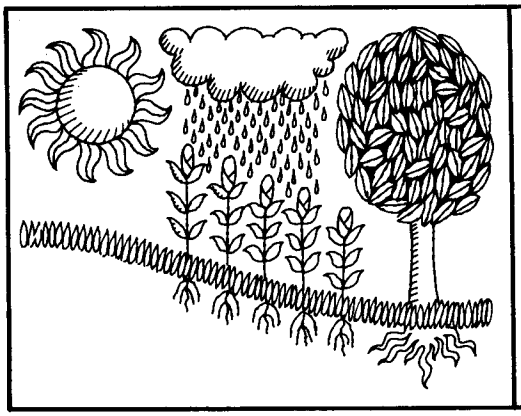

Weekly Weather & Crop Bulletin

U. S. DEPARTMENT OF COMMERCE
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Environmental Data Service

U. S. DEPARTMENT OF AGRICULTURE
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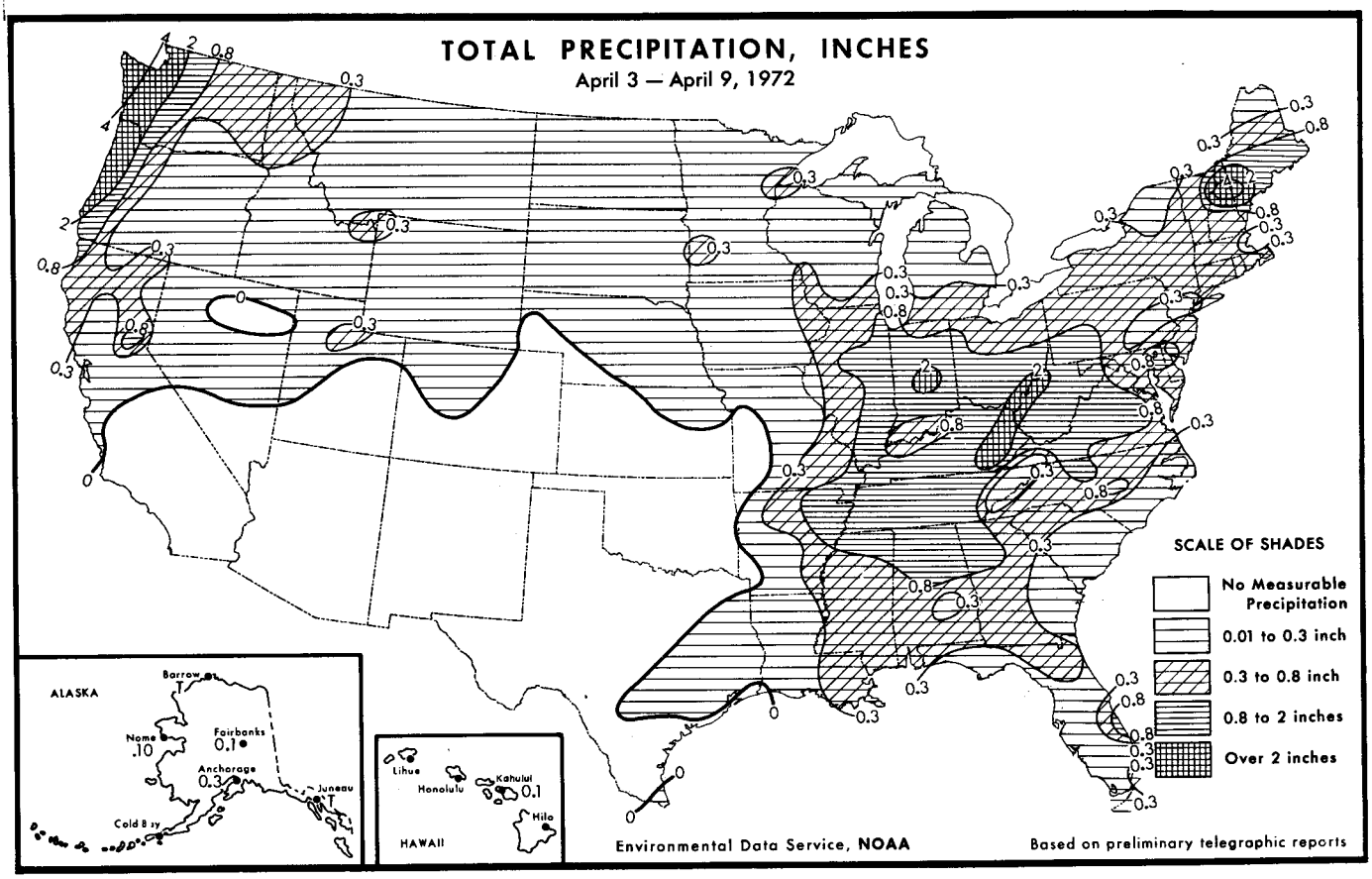
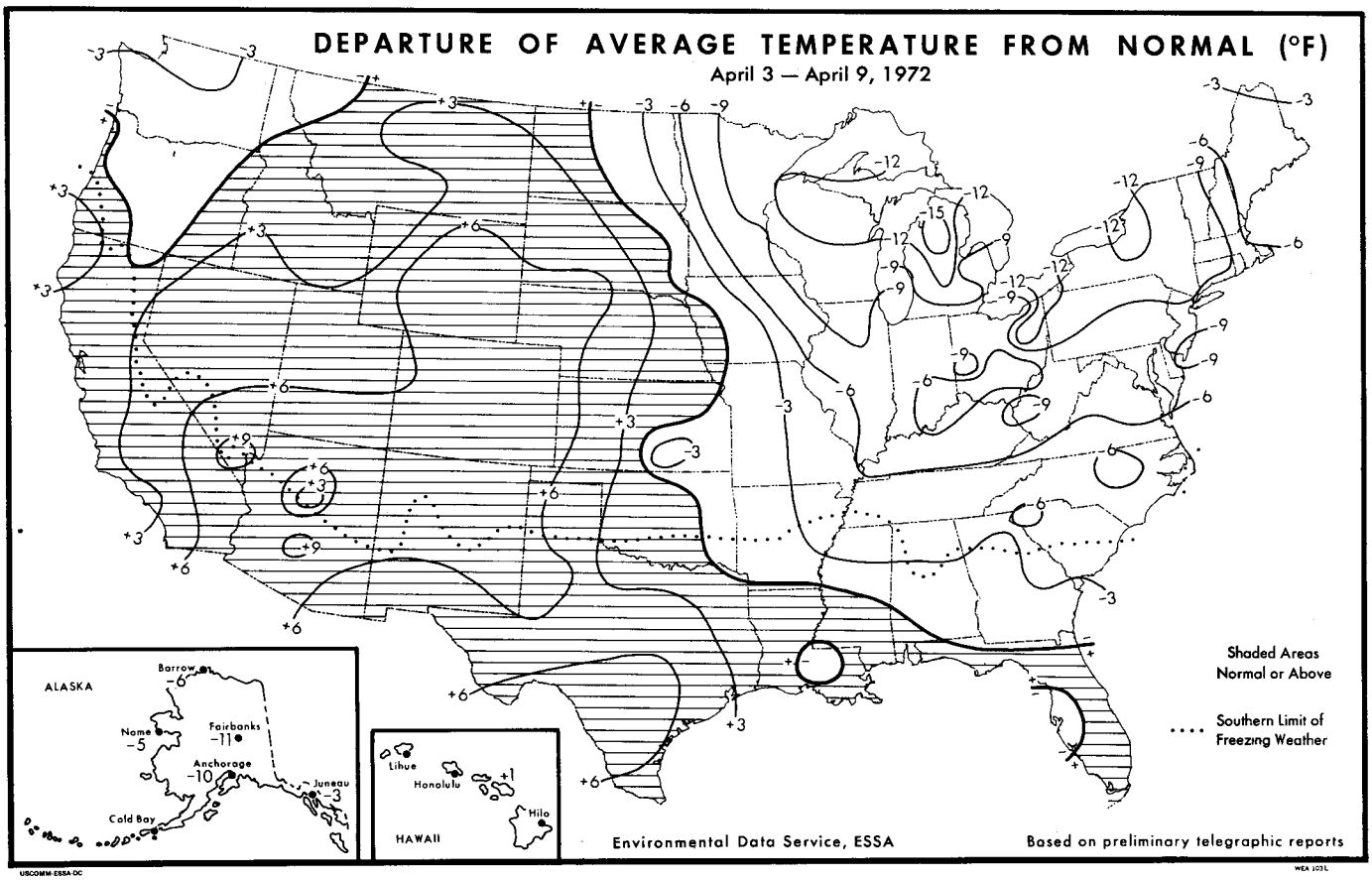


NATIONAL WEATHER SUMMARY

HIGHLIGHTS: No rain fell in the Southeast. Winter continues over the East with hard freezes as far south as Tennessee and North Carolina.

PRECIPITATION: Winter refused to quit. Snow flurries occurred from the central Great Plains to the Upper Mississippi River Valley and the Great Lakes Region early in the week as cold air mass spread southward. Thundershowers occurred along the leading edge of the cold air mass and along a quasi-stationary front that stretched eastward from Oklahoma to the Southeast. Some of the thundershowers produced large hail. Funnel clouds were seen in northeastern Arkansas and western Tennessee. About midweek, a storm center off the Oregon coast produced showers and a few thunderstorms from western Washington to northern California. The rains in the Northwest were accompanied by gusty gales. The gusts peaked at 63 m.p.h. at Portland, Oreg., Wednesday afternoon. Snow flurries occurred in the northern Cascades and the central Rocky Mountains at mid-week and in portions of New York and New England in the latter half of the week. Several inches of snow fell in western New York Thursday afternoon. A number of tornadoes struck northern Illinois late Thursday. A tornado at Joliet damaged more than a score of aircraft.

A cold air mass pushed southward over the eastern half of the Nation over the weekend bringing snow over the Northeast, rain over the Southeast, and a band of sleet or freezing rain between the snow and the rain. Most of the area north of the Ohio River received precipitation Thursday afternoon or evening. Precipitation Friday covered most of the area Illinois to Pennsylvania and



southward to Alabama and Georgia. Snow flurries or sprinkles occurred from Maine to Florida Saturday. The rains in the Northwest continued. Weekly totals in the Northwest exceeded 6.00 inches along the coast of Washington but decreased inland to less than 1.00 inch about 200 miles from the coast.

Sunny rainless skies continued over the Southwest from southern California to Oklahoma.

TEMPERATURE: Winter lagged. An arctic High plunged southward across mid-America dropping the temperatures to 32° or lower as far south as Oklahoma by Tuesday morning. Ponca City, Okla., registered 19° Tuesday morning. Colder temperatures occurred farther north. The Hibbing, Minn., temperature Tuesday morning was 5°. The cold air spread eastward. Chattanooga, Tenn., and Birmingham, Ala., recorded 32° Wednesday.

Quick warming occurred on the back side of the High as it moved eastward. For instance, afternoon temperatures in southeastern Nebraska warmed from the 40's Monday to the 60's Tuesday, the 70's Wednesday, and the 90's Thursday.

Over the weekend, a large air mass of arctic air brought unseasonally cold air from the Dakotas to Maine and southward as far as the Carolinas. The temperature at Waterloo, Iowa, dropped to 9° Saturday morning, the coldest temperature of record for the month of April. On Sunday morning, Raleigh, N.C., set a new minimum temperature record for April when the mercury plunged to 23°. Temperatures continued near or above normal over the western half of the Nation.

Weekly mean temperatures averaged above normal over the West and below normal over the East except near normal along the Gulf of Mexico. The central and southern Rocky Mountains averaged 6° to 10° warmer than normal. The Great Lakes Region, the Northeast, and south as far as Kentucky and Virginia averaged 6° to 12° warmer than normal.

L. W. Dye

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: Hot, dry weather returns to Great Plains -- wheat crop needs moisture. * Fieldwork rapid in South and West. * Pastures greening slowly. * Peach growers assessing freeze damage.

SMALL GRAINS: No relief arrived for the winter wheat crop on the Great Plains. Temperatures remained high and rainfall was generally non-existent. The Kansas crop continues in mostly good to excellent condition, but most sections of the State need moisture. Wheat continues to suffer in Oklahoma as surface moisture is short over 95 percent of the State. Only 27 percent of the Oklahoma wheat crop is rated in good condition, with the remaining 73 percent of the acreage fair to poor. The hot dry weather is pushing development in both States, 5 percent of the Oklahoma crop is heading, over 2 weeks ahead of normal; and in Kansas 33 percent of the wheat acreage is jointed compared to only 8 percent last spring.

Hot, dry weather is also taking its toll in Colorado, Nebraska, and South Dakota. Soils are becoming dry in these States and some wind erosion is occurring. Nebraska acreage is generally fair to good, but a few poor fields have been abandoned. Fields in south-central South Dakota are in poor to fair shape. Winter wheat is still dormant in Minnesota and North Dakota.

Fall-seeded grains look good in the Pacific Northwest, but warmer weather is needed to stimulate growth. Moisture is plentiful. Growers in the Southwest aren't so lucky, non-irrigated wheat prospects look bleak in New Mexico and southern California. Wheat and barley are in the dough stage around Yuma, Arizona.

Heading started in most Southern States, but growth was limited by cool temperatures. Grain crops are in generally good shape, but rust, mildew, and smut are taking their toll on the wheat crop from Alabama to South Carolina. Georgia growers continued to plow under severely infected fields. Winterlike weather halted growth in the Corn Belt and Northeast.

Cold, wintry weather delayed the planting of spring wheat, oats, and barley from the Northern Plains to the Atlantic Ocean. Oats seeding is behind last year in the Corn Belt. Dry weather allowed grain farmers to make good seeding headway in the northern Rocky Mountain States.

OTHER CROPS: Dry sunny weather was ideal for land preparation and planting activities in most regions of the Nation. The only exception to this rule was the cold stormy weather that raged from the Northern Plains, through the Corn Belt to the North Atlantic Coast. Fieldwork was at a standstill as the weekend storm struck. Southern farmers had far below their normal weekly rainfall and thus worked long hours. Most western farmers worked nearly around the clock as field conditions were perfect. However, planting of cotton, corn and sorghum was slowed by dry fields in Southern Texas.

Cotton planting made good headway from Texas to California. Cotton planting got underway from Louisiana to South Carolina. Low temperatures reduced planting activity as the soil is too cold for favorable germination.

Corn planting was active in Southern areas. About 1/4 of the acreage is planted in Georgia and South Carolina. Even Virginia growers planted a few acres. Corn Belt growers were limited to early week plowing. Acreage plowed is ahead of last spring.

Sorghum growers had to replant some acreage in the Blacklands and south-central Texas. The Texas crop is 39 percent in. Warmer weather is needed for tobacco growth. Field setting is active in Georgia and the Carolinas'. A few early peanut fields were seeded in Georgia, South Carolina and Texas. Potato planting got underway on a few southwest Idaho farms. Rice growers are busy planting this year's crop in Texas and Louisiana. Arkansas seeding just started. Cold temperatures curtailed the maple sap flow throughout New England.

Fruits and Nuts: Peach prospects remain uncertain after last week's freeze. Western orchards were the hardest hit. Freeze damage varies by orchards from just a little bud damage to complete crop losses. Cold nighttime temperatures kept orchard heating equipment working this week in the Pacific Northwest. Back in the East, low temperatures April 7 and 8 did further damage to North Carolina peaches. Record lows added stress to Maryland orchards, but, since most buds are still dormant, little loss is expected.

Vegetables: Vegetable planting made good progress in the South. Dry fields allowed farmers to work almost uninterrupted. Warmer weather will favor growth. Tomato transplanting was active as far North as Arkansas.

Heavy rains March 31 reduced watermelon and cucumber prospects in the Ft. Myers-Immokalee area of Florida. Snap beans were also hard hit in the Pompano area. Florida growers are harvesting at a steady pace. Pulling of the onion crop along the Lower Rio Grande Valley of Texas is strong, some fields are hit by blight. Louisiana strawberry harvest is active -- quality remains good.

PASTURES AND LIVESTOCK: Pastures and ranges are greening slowly in most U. S. regions -- cool temperatures or the lack of adequate moisture are holding back grass growth. Warmer spring weather and some April showers would give pasture growth a big boost. A combination of snow, rain, and cold temperatures stopped grass growth from the Northern Plains to the Atlantic Ocean. Most herd feed supplies came from stored feed, little grazing was done. Cattlemen still have to supplement feed herds in the South, but more and more animals are depending solely on pastures for their roughage intake. Ranges from the Central and Southern Plains to California are deteriorating steadily as no rain fell in this region. Ranchers are continuing to feed hay to maintain body condition.

The winter like weather made it an uncomfortable weekend for newborn animals over much of the Nation's Eastern half. Scours are occurring to calves and pigs in Nebraska. Lice are bothering cattle in some Oklahoma communities. Screw worms are multiplying rapidly in southern Texas.

Steve J. Pscodna
Agricultural Statistician

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., APRIL 9, 1972

States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure*	Total	Departure*
ALA.Birmingham. . .	57	- 3	1.2	0
Mobile.	66	+ 1	.6	-1.0
Montgomery. . . .	60	- 2	.1	-1.2
ALASKA.Anchorage. .	22	-10	.3	+ .2
Barrow.	-13	- 6	T	0
Fairbanks	11	-11	.1	0
Juneau.	33	- 3	T	- .7
Nome.	11	- 5	.1	- .1
ARIZ.Flagstaff. . .	43	+ 3	0	- .3
Phoenix	74	+10	0	- .1
Tucson.	69	+ 6	0	- .1
Winslow	59	+ 7	0	- .1
Yuma.	76	+ 8	0	0
ARK.Fort Smith. . .	56	- 2	.1	- .8
Little Rock . . .	56	- 3	.1	-1.1
CALIF.Bakersfield .	65	+ 5	T	- .2
Eureka.	54	+ 4	.8	+ .1
Fresno.	62	+ 3	T	- .3
Los Angeles . . .	63	+ 2	0	- .3
Red Bluff	58	0	.2	- .3
San Diego	65	+ 5	0	- .2
San Francisco . .	56	+ 1	.2	- .2
Stockton.	60	+ 2	.2	- .1
COLO.Denver	51	+ 8	0	- .5
Grand Junction. .	55	+ 6	T	- .2
Pueblo.	54	+ 7	T	- .3
CONN.Bridgeport . .	38	- 7	.4	- .5
Hartford.	35	-10	.5	- .3
D.C.Washington. . .	46	- 6	.7	0
FLA.Apalachicola. .	67	+ 2	T	-1.1
Ft. Myers	71	0	T	- .6
Jacksonville. . .	66	0	.5	- .3
Key West.	76	+ 1	0	- .6
Lakeland.	69	- 1	.2	- .7
Miami	73	0	.5	- .3
Orlando	70	+ 1	.2	- .6
Tallahassee . . .	65	0	.1	-1.1
Tampa	68	- 1	T	- .7
GA.Atlanta.	55	- 2	1.4	+ .2
Augusta	58	- 3	T	- .9
Macon	60	- 3	.3	- .7
Savannah.	62	- 2	.1	- .8
HAWAII.Hilo	--	---	---	----
Honolulu.	--	---	---	----
Kahului	74	+ 1	.1	- .7
Lihue	--	---	---	----
IDAHO.Boise	50	+ 3	T	- .3
Lewiston.	47	0	.5	+ .2
Pocatello	45	+ 2	.2	- .1
ILL.Cairo	50	- 6	.9	- .1
Chicago	37	- 8	1.1	+ .4
Moline.	38	- 8	.7	0
Peoria.	40	- 7	.9	0
Rockford.	34	-10	.4	- .3
Springfield . . .	43	- 6	.1	- .7
IND.Evansville. . .	46	- 8	.4	- .6
Fort Wayne. . . .	37	- 8	2.0	+1.3
Indianapolis. . .	41	- 6	2.4	+1.6
South Bend. . . .	36	- 7	.6	- .1
IOWA.Burlington . .	41	- 6	.1	- .7
Des Moines. . . .	43	- 2	.1	- .5
Dubuque	32	-10	.5	- .2
Sioux City. . . .	46	+ 2	.1	- .4
KANS.Concordia. . .	50	+ 1	T	- .4
Dodge City. . . .	55	+ 5	0	- .4
Goodland.	51	+ 7	T	- .4
Topeka.	50	0	T	- .7
Wichita	50	- 3	0	- .6
KY.Lexington. . . .	43	- 8	1.9	+ .9
Louisville. . . .	46	- 5	.8	- .1
LA.Baton Rouge. . .	65	- 1	.4	- .9
Lake Charles. . .	66	+ 1	T	-1.0
New Orleans . . .	66	+ 1	.5	- .6
Shreveport. . . .	63	+ 1	.2	- .9
MAINE.Caribou . . .	28	- 3	.2	- .4
Portland.	35	- 4	1.0	+ .1
MD.Baltimore. . . .	44	- 7	.9	+ .1
MASS.Boston	39	- 6	.2	- .7
Chatham	38	---	.7	----
MICH.Alpena	23	-11	.1	- .5
Detroit	34	- 9	.5	- .2
Flint	31	- 8	.1	- .5
Grand Rapids. . .	30	-11	.2	- .5
Houghton Lake . .	22	-15	.2	- .3
Lansing	30	-12	.3	- .3
Marquette	23	-12	.3	- .3
Muskegon.	32	- 9	.1	- .5
S.Ste.Marie . . .	19	-14	.2	- .3
MINN.Duluth	20	-12	.4	- .1
Internatl Falls .	21	-11	T	- .4
Minneapolis . . .	32	- 8	.2	- .2
Rochester	30	- 9	.2	- .3
St. Cloud	28	- 9	.3	- .1
MISS.Jackson. . . .	62	0	.4	- .7
Meridian.	61	0	.3	-1.0
MO.Columbia	48	- 3	T	- .7
Kansas City . . .	51	- 1	T	- .8
St. Louis	48	- 3	.6	- .3
Springfield . . .	50	- 2	T	- .9
MONT.Billings . . .	44	+ 2	T	- .3
Glasgow	42	+ 4	T	- .2
Great Falls . . .	42	+ 3	.1	- .1
Havre	41	+ 3	T	- .2
Helena.	39	0	.1	- .1
Kalispell	38	- 1	.4	+ .2
Miles City. . . .	46	+ 5	.1	- .1
Missoula.	42	+ 1	.3	+ .1
NEBR.Grand Island .	48	+ 3	.2	- .3
Lincoln	50	+ 3	.2	- .3
Norfolk	44	0	.1	- .4
North Platte. . .	48	+ 5	T	- .4
Omaha	47	+ 2	.2	- .4
Valentine	48	+ 7	T	- .4
NEV.Ely	45	+ 5	T	- .2
Las Vegas	70	+ 9	0	- .1
Reno.	49	+ 4	T	- .2
Winnemucca. . . .	48	+ 5	T	- .2
N.H.Concord	33	- 7	.5	- .3
N.J.Atlantic City .	38	-10	.7	- .1
Trenton	41	- 7	.4	- .4
N.MEX.Albuquerque .	60	+ 8	0	- .1
Roswell	65	+ 9	0	- .1
N.Y.Albany.	31	-11	.5	- .1
Binghamton. . . .	28	-11	.7	0
Buffalo	28	-11	.4	- .3
New York.	39	- 9	.2	- .7
Rochester	30	-11	.7	+ .1
Syracuse.	29	-13	.5	- .3
N.C.Asheville . . .	49	- 4	.4	- .4
Charlotte	52	- 5	.7	- .1
Greensboro. . . .	48	- 6	.9	+ .1
Hatteras.	51	- 5	.2	- .3
Raleigh	50	- 7	.7	- .1
Wilmington. . . .	55	- 5	.1	- .6
N.DAK.Bismarck. . .	38	0	.3	+ .1
Fargo	31	- 5	.2	- .1
Williston	39	+ 3	.2	0
OHIO.Akron-Canton .	33	-12	.7	0
Cincinnati. . . .	44	- 4	2.0	+1.2
Cleveland	35	- 8	.5	- .3
Columbus.	42	- 5	1.4	+ .6
Dayton.	38	- 9	1.3	+ .5
Toledo.	35	- 8	.6	- .1
Youngstown. . . .	32	-11	.3	- .6
OKLA.Okla. City . .	58	+ 2	0	- .7
Tulsa	56	0	0	- .9
OREG.Astoria. . . .	49	0	3.3	+2.0
Burns	43	0	.1	- .1
Medford	51	+ 3	.2	- .1
Pendleton	48	- 1	.2	- .1
Portland.	49	- 1	1.5	+1.0
Salem	48	- 1	2.2	+1.6
PA.Allentown. . . .	38	- 7	.3	- .6
Erie	29	-12	.4	- .4
Harrisburg. . . .	41	- 7	.3	- .4
Philadelphia. . .	41	- 7	.7	- .1
Pittsburgh. . . .	36	- 9	1.4	+ .7
Scranton.	33	-11	.5	- .3
R.I.Providence. . .	37	- 7	.4	- .5
S.C.Charleston. . .	59	- 4	T	- .7
Columbia.	58	- 3	.2	- .7
Greenville. . . .	53	- 6	.6	- .3
S.DAK.Aberdeen. . .	39	- 1	.1	- .3
Huron	42	+ 2	T	- .4
Rapid City. . . .	45	+ 5	T	- .3
Sioux Falls . . .	40	- 1	.1	- .4
TENN.Chattanooga. .	54	- 4	1.0	- .1
Knoxville	51	- 5	.2	- .7
Memphis	54	- 4	1.2	0
Nashville	51	- 5	1.0	+ .1
TEX.Abilene	66	+ 4	0	- .4
Amarillo.	59	+ 5	0	- .3
Austin.	72	+ 7	T	- .7
Beaumont.	67	+ 1	T	- .9
Brownsville . . .	77	+ 5	.1	- .2
Corpus Christi. .	76	+ 6	T	- .5
Dallas	65	+ 3	0	- .9
Del Rio	76	+ 7	T	- .3
El Paso	65	+ 5	0	- .1
Fort Worth. . . .	66	+ 4	0	- .7
Galveston	69	+ 3	0	- .7
Houston	70	+ 5	.1	- .6
Lubbock	64	+ 7	0	- .2
Midland	68	+ 6	0	- .2
San Angelo. . . .	70	+ 5	0	- .3
San Antonio . . .	73	+ 7	.2	- .4
Victoria.	74	+ 6	T	- .5
Waco.	68	+ 4	0	- .9
Wichita Falls . .	62	+ 1	0	- .5
UTAH.Blanding . . .	53	+ 8	0	- .2
Salt Lake City. .	51	+ 5	.3	- .1
VT.Burlington . . .	26	-11	.3	- .3
VA.Lynchburg. . . .	48	- 5	1.1	+ .3
Norfolk	50	- 5	.4	- .3
Richmond.	47	- 8	.8	+ .1
Roanoke	48	- 5	1.4	+ .6
WASH.Colville . . .	43	- 1	.6	+ .4
Omak.	43	- 4	.5	+ .3
Quillayute. . . .	43	- 3	6.3	+4.3
Seattle-Tacoma. .	47	0	2.2	+1.6
Spokane	42	- 2	.7	+ .5
Walla Walla . . .	50	- 1	.2	- .1
Yakima.	46	- 1	.1	0
W.VA.Beckley. . . .	40	- 7	1.5	+ .6
Charleston. . . .	43	- 9	2.0	+1.1
Huntington. . . .	44	- 9	2.3	+1.4
Parkersburg . . .	44	- 6	2.1	+1.3
WIS.Green Bay . . .	27	-12	.1	- .4
La Crosse	31	-11	.3	- .3
Madison	29	-11	.3	- .3
Milwaukee	31	- 9	.4	- .2
WYO.Casper.	45	+ 6	T	- .3
Cheyenne.	46	+ 7	T	- .4
Lander.	46	+ 7	T	- .6
Sheridan.	45	+ 6	T	- .5
P.R. San Juan . . .	81	+ 5	T	- .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: Showers and warm first of period; then mostly sunny and cooler Tuesday and Wednesday. Much warmer Thursday and Friday with scattered showers north Friday night. Clearing and quite cool over weekend. Average temperatures for week ranged from 10° above normal on Friday to 12° below normal on Sunday. Precipitation for week, moderate north and light south. Preparation seedbeds and application herbicides and fertilizer neared completion. Planting corn moved upstate as driest fields were planted central and northern Alabama. Few fields cotton planted, primarily southern counties. Small grains generally made good growth. Rust continues to be problem south Alabama and was reported further upstate. Earliest acreage beginning to head. Growth late spring potatoes good. Planting Sand Mountain Irish potatoes neared 3/4 mark. Tomatoes made good growth Geneva and Houston Counties. Plants being set Chilton County area. Livestock remained mostly fair to good condition. Light supplemental feeding.

ALASKA: March was a cold month. Nearly every major reporting location had below-normal average temperatures. Gulkana matched a previous March low of -48° but only in southeast were March records broken. Juneau had a low of -15° with a former March low of -11° and Yakutat a -20° to exceed the old low of -13°. Precipitation was above normal at Fairbanks and near normal at Big Delta in the Tanana Valley but light at Talkeetna and Palmer in the Matanuska Valley. Snow cover was variable from 10 inches at Big Delta to 24 inches at Fairbanks. In the Matanuska Valley it ranged from 40 inches at Talkeetna to 3 inches at Palmer. At Anchorage and Homer, the depth increased to 10 inches and 26 inches, respectively, but at Kodiak there was a decrease and only 1 inch was reported. Livestock generally good wintertime condition. Livestock feed in usual short supply, with imports about normal. Grading and marketing potatoes continue Tanana and Matanuska Valleys. Routine livestock chores, dairying, and preparing machinery for spring season were other farm activities during March.

ARIZONA: Temperatures were back to above normal values again this week. Skies were mostly clear with no precipitation. Cotton planting nearly complete Yuma. Majority fields planted central area, just underway southeast. Yuma area some barley and wheat soft to hard dough stage. Some freeze damage southeast March 29. Sorghum planting and growth progressing normally. Sugar beets and safflower continue good growth. Baling and cubing alfalfa hay continue Yuma and central areas. Spring lettuce harvest continued Salt River Valley. Harvesting lettuce, cabbage, carrots, and green onions Yuma. Cantaloupe flowering and runners making satisfactory progress. Valencia oranges, grapefruit harvest Salt River Valley and Yuma areas. Good new growth and bloom on all varieties. Range conditions continued steady decline. Soil moisture, stockwater not currently critical. Could become critical next month or two. Supplemental feeding all areas. Calving in progress. Livestock remain fair condition.

ARKANSAS: Mean temperatures 0° to 6° below normal. Cool weather early in week followed by pronounced warming through late week and cool again on weekend. Highest 88° at Morrilton on 7th. Lowest 27° at Gilbert on 4th and 5th. Precipitation heaviest in northeast averaging 0.75 inch or more with Keiser reporting 1.63 inches and Georgetown 1.40 inches. Local showers produced a few significant amounts elsewhere with Clarksville reporting 1.70 inches and Hope 0.67 inch. Precipitation generally less than 0.10 along extreme southern and western border sections and in extreme north-central portions. Seedbed preparations ahead normal most areas, except some northeast and east-central counties. Wet weather these areas slowed progress. Soil moisture generally adequate delta counties, south-central, and southwest. Some northeast and east-central counties surplus. No cotton nor soybeans planted, but considerable acreage ready. Rice planting started. Some corn planted southern areas. Transplanting tomatoes west-central and southeast good progress. Fall grains good growth, but need moisture central and west. Much early acreage boot stage, some heading. Hay crops fair to good. Alfalfa weevil heavy infestation many areas. Peach prospects mostly good. Spinach harvest well along, excellent yields. Livestock mostly good. Pastures need rain many areas before best grazing will be available.

CALIFORNIA: See page 10.

COLORADO: Warming trend through week to well above normal most areas. Widespread high winds and blowing dust with passage of cold front late Thursday. Weekend temperatures slightly cooler. Light rain or snow central and northern mountains and northwest. Little or no precipitation south and most eastern plains areas. Limited moisture received scattered areas early week. Topsoil moisture supplies generally short statewide. Moisture needed to promote seed germination planted acres. Extensive fieldwork all areas. Winter wheat condition good to very good. Wind damage to wheat generally light. Insect damage light to moderate. Spraying for insect control underway. Winter wheat jointing southeast. Winter barley fair to good; 19% jointing southeast. Spring barley and oats 44% and 52% seeded, with 22% and 9% emerged, respectively. Condition emerged acreage fair. Sugar beet seeding 24% complete. Small acreage emerged. Late summer potatoes 7% seeded. Condition range and pastures fair. Short moisture limiting growth. Livestock condition good. Calving continuing.

FLORIDA: Temperatures normal. Weekly high's 80's with a few 90's. Strong cold front passage weekend lowered temperatures 10° to 15° north and central portions of State. Rainfall averaged below 0.50 inch mainly as weekend showers. Showers heaviest lower east coast. Favorable weather aided plant growth. Planting of corn and peanuts active. Tobacco damaged by wind and rain previous week being replanted. Cattle and calves good. Pastures improved with adequate moisture. Citrus grove condition excellent.

Moisture generally adequate. Orange trees passing peak bloom. Grapefruit and tangerine trees approaching full open bloom this week. Midweek rains helpful. Watermelon, cucumber prospects sharply reduced by heavy rain March 31 Ft. Myers, Immokalee area. Snap beans hard hid immediate Pompano area. Most other crops good condition all areas. Harvest most commodities steady pace.

GEORGIA: Rainfall light to moderate in north and light to none in south. Rain occurred as light showers early in week and thundershowers Friday night. Amounts mostly 0.50 to 1.00 inch north and less than 0.25 inch south. Some wind damage in Friday night's thunderstorms. Temperatures mild early in week followed by warming trend through Friday. Much cooler weekend. Highest temperatures Thursday and Friday with low 80's south and mid-70's north. Lowest Sunday with mid-20's in mountains, 30's north and central. Frost several areas this Monday morning. Averages for week ranged from near normal to 2° below normal. Soil moisture mostly adequate except mostly surplus northwest corner. Land preparation and planting delayed by wetness early week, but improved latter part. Tobacco 69% transplanted, conditions fair to mostly good. Corn ahead previous 2 years at 20% planted. Cotton 3% planted, but cool nights not favorable for germination. Peaches rated mostly good. Very few peanuts planted. Small grains heading most central and southern areas. Wheat rust continued severe south. Many additional fields destroyed. Some trying to control with fungicide. Oats fair to good. Pastures received much attention with fertilization and weed control primarily. Southern truck crop planting made good progress, conditions good.

HAWAII: Cool with frequent showers. Wind stronger than usual. Progress crops fair to good. Insects and diseases kept under control but frequent spraying. Soil moisture ample. All sugar mills operating. Pineapple harvest on uptrend. Vegetable supplies ample, but bananas and papayas light. Pasture making fair to good growth as result frequent showers. Cattle condition fair to good.

IDAHO: Temperatures returned to above normal to average 4° to 6° above normal for week except near normal north. Precipitation exceeded normal most areas north and light and below normal south. Totals north ranged 0.50 to 1.00 inch. Wet weather hampered fieldwork north. In south, farming activities almost 2 weeks ahead last year. Small grain seeding full swing. Potato planting barely underway southwest. Range grasses making excellent growth.

ILLINOIS: Cold stormy week. Temperatures averaged 5° to 10° below normal and ranged from teens to 80's. Snow and ice storm on 6th resulted in high winds, tornadoes, and icy roads. Joliet area was hardest hit. Precipitation ranged from 0.50 to 1.00 inch from Moline to Chicago in over 3 inches of snow, rain, hail, and freezing rain at midweek. Oat seeding about 1/3 completed; seeding progressing slowly due continued wet weather. Plowing for corn and soybeans about 70% complete. Winter wheat good condition. Pastures good condition, supplying 22% livestock roughage requirement. Farm activities include seeding oats, plowing, disking stalks, and applying fertilizer as weather and soil conditions permit.

INDIANA: Cold stormy week. Temperatures averaged 7° below normal and ranged from the teens in north on 8th to 70's on 6th. Severe winds in north and central evening of 6th from thunderstorms and possibly one or two tornadoes. Hardest hit was school near Kentland, electric lines near Remington and a bowling alley near Crawfordsville. Freezing rain and snow glazed highways on 7th in north and central causing numerous highway accidents and casualties. Precipitation averaged 0.50 inch south, 1.00 inch northwest, and 2.00 inches central and northeast. Three days suitable fieldwork. Topsoil moisture adequate to surplus; subsoil moisture mostly adequate. Land intended for corn and soybeans 45% plowed, but 40% was plowed last fall--30% is average. Wheat 4 inches high, same as average. Oats 20% seeded, 45% last year. Pastures poor to fair and providing 15% cattle feed. Other activities spreading fertilizer and manure, seeding legumes and tobacco beds and disking stalks.

IOWA: A cool dry week. Temperatures ranged 91° 6th to 1° 8th. Fieldwork progressed slowly; less than 3 days suitable for fieldwork. Most farm activities western and southern counties. Over 5% legume seedlings winter killed, about normal. Pastures have shown slow growth so far and provide little grazing. Plowing 60% complete, last year 50% and 5-year average 55%. Oats seeding 20% complete, well below last year and 5-year average of near 40%. Seeding further advanced western and southern counties. Topsoil moisture 17% short, 77% adequate, and 6% surplus. Most short moisture reports received from western and southwestern counties.

KANSAS: Significant rainfall parts north-central, northeast late in week. Over 1.00 inch locally east-central. Little or no precipitation elsewhere. Wide daily variations in temperatures. Statewide freeze early April 4 with minima mostly in teens and 20's. Hard freeze east and parts southwest. Lowest reading 15° at Howard in Elk County. Maxima lower 90's locally southwest on 6th. Weekly mean temperatures averaged above normal western 1/3 and below seasonal south-central. Near normal elsewhere. Wheat continued mostly good to excellent condition, but nearly all sections State need moisture. Topsoil moisture generally short. Subsoil still adequate most areas. Wheat acreage jointed compared with 8% last year. Insect infestations appear very light, no serious damage. Freeze damage to wheat local and limited. Oats seeding 87% done and spring barley 83%. Both ahead of last year and average. Corn planting active south and east-central with 4% acreage planted. Sugar beet planting underway. Freeze last week caused serious damage to peaches. Cool season grasses showing slow development, but providing some feed for livestock. Wheat pastures still providing considerable forage.

KENTUCKY: Temperatures in 70's on 6th but below normal most days, averaging 5° to 8° below normal for week. Record or near record low temperatures last 2 days. Precipitation totals moderate to heavy; from about 0.50 inch to about 3.00 inches. Showers and thundershowers 3d, 4th, and 7th. Some sleet in north on 7th. On 8th, a few snow flurries east and south-central. On 8th, in extreme west some golf ball size hail; high winds damaged several trailers and other property, with 2 injuries; several trailers damaged in east. 4 to 5 days mostly sunny. Wet and cold week limited

fieldwork to 2.5 days. Soil moisture 2/3 surplus, 1/3 adequate. Plowing 43% complete, last year 60%. Tobacco beds 90% seeded, 17% emerged. Tobacco beds good condition, warmer weather needed. Small grains average about 7 inches in height, slightly less than usual. Some concern over yellowing in barley. Pastures growing slowly--supplying about 30% roughage requirements. Alfalfa weevils prevalent some areas. Freezing temperatures hard on fruit prospects.

LOUISIANA: Temperatures averaged normal to 2° above normal except up to 3° below normal in northeast. Daily temperatures high variable with 2 surges of cool air and 2 warm periods during week. Temperature extremes 90° Natchitoches Friday, 35° Ashland Wednesday. Precipitation light most areas. Scattered showers preceded cooler air across the State Monday and Tuesday. Weekly amounts ranged from none to near 1.00 inch. Greatest 1-day total, 1.35 inches measured at Clinton Tuesday morning. Fieldwork generally active. Soil moisture adequate, but cool nights retarded growth early crops. Good progress made land preparation. Planting corn and rice more active, about 1/4 planted. Cotton planting started northwestern and southern parishes. Cultivation and fertilization sugarcane continued. Stands mostly good. Wheat and oats fair to good condition and beginning to head. Bedding sweetpotatoes continued. Strawberry harvest active. Quality berries good. Rye grass provided good to excellent grazing. Livestock good with less winter weight loss than usual.

MARYLAND AND DELAWARE: Temperatures below normal most of period, averaged 5° to 7° below normal. Extremes: 74°, 20°. Late winter ice storm on 7th brought snow, sleet, freezing rain, and recordbreaking low temperatures. Low of 28° on 9th tied record for that date in Baltimore City and 29° Friendship Airport was a new record. Precipitation on 2d, 4th, and 7th mostly 0.25 to 1.25 inches. Vegetative growth slowed by cool temperatures. Fieldwork active as weather permits; main jobs plowing, spreading fertilizer and seeding early spring crops. Tobacco growers busy preparing 1971 crop for market opening. Low temperatures add to stress on orchards, but little damage indicated since most buds still dormant.

MICHIGAN: Intermittent light rain or snow until turning fair with record-setting cold late in week. Temperatures pushed into upper 60's extreme south at midweek, followed by lows in teens by Saturday morning. Muskegon had new daily minimum records on 7th, 8th and 9th. Coldwater, lowest ever for April, 9° on April 8 while Glendora's Agricultural Station southwest corner Lower Peninsula, recorded 3° below zero. Temperature averages: 13° to 18° below normal Upper Peninsula; 8° to 17° below normal Lower Peninsula with largest departures inland areas. Precipitation totals were generally less than 0.25 inch except 0.50 to 1.00 inch extreme southeast Lower Peninsula. Abnormal cold weather continues delay start spring fieldwork. Good maple sap flow.

MINNESOTA: Temperatures exceptionally variable across State, the northeast was 12° below normal, and the southwest 1° below normal. Extremes: 67°, 3°. Precipitation little to none northern half; southern half averaged 2 to 4 inches of snow on 6th equaling 0.30 inch water content. Snow cover little to none except in the forested areas, north-central 12 inches, and northeast 30 inches. Lakes still frozen over except a few in south. No fieldwork done as yet due frost and some snow. Moisture conditions adequate to surplus northwest and north-central districts, adequate elsewhere. Winter wheat, rye, hay fields, and pastures till dormant.

MISSISSIPPI: Weekly temperature averages below normal except some stations coastal division. Extremes for week: 26° and 86°. One day of rain with amounts mostly under 1.25 inches. Greatest 1-day amount of 1.55 inches on 4th at Byhalia. On 3d and evening of 7th; thunderstorms in portions of north with hail up to golf ball size, gusty winds and funnel clouds. On 6th, some dense morning ground fog spread across central Mississippi and parts of Delta. Over weekend: High of 88° at Jackson Airport afternoon of 7th; fair skies and cooler temperatures prevailed over State for remainder of period. Soil moisture mostly adequate to surplus. Wet fields continue to limit full scale land preparation--especially in low land. Average 3 days suitable fieldwork. About 11% corn planted. Wheat 16% and oats 17% headed. Wheat, oats, pastures and livestock mostly good condition. Irish potatoes, peaches and truck crops mostly fair.

MISSOURI: A week of extremes: Record warmth Thursday was followed by record cold Saturday. Extremes were 89° at Tarkio and 21° at Kirksville. Temperatures averaged 2° to 6° below normal for week. Precipitation was light. Scattered showers near end of week brought moderate amounts to central and eastern Ozarks. Elsewhere, amounts were mostly less than 0.10 inch. Average 4 days suitable fieldwork. Plowing 70% complete, oats 79% planted. Wheat mostly good condition, pastures fair. Soil moisture mostly adequate with southwest dry.

MONTANA: Temperatures averaged slightly above normal; warmest midweek. Light precipitation throughout week west with amounts about 0.40 inch. Very little precipitation elsewhere. Topsoil moisture generally adequate, except central district. Barley and sugar beets 5% planted. Oats and spring wheat 2% seeded. Stands and condition winter wheat generally good. Fieldwork just getting started most areas. Ninety per cent range cattle and sheep receiving supplemental feed. Sixty percent calves dropped, lambing and shearing 50% complete.

NEBRASKA: Dry weather continues. Temperatures highly variable, but averaged a little above normal. Topsoils becoming very dry with minor erosion local areas. Condition winter wheat remains good to fair, but few very poor fields abandoned. Spring small grains and legume seedings nearing completion some areas. Sugar beet planting well underway western counties. Farmers made good progress seedbed preparation for row crops. Livestock conditions good, but there are few reports scours young calves and pigs.

NEVADA: Temperatures averaged from 3° to 6° above normal all divisions. Light precipitation only in north from trace Fallow to 0.21 at Carson City. South continued dry. Snow cover melting on mountains. Windy midweek. Seedbed preparation for spring-planted crops continues northern areas. Preparation for cotton planting Pahrump Valley in progress. Moapa valley green onion harvest continues, radish harvest nears completion. Cutting 1st crop alfalfa hay and green chopping started extreme southern

valleys. Livestock remain fair to good condition. Range and pasture feed very good northern area, but only fair south.

NEW ENGLAND: Very cold with frequent precipitation until near close of week. Temperatures averaged mostly 4° to 7° below normal along the coast and 8° to 10° below normal inland. Many near zero readings in Vermont April 7, with 2° at Burlington setting a new record for so late in season. Thawing days and freezing nights most locations. Precipitation variable but mostly 0.25 to 1.00 inch. Some to near 2.00 inches in central Maine. Considerable new snow in north and up to 12 inches snow as far south as northwestern Connecticut Hills. Up to 2 inches snow on Cape Cod on 8th. Water equivalents of snowpack in north from normal to much above normal. Maple sugaring season getting late. Some good runs early week. Weather too cold late week. Most syrup made to date fancy and grade A.

NEW JERSEY: An unseasonally cold week with temperatures averaging from 7° to 11° below normal. Temperatures climbed into the 60's on the 6th, but otherwise week quite cold. Weekly minimum temperatures ranged down into the 20's and the upper teens. Rain early week and rain, sleet, and snow Friday night and Saturday averaged about 0.60 inch. Snow melted over most of the State, but only 0.3 inch over the northern counties. Icy roads caused a multitude of traffic accidents Friday night. Fieldwork curtailed during the period by ice and snow cover on the 7th and 8th. Below normal temperatures slowing crop germination and growth. Potato, hardy vegetables planting and transplanting continue. Sweet corn is being planted under plastic. Considerable amount of peach tree damage reported.

NEW MEXICO: Dry spell continues. No precipitation. Averaged temperatures returned to 5° to 9° above normal. Highest temperatures in midweek with 97° at Roswell. Topsoil, subsoil very short to short. Few areas adequate. Winter wheat, barley fair to good. Moisture needed dryland crops. Grazing wheat continues. Livestock removed as growth becomes grazed down. Spring barley fair to good, most emerged. Cutting frost-damaged hay. Pecan frost damage varies, May average to 25°. Livestock fair to good. Ranges poor to fair. Supplemental feeding most areas.

NEW YORK: Near record low temperatures for April after 6th were climax to abnormally cold week. Temperatures averaged coldest since week ending March 12. Minimums 0° to 10° near half ranging up to mid-20's Long Island 7th and 8th with lows to midteens southern Upstate. Ithaca 13° for lowest April temperature since 1923. Maximas mid- to upper 20's 7th and 8th much of Upstate. Widespread snowfall Upstate 6th and 7th totals mostly 3 to 6 inches with 7 inches at Rochester and 8 inches parts of Hudson Valley. Water equivalent 0.30 to 0.60 inch except 0.10 inch St. Lawrence Valley and on Long Island. Deep snow cover continues Adirondacks as Boonville reports 50 inches late week.

NORTH CAROLINA: Warming trend reaching 80's on 7th followed by hard freeze over weekend. Average temperatures below normal. Precipitation light and scattered averaging less than 0.25 inch. Soil moisture decreased, mostly adequate statewide. Small grains and pastures mostly good and improving. Tobacco beds mostly good, plant supply generally adequate. Some plants too large Coastal Plain. Peach crop commercial Sandhills area further damage by frost April 7 and 8. Fair peach crop in prospect without further damage. Irish potatoes and truck crops fair to good. Land preparation active. Corn planting active Coastal Plain. Tobacco transplanting active border belt, limited elsewhere. Some labor shortages.

NORTH DAKOTA: Temperatures averaged above normal west, near normal central, and below normal east. Precipitation trace to 0.38 inch. Frequent changes in weather. Little or no snow cover at end of week. Snow and rain showers accompanied by cool temperatures caused stress among livestock -- particularly newborn calves and lambs. Yards and feedlots muddy. Farmers repaired machinery, cleaned seed, attended meetings, farm sales, and cared for young livestock. No appreciable fieldwork to date.

OHIO: Temperatures 3d to 6th generally 5° to 15° above normal. From morning of 7th to morning of 9th, they were 10° to 20° below normal. New record lows were set on 8th and 9th. On 8th Toledo recorded a low of 12° and a low of 15° on 9th along with Akron-Canton. Heaviest precipitation amounts occurred on 7th. Rain, snow, sleet, and freezing rain fell in Ohio. Precipitation amounts over 1.50 inches were reported. A flood watch was in effect for southwestern part of State afternoon and evening of 7th. In northern part of State 2 to 3 inches of new snow fell. Three days favorable fieldwork. Soil moisture supply mostly adequate to surplus. Plowing for corn and soybean 60% completed, last year 55%. Oat seeding 15% done, same as year earlier. Potato planting about 5% completed, unchanged from year ago. Sugar beet planting 10% completed, 45% last year. Tobacco beds 30% sown -- year earlier 55%. Winter wheat, pasture, and hay crop conditions mostly fair to good.

OKLAHOMA: Continued dry with above normal temperatures. Only measurable precipitation 0.01 southeast. For 1972 through April 9th, precipitation has ranged from 10% of normal west-central to 33% of normal southeast. Wheat, other small grains suffering. Surface soil moisture 95% short. Wheat condition 14% poor, 59% fair, 27% good: 5% wheat headed, over 2 weeks ahead normal. Some damage evident northwest, west-central from low temperatures and dry weather. Oats, barley, about 5% headed. Rain needed development all small grains, ground preparation row crops. Corn 1/5 planted, working seedbeds other row crops. Aphids, weevil heavy damage alfalfa, spraying widespread. Freeze damage fruit little to complete loss, mostly severe major fruit areas. Pecans budding. Livestock condition fair to good, native grasses slow. Lice problem some areas.

OREGON: Mild showery week with wetter days last half and cooler at close. Windy 5th, scattered damage northwest. Temperatures averaged 2° to 5° above normal north, 6° to 9° above south. Minima 12° to 30° northeast quadrant, 30° to 44° elsewhere. Maxima 61° to 79°. Precipitation totaled 0.10 to 0.50 inch east, 1.00 to 3.30 inches western 1/3 of State. Western Oregon land preparation and spring seeding slow due wet weather. Pears and peaches past full bloom. Cherries and prunes in bloom. Some frost damage. Brown rot in stone fruits. Cranberry vine growth started. Livestock good condition. Eastern Oregon seeding potatoes, peas, and sugar beets full swing. Some frost damage to early fruit. Asparagus harvest starting. Ranges look good.

PENNSYLVANIA: Very cold week with temperatures averaging 6° to 10° below normal in south and 10° to 15° below normal in north. Cool early in week with periods of rain or snow. Several inches snow northern mountains. Briefly milder midweek. Sharp cold front moved southward across State Thursday afternoon and night dropping maxima from 60's on Thursday to 20's and 30's Friday. Front accompanied by rain, freezing rain, sleet, and snow all areas. Two to 4 inches new snow northern mountains, trace to 1 inch other sections. Mostly fair but cold weekend. Minima teens to low 20's with 7° Bradford Sunday morning. Weekly precipitation totaled 0.25 to 0.50 inch east and northwest corner, 0.50 to 2.00 inches central and west.

PUERTO RICO: A dry warm week. Rainfall averaged 0.16 inch or 0.69 inch below normal. No rain entire western and north-central portions. Highest total 0.99 inch in southern slopes. Crop moisture conditions too dry northwest section, near normal other zones. Temperatures averaged 78° on coast and 72° interior with mean departure of about 1° above normal. Highest maximum, 94°; lowest minimum, 58°. Sugarcane harvesting operations made good progress islandwide. Some spring planting and fieldwork underway south-central coast. Coffee good set of fruit. Pruning shade trees made good progress. Tobacco plantations active harvesting and drying. Fertilizing and planting seedbeds also underway. Pastures generally good interior divisions, but fair northwest zones where more rain needed. South-central zones continued to improve after recent agricultural drought. Minor crop areas generally too dry. Good progress general fieldwork and harvesting operations. Abundance bananas west.

SOUTH CAROLINA: Rainfall sparse, less than 0.25 inch most locations. Thundershowers brought more rain as week ended. Temperatures were freezing or below in colder locations on 3d but warming during week brought some 80° readings on afternoon of 7th. Weekly average temperatures in mid-and upper 50's were close to normal. Favorable conditions for farm activity. Land preparation, applying fertilizer, pre-emergence herbicide, pesticides active. Tobacco good condition--31% set. Corn, cotton fair to good condition. Corn 25% planted. Soil temperature too cool for cotton planting most areas. Small grains, hay crops, pastures mostly good condition. Some rust, mildew small grains. Peaches, vegetables fair to good. Light damage due cold temperatures Piedmont area. Watermelon planting 53% complete. Peanut planting underway.

SOUTH DAKOTA: Weekly temperatures averaged from 5° below normal in east to 7° above normal in west. Extremes ranged from 13° on 4th at a number of locations in southwest and northeast to 88° at Pickstown on 7th. Precipitation fell as a mixture of rain and snow mostly midweek with totals from a trace to about 0.30 inch. Freezing rain occurred in east on 6th and a few thundershowers were reported in west on 7th. Most of the snow melted soon after it fell. Fieldwork underway most southern areas, and expected to be statewide in 7 to 10 days. Spring seeding and plowing beginning early areas, somewhat behind normal, but about equal to last year. Both topsoil and subsoil moisture supplies generally adequate or above, but significant shortage exists south-central area. In the more severe part of this shortage area stand and condition fall seeded grains fair to poor. Most other areas report good to excellent. Lambing and calving well underway with livestock normal condition. Feed supplies adequate. Many reports fertilizer being applied.

TENNESSEE: Temperatures averaged 3° to 5° below normal. Precipitation most places on 2 or 3 days with totals of less than 0.25 inch parts of east to as much as 2.00 inches west-central. Thunderstorms, some with hail and damaging winds, Friday afternoon. One tornado touched ground just north of Nashville Metropolitan Airport. Damage estimated at $1.5 million. Weekend sunny but unseasonably cool. Record or near-record lows locally east Sunday morning with some frost. Wet weather continued to hamper farm activities. Average 2.2 days suitable fieldwork. Tobacco bed seeding, spring plowing, and pasture renovation were main farm activities. Pastures and small grains remain fair to good. Growth hampered by cooler temperatures. Livestock remain good condition.

TEXAS: Rainfall sparse throughout week, confined to few light showers Lower Valley Tuesday and scattered thundershowers northern portion Low Rolling Plains Sunday. Hail reported near Estelline, Hall County. Light drizzle fell portions of south-central Texas Sunday and early Monday. Temperatures were above normal throughout State and much above normal northwest. Both Post and Spur reported 100° maxima Thursday. Planting cotton, corn, sorghum, peanuts slowed southern half by shortage moisture. Poor germination necessitates replanting parts sorghum crop Blacklands and south-central Texas. Early-planted cotton, corn, sorghum crop making excellent progress Lower Rio Grande Valley, Coastal Bend and upper Gulf Coast. Preplant irrigation, application pre-emergence herbicides and fertilizer active High and Low Plains. Percent planted major crops; cotton 17, 9 last year; corn 60, 44 last year; sorghum 39, 29 last year; peanuts 7, 4 last year; rice 78, 72 last year; sugar beets 77, 70 last year. Onion harvest continues strong Lower Rio Grande Valley. Some fields hit by blight. Extent damage unknown. Moderate supplies carrots, cabbage still available. Watermelons, cantaloupes running and blooming Winter Garden, San Antonio area. Strawberry harvest near peak Atascosa County. Onions, carrots, potatoes show satisfactory growth High Plains. Peaches show good fruit set, except High Plains where freeze killed most crop. Pecans budding. Citrus trees good.

UTAH: Light to moderate rain in valleys, snow higher mountains northwest portion of State. Heaviest precipitation along Wasatch Front and in mountains. Still virtually no precipitation south section. Moisture deficit south becoming very severe. Driest first quarter of any year since 1931. Nearly 20 have failed to record measurable moisture in 1972. Temperatures rose again to average 2° to 8° above normal for week. Reservoir stored irrigation water best ever, but stream flow irrigation water will be very short southern Utah. Weather past week favored fieldwork -- planting well along; 45% completed spring wheat, 35% oats, 55% barley. Dry onions nearly all planted, sugar beets about 45% in. Freezing temperatures last week March damaged some barley and alfalfa planting. Virtually destroyed much of 1972 fruit crop, causing losses of several million dollars to Utah fruit growers. Cattle and sheep emerged from mild winter in good

condition. Calving and farm flock lambing well along, range lambing just started. Movement from winter ranges to spring range land should get underway this week.

VIRGINIA: Temperatures averaged below normal. Light showers at midweek and heavy thundershowers Friday and Saturday. Prepared fields for planting with little interruption. Applied fertilizer. Topsoils dried out substantially. Began planting corn. Seeded grass, legumes, and oats. Pasture hay and small grain growth limited by cool weather. Sprayed pastures for weeds. Tobacco plant beds satisfactory. Peach prospects uncertain. In full bloom Roanoke area and approaching Albermarle County. Sheared sheep.

WASHINGTON: Mild, wet springlike weather prevailed with periods of sunshine, frequent showers, and windy periods. Exceptions were provided on Wednesday, April 5, when a fast moving squall line brought thunderstorms and tornadoes. Western Washington: Tornado, thunderstorm, and wind damage still being totaled with heaviest losses in the hard-hit Vancouver region. Wet weather slowed field activity and plant growth. Some freeze damage to strawberries and small fruits feared as frosts continue. Pasture growth continues slow with only small numbers cattle moved out for grazing. Some new seeding grass and clover possible on sandy soils. Eastern Washington: Mixed weather conditions delayed fieldwork some areas, although planting sugar beets, peas, and potatoes continuing. Seeding spring grains 70% to 90% completed eastern Columbia Basin counties, but minimal most other areas. Pruning and trellising grapes and tying hops nearly complete. Heavy frosts required orchard heating and much concern for unheated orchards. Thunderstorm and wind damage from midweek storm still being assessed.

WEST VIRGINIA: Cold wet week with several wintry periods. Only warm day April 6 when temperatures reached near 70°. One inch rain April 7 turned to sleet during night and light snow flurries throughout day April 8. No snow accumulations. Light rain showers April 3 to 4. Preparation for spring planting delayed by cold wet weather. Pastures slowed by cooler weather, but are in better-than-normal condition. Livestock generally good, but supplemental feeding still required.

WISCONSIN: A continuation of winterlike weather into early April. Several light snowfalls throughout State with temperatures down to near zero on 2 or 3 mornings. Still 2 feet of dense snow remaining on ground in woods extreme north-central counties. Soils slow in drying and warming. Frost leaving ground in south while deep frost persists most central areas. Farmers anxious to get into fields but no work started as yet.

WYOMING: Most of state received light precipitation, moderate along western border. Afton had the most moisture with 0.66 inch. Temperatures averaged 3° to 9° above normal. Maxima were mostly high 50's and 60's west of Divide, 60's and 70's east. Minima were mostly teens west of Divide, 5° to 20° east. Temperature extremes were 78° at Redbird and 5° at Casper. Good progress being made with seedbed preparations. Planting small grains going well. About 10% spring wheat, 25% oats, and 30% barley sown. Nearly 10% sugar beets planted. Surface moisture supplies generally adequate. Nearly 1/2 spring calves dropped, while about 60% farm flock ewes and 20% range ewes lambed. About 1/2 farm flock ewes and less than 1/3 range ewes shorn.

CALIFORNIA: Above average temperatures returned after one week of below normal values. Most of the State was 4° to 6° above normal and the southeastern desert was 8° above. Light to moderate precipitation northern half on 5th and 6th. Total amounts ranged from greater than 1 inch northern mountains to about 1/4 inch Sacramento Valley and central coast region. Fieldwork remains quite active. Showers and light rains helped dry farmed small grains extreme northern and mountain counties. Most dry farmed small grain southern California too much damage to combine. Cotton planting nearly all areas with some plantings up. Sugar beets being thinned, seeded, and irrigated. Safflower planting nearly finished. First fields rice planted Sacramento Valley. Planting field corn becoming active. Planting milo and dry beans increasing. Spring cultural activities underway. Cultivation, fertilizing and irrigating currently active orchards and vineyards. Grapevines damaged by freeze showing some 2d growth. Many growers are delaying thinning operations peaches, plums, and nectarines until freeze damage becomes evident. Harvest navel oranges at moderate rate. Picking Valencia oranges underway. Range grass conditions continue poor. Calving and lambing north practically complete. Some sheep shearing underway north. Movement sheep and cattle to irrigated pastures. Delta area asparagus harvest high volume. Cauliflower harvest increasing Los Angeles area -- cello wrap. Cabbage harvest light to moderate southern California. Movement carrots from Imperial and Coachella Valleys moderate, with size running small. Celery harvest active Oxnard and Orange county. Heavy cullage and expect some acreage loss due seed stem development. Lettuce supplies from Salinas will increase within 2 weeks. Onions Stockton area getting good growth. Imperial Valley harvest expected to start next week. Tomato replanting underway San Joaquin Valley.

WEATHER - MARCH 1972

TEMPERATURE: Most of the Nation averaged warmer than normal in March. The main exceptions were large area from Wisconsin to New England and a smaller area from Ohio to northern Alabama. The western edge of the northern and central Great Plains, the central Rocky Mountains, and much of the Great Basin averaged 6° to 9° warmer than normal. The Pacific coast and the middle and southern Atlantic coast averaged near or only slightly warmer than normal.

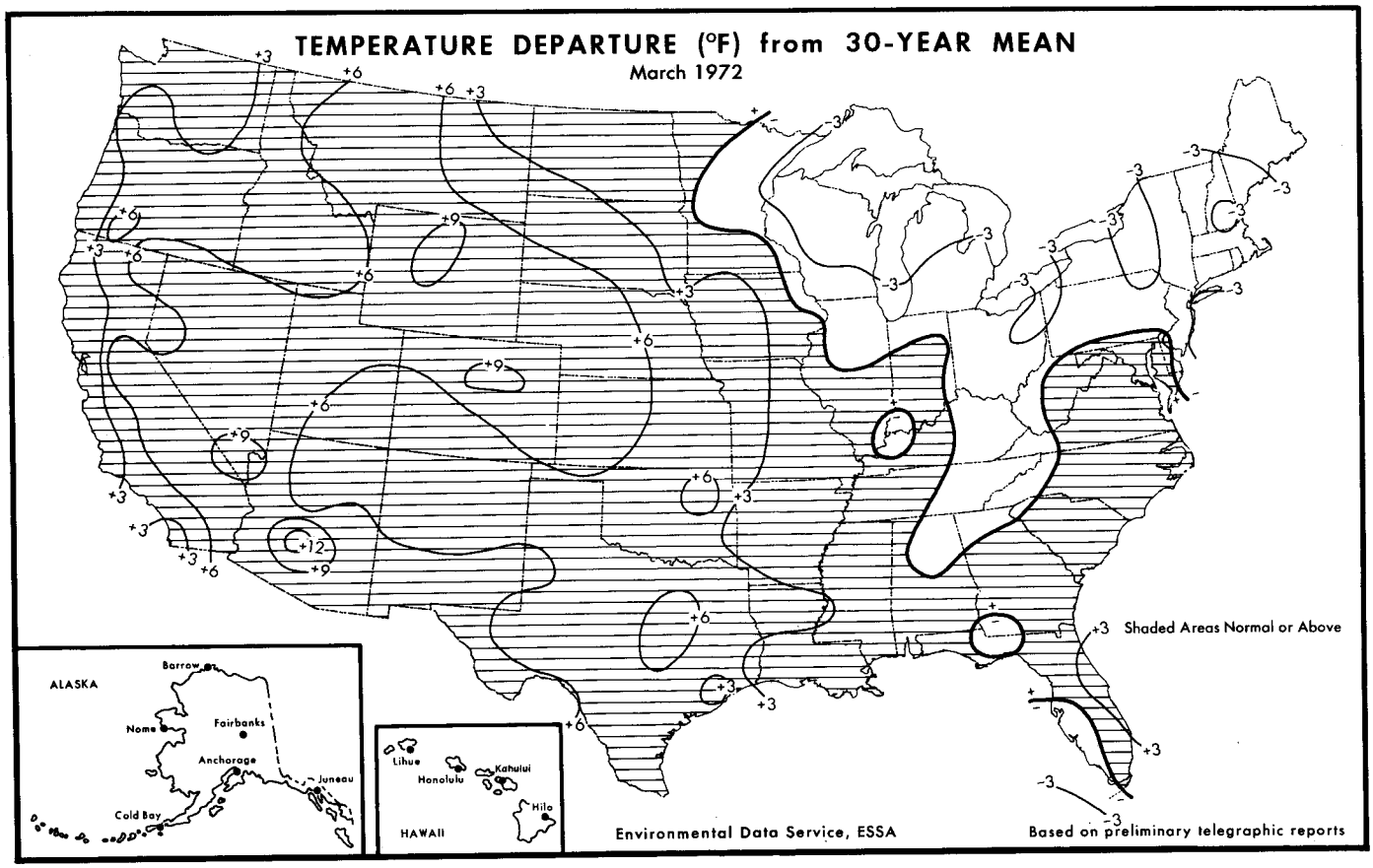
Most western and central areas averaged warmer than normal except during the last few days of the month. The northern Great Plains and the Great Lakes region were cooler than normal during the first week after which some warming occurred in the western edge of the northern Great Plains. Almost the entire Nation averaged warmer than normal in the third week. The main exceptions were eastern New York and New England. Almost the entire Nation was cooler than normal in the last few days of March.

Subfreezing weather reached the Gulf States, except Florida, each week and reached northern Florida in the second week of March. Subzero weather occurred over the northern Great Plains in the first half of the month and in the central Rocky Mountains near the end of the month. Leadville, Colo., registered 9° below zero on the morning of March 30.

PRECIPITATION: The Southwest was very dry in March. In fact, wide areas in the Southwest have received no rain or only light sprinkles since late in December. Rain is badly needed for watering livestock and growing crops, lawns, etc. Rainfall in March exceeded the March normals in the Far Northwest, from the Great Lakes to New England, most of the Florida Peninsula, and a few localities which received generous precipitation on 1 or 2 days. For instance, rain and snow fell at Casper, Wyo., early in the last week of March and Pueblo received generous precipitation later in the week. The Houston, Tex., vicinity was soaked with about 7.50 inches in the late afternoon and early evening of March 20. From 8.00 to 16.00 inches of rain fell along the Pacific coast from Quillayute, Wash., to Brooking, Oreg. Monthly totals exceeded 2.00 inches over the eastern half of the Nation. A large area from the Ohio River to the Gulf of Mexico received from 4.00 to more than 6.00 inches. Similar amounts fell in New England.

Rains fell on many days in the Pacific Northwest. They were heavier early in the month and began to taper off late in March. This is "normal." Rains are generally much lighter in April than in March in the Northwest. Elsewhere, the rains were fairly well distributed through the month except, as mentioned earlier in this summary, the Southwest which received no rain or only sprinkles.

L. W. Dye



SPRING FREEZE PROBABILITIES AND LENGTH OF THE GROWING SEASON

One of the major considerations in determining when to plant is the danger of a late freeze occurring. With many crops such as corn, it has been shown that early-plantings generally outyield late-plantings. The producers of vegetable crops for fresh market want to plant as early as possible to obtain the premium price on the early harvest. However, a late freeze can nullify any advantage of early planting.

As a guide to growers of all agricultural crops, we are reprinting the accompanying maps of freeze probabilities which were prepared by J. J. Rahn and published in the Bulletin previously (WWCB 58(14):16-19). The maps show the dates in spring after which the probability of a 32° or lower temperature occurring is 50%, 25%, and 10% respectively.

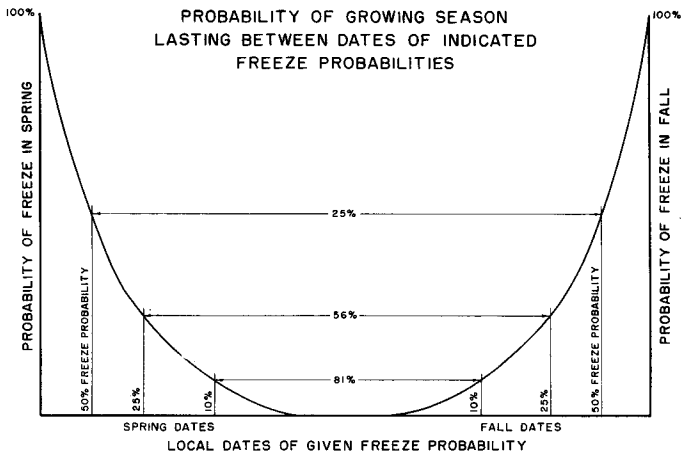
In his planning, a grower can select a "target" date to begin knowing the degree of risk involved. Similarly, he can select a date in the fall which he wants his crop to be mature. The number of days between these two dates determines the length of the growing season in his area.

Spring and fall freeze probability data have been used to help prepare the maps on pages 14 and 15, showing the mean GDD accumulation for the period between the date of a given freeze probability in spring and the date of a similar freeze probability in the fall (the date before which the probability of 32° or lower occurring is a given value). Mean GDD accumulation for other periods of interest can easily be computed from the normal tables published last week (WWCB 59(14):10-14). This is the procedure that was used to produce the maps presented here. Work is currently underway to calculate actual mean values on a year-by-year basis. In preliminary work, it has been found that any error due to our interpolation technique is minimal.

The probability of a freeze free period lasting between given freeze probability dates is equal to the product of the probability of no freeze occurring after the given spring date and the probability of no freeze occurring before the given fall date. The laws of probability state that the probability of 2 independent events occurring (in this case the last spring freeze and the first fall freeze) is equal to the product of the two probabilities. For example, the probability of a growing season (frost free period) lasting from the mean date (50% probability) of the last spring freeze to the mean date (50% probability) of the first fall freeze is not 50%, but only 25%, e.g. .50 x .50 - .25 or 25%.

This relationship is pointed out in the following figure which shows the probability of the growing season lasting between date of indicated freeze probabilities. This figure is reprinted from a previous article by Rahn and Barger (WWCB 58(14):12).

The same procedure applies, of course, in case one can accept a different risk of freeze in the fall than in spring. Take corn as an example. If seedlings are well out of the ground they can be killed by a late-spring freeze; in fall, however, a freeze may only dictate more costly drying or storage methods. If we accept a 10% risk of freeze after emergence and a 70% risk of freeze before a given fall date, then the corresponding no freeze probabilities are 90% and 30%. The likelihood of these two conditions occurring in the same season, then, is 0.90 x



0.30, or 0.27, which we speak of as a 27% chance of the entire period between selected dates being freeze-free.

The figure is presented to more clearly show the relationship between degree of frost risk and probable length of the growing season. Operationally, the chart shows that a grower assumes a greater risk of frost in the spring and/or fall, there is a decreased probability of a frost-free period occurring between dates of the assumed frost risk.

R. E. Felch

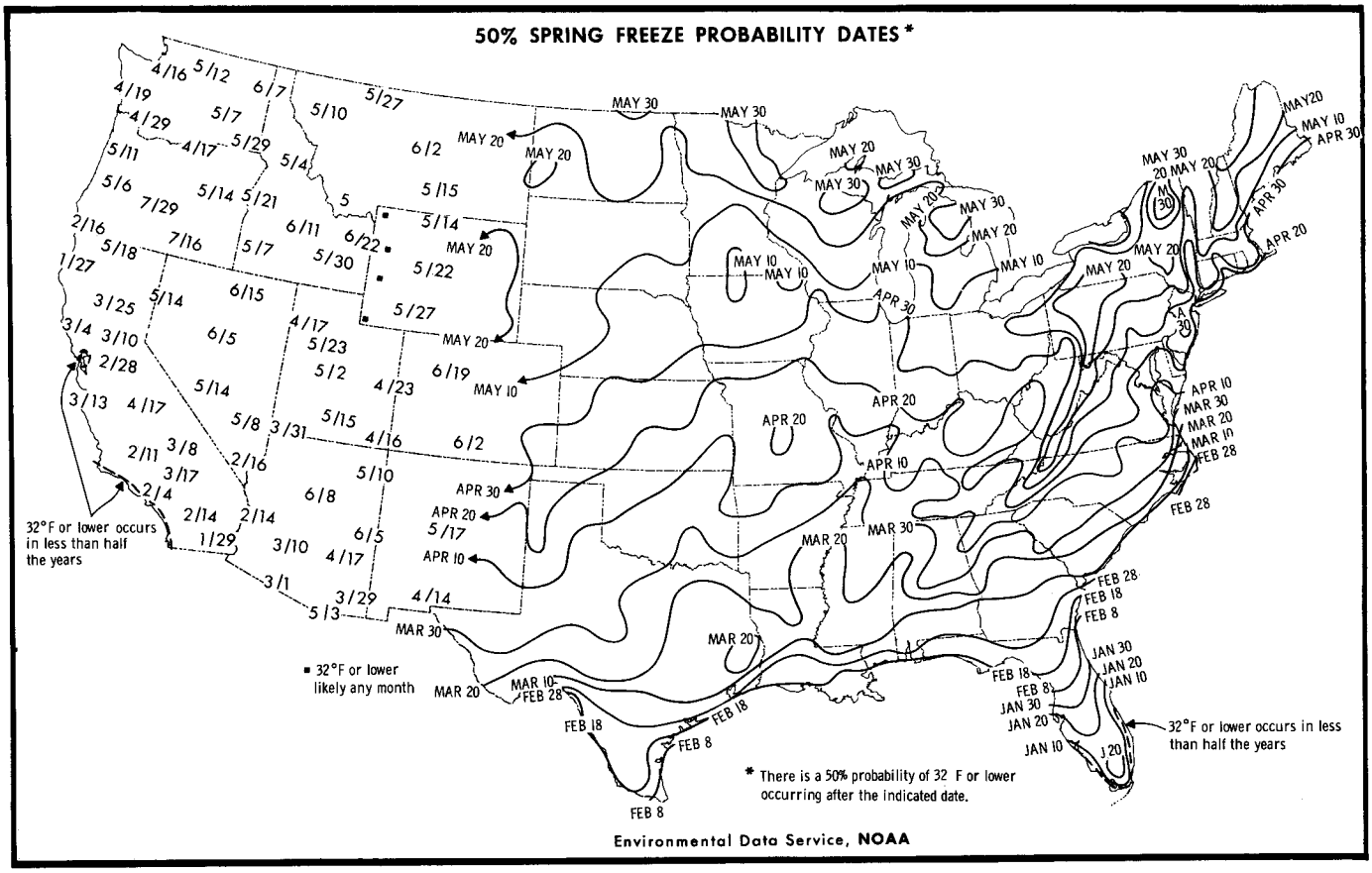
Note:

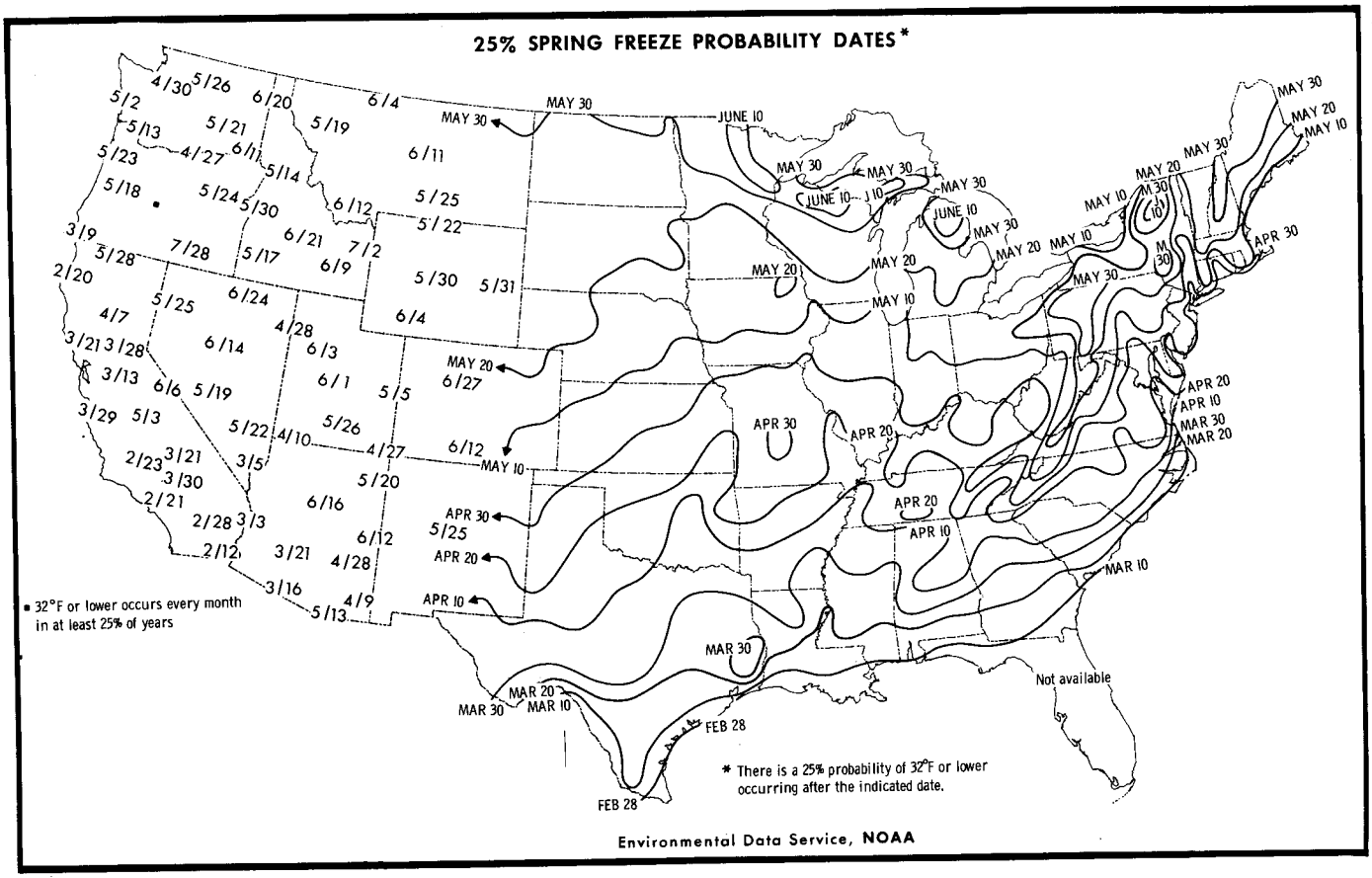
Because of the scale of the maps on the following pages, the data are naturally smoothed and cannot account for local, small-scale differences. Most States have compiled more detailed freeze probability data, available through NOAA State Climatologists, agricultural experiment stations, extension service personnel, university libraries, etc. Since minimum temperatures are strongly affected by terrain features, even the most detailed State maps cannot account for all local variations. However, growers who have been in an area for some time are usually aware of the local temperature characteristics.

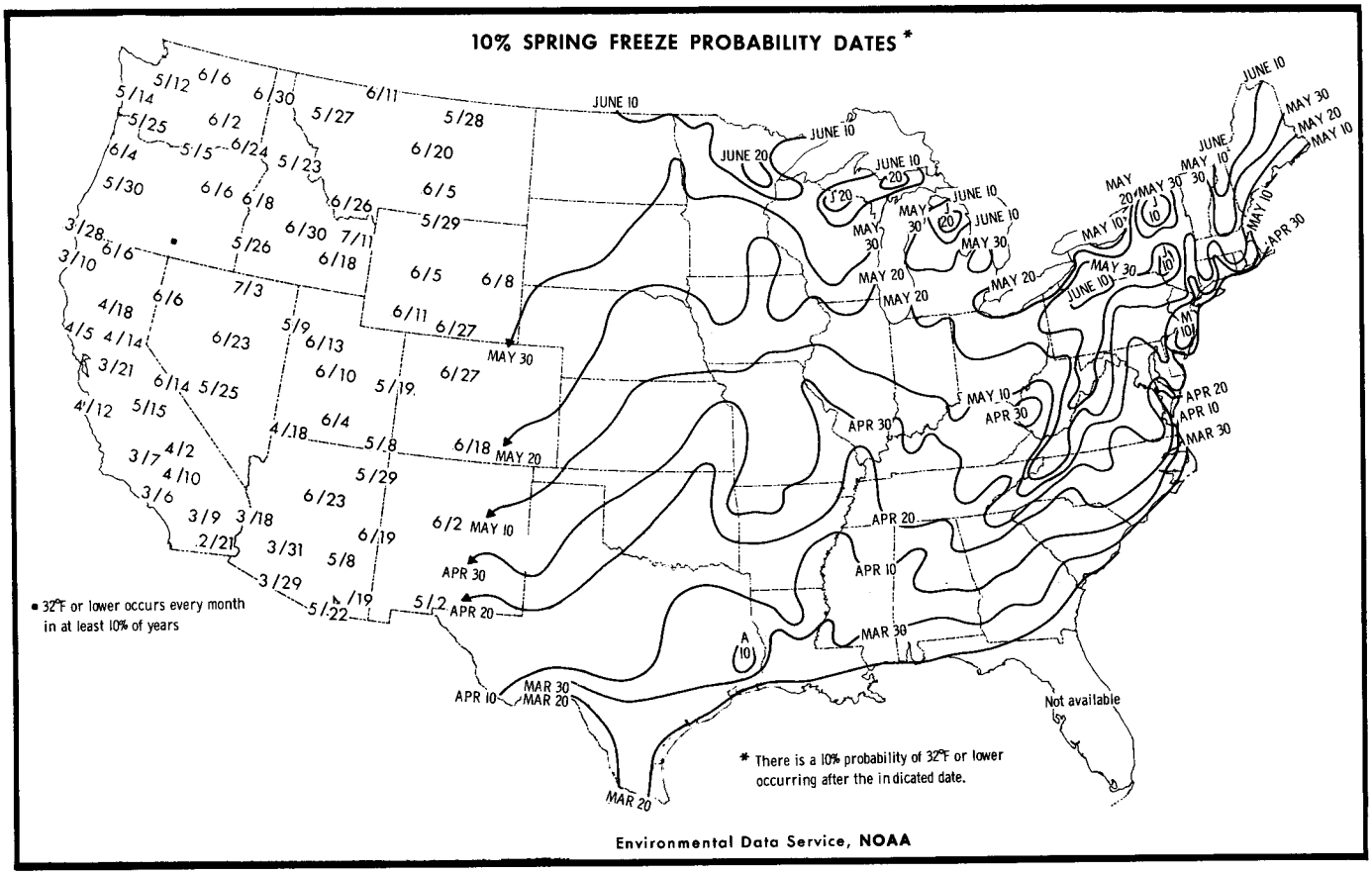
The 50% spring freeze probability (mean date of last spring freeze) map differs somewhat from the corresponding map in the standard climatological atlas. In the current maps we have given less weight to airport or downtown data from larger cities, and have relied more on data from less urban stations which more nearly reflect conditions in farming areas. Also, no attempt has been made to analyze the coldest locations in mountainous areas of the eastern U.S., although the general effect of higher elevations is of course accounted for. No analysis was attempted in the mountainous western U.S., where data for selected stations are plotted as an indication of the variability encountered.

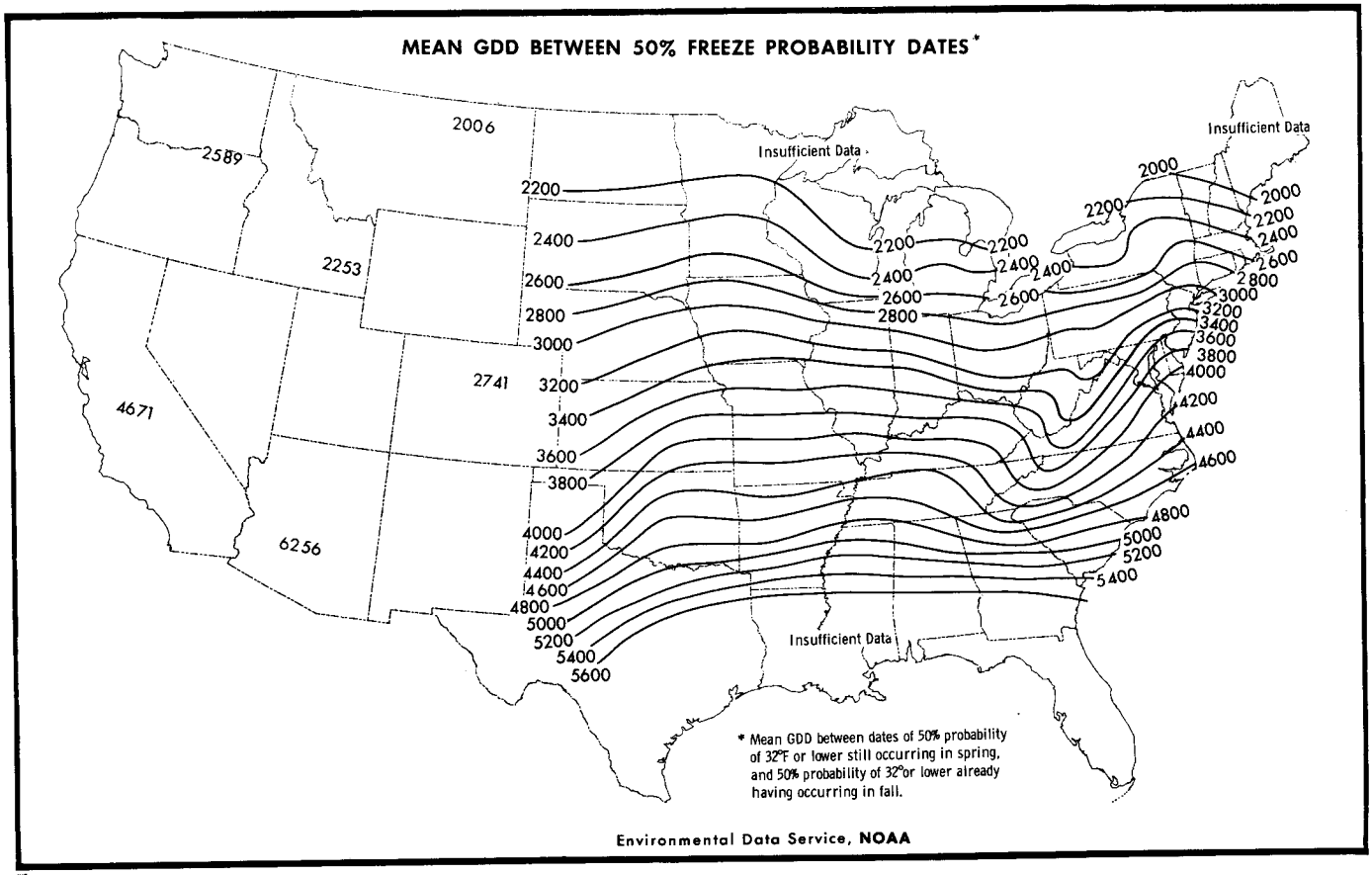
The mean GDD maps are based on the 47 stations for which data are available and are thus most useful for regional, rather than small-scale, interpretation.

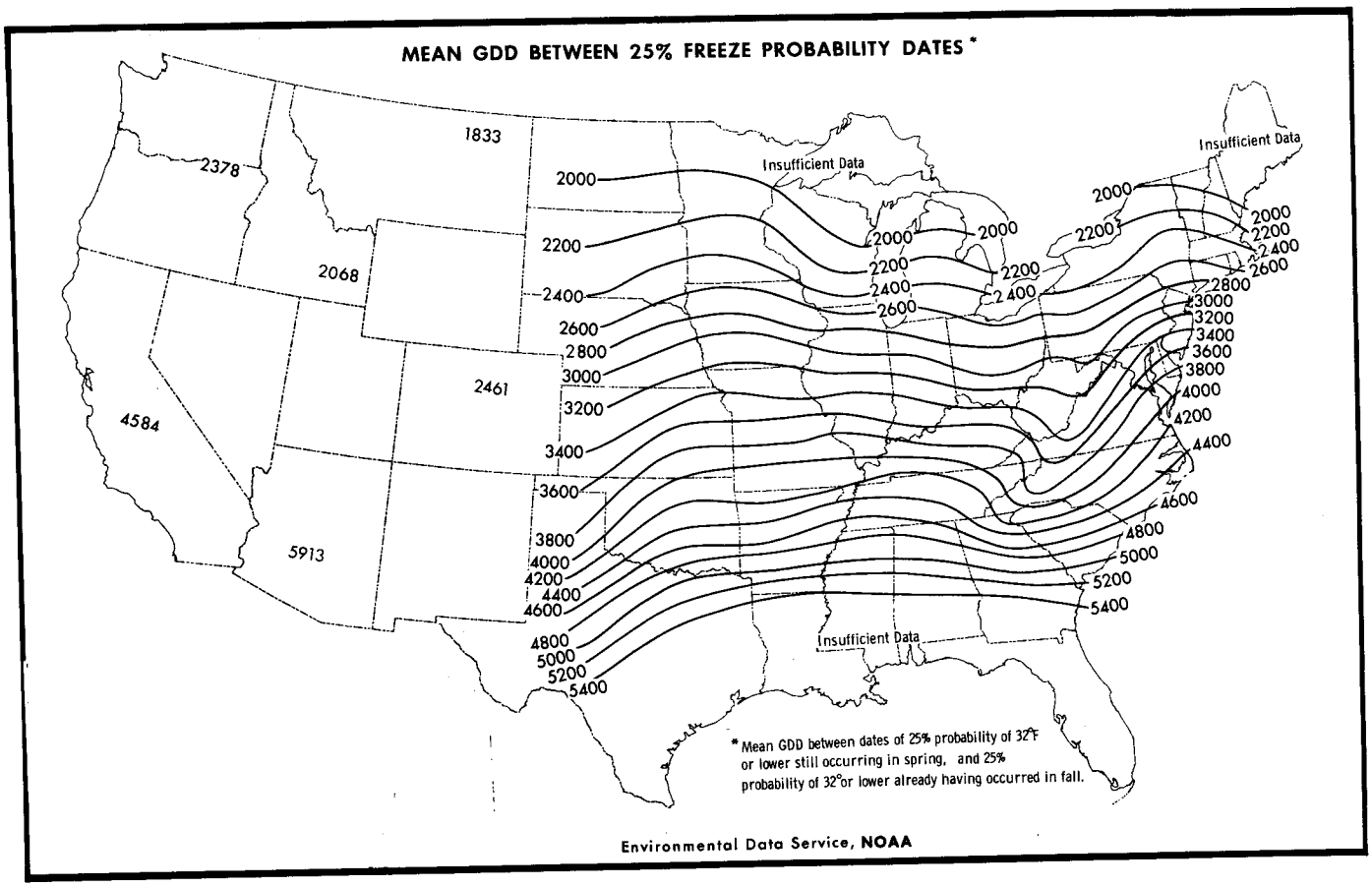
J. J. Rahn

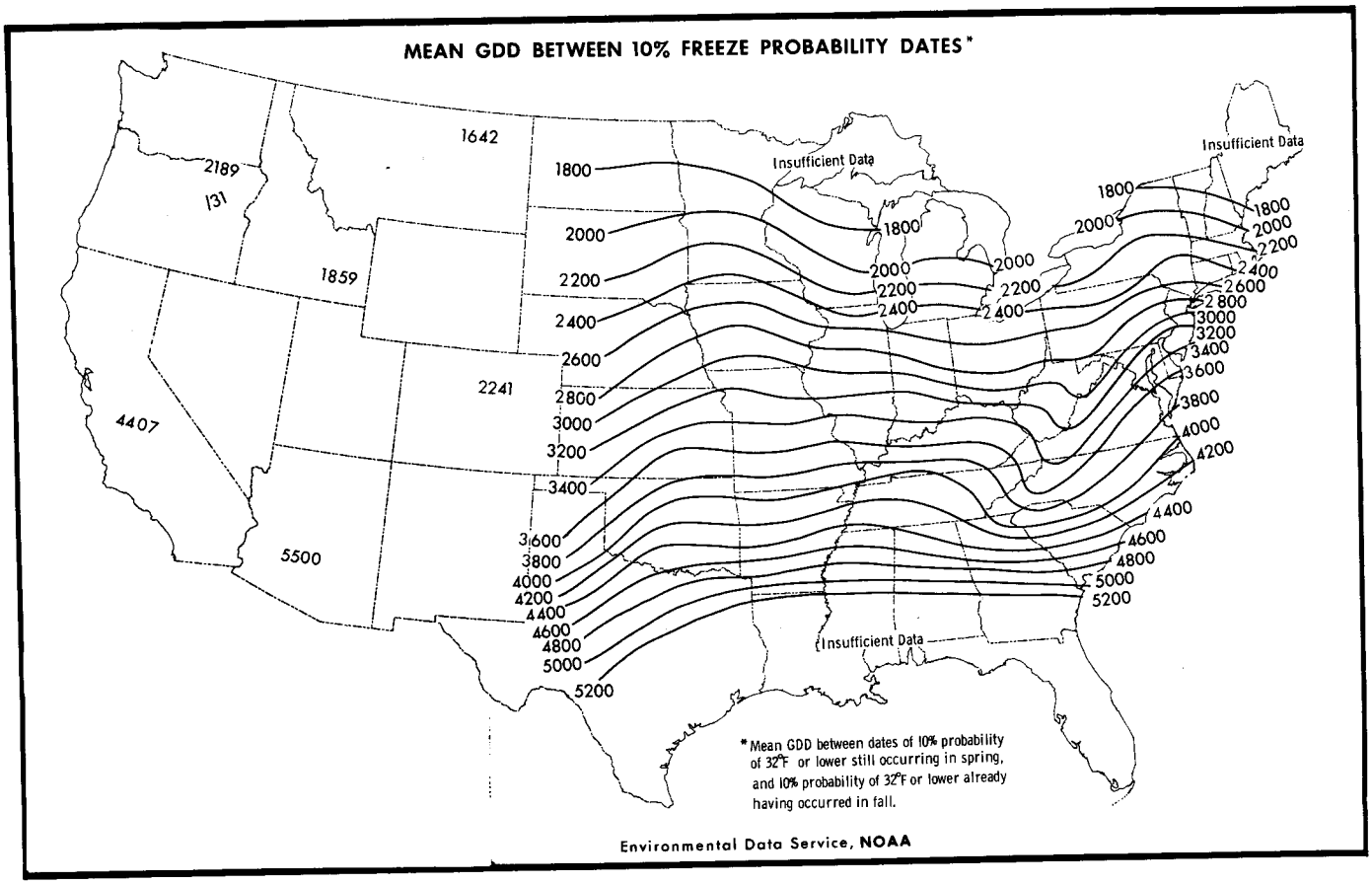

50% SPRING FREEZE PROBABILITY DATES*
32°F or lower occurs in less than half the years
■ 32°F or lower likely any month
* There is a 50% probability of 32 F or lower occurring after the indicated date.
32°F or lower occurs in less than half the years
Environmental Data Service, NOAA


25% SPRING FREEZE PROBABILITY DATES*
■ 32°F or lower occurs every month in at least 25% of years
* There is a 25% probability of 32°F or lower occurring after the indicated date.
Not available
Environmental Data Service, NOAA


10% SPRING FREEZE PROBABILITY DATES *
• 32°F or lower occurs every month in at least 10% of years
* There is a 10% probability of 32°F or lower occurring after the indicated date.
Not available
Environmental Data Service, NOAA


MEAN GDD BETWEEN 50% FREEZE PROBABILITY DATES *
2589
2006
2253
2741
4671
6256
Insufficient Data
Insufficient Data
Insufficient Data
* Mean GDD between dates of 50% probability of 32°F or lower still occurring in spring, and 50% probability of 32°or lower already having occurring in fall.
Environmental Data Service, NOAA


MEAN GDD BETWEEN 25% FREEZE PROBABILITY DATES*
1833
2378
2068
2461
4584
5913
Insufficient Data
Insufficient Data
2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
4000
4200
4400
4600
4800
5000
5200
5400
* Mean GDD between dates of 25% probability of 32°F or lower still occurring in spring, and 25% probability of 32°or lower already having occurred in fall.
Environmental Data Service, NOAA


MEAN GDD BETWEEN 10% FREEZE PROBABILITY DATES*
1642
2189
131
1859
2241
4407
5500
Insufficient Data
Insufficient Data
1800
2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
4000
4200
4400
4600
4800
5000
5200
* Mean GDD between dates of 10% probability of 32°F or lower still occurring in spring, and 10% probability of 32°F or lower already having occurred in fall.
Environmental Data Service, NOAA

GDD ACCUMULATIONS AHEAD OF NORMAL

The first of our weekly series of maps showing the Growing Degree Day (GDD) accumulations for 1972 appears on the top of page 17. Daily GDD values from 143 stations are summed each week to prepare this map. The procedure for calculating GDD was discussed in detail last week's Bulletin (WWCB 59(14): 11-14). The map is analyzed in detail for all areas east of the Rockies. Because of the sparse network of stations and the highly variable terrain, no attempt is made to analyze the map west of the Rockies. Instead, the actual values are plotted on the map. This map shows that GDD accumulations across the country range from over 800 in southern Florida and Texas to zero accumulations along the north-central and northeastern border of the U.S.

The map on the bottom of page 17 shows the departure of the accumulations from the expected accumulations based on normals for the period 1949-1968. Normals are presently calculated for only 54 stations. The normals for 47 of these stations were published last week (WWCB 59(14): 11-14).

The departure map shows that GDD accumulations are ahead of normal over most of the country. Only the area north and east of line from Cape Hatteras, N.C., to Springfield, Ill., to Williston, N.D., is below normal except for the southern half of Florida. Portions of the Southwest are a full one to two weeks ahead of normal in terms of GDD accumulations. Temperatures over much of this area have been averaging 3° to 6° above normal for several weeks. Most of the Corn Belt is below normal in GDD accumulations, but departures are small. With a few days of warm weather, GDD could rapidly approach normal to above normal conditions. In general, the growing season is off to a good start over most of the Nation in terms of temperature and GDD, although moisture is becoming a serious problem in many areas.

R. E. Felch

SERIOUS OUTBREAK OF SCREWWORM OCCURRING IN TEXAS AND MEXICO

According to USDA's Animal and Plant Health Inspection Service, the worst outbreak of screwworm activity in many years is occurring in Texas and Mexico. During the week ending April 1, 1972, 65 new cases were reported in Texas, for a total of 115 for the year. This compares with 7 cases last year at this time and none the year before. 1831 cases have been reported in Mexico, compared with 1029 in 1971 and 564 in 1970. 106 new cases were reported in Texas during the week ending April 8, bringing their total to 221 for the year.

The screwworm is a serious problem in cattle. The female fly lays its eggs in batches of about 250 on the edges of any type of wound on the animal. Within hours the eggs hatch into tiny larvae which use their rasping mouthparts to tear away at the wound and burrow into the animal. They feed on the exudate from the wounds for 5-6 days growing to about 1/2 inch in length. An infested wound attracts additional screwworm flies that lay eggs, and these multiple infestations unless treated usually cause death of the host animal. Grown steers have been known to be killed within 10 days.

When fully developed, the larvae drop from the wound to the ground and burrow into the soil and form brown, tough-shelled pupae. After about a week, screwworm flies emerge from the pupal shell. The life cycle averages about three weeks, but it can be as long as 65 days during cold weather.

In general, in the Southwestern U.S. and Northern Mexico, screwworm activity is low during the cold season, begins to increase in late spring or early summer, decreases during the hot summer, and reaches a peak in late summer or fall. Following a mild moist winter, when conditions are favorable for screwworm activity, screwworm fly populations are high and animal losses are usually heavier and extend over a much greater area than losses following a cold winter.

The 1971-72 winter season appears to have been quite favorable for overwintering and increasing the populations of screwworms. Complete weather data are not available for Mexico, but the data from the southern portions of Texas and along the Lower Rio Grande show that a very mild winter occurred. During November, temperatures averaged 1° to 3° above normal with precipitation 50% to 150% of normal. December temperatures averaged 3° to 6° above normal while precipitation averaged 50% to 150% of normal in the area. Temperatures continued above normal until the last week of March. January precipitation was 50% to 75% of normal in the area while February precipitation was 25% to 100% of normal.

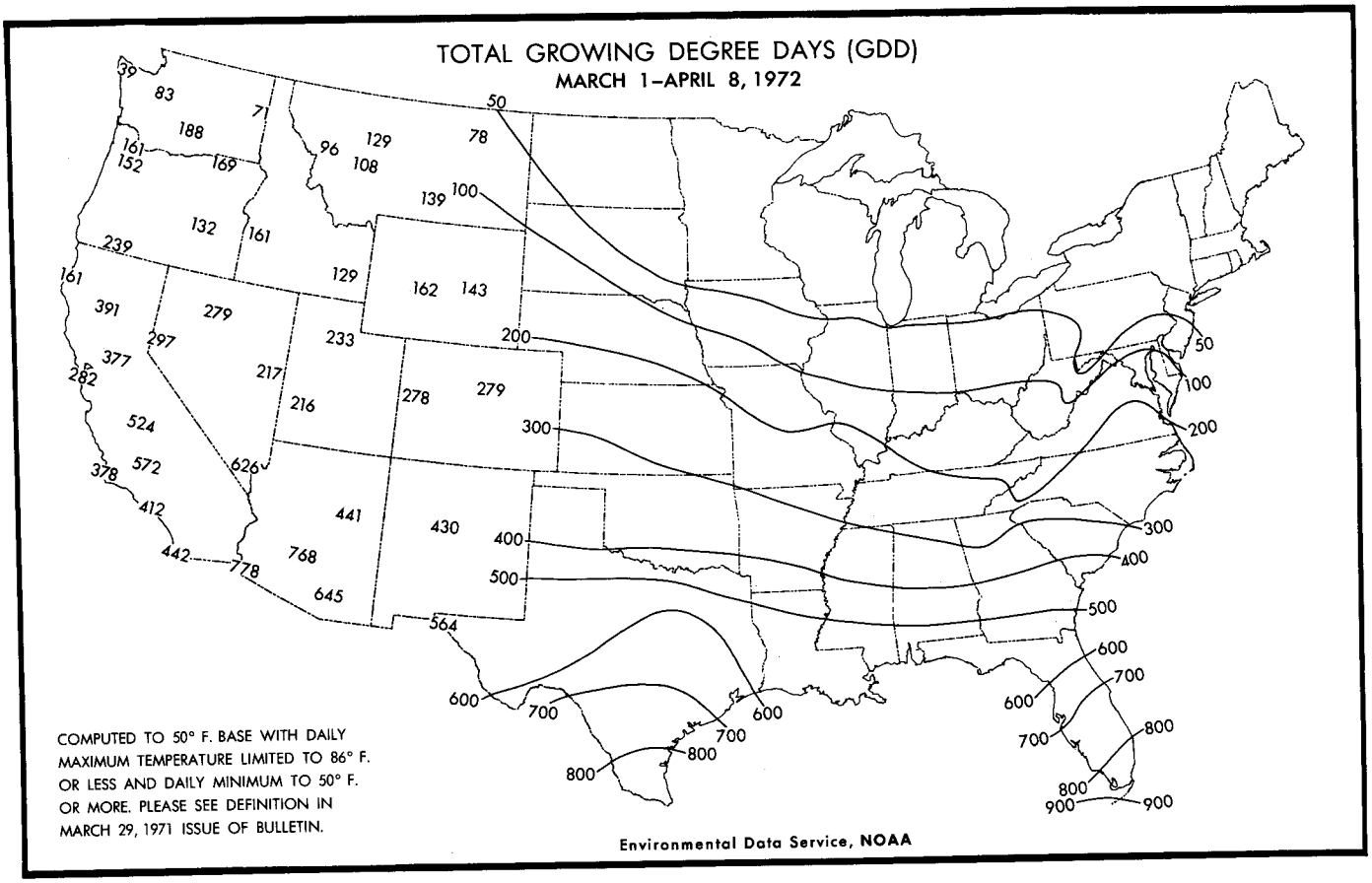
The key to the large number of screwworm cases being reported appears to be the temperature condtions over the winter. The above normal temperatures all winter permitted the overwintering line to exist much further north than usual. In addition, temperatures were sufficiently high to permit an enhancement of the rate of pupal development, allowing a shorter reproductive cycle. Therefore, several more generations were produced than normal. As a result more cases are being reported early this spring.

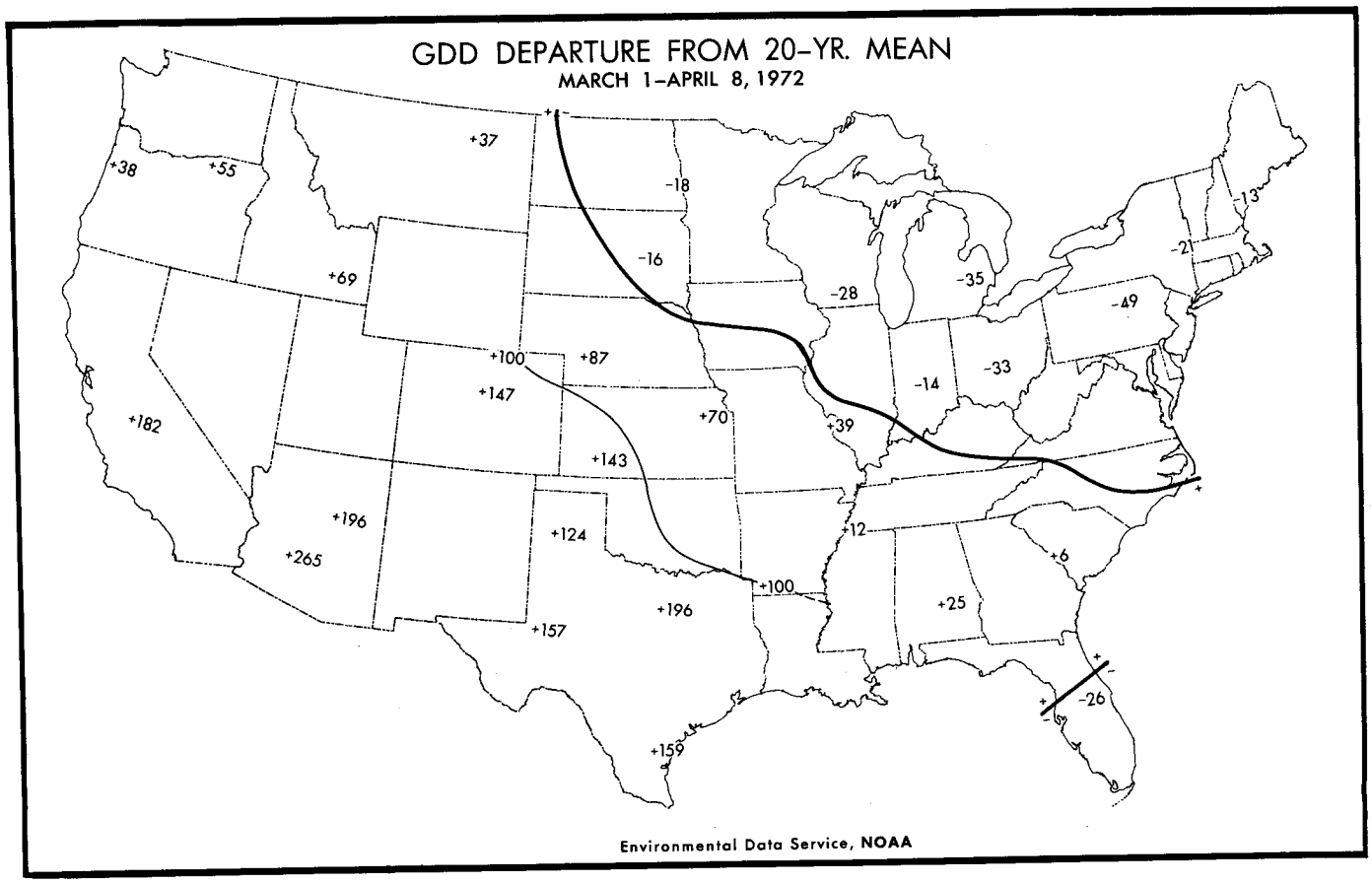
Looking ahead, the current weeks temperatures have been 5° to 7°F above normal. Except for an area east and north of San Antonio, precipitation has been negligible. It would appear that temperature conditions were suitable for a continued increase in screwworm activity. As the season progresses, and daytime temperatures exceed 95°F, however, above normal temperatures should limit rather than favor propagation. A early hot dry period would constitute a natural control on spread of the insect.

The best precaution that ranchers in the area can take is to keep a close check of their animals. Infested wounds can be treated, but they must be treated as soon as possible, since it may only take a few days for the infestation to damage or kill the animal.

As for the past 7-8 years the major deterrent to a screwworm epidemic in Northern Mexico and the Southwestern U.S. is the cooperative sterile fly release program of the Animal Health Programs of the U.S. and Mexico. Weather favorable to the insect puts an abnormally heavy burden on this program.

R. E. Felch


TOTAL GROWING DEGREE DAYS (GDD)
MARCH 1–APRIL 8, 1972
COMPUTED TO 50° F. BASE WITH DAILY MAXIMUM TEMPERATURE LIMITED TO 86° F. OR LESS AND DAILY MINIMUM TO 50° F. OR MORE. PLEASE SEE DEFINITION IN MARCH 29, 1971 ISSUE OF BULLETIN.
Environmental Data Service, NOAA


GDD DEPARTURE FROM 20-YR. MEAN
MARCH 1–APRIL 8, 1972
Environmental Data Service, NOAA

CROP MOISTURE INDEX

The Meteorological Drought Index was designed to evaluate the scope, severity, and frequency of prolonged periods of abnormally dry weather. For this purpose it works reasonably well. However, since some people have been trying to interpret it strictly as a measure of the current status of agricultural drought; i.e., as a measure of the effects of abnormally dry weather on crops, a separate procedure has been developed that responds rapidly to changes in the soil moisture situation and takes into account only those moisture aspects which affect vegetation and field operations. Except under wet conditions, this Crop Moisture Index stands at zero at the start of the growing season and returns to near zero at the end of the growing season.

When viewed in any detail, the agricultural drought problem appears hopelessly complicated. Local differences in soils, types of crops, rooting depths, stages of crop development, and precipitation amounts seem to preclude any meteorological approach to the development of useful information. Actually, if one's interests require a knowledge of detailed local variations in crop responses, available meteorological information is completely inadequate, to say nothing of the lack of the other types of necessary information. However, if one looks at the problem from a different viewpoint, it doesn't appear nearly so hopeless.

If one's interests require answers to broad questions such as, What is the crop moisture situation in the soybean producing regions? the meteorological approach can provide useful information. In such cases there is no interest in or need for details as to the situation in individual fields. The Crop Moisture Index was designed to provide information in response to the broad-scale general questions rather than the localized questions.

In its simplest terms agricultural drought is a transpiration deficit. However, if one uses computed potential evapotranspiration as an estimate of the moisture need, the subhumid and semiarid regions turn out to have evapotranspiration deficits much of the time during summer. Maps drawn on the basis of such computations reflect climate as much or more than they show weather. Maps become more meaningful if one bases them on the abnormal evapotranspiration deficit.

The computer printouts for the Palmer Drought Index provide a measure of the weekly abnormal evapotranspiration deficit for each climatological devision. This is a computed value, an estimate of the amount by which the actual weekly evapotranspiration falls short of the "expected" weekly evapotranspiration. The actual evapotranspiration takes account of the actual temperature and precipitation during the week as well as the computed amount of soil moisture, both topsoil and subsoil, existing at the start of the week. The "expected" evapotranspiration is an adjusted normal value; i.e., the long-term mean value is adjusted upward or downward depending on the departure of the week's temperature from normal. Successive weekly values of this computed abnormal evapotranspiration deficit have been combined into a measure of the cumulative severity of agricultural drought. In other words, as the accumulated evapotranspiration deficit gradually increases from week to week during dry weather, the crop moisture situation becomes progressively more serious. The map with its legend, page 14, translates the computed evapotranspiration anomaly index into a picture of the scope and severity of the agricultural drought situation.

Of course, the weather is sometimes too wet for crops just as it is sometimes too dry. Too wet often means soils are too wet to permit timely field operations or rains have been so heavy that fields are actually flooded. In the weekly printouts of the Palmer Drought Index analysis, heavy rains in excess of the maximum weekly water use by the crops produce positive values of R (soil moisture recharge) until the soils reach field capacity, then any excess water shows up in the RO (runoff) term. These two measures of "excess" moisture have been combined into a wetness index which is always positive.

This Index (CMI) differs from the Palmer Drought Index (PDI) in that negative CMI values always mean that evapotranspiration has been abnormally deficient. But, negative PDI values imply negative abnormalities of either evapotranspiration, the amount of moisture stored in or added to the soil, or of runoff, or of a combination of all these types of moisture shortages. In other words, negative PDI values simply indicate that the weather has been abnormally dry, and do not specify the exact nature of the effects of the dry weather.

On the other hand, positive CMI values mean that either actual evapotranspiration exceeded the expected amount, or recent rainfall exceeded the moisture requirements of crops and the additional moisture was added to the soil or was regarded as runoff. However, positive PDI values indicate that the moisture supply either from current or antecedent rainfall exceeded the amount required to sustain the evapotranspiration, runoff and moisture storage which could be considered as normal and appropriate for the climate of the area. So, positive PDI values only indicate abnormally wet weather, and do not indicate which aspects of the moisture picture were affected. Thus, PDI values are based on all aspects of the moisture situation, but CMI values refer only to the crop moisture situation.

In addition, PDI values are highly dependent on antecedent moisture conditions, whereas CMI values are much less dependent on the past and therefore respond quickly to weekly rainfall or the lack of it. However, both Indexes do take account of the duration of anomalous periods of weather.

The map is drawn for a final crop moisture index which is the algebraic sum of the two numbers described above; viz., the evapotranspiration anomaly index and the wetness index. These values were computed in each of the 350 climatological divisions. The equations are so constructed that the final index responds rather quickly to abrupt changes of weather which alter the crop moisture situation from "wet" to "dry" or vice versa. The Crop Moisture Index is far from perfect, but it seems to represent macroscale crop moisture conditions fairly well in spite of the crude assumptions involved. As experience accumulates we may learn how to make improvements by some adjustments here and there.

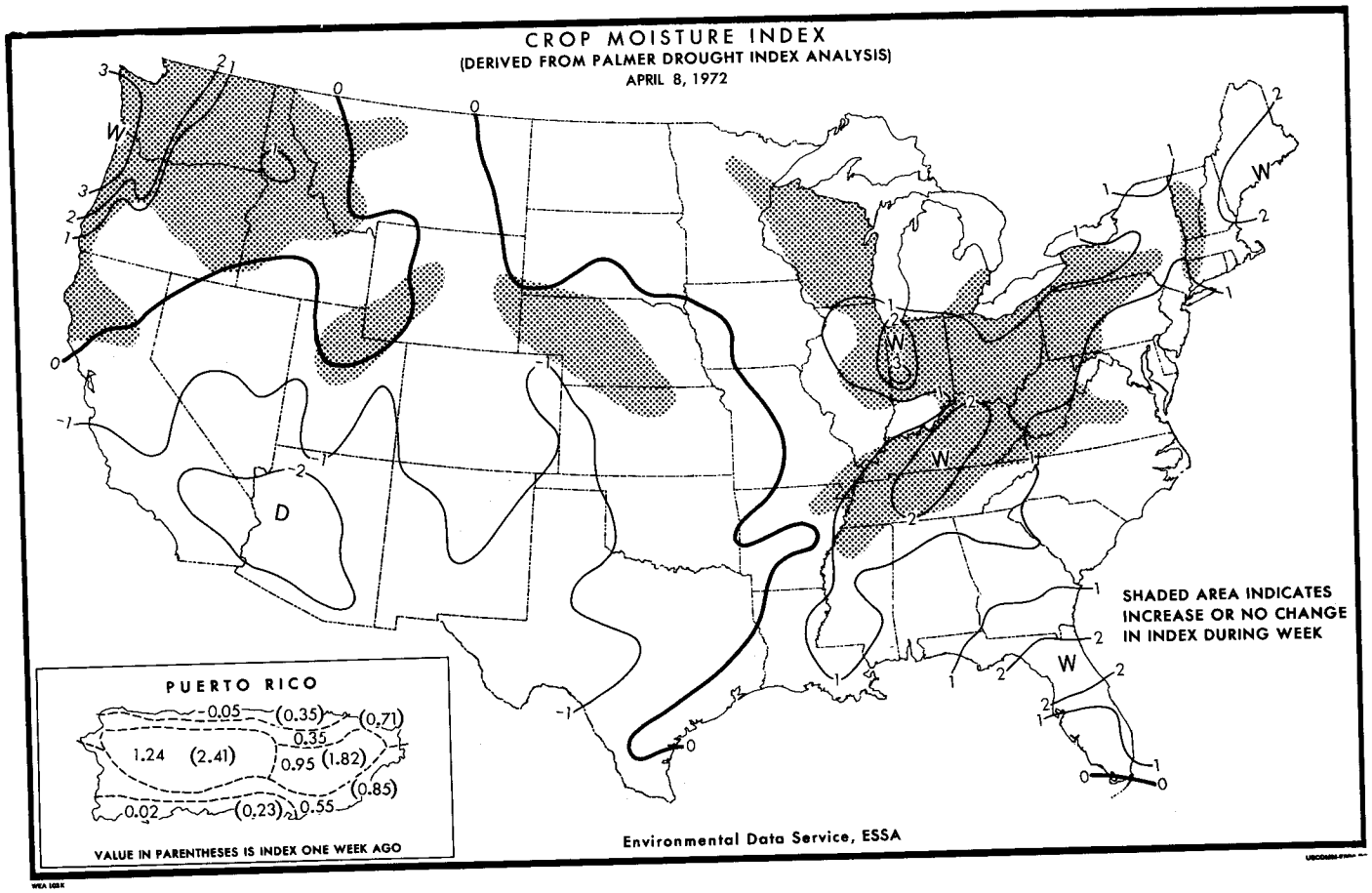
The legend for the map is in two parts because an index value that occurs as an area becomes drier can also occur as the area becomes progressively wetter after having been very dry. The interpretation is different in the two cases. The map is shaded where conditions have changed little or became wetter during the past week; i.e., the index has not decreased during the week. Thus, the map shows both the trend and the status of the moisture situation. The one legend applies to the lines in

the unshaded areas, the other to the lines in shaded areas. The legends are to be applied primarily to growing rather than matured vegetation. Interpretation of the effects on crops and native vegetation must, therefore, take account of the stage of growth as well as the status and trend of moisture conditions. Centers of relative maximum and minimum index values are marked for easier recognition--W for wet and D for dry.

Special articles on the Crop Moisture Index and drought conditions, published in recent years in the Bulletin, are listed in the following issues:

1970 Index - December 28, 1970, issue.
1969 Index - September 28, 1970, issue.
1968 Index - September 7, 1970, issue.
1967 Index - August 31, 1970, issue.

W. C. Palmer



INDEX DECREASED DURING WEEK
(Unshaded Areas)

INDEX	
ABOVE 3.0	SOME DRYING, BUT STILL EXCESSIVELY WET.
2.0 to 3.0	MORE DRY WEATHER NEEDED, WORK DELAYED.
1.0 to 2.0	FAVORABLE, EXCEPT STILL TOO WET IN SPOTS.
0 to 1.0	FAVORABLE FOR NORMAL GROWTH AND FIELDWORK.
0 to -1.0	TOPSOIL MOISTURE SHORT, GERMINATION SLOW.
-1.0 to -2.0	ABNORMALLY DRY, PROSPECTS DETERIORATING.
-2.0 to -3.0	TOO DRY, YIELD PROSPECTS REDUCED.
-3.0 to -4.0	POTENTIAL YIELDS SEVERELY CUT BY DROUGHT.
BELOW -4.0	EXTREME DROUGHT, MOST CROPS ABOUT RUINED.

INDEX INCREASED OR DID NOT CHANGE DURING WEEK
(Shaded Areas)

INDEX	
ABOVE 3.0	EXCESSIVELY WET, SOME FIELDS FLOODED.
2.0 to 3.0	TOO WET, SOME STANDING WATER.
1.0 to 2.0	PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
0 to 1.0	MOISTURE ADEQUATE FOR PRESENT NORMAL NEEDS.
0 to -1.0	PROSPECTS IMPROVED, BUT RAIN STILL NEEDED.
-1.0 to -2.0	SOME IMPROVEMENT, BUT STILL TOO DRY.
-2.0 to -3.0	DROUGHT EASED, BUT STILL SERIOUS.
-3.0 to -4.0	DROUGHT STILL SEVERE, RAIN URGENTLY NEEDED.
BELOW -4.0	NOT ENOUGH RAIN, DROUGHT STILL EXTREME.

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