

Weekly Weather & Crop Bulletin

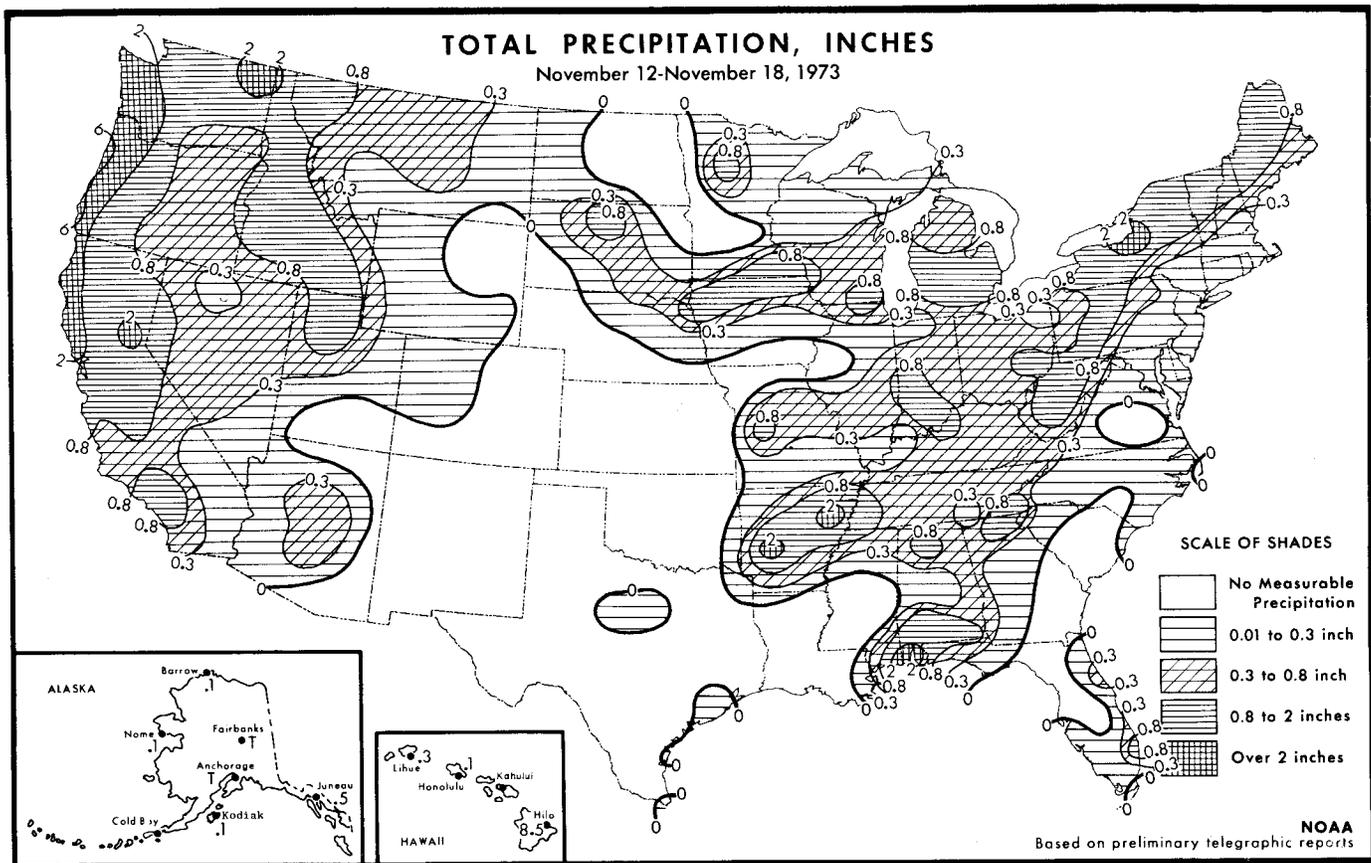
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NATIONAL WEATHER SUMMARY

HIGHLIGHTS: While temperatures averaged well above normal over much of the Nation, they varied greatly from day to day. A large low pressure system over the Pacific brought 6.00 in. rain to Oregon's coast and dumped large amounts of rain and snow over the Northwest, and dropped rain well into southern California.

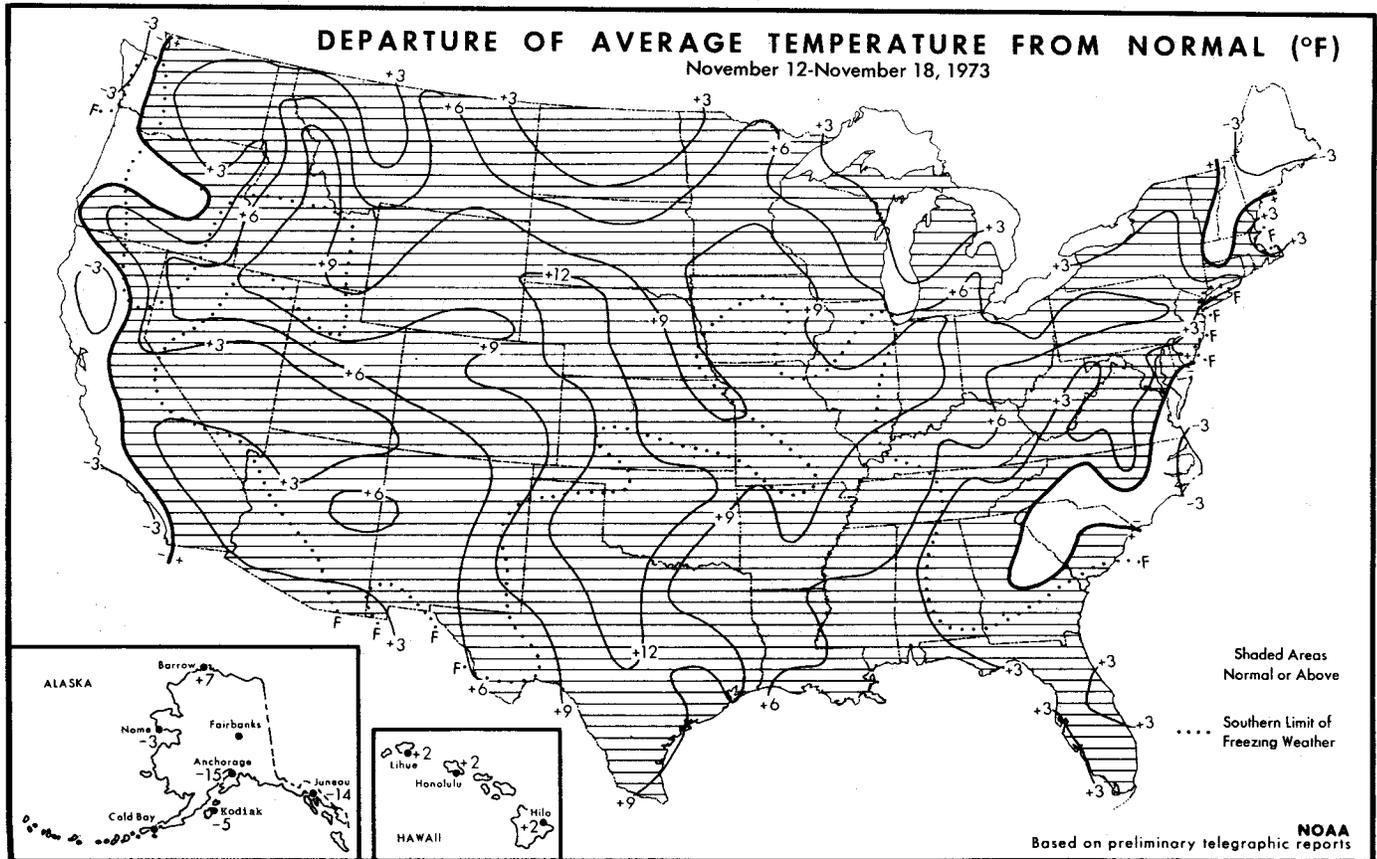
PRECIPITATION: Winter season rains fell on the Northwestern Pacific Coast all week. The Oregon coastline received 6.00 in. or more while 2.00 in. or more fell on coastal and inland areas north of San Francisco. All of northern and central California received 0.80 in. or more. The northern Rockies also received 0.80 in. precipitation, and a desert area in Arizona--which had been very dry even for Arizona--got 0.30 in. rain and snow.

The central and southern Plains had little or only light precipitation. Scattered storms dropped 2.00 in. on parts of Arkansas, around Mobile, Ala., and the Syracuse, N. Y., area.

A clear Monday dawned in the East, while rain deluged the West Coast. By midmorning Brookings, Ore., had 1.13 in. rain, bringing its 24-hour total to 2.50 in. Showers fell on the northern half of the Rockies, higher elevations had snow. Rock Springs, Wyo., reported light snow and 68 mph winds.

Monday night a large Low and a cold front moved through the Rockies. Two in. of new snow fell above 4,000 feet elevations in the Sierra Nevadas. Rain continued in the Northwest. Crescent City, Cal., received 1.02 in. Another 0.83 in. fell at Brookings, Ore., Tuesday morning. Reno, Nev., got 1 in. snow. To the east New England and the Gulf got scattered showers.

Early Wednesday, as a second cold front crossed the northern Rockies and the Great Basin, rain fell as far south as central California. Later Wednesday, scattered thunderstorms associated with the leading cold front broke over the Great Lakes, while drizzle and fog filled the Nation's mid-



section. One thunderstorm pelted Sioux City, with 1-1/2 in. hail, as over 1.00 in. rain fell over northwest Iowa.

Two storms beset the Nation Thursday. The first, a Low moving from the mid-Mississippi Valley to the Great Lakes, caused 58 mph wind gusts at Champaign, Ill., and rain and snow fell from Mississippi eastward. Heaviest rains fell along the Ohio River Valley.

The second storm, a Low northwest of Washington, caused gusts to 63 mph at the mouth of the Columbia River, and brought rain and snow to the Northwest. Newport, Ore., got 0.87 in. in 6 hours.

Rain in the East continued into Friday, particularly in the Northeast. Morgantown, W. Va., got 0.38 in. late Thursday-early Friday rain. The Low, now centered over New York, spread rain on Friday from New England to the Ohio Valley, the highest amounts were 0.28 in. in central Pennsylvania and 0.34 in. in Maine.

Saturday a storm loomed off the central Pacific Coast, and strong winds blew over the Northwest as the fourth frontal passage of the week occurred. Rainfalls of 1.50 in. were reported all over northern California, and the mountains near Reno, Nev., got 6 in. of snow. Los Angeles, Cal., received 1.74 in. rain in 24 hours. Sunday the Pacific storm continued. It caused some light rain as far east as Utah and light rain and snow fell in Arizona areas that badly needed moisture.

TEMPERATURE: Most of the Nation averaged above normal; the Nation's midsection well above--a six-State area stretching from Texas to South Dakota averaged 12° above seasonal norms, while parts of 18 central and western States averaged 6° above.

Many record highs were measured, particularly over the southern Plains. However, extreme temperature contrasts marked the week in many places.

Unseasonable warmth began to spread out of the southern Plateau into the central and southern Plains and the middle Mississippi Valley on Monday. Amarillo, Tex., hit 81°, while Dalhart, Tex., recorded 85°. In the north, cold air moved out of Canada into North Dakota and Minnesota and early afternoon temperatures did not get out of the 30's, while the southern Great Lakes region had mid-50's, 20° higher on the average than the day previous.

Tuesday, morning temperatures held in the 50's through south Iowa and southeast Nebraska, 20° above normal. Later in the day, Kansas and eastern Colorado reached the 70's, and strong southwest winds spread unseasonably warm air over the Atlantic States. Texas had something of a heat wave; record highs included: Amarillo, 81°; Lubbock, 82°; and Midland, 83°.

Wednesday records were shattered in the Northeast: New York, N. Y., 69°; Harrisburg, Pa., 73°; Boston, Mass., 71°. Cooler air prevailed behind a cold front from Montana to the Great Lakes, where 30's prevailed, and into northern Kansas. North Kansas had 50's, south Kansas, 70's.

Records fell again on Thursday throughout the Northeast: Baltimore, Md., Trenton, N. J., and New York, N. Y., all hit 77°. Washington, D. C., hit 79°, breaking a record set in 1879.

An abrupt invasion of cold air ended on Friday the East's summer weather. Washington, D. C., fell to 45° overnight and reached a Friday afternoon high of 62°. Similar contrasts hit most eastern cities.

(continued on p. 16)

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: The harvest made good progress again last week. Nationwide, harvesting advanced to 87% complete for corn and 89% complete for soybeans, well ahead of normal for both. Additional rain and snow benefited the droughty Northwest.

SMALL GRAINS: Winter wheat planting was virtually over in Kansas and Oklahoma and 97% done in Texas by November 18. Many areas in Nebraska, Kansas and the Texas Panhandle need topsoil moisture. Wheat condition in Kansas and Nebraska is mostly fair to good. Growth of much late planted acreage is subnormal making it vulnerable to wind erosion this winter. Texas High Plains irrigated wheat is excellent but dryland acreage is showing moisture stress. Colorado wheat is rated as good.

Heavy rains that again fell on much of the Northwest helped replenish surface and soil moisture lowered by months of drought. Rain or snow benefited most of Montana and Idaho. Most fields in Washington absorbed the moisture well with no runoff and erosion. Some small grain fields in Oregon were under water.

Wheat seedings in the eastern Corn Belt are in good to excellent condition with generally adequate soil moisture. Small grain seeding is progressing normally in most of the South.

CORN: Favorable weather permitted farmers to advance the Nation's corn harvest 10 points last week to 87% complete by November 18, well ahead of the 55% complete in 1972. Corn Belt harvesting progress at 87% complete is running over a week ahead of the normal of 75% complete and far ahead last year's slow pace of only 50% complete.

Iowa corn was 86% harvested compared to 46% in 1972 and the normal of 71%. Illinois reached 90% complete versus 53% in 1972 and the normal 79%. Minnesota farmers were practically finished harvesting 2 weeks ahead of normal. Ideal weather this fall spurred harvesting in Wisconsin to 90% complete, also about 2 weeks ahead of the normal 75%. Kansas at 75% complete is the only Corn Belt State behind normal. The Southern corn harvest 90% done moved ahead of normal in most areas.

COTTON: Cotton harvesting neared completion from the Texas Low Plains southward, but was in full swing northward. A hard freeze would speed up the slower than usual Texas harvest which is only 38% complete versus 38% last year and 50% normally done.

Most Oklahoma cotton farmers were waiting for a hard freeze to defoliate cotton plants before proceeding with the harvest which is only 9% complete compared to 33% in 1972 and 27% normally done.

The Delta and Southeast harvests moved rapidly to about 80% complete. Picking was 81% done in Mississippi versus 82% in 1972 and 80% done in Arkansas versus 80% in 1972.

Ideal weather in the Western cotton States permitted steady harvest progress. Many fields in the San Joaquin Valley of California are completed. New Mexico cotton is 50% picked. U. S. upland cotton ginned prior to November 1 this season contained the largest proportion of grade 31 and higher White grades in 3 years, according to the USDA Agricultural Marketing Service.

SOYBEANS: Soybean harvesting reached virtual completion in the Corn Belt last week and advanced rapidly in the South. By November 18, the Nation's soybean crop was 89% harvested, far ahead of the 68% harvested this date last year.

Farmers in all of the Corn Belt States except Missouri and Kansas practically finished combining soybeans last week about a week ahead of normal. Harvesting for all Corn Belt States combined was 98% done versus 72% last year and 94% normally done.

Southern soybean harvesting advanced 17 points last week to 70% complete versus only 59% a year earlier. An almost unequalled fast pace of harvest occurred in North Carolina pushing harvest to 70% complete versus 40% in 1972 and the normal 45%. Harvesting advanced rapidly in Arkansas where 22% of the acreage was combined last week and harvest is 68% complete. Mississippi soybeans are 67% harvested versus 51% in 1972 and 72% normal.

OTHER CROPS: Favorable weather this fall permitted an early harvest and more plowing than normal for this time of year in the Corn Belt.

Fertilizer is in short supply in Iowa. No other States reported fertilizer shortages last week, but fuel shortages were reported in Ohio and Iowa.

Sorghum grain harvesting progressed well. About 90% of the crop is harvested in 7 major producing States versus 69% in 1972 and 89% normally harvested. Some harvest completion rates for sorghum grain: Texas 96%, Kansas 80%, Nebraska 100%, and Oklahoma, 71%.

Flue-cured tobacco sales in North Carolina decreased while farmers in Kentucky and Tennessee were busy stripping burley for market opening on November 26.

A large part of the sugar beet crop in Washington is still in the ground due to wet weather.

FRUITS AND NUTS: Florida citrus growers continued to irrigate trees which were in good condition, but water supplies are running low and rain is needed. Dry weather permitted the Texas citrus harvest to gain momentum. Navel orange picking in California increased, but fruit were small and not colored well.

Pecan harvesting in Georgia reached 37% complete and remained active throughout Texas.

VEGETABLES: In Florida, snap beans, sweet corn, cucumbers, eggplant, radishes, squash, and tomatoes were moving in good supply last week while other crops were in light supply.

Cabbage, pepper, and tomato harvesting continued in the Texas Lower Rio Grande Valley.

Rain and wet fields slowed vegetable harvesting in some areas of California. Lettuce harvesting is nearly complete at San Joaquin, but increased at Palo Verde.

PASTURES AND LIVESTOCK: Good precipitation fell on the Northwest again last week and lower elevation pastures made new growth. Most cattle in the Western States are receiving supplemental feed.

Many cattle in the Great Plains are gleaning harvested fields and doing well. Early planted wheat fields provided limited pasture in Kansas. Screw-worm cases in Texas have spread northward into the coastal bend and southcentral area.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Nov. 18, 1973

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 . . .	54	+ 1	.2	-.6	La. Baton Rouge . . .	65	+ 6	0	-1.2	Youngstown . . .	46	+ 6	.3	-.4
Mobile . . .	63	+ 4	2.1	+1.4	Lake Charles . . .	66	+ 6	0	-.9	OKLA. Okla. City . . .	61	+12	0	-.4
Montgomery . . .	56	+ 2	.1	-.6	New Orleans . . .	65	+ 5	T	-.8	Tulsa . . .	60	+13	0	-.5
ALASKA. Anchorage . . .	7	-15	T	-.3	Shreveport . . .	63	+ 7	T	-1.0	OREG. Astoria . . .	44	- 2	3.7	+1.3
Barrow . . .	6	+ 7	.1	0	MAINE. Caribou . . .	26	- 5	1.1	+ .3	Burns . . .	36	0	.6	+ .3
Fairbanks . . .	-	-	T	-.1	Portland . . .	39	0	.3	-.7	Medford . . .	45	+ 3	.8	+ .2
Juneau . . .	-14	-5	.5	-1.0	MD. Baltimore . . .	48	+ 2	T	-.7	Pendleton . . .	45	+ 4	.7	+ .4
Kodiak . . .	30	- 5	.1	---	MASS. Boston . . .	48	+ 3	T	-.9	Portland . . .	45	0	4.1	+2.9
Nome . . .	14	- 3	.1	-.2	Chatham . . .	45	---	.1	---	Salem . . .	44	- 1	5.7	+4.4
ARIZ. Flagstaff . . .	39	+ 3	.7	+ .5	MICH. Alpena . . .	37	+ 2	.5	-.1	PA. Allentown . . .	47	+ 4	.1	-.6
Phoenix . . .	62	+ 4	.5	+ .4	Detroit . . .	44	+ 4	.8	+ .3	Erie . . .	44	+ 4	.8	0
Tucson . . .	61	+ 3	0	-.2	Flint . . .	43	+ 6	1.5	+1.0	Harrisburg . . .	49	+ 5	.1	-.6
Winslow . . .	48	+ 7	.4	+ .3	Grand Rapids . . .	44	+ 5	1.4	+ .8	Philadelphia . . .	49	+ 4	T	-.8
Yuma . . .	65	+ 3	T	0	Houghton Lake . . .	37	+ 2	.6	0	Pittsburgh . . .	47	+ 6	.6	0
ARK. Fort Smith . . .	58	+ 8	.1	-.6	Lansing . . .	44	+ 5	1.6	+1.1	Scranton . . .	44	+ 4	.3	-.4
Little Rock . . .	58	+ 9	.9	-.1	Marquette . . .	36	+ 2	.1	-.6	R.I. Providence . . .	46	+ 2	.1	-.8
CALIF. Bakersfield . . .	58	+ 2	.5	+ .4	Muskegon . . .	42	+ 2	1.0	+ .3	S.C. Charleston . . .	58	+ 2	T	-.5
Little Rock . . .	51	- 1	4.4	+3.4	S. Ste. Marie . . .	34	0	.3	-.5	Columbia . . .	54	0	T	-.5
Fresno . . .	55	+ 1	1.1	+ .9	MINN. Duluth . . .	32	+ 4	.1	-.3	Greenville . . .	50	- 2	.1	-.5
Los Angeles . . .	60	- 3	.8	+ .6	Internatl Falls . . .	30	+ 6	.2	-.2	S.D. Aberdeen . . .	36	+ 6	.2	0
Red Bluff . . .	51	- 4	1.4	+1.1	Minneapolis . . .	41	+10	T	-.3	Huron . . .	39	+ 8	.2	0
San Diego . . .	62	0	.7	+ .5	Rochester . . .	41	+ 9	1.6	+1.2	Rapid City . . .	44	+ 9	T	-.1
San Francisco . . .	54	- 1	1.9	+1.6	St. Cloud . . .	38	+ 8	T	-.3	Sioux Falls . . .	42	+ 9	.1	-.2
Stockton . . .	55	+ 2	1.1	+ .8	MISS. Jackson . . .	59	+ 4	0	-.8	TENN. Chattanooga . . .	50	+ 1	.2	-.6
COLO. Denver . . .	47	+10	0	-.2	Meridian . . .	59	+ 5	0	-.7	Knoxville . . .	52	+ 3	.4	-.3
Grand Junction . . .	46	+ 7	.1	-.1	MO. Columbia . . .	54	+10	.4	-.2	Memphis . . .	58	+ 8	1.3	+ .3
Pueblo . . .	47	+ 7	0	-.2	Kansas City . . .	53	+ 8	0	-.5	Nashville . . .	56	+ 7	.4	-.4
CONN. Bridgeport . . .	50	+ 5	T	-.9	St. Louis . . .	55	+11	.5	-.1	TEX. Abilene . . .	65	+12	.2	-.1
Hartford . . .	42	0	.2	-.7	Springfield . . .	55	+10	T	-.7	Amarillo . . .	58	+12	0	-.2
D.C. Washington . . .	52	+ 4	T	-.7	MONT. Billings . . .	41	+ 6	.3	+ .2	Austin . . .	68	+ 9	T	-.5
FLA. Apalachicola . . .	64	+ 3	0	-.6	Glasgow . . .	33	+ 5	.3	+ .2	Beaumont . . .	67	+ 8	0	-.8
Daytona Beach . . .	68	+ 3	.4	---	Great Falls . . .	36	+ 2	.4	+ .2	Brownsville . . .	75	+ 7	.2	-.1
Ft. Myers . . .	72	+ 3	.1	-.2	Havre . . .	35	+ 6	.3	+ .2	Corpus Christi . . .	75	+11	.1	-.3
Jacksonville . . .	63	+ 1	.2	-.2	Helena . . .	34	+ 2	.3	+ .2	Dallas . . .	---	---	---	---
Key West . . .	76	+ 2	.1	-.5	Kalispell . . .	36	+ 5	.8	+ .5	Del Rio . . .	68	+ 9	T	-.2
Lakeland . . .	69	+ 2	T	-.4	Miles City . . .	39	+ 6	.1	0	El Paso . . .	56	+ 5	0	-.1
Miami . . .	74	+ 1	T	-.7	Missoula . . .	39	+ 9	.5	+ .3	Fort Worth . . .	64	+ 9	.2	-.4
Orlando . . .	70	+ 4	0	-.4	NEBR. Grand Island . . .	47	+10	T	-.2	Galveston . . .	72	+ 9	0	-.9
Tallahassee . . .	61	+ 2	T	-.5	Lincoln . . .	45	+ 7	T	-.3	Houston . . .	67	+ 8	T	-.9
Tampa . . .	70	+ 3	T	-.3	Norfolk . . .	45	+ 9	.2	-.1	Lubbock . . .	59	+11	T	-.1
W. Palm Beach . . .	73	0	1.2	---	N. Platte . . .	44	+ 9	0	-.1	Midland . . .	61	+ 9	0	-.1
GA. Atlanta . . .	53	+ 2	.1	-.6	Omaha . . .	47	+10	.1	-.2	San Angelo . . .	66	+11	0	-.2
Augusta . . .	52	- 2	T	-.4	Valentine . . .	45	+12	.2	0	San Antonio . . .	70	+11	T	-.3
Macon . . .	56	0	.1	-.4	NEV. Ely . . .	36	+ 2	.6	+ .5	Victoria . . .	72	+10	T	-.6
Savannah . . .	59	+ 2	T	-.5	Las Vegas . . .	57	+ 4	.1	0	Waco . . .	67	+10	T	-.5
HAWAII. Hilo . . .	75	+ 2	8.5	+5.5	Reno . . .	43	+ 4	1.3	+1.2	Wichita Falls . . .	65	+12	0	-.3
Honolulu . . .	78	+ 2	.1	-.4	Winnemucca . . .	44	+ 8	.3	+ .1	UTAH. Blanding . . .	41	+ 2	T	-.2
Kahului . . .	---	---	---	---	N.H. Concord . . .	38	0	.2	-.7	Salt Lake City . . .	47	+10	.9	+ .6
Lihue . . .	77	+ 2	.3	-.7	N.J. Atlantic City . . .	48	+ 1	.1	-.8	VT. Burlington . . .	38	+ 2	.9	+ .2
IDAHO. Boise . . .	46	+ 8	1.0	+ .7	Trenton . . .	49	+ 3	T	-.8	VA. Lynchburg . . .	50	+ 3	T	-.6
Lewiston . . .	43	+ 3	.4	+ .1	N.MEX. Albuquerque . . .	48	+ 4	0	-.1	Norfolk . . .	51	- 1	0	-.7
Pocatello . . .	42	+ 7	.9	+ .7	Roswell . . .	55	+ 9	T	-.1	Richmond . . .	50	+ 1	T	-.7
ILL. Cairo . . .	56	+ 8	.3	-.6	N.Y. Albany . . .	42	+ 2	.3	-.3	Roanoke . . .	51	+ 4	T	-.6
Chicago . . .	46	+ 6	.3	-.2	Binghamton . . .	43	+ 4	.3	-.3	WASH. Colville . . .	37	+ 4	2.8	+2.3
Moline . . .	46	+ 6	T	-.5	Buffalo . . .	43	+ 3	1.8	+1.0	Omak . . .	38	+ 4	1.4	+1.1
Peoria . . .	48	+ 8	T	-.5	New York . . .	51	+ 3	T	-.8	Quillayute . . .	41	- 4	3.2	+ .1
Rockford . . .	44	+ 7	.7	+ .1	Rochester . . .	44	+ 3	1.7	+1.1	Seattle-Tacoma . . .	44	0	2.0	+ .8
Springfield . . .	53	+11	.3	-.3	Syracuse . . .	42	+ 1	2.0	+1.3	Spokane . . .	39	+ 5	1.6	+1.1
IND. Evansville . . .	53	+ 8	.1	-.7	N.C. Asheville . . .	48	+ 2	.1	-.4	Walla Walla . . .	46	+ 4	.7	+ .3
Ft. Wayne . . .	47	+ 8	.6	0	Charlotte . . .	50	- 1	T	-.6	Yakima . . .	42	+ 4	.8	+ .6
Indianapolis . . .	51	+10	.6	-.1	Greensboro . . .	48	0	.2	-.4	W.Va. Beckley . . .	46	+ 3	.6	-.1
South Bend . . .	49	+10	.2	-.5	Hatteras . . .	53	- 4	0	-1.0	Charleston . . .	49	+ 4	.9	+ .2
IOWA. Burlington . . .	50	+10	0	-.5	Raleigh . . .	53	+ 3	T	-.6	Huntington . . .	50	+ 4	.7	+ .1
Des Moines . . .	47	+10	T	-.4	Wilmington . . .	55	- 1	T	-.6	Parkersburg . . .	49	+ 4	.8	+ .3
Dubuque . . .	44	+ 9	.7	+ .1	N.DAK. Bismarck . . .	30	+ 1	T	-.2	WIS. Green Bay . . .	38	+ 4	.7	+ .2
Sioux City . . .	45	+ 9	1.1	+ .8	Fargo . . .	32	+ 4	T	-.2	La Crosse . . .	42	+ 8	.8	+ .3
KANS. Concordia . . .	52	+11	0	-.2	Williston . . .	31	+ 3	.3	+ .2	Madison . . .	40	+ 6	.5	-.1
Dodge City . . .	55	+12	0	-.2	OHIO. Akron-Canton . . .	49	+ 8	.3	-.2	Milwaukee . . .	42	+ 6	.8	+ .2
Goodland . . .	47	+ 9	0	-.1	Cincinnati . . .	47	+ 4	.6	0	WYO. Casper . . .	42	+ 9	T	-.2
Topeka . . .	52	+ 9	0	-.4	Cleveland . . .	47	+ 5	.3	-.3	Cheyenne . . .	42	+ 8	0	-.2
Wichita . . .	55	+11	0	-.4	Columbus . . .	48	+ 6	.7	+ .1	Lander . . .	40	+ 9	.1	-.2
KY. Lexington . . .	50	+10	.4	-.4	Dayton . . .	48	+ 6	.4	-.2	Sheridan . . .	42	+ 9	T	-.2
Louisville . . .	51	+ 7	.9	+ .2	Toledo . . .	45	+ 6	.6	+ .1	P.R. San Juan . . .	80	+ 1	1.2	-.4

CONDENSED STATE SUMMARIES

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

ALABAMA: Clear until Thursday when cold front set off showers and thundershowers. Thursday, wind damaged several DeKalb County communities. Clearing, sharp change to cooler Friday. Coldest Saturday morning--low and mid-30's north and central and low 40's south. Before cold front arrived, temperatures had warmed to 11° above normal statewide.

Farmers generally made good progress getting remaining crops out of field. Rains Thursday slowed harvest, but provided needed moisture for small grains. Second picking and scrapping operations of cotton underway many fields. Harvest about 72% complete, 75% 1972. Corn harvest 83% complete, same 1972. Combining of soybeans taking priority because cotton harvest is complete. About 70% expected production harvested compared with 72% year earlier. Seeding remaining small grains made only fair progress; harvest took priority. Young seedlings in southeast Alabama need rain and farmers waiting for moisture before seeding remaining acreage.

ARIZONA: Temperatures above normal through week, but Sunday, first major winter storm brought rain, snow, and cold. Snow level above 5,000 feet.

Weather favored a steady cotton harvest, but yields Graham County not good as expected. Sorghum harvest about complete, Cochise County and some areas Graham County. Salt River Valley harvest activity increased. Yuma slow, steady. Fall sugar beet harvest complete Cochise County.

Subfreezing temperatures halted alfalfa hay growth, southeast. Harvest seasonally slow. New plantings satisfactory. Farmers prepared land for small grains; planting, irrigating in progress. Lettuce harvest continued, Salt River Valley. Nearing full volume, Yuma. Cochise County harvest complete. Vegetable harvest continued seasonal progress Salt River Valley, Yuma. Vegetables later harvest good progress. Harvest fall cantaloups, honeydews continued central, west. Lemons, grapefruit, navels, tangerines being picked, Salt River Valley. Lemon, grapefruit harvest continued, Yuma. Fruit sizes small but quality very good.

Ranges fair to poor statewide. Existing feed very dry, forage value reduced due to lack of precipitation. Prospects winter feed poor. Supplemental feeding underway some areas. Stock water supplies being depleted. Cattle, calves entering into winter generally good. Sheep, lambs fair to good. Lambing continued active.

ARKANSAS: Quite warm statewide. Temperatures 7° to 11° above normal, mid-60's south border to upper 50's north border. Extremes: 85° and 25° both at Gilbert. Precipitation 0.50 in. or more on weekend from central sections eastward and northeastward. Largest amounts: Augusta 2.50 in., Morrilton 2.10 in., and Hot Springs 2.03 in. Very dry southern one-third and along western and northern borders.

Harvest continued at rapid pace. Additional open weather needed. Soil moisture adequate to surplus. Cotton 80% picked, same as 1972. Mostly second picking underway. Rice harvest almost complete. Soybean harvest progressed rapidly, 68% combined, 60% in 1972. Feed grains mostly complete. Early wheat and oats made excellent growth. Additional planting expected as weather permits.

Pecan harvest continued. Pastures adequate. Livestock good.

CALIFORNIA: Storms in series brought precipitation north and central most of week and to south coast Friday. Amounts: 2.00 in. over some north mountains to over 3.00 in. parts of Sacramento Valley, less than 1.00 in. San Joaquin Valley. Average temperatures stayed above normal most areas and several degrees above in San Joaquin Valley and southeast interior.

Cotton harvest proceeded rapidly. Many fields San Joaquin Valley complete, shredding and discing underway. Harvest continues desert. Sugar beet harvest limited to San Joaquin Valley. Scattered harvest sorghum, corn, dry beans. Final harvest rice delayed. Fall seeded wheat and barley developed well. Pruning and other vineyard operations underway if weather permitted. Table grapes moved from cold storage. Rains interrupted operations in deciduous fruit and nut orchards. Pruning activities increased. Deglet Noor date harvest continued.

Navel orange picking increased, exterior color not best, sizes small. Valencia harvest to end 2 weeks. Tangerine packing active. Small sizes slowed lemon harvest. Avocado harvest light, quality excellent. Artichoke, seasonal level. Broccoli, cauliflower Salinas moderate. Rain slowed brussels sprouts. Wet fields slowed carrots Salinas, Santa Maria; Imperial underway. Rain hampered central coast celery. Sweet corn continued Kern, south. Lettuce harvest nearly complete San Joaquin, increased Palo Verde, Imperial to begin current week. Potato digging Salinas slow. Stockton onion transplanting well underway. Market tomato volume variable. Range feed growth good northern and central valleys but southern areas need additional moisture to maintain growth. In some north and central valleys, pastures turned to bogs due to heavy rains.

Supplemental feeding generally increased. Feed conditions good and water supplies more than adequate. Most livestock moved to winter pastures, marketing slow. Lambing, calving continued. Supplemental feed costs increasing rapidly northern sections and along coast. Weather generally conducive to milk and egg production. Bees good condition.

COLORADO: Exceptionally mild week. Temperatures statewide averaged 8° to 10° above normal. Little or no precipitation. Highs reached low 80's southeast to upper 50's northwest, 78° in Denver on 10th equalled 1927 record high.

Near perfect weather advanced corn and sorghum harvests. Corn 63% harvested, 5-year average 65%. Grain sorghum 56% combined, 80% 5-year average. Winter wheat generally good, 10% being pastured. Insect damage to winter wheat in southeast locally severe. Ranges and pastures continued to provide ample dry forage. Livestock good to excellent.

FLORIDA: Temperatures very near normal. Rainfall again very light and scattered except for some locally large totals along southeast coast. Soil moisture mostly short, but adequate west and most Atlantic Coast counties. Good weather for harvest-

ing activities. Harvest of most field crops complete.

Cotton and soybean harvest active, some interruptions by showers western areas. Sugarcane harvest gaining momentum, sucrose content good. Small grains continued to suffer from lack of moisture, seeding continued where moisture adequate. Watermelon land being prepared south. Pastures range from severe drought to good condition, soil moisture mostly short. Cattle and calves fair to good.

All vegetable crops progressed well in mild, dry weather. Heavy rains on November 18, 19 inundated some beans and tomatoes in Pompano area northward to Boynton Beach. Extent of damage not determined. Beans, sweet corn, cucumbers, eggplant, radishes, squash, and tomatoes moving in good supply. Peppers, celery, escarole, endive, and lettuce still in relatively light supply but expected to increase rather sharply into December. Cabbage harvest very light, increased seasonally. Potato planting continued active in Dade County and southwest. Southern areas prepared watermelon land for a planting start in December. Citrus tree condition good--rain needed--growers irrigating--water supplies low--fruit droppage no problem.

GEORGIA: Cold early, warmer by midweek. Temperatures averaged 2° subnormal. Dry until scattered showers 15th. Average 0.10 to 0.20 in., but little or none southeast and eastcentral. Cooler weekend and dry except isolated showers southeast portion Sunday.

Soil moisture short to very short: northern counties adequate. Small grains 65% seeded--dry soils delaying seeding and germination. Cotton mostly good--80% picked. Corn fair to mostly good--84% gathered. Soybean harvest 68% complete--rated fair to mostly good. Pecan harvest spreading--37% complete--yields varied. Pastures declined but cattle still good. Considerable early fertilizing and soil testing unseasonably high.

HAWAII: Heavy rain island of Hawaii, November 12. Hamakua Coast got 10.00 to 13.00 in. Damage to crops relatively light. Good weather followed rainstorm, favorable for crop growth. Other islands received less rain which benefited cropland and pastures. Intensive spraying for insects and diseases. Bananas and Papayas plentiful. Some vegetables in short supply. Field operations other than harvesting active in sugar and pineapple plantations.

IDAHO: Unusually wet week. Heaviest precipitation north. Lewiston reported 1.35 in. for week, 1.00 in. above normal. All reporting stations, except in southeast, had rain and/or snow every day. Temperatures above normal. Highs in 50's and 60's and lows ranging from 34° to 27°. From 4 to 13 inches snow on ground higher elevation stations end of period.

Fields too wet for plowing and fertilizing most areas. Only limited harvesting sugar beet crop south. Livestock generally good. Forage plants on lower elevation winter ranges showing new growth in response to above normal temperatures and plentiful moisture supplies. Some forced sales by cattlemen where carryover feed supplies short.

ILLINOIS: Precipitation light midweek and Saturday. Otherwise dry. Temperatures 6° to 11° above normal.

Farmers harvested corn, plowed, applied fertilizer during the 6 days suitable for fieldwork. Corn harvest just over 90% complete, 53% 1972,

1970-72 average 79%. Grain sorghum about 80% complete. Fall plowing 1974 corn and soybean acreage about 52% complete, 26% 1972, average 41%. Winter wheat seedings 90% good to excellent.

Pastures supplying about 55% livestock roughage requirements, 50% both 1972 and average. Condition excellent 13%, good 60%, fair 22%, poor 4%, failure 1%. Soil moisture short 7%, adequate 89%, surplus 4%.

INDIANA: Temperatures averaged from 6° above normal south to 13° above north. Precipitation ranged from 0.10 in. north to 0.80 in. central and southeast. Severe storm damage Thursday morning at Terre Haute, Richmond, and south of Marion.

Fieldwork averaged 6 days. Topsoil moisture adequate. Subsoil moisture short to mostly adequate. Corn 85% harvested, 65% average, 35% in 1972. L. P. gas for drying generally adequate. While there is backing up at elevators and storage on the ground, most elevators are able to handle receipts. Sorghum grain 85% combined, 55% in 1972. Land for seeding in 1974 40% plowed.

IOWA: Warm early week, cool later. Averaged 9° above normal. Des Moines had new record high of 70° on 13th. Showers and thunderstorms 14th and 15th moderate to heavy across northern third. Previous substantial rains second week of October.

Fieldwork: 6 days. Corn 86% harvested, 5-year average 71%, 1972 46%. Harvesting most advanced northwest, at 90% complete and least advanced southcentral at 80%. Grain sorghum 91% harvested, average 84%. Fall plowing 49% complete, most advanced northcentral at 65% complete and least advanced southwest at 30%.

Motor fuel supplies 9% short, 91% adequate. Fertilizer supplies 69% short, 31% adequate. Some fertilizer suppliers out of various types of fertilizer and some suppliers completely out. Some fall plowing underway without fertilizer. Topsoil moisture supplies 3% short, 90% adequate, 7% surplus.

KANSAS: Temperatures much above normal. Generally dry. Temperatures 10° to 13° above normal. Precipitation limited to scattered amounts southeast.

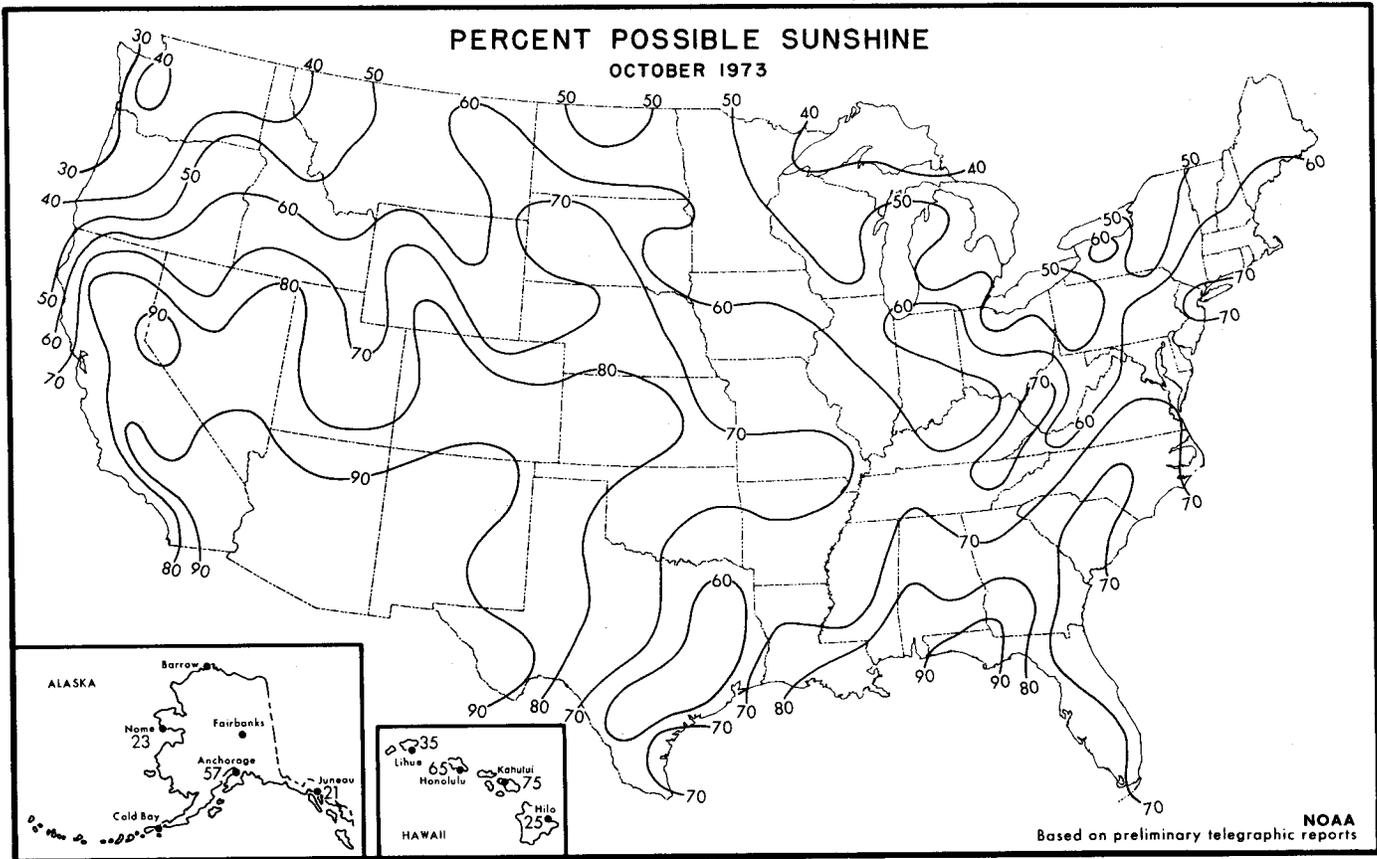
Row crop harvest active. Grain sorghum acreage 80% harvested, 50% 1972, 85% average. Corn for grain 75% harvested, 70% 1972, 85% average. Soybean acreage 85% harvested, 70% 1972, 90% average. Winter wheat planting almost complete. Many areas need topsoil moisture--most wheat fair to good condition. Cattle movement very active. Early planted wheat fields provided limited pasture.

KENTUCKY: A cold rain Monday and cloudy skies thru Thursday. Some late rain mixed with snow over extreme north Thursday. Clear, coldest this season Friday and Saturday; temperatures in the upper teens Saturday morning.

Farmers still harvest late planted soybeans and some corn, but most farmers have completed harvest. Rain helped small grains. Burley stripping active, markets open November 26. Concern increased over fuel and fertilizer supply. Livestock satisfactory.

LOUISIANA: Highs into 80's before cold front Friday returned readings to near seasonal. Weekly averages 1° to 9° above normal. Rain totaled mostly none to 0.50 in. Soil moisture adequate except surplus northeast and central.

Fieldwork: 5.4 days. Cotton harvest hampered by heavy dew, near 60% picked, 75% 1972, 78% average. Combining soybeans restricted to drier soils, many fields too wet, harvest 65% complete,



80% 1972, 83% average. Light to moderate weather damage. Sugarcane 40% harvested, about same as 1972. Yields lower than 1972, sucrose and purity near normal. Oats 90%, wheat 85% seeded. Pastures supplying average forage. Ryegrass and small grain pasture made good growth. Livestock good. Crop harvest and lower prices slowed marketings.

MARYLAND AND DELAWARE: Temperatures near normal. Highs in upper 70's and lows in upper teens except Garrett County low of 6° and northcentral Maryland where high reached 80°. Precipitation light, weekly totals less than 0.50 in. Light snow over mountains of western Maryland on Saturday. Exceptionally favorable harvest weather continued. Corn 93% harvested, 1972 86%, average 91%. Soybeans 86% combined, 1972 57%, average 81%. Small grain seeding practically complete except for cover crop. Stands favorable but more moisture desired. Low humidity delayed tobacco stripping.

MICHIGAN: Precipitation for week totaled 0.20 in. or less over upper peninsula and generally in excess 0.50 over lower with some areas of southern lower peninsula receiving 1.00 to 1.50 in. Friday morning 1 to 3 in. snow on ground over northern lower peninsula and 5 in. at Muskegon. Above normal temperatures except Friday, when highs were in 30's over lower peninsula.

MINNESOTA: Temperatures 4° to 10° above normal. Early week quite warm, highs in 40's and 50's, cooled down to 30's and 40's end week. Precipitation continued dry statewide except southeast on

14th where it was much above normal. Many local stations recorded over 1.50 in. rain. Greatest total 1.70 in. at Dodge Center.

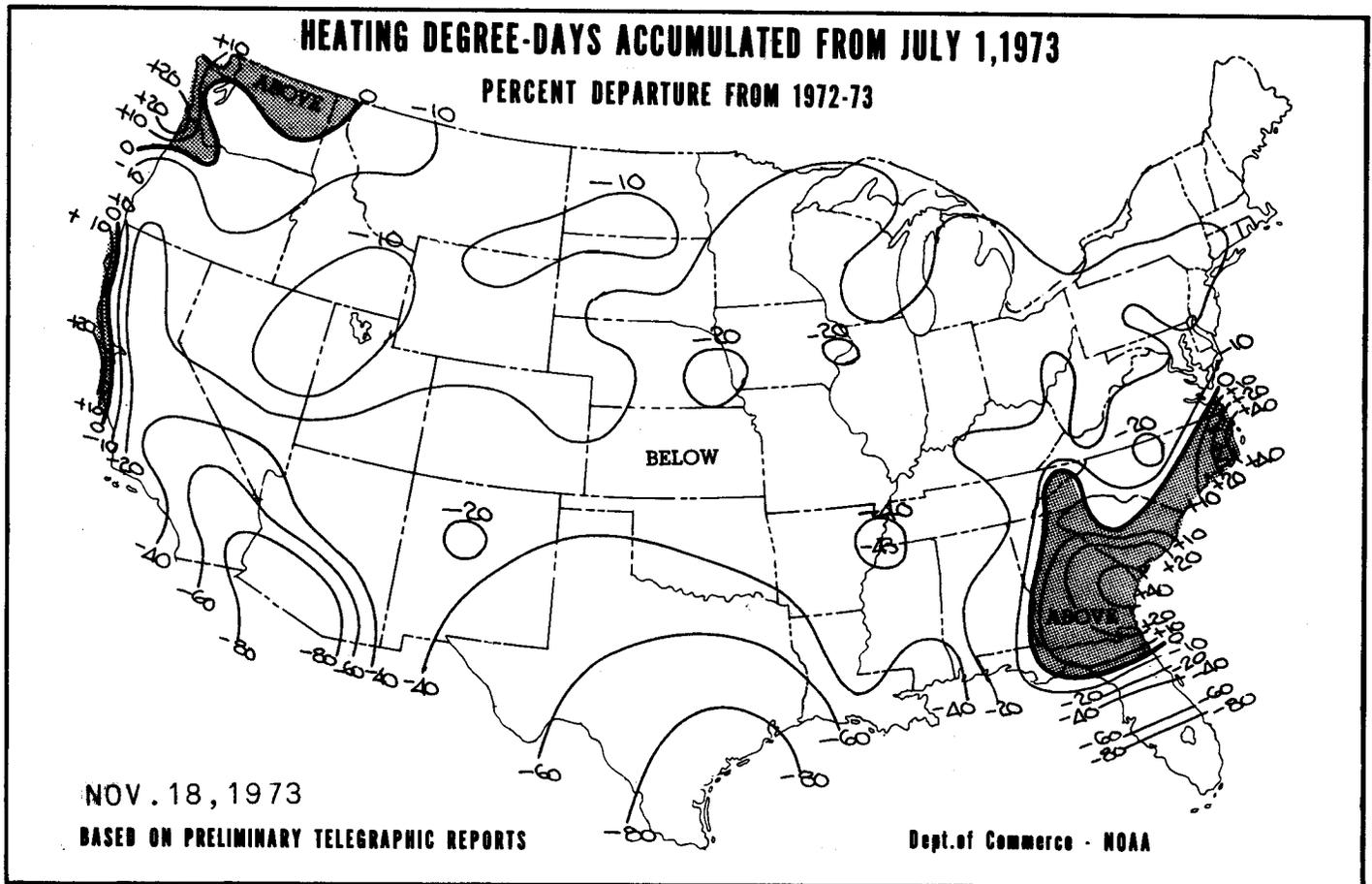
Weather continued to favor harvest. Corn 99% harvested, although in southeast 9% still in fields. Progress about 2 weeks ahead 5-year average 79%, and 85% harvested by this date last year. Corn grain moisture content 19%, average 25%, 1972 26%. Warmer weather enabled additional fall plowing. Soybean stubble 85% and corn land 68% plowed. Livestock grazed much harvested corn land. Soil moisture mostly adequate, surplus in the north.

MISSISSIPPI: Temperatures moderately cool until 13th. Temperatures close to normal. Extremes: 84° at Columbia on 15th, 24° at Tupelo on 11th and Corinth on 10th. Greatest 24-hour rainfall: 2.35 in. 10 miles northwest of Pascagoula on 15th. Weekend cool nights and pleasantly mild days.

Soil moisture supplies generally adequate, some surplus central. Harvest picked up momentum because of dry weather. Fieldwork: 4.7 days. Cotton 81% harvested, equal to normal progress, and moderately below 82% picked a year earlier. Soybean acreage 67% combined, normal 72%, 51% 1972. Corn 89% harvested. Pecans 56% harvested. Nearly 83% winter wheat and 97% oat acreage seeded.

MISSOURI: Bootheel zone averaged 5° above normal; all other zones around 10° above. Cloudiness contributed to cooler southeast zone. Precipitation averaged 0.25 in. in northeast prairie and over 0.33 in. in westcentral plains. Lesser amounts elsewhere. Fieldwork: 5 days. Soybeans 90% harvested, 56%

(Continued on Page 11)



HEATING DEGREE DAYS - AN EXPLANATION

As we move further into the 1973/74 heating season, concerns over U.S. fuel supplies for the winter continue to mount. For example, speed limits on many of the Nation's highways have been reduced to save gasoline. Thermostats in offices and homes have been set back to conserve heating fuels and energy. The demand for heating fuels at a given time is directly related to temperature conditions. This relationship between temperature and fuel needs is defined by the heating degree-day statistic. The purpose of this brief note is to discuss what the heating degree-day statistic is and its meaning to the consumer.

As stated above, heating fuel demand is directly related to temperature, because, obviously, the colder the temperature, the more heat will be required to keep a home or office at a reasonable temperature. Early in the century, heating engineers found that if the daily mean temperature is 65° or higher, most buildings require no heat to maintain an inside temperature of 70° (ESSA, Jan., 1969). As the mean temperature drops below 65°, fuel requirements increase. Thus they developed the heating degree day statistic which is calculated by subtracting the mean temperature for the day from 65° as follows:

$$65^{\circ} - \frac{\text{Max} + \text{Min}}{2.0} = \text{Heating Degree days}$$

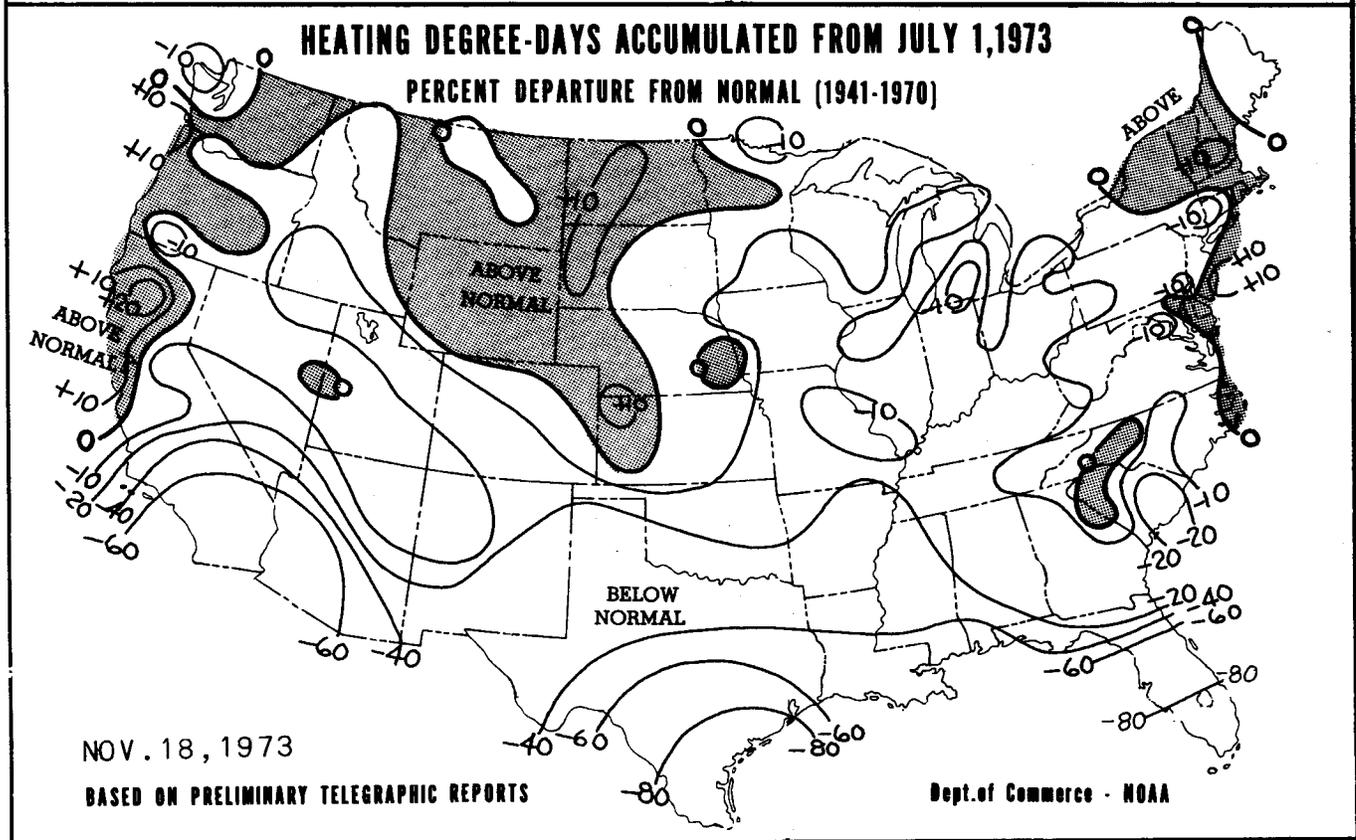
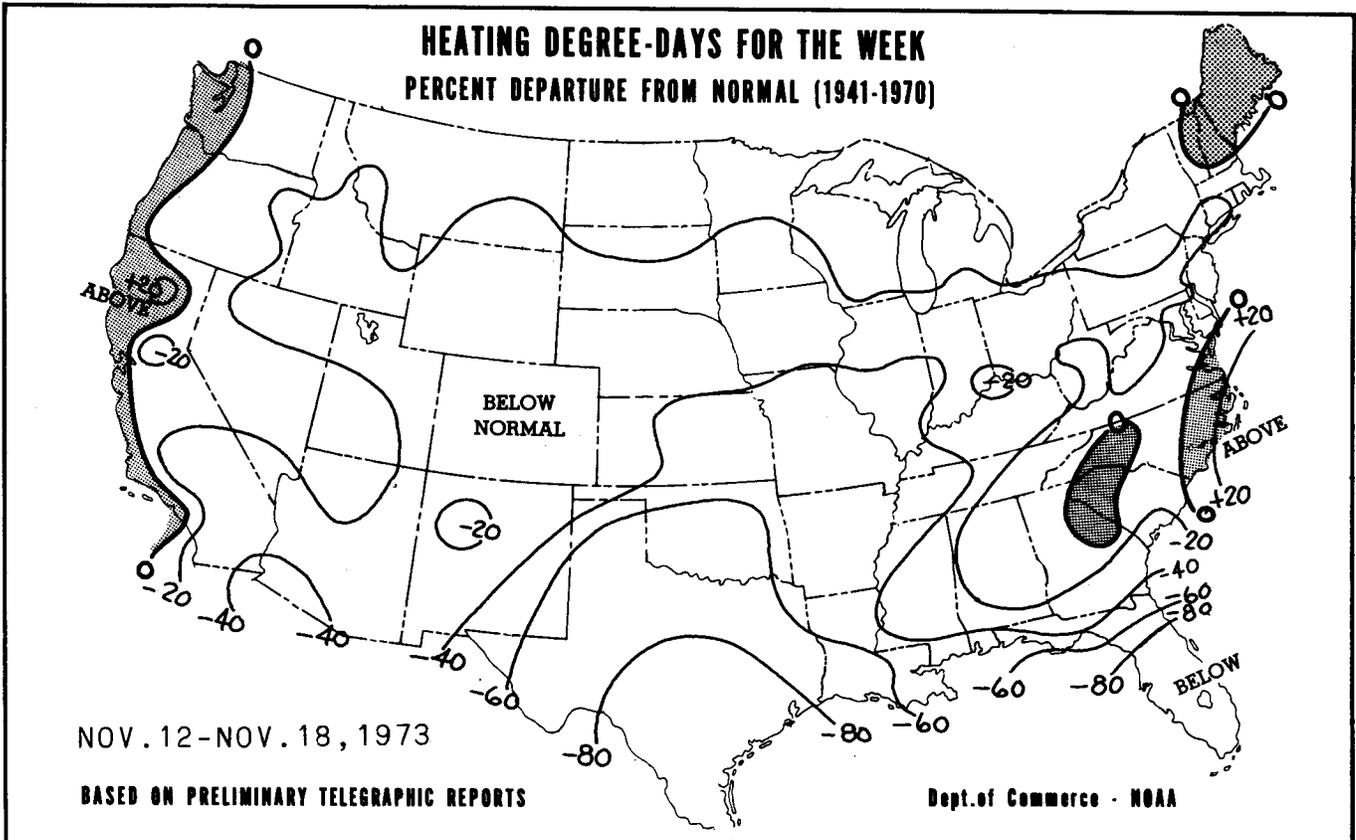
Each degree of mean temperature below 65° is counted as 1 degree-day. If the mean temperature is greater than 65°, the heating degree day value is taken to be zero. The summation of the degree-day values over a period of time gives a measure of the actual fuel consumption. For example, twice as much fuel will be required in an area having a mean temperature of 25° (40 heating degree days) than in an area with a mean temperature of 45° (20 heating degree days).

If temperatures across the Nation followed a normal pattern it would be an easy matter to determine fuel needs and make the appropriate distribution as supplies allowed. However, as we all know,

(continued on p. 16)

FAX CHART 136

OCT 73



Heating Degree Days (Base 65°) For Week Ending Nov. 18, 1973

States and Stations	Weekly		Seasonal Accumulation			States and Stations	Weekly		Seasonal Accumulation			States and Stations	Weekly		Seasonal Accumulation		
	TOTAL	Departure*	TOTAL	Departure*	Departure From 1972-73		TOTAL	Departure*	TOTAL	Departure*	Departure From 1972-73		TOTAL	Departure*	TOTAL	Departure*	Departure From 1972-73
ALA. Birmingham . . .	76	-15	282	-65	-71	Portland . . .	181	0	1211	7	-175	Tulsa . . .	39	-70	329	-63	-193
Mobile . . .	23	-26	76	-67	-61	MD. Baltimore . . .	114	-16	604	31	-89	OREG. Astoria . . .	143	13	1391	182	314
Montgomery . . .	59	-11	201	-45	-26	MASS. Boston . . .	116	-20	721	24	-112	Burns . . .	201	-4	1376	13	-104
ARIZ. Flagstaff . . .	177	-24	1122	-295	-387	MICH. Alpena . . .	193	-17	1329	-166	-346	Medford . . .	137	-14	713	-126	-189
Phoenix . . .	28	-13	30	-70	-108	Detroit . . .	147	-26	844	-57	-297	Pendleton . . .	136	-31	892	-4	-55
Tucson . . .	31	-17	58	-68	-226	Flint . . .	154	-31	955	-108	-283	Portland . . .	139	0	810	-92	8
Winslow . . .	117	-36	598	-21	-23	Grand Rapids . . .	150	-33	936	-48	-310	Salem . . .	141	2	955	37	-113
Yuma . . .	14	-10	14	-32	-73	Houghton Lake . . .	193	-20	1302	-140	-345	PA. Allentown . . .	123	-34	743	-54	-239
ARK. Fort Smith . . .	48	-53	317	-42	-188	Lansing . . .	147	-38	1008	-16	-372	Erie . . .	137	-35	897	-130	326
Little Rock . . .	50	-53	247	-128	-148	Marquette . . .	202	-13	1269	-114	-436	Harrisburg . . .	108	-39	618	-62	-129
CALIF. Bakersfield . . .	40	-23	107	-81	-106	Muskegon . . .	164	-15	961	-70	-208	Philadelphia . . .	113	-16	558	-24	-160
Eureka . . .	97	5	1425	98	198	S. Ste. Marie . . .	216	-7	1550	-73	-304	Pittsburgh . . .	123	-41	764	-118	-216
Fresno . . .	71	-8	244	-18	-73	MINN. Duluth . . .	226	-30	1692	-7	-470	Scranton . . .	147	-20	959	32	-255
Los Angeles . . .	37	2	70	-143	-33	Internatl Falls . . .	245	-35	1659	-203	-326	R. I. Providence . . .	133	-15	847	48	98
Red Bluff . . .	95	16	313	61	-89	Minneapolis . . .	164	-68	1099	-169	-381	S. C. Charleston . . .	48	-14	159	-50	30
San Diego . . .	21	-11	47	-88	-67	Rochester . . .	164	-62	1114	-135	-428	Columbia . . .	75	-3	222	-62	-8
San Francisco . . .	72	5	589	56	98	St. Cloud . . .	187	-58	1302	-90	-406	Greenville . . .	106	8	405	35	13
Stockton . . .	66	-19	235	-37	-85	MISS. Jackson . . .	46	-24	187	-58	-56	S. DAK. Aberdeen . . .	205	-38	1316	-13	-149
COLO. Denver . . .	128	-53	881	-73	-216	Meridian . . .	50	-27	173	-109	-84	Huron . . .	177	-52	1174	-28	-256
Grand Junction . . .	134	-43	641	-148	-171	MO. Columbia . . .	79	-68	590	-30	-174	Rapid City . . .	147	-61	1326	141	-205
Pueblo . . .	123	-47	698	-89	-241	Kansas City . . .	79	-71	521	-92	-272	Sioux Falls . . .	160	-63	1090	-84	-358
CONN. Bridgeport . . .	104	-26	508	-91	-312	St. Louis . . .	71	-69	561	-11	-176	TENN. Chattanooga . . .	102	-10	420	-25	-109
Hartford . . .	122	-41	793	-87	-222	Springfield . . .	70	-67	472	-107	-198	Knoxville . . .	93	-17	415	-18	-82
DEL. Wilmington . . .	98	-35	502	-87	-162	MONT. Billings . . .	163	-44	1330	111	-270	Memphis . . .	49	-49	260	-106	-196
D.C. Washington . . .	91	-26	394	-72	-148	Glasgow . . .	221	-33	1490	11	-189	Nashville . . .	69	-48	317	-134	-105
FLA. Palachicola . . .	13	-24	60	-37	-3	Great Falls . . .	204	-11	1469	116	-138	TEX. Abilene . . .	19	-59	182	-76	-225
Daytona Beach . . .	0	-22	11	-32	-2	Havre . . .	211	-42	1528	-36	-198	Amarillo . . .	45	-87	409	-115	-336
Ft. Myers . . .	0	-8	0	-18	-3	Helena . . .	218	-17	1710	144	-265	Austin . . .	3	-43	39	-99	-150
Jacksonville . . .	19	-18	79	-16	14	Kalispell . . .	201	-41	1709	-132	-178	Brownsville . . .	0	-7	0	-19	-14
Key West . . .	0	0	0	0	0	Miles City . . .	182	-47	1274	-13	-259	Corpus Christi . . .	0	-18	0	-42	-37
Lakeland . . .	0	-16	9	-23	-10	Missoula . . .	181	-49	1543	-71	-159	Del Rio . . .	4	-36	25	-92	-85
Miami . . .	0	-1	0	-1	0	NEBR. Grand Island . . .	127	-60	869	-32	-235	El Paso . . .	53	-41	193	-104	-132
Orlando . . .	0	-14	8	-20	-4	Lincoln . . .	139	-44	893	65	-184	Fort Worth . . .	20	-45	135	-65	-155
Tallahassee . . .	29	-18	113	-17	13	Norfolk . . .	137	-64	938	-56	-279	Galveston . . .	0	-23	9	-50	-62
Tampa . . .	0	-15	9	-21	-8	North Platte . . .	145	-58	1118	49	-248	Lubbock . . .	36	-78	274	-151	-290
W. Palm Beach . . .	0	-7	0	-7	0	Omaha . . .	123	-68	896	10	-213	Midland . . .	27	-56	199	-61	-237
GA. Atlanta . . .	86	-9	302	-52	-35	Valentine . . .	139	-75	1123	-18	-341	Beaumont . . .	12	-31	52	-74	-119
Augusta . . .	88	9	295	17	77	NEV. Ely . . .	202	-15	1454	-6	-121	San Angelo . . .	12	-56	100	-122	-190
Macon . . .	61	-10	195	-41	23	Las Vegas . . .	60	-23	151	-99	-202	San Antonio . . .	4	-33	31	-82	-117
Savannah . . .	41	-17	163	-21	57	Reno . . .	150	-24	1011	-96	-233	Victoria . . .	0	-28	10	-61	-79
IDAHO. Boise . . .	134	-43	854	-108	-152	Winnemucca . . .	147	-47	1104	-127	-155	Waco . . .	10	-44	75	-92	-199
Lewiston . . .	150	-23	939	-24	-33	N. H. Concord . . .	186	0	1307	139	-291	Wichita Falls . . .	18	-67	165	-111	-298
Pocatello . . .	159	-46	1208	-7	-94	N. J. Atlantic City . . .	116	-14	667	71	-99	UTAH. Salt Lake C . . .	123	-59	783	-155	-72
ILL. Cairo . . .	65	-52	390	-36	-128	Trenton . . .	109	-20	576	-8	-166	VT. Burlington . . .	187	-5	1264	49	-281
Chicago . . .	130	-43	750	-23	-248	N. MEX. Albuquerque . . .	115	-29	548	-4	-121	VA. Lynchburg . . .	104	-21	518	-34	-90
Moline . . .	134	-46	794	-52	-203	Roswell . . .	70	-57	325	-174	-235	Norfolk . . .	102	-2	340	-13	-37
Peoria . . .	113	-62	735	-70	-288	N. Y. Albany . . .	159	-15	1081	80	-205	Richmond . . .	93	8	469	-4	-66
Rockford . . .	143	-48	855	-104	-242	Binghamton . . .	155	-29	1093	-28	-325	Roanoke . . .	99	-27	522	-33	-194
Springfield . . .	75	-86	594	-111	-270	Buffalo . . .	155	-19	972	-34	-215	WASH. Quillayute . . .	166	-20	1699	263	193
IND. Evansville . . .	87	-53	503	-85	-221	New York . . .	97	-24	501	-28	-269	Seattle-Tacoma . . .	146	2	1064	-12	-80
Fort Wayne . . .	123	-49	754	-109	-282	Rochester . . .	142	-27	901	-52	-184	Spokane . . .	189	-19	1333	37	18
Indianapolis . . .	99	-64	615	-126	-229	Syracuse . . .	158	-7	973	52	-174	Walla Walla . . .	131	-27	824	33	-40
South Bend . . .	108	-69	693	-214	-372	N. C. Asheville . . .	120	-11	598	-24	9	Yakima . . .	161	-26	1167	55	-21
IOWA. Burlington . . .	107	-70	700	-98	-290	Hatteras . . .	85	23	217	6	64	W. VA. Beckley . . .	130	-31	795	-109	-150
Des Moines . . .	123	-68	719	-171	-432	Charlotte . . .	100	4	384	8	-17	Charleston . . .	99	-37	599	-27	-112
Debuque . . .	149	-54	941	-121	-327	Greensboro . . .	117	1	502	6	-75	Huntington . . .	101	-34	533	-88	-237
Sioux City . . .	138	-63	827	-134	-267	Raleigh . . .	84	-19	366	-65	-114	Parkersburg . . .	111	-28	641	-10	-104
KANS. Concordia . . .	92	-74	676	-46	-257	Wilmington . . .	68	3	211	-10	7	WIS. Green Bay . . .	189	-26	1132	-126	-222
Dodge City . . .	67	-89	551	-90	-289	N. Dak. Bismarck . . .	244	-10	1599	139	-129	LaCrosse . . .	158	-48	915	-131	-366
Goodland . . .	123	-63	1026	97	-132	Fargo . . .	228	-26	1486	59	-154	Madison . . .	182	-30	1112	-80	-231
Topeka . . .	88	-67	609	-54	-197	Williston . . .	239	-20	1608	72	-310	Milwaukee . . .	159	-39	947	-144	-243
Wichita . . .	66	-76	518	-41	-244	OHIO. Akron-Canton . . .	114	-55	733	-149	-243	WYO. Casper . . .	160	-59	1354	40	-196
KY. Lexington . . .	103	-40	547	-65	-138	Cleveland . . .	124	-38	730	-126	-291	Cheyenne . . .	158	-50	1365	61	-229
Louisville . . .	96	-44	486	-107	-122	Columbus . . .	119	-42	667	-132	-281	Lander . . .	176	-60	1406	34	-187
LA. Baton Rouge . . .	16	-31	66	-91	-32	Cincinnati . . .	125	-23	545	-107	-244	Sheridan . . .	151	-73	1473	107	-118
Lake Charles . . .	13	-27	52	-70	-113	Dayton . . .	119	-43	676	-71	-243						
New Orleans . . .	18	-23	61	-68	-77	Toledo . . .	136	-41	877	-28	-291						
Shreveport . . .	28	-35	145	-64	-128	Youngstown . . .	128	-43	890	-44	-374						
MAINE. Caribou . . .	274	42	1729	-11	-255	OKLA. Okla City . . .	37	-74	349	-55	-215						

* Based on 1941-70 Normals.

State and Station	CORRECTIONS FOR PERIOD ENDING 11 NOV 1973 (only corrected item sent)							
	Week Total	Wk Dept Fm Norm	Cum Total	Cum Dept Fm Norm	Cum Dept Fm Last Yr	Wk Dept Fm Norm Percent	Cum Dept Fm Norm Percent	Cum Dept Fm Last Yr. Percent
CALIF.Los Angeles	10	- 20				- 67		
DEL.Wilmington	170	57	404	- 52	-110	50	-11	- 21
FLA.Daytona Beach	1	- 14				- 93		
Jacksonville	30	3	60	2	36	11	3	150
Tallahassee	37	1				3		
ILL.Springfield			519	- 25	-141		- 5	- 21
IND.Fort Wayne	217	67				45		
IOWA.Dubuque			770	- 89	-249		-10	- 24
KANS.Topeka	187	55	563	55	- 35	43	11	- 6
KY.Lexington	196	73				59		
MICH.S.Ste.Marie			1334	- 66	-269		- 5	- 17
MINN.Minneapolis	269	66	935	-101	-296	33	-10	- 24
MONT.Great Falls			1265	127	-119		11	- 9
NEV.Reno	80	- 79	861	- 22	-179	- 50	- 8	- 17
N.C.Charlotte	131	52				66		
Raleigh	137	50				57		
Wilmington			143	- 13	15		- 8	12
ORE.Medford			576	-112	-184		-16	- 24
Salem			814	35	-116		4	- 12
TENN.Knoxville	152	59				63		
Memphis			203	- 55	-104		-24	- 34
VT.Burlington			1077	54	-216		5	- 17

(Continued from Page 7)

1972, 76% 1968-72 average. Corn 75% harvested, 56% 1972, 67% 1968-72 average. Grain sorghum 84% harvested, 63% 1972, 74% 1968-72 average. Intended fall seeding 81% complete. Intended fall plowing 45% complete. Pastures mostly good. Soil moisture supplies generally adequate.

MONTANA: Temperatures averaged above normal until end of week. Above normal precipitation except southeast. Highs 50's and 60's fell to 20's and teens, when Arctic air moved south late week, dropping low readings east of the Divide to near 0°. A storm brought rain or snow to most areas, south-central, west and southwest got largest amounts. Limited plowing underway, when fields began to dry out from recent snows. Grazing mostly open but forage supplies limited except in south and east. Most livestock received supplemental feed.

NEBRASKA: Temperatures above normal. No precipitation except over northeast and east where generally less than 0.25 in. Soil moisture supplies declined. Topsoil 7% surplus, 81% adequate, 12% short. Subsoil supplies mostly adequate.

Fieldwork: 6.5 days. Mostly another good week harvesting crops and doing other fall work. Corn 80% harvested, 45% 1972, 75% average; 19% moisture, 20% last week, 23% 1972. Harvest slowest in panhandle and southwest, most advanced in southeastern third. Sorghum and soybean harvest practically complete. Wheat condition improved, 15% of counties excellent, 61% good, 24% fair. Considerable late planted acreage short and subject to wind erosion this winter. Moisture would benefit most wheat. Sugar beet harvest completed. Range and

pasture feed 18% above average, 78% average, 4% below average. Many cattle gleaned harvested fields. Most livestock doing well.

NEVADA: Precipitation heavy north early week continued west through midweek. South remained dry. Precipitation west again over weekend spreading south and east on Sunday. Heaviest 1.49 in. at Reno. Temperatures above normal beginning week, cooled off during week. Extremes: 81° Las Vegas, 16° Yucca Flat. Cotton harvest continued Pahrump Valley. Fall grains good. Winter feed and stockwater adequate.

NEW ENGLAND: Moderating weather first of week with temperatures normal by midweek especially in central and south. Windsor Locks, Conn., 74° and Boston 71° set new records. Colder weekend. Light rain or snow fell early week Canadian border. Caribou, Maine., had 2 in. snow on ground by Wednesday. More general rain or snow fell north and in most sections Thursday night and Friday morning. First substantial snowfall of the season north. Caribou, Maine, had 6 in. on ground Friday evening.

NEW JERSEY: A mild and dry week. Temperatures 5° above normal. Temperatures as much as 20° above normal on 15th when afternoon readings reached 78° at Long Branch and Lakehurst. Coldest 22° at Long Valley morning of 13th. Precipitation averaged 0.18 in. along coast to 0.08 in. elsewhere.

NEW MEXICO: No precipitation. Mostly fair weather with some moderate windiness midweek afternoons. Temperatures very warm early week, gradual cooling

trend later. Mean temperatures for week 5° to 10° above normal. This was fifth straight week with no or only negligible precipitation.

Ideal harvest weather prevailed. Cotton 50% harvested. Grain sorghum 90% harvested. Digging peanuts near end. Pecan raking getting underway. Wheat, barley growing well, moisture needed. Haying, lettuce, apple picking complete. Ranges fair, need moisture. Livestock good.

NEW YORK: Temperatures above normal. Precipitation heavy over west and northeast but very light again lower Hudson Valley and coastal southeast. Amounts ranged from 2.02 in. at Syracuse to 0.02 in. New York City. Warming trend peaked midweek producing 70° plus readings southeast. Poughkeepsie had 72° Wednesday and Thursday while New York City had 74° Thursday. Meanwhile cold air moved across northwest Thursday and spread statewide on Friday. Heavy precipitation, rain gradually changed to snow over west and northeast. Local accumulations of 1 to 3 in. snow Friday. Saturday morning temperatures 20° or lower northeast with Boonville 17°.

NORTH CAROLINA: Showers light and highly scattered. Temperatures dipped on November 10 to lowest level of season. Warming trend began Monday but a cold front moved through Thursday night and week ended cold. Soil moisture nosedived, 96% reporters indicated supplies short to very short. Fieldwork averaged 4.9 days. Corn 93% harvested, 89% 1972, 73% 10-year average. Soybean harvest pace unequalled in recent years--70% complete, 40% 1972, 45% 10-year average. Cotton quality very good--80% picked, 62% 1972, 72% 10-year average. Lespedeza seed and sorghum grain harvest near 90% complete. Small grain acreage 75% seeded, about average. Pastures and growing small grains suffering from drought. Flue-cured tobacco sales winding down.

NORTH DAKOTA: High temperatures ranged from 60° at Dickinson to 23° at Minot while lows ranged from 19° at Devils Lake to 43° at Dickinson. Skies generally cloudy but mild or cool temperatures made winter weather bearable. Precipitation scarce, greatest amounts fell Tuesday, 0.15 in. at Williston and 0.10 in. at Minot. Traces of snow off and on but greatest accumulation at Devils Lake on Sunday with 1 in. Some stations also reported some freezing drizzle and rain.

Weather favored late field activities. Some harvest of sunflowers and corn, application of fertilizer, plowing and moving hay supplies. Scattered light snow during week, but livestock still able to graze. Some western ranges received little snow morning November 19.

OHIO: Southerly winds brought variable cloudiness and mild temperatures through Thursday, 12th through 15th. Then numerous showers and thunderstorms. Showers and snow flurries Friday. Sunny Saturday, 17th gave way to cloudy Sunday which had a few scattered showers.

Rapid harvest progress continued through midweek until rain halted field activity. Nearly 90% of corn for grain harvested, only 35% 1972, average of 80%. Soybean harvest wind-up stage, last year over 50% harvested, normal progress 35% done. Popcorn harvest 95% complete. Most fall seeded wheat crop up and looks good. Much fall plowing done. Soil moisture 7% short, 88% adequate, 5% surplus. Fieldwork: 5 days. Shortage of fuel supplies experienced in few areas and limited field activity other than harvest operations.

OKLAHOMA: Temperatures much above normal all but southeast section, ranging from 3° above normal

southeast to 10° above normal southwest. Generally dry except for few sprinkles west. Warm weekend with few light showers southeast and extreme east.

Small grain seeding almost complete, wheat acreage 99% planted, 97% 1972. Oats and barley both 97% seeded, 100% 1972. Small grain fields providing good grazing. Grain sorghum harvest made good headway with 71% combined, 55% 1972, 5-year average 75%. Cotton 97% bolls open, only 9% harvested, still waiting for killing frost most areas, 33% harvested in 1972, 5-year average 27%. Peanut harvest 85% complete, 76% 1972. Pecan harvest underway, most areas report good or excellent yields. Livestock good. Pastures, ranges remained good.

OREGON: Heavy precipitation Coast ranged from 5.20 to 10.57 in. Willamette Valley 7.57 in., southwest interior valleys 4.40 in., northcentral 0.75 to 1.63 in. Most of southcentral got 0.50 in. or less. Temperatures west 3° to 5°, east 5° to 11° above normal. Mountains upper 50's and 60's. Lows in upper 30's, lower 40's west, mid-20's, mid-30's east of Cascades.

Heavy rain limited activities through weekend. Fall seeded grain did well with mild weather except some fields under water. Christmas tree harvest underway. Vegetable harvest nearly complete except broccoli, brussels sprouts, cabbage, carrots, potatoes. Fruit orchard clean up, pruning underway as weather permits. Apple, pear markets good. Feed supplies short to adequate: Depending on severity of winter. Equipment, fertilizer shortages major concern to farmers.

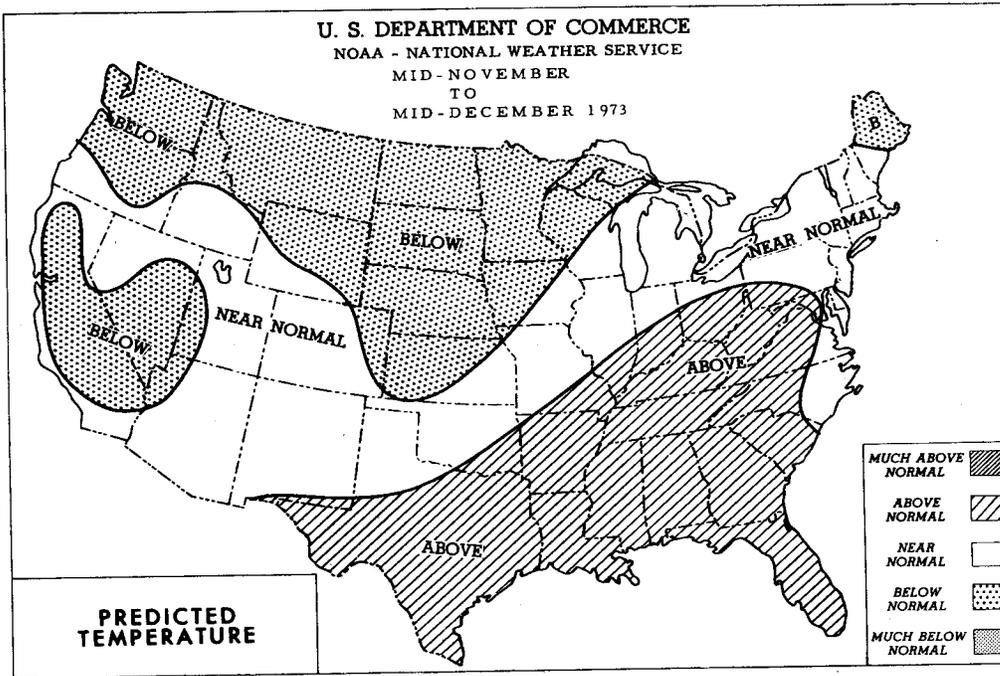
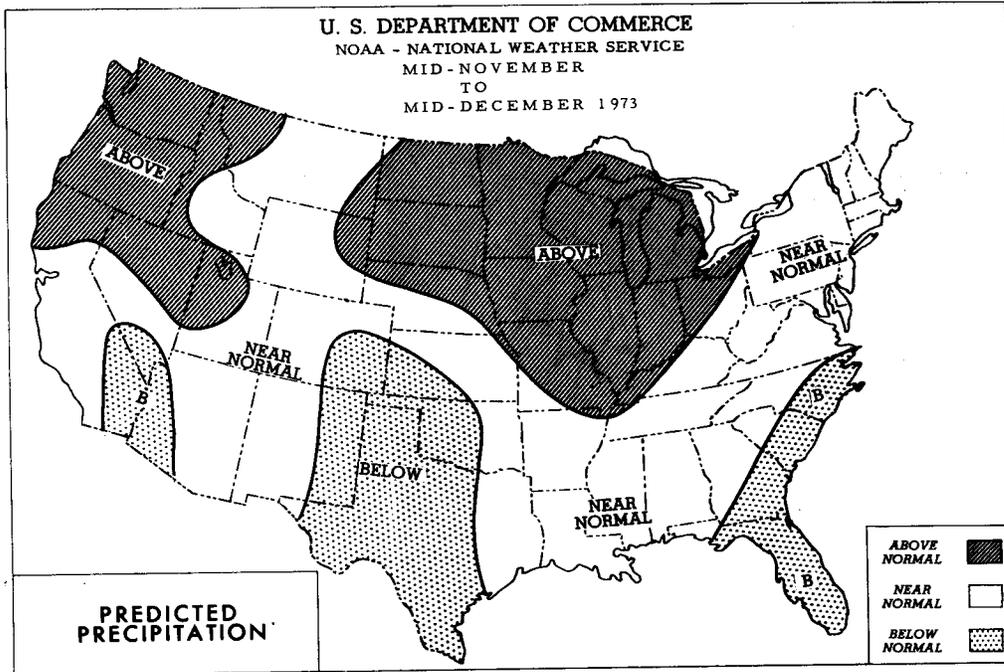
PENNSYLVANIA: Sunny, mild Indian summer. Southerly winds pushed temperatures to record high, 60's and mid-70's common Wednesday and Thursday, 76° at Harrisburg, Philadelphia, and Reading Thursday afternoon. Considerably colder and windy late week, lows in teens and 20's and highs in 30's. Weekly temperatures 5° to 8° above normal and 10° to 12° above previous week. Midweek precipitation; some traces southeast to central mountains where up to 3 in. snow fell.

PUERTO RICO: Cooler temperatures and generally good rainfall distribution. Averaged: 1.50 in. or about normal. Highest weekly total 5.64 in. northeast coast. Highest 24-hour total 2.14 in. western Cordilleras. Little or no rain small area southcentral coast and slopes. Crop moisture conditions near normal all zones except small area southcentral and northwest where still too dry for optimum crop development. Temperatures averaged 78° coast and 73° interior. Highest 92°, lowest 52°. No crop report available due local holiday.

SOUTH CAROLINA: Temperatures subnormal except south. Coldest fall weather reported west and north, 20's first of week. Scattered frost south. Week rainless, although few scattered, mostly light showers developed. High pressure dominated weather, allowing some warm-up last weekend's cold snap. Second cold front moved southward across State Friday but little change in weather.

Dry week; moisture very short to short. Cotton 83% harvested, 80% 1972, 5-year average 86%. Corn 95% harvested, 94% 1972. Soybeans 59% harvested, 40% 1972, average 30% harvested. Pastures fair. Winter grazing 89% planted, 86% 1972, 80% emerged. Oats, wheat fair. Oats 65% planted, 58% 1972, 46% emerged. Wheat 51% planted, same as 1972, 34% emerged. Sorghum 65% harvested,

AVERAGE MONTHLY WEATHER OUTLOOK



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

59% 1972. Coastal fall vegetable harvest neared completion. Farmers pruned fruit trees in Piedmont and prepared tobacco seedbeds in Pee Dee.

SOUTH DAKOTA: Temperatures averaged 3° to 10° above normal. Warm early week, cool air aiding precipitation mid and late week. Midweek precipitation statewide, except in southwest and extreme northeast, where little or no moisture fell. Drought conditions continued in north-east with departure of 4.00 to over 6.50 in. subnormal from seasonal average.

Row crop harvest progressed well. Corn 90% harvested, near normal, 1972 71%. Sorghum for grain 91% harvested, 1972 66%, behind normal. Fall seeded grain good to excellent. Some heavier culling of herds where feed supplies low. No problems with feed or fuel supplies reported yet. Most livestock still grazing stubble fields. Supplemental feeding limited.

TENNESSEE: Showers near end week, otherwise dry. Temperatures near normal east and up to 10° above normal west. A hard freeze occurred over east and portions of midsection early week.

Corn, Cotton, Soybean harvest progressed rapidly. Farm activities in addition to crop harvest, include livestock care, land preparation, fertilization, and Thanksgiving. Soybean combining at rapid pace, over 75% complete, slightly ahead normal. Cotton 80% picked, a week ahead of average. Corn 85% harvested, about normal. Tobacco being stripped, graded, and hauled to warehouses in preparation for opening day - November 26. Burley stripping 75% complete. Small grains good. Pastures slightly above average. Soil moisture 88% adequate, 6% short, 6% surplus.

TEXAS: Mild to warm weather prevailed early week and weekend. Brief cooling Thursday, Friday. Rainfall sparse, cloudiness confined mainly central and east. Warm, southerly winds set daily record highs in west as afternoon temperatures rose into 80's Tuesday, Wednesday. Cool air following cold front clipped 10° to 15° from afternoon highs in north and west Thursday and dropped mercury to freezing mark at several points west Friday morning. Shower activity minimal, scattered points central and northcentral and along mid-coast week-end.

Farmers busy on high plains finishing harvest of corn, sorghum, soybean crops. Cotton harvest near completion low plains southward, full swing from low plains northward. Hard freeze would aid harvest progress. Wheat, oat seeding for State neared completion. Good small grains growth and grazing from blacklands southward. High plains irrigated wheat made excellent growth, dryland wheat showing moisture stress.

Major crops percent harvested: Cotton 38, 1972 38, 5-year average 50; corn 98, 1972 99, 5-year average --; sorghum 96, 1972 86, 5-year average 94; soybeans 53, 1972 70, 5-year average --; peanuts 88, 1972 92, 5-year average --. Major crops percent planted: Wheat 97, 1972 95; oats 96, 1972 95.

Lower Rio Grande Valley: Cabbage, pepper, and tomato harvests continued. San Antonio-Winter Garden: Light harvest of carrots and cabbage continued. Pepper and cucumber harvest started seasonal decline. Light supplies of tomatoes, squash and eggplant available. Coastal Bend: Cucumber and squash harvest

active. East Texas: Sweet potato digging almost over. Trans-Pecos: Cabbage and carrot harvest started. High Plains: Late carrot digging continued. Pecan harvest remained active statewide. Citrus supplies increased because dry weather allowed harvest to gain momentum.

Livestock excellent. Grazing on native and improved pastures good most areas but dryness on high and low plains reduced stocking rates. Wheat and oats made good to excellent growth and grazing increased except for dryland wheat. Screwworm cases spread northward into coastal bend, southcentral and parts of Edwards Plateau. Heavy local infestation.

UTAH: Scattered shower activity northwest early week. General weekend precipitation most sections. Moisture generally light to moderate but locally heavy along Wasatch Front. Temperatures 3° to 9° above normal.

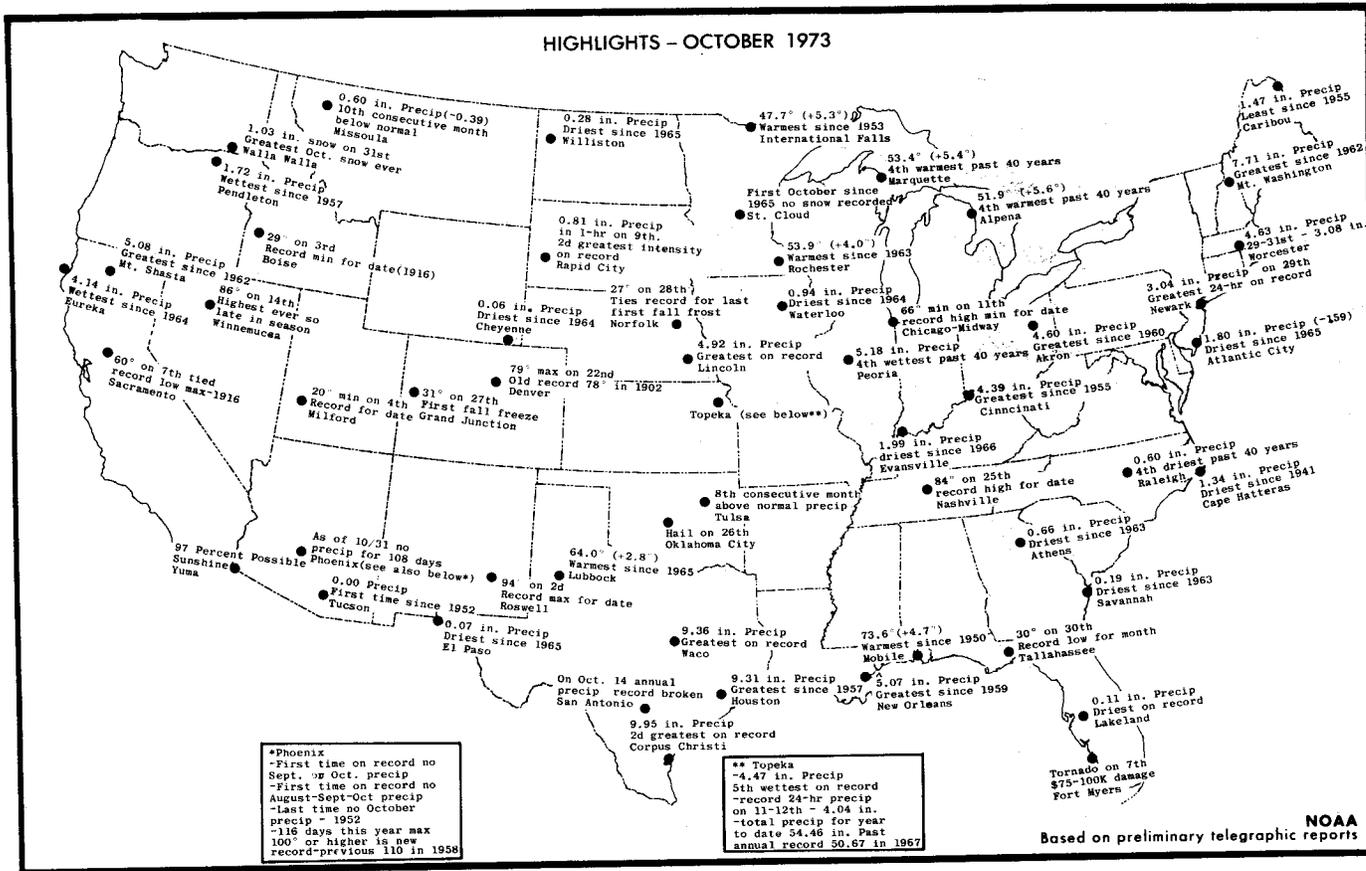
The weekend storm's rain and snow improved soil moisture most areas. Some dryland winter wheat fields greened up. Considerable fall plowing completed. Sugar beet processing in full operation. Grading, sorting, and marketing of potatoes, dry onions, and apples in progress. Apple cider being pressed in Utah County. Breeding of range ewes in progress and will continue into early December. Care, feeding of cattle and sheep in feedlots and on valley farms major activity. Fall marketing and shipping of cattle and lambs in progress. Turkey processing down from early November peak, but will increase again after Thanksgiving, for final push to finish about mid-December.

VIRGINIA: Cold week became unseasonably warm about Thursday but got cooler over weekend. Record-breaking high temperature of 79° at Richmond and Washington National Airport on 15th. Extremes: 80°, 15°. Showers mainly central and north Thursday. Showers again Sunday.

Farmers had 5.5 days suitable for fieldwork. Corn 84% harvested, near end east and southeast. Soybean harvest near record progress, almost 75% complete. Peanut harvest ending. Wheat 84% seeded. Seeding cover crops good progress. Some liming and fertilizing. Fall plowing increased. Flue-cured tobacco marketing about over. Preparing dark-fire and burley for market opening November 26. Pastures normal. Few early calves born. Farmers readying for winter.

WASHINGTON: West: Temperatures 2° above normal. Precipitation every day, up to 6.00 in. Some flooding lowland areas. Farm activities restricted to machine maintenance repair. Carrot harvest, processing continued. Cabbage seed crops good condition. Cattle being taken off pasture onto winter feeding schedule. Harvest Christmas trees continued.

East: Temperatures 5° above normal. Precipitation above normal, up to 2.50 in. Damp weather replenishing moisture-stressed soil conditions but impeding field activities. Most fields responding well to wet weather, absorbing moisture with no runoff. Harvest potatoes, sugar beets continued. Large portion beet crop still in ground. Orchardists fertilizing, baiting for mice control. Fall sown cereal crops sprouting, emerging well. Bluegrass seed fields continued to show drought injury. Some supplemental feeding cattle underway.



WEST VIRGINIA: Mild, highs Thursday into the 70's. Subnormal temperatures early week. Precipitation occurred statewide only Thursday afternoon through Friday. Precipitation reports averaged 0.50 in. Farmers did routine chores and cared for livestock. Livestock generally good.

WISCONSIN: Temperatures above normal. High of 64° early week, low of 8° Friday. Mostly cloudy and mild first of week south and central portions, cloudy and cool north. Light rain over extreme northwest. During midweek showers and few thunderstorms developed over southwest and spread northeastward. Precipitation amounts exceeded 0.50 in. most of southeast with lesser amounts west and north. Cooler air spread south Thursday. Precipitation changed to snow north and central, and a mixture of rain and snow south. Heaviest amounts snow fell on eastcentral, 3 to 4

in at Shawano.

Harvest neared end. Corn for grain 90% harvested, 1972 50%, normal 75%. South has most corn left to pick. Soybeans 99% combined, 1972 40%, normal 80%. Fall plowing resumed as ground thawed out in mild weather. Fall plowing 75% done, 1972 33%, normal 65%. Soil moisture 4% short, 89% adequate, 7% surplus. Feed supplies mostly adequate going into winter but oats and straw short again. Feed quality much better than a year ago due to fine harvesting conditions this fall.

WYOMING: Temperatures 4° to 13° above normal. Extremes: 7° at Border and 70° at Basin, Lagrange and Torrington. Precipitation general west and spotty elsewhere. Amounts ranged from 0.62 at Moran to traces. Movement of livestock to winter pastures underway. Livestock good. Fall weather benefited winter wheat. Fall ranges good.

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(Continued from Page 8)

temperature conditions vary markedly from day-to-day, week-to-week, etc. This past week is an excellent example (see p.2) as our Nation's midsection was much warmer than normal while the Northwest was much colder than normal. By knowing what the fluctuations are, one is able to anticipate what fuel supplies may be in an area. This becomes particularly important if certain temperature extremes persist for a long period of time.

In order to provide a means for evaluating fuel use and needs, the maps which we have been publishing the past three weeks are being prepared by the National Meteorological Center at Suitland, Maryland. Two maps will be presented each week. The heating degree-days for the week - percent departure from normal (1941-70) and heating degree-days accumulated from July 1, 1973 - percent departure from normal (1941-70). Presented as percent departure from normal, the values provide a direct measure of relative fuel consumption with respect to normal consumption. A positive departure (shaded areas) means that temperatures have been colder than normal, and thus, fuel consumption has also been greater than expected. Thus a departure of 20 percent above normal means that fuel consumption in the area has also been 20 percent above normal. The heating degree-day departures for the week give a measure of the short-term fluctuations, while the accumulation from July 1 shows the long-term trend over the heating season as a whole.

As space is available each week, we will also present a third map which will show the percent departure from last year over the heating season. This is particularly important since fuel allocations will be based in part on use last year.

The actual values that were used to compute the percentage values are given in the table on p. 10. The table shows the actual weekly accumulation and departure from normal, the seasonal total since July 1 and its departure from normal and the actual departure from last year.

(continued from p. 2)

Saturday morning the cold air brought the Lake States and parts of New England into the teens, the Atlantic Coastal States into the 20's. Birmingham, Ala., had 32°, and Jackson, Miss., 36°. As the Southeast shivered, a warming trend that had begun over the Plains, where 60's were reached as far north as the Nebraska-South Dakota border on Friday, ended as a second cold front passed. Nebraska fell into the 20's and 30's Friday night, and only warmed into the 40's and 50's on Saturday.

Sunday the heat wave continued in Texas; most cities hit the 80's, Oklahoma and the Gulf States stayed mostly in the 70's, while the northern tier of States hit only 20's, 30's, and 40's.