

WEEKLY WEATHER AND CROP BULLETIN

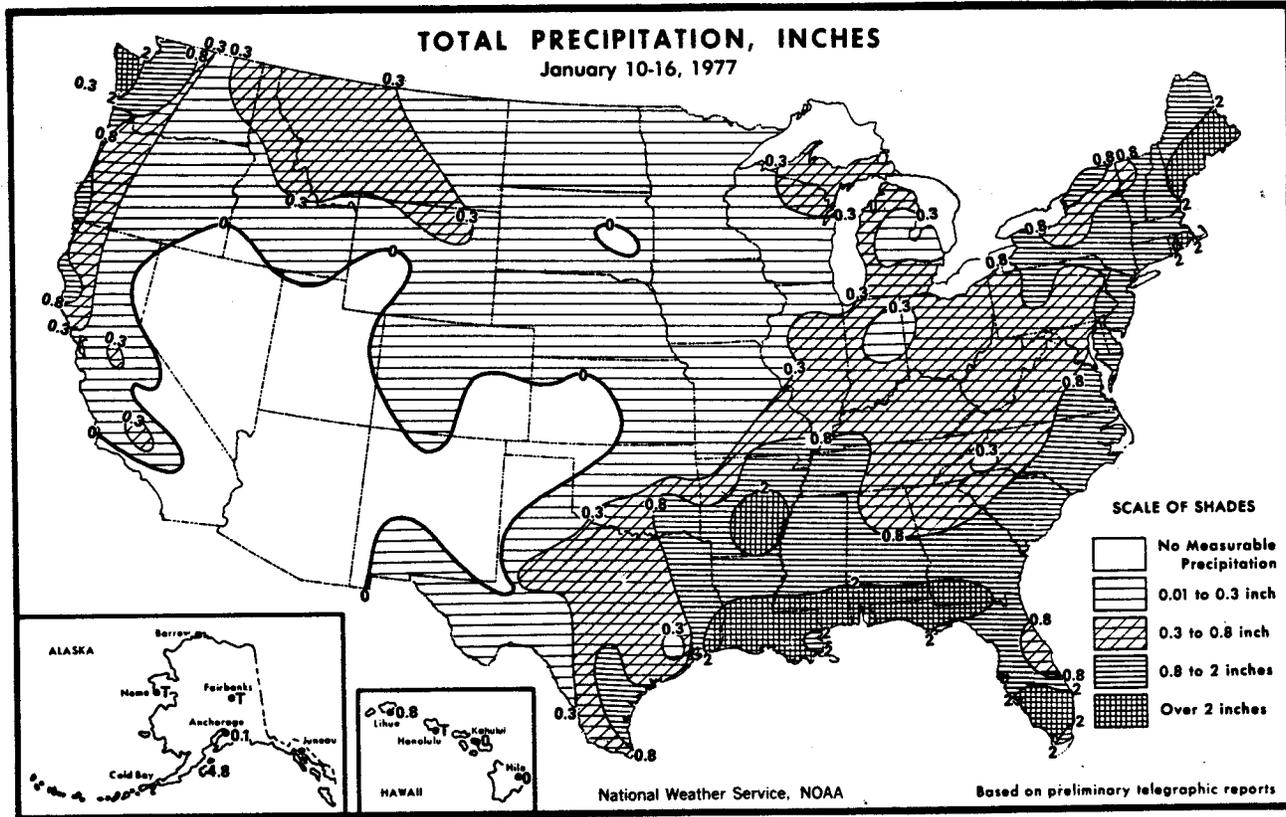
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National Weather Summary

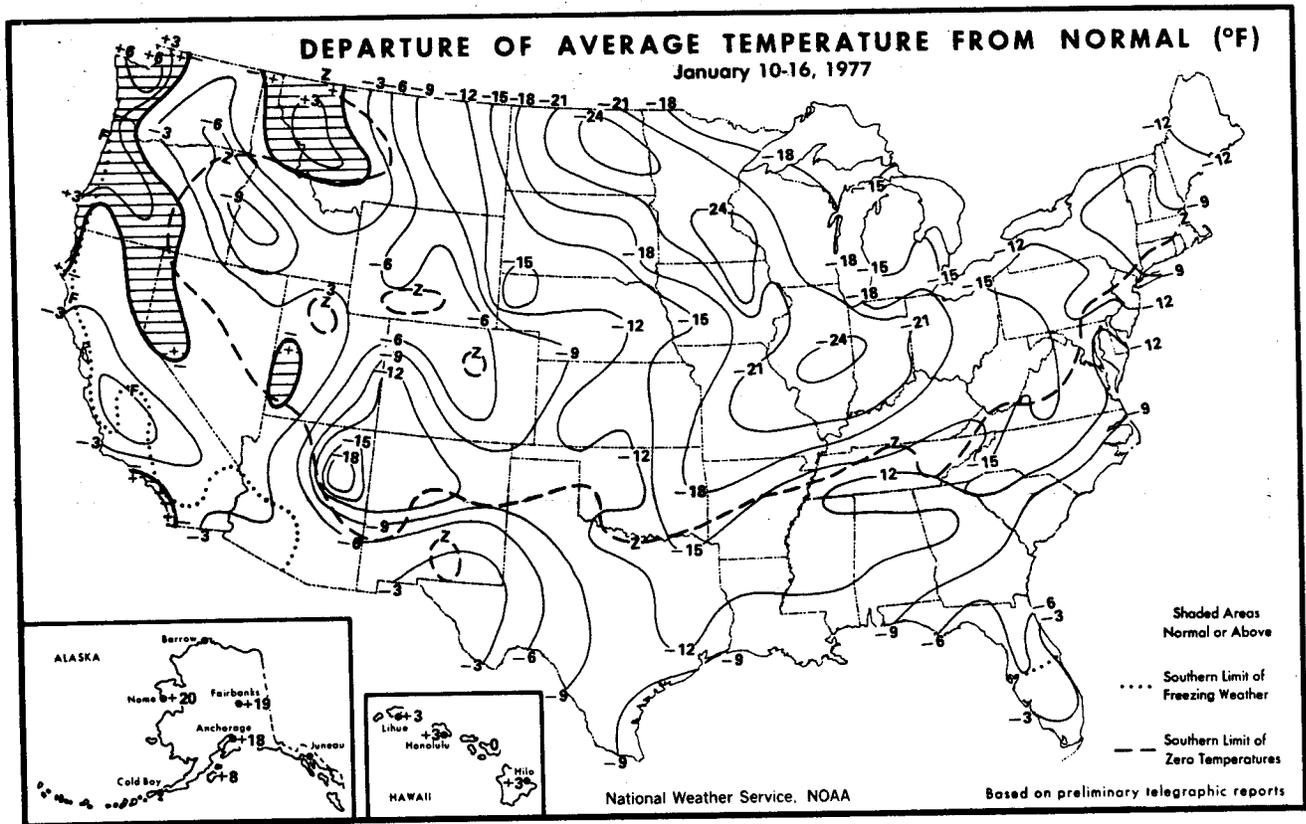
For the Week of January 10-16

HIGHLIGHTS: Most of the Nation averaged well below normal temperatures with extremely cold air enveloping the area from the Rockies eastward during the latter part of the week. Temperatures averaged 20 to 24° below normal from North Dakota to Indiana and Missouri. Even most of the West was cooler than normal. Some precipitation fell in most of U.S. excepting the Southwest. Snow or freezing rain extended from the northern parts of southern States through the northern Rockies and New England. Significant precipitation in the southern States, along the Atlantic Coast, New England and the coastal area of the Pacific Northwest.

A potent winter storm moved from Kentucky northeastward on Monday. Moderate to heavy snow fell from New England across the Ohio Valley and the eastern Great Lakes region. Freezing rain mixed with snow was reported across the middle

Atlantic Coast States. As warm air moved northward, east of the storm, heavy rain flooded the south New England Coast; freezing rain slicked highways in the foothills and heavy snow inundated the mountains and western areas. By evening snow was still falling in New England, the southern Lakes region and across the northern Plains and Rockies. Unseasonable cold air covered most of the Nation. The coldest area was the north and central Plains and the upper and middle Mississippi Valley.

Cold air continued to plunge into the midwest on Tuesday and spread into the Deep South and the East. Record low temperatures were broken over portions of the Mississippi Valley as far south as Arkansas and eastward to Kentucky and Indiana. However, some warming was noted in the central and southern Plains late Tuesday. Precipitation was scarce around the Nation. Rain fell along the Pacific Coast from Washington to



northern California with snow in the interior. Drizzle was found over much of southern Texas and snow showers were scattered over the Great Lakes region.

Rain and snow continued across the Pacific Northwest on Wednesday and had spread into much of Montana, northern California, the Cascades, the Sierras and northern Rockies. Snow depth at Spokane, Wash. was 4 inches Wednesday morning. The snow moved eastward across the northern U.S. late in the day. Rain and drizzle over Texas slowly moved northward and turned to freezing rain in parts of Oklahoma and Kansas. Later in the day combinations of snow, sleet or freezing rain spread into Arkansas, Missouri and west Tennessee. Snow fell in the northern Plains, upper Mississippi Valley and Great Lakes area. The bitter cold weather spread eastward and southeastward and subzero temperatures were reported in northern New England. Raleigh, N.C. had a record low temperature of 8°. The Nation's low was 44° below zero in northeastern Minnesota.

Precipitation in the Pacific Northwest continued early Thursday but by the end of the day had tapered to light rain on the northern coast and a few snow showers in the mountains. A combination of frontal systems caused a widespread precipitation through the central portion of the Nation. Freezing rain covered the middle Mississippi Valley and Ohio Valley and the area moved northeastward. Snow extended north into the Great Lakes region. Rain was widespread from east Texas through the lower Mississippi Valley. Temperatures in the southern and west central Plains moderated somewhat but remained very cold in the North and Northeast. International Falls, Minn. rose to 3° on Thursday--the first time in a week it had been above zero.

Low pressure centers over lower Michigan

and Alabama late Friday were responsible for a variety of winter precipitation on Friday. Rain reached from the lower Mississippi Valley across the south and central Appalachians and the South Atlantic Coast. Freezing rain and sleet extended north into Illinois, Indiana, Ohio, the middle Appalachians and the middle Atlantic States. Snow fell from the lower Great Lakes area through New England. The freezing precipitation turned into heavy snow in the Ohio Valley. Bitter cold air slid southward through the Plains Friday night and the mercury was dropped rapidly behind the storm areas.

As the storm systems moved northeastward Saturday, skies cleared and some warming took place in the middle Atlantic States, the South and Southeast but the unwelcome arctic air continued its invasion into central U.S. By late Saturday the bitter cold air covered an area from the Ohio Valley to the northern Rockies and southward into Oklahoma. Light snow or flurries accompanied the leading edge of the cold air and high winds caused blowing snow. Snow also covered the northern Rockies into Idaho and parts of the central Rockies. Rain and snow dampened Washington and Oregon and a few rain showers fell over southern Florida.

The extremely cold air mass that brought record cold temperatures to much of the Nation on Sunday pushed into the Atlantic and northern Florida by late in the day. Sunday morning record lows included Kansas City, Mo. -13° and Peoria, Ill. -19°. Other records for the date were Atlantic City, N.J. -4°, Philadelphia, Pa. 0° and Richmond, Va. 3°. Some snow fell along the Atlantic Coast and in the Appalachians earlier in the day and rain showers continued in the Pacific Northwest with snow in the northern Rockies.

National Agricultural Summary

For the Week of January 10-16

HIGHLIGHTS: The United States shivered in winter's chilling grip putting stress on livestock, particularly newborn calves and lambs. Farmers dug deep into hay, forage and feed supplies. In some areas stock water presented a special problem as farmers tried to keep ponds open and pipes thawed. Most of the Nation received very little precipitation with no significant change in the snow cover throughout the winter wheat areas. Cold limited small grain development south into Texas. Virtually all of the cotton crop was picked.

SMALL GRAINS: The Nation's winter wheat crop rated mostly fair with some poor areas reported in Kansas, Mississippi and New Mexico. Most areas have good snow cover to protect the crop from frequent icy blasts but these same winds cleared snow from large acreages of winter wheat leaving the crop exposed to some record low readings.

In Kansas winter wheat condition remained poor to fair. The Oklahoma wheat crop was in mostly fair condition but dormant statewide. Only time will tell if the subnormal temperatures damaged the part of the crop without snow protection. The crop needs more moisture. In Texas wheat fields in scattered areas of the plains received a small amount of moisture, but topsoil moisture supplies stood well below normal in the northern High and Low Plains. Winds blew snow from some fields on the northern High Plains before it had a chance to melt. The winter wheat crop was dormant in the cold weather. All areas of Texas need warm temperatures for renewed growth. In New Mexico irrigated winter wheat rated fair but dryland wheat scored only poor to fair.

In Montana snow cover for the 1977 winter wheat crop was fair to good and wind caused only light damage. The condition was fair. Snow improved winter wheat prospects in Wyoming. Wind damage to wheat was isolated and minor. In the Pacific Northwest the Washington wheat crop had good snow cover of 1 to 6 inches and showed no stress. Oregon wheat producers sprayed fields to control wild oats west of the Cascades. East of the Cascades winter wheat stands rated poor to fair due to no precipitation. In California rains improved the small grain condition but the crop needs more rain and warmer weather.

In Illinois winter wheat crop was in fair condition. In Ohio strong winds ripped the snow cover from level fields in the north and central areas exposing wheat to the extreme cold. In the Southern States subnormal temperatures limited growth and put the crop in fair condition. In Virginia winter grains rated 74% of normal compared with the normal 94%, the lowest level since 1965.

OTHER CROPS: The United States cotton crop was virtually picked with only a few fields remaining standing in Georgia and Texas. In Texas producers finished one week ahead of last year and 3 weeks earlier than average. A few fields were unharvested in the north where wet field conditions prevented operation of the picking equipment. Many gins on the plains closed but a few worked on the last trailers and modules. Cotton producers in Arizona, New Mexico and California disked old cotton fields and prepared for the 1977 crop.

Sugarcane harvest was active in Florida. In Arizona the sugarbeets for spring harvest made good progress.

Tobacco growers in South Carolina seeded plant beds as weather permitted. Florida growers finished seeding. In Georgia tobacco plants were in fair condition but additional bed preparation advanced very slowly. In Kentucky slick highways prevented farmers from bringing their tobacco crop to market. Growers could not get the leaf stripped and delivered to warehouse floors.

FRUITS AND NUTS: Florida citrus groves remained in excellent condition. No frost hit the citrus crop and cold damage was insignificant. Orange, grapefruit and Temple harvests were very active. Rainy weather held citrus harvest to a minimum in the Texas Lower Rio Grande Valley. In Arizona picking of early citrus varieties continued. Valencia oranges sized well and began showing color. California growers harvested lemons, tangerines, limes, grapefruit and Navel oranges.

Orchard operators applied dormant sprays and pruned trees when weather permitted in South Carolina, Oregon, Washington, and California. In some States cold temperatures kept work to a minimum. South Carolina growers set out peach trees. Extremely low temperatures in Ohio probably damaged some peach buds and possibly some wood.

VEGETABLES: In Florida cool, rainy weather interrupted fieldwork but did little damage to vegetable crops. Total Florida vegetable shipments declined slightly with several vegetables showing usual seasonal declines. Decreased shipments of crops included chinese cabbage, sweet corn, cucumbers, lettuce and radishes. Steady supplies of snap beans, cabbage, celery, eggplant, green peppers and tomatoes moved to market. Carrot, escarole and squash shipments increased. Light, but increasing supplies of potatoes were available. A light harvest of strawberries, mostly you-pick, moved into local Florida markets. A greater volume should be available in two weeks.

In Texas rainy weather and wet fields slowed and in some areas stopped fieldwork including land preparations, potato planting, broccoli and spinach harvests in the Eagle Pass area and carrot and cabbage harvests in the Lower Rio Grande Valley. Arizona lettuce harvest continued in the Yuma area. In California harvests of artichokes, brussels sprouts and cabbage were light. Shipments of carrots and celery increased. Imperial Valley lettuce harvest peaked. Growers began picking asparagus and strawberries.

PASTURES AND LIVESTOCK: Bitter cold temperatures increased the care and feeding animals required. Livestock producers thawed water pipes and kept pond surfaces open for stock water. Snow covered crop residue being grazed earlier in northern States and subnormal readings slowed grass growth in the South. Some areas reported low forage supplies. Calving and lambing began in several States. The extreme cold caused frostbite and some deaths among the newborn. In Oklahoma ranges were either snow covered or grazed out and cattle lost some condition. In Texas cattle rated fair to good and producers fed heavy amounts of grain to supplement deteriorated pastures. Some grass rotted in the wet conditions. In California cold slowed grass growth but was an improvement since moisture became more adequate. In Arizona moisture came too late to provide good browse. Cattlemen fed heavier rations to compensate for the poor ranges. Cattle were in fair to good condition and sheep good to excellent.

Temperature and Precipitation Data for the Week Ending Midnight, Lst., January 16, 1977

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 . . .	31	-13	.8	-.3	La. Baton Rouge . . .	40	-10	2.0	+1.0	Youngstown . . .	10	-16	.5	-.2
Mobile . . .	41	-10	2.0	+.9	Lake Charles . . .	41	-11	2.7	+1.8	OKLA. Okla. City . . .	25	-11	.1	-.1
Montgomery . . .	37	-10	1.1	+.2	New Orleans . . .	42	-10	1.7	+.7	Tulsa . . .	20	-16	1.1	-.2
ALASKA. Anchorage . . .	29	+18	.1	-.2	Shreveport . . .	35	-12	.8	-.1	OREG. Astoria . . .	44	+4	1.6	-.6
Barrow . . .	---	---	---	---	MAINE. Caribou . . .	4	-15	1.5	+1.1	Burns . . .	24	0	.1	-.3
Fairbanks . . .	6	+19	T	-.1	Portland . . .	11	-11	3.8	+3.1	Medford . . .	35	-1	.4	-.4
Juneau . . .	---	---	---	---	MD. Baltimore . . .	21	-12	.8	+.1	Pendleton . . .	27	-4	.2	-.2
Kodiak . . .	38	+8	4.8	+3.7	MASS. Boston . . .	22	-7	1.9	+1.1	Portland . . .	37	0	.8	-.6
Nome . . .	26	+20	T	-.2	Chatham . . .	25	---	1.9	---	Salem . . .	43	+5	.6	-1.0
ARIZ. Flagstaff . . .	21	-6	0	-.4	MICH. Alpena . . .	5	-13	.4	0	PA. Allentown . . .	17	-11	1.0	+3
Phoenix . . .	48	-3	0	.1	Detroit . . .	10	-15	.4	0	Erie . . .	13	-12	.3	-.3
Tucson . . .	47	-4	0	.2	Flint . . .	6	-16	.2	-.2	Harrisburg . . .	19	-11	.7	+1
Winslow . . .	12	-20	0	-.1	Grand Rapids . . .	9	-14	.3	-.2	Philadelphia . . .	19	-12	1.8	+1.2
Yuma . . .	51	-4	0	-.1	Houghton Lake . . .	3	-14	.1	-.3	Pittsburgh . . .	10	-18	.7	+1
ARK. Fort Smith . . .	20	-18	.5	0	Lansing . . .	8	-15	.4	0	Scranton . . .	14	-12	.5	0
Little Rock . . .	25	-14	2.0	+1.1	Marquette . . .	2	-16	.4	+.1	R.I. Providence . . .	20	-8	3.4	+2.6
CALIF. Bakersfield . . .	40	-7	.5	+.3	Muskegon . . .	11	-13	.7	+.2	S.C. Charleston . . .	42	-7	.8	+.2
Eureka . . .	46	+1	.6	-1.2	S. Ste. Marie . . .	-1	-15	.3	-.1	Columbia . . .	36	-9	1.0	+.2
Fresno . . .	39	-6	T	-.4	MINN. Duluth . . .	-11	-19	.1	-.2	Greenville . . .	28	-13	.7	-.2
Los Angeles . . .	57	+1	0	-.7	Internatl Falls . . .	-16	-17	.1	-.1	S.D. Aberdeen . . .	-9	-18	.1	0
Red Bluff . . .	43	-2	.2	-.9	Minneapolis . . .	-12	-24	.1	-.1	Huron . . .	-4	-16	T	-.1
San Diego . . .	57	+2	0	-.4	Rochester . . .	-12	-25	.1	0	Rapid City . . .	7	-14	.1	0
San Francisco . . .	44	-4	.2	-.8	St. Cloud . . .	-14	-23	.1	0	Stoux Falls . . .	-5	-19	T	-.1
Stockton . . .	41	-3	.3	-.4	MISS. Jackson . . .	34	-13	1.1	+.1	TENN. Chattanooga . . .	30	-10	.4	-.8
COLO. Denver . . .	26	-3	T	-.1	Meridian . . .	34	-13	1.3	+.3	Knoxville . . .	27	-14	.3	-.8
Grand Junction . . .	14	-12	T	-.1	MO. Columbia . . .	7	-22	.2	-.2	Memphis . . .	28	-12	1.4	+3
Pueblo . . .	23	-5	T	-.1	Kansas City . . .	10	-17	.1	-.2	Nashville . . .	23	-15	.7	-.4
CONN. Bridgeport . . .	17	-8	1.9	+1.3	St. Louis . . .	8	-23	.5	+.1	TEX. Abilene . . .	34	-9	.6	+.4
Hartford . . .	17	-8	1.4	+.6	Springfield . . .	13	-19	.2	-.2	Amarillo . . .	24	-11	T	-.1
D.C. Washington . . .	24	-12	.7	+.1	MONT. Billings . . .	15	-6	.6	+.4	Austin . . .	38	-11	.7	+3
FLA. Apalachicola . . .	47	-6	1.5	+.8	Glasgow . . .	-3	-11	.1	0	Beaumont . . .	43	-8	2.5	+1.6
Daytona Beach . . .	56	-2	.6	+.2	Great Falls . . .	19	-1	.4	+.2	Brownsville . . .	52	-8	.6	+.3
Ft. Myers . . .	60	-3	2.8	+2.4	Havre . . .	3	-7	.3	+.2	Corpus Christi . . .	50	-6	1.8	+1.4
Jacksonville . . .	48	-7	.9	+.3	Helena . . .	19	+2	.3	+.2	Dallas . . .	---	---	---	---
Key West . . .	70	0	.3	-.1	Kalispell . . .	21	+3	.7	+.3	Del Rio . . .	43	-7	.2	+.1
Lakeland . . .	54	-6	1.0	+.5	Miles City . . .	4	-11	.1	0	El Paso . . .	40	-3	.1	0
Miami . . .	66	-1	1.0	+.5	Missoula . . .	24	+4	.5	+.2	Fort Worth . . .	32	-12	.5	+.1
Orlando . . .	55	-5	4.2	+1.4	NEBR. Grand Island . . .	12	-9	T	-.1	Galveston . . .	45	-9	1.1	+.4
Tallahassee . . .	47	-6	2.2	+1.4	Lincoln . . .	6	-15	.1	0	Houston . . .	40	-12	.3	-.5
Tampa . . .	55	-5	.8	+.3	Norfolk . . .	5	-13	.1	0	Lubbock . . .	31	-8	T	-.1
W. Palm Beach . . .	63	-3	3.1	+2.5	N. Platte . . .	12	-11	T	-.1	Midland . . .	39	-4	T	-.1
GA. Atlanta . . .	28	-13	.6	-.4	Omaha . . .	8	-12	.2	+.1	San Angelo . . .	39	-7	.1	-.1
Augusta . . .	36	-10	.8	0	Valentine . . .	7	-13	.1	0	San Antonio . . .	41	-9	.8	+.4
Macon . . .	37	-11	.9	+.1	NEV. Ely . . .	20	-3	T	-.1	Victoria . . .	44	-9	.6	+.2
Savannah . . .	43	-7	.9	+.2	Las Vegas . . .	43	-1	0	-.1	Waco . . .	36	-10	.4	0
HAWAII. Hilo . . .	74	+3	0	-1.9	Reno . . .	32	+1	0	-.3	Wichita Falls . . .	28	-13	.5	+.3
Honolulu . . .	75	+3	T	-1.1	Winnemucca . . .	25	-2	T	-.2	UTAH. Blanding . . .	16	-11	0	-.3
Kahului . . .	72	0	0	-.8	N.H. Concord . . .	11	-10	1.0	+.4	Salt Lake City . . .	8	-9	.6	+.2
Lihue . . .	74	+3	.8	-.7	N.J. Atlantic City . . .	20	-13	2.9	+2.1	VT. Burlington . . .	21	-16	.7	+1
IDAHO. Boise . . .	18	-10	T	-.4	Trenton . . .	21	-11	1.8	+1.2	VA. Lynchburg . . .	29	-12	1.9	+1.1
Lewiston . . .	29	-1	.1	-.2	N.MEX. Albuquerque . . .	21	-14	0	-.1	Norfolk . . .	24	-13	1.3	+7
Pocatello . . .	18	-4	.1	-.2	Roswell . . .	35	-3	0	-.1	Richmond . . .	22	-14	.5	-.1
ILL. Cairo . . .	17	-19	.8	-.1	N.Y. Albany . . .	14	-8	.8	+.3	Roanoke . . .	20	-3	.7	+.2
Chicago . . .	3	-21	.2	-.2	Binghamton . . .	11	-11	.8	+.3	WASH. Colville . . .	19	-2	.1	-.3
Moline . . .	2	-19	.2	-.2	Buffalo . . .	12	-12	1.3	+.7	Omak . . .	43	+5	2.6	-.7
Peoria . . .	1	-22	.4	0	New York . . .	21	-11	1.5	+.9	Quillayute . . .	44	+7	.9	-.4
Rockford . . .	-1	-21	.1	-.3	Rochester . . .	14	-10	.6	+.1	Seattle-Tacoma . . .	22	-2	.7	+1
Springfield . . .	2	-24	.3	-.1	Syracuse . . .	15	-9	.7	+.1	Spokane . . .	25	-7	.1	-.4
IND. Evansville . . .	9	-23	.6	-.2	N.C. Asheville . . .	23	-15	.3	-.5	Walla Walla . . .	21	-5	.1	-.3
Ft. Wayne . . .	4	-21	.1	-.5	Charlotte . . .	29	-13	.7	-.1	W.Va. Beckley . . .	16	-15	.5	-.3
Indianapolis . . .	4	-23	.1	-.6	Greensboro . . .	25	-14	.6	-.1	Charleston . . .	19	-15	.5	-.3
South Bend . . .	7	-17	.5	-.1	Hatteras . . .	39	-6	1.8	+.9	Huntington . . .	18	-16	.8	+.1
IOWA. Burlington . . .	2	-20	.1	-.3	Raleigh . . .	27	-13	1.1	+.4	Parkersburg . . .	17	-15	.4	-.3
Des Moines . . .	4	-15	T	-.3	Wilmington . . .	39	-7	.9	+.2	WIS. Green Bay . . .	-4	-19	.1	-.2
Dubuque . . .	-4	-21	.1	-.3	N.DAK. Bismarck . . .	-13	-21	.1	0	La Crosse . . .	-7	-23	.1	-.1
Sioux City . . .	2	-15	T	-.1	Fargo . . .	-18	-24	T	-.1	Madison . . .	-3	-20	.1	-.2
KANS. Concordia . . .	13	-13	T	-.1	Williston . . .	-10	-18	.1	0	Milwaukee . . .	1	-18	.3	-.1
Dodge City . . .	16	-14	T	-.1	OHIO. Akron-Canton . . .	11	-15	.4	-.2	WYO. Casper . . .	18	-5	T	-.1
Goodland . . .	19	-8	T	-.1	Cincinnati . . .	10	-21	.6	-.2	Cheyenne . . .	21	-5	.1	0
Topeka . . .	10	-17	T	-.2	Cleveland . . .	10	-17	.4	-.2	Lander . . .	11	-8	T	-.1
Wichita . . .	19	-12	T	-.2	Columbus . . .	10	-18	.6	-.1	Sheridan . . .	12	-8	.4	+.3
KY. Lexington . . .	16	-17	.6	-.3	Dayton . . .	8	-20	.5	-.1	P.R. San Juan . . .	78	+3	.9	0
Louisville . . .	15	-18	.6	-.2	Toledo . . .	6	-18	.5	0					

Based on 1941-70 normals

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State Summaries of Weather and Agriculture

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

ALABAMA: Cold weather continued. Temperatures 12° below normal. Record lows most areas. Moderate to heavy rain on 13th and 14th. Soil moisture surplus. Farm activities limited to care and feeding of livestock and poultry. Growth small grains and winter grazing crops limited. Livestock poor to fair condition.

ARIZONA: Sunny, no precipitation. Temperatures 2 to 6° below normal. Cotton harvest virtually complete. Preplant activity full swing 1977 cotton crop. Planting active small grains. Earlier planted fields good stands. Sugarbeets for spring harvest good progress. Many alfalfa fields used for sheep pasture, some warmer areas have new growth. Limited safflower planting underway. Harvest lettuce continued Yuma area. Early morning harvest of all vegetables delayed by icing conditions. Mixed vegetable harvest active. Planting still underway. Harvest early variety citrus continued. Valencia oranges sizing well, color showing. Recent rains improved soil moisture, stock water. Rainfall too late for good browse. Supplemental feeding required some areas. Cattle mostly fair to good condition. Sheep, lambs on alfalfa pastures mostly good to excellent condition.

ARKANSAS: Temperatures below normal. Departures from normal ranged from 20 to 12°. Temperatures ranged from 54 to -18°. Precipitation general, ranging from 2.06 to 1.52 in. Virtually no field activity. Snow and ice on ground. Livestock on full feed. Contracting of 1977 crop cotton at standstill. Less than 15,000 acres contracted.

CALIFORNIA: Weak cold front midweek brought small amounts of precipitation to the northern half. Weather for the remainder of the week was dominated by a high pressure area centered off the coast. Temperatures averaged below normal. Rains improved small grain condition; need more rain, warmer weather. Shredding, disking remaining cotton fields San Joaquin Valley. Pruning, weed control, other orchard and vineyard operations increased as soils dried. Irrigation increasing, rains inadequate most areas. Dormant spraying increasing. Olive for oil harvest began 10th. Lemon, tangerine, lime, grapefruit, harvests continue. Navel orange harvest active. Quality very good. Harvest artichoke, brussels sprouts, cabbage light; carrot, celery increasing. Lettuce at peak Imperial; asparagus, strawberry beginning. Rangeland, some areas, showed improvement. Cold weather kept grass growth at minimum. Cattle in fair condition, supplemental feeding continues. Stock water supplies extremely low.

COLORADO: Little or no precipitation at beginning of week. Some light snow eastern plains and along foothills toward end of week. Isolated snows at some mountain locations. Amounts were about 2 in. with a few locations in northern mountains up to 4 in. Temperatures averaged well below normal. Departures from normal were fairly uniform with a range of 8 to 12° below normal. Highs reached upper 50's in southeast at midweek while several mountain locations recorded lows in the -20's at midweek.

FLORIDA: Cold fronts at first and at end of period. Coldest temperatures were 11th with low to mid-20's

northwest and north, upper 20's and low 30's in the central, and low 40's extreme south. Rain averaged 1.00 to 2.00 in. except 2.00 to 4.00 in. in south.

Soil moisture adequate south and central, mostly excessive north and west. Land preparation limited due to cold, wet conditions. Sugarcane harvest active. Small grain limited growth due to cold. Seeding of tobacco plant beds completed. Grazing conditions poor to fair. Record cold kept pastures at standstill Panhandle and north. Central and south pastures not as hard hit generally fair shape. Supplemental feeding offset poorer pastures. Cattle, calves being maintained mostly good condition. Citrus grove condition excellent, cold damage too little to be significant; no frost. Orange, grapefruit, temple harvest very active. Continued cool, rainy weather interrupted fieldwork, but caused little damage to vegetable crops. Overall shipments decreased slightly. Several vegetables showed seasonal decline. Crops showing decreased shipments included chinese cabbage, sweet corn, cucumbers, lettuce, radishes. Steady supplies snap beans, cabbage, celery, eggplant, green peppers, tomatoes. Carrot, escarole, squash shipments increased. Light, increasing potato supplies. Light harvest strawberries, mostly you-pick, local consumption. Good volume expected two weeks.

GEORGIA: Temperatures 11 to 14° below normal north and to 9° below normal south. Much colder 16th, lows near zero early 17th. Rainfall 1.50 in. north and 0.25 to 0.50 in. south.

Extremely cold, wet conditions held farmwork to essentials. Little progress on remaining corn, cotton, pecan, soybean harvest. Small grains, cattle and pastures fair condition, except southeast areas where small grains and cattle fair to mostly good. Cold with shortage of winter grazing putting pressure on hay stocks some areas. Tobacco plants fair, tobacco bed preparation slowed.

HAWAII: Weather generally dry. Some light showers mainly higher elevations. Irrigation water use limitation continued some areas on Maui. Reservoir levels below normal all islands. Vegetable supplies adequate. Banana supplies heavy. Papaya supplies light to moderate. Sugar harvesting, some mills grinding. Pastures leeward poor, windward fair to good.

IDAHO: Temperatures below normal. Extremes: 42 and -24°. Precipitation generally light and below normal.

Tending livestock and equipment repair and maintenance main farm activities.

ILLINOIS: Temperatures 17 to 21° below normal. Lowest departures in over a year. Precipitation less than 0.25 in. north, about 0.50 in. some southern areas.

Soil moisture mostly short. Winter wheat and other small grains mostly fair. Livestock doing well most areas despite cold. Feed consumption up. Main farmwork: caring for livestock, chores.

INDIANA: Daily low temperatures -2°; 15° below normal. Snow cover about 6 in. but 18 in. near Lake Michigan. Snow storms crossed southern areas and northwest. Precipitation ranged from 0.10 to 0.50 in. of water.

Rural roads hazardous and many schools and

several industries closed because of snow and heating fuel difficulties. Outside activities virtually nil. Feeding, watering and bedding livestock. Water table low many areas. Water lines freezing. Snow removal continues.

IOWA: Extremely cold and dry. Temperatures averaged 12 to 22° subnormal from southwest to northeast. Light to moderate snowfalls with some icing the 13th to 14th followed by record-breaking cold on 16th to 17th. Snow cover over the south and east varies from 1 to 4 in. while the northwest report little or no snow.

KANSAS: Coldest week of winter. Temperatures averaged 13 to 15° northeast quarter to 19° south central and from 10 to 14° below normal. Moisture averaged 0.25 in. southeast to little or none west and north.

Severe cold resulted in extra livestock care and supplemental feeding. Feed supplies generally adequate. Wheat condition remains poor to fair.

KENTUCKY: Temperatures several degrees below normal with below zero readings on 11th and 12th. Snow fell on 2d, 10th, and 14th. Snowfall totaled over 10 in.

Farm activities mostly limited to essential winter chores. Extra livestock feeding necessary due to extreme cold. Watering stock a problem. Some tobacco markets closed due to road conditions and farmers not able to get leaf stripped and delivered to warehouse floors.

LOUISIANA: Temperatures 10 to 13° below normal. Extremes: 67 and 12°. Heavy precipitation 13th and 14th.

Farm activity mainly feeding and care of livestock.

MARYLAND & DELAWARE: Temperatures very cold, averaging 10 to 12° below normal. Highs, mid 30's; lows in teens. Precipitation less than 0.50 in. Snow on 15th and 16th.

Farmers mostly doing inside work along with normal winter chores.

MICHIGAN: Temperatures well below normal, ranging from 12° below normal at Saginaw to 20° below normal at Stambaugh in western Upper Michigan. Maximum daily temperatures generally in the 5 to 15° range with the exception of the 14th when southern Lower Michigan made it into the mid 20's. Precipitation amounts ranged from 0.15 to 1.74 with the higher amounts occurring along Lake Michigan and Lake Superior shorelines. Smaller amounts of 0.15 to 0.35 fell in southern Upper and central Lower. Snow on the ground on 16th 4 to 9 in. over southern and eastern Lower and 18 to 27 in. over western and northwestern Lower.

Cold weather and snow depth limited farm activities to essential chores and feeding livestock.

MINNESOTA: Extremely cold with slight warming midweek. Temperatures 17 to 24° below normal. Extremes: 21 and -36°. Precipitation ranged from 0.03 in. southwest to 0.13 in. east central. Precipitation averaged 0.10 to 0.20 in. below normal northeast and less than 0.10 in. below normal elsewhere. Snow on the ground from none southwest to 10 in. northeast.

MISSISSIPPI: Temperatures 10 to 16° subnormal. Extremes: 4 and 70°.

Soil moisture mostly surplus. Fieldwork: 0.6 days suitable. Winter wheat and oats in mostly poor condition. Livestock in fair to poor condi-

tion. Hay and roughage supplies short to very short. Feed grain supplies mostly short.

MISSOURI: Severely cold temperatures prevailed, ranging from 16 to 20° below normal. The entire State snowcovered. Precipitation ranged from 0.50 to 1.00 in. with the northwest prairie reporting 0.25 in.

Farmers continue giving extra care to livestock in the unusually cold conditions. Other farming activities are nearly at a standstill.

MONTANA: Mild western area, cold elsewhere. Temperatures ranged from 4° above to 11° below normal. Frequent snows with precipitation well above normal except east near or below normal. Significant warming central area by week's end.

Winter wheat condition mostly fair. Snow cover protection fair to good most winter wheat areas. Wind damage light. Livestock good condition. About 95% cattle and sheep receiving supplemental feed. Grazing difficult.

NEBRASKA: Temperatures 10 to 15° below normal. Coldest over central and east. Precipitation below 0.10 in., mostly as snow.

NEVADA: Cold nights, mild days and little precipitation. Cold night temperatures dropped averages below normal all areas. Extremes: -12 and 65°. Livestock wintering well. Supplemental feeding requirements light.

NEW ENGLAND: Temperatures below normal except on 10th when readings were well above normal. Precipitation averaged 2.00 in. or more of water. A major winter storm raced through the region on 10th. Torrential rains fell over coastal areas and up to 15 in. of snow mixed with sleet and freezing rain pelleted many northern and interior sections.

NEW JERSEY: Record cold temperatures 12 to 15° below normal averaging 14° north, 19° south and 22° coastal areas. Extremes: -12 and 52°. Precipitation below normal in north, above normal elsewhere, averaging 0.63 in. north, 1.08 in. south and 1.18 in. coastal sections.

Farmers doing winter chores and tending livestock.

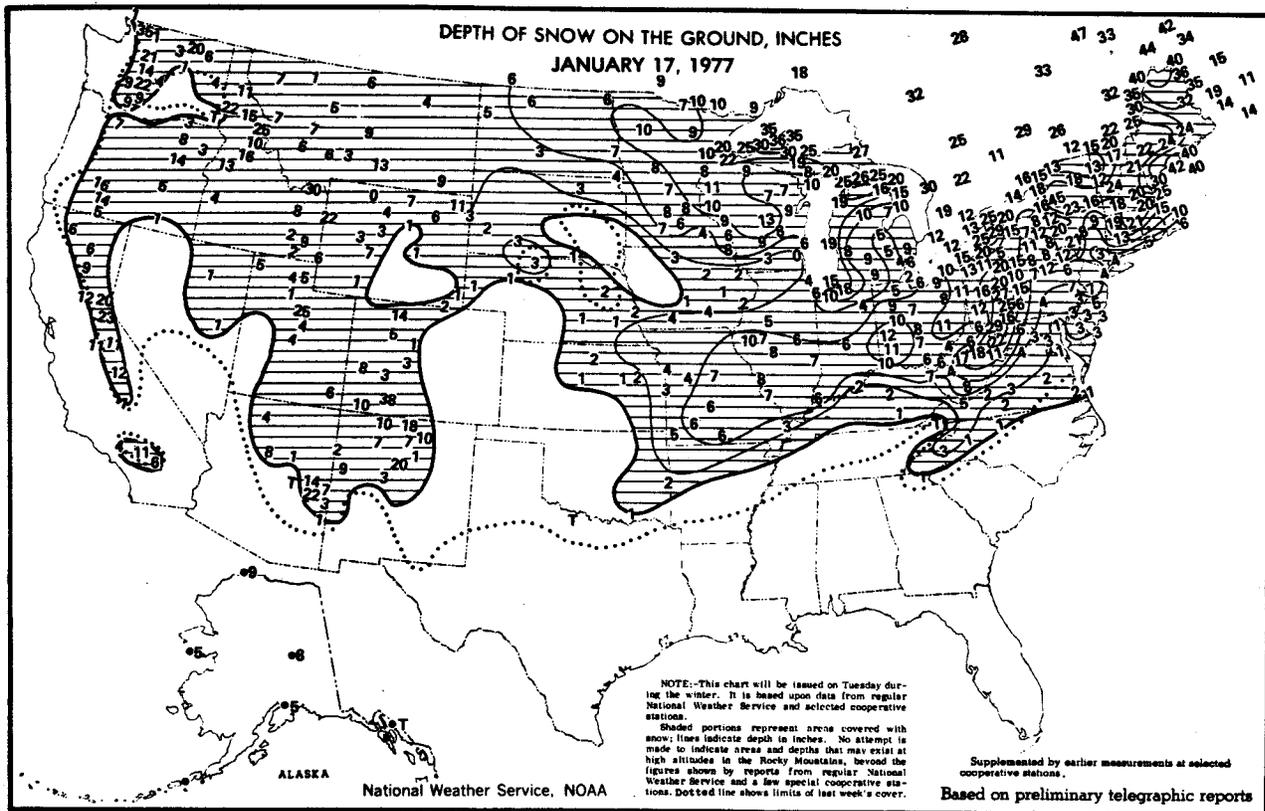
NEW MEXICO: Some light showers southern sections midweek with precipitation mostly less than 0.10 in. Temperatures averaged as much as 18° colder than normal over snow covered areas of northwest and north central.

Soil moisture short north, short to adequate south. Fieldwork continued. Irrigated winter wheat fair, dryland poor to fair. Cotton fields being disked, stalks cut. Pecan harvest continued. Ranges generally fair. Livestock fair to good.

NEW YORK: Temperatures averaged 8 to 12° below normal. Extremes: -30 and 41°. Precipitation ranged from 0.50 in. Ground snow depth 5 to 10 in. in south, 10 to 20 in. elsewhere except 25 to 45 in. near Great Lakes.

NORTH CAROLINA: Temperatures 5 to 10° below normal. Precipitation above normal. Snow of 6 to 12 in. mountains, sleet or rain elsewhere.

Fieldwork: 0.7 days suitable. Soil moisture adequate to surplus. Pastures 40% poor, 50% fair, 10% good. Some weather damage to small grains, conditions average mostly fair. Hay and roughage supplies short to mostly adequate. Feed grain supplies mostly adequate.



NORTH DAKOTA: Temperatures ranged from 16 to 24° below normal. Extremes: 24° and -41°. Precipitation ranged from normal to 0.12 in. below normal. Snow depth ranging from 3 to 8 in. Weekend extremely cold, cloudy skies and light snow. Livestock generally good condition. Pastures and ranges poor.

OHIO: Bitter cold weather. Record lows 13th and 16th. Snow depth ranged from 5 in. northwest to 12 in. central and southern areas. Strong winds blew snow cover off level fields north and central, exposing wheat to the extreme cold. Extreme low temperatures probably caused damage to peach fruit buds and possible some tree damage.

OKLAHOMA: Temperatures 10 to 18° below normal. Precipitation mostly light to moderate with 1.00 to 2.00 in. south central and southeast. Panhandle received only traces. Extreme cold held farmwork to the care and feeding of livestock, hauling hay, and keeping water available in ponds. Snowfall in the southern and eastern areas was enough to be of some benefit as moisture, but was too light in most of the heavier wheat producing areas to be of much value. Topsoils are dry. Wheat remains in mostly fair condition, and is dormant in all areas. Time will tell if the sub-zero temperatures caused any damage where there was an absence of snow cover for protection. Livestock lost condition from the sharp cold, despite heavier amounts of supplemental feed. Ranges were of little value, as eastern pastures were snow covered and western ranges are generally grazed out. Some death loss attributed to cold. Marketings at near halt.

OREGON: Temperatures near normal along southern, central coasts; 2 to 6° below normal elsewhere in west, 6 to 12° below normal east. Extremes: mid-50's, high teens west; mid-40's, sub-zero east. Precipitation averaged 1.00 in. coast, 0.50 in. western valleys, 0.10 in. or less east.

Farm activity light. Soil moisture short. West of the Cascades wheat fields are being sprayed for wild oats. Orchards were pruned. Winter wheat stands east of the Cascades in poor to fair condition due to a lack of precipitation. Livestock in good condition. Feeding rate varies. Feed supplies are good. Sheep are starting to lamb and some calving started in the Willamette Valley.

PENNSYLVANIA: Coldest week in seven years, one of coldest in decades. Temperatures 13 to 19° below normal. Daytime highs teens to low 30's; lows -20 to low 20's. Extremes: 41 and -21°. Strong gusty winds several days. Snow cover 17th 3 to 10 in. southeast ranging up to 20 to 25 in. mountain areas. Precipitation totaled under 0.25 in. south central to over 1.00 in. west central mountains and extreme southeast. Farmers doing normal winter chores.

PUERTO RICO: Island rainfall 0.23 in. or 0.58 in. below normal. Temperatures averaged about 75° on coasts and 69° interior. Extremes: 89 and 49°. Dry weather favored maturity of sugarcane. Preparations for harvest started. Coffee harvest almost completed. Lack of rainfall affecting growth of tobacco, pastures and food crops.

SOUTH CAROLINA: Temperatures below normal. Extremes: 6 and 65°. Precipitation above normal

except southeast coast. Most precipitation was rain except in northwest area which also had sleet and snow 5 to 10 in. at higher elevations.

Activities when weather permitted:
Preparing, seeding tobacco beds; pruning, setting out peach trees; preparing land for spring crops; general farm equipment maintenance.

SOUTH DAKOTA: Extremely cold temperatures 13 to 23° below normal. Nighttime lows -15 to -25° south, -20 to below -30° north. Extremes: -35 and 39°. Snows very light, few amounts greater than 0.10 in.

Farm activity limited by cold weather. Feeding and watering livestock.

TENNESSEE: Temperatures 10 to 15° below normal. Cold high pressure dominated much of the period with the last cold front on 16th bringing another record cold outbreak. Frontal system 14th accompanied by rain. Totals from 0.25 in. east to 1.50 in. west.

Farm activities held to a minimum due to cold, snowy weather were limited to feeding and caring for livestock and general farm repairs.

TEXAS: Arctic air caused cold. Air flow from gulf brought rain to eastern areas. Cold front on weekend ended any chance for warming trend. Temperatures 6 to 9° below normal in northwest, north, central, upper Gulf Coast. They were 4° below normal in far west, near normal elsewhere. Normals are upper 30's northwest, mid-40's southwest, north and east and low to mid-50's south. Rainfall nil in northern Panhandle, above normal south, Edwards Plateau and north central, near normal elsewhere. Normals range from 1.00 in. to less than 0.10 in.

Extreme cold slowed small gains but farmers in the Panhandle braved the weather and brought cotton harvesting to a close. Cotton harvest virtually complete, 1 week ahead of last year, 3 weeks earlier than the average. A few fields remain unharvested in north, where wet kept farmers out of fields. Many gins on plains wrapping up but some working on late trailers, modules, ricks. Wheat fields in scattered areas on plains received small amount of moisture, but moisture levels remain well below normal in northern High and Low Plains. On northern High Plains winds blew snow off fields before it melted. Fields generally dormant as cold continues. Warm needed in all areas. Oats in north and east suffered from sleet, freezing rains. Warm, dry needed to promote growth, improve grazing. Sugarcane harvest delayed by rain. Harvest progress far behind 1976.

Cold, wet caused pastures to deteriorate. Supplemental feeding continues heavy. Hay shortages anticipated east. Ranges, south remain waterlogged; grass in many areas beginning to rot. Several reports of death losses received from eastern half. Cattle generally fair all areas except west, where good.

UTAH: Few widely scattered light showers or snow flurries later part week principally northwest. Accumulated amounts moisture generally very light. Temperatures dropped to much below normal latter part week. Averages ranged from 4 to 14° below normal. Soil moisture deficit continues very serious.

Winter chores and caring for livestock the main farm and ranch activities. Sorting, grading and marketing potatoes, onions and apples continues. Concern mounts regarding lack of snowfall. An extremely dry summer is possible.

VIRGINIA: Temperatures averaged 15° below normal and in some locations remained below freezing throughout period. Extremes: 57 and -8°. Precipitation averaged 1.00 to 1.25 in. Snow remained on ground in most areas with depths up to 7 in. at some locations.

Unfavorable conditions with little or no fieldwork. Topsoil moisture adequate to surplus. Livestock mostly good condition except frigid weather complicating lambing, calving, and few early farrowings. Several death losses and frostbite injury to new born livestock. More than normal feeding rates required and hay supplies becoming short. Some farms out and forced to purchase hay. Feed scarce. Winter grain and grazing crops 74% of normal, compares with 94% average and lowest since 1965. Tending livestock, snow removal, and machinery repairs were some tasks performed.

Lower Rio Grande Valley very little citrus or vegetable harvest activity. Rain dominated weather. Carrot, cabbage volume light. Land preparation delayed by wet conditions in the Coastal Bend. Eagle Pass, broccoli, spinach harvest slowed by wet weather. San Antonio-Winter Garden vegetable harvest hampered if not stopped. Planting of potatoes continues as field conditions permit. East Texas, land preparation interrupted by showers.

WASHINGTON: West: Temperatures near normal with precipitation slightly above normal northern region; below normal elsewhere.

Pruning, planting fruit trees. Freeze damage to strawberries not detectable. Hay supplies good with some shipments coming in.

East: Temperatures averaged 5° below normal to the north; 10° below normal to the south. Precipitation continued below normal except slightly above normal northeast.

Pruning orchards minimal due to cold. Soil moisture very low. Wheat fields 1.0 to 6.0 in. snow giving good protection from cold. Stands show no stress. Hay supplies adequate. Ranchers prepared for calving, lambing.

WEST VIRGINIA: Temperatures below normal and precipitation above normal.

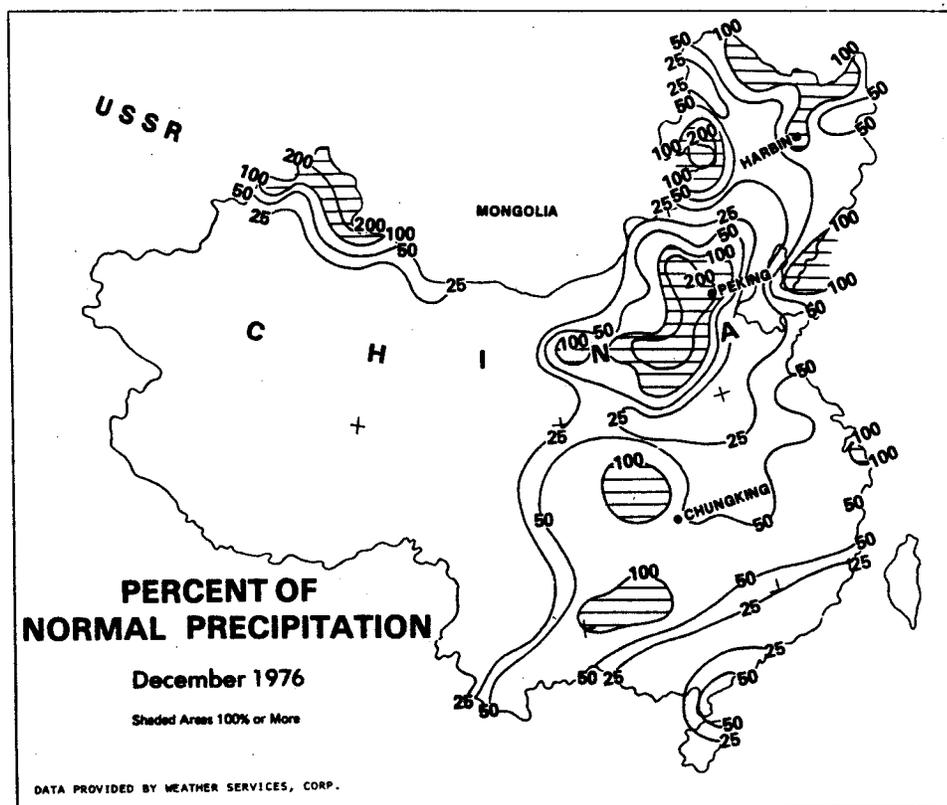
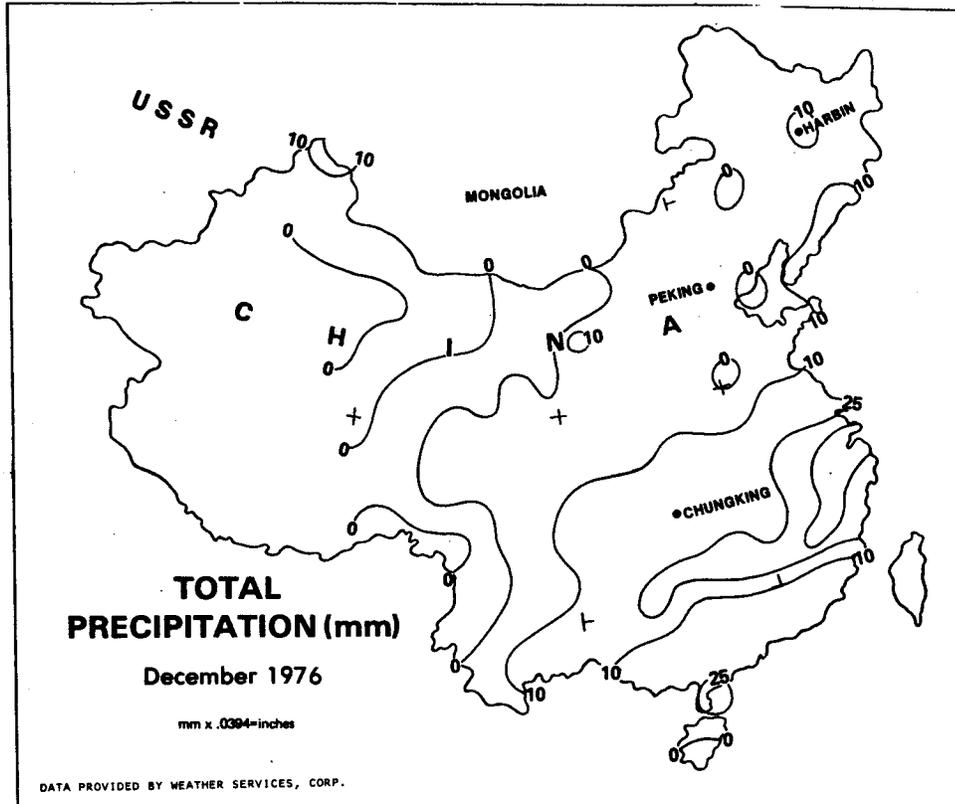
Fieldwork was virtually impossible. High 40° Beckley, low -27° Gladys. Soil moisture adequate to surplus. Activities restricted to feeding livestock and inside work. Livestock feed supply diminishing fast. Calving and lambing season starting.

WISCONSIN: Bitter cold, sub-zero each morning. Coldest 16th when maximum temperatures failed to get above -5°. Minimum temperatures -15 to -30° north, -10 to -20° south. Precipitation light. Heaviest snow 12th, 13th with 2 to 4 in. north and central, less than 1 in. south. Frost depths increased to average of 20 in., a near record depth for mid-January. Cities reporting problems with broken water mains. Snow depths average 8 in., heaviest at 12 to 24 in. extreme north.

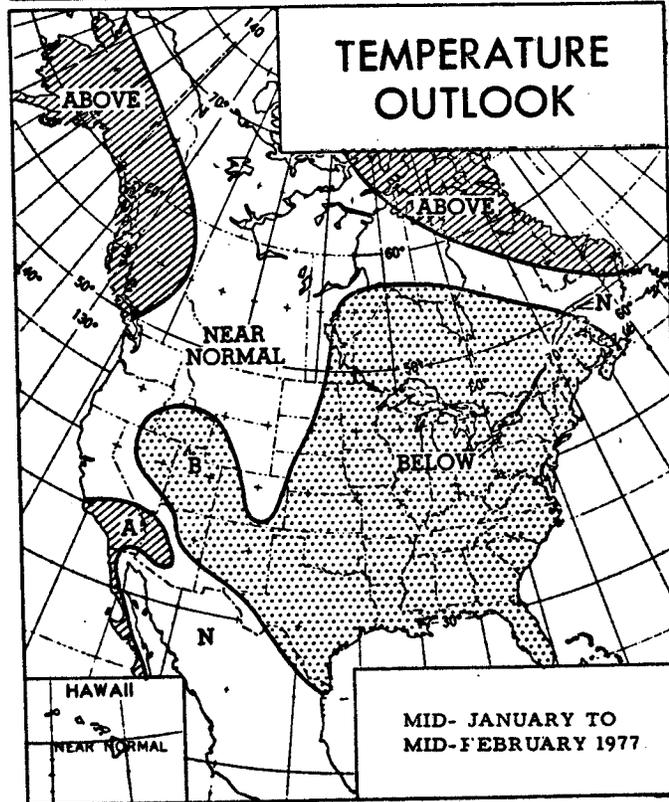
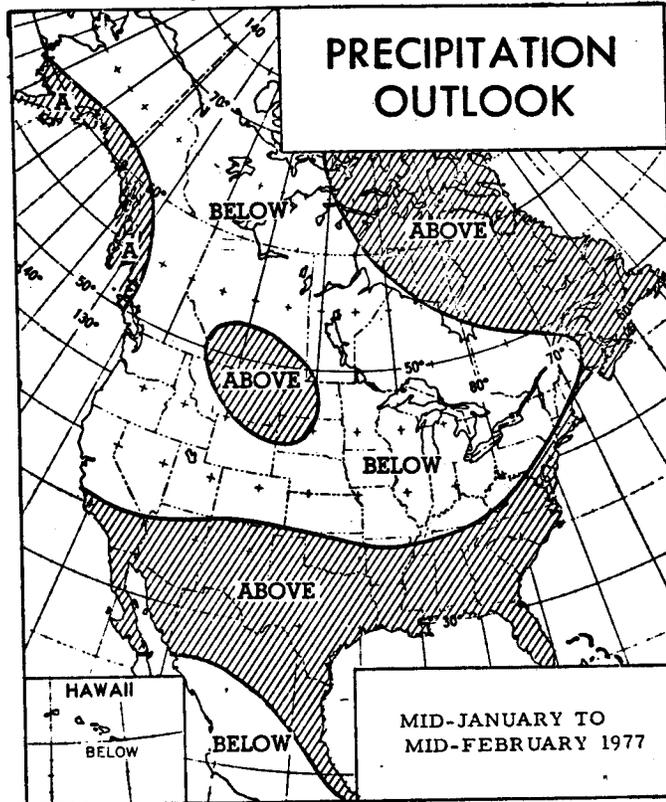
WYOMING: Cold, dry. Below normal temperatures. Precipitation light and scattered.

Livestock in good condition. Cold weather caused increased feeding; feed supplies adequate. Major activity: Feeding livestock. Some calving and early lambing in progress. Snow improved winter wheat prospects. Wind damage to wheat isolated and minor. Mountain snowpack still light.

China Precipitation



Average Monthly Weather Outlook



World Agricultural Weather Summary

HIGHLIGHTS. Drought and cold threaten crops in the Great Plains of North America and in the western States where crop production is dependent on irrigation. Relatively mild and wet weather in December continued to erase the effects of last summer's drought in Western Europe while extending the pasture season. Generous rains broke a late fall drought in Spain and adjacent areas of North Africa reviving pastures and improving winter grains. Mild temperatures in European USSR were interrupted at year's end by a sharp cold snap, but good snow cover protected winter crops over most of the area. Below normal temperatures continue to plague the People's Republic of China, especially in the south where crops have probably been adversely affected by the persistently cold weather. India's northern wheat region has received even less rain than the sparse dry season norm, but normal rainfall fell in the winter rice areas in the extreme south and in Sri Lanka. Winter grain harvest advanced under favorable conditions in Australia but spring crops have been under stress because of below normal precipitation. The harvest of winter grains in Argentina and Brazil has been impeded by frequent rains, but conditions for spring crops have been almost ideal.

NORTH AMERICA. Light precipitation accompanied by well below normal temperatures has intensified the drought in the Great Plains and into Canada's Prairie provinces. Winter wheat, range and pastures have been adversely affected throughout much of the area. Below normal precipitation in western mountain ranges could impact adversely in States heavily dependent on irrigation water. And in the east and midwest, bitter cold and heavy snow cover has resulted in greater than usual supplemental feeding of livestock.

EUROPE. Relatively mild and wet weather has continued into January as Western Europe continues its recovery from last summer's devastating drought. Winter grains and pastures have rebounded as generous rains erased the effects of a November drought in Spain and adjacent areas of North Africa. December rainfall in Greece, however, was only about 50 percent of normal. Rainfall throughout the Eastern European countries has been generally above normal with the notable

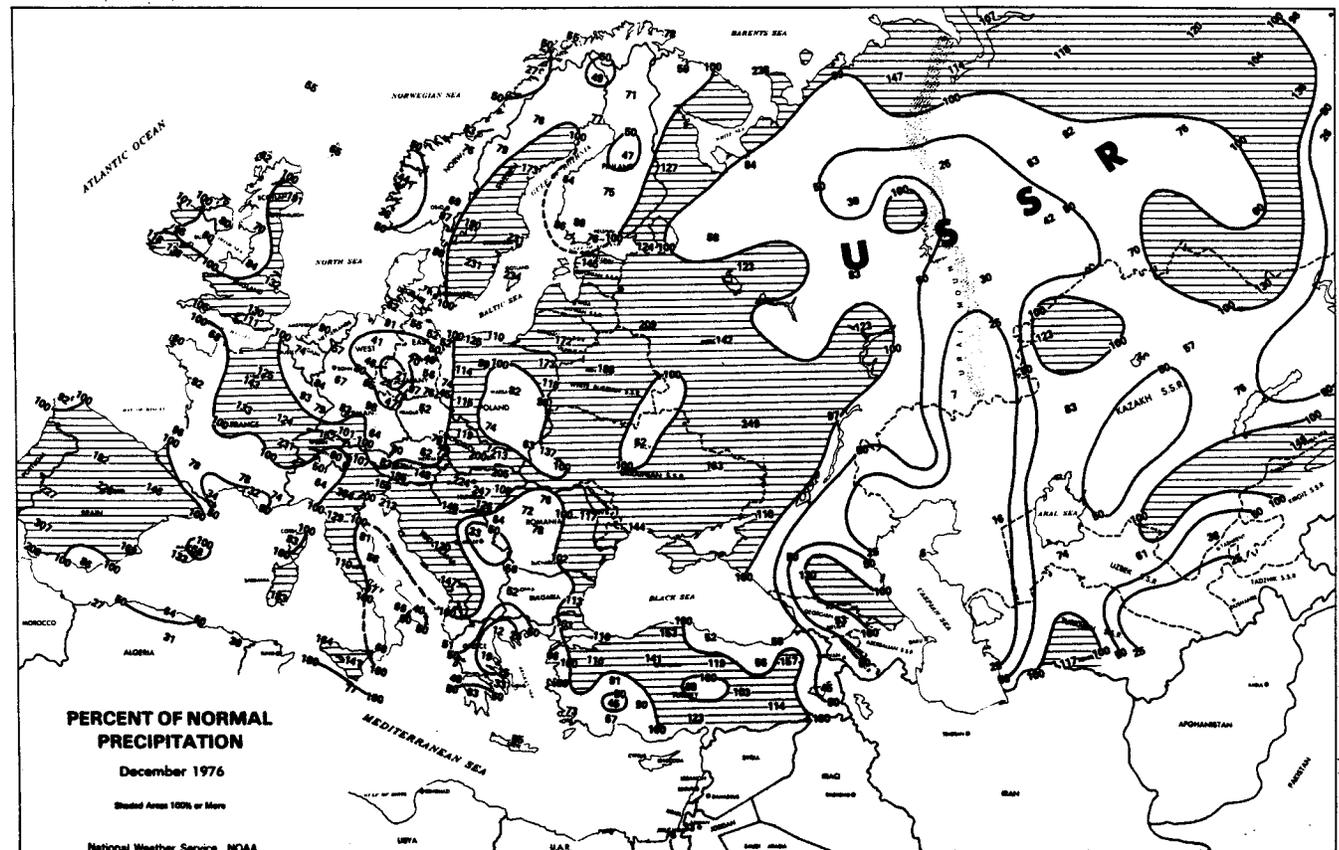
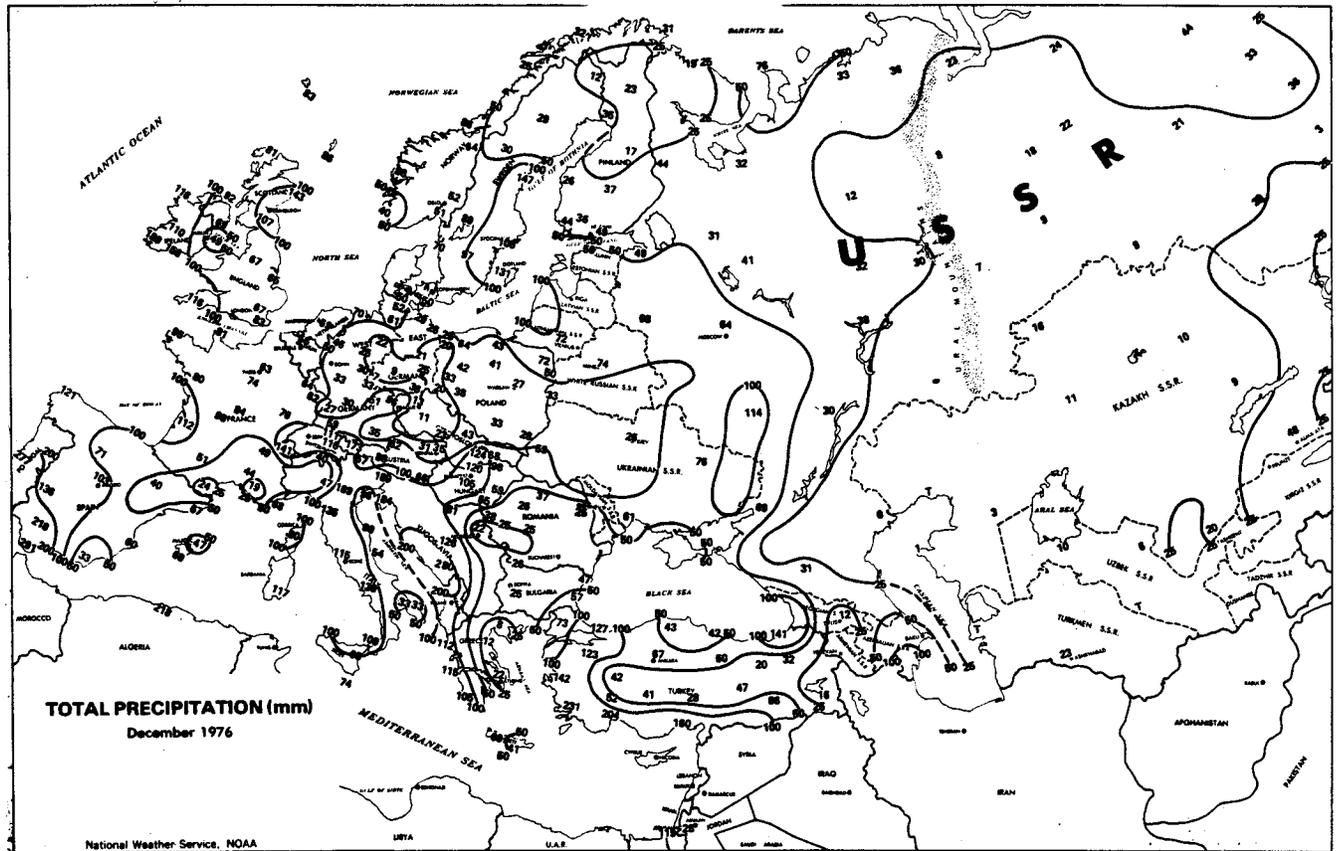
exception of East Germany where precipitation has been well below normal during the fall and early winter months.

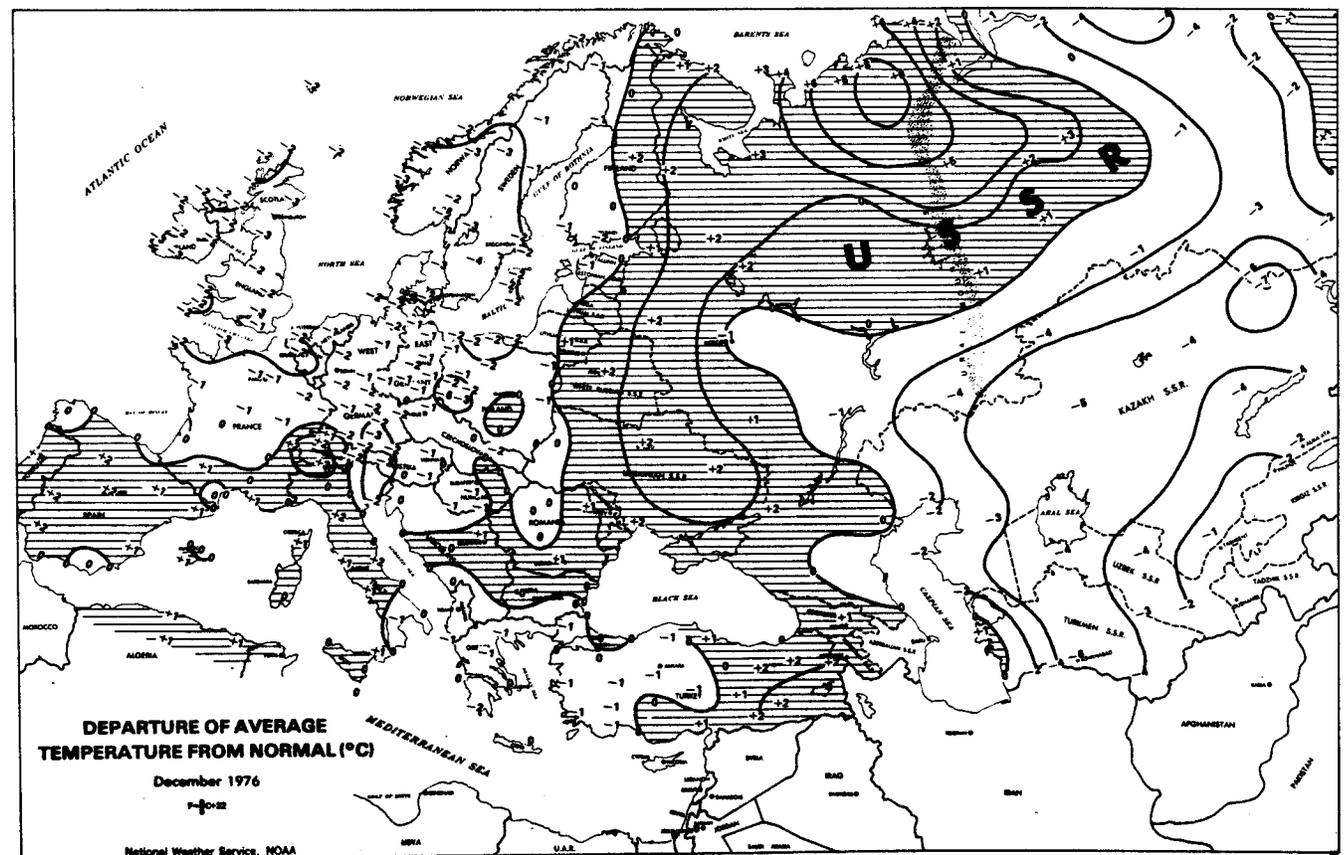
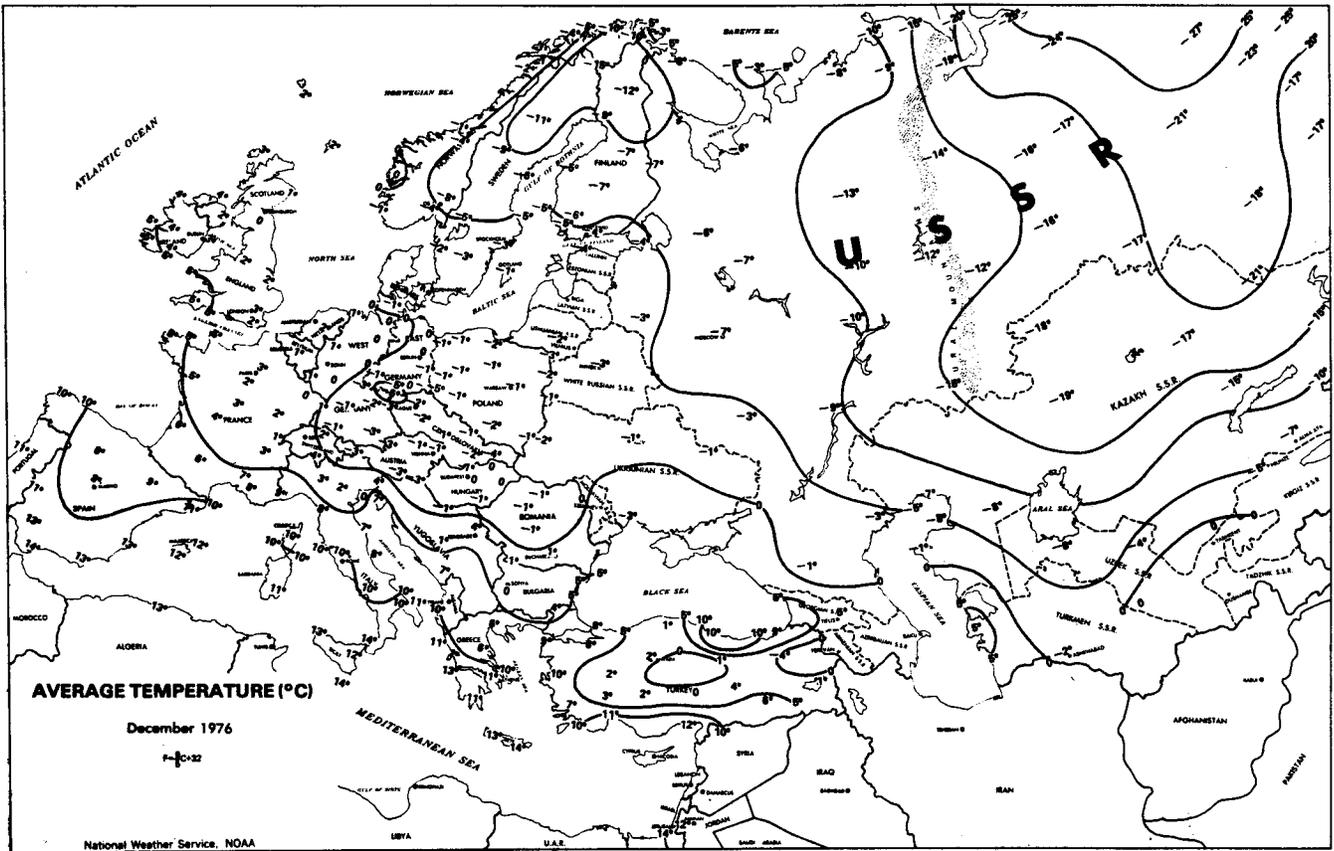
USSR. Heavy snow cover blankets most of the USSR. A sharp cold snap at the end of December, however, interrupted the mild temperatures in European USSR and may have inflicted some damage to winter grains in areas where there was light or no snow cover at the time--southern Ukraine, Lower Volga and the North Caucasus. Temperatures have been somewhat colder than normal in Asiatic USSR but precipitation has been above average throughout most of the principal agricultural areas with the exception of the Urals and Middle Volga regions.

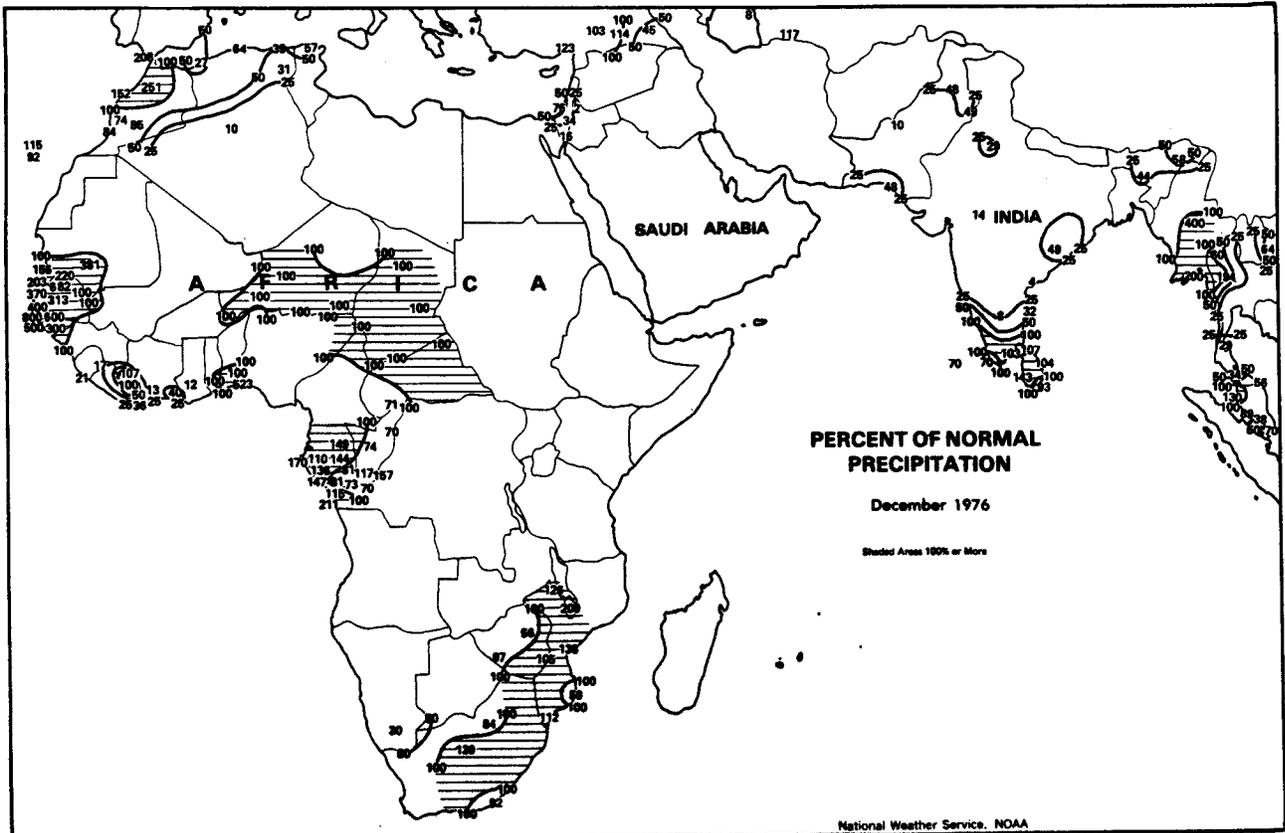
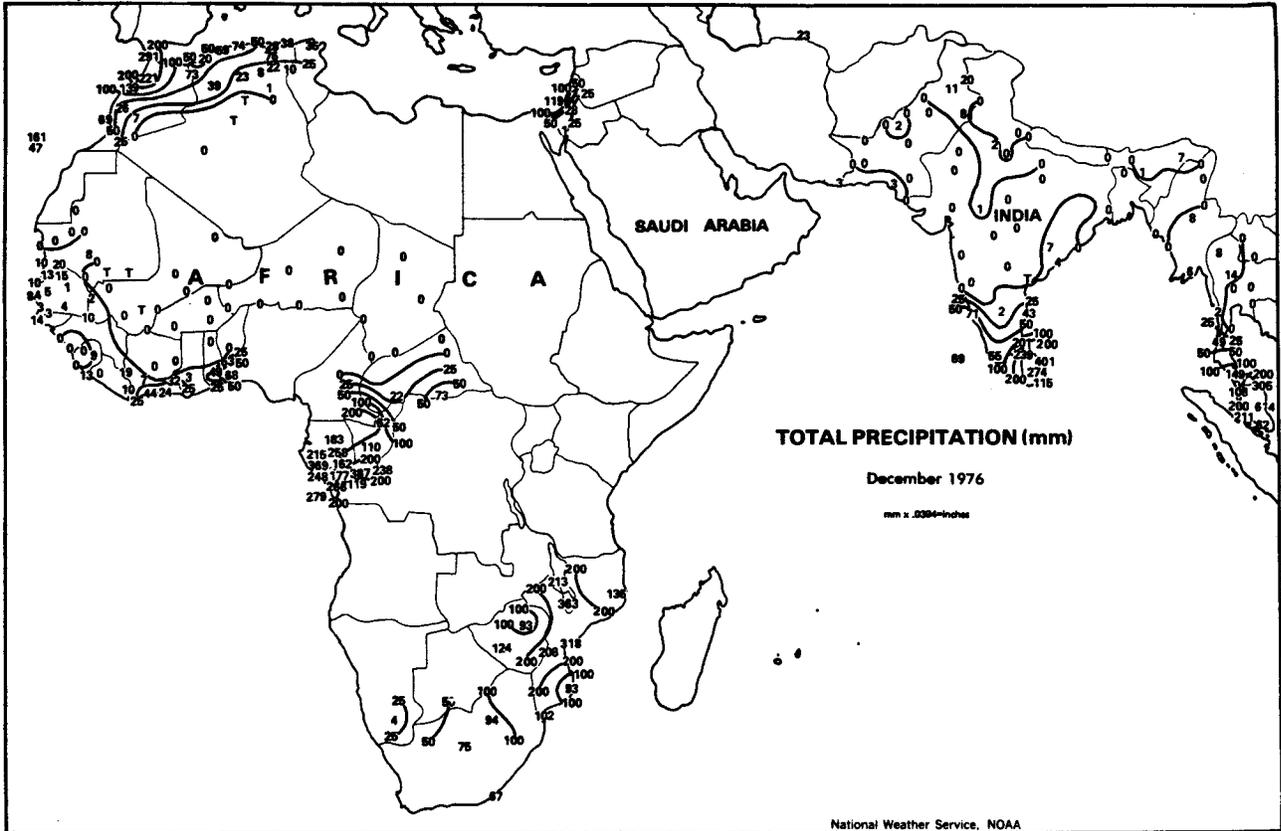
ASIA. Cold continued to grip most of the People's Republic of China, and winter crops, especially south of the Yangtze River, may have suffered some damage. Even less rain than the sparse dry season norm has fallen on India's northern wheat regions. Southern India's winter rice regions have benefitted from good rains which extended into Sri Lanka to improve the moisture situation in that country. Conditions have been generally favorable for the grain harvest in Australia. Unirrigated spring crops which have been under stress by below normal precipitation into early January have benefitted from increased frontal activity at midmonth.

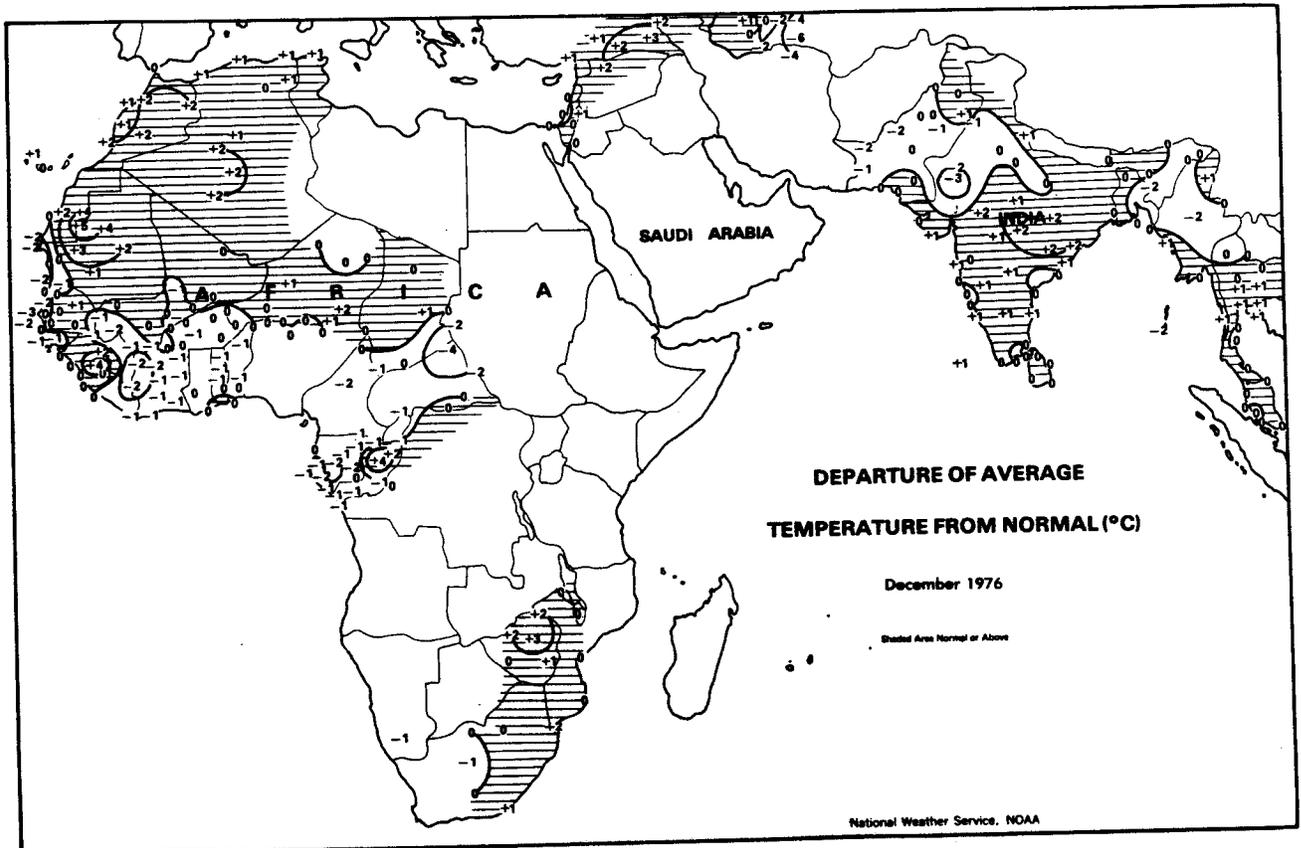
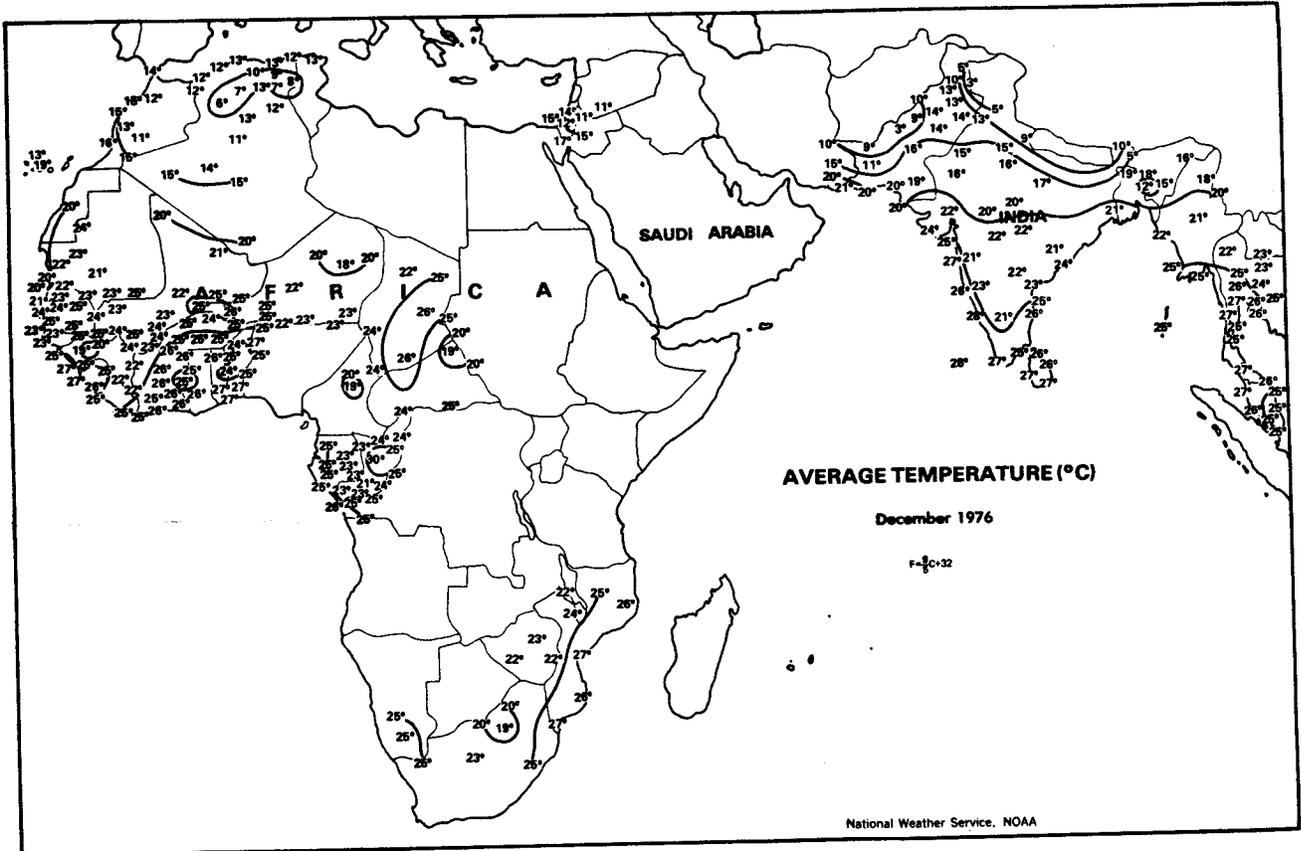
AFRICA. Crops are developing normally in South Africa with temperatures and rainfall about average for the Transvaal and most of the Orange Free State. The Sahel remains seasonally dry while coastal areas in West Africa--Guinea and Senegal in particular--have been experiencing normal rainfall.

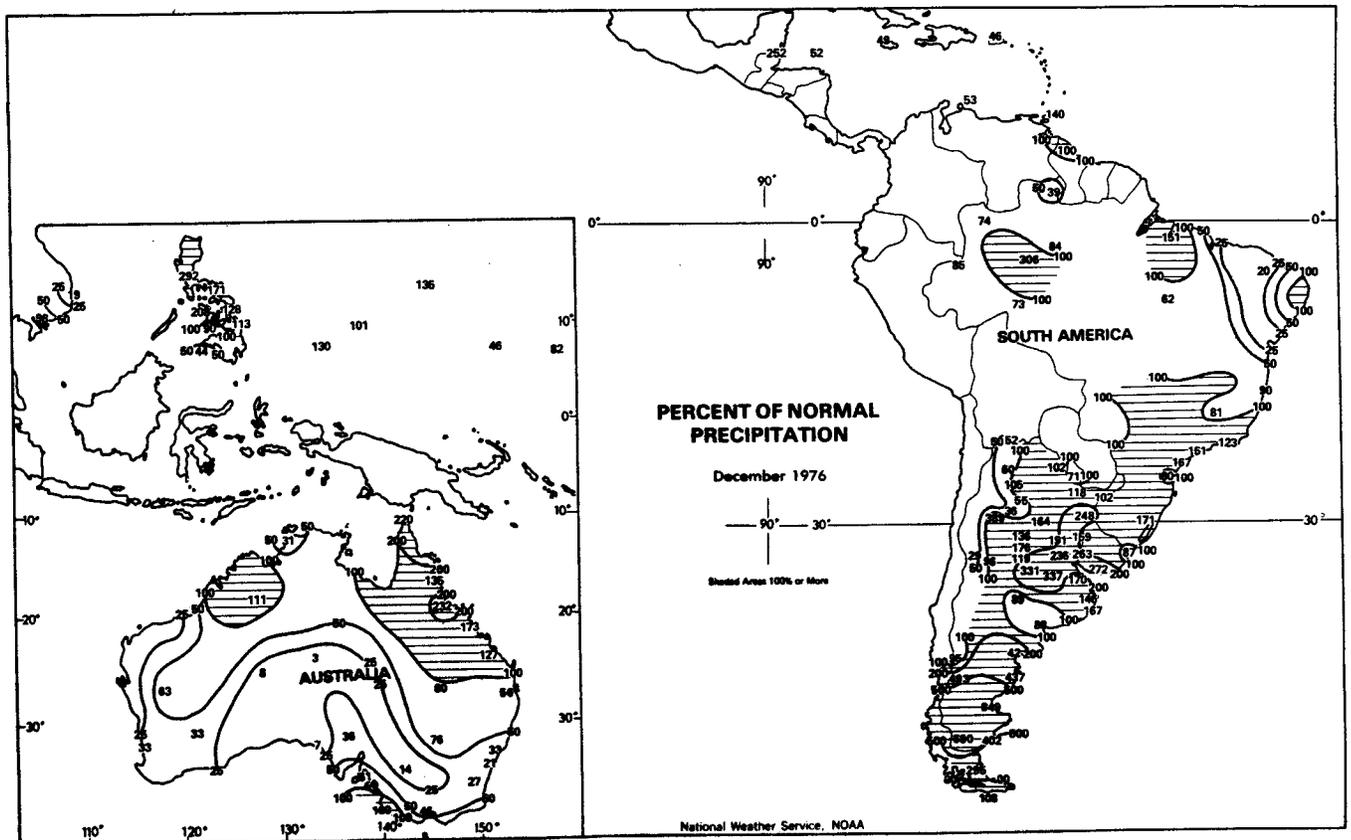
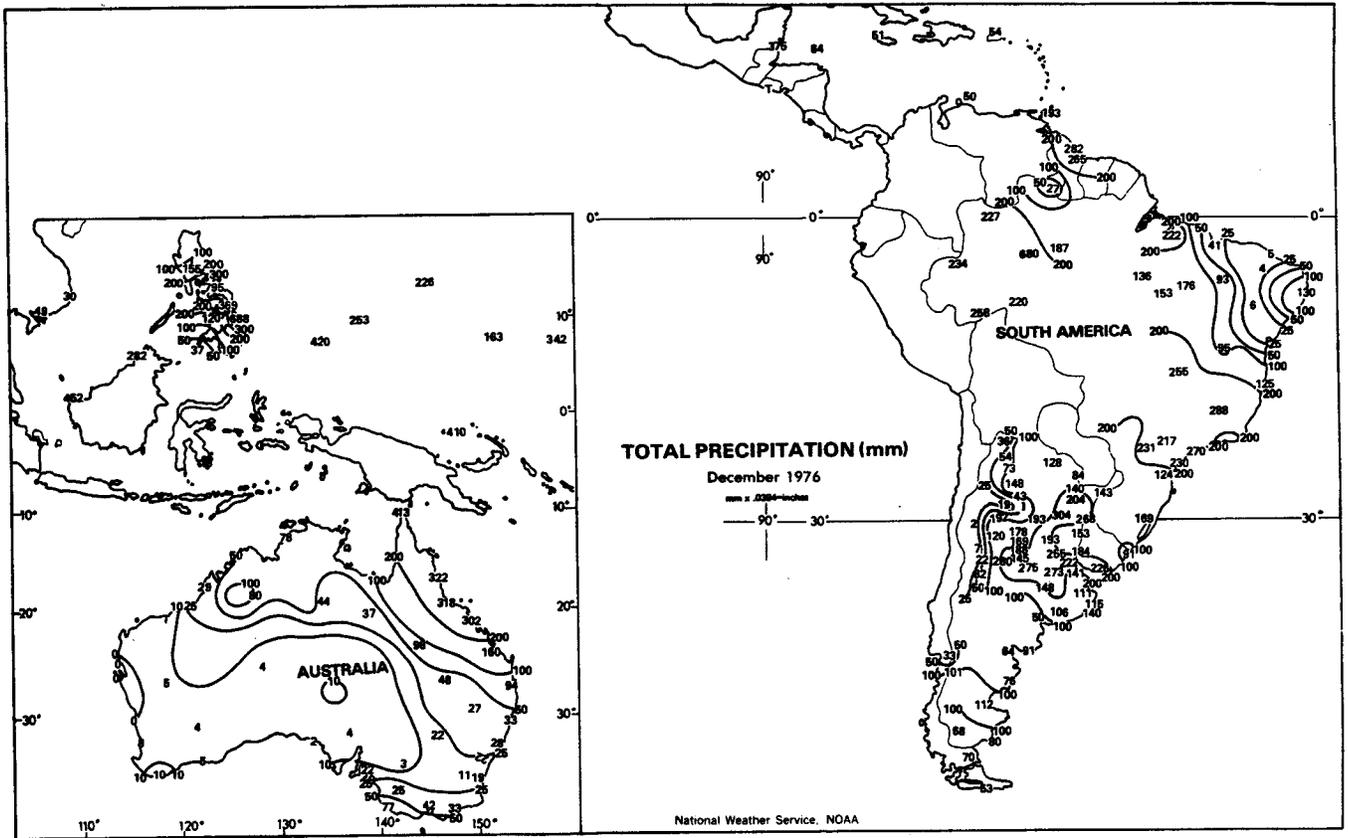
SOUTH AMERICA. Excessive rainfall caused harvest delays of excellent wheat crops and localized flooding in Argentina and Brazil with some areas in Argentina receiving 2-3 times the December norm. Conditions for spring crops in both countries are very favorable at this time. Heavy rains in Bolivia broke a 2-month drought that has significantly lowered crop prospects in that country.

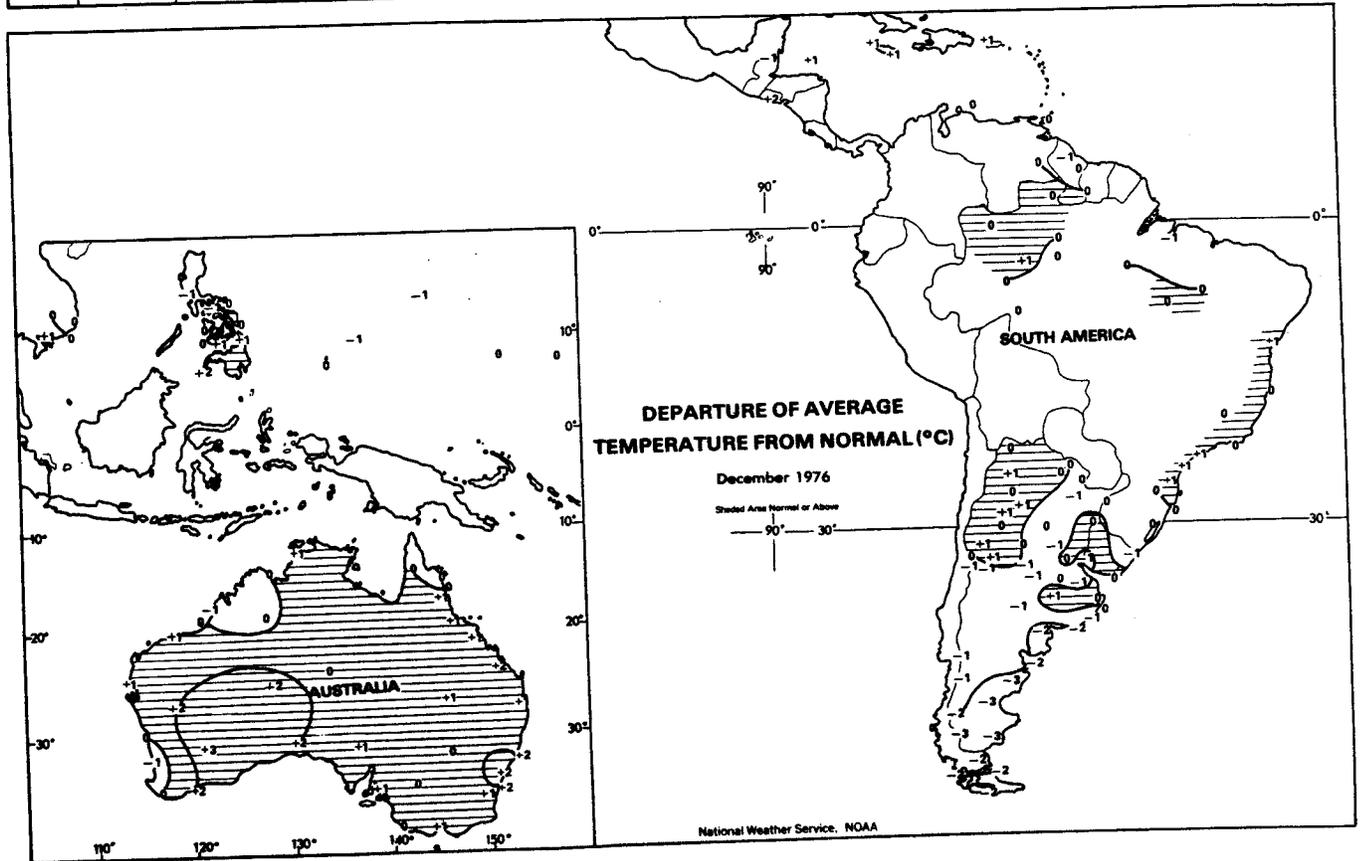
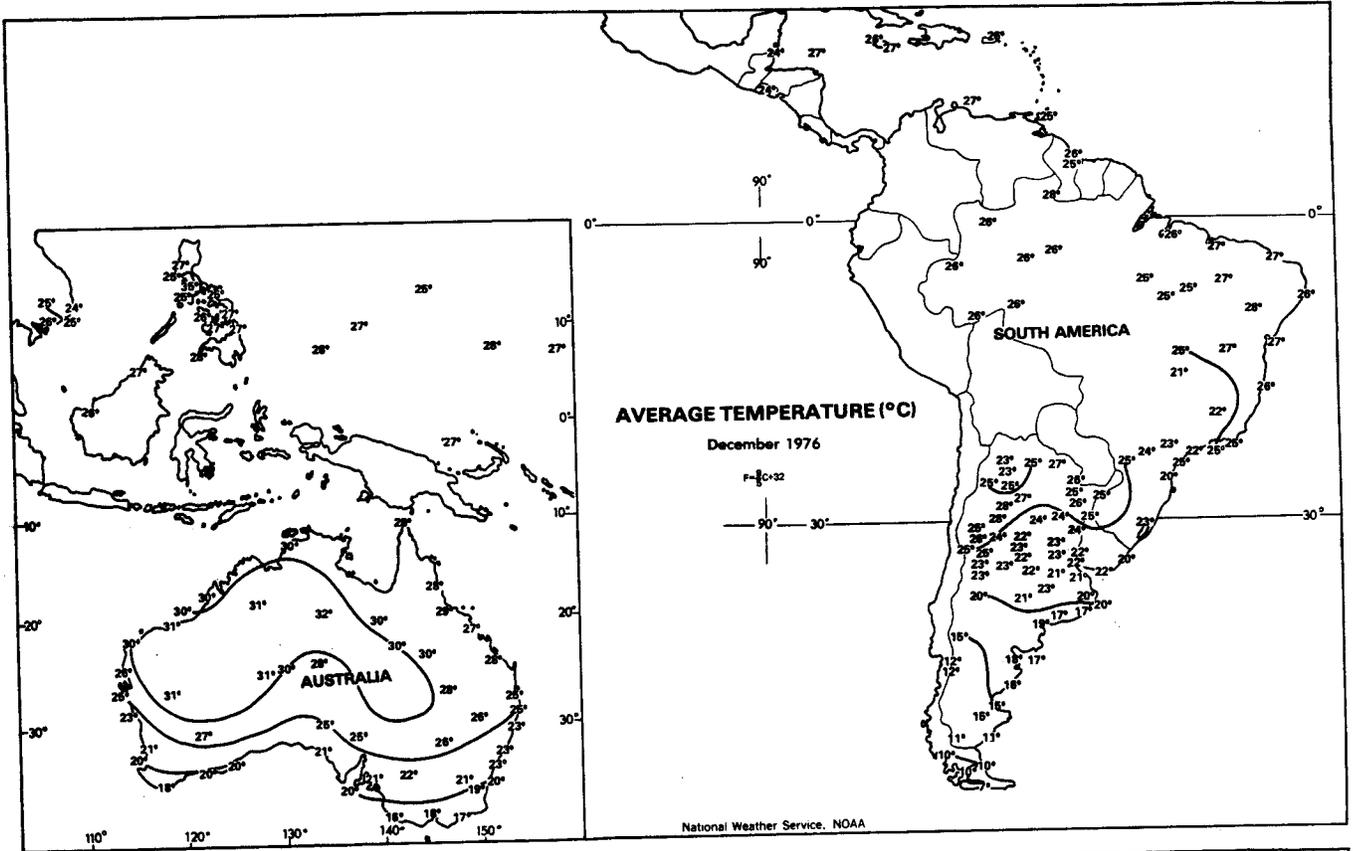


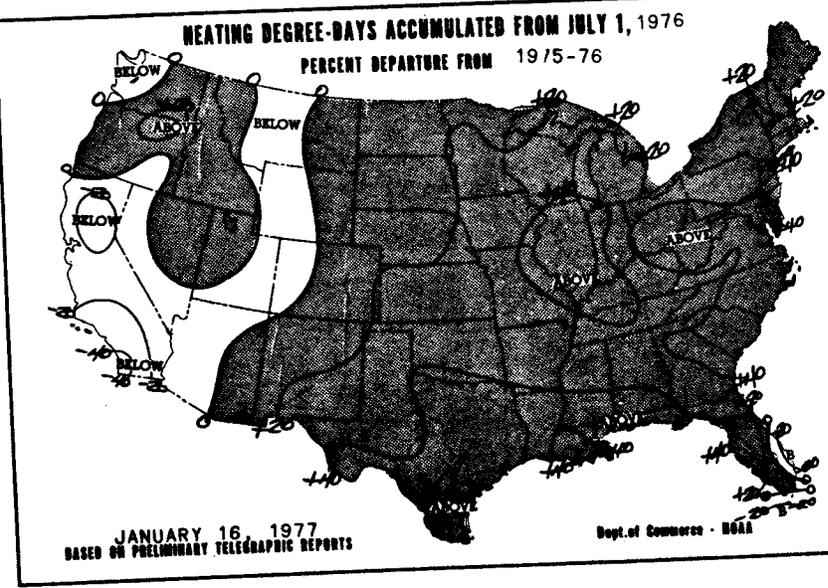
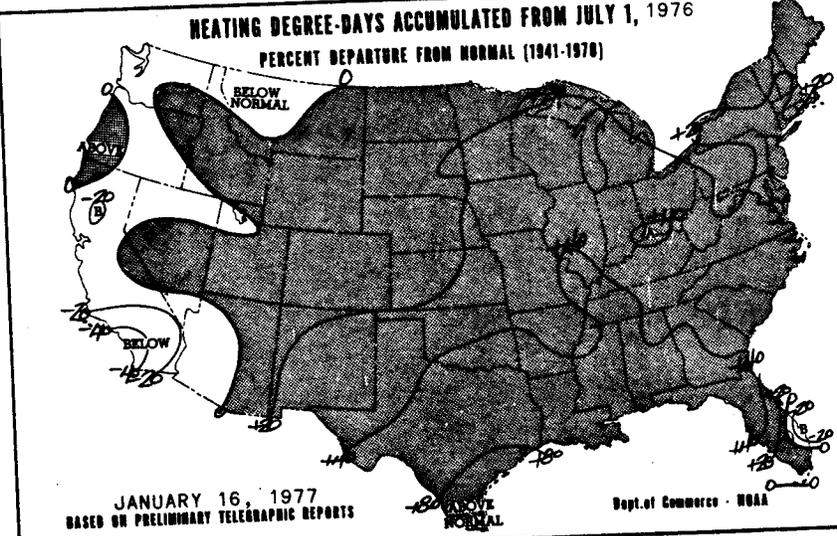
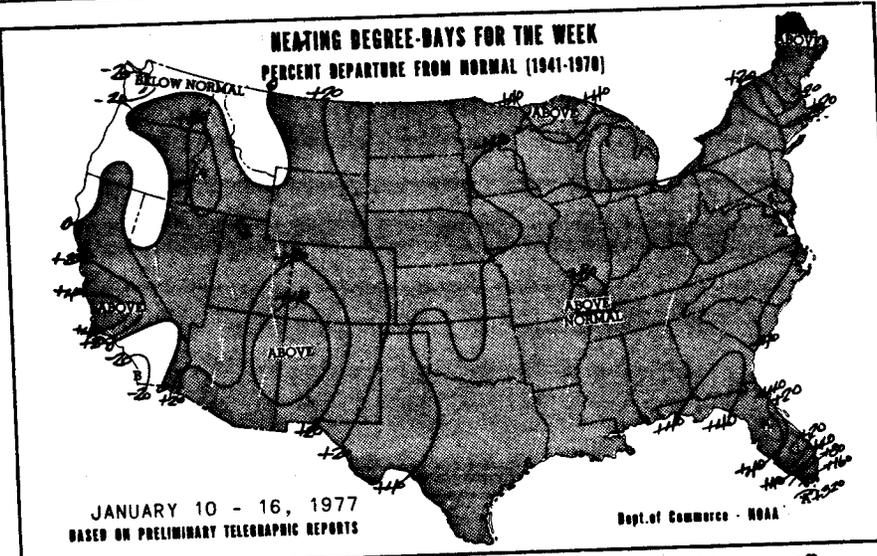












HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING JAN. 16, 1977.

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.....	440	93	2099	650	530	MAINE. CARIBOU.....	491	113	5285	709	539	YOUNGSTOWN.....	391	118	4044	1021	1125
MOBILE.....	470	98	2352	687	587	PORTLAND.....	561	79	4152	678	668	OKLA. OKLAHOMA CITY.....	77	7	2400	53	579
MONTGOMERY.....	470	98	2352	687	587	MD. BALTIMORE.....	310	86	2833	556	837	TULSA.....	115	7	2548	88	645
ARIZ. FLAGSTAFF.....	3338	143	5146	143	51	MASS. BOSTON.....	501	49	2946	405	678	OREG. ASTORIA.....	44	29	2331	216	97
PHOENIX.....	3338	143	5146	143	51	MICH. ALPENA.....	416	87	4420	484	697	BURNS.....	1	1	338	16	59
TUCSON.....	3338	143	5146	143	51	DETRIT.....	1066	384	5841	409	920	REDFORD.....	2	2	338	16	59
YUVA.....	3338	143	5146	143	51	FLINT.....	1066	384	5841	409	920	PORTLAND.....	2	2	338	16	59
ARK. FORT SMITH.....	131	131	2531	806	664	GRAND RAPIDS.....	1010	478	4160	85	1081	SALEM.....	5	10	957	13	14
LITTLE ROCK.....	131	131	2531	806	664	HOUGHTON LAKE.....	1010	478	4160	85	1081	PA. ALLENTOWN.....	33	33	333	561	833
CALIF. BAKERSFIELD.....	76	50	952	203	261	LANSING.....	1010	478	4160	85	1081	BERKELEY.....	33	33	333	561	833
FUREKA.....	117	117	2366	697	587	MARQUETTE.....	1010	478	4160	85	1081	EL PASO.....	33	33	333	561	833
FRESNO.....	117	117	2366	697	587	MUSKEGON.....	1010	478	4160	85	1081	HARRISBURG.....	33	33	333	561	833
LOS ANGELES.....	117	117	2366	697	587	S. STE. MARIE.....	1010	478	4160	85	1081	HARTFORD.....	33	33	333	561	833
RED BLUFF.....	117	117	2366	697	587	MINN. DULUTH.....	29	131	5609	942	811	INDIANAPOLIS.....	33	33	333	561	833
SAN DIEGO.....	117	117	2366	697	587	INTERNAT. FALLS.....	29	131	5609	942	811	IRVING.....	33	33	333	561	833
SAN FRANCISCO.....	117	117	2366	697	587	MINNEAPOLIS.....	29	131	5609	942	811	JACKSONVILLE.....	33	33	333	561	833
STOCKTON.....	117	117	2366	697	587	ROCHESTER.....	29	131	5609	942	811	MEMPHIS.....	33	33	333	561	833
COLO. DENVER.....	773	299	1229	155	155	ST. CLOUD.....	29	131	5609	942	811	MISS. JACKSON.....	20	87	1937	644	552
GRAND JUNCTION.....	773	299	1229	155	155	MISS. JACKSON.....	20	87	1937	644	552	MO. COLUMBIA.....	407	155	3425	969	996
PUEBLO.....	773	299	1229	155	155	MERIDIAN.....	20	87	1937	644	552	KANSAS CITY.....	407	155	3425	969	996
CONN. BRIDGEPORT.....	339	54	2885	491	711	MO. COLUMBIA.....	407	155	3425	969	996	ST. LOUIS.....	407	155	3425	969	996
HARTFORD.....	339	54	2885	491	711	KANSAS CITY.....	407	155	3425	969	996	SPRINGFIELD.....	407	155	3425	969	996
DEL. WILMINGTON.....	299	68	2837	505	719	ST. LOUIS.....	407	155	3425	969	996	MONT. BILLINGS.....	51	43	3544	53	1
D.C. WASHINGTON.....	289	83	2544	498	848	SPRINGFIELD.....	407	155	3425	969	996	GLASGOW.....	51	43	3544	53	1
FLA. APALACHICOLA.....	114	30	1109	419	337	MONT. BILLINGS.....	51	43	3544	53	1	GREAT FALLS.....	51	43	3544	53	1
DAYTONA BEACH.....	114	30	1109	419	337	GLASGOW.....	51	43	3544	53	1	HAVRE.....	51	43	3544	53	1
FORT MYERS.....	114	30	1109	419	337	GREAT FALLS.....	51	43	3544	53	1	HELENA.....	51	43	3544	53	1
JACKSONVILLE.....	114	30	1109	419	337	HAVRE.....	51	43	3544	53	1	KALISPELL.....	51	43	3544	53	1
KEY WEST.....	114	30	1109	419	337	HELENA.....	51	43	3544	53	1	MILES CITY.....	51	43	3544	53	1
LAKELAND.....	114	30	1109	419	337	KALISPELL.....	51	43	3544	53	1	MISSOULA.....	51	43	3544	53	1
MIAMI.....	114	30	1109	419	337	MILES CITY.....	51	43	3544	53	1	NEBR. GRAND ISLAND.....	70	67	3580	440	328
ORLANDO.....	114	30	1109	419	337	MISSOULA.....	51	43	3544	53	1	LINCOLN.....	70	67	3580	440	328
TALLAHASSEE.....	114	30	1109	419	337	NEBR. GRAND ISLAND.....	70	67	3580	440	328	NORFOLK.....	70	67	3580	440	328
TAMPA.....	114	30	1109	419	337	LINCOLN.....	70	67	3580	440	328	NORTH PLATTE.....	70	67	3580	440	328
WEST PALM BEACH.....	114	30	1109	419	337	NORFOLK.....	70	67	3580	440	328	ORAMA.....	70	67	3580	440	328
GA. ATLANTA.....	253	92	2266	678	671	NORTH PLATTE.....	70	67	3580	440	328	VALENTINE.....	70	67	3580	440	328
AUGUSTA.....	253	92	2266	678	671	ORAMA.....	70	67	3580	440	328	NEV. ELY.....	317	23	3841	100	141
MACON.....	253	92	2266	678	671	VALENTINE.....	70	67	3580	440	328	LAS VEGAS.....	317	23	3841	100	141
SAVANNAH.....	253	92	2266	678	671	NEV. ELY.....	317	23	3841	100	141	RENO.....	317	23	3841	100	141
IDAHO. BOISE.....	329	70	3186	277	364	LAS VEGAS.....	317	23	3841	100	141	WINNEUCCA.....	317	23	3841	100	141
LEHISTON.....	329	70	3186	277	364	RENO.....	317	23	3841	100	141	N.H. CONCORD.....	408	100	4371	881	574
POCATELLO.....	329	70	3186	277	364	WINNEUCCA.....	317	23	3841	100	141	N.J. ATLANTIC CITY.....	302	78	3069	763	719
ILL. CAIRO.....	368	145	2876	941	1015	N.H. CONCORD.....	408	100	4371	881	574	TRENTON.....	302	78	3069	763	719
CHICAGO.....	368	145	2876	941	1015	N.J. ATLANTIC CITY.....	302	78	3069	763	719	N.MEX. ALBUQUERQUE.....	307	27	2772	555	355
CHICAGO.....	368	145	2876	941	1015	TRENTON.....	302	78	3069	763	719	ROSWELL.....	307	27	2772	555	355
HOLINE.....	368	145	2876	941	1015	N.MEX. ALBUQUERQUE.....	307	27	2772	555	355	N.Y. ALBANY.....	63	61	3900	64	787
PEORIA.....	368	145	2876	941	1015	ROSWELL.....	307	27	2772	555	355	BINGHAMTON.....	63	61	3900	64	787
ROCKFORD.....	368	145	2876	941	1015	N.Y. ALBANY.....	63	61	3900	64	787	BUFFALO.....	63	61	3900	64	787
SPRINGFIELD.....	368	145	2876	941	1015	BINGHAMTON.....	63	61	3900	64	787	NEW YORK.....	63	61	3900	64	787
IND. EVANSVILLE.....	390	159	3027	711	783	BUFFALO.....	63	61	3900	64	787	ROCHESTER.....	63	61	3900	64	787
FORT WAYNE.....	390	159	3027	711	783	NEW YORK.....	63	61	3900	64	787	SYRACUSE.....	63	61	3900	64	787
INDIANAPOLIS.....	390	159	3027	711	783	ROCHESTER.....	63	61	3900	64	787	N.C. ASHEVILLE.....	90	110	2785	623	623
SOUTH BEND.....	390	159	3027	711	783	SYRACUSE.....	63	61	3900	64	787	CHARLOTTE.....	90	110	2785	623	623
IOWA. BURLINGTON.....	435	136	3986	957	1131	N.C. ASHEVILLE.....	90	110	2785	623	623	GREENSBORO.....	90	110	2785	623	623
DES MOINES.....	435	136	3986	957	1131	CHARLOTTE.....	90	110	2785	623	623	HATTERAS.....	90	110	2785	623	623
DUBUQUE.....	435	136	3986	957	1131	GREENSBORO.....	90	110	2785	623	623	RALEIGH.....	90	110	2785	623	623
SIoux CITY.....	435	136	3986	957	1131	HATTERAS.....	90	110	2785	623	623	WILMINGTON.....	90	110	2785	623	623
KANS. CONCORDIA.....	363	99	3278	523	601	RALEIGH.....	90	110	2785	623	623	N.DAK. BISHARCK.....	534	133	4874	485	573
BOGIE CITY.....	363	99	3278	523	601	WILMINGTON.....	90	110	2785	623	623	FARGO.....	534	133	4874	485	573
GOOBLAND.....	363	99	3278	523	601	N.DAK. BISHARCK.....	534	133	4874	485	573	HILLSTON.....	534	133	4874	485	573
GOBLAND.....	363	99	3278	523	601	FARGO.....	534	133	4874	485	573	OHIO. AKRON-CANTON.....	777	104	3023	988	1249
TOPEKA.....	363	99	3278	523	601	HILLSTON.....	534	133	4874	485	573	CINCINNATI.....	777	104	3023	988	1249
NICHITA.....	363	99	3278	523	601	OHIO. AKRON-CANTON.....	777	104	3023	988	1249	CLEVELAND.....	777	104	3023	988	1249
KY. LEXINGTON.....	346	119	3193	865	824	CINCINNATI.....	777	104	3023	988	1249	COLUMBUS.....	777	104	3023	988	1249
LOUISVILLE.....	346	119	3193	865	824	CLEVELAND.....	777	104	3023	988	1249	DAYTON.....	777	104	3023	988	1249
LA. BATON ROUGE.....	468	143	1303	425	308	DAYTON.....	777	104	3023	988	1249	TOLEDO.....	777	104	3023	988	1249
LAFAYETTE.....	468	143	1303	425	308	TOLEDO.....	777	104	3023	988	1249	W. VA. BECKLEY.....	344	106	3593	823	1116
NEW ORLEANS.....	468	143	1303	425	308	W. VA. BECKLEY.....	344	106	3593	823	1116	CHARLESTON.....	344	106	3593	823	1116
SHREVEPORT.....	468	143	1303	425	308	CHAR											

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