

WEEKLY WEATHER AND CROP BULLETIN

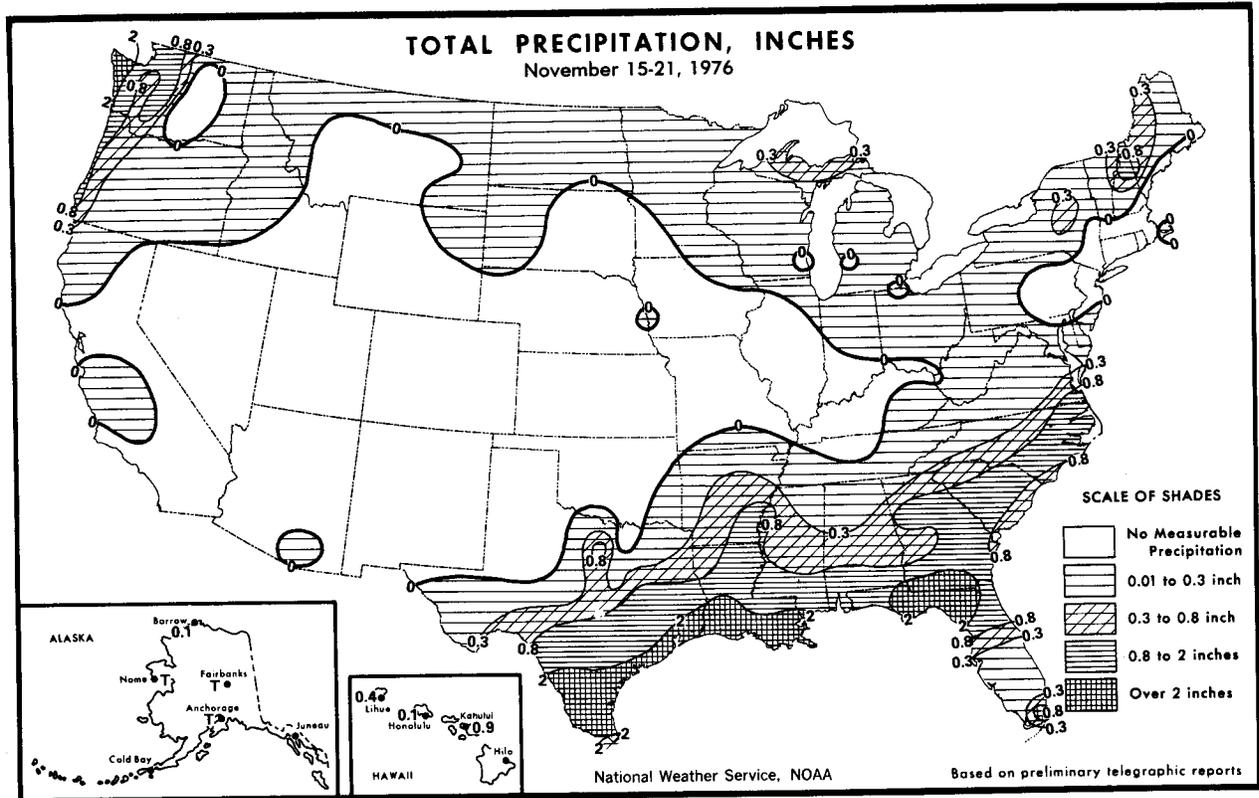
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National Weather Summary

For the Week of November 15-21

HIGHLIGHTS: An absence of any significant storms, unseasonably cold temperatures across the eastern half of the Nation, and unrelenting precipitation along the Gulf Coast States--typical weather patterns for this time of year. What's to blame? Forecasters point a finger at a massive high pressure system that dominated areas from the Mississippi River west to the Pacific Coast during the week. Above normal temperatures produced a number of record highs from the northern Rockies to the southern California Coast, and at midweek extended into central U.S. as well.

Weekend precipitation patterns in the Southeast changed little on Monday. Rain continued to fall north of a low pressure that chugged eastward across northern Florida. At daybreak moisture remained widespread across Georgia, the Carolinas, and southern West Virginia.

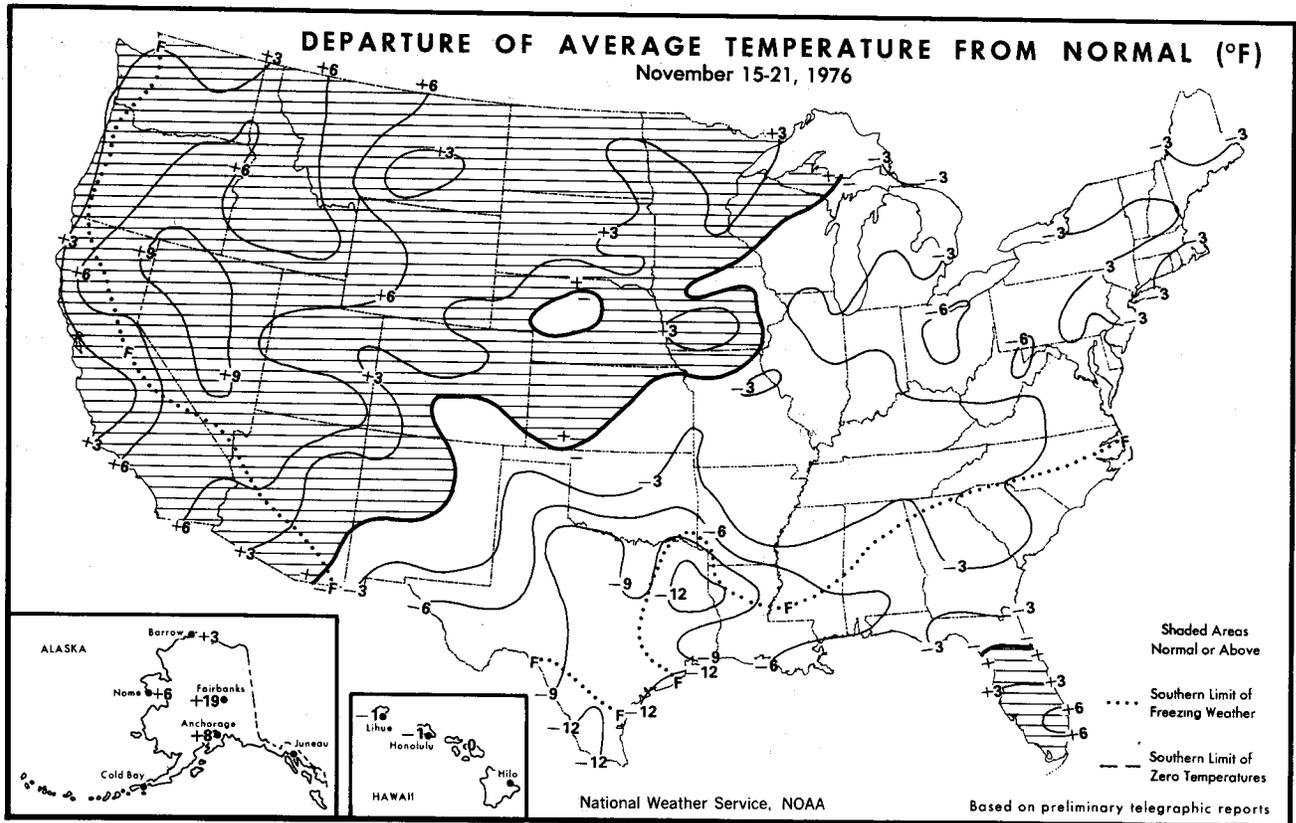
As the weather week opened, Florida was the

only exception to unseasonably cold air that still gripped the middle and southern Atlantic Coast States. Early a.m. readings skidded to near zero in northeastern Minnesota, while temperatures in the 30's chilled southern Texas and 40's cut a path along the central Gulf Coast.

At midday forecasters tracked the complex frontal system to a central location just off the southern Atlantic Coast. From that vantage point it brought scattered showers and warm afternoon temperatures to Florida. At 88°, West Palm Beach claimed a new daily record high and the highest maximum reading nationwide.

Meantime, Oklahoma and northern Texas battled more blustery weather as a frigid Canadian air mass left maximum temperatures up to 30° below normal throughout the region. Subfreezing readings spread an icy glaze across roadways in west Texas.

As cold air east of the Rockies continued to



drift southeastward on Tuesday, mild temperatures from a Pacific air mass spread across the northwest part of the Nation and pushed into the northern Plains.

Reports of an unusually cool fall season in the eastern half of the Nation continued. In Evansville, Ind. for example, temperatures in the first half of November averaged 8.8° below normal, compared with average readings 7.4° above normal in the same period last year.

Warm afternoon temperatures throughout the Pacific Coast States ranged from the 70's and 80's in California into the 60's across Oregon and Washington. Oregon posted record high honors for Eugene, 71° , Portland, 68° , Salem and Pendleton, 66° .

A nighttime chill resulting from a high pressure system and clear skies dropped the mercury into the 20's in the upper Ohio Valley. Elsewhere east of the Rockies thermometers registered near seasonal levels.

The midweek weather check zeroed in on a frontal system in the Gulf of Mexico that blanketed coastal and certain interior areas of Texas, Florida, and Georgia with rain and fog. Light rain and drizzle preceded a cold front along the northwest Washington Coast. Otherwise, clear, dry conditions favored most of the rest of the country.

Strong afternoon winds blasted central Montana, where gusts in Livingston peaked to nearly 65 mph. Warming in their descent of the eastern slopes of the Rockies, winds pushed Montana's mercury to record high levels at Havre, 65° and Kalispell, 59° .

As the cold front followed an eastern path through the northern Rockies, however, the forceful winds diminished. The subsidence represented part of a change in U.S. weather patterns that brought a significant flow of warmer air across

the northern and central Plains for the first time this month.

The Plains States welcomed another pleasant day as temperatures in northern and central areas reached into the 60's. Nighttime readings in Kansas, mostly in the 40's and 50's, measured 20° warmer than those recorded 24 hours earlier.

Thursday's rapidly moving cold front boosted wind gusts above 50 mph that whirled dust and lowered visibilities from the northern Plains to the northern Great Lakes region.

Persistent rains excepted southern Texas from the predominant pattern of scarce precipitation around the Nation.

On the heels of an unusually cold 2-week spell in many sections of the Nation, midmonth weather turned unseasonably warm in central U.S. Seasonable afternoon temperatures were widespread over much of the Atlantic and central Gulf Coast States, while above normal readings ranged from the northern Rockies to the southern California Coast.

On Friday, east Texas repeated its week-long weather story: rain, drizzle, and fog. As the day progressed, a low pressure over the western Gulf of Mexico increased the rainfall over southern U.S.

The weekend brought little change in the Nation's weather picture. In line with typical November weather patterns, a massive high pressure area still dominated the country from the Mississippi River west to the Pacific Coast. Such a system not only blocks the development of any significant storms, but keeps colder air entrenched over much of the Nation and moisture along the Gulf Coast States.

Gusty northwesterly winds that swept across portions of northern U.S. on Sunday added to the chill throughout the northern tier of States, where daytime readings generally hovered in the 20's.

National Agricultural Summary

For the week of November 15-21

HIGHLIGHTS: Below normal temperatures remained over the eastern half of the Nation as farmers attempted to complete the harvest of major fall crops. With little precipitation to keep them out of the fields, farmers recorded good progress as corn harvest advanced to 96% complete, soybeans were 92% combined, sorghum moved to 97% harvested and cotton was 59% picked. Cattle required more supplemental feeding as low topsoil moisture reduced roughage supplied by grazing. Poor to fair pasture and range conditions and short stock water characterized the general situation in the North Central area. Plowing for 1977 crops progressed at a rapid rate during the open weather.

SMALL GRAINS: The winter wheat crop was still in fair to good condition. Most growing areas did not receive any form of moisture last week to improve the dry conditions that have existed since the crop was seeded. Below normal temperatures have impaired crop development. Planting in Texas was 90% complete, well behind 98% average due to adverse weather delays. Earlier planted acreage which received previous rain and snow provided widespread grazing. Warm temperatures are needed to stimulate more growth. The Oklahoma crop needs moisture and higher temperatures to improve grazing. Of their acreage, 95% was up to a stand. Seeding was virtually complete. Montana winter wheat was in mostly fair condition, but soils were dry. No major snow cover has fallen in Wyoming, but minimal winds have permitted the crop to remain in fair to good condition. Seedings in the North Central States rated fair to good condition, but soil moisture remained well below normal.

CORN: Harvest of the Nation's corn crop reached the 96% mark, just 1 point behind a year ago when 97% was harvested, but well ahead of 83% average. Growers in the western North Central States were 98% complete, compared with 100% in 1975 and the 83% average. In the eastern North Central States harvest was 95% complete, slightly behind a year ago when 97% was combined, but 11 points ahead of average. Farmers in the South Central and South Atlantic areas were 91% finished with corn harvest, compared with 92% in 1975 and 90% average. High moisture corn in Ohio remained a problem as did long lines of trucks at elevators. In some areas of Illinois, corn was stored on the ground.

COTTON: Good progress was made in harvesting cotton in the 11 major growing States in spite of the fact that Texas, with almost half the total acreage for harvest, made little progress. Growers there were waiting for fields to dry after the unseasonably early snows melted. With 59% of the acreage harvested in those 11 States, progress rates better than the 54% in 1975 and the 52% average. Harvest resumed on the Texas northern plains by the end of the week with quality much better than expected and was active in the Trans-Pecos area. Oklahoma farmers neared the halfway point in cotton harvesting, compared with 6% a year ago and the 25% average. Cold, dry weather has allowed cotton harvest in Tennessee to progress rapidly with 80% picked and move ahead of last year and the averages which were 72% and 70% respectively. In Louisiana, cotton is 95% harvested, compared

with 72% last year and the 71% average. Cotton in Georgia is fair to good with 98% of the bolls open.

SOYBEANS: The Nation's soybean farmers have now combined 92% of the 1976 crop, well ahead of the pace a year ago when 86% was harvested and the average rate for this week of 83%. Kansas and Missouri were both 95% complete which made the entire North Central area virtually harvested. Growers in the South Central region with 88% combined moved ahead of 1975's 83% and the 78% average. Texas and Arkansas remained behind the rates established a year ago, but well ahead of average. Rain hampered combining in some of the South Atlantic States with South Carolina most affected. The States in this area were at the 54% mark, just 1 point behind 1975 and 3 points behind the average.

OTHER CROPS: Grain sorghum harvest advanced to virtually complete with 97% combined, compared with 98% in 1975 and far ahead of the 87% average. Texas, with the largest acreage, was 98% complete, 99% a year ago and averaged 94%. Quality deteriorated on the northern plains as wet fields hindered combining. Some freeze damage was evident in the Oklahoma acreage as harvest progress neared 90% complete, 20 points ahead of average.

Peanut harvest was in the final stages in Oklahoma, well advanced from the 80% average. The Texas crop was suffering from wet soils which reduced quality. Harvest there was 88% complete, 7 points behind average.

Dry weather slowed stripping progress of burley tobacco in Tennessee where 68% was stripped by week's end, compared with 75% last year and 80% average.

Sugarbeet harvest is nearing completion in Washington and California. Processing has started in Utah. Harvest made good progress in Texas, but still only reached 70%, well behind 86% a year ago and 85% average.

FRUITS AND NUTS: California Navel orange harvest has started, while desert grapefruit, lemon, and tangerine harvests continue there and in Arizona. Florida citrus trees continued in excellent condition, but required increased irrigation. Pecans were rated in poor condition in Alabama, poor to mostly fair in Georgia where 52% were harvested.

VEGETABLES: Florida vegetable shipments increased substantially in a wide variety of produce. Texas weather was detrimental to vegetable harvest. Freezing temperatures damaged crops in several areas. California vegetable activity moved south as cool, wet weather hindered planting and harvesting in northern areas.

PASTURE AND LIVESTOCK: Pastures rated fair due to the poor conditions that are prevalent in much of the North Central States. The shortage of soil moisture along with the normal seasonal decline in growth of pasture grasses reduced grazing levels to the point where supplemental feeding was common. Winter wheat provided some grazing but short soil moisture and low temperatures lessened growth. Cattle water supplies were dangerously low in some areas. Livestock were in generally good condition with active calving and lambing.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., November 21, 1976

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 . . .	48	- 3	.2	-.7	La.Baton Rouge . . .	52	- 6	.9	0	Youngstown . . .	35	- 5	.1	-.6
Mobile . . .	51	- 7	.9	+ .1	Lake Charles . . .	52	- 7	2.4	+1.4	OKLA.Okla. City . . .	45	- 3	T	-.3
Montgomery . . .	50	- 4	.6	-.3	New Orleans . . .	53	- 6	2.4	+1.4	Tulsa . . .	45	+ 3	0	-.4
ALASKA.Anchorage . . .	28	+ 8	T	-.3	Shreveport . . .	43	-12	.6	-.2	OREG.Astoria . . .	49	+ 3	1.0	-1.4
Barrow . . .	1	+ 3	.1	0	MAINE.Caribou . . .	24	- 6	.1	-.7	Burns . . .	43	+ 8	T	-.4
Fairbanks . . .	20	+19	T	-.1	Portland . . .	37	- 1	T	-1.2	Medford . . .	46	+ 3	.1	-.7
Juneau . . .	---	---	---	---	MD.Baltimore . . .	42	- 3	T	-.7	Pendleton . . .	46	+ 6	.1	-.3
Kodiak . . .	---	---	---	---	Chatham . . .	42	- 3	T	-1.1	Portland . . .	48	+ 3	.5	-.9
Nome . . .	21	+ 6	T	-.2	MASS.Boston . . .	40	- 1	.1	---	Salem . . .	49	+ 4	.5	-1.0
ARIZ.Flagstaff . . .	41	+ 6	T	-.3	MICH.Alpena . . .	33	- 1	T	-.6	PA.Allentown . . .	38	- 3	0	-.9
Phoenix . . .	62	+ 3	T	-.1	Detroit . . .	34	- 1	T	-.6	Erie . . .	36	- 3	.3	-.6
Tucson . . .	59	+ 2	T	-.1	Flint . . .	36	- 1	T	-.5	Harrisburg . . .	41	- 2	0	-.8
Winslow . . .	42	0	0	0	Grand Rapids . . .	33	- 1	T	-.7	Philadelphia . . .	42	- 2	T	-.8
Yuma . . .	66	+ 4	0	0	Houghton Lake . . .	31	- 2	.1	-.5	Pittsburgh . . .	36	- 4	.1	-.5
ARK.Fort Smith . . .	44	- 5	.1	-.6	Lansing . . .	33	- 4	T	-.5	Scranton . . .	38	- 2	T	-.7
Little Rock . . .	48	- 1	.6	-.3	Marquette . . .	34	+ 1	.4	-.3	R.I.Providence . . .	38	- 5	T	-1.1
CALIF.Bakersfield . . .	60	+ 5	T	-.3	Muskegon . . .	36	- 2	.1	-.6	S.C.Charleston . . .	52	- 3	.5	0
Eureka . . .	54	+ 3	T	-1.4	S. Ste. Marie . . .	29	- 3	.3	-.5	Columbia . . .	51	- 2	1.1	+ .5
Fresno . . .	53	0	T	-.3	MINN.Duluth . . .	31	+ 4	T	-.4	Greenville . . .	48	- 2	.4	-.3
Los Angeles . . .	68	+ 6	0	-.5	Internat Falls . . .	28	+ 5	.1	-.2	S.D.Aberdeen . . .	33	+ 4	T	-.1
Red Bluff . . .	60	+ 7	T	-.3	Minneapolis . . .	35	+ 4	T	-.3	Huron . . .	32	+ 1	T	-.1
San Diego . . .	68	+ 8	0	0	Rochester . . .	32	+ 1	.1	-.3	Rapid City . . .	39	+ 5	T	-.1
San Francisco . . .	58	+ 3	0	0	St. Cloud . . .	29	- 1	T	-.3	Sioux Falls . . .	34	+ 3	T	-.2
Stockton . . .	56	+ 4	T	-.4	MISS.Jackson . . .	47	- 7	.5	-.5	TENN.Chattanooga . . .	45	- 3	.1	-.9
COLO.Denver . . .	42	+ 4	T	-.2	Meridian . . .	48	- 5	.7	-.2	Knoxville . . .	47	- 1	.1	-.8
Grand Junction . . .	41	+ 3	0	-.1	MO.Columbia . . .	40	- 3	T	-.4	Memphis . . .	49	- 1	.2	-.8
Pueblo . . .	39	- 1	0	-.9	Kansas City . . .	42	0	T	-.3	Nashville . . .	45	- 2	0	-.9
CONN.Bridgeport . . .	42	- 3	0	-.9	St. Louis . . .	43	- 1	T	-.6	TEX.Abilene . . .	42	-11	T	-.2
Hartford . . .	38	- 2	T	-1.1	Springfield . . .	39	- 2	T	-.5	Amarillo . . .	40	- 5	T	-.1
D.C.Washington . . .	44	- 3	.1	-.6	MONT.Billings . . .	43	+ 2	T	-.2	Austin . . .	49	- 9	.8	+ .4
FLA.Apalachicola . . .	57	- 3	1.7	+1.0	Glasgow . . .	32	+ 5	T	-.1	Beaumont . . .	52	- 7	3.1	+2.1
Daytona Beach . . .	64	0	.8	-.4	Great Falls . . .	40	+ 7	T	-.2	Brownsville . . .	56	-11	1.0	+ .7
Ft. Myers . . .	73	+ 4	.2	-.1	Havre . . .	34	+ 6	T	-.1	Corpus Christi . . .	53	-11	2.8	+2.4
Jacksonville . . .	57	+ 3	1.8	+1.4	Helena . . .	36	+ 6	T	-.2	Dallas . . .	---	---	---	---
Key West . . .	79	+ 4	.1	-.5	Kalispell . . .	35	+ 5	.1	-.3	Del Rio . . .	52	- 7	.8	+ .7
Lakeland . . .	69	+ 3	.1	-.3	Miles City . . .	34	+ 3	T	-.1	El Paso . . .	45	- 5	T	-.1
Lakeland . . .	69	+ 4	1.1	+ .6	Missoula . . .	36	+ 5	.1	-.1	Fort Worth . . .	48	- 7	T	-.5
Orlando . . .	68	+ 2	.3	0	NEBR.Grand Island . . .	38	+ 1	0	-.1	Galveston . . .	51	-12	2.6	+1.8
Tallahassee . . .	66	- 2	3.5	+2.8	Lincoln . . .	39	+ 1	T	-.2	Houston . . .	51	- 9	1.3	+ .3
Tampa . . .	69	+ 3	.1	-.3	Norfolk . . .	36	+ 1	T	-.1	Lubbock . . .	44	- 4	T	-.1
W.Palm Beach . . .	76	+ 6	.2	-.3	N.Platte . . .	35	0	T	-.1	Midland . . .	47	- 5	0	-.1
GA.Atlanta . . .	47	- 3	1.3	+ .5	Omaha . . .	39	+ 3	T	-.2	San Angelo . . .	47	- 7	T	-.2
Augusta . . .	51	- 2	.9	+ .4	Valentine . . .	33	0	T	-.1	San Antonio . . .	50	- 9	1.4	+1.0
Hacon . . .	52	- 2	.5	-.1	NEV.Ely . . .	39	+ 6	0	-.1	Victoria . . .	51	-11	1.9	+1.4
Savannah . . .	53	- 3	.6	+ .2	Las Vegas . . .	60	+ 8	0	-.1	Waco . . .	47	- 9	.2	-.4
HAWAII.Hilo . . .	---	---	---	---	Reno . . .	45	+ 6	0	-.1	Wichita Falls . . .	41	-11	T	-.3
Honolulu . . .	75	- 1	.1	-.6	Winnemucca . . .	46	+10	0	-.2	UTAH.Blanding . . .	43	+ 6	0	-.1
Kahului . . .	75	0	.9	+ .3	N.H.Concord . . .	33	- 4	T	-1.0	Salt Lake City . . .	44	+ 6	T	-.3
Lihue . . .	74	- 1	.4	-1.0	N.J.Atlantic City . . .	40	- 5	T	-1.0	VT.Burlington . . .	34	- 2	.1	-.6
IDAHO.Boise . . .	42	+ 3	.1	-.2	Trenton . . .	43	- 2	0	-.8	VA.Lynchburg . . .	43	- 3	T	-.6
Lewiston . . .	46	+ 7	T	-.3	N.MEX.Albuquerque . . .	44	+ 1	T	-.1	Norfolk . . .	47	- 4	.8	+ .1
Pocatello . . .	40	+ 5	T	-.3	Roswell . . .	44	- 2	0	0	Richmond . . .	44	- 4	.1	-.7
ILL.Cairo . . .	45	- 2	0	-.9	N.Y.Albany . . .	36	- 3	T	-.7	Roanoke . . .	45	- 1	.1	-.5
Chicago . . .	38	- 1	T	-.5	Binghamton . . .	33	- 4	.1	-.6	WASH.Colville . . .	34	+ 1	.1	-.4
Moline . . .	35	- 3	T	-.4	Buffalo . . .	36	- 3	.1	-.8	Omak . . .	35	+ 1	T	-.4
Peoria . . .	37	- 2	T	-.5	New York . . .	45	- 1	0	-.9	Quillayute . . .	46	+ 2	2.9	-.4
Rockford . . .	32	- 4	T	-.6	Rochester . . .	36	- 4	T	-.7	Seattle-Tacoma . . .	48	+ 4	.5	-.9
Springfield . . .	39	- 2	T	-.5	Syracuse . . .	37	- 3	.1	-.7	Spokane . . .	37	+ 3	.1	-.4
IND.Evansville . . .	42	- 2	T	-.8	N.C.Asheville . . .	45	0	.1	-.6	Walla Walla . . .	47	+ 5	.1	-.4
Ft. Wayne . . .	35	- 4	T	-.6	Charlotte . . .	47	- 3	.7	+ .1	Yakima . . .	41	+ 4	T	-.3
Indianapolis . . .	38	- 2	T	-.8	Greensboro . . .	45	- 2	.2	-.4	W.Va.Beckley . . .	38	- 3	.1	-.7
South Bend . . .	35	- 3	.1	-.5	Hatteras . . .	51	- 4	.9	-.2	Charleston . . .	40	- 4	T	-.7
IOWA.Burlington . . .	39	+ 1	0	-.4	Raleigh . . .	45	- 4	.7	0	Huntington . . .	42	- 3	T	-.7
Des Moines . . .	40	+ 4	T	-.3	Wilmington . . .	51	- 4	.7	0	Parkersburg . . .	40	- 5	T	-.6
Dubuque . . .	34	0	T	-.6	N.DAK.Bismarck . . .	31	+ 4	T	-.1	WIS.Green Bay . . .	32	- 1	.1	-.4
Sioux City . . .	35	0	T	-.2	Fargo . . .	29	+ 2	.1	0	La Crosse . . .	33	- 1	T	-.4
KANS.Concordia . . .	42	+ 2	0	-.2	Williston . . .	30	+ 4	T	-.1	Madison . . .	32	- 1	T	-.4
Dodge City . . .	43	+ 2	0	-.1	OHIO.Akron-Canton . . .	36	- 4	T	-.6	Milwaukee . . .	34	- 1	T	-.5
Goodland . . .	39	+ 2	T	-.1	Cincinnati . . .	38	- 5	T	-.8	WYO.Casper . . .	37	+ 4	T	-.1
Topeka . . .	41	- 1	0	-.3	Cleveland . . .	35	- 6	.1	-.6	Cheyenne . . .	36	+ 2	T	-.1
Wichita . . .	42	- 1	T	-.3	Columbus . . .	35	- 6	T	-.7	Lander . . .	37	+ 7	0	-.2
KY.Lexington . . .	42	- 1	.1	-.7	Dayton . . .	38	- 3	T	-.6	Sheridan . . .	37	+ 5	.1	-.1
Louisville . . .	43	- 1	T	-.8	Toledo . . .	34	- 4	T	-.6	P.R.San Juan . . .	81	+ 2	.2	-1.0

Based on 1941-70 Normals

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State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by SRS State offices in cooperation with the National Weather Service, NOAA.

ALABAMA: Temperatures averaged 4° below normal. Rainfall, occurred 20th and 21st, light to moderate.

Fieldwork: 4.0 days suitable. Soil moisture adequate. Major activities: Harvesting cotton, corn and soybeans and seeding small grains. Cotton harvest 69% complete, 59% 1975, 77% average. Corn harvest 91% complete, 86% 1975, 87% average. Soybean harvest 82% complete, 74% 1975, 76% average. Seeding small grains 87% complete, 81% 1975, 89% average. Pastures and livestock fair to good condition. Pecans poor.

ARIZONA: Light precipitation eastern areas. Temperatures in east slightly below normal, slightly above in central, western parts.

Cotton harvest resumed. Many fields completed and scrapped. Sugarbeet harvest nearing completion. Land preparations, planting small grains. Sorghum harvest at peak. Alfalfa hay cutting active. Lettuce harvest complete Cochise County, full volume central, increasing Yuma. Harvest mixed vegetables seasonal progress. Melon harvest winding down. Lemon harvest full volume, excellent yields. Picking grapefruit, Navel, sweet oranges. Recent rains improved desert ranges. Mountain ranges good-excellent. Livestock generally good condition, lambing active.

ARKANSAS: Cool, light precipitation. Extremes: 21 and 78°. Rainfall 0 to 0.98 in.

Fieldwork: 4.5 days available. Soil moisture mostly adequate. Soybean harvest 88% complete, 89% 1975, average 81%. Cotton harvest 88% complete, same as last year. Wheat seeding 90% complete, 91% year ago. Oats 94% planted. Pastures generally short. Hay feeding heavy some areas.

CALIFORNIA: Precipitation early in week all parts of the State except southeast interior. Above normal temperatures all areas.

Rains aid germination small grains. Second picking cotton past half. Sugarbeet harvest nearing completion. Planting alfalfa. Rice harvest mostly finished. Milo harvest active. Corn harvest finishing. New crop Navel orange harvest has begun. Avocado, date, desert grapefruit, lemon, and tangerine harvest continues. Pruning continues most fruit and nut crops. Vegetable activity continued to move southward as cool, wet weather hindered planting, harvesting in northern areas. Cool weather crops continue peak harvest. Some ground preparation for spring. Rain, foggy mornings improve rangeland conditions. Stock water supplies received relief, remain below normal. Calving, lambing continues.

COLORADO: Dry weather with mild daytime temperatures prevailed during week. Temperatures generally 1 to 3° above normal most of State, 3° below normal central mountains, 1 to 2° below normal locations southeast.

FLORIDA: Unseasonably cold temperatures about 10° below normal predominated western area. Near normal temperatures prevailed elsewhere. Heaviest rainfall 2.00-4.00 in. west and north while central and south mostly below 1.00 in.

Soil moisture short central, south, mostly adequate north, panhandle. Soybean, sugarcane, cotton harvest active. Hay, pecan harvest about complete. Seeding small grains continues. Early

planted grains making slow growth. Grazing conditions poor to good. Ranchers supplemental hay feeding. Cattle, calves mostly good condition. Citrus trees continue excellent. Rain needed, irrigation increased. Cool weather coloring fruit. Orange harvest increasing. Vegetable shipments increased substantially. Warming trend over much of State beneficial to plant growth. Tomato harvest underway Dade County.

GEORGIA: Temperatures 5 to 8° below normal. Rainfall less than 0.50 in. extreme north and 1.00 to 2.00 in. elsewhere. Rain occurred again Saturday, fair, windy and cooler Sunday.

Soil moisture adequate. Fieldwork: 5.0 days suitable. Cotton mostly fair to good condition, bolls, 98% open, crop 67% picked, 69% last year. Soybeans fair to good condition, 55% harvested, 61% last year. Corn fair to mostly good condition, 91% harvested, 88% last year. Pecan condition poor to mostly fair condition, 52% harvested, 57% last year. Condition of pastures mostly fair to good, cattle fair to mostly good, hogs good. Wheat 77% planted, last year 69%. Rye 87% planted, same as last year. Other small grains 83% planted, last year 82%.

HAWAII: Weather favorable, most areas received rainfall except Kona area of Hawaii and central valley area Maui. More moisture needed in these two districts. Temperatures dropping especially nights.

Vegetables, some leafy crops light. Others adequate. Banana supplies heavy. Papaya supplies holding moderate. Pineapple harvesting light. Sugar harvesting slowing, more mills are closing. Windward pastures good. Leeward pastures poor.

IDAHO: Temperatures normal to 6° above. Maximum 67° Mt. Home, Jerome. Minimum 1° Fairfield. Precipitation below normal. Maximum precipitation 0.39 in. Moscow. Little or no precipitation eastern Idaho.

Sugarbeet harvest complete. Rain helped grain emergence especially north and southwest. Open weather continues. Cattle moving to market. Fall pastures becoming short-long grazing season, little rain. Feed supplies adequate.

ILLINOIS: Temperatures: Near normal west and northwest; 1 to 4° below normal elsewhere. Ninth straight week below normal. Precipitation: Up to 0.10 in. north; trace or none elsewhere.

Corn 96% harvested, 100% 1975, 91% average; grain stored on ground some areas. Grain sorghum 98% harvested. 1977 corn and soybean acreage 60% plowed, 63% 1975, 53% average. Winter wheat seedings mostly fair to good. Pastures mostly fair to poor; supplying 25% livestock roughage requirements, 41% 1975, 44% average. Soil moisture 90% short, 10% adequate. Fieldwork: 7.00 days suitable.

INDIANA: Cold dry week except for 1.00 to 4.00 in. of snow in extreme northern portion. Temperatures averaged 4° below normal. Extremes: 14 and 66°. Ninth week of below normal temperatures. Precipitation 1.50 to 2.00 in. below normal last 4 weeks in most of State.

Fieldwork: 7 days suitable. Topsoil and subsoil moisture mostly short to adequate. Corn

90% harvested, 1975 90%, average 70%. Wheat 80% emerged. Stands fair to good. Tobacco 20% stripped. Land for 1977 seeded crops 40% plowed, 1975 25%. Pastures mostly poor to fair.

IOWA: Dry week, seasonable temperatures, moderating at midweek with readings to 73° at Ottumwa 18th followed by colder and light snow or snow flurries weekend. Lake Okoboji in the northwest reported 1.50 in. of snow and Strawberry Point in the northeast measured 2.00 in.

KANSAS: Little to no precipitation with temperatures averaging from 40 to 43°, 2 to 4° above normal over west and north central to 1° below normal southeast.

Wheat planting virtually complete, moisture needed to help development. Wheat pastured 5%, same as last year. Corn harvest 95% complete, 100% last year, 80% average. Sorghum harvest 95% complete, same as last year, 80% average. Soybean harvest 95% complete, same as last year, 85% average.

KENTUCKY: Temperatures above normal until cooling trend last of week. Dry weather continued throughout State, no precipitation except scattered light snow flurries at end of week.

Corn and soybean harvest wrap-up continuing. Dry conditions hindering tobacco stripping but plenty available opening market today. Pastures short and small grain growth slowed.

LOUISIANA: Temperatures 8 to 9° below normal. Extremes: 76 and 27°.

Soil moisture short north--adequate to surplus elsewhere. Fieldwork: 4.0 days suitable. Cotton harvest 95%, 72% last year, 71% average. Mainly scrapping remains. Soybean harvest 97%, 91% year ago, 83% average. Sugarcane harvested 49%, 54% year earlier, 48% average. Yields above early expectations. Oats 97% planted, 95% last year. Wheat 93% planted, 92% year ago. Topdressing small grains and winter pastures--limited grazing. Cattle fair.

MARYLAND & DELAWARE: Temperatures averaged 5 to 8° below normal. Highs in 50's, lows in 30's. Precipitation light, less than 0.50 in. in southern Maryland and on the Eastern Shore. Weekend cool, breezy with fair skies. Light precipitation Sunday night.

Corn for grain 86% harvested, 95% 1975, 92% average. Soybean harvest in full swing, 82% harvested; 65% 1975, 73% average. Small grain seeding much behind normal. Tobacco planted preparation behind schedule due to early cold weather. Livestock in good condition.

MICHIGAN: Temperatures generally below normal. Extremes: 52 and 2°. Precipitation light to very light. Most areas received less than 0.05 in. Fieldwork: 6 days suitable. Grain corn harvest nearing completion. Full plowing active.

MINNESOTA: Mild dry week with temperatures averaging 2 to 5° above normal except near normal southeast. Extremes: 61 and 1°. Precipitation: 0.01 to 0.40 in. below normal with amounts 0.01 inch or less falling as snow over the weekend.

Most fieldwork completed, farmers occupied with routine chores. Moisture supplies remain very short most areas.

MISSISSIPPI: Temperatures 10° subnormal. Extremes: 20 and 74°.

Soil moisture mostly adequate. Fieldwork: 4.1 days suitable. Cotton 89% harvested, 61% 1975, 78% average. Soybeans 87% harvested, 75% 1975, 73% average. Corn 95% harvested, 91% 1975, 89% average. Pecans 55% harvested, 56% 1975, 55% average. Winter wheat 93% planted, 90% 1975, 88% average. Oats 95% planted, 93% 1975, 93% average. Pastures in fair to poor condition. Livestock, winter wheat, and oats in fair condition.

MISSOURI: Temperatures moderated from previous week to average only 1° below normal, ranging from 4° below normal in Bootheel to 2° above normal northwest prairie. Precipitation light and spotty. Light snow fell early in week and again Saturday with no accumulations reported in State.

Farming activities: Fieldwork: 6.1 days suitable. Harvesting activities nearing completion. Soybeans 95% harvested, 97% 1975, 83% normal. Corn harvest 96% finished, 97% 1975, 80% normal. Grain sorghum 96% harvested, 97% 1975, 81% normal. Cotton 84% picked, 93% 1975, 80% normal. Winter wheat 94% seeded, 97% 1975. Fall plowing for spring planted crops 68% complete, 63% 1975. Soil moisture 91% short, 9% adequate. Pastures deteriorated during week, rated at 75% poor, 24% fair, 1% good. Stock ponds critically low going into winter feeding season.

MONTANA: Warm week with temperatures averaging 5-7° above normal. Dry all divisions, except western, slightly above normal. Frequent strong winds east slope of Divide into central Montana through midweek.

Winter wheat condition mostly fair. Soils dry. About 10% cattle receiving supplemental feed. Grazing open.

NEBRASKA: Temperatures near normal. No precipitation. Topsoil moisture supplies 100% short. Subsoil moisture supplies 99% short. Winter wheat condition 13% poor, 67% fair, 14% good, and 6% excellent. Moisture needed in all areas. Corn 95% harvested, 85% normal and 100% 1975. Cattle gleaned stalk fields. Cattle on short pastures receive supplemental feed.

NEVADA: Light rainfall early, unseasonably warm weather end of week. Temperatures averaged several degrees above normal. Extremes: 3 to 73°. Cotton harvest full swing Pahrump Valley. Grading and marketing potatoes Winnemucca area. Volume low to date.

NEW ENGLAND: Temperatures averaged 2 to 5° subnormal with no unusual departures. Unusually dry week. No precipitation except for 1.00-2.00 in. snow north and west Maine and flurries over northern N. H. and Vermont with no accumulations. Just local traces snow southern areas.

NEW JERSEY: Temperatures 7° below normal in coastal and northern areas, 5° below normal elsewhere. Extremes: 16 and 63°. Precipitation well below normal. Only a trace reported Atlantic, Cape May and Cumberland Counties on 15th and 0.10 in. Bergen county early 22d. For many sections no measurable precipitation has fallen since October 31.

Corn for grain and soybean harvest in cleanup stage. Light harvest of "greens" continues.

NEW MEXICO: Light shower activity northern mountains Monday, southern third of State at midweek. However, precipitation was too light to be of any significance. Temperatures averaged 4 to 6°

colder than normal for the week. Southern shower areas, elsewhere close to normal. Substantial cooling eastern plains on Sunday.

Soil moisture mostly short, ranges and livestock fair, good north, good south. Cotton harvest hampered by muddy fields from snowfall two weeks earlier. The crop was 60% harvested. Grain sorghum 95% harvested, corn harvest nearly complete. Onions good. Limited pecan harvest underway.

NEW YORK: Temperatures averaged near normal in early week warming trend. Temperatures fell well below normal 21st, 22d. Low of 9° at Newcomb, other areas in teens and 20's. Weekly precipitation well below normal except 21st, 22d. Snow, 2.00 to 4.00 in. in Adirondacks, 7 in. some central areas. Late cabbage moving into storage.

NORTH CAROLINA: Temperatures averaged 2 to 4° below normal. Some precipitation first part week, mostly in east.

Fieldwork: 4.1 days suitable. Soil moisture 80% adequate, 20% surplus. Corn for grain 93% harvested, 1975 94%, average 88%. Soybeans 51% harvested, 1975 50%, average 53%. Cotton 68% picked, 1975 77%, average 73%. Sorghum grain 86% harvested, 1975 86%. Wheat 73% planted, 1975 80%, average 75%. Oats 82% planted, barley 85% planted, rye 77% planted. Pastures 15% poor, 55% fair, 30% good. Small grain conditions average fair to good.

NORTH DAKOTA: Temperatures 6 to 10° above normal. Highs generally in 50° range. Extremes: 61 and 20°. Precipitation 0.13 in. to 0.18 in. below normal. Reported precipitation mostly traces. East central and southeast division had 1.00 in. snow.

Fieldwork limited. Pasture and ranges open but poor condition.

OHIO: Fair and dry 15th to 20th, snow 21st. Extremes: 60 and 16°.

Harvest all major crops except corn considered complete. Mild weather allowed corn harvest to remain on schedule. High moisture remains a problem. Long lines at elevators still observed. Condition of winter wheat fair to good. Soil conditions adequate for plowing. Livestock in fair to good condition. Cattle receiving supplemental feed in most areas of the State.

OKLAHOMA: Temperatures averaged from 5 to 10° below normal. Precipitation ranged from a trace in north central to 0.26 in. southeast. Weekend cool with few showers in southern half of State.

Row crop harvest is near equal to year ago for sorghums, corn, peanuts, and soybeans; far ahead of last year's cotton progress. Corn and peanut harvest are in the windup stage, usual for corn, ahead of 80% average for peanuts. Cotton harvest near 50% complete, compared 6% year ago, 25% average. Soybeans 70% combined, ahead of average. Near 90% grain sorghums combined, compared near 70% average. Freeze damage evident. Wheat seeding practically complete, 95% up to stand, equal to average but ahead of year ago 80%. Condition good to fair. Needs rain and warm weather to provide grazing. Pastures fair to poor but cattle mostly good condition from supplemental feeding.

OREGON: Rain returned to Oregon and all reporting stations recorded significant amount. Coastal reports varied mostly from 1.00 to 2.00 in. with Brookings reporting nearly 2.50 in. Willamette Valley recorded 0.75 in. and eastern Oregon averaged 0.10 to 0.30 in. Temperatures were warm for

the week and averaged 5 to 10° above normal. Extremes: Low 70's, low 30's west; mid 60's, low teens east.

Very little activity in land preparation or fall seeding. Grass and grain crops look excellent at this time. Some grains are still being seeded in eastern Oregon. Potatoes and walnuts are still being picked but very close to completion. Livestock are in good condition. Cattle movement is about normal. Range and pastures continue in fair condition and feed supplies seem to be adequate.

PENNSYLVANIA: Cold, dry. Temperatures 2 to 6° below normal. Extremes: 65 and 8°. Precipitation mainly snow flurries and squalls mountainous areas. Weekly precipitation trace east and south to 0.25 in. northwest. Snow cover 22d confined to north and west mountains with generally 1.00 to 4.00 in.

Corn harvest was principal field activity.

PUERTO RICO: Island average rainfall 0.47 in. Highest weekly total 2.86 in. at Pico Del Este. Highest 24-hour total 0.82 in. at Pico Del Este. Temperatures averaged about 80° on coasts and 74° interior divisions. Extremes: 90 and 53°.

Good weather development sugarcane plantings. Fertilization, cultivation and preparations for next harvest main activities. Coffee harvest continued. Good growth tobacco plantings. Pastures good condition. Food crops developing well. Pigeon peas flowering. Abundance food crops on market.

SOUTH CAROLINA: Temperatures for week near normal, below normal early week, above late week. Rainfall heavy early week most areas.

Rain hampered farm activities; slowed harvest, plantings operations. Soil moisture mostly adequate. Soybean, cotton, sorghum harvest continues; some corn remaining. Planting small grains, winter grazing continues. Cotton harvested; 75%, 1976; 84%, 1975; 83%, average. Soybeans harvested: 43%, 1976; 45%, 1975; 52% average. Sorghum harvested: 79%, 1976; 80%, 1975; 76% average. Wheat planted: 61%, 1976; 60%, 1975; 53% average. Oats planted: 70%, 1976; 74%, 1975; 66% average. Rye planted; 77%, 1976. Barley planted: 79%, 1976.

SOUTH DAKOTA: November continues very dry. Light snow, 0.05 in. or less precipitation in a few locations west, and traces elsewhere. In east, moisture deficit since first of year varies from 6.50 to 14.00 in. In west moisture varies from a deficit of 3.00 in. southwest to excess of 1.00 in. northwest. Average temperatures slightly above normal. Afternoon highs varied from 50° northeast to 70° southwest. Extremes: 70 and 0° in. northwest. Average temperatures slightly above normal. Afternoon highs varied from 50° northeast to 70° southwest. Extremes: 70 and 0°.

Farm activity slow. Operators are feeding and caring for livestock. Everyone waiting for moisture.

TENNESSEE: Skies remained mostly fair and temperatures averaged slightly below seasonal normals. Frontal activity Friday and Saturday accounted for the only precipitation of significance. Precipitation averaged less than 0.25 in. Temperatures averaged in the mid to upper 40's.

Cold, dry weather dried wet fields allowing harvest of corn, cotton and soybeans to make rapid progress. Fall harvest progress is now ahead of last year and average. Pastures are in below average condition and supplemental feeding

is being done. Fieldwork: 5.0 days suitable. Soil moisture, 74% adequate, 33% short, 3% surplus. Some corn still high in moisture. Corn yields excellent. Corn 87% harvested, 85% last year and average. Cotton, 80% harvested, 70% last year and 76% average. Cold, dry weather has allowed cotton harvest to make rapid progress and move ahead of normal. Soybeans 83% harvested, 80% last year, 75% average. Soybean harvest has made rapid progress and moved ahead of normal. Burley tobacco, 68% stripped, 75% last year, 80% average. Dry weather has slowed stripping progress. Wheat 87% seeded, same as last year and average.

TEXAS: Two cold fronts brought temperatures that averaged up to 11° below normal. Readings in Panhandle, central 4° below norm, but remainder of State cooler. Rainfall south above normal; near normal otherwise.

Rain, snow, wet fields halted work all areas during much of week. Snow blanketed fields northern areas until midweek. Cool temperatures delayed melting, result in minimal harvest progress. Cotton stripping resumed on northern plains end of week. Quality much better than previously expected. Harvest active in Trans-Pecos, 34% harvested, 35% average. Sorghum combining hindered by wet on plains, north. Quality continues to deteriorate. A few fields in Cross-Timbers will be left unharvested. Harvest now 98% compared with 94% average. Corn harvest complete except for few scattered fields. Harvest should conclude rapidly as soon as weather permits. Peanuts continue to suffer from wet. Quality deteriorating rapidly. Harvest now 88%, 7 points behind average. Soybean combining also delayed by rain, snow. Harvest now 89%, well ahead of 74% average. Sugarbeet harvesting made good progress at end of week. Sugar content ranges 14-16%. Sunflower harvest again delayed. Late planted fields poor; early fields fair. Wheat aided by snow, rain. Warm needed to stimulate growth. Grazing widespread. Planting completion delayed by adverse weather, presently 90% well behind 98% average. Oat seeding slowed by wet. Some fields scheduled for oats will probably be planted, to different crops. Greenbugs reported minor problem on Edwards Plateau. Flax planting 9% complete, well behind 35% average rate. Farmers in southern area need dry if they are to seed expected acreage. Wet weather continues to restrain vegetable, citrus harvest. Rain slowed cucumber harvest. Wet conditions with freezing temperatures ruined most remaining tomato fields. Few bell pepper stands received damage from cold temperatures. Onion, spinach development delayed due cold, wet weather. Carrot digging delayed due snow, soggy fields. Lettuce, cabbage harvest active. Ranges respond to snow, rain, clear, warm needed to stimulate growth. Supplemental feeding common in northern two-thirds. Cattle good most areas, except east Texas, where some fair.

UTAH: Storm of light to moderate intensity in the southern portion of the State for part of the period. Accumulated amounts of moisture generally light but locally moderate in a few localities. Average temperature for period continued about the

same pattern as last few weeks ranging from near normal to 8° above.

Major activities includes care and feeding of cattle and sheep on winter rangelands, valley farms, and feed lots. Grading, sorting, and marketing of potatoes, dry onions, and apples continue. Sugarbeet processing in progress.

VIRGINIA: Temperatures averaged 8° below normal. Extremes: 76 and 12°. Precipitation averaged less than 0.25 in. with nearly 1.00 in. reported in the east. One to 3.00 in. of snow in the southwest region on 21st.

Fieldwork: 4.3 days suitable. Topsoil moisture: 1% short, 91% adequate, 8% surplus. Pasture 87% of normal. Forage requirements obtained from grazing: dairy cattle 27%, beef cattle 68%, sheep 74%. Wheat 75% seeded, 87% in 1975, average 82%. Corn harvest 80% complete, 89% 1975, 81% average. Soybean harvest 60% combined, 75% 1975, 66% average. Fall plowing active. Livestock being put on winter feeding rations.

WASHINGTON: West: Temperatures averaged 2 to 5° above normal. Precipitation averaged from 0.50 to 0.80 in. subnormal.

Pasture growth slowed. Some livestock are on winter feed; most still on short pastures. Cattle in good shape due to beautiful fall. Christmas trees moving out. White pine blister rust caused losses. Holly being harvested for shipment. Carrot harvest winding down.

East: Temperatures averaged 2 to 6° above normal. Precipitation averaged 0.20 to 0.50 in. below normal with most rainfall occurring in southern and eastern regions. Sugarbeet harvest near completion. Harvest of corn for grain continues. Fruit trees moving into dormancy. Rodent control, tree removal major orchard activities. Farmers fertilizing next years' crops. Winter wheat and barley improved with moisture. Greenbugs widespread--spraying as needed. Livestock, winter feed supplies in good shape. Cattle still on fall pastures, crop residues. Spring calf crop sold.

WEST VIRGINIA: Temperatures normal northeast and 3 to 5° below normal elsewhere. Precipitation below normal. Snow on ground in upper elevations.

Fieldwork: 5.0 days suitable. Soil moisture 22% short 78% adequate. Cold weather causing heavy feeding of livestock. Fall sown grains growth below normal. Corn picking progressing rapidly but has high moisture content.

WISCONSIN: Week began unseasonably cold with low of minus 2° Eagle River 15th. Temperatures moderated to upper 40's and lower 50's remainder of week, colder on weekend. Precipitation continued light. Scattered snow of 1.00 to 2.00 in. north weekend. Snow flurries south 21st.

WYOMING: Temperatures above normal. Precipitation below normal. No major snow cover yet, conditions still dry.

Wind has been minimal so winter wheat still fair to good condition. Some grain corn still being harvested. Major activities: moving livestock to winter range and some plowing.

The Heating Degree Day Statistic: A Measure of Fuel Needs

Already winter has crept into many northern States, and for most of the rest of the Nation is just around the corner. Though this year's heating fuel supply prospects may not be as grim as some previous year's, a prolonged cold period over a broad geographic area could cause severe problems. An excellent indicator of an area's demand for heating fuel is the heating degree day statistic, which relates average temperature to fuel needs. Starting with this issue the Bulletin will provide the latest information on the heating degree-day situation.

At the turn of the century heating engineers developed the heating degree-day statistic to integrate temperature and fuel consumption. Concerned only with the outdoor air temperature, the heating degree-day statistic neglects other factors like solar radiation and wind. Many studies have shown that when the daily mean air temperature is 65° or above most buildings require no heat to maintain an inside temperature of at least 70°.

To determine the daily degree-day statistic subtract the daily mean temperature from a base temperature of 65° as shown:

$$65^{\circ} - \frac{\text{max temp} + \text{min temp}}{2.0} = \text{daily heating degree-days}$$

Each degree of mean temperature below 65° is 1 degree-day unit. If the daily mean temperature is 45°, 20 heating degree-days are accumulated. In the same way a daily mean temperature of 25° means 40 degree-day units have been accumulated. About twice as much fuel is needed on a day with 40 heating degree-day units than on a day with 20 heating degree-day units. When the mean temperature exceeds 65°, the heating degree-day value for the day is zero. To determine the degree-days for any given period add the degree-days for each day of the period.

The fuel industry can monitor fuel consumption by keeping up-to-date on the heating degree-day accumulations. Then, forecasts can be converted into heating degree-day statistics and used to determine future fuel needs. High storage costs for oil and gas put a premium on the precise evaluation of use and demand rates for fuel and on the efficient scheduling of fuel deliveries--especially in times of tight supplies.

For the rest of the heating season the Bulletin will feature three maps. The first will show heating degree-days for the week as the percent departure from normal (1941-70); the second, the number of heating degree-days accumulated from July 1, 1976 as the percent departure from normal; and the third, the number of heating degree-days accumulated since July 1, 1976 as the percent departure from last year.

If a map shows a positive departure, the heating degree-day accumulation is greater than the comparative value. This means that temperatures have been colder and fuel consumption has been greater than expected. A negative departure indicates that conditions have been warmer than anticipated. Note the similarity between the weekly percent of normal departure and the temperature departure map on page 2.

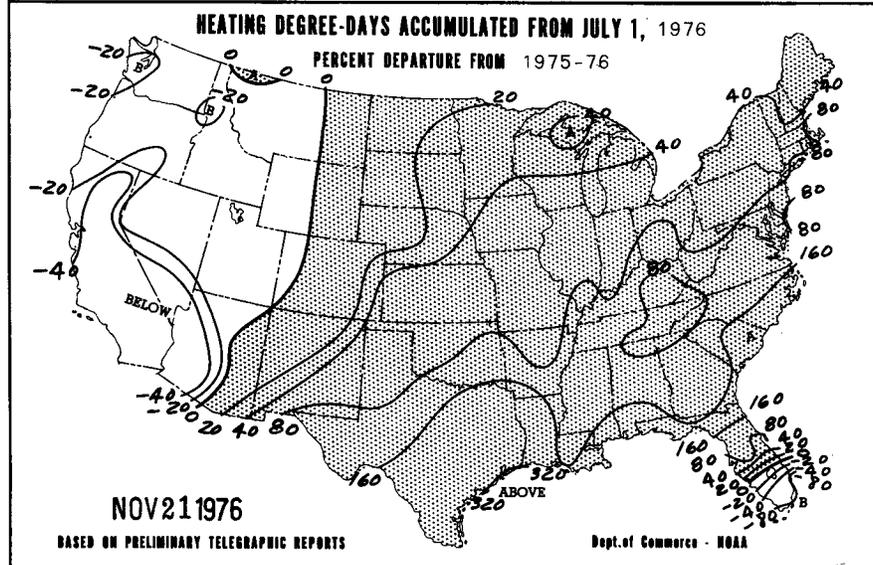
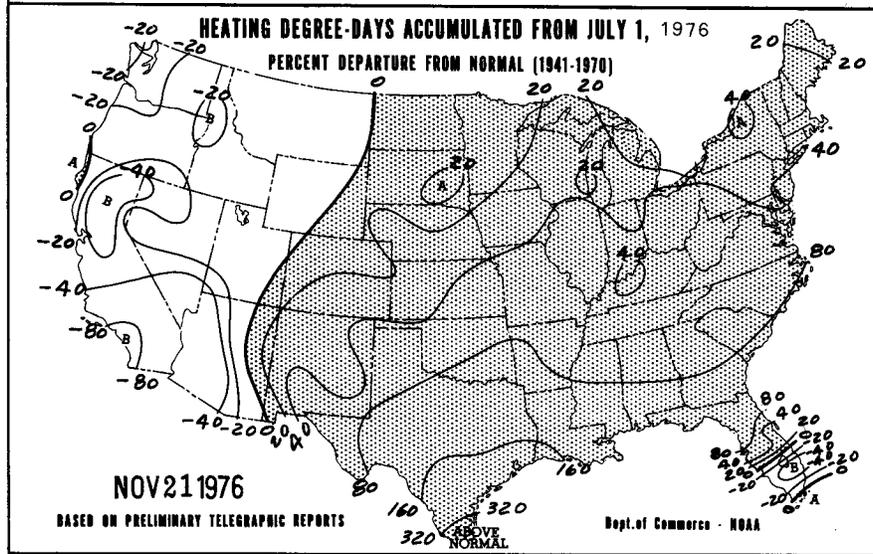
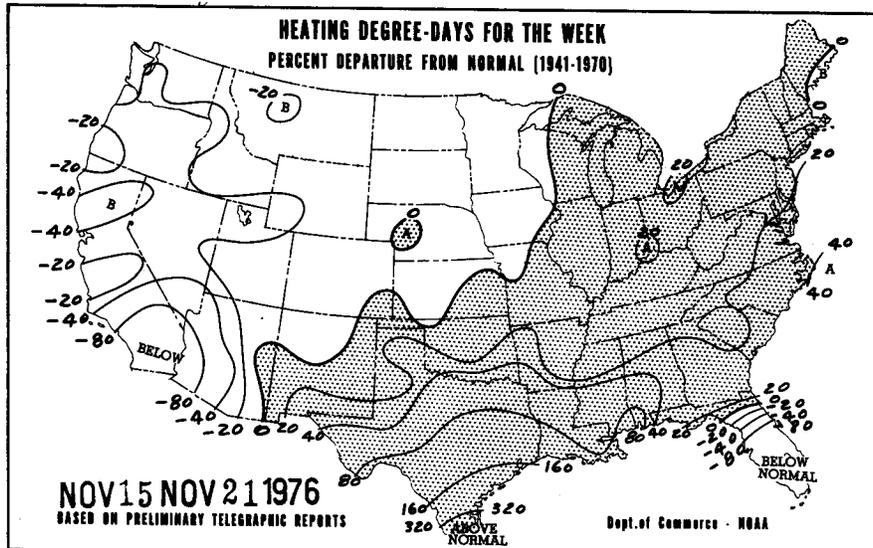
Starting July 1 of this year the heating degree day accumulation up to now has been above normal over the entire Nation east of the Rockies. This means that these areas have been cooler than normal and so have required additional energy to keep homes at a comfortable temperature. Compared to last year these areas have also been colder.

Heating degree data supplied by National Weather Service Offices are summarized and maps are prepared by the National Meteorological Center, Suitland, Maryland. For monthly normals for all cooperative stations, see Climatology of the United States No. 81. Daily normals appear in Climatology of the United States No. 84. Both publications are available from the National Climatic Center, Asheville, North Carolina 28801.

Table 1. The normal heating degree-day accumulations by months during the primary heating season for fifteen cities across the United States and the 1975-76 accumulations.

City	November Norm*1975	December Norm 1975	January Norm 1976	February Norm 1976	March Norm 1976	Annual Norm	Total 1975/76
Washington, D.C.	510 328	856 752	911 956	776 524	617 415	4211	3413
Philadelphia, Pa.	564 372	924 866	1014 1120	871 692	716 572	4865	4258
Trenton, N.J.	561 380	933 870	1020 1123	885 758	738 606	4947	4418
New York, N.Y.	528 372	915 857	1017 1111	885 695	741 618	4848	4376
Boston, Mass.	594 395	992 942	1110 1198	969 800	834 733	5621	4897
Buffalo, N.Y.	756 535	1150 1134	1280 1400	1137 958	1020 853	6927	6418
Cleveland, Ohio	702 532	1076 1015	1181 1336	1039 836	896 614	6154	5701
Detroit, Mich.	747 537	1132 1107	1252 1413	1075 914	921 757	6419	5503
Chicago, Ill.	774 532	1175 1029	1305 1389	1089 840	908 674	6497	5660
St. Louis, Mo.	600 498	942 910	1045 1137	837 619	682 505	4750	4455
Omaha, Nebr.	813 695	1218 1051	1389 1219	1106 791	942 757	6601	5347
Minneapolis, Minn.	993 818	1451 1346	1649 1650	1366 1074	1147 1031	8310	7170
Denver, Colo.	768 840	1004 843	1088 1006	902 740	868 859	6016	5637
Salt Lake City, Utah	777 825	1076 989	1147 1207	885 890	787 826	5978	5745
Seattle-Tacoma, Wash.	612 594	760 713	831 712	636 693	648 781	5185	4942

*Normals based on 1941-70.



HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING NOV. 21, 1976.

STATES AND STATIONS	WEEKLY		SEASONAL ACCUMULATION +			STATES AND STATIONS	WEEKLY		SEASONAL ACCUMULATION +			STATES AND STATIONS	WEEKLY		SEASONAL ACCUMULATION +		
	TOTAL	DEPARTURE*	TOTAL	DEPARTURE*	DEPARTURE FROM 1975-76		TOTAL	DEPARTURE*	TOTAL	DEPARTURE*	DEPARTURE FROM 1975-76		TOTAL	DEPARTURE*	TOTAL	DEPARTURE*	DEPARTURE FROM 1975-76
ALA. BIRMINGHAM...	12	23	45	45	1110	MAINE CARIBOU...	21	15	215	272	423	YOUNGSTOWN.....	21	31	1520	479	609
MOBILE.....	12	23	45	45	1110	PORTLAND.....	21	15	215	272	423	OKLA. OKLAHOMA CITY...	14	19	739	28	324
MONTGOMERY...	12	23	45	45	1110							TULSA.....	13	19	765	28	364
ARIZ FLAGSTAFF...	16	1	1316	222	222	MD BALTIMORE.....	16	3	916	260	492	OREG ASTORIA.....	14	2	1008	22	291
PHOENIX.....	16	1	1316	222	222	MASS BOSTON.....	15	12	971	188	440	BURNS.....	15	1	1022	22	159
TUCSON.....	16	1	1316	222	222	MICH ALPENA.....	22	2	1404	14	27	MEADOWS.....	15	1	1022	22	159
WINSTON-SALEM...	16	1	1316	222	222	DETROIT.....	22	2	1404	14	27	PENDELTON.....	15	1	1022	22	159
YUMA.....	16	1	1316	222	222	GRAND RAPIDS.....	22	2	1404	14	27	PORTLAND.....	15	1	1022	22	159
ARK FORT SMITH...	15	39	795	370	370	HOUGHTON LAKE.....	22	2	1404	14	27	SALEM.....	15	1	1022	22	159
LITTLE ROCK.....	15	39	795	370	370	LANSING.....	22	2	1404	14	27	PA ALLENTOWN.....	18	1	1154	48	503
CALIF BAKERSFIELD...	35	75	156	181	181	MARQUETTE.....	22	2	1404	14	27	ERIE.....	18	1	1154	48	503
FRESNO.....	35	75	156	181	181	HUSKESON.....	22	2	1404	14	27	HARRISBURG.....	18	1	1154	48	503
LOS ANGELES.....	35	75	156	181	181	S. STE. MARIE.....	22	2	1404	14	27	PHILADELPHIA.....	18	1	1154	48	503
RED BLUFF.....	35	75	156	181	181	MINN DULUTH.....	22	2	1404	14	27	PITTSBURGH.....	18	1	1154	48	503
SAN DIEGO.....	35	75	156	181	181	INTERNATL FALLS.....	22	2	1404	14	27	R.I. PROVIDENCE.....	18	2	1248	35	505
SAN FRANCISCO.....	35	75	156	181	181	MINNEAPOLIS.....	22	2	1404	14	27	S.C. CHARLESTON.....	9	27	463	21	396
STOCKTON.....	35	75	156	181	181	ROCHESTER.....	22	2	1404	14	27	COLUMBIA.....	11	14	591	31	370
COLO DENVER.....	27	61	226	226	226	ST. CLOUD.....	22	2	1404	14	27	GREENVILLE.....	11	14	591	31	370
GRAND JUNCTION...	27	61	226	226	226	MISS JACKSON.....	22	2	1404	14	27	S.DAK ABERDEEN.....	22	33	1568	89	435
PUEBLO.....	27	61	226	226	226	MERIDIAN.....	22	2	1404	14	27	HURON.....	22	33	1568	89	435
CONN BRIDGEPORT...	19	919	236	412	412	MO COLUMBIA.....	17	15	117	403	427	RAPID CITY.....	21	31	1349	116	215
HARTFORD.....	19	919	236	412	412	KANSAS CITY.....	17	15	117	403	427	ST. LOUIS.....	21	31	1349	116	215
DEL WILMINGTON...	16	20	917	243	444	ST. LOUIS.....	17	15	117	403	427	ST. LOUIS.....	21	31	1349	116	215
D.C. WASHINGTON...	15	16	773	479	479	SPRINGFIELD.....	17	15	117	403	427	ST. LOUIS.....	21	31	1349	116	215
FLA APALACHICOLA...	47	1	328	207	218	MONT BILLINGS.....	27	3	1276	69	69	TENN CHATTANOOGA...	14	23	756	240	268
DAVONA BEACH.....	47	1	328	207	218	GLASGOW.....	27	3	1276	69	69	CHATTANOOGA...	14	23	756	240	268
FORT MYERS.....	47	1	328	207	218	GREAT FALLS.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
JACKSONVILLE...	47	1	328	207	218	HAVRE.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
KEY WEST.....	47	1	328	207	218	HELENA.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
LAKELAND.....	47	1	328	207	218	KALISPELL.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
MIAMI.....	47	1	328	207	218	MILES CITY.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
ORLANDO.....	47	1	328	207	218	MISSOULA.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
TALLAHASSEE.....	47	1	328	207	218	NEBR GRAND ISLAND...	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
TAMPA.....	47	1	328	207	218	LINCOLN.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
WEST PALM BEACH...	47	1	328	207	218	NORFOLK.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
GA ATLANTA.....	22	22	717	301	390	NORTH PLATTE.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
AUGUSTA.....	22	22	717	301	390	OMAHA.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
Macon.....	22	22	717	301	390	VALENTINE.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
SAVANNAH.....	22	22	717	301	390	NEV ELY.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
IDAHO BOISE.....	42	42	985	86	14	LAS VEGAS.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
LENISSON.....	42	42	985	86	14	RENO.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
POCATELLO.....	42	42	985	86	14	WINNECOCCA.....	27	3	1276	69	69	KNOXVILLE.....	14	23	756	240	268
ILL CAIRO.....	1	1	879	44	44	N.H. CONCORD.....	27	29	1697	41	352	UTAH SALT LAKE CITY...	44	48	886	164	108
CHICAGO.....	1	1	879	44	44	J. ATLANTIC CITY.....	27	29	1697	41	352	BURLINGTON.....	21	11	1711	376	595
HOLINE.....	1	1	879	44	44	TRENTON.....	27	29	1697	41	352	VA LYNCHBURG.....	14	14	676	28	430
PEORIA.....	1	1	879	44	44	N.MEX ALBUQUERQUE...	15	9	834	192	271	NORFOLK.....	14	14	676	28	430
ROCKFORD.....	1	1	879	44	44	ROSELLE.....	15	9	834	192	271	RICHMOND.....	14	14	676	28	430
SPRINGFIELD.....	1	1	879	44	44	N.Y. ALBANY.....	19	19	1470	359	574	ROANOKE.....	14	14	676	28	430
IND EVANSVILLE...	27	27	99	270	391	BINGHAMTON.....	19	19	1470	359	574	WASH QUILLAYUTE...	35	1	1591	13	160
FORT WAYNE.....	27	27	99	270	391	BUFFALO.....	19	19	1470	359	574	SEATTLE-TACOMA...	35	1	1591	13	160
INDIANAPOLIS...	27	27	99	270	391	NEW YORK.....	19	19	1470	359	574	SPOKANE.....	35	1	1591	13	160
SOUTH BEND.....	27	27	99	270	391	ROCHESTER.....	19	19	1470	359	574	HALLA HALLA.....	35	1	1591	13	160
IOWA BURLINGTON...	1	1	133	44	44	SYRACUSE.....	19	19	1470	359	574	YAKIMA.....	35	1	1591	13	160
DES MOINES.....	1	1	133	44	44	N.C ASHEVILLE.....	4	4	401	401	440	W.VA BECKLEY.....	14	14	676	28	430
DUBUQUE.....	1	1	133	44	44	CHARLOTTE.....	4	4	401	401	440	CHARLESTON.....	14	14	676	28	430
STOUC CITY.....	1	1	133	44	44	GREENSBORO.....	4	4	401	401	440	HUNTINGTON.....	14	14	676	28	430
KANS CONCORDIA...	1	1	106	33	33	HATTERAS.....	4	4	401	401	440	PARKERSBURG.....	14	14	676	28	430
DODGE CITY.....	1	1	106	33	33	RALPH.....	4	4	401	401	440	WIS GREEN BAY.....	14	14	676	28	430
GOODLAND.....	1	1	106	33	33	HILLINGTON.....	4	4	401	401	440	LACROSSE.....	14	14	676	28	430
TOPERA.....	1	1	106	33	33	N.DAK BISMARCK...	5	5	215	215	241	HADISON.....	14	14	676	28	430
WICHITA.....	1	1	106	33	33	HILLISTON.....	5	5	215	215	241	HILMAUKEE.....	14	14	676	28	430
KY LEXINGTON.....	1	1	143	44	44	OHIO AKRON-CANTON...	20	20	448	448	497	WYO CASPER.....	14	14	676	28	430
LOUISVILLE...	1	1	143	44	44	CINCINNATI.....	20	20	448	448	497	CHEYENNE.....	14	14	676	28	430
LA BATON ROUGE...	30	30	387	198	198	CLEVELAND.....	20	20	448	448	497	LANDEN.....	14	14	676	28	430
LAKE CHARLES...	30	30	387	198	198	COLUMBUS.....	20	20	448	448	497	SHERIDAN.....	14	14	676	28	430
NEW ORLEANS...	30	30	387	198	198	DAYTON.....	20	20	448	448	497						
SHREVEPORT.....	30	30	387	198	198	TOLEDO.....	20	20	448	448	497						

* BASED ON 1941-70 NORMALS.

+ ACCUMULATION FROM JULY 1, 1976.



FIRST CLASS MAIL

HARVESTING PROGRESS

Percent of Acreage Harvested
 as of November 21

SOYBEANS				SORGHUM				COTTON			
	1976	1975	Avg.		1976	1975	Avg.		1976	1975	Avg.
Ala.	82	74	76	Kans.	95	95	80	Ala.	69	59	77
Ark.	88	89	81	Mo.	96	97	81	Ark.	88	88	1/
Ga.	55	61	1/	Nebr.	100	100	1/	Ga.	67	69	1/
Ill.	100	100	100	Okla.	90	1/	70	La.	95	72	71
Ind.	99	1/	1/	S. Dak.	100	100	1/	Miss.	89	61	78
Iowa	100	1/	1/	Tex.	98	99	94	Mo.	84	93	80
Kans.	95	95	85	6-States	97	98	87	N. C.	68	77	73
Ky.	1/	1/	1/	These 6 States produced 90% of the Nation's sorghum grain in 1975.				Okla.	50	6	25
La.	97	91	83					S. C.	75	84	83
Mich.	99	1/	1/					Tenn.	87	85	85
Minn.	100	1/	1/					Tex.	34	40	35
Miss.	87	75	73					11-States	59	54	52
Mo.	95	97	83					These 11 States produced 68% of the Nation's cotton in 1975.			
Nebr.	100	100	100								
N. C.	51	50	53								
Ohio	100	1/	1/								
S. C.	43	45	52								
Tenn.	88	80	75								
U. S.	92	86	83								

The 18 States produced 96% of the Nation's soybeans in 1975.

These 14 States produced 89% of the Nation's corn in 1975.

1/Data not available.

