

WEEKLY WEATHER AND CROP BULLETIN

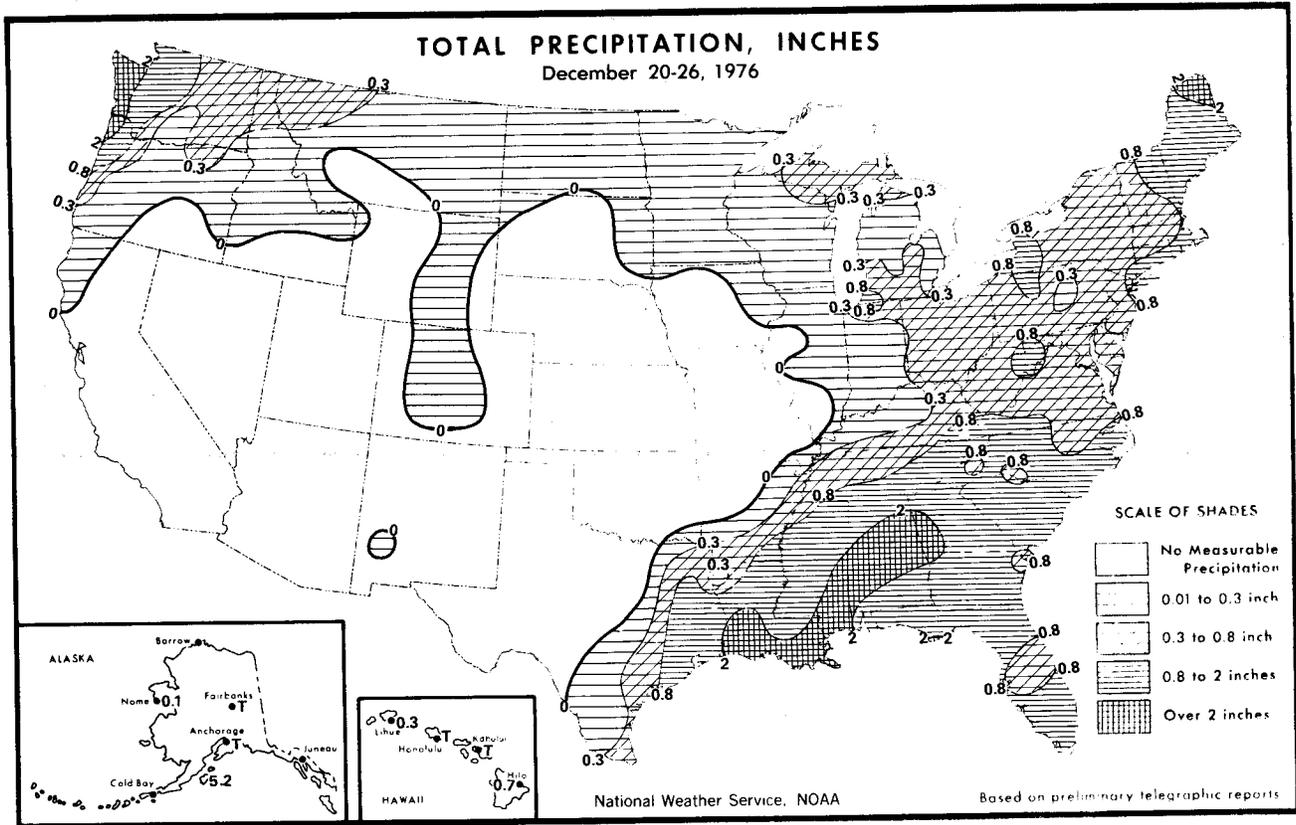
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National Weather Summary

For the week of December 20-26

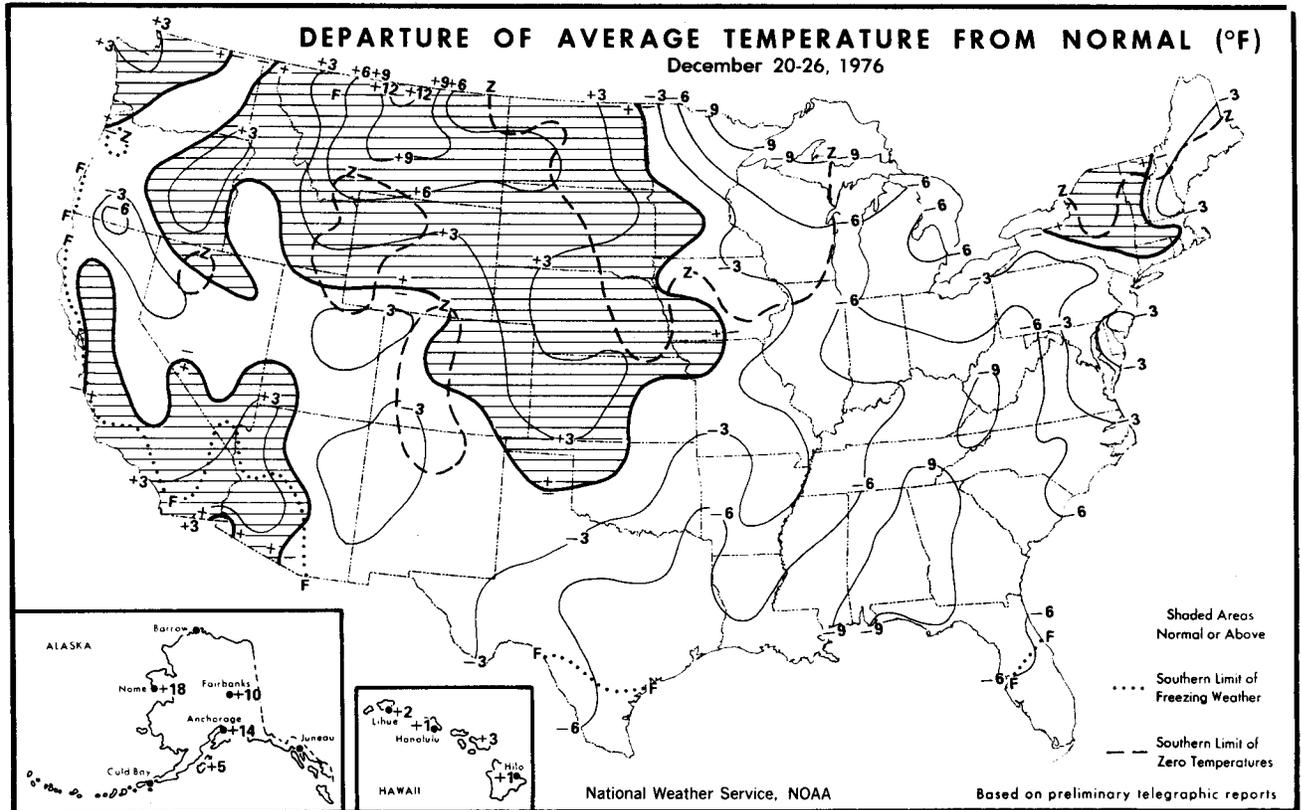
HIGHLIGHTS: Heaviest weekly precipitation focused on southeastern U.S., where amounts ranged up to 3 inches or more. Northern New England measured up to 2 inches of precipitation mostly in the form of snow. The Pacific Northwest welcomed more than 2 inches along the northern coast, where forecasters traced significant amounts in the mountains and eastward. Unusually warm temperatures favored the eastern slopes of the central and northern Rockies. Colder than normal weather dominated the East. Parts of the Southeast ranged 10 to 12° below normal.

By Monday morning, the incursion of cold arctic air that began in the northern Plains had moved to a line from Michigan to southeast Texas and was continuing eastward. Temperatures differed drastically across the front with many thermometers dropping as much as 15 to 20° in 1 hour after the frontal passage. Following an unusually

warm weekend, temperatures slipped into the single digit range throughout the northern Plains and Rockies with some subzero readings reported. Strong, gusty winds intensified the cold, and the wind chill factor made the apparent temperature 15 to 20° below zero.

Precipitation was light in the dry northern Plains and western Lakes area but increased ahead of the front from the lower Mississippi Valley, the Ohio Valley and northward. By the time the front moved off the Atlantic Coast late Monday, significant precipitation had fallen from the mid-Gulf Coast through New England and was continuing in northern New England and the eastern Lakes area in the form of snow or freezing rain.

At 12:36 EST on Tuesday the sun reached its southernmost position in relation to the earth and thus ushered in the beginning of the winter season and the shortest day of the year. The weather pattern across much of the Nation seemed perfectly



suited to a typical winter day. Snow whitened the ground across the Appalachians, the Great Lakes area, and the northern half of the Atlantic Coast States. An intense low pressure system off the Maine Coast produced strong winds over the Northeast. Minimum temperatures sank below zero in the upper Mississippi Valley and readings in the teens reached into the central Plains, the Ohio Valley, the Great Lakes region, and much of the Rockies and Plateau.

Wednesday's unseasonably cold air covered the eastern half of the Nation from Texas north through the Mississippi Valley and eastward. After noting record high temperatures just a few days ago many areas in the Southeast set record lows on Wednesday morning. Raleigh, N.C. reported 9°, Charleston, S.C. 20°, and Meridian, Miss. 16°. Light snow ranged from Minnesota through upper Michigan, New York, and northwestern Pennsylvania. Other light snow fell in portions of the Rockies. An area of rain and some sleet developed over the lower Mississippi Valley and Oklahoma and spread into the Tennessee Valley and along the central Gulf Coast. The extreme northwest portion of the Nation received some significant precipitation following a 2-month dry spell.

Another outbreak of cold air pushed southward from Canada on Thursday. Snow and high winds moved through the Great Lakes area and northern Appalachians as the front moved rapidly northeastward to the Atlantic. Elsewhere showers were scattered over south Texas with rainshowers and some thunderstorms spread over much of the Florida peninsula. Afternoon high temperatures ranged from the single numbers in the upper Mississippi Valley and western Great Lakes to the low 70's in southern Florida.

On Friday a low pressure system, hatching in

Colorado, deposited light snow in the mountains to the delight of skiers in the area. Precipitation was generally light on Friday. Light snow or flurries whirled across the northern Rockies to the Appalachians. Some light drizzle dampened the Texas Coast and southern Louisiana. Afternoon temperatures were typical of December in most of the Nation, ranging from the 20's and 30's in the North to 50's and 60's in the South with a few 70's in the southern portions of Texas and Florida.

The low center moved rapidly on Christmas Day and by late Saturday had moved through the South to Georgia. Rain was widespread along and north of the Gulf Coast, through the Ohio Valley, and finally to the southern Appalachians. By the end of the day snow appeared in the eastern Ohio Valley and Appalachians.

Precipitation in other parts of the Nation included widespread rain in Washington and Oregon and snow in northern Idaho and western Montana. Light snow occurred from North Dakota across Minnesota and into northern Wisconsin and Michigan.

As the storm moved northward off the East Coast on Sunday precipitation abated in the South but brought varying amounts of snow from the middle Atlantic States northward through New England. As this winter storm diminished, a new one came to life in the Dakotas. Light snow was reported across the eastern Dakotas through Minnesota, Wisconsin, and the Great Lakes. Snow, heavy at times, fell early in the day in the Cascades of Washington and Oregon.

Highlighting Sunday's weather, unseasonably warm temperatures dominated most of the western two-thirds of the Nation. Temperatures climbed into the 50's and 60's from the south and central Plains, across portions of the Rockies, the Inter-mountain region and the Pacific Northwest.

National Agricultural Summary

For the Week of December 20-26

HIGHLIGHTS: Precipitation moved across the southeastern part of the United States keeping soil moisture supplies in that area adequate to surplus. The rainfall also interfered with the last harvest operations. Farmers harvested most of the cotton crop and Texas farmers reached 94% complete. Small grains in many States need moisture to improve conditions which rated only fair to good. Most of the winter wheat crop lacked snow cover which is needed to improve soil moisture and also limit wind damage during the winter. Pastures generally provided only limited grazing for this time of year. In the south many pastures were too wet.

SMALL GRAINS: The United States winter wheat crop was in fair to good condition. The crop in the major winter wheat producing States needs soil moisture. The crop lost most of the snow cover that existed earlier. Blowing remains a potential problem which additional soil moisture and snow cover could solve. Farmers planted only a few remaining fields in a few of the southern States. The winter wheat crop provided only limited grazing.

In Kansas the winter wheat crop showed little change. Soil moisture supplies remained short and no precipitation fell to improve the situation. Kansas cattle grazed on only 5% of the wheat pasture compared with 10% last year and the 15% average. In Oklahoma short soil moisture also kept the winter wheat crop in only fair condition. Wheat pastures provided little forage. In Texas freezing temperatures slowed winter wheat growth. Farmers on the northern High Plains irrigated the crop where water was available. Fields in east Texas need warm, sunny weather to dry soggy soils and promote growth to provide normal grazing. A few greenbugs infested fields on the northern Low Plains. In New Mexico irrigated winter wheat was fair to good but dryland fields rated only fair and need moisture. In Montana strong Chinook winds as high as 75 mph caused blowing dust over the plains. The wheat was in fair condition, in need of moisture and snow cover. The Wyoming winter wheat crop needs moisture to prevent blowing. In Washington mild temperatures melted most of the snow cover leaving small grains vulnerable to cold. The crop needs more moisture. In eastern Oregon fall seeded grains need more moisture. In California small grains showed spotty moisture stress. Farmers irrigated wherever possible.

COTTON: Farmers almost finished harvesting the United States cotton crop. Limited harvest remained to be done in most States and rains hampered picking throughout the southeast. In Texas cotton harvest reached 94% complete, less than the 96% last year but well ahead of the 89% average. Cool, dry weather allowed rapid progress on the plains and in the Trans-Pecos. Many full cotton trailers stood in gin yards. In Oklahoma cotton harvest reached 99%, far earlier than the 74% in 1975. New Mexico farmers reached the final clean-up stage in the cotton harvest. In Arizona cotton

harvest reached 90% complete and farmers began shredding stalks and plowing fields. In Arkansas farmers harvested a limited amount of cotton. Alabama farmers harvested 95% of their cotton crop.

OTHER CROPS: Harvests of corn, soybeans and sorghum were nearly complete. Farmers in a few southeastern States harvested some acreage. In North Carolina corn combining reached 98% complete, soybeans 90% and sorghum 99%. In Oklahoma soybean harvest advanced to 98% complete, the same level as 1975. California farmers harvested the last row crops for the season.

Tobacco growers prepared the 1976 crop for market. Indiana growers need higher humidity to properly strip the tobacco. Farmers in Georgia and North Carolina prepared tobacco plant beds for the 1977 crop.

Sugarcane harvest progressed rapidly in Florida. In Louisiana cold temperatures caused high acidity in the crop forcing growers to divert an unusually large part of the crop to the production of molasses. In Texas sugarbeet harvest advanced to 98% complete compared with 100% last year and the 99% average. California growers finished the sugarbeet harvest.

FRUITS AND NUTS: Rain in most areas of Florida kept citrus groves in excellent conditions. Unseasonably cold weather produced very few freezing temperatures although the rain and cold slowed picking. The fruit developed good color. In Texas rainy weather also delayed citrus picking. In Arizona growers picked lemons, oranges, tangerines and grapefruit. Citrus groves were in good condition. California growers harvested desert grapefruit, lemons, tangerines and oranges from the San Joaquin Valley. Deciduous fruit growers pruned trees and cleaned orchards in Washington and several southern States.

VEGETABLES: Vegetable shipments declined from Florida because of Christmas. Supplies of all vegetables moving from Florida should increase after January 1. Cold temperatures lightly damaged tender crops in southern areas. In Texas cool, rainy weather dampened supplies of vegetables. Only light volumes of cabbage, carrots and peppers moved from the Lower Rio Grande Valley. Damp cold weather slowed spinach development. In Arizona growers picked lettuce and a variety of other winter vegetables. California growers picked cabbage, carrots and lettuce but finished harvesting broccoli and cauliflower. Artichokes sustained slight frost damage.

PASTURE AND LIVESTOCK: Cold temperatures slowed grass growth and few southern pastures provided the usual seasonal amount of forage. Rainy weather in some areas produced soggy field conditions limiting their use for grazing. Small grains provided less than normal grazing with growth also curtailed by low readings. In some areas of the United States other than the southeast stock water supplies ran short and cattlemen hauled water.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., December 26, 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 . . .	34	-10	2.2	+1.0	La. Baton Rouge . . .	46	-6	1.6	+5	Youngstown . . .	21	-6	.6	0
Mobile . . .	42	-10	1.6	+2	Lake Charles . . .	47	-6	2.3	+1.0	OKLA. Okla. City . . .	37	-1	T	.3
Montgomery . . .	36	-12	2.0	+9	New Orleans . . .	46	-8	3.6	+2.4	Tulsa . . .	35	-3	T	.4
ALASKA. Anchorage . . .	26	+14	T	.2	Shreveport . . .	43	-5	2.5	+2.8	OREG. Astoria . . .	43	+1	2.5	+1
Barrow . . .	--	--	--	--	MAINE. Caribou . . .	11	-2	2.5	+2.0	Burns . . .	30	+4	T	.4
Fairbanks . . .	-2	+10	T	+1	Portland . . .	18	-5	2.5	+2.0	Medford . . .	29	-8	.1	.7
Juneau . . .	--	--	--	--	MD. Baltimore . . .	31	-3	1.8	-1	Pendleton . . .	34	0	.4	0
Kodiak . . .	34	+5	5.2	+4.1	MASS. Boston . . .	31	-0	.8	-1	Portland . . .	39	-1	1.0	0
Nome . . .	21	+18	.1	0	Chatham . . .	31	-0	1.0	--	Salem . . .	39	-1	.9	.6
ARIZ. Flagstaff . . .	28	-1	0	.5	MICH. Alpena . . .	16	-3	.1	-3	PA. Allentown . . .	27	-2	.5	.3
Phoenix . . .	54	+3	0	.2	Detroit . . .	28	-3	.2	-3	Erie . . .	24	-3	.7	+1
Tucson . . .	49	-2	0	.2	Flint . . .	17	-3	.2	-3	Harrisburg . . .	30	-1	.5	.2
Winslow . . .	27	-5	0	-1	Grand Rapids . . .	22	-3	.3	-2	Philadelphia . . .	30	-3	.5	.2
Yuma . . .	54	-1	0	-1	Houghton Lake . . .	16	-4	.3	-2	Pittsburgh . . .	22	-7	.5	-1
ARK. Fort Smith . . .	34	-6	T	.6	Lansing . . .	20	-5	.3	-1	Scranton . . .	24	-3	.3	.2
Little Rock . . .	39	-1	T	.9	Marquette . . .	14	-8	.7	+3	R.I. Providence . . .	28	-1	.8	-1
CALIF. Bakersfield . . .	48	+1	0	.2	Muskegon . . .	23	-4	.3	-2	S.C. Charleston . . .	42	-6	1.1	+3
Eureka . . .	47	-1	T	-1.5	S. Ste. Marie . . .	11	-7	.5	0	Columbia . . .	39	-6	1.3	+5
Fresno . . .	44	-1	0	-.4	MINN. Duluth . . .	5	-7	T	-3	Greenville . . .	35	-7	1.4	+4
Los Angeles . . .	--	--	0	.5	Internatl Falls . . .	-4	-10	T	-2	S.D. Aberdeen . . .	19	+5	T	-1
Red Bluff . . .	47	+2	0	-.9	Rochester . . .	16	0	.1	-1	Huron . . .	20	+3	T	-1
San Diego . . .	60	+4	0	-.4	St. Cloud . . .	11	-5	1	0	Rapid City . . .	28	+3	T	-1
San Francisco . . .	47	-2	0	-1.0	St. Louis . . .	11	-3	1	-1	Sioux Falls . . .	19	+1	T	-1
Stockton . . .	44	0	0	-.6	MISS. Jackson . . .	40	-8	1.7	+6	TENN. Chattanooga . . .	30	-10	1.8	+6
COLO. Denver . . .	33	+2	.1	0	Meridian . . .	39	-8	2.3	+1.0	Knoxville . . .	32	-8	1.0	-1
Grand Junction . . .	25	-3	0	-1	MO. Columbia . . .	27	-4	T	-.4	Memphis . . .	38	-3	1.6	-.5
Pueblo . . .	32	0	1	0	Kansas City . . .	30	0	0	-.4	Nashville . . .	32	-7	.4	-.7
CONN. Bridgeport . . .	31	-1	.9	+2	St. Louis . . .	28	-5	0	-.4	TEX. Abilene . . .	39	-6	0	-.3
Hartford . . .	27	+1	.6	-.3	Springfield . . .	31	-3	0	-.6	Amarillo . . .	37	0	0	-.2
D.C. Washington . . .	34	-2	.5	-.3	MONT. Billings . . .	32	+7	T	-1	Austin . . .	45	-6	T	-.5
FLA. Apalachicola . . .	45	-9	2.0	+1.3	Glasgow . . .	20	+5	.1	0	Beaumont . . .	46	-7	1.4	+3
Daytona Beach . . .	54	-5	.5	0	Great Falls . . .	32	+7	.1	0	Brownsville . . .	54	-8	.5	+2
Ft. Myers . . .	60	-4	1.0	+7	Havrre . . .	29	+13	.2	+2	Corpus Christi . . .	51	-7	.3	-1
Jacksonville . . .	48	-7	1.2	+6	Helena . . .	30	+8	T	-1	Dallas . . .	--	--	--	--
Key West . . .	68	-3	1.9	+1.6	Kalispell . . .	25	+3	.4	0	Del Rio . . .	46	-5	T	-1
Lakeland . . .	55	-6	.3	+2	Miles City . . .	28	+8	T	-1	El Paso . . .	41	-2	0	-1
Miami . . .	65	-3	1.1	+7	Missoula . . .	24	+1	.2	-1	Fort Worth . . .	42	-4	0	-.4
Orlando . . .	55	-6	.6	+1	NEBR. Grand Island . . .	27	+2	0	-1	Galveston . . .	50	-6	1.5	+7
Tallahassee . . .	43	-3	1.4	+4	Lincoln . . .	25	0	0	-1	Houston . . .	46	-7	.9	0
Tampa . . .	55	-6	.8	+3	Norfolk . . .	24	+2	T	-1	Lubbock . . .	38	-2	0	-1
W. Palm Beach . . .	63	-3	1.1	+5	N. Platte . . .	26	+1	T	-1	Midland . . .	41	-4	0	-1
GA. Atlanta . . .	32	-10	1.7	+7	Omaha . . .	24	+1	T	-1	San Angelo . . .	41	-6	0	-.2
Augusta . . .	39	-6	1.2	+4	Valentine . . .	25	+2	T	-1	San Antonio . . .	46	-6	.1	-.2
Macon . . .	39	-8	1.5	+5	NEV. Ely . . .	24	-1	0	-1	Victoria . . .	47	-8	.6	+2
Savannah . . .	43	-7	.8	0	Las Vegas . . .	44	0	0	-1	Waco . . .	42	-6	T	-.4
HAWAII. Hilo . . .	72	+1	.7	-2.7	Reno . . .	29	-3	0	-.3	Wichita Falls . . .	39	-4	0	-.3
Honolulu . . .	74	+1	T	-.9	Winnemucca . . .	27	-5	0	-.2	UTAH. Blanding . . .	28	0	0	-.3
Kahului . . .	75	+3	T	-.7	N.H. Concord . . .	17	-5	.5	-.2	Salt Lake City . . .	26	-3	T	-.3
Lihue . . .	74	+2	.3	-1.2	N.J. Atlantic City . . .	30	-3	.6	-.3	VT. Burlington . . .	21	+1	.6	+1
IDAHO. Boise . . .	28	-3	.1	-.2	Trenton . . .	31	-2	.7	0	VA. Lynchburg . . .	30	-6	.8	+1
Lewiston . . .	37	+3	.1	-.2	N.MEX. Albuquerque . . .	32	-3	0	-1	Norfolk . . .	39	-2	.6	-1
Pocatello . . .	28	+3	T	-.2	Roswell . . .	37	+1	0	-1	Richmond . . .	35	-2	.7	0
ILL. Cairo . . .	34	-4	T	-.9	N.Y. Albany . . .	24	+1	.3	-.3	Roanoke . . .	29	-7	.4	-.3
Chicago . . .	20	-6	.2	-.3	Binghamton . . .	23	0	.4	-.2	WASH. Colville . . .	25	-1	.4	-1
Moline . . .	23	-1	T	-.4	Buffalo . . .	23	-3	1.3	+7	Omak . . .	26	+1	.4	0
Peoria . . .	22	-4	T	-.4	New York . . .	32	-1	.8	0	Quillayute . . .	43	+3	3.8	+3
Rockford . . .	18	-5	.1	-.3	Rochester . . .	26	0	.5	0	Seattle-Tacoma . . .	43	+3	1.4	+1
Springfield . . .	24	-5	T	-.4	Syracuse . . .	26	0	.5	-.2	Spokane . . .	28	0	.4	-.2
IND. Evansville . . .	29	-5	T	-.7	N.C. Asheville . . .	31	-7	.4	-.4	Walla Walla . . .	35	-1	.5	0
Ft. Wayne . . .	22	-8	.2	-.3	Charlotte . . .	35	-6	.7	-1	Yakima . . .	28	-2	.1	-.2
Indianapolis . . .	22	-7	.2	-.4	Greensboro . . .	33	-5	.9	+1	W.Va. Beckley . . .	23	-8	.7	-1
South Bend . . .	22	-4	1.2	+6	Hatteras . . .	42	-4	1.3	+3	Charleston . . .	25	-10	.6	-1
IOWA. Burlington . . .	24	-1	T	-.4	Raleigh . . .	33	-7	.7	0	Huntington . . .	27	-8	.6	-1
Des Moines . . .	23	0	T	-.2	Wilmington . . .	43	-3	1.6	+8	Parkersburg . . .	26	-7	.3	-.3
Dubuque . . .	18	-3	T	-.4	N.DAK. Bismarck . . .	18	+5	1	0	WIS. Green Bay . . .	12	-6	.1	-.2
St. Louis City . . .	21	0	T	-1	Fargo . . .	9	-1	.1	0	La Crosse . . .	15	-4	.3	+1
KANS. Concordia . . .	31	+3	0	-.2	Williston . . .	18	+5	T	-1	Madison . . .	16	-4	.1	-.2
Dodge City . . .	36	+4	0	-1	OHIO. Akron-Canton . . .	23	-4	.3	-.3	Milwaukee . . .	18	-4	.1	-.3
Goodland . . .	33	+4	0	-.1	Cincinnati . . .	23	-9	.2	-.4	WYO. Casper . . .	27	+2	T	-1
Topeka . . .	28	-2	0	-.4	Cleveland . . .	23	-5	.7	+2	Cheyenne . . .	29	+1	T	-1
Wichita . . .	32	-1	0	-.2	Columbus . . .	23	-6	.3	-.2	Lander . . .	23	+1	0	-1
Lexington . . .	26	-8	.2	-.6	Dayton . . .	24	-5	.3	-.2	Sheridan . . .	28	+4	T	-1
Louisville . . .	29	-5	.1	-.6	Toledo . . .	22	-4	.3	-.2	P.R. San Juan . . .	78	+2	.1	-.9

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 10° below normal with all days at least 4° below normal. Rain 25th 1.50 in. Fieldwork: 2.7 days suitable. Soil moisture adequate to surplus. Major activity: Feeding livestock. Cotton harvest 95% complete. Corn, soybean, and sorghum harvest virtually complete. Small grains fair condition. Pastures poor to fair condition.

ARIZONA: Dry conditions. Temperatures 1 to 5° below normal.

Cotton harvest, residue disposal continues. Harvest 90% complete. Many fields shredded, disced, plowed. Seed bed preparation, planting small grains excellent progress. Sorghum grain harvest nearly complete. Sugarbeets continued good progress. Lettuce harvest active Yuma, nearly complete central areas. Planting late winter, spring crops. Mixed winter vegetable harvest active. Picking lemons, navels, sweets, early tangerines, grapefruit. Citrus groves good condition. Higher elevation ranges good condition. Stock water, soil moisture deficient lower desert. Cattle, calves good condition. Supplemental feeding some areas. Sheep, lambs good condition.

ARKANSAS: Temperatures ranged from 2 to 10° below normal. Extremes: 9 and 64°. Dry with most stations reporting no measureable precipitation.

Limited cotton scrapping early. Small grains good. Major activities: Equipment maintenance and livestock feeding.

CALIFORNIA: Drizzle from low clouds along the north coastal area gave light moisture but elsewhere dry. Temperatures averaged near or slightly below normal with only the southeast coast and a few mountain stations showing above average readings.

Emerging small grains showing spotty moisture stress. Irrigation where water available. Sugarbeet, milo, cotton harvests finishing. Fieldwork ahead of normal. Irrigating, fertilizing, pruning continue all areas. Lack rain forcing growers irrigate. Avocado harvest proceeding normally. Desert grapefruit harvest sluggish. Lemon harvest continues. San Joaquin Valley navel orange quality very good to excellent. Most fruit meeting maturity standards. Tangerine movement good. Fall harvesting activity seasonal decline. Slight frost damage artichokes, very light harvest. Broccoli, cauliflower harvests complete. Cabbage, carrot, lettuce, and celery harvests continue. Ranges dry. Supplemental feeding and water hauling continues.

COLORADO: Dry, clear weather through 23d with mild daytime temperatures over the eastern plain, otherwise near normal temperatures. Light snow 24th, over the mountains and eastern plains with amounts generally to 4 in. Clear, mild weather developed rapidly again 25th and 26th.

FLORIDA: Colder weather 20th and 21st. Warmer weather by 25th followed by rain, colder weather 26th. Rainfall generally heavy north, lighter central, south. Rains of 1.00 to 2.00 in., 20th and 0.75 to 1.00 in., 26th, where general across north. Temperatures averaged 8 to 12° below normal over most of central, north, near 5° below extreme south.

Soil moisture mostly adequate; however, a few

wet spots north and along east coast. Harvest of sugarcane active, most other crops completed harvests. Small grains good condition. Some land preparation underway for spring planting. Pasture conditions variable, ranging from very poor, Panhandle to good in central areas, southward. Cold weather, frosts set pastures back, particularly in northern peninsula, prolonging heavy supplemental feeding. Cattle, calves poor to good condition. Citrus tree condition excellent, rain most areas. Cold weather with very few freezing temperatures. Very good fruit color. Weather slowed harvest. Vegetable shipments decreased due to holiday. Supplies snap beans, cabbage, carrots, celery, sweet corn, cucumbers, eggplant, escarole-endive, lettuce, peppers, radishes, squash, tomatoes declined. Should regain momentum after holidays. Light to moderate cold damage to tender crops, southern areas.

GEORGIA: Temperatures 1 to 6° below normal. Rain midweek with amounts averaging near 0.75 in. north to less than 0.25 in. south. Moderate rain weekend.

Minimal fieldwork due to cold, wet weather. Corn, cotton and soybeans mostly harvested. Pecan harvesting nearly complete. Tobacco bed preparation active. Pastures and cattle fair to good condition after some decline due to weather.

HAWAII: Cool but favorable for crop growth. Showers light mainly windward areas.

Frequent spraying and heavy irrigation continuing. Vegetable supplies adequate. Banana supplies heavy. Papaya supplies declining seasonally. Sugar harvesting most mills stop grinding.

IDAHO: Maximum temperature 50°, minimum -8°. Precipitation below normal. Open weather continues. Some light snow fell late week.

Most field activity completed. Livestock remain in good condition. Some supplemental feeding.

ILLINOIS: Temperatures 2 to 7° below normal. Precipitation extremely light for second straight week, near 0.20 in. northeast, less than 0.10 in. elsewhere.

Soil moisture mostly short. Winter wheat and other small grains mostly fair. Livestock doing well most areas. Main farmwork: Caring for livestock, machinery repair, chores.

INDIANA: Temperatures averaged 6° below normal and ranged from teens to 30's. Precipitation light ranging up to 0.10 in. except 1.00 to 1.25 in. near Lake Michigan. Snow covers ground 3 to 12 in. north, very light or none in central or south. Fall and early winter very dry and cold.

Farm activities minimal. Few corn and soybean fields still standing. Farmers mostly doing chores and caring for livestock. Some tobacco growers waiting for higher humidity to prepare tobacco for market.

IOWA: Northeast light snowfall with temperatures averaging 3 to 4° subnormal. Elsewhere temperatures near normal. Continued dry.

KANSAS: No precipitation. Temperatures 30°

north central to 35° southwest or 1° above normal southeast, 4° above normal northwest.

Wheat showed little change. Topsoil and sub-soil moisture supplies remain short. Cattle grazing wheat pasture only 5%, compared with 10% last year, 15% average.

KENTUCKY: Temperatures 5° below normal and precipitation averaged less than 0.50 in.

Tobacco markets closed for holiday. Too dry to get tobacco down. Little or no stripping accomplished.

LOUISIANA: Temperatures normal to 5° below. Extremes: 69 and 24°. Rain 25th and 26th. Amounts averaged 2.00 to 2.50 in.

Sugarcane harvest nearing completion. Freeze damage raising acidity which is shifting some cane from sugar production to molasses and will result in some abandonment. Other agricultural activities mainly feeding and care of livestock.

MARYLAND AND DELAWARE: Temperatures 1 to 3° below normal. Highs in mid 40's, lows in mid 20's. Western Maryland slightly colder. Precipitation generally light. Weekend windy and cold. Snow 25th, 1 to 3 in.

Farmers limited to inside jobs and normal winter chores.

MICHIGAN: Temperatures ranged from 1 to 4° below normal over Lower Peninsula and 4 to 7° below over Upper Peninsula. Warmest days 20th and 25th Lower Peninsula when maximum temperatures mostly in upper 20's to mid 30's and minimums ranged from 0 to 10°. Most days cold over Upper Peninsula. Precipitation over most of Lower Peninsula varied from 0.10 to 0.30 in., but extreme southwest received up to 1.00 in., while other areas along Lake Michigan received up to 0.60 in. In Upper Peninsula precipitation varied from 0.50 to 0.80 in. near Lake Superior to around 0.10 in. over interior.

Farm activities limited to essential chores of feeding and caring for livestock and poultry.

MINNESOTA: Temperatures 5 to 10° below normal northeast third and normal to 5 below normal elsewhere. Extremes: 50 and -28°. Precipitation little below normal. Snow fall: 2 to 3 in. central into southeast with 1 to 2 in. common elsewhere except for traces extreme southwest. Snow cover 8 in. northeast to traces southwest.

MISSISSIPPI: Temperatures 5° subnormal. Extremes: 9 and 72°.

Soil moisture adequate to surplus. Fieldwork: 1.7 days suitable. Pecans 98% harvested, 94% 1975, 93% average. Winter wheat and oats in poor to fair condition. Pasture in mostly poor condition. Livestock in mostly fair condition.

MISSOURI: Temperatures from 1 to 2° above normal in the northwest prairie to 1 to 2° below normal elsewhere. No precipitation.

Farming activities consist of general livestock care and management.

MONTANA: Week started with cold nights with lows near 0°, ended warm in 50's. Temperatures above normal. New snow fell 25th. Precipitation above normal northwest and north central, below normal elsewhere.

Strong Chinook winds 26th to 75 mph caused blowing dust over plains.

Winter wheat fair. Soil moisture short. Snow cover protection poor. Livestock condition good, grazing open.

NEBRASKA: Temperatures 10 to 17° below normal 20th but averaged 2 to 14° above normal thereafter. No measurable precipitation.

NEVADA: Only light precipitation northeast. Afternoon temperatures above normal, overnight temperatures below normal to near average extreme south.

Open weather favorable to livestock. Supplemental feeding light.

NEW ENGLAND: Weather systems moved at a rapid pace. Frequent oscillations of above to below normal readings resulted in overall averages close to normals. Precipitation 0.03 to 0.05 in. falling as snow flurries in northern and western mountain areas.

NEW JERSEY: Temperatures 5° below normal, averaging 26° north, 29° south and 31° coastal areas. Extremes: 4 and 54°. Precipitation slightly below normal, averaging, 0.60 in. north, 0.74 in. south and 0.65 in. coastal sections.

Farmers caring for livestock and doing other winter chores.

NEW MEXICO: Few light showers south central and southwest 20th otherwise dry and mostly sunny. Temperatures averaged near 5° colder than normal.

Soil moisture mostly adequate southwest, short to very short elsewhere. Open weather permitted unrestricted outdoor activity. Cotton harvest cleanup stages. Pecan harvest slower than usual, about 50% done. Irrigated wheat fair to good, dryland only fair, in need of moisture. Cattle, sheep fair to good, moderate supplemental feeding. Ranges mostly fair.

NEW YORK: Temperatures slightly below normal. Warm 19th and 20th, then cold through 23d. Warming trend 24th and 25th. Storm 24th and 25th left 3 to 4 in. snow in southeast, 12 in. in many western areas. Scattered flurries in central areas.

NORTH CAROLINA: Temperatures 5° below normal, precipitation slightly above average, some of it snow in mountains. New low temperatures Piedmont and coast 22d.

Fieldwork: 2.0 days suitable. Soil moisture diminished slightly, 57% adequate, 43% surplus. Wheat 92% seeded, other small grains 96 to 98%. Small grains and pastures range poor to good condition, mostly fair. Slow harvest remaining field crops. Soybeans 90% combined, 92% last year, 91% average. Corn 98% harvested, sorghum grain 99%. Cotton picking about complete. Burley growers working unsold tobacco for market; flue-cured growers preparing plant beds.

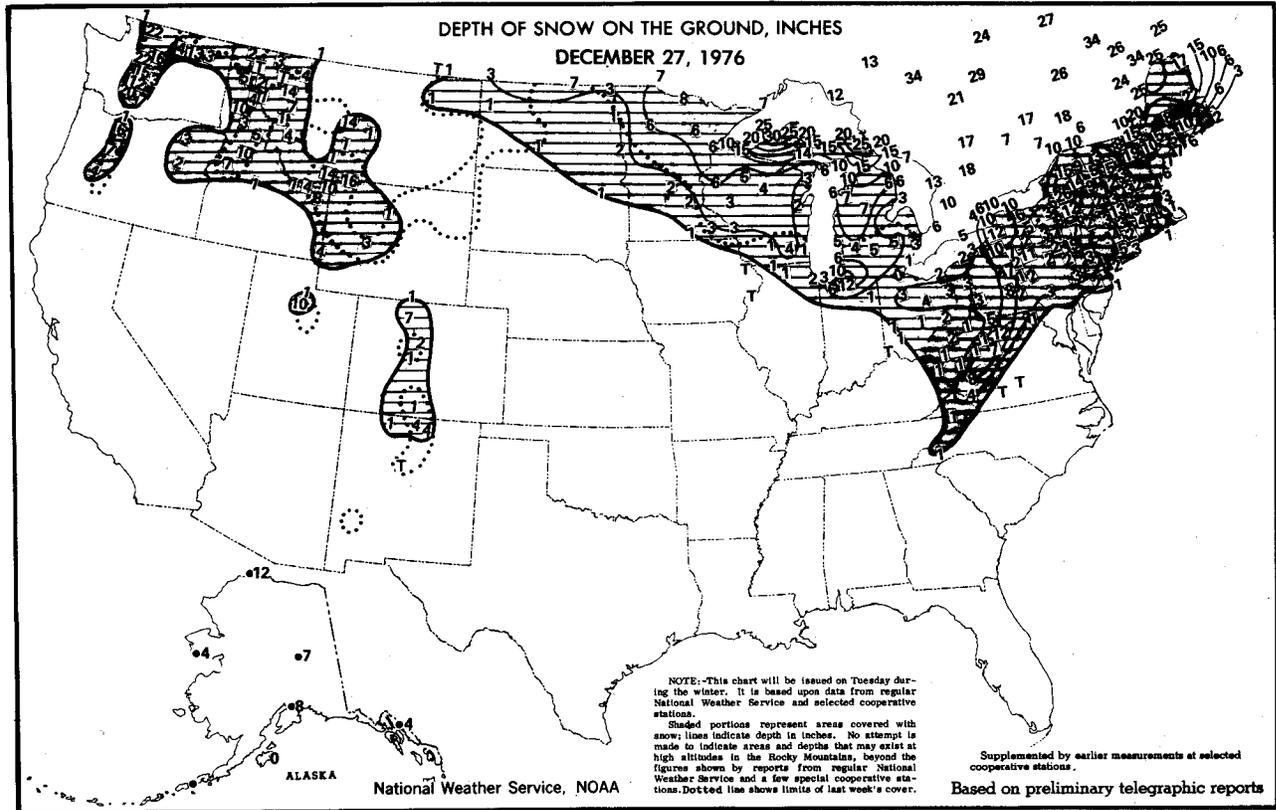
NORTH DAKOTA: Temperatures ranged from 2 to 8° above normal. Extremes: 52 and -15°. Precipitation ranged 0.01 in. to 0.13 in. below normal. Snow cover ranged from trace to 2.0 in. above normal temperatures and light precipitation weekend.

Livestock generally good condition. Pastures and ranges poor.

OHIO: Cold below normal temperatures. Snow flurries through 24th and snow 25th and 26th.

Pastures dormant, limiting grazing. Extensive supplemental feeding of livestock. Livestock in fair condition.

OKLAHOMA: Temperatures 2 to 4° below normal. Precipitation only trace in central, northeast, and east central; elsewhere none. Weekend cool to



mild and dry except traces of rain northeast and east central.

Topsoil moisture short. Subsoil moisture short. Wheat condition fair. Other small grains fair condition. Sorghum harvest virtually complete. Cotton harvest earlier than last year; 99% 1976, 74% 1975. Soybeans 98% harvested, same as 1975. Soybean condition good. Pastures and range poor to fair condition. Native grasses making poor growth. Wheat pasture providing little relief. Farm ponds low. Livestock fair condition. Livestock marketings slow due to holidays.

OREGON: Dry but rains spread over west and northeast end of week. Amounts light except along north coast where nearly 1.00 in. fell. Temperatures 2 to 4° below normal in persistent foggy areas of west but elsewhere temperatures averaged near to slightly above normal.

Farm activity remained light. Some spraying and pruning. Clover continues to look fair and the fall sown grains are fair to good. Eastern fall seeded grains need more moisture. Feed activity varied. Calves going on feed in south central. Feed supplies adequate. Pastures fair in some areas but need moisture for regrowth. Livestock in good condition.

PENNSYLVANIA: Fourteenth consecutively colder than normal week with departures from 2 to 8°. Mild at beginning turning colder with winds to 50 mph 21st and 22d when temperatures below freezing. More seasonable balance of week. Extremes: 53 and 2°. Partly cloudy with snow flurries most days. Fast moving storm 25th deposited first snowfall of season with depths 1 to 6 in. Precipitation 0.25 to 0.75 in. most areas.

Normal winter dairy and poultry chores, tobacco stripping, apple and potato grading and packing.

PUERTO RICO: Island average rainfall 0.14 in. or 0.80 in. below normal. Temperatures averaged about 75° on coasts and 70° interior. Extremes: 87 and 51°.

Generally good weather for sugarcane development and maturity except some north, south and western areas where too dry for good development. Coffee drying, pruning of trees, cleaning and cultivating main activities. Tobacco zones need more rains for normal development. Pastures drying in south and southwest due lack of rain. Food crop development affected seriously by dry conditions some areas north, south and southwest.

SOUTH CAROLINA: Temperatures above normal beginning, below normal later. Extremes: 10 and 69°. Rainfall above normal except in mountain region. Some snow in mountain region.

General wetness slowed farming activities. Some harvesting cotton, soybeans. Preparing, fumigating tobacco beds. Pruning apple, peach trees when weather permitted. General farm, machinery maintenance.

SOUTH DAKOTA: Snow flurries, no significant precipitation. Temperatures above normal for second week: Near normal, east; 7 to 10° above normal west. Extremes: -9 and 59°.

Main farm activities: Caring for livestock and making repairs. Hay supplies moving into State. No snow cover remaining.

TENNESSEE: Temperatures 3° below normal west and 7 to 10° below normal mid and east. Precipita-

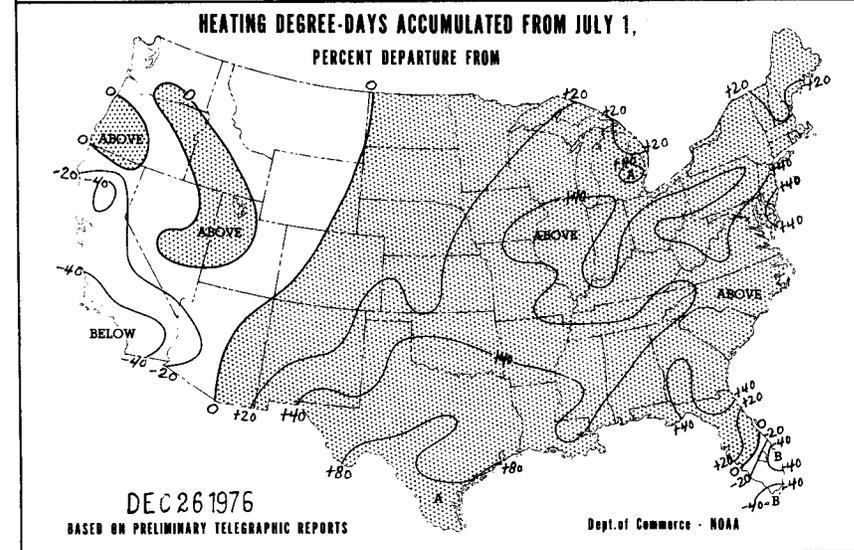
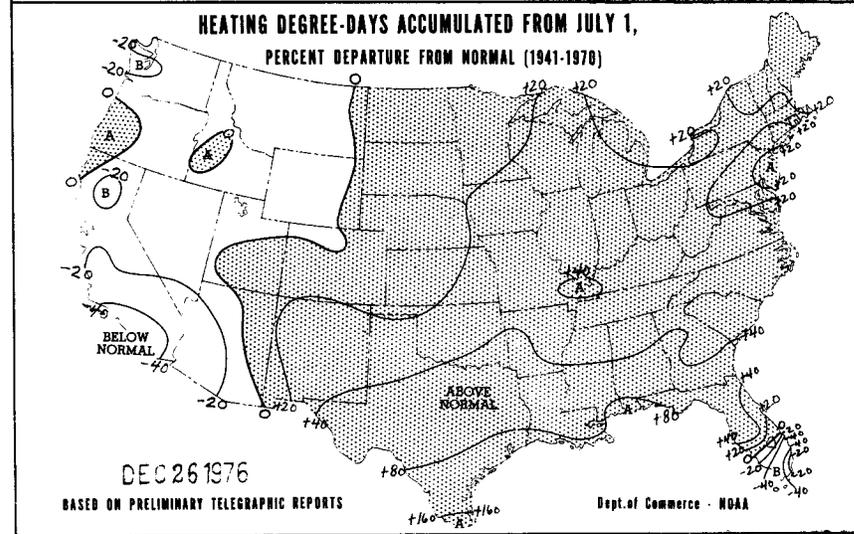
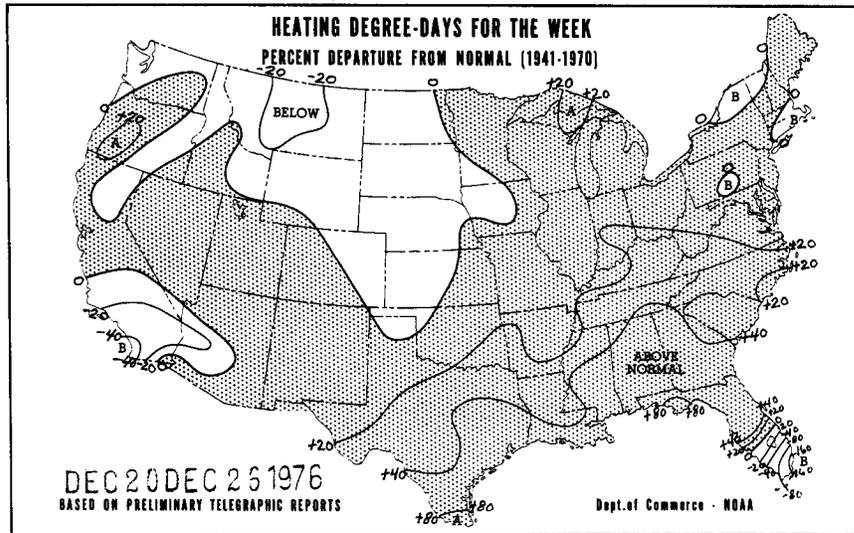
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HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING DEC. 26, 1976.

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...	216	69	146	39	450	MAINE. CARIBOU...	376	12	3979	477	441	YOUNGSTOWN...	310	43	2915	672	829
MOBILE...	164	59	1052	42	453	PORTLAND...	530	36	3061	447	530	OKLA. OKLAHOMA CITY...	198	11	1625	327	396
MONTGOMERY...	204	81	1265	42	456	MD. BALTIMORE...	237	16	1967	330	626	TULSA...	198	18	1700	410	419
ARIZ. FLAGSTAFF...	265	11	2477	258	147	MASS. BOSTON...	238	2	2074	245	553	OREG. ASTORIA...	157	44	1770	270	329
PHOENIX...	80	35	353	178	561	MICH. ALPENA...	337	29	3236	471	337	BURNS...	202	22	2448	293	266
TUCSON...	114	14	366	31	51	DETROIT...	300	30	3000	707	300	MEDFORD...	202	5	1946	48	81
WINSLON...	75	27	200	245	57	FLINT...	300	30	3000	707	300	PORTLAND...	202	5	1812	132	129
YUMA...	75	27	200	245	57	GRAND RAPIDS...	300	30	3000	707	300	SALEM...	202	5	1812	132	129
ARK. FORT SMITH...	215	39	1719	521	447	Houghton Lake...	401	21	4494	750	401	PA. ALLENTOWN...	266	11	2343	34	640
LITTLE ROCK...	181	27	1488	276	298	LANSING...	401	21	4494	750	401	ERIE...	266	15	2263	34	592
CALIF. BAKERSFIELD...	127	11	564	221	266	MARQUETTE...	401	21	4494	750	401	HARRISBURG...	266	15	2263	34	592
EUREKA...	122	11	1987	51	112	MUSKOGON...	401	21	4494	750	401	PHILADELPHIA...	266	22	2047	40	751
FRESNO...	146	46	909	37	261	S. STE. MARIE...	401	21	4494	750	401	PITTSBURGH...	303	49	2241	70	868
LOS ANGELES...	46	24	181	348	202	MINN. DULUTH...	424	50	4113	565	424	SCRANTON...	287	21	2639	417	772
RED BLUFF...	126	14	611	306	455	INTERNATL FALLS...	424	50	4113	565	424	R.I. PROVIDENCE...	261	11	2484	485	656
SAN DIEGO...	36	26	168	255	99	WINNEAPOLIS...	424	50	4113	565	424	S.C. CHARLESTON...	162	43	1032	268	361
SAN FRANCISCO...	143	9	995	96	312	ROCHESTER...	424	50	4113	565	424	COLUMBIA...	162	42	1315	358	453
STOCKTON...	143	9	995	96	312	ST. CLOUD...	424	50	4113	565	424	GREENVILLE...	214	53	1599	432	503
COLO. DENVER...	229	14	2170	7	59	MISS. JACKSON...	175	53	1258	434	383	S. DAK. ABERDEEN...	324	36	3271	177	416
GRAND JUNCTION...	272	17	2206	118	37	MERIDIAN...	184	53	1366	466	367	HURON...	315	26	3311	441	452
PUEBLO...	235	1	2335	364	359	MO. COLUMBIA...	24	23	2376	596	658	RAPID CITY...	258	25	2727	116	116
CONN. BRIDGEPORT...	235	10	2434	240	535	KANSAS CITY...	24	23	2376	596	658	ST. LOUIS...	320	13	3109	296	265
HARTFORD...	265	10	2434	240	535	SPRINGFIELD...	24	23	2376	596	658	TENN. CHATTANOOGA...	248	73	1697	385	333
DEL. WILMINGTON...	236	11	1971	299	549	MONT. BILLINGS...	24	23	2376	596	658	KNOXVILLE...	237	64	1725	437	428
D.C. WASHINGTON...	230	15	1734	284	629	GLASGOW...	24	23	2376	596	658	MEMPHIS...	197	30	1409	242	357
FLA. PALM BEACH...	147	70	803	352	305	GREAT FALLS...	24	23	2376	596	658	NASHVILLE...	235	53	1827	482	607
DAYTONA BEACH...	75	26	338	57	40	HELENE...	24	23	2376	596	658	TEXAS. ABILENE...	184	44	1457	539	484
FORT MYERS...	126	45	134	10	10	HELENE...	24	23	2376	596	658	AHARTILL...	195	40	2039	545	560
JACKSONVILLE...	122	45	758	305	245	KALISPELL...	24	23	2376	596	658	AUSTIN...	140	40	1003	420	430
KEY WEST...	2	2	2	2	2	NILES CITY...	24	23	2376	596	658	BEAUMONT...	121	36	966	457	380
LAKELAND...	68	29	316	142	112	MISSOULA...	24	23	2376	596	658	BROWNSVILLE...	74	34	438	276	213
MIAMI...	1	1	1	1	1	NEBR. GRAND ISLAND...	269	14	2537	251	159	CORPUS CHRISTI...	97	40	603	333	282
ORLANDO...	1	1	1	1	1	LINCOLN...	269	14	2537	251	159	DEL RIO...	136	38	902	333	408
TOLAHASSEE...	1	1	1	1	1	NORFOLK...	269	14	2537	251	159	EL PASO...	167	14	1444	390	416
TAMPA...	68	28	322	106	66	NORTH PLATTE...	269	14	2537	251	159	FORT WORTH...	102	34	408	388	456
WEST PALM BEACH...	11	10	40	48	70	OMAHA...	269	14	2537	251	159	GALVESTON...	130	46	983	523	397
GA. ATLANTA...	230	70	1588	460	528	VALENTINE...	269	14	2537	251	159	LUBBOCK...	191	16	1687	400	474
AUGUSTA...	187	49	1249	304	425	NEV. ELV...	286	4	2876	32	18	MIDLAND...	167	24	1338	393	408
Macon...	168	48	1153	321	340	LAS VEGAS...	149	2	722	236	139	SAN ANGELO...	164	40	1266	452	402
SAVANNAH...	160	48	996	289	351	RENO...	255	23	2221	73	102	SAN ANTONIO...	130	36	939	411	367
IDAHO. BOISE...	258	17	2209	30	48	MINNEAPOLIS...	268	14	2216	305	36	VICTORIA...	124	30	1166	473	517
LENISTON...	258	24	2493	136	32	N.H. CONCORD...	340	41	3227	616	451	NACO...	124	25	1447	433	454
POCATELLO...	258	24	2493	136	32	N.J. ATLANTIC CITY...	248	25	2183	517	536	UTAH. SALT LAKE CITY...	273	19	2100	117	27
ILL. CAIRO...	229	36	1930	570	668	TRENTON...	246	22	2087	454	691	VT. BURLINGTON...	313	5	3205	475	629
CHICAGO...	216	46	2707	615	856	N.MEX. ALBUQUERQUE...	233	23	1982	371	258	VA. JYNCHBURG...	269	68	1936	402	517
WOLINE...	204	39	2898	649	918	ROSHELL...	194	5	1645	201	462	NORFOLK...	185	17	1442	282	410
PEORIA...	301	12	774	117	96	N.Y. ALBANY...	323	31	2888	491	724	RICHMOND...	159	19	1774	375	610
ROCKFORD...	311	18	836	117	83	BINGHAMTON...	300	7	3146	595	802	ROANOKE...	254	51	2064	508	709
SPRINGFIELD...	287	31	2535	585	782	BUFFALO...	293	17	2835	490	719	WASH. QUILLAYUTE...	151	24	2163	194	231
IND. EVANSVILLE...	253	44	2033	467	737	NEW YORK...	236	14	1902	334	542	SEATTLE-TACOMA...	130	28	1507	490	462
FORT WAYNE...	253	44	2033	467	737	ROCHESTER...	277	0	2780	427	599	SPOKANE...	128	12	743	98	48
INDIANAPOLIS...	253	44	2033	467	737	SYRACUSE...	276	0	2780	427	599	HALLA HALLA...	254	6	2298	6	58
SOUTH BEND...	253	44	2033	467	737	N.C. ASHEVILLE...	241	51	1986	403	466	VA. BECKLEY...	297	59	2650	560	870
IOWA. BURLINGTON...	286	7	2812	663	849	CHARLOTTE...	216	48	1627	443	552	CHARLESTON...	228	59	2288	612	780
DES MOINES...	291	7	2866	663	849	GREENSBORO...	223	33	1829	416	614	HUNTINGTON...	228	59	2288	612	780
DUBUQUE...	291	7	2866	663	849	HATTERAS...	158	108	1084	271	406	PARKERSBURG...	228	59	2288	612	780
ST LOUIS...	291	7	2866	663	849	RALEIGH...	219	44	1728	442	624	WIS. GREEN BAY...	228	59	2288	612	780
KANS. CONCORDIA...	241	16	2262	282	381	WILLINGTON...	147	14	1047	212	384	WYO. CASPER...	263	19	2688	79	40
DODGE CITY...	227	22	2142	213	301	N. DAK. BISMARCK...	337	29	3368	102	207	CHEYENNE...	263	19	2688	79	40
GOODLAND...	227	22	2142	213	301	HILLISTON...	326	40	3478	121	35	LACROSSE...	263	19	2688	79	40
TOPERA...	227	22	2142	213	301	OHIO. AKRON-CANTON...	337	29	3368	102	207	HADISON...	263	19	2688	79	40
WICHITA...	227	22	2142	213	301	CINCINNATI...	294	63	2449	663	844	MILWAUKEE...	263	19	2688	79	40
KY. LEXINGTON...	275	58	2263	578	599	CLEVELAND...	298	41	2713	603	755	WYO. CASPER...	263	19	2688	79	40
LOUISVILLE...	254	39	2066	345	589	COLUMBUS...	296	44	2664	623	855	CHEYENNE...	263	19	2688	79	40
LA. BATON ROUGE...	124	30	912	325	336	DAYTON...	291	39	2561	577	807	SHERIDAN...	263	19	2688	79	40
LAKE CHARLES...	124	30	912	325	336	TOLEDO...	303	29	2928	683	751						
NEW ORLEANS...	131	34	972	337	358												
SHREVEPORT...	153	34	1163	396	410												

* BASED ON 1941-70 NORMALS.

+ ACCUMULATION FROM JULY 1, 1976.



1976 Weekly Weather and Crop Bulletin Index
Volume 63

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World Weather and Crop Update

HIGHLIGHTS. Rains eased dry conditions in Spain and Mediterranean North Africa but tapered off in the Adriatic area of Italy and along the Mediterranean coast of Turkey. Snow covered most of the USSR's important winter crop area and Eastern Europe with no extreme temperatures. Only light snow covered most of the Canadian spring wheat region and western part of Soviet Virgin Lands. Showers sustained winter rice in Sri Lanka and southern India. Unseasonably heavy rains fell in coastal West Africa and central Ethiopia. Rains eased stress in South Africa's Orange Free State. Drought persisted in Kenya. Moisture continued short over most of Australia, although rains benefited coastal areas of southern Queensland and northern New South Wales. Rain interrupted Argentine wheat harvest but helped summer crops.

EUROPE AND NORTH AFRICA. Generous rains that broke a late fall dry spell in Spain and adjacent North Africa halted deterioration in winter crops and perennial forage. Rain and snow elsewhere in Europe continued to erase the effects of last summer's drought. Diminishing rains reduced the flood threat in the Adriatic area of Italy and the Mediterranean coast of Turkey. Snow protected crops over much of Eastern Europe and the Nordic countries but impaired livestock access to forage.

USSR. Snow cover advanced toward the Black Sea and blanketed more of the European territory than usual; temperatures posed no threat to crops. In the Asian sector, however, temperatures have been below normal with only light snow cover over the

western Virgin Lands.

NORTH AMERICA. Dry conditions persisted on much of the Great Plains although the Canadian Prairies picked up a little additional snow cover. Significant snow occurred north of the major spring wheat area.

ASIA: Spotty showers fell in the winter wheat region of north India, while more important amounts focused on the winter rice area of south India and Sri Lanka. Temperatures moderated in the People's Republic of China; significant rain was limited to the east central Provinces. Persistent below normal temperatures in the Northeast sustained an above normal snow cover. Little or no snow covered the winter wheat, but this is not unusual. Effects of drought still plagued Australia although rains from tropical storm Ted benefited coastal areas of southern Queensland and northern New South Wales. Water needs have increased in line with summer heat and advancing crop growth and development. New Zealand experienced some local flooding.

SOUTH AMERICA. Widespread rain helped summer crops and forage but interrupted the wheat harvest in Argentina. Mostly favorable weather advanced Brazil's wheat harvest.

AFRICA. Unseasonably heavy rain appeared in coastal West Africa and central Ethiopia. Conditions in the Sahel were seasonably dry, and drought continued in Kenya. Rains eased dry conditions in South Africa's Orange Free State and aided crops in the Transvaal.



FIRST CLASS MAIL

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tion averaged 1.50 in. east and 0.50 in. mid and west.

Only a few scattered soybean fields remain to be harvested. Major activities included fall plowing, care of livestock and general farm chores.

TEXAS: Cool air behind two fronts kept temperatures below normal except northwest, where temperatures near normal. Otherwise, temperatures 1 to 7° below normal. Precipitation confined east, south. Amounts range from 0.10 in. northeast to 0.50 in. southeast; no rain recorded north, west. Normal ranges from 0.10 in. to 1.00 in. extreme southeast.

Continued cool, wet central, east, south slowed fieldwork. No rain west. Many farmers completed cotton stripping. Many full cotton trailers outside gins when they shut for holidays. Cotton harvest 94% complete, slightly behind 1975 96% but well ahead of 89% average. Cool, dry allowed rapid progress on plains, and Trans-Pecos. Harvest should move to completion if clear weather continues. Peanut harvest virtually complete one week behind average date. Freezing hurt some late fields in Blacklands. Wheat growth slowed by freezing temperatures. Fields on northern High Plains remain dry; irrigation common wherever water available. Fields east extremely wet.

Lower Rio Grande Valley harvest limited; rain and wet fields. Light supplies cabbage, carrots, peppers. Citrus harvest restrained. San Antonio-Winter Garden movement carrots, cabbage, spinach continues. Pruning peach trees active in north and east.

Continued cold caused further decline in grass availability. Wet in eastern half made it difficult to reach herds with supplemental feed. Cattle in western half generally good, those in east fair and continue to lose weight.

UTAH: Few isolated snow showers northwest late week. Accumulated moisture light. Average temperatures ranged from near normal to 9° below. Soil moisture deficit continues to increase. Accumulation for water year range generally from only 2% of normal up to a little above 50%.

Cold, dry weather limited farm activities to caring for livestock. Open weather allowed use of available feed in fields and on lower ranges. Stock water shortages due to lack of snow on western desert ranges and frozen ponds necessitate water hauling some areas. Sugarbeet processing and marketing of onions, potatoes, apples active.

VIRGINIA: Temperatures varied greatly averaging 5° below normal. Highs in the 50's and low 60's on the 20th, 20's and 30's on the 21st and 22d. Lows beginning in 30's and 40's but fell into teens or lower on 21st and 22d. Extremes: 62 and 4°. Precipitation moderate, mainly as rain on the 21st and 22d, and on the 25th and 26th, totaling about 0.50 in. Light snow in west 21st and 26th. Farmers caring for livestock, poultry and doing normal winter chores.

WASHINGTON: West: Temperatures averaged near normal except 3° above coastal area. Precipitation averaged 0.50 in. subnormal Olympic/San Juan area to 1.80 in. below normal in coastal area.

Hay and other roughage supplies adequate. Livestock on full winter rations.

East: Temperatures averaged 3° below normal except Palouse/Blue Mountain area normal. Precipitation averaged 0.10 in. below normal northeastern to 0.40 in. subnormal Palouse/Blue Mountain area.

Limited snow but more moisture needed. Most snow cover melted, small grains vulnerable to extreme cold. Mild fall weather enhanced pruning grapes and tree fruits. Cattle still on partial feed and range.

WEST VIRGINIA: Temperatures below normal. Precipitation normal except below normal eastern Panhandle.

Fieldwork: 3.5 days suitable. Soil moisture adequate to surplus. Fall sown grains have good cover. Livestock in good condition. Farm activities limited to care of livestock and general chores.

WISCONSIN: Colder weather 20th and 21st with partly cloudy skies and a few snow flurries. Mostly cloudy and warmer 22d with some light snow. Mostly clear and cold 23d. Partly cloudy and warmer, and temperatures climbed into the 20's and low 30's 24th. Light snow developed in north and central and moved into the south 25th. Clearing and colder weather 26th.

WYOMING: Despite sub-zero minimum temperatures, averages above normal most areas. Without exception, precipitation amounts below normal.

Winter wheat needs moisture to prevent blowing. Soil moisture still short. Supplemental feeding in full swing where there's snow cover, northeast and mountain areas. Feeding variable elsewhere.