

WEEKLY WEATHER AND CROP BULLETIN

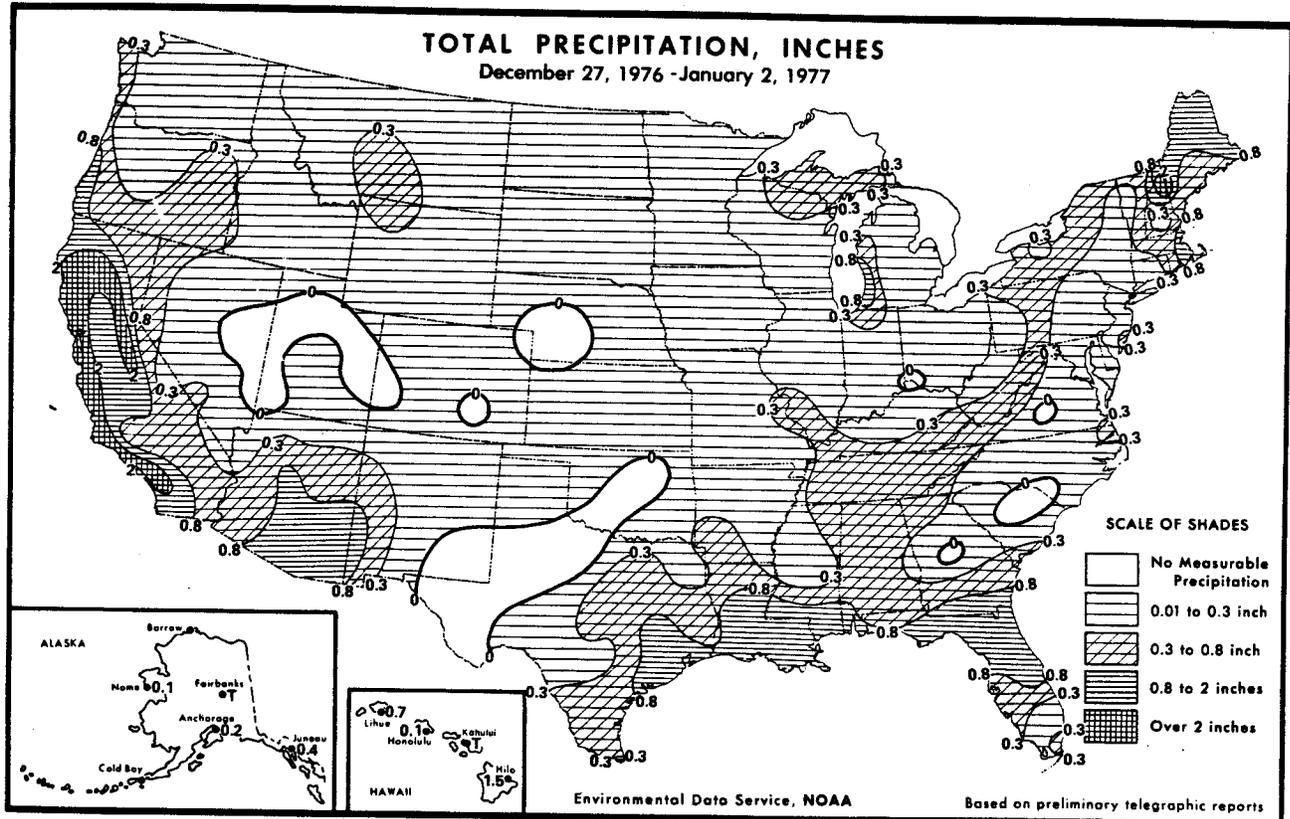
U.S. DEPARTMENT OF COMMERCE
National Weather Service, NOAA

U.S. DEPARTMENT OF AGRICULTURE
Statistical Reporting Service

Volume 64, No. 1

Washington, D.C.

Jan. 4, 1977



National Weather Summary

For the week of December 27 - January 2

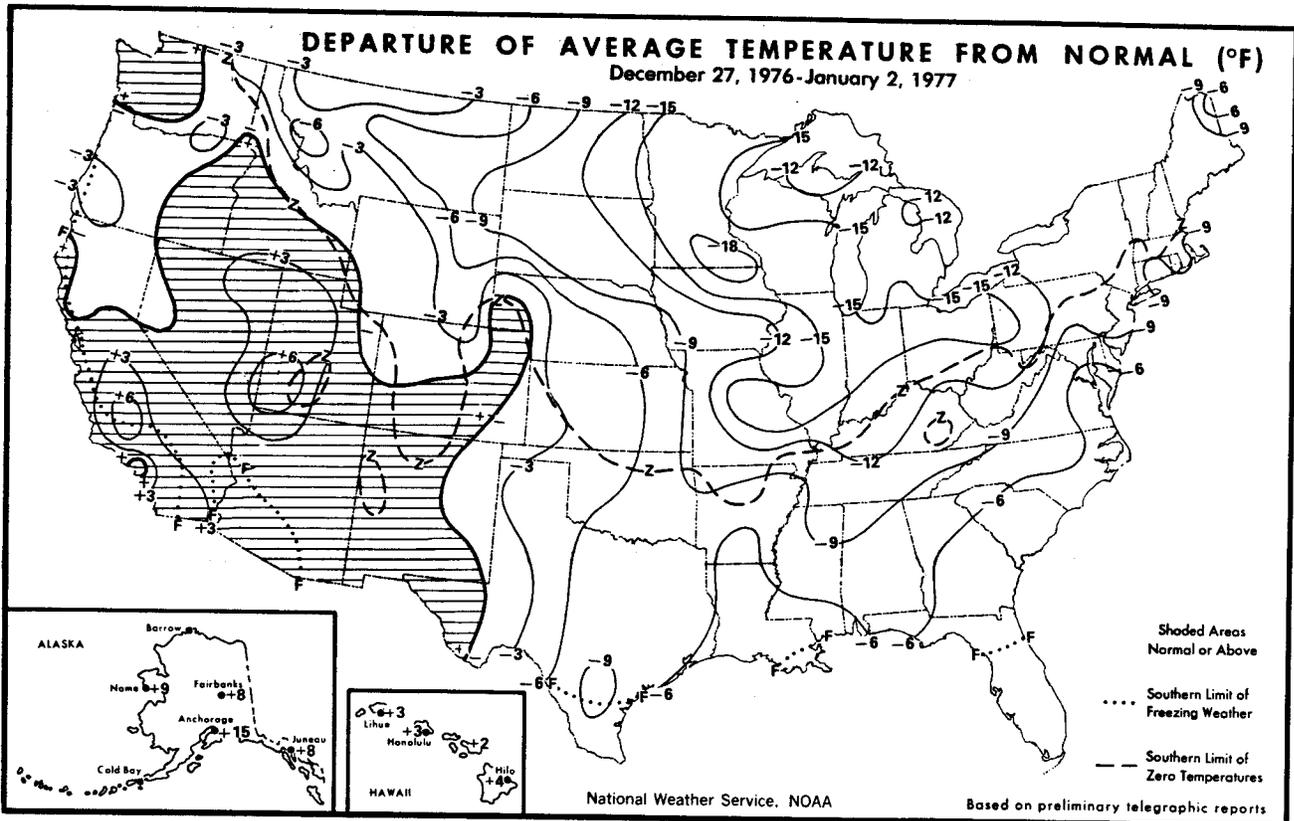
HIGHLIGHTS: Precipitation was widespread during the week with nearly every reporting station in the U.S. recording some precipitation. A Pacific storm dumped large amounts of rain in western U.S. with snow in the mountain areas. Heavy snow fell in Arizona and New Mexico and covered the ground throughout the central and northern Plains. Heavy snow fell along the coast of New England and in the mountains. Temperatures averaged well below normal east of the Rockies. Many new record low temperatures were established. Temperatures were near normal to slightly above in the West.

The new storm system that began in the northern Plains on Sunday moved to lower Michigan by late Monday. Springlike weather blossomed across the western two-thirds of the Nation. High temperatures in the 50's and 60's were prevalent from California across the southern Rockies, the

south and central Plains, the lower two-thirds of the Mississippi Valley and the southeastern States. Lubbock, Tex. had a record 76° and Concordia, Kan. rose to 63°. Widespread snow-showers fell throughout the Great Lakes region and also in the northern Plains and Rockies.

Snow continued in the Great Lakes area and spread through the middle Atlantic States on Tuesday. The light snow in the northern Plains began to accumulate in some areas. As the cold front moved southward into the Plains much of the central area reached near blizzard conditions as winds gusted to 60 mph. A few rainshowers were reported in northern Florida and in southern sections of Alabama and Georgia.

As cold air moved into the Plains, Rockies and Northeast and warming continued in the South and West, sharp contrasts were set up. High temperatures on Tuesday stayed as low as minus 19° in northern Minnesota while the mercury climbed to



81° in southern Texas.

Snow and bitter cold moved southward in the Midwest during the day Wednesday. A cold front, pushed by winds that gusted to 65 mph continued its relentless way southward. The bone chilling Arctic air spread as far south as Iowa and Illinois. Below zero temperatures were common. Rockford, Ill. reported minus 11°.

Heavy snow fell in the coastal area of New England on Wednesday with lesser amounts in the mountains. Snow began over much of the middle Atlantic States early in the day and spread northward. Snow continued across portions of the Great Lakes and was falling from the upper Mississippi Valley into the northern Plains, depositing a much needed snow cover. An intense low pressure system off the Pacific Coast brought a welcome change to the dry weather pattern in the west, spreading showers over northern California and Oregon.

Long overdue rain fell over much of moisture starved California on Thursday as the Pacific storm moved southward. Stations in the San Francisco area recorded over two inches of rain and snow was falling in the mountains. Lesser amounts fell in southern California and snow began in the central mountains of Arizona. Snow also fell in portions of Colorado, North Dakota, the Ohio Valley and lower Great Lakes region.

The extremely cold air mass spread southward through the Plains, the Mississippi Valley and the Rocky Mountains on Thursday. The Arctic air reached deep into the southern Plains behind gusty north winds. Blowing dust was reported in southwest Oklahoma and northwest Texas.

Precipitation was scattered over the Southwest on Friday. Showers occurred in central and southern California and southern Arizona. Snow fell in the Mountains of Arizona and New Mexico.

Snow was reported over much of Montana, Wyoming, South Dakota and Nebraska. The Great Lakes area continued to be plagued by snow and high winds. Snow produced icy road conditions in the mountains of North Carolina, Virginia, Maryland and West Virginia. Rainshowers fell along parts of the east Gulf Coast region and the south Atlantic Coast States.

Cold air remained entrenched Friday from the north Atlantic States into the southern Plains. Many record low temperatures were set. Afternoon readings were below zero in the upper Mississippi Valley and only in the 20's from northern Texas to northern Alabama.

Cold temperatures nearly everywhere chilled the Nation on New Year's day. The Arctic air enveloped the area from the Rockies eastward and cool Pacific air had moved into the west. Record low temperatures included 0° at Nashville, Tenn.

A storm in the Southwest pushed toward the central Plains, dumping snow on the southern portion of the Plateau and Rockies. Snow spread into portions of Nebraska, Kansas, Oklahoma and Texas. Scattered snow was reported over the northern Rockies and locally heavy snow showers continued around the Great Lakes. Rain was scattered along the central and northern Pacific Coast.

Various types of precipitation fell on Sunday along the Gulf Coast from Texas to Florida and up the Mississippi River Valley as far as the northern Plains and Great Lakes. Rain or snow was widespread across the Pacific States, Nevada and Idaho. Freezing rain was reported from northeast Texas to northern Alabama. The precipitation was in the form of snow north of this area and rain south of it. The cold weather continued and moved deeper into the Southeast but it was not quite as cold in the Plains.

National Agricultural Summary

For the Week of December 27-January 2

HIGHLIGHTS: Temperatures dived to new lows in some areas in the eastern half of the United States putting some stress on the winter wheat crop. Some light snow cover extended farther south from a week earlier but most States lack adequate snow cover. Ranges and water supplies in California improved but cattlemen need more precipitation to improve water supplies. Soil moisture was adequate to surplus in the States bordering the Gulf of Mexico and the Atlantic Ocean, elsewhere soil moisture was short to adequate. Cotton harvest reached 97% complete in Texas and in other cotton States harvest was virtually complete.

SMALL GRAINS: The abnormally cold temperatures restricted small grain growth throughout the Great Plains. Snow cover improved in some of the midwestern States but remained poor in several northern Plains States. Small grains provided very little grazing. Dry conditions continue to concern farmers as they wait for more snow.

In Kansas the winter wheat condition showed little change. Short soil moisture supplies did not improve from the recent snow. Some soils blew in the west central and north central areas but did little damage. In Oklahoma weather patterns which included warm days followed by extremely cold windy conditions caused drought conditions to become more critical. The winter wheat condition changed little. The short moisture supply held wheat growth in check although warm temperatures encouraged development. Greenbugs increased in some areas but sharp cold snaps stopped the buildup. In Texas winter wheat responded to warm temperatures but dryland fields on the northern High Plains need moisture. Fields in the southern half of the State dried but fields in the Upper Gulf Coast must dry more before they can be grazed. All areas of Texas need more warm weather. The Colorado winter wheat crop was in good condition with only light wind damage.

In Nebraska the winter wheat crop rated fair with very limited or no snow cover. Some blowing occurred. Snow cover varied in Wyoming causing concern over the possibility of blowing. In Montana the winter wheat condition was fair. Snow provided little protection and wind caused light to moderate damage in local areas. In California rains improved the small grain crops. In Oregon the winter wheat crop needs moisture. Some early wheat rated fair but later wheat stands were only poor to fair. Some wheat seeded in dry soils did not emerge. Local areas report only a 50% emergence. In Washington cold and snow improved winter wheat hardiness and moisture supplies. Soil moisture supplies remain deficient especially in second crop areas but prospects have improved. Winter wheat stands appeared small and ragged.

COTTON: Cold and wet weather in some areas hampered final cotton harvesting operations. Picking was almost complete in all major cotton States.

In Texas cotton harvest reached 97% complete compared with 98% for the previous year's crop and 93% average. Ginners brought the last ricks and modules from the fields for ginning with harvest nearing completion on the plains. Limited cotton harvest remained to be done in South Carolina, Georgia, Florida, Arkansas and California. In New Mexico harvest was almost finished and farmers began disking fields. In Arizona wet weather halted field activities just as farmers picked the last fields of cotton.

OTHER CROPS: Harvests of corn, soybeans and sorghum were finished in most States. The only States reporting some activity were the Carolinas, Georgia, Florida, Arkansas and Oklahoma. In most States the unharvested acreage was very small. Only North Carolina reported the soybean crop at 93% complete, one point more than the previous year and the average.

Farmers harvested sugarcane in Florida and Louisiana. Sugarbeet harvest was almost complete in Texas, about two weeks later than last year's completion date.

Tobacco growers prepared plant beds in South Carolina, Georgia and Florida for the 1977 tobacco crop. Indiana growers found the leaf too dry to strip.

FRUITS AND NUTS: In Florida rains in all areas of the citrus region kept groves in excellent condition. Cold did not damage any citrus crops. Very little fruit splitting was observed and the fruit condition was holding well. Growers picked a large amount of fruit. In Texas growers picked citrus in the better drained areas. Arizona growers harvested their citrus crop. In California growers harvested grapefruits, lemons, oranges and tangerines. Lemon and tangerine movement was steady but grapefruit demand was light. Navel oranges reached good to excellent quality in all areas.

In western Oregon deciduous fruit growers took advantage of the dry weather to prune and spray some orchards. Washington orchard growers also pruned grapes and trees. Trees reached their peak of hardiness. Peaches completed their rest period so unseasonably warm temperatures followed by more wintry weather could prove damaging to the crop.

VEGETABLES: In Florida tomatoes led an overall decrease in vegetable shipments. Other vegetable crops contributing to the declining volume included snap beans, chinese cabbage and cucumbers. Shipments of carrots, celery, lettuce, green peppers and radishes increased. Steady supplies of cabbage, sweet corn, eggplant and escarole moved to market. Growers began picking strawberries. Cool winds and a light frost moderately damaged tender vegetable crops and slowed maturity.

In Texas Lower Rio Grande Valley vegetable growers harvested cabbage and carrots from well drained areas. Onions developed slowly. Spinach was harvested as weather permitted but cool temperatures retarded development. Arizona growers harvested lettuce in the Yuma Valley. In California growers picked a light volume of cauliflower, carrots and broccoli. Rains curtailed celery picking. Good supplies of lettuce moved from the Imperial Valley. Rains in most areas helped relieve drought conditions.

PASTURE AND LIVESTOCK: Unseasonably cold temperatures and rain in some areas limited grazing in the South and East. Cold checked small grain developments which limited grazing on small grain fields. In South Dakota and Nebraska cattlemen continued to graze corn and sorghum fields. In Nebraska about 60% of the row crop stubble was grazed. In Texas pastures in the south remained very wet. In California rains stimulated grass but more rain is needed to improve water supplies.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Jan. 2, 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 . . .	36	- 8	.3	-.9	LA. Baton Rouge . . .	47	- 4	1.2	+ .1	Youngstown . . .	10	-16	.2	-.4
Mobile . . .	46	- 8	1.1	-.2	Lake Charles . . .	48	- 5	.8	-.3	OKLA. Okla. City . . .	31	- 6	.7	-.3
Montgomery . . .	41	- 6	.4	-.7	New Orleans . . .	49	- 4	1.1	0	Tulsa . . .	29	- 8	.7	-.4
ALASKA Anchorage . . .	26	+15	.2	0	Shreveport . . .	41	- 6	.1	-.9	OREG. Astoria . . .	41	0	.6	+1.2
Barrow . . .	-5	+ 8	T	-.1	MAINE. Caribou . . .	7	- 5	1.1	+ .6	Burns . . .	26	+ 1	.6	+ .7
Fairbanks . . .	33	+ 8	.4	-.5	Portland . . .	13	- 9	.8	0	Medford . . .	33	- 3	.6	-.2
Juneau . . .	33	+ 8	.4	-.5	MD. Baltimore . . .	26	- 7	.1	-.6	Pendleton . . .	30	- 3	.2	-.2
Kodiak . . .	13	+ 9	.1	0	MASS. Boston . . .	22	- 8	.9	0	Portland . . .	38	- 1	.2	-1.2
Nome . . .	29	+ 1	.8	+ .3	Chatham . . .	24	- 9	-.9	-.9	Salem . . .	38	- 1	.3	-1.3
ARIZ. Flagstaff . . .	52	+ 1	.8	+ .6	MICH. Alpena . . .	9	-11	.2	-.2	PA. Allentown . . .	19	- 9	.1	-.7
Phoenix . . .	51	0	.9	+ .7	Detroit . . .	13	-12	.1	-.4	Erie . . .	13	-13	.3	-.3
Tucson . . .	32	0	.4	+ .3	Flint . . .	10	-14	.1	-.3	Harrisburg . . .	22	- 8	.3	-.3
Winslow . . .	57	+ 2	.6	+ .5	Grand Rapids . . .	11	-13	.3	-.1	Philadelphia . . .	22	-11	.1	-.6
Yuma . . .	30	- 9	.1	-.5	Houghton Lake . . .	6	-13	.2	-.2	Pittsburgh . . .	12	-16	.1	-.5
ARK. Fort Smith . . .	33	- 6	.1	-.8	Lansing . . .	8	-16	.2	-.2	Scranton . . .	16	-10	.1	-.4
Little Rock . . .	53	+ 7	.7	+ .5	Marquette . . .	11	- 9	.5	+ .1	R. I. Providence . . .	18	-11	.6	-.2
CALIF. Bakersfield . . .	49	+ 1	1.1	-.5	Muskegon . . .	11	-14	.8	+ .3	S. C. Charleston . . .	45	- 3	.3	-.4
Eureka . . .	49	+ 5	1.2	+ .8	S. Ste. Marie . . .	1	-15	.2	-.3	Columbia . . .	42	- 3	T	-.8
Fresno . . .	56	- 1	1.3	+ .8	MINN. Duluth . . .	-4	-14	.2	-.1	Greenville . . .	35	- 7	.1	-.8
Los Angeles . . .	44	- 1	3.1	+2.1	Internatl Falls . . .	-13	-17	.1	-.1	S. D. Aberdeen . . .	2	-10	.1	0
Red Bluff . . .	59	+ 4	1.2	+ .8	Minneapolis . . .	1	-13	.1	-.1	Huron . . .	4	-11	.1	0
San Diego . . .	48	0	4.6	+3.6	Rochester . . .	-4	-19	T	-.2	Rapid City . . .	15	- 8	.3	+ .2
San Francisco . . .	46	+ 2	1.1	+ .5	St. Cloud . . .	-6	-17	T	-.2	Sioux Falls . . .	4	-12	T	-.1
Stockton . . .	29	- 2	T	-.1	St. Louis . . .	40	- 7	.3	-.8	TENN. Chattanooga . . .	33	- 7	.4	-.8
COLO. Denver . . .	26	- 1	T	-.1	Meridian . . .	13	-17	.2	-.2	Knoxville . . .	31	- 9	.8	-.3
Grand Junction . . .	32	+ 1	T	-.1	MO. Columbia . . .	40	- 7	.5	-.7	Memphis . . .	33	- 8	.2	-.9
Pueblo . . .	23	- 8	.2	-.5	Kansas City . . .	19	-10	.1	-.2	Nashville . . .	26	-12	.3	-.8
CONN. Bridgeport . . .	18	- 7	.2	-.6	St. Louis . . .	16	-16	.4	0	TEX. Abilene . . .	38	- 6	T	-.2
Hartford . . .	29	- 6	T	-.6	Springfield . . .	23	-10	.1	-.4	Amarillo . . .	31	- 5	.1	0
D. C. Washington . . .	50	- 4	1.0	+ .3	MONT. Billings . . .	7	- 5	.4	+ .3	Austin . . .	43	- 7	.3	-.1
FLA. Apalachicola . . .	55	- 3	1.3	+ .9	Great Falls . . .	17	- 6	.3	0	Beaumont . . .	47	- 5	.9	-.1
Daytona Beach . . .	58	- 6	.5	+ .1	Havre . . .	13	0	.1	0	Brownsville . . .	54	- 7	.2	-.1
Ft. Myers . . .	49	- 5	1.3	+ .7	Helena . . .	18	- 2	T	-.1	Corpus Christi . . .	51	- 6	.4	+ .1
Jacksonville . . .	67	- 4	T	-.3	Kalispell . . .	19	- 1	.2	-.2	Dallas . . .	46	- 4	.1	0
Key West . . .	56	- 5	.5	0	Miles City . . .	10	- 8	.1	0	Del Rio . . .	46	+ 3	T	-.1
Lakeland . . .	64	- 3	.3	-.1	Missoula . . .	16	- 6	.1	-.2	El Paso . . .	37	- 8	.4	0
Miami . . .	56	- 4	1.1	+ .6	NEBR. Grand Island . . .	19	- 4	T	-.1	Fort Worth . . .	46	+ 3	T	-.1
Orlando . . .	47	- 5	1.0	+ .1	Lincoln . . .	15	- 8	.1	0	Galveston . . .	50	- 5	1.2	+ .4
Tallahassee . . .	55	- 5	.5	0	Norfolk . . .	12	- 8	.1	0	Houston . . .	45	- 8	.8	0
Tampa . . .	61	- 5	.1	-.5	N. Platte . . .	20	- 4	T	-.1	Lubbock . . .	36	- 3	T	-.1
W. Palm Beach . . .	41	- 4	.1	-.8	Omaha . . .	15	- 7	T	-.1	Midland . . .	43	- 1	T	-.1
GA. Atlanta . . .	43	- 4	T	-.9	Valentine . . .	12	- 9	.1	0	San Angelo . . .	41	- 5	.1	-.1
Augusta . . .	45	- 4	.5	-.3	NEV. Ely . . .	26	+ 2	T	-.2	San Antonio . . .	42	- 9	.1	-.2
Macon . . .	75	+ 4	1.5	-1.3	Las Vegas . . .	43	0	T	-.1	Victoria . . .	46	- 8	.7	+ .3
Savannah . . .	76	+ 3	.1	-.9	Reno . . .	30	- 1	.3	0	Waco . . .	40	- 8	.7	+ .3
HAWAII. Hilo . . .	74	+ 3	.7	-.7	Winnemucca . . .	29	+ 1	.2	0	Wichita Falls . . .	35	- 7	T	-.3
Honolulu . . .	75	+ 3	.7	-.8	N. H. Concord . . .	10	-11	.3	-.3	UTAH. Blanding . . .	29	+ 1	T	-.3
Kahului . . .	75	+ 3	.7	-.7	N. J. Atlantic City . . .	25	- 8	.3	-.5	Salt Lake City . . .	32	+ 4	T	-.3
Lihue . . .	29	0	.3	0	Trenton . . .	22	-10	.1	-.6	VT. Burlington . . .	7	-11	.2	-.2
IDAHO. Boise . . .	32	0	.1	-.2	N. MEX. Albuquerque . . .	35	+ 1	.2	+ .1	VA. Lynchburg . . .	28	- 8	T	-.7
Lewiston . . .	25	+ 1	.1	-.1	Roswell . . .	40	+ 2	T	-.1	Norfolk . . .	36	- 4	.2	-.5
Pocatello . . .	26	-11	.2	-.6	N. Y. Albany . . .	17	- 5	.1	-.5	Richmond . . .	32	- 5	T	-.7
ILL. Cairo . . .	8	-17	.1	-.3	Binghamton . . .	12	-10	.2	-.4	Roanoke . . .	29	- 7	T	-.7
Chicago . . .	11	-12	.1	-.3	Buffalo . . .	14	-11	.7	+ .1	WASH. Colville . . .	22	- 1	T	-.4
Moline . . .	12	-13	T	-.4	New York . . .	23	-10	.1	-.6	Omak . . .	39	0	.7	-2.8
Peoria . . .	5	-16	.1	-.3	Rochester . . .	15	-10	.3	-.2	Quillayute . . .	41	+ 2	.1	-1.2
Rockford . . .	15	-12	.1	-.3	Syracuse . . .	14	-11	.4	-.2	Seattle-Tacoma . . .	25	- 1	T	-.6
Springfield . . .	19	-14	.2	-.5	N. C. Asheville . . .	30	- 7	.2	-.6	Spokane . . .	31	- 3	.3	-.2
IND. Evansville . . .	8	-18	.1	-.4	Charlotte . . .	35	- 6	T	-.8	Walla Walla . . .	29	+ 1	T	-.3
Ft. Wayne . . .	13	-15	.1	-.5	Greensboro . . .	32	- 6	T	-.7	W. Va. Beckley . . .	20	-11	.4	-.4
Indianapolis . . .	13	-12	.4	-.2	Hatteras . . .	42	- 4	T	-1.0	Charleston . . .	23	-11	.2	-.6
South Bend . . .	13	-11	T	-.4	Raleigh . . .	32	- 8	T	-.7	Huntington . . .	25	- 9	.3	-.4
IOWA. Burlington . . .	11	-10	.1	-.2	Wilmington . . .	41	- 5	T	-.7	Parkersburg . . .	20	-13	T	-.6
Des Moines . . .	4	-15	.1	-.3	N. DAK. Bismarck . . .	0	-11	.2	+ .1	WIS. Green Bay . . .	0	-17	.1	-.1
Dubuque . . .	8	-11	.1	0	Fargo . . .	-7	-15	.1	0	La Crosse . . .	2	-16	.2	0
Sioux City . . .	23	- 4	.1	0	Williston . . .	6	- 5	.1	0	Madison . . .	3	-15	.1	-.2
KANS. Concordia . . .	28	- 3	.2	+ .1	OHIO. Akron-Canton . . .	11	-16	.2	-.4	Milwaukee . . .	5	-16	.1	-.3
Dodge City . . .	25	- 3	T	-.1	Cincinnati . . .	17	-14	T	-.7	Cheyenne . . .	21	- 3	.1	0
Goodland . . .	20	- 8	.1	-.2	Cleveland . . .	11	-17	.2	-.4	Lander . . .	18	- 2	.1	0
Topeka . . .	26	- 6	T	-.2	Columbus . . .	14	-14	.1	-.5	Sheridan . . .	17	- 5	.2	+ .1
Wichita . . .	21	-12	.1	-.7	Dayton . . .	15	-13	.1	-.5	P. R. San Juan . . .	78	+ 2	.1	-.9
Lexington . . .	23	-11	.1	-.7	Toledo . . .	9	-16	.2	-.3					

Based on 1941-70 normals

Publication of the Weekly Weather and Crop Bulletin began in 1872 as the Weekly Weather Chronicle. It is now issued under general authority of the Act of January 12, 1895 (44USC 213), 53 Cong., 3d Session. Contents of the Bulletin may be reprinted freely, with proper credit. Standard copy for the Bulletin is prepared by R.E. Felch, L.M. Denny, and O.W. Byrd, National Weather Service, NOAA; H.J. Delong, Statistical Reporting Service, USDA. Yearly subscription rate: \$5.00 domestic and \$11.25 foreign airmail. Order from the Agricultural Weather Support Service, South Building Mail Unit, Room 1248, USDA, Washington, D.C. 20250. Make checks payable to Department of Commerce, NOAA.

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 9° below normal. Record lows on 31st and 1st. Rain on 30th and 31st. Freezing rain on 2d.

Soil moisture adequate to surplus. Farm activities limited to care and feeding of livestock and poultry and indoor work. Small grains and livestock fair condition.

ARIZONA: First major winter storm. Lower deserts received 0.50 in. or more rain. Daytime temperatures dropped sharply. Nights remained mild.

Cotton harvest nearing completion. Wet weather halted field activities. Preparations, planting small grains full swing. Harvest sorghum grain virtually complete. Lettuce harvest full swing, Yuma. Planting active late winter, early spring crops. Mixed vegetable harvest seasonal progress. Harvest citrus continued. Recent rains, snow improving range conditions. Cattle, calves, sheep, lambs mostly fair to good condition. Sheep on winter alfalfa pastures good to excellent.

ARKANSAS: Temperatures from 5 to 12° below normal. Extremes: 73 and -2°. Precipitation limited.

Still some cotton scrapping. Soybean harvest virtually complete. Wheat and oats good stands. Not much growth with cold temperatures. Pastures short. Livestock feeding almost entirely supplemental.

CALIFORNIA: Several weather systems brought much needed precipitation to most sections. Temperatures averaged near normal with only the south coast and some mountain locations reporting readings of a few degrees above normal.

Rains improve condition small grains. Cotton, milo harvests finishing. Alfalfa being planted. Sugarbeets good progress. Fieldwork active. Pruning continues in orchards, vineyards. Avocado, date, grapefruit, lemon, navel orange, tangerine harvests continue. Grapefruit demand light. Navel orange quality very good to excellent all areas. Lemon, tangerine movement steady. Artichoke, broccoli, cauliflower, carrot light. Celery curtailed due to rain. Lettuce supplies good Imperial. Rains most areas will help relieve drought conditions. Ranchers feel rains will stimulate grass growth but more rain needed to help water supplies. Supplemental feeding continued. Calving, lambing in progress.

COLORADO: Light snow over mountains 27th, 31st, 1st; 1 to 4 in. along eastern foothills on 30th. Windy conditions, temperatures 2 to 3° above normal east, 1 to 2° below normal mountains and western valleys.

Winter wheat good condition, wind damage light. Winter barley good condition. Topsoil, subsoil moisture short. Range and pasture fair, livestock good. Hay and other roughage supplies below average.

FLORIDA: Midweek cold front brought only light rain while precipitation from a second front was 0.25 to 0.50 in. on 31st. Rains less than 0.25 in. again north, central areas 2d. Temperatures averaged few degrees below normal.

Soil moisture adequate most areas except excessive parts of north, northeast. Sugarcane harvest active. Crop good condition. Harvest soybeans, cotton almost complete. Farm activity con-

sists of seeding tobacco beds, land preparation for spring planting. Unseasonable cold continues to limit growth of temporary pastures, in Panhandle north. Central area rains helped small grain growth. Pastures now providing some grazing. Overall pasture condition ranges from very poor to fair. Supplemental feeding continues heavy. Cattle, calves in good condition. Citrus groves excellent condition, rain all areas, citrus unhurt by cold. Very little fruit splitting. Fruit condition holding well, harvest very active. Overall vegetable shipments decreased, led by tomatoes. Other vegetables showing decreased movement were snap beans, chinese cabbage, cucumbers. Carrot, celery, lettuce, green pepper, radish shipments increased. Steady supplies cabbage, sweet corn, eggplant, escarole. Light strawberry harvest underway. Cool winds, light frost caused moderate damage to tender crops. Maturity slowed. Volume should increase.

GEORGIA: Temperatures 3 to 5° below normal north, 1 to 2° below south, ranging from upper 30's north to low 50's south. Rainfall 1.00 to 1.50 in. Cold 1st and 2d, snow and sleet extreme north, freezing rain and some sleet north, rain south.

Cold weather restricted fieldwork. Harvest corn, cotton and soybeans nearly complete. Pecan harvest nearing completion. Tobacco bed preparation active. Cattle fair to good, hogs good.

HAWAII: Weather favorable for crop growth. Showers light all islands.

Kona area Hawaii dry. Yields some crops affected. Vegetable supplies adequate. Banana supplies heavy. Papaya supplies getting light. Sugar mills stopped. Pastures windward good, leeward poor.

IDAHO: Temperatures near to above normal. Extremes: 59 and -2°. Precipitation well below normal.

Repairing equipment major farm activity. Some concern with dry weather. Livestock in good condition. Very little supplemental feeding as yet. Feed supplies adequate.

ILLINOIS: Temperatures 11 to 17° below normal. Night readings as much as -18° northern sections. Precipitation extremely light. Many areas less than 0.10 in.

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

INDIANA: Bitter cold. Temperatures averaged 12° below normal. Daily minimums averaged 7°. Extremes: -10 and 48°. Snow cover 2 to 4 in. except near Lake Michigan where 20 in. accumulated.

Conditions poor for outside activity. Too dry to strip tobacco. Major activities: Snow removal, chores, caring for livestock and equipment maintenance.

IOWA: Cold, dry week. Temperatures averaged 10 to 15° subnormal excepting 6 to 10° subnormal southwest. Record cold 31st with lows to -23°. About 3 in. new snow covered bare ground south central but elsewhere snow averaged about 1 in. 2d.

KANSAS: Temperatures 27° north central to 32°

southeast and south central or 8° below normal southeast and 4 to 6° below normal elsewhere. Snows fell 1st although water equivalents were only a few hundredths to locally near 0.20 in.

Wheat condition showed little change. Topsoil and subsoil moisture supplies still short. Weekend snows gave little moisture. Some very light blowing west central and north central. Little damage.

KENTUCKY: Mild 27th. Temperatures well below normal remainder of week with below zero temperatures. Light snow 28th and 30th. Precipitation generally less than 0.25 in.

Little activity other than routine chores. Small grain growth very short. Pastures dormant necessitating supplemental feeding of livestock.

LOUISIANA: Temperatures 5° below normal. Extremes: 76 and 10°. Freezing rain most areas 2d.

Farm activity mainly feeding and care of livestock. Sugarcane harvest continued some areas.

MARYLAND & DELAWARE: Temperatures 6 to 8° below normal. Highs, low 40's; lows in teens. Little precipitation. Weekend sunny, windy, and cold.

Farmwork limited to inside and normal winter chores. Fall planted grains damaged in some areas due to extremely cold weather.

MICHIGAN: Temperatures ranged from 11 to 14° below normal, breaking minimums midweek. Temperatures -5 to -17° over southern Lower Peninsula and -20 to -30° over northern Lower and Upper Peninsula. Mild warming trend end of week. Except for Lake Shore, precipitation light.

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

MINNESOTA: Very cold. Temperatures averaged 12 to 15° below normal. Extremes: 47 and -35°. Precipitation averaged 0.05 to 0.10 in. below normal with 0.10 in. north and east central to 0.05 in. elsewhere. Snow on ground 4 to 8 in. north half to traces to 3 in. south half.

MISSISSIPPI: Temperatures 2 to 5° subnormal. Lowest temperature 6°.

Soil moisture adequate to surplus. Fieldwork: 2.2 days suitable. Winter wheat and oats in poor to fair condition. Pastures in mostly poor condition. Livestock in mostly fair condition. Hay and roughage supplies and feed grain supplies short to adequate.

MISSOURI: Temperatures 7 to 11° below normal. Scattered snow less than 1 in. mostly in north-east.

Farming activities: General livestock care and management. Stock water supplies critically low.

MONTANA: Week began with temperatures in 40's, ended at subzero. Temperatures 1 to 8° below normal with coldest -25°, 2d. Precipitation most days with several inches new snow. Precipitation above normal central to southeast, below normal west of the Divide.

Winter wheat condition fair. Wind damage to winter wheat light to moderate localized areas. Snow cover protection poor. Livestock condition good; about 75% cattle and 85% sheep receiving supplemental feed. Grazing mostly open. Hay, roughage and feed grain supplies for balance of winter adequate.

NEBRASKA: Precipitation very light. Warm temperatures first of week, colder remainder of period. Temperature near 10° below normal.

Winter wheat condition fair. Very limited or no snow cover. Some blowing soil. Winter rye fair condition. Cattle on pastures and ranges need supplemental feed. Average to above feed grain supplies and average to below hay supplies. About 60% of corn and milo stalk fields pastured.

NEVADA: Dry conditions through midweek followed by two storms that ended prolonged drought west and south. Temperatures slightly below normal northwest and extreme south and near normal elsewhere. Extremes: 65 and -6°.

Livestock wintering well, some supplemental feeding necessary.

NEW ENGLAND: Cold. Readings 15° below normal. On 26th and 27th, 2 to 6 in. snow fell except eastern Maine where 2.00 to 3.00 in. rain fell. On 29th, 6 to 18 in. snow in eastern New England.

NEW JERSEY: Temperatures 10 to 13° below normal, averaging 18° north, 22° south and 25° coastal areas. Extremes: 3 and 48°. Precipitation 0.60 in. below normal, averaging 0.13 in. north, 0.16 in. south and 0.21 in. coastal sections.

Farmers caring for livestock and doing normal winter chores.

NEW MEXICO: Warm beginning, turning sharply colder eastern plains on 30th and slightly cooler elsewhere 31st. Precipitation ranged to 0.50 in. liquid equivalent with snow depths up to 10 in. at Red River. Snow began northwest again late 2d.

Soil moisture mostly adequate south, short north. Fieldwork proceeded almost uninterrupted. Cotton harvest virtually complete, some fields disked. Pecan harvest 50% complete, and proceeded slowly due to wet conditions. Irrigated winter wheat good, dryland wheat fair. Cattle and sheep fair to good, supplemental feeding moderate. Ranges mostly fair but very dry northeast.

NEW YORK: Temperatures 5 to 11° below normal. Precipitation mostly below normal. Snow depths from 1 to 3 in. in Hudson Valley to 19 in. at Boonville, 27 in. at Buffalo.

NORTH CAROLINA: Temperatures 2 to 6° below normal. Precipitation light. Snow in northern mountains averaged 3 to 5 in.

Fieldwork: 2.4 days suitable. Soil moisture adequate. Soybeans 93% harvested, 1975 92%, average 92%. Pastures 33% poor, 54% fair, 12% good, 1% excellent. Small grain conditions average mostly fair to good. Seeding about complete.

NORTH DAKOTA: Temperatures ranged from 2 to 14° below normal. Extremes: 50 and -30°. Precipitation ranged 0.10 in. above normal to 0.11 in. below normal. Snow cover ranged from zero to 3 in. Weekend sunny with below normal temperatures.

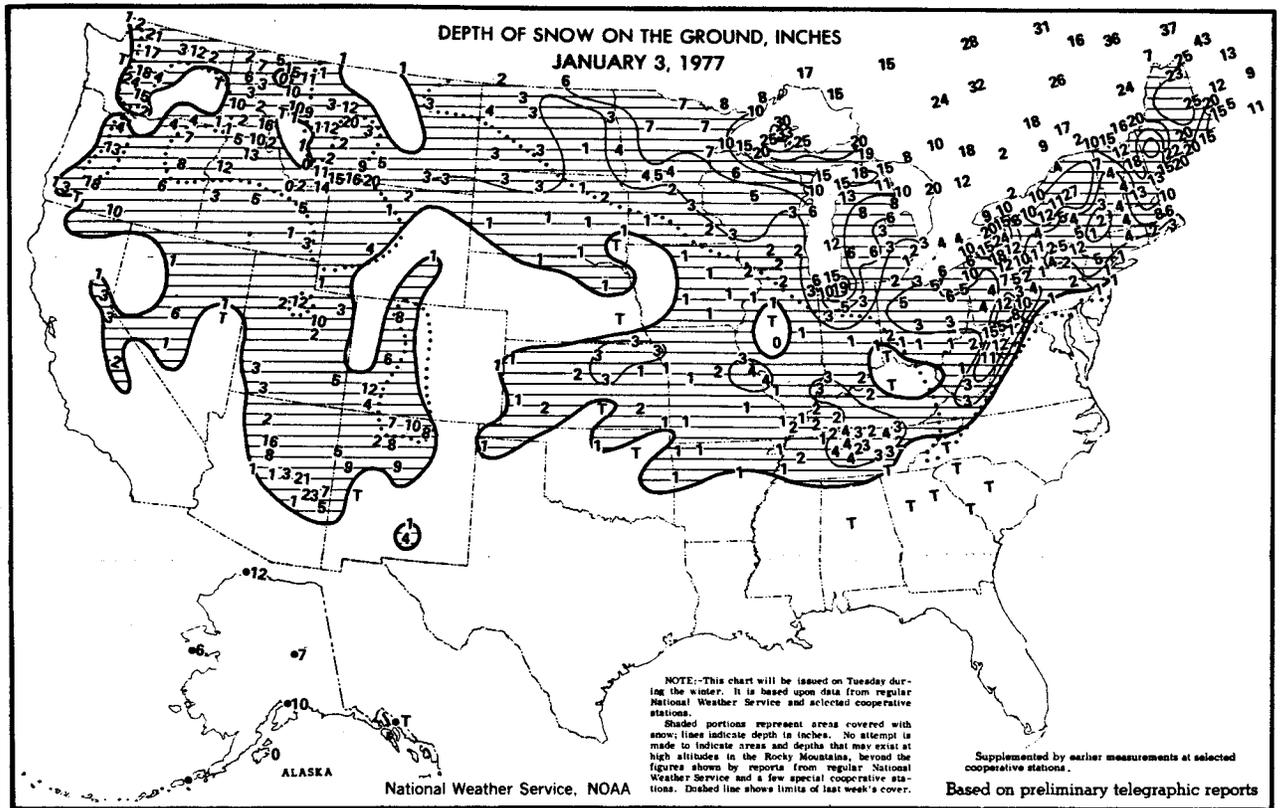
Livestock good condition. Farm activity limited. Dry conditions still causing concern for next year. Adequate snow cover needed.

OHIO: Cold, below normal temperatures with record lows on the 31st and 1st. Scattered snow.

Continued marketing and grading of apples and potatoes along with normal dairy and poultry chores.

OKLAHOMA: Temperatures 4 to 12° below normal. Precipitation mostly light, but many areas received none. Greatest amounts in southeast and east central with slightly less than 0.20 in.

Warm days followed by extreme cold with high winds and no moisture, caused drought conditions



to become more critical. Wheat condition changed little, but plants made little or no growth under warm temperatures because of short moisture supply. Greenbugs increased in southwest, but sharp cold should stop buildup. Row crop harvest virtually complete all areas. Some plowing done where soils tillable. Main work: Feeding and care of live-stock. Ranges and wheat pastures providing only limited grazing. Stockwater from ponds low in some localities.

OREGON: Rain early week. Northern coastal areas had 1.50 to 2.00 in. Willamette Valley reported 0.75 in. but east of Cascades rainfall mostly 0.10 in. or less. Temperatures generally averaged 1 to 3° above normal.

Farm activity light. In west orchard pruning continued in the dry weather. Some spraying reported. Some ryegrass fields have lush growth and sheep are moving onto the fields to feed. In east winter wheat crop needs moisture. Some early wheat fair. Later wheat stands poor to fair. Dust seeded wheat not up. Some areas only 50% emergence. Overall, stand conditions vary from poor to fair. Livestock in good condition. Feeding heavy in some areas. Feed supplies good.

PENNSYLVANIA: Temperatures 10 to 18° below normal. Except for extreme southeast below freezing temperatures everywhere. Coupled with strong gusty northwest winds and below zero temperatures several days central and north wind chill index to -49°. Temperature extremes: -15 and 33°. Partly cloudy with snow and snow flurries produced new snow from 1 in. southeast to 6 in. northwest. Melted precipitation totaled less than 0.40 in. Farmers doing normal winter chores.

PUERTO RICO: Island average rainfall 0.52 in. or

0.42 in. below normal. Temperatures averaged about 75° on coasts and 69° interior. Extremes: 89 and 47°.

SOUTH CAROLINA: Temperatures about normal. Above normal early week, below normal late week. Extremes: 66 and 14°. Rainfall below normal. Light rains midweek.

Little field activities. Little cotton, soybeans remain for harvest. Pruning fruit trees, preparing tobacco beds.

SOUTH DAKOTA: Mild weather early week, extremely cold by weekend. Temperatures 5 to 17° below normal. Lows well below 0° latter part of week. Extremes: -26 and 56°. Only light snows ranging up to 0.25 in. precipitation.

Livestock good condition. Open weather helping ease feed shortage as some livestock still on stubble fields.

TENNESSEE: Temperatures dropped to 10° below seasonal normals equaling some record lows. Only significant precipitation fell the weekend as sleet and snow. Amounts under 0.50 in., less than half seasonal normal.

Major activities included feeding livestock, machinery repair and fence repair.

TEXAS: Cold air followed unseasonable warm weather. Front brought bitter cold, rain, sleet and snow. Temperatures 2 to 6° below normals range from upper 30's northwest to mid-50's south. Rainfall sparse western half and northeast, normal otherwise. Normals range 0.25 in. west to 0.50 in. south and east.

Record highs turned into record lows at end of week, as winter returned. During first

of week, farmers in west busy stripping cotton. Harvest now 97% complete, 1 point behind 1976's rate. With harvest nearing completion on plains, gins bringing in remaining ricks and modules for ginning. Sugarbeet harvest virtually complete, 2 weeks behind 1975 completion date. Wheat responded to warm temperatures, although dryland fields on northern High Plains still need moisture. Fields in south dried somewhat, but more open weather needed before upper gulf coast can be grazed. Warm weather needed all areas.

Lower Rio Grande Valley harvest cabbage, carrots, citrus active in better drained areas. Onions develop slowly. Laredo few fields cabbage remain. Carrot digging active. Eagle Pass spinach harvest continues as weather permits. Crop development at slow pace. San Antonio-Winter Garden farmers harvest cabbage, carrots, spinach as fields dry. Ranges responded to warm weather first of week, but south still very wet. Despite wet, a few range fires reported south. Cattle fair to good; supplemental feeding common all areas.

UTAH: Scattered rain and snow showers over weekend with locally moderate accumulations mountains. Average temperatures generally near normal.

Scattered snowfall, though very light, was most welcome. Feed in fields and meadows still available but most ranchers feeding. Water hauling continues some areas. Sorting, grading, marketing of potatoes, apples and dry beans continues major farm activities. Sugarbeet processing continues.

VIRGINIA: Temperatures 7° below normal. Extremes: 61 and 0°. Precipitation averaged less than 0.25 in. Several inches snow in western areas.

Fieldwork: 1.2 days suitable. Topsoil moisture adequate. Condition of winter grain and grazing crops rated at 79% of normal. Pastures supplied 12% forage for dairy cattle, 22% forage for beef cattle, 28% for sheep. Regular chores, feeding and care of livestock main activities. Livestock in good condition but hay is scarce and expensive.

WASHINGTON: West: Temperatures averaged 4°

subnormal Olympia; 2 to 5° above normal elsewhere. Precipitation as much as 1.52 in. below normal.

Last carrots harvested before freezing weather set in. Livestock on full winter rations. Supplies adequate.

East: Temperatures 6° below normal Colville; near normal elsewhere. Precipitation continued below normal.

No groundcover in orchard areas. Pruning grapes and tree fruits. Trees now at peak of hardness. Rest period for peaches complete so warm temperatures from now on could be damaging. Apple movement excellent. Cold and snow improved hardness of wheat, moisture in fields. Prospects improved. Top and subsoil moisture still deficient, especially recrop areas. Stands small and ragged. Mild winter has been a help to cattlemen. Farmers kept active with chores, machinery repair.

WEST VIRGINIA: Temperatures and precipitation below normal. Extremes: 49 and -6°.

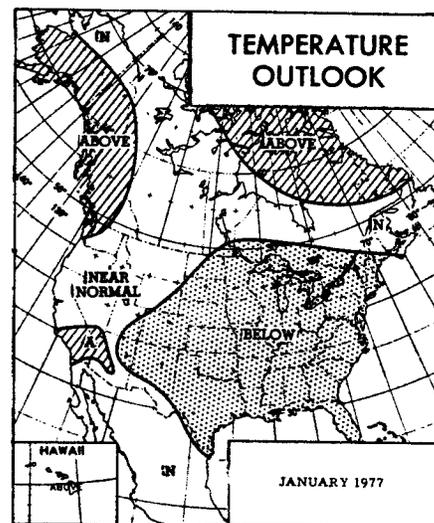
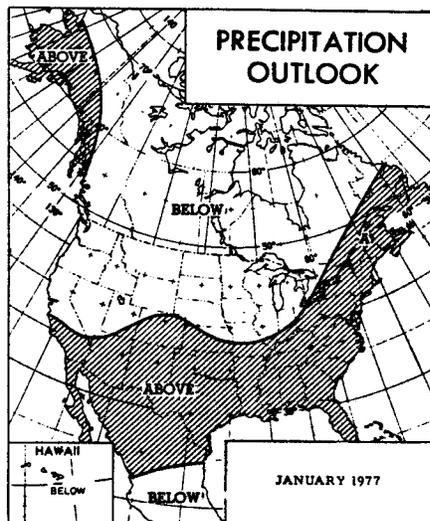
Soil moisture adequate. Fieldwork: 1.6 days suitable. Farm activities limited to feeding and care of livestock. Weather condition required more feeding of livestock than normal. Livestock in good condition.

WISCONSIN: Cold pushed into northwest 27th with temperatures dipping to -17°. Scattered snowfall south and around 2 in. north, and 2 to 4 in. northeast 28th. Bitter cold 29th through 31st with early morning temperatures ranging from -20 to -30° north to around 0 to -10° south. Scattered light snow and flurries accompanied the bitter cold. Temperatures moderated south 1st and scattered light snow and flurries over most sections. Heavier snow developed 2d with 1 to 2 in. west and south, and less than 1 in. northeast.

WYOMING: Mild and dry. Temperatures above normals. Precipitation below normal. Trace to 0.12 in. reported.

Soil moisture short. Snow cover variable. Concern over possibility of blowing winter wheat. Supplemental feeding normal for this time of year. Feed supplies mostly adequate, some isolated shortages.

Average Monthly Weather Outlook

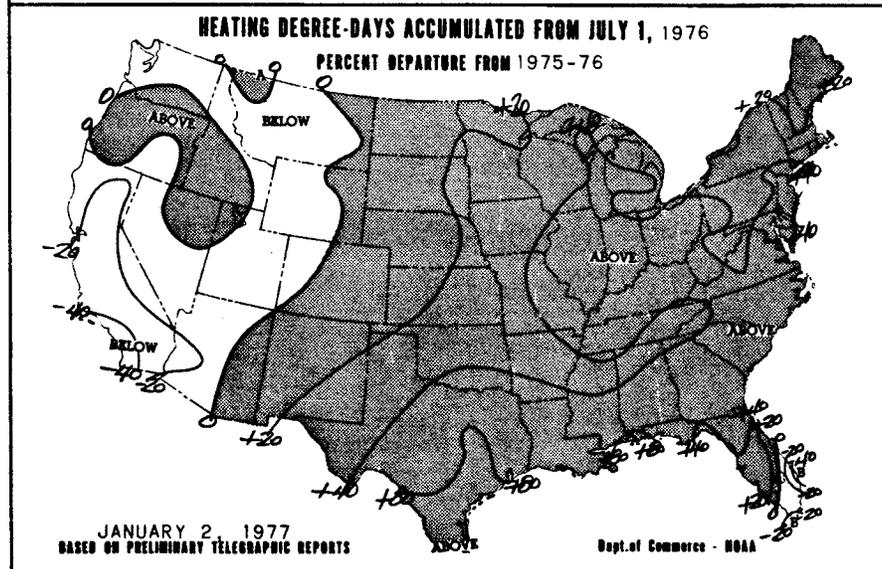
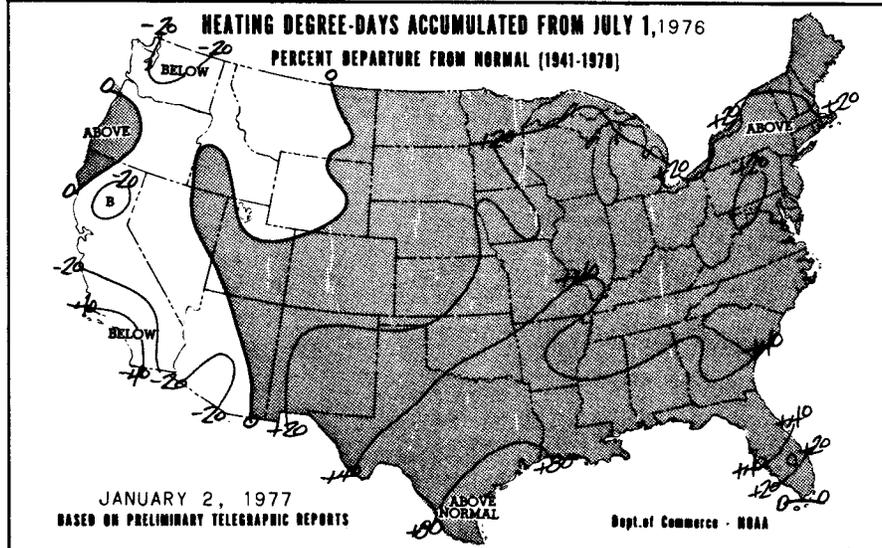
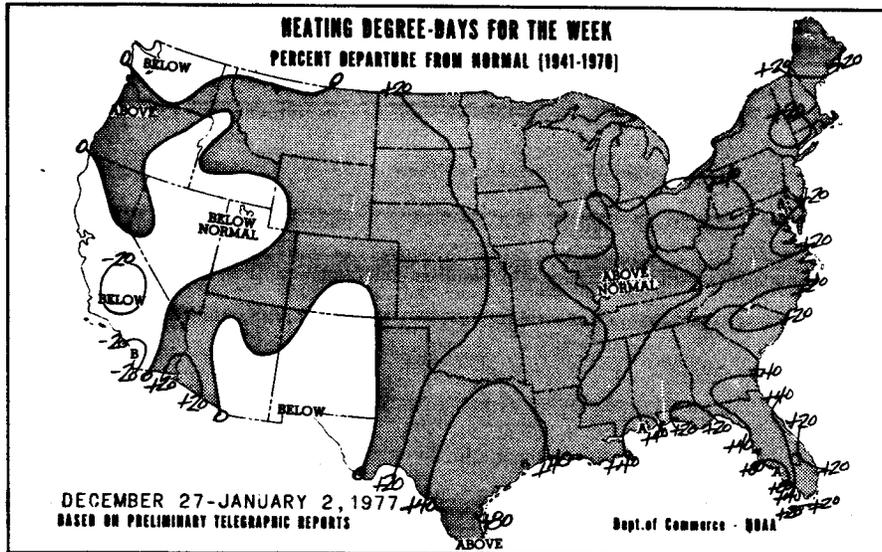


Heating Degree Days (Base 65° F.)

December 1976

ALA. Birmingham	732	MAINE, Caribou	464	OKLA. Okla. City	805
Mobile	521	Portland	1404	Tulsa	858
Montgomery	657	MD. Baltimore	1001	OREG. Astoria	660
ALASKA, Anchorage	1294	MASS. Boston	1109	Burns U.	1083
Barrow	25--	Chatham	1063	Medford	1023
Fairbanks	----	MICH. Alpena	1547	Pendleton	896
Juneau	938	Detroit	1341	Portland	782
Nome	1725	Flint	1467	Salem	807
ARIZ. Flagstaff	1027	Grand Rapids	1415	PA. Allentown	1174
Phoenix	285	Houghton Lake	1582	Erie	1269
Tucson	390	Lansing	1449	Harrisburg	1075
Winslow	1041	Marquette U	1556	Philadelphia	1069
Yuma	248	S. Ste. Marie	1706	Pittsburgh	1268
ARK. Fort Smith	837	MINN. Duluth	1875	Scranton	1296
Little Rock	738	Internatl Falls	2112	R. I. Providence	1219
CALIF. Bakersfield	424	Minneapolis	1590	S. C. Charleston	501
Eureka U.	535	Rochester	1715	Columbia	645
Fresno	566	St. Cloud	1787	Greenville	773
Los Angeles U	138	MISS. Jackson	614	S. DAK. Aberdeen	1557
Red Bluff	468	Meridian	649	Huron	1514
Stockton	581	Vicksburg U	----	Rapid City	1177
San Diego	129	MO. Columbia	1169	Sioux Falls	1495
San Francisco	494	Kansas City	1108	TENN. Chattanooga	851
COLO. Denver	907	St. Louis	1125	Knoxville	845
Grand Junction	1153	Springfield	975	Memphis	708
Pueblo	986	MONT. Billings	1032	Nashville	872
CONN. Bridgeport	1079	Glasgow	1421	TEX. Abilene	690
Hartford	1242	Great Falls	1031	Amarillo	846
D. C. Washington	907	Havre	1179	Austin	506
FLA. Apalachicola	411	Helena	1120	Beaumont	442
Ft. Myers	124	Kalispell	1162	Brownsville	256
Jacksonville	376	Miles City	1209	Corpus Christi	311
Key West	10	Missoula	1253	Dallas	----
Lakeland U.	200	NEBR. Grand Island	1139	Del Rio	481
Miami	32	Lincoln	1254	El Paso	709
Orlando	197	Norfolk	1287	Fort Worth	614
Daytona Beach	209	North Platte	1133	Galveston U.	373
Tallahassee	456	Omaha	1265	Houston	484
Tampa	208	Valentine	1255	Lubbock	760
GA. Atlanta	775	NEV. Ely	1162	Midland	635
Augusta	635	Las Vegas	569	San Angelo	598
Macon	593	Reno	1062	San Antonio	461
Savannah	490	Winnemucca	1104	Victoria	398
IDAHO, Boise	1097	N. H. Concord	1506	Waco	596
Lewiston	907	N. J. Atlantic City	1075	Wichita Falls	731
Pocatello	1127	Trenton U	1054	UTAH, Milford	1183
ILL. Cairo U.	894	N. MEX. Albuquerque	985	Salt Lake City	1096
Chicago	1388	Roswell	789	VT. Burlington	1505
Moline	1402	N. Y. Albany	1345	VA. Lynchburg	947
Peoria	1357	Binghamton	1382	Norfolk	726
Rockford	1545	Buffalo	1328	Richmond	869
Springfield	1260	New York	1061	Roanoke	945
IND. Evansville	1021	Rochester	1279	WASH. Colville	1151
Fort Wayne	1322	Syracuse	1303	Omak	----
Indianapolis	1249	N. C. Asheville	884	Quillayute	647
South Bend	1302	Charlotte	799	Seattle-Tacoma	625
IOWA, Burlington	1330	Greensboro	860	Spokane	1089
Des Moines	1333	Hatteras R.	566	Walla Walla U.	896
Dubuque	1554	Raleigh	857	Yakima	1081
Sioux City	1411	Wilmington	569	W. VA. Beckley	1094
KANS. Concordia	1043	N. DAK. Bismarck	1550	Charleston	1047
Dodge City	879	Fargo	1797	Huntington	1003
Goodland	987	Williston U	1563	Parkersburg U.	1106
Topeka	1126	OHIO. Akron-Canton	1272	WIS. Green Bay	1730
Wichita	966	Cincinnati U.	1157	Madison	1602
KY. Lexington	1050	Cleveland	1287	Milwaukee	1504
Louisville	982	Columbus	1241	WYO. Casper	1133
LA. Baton Rouge	464	Dayton	1191	Cheyenne	1059
Lake Charles	419	Toledo	1393	Lander	1220
New Orleans	438	Youngstown	1321	Sheridan	1154
Shreveport	574				

Preliminary reports from airport locations, except those marked U for urban and R for rural.
*Estimated.



HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING JAN. 2, 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...	140	43	1466	475	496	MAINE CARIBOU...	417	46	439	576	536	YOUNGSTOWN.....	385	112	3300	823	1018
MOBILE.....	140	43	1189	426	546	PORTLAND.....	366	47	342	556	648	OKLA. OKLAHOMA CITY	345	40	1859	39	470
MONTGOMERY...	140	43	1432	485	471	MD. BALTIMORE...	275	51	2242	413	718	TULSA.....	253	57	1953	495	509
ARIZ. FLAGSTAFF...	24	14	2722	235	177	MASS. BOSTON.....	305	60	2381	340	651	OREG. ASTORIA.....	71	12	1941	243	200
PHOENIX.....	24	14	442	173	95	MICH. ALPENA...	81	81	333	350	627	BURNS.....	71	12	1941	243	200
TUCSON.....	24	14	659	223	173	DETROIT.....	102	102	1110	651	1242	MEDFORD.....	71	12	1941	243	200
WINSLON.....	24	14	2240	283	78	GRAND RAPIDS...	102	102	609	793	913	PENDLETON.....	71	12	1941	243	200
YUMA.....	24	14	356	48	48	HOUGHTON LAKE...	102	102	99	688	688	PORTLAND.....	71	12	1941	243	200
ARK. FORT SMITH...	24	14	1965	511	544	LANSING.....	102	102	556	777	777	SALEN.....	71	12	1941	243	200
LITTLE ROCK...	24	14	1714	405	405	MARQUETTE.....	102	102	91	1059	1238	PA. ALLENTOWN.....	21	6	264	441	753
CALIF. BAKERSFIELD	89	44	653	24	293	MUSKOGEE.....	102	102	91	606	841	ERIE.....	21	6	264	441	753
EUREKA.....	89	44	1027	24	293	MINN. DULUTH...	104	104	460	723	711	HARRISBURG...	21	6	264	441	753
FRESNO.....	89	44	1027	24	293	INTERNATL FALLS...	104	104	460	723	711	PHILADELPHIA...	21	6	264	441	753
LOS ANGELES...	89	44	1027	24	293	MINNEAPOLIS...	104	104	460	723	711	PITTSBURGH...	21	6	264	441	753
RED BLUFF.....	89	44	1027	24	293	ROCHESTER.....	104	104	460	723	711	SCRANTON.....	21	6	264	441	753
SAN DIEGO.....	89	44	1027	24	293	ST. CLOUD.....	104	104	460	723	711	R. I. PROVIDENCE...	37	79	2815	600	774
SAN FRANCISCO...	89	44	1027	24	293	MISS. JACKSON...	178	52	143	504	482	S. C. CHARLESTON...	145	55	1177	311	422
STOCKTON.....	89	44	1027	24	293	HERIDIAN.....	178	52	143	504	482	COLUMBIA.....	145	55	1177	311	422
COLO. DENVER.....	251	10	2421	51	65	MO. COLUMBIA...	100	100	273	731	818	GREENVILLE...	21	6	1810	505	986
GRAND JUNCTION...	251	10	2421	51	65	KANSAS CITY...	100	100	273	731	818	S. DAK. ABERDEEN...	40	67	3711	296	600
PUEBLO.....	251	10	2421	51	65	ST. LOUIS.....	100	100	273	731	818	HURON.....	40	67	3711	296	600
CONN. BRIDGEPORT	295	48	2762	328	226	SPRINGFIELD...	94	72	2350	531	566	RAPID CITY...	40	67	3711	296	600
HARTFORD.....	295	48	2762	328	226	MONT. BILLINGS...	334	43	278	96	131	STOUB FALLS...	40	67	3711	296	600
DEL. WILMINGTON...	288	57	2259	389	449	GLASGOW.....	334	43	278	96	131	TENN. CHATTANOOGA...	229	55	1926	464	413
D. C. WASHINGTON...	256	46	1990	360	732	GREAT FALLS...	334	43	278	96	131	KNOXVILLE...	229	55	1926	464	413
FLA. APALACHICOLA...	9	14	899	377	333	HAVRE.....	334	43	278	96	131	MEMPHIS.....	229	55	1926	464	413
DAVONA BEACH...	9	14	899	377	333	HELENA.....	334	43	278	96	131	NASHVILLE...	229	55	1926	464	413
FORT MYERS.....	9	14	899	377	333	KALISPELL.....	334	43	278	96	131	TEXAS. ABILENE...	92	46	1649	605	537
JACKSONVILLE...	9	14	899	377	333	MILES CITY.....	334	43	278	96	131	ARARILLO.....	92	46	1649	605	537
KEY WEST.....	9	14	899	377	333	MISSOULA.....	334	43	278	96	131	AUSTIN.....	92	46	1649	605	537
LAKELAND.....	9	14	899	377	333	NEBR. GRAND ISLAND...	23	33	228	324	324	BEAUMONT.....	92	46	1649	605	537
MIAMI.....	9	14	899	377	333	LINCOLN.....	23	33	228	324	324	BEAUMONT.....	92	46	1649	605	537
ORLANDO.....	9	14	899	377	333	NORTH PLATTE...	23	33	228	324	324	CORPUS CHRISTI...	92	46	1649	605	537
TALLAHASSEE...	9	14	899	377	333	OMAHA.....	23	33	228	324	324	DEL RIO.....	92	46	1649	605	537
TAMPA.....	9	14	899	377	333	VALENTINE.....	23	33	228	324	324	EL PASO.....	92	46	1649	605	537
N. H. PALM BEACH...	9	14	899	377	333	NEV. ELI.....	74	13	315	214	129	FORT WORTH...	92	46	1649	605	537
GA. ATLANTA.....	213	52	1801	535	612	RENO.....	74	13	315	214	129	GALVESTON...	92	46	1649	605	537
AUGUSTA.....	213	52	1801	535	612	WINNEVOCA...	74	13	315	214	129	HOUSTON.....	92	46	1649	605	537
Macon.....	213	52	1801	535	612	N. H. CONCORD...	88	80	3613	739	560	LUBBOCK.....	92	46	1649	605	537
SAVANNAH.....	213	52	1801	535	612	N. J. ATLANTIC CITY...	397	73	2480	622	640	MIDLAND.....	92	46	1649	605	537
IDAHO. BOISE.....	258	9	2467	74	86	TRENTON.....	397	73	2480	622	640	SAN ANGELO...	92	46	1649	605	537
LEHISTON.....	258	9	2467	74	86	N. MEX. ALBUQUERQUE...	208	16	2190	395	225	SAN ANTONIO...	92	46	1649	605	537
POCATELLO.....	258	9	2467	74	86	ROSWELL.....	208	16	2190	395	225	VICTORIA.....	92	46	1649	605	537
ILL. CAIRO.....	109	2236	707	842	809	N. Y. ALBANY...	44	44	3234	577	813	W. VA. BECKLEY...	320	82	2970	674	1032
CHICAGO.....	121	3106	775	1045	809	BINGHAMTON...	44	44	3234	577	813	CHARLESTON...	320	82	2970	674	1032
MOLINE.....	109	2236	707	842	809	BUFFALO.....	44	44	3234	577	813	HUNTINGTON...	320	82	2970	674	1032
PEORIA.....	109	2236	707	842	809	NEW YORK.....	44	44	3234	577	813	PARKERSBURG...	320	82	2970	674	1032
ROCKFORD.....	109	2236	707	842	809	ROCHESTER...	44	44	3234	577	813	WIS. GREEN BAY...	119	119	4029	882	1016
SPRINGFIELD...	109	2236	707	842	809	SYRACUSE.....	44	44	3234	577	813	LACROSSE.....	119	119	4029	882	1016
IND. EVANSVILLE...	101	2358	500	659	620	N. C. ASHEVILLE...	47	51	446	489	567	CHEYENNE...	108	108	3442	601	1046
FORT WAYNE...	101	2358	500	659	620	CHARLOTTE...	47	51	446	489	567	LANIER.....	108	108	3442	601	1046
INDIANAPOLIS...	101	2358	500	659	620	GREENSBORO...	47	51	446	489	567	SHERIDAN...	108	108	3442	601	1046
SOUTH BEND...	101	2358	500	659	620	HATTERAS.....	47	51	446	489	567						
IOWA. BURLINGTON...	83	3183	787	1002	828	RALEIGH.....	47	51	446	489	567						
DES MOINES...	83	3183	787	1002	828	WILMINGTON...	47	51	446	489	567						
DUBUQUE.....	83	3183	787	1002	828	N. DAK. BISHARCK...	74	74	382	229	402						
SIOUX CITY.....	83	3183	787	1002	828	FARGO.....	74	74	382	229	402						
KANS. CONCORDIA...	302	2564	355	474	459	HILLSTON.....	74	74	382	229	402						
BODGE CITY...	302	2564	355	474	459	OHIO. AKRON-CANTON...	130	130	500	1029	1129						
GOODLAND.....	302	2564	355	474	459	CINCINNATI...	130	130	500	1029	1129						
GOODYEAR.....	302	2564	355	474	459	CLEVELAND...	130	130	500	1029	1129						
TOPEKA.....	302	2564	355	474	459	COLUMBUS...	130	130	500	1029	1129						
NICHITA.....	302	2564	355	474	459	DAYTON.....	130	130	500	1029	1129						
WY. LEXINGTON...	89	74	498	734	448	TOLEDO.....	130	130	500	1029	1129						
LOUISVILLE...	89	74	498	734	448												
LA. BATON ROUGE...	120	1032	341	298	448												
LAKE CHARLES...	120	1032	341	298	448												
NEW ORLEANS...	120	1032	341	298	448												
SHREVEPORT...	120	1032	341	298	448												

* BASED ON 1941-70 NORMALS.

* ACCUMULATION FROM JULY 1, 1976.

FIRST CLASS MAIL



World Weather and Crop Update

HIGHLIGHTS. Sharp drops in temperatures have occurred in the winter wheat areas of both the USSR and China. The threat to crops should be least in the USSR where there is good snow cover in most areas except the extreme southern Ukraine, North Caucasus and the Lower Volga. Winter wheat areas in North China, however, are almost devoid of snow cover. Rainfall is seasonally light over India. Widespread showers have dented the drought in some of the eastern crop areas of Australia. Kenya's drought also has been eased somewhat as showers fell over most of the country. Rains have eased the drought in California but dry conditions persist over the Great Plains and in the Canadian Prairie Provinces. Light rains or showers continue to harass the wheat harvest in Argentina and Brazil but improve conditions for spring crops. Continued heavy rains have wiped out the effects of a November drought in southern Spain and adjacent North Africa.

USSR. The European USSR is facing its first real threat to winter grain crops. The effects of a sharp drop in temperatures should be tempered over most of the area which has substantial snow cover. Crops are most vulnerable in the extreme southern Ukraine, North Caucasus and Lower Volga where there is only light or no snow cover. In Asiatic USSR, temperatures continue well below normal east of the Ural Mountains, but there is good snow cover in the principal agricultural areas.

ASIA. Winter grains in North China are expected to be under some stress as a sharp cold snap has dropped temperatures well below normal, and there is only light or no snow cover. Winter crops have been aided by light rain over most of southern China with greater amounts in the south central and eastern provinces. In India, precipitation was limited mainly to light rain or

showers in the winter rice areas along the southeastern coast while in the winter wheat regions in the north it was seasonally dry with near normal temperatures. A dent has been made in the Australian drought in some of the eastern crop areas with widespread showers, but additional precipitation is badly needed. Southwestern Australia, however, continues to be hot and dry. New Zealand is returning to normal as earlier heavy rains, that resulted in some local flooding, have subsided.

AFRICA. The severe drought in Kenya has been partially eased as showers over most of the country brought as much as 2 1/2 inches of rainfall to some areas. Far more precipitation, however, is needed to permit normal spring planting and to revive pastures.

NORTH AMERICA. Light precipitation occurred in some areas but there is no appreciable change in the dry conditions that have persisted on much of the Great Plains and the Canadian Prairie Provinces. The drought in California, however, has been eased with substantial rains in some areas.

SOUTH AMERICA. Light rain or showers continued to harass the winter wheat areas of Argentina and Brazil as these countries struggle to harvest excellent wheat crops. Spring crops in these regions, however, are benefitting from the moisture.

EUROPE AND NORTH AFRICA. Continued heavy rains over southern Spain and adjacent North Africa have alleviated the effects of the unusually dry November in these areas. Mild temperatures with some light precipitation continued to favor the recovery from last summer's drought in Western Europe especially with livestock having access to forage.