

WEEKLY WEATHER AND CROP BULLETIN

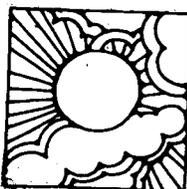
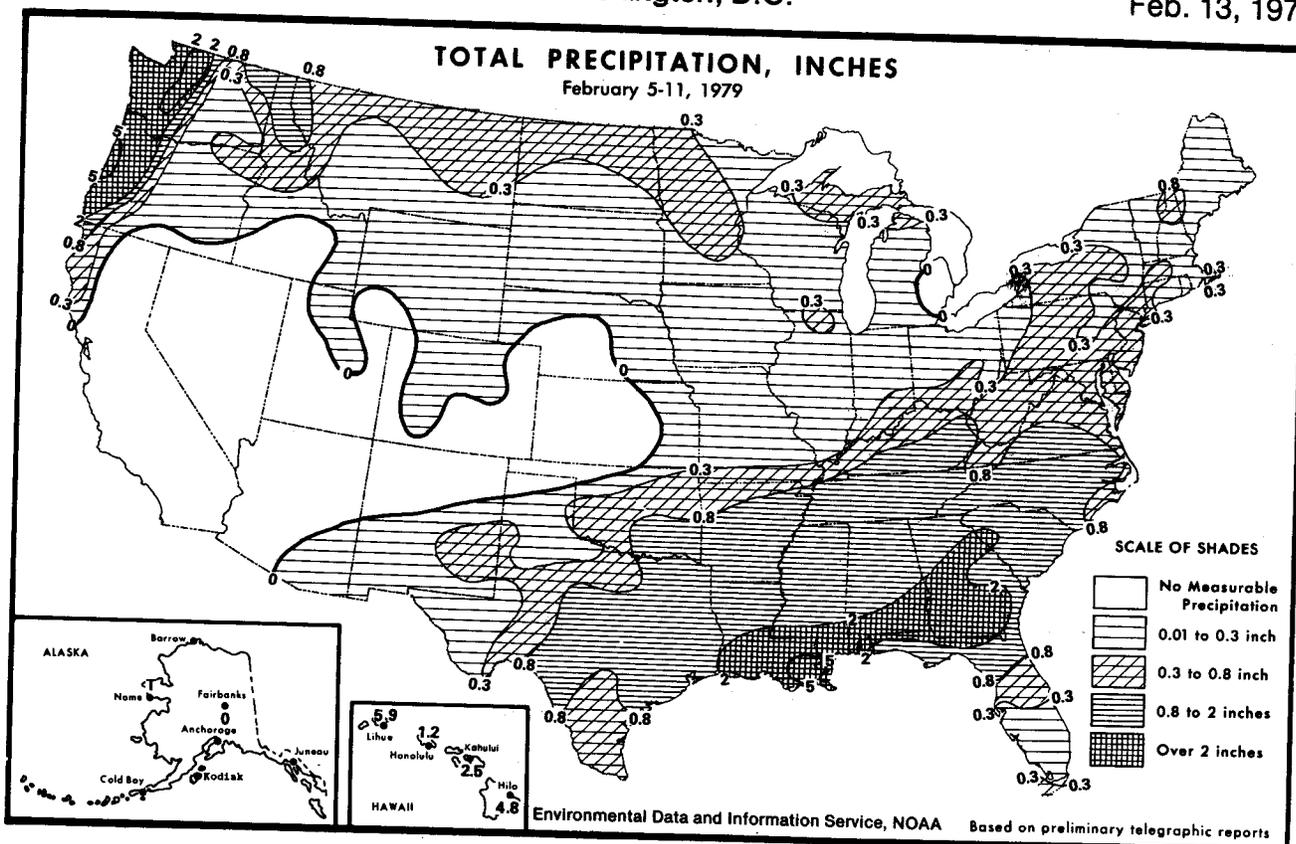
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Feb. 13, 1979



National Weather Summary

February 5 - 11

HIGHLIGHTS: A large mass of cold Canadian air moved southward enveloping the Nation from the Rockies to the East Coast. Temperatures ranged as much as 22 degrees below normal from the central Plains to western Pennsylvania.

A Pacific storm system started to bring warm air into the western United States where readings rose to 6 to 8 degrees warmer than normal.

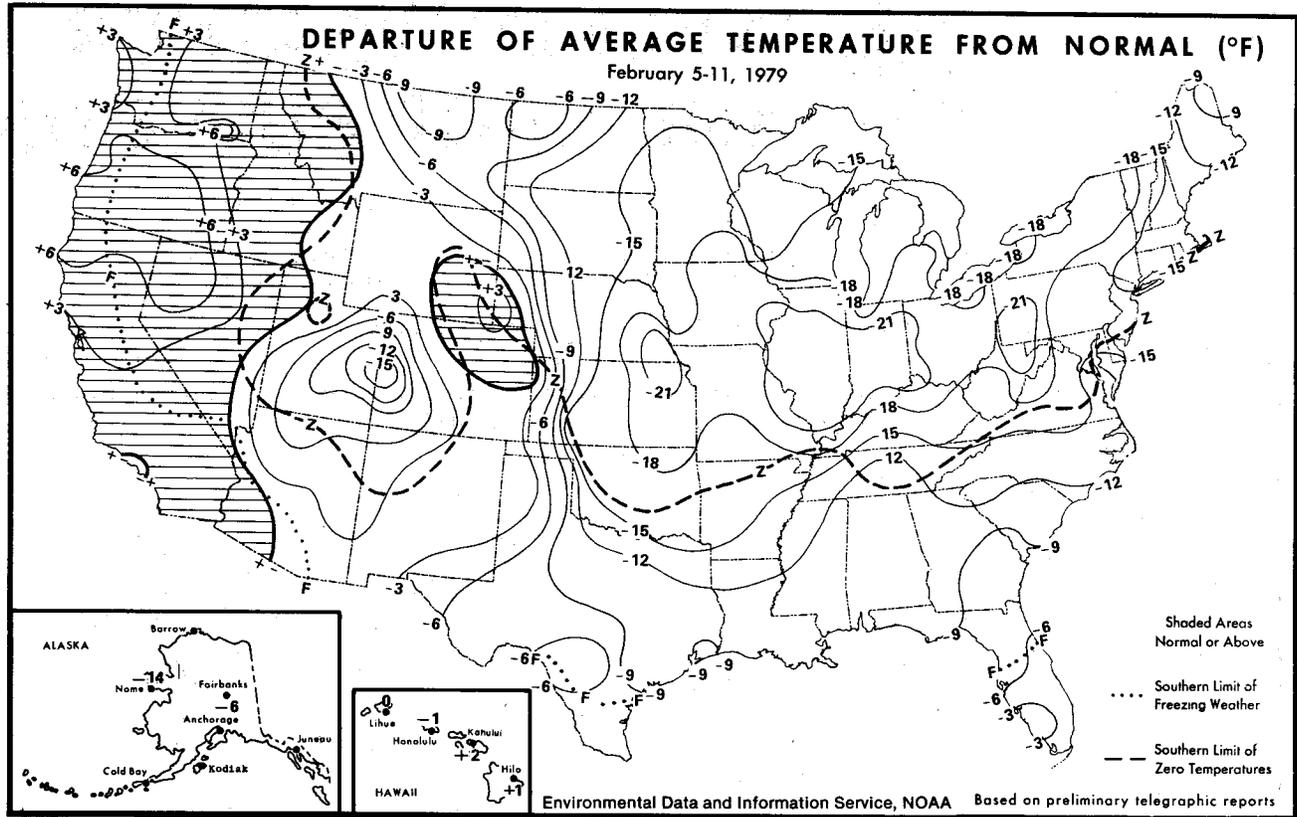
Storm systems originating in the Gulf of Mexico spread rain and snow from Texas to New England; heavy amounts of rain fell along the Gulf Coast. Parts of the Midwest added 4 inches of snow to hefty accumulations already on the ground.

On Monday, low pressure systems churned through the Southwest and Gulf Coastal States, while temperatures dipped to record levels from Oklahoma to Ohio.

Snow---up to 7 inches---fell from southern New Mexico through north central and southwestern Texas. Rain dampened an area from the Texas Coast to Mississippi; more than an inch soaked Galveston and the New Orleans vicinity. Other moisture showed some rain in the Pacific Northwest and light snow in northern New England.

More than two dozen stations reported record low readings. A sampling included Tulsa's record-tying 4°, Kansas City's -12°, Chicago's -17°, Minneapolis/St. Paul's -27° (undercutting by one the 1895 mark), -16° at Indianapolis which knocked off the old record by 7 degrees, and Cincinnati's record-equaling -9°.

The Gulf low pressure system surged inland on Tuesday spreading rain and snow from the Deep South through the Middle Atlantic States. Southeastern Louisiana weathered 4 to 5 inches of rain and local flooding. Jacksonville, Fla., chalked



up an inch and three-quarters. To the north, several inches of snow whitened an area from Oklahoma through the Tennessee Valley to the Virginias and Carolinas.

In the Northwest, Olympia, Wash., saw more than an inch of rain, while the eastern portions of the State noted up to a half-foot of snow.

Very cold air held from the Midwest to the East. Record low readings in West Virginia chilled Elkins, -16° , and Charleston, a tying 2° . Chicago and Pittsburgh opened the books to 7° , and Toledo managed a record-equaling -6° .

The eastern storm brought 4 to 8 inches of snow to most of the States from the Carolinas northward, but began moving out to sea by the end of Wednesday. Before heading eastward, the system had blanketed Little Rock, Ark., with 9 inches of snow---its heaviest snowfall since 1966. Snow also fell from the Rockies to Iowa where Des Moines measured 3 inches.

Rain fell at opposite corners of the Nation; more than an inch and a half soaked Eugene, western Oregon, while Key West, Fla., totaled three-quarters inch.

On Thursday, a low pressure center and cold front set off snow in the Rockies reaching the Appalachians by the end of the day; 2 to 7 inches covered the area.

Rain persisted in the Pacific Northwest where another inch soaked in.

Evansville, southern Indiana, saw the thermometer plummet to -2° , tying the 1899 mark.

On Friday, light snow dusted the country from the Tennessee Valley to the Eastern Seaboard.

A cold front moved onshore in the Northwest carrying rain to Washington, Oregon, and extreme northern California; light snow reached Idaho.

The dominant system in the country brought clear skies and icy temperatures to the midlands. Record low readings chilled Oklahoma City, -3° , St. Joseph, northwestern Missouri, -21° , South Bend, northern Indiana, -11° , and Muskegon, west central Michigan, -9° .

Though nearly the entire Nation enjoyed a clear Saturday, temperatures declined to record levels from the Plains to the Atlantic Coast. The only moisture---about three-quarters inch---fell along the upper West Coast States.

Some of those record cold readings included 21° at Baton Rouge, southern Louisiana, 18° at Mobile, southern Alabama, 8° at Raleigh, central North Carolina, -7° at Atlantic City, eastern New Jersey, and -3° at Providence, R.I.

On Sunday, a band of snow stretched from the northern Plains to the Great Lakes; up to 5 inches collected at some points. Rain continued in the Pacific Northwest.

The eastern third of the country notched many record low temperatures. The frigid readings included 7° at Roanoke, western Virginia, Baltimore's zero, Pittsburgh's -12° , -13° at Rochester, western New York, and -21° at Burlington, western Vermont. The -8° at Atlantic City marked its coldest February day ever.



National Agricultural Summary

February 5 - 11

HIGHLIGHTS: Low temperatures and snow continued to plague farmers in northern areas of the Nation. Farmers spent a large amount of time cleaning snow from farmsteads, feedlots, and roadways. Though the snow was a detriment to livestock producers, it was very beneficial to wheat growers. Most of the winter wheat lay under a blanket of snow protecting it from unusually low temperatures. Only southern pastures accommodated grazing, and most of these only rated poor to fair. Cold, wet weather kept grass growth to a minimum. Soil moisture rated adequate to surplus throughout the South. Tobacco growers prepared plant beds. Cotton harvest continued in the Southwest under adverse conditions. Deciduous fruit growers pruned trees in southern areas and the Pacific Northwest; severe weather in other areas kept workers out of orchards. Very little land was prepared for spring planting in the South because of wet soils.

SMALL GRAINS: Winter wheat rated fair to good throughout most of the Nation. Snow covered the crop throughout most of the major production areas protecting it from the low temperatures. In the South, winter wheat rated only poor to fair because cold weather prevented the usually expected early growth. Some snowcover melted in the Pacific Northwest which provided additional soil moisture but also eroded some fields.

Kansas wheat lay dormant under a protective snow blanket. Melting snow provided some moisture. Texas wheat on the High and Low Plains was snow-covered and still dormant. Warmer temperatures late in the week caused some stands to begin growth in southern areas of the State. Stands generally rated good to excellent in South Texas. Winter wheat in the Corn Belt rated good with snowcover since January. In the Southwest, notably Arizona and California, farmers continued to plant late small grain fields. Growth on earlier plantings was slow in California but excellent in Arizona. Some snowcover melted in Washington and Oregon which provided much-needed soil moisture but also some undesirable erosion. Growers also noted some earlier freeze damage.

OTHER CROPS: Adverse weather continued to plague the Southwest cotton harvest. Late in the week, conditions improved and some cotton picking resumed. The Texas harvest stood at 98 percent complete, unchanged for the past several weeks. Quality of the unharvested cotton continued to deteriorate, and some fields may be abandoned. Seedbed preparation lagged the normal schedule in the southern half of Texas because of wet fields. Farmers in the lower Rio Grande Valley are ready to plant as soon as fields dry. Arizona farmers harvested a limited amount of cotton under improved though marginal conditions. The New Mexico cotton harvest neared completion.

Tobacco growers prepared plant beds for seeding as far north as South Carolina. Tobacco transplants in Georgia rated good, but in Florida were small for this date. Dark-fired tobacco auctions resumed operations on February 5th in Kentucky,

but winter weather temporarily closed them again on the 7th. Virginia's fire-cured sales ended on February 8th.

The Florida sugarcane harvest moved actively with both old and new cane rating good.

Ohio farmers prepared to tap maple trees for the 1979 sirup crop.

FRUITS AND NUTS: Growers across the South and Pacific Northwest pruned apple and peach trees. Severe weather halted pruning operations in other production areas. California orchard and vineyard pruning operations were almost finished. Growers applied dormant and weed sprays. California early almonds developed rapidly with many at the green tip stage. Fruit buds swelled on early varieties of deciduous fruit trees.

Florida citrus groves rated excellent with more than normal rain. Trees showed new growth and bloom buds. The freeze failed to materialize to the extent predicted, and although there was some frost, no damage resulted. Texas growers continued to harvest grapefruit and Valencias. The Arizona citrus harvest neared normal volume. California citrus growers picked selectively to avoid freeze-damaged fruit.

VEGETABLES: Florida vegetable crops generally rated fair to good. Harvests continued slower than normal and overall shipments declined 3 percent from the previous week. Cauliflower and potato shipments increased considerably while supplies of carrots, sweet corn, chinese cabbage, eggplant, okra, and radishes also registered gains. Other crops held steady or declined. Bloom and fruit droppage and windburn and fruit scarring were evident in some areas. The strawberry crop rated fair to good with bloom and fruit set improving. Texas growers harvested carrots, lettuce, cabbage, and spinach. Wet conditions delayed seedbed preparations for most vegetables throughout Texas. Arizona lettuce and mixed vegetable harvests moved actively. California's lettuce harvest in the Imperial Valley was lighter due to gaps in plantings and strike activity. The broccoli and cauliflower harvests were moderate. Strawberries bloomed along the south coast. Growers planted tomatoes as field conditions permitted.

PASTURES AND LIVESTOCK: Southern pastures rated poor to fair because of wet soils and low temperatures. Grasslands provided very little forage. In the Southwest, muddy fields prevented use of some grazing lands; grass also grew slowly. Some Texas producers culled herds heavily because of the shortage of forage supplies. Feed and hay supplies held adequate throughout most of the Nation, but some spot shortages developed. Producers may run short of forage if the continued cold weather persists. Hay was airlifted to some isolated cattle in the Mountain States. Cold continued to stress livestock throughout most of the Nation although moderating temperatures improved conditions for cattle in parts of the West. Producers reported cold weather weakened some livestock causing weight loss. Calving and lambing continued with no unusual losses attributable to the severe weather.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., Feb. 11, 1979

States and Stations	Temperature OF		Precipitation Inches		States and Stations	Temperature OF		Precipitation Inches		States and Stations	Temperature OF		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA. Birmingham.	36	-10	1.0	-.3	LA. Baton Rouge.	42	-11	2.9	+1.7	Youngstown.	7	-19	.2	-.4
Mobile.	42	-11	2.4	+1.3	Lake Charles.	43	-11	2.1	+1.0	OKLA. Okla. City	24	-16	.6	+.3
Montgomery.	40	-10	1.7	+.7	New Orleans.	44	-11	6.3	+5.1	Tulsa.	22	-18	.4	0
ALASKA. Anchorage.					Shreveport.	37	-12	1.7	+.7	OREG. Astoria.	45	+2	4.7	+2.7
Barrow.					MAINE. Caribou.	4	-7	.1	-.4	Burns.	37	+7	T	-.3
Fairbanks.	-11	-6	0	-.1	Portland.	9	-13	.1	-.8	Medford.	46	+6	.1	-.5
Juneau.					MD. Baltimore.	19	-15	.7	0	Pendleton.	40	+3	.5	+2
Kodiak.					MASS. Boston.	17	-12	.2	-.7	Portland.	47	+5	2.5	+1.4
Nome.	-9	-14	T	-.2	Chatham.	19	-	.3	-.7	Salem.	48	+6	3.4	+2.1
ARIZ. Flagstaff.	25	-5	0	-.4	MICH. Alpena.	1	-16	.1	-.3	PA. Allentown.	13	-15	.4	-.3
Phoenix.	55	+1	0	-.1	Detroit.	8	-17	T	-.4	Erie.	4	-20	.2	-.3
Tucson.	51	-2	.2	0	Flint.	5	-18	0	-.4	Harrisburg.	16	-15	.3	-.3
Winslow.	35	-3	T	-.1	Grand Rapids.	8	-15	T	-.4	Philadelphia.	16	-17	.6	0
Yuma.	59	+1	0	-.1	Houghton Lake.	1	-16	T	-.3	Pittsburgh.	7	-21	.3	-.3
ARK. Fort Smith.	26	-16	.6	-.2	Lansing.	5	-18	T	-.4	Scranton.	8	-18	.3	-.2
Little Rock.	27	-15	1.2	+.1	Marquette.	-1	-14	.6	+.2	R. I. Providence.	13	-15	.2	-.6
CALIF. Bakersfield.	51	0	0	-.3	Muskegon.	9	-15	.1	-.4	S. C. Charleston.	41	-9	1.0	+.3
Eureka.	54	+6	.8	-.5	S. Ste. Marie.	-5	-19	.4	0	Columbia.	38	-9	1.5	+.6
Fresno.	50	+1	0	-.6	MINN. Duluth.	-3	-13	.1	-.1	Greenville.	32	-12	1.2	+.1
Los Angeles.	57	-1	0	-.7	Internatl Falls.	-9	-14	.1	0	S. D. Aberdeen.	0	-13	.1	0
Red Bluff.	53	+4	T	-.9	Rochester.	0	-15	.3	+.1	Huron.	2	-14	T	-.2
San Diego.	56	0	0	-.4	St. Cloud.	-4	-19	.2	+.1	Rapid City.	19	-6	T	-.1
San Francisco.	51	0	0	-.8	MISS. Jackson.	-6	-17	.4	+.2	Sioux Falls.	2	-16	T	-.2
Stockton.	52	+4	0	-.6	Meridian.	38	-11	1.2	+.1	TENN. Chattanooga.	31	-11	.8	-.5
COLO. Denver.	34	+2	.1	0	MO. Columbia.	14	-18	.3	-.1	Knoxville.	28	-14	1.0	-.2
Grand Junction.	16	-16	0	-.1	Kansas City.	13	-18	T	-.3	Memphis.	29	-14	.8	-.4
Pueblo.	33	-1	0	-.1	St. Louis.	12	-22	.1	-.4	Nashville.	20	-10	1.1	0
CONN. Bridgeport.	19	-11	.3	-.3	Springfield.	19	-17	.2	-.3	TEX. Abilene.	36	-11	.9	+.6
Hartford.	11	-14	.3	-.3	MONT. Billings.	23	-3	T	-.1	Amarillo.	38	-1	.2	+.1
D. C. Washington.	22	-14	.5	+.1	Glasgow.	3	-10	.3	+.2	Austin.	44	-8	1.0	+.2
FLA. Apalachicola.	46	-9	1.0	+.1	Great Falls.	25	-1	T	-.2	Beaumont.	44	-10	1.9	+.8
Daytona Beach.	54	-5	.5	+.2	Havre.	7	-9	.7	+.6	Brownsville.	55	-8	.6	+.2
Ft. Myers.	62	-2	.2	+.3	Helena.	26	+2	T	-.1	Corpus Christi.	53	-6	.5	0
Jacksonville.	48	-8	1.2	+.3	Kalispell.	26	+2	.5	+.2	Del Rio.	49	-5	1.0	+.7
Key West.	67	-4	.8	+.3	Miles City.	12	-8	.4	+.3	El Paso.	43	-4	.2	+.1
Lakeland.	64	-3	T	-.5	Missoula.	28	+2	.3	+.1	Fort Worth.	37	-11	.5	-.1
Miami.	55	-6	.4	-.3	NEBR. Grand Island.	9	-17	.1	-.1	Galveston.	46	-9	1.6	+.9
Orlando.	45	-9	2.5	+1.4	Lincoln.	5	-21	.1	-.1	Houston.	44	-10	1.4	+.5
Tallahassee.	55	-6	.2	-.5	Norfolk.	6	-16	T	-.2	Lubbock.	38	-4	.1	0
Tampa.	52	-4	.1	-.5	N. Platte.	16	-11	T	-.2	Midland.	39	-8	.2	+.1
W. Palm Beach.	62	-4	1.4	+.3	Omaha.	7	-17	T	-.1	San Angelo.	41	-8	.6	+.4
GA. Atlanta.	34	-10	1.7	+.9	Valentine.	11	-12	T	-.1	San Antonio.	49	-4	.6	0
Augusta.	38	-9	1.8	+.9	NEV. Ely.	28	+1	0	-.1	Victoria.	47	-9	1.2	+.6
Macon.	39	-10	1.7	+.7	Las Vegas.	48	0	0	-.1	Waco.	39	-11	1.0	+.4
Savannah.	44	-7	1.2	+.6	Reno.	40	+4	0	-.2	Wichita Falls.	32	-13	.3	0
HAWAII. Hilo.	72	+1	4.8	+1.7	Winnemucca.	41	+8	0	-.2	UTAH. Blanding.	26	-6	0	-.2
Honolulu.	71	-1	1.2	+.6	N. H. Concord.	9	-12	T	-.6	Salt Lake City.	32	0	T	-.3
Kahului.	73	+2	2.5	+1.8	N. J. Atlantic City.	14	-19	.4	-.4	VT. Burlington.	-2	-19	.1	-.3
Lihue.	71	0	5.9	+4.8	Trenton.	17	-15	.3	-.3	VA. Lynchburg.	21	-16	.8	+.1
IDAHO. Boise.	35	+1	.1	-.2	N. MEX. Albuquerque.	38	-1	0	-.1	Norfolk.	27	-14	.8	0
Lewiston.	39	+2	.2	0	Roswell.	42	0	.3	+.2	Richmond.	21	-17	.8	+.1
Pocatello.	27	-1	T	-.2	N. Y. Albany.	7	-15	.1	-.4	Roanoke.	22	-15	.8	0
ILL. Cairo.	21	-18	.3	-.6	Binghamton.	5	-17	.2	-.4	WASH. Colville.	31	+2	.9	+.5
Chicago.	6	-20	.2	-.2	Buffalo.	7	-17	.3	-.3	Omak.	28	0	.2	-.1
Moline.	2	-22	.2	-.1	New York.	17	-15	.3	-.4	Quillayute.	43	+2	4.5	+1.4
Peoria.	5	-21	.2	-.2	Rochester.	6	-18	.6	0	Seattle-Tacoma.	46	+4	2.4	+1.3
Rockford.	4	-18	.3	0	Syracuse.	5	-19	.5	-.2	Spokane.	32	+1	.4	0
Springfield.	7	-22	.2	-.2	N. C. Asheville.	28	-11	.9	+.1	Walla Walla.	46	+7	.4	0
IND. Evansville.	13	-22	.3	-.5	Charlotte.	31	-12	1.4	+.5	Yakima.	36	+2	.1	-.1
Ft. Wayne.	4	-22	T	-.5	Greensboro.	26	-14	.9	+.1	W. VA. Beckley.	15	-17	.6	-.2
Indianapolis.	7	-22	.1	-.5	Hatteras.	35	-10	.7	-.4	Charleston.	21	-14	.5	-.3
South Bend.	8	-17	.2	-.3	Raleigh.	29	-13	1.0	+.2	Huntington.	17	-18	.8	+.1
IOWA. Burlington.	6	-20	.2	-.1	Wilmington.	35	-12	.6	-.2	Parkersburg.	14	-20	.3	-.3
Des Moines.	4	-18	.3	+.1	N. DAK. Bismarck.	-1	-12	.2	+.1	WISC. Green Bay.	0	-16	T	-.2
Dubuque.	0	-20	.3	0	Fargo.	-8	-16	.4	+.3	La Crosse.	5	-13	.2	0
Sioux City.	3	-19	.1	-.1	Williston.	7	-5	.3	+.2	Madison.	2	-17	.1	-.1
KANS. Concordia.	14	-16	T	-.2	OHIO. Akron-Canton.	7	-20	.1	-.4	Milwaukee.	6	-15	.1	-.2
Dodge City.	27	-17	T	-.1	Cincinnati.	10	-22	.3	-.4	WYO. Casper.	26	0	.1	0
Goodland.	32	+1	T	-.1	Cleveland.	10	-17	.1	-.4	Cheyenne.	31	+2	.1	0
Topeka.	11	-21	T	-.2	Columbus.	9	-20	.3	-.3	Lander.	23	-1	T	-.1
Wichita.	17	-18	T	-.2	Dayton.	9	-20	.1	-.5	Sheridan.	23	-2	.1	-.1
KY. Lexington.	16	-18	.5	-.3	Toledo.	6	-20	T	-.4	P. R. San Juan.	79	+4	0	-.7
Louisville.	18	-17	.5	-.3										

Based on 1941-70 normals

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State Summaries of Weather and Agriculture

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

ALABAMA: Abnormal cold, wet weather continued. Temperatures 11° below normal. Heaviest precipitation 5th and 6th. Near 2.00 in. southern areas. Icy conditions, snow prevalent in north.

Fieldwork: 1 day suitable. Soil moisture adequate to surplus. Attention to machines, livestock, other routine chores main activity. Virtually no progress plowing. Fieldwork behind schedule. Pasture feed short; pastures muddy, poor condition. Cattle producers drawing heavily on stored feed some areas; supplies now less than adequate. Wheat poor to fair condition.

ARIZONA: Light, scattered showers early week. Cold first half week, last half warm. Temperatures generally 2 to 3° below normal except southwest few degrees above.

Sunny, warm weather late week improved conditions sharply. Cotton harvest very limited, conditions marginal. Small grains excellent progress. Beet harvest Cochise County halted, wet fields. Alfalfa hay started new growth, still showing freeze affects. Lettuce and mixed vegetable harvests active. Volume proportions. Vegetables later harvest all stages, growing well. Seedbed preparations, planting later vegetables still delayed. Citrus harvest nearing normal volume. Ranges muddy, little movement livestock. Range forage improving. Cattle, calves good to excellent. Sheep moving to desert ranges. Stock water, soil moisture adequate to surplus.

ARKANSAS: Cold with warming at weekend. Precipitation around midweek. Normals ranged from 39 to 48°. Means ranged from 23° to 36°. Departures from normal were -18 to -1°. Extremes: -7 and 64°. Precipitation ranged from 0.27 to 1.53 in.

Farm activity limited to feeding and caring for livestock. Hay supply generally adequate except southwest where supply is inadequate. Wheat generally good condition.

CALIFORNIA: Precipitation south of Tehachapi Mountains to Mexican border beginning of week. Dry elsewhere throughout the week except extreme northwest corner late in week. Temperatures generally below normal and all sections show freezing or lower minimum temperature at least one day. Highest temperatures mid-70's southeast desert.

Small grains late planting preparation central coast. Cold weather slowed growth Sacramento and San Joaquin Valleys. Weed control active central coast, Sacramento Valley. Alfalfa hay good growth Imperial Valley. Sacramento and San Joaquin Valley area ground preparation sugarbeets. Ground preparation underway for cotton. Pruning orchards, vineyards approaching completion. Removing, burning prunings. Dormant and weed spraying. Early almond developing rapidly, many at green tip stage. Early deciduous fruit buds swelling. Tree, vine planting active. Avocado harvest active. Citrus growers picking selectively to avoid freeze damaged fruit. Lettuce harvest lighter Imperial Valley due gap in plantings and strike activity. Broccoli, cauliflower harvests moderate. Planting cantaloup, watermelons Imperial Valley. Strawberries blooming south coast. Planting tomatoes as field conditions allow. Cold dry weather held back grasses. Feed continued short most areas. Cattle good condition. Calving active. Movement beehives almond orchards increasing.

COLORADO: Temperatures warmed but still below normal. Only significant precipitation occurred late 7th and 8th with moderate to heavy snowfall in northern and central mountains and light amounts in northeast.

FLORIDA: Rain over Panhandle and north early on 6th. Heaviest rainfall, 6th and 7th over Panhandle with lesser amounts north. Strong arctic front traversed State on 9th with high pressure dominating 10th and 11th. Rainfall ranged from more than 3.00 in. parts of Panhandle to generally less than 0.10 in. south. Temperatures 3° below normal.

Soil moisture mostly adequate but few wet areas along east coast, north and Panhandle. Fieldwork limited but now increasing. Sugarcane harvest active. Old and new cane good condition. Small grains fair condition. Tobacco plants small, some disease problems. Pastures poor to fair Panhandle, north. Winter pastures providing some grazing. Supplemental feeding necessary. Central pastures fair, south fair to good. Cattle condition declined Panhandle, fair to good elsewhere. Citrus groves excellent condition, more than normal rain. New growth and bloom buds. Freeze failed to materialize to extent predicted; some frost, no damage. Overall vegetable crop condition generally fair to good. Harvest continued slower than normal. Overall shipments decreased 3% from previous week. Cauliflower, potato shipments up considerably. Supplies carrots, sweet corn, chinese cabbage, eggplant, okra, radishes increased while snap beans, cabbage, celery, escarole, lettuce, parsley held steady. Cucumber, pepper, squash, strawberry, tomato shipments decreased. Bloom, fruit droppage, windburn, fruit scarring evident some areas. Planting steady, replanting active where necessary. Strawberry crop conditions fair to good. Bloom, fruit set improved. Spring watermelon crop condition mostly fair. Additional windburn damage evident. Growth, germination slow. Planting nearing completion.

GEORGIA: Temperatures 5 to 8° below normal; ranging from low 30's mountains to low 40's central and near 50° south. Significant ice and sleet storm northern third late on 6th. Liquid precipitation averaged near 2.00 in. north to 2.50 in. south. Sharply colder most areas 9th. Dry 10th and 11th with strong warming trend. Extremes: 71 and 16°.

Soil moisture mostly surplus. Outside activity continued to be hampered by cold, wet conditions. Tobacco plants good condition. Small grains fair north, fair to mostly good south. Pastures fair to mostly good south, mostly poor to fair north. Cattle declined somewhat, now rated mostly fair to good.

HAWAII: Weather unfavorable. Rains heavy early week.

Disease losses heavy due excessive moisture. Low temperatures retarding crop maturity some areas. Progress planting slow. Vegetable supplies light; quality continued down. Banana supplies declining. Papaya supplies light; heavy spray necessary. Pineapple harvesting slow. Sugar harvesting interrupted by rains Hamakua Coast Island of Hawaii. Pastures generally good.

IDAHO: Temperatures near normal while precipitation again below normal. Extremes: 50 and -35°.

Improved weather conditions very welcome as calving and lambing gained momentum. Still too much snow for any type fieldwork. Feed supplies adequate. Potato marketing more active as temperatures moderate.

ILLINOIS: Temperatures 15 to 22° below normal. Precipitation varied 0.14 to 0.95 in.; snowfall 3 to 6 in. central, southern areas, 1 to 5 in. north, northeast areas. Snow depth 27 in. north, 3 in. south.

Winter wheat under snow, good condition. Livestock generally fair to good condition, feed consumption heavy, death loss of livestock minimal. Severe weather slowing marketings. Main farm activities: Snow removal, livestock care, equipment maintenance. Soil moisture adequate to surplus.

INDIANA: Severe cold. Temperatures 17° below normal and ranged from -18 to 38°. Some record low temperatures broken. Few inches snow at midweek. Snow cover 4 in. south, 10 in. central 20 in. north. Sunshine 44% of possible.

Farmwork limited to snow removal, caring for livestock, equipment maintenance and chores. Overwintering crops under snow cover since early January.

IOWA: Very cold week averaging 20° subnormal with moderate snowfalls falling at midweek statewide and on weekend over northeast. Weekend snow depths vary from 10 to 15 in. southwest and in some west central areas to more than 20 in. most northern areas. Coldest on 9th in west and central areas.

KANSAS: Well below normal but moderating temperatures averaged 14° north central and east central to 28° west and 16 to 19° elsewhere; 4 to 6° below normal west to 14 to 18° below normal elsewhere. Precipitation ranged from locally 0.25 in. east central to a few hundredths or none elsewhere.

Warm weather end of week eased stress on livestock. Wheat dormant. Some moisture received from melting snow.

KENTUCKY: Temperatures 15 to 20° below normal. Snow 7th thru 9th less than inch north and around 1 in. south central.

Auctions resumed on dark fired (Types 22 and 23) on 5th after two weeks of inactivity because grower dissatisfaction with price. Hazardous weather closed several tobacco markets on 7th. Snow and cold weather continued to stress livestock and necessitate heavy supplemental feeding.

LOUISIANA: Temperatures 12 to 19° below normal. Extremes: 68 and 17°. All stations reported freezing temperatures at least one day. Rain early week.

Activities: Care and feeding of livestock.

MARYLAND & DELAWARE: Temperatures much below normal. Highs near 30° to mid-30's, except in mountains where highs in mid-20's. Lows from mid-teens to lower 20's except in mountains where lows averaged near 5°. Snowstorm mid-week averaging 6 in. with a water equivalent about 0.50 in. Weekend sunny and bitter cold.

MICHIGAN: Cold with temperatures 13 to 19° subnormal. Mean temperatures varied from 8 to -5°. Maximum temperatures mainly in 20's. Minimums reached -32°. Little precipitation fell over Lower varying from around 0.01 to 0.30 in. Over Upper most of precipitation ranged from 0.08 to

0.62 in. Most precipitation fell during beginning of week with snow depths reaching to around 40 in. Keweenaw Peninsula to around 4 in. portions of southeast Lower.

Main farm activity feeding livestock.

MINNESOTA: Temperatures 15° below normal. Extremes: 27 and -31°. Precipitation near normal. Totals ranged from less than 0.10 in. northeast and southwest to around 0.35 in. southern part of northwest through east central. Snowfall less than 2 in. north and southwest to around 5 in. southern part of northwest through east central. Snow depth generally 18 to 20 in. except locally less than 15 in. parts of west and more than 25 in. parts of north and southeast.

MISSISSIPPI: Temperatures 8 to 16° below normal with lowest reading 5°. Cloudy and rainy early and midweek with rain on 5 days. Some snow northern areas.

Soil moisture excessive to surplus. Fieldwork: 0.3 days suitable. Main farm activities: Livestock care and feeding, machinery repair. Fields saturated. Very little winter grazing available. Hay and roughage supplies dwindling; rated from adequate to very short. Feed grain supplies short to adequate. Livestock condition fair to poor. Winter wheat in mostly poor condition.

MISSOURI: Temperatures extremely cold, averaging 21° below normal. Several stations -22 to -26° north. Precipitation light, averaging 0.43 in. Bootheel, 0.25 in. or less elsewhere. Snow midweek. Deepest snowcover in northeast with up to 20 in.

MONTANA: Moderating temperatures resulted in above normal temperatures west and southwest. In southwest, temperatures 5° above normal. Moderating temperatures occurred elsewhere east of Divide but were of short duration in most areas. North central and northeast temperatures 10° below normal and 7° below normal southeast. Very little precipitation fell southwest and south central. Moderate precipitation fell west of Divide, while north central and eastern areas had heavy precipitation in mountains.

Winter wheat good condition, snowcover still good. Livestock condition fair to good. Calving 5% complete, lambing 10% complete. Stockwater supply adequate.

NEBRASKA: Temperatures 10 to 20° below normal central and east; moderated to near normal Panhandle and southwest as highs reached 40's and lower 50's late week. Precipitation 0.05 in. to 0.10 in. with only trace amounts southwest and south central.

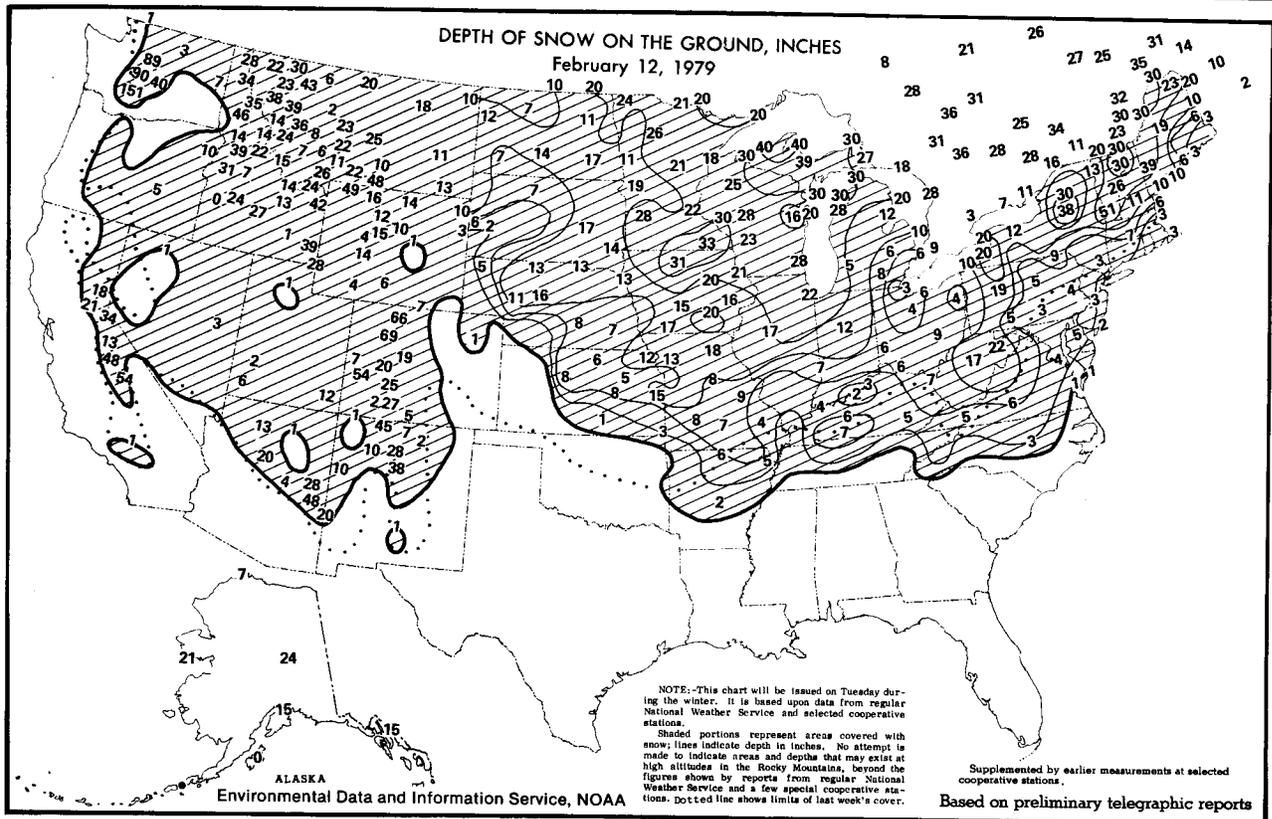
Heavy supplemental feeding needs continued; some livestock in weakened condition from extended cold period.

NEVADA: Mostly sunny and clear. Light snow flurries north. Temperatures above normal north, slightly below south. Extremes: 67 and -10°.

Supplemental feeding continued. Feed supplies adequate. Livestock mostly good condition.

NEW ENGLAND: Temperatures 5 to 10° subnormal 5th and 8th, 10 to 20° subnormal 6th and 7th, and 15 to 25° subnormal 9th through 11th. New record lows set. Southern area received 3 to 8 in. snow 7th and 8th, 1 to 2 in. fell in southern Maine and New Hampshire; flurries in far north.

NEW JERSEY: Temperatures 16 to 18° below normal averaging 12° north, 15° south and 18° coastal.



Extremes: -15 and 34°. Precipitation 0.40 in. below normal averaging 0.34 in. north, 0.34 in. south and 0.38 in. coastal sections. Snowstorm on 7th brought 3 to 6 in. Snow depth 2 to 4 in. Farmers caring for livestock, plowing snow, thawing pipes and tending to other winter chores.

NEW MEXICO: Rain and snow southern third on 5th. Otherwise dry. Cold beginning of week gradually warming through weekend.

Outside work possible late in week. Land preparation well underway but late. Cotton and red chile harvests almost over. A few areas still too wet. Wheat and barley good. Spring lettuce planting continued in Mesilla Valley. Livestock fair. Lambing and shearing underway on eastside. Snow and mud still make many areas inaccessible.

NEW YORK: Very cold air settled into area during latter part of week, dropping average temperatures 15 to 25° below normal. Precipitation near normal west but below normal elsewhere.

NORTH CAROLINA: Temperatures 7 to 10° subnormal. Precipitation some measurable snow.

Fieldwork: 1.5 days suitable. Soil moisture adequate to surplus. Condition of small grains fair to good, pastures fair. Supplies of hay and roughage mostly adequate to surplus, feed grains adequate.

NORTH DAKOTA: Cold weather continued; temperatures 12 to 17° below normal. Extremes: -38 and 37°. Snowfall generally light except on 11th, when 4 in. fluffy new snow fell. Water equivalent ranged from trace southeast to 0.25 in. northwest.

New snow added to difficult travel conditions rural areas. No let-up to heavy livestock feeding. Supplies still look good to carry through winter.

OHIO: Bitterly cold weather. Afternoon temperatures low 20's. Early morning temperatures from -8 to 5°. Temperatures 15 to 23° subnormal. Precipitation totals well below normal.

Locally grown greenhouse fresh market cabbage plants readied for transplant when weather permits in southeast. Maple sirup producers preparing equipment in south. Greenhouse lettuce being harvested. Floriculture producers continued last minute preparations for Valentine's Day.

OKLAHOMA: Temperatures 18° below normal northeast and central to 7° below normal in Panhandle. Precipitation mostly as snow; amounts less than inch in Panhandle to about 6 in. west central and east central. Unofficial snowfall ranging up to 11 in. south half. Water content averaged from 0.05 in. in Panhandle and north central to about 0.90 in. south central and southeast.

Blizzard conditions prevailed 8th when high winds drifted the heavy snow that was received 6th. Livestock remain in fair condition.

OREGON: Wet with warming trend. Precipitation nearly every day. Coast average about 3.75 in. rain and Willamette Valley near 2.50 in. Eastern Oregon precipitation ranged from just a trace over southeast to 0.50 in. north. Temperatures near normal except 5 to 10° below normal over northeast. Extremes: Mid-50's, mid-20's west; high 40's, near zero east.

Not much fieldwork except in orchards where pruning continued. Some local flooding east as temperatures warmed up and snow melted. Moisture more welcome than erosion damage. Still feeding heavy to livestock. Adequate feed supplies. Lambing and calving continued. Some freeze damage to fall seeded crops in Willamette Valley now being observed.

PENNSYLVANIA: One of coldest weeks ever recorded. Cold and dry beginning, general snow 7th, bitter cold latter half. Entire State sub-zero weekend. Temperatures 0 to 16°; 16 to 18° below normal southeast; 24 to 27° below northwest interior. Extremes: 32 and -30°. Precipitation less than 0.50 in. except 0.50 to 0.75 in. west central. Snow cover 2 to 6 in. southeast; 12 to 24 in. Poconos; 16 to 24 in. central mountains. Normal winter chores.

PUERTO RICO: Island average rainfall 0.07 in. or 0.62 in. below normal. Temperatures averaged about 75° on coasts and 69° interior. Extremes: 93 and 47°.

SOUTH CAROLINA: Temperatures 6 to 12° below normal. Precipitation heavier than normal except northwest near normal, mountains below normal. Freezing rain from midlands to mountains on 6th caused considerable breakage of pine, hardwoods resulting in widespread interruption of utilities. Some without electricity more than 5 days. General maintenance, cleanup from ice storm damage. Peach, apple trees pruned. Tobacco beds, land prepared for 1979 crops.

SOUTH DAKOTA: Temperatures moderated slightly but remained 6 to 15° below normal. Extremes: -29 and 50°. The west had two afternoons above freezing. Precipitation light, 0.05 in. or less most sections, except extreme west ranged 0.25 to 0.54 in.

TENNESSEE: Two snow storms. Many locations recorded 8 in. of snow at midweek. Another storm at weekend dropped 2 in. Melted snow accounted for 0.80 in. precipitation; below normal. Temperatures 10 to 15° below normal.

Soil moisture surplus. Pastures and small grains fair. Weather prohibited farm activities. Feeding livestock main chore.

TEXAS: Cold front moved rapidly across State midweek. Latter part of week southerly flow returned bringing warm temperatures. Rainfall above normal east, upper Gulf Coast, Edwards Plateau. Elsewhere rainfall near normal. Temperatures 5 to 10° below normal statewide. Normal temperatures ranged from middle to upper 40's through Panhandle, north Texas; low to middle 50's across Trans-Pecos, central portions; and upper 50's coastal plains, south.

Wheat, oats continue dormant stage northern areas while southern half warmer temperatures, good moisture helped stands start putting on new growth. Cotton harvest resumed end of week while near completion continues behind schedule. Stands still in field showing losses of quality, yield prospects due to weathering. Seedbed preparation lag behind schedule southern half because saturated fields. Farmers lower Rio Grande Valley, however, ready to plant as soon as fields are dry enough. Wheat High, Low Plains, Cross-Timbers, northern Blacklands covered by blanket snow early week. Most fields north, western areas still dormant because cold weather; warmer temperatures toward end of week caused some stands start showing signs resuming growth. Southern areas, warmer temperatures prevailed; stands showing good to excellent growth especially south. Oats suffered additional freeze damage from blanket snow, ice, sleet from Low Plains to northeast. Temperatures dropped into teens many areas further delayed possibility of early recovery. Southern Blacklands to lower Rio Grande Valley, stands starting put out new growth. Recovery from earlier freeze damage expected with warmer weather abundant moisture. Stands too wet to graze many areas. Flax that survived January freezes holding own south, south central.

Grapefruit and valencia orange harvest continued. Wet conditions delayed seedbed preparation most vegetables. Cabbage, lettuce, carrots and spinach harvests continued.

Some producers central and east heavily culling herds, since pastures and forage supplies short. Hay supplies low, particularly north due to heavy feeding during bad weather. Cattle continued stressed by cold weather and lack of available forage; continued heavy supplemental feeding to prevent further shrinkage. Pastures and livestock good condition Trans-Pecos. Lambing full swing Edwards Plateau.

UTAH: Few widely scattered areas snow forepart of period. Moisture generally light to moderate. Warming trend; temperatures ranged from near normal to 24° below normal.

Farm activities: Feeding and caring for livestock. Cold weather stressed livestock and required protective measures for early calves beginning to drop. Some turkey poults being placed where facilities adequate. Some marketing of dry onions, apples and potatoes continued.

VIRGINIA: Temperatures 10° below normal. Extremes: 53 and -10°. Snow fall midweek averaged 4 to 6 in. with water equivalency averaging 0.50 to 0.75 in.

Topsoil moisture adequate to surplus. Fieldwork: 0.7 days available. Conditions winter grains and grazing crops good with protective snowcover. Snow caused difficulties in feeding, caring for livestock. Newborn livestock losses reported due to cold. Feed requirements increased. Fruit tree pruning halted some areas due to bad weather. Early in period, some potato land plowed on Eastern Shore and small grains topdressed east. Fire-cured tobacco market sales ended February 8. Other activities: Snow removal, repair of ice storm damage to fences.

WASHINGTON: West: Temperatures 1° below to 10° above normal. Precipitation ranged from 0.40 to 2.10 in. above normal.

Moderate weather good for calving operations. Hay adequate.

East: Temperatures 1 to 7° below normal. Precipitation ranged from near normal to 0.10 in. below normal.

Thawing temperatures melted snowcover causing some erosion. Pruning resumed in orchards and vineyards with warmer weather. Calving and lambing, which suffered losses to cold weather, improved. Anxiety over crop damage from earlier cold continued. Feed adequate.

WEST VIRGINIA: Very cold with temperatures 18° below normal northwest to 10° below northeast. Extremes: 42 and -20°. Precipitation 0.10 to 0.40 in. below normal. Snowcover except eastern Panhandle.

Fieldwork: 0.4 days suitable. Soil moisture adequate. Hay and other feed supplies adequate.

WISCONSIN: Temperatures well below seasonal normals. Highs generally in single figures, lows -15 and -35° north, -10 to -20° south. Light snow 6th and weekend; amounts 1 to 4 in. north, 1 to 2 in. other areas. Frost and snow depths showed little change past two weeks. Frost depths average about 8 in., snow depths average 26 in.

WYOMING: Temperatures 5 to 10° below normal. High temperatures in mid-30's and mid-40's. Low temperatures ranged from 8 to -28°. Precipitation varied, south and east above normal, west below normal. Most precipitation 0.59 in. Many stations

little or no precipitation. Snow pack 100 to 120% of normal.

Hay being airlifted to cattle in isolated areas in north central. Livestock producers could run short on hay if severe winter weather continues.

Livestock in mostly fair to good condition; higher than normal losses expected. Lambing, calving starting. Early lambs, calves weaker than normal. Winter wheat mostly good with snowcover many areas.

World Weather and Crop Update

February 5 - 11

USSR. Precipitation over the winter grains area of the Soviet Union was highly variable, ranging from less than 5 mm in the southwestern Ukraine to more than 60 mm in parts of the Crimea. Much of the heavy moisture fell as rain; temperatures remained mild during the week. However, temperatures cooled over the weekend and some snowcover was reestablished (fig. 1). It appears that winter grains have escaped serious damage at this time, but some areas are still very vulnerable. Warmer weather is expected to continue, but very cold air is building up to the north.

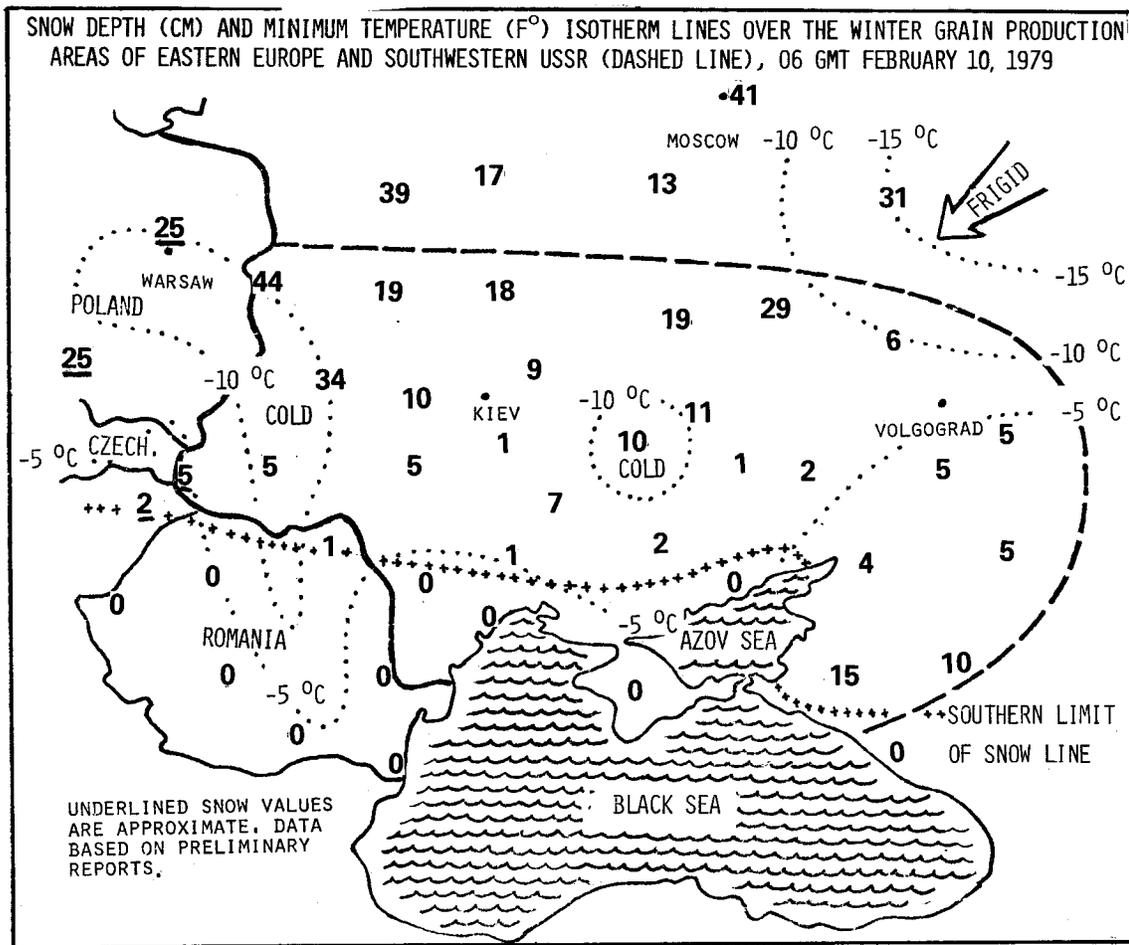
CHINA. In a pattern very similar to last week, most of southeast China received above-normal moisture with amounts ranging from 15 to 65 mm. However, no moisture fell in the winter wheat

areas to the north and temperatures did become very warm. Afternoon temperatures climbed into the 60's during the week, but had returned to normal levels by the weekend.

AUSTRALIA. Rainfall was confined to sections of the eastern and northern coasts of Australia and had little if any agricultural significance; both corn and sorghum needed moisture.

INDIA. Rainfall was generally light over the northern wheat producing areas of India with no precipitation in the southern half of the country for the fourth consecutive week. The northeast monsoon had terminated several weeks early and apparently will not redevelop. Water supplies are considered generally adequate.

(continued on page 13)



SOIL MOISTURE OVER THE TEXAS HIGH PLAINS BRIGHTENS OUTLOOK FOR 1979 CROP

by K. A. Wigner*

A soil moisture survey is a useful tool to cotton growers, especially in semi-arid regions such as the Texas High Plains which produces 20 percent of the U.S. cotton crop (fig. 1). The survey is important to the irrigation farmer allowing him to assess the amount of water to add as well as to dryland operators who must improve water efficiency by using skip row planting (seeding every other row) or alternate crops. It is also of value for grain production as springtime growth is largely controlled by the moisture supply.

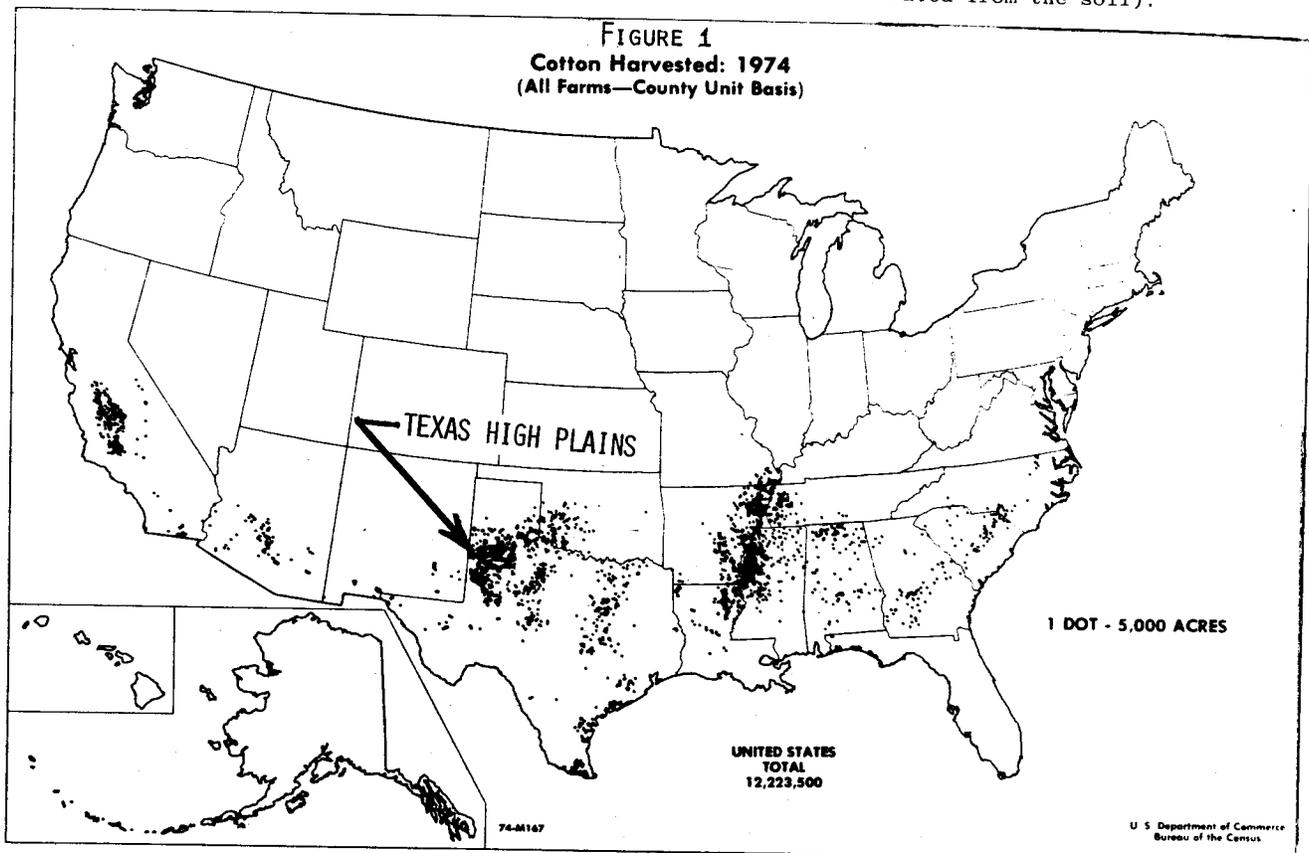
The 12th annual soil moisture survey for 14 counties on the Texas High Plains was recently completed. Results indicated that nearly 80 percent of the area shows good to excellent soil moisture this year. The overall average rose somewhat from last year when the entire area was very dry.

* Wigner is the advisory agricultural meteorologist, National Weather Service for Agriculture, Texas Agricultural Experiment Station at Lubbock.

Purpose and Significance of the Survey

The primary purpose of the annual fall and winter soil moisture survey is to determine the average amount of moisture present in the top 5 feet of High Plains soils. This, in turn, provides a basis for estimating the need for, and the amount of, preplant water required to rewet the soil and give the farmer his best chance for a profitable crop.

During the early years of High Plains irrigation, it was found that better crops could be produced if the soil was wet prior to spring planting. Over the years, no better method for estimating crop production potential was found so the need for a well-saturated soil profile prior to planting still holds. In early years, farmers could only guess at the amount of required preplant water. However, with modern techniques such as this survey, farmers have more information upon which to base a reliable estimate of preseason water needs. Farmers who irrigate more than necessary might lose money and precious water. Those farming sandy soils could lose nutrients from leaching (when soluble components are separated from the soil).



Method

Soil moisture measurements were made at many locations across the High Plains area. Many years ago, eight to twelve sites per county were established as measuring points; few locations have been lost over the years, but nearly 100 still exist. Soil moisture is evaluated at each of the sites at 1-foot intervals down to a depth of 5 feet. Then the total amount of soil moisture is determined

and compared to the previously determined maximum amount of moisture possible for the site. The difference becomes the soil moisture deficit. When plotted on the accompanying map, the patterns emerge of dry versus wet areas across the High Plains. A farmer need only to glance at this map to find the general conditions for his area. The values shown on the map are the soil moisture deficits in inches.

Table 1. Average soil moisture (deficit) needed to rewet soils down to 5 feet over the major cotton area of the Texas High Plains. The water-holding capacity of the layer ranges from 6 inches in the sandy soil to 9 inches in the loams.

Dec-Jan	Deficit (inches)
1972-73	2.8
1973-74	6.0
1974-75	2.2
1975-76	3.2
1976-77	3.3
1977-78	5.9
1978-79	3.1
Average	3.8

Results and Applications

Much of the High Plains area has excellent soil moisture. The average for the 93 readings in the 14 counties was -3.1 inches. This compares favorably with the long-term average of -3.9 inches, and last year when the average hit -5.9 inches. This indicates that prospects for the upcoming season will be much brighter than last year and better than normal. Fall precipitation, especially after most crop development had taken place, is a probable explanation for the levels of soil moisture.

The first question in the mind of the farmer could be, "Okay, now what do I do with this information?" For the farmer who has irrigation capabilities, he can look at the map, determine the deficit for his farm, and make a decision on application of preplant water. At current prices, the cost of one unnecessary application of water may be the difference in a profit or a loss for his crop. Accordingly, for those farmers who have

irrigation water and find their area in the relatively wet category, a decision to wait and see if nature can provide the preplant water might be profitable this year. Of course, the options are fewer for the dryland farmer. However, knowledge of the amount of soil moisture may allow him to make decisions according to the time of planting and crop selection, as well as plant population.

As a general rule, rain in the spring shows a wetting efficiency of about 60 percent. This means that if 6 inches of moisture is needed in the soil, rainfall must total around 10 inches. This far exceeds the amount normally expected before crops must be planted. The following chart is offered as a help in determining the probability of that spring rain. Developed from rainfall records at Lubbock since 1911, the probability of getting from 1 to 4 inches of rain in the spring is shown. Farmers west and southwest of Lubbock may expect a slightly lower probability, and those east and northeast, a slightly higher probability than Lubbock.

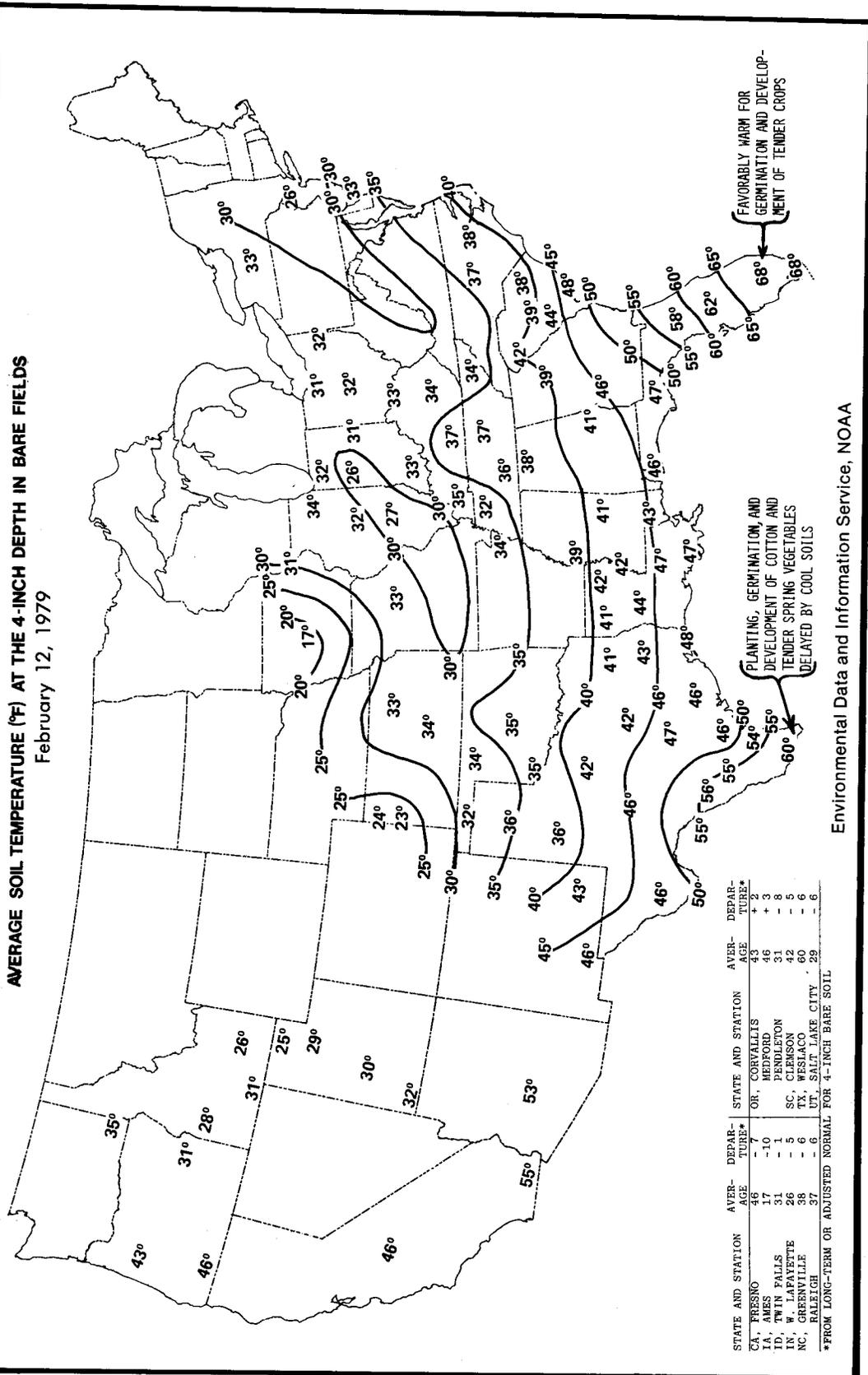
Table 2. Percent probability for rainfall (equal to or greater than amount stated).

Rainfall (inches)	Monthly Intervals				
	3-21/4-20	3-21/4-30	3-21/5-10	3-21/5-10	3-21/5-31
	Percent				
1.0	39	57	77	90	94
1.5	23	40	61	81	87
2.0	14	28	50	69	80
2.5	9	19	40	59	70
3.0	5	14	31	48	62
3.5	3	9	24	39	54
4.0	2	6	19	32	47

Acknowledgment

Oliver H. Newton retired from the position of advisory agricultural meteorologist in late 1977. He developed and set up the survey sites used in this report.

AVERAGE SOIL TEMPERATURE (°F) AT THE 4-INCH DEPTH IN BARE FIELDS
February 12, 1979



STATE AND STATION	AVER- AGE	DEPAR- TURE*	STATE AND STATION	AVER- AGE	DEPAR- TURE*
CA, FRESNO	46	-7	OR, CORVALLIS	43	+2
IA, AMES	17	-10	NE, HEDFORD	46	+3
ID, TWIN FALLS	31	-1	ND, PENDERTON	31	-8
IN, W. LAFAYETTE	26	-5	SC, CLEMSON	42	-5
NC, GREENVILLE	38	-6	TX, WESLACO	60	-6
RALEIGH	37	-6	UT, SALT LAKE CITY	29	-6

*FROM LONG-TERM OR ADJUSTED NORMAL FOR 4-INCH BARE SOIL

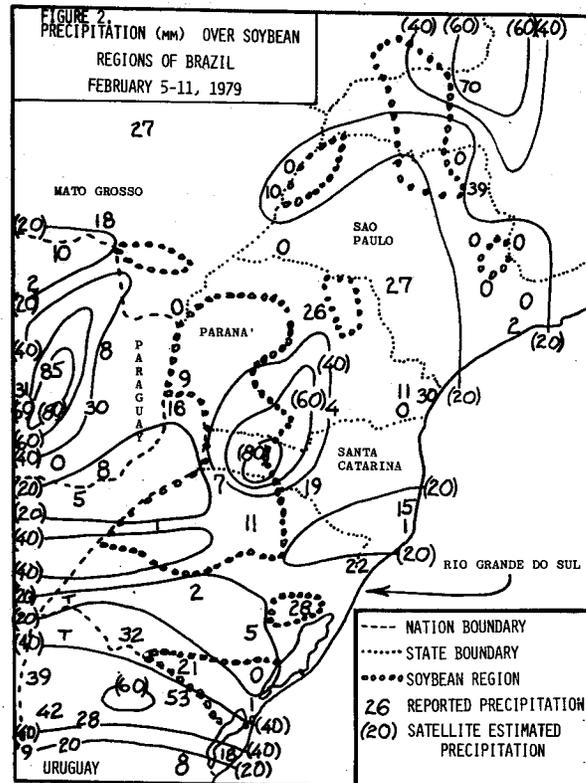
Environmental Data and Information Service, NOAA

(continued from page 9)

AFRICA. Light to moderate moisture fell over Morocco, but no rain fell in Tunisia's winter grains area. Amounts in Morocco ranged from 13 to 46 mm. In East Africa, heavy rains continued in the Lake Victoria region with amounts generally 45 to 86 mm. Northeastern portions of the Maize Triangle received good rainfall, but the remaining areas showed only generally light amounts.

EUROPE. Heavy precipitation fell over much of western Europe this past week with amounts ranging from 25 to 100 mm over most of Spain, Portugal, France, and the southern edge of the United Kingdom. This snow should provide both good protection for the crop for the next several weeks and good moisture when the crop begins to green up later next month. Eastern Europe received only light precipitation with most amounts less than 10 mm. Some of the snowcover may have melted in parts of Bulgaria and Romania.

SOUTH AMERICA. Indications show some of the best rains in several weeks over the major agricultural areas of Brazil this past week. Although reported amounts were generally light in the soybean producing areas, satellite coverage indicates that heavy thundershowers did occur on Saturday and Sunday, ranging from 25 to 75 mm over broad areas. The outlook for continued moisture is also optimistic. These rains will stop the current deterioration of the crop, but additional moisture would be required to permit any significant recovery on medium and late-planted fields. In Argentina, the northern grain producing areas also received good moisture helping both the corn and soybean crops.



WATER SUPPLY OUTLOOK FOR THE WESTERN UNITED STATES
 Issued as of February 1, 1979

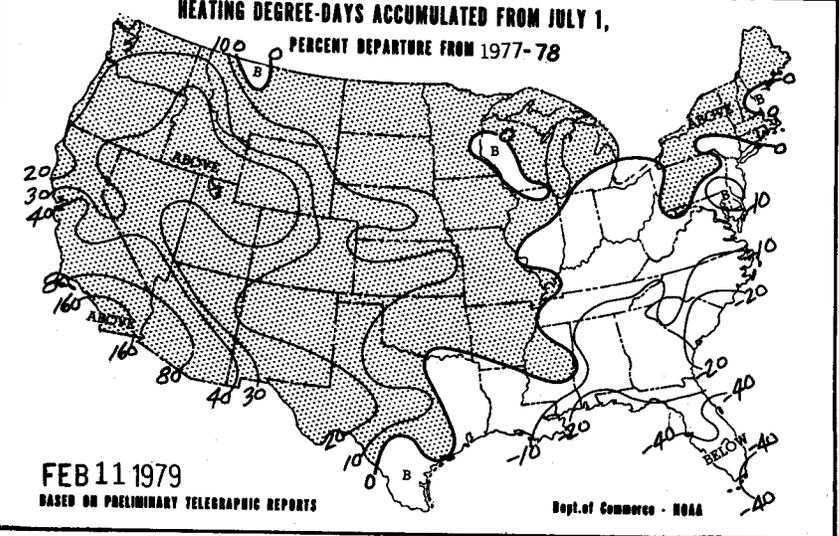
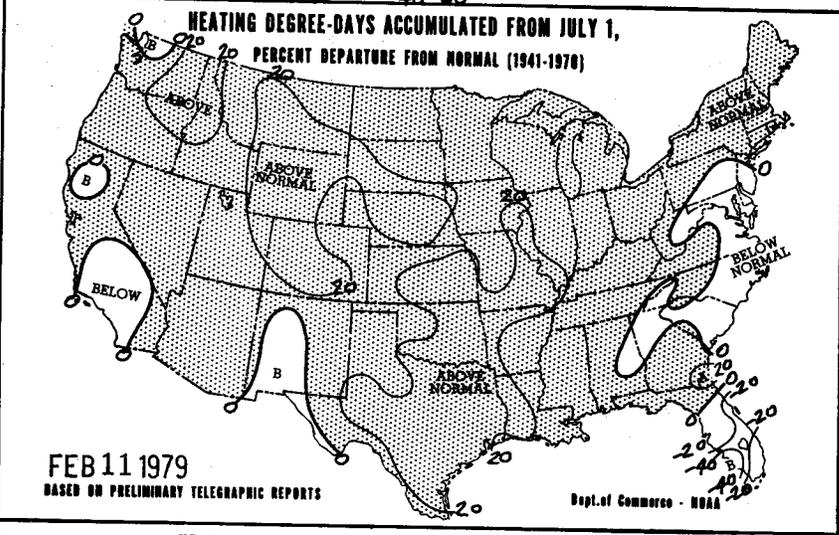
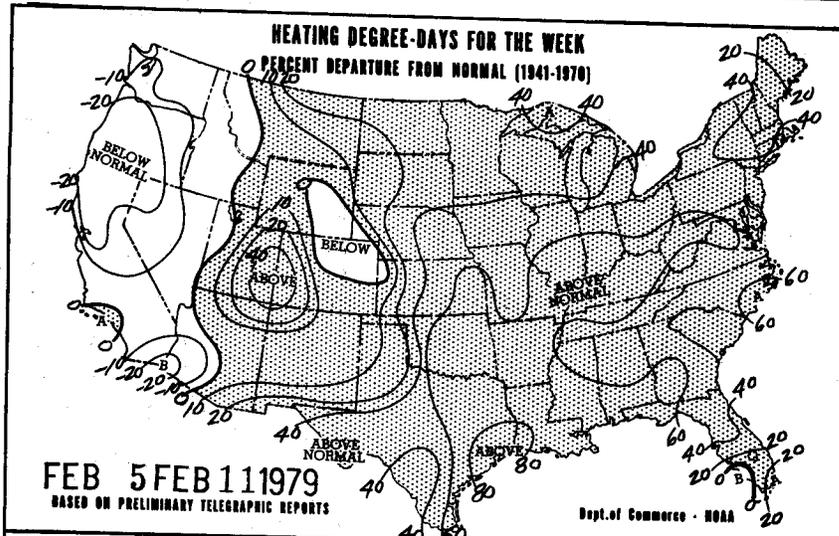
The table below shows the runoff forecast in percent of the 15-year (1963-1977) average. The forecasts are for the remainder of the water year (October thru September), except for the full water year for the Sacramento and San Joaquin Basins; April 1 to September 30, 1979, for the Missouri, Yellowstone, and North Platte Basins;

November 1, 1978, to June 30, 1979, for the Little Colorado Basins; and January 1 to June 30, 1979, for the Gila Basin. The publication "Water Supply Outlook for the Western United States," issued as of February 1, 1979, contains the complete water supply forecasts for about 375 stations in the Western United States.

River	Station	Forecast 1,000 Acre-feet	Percent 15-year average
Columbia	Grand Coulee, WA	51,400	76
Columbia	The Dalles, OR	75,100	73
Snake	Lower Granite, WA	17,300	75
Sacramento	Red Bluff, CA	4,700	53
San Joaquin	Big Creek, CA	1,250	98
Weber	Gateway, UT	382	92
Jordan	Utah Lake, UT	470	110
Truckee	L. Tahoe-Farad	210	66
Colorado	L. Powell infl.	12,100	137
Green	Green River, UT	4,168	114
San Juan	Bluff, UT	2,100	176
*Little Colo.	Woodruff, AZ	61	500
Gila	Solomon, AZ	420	292
Rio Grande	San Marcial, NM	637	190
Arkansas	Pueblo, CO	353	140
Missouri	Ft. Peck, MT	4,130	84
Yellowstone	Sidney, MT	7,160	92
North Platte	Glendo, WY	963	100

Office of Hydrology
 National Weather Service

*This 15-year average indicates seasonal forecast totals.



HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING FEB. 11, 1979.

STATES AND STATIONS	WEEKLY		SEASONAL ACCUMULATION +			STATES AND STATIONS	WEEKLY		SEASONAL ACCUMULATION +			STATES AND STATIONS	WEEKLY		SEASONAL ACCUMULATION +		
	TOTAL	DEPARTURE*	TOTAL	DEPARTURE*	DEPARTURE FROM 1977-78		TOTAL	DEPARTURE*	TOTAL	DEPARTURE*	DEPARTURE FROM 1977-78		TOTAL	DEPARTURE*	TOTAL	DEPARTURE*	DEPARTURE FROM 1977-78
ALA. BIRMINGHAM.....	203	67	2149	131	279	MAINE. CARIBOU.....	428	51	6075	85	61	YOUNGSTOWN.....	408	134	4239	188	67
MOBILE.....	159	68	1301	69	356	PORTLAND.....	399	96	4743	130		OKLA. OKLAHOMA CITY.....	208	113	3043	501	153
MONTGOMERY.....	172	60	1564	82	202	MD. BALTIMORE.....	324	107	3009	81	218	TULSA.....	300	125	3131	569	151
ARIZ. FLAGSTAFF.....	268	22	4627	20	1073	MASS. BOSTON.....	337	87	3609	134	175	OREG. ASTORIA.....	138	14	3465	331	470
PHOENIX.....	1130	1	1361	12	553	MICH. ALPENA.....	440	10	5095	86	232	BURNS.....	114	12	3322	183	59
TUCSON.....	206	15	3399	197	764	FLINT.....	382	11	4666	107	177	MEDFORD.....	114	12	3322	183	59
MINSLOW.....	206	15	3399	197	764	GRAND RAPIDS.....	396	105	3938	111	158	PENDLETON.....	114	12	3322	183	59
YUMA.....	40	14	990	210	529	HOUGHTON LAKE.....	444	109	5509	127	127	PORTLAND.....	114	12	3322	183	59
ARK. FORT SMITH.....	273	113	2921	557	106	LANSING.....	407	10	4615	140	140	SALEM.....	114	12	3322	183	59
LITTLE ROCK.....	264	101	2686	322	88	MUSKEGON.....	450	10	4976	110	110	PA. ALLENTOWN.....	107	107	3729	149	133
CALIF. BAKERSFIELD.....	91	2	2052	192	549	ST. MARIE.....	490	133	6042	453	110	ERIE.....	107	107	3729	149	133
FRESNO.....	101	2	2052	192	549	MINN. DULUTH.....	477	9	6634	510	146	HARRISBURG.....	107	107	3729	149	133
LOS ANGELES.....	30	30	946	64	482	INTERNATL FALLS.....	530	10	5706	894	219	PHILADELPHIA.....	107	107	3729	149	133
RED BLUFF.....	30	30	946	64	482	MINNEAPOLIS.....	530	10	5706	894	219	PTTSBURGH.....	107	107	3729	149	133
SAN DIEGO.....	62	1	783	92	478	ROCHESTER.....	499	12	6467	734	232	R. I. PROVIDENCE.....	362	106	3879	197	58
SAN FRANCISCO.....	24	25	1965	92	590	ST. CLOUD.....	499	12	6467	734	232	S. C. CHARLESTON.....	169	54	1405	119	303
STOCKTON.....	91	25	1965	92	590	MISS. JACKSON.....	192	75	1902	254	222	COLUMBIA.....	169	54	1405	119	303
COLO. DENVER.....	216	15	4370	616	751	NEBR. GRAND ISLAND.....	492	123	6215	1010	629	GREENVILLE.....	209	79	2305	104	146
GRAND JUNCTION.....	338	106	4684	1287	704	GLASGOW.....	337	75	3681	824	169	S. DAK. ABERDEEN.....	462	98	6371	764	47
PUEBLO.....	221	106	4342	800	704	GREAT FALLS.....	337	75	3681	824	169	HURON.....	462	98	6371	764	47
CONN. BRIDGEPORT.....	321	76	3349	45	34	HAVRE.....	417	17	6149	309	309	RAPID CITY.....	462	98	6371	764	47
HARTFORD.....	377	100	4344	309	280	HELENA.....	417	17	6149	309	309	SIoux FALLS.....	462	98	6371	764	47
DEL. WILMINGTON.....	344	116	3226	39	343	KALISPEL.....	417	17	6149	309	309	TENN. CHATTANOOGA.....	240	77	2487	47	321
D.C. WASHINGTON.....	297	94	2604	196	244	MISSOULA.....	257	18	6255	958	1054	KNOXVILLE.....	240	77	2487	47	321
FLA. APALACHICOLA.....	130	53	1034	47	342	NEBR. GRAND ISLAND.....	492	123	6215	1010	629	MEMPHIS.....	240	77	2487	47	321
DAYTONA BEACH.....	74	20	475	169	375	LINCOLN.....	407	10	4615	140	140	NASHVILLE.....	240	77	2487	47	321
FORT WALTER.....	74	20	475	169	375	MARFOLLO.....	407	10	4615	140	140	TEXAS. ABILENE.....	186	58	2213	346	78
JACKSONVILLE.....	116	39	1164	198	151	NORTH PLATTE.....	417	17	6149	309	309	AMARILLO.....	186	58	2213	346	78
KEY WEST.....	6	18	426	65	271	OHAMA.....	417	17	6149	309	309	AUSTIN.....	186	58	2213	346	78
LAKELAND.....	6	18	426	65	271	VALENTINE.....	417	17	6149	309	309	BEAUMONT.....	186	58	2213	346	78
MIAMI.....	6	18	426	65	271	NEV. ELV.....	257	11	5277	497	1096	BROWNSVILLE.....	186	58	2213	346	78
ORLANDO.....	6	18	426	65	271	LAS VEGAS.....	114	1	1956	71	671	CORPUS CHRISTI.....	186	58	2213	346	78
TALLAHASSEE.....	133	10	1634	16	530	RENO.....	175	26	4130	353	915	DEL RIO.....	186	58	2213	346	78
TAMPA.....	133	10	1634	16	530	MINNEBUCCA.....	161	62	4410	243	1034	FORT WORTH.....	186	58	2213	346	78
NORTH PALM BEACH.....	133	10	1634	16	530	N. H. CONCORD.....	391	84	4989	344	79	GALVESTON.....	186	58	2213	346	78
GA. ATLANTA.....	212	65	2041	63	391	N. J. ATLANTIC CITY.....	357	133	3393	246	140	LUBBOCK.....	186	58	2213	346	78
AUGUSTA.....	187	61	1841	16	530	TRENTON.....	357	133	3393	246	140	MIDLAND.....	186	58	2213	346	78
Macon.....	187	61	1841	16	530	N. MEX. ALBUQUERQUE.....	185	1	2927	23	3	SAN ANGELO.....	186	58	2213	346	78
SAVANNAH.....	144	4	1326	8	530	ROSNELL.....	173	9	2687	59	590	SAN ANTONIO.....	186	58	2213	346	78
IDAHO. BOISE.....	206	11	4510	726	1238	N. Y. ALBANY.....	404	103	4671	279	88	VICTORIA.....	186	58	2213	346	78
LENISTON.....	206	11	4510	726	1238	BINGHAMTON.....	404	103	4671	279	88	WICHITA FALLS.....	186	58	2213	346	78
POCATELLO.....	206	11	4510	726	1238	BUFFALO.....	404	103	4671	279	88	UTAH. SALT LAKE CITY.....	230	0	4054	175	1062
ILL. CAIRO.....	318	133	3300	643	156	NEW YORK.....	337	119	4318	163	163	VT. BURLINGTON.....	473	138	5263	324	147
CHICAGO.....	411	139	4597	89	89	ROCHESTER.....	337	119	4318	163	163	VA. LYNCHBURG.....	305	109	2950	121	266
MOLINE.....	411	139	4597	89	89	SYRACUSE.....	337	119	4318	163	163	NORFOLK.....	305	109	2950	121	266
PEORIA.....	411	139	4597	89	89	N. Y. ALBANY.....	404	103	4671	279	88	RICHMOND.....	305	109	2950	121	266
ROCKFORD.....	411	139	4597	89	89	BINGHAMTON.....	404	103	4671	279	88	ROANOKE.....	305	109	2950	121	266
SPRINGFIELD.....	411	139	4597	89	89	NEW YORK.....	337	119	4318	163	163	WASH. BULLAYUTE.....	154	14	3375	207	252
IND. EVANSVILLE.....	365	152	3589	454	87	NEW YORK.....	337	119	4318	163	163	SEATTLE-TACOMA.....	154	14	3375	207	252
FORT WAYNE.....	365	152	3589	454	87	ROCHESTER.....	337	119	4318	163	163	SPOKANE.....	154	14	3375	207	252
INDIANAPOLIS.....	365	152	3589	454	87	SYRACUSE.....	337	119	4318	163	163	HALLA HALLA.....	154	14	3375	207	252
SOUTH BEND.....	365	152	3589	454	87	N. C. ASHEVILLE.....	255	70	2793	35	381	YAKIMA.....	154	14	3375	207	252
IOWA. BURLINGTON.....	429	153	4902	846	272	CHARLOTTE.....	255	70	2793	35	381	W. VA. BECKLEY.....	115	115	3633	2	354
DES MOINES.....	429	153	4902	846	272	GREENSBORO.....	255	70	2793	35	381	CHARLESTON.....	115	115	3633	2	354
DUBUQUE.....	429	153	4902	846	272	HATTERAS.....	255	70	2793	35	381	HUNTINGTON.....	115	115	3633	2	354
SIoux CITY.....	429	153	4902	846	272	RALEIGH.....	255	70	2793	35	381	PARRKERSBURG.....	115	115	3633	2	354
KANS. CONCORDIA.....	355	111	4397	679	241	WILMINGTON.....	255	70	2793	35	381	WIS. GREEN BAY.....	45	116	5472	54	224
DODGE CITY.....	355	111	4397	679	241	N. DAK. BISMARCK.....	463	88	6655	816	144	LACROSSE.....	45	116	5472	54	224
GOODLAND.....	355	111	4397	679	241	FARGO.....	463	88	6655	816	144	RADISSON.....	45	116	5472	54	224
GOOPLAND.....	355	111	4397	679	241	HILLSTON.....	463	88	6655	816	144	MTLAUREE.....	45	116	5472	54	224
TOPEKA.....	355	111	4397	679	241	OHIO. AKRON-CANTON.....	409	141	4208	259	92	WYO. CASPER.....	71	1	5705	112	1008
WICHITA.....	355	111	4397	679	241	CINCINNATI.....	409	141	4208	259	92	CHEYENNE.....	71	1	5705	112	1008
KY. LEXINGTON.....	341	124	3489	337	140	CLEVELAND.....	409	141	4208	259	92	LANDER.....	71	1	5705	112	1008
LOUISVILLE.....	341	124	3489	337	140	COLUMBUS.....	409	141	4208	259	92	SHERIDAN.....	71	1	5705	112	1008
LA. BATON ROUGE.....	159	68	1402	162	142	DAYTON.....	409	141	4208	259	92						
LAKE CHARLES.....	155	72	1371	155	142	TOLEDO.....	409	141	4208	259	92						
NEW ORLEANS.....	145	64	1176	98	225												
SHREVEPORT.....	145	64	1176	98	225												

BASED ON 1941-70 NORMALS.

* ACCUMULATION FROM JULY 1, 1978.

IMMEDIATE - U. S. Weather Report

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Average Monthly Weather Outlook

