

Weekly Weather & Crop Bulletin

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

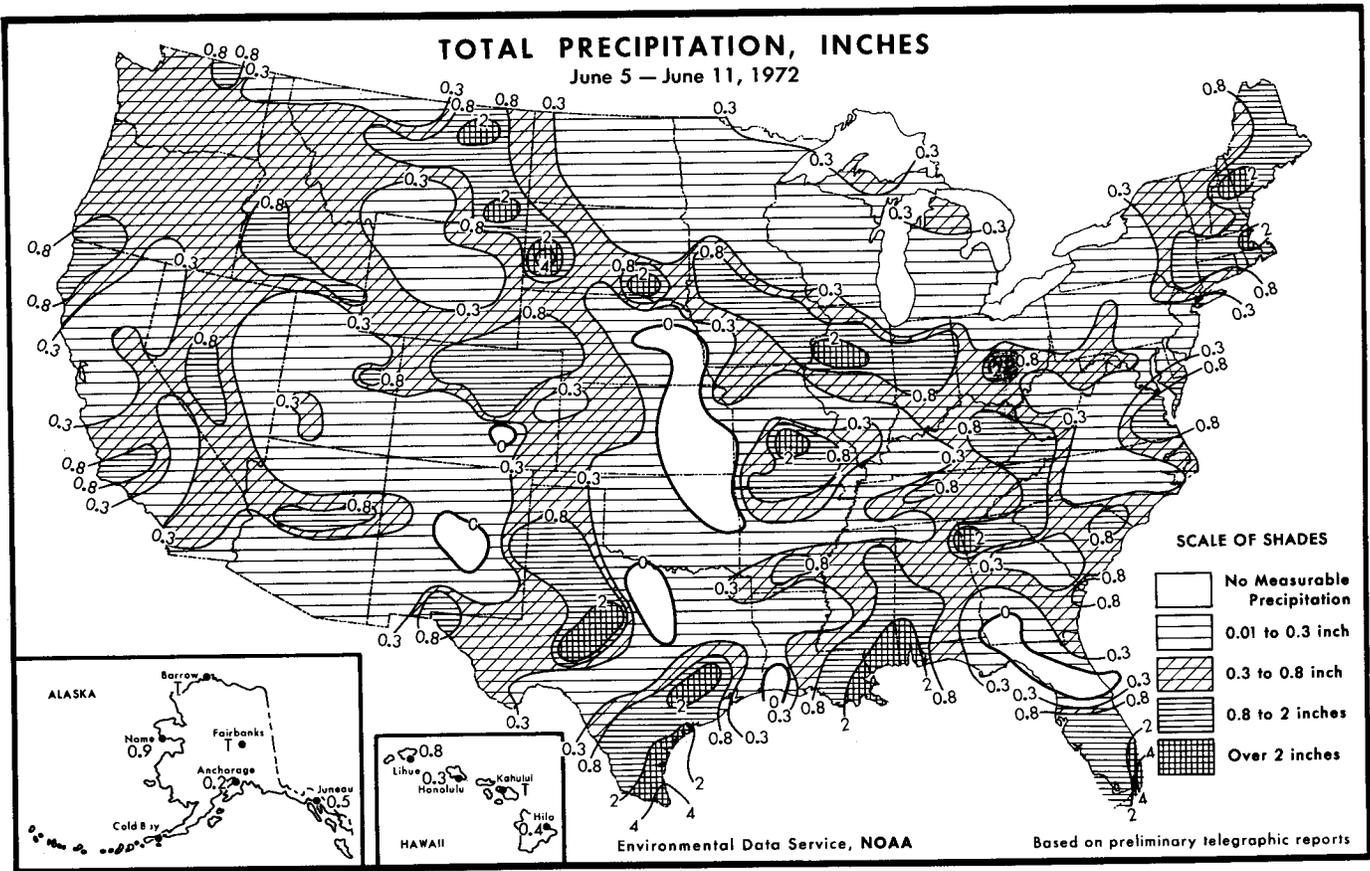
U. S. DEPARTMENT OF AGRICULTURE
Statistical Reporting Service

1872-Centennial-1972

Volume 59 No. 24

Edited by Lucius W. Dye

JUNE 12, 1972 Washington, D. C.



NATIONAL WEATHER SUMMARY

HIGHLIGHTS: The Southwest continued hot. Some near record low temperatures occurred in mid-America. Heavy thunderstorms in the Black Hills caused disastrous floods, the worst in the history of the State.

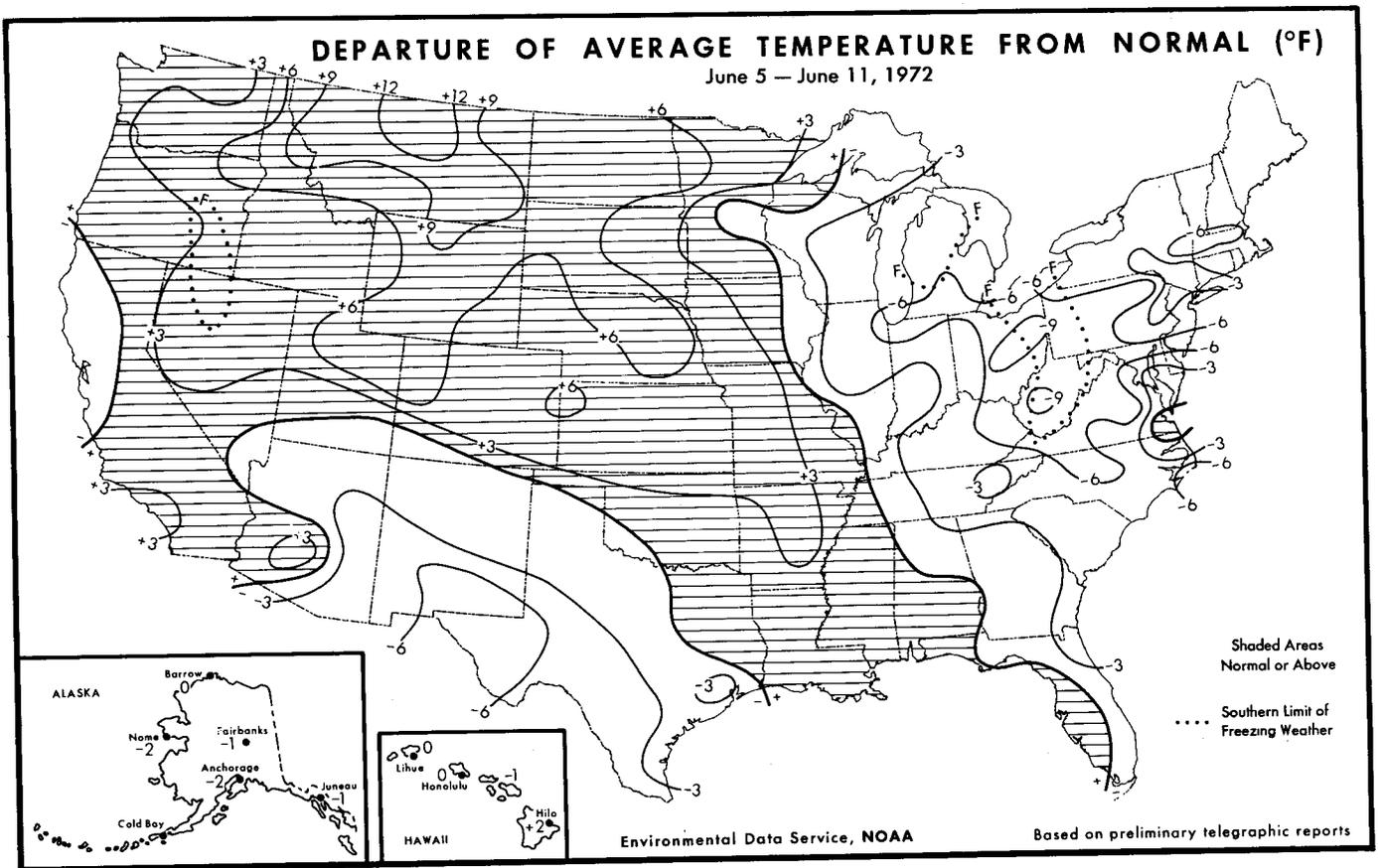
PRECIPITATION: Afternoon thundershowers dotted parts of the Nation. They were scattered from South Dakota and Nebraska to Wisconsin and in the western mountains Monday, in the West, in Nebraska, the Northeast, and southern Florida Tuesday. Fort Lauderdale, Fla., received 4.62 inches in 5 hours Tuesday afternoon. Late Tuesday, thunderstorms dotted the Pacific States, the intermountain region, the central Great Plains, and the Atlantic and Gulf coasts.

Wednesday's showers spotted the dry Southwest--the Mountains and the Deserts. Prescott,

Ariz., received 1.48 inches and 0.06 inch fell at Phoenix. The light rain at Phoenix was remarkable because it ended a 160-day period of no rain or only very light sprinkles. Vigorous thunderstorms in some localities in west-central Iowa, 3.00 to 5.00 inches in some places, flooded roads and stalled traffic.

Showers were widespread during the latter part of the week and over the weekend. A cold front pushed into the North-Central States. Thunderstorms were numerous in the moist air in advance of the front. Some of the thunderstorms were heavy. Some were accompanied by damaging winds and hail. A few tornadoes occurred.

The worst produced torrential rains in the Rapid City, S. Dak., area. This storm is described briefly on page 2.



Weekly totals were very unevenly distributed over the Nation. Parts of eastern Kansas received no rain; central Missouri received over 5.00 inches. Northeastern South Dakota received only light sprinkles but over 7.00 inches fell in spots in the Black Hills. Numerous other contrasts could be pointed out. Beneficial showers occurred in the previously dry Southwest.

TEMPERATURE: High pressure produced mostly clear skies last week. Afternoon temperatures were quite moderate early in the week. The 60's and 70's were common from the eastern Great Lakes to the northern and middle Atlantic coast. Ninety-degree heat prevailed from Kansas and Missouri to Louisiana and Georgia. Monroe, La., registered 100° Wednesday afternoon. The humidity increased and some early-morning fog was noted in the Deep South Wednesday. The long sunny afternoons produced temperatures approaching or exceeding 90° in the northern Great Plains by midweek. Devils Lake, N. Dak., registered 92° Wednesday afternoon. The Southwestern deserts cooled slightly. Blythe, Calif., recorded 102° Wednesday; this was 3° cooler than Monday. Summery weather prevailed during the latter part of the week with mostly moderate temperatures. The week-end, however, brought hot weather to the Great Plains and cool temperatures to the Northeast. The northern Great Plains warmed from the 60's and low 70's Saturday afternoon to the 80's Sunday. Bismarck, N. Dak., registered 71° Saturday and 88° Sunday. Harrisburg, Pa., recorded

84° Friday but was 20° cooler Saturday. The Desert Southwest continued hot. The mercury at Blythe, Calif., climbed to 105° Sunday.

Most of the area west of the Mississippi River except Arizona, New Mexico, and Texas, averaged warmer than normal. Much of Montana averaged 9° to 13° warmer than normal. The East was mostly cooler than normal.

L. W. Dye

BLACK HILLS DISASTER

The Death toll from South Dakota's worst natural disaster near 200 mark and continues to mount. Torrential rains in northern and eastern Black Hills on Friday night caused heavy flooding in the Keystone, Sturgis, and Rapid City areas. Rapid City was the hardest hit with hundreds left homeless and property damage expected to reach \$100 million. Many miles of roads, railroad tracks, and bridges have been totally destroyed. It is still too early to fully appraise agricultural losses, but they are not expected to be too great. Some livestock were drowned and low-lying hay fields in the flood path were destroyed.

Charles A. Hudson
Agricultural Statistician
Statistical Reporting Service
South Dakota

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: Corn and cotton planting nearly complete. * Wheat, oats and barley harvest made excellent headway Southern third of the Nation. * Soybean planting progressed favorably.

* Freeze does minimal damage. * Scattered rain brought needed moisture to Southwest.

SMALL GRAINS: Winter wheat harvesting advanced rapidly in Oklahoma and the crop is half cut. Farmers are already plowing stubble fields in the southwest portion of the State. Wheat combining made good progress on the Texas High Plains, and overall Texas has 34 percent of its crop in. Wheat and oats harvesting made excellent headway under clear weather in the Southeast section of the Nation. The Louisiana wheat crop is 85 percent cut. Farmers in several Arkansas counties are also finished combining for the year. Quality and yields of southern Alabama wheat are off due to rust damage. Hot, dry weather pushed the wheat crop rapidly towards maturity in Kansas, and combines started rolling in a number of south-central and southeastern Kansas Counties. Wheat combining also began during the week in Missouri and Kentucky -- barley combining started in Maryland. Scattered showers interrupted combining in the Southwest, as the first rains of the calendar year occurred in some areas. Warmer weather pushed heading of fall-seeded grains in the Nation's Northern sector. Some yellowing of winter wheat and rye was noted in South Dakota from excess moisture and disease. Oat growers in Michigan and Wisconsin would like to have some of this excess moisture, as their oat crop is hurting from dry weather. Grains are maturing well in the Pacific Northwest.

CORN: Corn planters are put away until next spring on most of the Nation's farms, however, wet fields prolonged planting in South Dakota, Minnesota and the Northeast. South Dakota growers managed to plant about 15 percent of their crop during the week, but another week of drying weather will be needed before planting is completed. Weeds are a problem in wet South Dakota fields, but weeds are generally under control in the remaining Corn Belt States. Many Corn Belt growers spent the week cultivating and spraying. Corn stands are good in Iowa and Illinois. Early planted corn fields in Illinois and Wisconsin are already knee-high -- 3 weeks before the 4th of July. Record low (freezing) temperatures were recorded in Ohio, Michigan, Wisconsin and Pennsylvania, but only minimal damage is expected. The corn crop is late, but is growing well in Kentucky. A good rain is needed in the South as some cornfields are under considerable stress. South-central Alabama could use the rain as early fields are beginning to silk.

COTTON: Lack of moisture is delaying completion of cotton planting on the Texas High and Low Plains. The Texas crop is 96 percent seeded -- ahead of the last 2 years. A good rain would be welcome in the Deep South as hot temperatures dried soils during the week. Improved weather made cotton growers smile in South Carolina -- however, most of their crop remains in fair to poor condition with some acreage plowed under. Squaring in early fields is becoming general across the South. The cotton crop continues to make favorable progress in California, Arizona, and New Mexico.

SOYBEANS: Soybean planting moved along smoothly -- acreage in the North Central States is about 90 percent seeded, equal to last year. Planting in Illinois and Iowa is virtually complete, but soft fields are plaguing South Dakota seeding. The best week of the spring pushed seeding in the Atlantic Coast States. Seeding is running behind schedule. Early soybeans are making satisfactory progress in the South -- 75 percent of the crop is seeded. However, planting equipment is moving slower as farmers halted seeding operations in some areas until it rains. Some newly emerged Arkansas fields are having a hard time surviving. A sizeable acreage of soybeans will be planted following small grain harvest in Oklahoma and some other States.

OTHER CROPS: Sorghum grain planting made steady headway as fields were workable in the major producing areas. Texas the leading sorghum producing State has 94 percent of its acreage seeded. Kansas has 60 percent of its crop in -- greenbugs are increasing in number in Kansas and Nebraska with spraying underway. Haying was active on many of the Nation's farms. Floods destroyed some hay acreage in the Black Hills, South Dakota area. Potato planting is complete in Upstate New York, but Maine growers are still striving to get the crop seeded -- fields are wet. Just the reverse is true in Michigan as dry soils delay dry bean planting. Some tobacco was harvested in Georgia, South Carolina and Florida.

Fruits and Nuts: Picking of Thompson seedless grapes increased in California. Harvest of this year's peach crop expanded across the Southern region of the Nation. Arkansas peaches are ripening nicely, but need moisture for sizing. Most fruit crops in the Northeast have a good fruit set. Sweet cherry picking should start this week in The Dalles, Oregon.

Vegetables: Strawberry picking advanced northward. Fresh berries are available at most local markets and roadside stands. Cool week-end temperatures slowed berry ripening and the maturity of other vegetable crops. Freezing temperatures nipped some tender vegetable plant leaves in southwest and west-central Michigan. Wet fields are slowing cultivating operations in the New England area. Vegetable supplies increased from the Southeast section of the Nation. Cantaloupe harvesting is active in California's Imperial Valley, but the market is sluggish.

PASTURES AND LIVESTOCK: Scattered showers brought needed moisture to local areas of the Southwest. However, the overall picture worsened and many ranchers had to increase supplemental feed supplies. California feedlots are running at near capacity levels as ranchers remove their herds from the dried-out ranges. Stockmen have generally good pastures in the eastern half of the Nation, but dry weather is starting to take its toll around the Great Lakes and the Deep South. Rain would be welcome in both areas.

Steve J. Pscodna
Agricultural Statistician

Temperature and Precipitation Data for the Week Ending Midnight, L.s.t., JUNE 11, 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 | 77 | - 1 | T | - .9 | New Orleans | 81 | + 1 | 2.8 | +1.8 | OKLA,Okla. City | 78 | + 2 | .3 | - .8 |
| Mobile | 82 | + 1 | 2.1 | + .7 | Shreveport | 80 | + 1 | T | - .8 | Tulsa | 81 | + 3 | 0 | -1.0 |
| Montgomery | 81 | + 3 | .3 | - .5 | MAINE,Caribou | 53 | - 5 | 1.0 | + .1 | OREG,Astoria | 56 | 0 | .4 | - .4 |
| ALASKA,Anchorage | 51 | - 2 | .2 | 0 | Portland | 56 | - 5 | 1.2 | + .5 | Burns | 60 | + 3 | .4 | + .2 |
| Barrow | 31 | 0 | T | - .1 | MD,Baltimore | 65 | - 6 | .1 | - .7 | Medford | 63 | + 1 | 1.6 | +1.3 |
| Fairbanks | 56 | - 1 | T | - .3 | MASS,Boston | 61 | - 6 | 2.8 | +2.0 | Pendleton | 69 | + 6 | .6 | + .3 |
| Juneau | 50 | - 1 | .5 | - .3 | Chatham | 57 | - - | 1.2 | - - - | Portland | 65 | + 4 | .5 | + .1 |
| Nome | 42 | - 2 | .9 | + .7 | MICH,Alpena | 56 | - 3 | .6 | - .1 | Salem | 60 | + 1 | .7 | + .3 |
| ARIZ,Flagstaff | 55 | - 2 | .6 | + .5 | Detroit | 61 | - 5 | T | - .7 | PA,Allentown | 66 | - 2 | .1 | - .8 |
| Phoenix | 86 | + 5 | 1.1 | - .1 | Flint | 59 | - 5 | .1 | - .7 | Erie | 57 | - 5 | .3 | - .4 |
| Tucson | 78 | - 4 | .1 | - .1 | Grand Rapids | 61 | - 4 | .1 | - .7 | Harrisburg | 66 | - 4 | T | - .8 |
| Winslow | 68 | + 4 | 1.2 | +1.1 | Houghton Lake | 57 | - 4 | .4 | - .4 | Philadelphia | 67 | - 3 | .1 | - .9 |
| Yuma | 84 | 0 | .3 | + .3 | Lausling | 59 | - 7 | T | - .8 | Pittsburgh | 61 | - 6 | .1 | - .8 |
| ARK,Fort Smith | 77 | 0 | T | -1.1 | Marquette | 56 | - 2 | .3 | - .5 | Scranton | 60 | - 7 | .8 | - .1 |
| Little Rock | 81 | + 4 | .2 | - .7 | Muskegon | 60 | - 5 | T | - .6 | R.I.Providence | 62 | - 3 | .9 | + .3 |
| CALIF,Bakersfield | 77 | + 2 | 1.1 | +1.1 | S.Ste.Marie | 54 | - 3 | .2 | - .6 | S.C.Charleston | 74 | - 4 | .7 | - .4 |
| Eureka | 54 | - 1 | .9 | + .7 | MINN,Duluth | 60 | + 3 | T | -1.0 | Columbia | 75 | - 4 | .6 | - .2 |
| Fresno | 75 | + 2 | .6 | + .6 | Internatl Falls | 64 | + 5 | .5 | - .3 | Greenville | 72 | - 5 | 1.0 | + .3 |
| Los Angeles | 72 | + 5 | .1 | + .1 | Minneapolis | 65 | 0 | .1 | - .8 | S.DAK,Aberdeen | 69 | + 4 | T | - .9 |
| Red Bluff | 73 | - 1 | .3 | + .2 | Rochester | 65 | 0 | .1 | - .9 | Huron | 69 | + 4 | T | - .9 |
| San Diego | 67 | + 1 | .1 | + .1 | St. Cloud | 63 | - 1 | T | -1.1 | Rapid City | 68 | + 6 | 2.5 | +1.7 |
| San Francisco | 60 | - 1 | .1 | + .1 | MISS,Jackson | 80 | + 2 | T | - .9 | Sioux Falls | 69 | + 3 | .5 | - .6 |
| Stockton | 71 | 0 | .2 | + .2 | Meridian | 80 | + 1 | 1.1 | + .2 | TENN,Chattanooga | 72 | - 5 | .7 | - .1 |
| COLO,Denver | 68 | + 3 | 1.2 | + .8 | MO,Columbia | 74 | + 3 | .1 | -1.0 | Knoxville | 72 | - 2 | .5 | - .2 |
| Grand Junction | 76 | + 7 | .3 | + .2 | Kansas City | - - - | - - - | - - - | - - - | Memphis | 79 | + 2 | .1 | - .8 |
| Pueblo | 74 | + 5 | T | - .3 | St. Louis | 73 | + 1 | .2 | - .8 | Nashville | 73 | - 3 | 1.0 | - .2 |
| CONN,Bridgeport | 64 | - 2 | .6 | - .2 | Springfield | 76 | + 4 | .5 | - .8 | TEX,Abilene | 77 | - 2 | 2.1 | +1.5 |
| Hartford | 62 | - 5 | 1.6 | + .8 | MONT,Billings | 71 | + 9 | .1 | - .6 | Amarillo | 73 | - 1 | 1.2 | + .5 |
| D.C.Washington | 69 | - 3 | .2 | - .5 | Glasgow | 69 | + 9 | 3.5 | +3.1 | Austin | 79 | - 2 | .3 | - .5 |
| FLA,Apalachicola | 80 | 0 | .3 | - .9 | Great Falls | 70 | +12 | .8 | 0 | Beaumont | 79 | - 2 | .1 | - .9 |
| Ft. Myers | 80 | 0 | .1 | -2.0 | Havre | 72 | +13 | .1 | - .5 | Brownsville | 78 | - 4 | 7.7 | +6.9 |
| Jacksonville | 75 | - 5 | .3 | -1.2 | Helena | 66 | + 9 | .6 | 0 | Corpus Christi | 79 | - 2 | 3.0 | +2.4 |
| Key West | 82 | 0 | 1.8 | + .9 | Kalispell | 66 | +10 | .6 | - .1 | Dallas | 81 | + 1 | T | - .8 |
| Lakeland | 79 | - 2 | .6 | - .9 | Miles City | 73 | +10 | .8 | + .2 | Del Rio | 79 | - 5 | .2 | - .4 |
| Miami | 80 | - 1 | 4.1 | +2.4 | Missoula | - - - | - - - | - - - | - - - | El Paso | 73 | - 7 | 1.5 | +1.3 |
| Orlando | 81 | 0 | T | -1.6 | NEBR,Grand Island | 76 | + 7 | .3 | - .6 | Fort Worth | 80 | 0 | T | - .8 |
| Tallahassee | 78 | - 2 | T | -1.5 | Lincoln | 78 | + 7 | T | -1.1 | Galveston | 81 | 0 | .2 | - .4 |
| Tampa | 80 | 0 | 1.0 | - .7 | Norfolk | 76 | + 8 | T | -1.0 | Houston | 78 | - 3 | 1.1 | + .3 |
| GA,Atlanta | 76 | 0 | .1 | - .8 | North Platte | 72 | + 5 | .8 | 0 | Lubbock | 74 | - 2 | 1.0 | + .3 |
| Augusta | 75 | - 3 | T | - .6 | Omaha | 75 | + 6 | T | -1.2 | Midland | 74 | - 6 | .4 | 0 |
| Macon | 78 | - 2 | .5 | - .2 | Valentine | 72 | + 7 | .2 | - .6 | San Angelo | 76 | - 5 | 2.3 | +1.9 |
| Savannah | 76 | - 3 | 1.8 | + .7 | NEV,Ely | 59 | + 3 | .1 | 0 | San Antonio | 76 | - 5 | 1.4 | + .7 |
| HAWAII,Hilo | 76 | + 2 | .4 | -1.2 | Las Vegas | 79 | - 1 | .3 | + .3 | Victoria | 79 | - 2 | 1.2 | + .5 |
| Honolulu | 78 | 0 | .3 | + .2 | Reno | 61 | + 3 | .2 | + .1 | Waco | 80 | 0 | T | - .7 |
| Kahului | 76 | - 1 | T | 0 | Winnemucca | 63 | + 4 | .6 | + .4 | Wichita Falls | 79 | - 1 | 0 | - .8 |
| Lihue | 77 | 0 | .8 | + .4 | N.H.Concord | 55 | - 7 | .8 | 0 | UTAH,Blanding | 63 | - 1 | .2 | + .1 |
| IDAHO,Boise | 67 | + 4 | .9 | + .7 | N.J.Atlantic City | 63 | - 6 | .1 | - .6 | Salt Lake City | 72 | + 8 | T | - .2 |
| Lewiston | 70 | + 8 | .4 | - .1 | Trenton | 66 | - 4 | .2 | - .7 | VT,Burlington | 55 | - 7 | .8 | 0 |
| Pocatello | 63 | + 3 | .4 | + .1 | N.MEX,Albuquerque | 72 | - 1 | T | - .1 | VA,Lynchburg | 67 | - 4 | T | - .9 |
| ILL,Cairo | 77 | 0 | .2 | - .8 | Roswell | - - - | - - - | - - - | - - - | Norfolk | 68 | + 2 | 1.8 | +1.1 |
| Chicago | 62 | - 7 | .1 | - .9 | N.Y.Albany | 59 | - 7 | 1.1 | + .4 | Richmond | 68 | - 6 | .9 | + .1 |
| Moline | 66 | - 3 | 2.0 | +1.0 | Binghamton | 59 | - 2 | .2 | - .7 | Roanoke | 66 | - 6 | T | - .9 |
| Peoria | 66 | - 4 | 2.0 | +1.0 | Buffalo | - - - | - - - | - - - | - - - | WASH,Colville | 63 | + 3 | .2 | - .2 |
| Rockford | 63 | - 5 | 1.5 | + .5 | New York | 65 | - 5 | .3 | - .5 | Omak | 66 | + 2 | 1.8 | +1.4 |
| Springfield | 68 | - 4 | .6 | - .5 | Rochester | 61 | - 4 | .2 | - .4 | Quillayute | 56 | + 1 | .5 | - .3 |
| IND,Evansville | 71 | - 3 | T | - .9 | Syracuse | 58 | - 8 | 1.0 | + .3 | Seattle-Tacoma | 61 | + 3 | .5 | + .1 |
| Fort Wayne | 64 | - 5 | .8 | - .3 | N.C.Asheville | 66 | - 5 | .8 | 0 | Spokane | 65 | + 5 | .7 | + .3 |
| Indianapolis | 67 | - 2 | 1.0 | - .1 | Charlotte | 72 | - 4 | .1 | - .7 | Walla Walla | 70 | + 5 | .4 | + .1 |
| South Bend | 61 | - 6 | .2 | - .7 | Greensboro | 67 | - 7 | T | - .8 | Yakima | 67 | + 5 | .7 | + .5 |
| IOWA,Burlington | 69 | - 1 | 1.9 | + .6 | Hatteras | 68 | - 6 | .5 | - .4 | W.VA,Beckley | 59 | - 8 | .4 | - .6 |
| Des Moines | 72 | + 3 | .4 | - .7 | Raleigh | 68 | - 6 | T | - .8 | Charleston | 62 | - 9 | .2 | - .6 |
| Dubuque | 63 | - 3 | .4 | - .6 | Wilmington | 72 | - 5 | .5 | - .4 | Huntington | 64 | - 7 | .3 | - .7 |
| Sioux City | 75 | + 5 | .4 | - .7 | N.DAK,Bismarck | 69 | + 7 | T | - .8 | Parkersburg | 63 | - 8 | .2 | - .8 |
| KANS,Concordia | 76 | + 4 | T | -1.1 | Fargo | 70 | + 7 | 0 | - .7 | WIS,Green Bay | 61 | - 2 | .1 | - .7 |
| Dodge City | 76 | + 3 | .1 | - .6 | Williston | 68 | + 7 | .5 | - .2 | La Crosse | 64 | - 3 | .5 | - .5 |
| Goodland | 74 | + 6 | .2 | - .4 | OHIO,Akron-Canton | 59 | - 9 | .1 | - .9 | Madison | 61 | - 3 | .2 | - .8 |
| Topeka | 67 | - 6 | 0 | -1.1 | Cincinnati | 65 | - 5 | .4 | - .6 | Milwaukee | 58 | - 4 | T | - .9 |
| Wichita | 79 | + 5 | 0 | -1.0 | Cleveland | 59 | - 8 | .1 | - .7 | WYO,Casper | 67 | + 7 | .1 | - .2 |
| KY,Lexington | 66 | - 6 | 1.4 | + .3 | Columbus | 60 | - 9 | 2.0 | +1.1 | Cheyenne | 63 | + 3 | 1.1 | + .6 |
| Louisville | 69 | - 3 | .5 | - .4 | Dayton | 66 | - 4 | .4 | - .6 | Lander | 66 | + 7 | T | - .4 |
| LA,Baton Rouge | 82 | + 2 | 1.1 | + .5 | Toledo | 60 | - 6 | .1 | - .8 | Sheridan | 68 | + 9 | .6 | 0 |
| Lake Charles | 80 | 0 | 0 | -1.1 | Youngstown | 57 | - 9 | - - - | - - - | P.R. San Juan | 83 | + 3 | T | -1.2 |

* 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: Fair with hot afternoons and mild nights most of period. Cooler Saturday night through Monday. Moderate to locally heavy rains in scattered thundershowers central and south Saturday. Average temperatures above normal with maximums well above 90° during week cooling to 80's over weekend. Soil moisture short statewide and crops made fair development. Warmer temperatures aided growth cotton. Few early fields beginning to square. Grass and weeds under control most fields. Corn needs moisture, especially south and central counties where earliest fields beginning to silk. Planting soybeans nearly 4/5 complete. Dry soils delaying completion. Peanut growers busy cultivating, applying gypsum and spraying for leaf spot. Wheat harvest active. Quality and yield poor due to rust. Irish potato harvest made good progress late spring area. Large volume hay saved. Pastures supplying short to adequate grazing--need rain especially south and central counties.

ALASKA: Cold temperatures throughout agricultural areas held growing degree days well below normal. Freezing temperatures, although not general, occurred almost all areas. Heavy shower activity upper Tanana and Matanuska Valley areas middle and latter half of week. Soil moisture supply adequate. Planting continues most areas. Prospects for new seed growth good. Pasture growth slow due cool temperatures. Livestock generally good condition.

ARIZONA: Moist air over State caused humidity to be considerably above normal and produced scattered thunderstorms most sections of State. Rainfall totals some stations were higher than calendar year totals through last week. Heaviest showers along Mogollon Rim and in White Mountains, where precipitation totaled over 2.00 inches at some stations. Strong winds and blowing dust accompanied thunderstorm activity in irrigated valleys in southern part of State. Temperatures averaged slightly below normal most sections. Cotton good to excellent condition. Good progress Yuma area. Fields Salt River Valley well ahead last year's crop. Some areas east of Phoenix have shorter cotton than desirable. South-central and southeastern areas crop making substantial progress. Small grain harvest continues Yuma and central areas. Yields below expectations. Limited harvest underway south-east. Sorghum planting following small grain harvest. Crop making satisfactory progress. Good progress made safflower. Sugar beets make good growth. Cantaloupe harvest continued Yuma. Chili, tomatoes, corn, and melons Graham and Greenlee Counties good progress. Citrus groves making excellent growth. New crop fruit sizing well. Ranges remain fair to poor. Early summer moisture received heavy, but widely scattered. Soil moisture and tank water below normal. Pumping water and supplemental feeding continue. Cattle and calves remain fair to good. Sheep and lambs fair.

ARKANSAS: Predominately dry weather continued over State during week. Isolated showers over weekend brought relief to few localities mainly in northwest, north-central, central and south-central sections with amounts ranging from near

1.00 inch to almost 2.00 inches. Most of State either had no rain or amounts less than 0.10 inch. Mean temperatures in range 0° to +4° from normal with greatest departures in central and east. Little day-to-day variability in temperatures most of week with cooling on weekend as cold front moved southward across State. Soil moisture short to very short all areas. Early-planted crops fair to good, but rain needed to stimulate growth. Squaring in early cotton becoming general. Fields clean and mostly good early season prospects. Rice growth rapidly. Dry weather placing heavy burden on irrigation facilities. Early soybeans making satisfactory progress. Recently emerged fields having difficult time surviving. Planting virtually stopped until it rains, around 75% soybean acreage seeded. Combining wheat and oats advancing rapidly. Few counties finished. Yields fair to good. Haying active, but yields short many areas. Feed grains showing considerable stress from dry weather, particularly corn. Tomato marketing underway southeast. Heavy volume expected next week. Peaches ripening, but need moisture for sizing. Pastures short to very short. Feeding begun few driest areas.

CALIFORNIA: Scattered showers, thunderstorms most of week Desert and southern mountain regions. Locally severe conditions on 7th southern San Joaquin Valley and southern Sierra Nevada. Pea-sized hail reported Fresno; rainfall amounts from 0.50 inch to 2.00 inches plus. Bakersfield 1.05 inches in 1 hour; winds gusting to 50 knots. Flash flooding within city limits; damage estimated \$175,000. Moderate frontal rain in north on 9th. Several hot days Central Valley; average temperatures 2° to 10° above normal all areas except immediate coast. Cotton pest control active; bloom increased. Wheat, sugarbeet, barley harvest continue. Sulphuring vineyards increased due rain. Harvest Perlette grapes Coachella nearly complete; Thompson seedless increasing. Picking cherries ended. Harvesting apricots, Winters declining; other districts increasing. Harvest plums, nectarines, freestone peaches picking up momentum; some small sizes. Almond, walnut prospects good. Navel orange harvest drawing close; picking Valencias continues increase. Broccoli, cauliflower shipments moderate Salinas, Santa Maria. Cantaloupe harvest active Imperial Valley, Palo Verde with sluggish market. Carrot harvesting active Coachella Valley; underway Fresno County; complete west end Riverside County. Celery harvest active Orange, Ventura Counties; increasing Santa Maria-Oceano. Lettuce shipments moderate Salinas, Santa Maria. Onion digging active Stockton, Fresno. Pepper harvest declining southern California; steady central coast. Tomato harvest peak Imperial Valley; steady San Diego County. Range feed condition deteriorating and maturing ahead normal. Supplemental feeding increasing. Supplemental water supplies being utilized. Feedlots running at near capacities. Processing plants active with beef and turkeys. Egg production about normal.

COLORADO: Warm with general thunderstorm activity through week. Very light to moderate rains west, moderate to locally heavy northern mountains and northeast. Some local flooding northeast. Amounts

light to none central, southeastern plains, and southern mountains. Local afternoon thundershowers continued to improve soil moisture many areas eastern plains. Western slope and extreme southern areas remain dry. Crop conditions variable. Winter wheat poor southwest, to very good northeast; 96% headed, 25% turning color. Winter barley fair to very good; 94% headed, 24% turning color. Spring barley and oats good to excellent. Corn 94% emerged. Sorghum 77% seeded, 49% emerged, condition good to excellent. Dry beans 3/4 planted. Sugar beets good to very good, 50% thinned or blocked. Nearly all potatoes up. Alfalfa 1st cutting 27% complete. Hail damage to crops light to moderate. Range and pasture condition fair, improved eastern areas, declined west and south. Livestock generally good.

FLORIDA: Temperatures climbed to near normal with daytime highs reaching into upper 90's in Panhandle. Only widely scattered showers over north and central Florida, averaging less than 0.25 inch. Numerous showers and thunderstorms south. Highest rainfall totals lower East Coast where several stations reported over 4.00 inches with the division total averaging 3.45 inches. Field crops need moisture and showing effects of shortage. Soybeans being planted. Small grain harvest about complete. Tobacco harvest started. Inadequate soil moisture causing pastures to decline. Cattle and calves good, but showing some decline. Citrus tree condition very good--rain needed. Irrigation underway most areas, except lower East Coast. New crop sizing well. Watermelons dominate shipments with supplies increasing. Corn, celery, cucumbers, eggplant, and peppers good supply. Supplies tomatoes declining rapidly. Other spring crops seasonal supply.

GEORGIA: Scattered showers at midweek and again early in weekend. Amounts mostly light with large areas in south and central receiving no measurable rain. The first half of week brought warmest weather of summer with highs in upper 90's south and low to mid-90's most of north. Only the mountains escaped the 90° weather. Slightly cooler last half of week and much cooler late weekend. Lows dropped to 40's in mountains Sunday and Monday and Sunday highs were 10° to 15° cooler than previous day. Averages ranged from slightly above normal southwest to slightly below normal remainder of State. Soil moisture mostly adequate north, short to very short remainder. Crops needing rain. Cotton condition mostly fair, less favorable than last week. Insecticides being applied. Tobacco mostly good, sucker control active. Harvest continuing. About half wheat and oats harvested. Peanuts fair to mostly good, continued insecticide and fungicide application. Corn fair to mostly good, needing rain badly. Soybeans 70% planted, sorghum 55%. Peach harvest picking up. Haying active. Pastures fair to mostly good, cattle good. Melons beginning. Tomato volume continued. Other vegetables volume south Georgia points.

HAWAII: Generally favorable weather all areas. Rainfall light, mainly higher elevation occasionally drifting lowland areas. Soil moisture adequate. Most crops under heavy irrigation. Harvest sugarcane and pineapples normal. Vegetable supply adequate. Production watermelons and papayas active. Banana production light. Cattle and pasture fair to good condition. Most pastures reported adequate soil moisture.

IDAHO: Heavy precipitation all divisions; however, totals varied from light to heavy coming mostly last half week. The greatest total, 1.28 inches, was reported at Reynolds, Owyhee County. Temperatures continued warm, averaging 4° to 8° above normal. Wet weather halted fieldwork, but was beneficial to crop growth. Ranges and non-irrigated grains especially helped. Row crop cultivation active with moisture conditions conducive to weed growth. Some hay in swaths when rains came. Winter wheat looks very good north. Nearly 75% in boot north, 50% headed south, and about 25% headed east. Diseases affecting Austrian winter peas.

ILLINOIS: Temperatures from 98° on 9th in south to 38° in north on 11th. Showers up to 2.00 inches in central, mainly on 9th. Golf-ball size hail near Peoria late Friday. Corn average 20 inches high most advanced fields. Average 12 inches across State, same as 1971. Soybeans 95% planted, same year ago. Wheat all headed, 95% filled, 60% turned yellow. Both same 1971. Oats 50% headed, 20% filled. Alfalfa 65% 1st crop cut. Red clover hay 50% cut. Soil moisture short 64%, adequate 35%, surplus 1%. Main activities planting beans, cultivating corn, hoeing beans, baling hay.

INDIANA: Cool week. Temperatures ranged from 92° to 31°. Some freezing temperatures in low areas of north and likely damage on 11th. Showers of 9th most prevalent central areas. Soil moisture deficient north and southwest. Few surpluses in west-central. Five days suitable. Planting corn and soybeans finishing up, same as last years rapid progress. Corn 95% planted, 90% average. Corn 85% emerged, stands fair to mostly good, declining slightly from week earlier. Corn 6 inches high, 1 inch more than average. Soybeans 80% planted, 65% average. Soybeans 60% emerged, fair to mostly good. Sorghum 75% planted, crop 55% emerged. Wheat nearly all headed and 20% beginning to ripen. Alfalfa hay 55% cut first time, 50% is average. Clover is 30% cut, 20% average. Pastures declined seasonally, now fair to good.

IOWA: Warm with scattered showers turning much cooler weekend. Heaviest showers 8th from north-central to southeast division. Crops in good to excellent condition. Stands corn 96% of normal. Soybean planting virtually complete. About 80% soybeans emerged. Weed control for both corn and soybeans fair to good. Alfalfa hay harvest 35% complete. Clover hay 15% cut. Pastures good to excellent condition. Nearly 5 days suitable for fieldwork. Topsoil moisture 9% short, 76% adequate, and 15% surplus.

KANSAS: Light to moderate precipitation south-central and western half. Totals generally over 0.75 inch from northwest to south-central, mostly 0.25 to 0.75 inch elsewhere in west. Deluge at Oberlin in Decatur County brought 3.75 inches on 10th. Dry most of southeast and northeastern 1/4 of State. Very warm weather prevailed. Temperatures averaged 3° to 6° above seasonal. Maxima 80's and 90's, cooling generally to 70's or 80's after 9th. Several million bushes Kansas wheat harvested. Combines rolling in number of south-central and southeastern counties. Hot dry weather pushed crop rapidly toward maturity. By June 10, wheat acreage 1% harvested, compared virtually none year ago and average of 2%. Yields fair to good. Test weights good, but below year

ago. Scattered rains limited harvesting activities, at close of week. Barley harvest moved ahead rapidly with combining nearly completed several southern counties. Row crop planting made good progress. Sorghum 60% planted, slightly ahead 57% year ago and average of 59%. Greenbugs working sorghum fields with some spraying done for control. Corn planting neared completion most areas. Corn acreage 19% laid by, 13% year ago. Soybean planting 61% completed, 56% last year and 64% average. First cutting alfalfa 87% completed. Seedbed preparation and summer fallow active western areas. Cattle received good pasture feed most areas, but general rain would be welcomed.

KENTUCKY: Little or no rainfall in west past 12 days. During past week, 0.30 inch to about 2.00 inches central and east, chiefly on 6th and 9th. Temperatures averaged 1° to 2° below normal western half, and 4° to 7° below normal eastern half. Afternoon temperatures in 90's parts of west on 3 days. Early morning temperatures on 11th record breaking, generally in 40's except 30's northeast, dropping to 33° at Grayson. Some local wind damage in southwest night of 9th. Days favorable fieldwork 5.5. Soil moisture 48% short, 52% adequate. Tobacco setting active. Burley set 85%, 62% last year. Dark-type set 87%, 72% last year. Tobacco condition 93%, 80% last year. Corn late, but growing well. Average height this year 8 inches, 14 inches last year. Soybeans 69% planted, 63% last year. Plantings curtailed drier counties. Harvest barley 25%, 17% last year. Wheat harvest getting started. Good hay crops being cut, weather favorable. Pasture condition 93%, last year 94%.

LOUISIANA: Hot dry weather continued first of week. Humid with widely scattered showers Thursday through weekend. Showers heaviest in southeast 1/3. Many localities received no rain; others less than 0.25 inch and only a few as much as 1.00 inch. Greatest 1-day amount, 2.76 inches Moisant Airport New Orleans Saturday morning. Temperatures averaged normal to 3° above normal. Maxima in 90's; minima increasing from 60's to 70's during week. Daily extremes 100° Monroe Wednesday, 56° Ashland Monday. Fieldwork active, mostly cultivation row crops and application herbicides. Planting soybeans, sorghum, and sweet potatoes delayed by dry soils. Soybeans 80% planted, 85% year ago; sorghum 80% to 85%, 85% last year, and sweetpotatoes 85%, 75% year ago. Corn all stages of growth--beginning to suffer from lack of moisture. All crops need rain. Sugarcane cultivation and layby neared completion. Rice looks good. Harvest wheat 85% completed, oats 90% harvested. Harvest peaches and vegetables active. First cutting hay nearly completed. Pastures getting short. Livestock good.

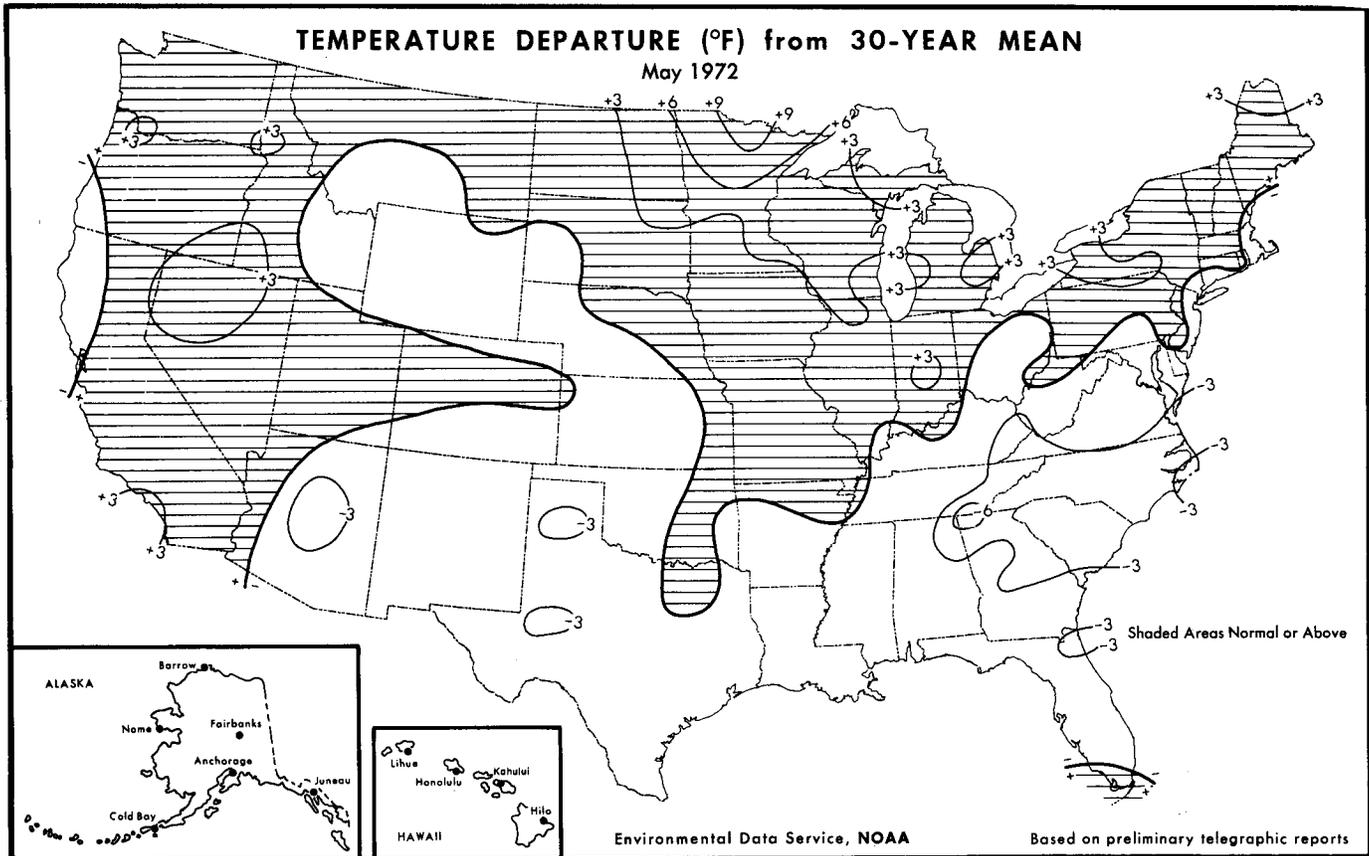
MARYLAND AND DELAWARE: Temperatures averaged 3° to 6° below normal as weekend unusually cool. Low temperatures on 11th record or near record for date, especially in north. Weekly extremes: 80's, low 30's to low 40's. Rainfall variable but mostly 0.25 to 0.75 inch except near 1.00 inch in southern Maryland. Generally favorable week. Planting work now about 1 week late. Corn 90% planted, soybeans 45% and tobacco 33% set. Barley combining started. Hay harvest active. Strawberry harvest about over southern areas, peaking this week central areas. Green pea harvest started.

MICHIGAN: Seasonal temperatures continued dry except significant showers midweek northern 1/3. Record cold spread over State during weekend with light to heavy frost most sections. Muskegon 31° on June 11, coldest ever for month. Some low temperatures in mid-20's southern Michigan. Temperature averages 2° to 3° below normal Upper Peninsula and 2° to 7° below normal Lower Peninsula with largest departures interior. Precipitation: 0.25 inch east to 1.00 inch west Upper Peninsula, 0.50 to 1.00 inch north sections to less than 0.10 inch central and southern Lower Peninsula. Frost morning June 11 damaged corn, fruit, and tender vegetables southwest and west-central areas. Dry soils delaying dry bean planting and limited corn and oat growth. Soil moisture short many localities. State averaged 5.9 days suitable fieldwork. Corn planting nearly finished. Potatoes 91%, soybeans 82%, dry beans 34% planted. Alfalfa 1st cutting 19% harvested. Wheat 68% headed. Dry soils limiting oat development and slowing germination dry beans, soybeans, and late-planted corn. Pasture feed supplies average south-central, southeast and Upper Peninsula, below average elsewhere. Set Jonathan and McIntosh above average, delicious apples below average, tart cherries average. Vegetable development below average. Strawberry harvest volume southwest. Major frost damage in southwest to blueberries, fruit crops.

MINNESOTA: Temperatures averaged 7° above normal in northwest to 2° below normal in southeast. Fifth consecutive week temperatures much above normal in northern Minnesota, which compares to 1934. Extremes: 94°, 26°. Precipitation: Generally 0.75 inch in southwest and south-central Minnesota, 0.50 inch near northern border, rest of State received little to none. Flash flood occurred generally on a line from Sleepy Eye to Elmore. Five to 8.00 inches rain fell in a 5-hour period on a strip 6 miles wide to 30 miles long. Many bridge and culvert washouts and crop loss from soil erosion and drowning out was heavy but very local. Ice out of Duluth Harbor June 9, compares to spring of 1917. Eastern 1/3 of State very dry, Rochester area has had 4.00 inches of precipitation since April 1, which is 50% of normal. Parts west-central, southwest and south-central have had normal to twice normal precipitation. Good crop progress most areas. Some farmers west-central switching to early corn and soybeans. First crop alfalfa 25% cut, normal 14%. Corn height 8 inches; normal 3, cultivated once 48%, normal 35%. Topsoil short to adequate north and eastern districts, adequate to surplus elsewhere. Percent planted: corn 92, normal 98; soybeans 83, normal 94; spring wheat 98, normal 95; oats 97, normal 97; barley 98, normal 98. Percent grain heading: Winter wheat 50, normal 28; rye 82, normal 54.

MISSISSIPPI: A few scattered thunderstorms, otherwise no rain at most stations. Temperatures averaged near normal in Delta and coastal sections, elsewhere mostly below normal. Extremes: 48° on 3d, 100° on 7th and 8th. Over weekend, no measurable rain at most stations, otherwise scattered thunderstorms. At Booneville, 2.00 inches of rain measured Saturday morning. Continued hot, dry weather depleting moisture reserves. Some northeast and north-central counties still reporting adequate moisture, but all other areas indicate shortages. Average 6.1 days suitable field-

(Continued on page 12)



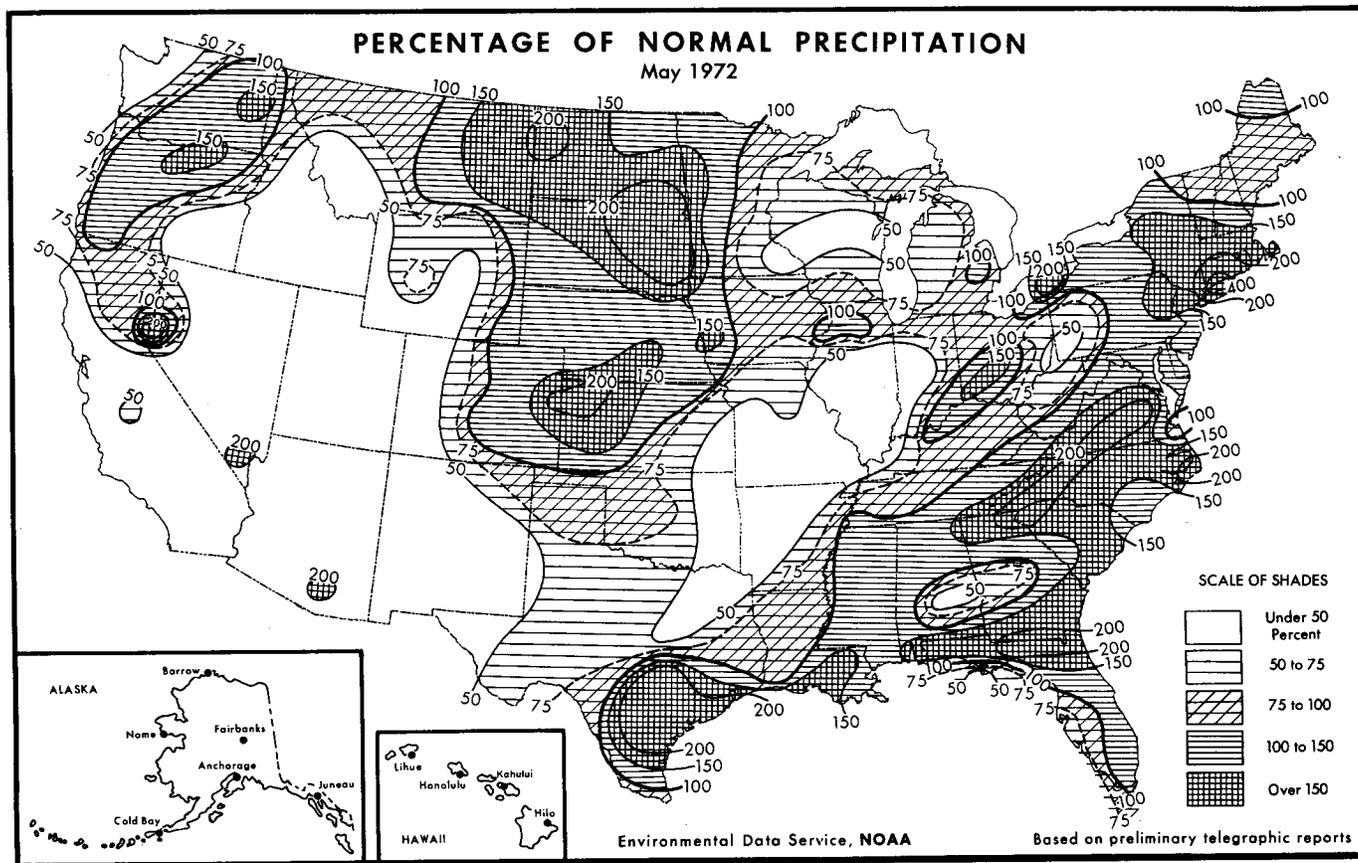
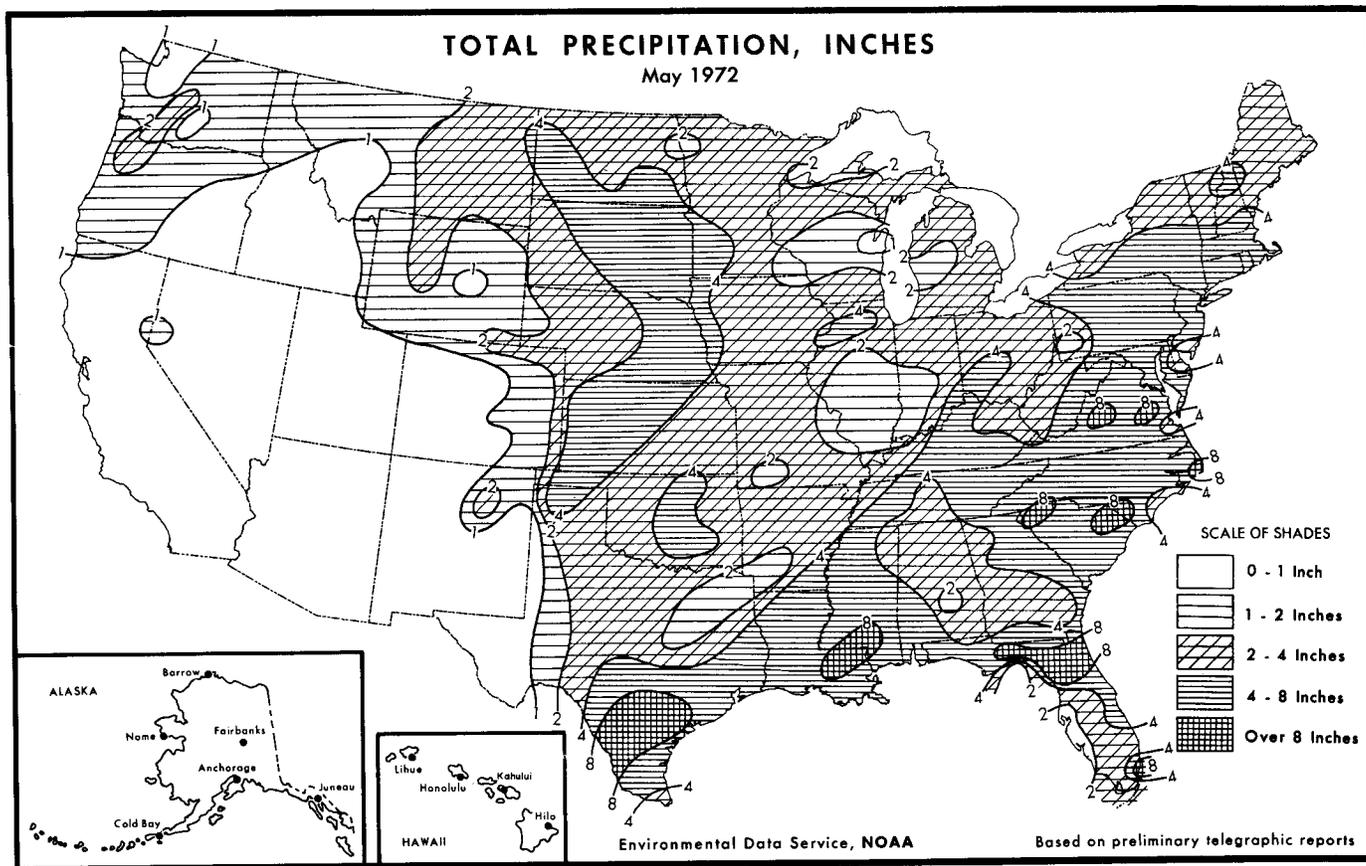
WEATHER - May 1972

TEMPERATURE: Cold air spread southward over the Great Basin and the northern and central Rocky Mountains early in May. Evanston, Wyo., registered 9° on the morning of May 1. Warm humid air flowed northward in advance of a storm that moved from the central Great Plains to the Great Lakes. Chilly northerly winds followed the storm. Hot weather prevailed over the far Southwest in the first half of the month with temperatures reaching the 90's on most afternoons. Two large Highs brought pleasant sunny weather to most of the Nation at midmonth. The western High brought sunny skies to the Pacific Coast and eastward to the western edge of the Great Plains. The eastern high was responsible for the cloudless weather from the Upper Mississippi River Valley to New England. The high pressure and cloudless skies favored radiation at night and rapid warming by day. Southerly breezes behind the eastern High, warmed the Great Plains. Devil's Lake, N. Dak., registered 91° on May 17. The Southwestern Deserts warmed to 100° or higher. Most of the Nation averaged warmer than normal in the last half of May. The main exception was an area along the South from southern Arizona to Georgia and Florida and along the Atlantic coast as far north as Maryland. The northern Great Plains and the Great Lakes Region were especially warm averaging 10° to 15° above normal. International Falls, Minn., averaged 16° warmer than normal in the last half of May. For the month as a whole, the West, North-Central, and Northeast averaged warmer than normal. The Rocky Mountains and South were slightly cooler than normal.

PRECIPITATION: Most of the area from the Pacific Ocean to the western edge of the Great Plains received less than 2.00 inches of rain in May. Much of that area--the Great Basin and the central and southern Rocky Mountains received less than 1.00 inch. Numerous stations in southeastern California, western and northern Arizona, and southern Utah received no rain or only light sprinkles. This area has been exceptionally dry for the past 5 months. Totals over the Great Plains and eastward ranged generally from 2.00 to 6.00 inches. Some spots in the Southeast received more than 8.00 inches of rain during the month.

Early in May, thunderstorms occurred over a wide area from the Great Plains to the Ohio River Valley and along a cold front that stretched southward to Texas. Heavy rain fell along the Atlantic coast from New York to Florida preceding the front as it migrated eastward. Heavy thunderstorms, some accompanied by hail and damaging winds, dotted the central and southern Great Plains about midmonth. A "cloudburst" of up to 10.00 inches north of New Braunfels, Tex., on the night of May 11, sent a wall of water estimated at 30 feet in height down Blueuders Creek into the Comal and Guadalupe Rivers washing away people, houses, and automobiles. More than a dozen people were drowned. Sunny skies covered much of the Nation in the third week of May. A large area from Arizona to Wisconsin received no rain or only light widely scattered sprinkles. Frontal rains dampened the Atlantic coast.

(Continued on page 12)



Temperature and Precipitation Data for MAY 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 . . . | 67 | - 5 | 3.8 | + .4 | New Orleans . . . | 74 | 0 | 6.3 | +1.9 | OKLA, Okla. City . . | 68 | 0 | 4.0 | -1.2 |
| Mobile . . . | 75 | - 1 | 7.7 | +2.8 | Shreveport . . . | 72 | - 1 | 4.1 | - .7 | Tulsa . . . | 68 | 0 | 2.4 | -2.9 |
| Montgomery . . . | 71 | - 1 | 1.7 | -1.8 | MAINE, Caribou . . . | 53 | + 3 | 3.7 | + .7 | OREG, Astoria . . . | 55 | + 2 | 1.2 | -2.0 |
| ALASKA, Anchorage . . | --- | --- | --- | --- | Portland . . . | 53 | 0 | 3.2 | - .2 | Burns . . . | 55 | + 2 | 1.3 | - .6 |
| Barrow . . . | 18 | 0 | .1 | 0 | MD, Baltimore . . . | 63 | - 1 | 4.1 | + .1 | Medford . . . | 58 | 0 | 1.6 | + .1 |
| Fairbanks . . . | --- | --- | --- | --- | MASS, Boston . . . | 58 | - 1 | 5.3 | +2.0 | Pendleton . . . | 61 | + 1 | 2.0 | + .9 |
| Juneau . . . | 45 | - 1 | 4.0 | + .8 | Nantucket . . . | --- | --- | --- | --- | Portland . . . | 60 | + 3 | 2.2 | + .2 |
| Nome . . . | 35 | 0 | .4 | - .3 | MICH, Duluth . . . | 53 | + 2 | 2.2 | - .7 | Salem . . . | 57 | + 1 | 2.4 | + .3 |
| ARIZ, Flagstaff . . . | 46 | - 5 | --- | --- | Detroit . . . | 60 | + 1 | 2.7 | - .8 | PA, Allentown . . . | 61 | + 1 | 6.2 | +2.1 |
| Phoenix . . . | 78 | + 3 | T | - .1 | Flint . . . | 59 | + 4 | 3.4 | 0 | Erie . . . | 56 | 0 | 4.7 | +3.2 |
| Tucson . . . | 72 | - 2 | .2 | + .1 | Grand Rapids . . . | 59 | + 2 | 2.0 | -1.5 | Harrisburg . . . | 62 | - 1 | 5.6 | +1.7 |
| Winslow . . . | 62 | - 3 | T | - .3 | Houghton Lake . . . | 87 | + 2 | 1.8 | -1.1 | Philadelphia . . . | 64 | + 1 | 4.1 | + .4 |
| Yuma . . . | 79 | + 1 | T | 0 | Lansing . . . | 58 | + 1 | 2.9 | - .8 | Pittsburgh . . . | 62 | + 2 | 1.4 | -2.5 |
| ARK, Fort Smith . . . | 67 | - 3 | 2.3 | +3.0 | Marquette . . . | 52 | + 2 | 2.5 | - .5 | Scranton . . . | 60 | 0 | 7.3 | +3.3 |
| Little Rock . . . | 70 | - 1 | 2.1 | +3.2 | Muskegon . . . | 59 | + 3 | 1.2 | -1.8 | R.I, Providence . . . | 58 | 0 | 5.7 | +2.3 |
| CALIF, Bakersfield . . | 72 | + 2 | T | - .2 | S.Ste, Marie . . . | 55 | + 5 | 2.2 | - .6 | S.C, Charleston . . . | 70 | - 3 | 5.7 | +2.1 |
| Eureka . . . | 51 | - 2 | 1.1 | -1.1 | MINN, Duluth . . . | 54 | + 5 | 2.0 | -1.3 | Columbia . . . | 68 | - 4 | 6.4 | +2.9 |
| Fresno . . . | 70 | + 2 | T | - .1 | Internat'l Falls . . | 60 | + 9 | 2.6 | 0 | Greenville . . . | 65 | - 5 | 8.9 | +5.7 |
| Los Angeles . . . | 68 | + 3 | T | - .2 | Minneapolis . . . | 61 | + 4 | 2.2 | -1.0 | S.DAK, Aberdeen . . | 61 | + 4 | 4.9 | +2.6 |
| Red Bluff . . . | 68 | 0 | .9 | - .2 | Rochester . . . | 60 | + 3 | 1.8 | -1.9 | Huron . . . | 60 | + 2 | 6.9 | +4.5 |
| San Diego . . . | --- | --- | --- | --- | St. Cloud . . . | 59 | + 3 | 3.3 | - .2 | Rapid City . . . | 55 | - 1 | 3.3 | + .6 |
| San Francisco . . . | 58 | 0 | T | - .2 | MISS, Jackson . . . | 72 | - 1 | 4.5 | + .3 | Sioux Falls . . . | 59 | + 1 | 7.3 | +3.9 |
| Stockton . . . | 68 | + 2 | .1 | - .5 | Meridian . . . | 71 | - 1 | 5.5 | +1.6 | TENN, Chattanooga . | 64 | - 6 | 6.5 | +3.0 |
| COLO, Denver . . . | 57 | + 1 | .5 | 0 | MO, Columbia . . . | 65 | + 1 | 3.4 | -1.3 | Knoxville . . . | 85 | - 3 | 4.5 | +1.0 |
| Grand Junction . . . | 63 | + 1 | .4 | -2.3 | Kansas City . . . | 67 | + 1 | 2.2 | -2.2 | Memphis . . . | 70 | 0 | 4.6 | + .4 |
| Pueblo . . . | 60 | - 1 | .8 | + .2 | St. Louis . . . | 66 | + 2 | 1.0 | -2.7 | Nashville . . . | 67 | - 2 | 3.5 | - .2 |
| CONN, Bridgeport . . . | 59 | 0 | 7.4 | +5.6 | Springfield . . . | 66 | + 1 | 2.0 | -3.3 | TEX, Abilene . . . | 71 | - 1 | 2.5 | -1.8 |
| Hartford . . . | 60 | 0 | 7.5 | +3.8 | MONT, Billings . . . | 54 | - 3 | 2.5 | + .6 | Amarillo . . . | 63 | - 4 | 2.8 | - .6 |
| D.C, Washington . . . | 65 | - 1 | 4.8 | +1.4 | Glasgow . . . | 56 | + 1 | 2.7 | +1.2 | Austin . . . | 74 | - 1 | 7.9 | +4.2 |
| FLA, Apalachicola . . | 74 | - 1 | 1.7 | -2.4 | Great Falls . . . | 54 | + 1 | 1.6 | - .5 | Beaumont . . . | --- | --- | --- | --- |
| Ft. Myers . . . | 78 | + 1 | 5.2 | --- | Havre . . . | 56 | + 1 | 1.3 | - .2 | Brownsville . . . | 78 | - 1 | 2.0 | - .4 |
| Jacksonville . . . | 73 | - 3 | 8.3 | +4.4 | Helena . . . | 51 | - 2 | .8 | - .8 | Corpus Christi . . . | 77 | - 1 | 6.0 | +3.0 |
| Key West . . . | 81 | + 2 | 2.6 | - .9 | Kalspell . . . | 53 | + 1 | 1.5 | - .2 | Dallas . . . | 75 | + 2 | 1.1 | -3.7 |
| Lakeland . . . | 75 | - 2 | 2.2 | - .5 | Miles City . . . | 57 | 0 | 2.8 | +1.1 | Del Rio . . . | 75 | - 2 | 2.6 | - .1 |
| Miami . . . | 78 | 0 | 13.7 | +10.2 | Missoula . . . | 54 | + 1 | .7 | -1.2 | El Paso . . . | 70 | - 2 | T | - .4 |
| Orlando . . . | 77 | - 1 | 3.8 | + .2 | NEBR, Grand Island . | 61 | 0 | 5.9 | +2.0 | Fort Worth . . . | 73 | 0 | 2.4 | -2.2 |
| Tallahassee . . . | 73 | - 2 | 9.1 | +5.0 | Lincoln . . . | 63 | 0 | 4.3 | + .8 | Galveston . . . | 76 | 0 | 6.4 | +3.6 |
| Tampa . . . | 77 | 0 | 1.9 | -1.0 | Norfolk . . . | 61 | + 1 | 4.6 | + .9 | Houston . . . | 74 | - 2 | 7.0 | +2.7 |
| GA, Atlanta . . . | 67 | - 2 | 4.3 | +1.1 | North Platte . . . | 58 | - 1 | 3.2 | + .2 | Lubbock . . . | 67 | - 1 | --- | --- |
| Augusta . . . | 69 | - 3 | 4.1 | +1.1 | Omaha . . . | 62 | + 1 | 5.4 | +2.0 | Midland . . . | 70 | - 3 | 1.2 | - .9 |
| Macon . . . | 70 | - 4 | 2.1 | -1.2 | Valentine . . . | 58 | + 1 | 3.6 | + .9 | San Angelo . . . | 71 | - 3 | 4.9 | --- |
| Savannah . . . | 72 | - 1 | 5.8 | +2.0 | NEV, Ely . . . | 51 | + 1 | .3 | - .6 | San Antonio . . . | 73 | - 2 | 11.2 | +7.7 |
| HAWAII, Hilo . . . | --- | --- | --- | --- | Las Vegas . . . | 75 | + 1 | .4 | + .3 | Victoria . . . | 76 | 0 | 11.2 | +7.1 |
| Honolulu . . . | --- | --- | --- | --- | Reno . . . | 57 | + 3 | 1.0 | + .5 | Waco . . . | 73 | - 1 | 2.0 | -2.6 |
| Kahului . . . | --- | --- | --- | --- | Winnemucca . . . | 59 | + 5 | .2 | - .7 | Wichita Falls . . . | 70 | - 2 | 2.9 | -1.7 |
| Lihue . . . | --- | --- | --- | --- | N.H, Concord . . . | 57 | + 1 | 4.2 | +1.0 | UTAH, Blanding . . . | --- | --- | --- | --- |
| IDAHO, Boise . . . | 61 | + 3 | .3 | -1.0 | N.J, Atlantic City . . | 59 | - 2 | --- | --- | Salt Lake City . . . | 61 | + 2 | .1 | -1.3 |
| Lewiston . . . | 61 | + 3 | 1.6 | 0 | Trenton . . . | 62 | 0 | 5.0 | +1.4 | VT, Burlington . . . | 56 | + 2 | 2.8 | - .2 |
| Pocatello . . . | 54 | - 1 | .5 | - .6 | N.MEX, Albuquerque . | 64 | - 1 | .2 | - .6 | VA, Lynchburg . . . | 63 | - 2 | 8.0 | +4.8 |
| ILL, Cairo . . . | --- | --- | --- | --- | Roswell . . . | 68 | 0 | .2 | -1.1 | Norfolk . . . | 64 | - 4 | 3.4 | 0 |
| Chicago . . . | 62 | + 2 | 2.9 | - .8 | N.Y, Albany . . . | 60 | + 2 | 6.0 | +2.5 | Richmond . . . | 65 | - 2 | 8.9 | +5.2 |
| Moline . . . | 63 | + 2 | 4.2 | + .4 | Binghamton . . . | 59 | + 4 | 5.2 | +1.7 | Roanoke . . . | --- | --- | --- | --- |
| Peoria . . . | 63 | + 1 | 1.3 | -3.0 | Buffalo . . . | 59 | + 4 | 3.6 | + .6 | WASH, Colville . . . | 66 | + 1 | 1.7 | + .1 |
| Rockford . . . | 62 | + 3 | 4.6 | + .8 | New York . . . | 60 | - 2 | 6.9 | +3.3 | Omak . . . | --- | --- | --- | --- |
| Springfield . . . | --- | --- | --- | --- | Rochester . . . | 60 | + 3 | 3.3 | + .5 | Quillayute . . . | 54 | + 2 | 1.1 | -3.3 |
| IND, Evansville . . . | 66 | - 1 | 1.8 | -2.4 | Syracuse . . . | 59 | + 1 | 6.2 | +2.9 | Seattle-Tacoma . . . | 58 | + 2 | .7 | -1.0 |
| Fort Wayne . . . | 62 | + 1 | 3.3 | - .4 | N.C, Asheville . . . | 61 | - 3 | 6.6 | +3.7 | Spokane . . . | 57 | + 1 | 2.0 | + .8 |
| Indianapolis . . . | 65 | + 4 | 1.9 | -2.1 | Charlotte . . . | 65 | - 4 | 5.6 | +2.5 | Walla Walla . . . | 62 | + 1 | 1.9 | + .4 |
| South Bend . . . | 60 | + 1 | 3.0 | - .6 | Greensboro . . . | 63 | - 4 | 6.2 | +2.9 | Yakima . . . | 60 | + 1 | .6 | + .1 |
| IOWA, Burlington . . . | 63 | + 1 | 2.9 | -1.1 | Hatteras . . . | 66 | - 2 | 11.4 | +7.4 | W.VA, Beckley . . . | 58 | - 2 | 4.7 | + .7 |
| Des Moines . . . | 63 | + 2 | 3.1 | -1.0 | Raleigh . . . | 64 | - 4 | 5.3 | +1.8 | Charleston . . . | 64 | - 1 | 2.6 | -1.1 |
| Dubuque . . . | 62 | + 3 | 3.4 | - .8 | Wilmington . . . | 67 | - 4 | 3.5 | 0 | Huntington . . . | 62 | - 3 | 3.8 | - .1 |
| Sioux City . . . | 63 | + 2 | 4.3 | +1.1 | N.DAK, Bismarck . . . | 58 | + 2 | 3.2 | +1.2 | Parkersburg . . . | 64 | 0 | 2.1 | -1.6 |
| KANS, Concordia . . . | 62 | - 1 | 4.1 | + .2 | Fargo . . . | 60 | + 5 | 3.5 | +1.5 | WIS, Green Bay . . . | 60 | + 5 | .8 | -2.3 |
| Dodge City . . . | 63 | - 1 | 5.4 | +2.2 | Williston . . . | 56 | + 1 | 4.1 | +2.7 | La Crosse . . . | --- | --- | --- | --- |
| Goodland . . . | 59 | 0 | 6.0 | +3.6 | OHIO, Akron-Canton . | 59 | - 1 | 2.9 | -1.0 | Madison . . . | 59 | + 3 | 2.8 | - .5 |
| Topeka . . . | 64 | 0 | 2.9 | -1.5 | Cincinnati . . . | 64 | 0 | 6.5 | +2.7 | Milwaukee . . . | 55 | + 2 | 2.3 | - .9 |
| Wichita . . . | 64 | - 1 | 2.5 | -1.5 | Cleveland . . . | 59 | + 1 | 3.7 | + .2 | WYO, Casper . . . | 52 | - 1 | .8 | -1.2 |
| KY, Lexington . . . | 63 | - 2 | 3.8 | - .1 | Columbus . . . | 61 | - 1 | 6.6 | +2.6 | Cheyenne . . . | 51 | - 2 | 2.8 | + .3 |
| Louisville . . . | 66 | + 2 | 4.5 | + .6 | Dayton . . . | 62 | 0 | 4.3 | + .6 | Lander . . . | 52 | - 1 | 2.1 | - .6 |
| LA, Baton Rouge . . . | 75 | 0 | 9.0 | +4.2 | Toledo . . . | 60 | + 2 | 2.6 | - .4 | Sheridan . . . | 54 | 0 | 1.4 | -1.2 |
| Lake Charles . . . | 74 | - 2 | 4.5 | - .1 | Youngstown . . . | 58 | 0 | 2.4 | -1.7 | P.R., San Juan . . . | --- | --- | --- | --- |

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

Heating Degree Days (Base 65° F.)

MAY 1972

| | | | | | |
|------------------------------|------|-------------------------------|-----|-----------------------------|-----|
| ALA. Birmingham | -- | MAINE, Caribou | 405 | OKLA. Okla. City | 46 |
| Mobile | 0 | Portland | 379 | Tulsa | 47 |
| Montgomery | 0 | MD. Baltimore | 94 | OREG. Astoria | 313 |
| ALASKA, Anchorage | -- | MASS. Boston | 250 | Burns | 330 |
| Barrow | 1448 | Nantucket | -- | Medford | 237 |
| Fairbanks | -- | MICH. Alpena | 376 | Pendleton | 171 |
| Juneau | 618 | Detroit | 174 | Portland | 174 |
| Nome | 911 | Flint | 192 | Salem | 267 |
| ARIZ. Flagstaff | -- | Grand Rapids | 204 | PA. Allentown | 127 |
| Phoenix | 0 | Houghton Lake | 254 | Erie | 286 |
| Tucson | 0 | Lansing | 219 | Harrisburg | 108 |
| Winslow | 110 | Marquette | 403 | Philadelphia | 86 |
| Yuma | 0 | S. Ste. Marie | 314 | Pittsburgh | 128 |
| ARK. Fort Smith | 36 | MINN. Duluth | 357 | Scranton | 168 |
| Little Rock | 20 | Internatl Falls | 236 | R. I. Providence | 322 |
| CALIF. Bakersfield | 25 | Minneapolis | 204 | S. C. Charleston | 8 |
| Eureka | 423 | Rochester | 219 | Columbia | 12 |
| Fresno | 37 | St. Cloud | 237 | Greenville | 48 |
| Los Angeles | 35 | MISS. Jackson | 1 | S. DAK. Aberdeen | 201 |
| Red Bluff | 69 | Meridian | 3 | Huron | 210 |
| Stockton | 53 | Vicksburg | -- | Rapid City | 322 |
| San Diego | -- | MO. Columbia | 94 | Sioux Falls | 235 |
| San Francisco | 226 | Kansas City | 71 | TENN. Chattanooga | 62 |
| COLO. Denver | 246 | St. Louis | 80 | Knoxville | 47 |
| Grand Junction | 139 | Springfield | 79 | Memphis | 27 |
| Pueblo | 170 | MONT. Billings | 353 | Nashville | 36 |
| CONN. Bridgeport | 187 | Glasgow | 305 | TEX. Abilene | 12 |
| Hartford | 172 | Great Falls | 368 | Amarillo | 106 |
| D. C. Washington | 56 | Havre | 281 | Austin | 0 |
| FLA. Apalachicola | -- | Helena | 430 | Beaumont | -- |
| Ft. Myers | -- | Kalispell | 381 | Brownsville | 0 |
| Jacksonville | 3 | Miles City | 276 | Corpus Christi | 0 |
| Key West | 0 | Missoula | 338 | Dallas | 0 |
| Lakeland | 0 | NEBR. Grand Island | 181 | Del Rio | 0 |
| Miami | 0 | Lincoln | 144 | El Paso | 3 |
| Orlando | 0 | Norfolk | 204 | Fort Worth | 1 |
| Pensacola | -- | North Platte | 250 | Galveston U. | 0 |
| Tallahassee | 0 | Omaha | 171 | Houston | 0 |
| Tampa | 0 | Valentine | 258 | Lubbock | -- |
| GA. Atlanta | 21 | NEV. Ely | 425 | Midland | 12 |
| Augusta | 5 | Las Vegas | 6 | San Angelo | -- |
| Macon | 0 | Reno | 260 | San Antonio | 0 |
| Savannah | 1 | Winnemucca | 218 | Victoria | 0 |
| IDAHO, Boise | 194 | N. H. Concord | 262 | Waco | 2 |
| Lewiston | 171 | N. J. Atlantic City | -- | Wichita Falls | 12 |
| Pocatello | 346 | Trenton | 127 | UTAH, Blanding | -- |
| ILL. Cairo | -- | N. MEX. Albuquerque | 76 | Salt Lake City | 168 |
| Chicago | 177 | Roswell | 25 | VT. Burlington | 281 |
| Moline | 155 | N. Y. Albany | 175 | VA. Lynchburg | 73 |
| Peoria | 150 | Binghamton | 206 | Norfolk | 81 |
| Rockford | 164 | Buffalo | 187 | Richmond | 58 |
| Springfield | -- | New York | 164 | Roanoke | -- |
| IND. Evansville | 64 | Rochester | 161 | WASH. Colville | 277 |
| Fort Wayne | 154 | Syracuse | 104 | Omak | -- |
| Indianapolis | 89 | N. C. Asheville | 116 | Quillayute | 378 |
| South Bend | 197 | Charlotte | 47 | Seattle-Tacoma | 222 |
| IOWA, Burlington | 151 | Greensboro | 76 | Spokane | 274 |
| Des Moines | 149 | Hatteras | 39 | Walla Walla | 147 |
| Dubuque | 174 | Raleigh | 51 | Yakima | 192 |
| Sioux City | 156 | Wilmington | 29 | W. VA. Beckley | 204 |
| KANS. Concordia | 151 | N. DAK. Bismarck | 243 | Charleston | 71 |
| Dodge City | 129 | Fargo | 231 | Huntington | 110 |
| Goodland | 222 | Williston | 291 | Parkersburg | 93 |
| Topeka | 111 | OHIO, Akron-Canton | 184 | WIS. Green Bay | 215 |
| Wichita | 105 | Cincinnati | 97 | Madison | 212 |
| KY. Lexington | 96 | Cleveland | 196 | Milwaukee | 305 |
| Louisville | 61 | Columbus | 146 | WYO. Casper | 390 |
| LA. Baton Rouge | 0 | Dayton | 130 | Cheyenne | 418 |
| Lake Charles | 0 | Toledo | 158 | Lander | 402 |
| New Orleans | 0 | Youngstown | 208 | Sheridan | 339 |
| Shreveport | 0 | | | | |

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

(WEATHER - May 1972 continued from page 8)

Scattered thunderstorms occurred up and down the Great Plains in the last week of May in connection with a slow-moving cold front that stretched from Manitoba to Mexico. Tornadoes occurred in several States in the Great Plains. Near the end of the month, showers soaked the Atlantic coast from the Carolinas to Florida.

L. W. Dye

(MISSISSIPPI continued from page 7)

work. Soybeans 79%, corn 95%, sorghum 85%, and sweetpotatoes 71% planted. Wheat 80%, oats 76%, hay 34%, potatoes 46% and peaches 10% harvested. Nearly 10% cotton acreage squaring.

MISSOURI: Hot and dry past week. Heat wave about midweek broken by surge of cool air over weekend. Temperatures averaged 4° to 8° above normal. Only spotty showers in north half as cool air pushed over State. Lack of rainfall since mid-May creating shortage of ground water. Rainfall in most areas more than 2.00 inches below normal since May 15. Six days suitable for fieldwork. Soybeans 84% and grain sorghum 86% planted. Wheat 83% turning color and 18% ripe. Harvesting just beginning south. First cutting alfalfa 88% completed. Corn and pasture condition fair to good depending on moisture supply. Soil moisture mostly short, except northwest.

MONTANA: Very warm as temperatures averaged 8° to 13° above normal. Heavy precipitation late in week eastern divisions with 2.00 inches or more many areas. Local rainfalls of up to 6.00 inches caused local flooding on small streams Friday and Saturday in northeast. Precipitation elsewhere averaged 0.25 to 0.50 inch. Topsoil moisture mostly short western 2/3, adequate northeast. Rains over weekend helped. Corn and dry beans 95% planted. Winter wheat growth and condition fair to good, 5% excellent, 50% good, 35% fair and 10% poor. Winter wheat 5% headed, 45% in boot. Spring grains generally good condition. Sugar beets good to excellent and 45% thinned. Alfalfa weevil damage light to moderate. First cutting alfalfa hay starting. Ninety five percent range livestock moved to summer ranges.

NEBRASKA: Warm with scattered showers that were generally light but isolated amounts up to 1.00 inch. Warm temperatures dried topsoils and farmers could work in fields almost every day. Corn planting virtually complete. Sorghum planting 92% complete, near normal; and about 88% soybeans in the ground. Farmers also busy cultivating row crops. Green bug populations building up sorghum fields southeast and spraying required local areas. Damaging hail and rain local Panhandle areas caused some replanting crops. Wheat development remains good. Weather favorable hay operations. Hot humid conditions several days caused discomfort to livestock, especially fat animals.

NEVADA: Temperatures near normal in northwest and south-central; about 2° to 4° above normal in northeast and 1° to 3° below normal extreme south. Precipitation general over entire State from trace at Logandale to 1.93 inches at McDermitt. Light snowfall in mountains Friday. Precipitation from storms beneficial to ranges throughout State, but additional moisture still

needed. Fall- and spring-planted crops good condition with growth and development progressing favorably. Condition range feed varies from fair north to poor south. Cattle and sheep remain generally good.

NEW ENGLAND: Cold and wet. Mean temperatures locally variable but mostly 3° to 8° below normal. Scattered freezing minima June 12, some even in higher valleys of southern portion. Concord, N. H. had 30°. Rain daily through 10th. Locally heavy rain with thunderstorms several days with heaviest on 9th to 10th. Totals for week varied widely but were mostly 0.50 to 2.00 inches, with some up to 3.00 inches in eastern Massachusetts. Crops made little progress due to cool, wet conditions. All planting operations delayed. Potato planting Aroostook County, Maine still in progress. Hay crop maturing late. Some fields cut, most will wait another 7 to 10 days. Pesticide application and cultivating becoming problem with vegetable crops. Apple set good to heavy all areas. Cranberries making good growth--water supply abundant.

NEW JERSEY: Near normal temperatures early in week followed by sharply colder over weekend. Record breaking temperatures on the 11th when a cold frontal passage brought readings down to mid-30's or low 40's. No reports of frost damage have been received at this time. Rainfall was sparse in scattered light showers averaging 0.30 inch over northern counties and 0.20 inch elsewhere. Soil moisture northwestern counties remains excessive, but most other areas could use good soaking rain. Asparagus harvest declining. Some growers finished harvest. Light supplies will continue for several weeks. Lettuce, cabbage, escarole, and endive harvests increasing. Light harvest beets and snap beans begun. Early-planted white potatoes in bloom. Strawberry harvest increasing. Early field corn and soybeans germinated well and color good. Planting continues. Silage and haymaking progressing on schedule. Pastures excellent.

NEW MEXICO: Scattered light showers throughout week mostly widespread on Thursday and Sunday evenings. Greatest totals generally in the southwestern portion with 0.50 to 1.00 inch. Temperatures averaged near normal north and about 5° below normal south where days were seasonally cool. Warmest Saturday. Subsoil moisture conditions generally short. Rains southwest improved soil moisture. Harvesting wheat active. Dryland sorghum grain fair condition. Irrigated sorghum good condition. Barley harvest active. Cotton fair to good condition. Insect damage light thus far. Haying activity delayed south due rain. Some damage to hay in windrows. First cut nearing completion north. Lettuce cutting fairly active. Topping and sacking onions temporarily delayed. Ranges poor condition. Livestock fair to good. Supplemental feeding continues.

NEW YORK: Coolest week since May 14. Temperatures seasonable or slightly cooler through 9th turning sharply colder on weekend. Maximums low to mid-50's Upstate on 10th. Damaging freeze southwestern plateau on 11th where minimums 25° to 29°, unofficial 21° at Franklinville. Elsewhere minimums mostly 34° to 40°. Precipitation as wide-ranging but variable showers from 6th through 9th. Totals 0.50 to 1.00 inch central and eastern Upstate decreasing to 0.10 to 0.30 inch western 1/3 and Long Island. Corn planting 80% completed. Dry bean planting 25%

complete. Alfalfa harvest underway. Pasture and hay good condition. Wheat beginning to head out. Oats fair to good. Long Island potatoes good condition. Planting complete Upstate. Thin onion stands evident most muckland areas. Lettuce planting and thinning active. Strawberry harvest underway. Direct seeding cabbage near completion. All apples now in petal fall stage or beyond. Set variation between varieties more than usual. Sweet cherry prospects reduced. Tart cherries and pears have set well. Grape progressing satisfactorily. Will start bloom soon. No significant frost injury major agricultural areas.

NORTH CAROLINA: Temperatures averaged normal with some highs near 90°. Colder weekend with some highs in 70's and some record lows near 40°. Mostly fair weather. Some showers night of 6th and on 10th. Totals none to 1.00 inch, mostly 0.10 to 0.50 inch. Soil moisture decreased, mostly adequate. Some improvement crops. Farm activity -- planting soybeans, sorghums, transplanting burley and sweetpotatoes, cultivating, harvesting hay, blueberries, peaches, small grains. Average 4.5 days fieldwork. Flue-cured tobacco fair to good, cold and rain damage, very little blue mold. Corn, hay, Irish and sweetpotatoes; apples, pastures mostly good. Cotton mostly poor, many poor stands. Peanuts fair. Soybeans fair to good. Peaches poor to good.

NORTH DAKOTA: Warm except windy and cooler Friday and Saturday. Temperatures averaged 5° to 8° above normal. Scattered showers and thunderstorms mostly on Thursday. Precipitation totals none to 0.76 inch, heaviest in northwest and west-central. Seeding small grains virtually complete. Summer fallowing and haying getting underway. Small grains, row crops and pastures making good progress. Topsoil moisture supplies becoming short some areas.

OHIO: Many new low temperature marks set this week. Morning of 11th was coldest. Youngstown's 30° was lowest; in addition, Akron-Canton, Toledo, Cleveland and Zanesville were at or below freezing. 10th was also cold with the maximum temperature ranging from low 50's to mid-60's. Rainfall amounts light to moderate. On 6th and 9th, rainfall amounts were highest. On evening of 9th Columbus had 1.98 inches which came during a thunderstorm. On same day Zanesville had 0.35 inch and Wooster had 0.30 inch. Ideal weather prevailed enabling farmers to finish planting corn and make good progress in soybean planting, hay-making and cultivation row crops. Soil moisture reported short by 14% reporters, adequate by remainder. Virtually all 1972 intended corn acreage planted, unchanged from last year and 95% for 1967-1971 average. Soybean planting continued to make good progress and now 85% done, 90% last year, 80% average. Virtually all wheat and barley headed, while oats much behind normal with only 15% headed. First cutting alfalfa 1/2 done, clover-timothy 35% complete. Cultivating row crops badly needed in areas where severe crusting occurred.

OKLAHOMA: Rainfall varied from a trace southwest, northeast, and east-central to 0.20 inch west-central. Temperatures averaged from near normal south-central and southeast to 6° above normal northeast. Wheat harvest advanced rapidly, 1/2 completed, 1/3 year earlier. Harvest began northern counties during week, now well underway. Farmers plowing grain stubble southwest, few other

areas. Barley harvest 2/3, oats 3/5 completed--substantially ahead year earlier. Row crop planting progressed rapidly. Planting progress about equal year earlier, except cotton sharply ahead. Sorghum grain 3/4 planted, cotton 9/10 planted, only 1/2 year earlier. All row crops generally fair to good condition. Moisture needed for continued good growth. Too dry to complete planting few localities. Sizable acreage soybeans to be planted following wheat harvest. Second cutting alfalfa 1/3 completed. Surface moisture 4/5 short, subsoil moisture 3/5 short--down sharply from week earlier. Pasture fair to good, but moisture critically needed for continued growth.

OREGON: Light showers in eastern Oregon first of week with general thunderstorms last half locally heavy north-central. Warmer days mid-period averaged temperatures near normal on coast and 4° to 10° above normal elsewhere. Minima 35° to 54°. Maxima 66° to 71° coast, 80° to 94° elsewhere. Precipitation totaled mostly 0.10 inch coast, 0.30 to 0.70 inch elsewhere except some 1.30 to 2.10 inches north central. Strawberry harvest got underway with good size and quality. Harvesting green peas Pendleton and Milton-Freewater areas started. Sweet cherries maturing rapidly and harvest at The Dalles expected to start June 12 to 16. Haymaking eastern Oregon getting into full swing. Fall grains maturing well. Grasses pollinating, filling some heads and some areas starting to turn. Most cranberry bogs in bloom.

PENNSYLVANIA: Generally fair and mild until weekend. Scattered showers and thunderstorms Friday afternoon and night followed by much cooler weekend. Maxima in 70's and 80's Friday, low 50's to 60's Saturday. Record low minima Sunday morning, mostly upper 20's to 40's. Frost central and northern regions. Weekly temperatures 4° to 8° below normal. Extremes 86°, 25°. Total rainfall mostly under 0.50 inch, except 1.00 to 2.00 inches scattered areas northwest and north-east. Fair weather and good drying conditions followed early-week showers and allowed farmers to increase planting, mowing, and spraying operations. Corn planting final stages. Potato planting virtually completed. Mowing 1st crop hay and fruit spraying progressing rapidly.

PUERTO RICO: Rainfall averaged 0.64 inch which is 0.96 inch below normal. Heavy local showers dropped 4.00 inches at Coloso while Manati Hacienda Constanza received almost 2.00 inches. Half of stations around Island reported less than 0.50 inch. Agricultural drought intensifying most zones of north, south, and east coasts where rains were far below normal and crop moisture conditions are too low with reduced productivity. Temperatures averaged 81° on coasts and 76° interior with mean departure of 1.3° below normal. Highest maximum 94° at 3 locations while lowest minimum 59° at 2 stations with highest elevation. Rainy weather northwest good for development ratoons while drier zones east beneficial for sugarcane harvesting and transporting to mills. Southwest sections continue suffering from yellow aphid. Most zones reported lack of rain hindering normal development and ripening coffee beans interior sections. Dry weather delaying development 2d tobacco crop. Pastures becoming scarce some areas. Minor crop farmers complaining lack rain adversely affecting all field activities.

SOUTH CAROLINA: Cold front moved southward into State causing scattered showers and thundershowers Tuesday and Wednesday. Average rainfall ranged from 0.20 inch in mountains to more than 0.50 inch in portions of central South Carolina. Temperatures averaged below normal throughout State except near normal Tuesday and Wednesday. Improved weather. Brighter picture for all crops. Tobacco good condition. Summer harvesting underway. Some field corn good to excellent. Cotton poor to fair. Considerable acreage plowed up, planted to soybeans. Hay crops, pasture good conditions. Wheat, oats fair to good. All small grains headed. Wheat harvest 19% complete, oats 35%, compared with 27%, 49% respectively last year. Barley 29% harvested, 86% grain hay cut. Soybeans 65%, sorghum 53% planted, 70% and 60% respectively last year. Peaches fair to good condition. Harvest cucumbers and tomatoes, snap beans. Peanut 94% planted. Sweetpotatoes planting 69% complete. Watermelons fair to good condition.

SOUTH DAKOTA: Weekly temperatures averaged from 3° to 8° above normal. Extremes ranged from 45° at Usta and Brookings on 10th to 98° at Winner and Oral on 8th. Precipitation varied greatly over State. The greatest amounts fell in and near the east slopes of the northern Black Hills where reports of up to 7.00 inches or more fell late on 9th and early on 10th. The heavy rain washed out the Canyon Lake Dam above Rapid City causing extensive flooding. Elsewhere precipitation ranged from none in portions lower elevations of west to about 3.00 inches parts of south-east. **BLACK HILLS DISASTER:** The death toll from South Dakota's worst natural disaster near 200 mark and continues to mount. Torrential rains in the northern and eastern Black Hills on Friday night caused heavy flooding in the Keystone, Sturgis, and Rapid City areas. Rapid City was the hardest hit with hundreds left homeless and property damage expected to reach \$100 million. Many miles of roads, railroad tracks, and bridges have been totally destroyed. It is still too early to fully appraise agricultural losses, but they are not expected to be too great. Some livestock were drowned and low-lying hay fields in the flood path were destroyed. Fieldwork continues to be delayed due to wet field conditions. Strong winds promoted drying and planting wet fields. Crops that are up are making very rapid growth. Alfalfa hay prospects excellent as harvest begins. Weeds big problem especially since many fields too wet to spray except by aerial spraying. Planting all row crops and flaxseed considerably behind normal. Early planted corn up to 6 inches high, but about 20% remains unplanted. Soybeans and sorghum planting getting underway. Maturity stage winter wheat and rye getting well underway with 67% and 94% respectively headed. Scattered local hail storms caused light to moderate damage throughout State. Alfalfa weevil damage reported western half State. Scattered reports yellowing from excessive moisture and disease winter wheat fields. Fly and mosquito population increasing rapidly. Pastures furnishing adequate feed.

TENNESSEE: Week began warm and dry, with temperatures in 80's and 90's through midweek. Over weekend, cooler air and scattered showers moved across State, with central and eastern counties getting 0.50 inch to 1.00 inch. Western portion little or no rain. Some areas need rain. Farmers able to work 5.3 days in their fields. Farm activities consisted of planting corn and

soybeans, transplanting tobacco, and cultivating corn, cotton, and soybeans. Hay harvesting also major farm activity. Crops and pastures in fair to good condition, but need rain.

TEXAS: Numerous heavy showers fell in southern Texas throughout week. Also heavy showers fell in northeast and East Texas over weekend with 3.00 to 6.00 inches Houston area Saturday. Light showers frequent southwest Texas. Weekly totals exceeded 7.00 inches at both Brownsville and Mercedes. Planting cotton, sorghum nearing completion. Lack moisture delaying completion planting on High and Low Plains. Planting soybeans Gulf Coast and peanuts Cross Timbers also delayed by lack of moisture. Harvest wheat making good progress High Plains where harvest dryland crop ahead of irrigated crop. Screwworm cases worry livestock owners. Cases confirmed on Low Plains and northern counties Edwards Plateau. Percent planted major crops; cotton 96, 88 last year; corn 100, 100 last year; sorghum 94, 90 last year; soybeans 77, 70 last year; peanuts 51, 56 last year. Percent harvested; wheat 34, 35 last year; oats 85, 75 last year. Lower Rio Grande Valley vegetable harvest nearing completion. Land preparation started for fall crops. Laredo rains delayed melon harvest. Coastal Bend melon harvest declining. Cucumber harvest virtually over. Winter Garden onion harvest nearing completion. Watermelon, cantaloupe harvest continues active. In central and East Texas vegetables need rain, tomato harvest continues. Knox-Haskell potato harvest gaining momentum. High Plains irrigation being applied on potatoes, carrots, onions. Vegetables reported good condition. Peach harvest gaining momentum. Pecan crop shows good progress. Next year's citrus crops continue to progress rapidly after recent rains.

UTAH: Recurring periods scattered shower and thunderstorm activity many sections of State. Accumulated amounts of moisture extremely variable, ranging from little or none, to well over 1.00 inch in few localities. Precipitation heavy enough to give some relief to drought conditions a few areas southern Utah, but had little effect in others due to scattered nature of thunderstorm activity. Average temperatures ranged from near normal to 6° above normal. Soil temperatures, at 4-inch depth, ranged from upper 60's Cache Valley to near 70° Salt Lake City and Richfield, and mid-80's St. George. Soil moisture non-irrigated crop and range land continues very short to short all areas. Feed supplies on summer range land poor to fair. Cattle and sheep fair to good condition, but drought forcing numbers reduction southwest Utah. Sugarbeet acreage 70% thinned, 60% year ago this date. First crop alfalfa hay 25% cut. Yield and quality poor. Winter wheat condition rated poor to fair, and continues to deteriorate. Nearly all acreage jointed, 75% headed out. About half spring wheat, oats, and barley acreage jointed. All vegetable crops good condition. Green pea harvest will start June 19.

VIRGINIA: Temperatures mostly normal to below normal becoming much colder over weekend. Scattered showers and thundershowers at beginning and on Saturday. Best week of year for fieldwork. Made hay, planted corn, peanuts, soybeans, and grain sorghum; corn and peanuts mostly planted. Soybeans 50% planted, usually 67% to 75%. Set tobacco. Sprayed weeds and army worms. Cultivated tobacco and corn. Growth corn and tobacco improved. Harvested cabbage and some barley. Pastures excellent.

WASHINGTON: Western Washington: Warm dry weather prevailed throughout period although some cloudiness and cooling began end of week and there were scattered showers. Berry crops developing rapidly and some early picking strawberries begun. Green pea seeding practically complete and some early blooming can be found. Sweet corn planting continuing along with harvest early lettuce and radishes. Pastures continue to look good with adequate feed supply while haying and silage making continue. Showers provided some problems for cut hay.

Eastern Washington: Warm temperatures prevailed and weather dry until last 2 days of period. Showers and thundershowers brought precipitation amounts above normal all areas except Palouse-Blue Mountains. Crop growth generally good and heading wheat and barley nearly completed south-central counties. Hay and forage crops look good although showers hampering drying process. Asparagus harvest continuing southern areas and green pea harvest underway Yakima Valley and Columbia Basin. Orchardists spraying for codling moth, oriental fruit fly and mildew. Cherries showing red color and birds causing some damage. Forage and pasture continue good.

WEST VIRGINIA: Scattered thunderstorms evening June 9 as cold front moved across State from north. Near-record low temperatures with scattered frost higher elevations June 11. Spring farming operations gaining momentum due to favorable weather. Fieldwork was possible average 5 days. Soil moisture generally adequate, but some areas need rain. Most active fieldwork. Planting corn and hay making. Corn crop 90% planted, 1st cutting hay 30% complete and about 50% tobacco crop set.

WISCONSIN: Changeable weather during week. Mostly sunny and mild through Thursday. Sharply colder Friday and Saturday as large high pressure system slides southward over State. Temperatures in upper 20's in some areas with freeze damage expected to tender vegetation. The 31° measured at Madison Saturday morning coldest in month of June during period of record. Rainfall continuing light and evaporation above normal where moisture is available. First crop hay about 20% made. Quality very good but yields light. Early-planted corn doing well and knee high. Late-planted corn mostly fair due lack of moisture. Still little silo corn being planted. Oat crop also hurting from dry weather and atrazine damage. Pasture conditions mostly fair. Irrigated vegetable crops doing well. Yields peas down sharply due hot and dry weather. Soil moisture conditions short nearly all sections, though some good rains received as period ended.

WYOMING: Light to heavy showers statewide with numerous instances of small hail and some damage. Both Glenrock and Fort Laramie reported 2.25 inches of moisture. Temperatures averaged 3° to 9° above normal. Maxima mostly 70's west of Divide and Upper Platte Drainage, high 70's to low 90's elsewhere. Minima were mostly high 30's and 40's west of Divide and Upper Platte Drainage, 40's to low 50's elsewhere. Temperature extremes were 94° at Dull Center and 29° at Foxpark. Agricultural activities included sugar beet thinning, irrigating, cultivating row crops and moving cattle and sheep to summer pastures. Dry bean planting completed most localities. About 1/3 sugar beets thinned. Winter wheat heading. Few fields alfalfa hay harvested. Range pasture and livestock continue good. Surface and sub-soil moisture supplies range from short to adequate.

GROWING DEGREE DAYS (GDD) FOR HYBRID
CORN PRODUCTION*

Warren M. Wisner
NOAA Climatologist for Missouri

Editor's Note: Warren Wisner, NOAA Climatologist for Missouri, has recently reported a unique way of determining the expected number of Growing Degree Days available for crop production based on the degree of risk of frost a grower is willing to accept. The following material is an excerpt of the University of Missouri report.

In 1970 the Hybrid Seed Corn Industry adopted a new method for rating the maturity of corn. This method uses the thermal unit approach to the prediction of maturity which is more accurate than the old "days-to-maturity" ratings.

This new method is Growing Degree Days (GDD) and is based on the number of heat units necessary for corn to reach physiologic maturity.

Data of the average monthly Growing Degree Days for Northwest Missouri are represented in Table 1 and Figures 1 and 2. The corn growing season generally does not start before early April, and ends in October. Thus, the compilations were made only for the seven-month period.

Table 1 is the tabular listing of the average number of Growing Degree Days for each week during the growing season. The standard deviations are presented as a measurement of the variability of the GDD's. As this table indicates, there is a much greater variability in the spring than in the summer. This is explained by the climatic patterns of northwest Missouri. Spring doesn't always arrive on schedule. For example, in 1968 spring was cool with May averaging 3°F below normal. The GDD's for the month was only 367 which is 80 below normal. On the other hand, in 1970 spring was early and warm. May averaged almost 5°F above normal. The accumulated GDD's for the month was 570 or 130 above normal. Summertime temperature variations are generally small from year to year. Thus, GDD's will seldom vary more than 10 percent from year to year during the summer, while they can vary as much as 33 percent from spring to spring.

Figure 1 is an indication of the dependency of the rate of accumulation of GDD's on the planting date. For example, if one normally plants on April 30, he would expect that it would take 132 days to accumulate 2700 GDD's while if he planted on May 15, it would take 128 days to accumulate the same number of GDD's.

Figure 2 indicates the probability of the last spring and the first fall freezes in graphic form along with the graphic presentation of accumulated growing degree days from April 1, May 1 and June 1, for Tarkio, Missouri. The user may first determine under what freeze risk he is willing to plant. This would indicate the date he would want to start accumulating GDD's.

For example, if he was willing to accept a 20 percent risk of frost, he would not plant to plant before May 2. And, if the corn was rated at 2700 GDD's, he would, on the average, expect the corn to reach maturity around September 7. Freezing temperatures do not occur this early at Tarkio. However, if due to some circumstances planting was delayed until June 1, he would not expect to accumulate 2700 GDD's before October 9,

*Wisner, W. M. 1972. Growing Degree Days for Hybrid Corn Production. Science and Technology Guide, p. 4190-4192. University of Missouri—Columbia Extension Service.

which would indicate about 25 percent risk of frost before the corn crop could reach maturity.

It is also possible to obtain the average length of the growing season from Figure 2. The number of days from the date of the 50 percent probability of the last spring freeze to the date of the 50 percent probability of the first fall freeze is the average length of the growing season. Thus, for Tarkio, the average growing season runs from April 23 to October 17, a total of 178 days.

Table 1. AVERAGE GROWING DEGREE DAYS BY WEEK

| FOR TARKIO, MISSOURI | | | | | | |
|----------------------|------|-----|-----------|------|-----|----|
| Week | Mean | SD* | Week | Mean | SD* | |
| Ending | | | Ending | | | |
| April 11 | 41 | 22 | July | 25 | 172 | 23 |
| April 18 | 56 | 25 | August | 1 | 176 | 19 |
| April 25 | 69 | 28 | August | 8 | 171 | 18 |
| May 2 | 75 | 28 | August | 15 | 163 | 18 |
| May 9 | 86 | 35 | August | 22 | 155 | 21 |
| May 16 | 94 | 32 | August | 29 | 155 | 25 |
| May 23 | 102 | 35 | September | 5 | 144 | 22 |
| May 30 | 116 | 36 | September | 12 | 126 | 21 |
| June 6 | 128 | 27 | September | 19 | 118 | 30 |
| June 13 | 141 | 29 | September | 26 | 99 | 21 |
| June 20 | 148 | 22 | October | 3 | 88 | 26 |
| June 27 | 158 | 23 | October | 10 | 83 | 25 |
| July 4 | 166 | 21 | October | 17 | 82 | 32 |
| July 11 | 168 | 16 | October | 24 | 66 | 24 |
| July 18 | 170 | 20 | October | 31 | 51 | 27 |

*SD = Standard Deviation of Mean

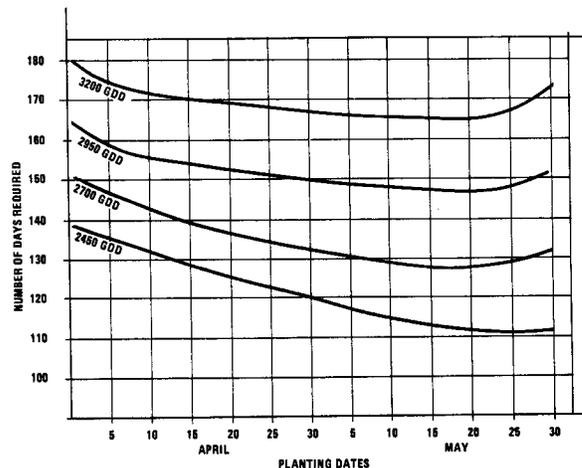


Figure 1. The average number of days required to accumulate a specified number of growing degree days for various planting dates for Tarkio, Missouri.

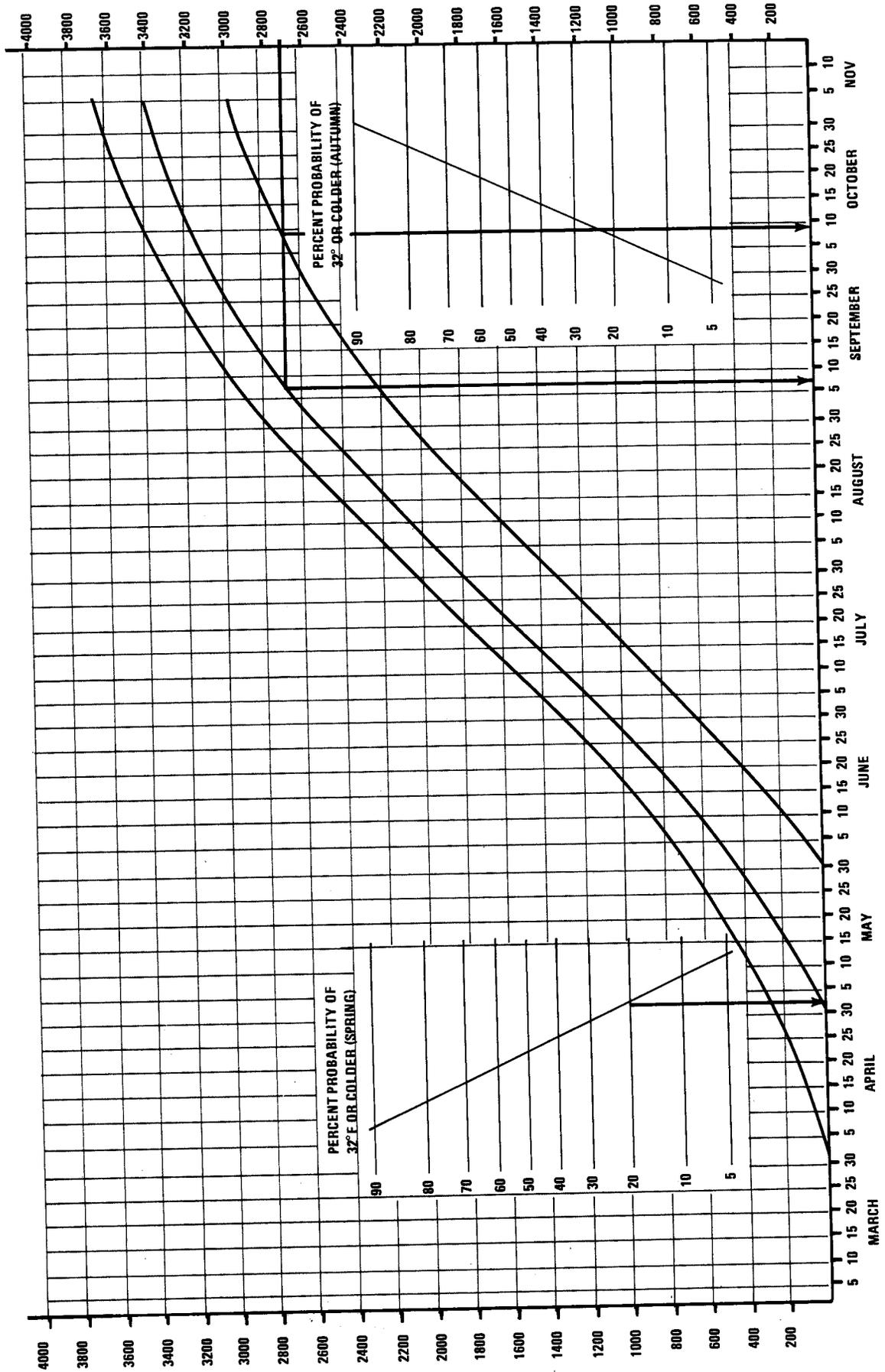
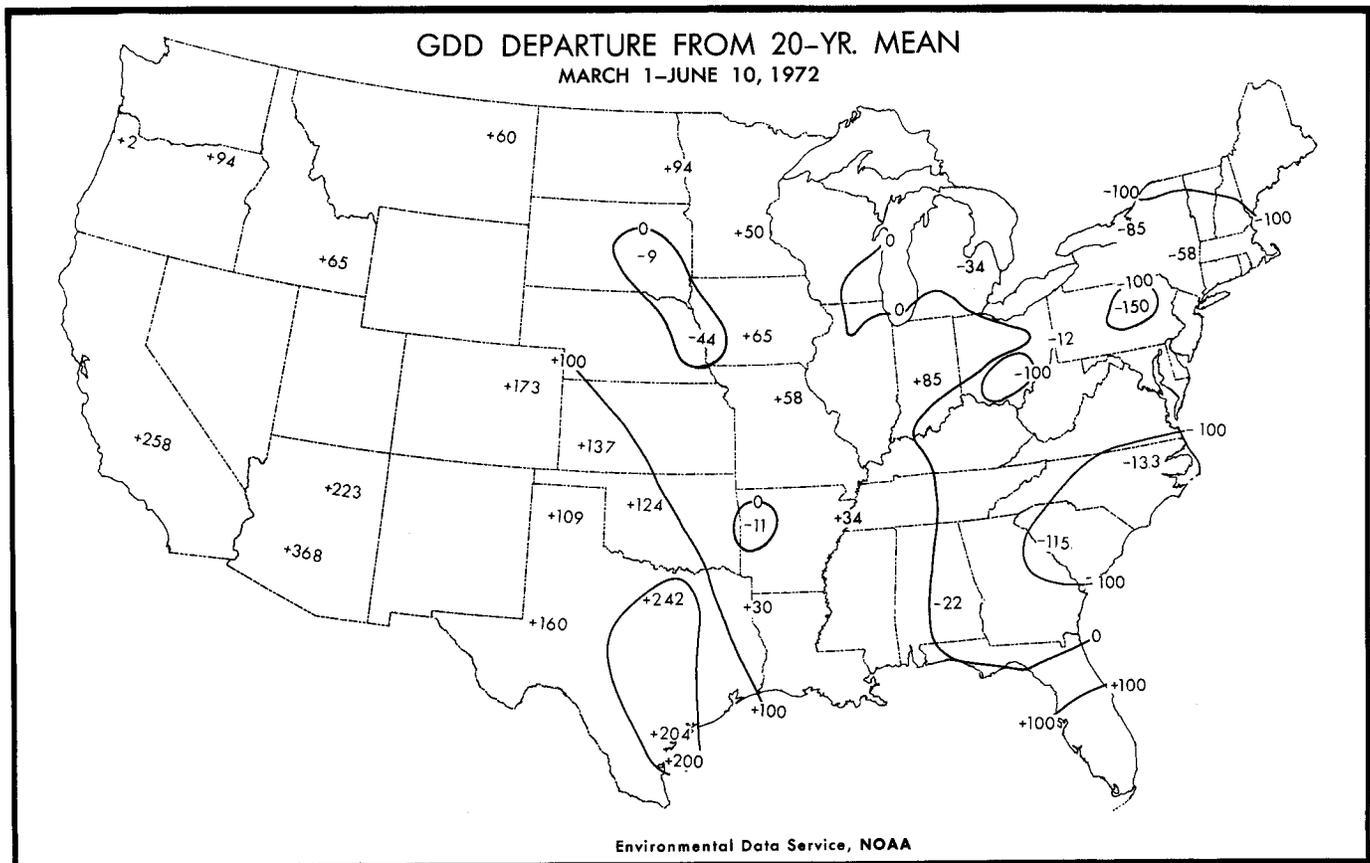
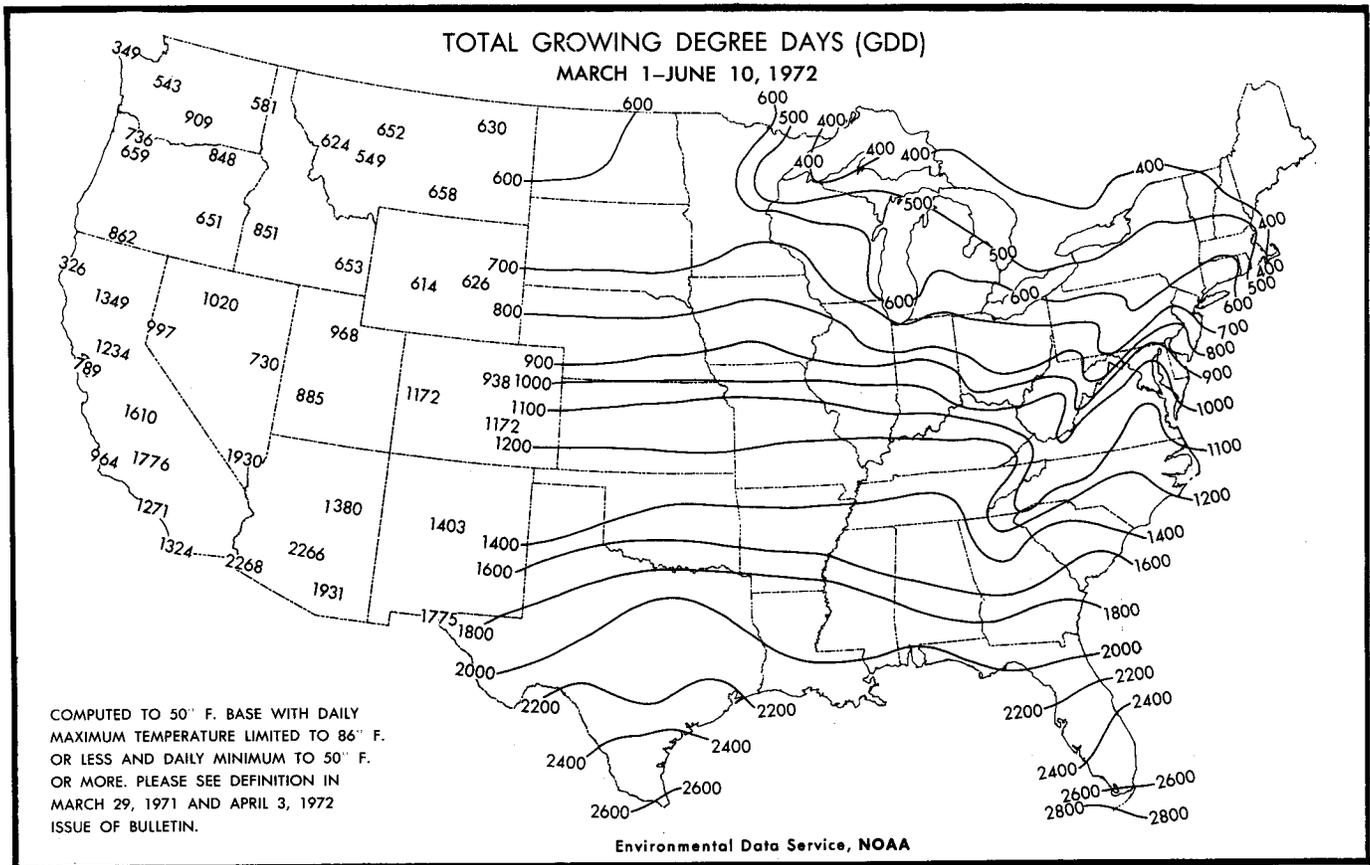
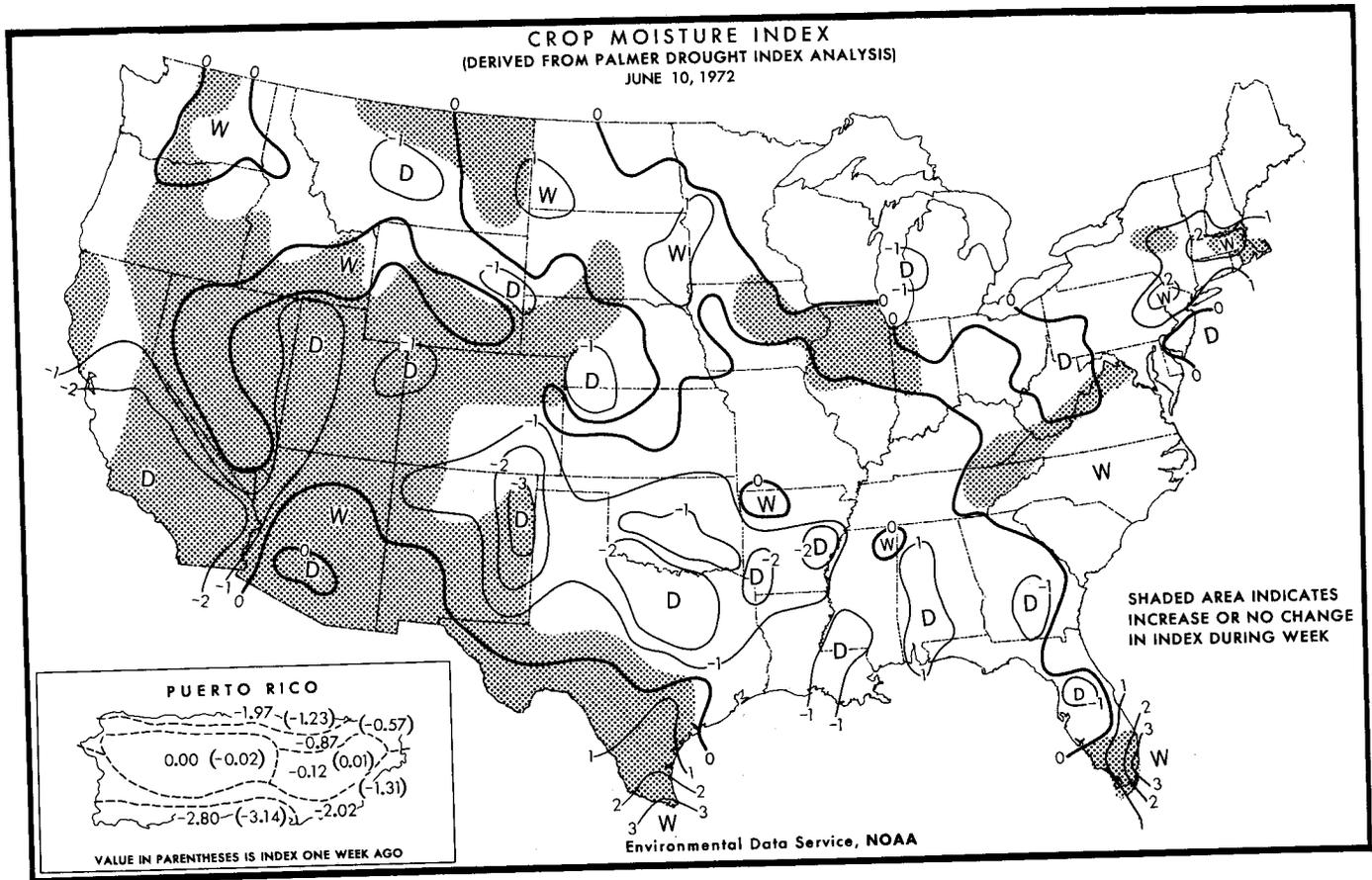


Figure 2. Average seasonal growing degree day accumulation and freeze probabilities for Tarkio, Missouri.





INDEX DECREASED DURING WEEK
(Unshaded Areas)

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

INDEX

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

INDEX

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

The map above is based on weekly areal mean values of temperature and precipitation for 350 climatological divisions. Weather during previous weeks has been taken into account through successive weekly computations of both topsoil and subsoil moisture. The map shows recent crop moisture conditions; i.e., areas in which crops have been hindered by abnormal dryness or wetness, and areas where moisture conditions have been favorable.

This is a generalized picture; local variations caused by the occurrence or absence of heavy rain or by soil differences are not shown. Shallow rooted crops and crops in areas with poor soils are likely, on occasion, to suffer more than indicated. Conditions may be better than shown in areas having exceptionally good soils.

The legend applies 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. The trend is indicated by the shading which denotes areas where the index did not decrease below its value of a week previous; i.e., conditions did not become noticeably drier during the week. A trend toward drier occurred in the unshaded regions. The lines show the crop moisture situation according to the computed index values which may be interpreted using the legends above. One legend applies to the unshaded areas, the other to the shaded. Centers of relative maximum and minimum index values are marked for easier recognition - W for wet and D for dry. In irrigated regions the index values merely reflect departures from ordinary irrigation requirements.



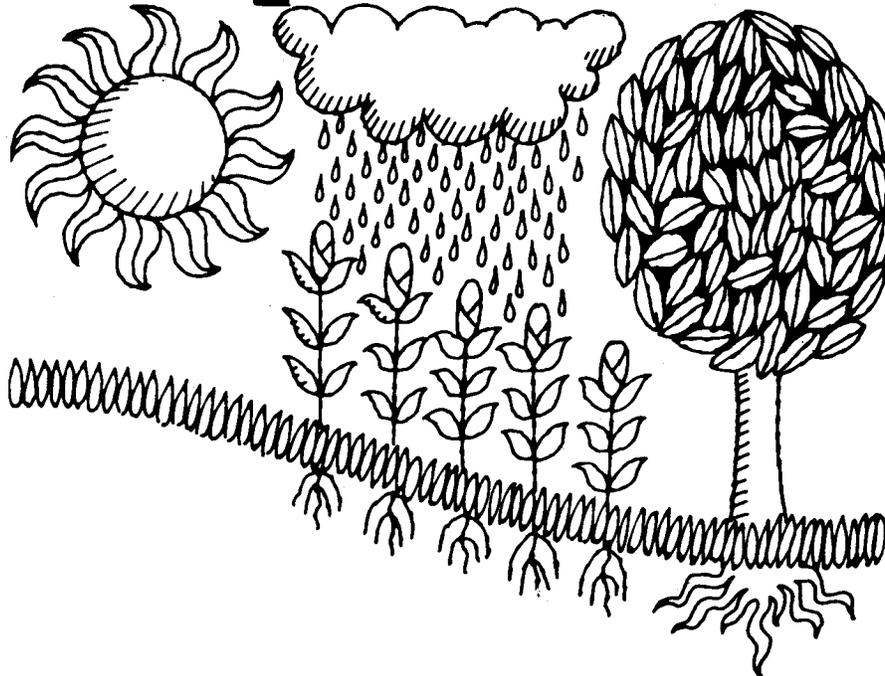
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