

WEEKLY WEATHER AND CROP BULLETIN

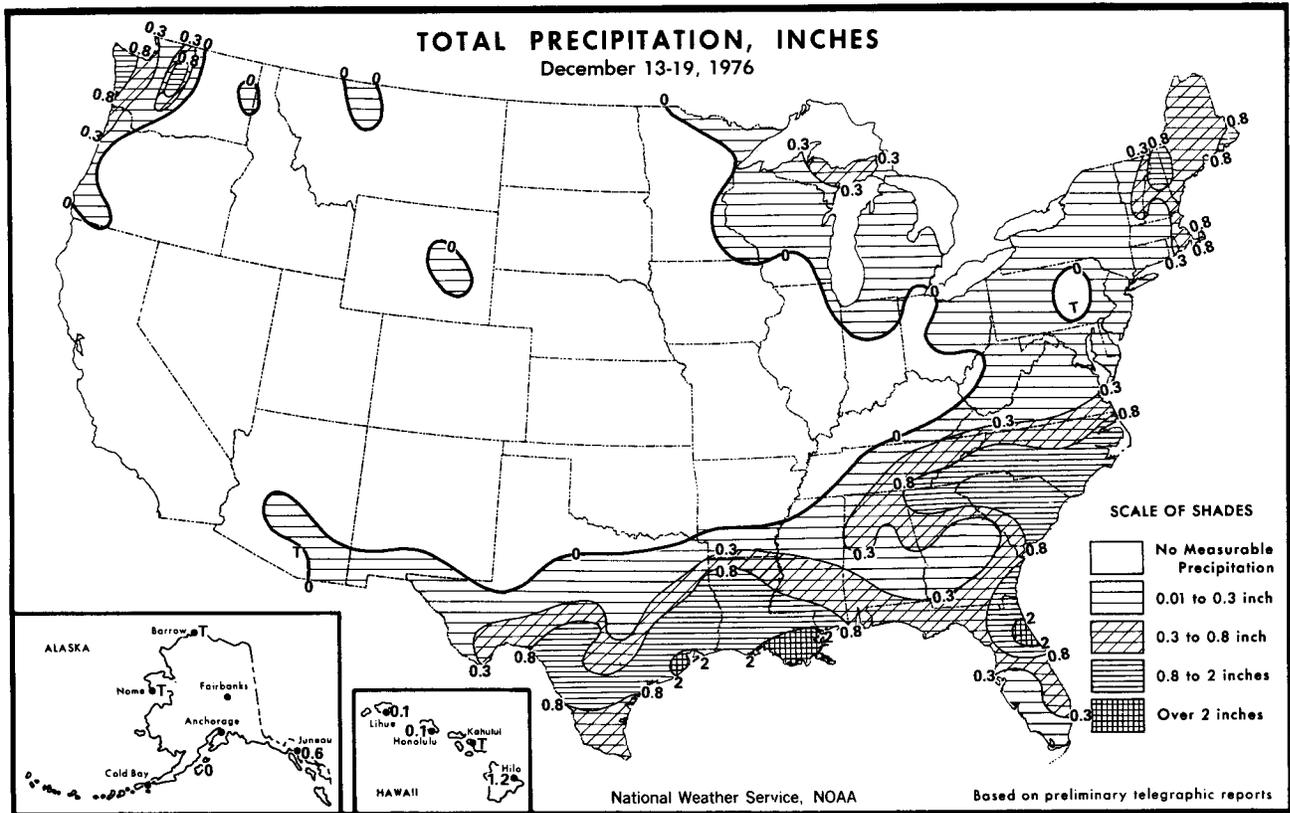
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National Weather Summary

For the week of December 13-19

HIGHLIGHTS: Even with winter officially just around the corner, unseasonably warm weather prevailed across most of the Nation during the week, especially north central U.S., where temperatures commonly averaged as much as 10° above normal. Limited weekly precipitation focused on areas from east Texas across the lower Mississippi Valley to the southern Atlantic Coast.

Winds roared, snow fell, and temperatures skidded in the wake of a fast-paced cold front that swept through northeastern U.S. on Monday. Near zero temperatures in parts of New York didn't tell the full story, as gusty winds combined with the frigid air created a wind chill factor of -30°.

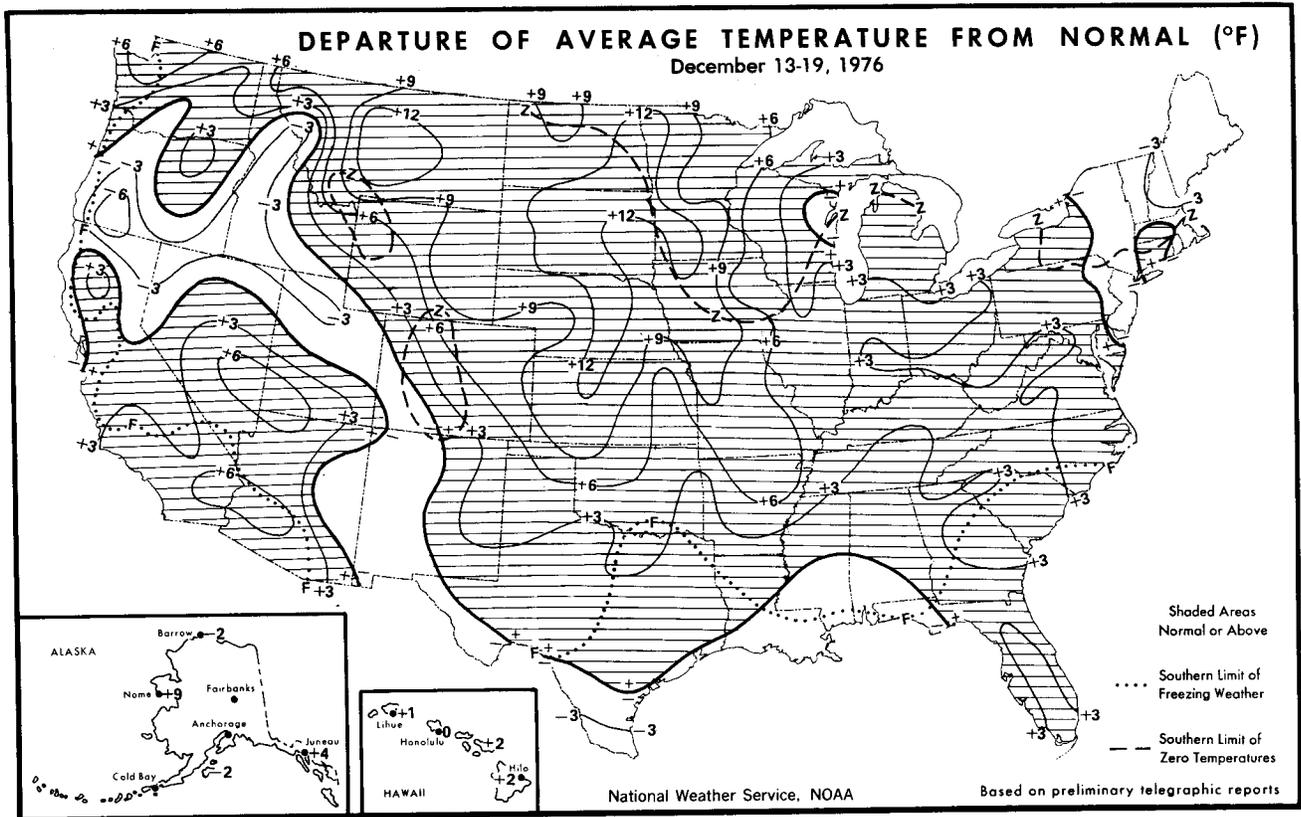
Heavy snow warranted travelers advisories in the west Texas mountains, where some areas collected up to 9 inches of snow. Elsewhere scattered snow showers streamed into portions of the

Great Lakes region.

As evening snowfall associated with the arctic air mass diminished, the mercury plummeted over much of New England. Readings below zero and in the single numbers reached from New England into New York, Pennsylvania, and New Jersey. Thermometers in much of the middle Atlantic States measured in the teens. Portland, Me. -5° and Binghamton, N.Y. -1° each claimed new record lows.

Cold again summed up Tuesday's weather scene in the northern and middle Atlantic States, where a high pressure center over Delaware also brought clear skies. Forecasters pinned two awards on Caribou, Me.; a record low of -18° also made it the Nation's cold spot. Other record lows: Scranton, Pa. 2° and New York City, 3°.

In contrast, mild daytime readings in the 60's favored southern California and portions of the Southwest. The mercury edged into the 40's



and 50's across the southern Rockies and into the southern and central Plains.

Thanks to an intense low pressure over southern Ontario, strong winds buffeted the Great Lakes region throughout the day and into the evening. Meantime persistent rains pushed streams higher from east Texas across the lower Mississippi Valley to the southern Atlantic Coast.

Cloudy skies and drizzle extended further westward into east Texas on Wednesday. Otherwise limited morning precipitation included some rain in western Washington and northwestern Oregon.

Soon, however, a low pressure center developed off the northern Florida Atlantic Coast. Northward bound, the system spread rain-showers across most of the southern and central Atlantic Coast States.

Afternoon temperatures ranged from unseasonably mild to warm over most of the country. Maximums in the 20's and 30's were restricted to the Great Lakes region and upper Mississippi Valley. Readings in the 60's or 70's stretched from the Pacific Coast across southern Arizona, Texas, Louisiana, and Florida. Elsewhere the mercury climbed into the 40's and 50's.

As the frontal system moved slowly off the Atlantic Coast, evening precipitation diminished over southeastern U.S. Rain occurred from eastern North Carolina and southeastern Virginia and drizzle dampened areas from southwestern Virginia and northern Florida.

Thursday morning temperatures remained above normal as air originating over the Pacific Ocean streamed across most of the Nation. Sub-zero readings turned up only in extreme northern Maine and the higher elevations of Colorado.

Harbor ice and frozen locks thwarted

shippers along portions of the Great Lakes. In north central Vermont, an ice jam blocked the Lamolle River, forcing several homes to be evacuated near Hardwick.

With winter officially just a few days away, sunny skies and mild temperatures dominated much of the Nation on Friday. Montana forecasters logged a record-breaking 61° at Havre and reported that Great Falls, 59° surpassed its previous record by just 1 degree.

Generally light precipitation prevailed. Snow flurries whirled along the central and eastern Great Lakes region through New England. Afternoon showers persisted over southwestern Texas and dotted the Pacific Northwest Coast.

The Nation's warm weather patterns remained in force on Saturday, as minimum temperatures halted in the 20's or 30's in most places. Widespread sunny skies pushed the mercury skyward throughout central U.S. Even when a cold front cut a path through northern Plains and moved into the upper Mississippi Valley in the afternoon, skies remained sunny with little change in temperature. In the central Midwest temperatures shattered records of more than 80 years standing in Iowa (Des Moines, 64°), Kansas (Topeka, 65°), Missouri (Kansas City, 64°), and Nebraska (Omaha, 69°).

Sunday's weather patterns took a seasonable twist as a cold front inflicted frigid air on the upper Mississippi Valley through the northern halves of the Plains and Rockies. Dry air covering north central U.S. explained the absence of precipitation associated with the front.

As the arctic front pushed northward from the upper Great Lakes area, afternoon temperatures skidded. In fact, the upper Midwest measured readings as much as 30° cooler than Saturday's record-breaking highs.

National Agricultural Summary

For the week of December 13-19

HIGHLIGHTS: Cotton growers harvested most of the Nation's crop except in Texas. Rainy weather in parts of the cotton production area slowed picking. Unseasonably mild temperatures greened some of the United States winter wheat crop but the overriding concern remains dry topsoils and lack of significant precipitation or snow cover. High readings melted most of the snow in many areas. Soil moisture was adequate to surplus in the Atlantic Coast and Gulf Coast States but elsewhere soil moisture was short, particularly on the Great Plains. Pastures generally provided only a little grazing for livestock.

SMALL GRAINS: The Nation's winter wheat crop remained in fair condition showing no significant change from the previous week. Above normal temperatures throughout most of the Nation caused some greening in a few areas and a little growth in southern areas but the primary concern for most winter wheat producers remained the absence of beneficial precipitation for another week. Soil moisture in most of the winter wheat area registered short, compounding the lack of precipitation. The unseasonably high temperatures also melted most of the light snow cover that existed in parts of the Great Plains.

In Kansas the winter wheat condition showed little change. More moisture is needed to improve short stands and poor root development and soil moisture supplies remained short. Cattle grazed on only 5% of the wheat fields, the same as last year but under the 15% average. In Oklahoma warm temperatures encouraged winter wheat growth but short soil moisture supplies limited new growth. Winter wheat remained in fair to good condition. Grazing increased in the southwest. In Texas cold weather slowed growth and short soil moisture supplies added to wheat producers' problems on the northern High Plains. Small grains provided only limited grazing but in most areas of Texas soil moisture is adequate and fields only need warmer weather for rapid growth. In Montana winter wheat lacked snow cover but wind caused only light damage. In Washington winter wheat grew slowly but sustained no winter damage. Some growers sprayed for weed control. The Oregon winter wheat needs moisture east of the Cascades but elsewhere grain fields had good color and growth. Dry weather slowed California small grain development. In Ohio mild temperatures greened some small grains. The Illinois winter wheat growth was short.

COTTON: Cotton picking in most States was almost complete. Only growers in Alabama at 92% complete, Georgia at 89%, Oklahoma 95% and Texas 88% complete had any significant acreage to harvest. Arkansas growers limited picking to better drained fields and gins caught up to the slow harvest pace. In Georgia wet field conditions seriously hampered fieldwork and slowed cotton harvest. Wet fields also limited cotton picking in Alabama. In Oklahoma cotton harvest reached 95%, far ahead of last years slow 65%. In Texas cotton harvest reached 83% complete compared with 91% a year earlier and the 79% average. The harvest pace was nearly normal on the High Plains, but trailers jammed gin yards and farmers built rick modules to take advantage of the open weather.

OTHER CROPS: The Nation's corn harvest was almost complete. The last fields were shelled in Ohio. Indiana farmers finished as field conditions permitted. Georgia farmers were 96% finished and Alabama growers 95%.

Soybean harvest centered in the Southeastern States where combining advanced to about 85 to 87% complete. Elsewhere farmers harvested the last fields as conditions permitted.

Tobacco growers stripped and marketed the crop in Pennsylvania, Virginia, Ohio, and Indiana. In Kentucky, marketing burley tobacco, while active, lagged the usual marketings by this time of year. Kentucky dark air cured markets open.

In Florida and Louisiana farmers harvested sugarcane. In the Western States growers harvested sugarbeets and shipped them to processors.

Farmers harvested limited sorghum acreage across the southern part of the United States.

FRUITS AND NUTS: In Florida light rains and no freezing temperatures maintained citrus groves in excellent condition. Orange picking remained slow but most processors began operating. In Texas rainfall delayed the citrus harvest. In Arizona growers picked oranges, early tangerines and some grapefruit. California growers picked a wide variety of citrus including grapefruit, lemons, limes, oranges and tangerines. In Washington growers pruned grapes and fruit trees.

VEGETABLES: In Florida vegetable shipments increased. Leading volume gainers included cabbage, celery and green peppers along with lesser increases for radishes and squash. Sweet corn shipments declined. Growers shipped steady supplies of snap beans, carrots, cucumbers, eggplants, greens, lettuce and tomatoes. Warm Florida temperatures benefited plant growth and condition. In Texas cold, wet weather and in some localities freezing temperatures delayed harvest progress, slowed development of many vegetable crops and damaged greens, cabbage, and broccoli. Most damage hit the Upper Gulf Coast and East Texas areas. Growers prepared land for spring vegetable crops. California vegetable activity slowed with supplies of broccoli, cauliflower and celery down, and lettuce supplies up. Growers picked a very light volume of strawberries. Arizona growers harvested lettuce and a variety of other vegetables.

PASTURE AND LIVESTOCK: Cattle remained in fair to good condition but pastures and ranges did not score as well. Generally, pastures provided less than the normal amount of forage for this time of year. Fall-seeded grains did not grow enough to provide the usual forage requirements cattlemen expect from winter small grains. In Florida warm temperatures and showers stimulated pasture growth, but supplemental feeding offset poorer pastures. In Texas grazing was good but many fields were too wet. Muddy roads and pastures made supplemental feeding difficult. In California ranchers hauled water and additional feed to cattle. Frosty nights and no rain slowed pasture growth.

Temperature and Precipitation Data for the Week Ending Midnight, L.s.t., December 19, 1976

Table with 12 columns: States and Stations, Temperature °F (Average, Departure), Precipitation Inches (Total, Departure). Rows list various cities across different states like ALA, ALASKA, ARIZ, ARK, CALIF, CONN, FLA, GA, HAWAII, ILL, IND, IOWA, KANS, KY, LA, MAINE, MD, MASS, MICH, MINN, MO, MONT, NEBR, NEV, N.H., N.J., N.MEX., N.Y., N.DAK., OHIO, OKLA, OREG, PA, R.I., S.C., S.D., TENN, TEX, UTAH, VA, WASH, W.VA., WIS, WYO, and P.R.

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 3° warmer than normal. Rainfall near normal northern third and light central and south. Light rain 14th. Rain 19th with heavier amounts Tennessee Valley.

Wet fields limited work to 2.7 days. Soil moisture adequate to surplus. Major activities: Harvesting cotton, corn, soybeans and feeding livestock. Cotton harvest, 92%. Sorghum harvest 98%. Pecans poor. Livestock fair to good. Pastures short.

ARIZONA: Dry except scattered light showers southern half. Temperatures 1 to 8° above normal.

Cotton, sorghum grain harvest active. Planting small grains continued. Sugarbeets good progress. Lettuce harvest full swing Yuma, nearly finished central areas. Planting late winter, spring crops underway. Mixed vegetable harvest active. Picking active lemons, navels, sweets, early tangerines, limited grapefruit. Soil moistures, water supplies improved, but short lower desert ranges. Forage short some areas, limited supplemental feeding required. Higher mountain ranges generally good. Cattle, calves fair to good. Sheep on lower winter pastures, generally good condition. Fall lambs good progress on alfalfa pastures.

ARKANSAS: Mild, dry. Above normal temperatures. Warmest reading 77°. Measurable precipitation at only three locations

Some cotton and soybeans still to harvest. Cotton scrapping limited to better drained fields. Gins caught up. Wheat, oats good condition. Pastures short.

CALIFORNIA: Dry. Temperatures averaged near normal with the exception of the south coast and some mountain locations where the average ranged from 5 to 10° above normal.

Dry weather slowing small grain development. Irrigation water in short supply. Cotton picking virtually complete. Milo harvest finishing. Field preparations next year rapid pace. Pruning active most areas. Many areas applying fertilizer. Some irrigating, dormant spraying. Avocado crop heavy. Some growers waiting for better fruit size. Date harvest continues, substantial losses. Desert grapefruit movement slow. Lemon movement fair. Lime packing underway. Mandarin picking continues. Fresno area navel oranges meeting naturing requirements; picking active, very good quality. Harvest other area navels slow. Good tangerine movement. California vegetable activity slow. Broccoli, cauliflower, and celery supplies eased. Lettuce supplies increased. Very light supplies of strawberries available. Rangeland extremely dry. Feed very short, cold nights, lack of rain. Foothill forage reaching critical stage due to persistent night frost. Supplemental feeding continues, ranchers haul water. Cattle in good shape, but not making normal gains due to short feed supply.

COLORADO: Clear skies. Precipitation zero with no snow in upper mountains. Temperatures spring-like eastern plains, while elsewhere near to slightly above normal by mid-day. Colder air pushed southward 19th over the eastern slope and plains area. Dry with no snow for the high country.

FLORIDA: Mild with rain, scattered showers first half. Clearing, colder 17th and 18th. Temperatures averaged 4 to 7° above normal thru 17th, 5 to 10° below normal weekend. Moderate to heavy rainfall north, generally 1.00 to 2.00 in., locally up to 5.00 in. Rainfall light central, south averaging 0.25 in. but locally up to 0.50 in. central.

Soil moisture adequate south, central; adequate to excessive north, west. Soybean, cotton harvest about complete. Sugarcane harvest full swing. Small grains good condition. Preparation of land, liming of soils underway. Grazing conditions poor to good, few areas Panhandle and north good to excellent. Warm weather, recent showers stimulated pasture growth. Supplemental feeding to offset poorer pastures continues heavy until more small grain pastures ready. Cattle, calves good condition. Citrus grove condition excellent. Light rains beneficial all areas. No freezing temperatures. Orange harvest still slow, most processors now open. Vegetable shipments continued increase. Cabbage, celery, green pepper shipments advanced substantially. Radishes, squash showed smaller increases. Sweet corn shipments declined. Steady supplies snap beans, carrots, cucumbers, eggplant, escarole-endeive, lettuce, tomatoes. Warmer temperatures very beneficial to plant growth condition.

GEORGIA: North temperatures 1 to 3° above normal, 3 to 5° above south. Averages ranged low 40's mountains, low 50's central, upper 50's south. Rainfall over 2.00 in. north, around 1.50 in. south. Heaviest rainfall 3.64 in. extreme east.

Soil moisture surplus. Fieldwork: 1.0 day suitable. Wet conditions seriously hampered fieldwork. Condition of unharvested crops down from previous week due to wet weather. Cotton mostly fair to good, 89% harvested. Soybean condition fair to good, harvest 85% complete. Corn condition fair to good, down slightly. Harvest 96% complete. Pecan condition poor to fair, 81% harvested. Pastures fair to good. Cattle fair to good. Hogs good. Wheat 92% planted, rye 94% planted, other small grain 94% planted.

HAWAII: Weather cool. Some overcast skies light rains but mostly sunny periods prevailed.

Spraying for insect and disease control. Heavy irrigation some areas. Most leafy crops plentiful. Pole beans light. Banana supplies heavy. Papaya supplies moderate to heavy. Pine-apple harvesting light. Sugar mills are closing. Pastures leeward dry, feed still available. Windward good condition.

IDAHO: Temperatures averaged near normal to 5° above; exception extreme southwest valley where temperatures ranged 9° below normal. Maximums 32 to 55°. Minimums -1 to 27°. Snow depths higher elevations continue less than usual.

Major activities: Maintenance work on farm equipment, some plowing and livestock feeding. Livestock good condition with some sheepmen preparing for lambing.

ILLINOIS: Temperatures 1 to 7° above normal.

Precipitation only trace amounts. Soil moisture mostly short. Winter wheat fair, plant growth short most areas. Other small grains fair to good. 1977 corn and soybean acreage 70% plowed. Livestock doing well most areas.

INDIANA: Warm, dry, considerable sunshine. Temperatures averaged 5° above normal and ranged from 16° southeast on 14th to 67° on 19th. Daily minimum temperatures averaged 28° and daily maximum 45°. Precipitation 0.01 in. to 0.21. Some snow cover north.

Fieldwork minimal. Finishing harvest on few remaining scattered fields as conditions permit. Frozen soils prevented tilling. Major activities: Tending livestock, spreading fertilizer. Higher humidity allowed tobacco stripping to progress more rapidly.

IOWA: Temperatures substantially above normal. Departures above normal varied from about 5° northeast to 10° in the south and west. Mild, dry Pacific air melted snow cover on 18th, and set high temperature records in 60's across west. Arctic air 19th sharply dropped temperatures and produced measurable precipitation that fell as light snow over northeast.

KANSAS: No significant precipitation. Temperatures averaged from 41 to 43° or about 8 to 12° above normal.

Wheat condition showed little change. Soil moisture supplies generally short. More moisture needed to improve short stands and poor root development. Cattle grazing on 5% of wheat fields, same as last year, well below 15% average.

KENTUCKY: Temperatures averaged about 50°, above seasonal normal of near 40°. Lows in teens first of week, but highs in the 60's at end period. Precipitation only trace.

Burley tobacco marketings very active, volume sales heavy. Marketing less than normal. Dark air cured markets opened. Most small grain growth short. Pastures dormant, generally picked close, necessitating supplemental feeding livestock.

LOUISIANA: Temperatures near normal. Extremes: 75 and 30°. Rain 14th and 19th.

Sugarcane harvest continued; other farm activity mainly feeding and care of livestock.

MARYLAND AND DELAWARE: Temperatures averaged above normal, highs in the 40's; lows in the mid 20's to low 30's. Precipitation light with amount less than 0.50 in.

Harvest corn and soybeans virtually complete. Condition of wheat and winter barley poor to good. Other activities included fall plowing, stalk shredding, disking and plowing down fertilizer. Livestock in good condition.

MICHIGAN: Temperatures above normal. Temperatures warmed rapidly on 13th and remained mild through end of period. Highest temperatures occurred 14th and 19th reaching the low 50° over much of Lower. Precipitation light, occurring mostly along Lake Superior Shore of northern Upper. Most locations in Lower and southern Upper received 0.05 in. or less. Precipitation fell as snow. Snow depth ranged from 16 in. to 5 in. Most of southern half of Lower had no snow cover.

Farm activities limited to feeding livestock and farm chores. Some shipment of fruit, vegetables and potatoes out of storage.

MINNESOTA: Warm, dry. Temperatures averaged 12° above normal west to 5° above normal south-east. Extremes: 54 and -30°. Precipitation averaged 0.15 to 0.20 in. below normal. New snowfall about 0.50 in. northeast and southeast, trace or none elsewhere. Snow depth 3 in. or more northeast third, 2 in. to none elsewhere.

MISSISSIPPI: Temperatures 2° subnormal. Extremes: 20 and 70°.

Soil moisture adequate to surplus. Fieldwork: 2.4 days suitable. Pecans 95% harvested, 90% 1975, 90% average. Winter wheat and oats in poor to fair condition. Pastures in mostly poor condition. Livestock in mostly fair condition.

MISSOURI: Temperatures ranged from 4° above normal northeast to 7° above normal elsewhere, except Bootheel where temperatures normal. Precipitation light except southeast 0.25 in.

Farming activities: General livestock care and management.

MONTANA: Warm and dry. Temperatures west of Divide 2 to 4° below normal, east of Divide from 8 to 19° above normal. Only measurable precipitation 0.06 at Great Falls 18th. Frequent strong, gusty winds along east slopes of Rockies.

Soil moisture short with little or no snow cover. Winter wheat condition fair. Wind damage generally light although snow cover poor or none. Livestock condition good. Generally adequate stockwater supplies and open grazing.

NEBRASKA: Temperatures as much as 32° above normal but 3 to 5° below normal the last day. No precipitation.

NEVADA: No precipitation. Daytime temperatures above normal, nights cold. Average near normal. Extremes: 70 and -4°.

Open weather favorable to livestock. Supplemental feeding light.

NEW ENGLAND: Temperatures variable. Very cold 13th and 14th, 8 to 30° subnormal with rest of week up to 16° above normal. Precipitation 0.20 to 1.00 in. falling mostly as snow.

NEW JERSEY: Temperatures 4 to 6° below normal, averaging 27° north, 32° south and 34° coastal areas. Extremes: -1 and 51°. Precipitation well below normal, averaging 0.09 in. north and coastal sections, and 3.03 in. south.

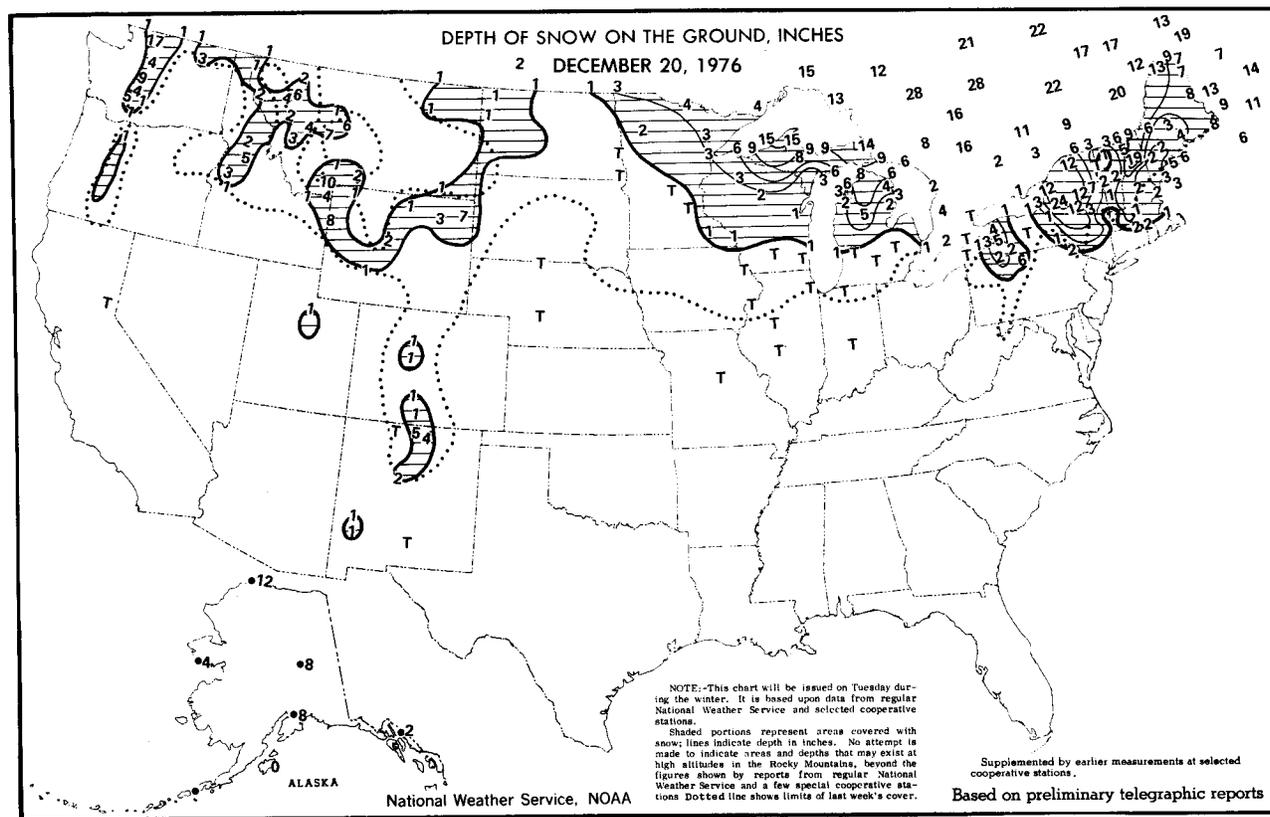
Farmers caring for livestock and doing normal winter chores.

NEW MEXICO: No precipitation except Mesilla Valley. Temperatures relatively stable with cold nights and mild daytime readings. Temperature averages near normals.

Soil moisture supplies good south, short north. Harvest activity mostly completed. Cotton, sorghum still some limited harvest. Pecan picking progressing slowly as orchards still too wet. Irrigated wheat good, active grazing; dryland wheat only fair, limited grazing. Livestock fair to good, ranges mostly fair, poor in north-west.

NEW YORK: Very cold at beginning, temperatures moderated midweek. Precipitation ranged from trace south and east to 0.15 in. northwest on 16th and 17th.

NORTH CAROLINA: Temperatures averaged 2 to -6° above normal. Rainfall above normal, mostly 1.00 to 3.00 in.



Fieldwork: 1.3 days suitable. Soil moisture 30% adequate, 70% surplus. Most harvesting and small grain planting 95% or more complete. Soybeans 87% harvested, 1975 88%, average 88%. Pastures 20% poor, 50% fair, 30% good. Overgrazing a problem in west. Small grain conditions average mostly fair to good.

NORTH DAKOTA: Temperatures 12 to 15° above normal. Extremes: 54 and -21°. Precipitation below normal. Above normal temperatures reduced snow cover to zero to 1 in., except northeast 4 in. Weekend weather above normal temperatures and partly cloudy skies.

Livestock good condition with limited feed provided by poor pastures and ranges.

OHIO: Precipitation averaged much below normal, less than 0.10 in. Temperatures averaged near or slightly above normal.

Warming trend promoted some greening of fall sown grains. Main farm activities: Shelling corn, feeding livestock, stripping and marketing tobacco.

OKLAHOMA: Temperatures averaged from 1 to 4° above normal. Precipitation ranged from none Panhandle and west central to 1.01 in. southeast. Weekend mild and dry.

Warmer weather permitted some wheat growth but lack of moisture limited new growth. Wheat remains in mostly fair to good condition. Grazing increased some in southwest. Some spraying in north central to control mustard in wheat. Row crop harvest winding down rapidly, with only occasional fields of sorghum left to combine. Harvest of cotton and soybeans both past the 95% level, compared with near 65% and 95%, respectively a year earlier. Nearly all the small pecan

crop gathered. Range forage dropped in quality and quantity. Supplemental feeding down some because of warmer weather. Cow marketings heavy.

OREGON: Unseasonably dry with only measurable precipitation along coast. Temperatures averaged from 5° below to 5° above normal. Extremes: low 70's, low 30's west; high 50's, near zero east.

Farm activity remained light. In the Willamette Valley some spraying and pruning continued. Fall grain and grass fields good and show good color and growth. East of the Cascades the winter wheat crop is in need of moisture. Pastures remain fair to good in most areas. Feed supplies adequate. Livestock in good condition.

PENNSYLVANIA: Cold blustery weather beginning of period gave way to more normal conditions by end. Temperatures averaged 2 to 3° below normal except 4 to 5° above normal in extreme west. Precipitation very light except 0.25 in. in Pocono Mountains and northwest. Practically no snow on ground except at high sheltered elevations.

Normal winter chores including tobacco stripping, apple and vegetable grading and packing.

PUERTO RICO: Island rainfall 0.43 or 0.57 in. below normal. Temperatures averaged 76° on coasts and 71° interior. Extremes: 92 and 51°.

Good weather for sugarcane development and maturity. Preparations next harvest started. Showers interrupted fieldwork most coffee zones and hindered drying of bean. Good growth of tobacco. Pastures generally good condition. Food crops developing well. Bananas, citrus and vegetables harvested.

SOUTH CAROLINA: Temperatures above normal early, late week; below normal midweek. Extremes: 25 and 70°. Rainfall above normal. Most rain occurred early week. Central region received over 2 in.

Heavy rains slowed activities. Soybean, cotton harvest near completion.

SOUTH DAKOTA: Unseasonably warm temperatures 6 to -17° above normal. Afternoon highs into 60's in south. Extremes: -6 and 70°. No precipitation. Snow cover melted in most areas.

Drought conditions continue. Farm activity remains slow. Feeding and hauling water to livestock.

TENNESSEE: Temperatures about 3° above normal mid and east to 6° above normal west. Little or no precipitation recorded west and mid while an average of 0.50 in. east.

Few scattered fields harvested although most crops have been harvested. Major activities included some fall plowing, feeding livestock, and fence repair.

TEXAS: Temperatures 1 to 10° above normal except far west. Normals upper 30's Panhandle to low 50's south. Rain 2.44 in. along upper Gulf Coast where 1.00 in. normal. Normals of up to 1.00 in. fell south Panhandle. North central normals 0.25 to 1.00 in., but last week 0.10 in. Amounts central were normal at less than 0.50 in.

Cotton stripping resumed normal pace toward end. Land preparation underway where moisture conditions allow farmers in field. Supplemental feeding continues but muddy roads pastures making difficult for ranchers to get feed to stock. Cotton harvest near normal pace High Plains. Statewide 88%, 1975 91%, average 79%. Gin yards covered with trailers. Farmers building rick modules to take advantage of open weather. Yields quality hold up well. Peanut harvest drawing to close. Some freeze losses noted and quality deteriorated unharvested fields. Some farmers may abandon remaining fields because poor yield quality. Wheat slow growth development because cold weather. Short moisture added problem northern High Plains. Grazing limited most areas but most fields would respond rapidly to warm weather because moisture in good supply.

Lower Rio Grande Valley harvest of lettuce, cabbage, peppers intermittent. Aerial spray for disease control active as weather permits. Citrus harvest slowed by rainfall. Laredo cabbage harvest nears completion. Carrot digging continues. San Antonio-Winter Garden cabbage developing slowly due cool, damp conditions, while harvest earlier fields delayed. Carrot harvest awaiting drier weather. Most vegetables need warm, dry weather additional growth. Upper Gulf Coast cabbage, broccoli damaged by cold temperatures. East Texas freezing temperatures severely damaged collards, turnips and mustard. Pruning peach trees begun in commercial orchards. Land preparation for spring vegetables underway.

Livestock good except east, upper Gulf Coast where wet caused weight losses. Grazing generally good on small grain and native pastures, but most fields too wet. Moderate to light feeding continues wet. Making it hard to get feed to stock. Warm, sunny, weather would be welcome relief.

UTAH: Dry, no precipitation. Average

temperatures variable ranging from 4° above normal to 4° below. Soil moisture conditions most ranges and dryland wheat areas extremely serious.

Cold, dry weather limited farm activities to caring and feeding livestock. Open weather allowed use of available feed in fields and on lower ranges. Stock water shortages, because of lack of snowfall on western desert ranges and freezing ponds other areas, necessitate much water hauling. Processing beets and marketing of apples, potatoes, and onions continue active.

VIRGINIA: Mild weather. Temperatures averaged 3 to 4° above normal. Extremes: 65 and 10°. Rainfall moderate, ranging from less than 0.25 in. to over 1.00 in. No snow.

Fieldwork: 1.8 days suitable. Topsoil moisture adequate to surplus. Condition of winter grain and grazing crops rated 66% of normal. Cattle on winter rations; good condition. Feed supply short in some areas. Calving and lambing going well. Tobacco marketing, livestock feeding and soil sampling active.

WASHINGTON: West: Temperatures averaged from 3° above normal east Olympic foothills to 6° above normal elsewhere. Precipitation averaged from 1.50 in. subnormal coastal area to 0.40 in. below normal northeast Olympics/San Juans.

Cattle in excellent condition.

East: Temperatures 2° above normal.

Precipitation averaged from 0.30 in. below normal central Basin/Okanogan to 0.50 in. subnormal Palouse/Blue Mountains and northeastern areas.

Weather offered good opportunity for pruning grapes, fruit trees. Potatoes, sugarbeets move to processing plant. Fall wheat growing slowly. No winter damage. Some spraying for weed control. Some cattle remain on pastures with partial feed.

WEST VIRGINIA: Temperatures above normal. Precipitation below normal.

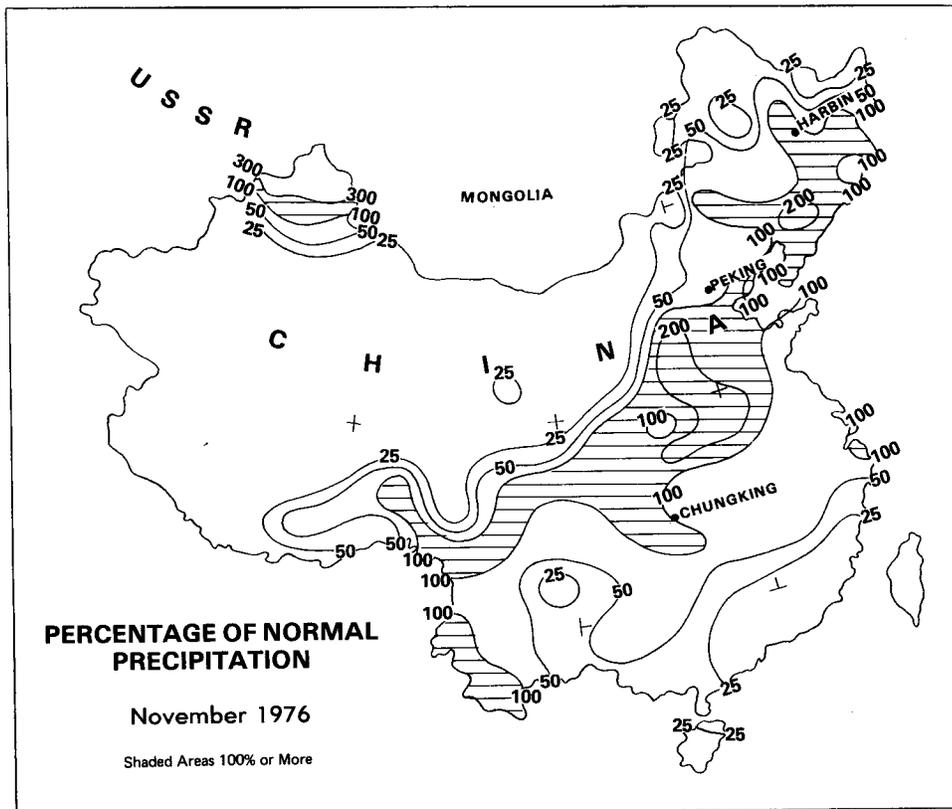
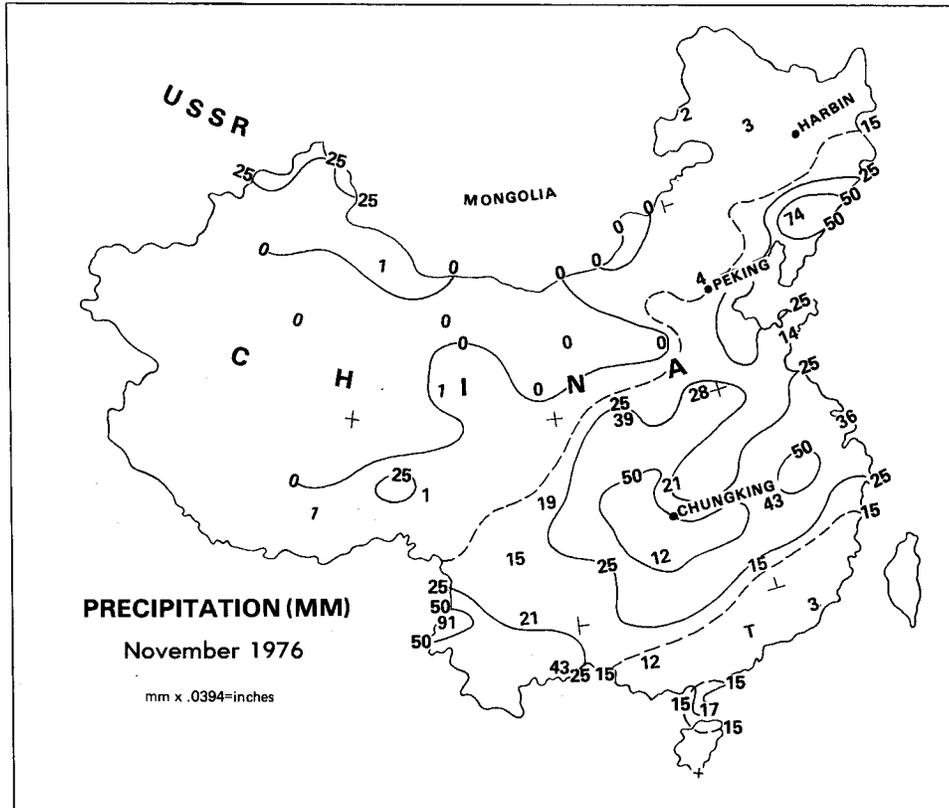
Fieldwork: 3.8 days suitable. Soil moisture adequate. Fall sown grains good condition. Most cattle good condition; early calving begun. Hay supply some areas diminishing fast. Farm activities: Care of livestock, repairing machinery and general chores.

WISCONSIN: Temperatures averaged above normal. Week began cold but warmed to highs in 30's and 40's 14th and continued mild until colder air returned 19th. Precipitation remained light, with snow north and light rain and snow south 19th. Snowfall amounts to 2 in. north, less than 1 in. south. Frost depths as of 17th averaged 9.00 in., an increase of 2.50 in. from two weeks earlier. Snow depths averaged 3 in., but settled during mild weather and only light cover currently except extreme north.

Soils continue very dry, little or no moisture found when digging.

WYOMING: Very mild, dry weather. Temperatures above normal. Below normal precipitation.

Soil moisture still short. Winter wheat stands fair to good condition. Major activities: Culling livestock, winter maintenance. Pregnancy testing finishing up. Surplus hay moving to drought States. Fair weather easy on hay supplies; supplemental feeding below normal. dryness bringing pneumonia in some areas.



World Agricultural Weather Summary

HIGHLIGHTS. A very dry fall benefited harvests but raised concern for crops on the Great Plains of North America. In Europe November weather and fall weather in general extended pasture growth, limited the need for supplemental feeding, and encouraged a good start for fall-sown crops. Seasonal temperatures in November plus relatively mild weather through mid-December, following an unusually cold October, permitted better establishment of crops for winter in European USSR. Persistent below normal temperatures retarded crop growth and development in the People's Republic of China (PRC). Little or no rain fell in November, or throughout the fall, in India's northern winter wheat region. Substantial rains eased drought in Sri Lanka and southern India. The start of the rainy season gave a hand to wheat and forage in Tunisia but not in Morocco; Algeria buffered the extremes. The seasonal increase in rainfall also occurred in Central Africa while the Sahel went dry. Southern Hemisphere winter grain harvests advanced under mostly favorable conditions. In Argentina heavy rain preceded active harvest.

NORTH AMERICA. Dry, cold weather in November and much of December intensified drought on the Great Plains. Winter wheat, range, and pastures deteriorated; moisture remained short for spring sowing; and soils stood vulnerable to wind erosion. Weather, however, favored early and orderly completion of harvests. Cold conditions, typical of midwinter, halted crop growth and development prematurely in Canada, and in the U.S. Midwest and Northeast. The situation resulted in heavier than usual supplemental feeding of livestock and indicated more than usual reseeding in the spring.

EUROPE. November and early December weather continued to erase effects of the summer drought. Soil moisture improved. Aided by moderate temperatures, crops made good recovery, fall sowings got a nice start, and pastures provided substantial grazing. Spain was quite dry in November and early December and crop conditions slipped accordingly. Crop recovery lagged in East Germany due to persistent precipitation deficits - about 75% of normal precipitation September-November and less than 60% April through November. Wet weather and some flooding hindered harvesting in Italy and parts of the Balkans but enhanced crop prospects. November precipitation totaled only 25-75% of normal in Turkey's major wheat regions, but early fall rains tempered the effect.

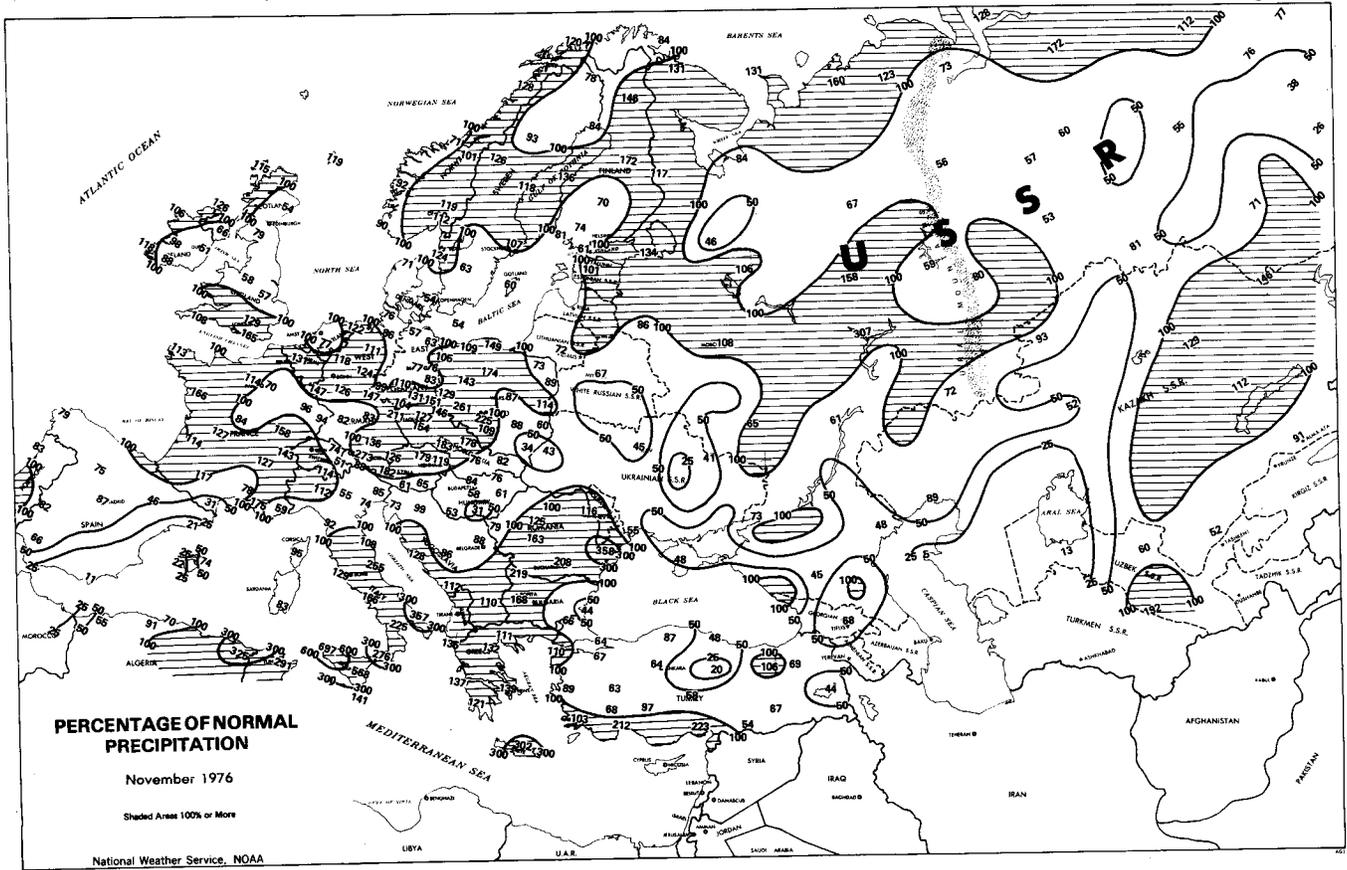
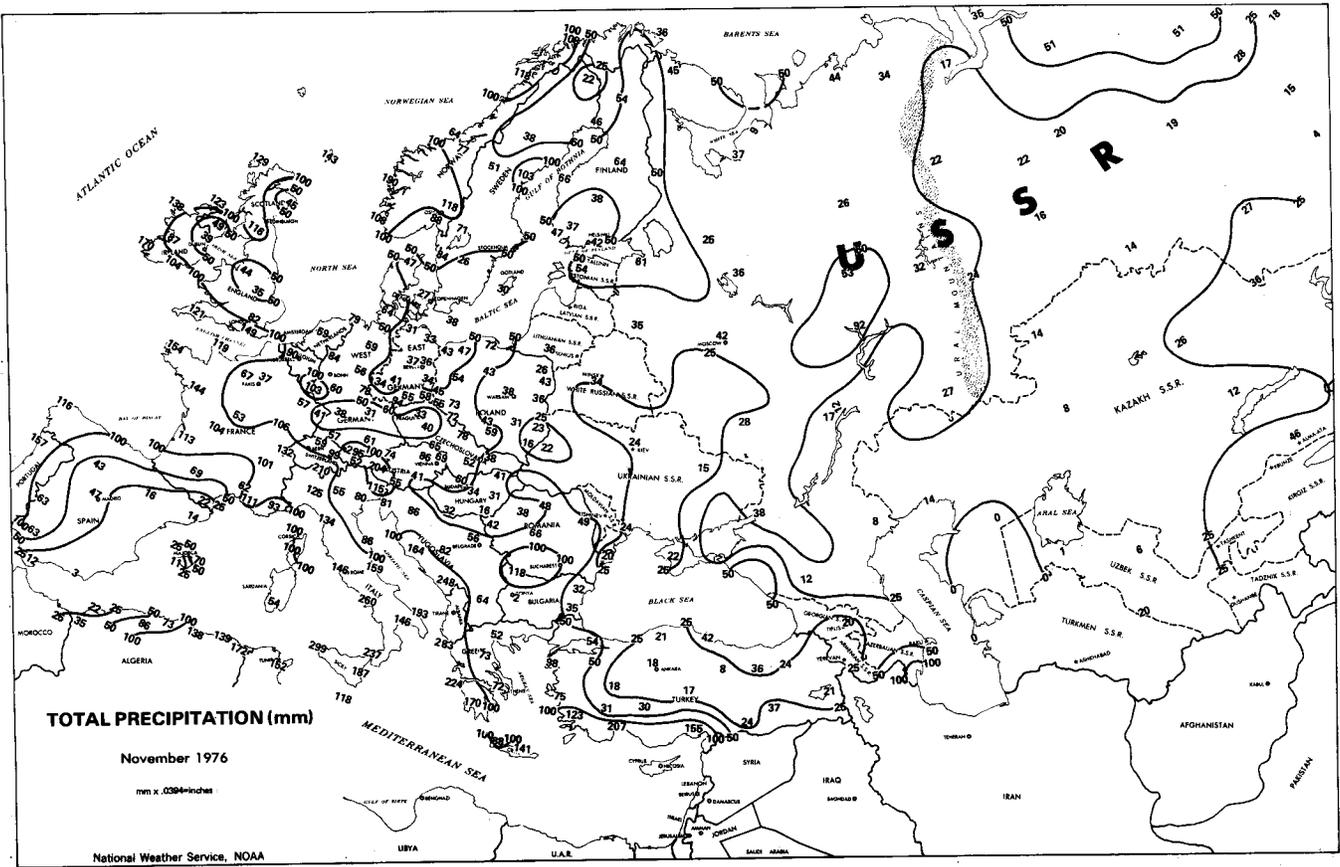
USSR. Temperatures became more seasonal in late full-early winter in the European sector after an unusually cold October. In western and southern Oblasts crops made further growth and development and grain stands thickened. Light November precipitation favored completion of harvest. December turned rainy and improved surface moisture before more seasonable temperatures and snow spread across the territory. Temperatures remained safe for winter grains. Moisture shortages increased in the Volga and Urals regions. Volga farms normally produce about 7% of Soviet winter wheat. The Volga and Urals together produce about 45% of the spring wheat crop and so bear watching. Extreme cold persisted in Kazakhstan and West Siberia; yet adequate snow protected winter grain and perennial grasses.

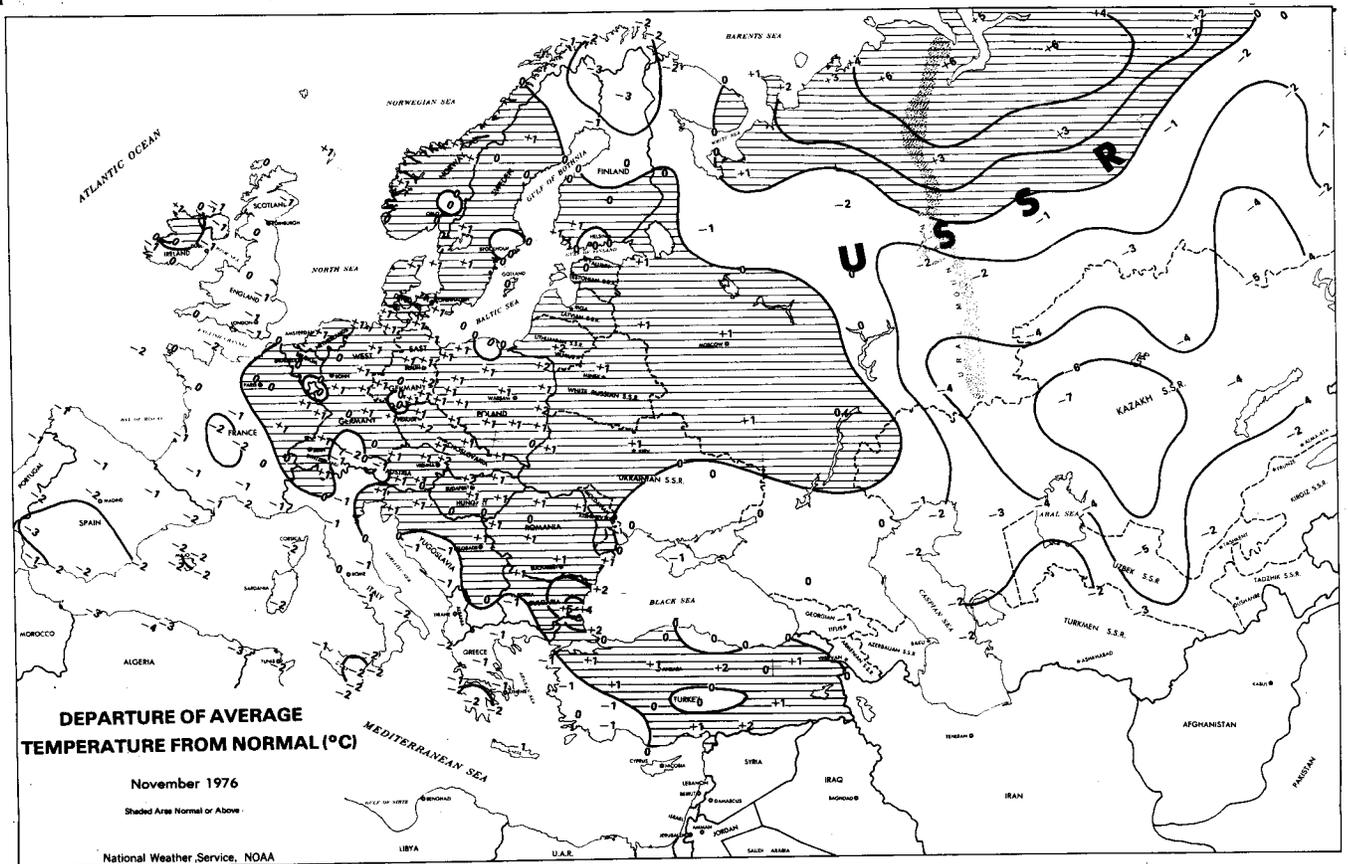
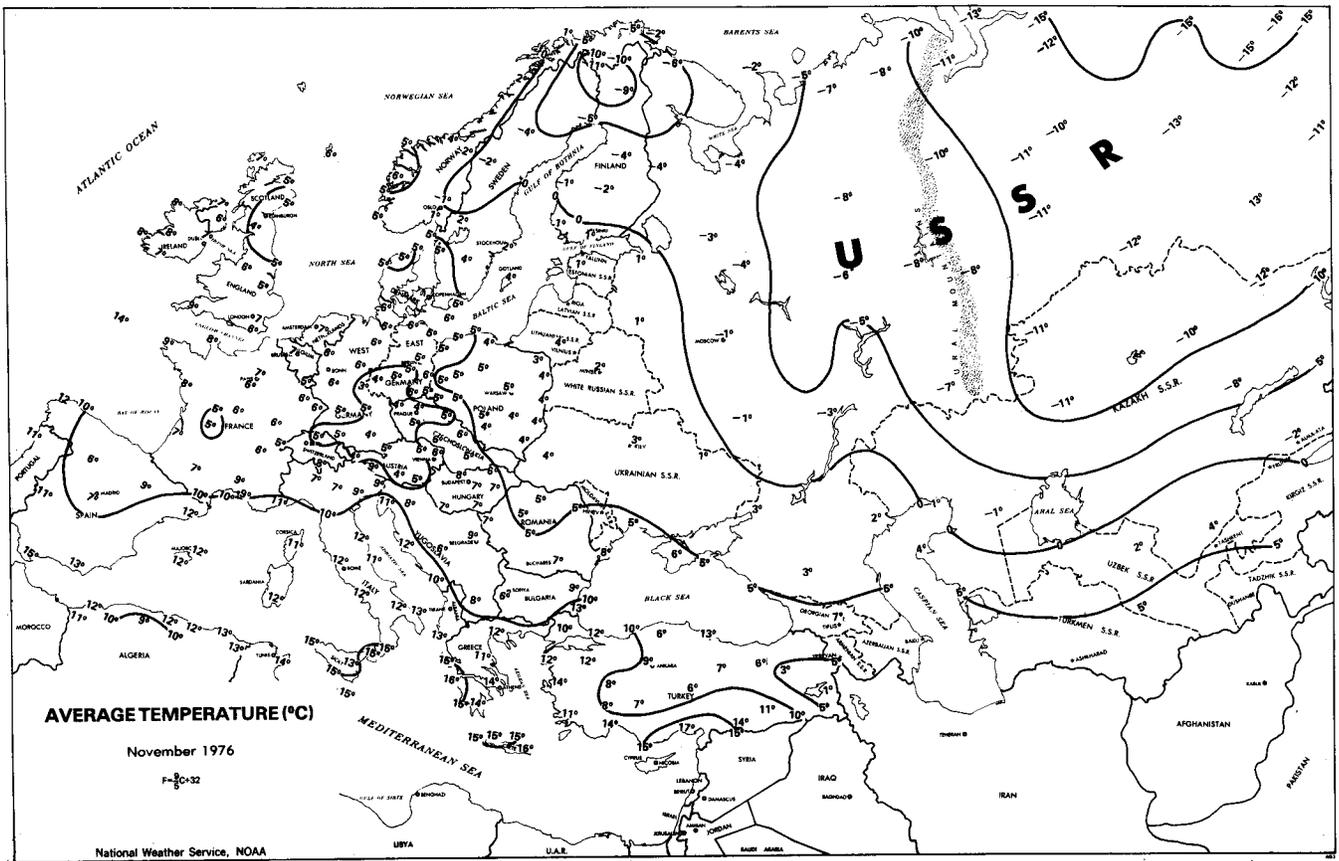
AFRICA. Generous November rains aided winter grains and forage grasses in Tunisia, but rain and crop condition tapered off westward through Algeria to Morocco. The dry season began in the Sahel leaving much of the region short of moisture because of inadequate summer rains. Coastal sections of West Africa from Guinea to Liberia received above normal rainfall. Rainfall increased in Central Africa as the convergence zone shifted southward. Normal rains fell in the Transvaal of South Africa, lighter amounts elsewhere.

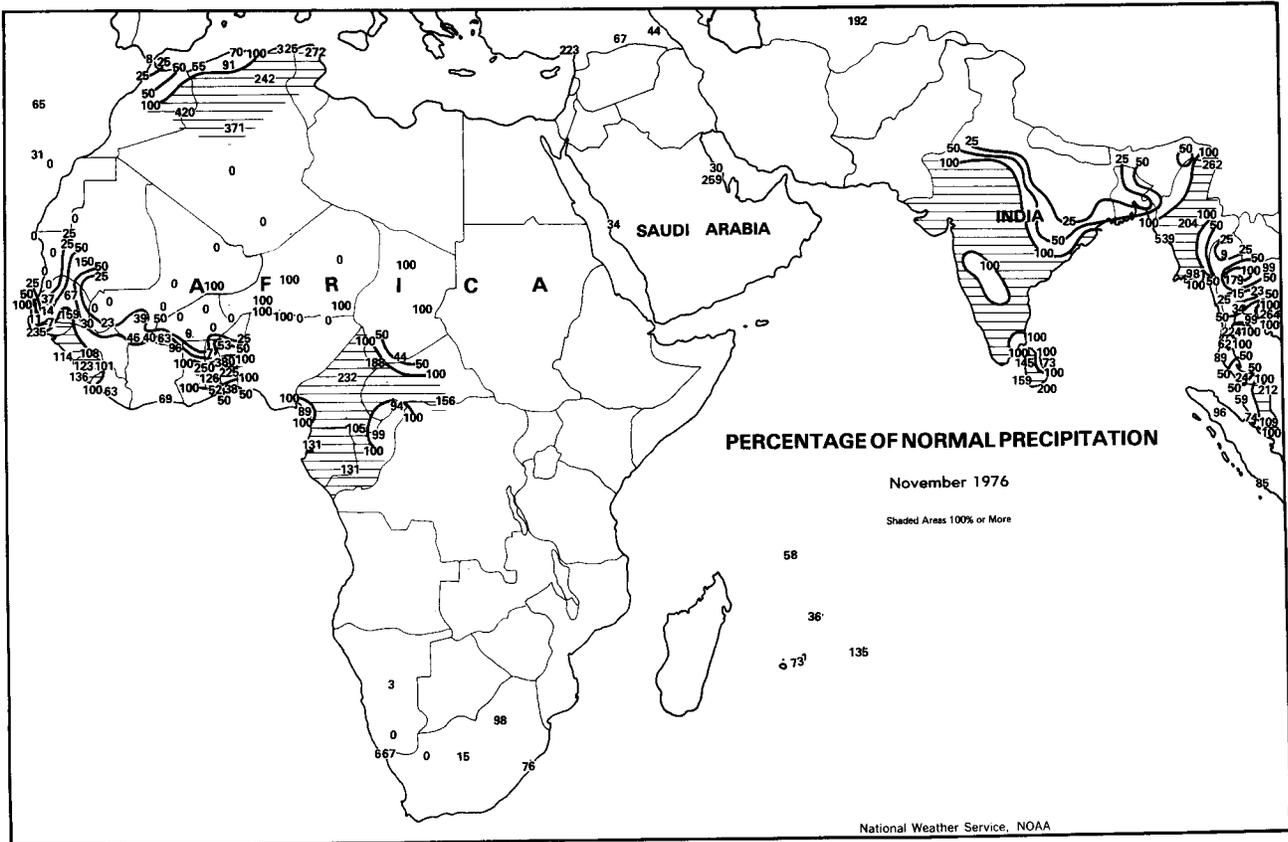
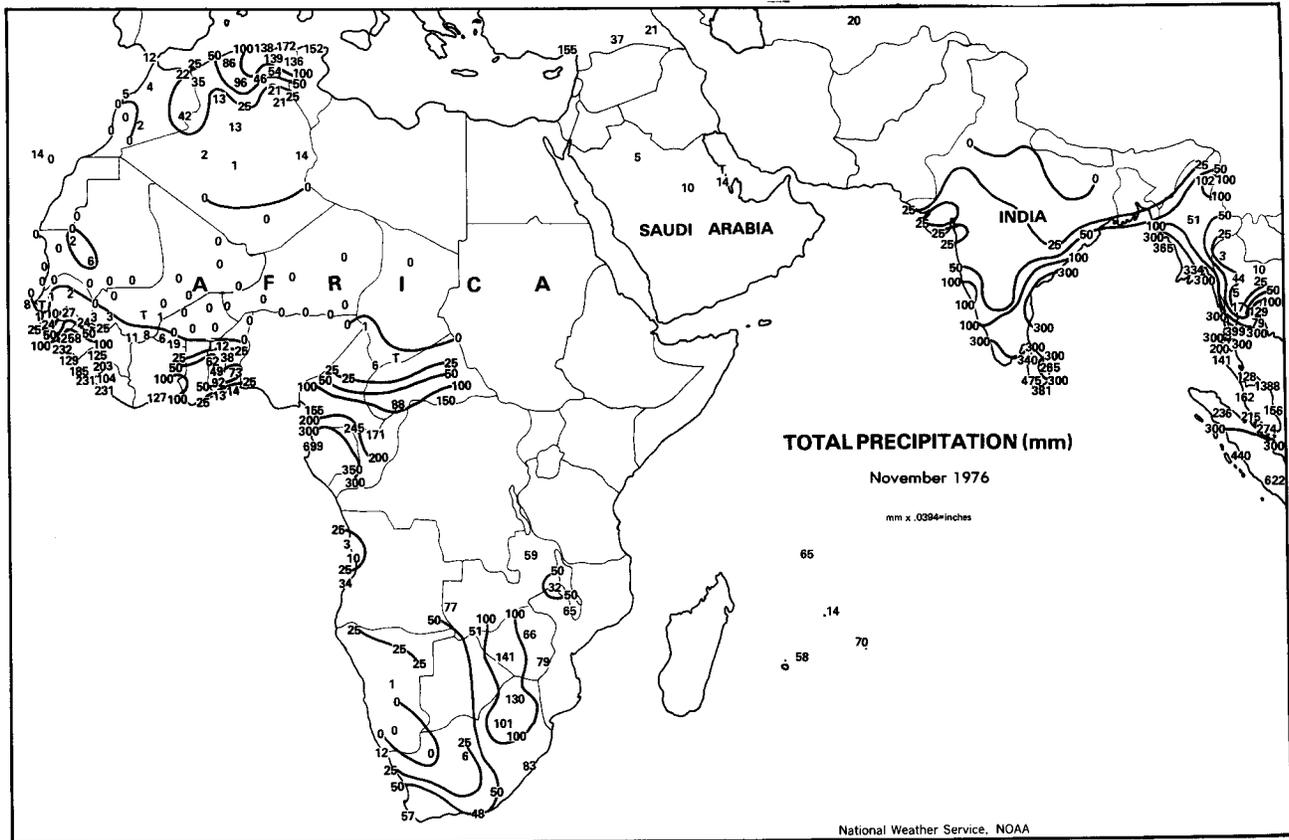
ASIA: Cold gripped most of the PRC in November through mid-December as during much of this fall. Precipitation tended to be light. Such weather supported harvesting and farm construction activities but retarded development of winter crops. Most of India's northern winter wheat zone received little or no rain. Good rains fell in much of the southern India's winter rice region and heavy rains materially eased drought in Sri Lanka.

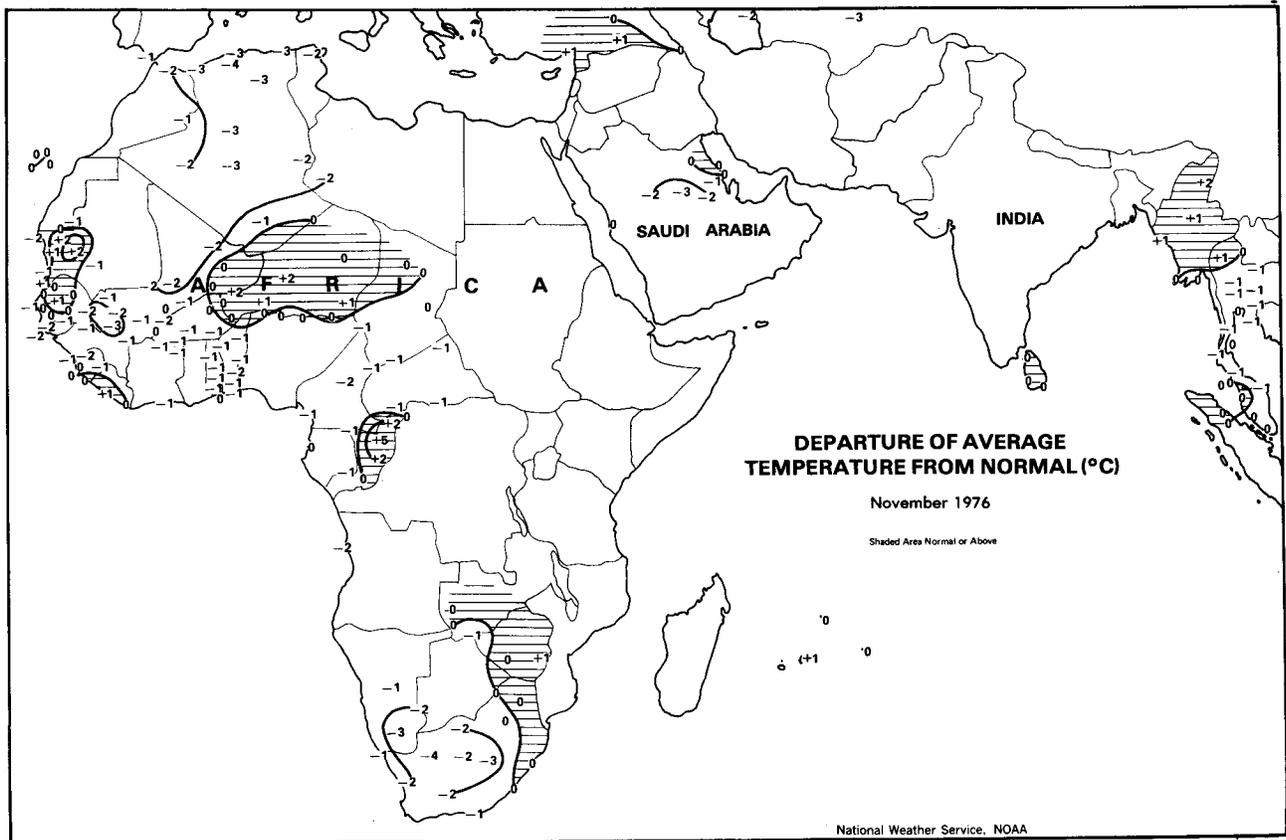
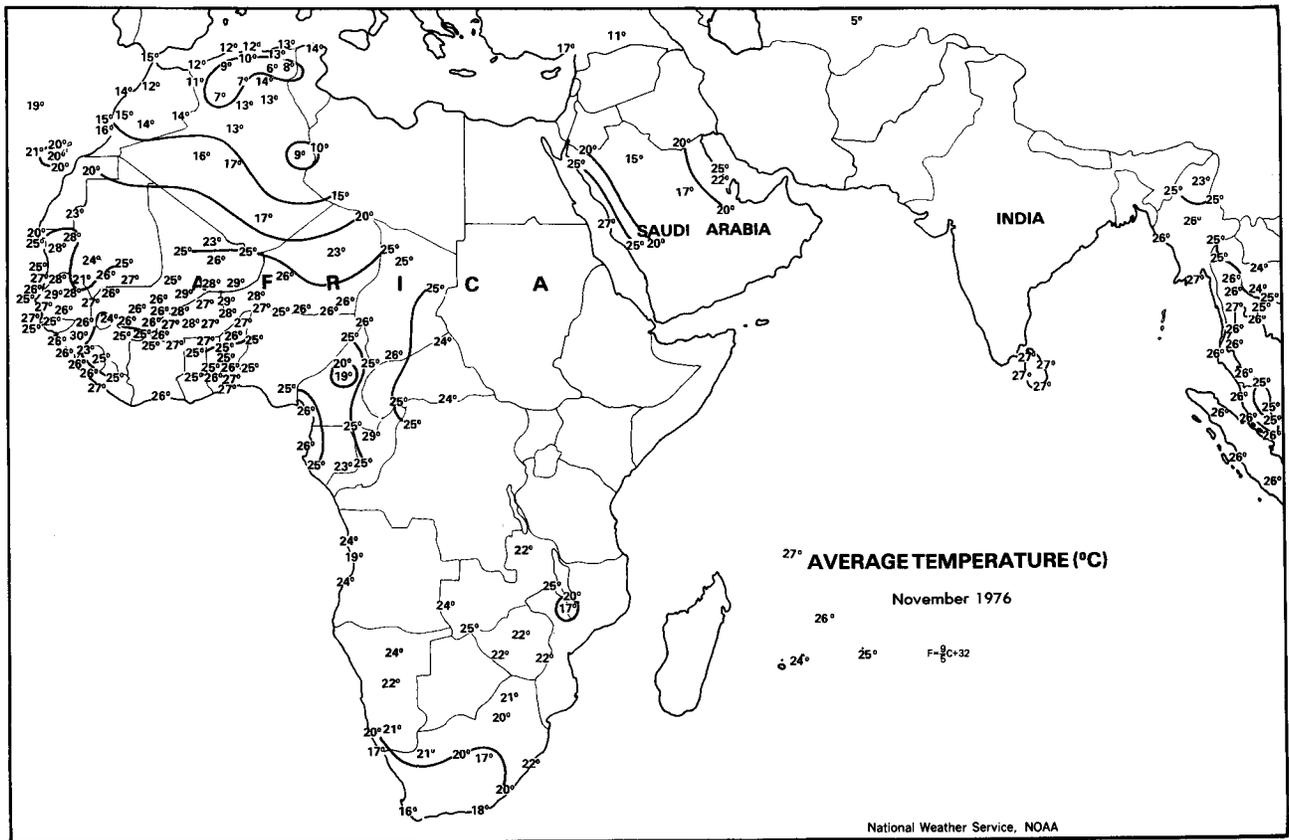
AUSTRALIA. From 1 to 3 inches of rain fell in major wheat areas in November, improving prospects for summer crops and pastures as well as wheat. Much of the country, however, remained dry and many effects of the 1976 drought persist.

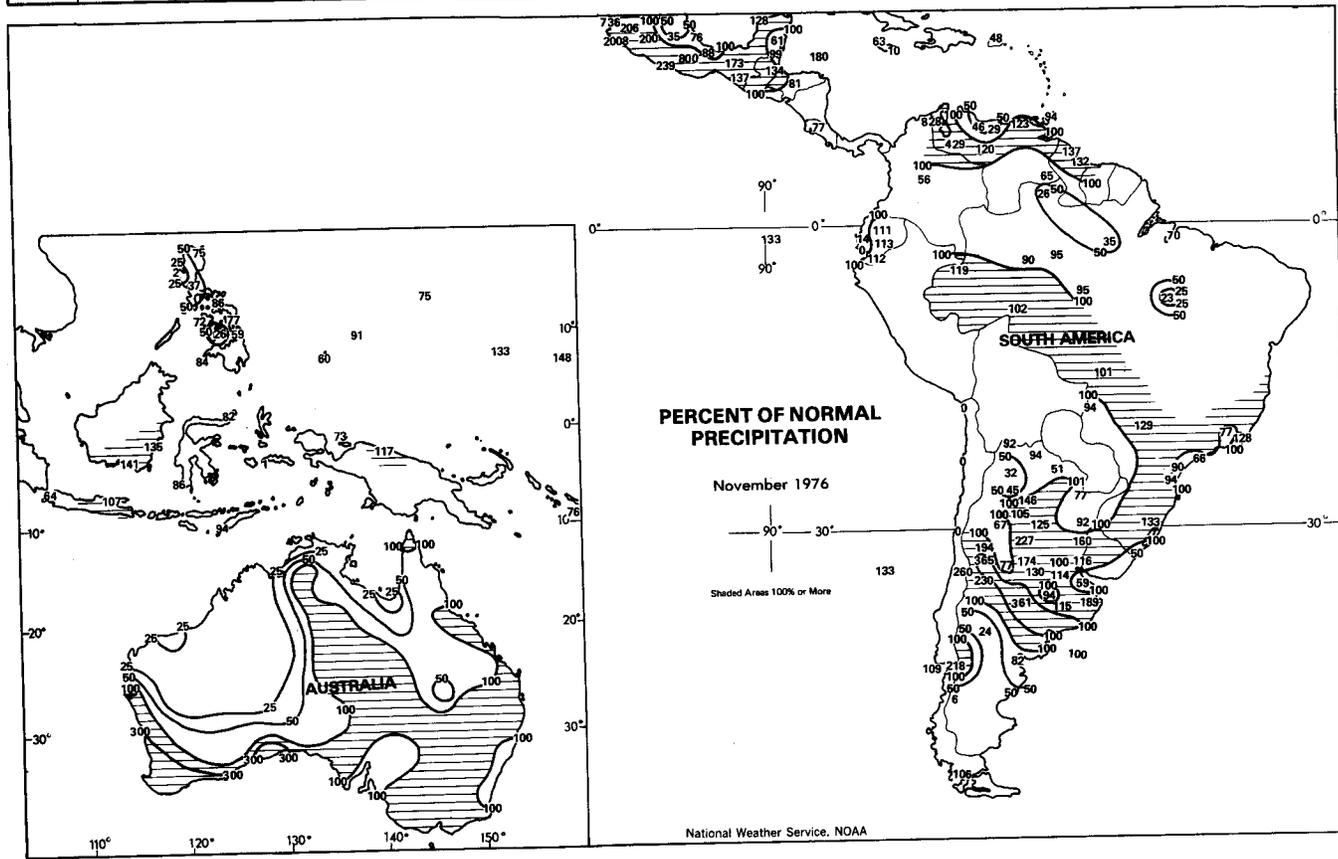
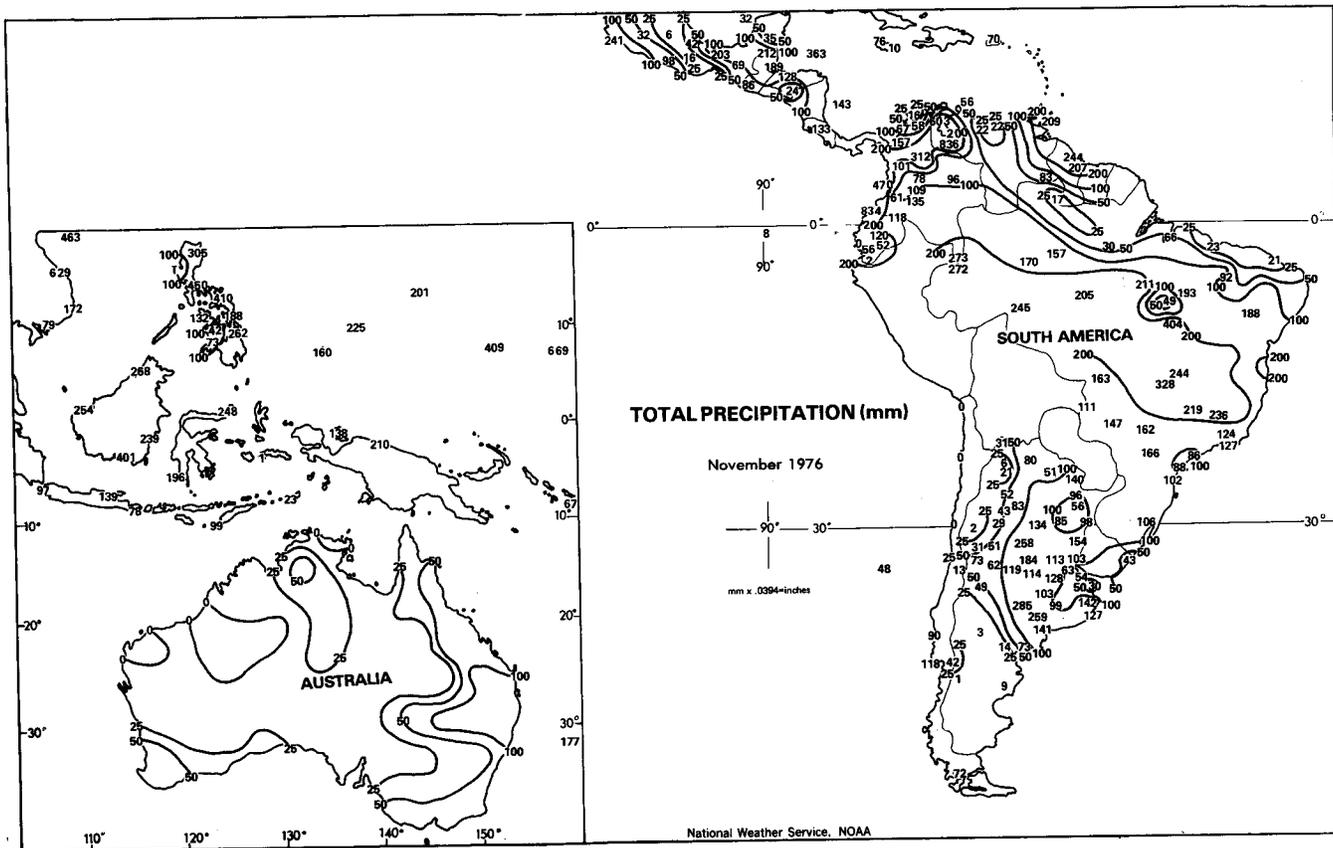
SOUTH AMERICA. Substantial November rains boosted Argentine winter wheat yields and a brightened prospects for grass and summer crops. A mostly dry December facilitated harvest. Relatively dry weather enhanced small grain harvesting in southern Brazil. Moisture continued short across much of the equatorial zone of the continent.

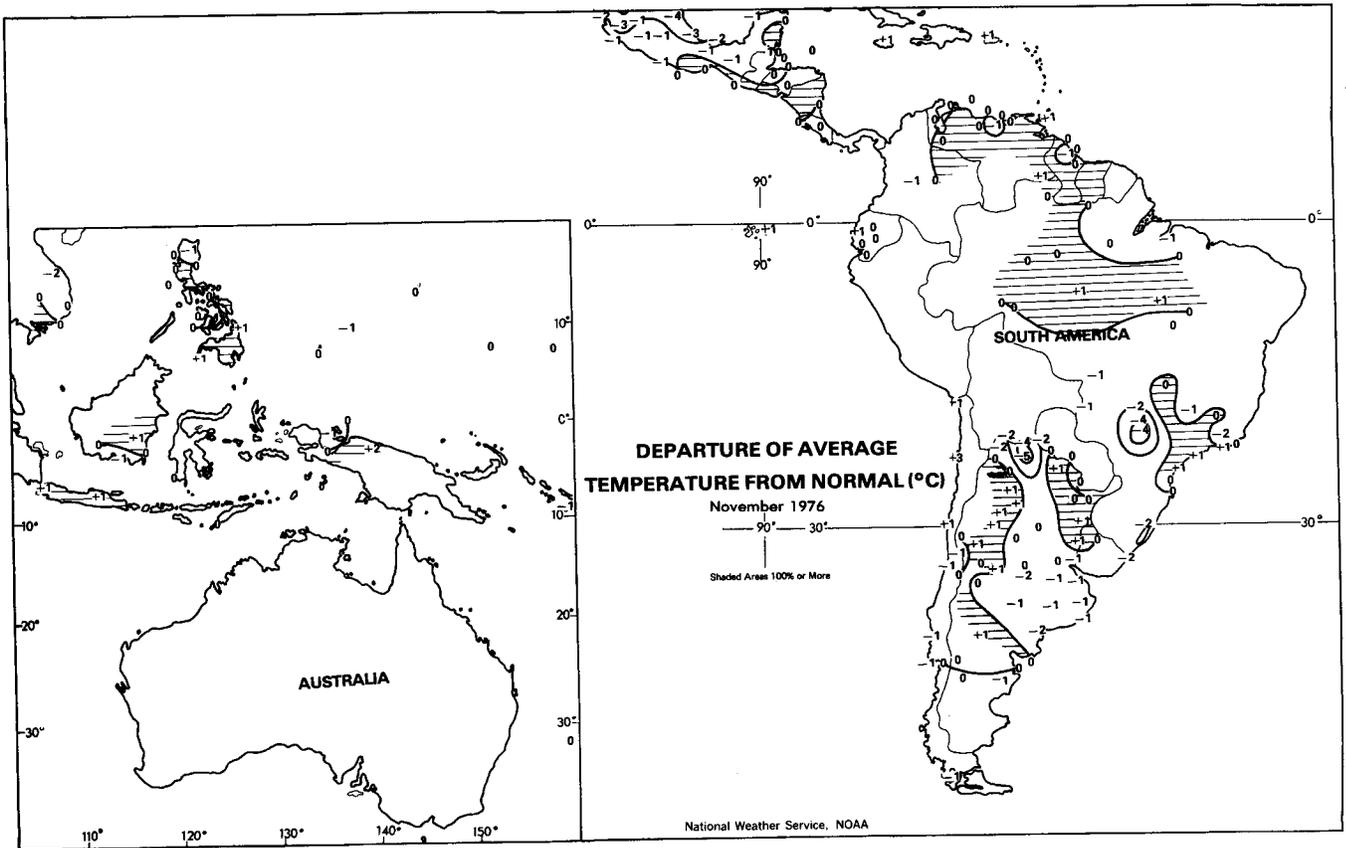
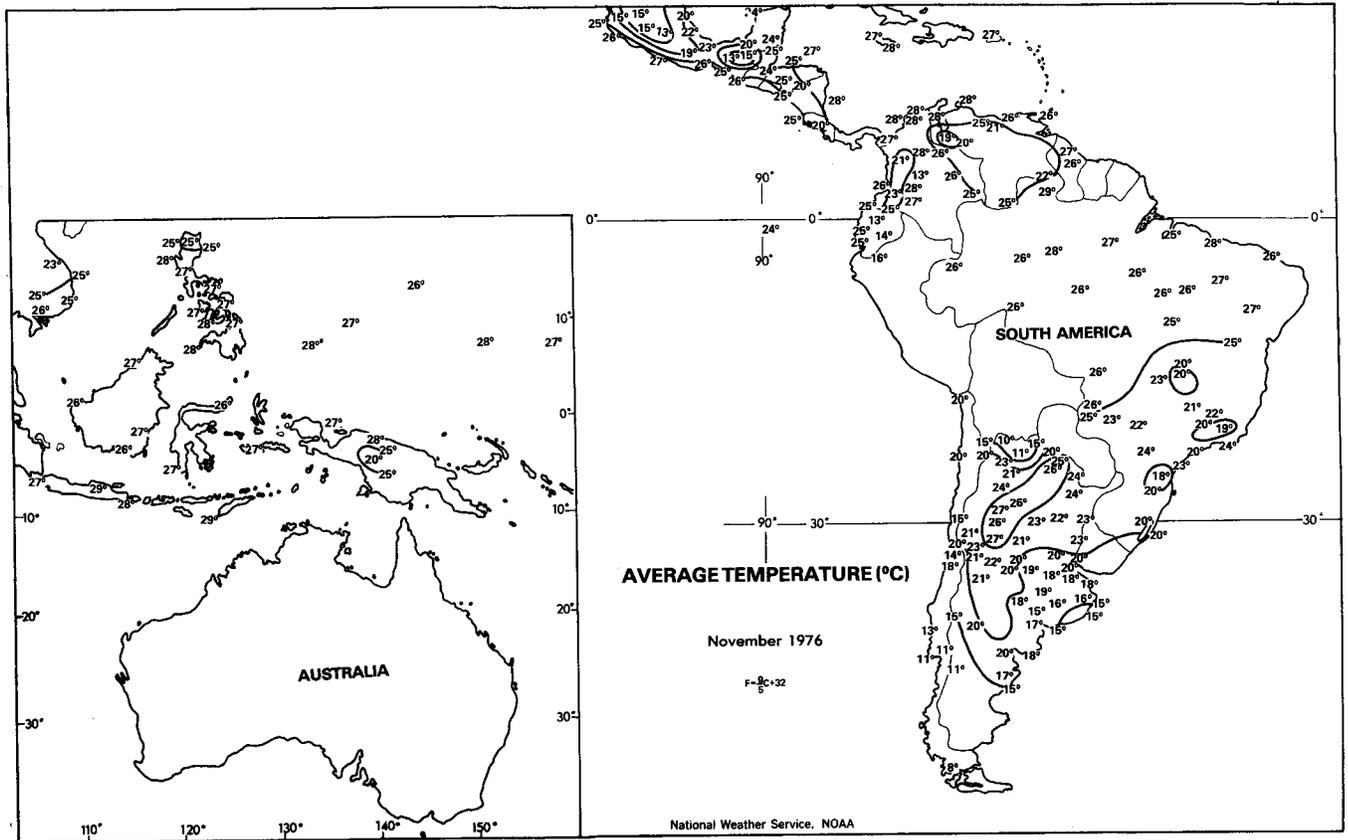


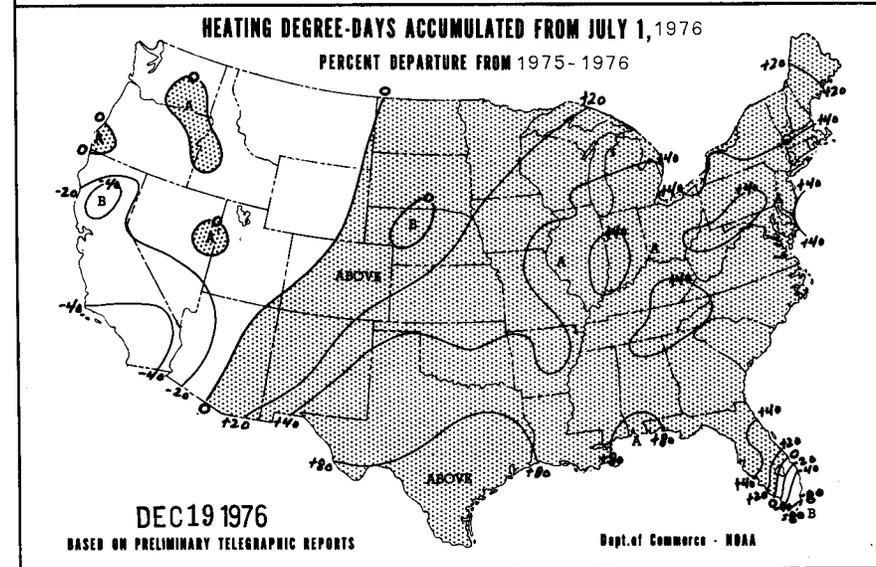
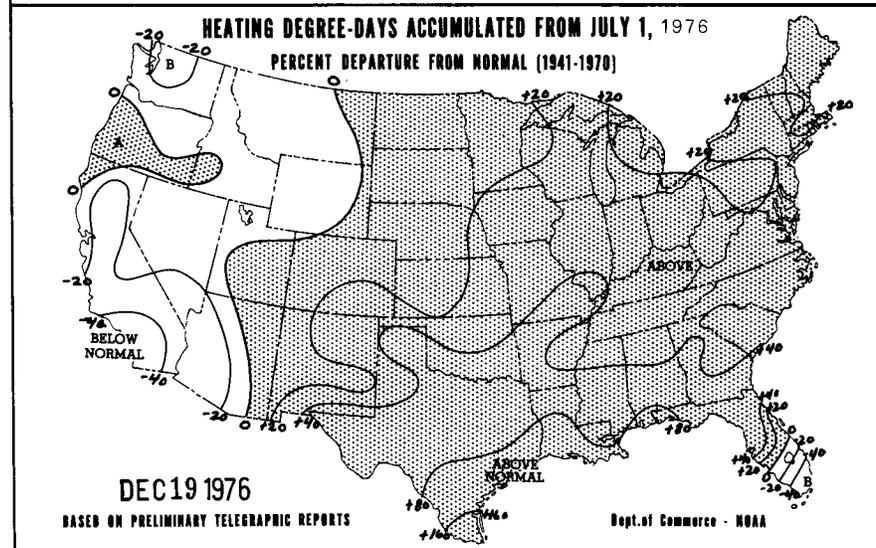
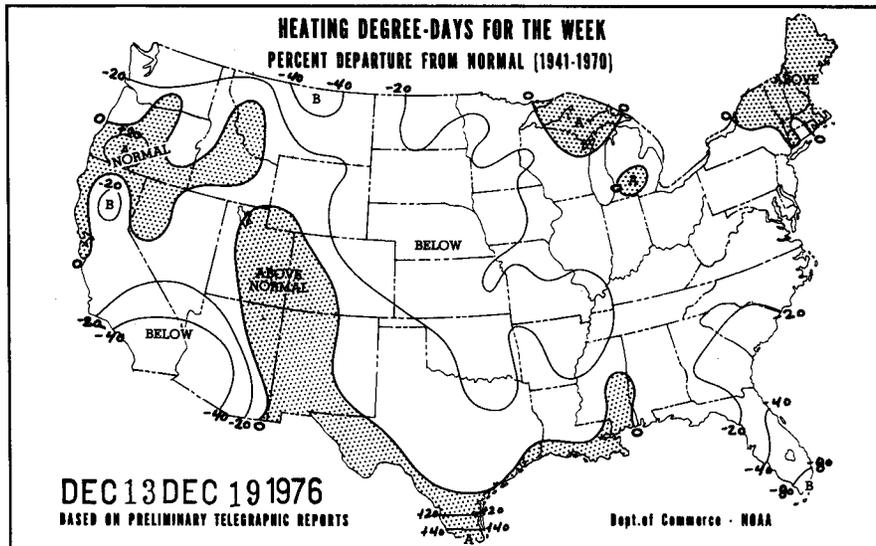












HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING DEC. 19, 1976.

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...	133	1084	12	32	3	MAINE CARIBOU...	53	43	493	465	493	YOUNGSTOWN.....	249	9	2605	629	802
MOBILE.....	117	1084	17	32	3	PORTLAND.....	53	43	369	411	411	OKLA. OKLAHOMA CITY	134	44	1427	316	405
MONTGOMERY.....	119	1084	17	32	3	MD. BALTIMORE.....	202	11	1730	314	613	TULSA.....	140	39	1492	392	420
ARIZ. FLAGSTAFF.....	220	220	269	269	166	MASS. BOSTON.....	233	3	1838	247	585	OREG. ASTORIA.....	127	2	1613	26	267
PHOENIX.....	220	220	269	269	166	MICH. ALBENA.....	11	11	280	195	447	BURNS.....	127	2	1613	26	267
TUCSON.....	220	220	269	269	166	DETROIT.....	11	11	280	195	447	DEFOY.....	127	2	1613	26	267
WINSLOW.....	220	220	269	269	166	FLINT.....	11	11	280	195	447	PERDLETON.....	127	2	1613	26	267
YUMA.....	220	220	269	269	166	GRAND RAPIDS.....	11	11	280	195	447	PORTLAND.....	127	2	1613	26	267
ARK. FORT SMITH.....	155	155	150	48	43	HOUGHTON LAKE.....	1	1	41	41	818	SALEM.....	127	2	1613	26	267
LITTLE ROCK.....	155	155	150	48	43	LANSING.....	1	1	41	41	818	PA. ALLENTOWN.....	244	1	2107	331	633
CALIF. BAKERSFIELD.....	220	220	220	220	271	MARQUETTE.....	1	1	41	41	818	ERIE.....	244	1	2107	331	633
EUREKA.....	220	220	220	220	271	MUSKEGON.....	1	1	41	41	818	HARRISBURG.....	244	1	2107	331	633
FRESNO.....	220	220	220	220	271	S. STE. MARIE.....	1	1	41	41	818	PHILADELPHIA.....	244	1	2107	331	633
LOS ANGELES.....	220	220	220	220	271	MINN. DULUTH.....	30	5	414	515	515	PITTSBURGH.....	244	1	2107	331	633
RED BLUFF.....	220	220	220	220	271	INTERNATL FALLS.....	30	5	414	515	515	SCRANTON.....	244	1	2107	331	633
SAN DIEGO.....	220	220	220	220	271	MINNEAPOLIS.....	30	5	414	515	515	R.I. PROVIDENCE.....	247	6	2223	474	681
SAN FRANCISCO.....	220	220	220	220	271	ROCHESTER.....	30	5	414	515	515	S.C. CHARLESTON.....	247	6	2223	474	681
STOCKTON.....	220	220	220	220	271	ST. CLOUD.....	30	5	414	515	515	COLUMBIA.....	247	6	2223	474	681
COLO. DENVER.....	170	58	1948	21	41	MISS. JACKSON.....	11	3	108	38	38	GREENVILLE.....	247	6	2223	474	681
GRAND JUNCTION.....	170	58	1948	21	41	MO. COLUMBIA.....	11	3	108	38	38	S. DAK. ABERDEEN.....	247	6	2223	474	681
PUEBLO.....	170	58	1948	21	41	KANSAS CITY.....	11	3	108	38	38	HURON.....	247	6	2223	474	681
CONN. BRIDGEPORT.....	225	1789	320	576	576	ST. LOUIS.....	11	3	108	38	38	RAPID CITY.....	247	6	2223	474	681
HARTFORD.....	225	1789	320	576	576	SPRINGFIELD.....	11	3	108	38	38	SIoux FALLS.....	247	6	2223	474	681
DEL. WILMINGTON.....	208	9	1735	288	548	MONT. BILLINGS.....	80	89	222	127	201	TENN. CHATTANOOGA.....	146	24	1449	312	307
D.C. WASHINGTON.....	179	20	1514	269	617	GLASGOW.....	80	89	222	127	201	KNOXVILLE.....	151	17	1488	312	398
FLA. PALM BEACH.....	74	0	656	282	282	GREAT FALLS.....	80	89	222	127	201	MEMPHIS.....	151	17	1488	312	398
DAYTONA BEACH.....	74	0	656	282	282	HAVER.....	80	89	222	127	201	NASHVILLE.....	151	17	1488	312	398
FORT MYERS.....	74	0	656	282	282	HELENA.....	80	89	222	127	201	TEXAS ABILENE.....	123	9	1273	495	463
JACKSONVILLE.....	74	0	656	282	282	KALISPELL.....	80	89	222	127	201	AMARILLO.....	123	9	1273	495	463
KEY WEST.....	74	0	656	282	282	MISSOULA.....	80	89	222	127	201	AUSTIN.....	123	9	1273	495	463
LAKELAND.....	74	0	656	282	282	NEBR. GRAND ISLAND.....	178	91	2268	265	154	BEAUMONT.....	123	9	1273	495	463
MIAMI.....	74	0	656	282	282	LINCOLN.....	178	91	2268	265	154	BROWNSVILLE.....	123	9	1273	495	463
ORLANDO.....	74	0	656	282	282	NORFOLK.....	178	91	2268	265	154	CORPUS CHRISTI.....	123	9	1273	495	463
TALAHASSEE.....	74	0	656	282	282	NORTH PLATTE.....	178	91	2268	265	154	DEL. PASO.....	123	9	1273	495	463
TAMPA.....	74	0	656	282	282	OMAHA.....	178	91	2268	265	154	FORT WORTH.....	123	9	1273	495	463
WEST PALM BEACH.....	74	0	656	282	282	VALENTINE.....	178	91	2268	265	154	GALVESTON.....	123	9	1273	495	463
GA. ATLANTA.....	134	20	1358	390	495	NEV. ELV.....	253	21	2598	36	10	HOUSTON.....	123	9	1273	495	463
AUGUSTA.....	134	20	1358	390	495	LAS VEGAS.....	253	21	2598	36	10	LUBBOCK.....	123	9	1273	495	463
MACON.....	134	20	1358	390	495	RENO.....	253	21	2598	36	10	WIDLAND.....	123	9	1273	495	463
SAVANNAH.....	134	20	1358	390	495	WINNEHUCCA.....	253	21	2598	36	10	SAN ANGELO.....	123	9	1273	495	463
IDAHO. BOISE.....	260	27	1951	13	41	N. H. CONCORD.....	309	21	2887	575	460	SAN ANTONIO.....	123	9	1273	495	463
LEWISTON.....	260	27	1951	13	41	N. J. ATLANTIC CITY.....	232	17	1935	492	532	VICTORIA.....	123	9	1273	495	463
POCATELLO.....	260	27	1951	13	41	TRENTON.....	232	17	1935	492	532	UTAH SALT LAKE CITY.....	269	22	1827	136	10
ILL. CHICAGO.....	142	44	1701	534	651	N. MEX. ALBUQUERQUE.....	208	3	1749	348	244	VT. BURLINGTON.....	308	5	2892	480	698
SPRINGFIELD.....	142	44	1701	534	651	ROSMELL.....	208	3	1749	348	244	VA. LYNCHBURG.....	170	24	1667	334	487
IND. EVANSVILLE.....	182	30	1780	334	486	N. Y. ALBANY.....	21	1	256	40	737	NORFOLK.....	170	24	1667	334	487
FORT WAYNE.....	182	30	1780	334	486	BINGHAMTON.....	21	1	256	40	737	RICHMOND.....	170	24	1667	334	487
INDIANAPOLIS.....	182	30	1780	334	486	BUFFALO.....	21	1	256	40	737	ROANOKE.....	170	24	1667	334	487
SOUTH BEND.....	182	30	1780	334	486	NEW YORK.....	21	1	256	40	737	WASH. QUILLAYUTE.....	131	10	201	170	244
IOWA. BURLINGTON.....	211	35	2526	636	824	ROCHESTER.....	21	1	256	40	737	SEATTLE-TACOMA.....	131	10	201	170	244
DES MOINES.....	211	35	2526	636	824	SYRACUSE.....	21	1	256	40	737	SPOKANE.....	131	10	201	170	244
DUBUQUE.....	211	35	2526	636	824	N. C. ASHEVILLE.....	152	36	1745	352	454	HALL HALL.....	131	10	201	170	244
SIoux CITY.....	211	35	2526	636	824	CHARLOTTE.....	152	36	1745	352	454	YAKIMA.....	131	10	201	170	244
KANS. CONCORDIA.....	165	82	2021	258	394	GREENSBORO.....	152	36	1745	352	454	VA. BECKLEY.....	200	30	2353	501	857
DODGE CITY.....	165	82	2021	258	394	HATTERAS.....	152	36	1745	352	454	CHARLESTON.....	200	30	2353	501	857
GOODLAND.....	165	82	2021	258	394	RALEIGH.....	152	36	1745	352	454	HUNTINGTON.....	200	30	2353	501	857
TOPEKA.....	165	82	2021	258	394	WILMINGTON.....	152	36	1745	352	454	PARKERSBURG.....	200	30	2353	501	857
MICHIGAN.....	171	46	2078	1814	375	N. DAK. BISMARCK.....	22	67	343	131	160	WIS. GREEN BAY.....	314	1	3205	60	30
WYOMING.....	171	46	2078	1814	375	HILLSTON.....	22	67	343	131	160	LACROSSE.....	314	1	3205	60	30
KY. LEXINGTON.....	185	54	1988	520	571	OHIO AKRON-CANTON.....	25	30	251	14	477	MADISON.....	314	1	3205	60	30
LOUISVILLE.....	185	54	1988	520	571	CINCINNATI.....	25	30	251	14	477	MILWAUKEE.....	314	1	3205	60	30
LA. BATON ROUGE.....	180	86	2029	266	274	CLEVELAND.....	25	30	251	14	477	WYO. CASPER.....	196	7	2425	92	121
LAKE CHARLES.....	180	86	2029	266	274	COLUMBUS.....	25	30	251	14	477	CHEYENNE.....	196	7	2425	92	121
NEW ORLEANS.....	180	86	2029	266	274	DAYTON.....	25	30	251	14	477	LANDER.....	196	7	2425	92	121
SHREVEPORT.....	180	86	2029	266	274	TOLEDO.....	25	30	251	14	477	SMERDON.....	196	7	2425	92	121

* BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JULY 1, 1976.

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