco barns and damaged cloth shades. Rust serious in wheat. Sugarcane harvest complete. Rains improved pastures. Preparation for summer

pastures underway. Livestock good. General rains improved tree conditions during the very important bloom period. Orange trees in full bloom. Tangerine and grapefruit trees have not reached full bloom stage. Spring vegetable harvest active until heavy downpours received March 31. Many growers pumped out fields. Drying winds on weekend beneficial. Some harvest delay expected early this week. Rain beneficial many areas. Overall production losses considered light until further evaluated.

**GEORGIA:** Rainfall moderate to mostly heavy. Rain on 4 to 5 days and amounts ranged from about 0.75 inch in extreme west-central to more than 3.00 inches parts of south. Severe thunderstorms brought damaging hail to Athens area late Wednesday afternoon. Ground was covered in places with some stones measuring more than 1 inch in diameter. Roofs, greenhouses, and shrubbery suffered extensive damage. Warm first of week, turning slightly cooler at midweek, and much cooler weekend. Freezing in north Sunday morning with light frost reaching central sections. Averages ranged from 2° to 4° below normal. Soil moisture mostly surplus. Wet soil delayed land preparation and planting. Tobacco setting 41% complete. Condition fair to mostly good. Corn 8% planted, about the same as last 2 years. Few fields cotton seeded. Peaches fair to good bloom--week earlier than last year. Disease damaged some wheat varieties. Severe in south Georgia, and overall condition poor to fair. Some being plowed up. Early truck crop planting extreme south about normal. Condition fair to good.

**HAWAII:** Showers benefited crops all areas. Cool weather continued to slow growth and maturity. Sugarcane harvesting active. Spring planting pineapples on uptrend. Harvesting increasing seasonally. Supplies vegetables adequate, but local bananas and papayas light. Pastures and cattle remained fair to good condition.

**IDAHO:** Temperatures averaged 5° to 15° colder than last week to average 2° to 6° below normal north and 5° to 10° below other areas. Minimum temperatures first half week fell to 5° to 10° upper prairies of south to the teens east, and teens and 20's other areas. Precipitation was generally light and less than normal with the exception of Grangeville, Idaho County, with 1.23 inches. Sweet cherries suffered some frost-bud damage early in week even though orchard smudging was fairly extensive. Soils still too wet for general fieldwork north Idaho. Land preparation and early seeding well underway southern portions. Potato seed sorting taking place east Idaho.

**ILLINOIS:** Cold wet week. Temperatures averaged 5° below normal and ranged from high 20's in north to near 60° south on 1 or 2 days. Snowstorm on 29th from central Illinois to Lake Michigan deposited 5 to 10 inches of snow and slowed highway travel. Light precipitation on most days and very cloudy. Oat seeding about 1/4 completed; seeding progressed slowly northern Illinois. Plowing for corn and soybeans 2/3 complete. Winter wheat good condition. Pastures in good condition supplying 20% livestock roughage requirements. Farm activities include plowing, disking stalks, applying fertilizer, and seeding oats as weather permits.

**INDIANA:** Cool wet week. Temperatures averaged 35° to 45° and were 5° to 8° below normal. Daily lows frequently in 20's. Warmed to 60° on 31st

in central. Precipitation averaged 0.50 to 0.80 inch. Several inches of snow on 29th and 1st from Lake Michigan southeastward to central Indiana hindered highway travel. Showers combined with thawing generally left soils in an unworkable condition. Preparation continued for spring work. Considerable greening up occurred during week.

**IOWA:** A cold cloudy week with frequent precipitation. Snow over southeast 28th and 29th up to 8 inches extreme southeast. Temperatures averaged 6° to 10° subnormal. Week generally unsuitable for fieldwork. Few farmers started to disk and seed oats, mostly southern counties. Oats seeding same as last year, behind 5-year average. Plowing about 50% completed, with spring plowing started. Last year less than 45% plowed by this date, 5-year average 50% complete. Major farm activities consisted manure hauling, livestock care, fertilizing, and preparing machinery for 1972 crop season. Topsoil moisture 12% short, mainly western areas, 84% adequate, and 4% surplus. Subsoil moisture 22% short, 77% adequate, and less than 1% surplus. Last year 80% subsoil moisture reports indicated adequate with 20% surplus.

**KANSAS:** Spring storms moved through the State past week brining below-normal temperatures and frequent but light precipitation. Heaviest precipitation associated with snowfall in east-central on 29th and northeast on 31st. Light precipitation in northwest and north-central. Temperatures 5° or more below normal all of State except northwest where only 3° below south-central and southeast reported temperatures 8° and 9° below normal. Freezing temperatures slowed wheat development. Crop in general good to excellent condition. Too early to determine extent of possible freeze damage, but it is believed to be light. Considerable stooling and some wheat jointed. Seeding oats 83% finished and spring barley 71% completed. Both well ahead last year and average. Little corn planted southern counties. Livestock good condition. Limited grazing wheat pastures. Cool season grasses providing some additional forage. Good calf crop reported.

**KENTUCKY:** Warming to above normal, then below normal most days, averaging 3° to 5° below normal. Precipitation light northern Bluegrass and northeast, moderate to heavy balance, ranging from about 0.25 inch to 1.60 inches. Rain heaviest first 3 days, with some thundershowers. Rain and snow on 1st, some light snow northern half on 2d. Soil moisture mostly surplus. Only 2 days favorable fieldwork. Plowing almost at standstill, just 1/3 completed compared 1/2 year ago. About 3/4 tobacco plant beds seeded, but only 6% plants up. Cool weather delaying germination and growth. Pastures short, furnishing only 1/4 cattle roughage requirements. Seven of every 8 head still on winter feed, but hay supplies more than adequate. Winter damage to oats rather heavy, light to moderate other grains and legumes.

**LOUISIANA:** Weekly temperatures ranged from 3° below normal in most areas to near normal southeast. Warm first of week, then sharply cooler midweek to weekend. High temperatures on Thursday in chilly 50's. Low temperatures in 30's and 40's Friday through Sunday. Extremes: 88° Mamou Monday and 30° Ashland Friday. Rainfall early in week and again midweek. Local totals highly variable ranging from less than 0.20 inch to near

2.00 inches. Greatest 1-day total, 1.79 inches measured at St. Joseph Tuesday morning. Showers and cool weather limited fieldwork. Some plowing and rowing up accomplished in well-drained fields, but little planting. About 5% to 10% corn and rice acreage planted, compared 25% year ago. Chemical grass and weed control fairly active in sugarcane. Wheat and oats fair to good condition. Transplanting green peppers and tomatoes neared completion. Strawberry harvest active, volume light, but steady. Pasture feed about average. Livestock good condition.

**MARYLAND AND DELAWARE:** Temperatures averaged 3° to 6° below normal. Extremes: 60°, 18°. Precipitation generally light except up to 1.25 inches in extreme south. March 1972 temperatures averaged near normal, precipitation below normal, snowfall little or none except mostly 5 to 15 inches in Garrett County. Hay, pasture, and grain crops slow starting due cool weather. Fieldwork active drier areas southern Eastern Shore and Delaware. Some work on high ground other areas. Good progress in orchard work. Livestock generally good condition.

**MICHIGAN:** Unseasonably cold early, snow or rain and snow midweek with little temperature change remainder of period. Temperature averages: normal to 3° below normal Upper Peninsula, 1° to 7° below normal Lower Peninsula, largest departures central interior. Precipitation 0.25 to 0.75 inch Upper Peninsula, 0.25 to 0.50 inch Lower Peninsula.

**MINNESOTA:** Temperatures averaged about 4° below normal across State. Extremes: 55°; 10°. Precipitation averaged generally less than 0.25 inch mostly as mixed snow and rain. Snow cover remains only in the north-central and northeast averaging about 12 inches.

**MISSISSIPPI:** Severe weather on 27th and 28th: One injured at Arcola; damages in thousands. Rain on 3 to 4 days with most amounts over 1.25 inches. Greatest 1-day amount of 2.43 inches measured at Natchez on 28th. Weekly temperatures averaged below normal. Extremes for week: 85° and 27°. Over weekend: No rain and maximum temperatures slightly warmer than at end of week. Soil moisture adequate to mostly surplus. Wet fields slowed land preparation and progress of applying chemicals and fertilizer. Average 1.8 days suitable fieldwork. Plowing about 45% complete. Wheat and oats about 45% jointing.

**MISSOURI:** Cold temperatures and light to moderate precipitation over the State during week. Precipitation light south of Missouri River, averaging less than 0.50 inch, while to the north, totals exceeded 1.00 inch at a few locations. Over weekend, weather was mild with some light precipitation in extreme southern part of State. Averaged 2 days suitable fieldwork. Plowing 63% completed, oats 63% planted, wheat good condition, pastures fair. Soil moisture adequate most parts, but dry southwest portion.

**MONTANA:** Progressive warming during week, cooling during weekend with strongest cooling occurring over the Plains. Average temperatures for week slightly above normal west, slightly below normal elsewhere. Topsoil moisture generally adequate. Winter wheat fair to good condition and stooling out fairly good. Winterkill generally light, but several counties

report moderate damage. Fieldwork getting underway most areas. Ninety percent range livestock receiving supplemental feed. Calving 45% complete, lambing and shearing 40% done.

**NEBRASKA:** Unseasonable warm spell broken but weather continued. Topsoil moisture supplies improved in some eastern areas, but 55% of reports indicate shortage. Winter wheat greening, but growth limited by cool temperatures. Cool weather with intermittent moisture reduced field activities. Livestock conditions generally good and supplemental feeding still necessary.

**NEVADA:** Cool early part of week, warming later. Temperatures near normal. Light to moderate precipitation in north and south-central from trace at Caliente and Pioche to 0.33 inch at Austin and Elko. None in extreme south. Snow melting on mountains. Cooler temperatures and snow delayed planting northern half State. Alfalfa may have been hurt by freeze. Fall-planted grains appear good. Irrigation pastures and alfalfa underway. Ranges turning green. Livestock fair to good condition with calving in full swing. Water supplies adequate.

**NEW ENGLAND:** Week rather cloudy with frequent light precipitation. Temperatures ranged from 3° to 6° above normal in northern Maine to mostly 1° to 3° below normal in southern New England with no unseasonable extremes. Precipitation mostly 0.10 to 0.25 with totals to 1.00 over Cape Cod due to heavy rain there Friday. Locally up to 0.50 inch or more in north, mostly from snow night of April 2 to 3. Snow cover limited to high elevations of south and central but in north ranges mostly 10 to 30 inches with more at higher elevations. Warmer days toward end of week produced good flows of maple sap some areas.

**NEW JERSEY:** A cool dry week with temperatures averaging well below normal. Readings ranged from low 20's early in week to low 60's on 1st. Scattered showers totaled from 0.10 to 0.30 inch. Land planting and field activities increasing. Fruit tree pruning well advanced. Planting peas, onions, cabbage, and potatoes increasing. Lettuce planting, both seeded and trans-planted acreage well advanced South Jersey. Pastures and cover crops beginning to grow in response to warming temperatures.

**NEW MEXICO:** Light precipitation early in week in north and extreme east. Continued dry elsewhere. Cold air on Wednesday. Damaging freeze to most of State with temperatures as low as 4° in northern valleys. Warming thereafter to maximum temperatures on Easter. Average temperatures for week about 10° lower than previous week falling to 5° or more below normal in north. Moisture very short to short. Freeze damage to pecans, fruits. Many areas little fruit remaining. Pecan damage not fully assessed. Winter wheat, barley fair to good. Dryland grain needs moisture. Alfalfa frost damaged most areas. Onions, lettuce good. Land preparation active. Ranges livestock fair to good. Moisture needed badly. Supplemental feeding continues. Calving, lambing active.

**NEW YORK:** Cold week although brief warming around 29th and April 1st. Temperatures averaged below normal for 4th week. Maximums mostly low 30's to mid-40's but near 60° southern half on 1st

for warmest since early March. Nights cold early week with minimums +5° to +15° north country to upper 20's coastal. Precipitation very light southern half Upstate and Long Island with totals averaging 0.20 inch or less. Light rain mixed with snow midweek from Mohawk Valley to northern border yielded 0.30 to 0.50 inch of water. Considerable melting of snow over eastern Lake Ontario to northern valleys. Depths reduced to 5 to 12 inches. Little change in Adirondacks where snow cover 15 to 30 inches as of March 31.

**NORTH CAROLINA:** Temperature range 20's to 50's most areas, averaging much below normal. A few highs to 70's extreme east and south. Snow mountains and parts of Piedmont 30th and 31st. Otherwise rain almost daily with amounts mostly small but totals averaging 1.00 inch. Soil moisture increased, mostly surplus statewide. Fieldwork slow, rain and snow. Small grains and pastures mostly good, improving. Tobacco beds improving, mostly good, transplanting beginning Border Belt. Plants ahead schedule, too large some Coastal Plain areas. Some corn planting coastal areas. Vegetable planting gaining momentum, commercial cabbage and Irish potato planting mostly complete. Freeze damage to peaches March 25th and 26th generally light.

**NORTH DAKOTA:** Temperatures averaged 2° to 9° below normal. Coldest in southwest. Cloudy weather with occasional light snow about evenly mixed with sunny days. Precipitation light to 1.00 inch mostly from snow first of week. Snow cover trace to 3 inches end of week. Moderate temperatures and only limited snow -- favorable for livestock. Lambing and calving in progress. Feedlots muddy. Preparation being made for spring fieldwork. Farmers readying feed, fertilizer, and machinery.

**OHIO:** Temperatures for week were generally near normal to 7° below normal. On 29th, temperatures reached into the 70's in extreme south. Precipitation amounts were generally light. Snow fell over large area. Fieldwork still limited although some plowing and oats seeding being done. Major farm activities care of young livestock and machinery preparation.

**OKLAHOMA:** Temperatures averaged 5° to 10° below normal. Extremes: 89° and 8°. Snow 8 to 10 inches midweek Panhandle. Precipitation averaged traces or few hundredths inch most of State except 0.20 inch Panhandle and 0.30 inch in eastern 1/3. Below-normal temperatures slowed growth small grains and lack of moisture lowered crop conditions. Wheat condition dropped from 80% good or better to only 70%. Moisture stress more evident southwest, but cooler weather less demanding on moisture supplies. Condition oats and barley mostly good with development ahead year earlier. Spraying for alfalfa weevil widespread. Freeze damage to fruit all, but southeast sections past week. Grazing from wheat and early ranges fair to good. Cattle condition down slightly from week earlier.

**OREGON:** Rain and snow showers early in week gave way to slow warming trend except 3 to 5 lingering rainy days on coast. Temperatures averaged 2° to 4° below normal westside, 5° to 8° below normal east. Minima 11° to 30° with coast 31° to 36°. Maxima 52° to 70°. Precipitation mostly 0.10 to 0.30 inch except 0.50 to 1.00 inch along coast and Cascades. Spraying, fertilizing and plowing main field activities. Subfreezing temperatures early week resulted in extensive frost

protection measures taken and significant damage to Medford district pears. Some orchard heating Dalles cherry orchards. Livestock good condition. Early pasture expected to be good, with adequate moisture.

**PENNSYLVANIA:** Cool, rather dry week. Temperatures averaged 2° to 4° below normal, except 4° to 6° below normal northern border. Mild early in week, brief cooling Thursday, milder Friday and Saturday, colder Sunday. Cold front Saturday night brought sharply colder weather to western counties with snow flurries and squalls. Up to 4 inches snow higher elevations. Total precipitation under 0.25 inch southeast and northwest, 0.50 to 0.60 inch north-central, 0.25 to 0.50 inch elsewhere. Driest week statewide since late December. Most precipitation fell with frontal passages Wednesday night and Saturday night.

**PUERTO RICO:** Rainfall averaged about 1.00 inch or about 0.50 inch below normal. Generally little or no rain along coasts. Highest total, 3.36 inches western interior with average of about 2.00 to 3.00 inches through central interior. Crop moisture conditions near normal all zones. Temperatures averaged about 77° on coasts and 72° interior divisions. Highest maximum 92°; lowest minimum 56° with mean departure of about 1° below normal. Sugarcane harvesting and grinding operations on schedule. More rain needed northwest for improved development fall crop. Coffee plantations good progress fieldwork with some minor delays central interior zones due rains. Tobacco harvesting and drying made good progress, except few interior zones delayed by rainshowers. Pastures generally good to excellent islandwide, except fair some south coastal zones, but much improved due recent rains. More rain needed northwest where excessive dryness some fields. Some insect problems northeast. Northwest too dry for planting. Some disease plantains central interior zones. Rains slowed harvesting western interior where abundance root crops and bananas reported.

**SOUTH CAROLINA:** Cold and wet with freezing temperatures early in week. Rain on several days with all sections receiving 1.00 to 1.75 inches. Temperatures averaged 4° to 6° below normal as cloudy skies prevailed. Excessive moisture conditions hampered field activities. Cool temperatures slowed growth small grains, pastures. Tobacco, peaches good condition. Corn for silage being planted. Vegetable crops fair. Planting snap beans, cucumbers, setting tomato plants. Watermelon planting 35% complete.

**SOUTH DAKOTA:** Weekly temperatures averaged up to 11° below normal with the greatest departures in west. Extremes ranged from 6° at Shadehill Dam on 28th and at Lemmon on 29th to 68° at Philip on 2d. Precipitation fell as occasional light snow or rain scattered through week. Total amounts were less than 0.15 inch in lower elevations but greater amounts fell in the Black Hills. Most snow melted soon after it fell. Cool weather and snow over most of State Sunday night will delay farming some. South-central and southwestern counties becoming dry with some blowing. Fieldwork has begun southern areas limited basis. Early spring seeding small grains begun in few earlier areas. Most of State too wet for plowing and planting, but fertilizer being applied. Calving underway. Livestock normal condition. Feed and stock yards muddy many areas. Final preparations for spring fieldwork underway.

**TENNESSEE:** Temperatures averaged 4° to 6° below normal most of State except near normal central. Light to moderate precipitation 28th, 29th; scattered thunderstorms with some hail. Light precipitation eastern 1/3 of State Friday, Saturday, and Sunday. Totals for week mostly between 0.75 inch and 1.50 inches except near 2.00 inches extreme southeast. Wet weather continues to hamper farm activities. Only 1.2 days suitable for field work. Plowing made very little if any progress, but tobacco bed seeding showed some increase. Pastures and small grains in fair to good condition and providing limited grazing for livestock. Livestock remain good.

**TEXAS:** Winter weather returned to northwest Texas first half of week when temperatures plunged to 18° to 20° in Panhandle and 23° to 25° in southern High Plains. Two to 7 inches of snow blanketed southern High Plains Thursday, followed by additional precipitation Friday. Little or no precipitation fell elsewhere except for moderate showers East Texas Tuesday. Temperatures were below normal for the week. Planting active from southern Low Plains southward to Lower Rio Grande Valley. Short moisture curtailed planting parts Blacklands and south-central Texas. Seedbed preparation, pre-plant irrigation main activities High and Low Plains. Much dryland wheat on Low Plains and southern High Plains to be grazed out as result poor grain prospects. Percent planted major crops; cotton 13, 8 last year; corn 53, 39 last year; sorghum 36, 26 last year; peanuts 6, 3 last year; rice 55, 57 last year. Onion harvest gaining momentum and to peak about mid-April Lower Rio Grande Valley. Cucumbers excellent condition with above average crop expected. Coastal Bend watermelons running with some blooming. Winter Garden/San Antonio, strawberries in full harvest. Tomatoes and green peppers being field set east Texas. Peaches good fruit set, except north Texas and High Plains where freeze did extensive damage. Citrus harvest continues. Trees in excellent shape.

**UTAH:** Following 7 consecutive weeks with above-normal temperatures. all areas of State, an active cold front swept across the area, dropping temperatures into the teens and lower many sections of State. Subfreezing minimums persisted for 3 to 6 days fruit growing areas, resulting in major disaster to many Utah fruit growers. All six fruits (apricots, sweet cherries, sour cherries, peaches, pears, and apples) suffered heavy freeze damage. Good rain Easter morning northwest improved soil moisture conditions in time for spring planting, but drought conditions continue southern Utah, now 97 days without measurable moisture at Zion National Park. Spring plowing and planting proceeding rapidly most farming areas. Range lambing full swing and calving well along. Care and feeding dairy herds, poultry flocks, beef cattle, and sheep on winter ranges, valley farms, and in feedlots continued major activities.

**WASHINGTON:** Western Washington: Cool dry weather prevailed. Soil preparation activities increased as many fields dried. Pasture growth improved, but still inadequate for other than few young animals. Planting early vegetables underway and some ground being prepared for strawberry planting. Caneberry growers completing pruning and some new raspberry plants being set out. Movement forced rhubarb slow-ing and harvest field rhubarb expected soon.

(continued on back page)

## Growing Degree Days and the 1972 Growing Season

Beginning with next week's issue of the Weekly Weather and Crop Bulletin, we will again publish weekly maps of accumulated growing degree days (GDD). The GDD accumulation for a particular day is calculated according to the definition (WWCB, May 5, 1969).

$$\text{GDD} = \frac{\text{daily max } (\leq 86^{\circ}\text{F}) + \text{daily min } (\geq 50^{\circ}\text{F})}{2} - 50^{\circ}\text{F}$$

Maximum temperature above 86°F are entered as 86°F, and minima below 50°F are entered as 50°. These restrictions take into account the differing response of plants to quite high or low temperatures. At temperatures below 50°, the growth and development of many warm season crops is negligible. As temperatures increase above 86°, the additional heat does not contribute to the growth of the plant. This particular method of calculating GDD was introduced in the Bulletin in 1969, and in 1970 the Hybrid Seed Corn Industry adopted it as the basis for a uniform maturity rating system.

As an aid to corn growers and seed suppliers in their selection of suitable corn hybrids for a given region, we are reprinting, on the following pages, weekly mean cumulative GDD for 47 stations. These mean values, accumulated from March 1, are based on daily temperature data for the 20-year period 1949-68.

The mean GDD listed in these tables for a given date may be compared with actual values shown on the Total GDD map for the same date, as one method of evaluating the progress of the current growing season. Maps showing GDD departures from the mean will be published at regular intervals this year.

Also, using the data in these tables, mean GDD for any desired period during the growing season may be easily determined. For example, the mean GDD for the period between the average date of last spring freeze and average date of first fall freeze can be calculated by taking the difference between the mean cumulative GDD values on those two dates. At Williamsport, Pa., for instance, the average date of last spring freeze reading in the fall is Oct. 13. From the accompanying table we find that the mean cumulative GDD values at Williamsport are 243 on May 3 and (interpolating between the Oct. 11 and Oct. 18 values) 3029 on Oct. 13. Thus, the mean accumulated GDD at Williamsport during the May 3-Oct. 13 period is 3029-243 or 2786.

A simple interpolation may be used with these tables. At Williamsport, for example, the mean GDD are 3011 on Oct. 11 and 3076 on Oct. 18. Dividing the difference (65) by 7 days per week gives an average of a 9 GDD per day during that week. Thus, the mean GDD value for Oct. 13 is 3011 + 18 = 3029.

This type of information has many uses. If a grower knows the expected growing degree day accumulation in his area, he can select varieties which will fully utilize the growing season, but mature before frost occurs. If spring fieldwork and planting are delayed due to cold and/or wet weather, a grower can readily determine what adjustment he needs to make in varietal selection. This also holds true if a late frost, disease, or flooding necessitates replanting. It also protects the grower when buying seed. In the near future all of the seed corn industry will have growing degree day requirements established for reaching maturity. When a grower decides to change varieties or companies, he will have a sound basis for making a decision.

Maps showing the expected number of GDD's in the U. S. in relation to the probability of frost occurring will be reprinted next week (WWCB, March 29, 1971).

R. E. Felch

MEAN GROWING DEGREE DAYS (ADJUSTED 50° BASE):  
ACCUMULATED WEEKLY MARCH 1 TO INDICATED DATES

Station	Mar. 8	Mar. 15	Mar. 22	Mar. 29	Apr. 5	Apr. 12	Apr. 19	Apr. 26	May 3
<b>West:</b>									
Phoenix, Ariz.	76	160	252	352	458	579	710	839	974
Fresno, Calif.	50	102	164	232	309	391	481	570	663
Denver, Colo.	13	30	52	83	117	152	199	255	311
Pocatello, Idaho	4	7	15	30	51	77	113	148	188
Glasgow, Mont.	1	2	7	18	35	54	85	117	159
Pendleton, Ore.	8	20	41	66	99	142	187	231	281
<b>North Central:</b>									
Des Moines, Iowa	5	14	23	41	67	94	138	194	259
Minneapolis, Minn.	0	1	4	11	25	40	71	109	162
North Platte, Nebr.	10	24	39	67	100	133	180	236	296
Omaha, Nebr.	8	20	33	58	91	127	178	244	316
Fargo, N. Dak.	0	0	2	8	17	30	54	85	134
Huron, S. Dak.	2	5	12	26	46	70	108	154	210
Green Bay, Wis.	0	1	3	7	17	28	55	85	125
Madison, Wis.	1	3	8	17	33	53	89	132	186
<b>South Central:</b>									
Fort Smith, Ark.	41	87	131	191	269	348	437	551	664
Dodge City, Kans.	20	46	76	121	172	222	286	365	442
Topeka, Kans.	18	42	63	101	148	194	254	337	418
Wichita, Kans.	22	50	77	121	177	231	297	388	474
Shreveport, La.	61	132	203	282	384	488	593	728	866
Columbia, Mo.	18	39	58	93	137	184	245	330	417
St. Louis, Mo.	19	41	60	97	142	190	254	345	436
Oklahoma City, Okla.	35	76	119	174	246	318	400	505	605
Amarillo, Tex.	33	78	123	180	244	308	385	474	560
Corpus Christi, Tex.	95	210	324	445	587	728	878	1049	1229
Fort Worth, Tex.	57	122	191	271	369	470	578	710	838
Midland, Tex.	57	128	200	282	376	473	578	700	822
<b>Midwest:</b>									
Chicago, Ill.	5	10	18	35	36	81	124	177	238
Moline, Ill.	5	10	18	36	61	90	135	192	261
Peoria, Ill.	8	16	25	46	74	105	152	214	284
Indianapolis, Ind.	12	26	39	64	95	128	175	250	324
Louisville, Ky.	22	48	71	108	156	207	272	370	466
Flint, Mich.	2	5	9	19	35	53	87	127	175
Grand Rapids, Mich.	1	5	10	20	37	55	89	131	185
Columbus, Ohio	12	26	38	64	95	129	176	246	320
<b>Northeast:</b>									
Portland, Maine	0	1	1	4	12	24	41	65	94
Albany, N.Y.	1	4	6	16	33	51	84	130	179
Binghamton, N.Y.	1	3	5	14	28	41	66	105	145
Syracuse, N.Y.	2	5	8	19	36	51	83	126	174
Harrisburg, Pa.	8	17	28	52	83	116	163	228	295
Philadelphia, Pa.	8	20	31	57	91	125	175	238	302
Pittsburgh, Pa.	10	21	32	55	82	111	154	217	287
Williamsport, Pa.	4	10	15	33	58	84	126	182	243
Richmond, Va.	29	61	89	137	194	254	327	425	517
<b>Southeast:</b>									
Macon, Ga.	58	127	195	278	375	477	580	715	858
Raleigh, N.C.	39	82	118	174	240	311	389	497	604
Memphis, Tenn.	39	85	127	183	258	337	422	539	659
Nashville, Tenn.	35	74	109	158	222	288	363	474	585

MEAN GROWING DEGREE DAYS (ADJUSTED 50° BASE):  
ACCUMULATED WEEKLY MARCH 1 TO INDICATED DATES

May 10	May 17	May 24	May 31	June 7	June 14	June 21	June 28	July 5	July 12	July 19
1123	1274	1442	1614	1794	1976	2172	2378	2593	2817	3045
767	877	1008	1139	1276	1411	1569	1732	1895	2066	2243
378	447	524	613	709	819	937	1068	1212	1360	1510
247	305	378	456	540	630	734	846	965	1101	1244
209	274	347	429	517	613	716	821	934	1073	1217
345	418	504	592	698	795	913	1033	1159	1303	1460
340	428	525	629	753	897	1046	1201	1369	1535	1705
224	295	374	458	565	691	822	954	1103	1252	1409
366	440	523	617	722	846	977	1115	1271	1424	1580
405	502	607	722	854	1007	1165	1327	1504	1677	1855
186	250	325	404	503	612	724	839	968	1108	1253
272	345	425	514	621	743	870	1001	1150	1305	1462
176	234	302	374	466	573	683	797	923	1050	1185
255	325	406	491	597	719	845	977	1119	1258	1406
794	929	1081	1240	1406	1589	1774	1964	2159	2356	2553
537	634	741	865	997	1154	1318	1487	1667	1847	2026
519	623	741	867	1006	1168	1333	1503	1685	1862	2042
582	691	816	952	1100	1271	1447	1628	1819	2010	2196
1020	1178	1348	1525	1706	1902	2100	2300	2504	2712	2916
519	622	741	864	1003	1168	1330	1501	1681	1857	2039
541	647	770	899	1047	1220	1389	1566	1752	1932	2119
728	849	988	1137	1294	1475	1658	1844	2039	2233	2428
667	770	889	1019	1156	1311	1478	1649	1830	2010	2187
1411	1600	1794	1998	2200	2412	2626	2840	3055	3270	3487
988	1140	1308	1486	1670	1871	2072	2278	2488	2702	2916
964	1110	1263	1431	1603	1788	1978	2171	2364	2558	2754
313	391	481	579	701	843	984	1142	1310	1470	1639
344	429	526	629	755	898	1045	1200	1365	1524	1691
367	454	554	660	788	938	1085	1245	1415	1576	1746
411	499	602	708	834	986	1132	1293	1462	1623	1792
569	677	801	932	1073	1239	1399	1572	1752	1926	2110
239	302	375	455	555	676	795	924	1064	1197	1338
252	321	398	482	588	717	841	976	1121	1259	1408
404	490	593	697	818	964	1104	1260	1424	1581	1749
135	181	237	304	386	470	563	668	787	903	1032
244	313	393	478	586	702	820	963	1110	1248	1402
198	253	320	387	476	580	683	805	938	1058	1197
236	300	376	457	559	677	794	930	1075	1212	1360
377	463	563	667	792	936	1075	1239	1410	1573	1748
384	475	576	681	811	955	1094	1262	1436	1604	1785
364	442	533	625	736	869	994	1140	1295	1438	1595
318	397	485	576	686	814	937	1083	1237	1380	1537
620	733	858	984	1120	1279	1430	1608	1786	1962	2147
999	1149	1314	1484	1656	1842	2029	2225	2421	2616	2814
718	839	976	1113	1255	1420	1579	1757	1936	2113	2298
793	935	1094	1257	1427	1618	1804	1999	2198	2398	2599
705	831	974	1120	1276	1454	1626	1810	1998	2134	2376

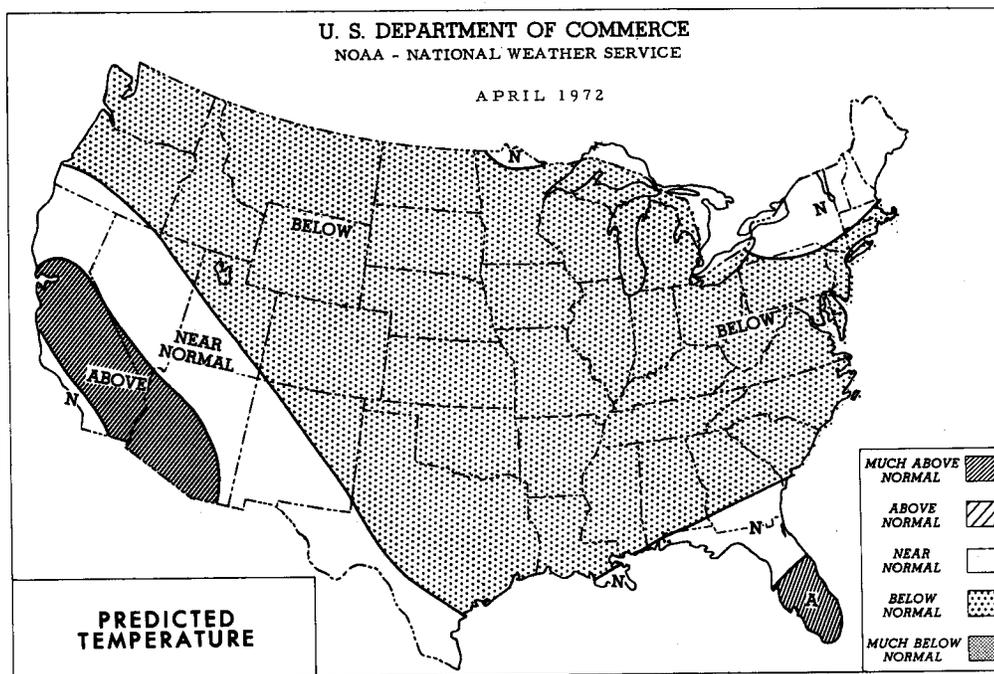
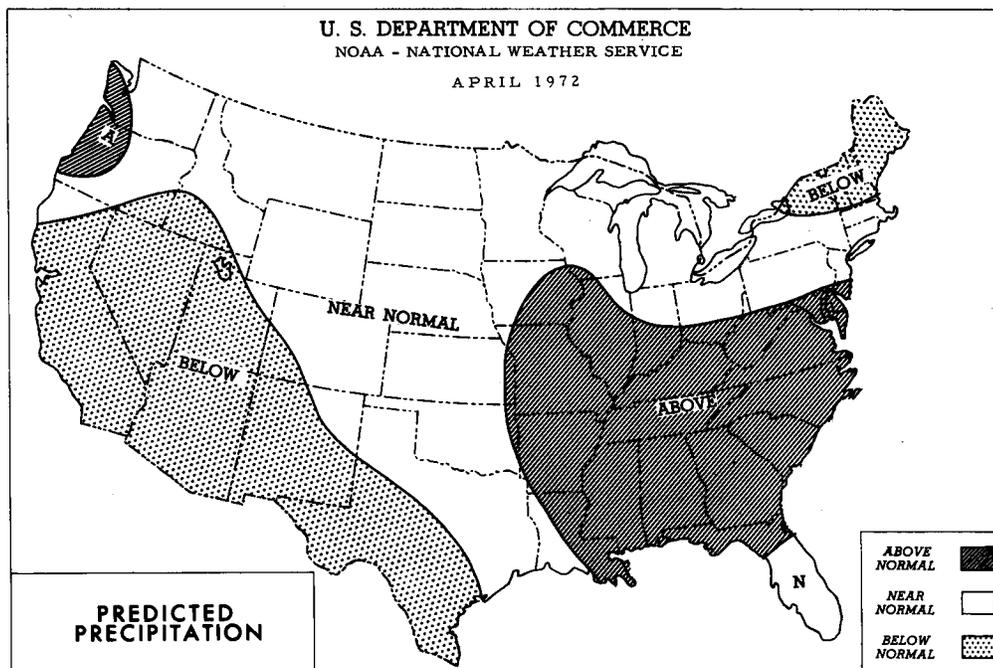
MEAN GROWING DEGREE DAYS (ADJUSTED 50° BASE): \*\*  
ACCUMULATED WEEKLY MARCH 1 TO INDICATED DATES

Station	July 26	Aug. 2	Aug. 9	Aug. 16	Aug. 23	Aug. 30	Sept. 6	Sept. 13	Sept. 20
<b>West:</b>									
Phoenix, Ariz.	3274	3499	3721	3943	4161	4373	4582	4792	4986
Fresno, Calif.	2422	2603	2773	2946	3115	3274	3436	3592	3734
Denver, Colo.	1663	1818	1971	2118	2256	2394	2512	2630	2730
Pocatello, Idaho	1389	1535	1677	1815	1943	2062	2172	2283	2372
Glasgow, Mont.	1366	1511	1658	1794	1925	2037	2135	2229	2300
Pendleton, Ore.	1611	1768	1919	2071	2214	2337	2465	2584	2685
<b>North Central:</b>									
Des Moines, Iowa	1880	2057	2228	2384	2535	2688	2822	2942	3044
Minneapolis, Minn.	1572	1732	1889	2030	2167	2303	2418	2519	2600
North Platte, Nebr.	1740	1906	2068	2216	2357	2503	2625	2740	2840
Omaha, Nebr.	2039	2222	2401	2566	2724	2889	3031	3159	3268
Fargo, N. Dak.	1405	1551	1696	1828	1957	2082	2186	2278	2353
Huron, S. Dak.	1623	1783	1942	2088	2229	2373	2491	2598	2687
Green Bay, Wis.	1324	1463	1597	1714	1828	1948	2057	2151	2228
Madison, Wis.	1557	1708	1853	1986	2117	2249	2368	2471	2560
<b>South Central:</b>									
Fort Smith, Ark.	2754	2958	3157	3349	3540	3726	3905	4070	4229
Dodge City, Kans.	2211	2398	2587	2761	2929	3103	3257	3399	3531
Topeka, Kans.	2231	2420	2608	2779	2949	3120	3274	3414	3542
Wichita, Kans.	2392	2590	2788	2971	3148	3328	3493	3645	3784
Shreveport, La.	3124	3333	3542	3747	3951	4150	4345	4529	4709
Columbia, Mo.	2226	2414	2598	2769	2937	3107	3263	3404	3535
St. Louis, Mo.	2313	2507	2696	2872	3046	3220	3381	3527	3661
Oklahoma City, Okla.	2629	2831	3032	3226	3415	3603	3779	3941	4095
Amarillo, Tex.	2368	2552	2736	2911	3080	3250	3407	3553	3690
Corpus Christi, Tex.	3704	3922	4138	4356	4573	4784	4998	5206	5411
Fort Worth, Tex.	3132	3350	3567	3781	3990	4196	4397	4584	4766
Midland, Tex.	2950	3149	3347	3541	3734	3920	4101	4270	4436
<b>Midwest:</b>									
Chicago, Ill.	1814	1989	2158	2316	2473	2631	2778	2905	3023
Moline, Ill.	1863	2034	2198	2350	2499	2652	2787	2904	3014
Peoria, Ill.	1922	2098	2266	2421	2574	2730	2871	2996	3110
Indianapolis, Ind.	1967	2142	2308	2464	2618	2770	2915	3041	3161
Louisville, Ky.	2301	2489	2673	2845	3018	3186	3353	3497	3630
Flint, Mich.	1483	1628	1765	1893	2016	2145	2263	2364	2452
Grand Rapids, Mich.	1560	1712	1858	1993	2125	2260	2387	2494	2590
Columbus, Ohio	1917	2085	2247	2399	2553	2703	2849	2973	3087
<b>Northeast:</b>									
Portland, Maine	1164	1293	1411	1532	1646	1755	1856	1945	2018
Albany, N.Y.	1557	1710	1851	1990	2123	2252	2378	2481	2568
Binghamton, N.Y.	1334	1473	1601	1724	1844	1960	2077	2169	2245
Syracuse, N.Y.	1511	1662	1805	1943	2072	2204	2333	2438	2525
Harrisburg, Pa.	1925	2105	2270	2433	2593	2747	2902	3031	3148
Philadelphia, Pa.	1969	2154	2323	2493	2660	2820	2985	3120	3244
Pittsburgh, Pa.	1756	1917	2068	2214	2356	2497	2635	2751	2856
Williamsport, Pa.	1697	1858	2006	2152	2294	2432	2569	2683	2784
Richmond, Va.	2335	2521	2701	2881	3056	3224	3394	3539	3675
<b>Southeast:</b>									
Macon, Ga.	3014	3214	3415	3612	3808	3997	4185	4363	4532
Raleigh, N.C.	2489	2678	2863	3046	3227	3399	3572	3725	3868
Memphis, Tenn.	2804	3011	3214	3411	3604	3792	3974	4143	4303
Nashville, Tenn.	2573	2770	2962	3145	3330	3508	3683	3842	3990

MEAN GROWING DEGREE DAYS (ADJUSTED 50° BASE):  
ACCUMULATED WEEKLY MARCH 1 TO INDICATED DATES

Sept. 27	Oct. 4	Oct. 11	Oct. 18	Oct. 25	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	Dec. 6
5168	5347	5511	5664	5802	5930	6040	6141	6218	6297	6372
3878	4016	4137	4250	4352	4446	4526	4596	4643	4683	4716
2815	2901	2981	3052	3111	3161	3193	3228	3252	3273	3292
2452	2525	2608	2663	2707	2739	2757	2771	2776	2780	2781
2366	2427	2479	2529	2563	2591	2606	2615	2620	2623	2624
2785	2863	2926	2981	3026	3057	3074	3087	3097	3109	3115
3133	3218	3289	3371	3427	3467	3489	3512	3527	3534	3539
2666	2725	2777	2837	2875	2901	2912	2921	2927	2928	2929
2923	3004	3081	3156	3213	3261	3288	3316	3334	3349	3360
3362	3450	3527	3614	3674	3721	3748	3775	3792	3802	3810
2413	2468	2515	2565	2595	2616	2627	2632	2635	2635	2635
2761	2830	2890	2955	2998	3030	3048	3063	3072	3076	3078
2291	2346	2389	2442	2474	2495	2506	2513	2520	2521	2522
2633	2703	2759	2823	2863	2890	2907	2920	2929	2931	2934
4378	4508	4628	4747	4843	4925	4981	5045	5097	5138	5169
3641	3749	3847	3941	4010	4069	4105	4144	4172	4195	4213
3655	3756	3849	3947	4020	4077	4111	4150	4178	4197	4211
3906	4019	4121	4224	4300	4359	4396	4437	4467	4488	4504
4881	5034	5173	5309	5422	5521	5595	5674	5751	5814	5864
3651	3756	3847	3944	4014	4069	4103	4144	4173	4192	4207
3784	3892	3984	4081	4151	4205	4239	4278	4308	4326	4340
4241	4367	4482	4597	4685	4759	4808	4865	4908	4942	4971
3813	3926	4029	4127	4205	4273	4317	4372	4414	4451	4484
5614	5798	5978	6154	6312	6452	6573	6691	6811	6917	7012
4940	5094	5234	5376	5493	5592	5665	5746	5817	5877	5926
4593	4733	4864	4990	5093	5182	5246	5319	5381	5437	5483
3123	3211	3283	3363	3415	3451	3473	3494	3512	3519	3524
3108	3193	3264	3345	3400	3439	3461	3484	3501	3508	3515
3209	3295	3368	3448	3503	3542	3564	3589	3607	3615	3621
3269	3360	3437	3519	3578	3618	3644	3672	3695	3706	3714
3751	3859	3947	4041	4113	4166	4201	4241	4276	4296	4310
2527	2595	2652	2710	2752	2778	2796	2808	2820	2825	2828
2668	2740	2799	2862	2903	2931	2946	2961	2974	2979	2983
3193	3282	3357	3436	3495	3533	3561	3585	3608	3620	3627
2087	2145	2192	2236	2271	2293	2308	2315	2324	2328	2330
2648	2717	2776	2833	2877	2905	2923	2934	2945	2950	2953
2313	2372	2417	2468	2503	2524	2539	2548	2558	2562	2564
2606	2677	2733	2790	2835	2863	2882	2896	2910	2917	2921
3247	3336	3412	3485	3540	3578	3609	3631	3650	3659	3667
3349	3444	3530	3606	3669	3712	3749	3775	3800	3815	3825
2946	3027	3092	3160	3211	3243	3267	3288	3310	3320	3327
2869	2946	3011	3076	3126	3158	3182	3197	3209	3215	3219
3794	3901	3997	4087	4160	4219	4272	4318	4363	4393	4415
4692	4839	4972	5095	5203	5292	5370	5441	5517	5574	5617
3997	4114	4217	4314	4395	4460	4518	4568	4623	4658	4683
4452	4584	4701	4816	4907	4981	5035	5093	5148	5187	5217
4125	4248	4354	4458	4540	4604	4650	4700	4746	4776	4800

**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.



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Questions and comments are invited; please send to Editor in Agricultural Climatology Service Office, address above.

Washington (continued from page 9)

Eastern Washington: Warm days and cold nights with little late season snowfall few areas. Most canals filled and irrigation activities begun. Orchard heating required on colder nights with some bud damage. Plant growth slowed many fields, but grain crops looking good. Ranges showing improvement and some cattle being released on them. Planting sugar beets, potatoes, asparagus, mint and peas continuing. Seeding spring grains well along early areas.

VIRGINIA: Temperatures normal to below. Several days of precipitation mostly in south and east. Totals light except 0.50 to 1.00 inch in extreme east. Prepared land for seeding. Topdressed, small grain, hay, and pasture, and seeded additional acreage. Topsoils dried out somewhat. Tobacco plant beds did well. Sprayed small grain and pasture for weeds and alfalfa for weevils. Additional damage to peach crop apparent. Planted Irish potatoes, bedded sweetpotatoes and set cabbage on Eastern Shore. Cattle and sheep obtained more feed from grazing. Sheep shearing began.

WEST VIRGINIA: Cold week with rain and snow latter half. Temperatures near 70° March 29 ahead of cold front which gave evening thunderstorms and week's heaviest rain of 0.25 to 0.50 inch. Light rain April 1 turned to snow showers late evening with light snow flurries all day April 2. Northern mountains had snow depths to 4 inches. Pastures beginning to grow many areas. Supplemental feeding livestock continues. Most livestock will carry through winter good. Preparations for spring planting started, slowed by cold weather.

WISCONSIN: Cold wintry weather much of week. Heavy snow most sections Wednesday. From 5 to 15 inches of snow along line from Beloit to Marinette. Cold temperatures and little sunshine slowed snow melt. Fieldwork delayed by snow and cold. Main farm activities barnyard chores and getting seeds and machinery ready.

WYOMING: Most of State received light to moderate snow, Kaycee with the most moisture of 0.58 inch. Temperatures averaged below normal 1st week in 6, departures were 2° to 8°. Maxima were mostly mid-40's to mid-60's west of Divide and Upper Platte Drainage, mid-50's to low 70's elsewhere. Minima were mostly -5° to 10° west of Divide, zero to 18° east. Temperature extremes were 72° at Torrington and -8° at Bondurant. Farming slowed last week. Some planting spring wheat, oats, sugar beets, and barley completed. Prospects for winter wheat crops generally good. Surface and subsoil moisture adequate most areas. Spring calving and lambing continued making good progress, some farm flock shearing completed. Death losses calves and lambs normal or slightly below. Range and pasture prospects generally good.