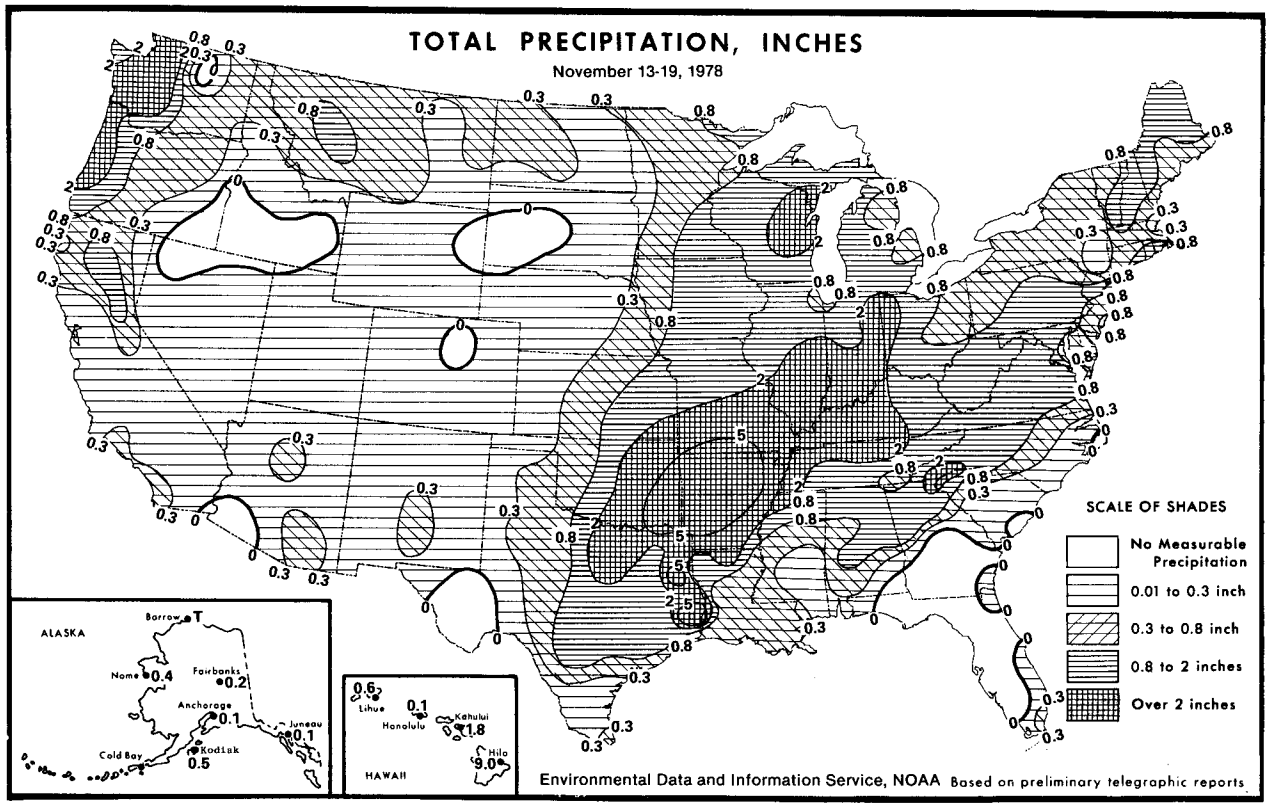
WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
Environmental Data and Information Service, NOAA

U.S. DEPARTMENT OF AGRICULTURE
Economics, Statistics, and Cooperatives Service

Volume 65, No. 47 | Washington, D.C. | Nov. 21, 1978



National Weather Summary

November 13 - 19

HIGHLIGHTS: Early in the week, a series of storm systems moved from the Rockies eastward and northeastward triggering heavy precipitation from central Texas to the middle Atlantic Coast. Flooding plagued previously dry eastern Oklahoma and Arkansas. Later an Arctic air mass edged into the Pacific Northwest dumping heavy snow. Some western Washington points were staggered by surprising amounts of more than 10 inches.

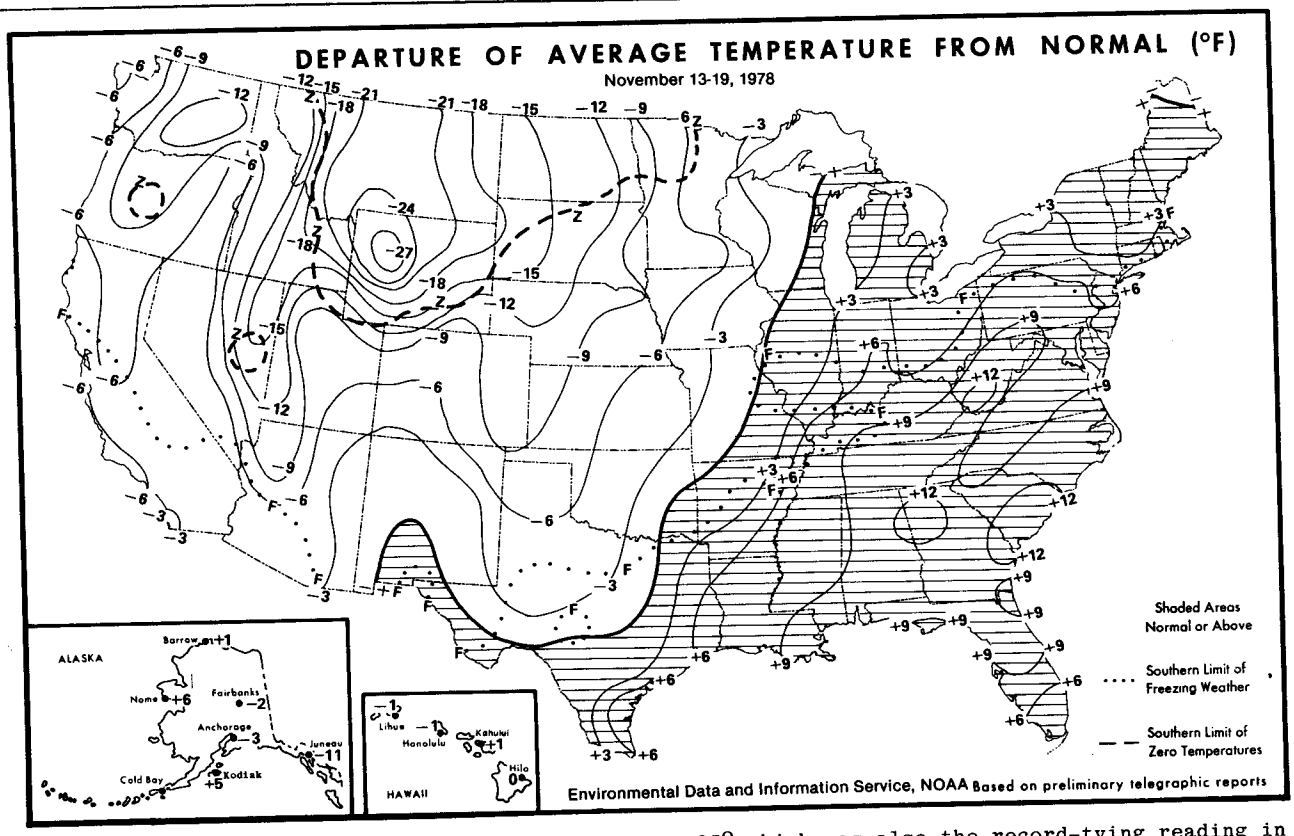
Cold air covered the entire Nation west of the Mississippi River with some average temperatures plunging 27 degrees colder than normal. Warmer than normal readings prevailed from southern Texas to east of the Mississippi.

On Monday, a low pressure system marched over the Rockies spreading snow across the central and north central U.S. Accumulations ranged from 4 to 14 inches. The new snow in Lander, west central Wyoming, pushed its record November total past 3 feet. To the east and south, the moisture changed to rain; one-half to one inch fell from Illinois to Oklahoma. Some rain also dampened the West Coast where Long Beach, Calif., notched a half inch.

Temperatures were especially cold in the Pacific Northwest and unseasonably warm in the Appalachians and South. In Oregon, Medford and Portland saw record low reading of 10° and 18°---both the coldest ever this early in the season. Beckley, southern West Virginia, set a record high of 72°, seven degrees above the former mark. For the third consecutive day, Huntsville, northern Alabama, at 78°, hit a record high.

A large section of the country received some sort of moisture on Tuesday.

A cold front extended from New England to Texas producing rain or freezing rain. Meantime a low pressure system trudged into the Southwest triggering rain and snow from Arizona to Texas. Tulsa,



Okla., and Joplin, southwestern Missouri, managed nearly an inch of rain while Douglass, southeastern Texas, weathered 2.14 in. Up to 7 inches of snow blanketed the mountains of Arizona and New Mexico.

Pocatello, southeastern Idaho, shivered at a record zero degrees, 5 under the old mark.

On Wednesday, foul weather held sway from the Southwest across the southern Plains to the central Ohio Valley. More than an inch of rain soaked Little Rock and Louisville, and 3 to 5 inches drenched southeastern Oklahoma and adjacent sections of Arkansas and Texas; Valiant, Okla., reported 7.25 in.

Still in the news, Lander, Wyo., toppled a former record by 5 with a chilling -18°. By contrast, Port Arthur, East Texas, at 86°, set its seventh high temperature record this month. Birmingham, Ala., also reached for the record book with a summerlike 81°.

A mixed bag of moisture kept a large portion of the Nation under a cloud on Thursday.

Rain fell from East Texas all the way to the middle Atlantic Coast as well as over the Florida Peninsula. Snow and freezing rain made for a wintry day in the upper Mississippi Valley and Pacific Northwest.

Worst hit were southeastern Oklahoma and southwestern Arkansas; 6 to 11 inches of rain swelled waterways. Horatio, Ark., tallied 12.25 in. A tornado briefly touched down near Brookhaven, southern Mississippi.

Again Lander, Wyo., at -17°, broke a record--- this time the mark set in 1891. Port Arthur chalked up its eighth record high this month with 85° which was also the record-tying reading in New Orleans. Huntsville, Ala., set a new mark of 77°.

On Friday, two separate systems dumped snow across the northern tier of States. While a new storm began in Montana, up to 8 inches of snow whitened points in Minnesota, Wisconsin, and Michigan.

A sampling of rainfall totals showed more than an inch at Huntsville, Ala., nearly an inch at Atlanta, and a half inch at many Atlantic Coast stations.

Record cold chilled Lander, Wyo., at -10°; record warmth produced 78° at Cape Hatteras, N.C., and 81° at Pensacola, Fla.

Frigid Arctic air and snow surged into the Northwest on Saturday. More than a foot of snow fell in Montana and Washington. Seattle registered a couple of inches while some northern and eastern portions got almost a foot. Nearly an inch of rain moistened most of Oregon and northern California.

The southern Atlantic Coast States basked under warm temperatures; Charleston, S.C., at 86°, had its highest reading this late in the year. Cape Hatteras set another record at 78°, and Savannah, eastern Georgia, equalled its 83° high mark.

Early season snows continued in the Northwest on Sunday. Olympia, western Washington, was snarled by 13 inches; Billings, Mont., gathered 17 inches; and a low pressure system off the Oregon coast combined with east winds to set off blizzard conditions in northwestern Oregon.

Rain fell heavily at times in Texas where Houston noted more than an inch.

Williston, northwestern North Dakota, at -17°, tied its 1896 low temperature record.

National Agricultural Summary

November 13 - 19

HIGHLIGHTS: Before winter storms struck, harvest of most major row crops neared completion across most of the Corn Belt and Great Plains. Soil moisture improved in many areas. In the North, soil moisture rated adequate in all States except Indiana where some soils held surplus moisture, and Illinois where some soils rated short. In the South Atlantic States, soil moisture scored short to adequate and very short in Georgia and South Carolina. The South Central States rated soil moisture short to adequate except very short in Alabama. Pasture and ranges stood at fair to good in northern States and generally poor to fair in southern States. Generally 3 to 5 days were suitable for fieldwork. The corn harvest reached 96% in the Nation, well ahead of last year's 87% and the average of 88%. Soybean harvest advanced to 95%, also ahead of last year's 83% and the 88% average. Cotton harvest in the 11 southern States reached 58%, lagging last year's 81% and the 59% average. Grain sorghum harvest in the 7 major producing States advanced to 94%, ahead of last year's 93% and the 88% average. Citrus harvest progressed in the southern States, and vegetable harvest was active.

SMALL GRAINS: Winter wheat conditions scored fair to good, and improved somewhat because of the recent rains. Winter wheat seedings were generally complete. Colorado reported wheat at 93% emerged. Oklahoma reported wheat up to stand at 88%, compared with last year's 95% and the 90% average. Only 6% of Oklahoma's wheat was being grazed. Kansas wheat improved somewhat last week from recent rains, however, more moisture is still needed in eastern areas to develop secondary roots and improve top growth before winter sets in.

CORN: The Nation's corn crop stood at 96% harvested, 4 points ahead of last week and 9 points ahead of last year.

In the eastern north central States, harvest reached 94%, a 6-point advance from last week. Last year's progress by this date hit 85% and the average 88%.

In the western north central States, harvest stood at 97%, a 2-point increase for the week. Last year's harvest reached 86% and the average was 88%. Only Missouri at 89% harvested showed a harvest percentage below 90%.

In the South, harvest was about finished in Kentucky, 97% done in Georgia, and complete in North Carolina and Texas.

SOYBEANS: The U.S. soybean harvest advanced to 95%, 4 points ahead of last week and well ahead of last year's 83% and the 88% average.

In the eastern north central States, harvest was virtually complete, ahead of last year's 92% and the 97% average.

In the western north central States, harvest stood at 98%, one point ahead of last week, also ahead of last year's 85% and the 93% average. Missouri and Kansas reported harvest at 95% finished, while remaining States wound down to completion.

In the south central States, harvest hit 93%, 5 points ahead of last week and well ahead of last year's 82% and the 79% average. Texas lagged in the region at 82%, while all other States reported 90% or more.

In the Southeast, North Carolina stood at 62%, South Carolina 61%, and Georgia 80%, all well ahead of last year and the average.

FRUITS AND NUTS: Pecans rated fair to good in Georgia with 46% gathered compared with 55% last year. Louisiana's pecan harvest at 47% also fell behind last year's 66%. Pecan harvest had begun in New Mexico where dry soils permitted. Rains and cool weather improved citrus fruit condition and accelerated color in Arizona. Florida rated citrus color as good with harvest very active. Washington producers pruned berry bushes. Apple harvest in California continued.

VEGETABLES: Lettuce harvest moved along in central and western Arizona. Vegetable crops in Florida continued fair to good. Conditions improved in southeastern Florida as heavy shower activity tapered. Some older crops declined seasonally. Overall, Florida shipments shot up 36% from the previous week.

In the lower Rio Grande Valley of Texas, supplies of bell peppers, cabbage, and cucumbers became available. In the Coastal Bend area, cucumber harvest reached full swing.

In California, broccoli, cauliflower, brussels sprouts, carrots, cabbage, celery, leaf lettuce, and spinach were in good supply in the Central Coast area and San Joaquin Valley.

PASTURE AND LIVESTOCK: Livestock were in fair to good condition throughout most of the country with supplemental feeding well underway in most areas. Lambing was active in Arizona, and California's calving and lambing continued. Pasture and range conditions rated fair to good in northern States and generally poor to fair in southern States.

COTTON: Harvest in the 11 southern States reached 58%, a 4-point increase from last week. Harvest last year managed 81% and the average 59%. In Texas, a deterioration in grade is expected because of recent rains.

Arizona picking is in full swing. First pick was finished in many areas. Texas and Oklahoma cotton harvests at 40% and 20% respectively, still lagged last year by a good margin. Harvest in California stood at 55% while remaining major States reported 90% or greater harvested.

OTHER CROPS: Grain sorghum harvest hit 94%, compared to last year's 93% and the 88% average. All States showed 90% or better harvested except Oklahoma at 71%.

Sugarbeet harvest neared completion in all parts of the country. Sugarcane harvest in Louisiana was 56% complete, compared with last year's 47% and the 46% average. Sugarcane harvest hit full swing in Florida. Rice harvest reached 98% in California. Burley tobacco shipments in Tennessee reached 60%, compared with last year's 77% and the average of 74%.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Nov. 19, 1978

States and Stations	Temperature °F Average	Temperature °F Departure	Precipitation Inches Total	Precipitation Inches Departure
ALA.Birmingham	61	+ 9	.8	- .1
Mobile	67	+ 9	.1	- .7
Montgomery	65	+10	.5	- .4
ALASKA.Anchorage	18	- 3	.1	- .1
Barrow	0	+ 1	T	- .1
Fairbanks	0	- 2	.2	+ .1
Juneau	21	-11	.1	- 1.2
Kodiak	40	+ 5	.5	- .8
Nome	22	+ 6	.4	+ .2
ARIZ.Flagstaff	28	- 8	.5	+ .2
Phoenix	57	- 2	.1	0
Tucson	54	- 4	.4	+ .3
Winslow	40	- 3	T	- .1
Yuma	59	- 4	T	0
ARK.Fort Smith	51	+ 1	5.3	+ 4.6
Little Rock	51	+ 1	5.1	+ 4.2
CALIF.Bakersfield	53	- 3	.1	0
Eureka	48	- 4	.3	- 1.1
Fresno	49	- 4	T	- .3
Los Angeles	56	- 7	.2	- .3
Red Bluff	48	- 5	.9	+ .2
San Diego	59	- 2	.5	+ .2
San Francisco	50	- 5	.1	- .4
Stockton	46	- 7	.2	- .2
COLO.Denver	33	- 6	T	- .2
Grand Junction	33	- 6	T	- .1
Pueblo	32	- 8	T	- .1
CONN.Bridgeport	52	+ 6	.8	- .1
Hartford	42	+ 1	.7	- .4
D.C.Washington	55	+ 7	.8	+ .1
FLA.Apalachicola	68	+ 7	0	- .7
Daytona Beach	74	+ 9	T	- .4
Ft. Myers	76	+ 7	T	- .3
Jacksonville	68	+ 7	.2	- .2
Key West	79	+ 4	.1	- .5
Lakeland	--	--	--	--
Miami	77	+ 5	.5	- .1
Orlando	75	+ 9	0	- .3
Tallahassee	68	+ 9	0	- .7
Tampa	75	+ 8	0	- .4
W.Palm Beach	76	+ 5	.1	- .4
GA.Atlanta	63	+12	1.3	+ .5
Augusta	63	+ 9	T	- .5
Macon	66	+11	T	- .5
Savannah	70	+13	T	- .4
HAWAII.Hilo	74	0	9.0	+ 5.8
Honolulu	75	- 1	.1	- .6
Kahului	76	+ 1	1.8	+ 1.2
Lihue	74	- 1	.6	- .7
IDAHO.Boise	33	- 6	T	- .3
Lewiston	35	- 5	.2	- .1
Pocatello	21	-14	T	- .3
ILL.Cairo	--	--	--	--
Chicago	42	+ 2	.6	+ .1
Moline	38	- 1	1.5	+ 1.1
Peoria	40	0	1.0	+ .5
Rockford	37	0	1.5	+ .9
Springfield	44	+ 2	1.2	+ .7
IND.Evansville	51	+ 6	2.6	+ 1.8
Ft. Wayne	45	+ 5	2.1	+ 1.5
Indianapolis	46	+ 5	1.9	+ 1.1
South Bend	43	+ 4	1.2	+ .6
IOWA.Burlington	38	- 1	1.2	+ .8
Des Moines	34	- 3	1.5	+ 1.1
Dubuque	33	- 2	1.8	+ 1.2
Sioux City	26	-10	.4	+ .2
KANS.Concordia	34	- 7	.4	+ .2
Dodge City	35	- 7	.3	+ .2
Goodland	29	- 9	.2	+ .1
Topeka	38	- 4	.9	+ .6
Wichita	39	- 5	.9	+ .6
KY.Lexington	50	+ 6	1.4	+ .6
Louisville	52	+ 7	2.7	+ 1.9
LA.Baton Rouge	65	+ 7	.7	- .2
Lake Charles	66	+ 6	.6	- .3
New Orleans	70	+10	.4	- .6
Shreveport	61	+ 5	1.6	+ .8
MAINE.Caribou	30	- 2	1.1	+ .3
Portland	41	+ 2	.7	- .5
MD.Baltimore	53	+ 7	1.2	+ .5
MASS.Boston	48	+ 3	.3	- .8
Chatham	47	--	.6	--
MICH.Alpena	38	+ 3	.7	+ .1
Detroit	42	+ 2	1.2	+ .6
Flint	41	+ 3	.7	+ .1
Grand Rapids	38	0	1.0	+ .3
Houghton Lake	36	+ 2	.7	+ .1
Lansing	41	+ 3	1.3	+ .7
Marquette	33	- 1	1.9	+ 1.1
Muskegon	39	0	1.4	+ .6
S. Ste. Marie	35	+ 2	1.5	+ .7
MINN.Duluth	25	- 3	.4	0
Internatl Falls	19	- 5	.8	+ .5
Minneapolis	29	- 3	.9	+ .6
Rochester	25	- 7	1.1	+ .9
St. Cloud	24	- 5	.4	+ .1
MISS.Jackson	63	+ 8	.3	- .6
Meridian	61	+ 7	.2	- .6
MO.Columbia	42	- 2	1.4	+ 1.0
Kansas City	38	- 5	1.1	+ .8
St. Louis	46	+ 1	2.3	+ 1.7
Springfield	43	- 2	3.3	+ 2.8
MONT.Billings	12	-23	.8	+ .6
Glasgow	9	-19	.1	0
Great Falls	14	-20	.6	+ .4
Havre	8	-21	.6	+ .5
Helena	9	-22	1.1	+ .9
Kalispell	20	-10	.7	+ .3
Miles City	13	-19	.3	+ .2
Missoula	21	-11	.3	+ .1
NEBR.Grand Island	30	- 8	.2	+ .1
Lincoln	31	- 7	.4	+ .2
Norfolk	29	- 7	.2	+ .1
N.Platte	26	-10	T	- .1
Omaha	30	- 7	.5	+ .3
Valentine	22	-12	T	- .1
NEV.Ely	19	-15	T	- .1
Las Vegas	49	- 4	T	- .1
Reno	34	- 6	.2	+ .1
Winnemucca	33	- 4	T	- .2
N.H.Concord	40	+ 2	.4	- .6
N.J.Atlantic City	52	+ 6	.4	- .6
Trenton	51	+ 5	.6	- .2
N.MEX.Albuquerque	44	0	T	- .1
Roswell	44	- 2	.2	+ .1
N.Y.Albany	42	+ 2	.3	- .4
Binghamton	42	+ 4	.4	- .4
Buffalo	43	+ 3	.7	- .2
New York	52	+ 5	.9	0
Rochester	43	+ 3	.5	- .2
Syracuse	44	+ 3	.5	- .3
N.C.Asheville	56	+10	1.3	+ .6
Charlotte	60	+ 9	1.0	+ .4
Greensboro	56	+ 8	1.4	+ .8
Hatteras	66	+10	T	- 1.1
Raleigh	61	+11	.5	- .1
Wilmington	66	+11	.1	- .6
N.DAK.Bismarck	14	-14	.3	+ .2
Fargo	18	-10	.2	+ .1
Williston	12	-15	.4	+ .3
OHIO.Akron-Canton	45	+ 4	.5	- .1
Cincinnati	48	+ 5	1.5	+ .7
Cleveland	47	+ 6	.5	- .2
Columbus	46	+ 4	.8	+ .1
Dayton	46	+ 5	1.5	+ .9
Toledo	42	+ 3	1.6	+ 1.0
Youngstown	45	+ 5	.6	- .1
OKLA.Okla. City	45	- 4	1.3	+ 1.0
Tulsa	46	- 3	4.1	+ 3.7
OREG.Astoria	41	- 5	3.9	+ 1.6
Burns	29	- 6	.2	- .2
Medford	37	- 6	.4	- .3
Pendleton	31	-10	.7	+ .3
Portland	38	- 7	1.7	+ .4
Salem	38	- 7	2.1	+ .6
PA.Allentown	49	+ 7	.8	0
Erie	43	+ 3	.4	- .5
Harrisburg	51	+ 7	1.2	+ .4
Philadelphia	52	+ 6	.7	- .1
Pittsburgh	47	+ 6	.6	0
Scranton	45	+ 4	.4	- .3
R.I. Providence	47	+ 4	1.1	0
S.C. Charleston	69	+13	T	- .5
Columbia	65	+11	.1	- .5
Greenville	59	+ 8	.6	- .1
S.D. Aberdeen	17	-13	.1	0
Huron	23	- 9	.1	0
Rapid City	18	-17	T	- .1
Sioux Falls	26	- 7	.2	0
TENN.Chattanooga	59	+10	.8	- .1
Knoxville	59	+10	1.2	+ .4
Memphis	59	+ 8	3.1	+ 2.2
Nashville	58	+10	2.0	+ 1.2
TEX.Abilene	51	- 3	.5	+ .2
Amarillo	40	- 6	.3	+ .2
Austin	59	0	1.2	+ .8
Beaumont	69	+ 9	.3	- .7
Brownsville	73	+ 5	T	- .3
Corpus Christi	71	+ 7	.1	- .3
Del Rio	60	+ 1	.1	0
El Paso	53	+ 2	T	- .1
Fort Worth	53	- 2	2.3	+ 1.8
Galveston	67	+ 4	.6	- .2
Houston	66	+ 5	1.4	+ .5
Lubbock	44	- 4	.3	+ .2
Midland	49	- 4	T	- .1
San Angelo	52	- 3	.4	+ .2
San Antonio	61	+ 2	.9	+ .5
Victoria	64	+ 2	.6	+ .1
Waco	54	- 3	1.9	+ 1.3
Wichita Falls	48	- 4	1.0	+ .7
UTAH.Blanding	34	- 4	.1	0
Salt Lake City	33	- 6	T	- .3
VT.Burlington	39	+ 2	.5	- .2
VA.Lynchburg	53	+ 6	1.3	+ .7
Norfolk	61	+ 9	.5	- .2
Richmond	57	+ 8	1.9	+ 1.1
Roanoke	53	+ 6	1.1	+ .5
WASH.Colville	--	--	--	--
Omak	25	- 9	T	- .4
Quillayute	37	- 7	1.4	- 1.8
Seattle-Tacoma	39	- 5	2.3	+ .9
Spokane	23	-12	.7	+ .2
Walla Walla	33	- 9	.7	+ .3
Yakima	26	-12	.6	+ .3
W.VA.Beckley	54	+12	.8	+ .1
Charleston	56	+11	.9	+ .2
Huntington	53	+ 8	1.3	+ .5
Parkersburg	51	+ 6	1.3	+ .7
WISC.Green Bay	33	- 1	2.3	+ 1.8
La Crosse	31	- 4	1.4	+ 1.0
Madison	32	- 2	1.9	+ 1.4
Milwaukee	37	+ 1	1.1	+ .7
WYO.Casper	15	-18	T	- .1
Cheyenne	28	- 7	T	- .1
Lander	3	-27	T	- .2
Sheridan	11	-22	.1	- .1
P.R.San Juan	81	+ 2	2.5	+ 1.2

Based on 1941-70 normals

Publication of the Weekly Weather and Crop Bulletin began in 1872 as the Weekly Weather Chronicle. It is issued under general authority of the Act of January 12, 1895 (44USC 213), 53d Congress, 3d Session. Contents of the Bulletin may be reprinted freely, with proper credit.

Standard copy for the Bulletin is prepared by Donald J. Haddock, Lyle Denny, and O. W. Byrd, Environmental Data and Information Service, National Oceanic and Atmospheric Administration; Harry DeLong and Jim Carlin, Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture.

Yearly subscription rate: $13.00 domestic and $18.00 foreign airmail. Order from the Agricultural Weather Facility, USDA South Building, Room 1248, 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 ESCS State offices in cooperation with the National Weather Service.

ALABAMA: Temperatures 11° above normal. Rainfall Statewide 19th, heaviest amount in northwest.

Fieldwork: 5.6 days suitable. Soil moisture very short, crop harvest main activity. Cotton 94% harvested, 80% 1977, 72% average. Corn harvest virtually complete. Soybeans 90% harvested, 68% 1977, 75% average. Small grains 71% seeded, 87% 1977, 86% average. Pastures mostly poor.

ARIZONA: Rain all areas first of week. Heaviest north central up to 0.75 in. reported central, eastern mountains. Temperatures 6 to 9° below normal northwest. 2 to 4° below normal elsewhere. High pressure remainder of week, no precipitation.

Cotton harvest full swing, first pick complete many areas. Some western area fields completed, prepared for later crops. Sorghum harvest active. Fall sugarbeet harvest nearing halfway point. Alfalfa haying seasonally slow. Preparations continued small grains, limited planting. Lettuce harvest full swing central, western areas. Later plantings good progress. Melon harvest complete. Harvest lemons, navels, sweets, limited grapefruit underway. Recent rains, cooler weather improved fruit condition, accelerated color break. Recent rains beneficial. Many springs, rivers flowing again. Stock tanks mostly filled. Cattle, calves good condition. Most sheep on winter ranges lower desert, lambing full swing.

ARKANSAS: Rainfall excessive. Temperatures near normal. Temperatures very warm early in week, cooled significiently late in week. Highest normal 54°; lowest normal 46°. Highest temperature 84°; lowest temperature 29°.

Widespread rain began 14th. Soil moisture adequate. Harvest progress slowed for cotton and soybeans. Small grain plantings benefited from rain. Fieldwork: 2.3 days suitable. Soybean harvest 90% 1978; 79% 1977; 85% average. Cotton harvest limited to second picking and stripping. Picking completed 93% 1978; 94% 1977; 92% average. Corn and sorghum harvest virtually completed. Oat and wheat conditions were good. Wheat plantings 86%; completed 85% 1977; 86% average. Pasture conditions below average. Cattle fair to good condition.

CALIFORNIA: Several cold fronts moving through California brought precipitation to all parts of State. Greatest amounts, of over an inch, were recorded at several mountain locations and in the interior valleys of southern California. Cold air associated with these fronts kept temperatures well below normal in all areas. Departures of over 10° were recorded in many sections.

Cotton 55% harvested. Few blackeye beans continue harvested as season winds up. Rice harvest continues few late fields. Rice 98% harvested. Field corn, milo, sugarbeet harvest continue. Frost hasten maturity milo Sacramento Valley. Soybeans being harvested San Joaquin, Imperial Valleys. Pruning, fertilizing, fumigating underway. Apple harvest continues. Avocado harvest picking up. Emperor table grapes packed in reduced volume. Olives moving from cold storage to cannery. Grapefruit harvest slowed. Navel orange harvest continues. Size and quality good. Broccoli, cauliflower, brussels sprouts, carrots, cabbage, celery, leaf lettuce, spinach, good supply central coast and San Joaquin Valley. Lettuce increasing desert. Melons slowing desert. Fresh market tomatoes continue south coast. Range, pastures improved recent rain. Additional moisture, warmer temperatures needed continue growth germinated grass. Calving, lambing continues. Cattle, sheep grazing corn, bean, alfalfa stubble fields.

COLORADO: Light precipitation across the State, with heaviest amount being 8 inches of snow at Winter Park, Breckenridge at beginning of week. Weekly temperatures averaged 6 to 10° below normal eastern Colorado, near normal elsewhere.

Winter wheat emerged 93%, 100% 1977, 96% average. Grain sorghum harvested 93%, 100% 1977, 81% average. Sugarbeets harvested 99%, 100% 1977, 100% average. Corn for grain harvested 94%, 100% 1977, 86% average. Winter barley good condition. Ranges and pastures poor condition. Livestock good. Fieldwork: 5.0 days suitable.

FLORIDA: A moist easterly flow developed scattered showers along east coast 13th and 14th and a weak cool front developed showers panhandle 18th. Precipitation 0.25 to 0.50 in. east coast and 0.25 in. or less panhandle. Elsewhere, generally fair, warm, and dry. Temperatures averaged 4 to 6° above normal.

Soil moisture short most of State; adequate southeast only. Soybean harvest excellent progress, nearing completion western counties. Peanut harvest complete. Sugarcane harvest full swing. Pecans still being gathered; crop hurt by dry weather. Very little progress in planting small grains. Early seeded grains poor contition due to dry soils. Grazing reduced most areas by moisture stress except south. Cattle condition declined but mostly good statewide. Rain needed all citrus areas. Some wilt and leaf loss; very little new growth. Fruit color good. Harvest very active. Vegetable crops continue fair to good. Condition improving southeast as heavy shower activity tapers. Some older crops declining seasonally as harvested several times. Harvest increasing. Overall shipments up 36% from previous week. Supplies cabbage, celery, chinese cabbage, carrots, lettuce, peppers, tomatoes up considerably. Snap beans, squash, cucumbers, okra, escarole increased while radishes, sweet corn, eggplant steady. Quality, size, yields continue good most crops. Plant growth, fruit set good. Fruit sizing well. Plantings active. Strawberry condition mostly good. Growth very good. Transplanting complete.

GEORGIA: Rainfalls of 0.50 in. to over 1.25 in. fell over north area late 17th and early 18th. Temperatures averaged 5° to 10° above normal. Extremes: 83° at Valdosta and 33° at Blairsville.

Soil moisture mostly very short to short. Fieldwork: 6 days suitable. Corn 97% harvested, 95% last year. Soybeans poor to mostly fair, 80% combined, 53% last year. Cotton mostly fair to good, 90% picked, 67% last year. Apples 98% picked, same last year. Pecans mostly fair to good, 46% gathered, 55% last year. Small grain seeding and emergence still behind due to dry soils. Wheat 52% seeded, 77% last year; rye 55% seeded, 86% last year; other small grains 55% seeded, 82% last year. Pastures mostly poor to fair condition. Cattle mostly fair to good, hogs fair to mostly good.

HAWAII: Heavy rains continue certain parts Hawaiian chain.

Farm activities interrupted. Sugar harvesting island of Maui ceased because wet conditions. Heavy spoilage losses leafy crops reducing yields islands Maui, Hawaii. Spraying frequent to control diseases occurring from wet weather. Most bananas salvaged from wind damaged fields. Papaya harvesting steady. Pineapple harvesting slow. Sugar harvesting declining. Pastures generally good.

IDAHO: Temperatures below normal, high 51°, lows variable but below zero in southeast. Precipitation mostly in the form of snow and limited to southeast. Maximum precipitation 0.95 in.

Farm work limited to caring for livestock and making final preparation for winter.

ILLINOIS: Temperatures: 2° below normal west, 2 to 6° above normal remainder State. Precipitation: 0.50 in. northeast, 1.50 in. central, 4.0 in southeast.

Corn 97% harvested, 1977 88%, average 94%. Grain sorghum harvest 96% complete. Condition winter wheat good. Plowing 1979 corn and soybean acreage 70% complete, 1977 38%, average 53%. Pasture conditions good to fair. Pastures supplying 36% livestock roughage requirements, 1977 51%, average 40%. Fieldwork: 4.0 days suitable. Soil moisture short to adequate.

INDIANA: Cloudy, rainy week. Temperatures averaged 2° above normal. Rainfall averaged 2.40 in. in southwest, 1.70 in. in northeast, 1.20 in. in southeast, and 0.90 in. northwest. Central areas averaged about 2.00 in.

Fieldwork: 4.0 days suitable. Topsoil moisture mostly adequate to surplus. Subsoil moisture mostly adequate. Corn 90% harvested, 1977 85%, average 75%. Soybeans 100% harvested, 1977 85%, average 90%. Wheat 100% emerged. Wheat stands mostly good. Spring cropland 50% plowed. Tobacco 30% stripped.

IOWA: A cool, wet week. Temperatures averaged 2° subnormal southeast to 9° subnormal northwest. Measurable snow fell over much of north and west 16th and 17th with amounts to 8.00 in. at Cherokee. Weekend snow cover of 2.00 to 4.00 in. remains over northwest and north central Iowa.

KANSAS: General precipitation from 14th through 16th. Showers and thunderstorms southeast and east central, freezing precipitation and snow west and north. Moisture ranged 0.25 in. west to 0.50 to 1.00 in. central, 1.00 to 2.00 in. east, and 2.00 to 3.00 in. extreme southeast. Temperatures ranged from 31° northwest to 43° southeast or from 1° below normal southeast to 3 to 6° below normal elsewhere.

Most areas received much needed precipitation, more needed in western one-third. Very little wheat pasture. Little progress made in row crop harvest. Fieldwork: 3.0 days suitable. Corn harvest completed, last year 95%, average 60%. Sorghum harvest 95%, last year 90%, average 80%. Soybean harvest 95%, last year 70%, average 85%.

KENTUCKY: Very slow moving coldfront moved thru Kentucky during week. Temperatures much above seasonal normal on 13th; high in 70's; low in 40's. Cool to near normal by weekend; high in 50's; low in 30's. Rainfall abundant throughout the week averaging 4.00 in. west; 3.00 in. central and 1.50 to 2.00 in. over Bluegrass and east.

Rainfall brought fall field work to a standstill, but was beneficial to burley stripping, which is running well behind normal. Burley market opened November 20. Precipitation also relieved dry soil conditions extreme west and southeast and should benefit fall pastures and fall seeded grains.

LOUISIANA: Weather: Temperatures 7 to 8° above normal. Extremes 85 and 33°. Showers Statewide.

Fieldwork: 4.7 days suitable. Soil moisture short. Cotton 98% harvested, 92% last year, 77% average. Soybeans 98% harvested, 89% last year, 85% average. Sugarcane 56% harvested, 47% last year, 46% average. Sweetpotatoes 77% harvested. Oat and wheat 93% planted, 81% last year, 89% average. Pecans 47% harvested, 66% last year. Pasture poor to fair. Cattle fair to good, supplemental feeding.

MARYLAND & DELAWARE: Temperatures averaged 6° above normal. Highs in upper 50's, lows in 40's. Precipitation widespread averaging 0.50 to 1.00 in. Weekend sunny and cool.

Fieldwork: 4.5 days suitable. Topsoil moisture adequate, subsoil short to adequate. More moisture needed before freezing weather. Pastures below average. Soybeans 85% harvested, ahead of average progress. Small grain seeding nearing completion. Some fields spotty due to dry conditions. Apple harvest complete.

MICHIGAN: Temperatures ranged from 1° below normal over western Upper, to 3° above normal over southern Lower. Precipitation averaged 1.50 in. over Upper and 1.00 in. over Lower. Snow is on the ground for most of northern Lower and Upper with 10.0 in. reported at Houghton in western Upper.

Fieldwork: 5 days suitable. Soil moisture adequate. Pasture feed supplies average. Fall acreage plowed 60% complete. Grain corn 90% harvested, 70% last fall, 85% normal. Soybeans nearly 100% combined, 80% last season, 95% normal. Many farmers spent the week deer hunting. Also repair of buildings and equipment in preparation for winter.

MINNESOTA: Temperatures averaged 5° below normal. Extremes: 49° at Rochester and -4° at Bemidji. Precipitation averaged near normal west to 0.75 in. above normal south central and southeast. Precipitation totals ranged from less than 0.20 in. most of west to more than 1.00 in. parts of south central and southeast. Snowfall ranged from less than 1.00 in. central and extreme southeast to more than 9 in. extreme north central and south central through southern east central. Snow depth at week's end: 1.00 in. or less band extends from southwest to northeast corners, 3 to 7 in. elsewhere.

MISSISSIPPI: Temperatures 10 to 15° above normal. Extremes: 32 and 85°. Rainfall widespread, heaviest in Delta and northern areas.

Soil moisture considerably varied--northwestern, north central counties generally adequate; southeastern, south central counties short to very short; other areas short to adequate.

Fieldwork: 4.3 days suitable. Farmers winding up harvest, many have finished. Rain gave boost to winter grazing crops that had germinated and should bring up dry-planted fields. Soybeans 94% harvested, 80% 1977, 72% average. Cotton 98% harvested, 94% 1977, 78% average. Corn 98% harvested, 94% 1977, 89% average. Winter wheat 77% planted, 92% 1977, 88% average; crop in poor to fair condition. Pastures poor condition; livestock fair.

MISSOURI: Three to four days rain. Rainfall averaged 2.00 to 3.50 in. Ozarks and Bootheel, 1.00 to 2.00 in. central and northeast, less in northwest. Temperatures averaged near normal to above normal.

Fieldwork: 1.9 days suitable. Soybeans 95% harvested, last year 69%, normal 82%. Corn 89% harvested, last year 73%, normal 79%. Grain sorghum 91% harvested, last year 82%, normal 80%.

Winter wheat 93% seeded, last year 81%. Fall plowing for spring planted crops 54% completed, last year 26%. Condition of pastures mostly fair. Soil moisture supplies mostly adequate.

MONTANA: Cold week with snow. Temperatures averaged well below normal with lowest minimum falling below 0. Precipitation was light at first. Arctic air 17th moved across the state bringing snow and gusty northerly winds. Snow was heavy at times with some new accumulating near one foot and near blizzard conditions across Plains.

Winter wheat condition good. Soil moisture adequate. Livestock condition good, grazing mostly closed or difficult.

NEBRASKA: Temperatures 8 to 12° below normal. Precipitation in form of snow and sleet ranged from 0.10 in. west to 1.50 in. southeast.

Corn harvest slightly over 95% complete; year ago 90%, normal 85%. Sorghum grain harvest near 100%; year ago and normal 90%. Winter wheat condition: fair to good. Feeder cattle demand strong. Fieldwork: 4.3 days suitable.

NEVADA: Cold storm early, moved out by midweek. Snow north, rain showers south. Dry and warmer remainder of week. Temperatures averaged much below normal. Extremes: 70 and -13°.

Cotton harvest gaining momentum. Grading and marketing potatoes slow. Livestock good condition.

NEW ENGLAND: Mild and relatively dry weather, highs mostly in the 40's and 50's except on the 18th when readings ranged from low 50's to low 70's. Lows were mostly in the 30's to 40's, well above normal for this time of year. Scattered light rains early in the week. A strong frontal system passed across New England on the 17th. Rainfall 0.50 to 1.00 in.

NEW JERSEY: Temperatures 4 to 7° above normal, averaging: 47° north, 52° south and 53° coastal. Extremes: 27° at Newton and 71° at Pomona. Rainfall below normal coastal division and near normal inland, averaging 0.90 in. north, 0.82 in. south and 0.50 in. coastal. Heaviest 24-hour total 1.43 in. Summit.

Showers beneficial to fall grains and cover crops. Wheat, rye and barley fields in good condition. Field corn over 75% harvested. Soybean 80% complete. Apples and sweetpotatoes moving from storage.

NEW MEXICO: Extensive cloudiness, frequent rains, and snow through 15th, eastern plains through 16th. Most precipitation totals less than 0.50 in.

More damp weather; harvesting almost at standstill. Light to moderate freezes occurred all areas. Cotton getting very late and quality being affected. Less than 20% ginned compared with about 65% last year. Little alfalfa cut, season almost over. Moisture content too high to cut grain sorghum, 40% still remains. Some producers need killing freeze. Winter wheat good, additional soil moisture beneficial. Pecan harvest starting where drier soils permit. Peanut harvest about 70% complete, moisture hurting quality. Fall shipments of livestock almost over.

NEW YORK: Slightly above normal temperatures continued to be mainly in the 40's. Precipitation ranged from 0.25 to 1.00 in. but continues to be considerably below normal for the month.

NORTH CAROLINA: Temperatures 10 to 15 above normal. Precipitation 1.00 to 2.00 in. eastern and mountain areas.

Fieldwork: 4.7 days suitable. Soil moisture short to adequate. Condition: Wheat poor to fair; oats, barley and rye fair to good; pastures fair. Harvested: Soybeans 62%, 1977 41%, average 65%; cotton 79%, 1977 77%, average 73%; sorghum 93%, 1977 86%, average 86%. Planted: Wheat 80%, 1977 77%; oats 83%, 1977 89%; barley 89%, 1977 88%; rye 89%, 1977 84%.

NORTH DAKOTA: Dry weather prevailed. Storm 13th brought 1 to 3 in. snow most districts and up to 6 in. north central. Another storm 19th added 1 to 3 in. more. Precipital water from these storms generally ranged from 0.25 to 0.50 in. Temperatures more typical of January than November. Mercury remained below freezing point whole week over most of State. Extremes: -21° north central to 34° southeast.

Snow cover prevented any fieldwork. Major farm activities include moving hay and caring for livestock.

OHIO: Total rainfall 0.50 in. northeast, 1.00 to 1.50 in. elsewhere. Average temperatures 3 to 7° above normal; upper 20's to lower 70's.

Still some corn yet to be harvested as well as a few bean fields. Best week of season to bulk tobacco for stripping. Usual house burn. Fall plowing limited last week due to rain, more acreage turned than last year. Fall fertilizing and liming continued. Wheat has adequate moisture and stands look good. Livestock condition very good. Corn harvested 95%, 90% 1977, 90% average. Soybeans harvested 99%, 95% 1977, 100% average. Popcorn harvested 100%, 100% 1977, 95% average. Tobacco stripped 40%. Fall plowing 50% complete. Fieldwork: 4.0 days suitable. Pasture condition good. Soil moisture adequate.

OKLAHOMA: Precipitation fell all areas ranging from 0.32 in. Panhandle to 7.31 in. southeast. Temperatures ranged from near normal southeast to 10° below normal Panhandle.

Topsoil moisture supplies adequate, subsoil supplies short. Wheat rated good to fair with 88% up to stand, 95% 1977, 90% normal. Grazing reported on 6%. Sorghum and cotton harvested halted by weather. Sorghum harvest 71% complete 1978 and normal, 85% 1977. Cotton harvest 20% complete 1978 and normal, 48% 1977. Peanut harvest 92% complete, 95% 1977, 98% normal. Soybean harvest 80% complete, 67% 1977, 27% normal. Extreme dry conditions this year may account for the early harvest. Range and pasture fair to poor. Livestock good to fair. Fieldwork: 2.6 days suitable.

OREGON: Temperatures averaged 5 to 10° below normal along the coast and 10 to 15° below normal in the interior sections. Extremes: Mid-50's, mid teens west; mid-50's, zero east. Astoria was the wettest spot in the state with 1.67 in. Precipitation along the remainder of the coast was in 0.50 to 1.00 in. range. Elsewhere over state, amounts were generally 0.10 in. or less.

Good weather until weekend helped farmers with late harvest of grain, gathering hay and land preparation of ground for winter in east. In west, growers were finishing up nut harvest, fertilizing and more land preparation. After long dry spell, rain finally came on 16th and by week's end had given land good soaking.

PENNSYLVANIA: Mild week frequent periods of rain or drizzle. Clearing and cooler weekend. Precipitation totaled 1.00 to 1.50 in. central, under 0.50 in. extreme west. Some sleet northern mountains. Weekly temperatures 2° above south. Extremes: 68 and 22°.

Frequent showers and wet fields limited fall harvest.

PUERTO RICO: Island average rainfall 2.24 in. or 0.78 in. above normal. Temperatures averaged about 78° on coasts and 72° interior. Extremes: 93 and 55°.

SOUTH CAROLINA: Temperatures much warmer than usual with 83° at several stations 16th to 18th. Rainfall general, but less than usual except 1.00 in. fell in mountains.

Soil moisture very short or short. Fieldwork: 5 days available. Cotton 95% harvested, 83% last year, 82% average. Completion interrupted by moist conditions. Yields and quality remain good. Soybeans 96% mature, 61% harvested, 42% last year, 50% average. Small grains poor to fair condition, wheat rated highest, more soil moisture needed. Pastures poor to fair, livestock good.

SOUTH DAKOTA: Cold winter conditions settled in northern Plains, average temperatures 7 to 15° subnormal east, 13 to 17° subnormal central and west. Extremes: -10° and 55°. Precipitation mainly as snow; northern areas receiving the greatest amounts.

Farmers harvesting last of corn for grain, about 99% completed, normally 95% completed. With harvest mostly completed, farmers preparing for winter.

TENNESSEE: Rains at mid-week. Amounts above normal west and near normal east. Temperatures 7° above normal west and 11° above normal east. Fieldwork: 3.6 days suitable. Soil moisture short to adequate. Pastures poor. Cattle on supplemental feed. Corn harvested 96%, 1977 89%, average 83%. Cotton harvested 98%, 1977 95%, average 73%. Soybeans harvested 97%, 1977 90%, average 72%. Burley tobacco stripped 60%, 1977 77%, average 74%. Fall plowing completed 90%, 1977 89%, average 90%. Wheat seeded 93%, 1977 88%, average 85%.

TEXAS: Warm front triggered thunderstorm showers east. Cold front caused showers north central, south central, east. Low pressure system gave snow Panhandle rain north, south central end of week. Widespread rains occurred through 19th. Weekend rains spread over most of state except far west. Temperatures above normal over central regions, southwest, west, north central, and coastal. Temperatures below normal east, Panhandle. Rainfall above normal east, north and south central. Rainfall near normal Panhandle, below normal south.

Cold, wet weather covered most areas slowed planting harvesting operations. Some decline grade expected cotton stands Trans-Pecos, Edwards Plateau. Wheat, oats responded well to rain, grazing available most areas. Cotton harvest delayed High, Low Plains; rain, snow, sleet. Deterioration grade expected because recent rains on cotton ready for picking Edwards Plateau, Trans-Pecos areas. Sorghum harvest High, Low Plains little progress as cold, wet weather kept farmers out of fields most of week. Peanut harvest about on schedule. Most fields dug but a few remain to be threshed south, Edwards Plateau, Cross-Timbers areas. Soybean harvest delayed by cold, wet weather. Reports low yields received from Blacklands, northeast, parts of Upper Gulf Coast. Sugarbeet harvest far behind schedule; cold, wet weather caused several delays, harvest resume as weather conditions permit. Wheat seeding slightly ahead schedule. Few fields remain to be seeded Panhandle, Cross-Timbers, Blacklands, Edwards Plateau, south central. Recent rain improved stands conditions most areas. Many early fields providing good grazing. Cotton harvested 40%, 78% 1977, 51% average. Peanuts harvested 94%, 91% 1977, 95% average. Pecans harvested 33%, 37% 1977, 31% average. Sorghum harvested 94%, 100% 1977, 99% average. Soybeans harvested 82%, 86% 1977, 87% average. Sugarbeets harvested 60%, 87% 1977, 75% average. Sunflowers harvested 93%, 97% 1977, 93% average. Flax planted 53%, 12% 1977, 33% average. Oats planted 98%, 93% 1977, 94% average. Wheat planted 99%, 93% 1977, 96% average.

Supplies bell peppers, cabbage, cucumbers, lettuce, spinach, carrots harvested. Honeydew harvest complete, fields were plowed. Vegetable planting near completion. Onion transplanting active some areas. Citrus harvest continued. Land preparation for spring vegetables, watermelons active. Sweetpotato harvest complete in most areas. Scattered rains expected to enhance fall vegetable production. Some counties received light frost damage. Pecan harvest active across state, although slowed by rains, wet condition in central and east.

Scattered rains, showers across state expected to improve range, pasture conditions. On High Plains, livestock good condition with ample forage, wheat pasture. Freezing temperatures put end to most warm season grasses. Forage supplies in north central short but should respond to recent moisture. Livestock fair to good condition. Supplemental feeding, culling active. Range, livestock Trans-Pecos, south good to excellent condition with some rangeland in south turning brown as grasses mature.

UTAH: Scattered areas rain and snow forepart of period. Light to moderate accumulations. Clearing trend midweek accompanied by coldest temperatures of season northwest portion. Average temperatures ranged from near normal southeast to 15 to 20° below normal northwest.

Sorting and grading of apples, onions and potatoes continued. Sugarbeet processing in progress. Breeding of range ewes for spring lambing continued. Turkey processing in progress. Care and feeding of cattle and sheep on winter rangeland, feedlots and farms.

VIRGINIA: Unusually warm temperatures prevailed, averaging about 9° above usual. Extremes: 77 and 24°. Rainfall heavy, averaging about 1.00 in.

Topsoil moisture mostly short to adequate. Fieldwork: 3.4 days available. Harvest progress: Corn 94%, 88% 1977, 85% average; soybeans 84%, 46% 1977, 73% average. Wheat seeded 79%, 78% 1977, 81% average. Pastures, winter grains mostly fair. Beef cattle getting 60% of forage requirement from grazing, sheep 66%, dairy cattle 15%. Rainfall brought relief to dry conditions in all areas. Activities: Stepped up small grain seeding, feed and care of livestock, firewood cutting, pasture mowing, chop corn stalks, bale corn stover, fencing, fertilizing, plowing, repair work, soil sampling, tobacco grading and marketing, small game hunting.

WASHINGTON: West: Temperatures averaged 7 to 11° below normal. Precipitation ranged from 0.40 to 1.60 in. below normal.

Carrots and potatoes still being dug. Pruning berries continued. Christmas tree producers starting harvest. Livestock and dairy on winter program. Equipment repair is a major activity.

East: Temperatures averaged 10 to 12° below normal. Precipitation ranged from 0.10 to 0.20 in. below normal.

Frozen ground slowed sugarbeet and potato harvests. Corn harvest unaffected. Carrot digging, wine grape picking continue. Light rains gave some relief to moisture stress in fall grain stands. Greenbug activities slowed by cold.

WEST VIRGINIA: Temperatures well above average. Extremes: 77 and 30°. Precipitation below normal extreme south, above normal elsewhere.

Fieldwork: 3.2 days suitable. Soil moisture adequate to surplus. Fall pasture fair to good. Excess moisture has delayed preparation of tobacco plant beds. Hay supply 82% adequate, 18% surplus. Livestock good condition. Many farmers supplementing short pasture by feeding hay.

WISCONSIN: Winter arrived during week. Temperatures began mild with highs near 60 13th but fell to the 20's by 19th. There were frequent periods of precipitation, including the first major snowstorm. Rain on 13th changed to sleet and light snow in north. Snow flurries lingered in extreme north near Lake Superior through 14th. A heavy precipitation producing storm pushed across state late 16th and during 17th. Rain fell in southeast half and snow in northwest. Heavy snowfall of 6 to 15 in. covered northeast, 1 to 2 in. fell extreme northwest. Cold Arctic air moved in on weekend with scattered light snow and flurries.

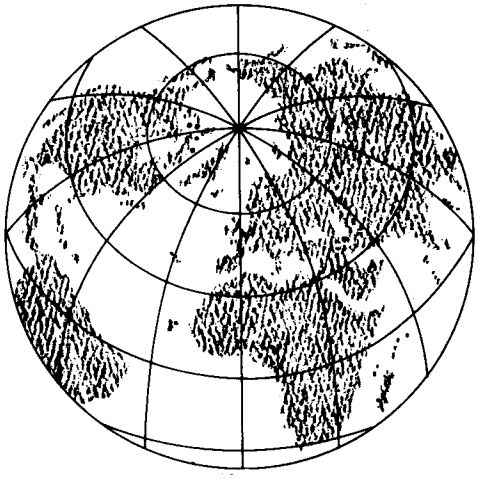
Most harvesting of crops was completed by mid-November. Much fall plowing also accomplished. Farms going into winter with large feed inventories.

WYOMING: Precipitation above normal most sections except Lower Platte drainage; slightly below normal. Temperatures quite a bit colder than normal with departures of almost 30° from normal in Big Horn drainage and 10 to 20° below normal in other areas. Maximums mostly mid-20's northwest to mid-40's southeast. Minimums -10 to -20° northwest and -10 to 10° elsewhere.

Winter storm slowed corn harvest. Winter wheat fair to good condition, additional moisture needed for good development. Ranchers in many areas feeding because of snow cover. Some stock still being sent to market and moved to winter pasture.

World Weather and Crop Update

November 13 - 19



USSR. West of the Volga River, precipitation was above normal in the north and below normal in agricultural areas to the south especially in the Ukraine, which has been dry for two weeks and could use some moisture for the wheat crop. The New Lands received generally normal precipitation with amounts commonly 4 to 10 mm.

PEOPLE'S REPUBLIC OF CHINA. Rainfall neared normal over much of the winter wheat belt, and much-above-normal rains of 30 to 50 mm continued in the upper reaches of the Yangtze River Valley. These lighter rains provided a good follow-up to the abundant rains of the previous week. The wheat crop is near dormancy as the freeze line moves into the northern portion of the belt. The main benefit of precipitation hereafter will be to replenish soil moisture.

S.E. ASIA. As the rice harvest approached, most of the area stayed relatively dry for the third consecutive week. Normal rains fell only in the Malay Peninsula and to the south.

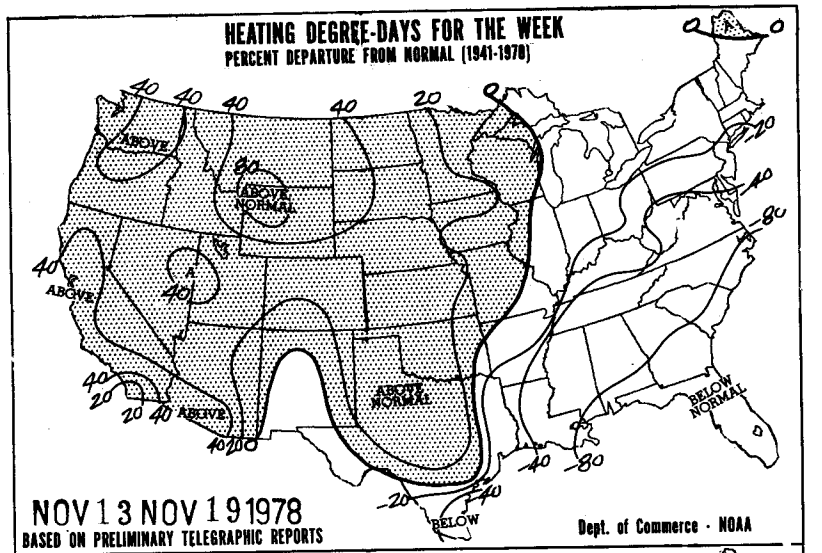
AUSTRALIA. Good harvest conditions prevailed in southern Queensland and northern New South Wales with very little rain occurring. However, wheat areas in Victoria and southern New South Wales were doused with much-above-normal amounts of 20 to 40 mm, possibly causing problems for the crop, which is nearly ripe for harvesting.

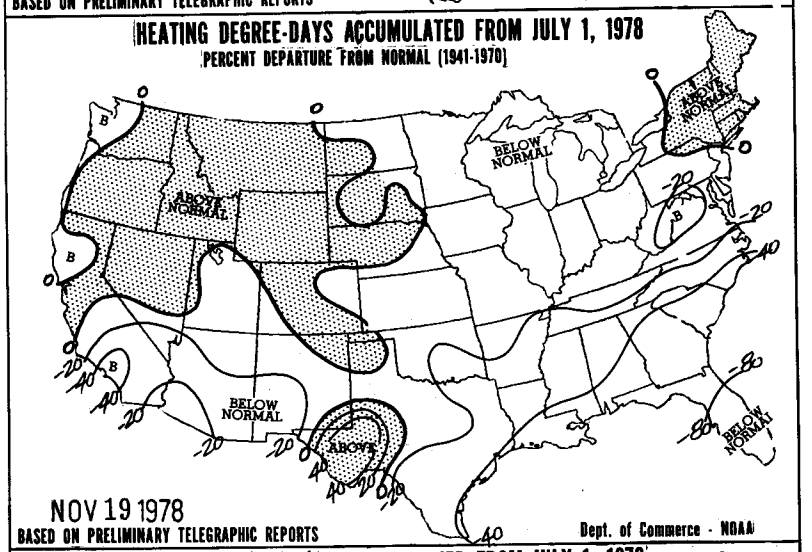
INDIA. The only significant rainfall (20 to 30 mm) occurred in the extreme south and in Assam. The wheat area in the north was dry, but the crop should be in good condition.

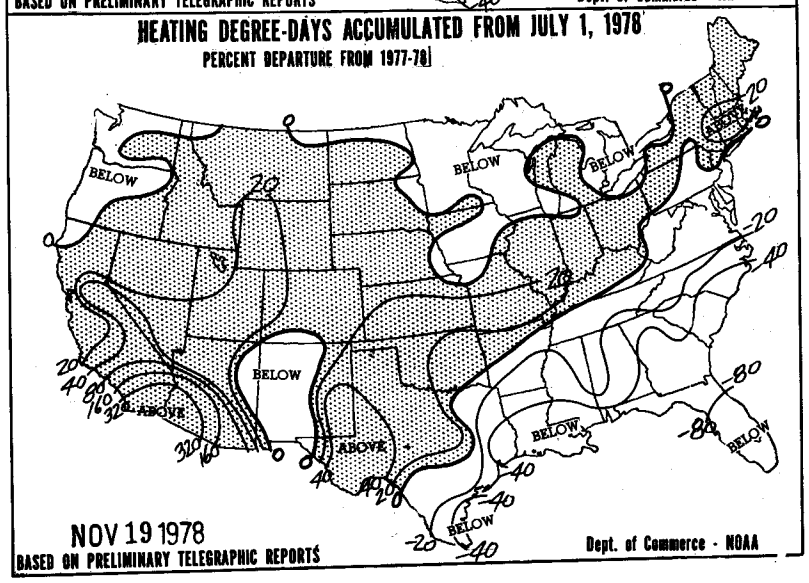
AFRICA. North Africa persisted rainless except for above-normal precipitation in coastal areas of Tunisia and western Libya. East Africa saw increased rain several weeks later than normal. In South Africa, normal rainfall amounts of 25 to 35 mm were concentrated in the southeastern part of the Maize Triangle, and conditions continued favorable for the corn crop.

EUROPE. For the third consecutive week, much of Europe received little or no precipitation; substantial amounts of 30 to 80 mm fell only in the United Kingdom and Norway. Italy has been dry since October 20, much of southeastern Europe since October 10, and much of France since October 1 giving some relative indication of stress on the wheat crop in these countries. Spain also was dry this week, lessening the benefits of last week's rains; however, the rains in England helped germinating winter grain crops.

SOUTH AMERICA. Rainfall in Parana was mostly below 10 mm, well under the normal of 25 to 35 mm; however, soybeans should still be in satisfactory condition. At the end of the week, much-above-normal rains, ranging from 40 to 190 mm, drenched a large area extending from the wheat and corn belts of Argentina through the soybean area of Rio Grande do Sul in Brazil. Wheat harvesting in the northern portion of Argentina's wheat belt was dealt a blow, and corn planting has been delayed, so there will probably be a significant switch to soybeans. In Rio Grande do Sul, the rains made up much of the recent water deficit, but fell excessively in western portions of the soybean area, undoubtedly disrupting planting operations.


HEATING DEGREE-DAYS FOR THE WEEK
PERCENT DEPARTURE FROM NORMAL (1941-1970)
ABOVE NORMAL
BELOW NORMAL
NOV 13 NOV 19 1978
BASED ON PRELIMINARY TELEGRAPHIC REPORTS
Dept. of Commerce - NOAA

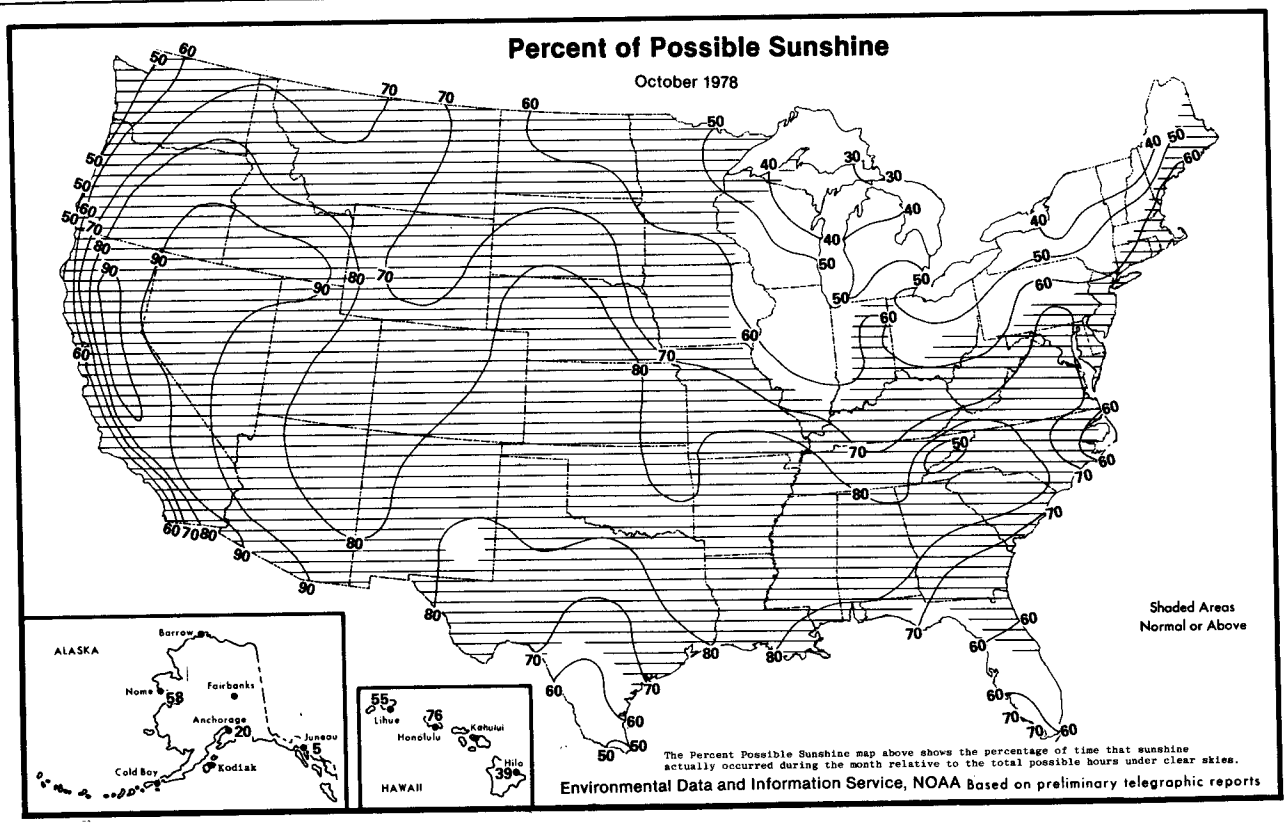

HEATING DEGREE-DAYS ACCUMULATED FROM JULY 1, 1978
PERCENT DEPARTURE FROM NORMAL (1941-1970)
ABOVE NORMAL
BELOW NORMAL
NOV 19 1978
BASED ON PRELIMINARY TELEGRAPHIC REPORTS
Dept. of Commerce - NOAA

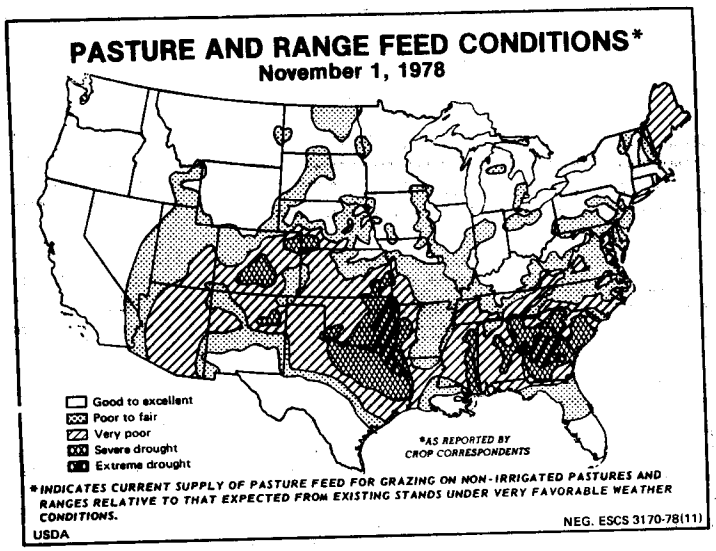

HEATING DEGREE-DAYS ACCUMULATED FROM JULY 1, 1978
PERCENT DEPARTURE FROM 1977-78
BELOW
ABOVE
NOV 19 1978
BASED ON PRELIMINARY TELEGRAPHIC REPORTS
Dept. of Commerce - NOAA

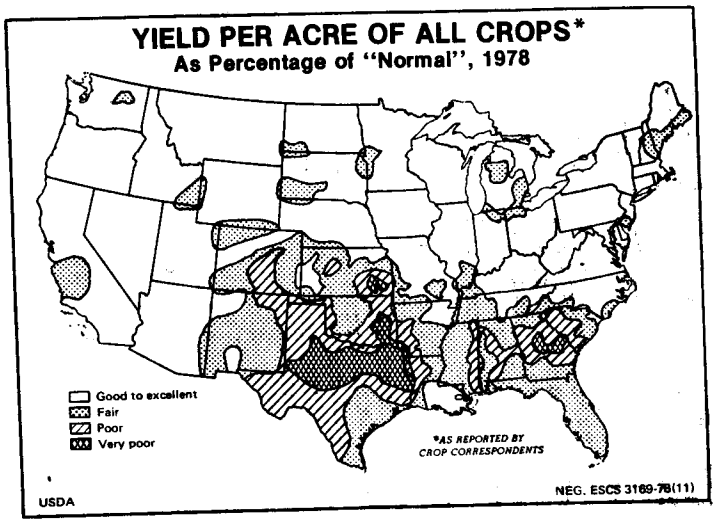
HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING NOV. 19, 1978.

STATES AND STATIONS	WEEKLY TOTAL	WEEKLY DEPARTURE*	SEASONAL ACCUMULATION + TOTAL	SEASONAL ACCUMULATION + DEPARTURE*	SEASONAL ACCUMULATION + DEPARTURE FROM 1977-78
ALA. BIRMINGHAM	37	-56	277	-84	-86
MOBILE	7	-44	53	-98	-131
MONTGOMERY	17	-55	136	-121	-71
ARIZ. FLAGSTAFF	254	51	1310	-137	242
PHOENIX	53	10	65	-42	-45
TUCSON	76	23	113	-32	57
WINSLOW	170	14	537	-106	-39
YUMA	43	18	48	-2	41
ARK. FORT SMITH	102	-2	327	-48	5
LITTLE ROCK	96	-9	265	-126	-8
CALIF. BAKERSFIELD	83	18	136	62	30
EUREKA	120	27	1342	1	-18
FRESNO	112	30	248	27	31
LOS ANGELES	59	23	106	113	50
RED BLUFF	124	42	232	33	16
SAN DIEGO	39	6	86	54	71
SAN FRANCISCO	113	45	577	34	59
STOCKTON	132	45	327	42	130
COLO. DENVER	223	40	930	-51	100
GRAND JUNCTION	221	41	816	0	169
PUEBLO	226	53	856	43	72
CONN. BRIDGEPORT	89	-44	633	14	108
HARTFORD	163	-3	1120	215	299
DEL. WILMINGTON	80	-56	604	-6	-46
D.C. WASHINGTON	69	-51	363	-121	-5
FLA. APALACHICOLA	4	-34	46	-57	-99
DAYTONA BEACH	0	-23	2	-45	-62
FORT MYERS	0	-9	0	-20	-28
JACKSONVILLE	2	-36	90	-11	-77
KEY WEST	0	0	0	0	0
LAKELAND	0	-17	4	-31	-35
MIAMI	0	-2	0	-2	-1
ORLANDO	0	-18	0	-36	-26
TALLAHASSEE	5	-44	94	-44	-122
TAMPA	0	-16	2	-31	-51
WEST PALM BEACH	0	-7	1	-7	-6
GA. ATLANTA	22	-76	194	-175	-170
AUGUSTA	21	-61	183	-108	-107
MACON	13	-60	137	-110	-120
SAVANNAH	0	-60	66	-127	-146
IDAHO. BOISE	222	42	1121	132	113
LEWISTON	215	40	1056	67	7
POCATELLO	307	99	1400	154	227
ILL. CAIRO	115	-5	431	-13	72
CHICAGO	160	-16	776	-23	6
MOLINE	195	11	847	-27	38
PEORIA	176	-2	781	-51	-6
ROCKFORD	185	-9	890	-98	-79
SPRINGFIELD	149	-15	660	-70	31
IND. EVANSVILLE	99	-44	561	-49	76
FORT WAYNE	159	-16	842	-47	28
INDIANAPOLIS	134	-32	695	-71	98
SOUTH BEND	153	-27	785	-149	-22
IOWA. BURLINGTON	191	11	797	-28	37
DES MOINES	217	23	804	-115	21
DUBUQUE	219	12	1003	-90	81
SIOUX CITY	272	67	991	1	50
KANS. CONCORDIA	213	43	699	-49	37
DODGE CITY	210	51	639	-26	117
GOODLAND	251	62	938	-19	83
TOPEKA	190	32	697	0	106
WICHITA	178	33	552	-29	112
KY. LEXINGTON	103	-43	610	-24	111
LOUISVILLE	93	-50	516	-99	20
LA. BATON ROUGE	17	-32	79	-86	-77
LAKE CHARLES	19	-23	72	-57	-53
NEW ORLEANS	2	-41	46	-90	-78
SHREVEPORT	43	-22	143	-76	-62
MAINE. CARIBOU	238	3	1854	79	140
PORTLAND	163	-21	1248	16	8
MD. BALTIMORE	86	-47	546	-47	41
MASS. BOSTON	117	-22	858	140	209
MICH. ALPENA	179	-34	1227	-300	-221
DETROIT	160	-16	910	-17	-66
FLINT	168	-20	945	-146	-20
GRAND RAPIDS	188	-2	1123	111	118
HOUGHTON LAKE	196	-20	1453	-41	35
LANSING	161	-27	1028	-24	13
MARQUETTE	217	-2	1364	52	13
MUSKEGON	183	1	1120	62	86
S. STE. MARIE	218	-8	1636	-21	-133
MINN. DULUTH	273	13	1623	-115	-155
INTERNATL FALLS	318	33	1835	-70	-112
MINNEAPOLIS	250	17	1021	-218	-188
ROCHESTER	284	54	1274	-10	75
ST. CLOUD	271	22	1305	-124	-100
MISS. JACKSON	37	-35	189	-67	-101
MERIDIAN	37	-42	216	-78	-28
MO. COLUMBIA	160	10	575	-68	32
KANSAS CITY	183	30	610	-26	15
ST. LOUIS	135	-8	570	-24	24
SPRINGFIELD	157	17	566	-34	112
MONT. BILLINGS	362	152	1449	199	210
GLASGOW	384	127	1646	129	2
GREAT FALLS	359	142	1542	157	48
HAVRE	396	146	1519	12	94
HELENA	383	145	1638	37	65
KALISPELL	313	69	1884	7	-1
MILES CITY	362	129	1330	8	55
MISSOULA	302	70	1750	102	67
NEBR. GRAND ISLAND	242	51	902	-28	86
LINCOLN	227	41	807	-49	53
NORFOLK	258	53	942	-83	7
NORTH PLATTE	274	68	1150	50	99
OMAHA	209	29	738	-64	14
VALENTINE	291	74	1178	5	39
NEV. ELY	323	104	1594	102	241
LAS VEGAS	109	24	148	-115	32
RENO	216	40	1173	40	170
WINNEMUCCA	239	43	1326	66	176
N.H. CONCORD	179	10	1372	176	111
N.J. ATLANTIC CITY	93	-40	750	134	191
TRENTON	94	-38	591	-13	-20
N.MEX. ALBUQUERQUE	145	-2	464	-110	-63
ROSWELL	142	12	491	-28	213
N.Y. ALBANY	162	-15	1221	193	211
BINGHAMTON	165	-22	1168	19	-8
BUFFALO	157	-20	1021	12	76
NEW YORK	88	-36	587	39	44
ROCHESTER	151	-21	925	-54	-28
SYRACUSE	144	-24	1020	74	85
N.C. ASHEVILLE	62	-71	494	-148	-106
CHARLOTTE	37	-61	270	-121	-125
GREENSBORO	59	-60	426	-88	-101
HATTERAS	6	-58	137	-84	-84
RALEIGH	30	-75	306	-141	-179
WILMINGTON	7	-61	124	-108	-153
N.DAK. BISMARCK	355	98	1537	39	48
FARGO	329	70	1427	-39	2
WILLISTON	377	114	1564	-11	-2
OHIO. AKRON-CANTON	140	-32	880	-28	30
CINCINNATI	115	-36	678	-3	-4
CLEVELAND	129	-36	734	-147	-2
COLUMBUS	127	-37	765	-59	-47
DAYTON	138	-27	768	-4	-43
TOLEDO	163	-17	937	5	20
YOUNGSTOWN	137	-37	937	-23	99
OKLA. OKLAHOMA CITY	140	27	329	-92	20
TULSA	126	14	333	-76	47
OREG. ASTORIA	166	35	1163	-65	-123
BURNS	260	52	1571	177	123
MEDFORD	195	42	896	34	-6
PENDLETON	236	67	1153	232	-10
PORTLAND	197	56	936	18	-23
SALEM	204	63	948	9	-101
PA. ALLENTOWN	110	-50	776	-45	-48
ERIE	143	-32	937	-116	-22
HARRISBURG	91	-59	603	-100	-83
PHILADELPHIA	95	-37	579	-23	-41
PITTSBURGH	130	-37	928	21	70
SCRANTON	140	-30	1016	63	18
R.I. PROVIDENCE	129	-22	949	127	181
S.C. CHARLESTON	3	-61	92	-127	-140
COLUMBIA	17	-63	156	-140	-204
GREENVILLE	42	-58	286	-99	-64
S.DAK. ABERDEEN	321	74	1286	-80	-53
HURON	291	58	1277	40	127
RAPID CITY	328	117	1198	18	14
SIOUX FALLS	272	45	1165	-43	-26
TENN. CHATTANOOGA	40	-74	336	-126	-97
KNOXVILLE	44	-68	358	-92	-83
MEMPHIS	48	-52	212	-169	-45
NASHVILLE	50	-69	388	-81	-72
TEXAS. ABILENE	95	15	225	-45	4
AMARILLO	175	41	566	22	125
AUSTIN	61	13	106	-40	-10
BEAUMONT	27	-17	64	-69	-31
BROWNSVILLE	3	-4	12	-8	-8
CORPUS CHRISTI	5	-14	21	-24	-25
DEL RIO	46	4	82	42	7
EL PASO	82	15	250	-62	-26
FORT WORTH	87	19	160	-51	-19
GALVESTON	15	-9	34	-29	-12
HOUSTON	24	-13	72	-31	-61
LUBBOCK	145	28	415	-24	116
MIDLAND	110	25	386	113	169
SAN ANGELO	96	26	239	6	56
SAN ANTONIO	49	8	94	-28	-13
VICTORIA	30	1	66	-10	-3
WACO	84	28	163	-18	51
WICHITA FALLS	120	32	280	-10	49
UTAH SALT LAKE CITY	222	38	863	-102	100
VT. BURLINGTON	186	-9	1414	170	206
VA. LYNCHBURG	72	-55	496	-75	-51
NORFOLK	30	-64	297	-71	-4
RICHMOND	58	-54	402	-88	-27
ROANOKE	82	-47	586	-11	-12
WASH. QUILLAYUTE	192	44	1409	-49	-150
SEATTLE-TACOMA	181	36	991	-106	-28
SPOKANE	296	86	1598	271	103
WALLA WALLA	222	62	857	-42	-33
YAKIMA	274	85	1290	150	38
W.VA. BECKLEY	79	-84	736	-192	-121
CHARLESTON	66	-73	594	-53	-21
HUNTINGTON	84	-54	609	-33	-40
PARKERSBURG	80	-61	548	-104	-53
WIS. GREEN BAY	226	7	1234	-57	-17
LACROSSE	220	10	871	-207	-227
MADISON	232	17	1186	-38	-39
MILWAUKEE	191	-10	965	-156	-63
WYO. CASPER	350	128	1468	121	211
CHEYENNE	256	46	1361	26	90
LANDER	435	196	1597	190	279
SHERIDAN	372	146	1529	130	141

BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JULY 1, 1978.


Percent of Possible Sunshine
October 1978
Shaded Areas Normal or Above
ALASKA
Barrow
Nome
58
Fairbanks
Anchorage
20
Juneau
5
Cold Bay
Kodiak
55
Lihue
76
Honolulu
Kahului
Hilo
39
HAWAII
The Percent Possible Sunshine map above shows the percentage of time that sunshine actually occurred during the month relative to the total possible hours under clear skies.
Environmental Data and Information Service, NOAA Based on preliminary telegraphic reports


PASTURE AND RANGE FEED CONDITIONS*
November 1, 1978
Good to excellent
Poor to fair
Very poor
Severe drought
Extreme drought
*AS REPORTED BY CROP CORRESPONDENTS
*INDICATES CURRENT SUPPLY OF PASTURE FEED FOR GRAZING ON NON-IRRIGATED PASTURES AND RANGES RELATIVE TO THAT EXPECTED FROM EXISTING STANDS UNDER VERY FAVORABLE WEATHER CONDITIONS.
USDA
NEG. ESCS 3170-78(11)


YIELD PER ACRE OF ALL CROPS*
As Percentage of "Normal", 1978
Good to excellent
Fair
Poor
Very poor
*AS REPORTED BY CROP CORRESPONDENTS
USDA
NEG. ESCS 3169-78(11)

1979 PROSPECTS: WEATHER AND PRODUCTION

by
R.E. Felch
and
J.L. Lambert
Agricultural Weather Analysts
World Food and Agricultural Outlook and Situation Board, USDA

(Presented at the 1979 Food and Agricultural Outlook Conference, November 16, 1978)

Generally excellent weather in most of the major grain producing regions of the world have played a significant role in this year's bumper crops. Will favorable weather patterns continue in 1979? If accurate and timely long range weather forecasts were available, it would be much easier to answer this question. Despite the fact that such forecasts are not available, some conclusions may be drawn about production about the potential for 1979. The purpose of this paper is to review the current agricultural weather situations both nationally and internationally, and by adding what is known about the climatological features of various production areas, give some preliminary indications of prospects for 1979---particularly for the spring season in the Northern Hemisphere.

The starting point for evaluating 1979 potential is consideration of recent and current weather events. For example, the rainfall patterns of recent weeks have helped to determine the amount of soil moisture available for corn and soybean growth in 1979. The moisture has already determined the amount of fieldwork completed in preparation for spring. It has also established the condition of the winter wheat crop, which in turn, will partially determine how well the crop stands up to winter conditions. In this agricultural weather system, there has been a certain amount of inertia or momentum already in the system.

Soil moisture is a key element in determining production prospects. Outside of the United States, judgements about soil moisture must be very qualitative. Despite this limitation, conditions will be expressed in this context.

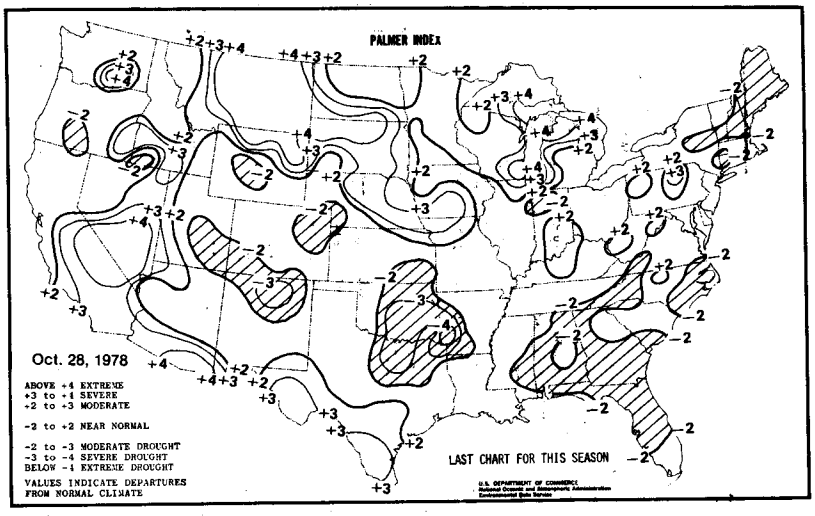


Figure 1. The Palmer Index Map for the United States as of October 28, 1978

The United States

General soil moisture: Figure 1 shows the latest Palmer Index map. The Palmer Index is designed to provide a means for evaluating the scope, severity, and frequency of prolonged periods of abnormally wet or dry weather. Though not always an indication of the current moisture situation relative to plant requirements, it is an excellent measure of the overall soil moisture situation. Essentially, it shows the overall hydrologic picture which may have very important implications for agriculture, particularly in longer-term planning. The Palmer Index is also useful because it effectively integrates the effects of the weather over a period of weeks and even months. Positive values of the index indicate that moisture supply, either from current or antecedent rainfall, exceeded the amount required to sustain soil moisture levels that would be considered normal for the area.

Compared to a year ago, conditions east of the Rockies are generally drier with moderate to extreme drought over the southeastern Great Plains and moderate drought over much of the Southeast. Last winter very heavy precipitation erased the severe drought which had prevailed in the West.

Winter wheat: Conditions across the entire winter wheat producing areas of the Great Plains are much drier than a year ago. Winter wheat was seeded under very dry conditions and moisture has been sparse since. During the month of October, precipitation amounts were less than 50 percent of normal over the entire central and southern Great Plains with most of the area less than 25 percent of normal; central Kansas was less than 10 percent. Winter wheat is normally grazed in parts of Oklahoma and Texas several times, however, this year no significant growing has taken place. In terms of actual soil moisture, amounts were generally only 15 percent of normal (1 to 3 inches) across much of Oklahoma as of November 1. Although one significant rain occurred in early November, it is too late in the season for any significant growth. The key question at this time is root development. Will root growth be sufficient to hold the soils and minimize blowing? Reflecting on previous years, this fall is similar to 1975 when conditions were also very dry. With key rains in early spring of 1976, the crop responded and produced an excellent crop.

In general (a) the certainty of adequate moisture for the 1978/79 crop is much less than a year ago and (b) the Great Plains will be very susceptible to blowing. An adequate snow cover will be very important. Extensive conservation practices to minimize blowing will be required.

In the Pacific Northwest, early seeded winter grain shaped up well. However, late seeded fields are having difficulty because of dry conditions. The winter rainy season has been slow starting.

Spring wheat: The primary spring wheat areas of the Dakotas and Montana have conditions similar to last year at this time with normal to above normal moisture conditions. Soil moisture conditions should not cause any major difficulties for either fieldwork or seeding in the spring based on present conditions.

Corn/Soybeans: The heart of the Corn Belt has enjoyed a perfect harvest season for bumper corn and soybeans crops. October moisture was about half of normal over the western Corn Belt and near to above normal over the eastern portion. Compared to a year ago, when soils were already saturated in many areas, conditions are much drier and fall plowing is well underway. Conditions are still quite favorable with actual soil moisture near or above normal for this time of the year.

In general, the odds are in favor of a normal planting season across the Corn Belt, possibly a little earlier than usual. Also with near normal rainfall patterns, soil moisture profiles will be near capacity at the beginning of the growing season.

In the southwestern United States, corn and soybeans were hurt by very dry conditions throughout the past summer. These conditions have persisted in the fall. Based on climatology, there is a reasonable chance for some recovery of the soil moisture during the winter months. However, spring time moisture will be the key to total recovery.

Other crops: Dry conditions over the Southeast have kept pasture conditions very poor throughout the summer and fall. Feed for livestock is in short supply, and there appears to be very little chance of significant improvement over the winter months. Even if the moisture pattern should change sharply, low temperatures will hamper any potential regrowth. The best that can be hoped for would be adequate moisture which would prevent the complete loss of the pasture and some buildup of soil moisture in preparation for the warmer spring months.

The International Situation

This section discusses the regions which the department will be monitoring closely during the coming months through the activities of the joint USDA/NOAA Agricultural Weather Facility. The facility provides the Department with the means to monitor weather conditions anywhere in the world on a day-to-day basis.

The USSR: The Soviet Union appears to have harvested a record grain crop this year despite some difficulties early in the harvest season. For the second consecutive year, winter wheat was sown with favorable moisture conditions---a key element for any good year. Growth of winter grains has not been as great as last year when a warmer than normal November maintained growth much longer than usual. However, the overall condition should be good. Two key elements to watch during the coming months are winterkill and early spring moisture. Winterkill is often very severe in the Soviet Union. Temperature and snow cover must be monitored closely. Also early spring moisture is necessary for normal to above normal production. While it is not possible to forecast whether favorable conditions will occur, present conditions are such that potential for another good crop still exists.

People's Republic of China: Broad expanses of central and eastern PRC have experienced a very dry summer. Irrigation systems have permitted the production of reasonable crops this year, but concern must be raised over the potential for problems in 1979. Large portions of the winter wheat area is irrigated and should be in reasonable condition at this time. However, reservoir levels must be reaching lower than desired levels. Wintertime moisture in the PRC is very sparse. Therefore there is very little chance of significant improvement between now and early spring when rainfall begins to increase. Therefore there could be serious problems with the water supplies for crops. If the spring months stay very dry, it would have serious ramifications for all crops.

India: Late rains in October caused considerable flooding across much of northeastern India, but this moisture has assured an adequate supply of irrigation water for the coming winter. Prospects for the winter crops are very good.

Brazil/Argentina: South America is being watched closely as they move into the harvest of their winter grains and the planting of corn and soybeans is well underway. Very wet conditions have prevailed over Argentina during their early spring months causing some problems in the planting of corn and other summer crops. Wheat harvest has started. Although wheat acreage was reduced because of wet conditions, yields should be excellent based on good moisture throughout the spring months. Brazil has enjoyed generally favorable weather except in the key state of Parana. Rainfall was generous the past four weeks in the surrounding states and the fringes of Parana. Soybean planting has generally proceeded on schedule and the delays experienced in 1977 will be avoided.

Australia: The winter grain harvest is underway. Rain has fallen regularly throughout the major producing areas. This may be causing some interruptions in harvest activity.

Summary

There are no major weather crises around the world at the moment. However, dryness in both the People's Republic of China and in Parana, Brazil, are potentially serious and will bear close watching in the coming weeks and months. The major threat to the Soviet Union is winterkill---a regular feature of their production problems.

Dryness over the central and southern Great Plains and the Southeast are the two most serious concerns in the United States at this time. Winter wheat was planted over the Great Plains under drier than desirable conditions. The crop has been struggling to become established before going into dormancy. Soil blowing will be a major threat throughout the winter months unless very careful conservation practices are followed. In the Southeast, moisture levels may be expected to pick up during the winter months based on the normal rainfall patterns. However, winter temperatures could prevent any significant recovery of pastures. Row crops will be very dependent on moisture conditions next spring. The Corn Belt is in excellent shape with fall fieldwork well advanced. Odds point to a normal or earlier than normal planting season compared with the late season of spring 1978.

Agricultural Weather Facility
USDA South Bldg., Room 1248
Washington, DC 20250

IMMEDIATE – U. S. Weather Report

This Report Will be Treated in All Respects as Letter Mail

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM 210

U.S.MAIL

FIRST CLASS MAIL

HARVESTING PROGRESS

PERCENT OF ACREAGE HARVESTED
AS OF NOVEMBER 19

soybeans

	1978	1977	AVG.
ALA	90	68	75
ARK	90	79	85
GA	80	53	NA
ILL	100	95	100
IND	100	85	90
IOWA	100	90	98
KANS	95	70	85
KY	NA	NA	NA
LA	98	89	85
MICH	100	80	95
MINN	100	100	100
MISS	94	80	72
MO	95	69	82
NEBR	100	90	95
NC	62	41	65
OHIO	99	95	100
SC	61	42	50
TENN	97	90	72
TEX	82	86	87
U.S.	95	83	88

THESE 19 STATES PRODUCED 96%
OF THE 1977 U.S. SOYBEAN CROP.

sorghum

	1978	1977	AVG.
COLO	93	100	81
KANS	95	90	80
MO	91	82	80
NEBR	100	90	90
OKLA	71	85	71
S DAK	NA	NA	NA
TEX	94	100	99
7 STATES	94	93	88

THESE 7 STATES PRODUCED 93%
OF THE 1977 U.S. SORGHUM CROP.

corn

	1978	1977	AVG.
GA	97	95	NA
ILL	97	88	94
IND	90	85	75
IOWA	98	86	90
KANS	100	95	80
KY	NA	NA	NA
MICH	90	70	85
MINN	100	NA	NA
MO	89	73	79
NEBR	95	90	85
NC	100	100	88
OHIO	95	90	90
PA	NA	NA	NA
S DAK	99	NA	95
TEX	100	100	100
WISC	95	75	95
U.S.	96	87	88

THESE 16 STATES PRODUCED 94%
OF THE 1977 U.S. CORN CROP.

cotton

	1978	1977	AVG.
ALA	94	80	72
ARK	93	94	92
GA	90	67	NA
LA	98	92	77
MISS	98	94	78
MO	98	91	86
NC	79	77	73
OKLA	20	48	20
SC	95	83	82
TENN	98	95	73
TEX	40	78	51
11 STATES	58	81	59
CALIF	55	NA	NA

THESE 11 STATES PRODUCED 72%
OF THE 1977 U.S. COTTON CROP.

NA NOT AVAILABLE