

# WEEKLY WEATHER AND CROP BULLETIN

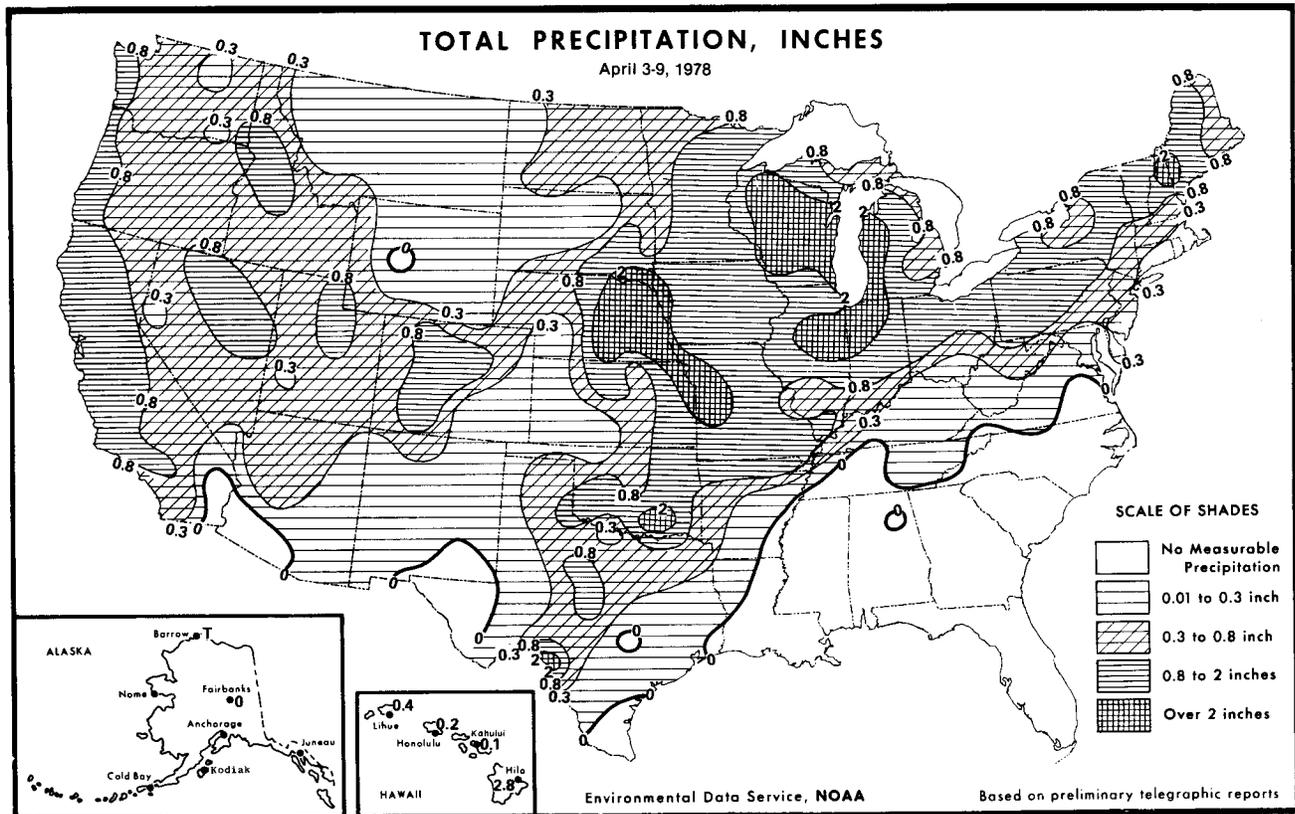
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April 11, 1978



## National Weather Summary

April 3 - 9

**HIGHLIGHTS:** Soils remained saturated after another wet week in the central Plains and Midwest. Farmers' efforts to plant were further delayed by the above-normal precipitation. Though temperatures in the region averaged well above normal, as much as 13 to 15 degrees, snow reached into Nebraska toward week's end. Another dry week in the Southeast quadrant had growers complaining about a lack of moisture.

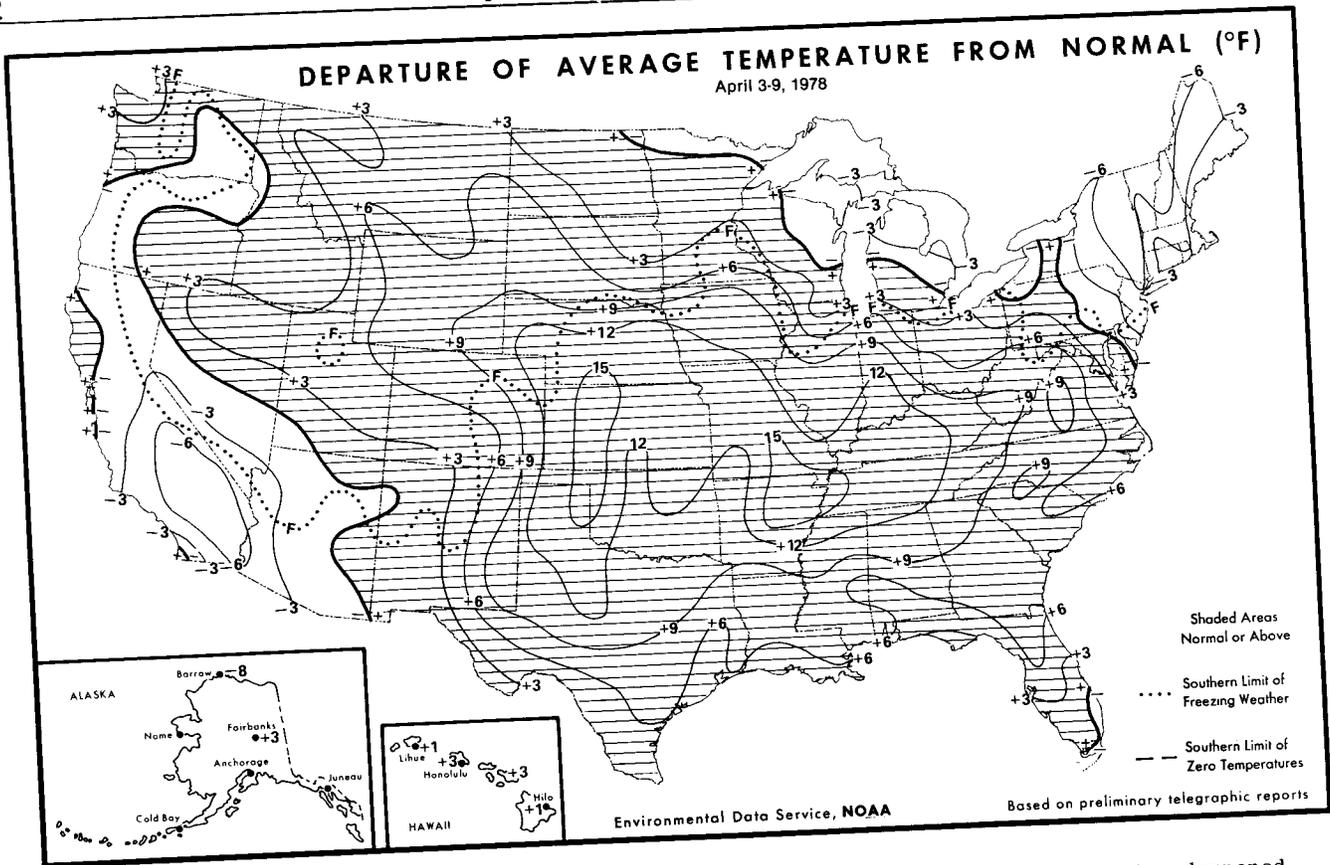
Nearly all the U.S. was warmer than expected for this time of year except most of the West Coast, the extreme Southwest, Great Lakes region, New England, and southern Florida.

A variety of precipitation marked the first day of the week over many sections of the country.

Thunderstorms carried rain and hail to several regions while snow and sleet fell in others. Rain-fall measured a half-inch to an inch from northern California to Oregon; midwestern amounts included a half-inch in Cleveland and an inch at Muskegon, Mich.; in Oklahoma, Enid and Tulsa gathered more than an inch. Hail peppered several cities---among them, Minneapolis, Kansas City, and Mineral Wells, Texas. An inch of snow dusted Williamsport, Pa., pushing the season total to 83.6 in., a record.

Eighty-degree temperatures warmed Iowa and Illinois; five stations reported new records including Springfield, Ill., 82°, which broke a 96-year-old mark.

Rain dampened the West Coast, the Atlantic Coast, and from the Gulf to the Great Lakes on Tuesday. Half-inch rains touched Salinas, Calif., South Bend, Ind., and Youngstown, Ohio. Nearly an inch fell on Harrison, Ark., and Bradford, Pa., while one inch soaked Fort Dix, N.J. The heaviest rain occurred over eastern Wisconsin where thunderstorms dumped 7 inches on the north side of Fond du Lac.



Precipitation covered various portions of the Nation from coast to coast on Wednesday. The severest weather bore down on the midlands where hail hit parts of Illinois, Missouri, Kansas, and Nebraska. Two tornadoes were spotted in northern Kansas while one inch of rain in 20 minutes drenched Rockville in south central Nebraska. By nightfall, tornadoes, high winds, and heavy rain damaged points from Oklahoma to Michigan. Rainfall measurements included 2.20 in. at Higbee, Mo., and 1.35 in. at Sioux City, Iowa. The Red River on the North Dakota/Minnesota border continued above flood stage. On the upper half of the West Coast, one-half to an inch of rain fell.

Record high temperatures baked the South; in Georgia, Macon reported 89° and Columbus, 88°. Wilmington, N.C., chipped in with 88°.

Once again severe storms rumbled over the central U.S. on Thursday; nearly an inch of rain soaked Spencer, Iowa, and Marseilles, Ill. Winter refused to let go in the northern portions of the Rockies and Minnesota. Five inches blanketed the Idaho mountains and four inches whitened Eveleth, in northeastern Minnesota. It was still raining in northern California; an inch dampened Blue Canyon.

From the Rockies to the Plains, weather came under various guises on Friday. The northern Plains got a rush of cold air and light snow. Snow also touched the northern Rockies while a tornado touched down in Idaho Falls. Tornadoes and hail also clipped parts of Nebraska and Kansas. At night, rain or hail hit a large region of the central Plains and Midwest; over 4 inches of rain poured down on Chapman, Nebr., during one storm.

Meantime one-half to one inch rains dampened portions of both coasts.

Several record high temperatures were written into the books including Denver's 82°, 86° in New Orleans, and Amarillo's 89°.

Saturday began calmly over most of the U.S., but changed by afternoon when storms ranged from the Plains eastward to the Mississippi River.

Intense thunderstorms with large hail gathered over Texas and Nebraska. Two-inch hail pelted Plainview and Pampa in Texas. However, most of the rainfall remained below an inch. It hardly seemed April in Flagstaff, Ariz., where 5 inches of snow fell.

Record high readings again warmed several stations from Missouri through the South to Florida. St. Joseph, Mo., and Nashville tied old records at 85° and 87°. In Georgia, Columbus and Macon saw the mercury rise to 89° and 90°. Both Orlando and Jacksonville, Fla., sought shade at 91°.

Heavy storms raked a large part of the country from Colorado and New Mexico to the Mississippi Valley on Sunday.

A vigorous cold front triggered major disturbances over the southern Plains. Tornadoes, large hail, and heavy rain hit hard. Twisters were sighted at Amarillo, Lamesa, and Del Rio in Texas, and near Oklahoma City. Softball-sized hail pummeled Roosevelt, Okla. Rains of one and one-half to two inches soaked Kansas, Iowa, and Illinois. Temperatures plunged, and by afternoon, snow accumulated in western Nebraska and Colorado where Denver counted 2 inches.



## National Agricultural Summary

April 3 - 9

**HIGHLIGHTS:** Temperatures soared as much as 15 degrees above normal in some sections; the West Coast States and New England had subnormal readings. These high readings dried soils in the South turning topsoil moisture supplies into the short category. Southern farmers curtailed some planting because of drying soils. Rains spread from south-western Texas, where they were needed, northward through the Corn Belt, where they were not. Texas rangeland greened and grew in response to the new moisture. North central States' soils, already burdened with too much water, got several more inches keeping fieldwork to a minimum. Plowing corn and soybean land in the Corn Belt ranged from 38% in Iowa to 55% in Ohio and Illinois. Land tillage lagged both 1977 and the average. The Dakotas were unable to accomplish any soil preparation. Winter wheat headed in the South, jointed as far north as Kansas, and was dormant in extreme northern areas. Spring small grain seeding fell far short of the average and 1977's unusually fast pace. Oats and barley seeding generally stood at 5 to 10% compared with 1977's 50 to 90% and the average 20 to 60%. Corn planting was widespread through the South, but hardly reached into the major north central States. Cotton planting reached into North Carolina, but most activity centered in Texas. Rice seeding exceeded last year and the average in the Delta, however, excess rain plagued California growers. Fruit trees bloomed in southern production areas; growers pruned and sprayed trees in northern areas.

**SMALL GRAINS:** Winter wheat rated mostly good; some Kansas fields were excellent. Growth and development lagged last year, but rains and high temperatures through parts of the central Plains improved growing conditions. Winter wheat in a few northern areas remained dormant, but some of Montana's crop greened. Over half the crop was jointing as far north as Oklahoma and extended into Kansas.

Kansas wheat rated good to excellent; late-seeded fields had spotty stands. Farmers sprayed to control heavy mustard infestations; mosaic was prevalent in central and south central areas. Less than 5% of the wheat was jointing, short of 1977's 10% and the 15% average. Soil moisture rated short in the west to surplus in the east. Oklahoma wheat rated good; jointing reached 50% lagging last year's 70% and the 67% average. Some insects and soil-borne mosaic were reported and weeds competed with many stands. Texas wheat ranged from joint to boot stage; recent rains should improve growth. Producers sprayed to control greenbugs. New Mexico wheat was jointing. Colorado wheat rated poor to good. Wheat in the Pacific Coast States rated good; California wheat headed with some stands suffering from excess moisture.

The north central States wheat crop rated mostly good. Indiana wheat grew to 3 inches, short of 1977's 4 inches, about 9 days later than last year. The Minnesota crop was dormant.

In the Southeast, 53% of Mississippi's crop was in the joint stage, 5 points less than last year. Heading reached 8% in Alabama, also 5 points less than 1977. Florida's crop also began heading. Georgia wheat rated fair to good but began showing drought stress.

Planting spring oats lagged recent years. South Dakota growers have planted no oats but last year reached 8%. Oats seeding in Iowa stood at 11%, far short of 1977's 51% and the 31% average. Less than 1 percent of Minnesota oats has been sown compared with last year's 16% and the average of 9%. In the eastern north central States, planting was near 10%--last year about 40% and an average 40%.

**OTHER CROPS:** Corn planting advanced ahead of last year and the average in the South. Planting ranged from 31% in Alabama to 63% in South Carolina. The only southern State lagging last year was Georgia at 49%, short of 1977's 55%; dry soils began affecting stands. Northward progress of corn planting reached Kansas and Missouri.

Cotton seeding on a very limited scale extended throughout the South. However, progress equaled or exceeded both last year and the average. Planting was first starting in Arkansas, Mississippi, Alabama, Tennessee, North Carolina, and Missouri. Georgia farmers advanced to 8%, double last year's rate; South Carolina's 7% nudged ahead of 1977 by a point. Texas planting was 14%, also double last year. Southern stands were up while High Plains growers prepared soil. Arizona growers were almost finished.

Rice seeding outpaced last year and the average in the Delta States. Texas growers seeded 68%, ahead of 1977's 52% and the 66% average. Louisiana planting at 56% was almost double the 30% for last year and the average. Mississippi producers reached 36% while last year they were just starting. Arkansas growers planted a few fields. California growers contended with too much rain.

**FRUITS AND NUTS:** Deciduous orchards rated good; peaches bloomed in the major southern production areas. Bloom was late in eastern areas but early in the Pacific Coast States. California deciduous trees were well along or past bloom; vineyards leafed out. Almond groves lost some trees to water-saturated soils. Early walnuts appeared to set well. Washington pears bloomed. Orchard growers pruned and sprayed trees in northern areas.

Florida citrus groves were past peak bloom; growers irrigated to overcome moisture shortages. Valencia harvest continued. Texas citrus was in full bloom. Arizona Valencia harvest was in full swing; lemon, grapefruit, and tangerine harvests slowed. California citrus reached full bloom south and 10% bloom in the northern Sacramento Valley. Harvests slowed except Valencia picking which increased.

**VEGETABLES:** Near-ideal weather spread through Florida vegetable country improving growth, fruit set, and size. Shipments increased 19%; only peppers and radishes declined. Texas growers harvested spinach, carrots, cabbage, lettuce, and onions. Limited supplies of strawberries moved from Texas and Louisiana. Arizona growers picked lettuce, cauliflower, carrots, and broccoli. Rain slowed the California asparagus harvest. Lettuce harvest increased; dry onion and pea harvests started.

**PASTURES AND LIVESTOCK:** Pastures rated fair to good. Cattlemen stopped feeding extra roughage to animals as far north as Tennessee. Mountain and Pacific Coast States pastures rated excellent in many areas--the best in years; stock water was ample. Texas rains improved rangelands but grazing was limited. Southeastern grasslands began showing the effects of soil moisture shortages. Extreme northern pastures lay dormant.

April 9, 1978

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

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA. Birmingham	70	+10	0	-1.2	LA. Baton Rouge	72	+6	T	-1.2	Youngstown	44	0	1.9	+1.1
Mobile	72	+7	0	-1.4	Lake Charles	71	+5	T	-0.9	OKLA. Okla. City	69	+12	0	0
Montgomery	70	+7	0	-1.2	New Orleans	73	+7	0	-1.0	Tulsa	70	+13	1.5	+0.6
ALASKA Anchorage	-	-	-	-	Shreveport	71	+7	T	-1.2	OREG. Astoria	47	+1	0.9	+0.3
Barrow	-15	-8	T	-	MAINE. Caribou	29	-4	0.3	-0.2	Burns	42	+1	1.4	+0.3
Fairbanks	25	+3	0	-0.1	Portland	37	-2	0.9	+0.1	Medford	47	-1	0.7	+0.5
Juneau	-	-	-	-	MD. Baltimore	52	+1	0.2	-0.5	Pendleton	46	-2	0.3	+0.1
Kodiak	-	-	-	-	MASS. Boston	43	-2	0.2	-0.6	Portland	50	+1	0.4	+0.2
Nome	-	-	-	-	Chatham	40	-1	0.1	-	Salem	47	-1	0.7	+0.1
ARIZ. Flagstaff	37	-2	0.5	+0.1	MICH. Alpena	32	-4	0.4	-0.2	PA. Allentown	46	0	0.5	+0.3
Phoenix	64	-1	1.1	0	Detroit	43	-1	1.1	+0.4	Erie	40	-1	1.2	+0.4
Tucson	50	-1	1.1	0	Flint	41	-1	0.7	+0.1	Harrisburg	48	-1	0.6	+0.1
Winslow	63	-6	0	-0.1	Grand Rapids	44	+1	1.6	+0.8	Philadelphia	46	-4	0.4	-0.4
Yuma	70	+11	0.5	-0.5	Houghton Lake	34	-4	0.9	+0.3	Pittsburgh	52	+5	1.2	+0.4
ARK. Fort Smith	74	+15	T	-1.2	Lansing	43	-0	0.7	+0.1	Scranton	41	-4	0.7	+0.0
Little Rock	56	-5	0.7	+0.5	Marquette	35	-2	0.4	-0.2	R.I. Providence	71	+9	0	-0.8
Eureka	49	0	1.8	+1.0	Muskegon	43	+1	2.3	+1.6	S.C. Charleston	67	+6	0	-0.9
Los Angeles	54	-4	1.4	+1.0	S. Ste. Marie	29	-5	0.5	0	Columbia	66	+8	0	-1.1
Red Bluff	57	0	1.5	+1.0	MINN. Duluth	36	+2	1.3	+0.7	Greenville	41	+2	0.2	-0.2
San Diego	61	+1	1.4	+1.1	Internatl Falls	31	-2	0.7	+0.3	S.D. Aberdeen	44	+3	0.8	+0.4
San Francisco	54	0	1.4	+0.9	Minneapolis	44	+4	1.5	+1.1	Huron	41	+2	0.7	+0.4
Stockton	56	-1	1.0	+0.6	Rochester	46	+6	0.8	+0.3	Rapid City	47	+7	0.7	+0.2
COLO. Denver	53	+7	0.9	+0.5	St. Cloud	40	+2	1.6	+1.1	Sioux Falls	46	+4	0.7	-1.1
Grand Junction	53	+5	0.7	+0.5	St. Louis	64	+11	1.1	+0.2	TENN. Chattanooga	69	+12	1.1	-0.8
Pueblo	57	+9	1.1	-0.2	Springfield	64	+11	1.1	+0.2	Knoxville	68	+11	0.7	-1.3
CONN. Bridgeport	42	-3	0.2	-0.6	MONT. Billings	46	+5	T	-0.3	Memphis	74	+15	0	-1.0
Hartford	43	-1	0.2	-0.7	Glasgow	42	+4	T	-0.1	Nashville	70	+13	1.0	+0.6
D.C. Washington	56	+3	0	-1.0	Great Falls	41	+2	T	-0.2	TEX. Abilene	75	+12	1.5	+0.3
FLA. Apalachicola	67	+1	0	-0.6	Havre	44	+5	0.2	+0.1	Amarillo	65	+13	0.8	-0.7
Daytona Beach	72	+4	0	-0.5	Helena	44	+5	0.2	-0.1	Austin	74	+8	T	-0.9
Ft. Myers	73	+1	0	-0.8	Kalispell	41	+3	T	+0.3	Beaumont	78	+5	T	-0.2
Jacksonville	72	+6	0	-0.5	Miles City	47	+6	T	+0.1	Brownsville	77	+6	T	-0.4
Key West	76	-1	0	-0.7	Missoula	44	+3	T	+0.3	Corpus Christi	77	+6	T	-0.4
Lakeland	76	+6	0	-0.7	NEBR. Grand Island	60	+14	3.3	+2.8	Dallas	75	+5	2.6	+2.3
Miami	74	0	0	-0.7	Lincoln	57	+13	2.4	+2.0	Del Rio	62	+1	0	-0.1
Orlando	73	+3	0	-1.1	Norfolk	60	+13	2.4	+2.0	El Paso	63	+11	0.6	-0.3
Tallahassee	69	+3	0	-0.6	N. Platte	59	+13	1.1	-0.3	Fort Worth	69	+2	T	-0.6
Tampa	73	+3	0	-0.8	Omaha	57	+14	1.8	+1.2	Galveston	72	+5	1.1	-0.6
GA. Atlanta	69	+11	0	-1.2	Valentine	48	+7	0.8	+0.5	Houston	68	+11	2.2	+0.1
Augusta	68	+7	0	-0.9	NEV. Ely	39	+1	0.9	+0.7	Lubbock	70	+9	0.1	0
Macon	71	+8	0	-0.7	Las Vegas	57	-4	0.3	+0.2	Midland	75	+11	0.7	+0.4
Savannah	72	+8	0	-0.7	Reno	46	-2	0.9	+0.8	San Angelo	73	+6	T	-0.5
HAWAII. Hilo	73	+1	2.8	-0.3	Winnemucca	35	-6	0.4	-0.2	San Antonio	75	+7	T	-0.5
Honolulu	77	+3	0.2	-0.2	N.H. Concord	45	-3	0.7	-0.1	Victoria	74	+10	0.2	-0.6
Kahului	76	+3	0.1	-0.3	N.J. Atlantic City	47	-2	0.4	-0.4	Waco	72	+11	0.3	-0.3
Lihue	74	+1	0.8	+0.6	Trenton	55	-2	1.1	0	Wichita Falls	47	+3	0.5	+0.3
IDAHO. Boise	47	+1	0.9	+0.7	N.MEX. Albuquerque	66	+9	T	-0.1	UTAH. Blanding	51	+5	0.9	+0.4
Lewiston	47	-1	0.9	+0.3	Roswell	37	-6	0.4	-0.2	Salt Lake City	33	-6	1.2	+0.6
Pocatello	44	+2	0.5	-0.5	N.Y. Albany	36	-5	0.9	+0.2	VT. Burlington	62	+9	T	-0.6
ILL. Cairo	71	+14	0.5	+0.4	Binghamton	39	-2	0.9	+0.2	VA. Lynchburg	58	+3	T	-0.6
Chicago	51	+5	1.3	+0.2	Buffalo	42	-6	0.3	-0.5	Norfolk	60	+5	T	-0.6
Moline	53	+7	1.1	+1.4	New York	44	+2	0.8	+0.2	Richmond	60	+7	0.1	-0.5
Peoria	55	+8	2.4	+1.4	Rochester	38	-5	0.7	0	Roanoke	60	+7	0.1	-0.5
Rockford	43	-1	1.3	+0.2	Syracuse	63	+10	0	-0.9	WASH. Colville	46	0	0.3	+0.1
Springfield	60	+11	1.1	+0.5	N.C. Asheville	68	+10	0	-0.9	Omak	47	+3	1.6	-0.5
IND. Evansville	65	+12	0.5	+0.7	Charlotte	61	+6	0	-0.8	Quillayute	50	+3	0.4	-0.3
Ft. Wayne	61	+12	1.3	+0.4	Greensboro	61	+5	T	-0.8	Seattle-Tacoma	43	0	0.4	+0.1
Indianapolis	52	+8	2.4	+1.5	Hatteras	64	+8	T	-0.8	Spokane	50	0	0.2	-0.1
South Bend	57	+10	1.4	+0.8	Raleigh	67	+6	0	-0.7	Walla Walla	49	+2	0.4	+0.3
IOWA. Burlington	57	+11	1.4	+0.5	Wilmington	41	+3	0.6	+0.3	Yakima	59	+10	0.2	-0.6
Des Moines	56	+7	1.8	+0.9	N.DAK. Bismarck	39	-2	0.6	+0.2	W. Va. Beckley	62	+9	0.2	-0.6
Dubuque	55	+10	2.2	+1.8	Fargo	40	+3	T	-0.3	Charleston	62	+9	0.1	-0.7
Sioux City	63	+14	0.7	+0.3	Williston	47	+2	1.0	+0.2	Huntington	58	+7	0.4	-0.4
KANS. Concordia	67	+17	T	-0.3	OHIO. Akron-Canton	58	+8	1.2	-0.7	Parkersburg	39	-1	2.4	+1.8
Dodge City	57	+12	1.1	-0.2	Cincinnati	48	+3	1.3	+0.5	WIS. Green Bay	46	+3	2.3	+1.7
Goodland	65	+14	1.1	+0.3	Cleveland	53	+5	0.8	0	La Crosse	45	+4	1.9	+1.3
Topeka	65	+12	0.4	-0.2	Columbus	55	+7	1.0	+0.2	Madison	42	+1	2.1	+1.5
Wichita	64	+12	0.2	-0.8	Dayton	46	+1	1.9	+1.2	Milwaukee	47	+8	0.1	-0.2
KY. Lexington	65	+12	0.2	-0.8	Toledo	46	+1	1.9	+1.2	WYO. Casper	48	+9	T	-0.3
Louisville	65	+12	0.2	-0.8						Cheyenne	48	+9	T	-0.5
										Lander	46	+7	T	-0.5
										Sheridan	45	+5	T	-0.5
										P.R. San Juan	80	+3	0.2	-0.4

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:** Unseasonably warm and dry. Temperatures 9° above normal.

Excellent week for fieldwork; 6.1 days suitable. Land preparation continued at rapid pace. Corn 31% planted, 23% 1977, 18% average. Few fields of soybeans, peanuts and cotton planted. Wheat fair condition, 8% headed, 13% 1977. Pastures improved but need moisture.

**ARIZONA:** Below normal temperatures. Winds up to 50 mph north central areas 8th. Numerous rain, snow showers throughout weekend.

Cotton planting well advanced central, nearing completion west. Wheat, barley excellent progress, very little lodging, color fading. Grain sorghum planting increasing, but limited. Sugarbeets good tap root growth. Alfalfa haying ahead of normal. Many safflower fields stem elongation stage, growing well. Harvest lettuce, cauliflower, carrots, broccoli, mixed vegetables continued. Cantaloup bed moving underway; stands satisfactory. Seeding spring potatoes completed. Valencia orange harvest, full swing. Lemon harvest winding down. Grapefruit, tangerine harvest slow. Ranges excellent condition, lower elevations; snow higher elevations will temporarily slow grass growth. Stock water tanks full. Soil moisture adequate. Livestock good to excellent condition.

**ARKANSAS:** Unusually warm; means 9 to 15° above normal. Extremes: 89 and 44°. Most precipitation 1.25 in. Precipitation averaged 0.33 in.

Fieldwork: 6 days suitable. Soil moisture north adequate to surplus; short to adequate south. Limited planting rice, cotton, sorghum, corn. Wheat and oats jointing; good condition. Strawberries good to excellent condition, blooming. Peaches good condition. Apples good. Tomatoes fair to good condition; transplanting active. Pasture, hay and livestock good condition.

**CALIFORNIA:** Cold, moist air moved southward early week and developed into strong and very cold upper level disturbance late 7th and 8th. Hail over low Sierra foothills east of Sacramento 7th. Precipitation general but north coast received most. Temperature several degrees below normal.

Rains delayed field preparation. Small grain growth good. Some high moisture stress. Wheat and barley heading. Continued rains concern rice growers. Sugarbeet harvest started. Alfalfa weevils continue to cause damage. Fruit crops hit by rain, scattered hail, insects, fungus, and bacteria. Treatments applied by air in areas of restricted access. Cherries, peaches, nectarines, plums, prunes, apples, and pears well along or past bloom. Sets reported as fair. Grape vineyards continue to grow and leaf out; irregular bunch sets. Citrus full bloom in south, about 10% bloom north Sacramento Valley. Grapefruit harvest slow. Lemon harvest slowed by weather. Navel harvest winding down as cullage high due to rind breakdown, brown rot, and snail damage. Valencia harvest increased. Almonds appear to have a light set. Some tree loss due to water saturated soils. Early walnuts appear to have set well. Asparagus harvest slowed by rain, some diversion to processing. Lettuce harvest increasing slowly central coast, steady San Joaquin Valley. First dry onions pulled Imperial Valley. Harvest freezer and market peas started. Winter potato crop complete. First digging spring potatoes this week. Range pasture

development excellent. Cattle, sheep good condition.

**COLORADO:** Heavy snows in mountains end of week. Some windy periods. Temperatures 12° above normal; southeast 80's and 90's.

Winter wheat poor to good. Oats seeded 34% 1978, 33% 1977, 38% average. Spring barley seeded 24% 1978, 31% 1977, 34% average. Sugarbeets seeding progressed favorably. Summer potatoes seeded 16% 1978, 16% 1977, 9% average. Fieldwork: 6 days suitable. Alfalfa good condition. Ranges and pastures very poor to fair. Livestock good.

**FLORIDA:** No rain. Temperatures near normal except several degrees above normal weekend.

Soil moisture short. Planting corn, peanuts, tobacco active; dry soils slowing progress. Land preparation continues for planting soybeans. Sugar-cane making good growth. Small grains good condition, beginning to head. Permanent pastures green, rainfall deficiency limiting growth. Most pastures supplying adequate grazing. Supplemental feeding declining rapidly. Cattle condition poor to good. Citrus grove condition very good, surface moisture short, extensive irrigation all areas. Peak bloom over, some bloom continues. Valencia harvest continues slow. Near ideal weather continued in vegetable growing areas. Temperature highs mostly in 80's with lows in 60's and 70's. Rainfall limited to few very light, widely scattered showers. Winds light to moderate; skies generally clear, sunny. Vegetables generally good to very good and improving. Growth, quality, fruit set very good. Fruit sizing well. Young crops blooming, setting fruit. Overall shipments up 19% from previous week. Volume increased for snap beans, celery, chinese cabbage, sweet corn, cucumbers, escarole, strawberries, lettuce, okra, potatoes, squash. Shipments cabbage, carrots, eggplant, tomatoes held steady. Supplies peppers, radishes decreased. Watermelon crop condition generally good; growth, progress excellent. Open bloom, small fruit more abundant. First harvest expected first of May.

**GEORGIA:** Temperatures 10 to 12° above normal north; 4 to 6° above normal south. Averages 68° northwest, 63° extreme northeast, 70° elsewhere. No rainfall.

Soil moisture rated very short to mostly short. Fieldwork: 6 days suitable. Land preparation, planting, and pasture maintenance active but curtailed due shortage soil moisture. Corn 49% planted, 55% last year, 30% average; fair to mostly good, dry weather affecting stands. Peanuts 2% seeded, 1% last year and average. Tobacco 33% transplanted, 58% last year and 59% average. Condition tobacco slightly improved, still fair to good. Cotton 8% planted, 4% last year and 3% average. Planting soybeans getting underway. Watermelon planting active, 72% seeded, 70% last year. Small grains suffering dry weather, rated fair to mostly good. Peaches and apples mostly good condition. Peaches full bloom with bloom thinning active. Spraying active apples and pecans. Pastures fair to good. Cattle fair to good. Hogs good.

**HAWAII:** Weather favorable. Rains beneficial most sections.

Heavy irrigation necessary some areas. Winds gusty Waianae, Oahu. Some vine crops exposed areas slightly damaged. Most planting making fair to good progress. Vegetable supplies: Green onions light, others increasing. Banana, papaya, pineapple supply light. Sugar active. Pastures improving.

IDAHO: Temperatures returned to normal levels; highs 50's and 60's, lows 20's and 30's. Precipitation averaged 0.25 to 1.00 in. above normal.

Fieldwork slowed by rains. Fieldwork: 2 days suitable. Seeding made some progress; 20% spring wheat and barley planted and 25% of sugarbeets. Soil moisture adequate to surplus. Livestock in good condition.

ILLINOIS: Temperatures 5 to 7° above normal north, 11 to 14° above normal south. Precipitation heavy northern two-thirds, 1.00 to 2.00 in.; south, 0.25 to 0.50 in.

Winter wheat fair to good. Oats seeding 10% complete, 62% 1977, 60% average. Alfalfa fair to good. Plowing 1978 corn and soybeans acreage 55% complete, 79% 1977, 78% average. Winter freeze damage apples and peaches mostly none or very light. Pastures fair to good. Soil moisture adequate to surplus. Fieldwork: 0.8 day suitable.

INDIANA: Temperatures above normal by 6° north to 12° south. Readings ranged from 29 to 86°. Rain-fall 1.00 to 1.50 in. central and north, 0.40 in. south. South is well ahead in heat units, sunshine and evaporation with respect to normal.

Fieldwork: 1 day suitable. Topsoil and subsoil moisture surplus. Corn and soybean land 45% plowed, 1977 55%, average 45%. Oats 10% seeded, 1977 40%, average 30%. Clover 25% seeded, 1977 70%. Wheat 3 in. tall, 1977 4 in. Vegetative growth 9 days behind average. Fieldwork 11 days behind average. Pasture fair to poor.

IOWA: Warm, wet. Temperatures from 4° above normal northeast to 12° above normal southwest. Precipitation varied from near 1.00 in. northwest to 4 or 5 in. few southwest and south central areas. Heaviest showers weekend with some localized flooding.

Topsoil moisture adequate to surplus. Subsoil moisture adequate. Plowing 38% complete, last year 70%, normal 56%. Adequate availability of seed corn and bean seed for 1978. Basic fertilizer materials all readily available. Oats acreage planted 11%, last year 51%, normal 31%. Fieldwork: 3 days suitable. Livestock in good condition.

KANSAS: Heavy rains east; little in west. Averages ranged 0.10 in. west, 1.00 to 1.50 in. southeast. Temperatures 63° northwest, 64 to 67° elsewhere; 14 to 18° above normal.

Wheat condition good to excellent. Late seeded fields spotty stands. Heavy infestations mustard; some spraying. Mosaic prevalent central and south central. Wheat less than 5% jointing, last year 10%, average 15%. Soil moisture short west and portions of central; elsewhere adequate to surplus. Corn planting starting, last year 5%, normal less than 5%. Oat seeding 30%, last year 95%, average 75%. Barley 70% seeded, last year 95%, average 70%.

KENTUCKY: Temperatures 10° above normals with highs in 70's and lows in 50's. Precipitation below normal, total less than 0.50 in.

Fieldwork: 5 days favorable. Soil moisture adequate. Plowing 38% complete, 56% year ago. Seeding tobacco beds 75% complete, 91% last year. Only 4% of tobacco bed plants up compared to 27%

last year. Many seeded tobacco beds need water. Wheat 5 in., last year 7 in. Winter damage evident to wheat, barley and alfalfa.

LOUISIANA: Temperatures 8° above normal north; 4° above south. Extremes: 46 and 88°. Virtually no rain.

Activities: Fertilizing pastures, land preparation, herbicide application, corn and rice planting. Fieldwork: 5.8 days suitable. Soil moisture adequate central, southeast; short elsewhere. Corn 58% planted, 46% last year, 33% average. Rice 56% planted, 30% average and year ago. Sugarcane, Irish potatoes emerging. Vegetable planting active. Tomatoes transplanted, staked. Strawberry harvest begun. Small grains, cattle fair to good condition. Pasture fair.

MARYLAND & DELAWARE: Temperatures 3° above normal. Lows, upper 30's to mid-40's; highs, upper 60's. Precipitation light, less than 0.50 in. Weekend fair, mild, and windy.

Soil moisture surplus. Pastures supplying below average to average amounts of feed. Fieldwork: 4.5 days suitable. Plowing for corn 15% completed, well behind normal. Small grains in fair to good condition. Tobacco beds mostly planted. Orchardists spraying, pruning trees. No damage so far to fruit.

MICHIGAN: Temperatures 1 to 5° below normal over Upper and northern two-thirds of Lower. Southern third of Lower averaged 1 to 8° above normal. Temperatures fluctuated widely over southern Lower reaching 60's 4th and 7th. Maximum remained in 30's and 40's over northern Lower and Upper. Precipitation heavy to moderate and ranged from 0.37 in. in the Thumb to 2.43 in. at South Bend.

Normal farm chores; feeding livestock and pruning fruit trees. Field conditions too wet for fieldwork except in some sandy soils.

MINNESOTA: Temperatures 2 to 6° above normal except near normal extreme north. Extremes: 68 and 15°. Precipitation 1.00 to 2.00 in. except locally 0.50 to 1.00 in. extreme north and extreme south and 2.00 to 2.41 in. extreme east and southeast. Snowfall ranged from zero south to 8 in. north. Snow depths from zero south to 10 in. north.

Wet fields, flooding, and snow cover preventing fieldwork. Full-scale fieldwork will not begin for at least week south; much later north. Seeded: Spring wheat 0%, 1977 16%, normal 9%; oats 0%, 1977 13%, normal 10%; barley 0%, 1977 3%, normal 3%. Pastures, hay, winter wheat and rye still dormant.

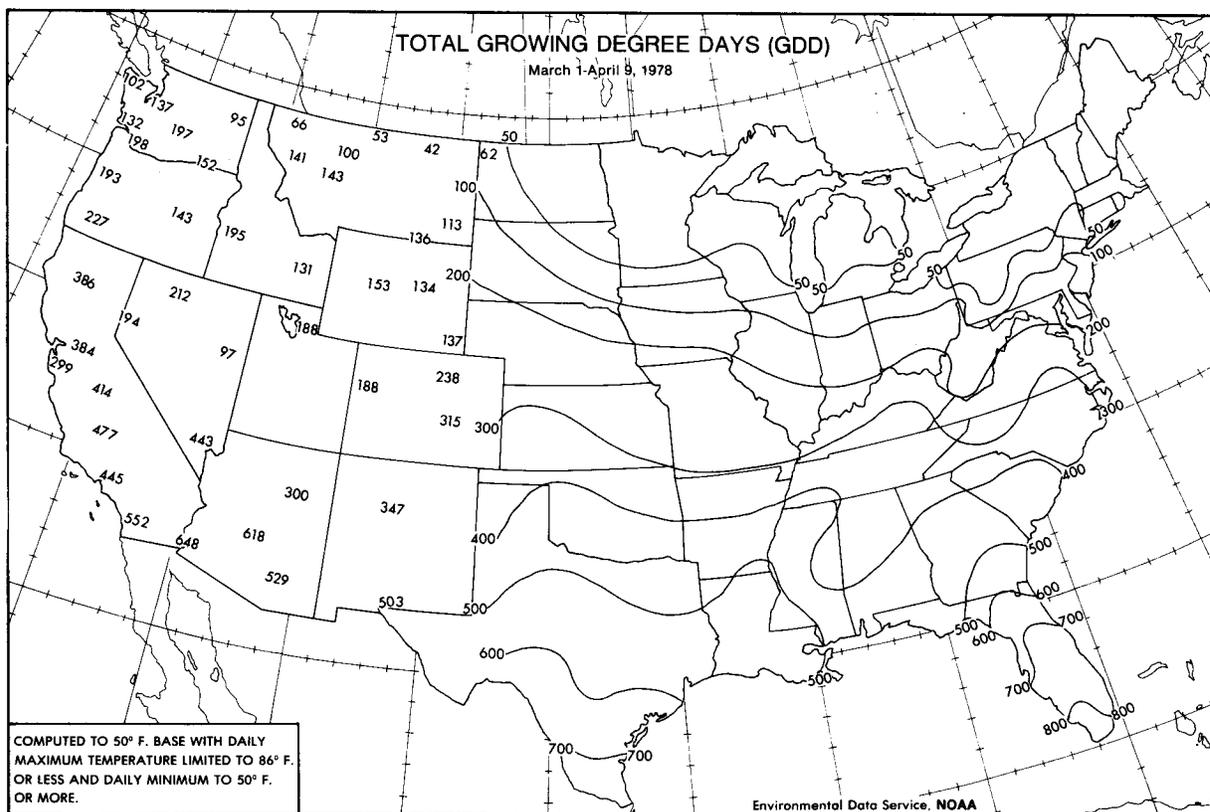
MISSISSIPPI: Temperatures 5 to 10° above normal. Extremes: 41 and 89°.

Soil moisture short. Fieldwork: 6.1 days suitable. Acreage plowed 68%, 63% 1977, 46% average. Irish potatoes 84% planted, 80% 1977. Corn 36% planted, 23% 1977, 17% average. Cotton 1% planted. Rice 36% planted, just started 1977. Winter wheat 53% jointing, 58% 1977. Oats 47% jointing, 50% 1977. Pastures in fair to good condition.

MISSOURI: Temperatures 11 to 15° above normal. Rainfall variable with showers and thunderstorms on several days.

Wet ground causing preparation of fields for spring planted crops to lag well behind last year and average.

Fieldwork: 1.4 days suitable. Oats 9% sown, last year 88%, normal 56%. Corn 2% planted, last



year 5%. Cotton 1% planted, last year 1%, normal 0%. Condition of winter wheat mostly fair to good. Pastures mostly fair to good. Soil moisture supply adequate to surplus.

**MONTANA:** Temperatures 2 to 6° above normal. Precipitation near or a little above normal west, southwest and south central; dry elsewhere. Most precipitation fell as rain showers and was spotty. Soil moisture adequate. Fieldwork just starting west and south. Winter wheat in good condition and greening. Calving and lambing 60% complete, shearing 50%. Death losses slightly above normal. Ranges dormant north central and northeast; greening other areas.

**NEBRASKA:** Temperatures 6 to 13° above normal. Precipitation late in week ranged from 0.75 to 2.00 in. with isolated heavy hail breaking windows and damaging roofs 8th. Wheat condition good; year ago mostly rated fair. Oats planting 25% complete, 60% year ago, 45% normal. Barley seeding 15% complete, year ago 70%, normal 50%. Topsoil moisture adequate. Subsoil moisture adequate. Fieldwork: 5 days suitable.

**NEVADA:** Considerable rain and snow. Strong winds preceded precipitation. Heaviest precipitation over 1.00 in. fell in east. Foot new snow High Sierra. Temperatures below normal. Extremes: 19 and 76°. Ranges greening, winter grains responding to good condition. Fieldwork increasing. Calving and lambing continues.

**NEW ENGLAND:** Precipitation general; falling mostly as rain with some snow over northern areas. Greatest amounts fell 4th; 0.10 to 0.20 in. south; up

to 0.80 in. northwest. Temperatures normal to 5 or 10° below normal.

**NEW JERSEY:** Temperatures 3° below normal. Extremes: 23 and 69°. Rainfall averaged 0.66 in. north, 0.41 in. central and 0.48 in. south. Soil moisture in percent of field capacity averaged 97% north, 95% central and 95% south. Four-inch soil temperature averaged 39% north, 41% central and 46% south. Fieldwork: 5 days suitable. Preparation and planting early crops continues. Orchard spraying active. Pastures and fall sown grains limed and fertilized.

**NEW MEXICO:** Mild with some afternoon windiness. Excessive windiness and cooler 8th. Much colder 9th with subfreezing many sections. Moisture short, rainfall needed. Cotton planted in few fields, but most activity not expected for 2 to 3 weeks. Alfalfa, wheat, barley, onions, and lettuce mostly in good condition. Wheat starting to joint. Sugarbeet planting almost complete. Ranges in fair condition, but beginning to dry.

**NEW YORK:** Temperatures 1 to 10° below normal. Precipitation as snow and rain in north, mostly rain in south, ranged from 1.00 in. northeast to less elsewhere. Precipitation well below normal in southeast, near normal elsewhere.

**NORTH CAROLINA:** Much warmer than normal and very dry. Fieldwork: 5.8 days suitable. Soil moisture short to adequate. Condition small grains fair to mostly good; pastures, Irish potatoes and truck crops mostly fair to good; tobacco plant beds fair

to good. Planted: Corn 26%, 1977 15%, average 10%; flue-cured tobacco, cotton and sorghum just underway.

**NORTH DAKOTA:** Temperatures mostly middle and upper 30's. Extremes: 21 and 63°. Precipitation first half of week ranged from 0.13 in. northwest to 0.61 in. southeast.

Fieldwork delayed by wet fields expected to start later than last year. Flood waters rising northeast. Livestock good condition. Calving and lambing well underway.

**OHIO:** Small hail northwest. Precipitation 1.50 in. north; 0.50 in. south. Temperatures middle 40's north, upper 50's south. Extremes: 82 and 23°.

Land plowed 55%, 65% 1977, 60% average. Oats planted 5%, 20% 1977, 20% average. Potatoes planted less than 1%, 5% 1977, 5% average. Sugarbeets planted 0%, 5% 1977, 10% average. Tobacco beds sown 45%, 55% 1977, 50% average. Fieldwork: 1.5 days suitable. Soil moisture surplus. Wheat, pasture, clo-tim, alfalfa fair to good. Limited field activities except extreme south. Livestock in fair condition.

**OKLAHOMA:** Temperatures about 10° above normal. Precipitation ranged from 0.46 in. Panhandle to 2.98 in. northeast.

Topsoil and subsoil moisture supplies adequate. Wheat good condition, 50% jointing, 70% 1977 and 67% normal. Insect activity confined to southwest, soil-borne mosaic reported in north central; elsewhere weeds are widespread. Alfalfa good condition. Native pastures rated fair to good and beginning to provide adequate forage. Livestock good condition. Fruit trees blooming.

**OREGON:** Precipitation above normal. Rainfall along coast ranges from 1.50 to 3.00 in. Elsewhere, generally from 0.50 to 1.00 in. Temperatures near norms. Extremes: Mid-60's, high 20's west; upper 60's, mid-20's east.

Soil moisture adequate. Grain, hay and seed crops in good condition. Spring tilling continues. Spring grain seeding at various stages of completion. Fertilizing and spraying continue. Tree fruits in varying stages of bloom, 2 to 3 weeks ahead of schedule. Cultivating and spraying continue in berry fields. Early vegetables seeded. Potatoes and onions planted in east. Cattle and calves in good shape. Pastures and ranges showing excellent regrowth, prospects good. Stock water sources full.

**PENNSYLVANIA:** Sharp temperature changes; averages 4 to 6° below normal north, 4 to 6° above southwest. Extremes: 77 and 16°. Wet first half week, some sleet and freezing rain 3d. Dry latter half; totals under 0.50 in. southeast to over 1.50 in. northwest. Traces snow higher mountain locations.

Drying fields latter part allowed farmers to begin soil preparation activities.

**PUERTO RICO:** Island average rainfall 1.98 in. or 1.29 in. above normal. Temperatures averaged about 78° on coasts and 72° interior. Extremes: 91 and 54°.

**SOUTH CAROLINA:** Hotter, drier than normal. Extremes: 90 and 40°. No rain aggravated persistent dry conditions.

Fieldwork: 6 days suitable. Tobacco plants fair to good; irrigating where needed. Only 7% transplanted, 21% last year, 32% average. Corn 63% planted, 58% last year, 38% average. Cotton 7% planted, 6% last year, 4% average. Peaches good, 80 to 100% bloomed; later than 1977.

**SOUTH DAKOTA:** Temperatures warm early week but cooled by weekend. Average readings 0 to 5° above normal north and 5 to 10° above normal south. Extremes: 21 and 76°. Several days of widespread showers; most areas central and south received less than 0.10 in. Heavier amounts east, averaged 0.25 to 0.75 in., with some small hail.

Topsoil moisture adequate to surplus north central and east. Subsoil moisture adequate. Cool weather and wet fields delayed fieldwork. Last year 8% spring plowing completed, 8% oats seeded, 6% spring wheat, and 5% of barley. Normally, spring plowing just beginning, only 2% oats, 4% spring wheat, and 2% of barley seeded. Winter wheat and rye condition vary from poor to excellent.

**TENNESSEE:** Dry; few scattered showers. Precipitation totals less than 0.50 in. Temperatures 15° above normal west and middle and 9 to 15° above normal east.

Fieldwork: 5.5 days suitable. Soil moisture short to adequate. Pastures fair; most cattle off supplemental feed. Spring plowing 55% complete, 70% 1977, 60% average. Tobacco beds 90% planted, 1977 95%. Corn 10% planted, 1977 10%, average 5%. Few fields cotton planted.

**TEXAS:** Temperatures 3 to 10° above normal; normal from upper 50's to upper 60's. Rainfall below normal along upper coast, east; above normal Cross-Timbers, Blacklands, Edwards Plateau; normal elsewhere. Normals from less than 0.25 in. to greater than 1.00 in. Soil temperatures 60's in High Plains; near 80° in Lower Valley; 70's elsewhere.

Warm, dry weather excellent for fieldwork. Scattered showers, heavy thundershowers weekend relieved near-drought conditions in many areas and promoted planting and growth of crops. Cotton in south up to good stand. Planting in north, central now underway. Land preparation continues in Plains. Cotton 14% planted, 7% 1977, 8% average. Sorghum stands good condition. Planting very active Blacklands, not yet underway High Plains. Greenbugs in north, east; cinch bugs south. Sorghum 59% planted, 50% 1977, 45% average. Corn planting underway in Plains; 29% planted, 28% 1977, 43% average. Wheat fields in Plains in boot to joint stages. Recent rains should provide good growth, increased grazing. Producers continuing to spray for greenbugs. Oat fields should be in good shape following recent rains, warm weather. Crop in boot stage. Peanut planting continues south; 7% planted, 17% 1977, 12% average. Rice 68% planted, 52% 1977, 66% average. Alfalfa hay showing good growth. Coastal sprigging active in east; some fields beginning to green up. Sugarbeets planted 41%, 41% 1977, 47% average.

Early cantaloup and honeydew fields blooming. Citrus trees full bloom. Harvests spinach, carrots, cabbage, lettuce, onions continue. Limited supplies of strawberries moving to market. Planting tomatoes, peppers, peas, and okra. Pecan trees leafing out central southward. Buds swelling north. Peaches sizing well south; setting fruit south central and southeast.

Livestock fair to good condition. Grazing still limited, grasses greening up and with recent rains pastures should look better and grazing should increase.

**UTAH:** Scattered rain in valleys and snow in mountains; locally moderate to heavy accumulations moisture. Temperatures above normal, ranging from 30° below to 8° above.

Soil moisture adequate; precipitation received thus far very good for fall grains and other crops already growing, but slowing up spring work and preparations for planting. Fruit trees continue early blossoming with no apparent frost damage to

date. Spring calving and lambing continuing with livestock in good condition. Ranges and pastures in good shape with recent moisture.

VIRGINIA: Temperatures averaged 59°; 6° above normal. Extremes: 88 and 32°. Precipitation very light and spotty, averaging less than 0.10 in.

Topsoil moisture mostly adequate; some areas need rain. Fieldwork: 5.3 days suitable. Corn planted 8%, 3% 1977, 3% usual. Eastern Shore potatoes seeded 87%. Pasture, wheat, peaches, tobacco plant beds in good condition. Activities: Plowing, disking, fertilizing, liming.

WASHINGTON: West: Temperatures near to 2° above normal. Precipitation averaged normal except 0.60 in. below normal coastal area.

Early corn seeding beginning.

East: Temperatures 2 to 3° below normal. Precipitation 0.30 to 0.90 in. above normal.

Pears starting to bloom; apricots moved into shuck stage. Pea seeding complete; other planting continues.

WYOMING: Temperatures above normal. Precipitation generally below normal.

Topsoil moisture adequate. Subsoil moisture adequate. Acreage planted: Spring wheat 14%;

oats 12%; barley 18%; sugarbeet planting started. Winter wheat prospects mostly good. Fieldwork: 5 days suitable. Calving, lambing, shearing slightly ahead of normal. Spring grazing prospects fair to good.

WEST VIRGINIA: Temperatures well above normal. Precipitation above normal northwest, near normal north central, below normal elsewhere.

Soil moisture surplus to adequate. Fieldwork: 2.9 days suitable. Availability of fertilizer, seed adequate; hay, feed grains short to adequate. Condition of crops and pasture fair to good. Farm activities: Plowing, seeding, general maintenance.

WISCONSIN: Mostly cloudy, wet. Rainfall totaled nearly 2.00 to 3.00 in. Showers and thunderstorms every day. Light snow and sleet extreme north 5th and 7th. Some lowland flooding. Temperatures averaged 4° above normal. Extremes: 72 and 21°. Warmest 7th when temperatures in 50's north and 60's to 70's south. Considerably cooler late 7th and 8th as readings in 30's and 40's.

Very little fieldwork done except on some light soils. Most fields quite wet. Snow gone and nearly all frost out of ground.

## World Weather and Crop Update

April 3 - 9

USSR. Weather featured a cold snap that brought widespread frosts throughout European USSR. Some damage to vegetating winter grains may have occurred in areas where temperatures dropped to -6 to -8 degrees C., especially if the plants had lost their winter hardiness because of the abnormally warm temperatures of the previous two weeks. Fruit trees in blossom in the more southerly regions also may have been adversely affected by freezing temperatures and blustery winds. Prior to the mid-week cold snap, spring fieldwork continued to spread northward under generally favorable conditions. Wet weather impeded field activity in some southern areas especially in the North Caucasus. Sowing of early crops began in the central Black Soil zone and selectively in the non-Black Soil zone. Sowing of row crops, primarily sugarbeets, is already taking place in the southern regions of European USSR. The snow cover has disappeared in the spring wheat regions of Asiatic USSR; top dressing of winter grains and perennial grasses started in some areas. Cotton planting moved rapidly ahead in central Asia and the Transcaucasus.

AUSTRALIA. General showers fell on the principal grain areas in Queensland, but there was little significant precipitation in the other grain producing states. Drought conditions persisted mainly in South Australia.

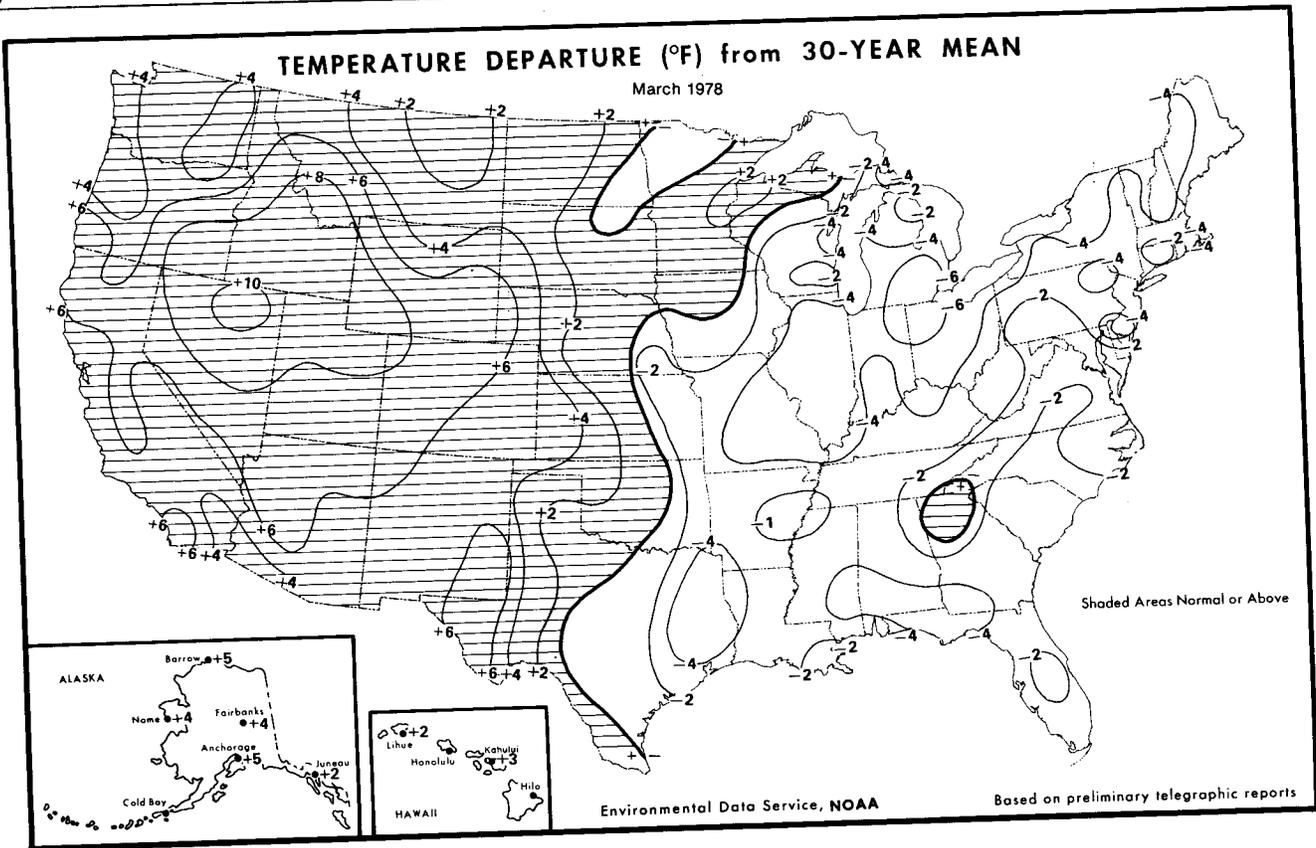
ASIA. Temperatures hovered near normal with very little precipitation in China's main winter wheat belt to the north. Several rice growing provinces, including Kwangtung and Fukien, received very heavy rainfall. Transplanting of the early rice crop commenced in these areas. Fieldwork was general throughout China with selective sowing of spring wheat beginning in the important northeast provinces. Dry weather prevailed over the wheat areas of northern India where the harvest is now

underway. Isolated showers fell in the rice growing areas in the extreme south.

AFRICA. Substantial rains of 15 to 30 mm fell throughout the principal grain areas of North Africa---Morocco, Algeria and Tunisia---and enhanced crop prospects in these countries. Conditions continued favorably in the maize triangle of South Africa as light to moderate showers moistened much of the area.

EUROPE. Frequent light rain or drizzle interfered with fieldwork early in the week over much of western Europe, but dry weather marked the latter half of the week. Heaviest rainfall occurred in the Mediterranean areas with weekly amounts of 10 to 15 mm recorded throughout Spain. Southern Italy also received beneficial rains. In eastern Europe, the cold snap that affected the USSR also extended over most of the northern part of the region. Although less intense than in the USSR, temperatures dropped below freezing in some areas, and more sensitive crops such as rape may have suffered some damage. Moderate to locally heavy showers dampened the Balkan countries and Greece, and Turkey's central grain belt received moderate amounts of precipitation.

AMERICAS. Weather was generally favorable for maturing crops and harvest operations in Argentina. Light to moderate showers were recorded mainly in the provinces of Buenos Aires and Cordoba. It was also dry over much of the principal soybean areas of southern Brazil. Heavy rains fell throughout the northeastern states of Bahia and Minas Gerais. In Canada, the snow cover over the arable areas of the Prairie Provinces had melted by the end of March. Despite below-normal precipitation during the winter season, soil moisture reserves reportedly are optimal in most areas over both stubble and fallow fields.



### March Weather Summary

**HIGHLIGHTS:** March turned out to be a typical spring month after a generally colder and snowier than normal winter. Gradual warming started early in the month but did not reach normal temperatures until the last few days. Precipitation climbed above normal in most of the West, however, most of Washington and parts of Oregon did not get the expected amounts of rain. Some very heavy rain in California caused considerable damage. Flooding resulted from rapid snowmelt and rain in much of the central Plains and Midwest.

March came in like a fleecy white lamb. Snow blanketed the Rockies and moved eastward during the first week of the month, adding to the already heavy snow cover. Elsewhere, heavy rain soaked a large portion of California and Arizona while lesser amounts covered the entire Plateau Region. The Southeast also had moderate to heavy rain. Winter was revived as an avalanche of cold air plunged southward and eastward. Record cold temperatures chilled many stations---Elkins, W.Va., recorded -15°. For the Nation, during the week ending March 5th, temperatures averaged well below normal in the extreme Northwest and everywhere east of the Rockies.

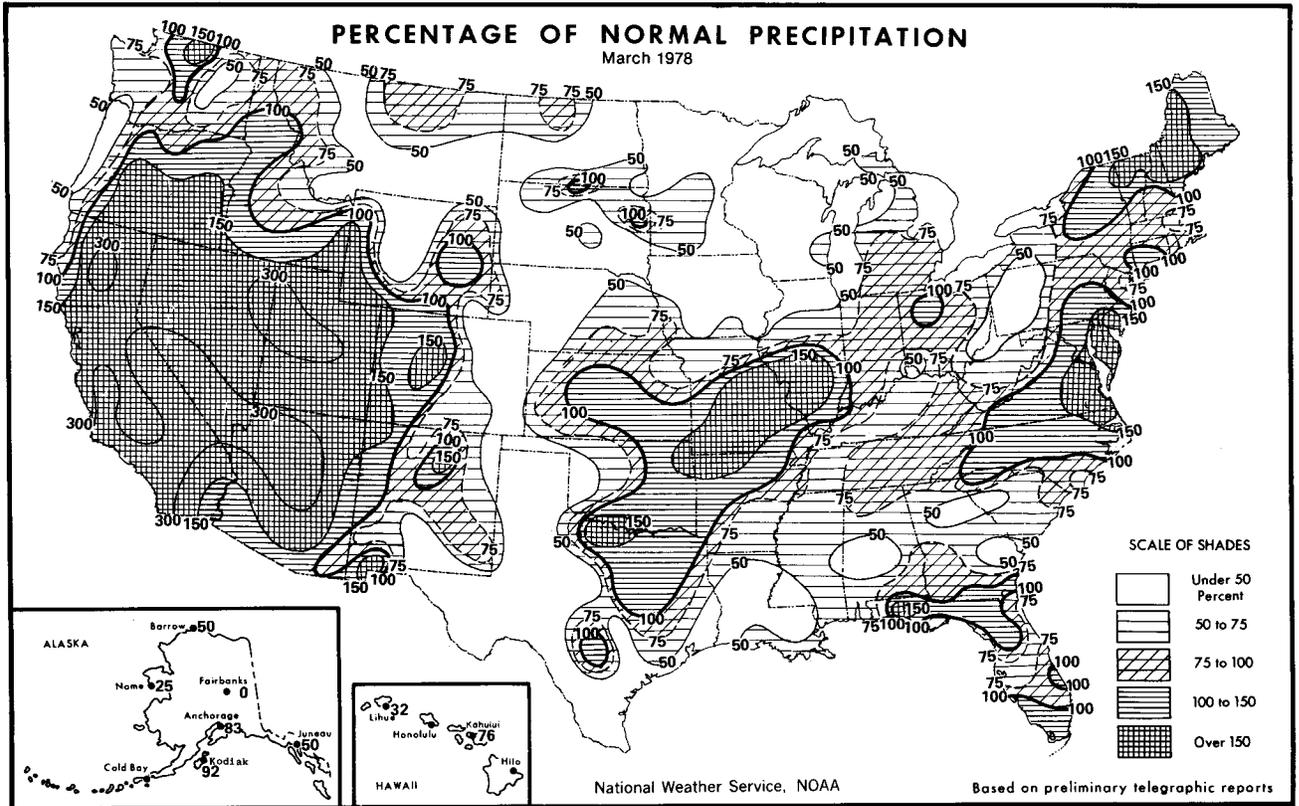
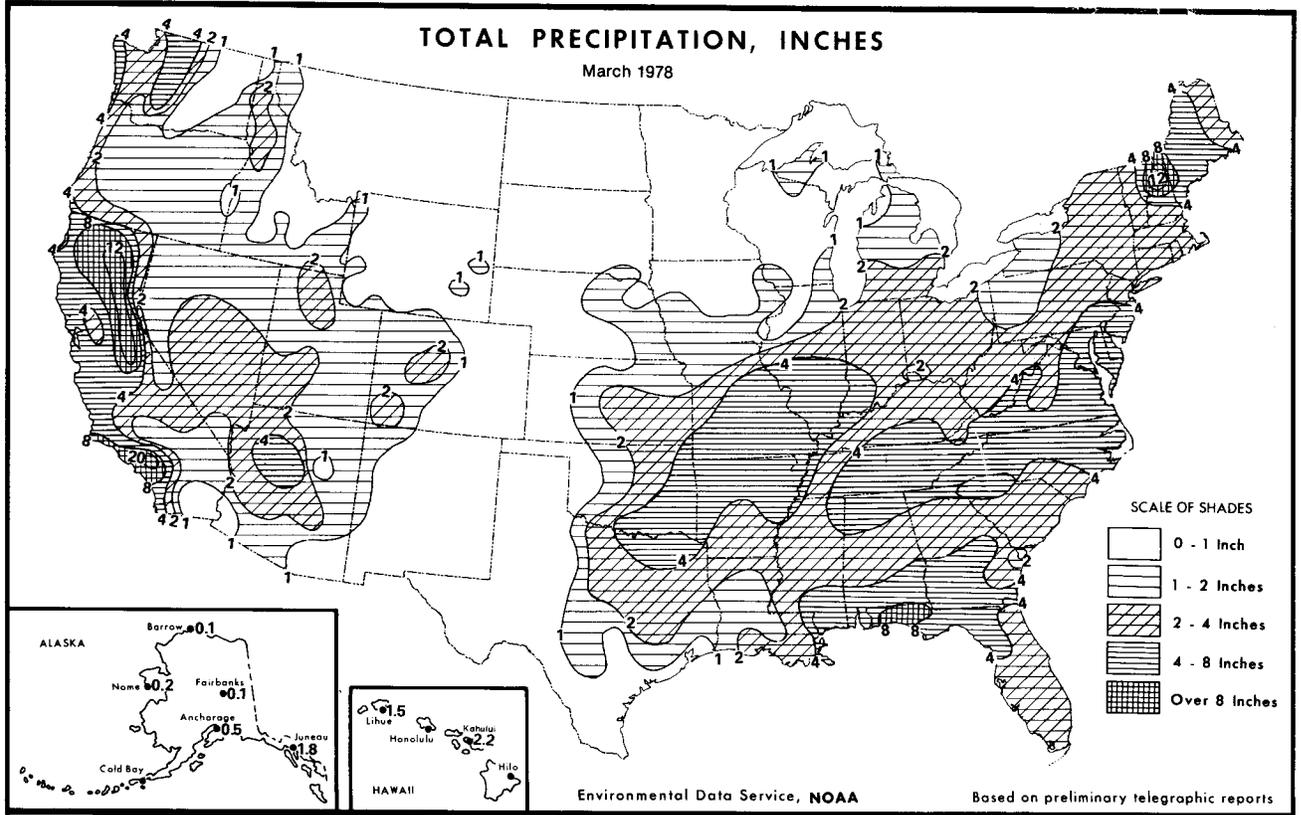
Winter weather continued into the second week. Heavy snow hit the central Plains---nine inches of new snow was measured at Kansas City on Monday. Heavy precipitation was recorded from central Texas into Indiana. Later, heavy precipitation fell from southern Alabama through Maryland---in the form of snow north of Tennessee and North Carolina. Moderate to heavy rain continued in the West with the greatest amounts falling along the northern California coast. Spring was not to be forestalled though; by the end of the week a general warming started and snow began to melt. The snow cover line receded to the midwestern States and

depths were reduced in most areas. Temperatures, averaged over the week ending March 12th, registered well above normal from the western Great Plains to the West Coast and moderated considerably from the previous week in the East.

The week of mid-March was, typically, one of sharp contrast. Winter tried to hang on by moving cold air southward from Canada. Snow fell in the northern tier of States but, as the cold air encountered warm moist air from the South, a mixture of rain and snow fell in the Nation's mid-section. Melting snow and rain combined causing some flooding in the lower Ohio Valley and threatening other areas. Although freezing readings almost reached the Gulf Coast, daytime temperatures as high as 80° were notched in many areas. In the West and Southwest, little or no rain fell while temperatures remained above normal.

During the week ending March 26th the rapidly increasing spring temperatures triggered snow melt in most of the Nation. By the end of the week, snow cover remained only in the northern Lakes area, New England, and in some higher elevations. The melting snow along with rain and showers set off severe flooding in several sections. The lower Missouri, the Ohio, and central Mississippi Rivers and their tributaries boiled out of their banks. Rain became heavy from eastern Oklahoma into Indiana and from the southern Appalachians into Pennsylvania. Temperatures edged near or above normal in most of the Nation.

In the last few days of the month, the rapid warming pattern continued and pervaded the entire Nation melting much of the remaining snow. Temperatures climbed to 90° in Nebraska suggesting mid-summer rather than spring. Moderate precipitation fell in the West, but the Deep South was rainless. Flooding persisted in many areas but began to recede at some points.



Temperature and Precipitation Data for March 1978

States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
ALA. Birmingham . . .	50	- 3	3.1	- 3.1	LA. Baton Rouge . . .	57	- 3	1.9	- 3.2	Youngstown . . .	32	- 3	1.6	- 1.6
Mobile . . .	57	- 2	4.1	- 3.0	Lake Charles . . .	58	- 2	1.5	- 2.3	OKLA. Okla. City . .	49	+ 1	1.3	- .8
Montgomery . . .	54	+ 3	2.6	- 3.4	New Orleans . . .	60	- 1	2.7	- 2.8	Tulsa . . .	48	0	3.0	+ .5
ALASKA Anchorage . .	29	+ 5	.5	- .1	Shreveport . . .	53	- 4	2.7	- 1.4	OREG. Astoria . . .	47	+ 3	4.4	- 2.2
Barrow . . .	-10	+ 5	.1	- .1	MAINE Caribou . . .	21	- 3	2.7	+ .5	Burns . . .	44	+ 8	1.6	+ .7
Fairbanks . . .	14	+ 4	.1	- .4	Portland . . .	30	- 2	4.2	+ .6	Medford . . .	51	+ 6	2.0	+ .4
Juneau . . .	34	+ 2	1.8	- 1.8	MD. Baltimore . . .	42	- 1	4.7	+ 1.0	Pendleton . . .	46	+ 2	1.0	0
Kodiak . . .	35	+ 3	3.6	- .3	MASS. Boston . . .	36	- 2	2.5	- 1.5	Portland . . .	49	+ 3	1.5	- 2.1
Nome . . .	11	+ 4	.2	- .6	Chatham . . .	34	- 1	3.0	- .8	Salem . . .	48	+ 3	1.2	- 3.1
ARIZ. Flagstaff . . .	40	+ 6	5.6	+ 3.8	MICH. Alpena . . .	25	- 1	1.1	- .1	PA. Allentown . . .	37	- 1	3.9	+ .3
Phoenix . . .	66	+ 6	2.1	+ 1.3	Detroit . . .	30	- 5	2.1	- .4	Erie . . .	28	- 5	1.8	- 1.0
Tucson . . .	62	+ 4	.9	+ .3	Flint . . .	27	- 6	2.0	- .1	Harrisburg . . .	39	- 2	3.9	+ .7
Winslow . . .	50	+ 5	.9	+ .5	Grand Rapids . . .	28	- 5	2.0	- .5	Philadelphia . . .	39	- 3	4.0	+ .3
Yuma . . .	67	+ 3	.2	0	Houghton Lake . . .	24	- 3	1.2	- .5	Pittsburgh . . .	37	- 1	1.7	- 1.9
ARK. Fort Smith . . .	47	- 3	4.2	+ .6	Lansing . . .	26	- 7	1.9	- .5	Scranton . . .	33	- 4	2.3	- .3
Little Rock . . .	49	- 1	3.2	- 1.7	Marquette . . .	27	0	.6	- 1.3	R.I. Providence . . .	34	- 3	3.1	- .9
CALIF. Bakersfield . .	62	+ 4	.9	+ .3	Muskegon . . .	29	- 4	1.7	- .7	S.C. Charleston . . .	55	- 2	3.3	- 1.5
Eureka . . .	42	+ 5	2.0	+ 1.2	S. Ste. Marie . . .	20	- 4	1.1	- .6	Columbia . . .	51	- 3	3.5	- 1.2
Fresno . . .	54	+ 6	2.9	- 1.9	MINN. Duluth . . .	26	+ 2	.5	- 1.3	Greenville . . .	49	- 2	6.1	+ .8
Los Angeles . . .	60	+ 6	4.3	+ 2.7	Internat Falls . . .	19	- 2	.4	- .7	S.D. Aberdeen . . .	25	- 2	.5	- .4
Red Bluff . . .	63	+ 4	8.2	+ 6.0	Minneapolis . . .	30	+ 2	.8	- .9	Huron . . .	29	0	.4	- .7
San Diego . . .	59	+ 6	8.4	+ 5.9	Rochester . . .	28	0	.4	- 1.3	Rapid City . . .	35	+ 4	.4	- .6
San Francisco . . .	64	+ 6	5.0	+ 3.4	St. Cloud . . .	27	+ 1	.8	- .5	Sioux Falls . . .	31	+ 1	.6	- .8
Stockton . . .	57	+ 4	4.9	+ 2.4	MISS. Jackson . . .	53	- 3	3.4	- 2.2	TENN. Chattanooga . .	50	0	4.7	- .9
COLO. Denver . . .	59	+ 6	5.6	+ 3.6	Meridian . . .	50	- 6	3.0	- 3.2	Knoxville . . .	49	- 1	4.4	- .5
Grand Junction . . .	43	+ 6	1.1	- .1	MO. Columbia . . .	38	- 4	5.4	+ 2.8	Memphis . . .	50	- 1	4.0	- 1.1
Pueblo . . .	47	+ 6	1.2	+ .4	Kansas City . . .	38	- 3	1.8	- .8	Nashville . . .	47	- 2	4.9	- .1
CONN. Bridgeport . . .	36	- 2	4.0	+ .5	St. Louis . . .	38	- 5	6.7	+ 3.7	TEX. Abilene . . .	55	0	.2	- .8
Hartford . . .	35	- 1	3.6	- .2	Springfield . . .	40	- 4	5.8	+ 2.8	Amarillo . . .	47	+ 1	.2	- .6
D.C. Washington . . .	44	- 1	4.5	+ 1.2	MONT. Billings . . .	35	+ 2	.2	- .8	Austin . . .	59	- 1	.8	- 1.1
FLA. Apalachicola . . .	56	- 5	4.3	- .4	Glasgow . . .	25	0	.3	- .1	Beaumont . . .	60	0	.4	- 2.7
Daytona Beach . . .	62	- 2	2.3	- 1.1	Great Falls . . .	34	+ 3	.4	- .6	Brownsville . . .	69	+ 1	T	- .7
Ft. Myers . . .	66	- 3	3.4	+ .3	Havre . . .	29	+ 2	.4	- .1	Corpus Christi . . .	64	- 1	T	- 1.1
Jacksonville . . .	59	- 2	2.4	+ 1.2	Helena . . .	39	+ 8	.3	- .4	Dallas . . .	63	0	.2	- .5
Key West . . .	71	- 4	2.4	+ .8	Kalispell . . .	32	+ 2	.1	- .6	Del Rio . . .	59	+ 4	.1	- .3
Lakeland . . .	65	- 1	2.6	- 1.4	Miles City . . .	40	+ 7	.7	0	El Paso . . .	54	- 1	2.7	+ .2
Miami . . .	69	- 2	2.9	+ .8	Missoula . . .	36	- 0	.9	- .3	Fort Worth . . .	58	- 3	.4	- 2.2
Orlando . . .	66	- 0	2.1	- 1.4	NEBR. Grand Island . .	34	- 3	1.1	- .4	Galveston . . .	57	- 4	1.7	- 1.0
Tallahassee . . .	56	- 4	6.4	+ .5	Lincoln . . .	34	+ 1	.8	- .6	Houston . . .	58	+ 3	.2	- .6
Tampa . . .	68	- 2	2.7	- .6	Norfolk . . .	35	+ 1	.4	- .6	Lubbock . . .	52	+ 3	T	- .6
W. Palm Beach . . .	64	- 2	2.6	- 3.2	N. Platte . . .	34	- 1	1.2	- .4	Midland . . .	58	+ 4	T	- .6
GA. Atlanta . . .	52	+ 1	2.6	- 1.2	Omaha . . .	33	+ 2	.2	- .6	San Angelo . . .	56	- 1	.4	- .5
Augusta . . .	53	- 2	3.5	- 1.2	Valentine . . .	41	+ 8	2.0	+ 1.1	San Antonio . . .	60	- 1	1.7	+ .2
Macon . . .	55	- 2	3.8	- 1.4	NEV. Ely . . .	60	+ 5	1.1	+ .8	Victoria . . .	61	- 1	.5	- 1.4
Savannah . . .	56	- 2	1.9	+ 2.5	Las Vegas . . .	47	+ 7	1.5	+ .8	Waco . . .	56	- 1	2.5	+ .1
HAWAII. Hilo . . .	---	---	---	---	Reno . . .	47	+ 9	1.1	+ .4	Wichita Falls . . .	53	0	3.5	+ 1.9
Honolulu . . .	---	---	---	---	Winnemucca . . .	28	- 4	2.2	- .6	UTAH. Blanding . . .	45	+ 7	1.9	+ 1.0
Kahului . . .	75	+ 3	2.2	- .7	N.H. Concord . . .	38	- 3	5.2	+ .9	UTAH. Salt Lake City . .	48	+ 8	3.5	+ 1.9
Lihue . . .	74	+ 2	1.5	- 3.2	N.J. Atlantic City . . .	39	- 2	3.4	- .4	Salt Lake City . . .	26	- 3	3.0	+ 1.1
IDAHO. Boise . . .	49	+ 8	1.4	+ .4	Trenton . . .	38	- 3	5.2	+ .9	VT. Burlington . . .	44	- 2	3.8	+ .3
Lewiston . . .	48	+ 5	1.1	+ .1	N.MEX. Albuquerque . .	50	+ 4	.5	0	VA. Lynchburg . . .	46	- 2	7.8	+ 4.4
Pocatello . . .	43	+ 8	1.2	+ .3	Roswell . . .	56	+ 7	.4	- .1	Norfolk . . .	45	- 2	5.7	+ 2.3
ILL. Cairo . . .	43	- 5	4.2	- .5	N.Y. Albany . . .	31	- 2	2.0	- .6	Richmond . . .	44	- 1	5.9	+ 2.6
Chicago . . .	32	- 5	1.2	- 1.5	Binghamton . . .	28	- 3	2.4	- .5	Roanoke . . .	44	- 1	.5	- .6
Moline . . .	33	- 3	.8	- 1.8	Buffalo . . .	28	- 4	1.7	- 1.2	WASH. Colville . . .	39	+ 2	.5	- .6
Peoria . . .	32	- 5	1.6	- 1.2	New York . . .	39	- 2	2.1	- 1.9	Omak . . .	43	+ 4	1.3	+ .5
Rockford . . .	29	- 5	.9	- 1.8	Rochester . . .	29	- 3	1.5	- 1.1	Quillayute . . .	45	+ 3	7.4	- 3.4
Springfield . . .	34	- 5	4.2	+ 1.5	Syracuse . . .	29	- 4	3.1	+ .1	Seattle-Tacoma . . .	49	+ 5	2.4	- 1.2
IND. Evansville . . .	40	- 4	4.7	0	N.C. Asheville . . .	46	- 0	5.2	+ .5	Spokane . . .	42	+ 4	.8	- .7
Ft. Wayne . . .	31	- 6	2.3	- .6	Charlotte . . .	49	- 2	5.0	+ .5	Walla Walla . . .	49	+ 3	1.1	- .3
Indianapolis . . .	37	- 3	3.5	- .3	Greensboro . . .	45	- 3	4.4	+ .7	Yakima . . .	46	+ 4	.5	- .1
South Bend . . .	31	- 4	2.4	- .4	Hatteras . . .	50	- 1	5.7	+ 1.9	W. Va. Beckley . . .	39	- 1	3.1	- 1.1
IOWA. Burlington . . .	33	- 4	.8	- 1.9	Raleigh . . .	48	- 1	4.4	+ 1.0	Charleston . . .	43	- 2	2.7	- 1.3
Des Moines . . .	33	- 1	.9	- 1.4	Wilmington . . .	51	- 3	2.9	- 1.2	Huntington . . .	42	- 2	3.1	- 1.0
Dubuque . . .	29	- 3	1.3	- 1.7	N. DAK. Bismarck . . .	28	+ 3	.3	- .4	Parkersburg . . .	40	- 3	1.8	- 2.0
Sioux City . . .	33	0	.6	- .9	Fargo . . .	24	0	.4	- .4	WIS. Green Bay . . .	25	- 4	.3	- 1.4
KANS. Concordia . . .	39	0	1.0	- .6	Williston . . .	28	+ 3	.4	- .2	La Crosse . . .	29	- 2	.3	- 1.7
Dodge City . . .	45	+ 4	1.0	- .1	OHIO. Akron-Canton . .	32	- 4	2.5	- .7	Madison . . .	30	- 1	1.1	- 1.1
Goodland . . .	40	+ 4	.3	- .6	Cincinnati . . .	36	- 6	2.0	- 2.1	Milwaukee . . .	37	+ 6	.9	0
Topeka . . .	38	- 3	1.6	- .6	Cleveland . . .	32	- 4	2.2	- .9	WYO. Casper . . .	38	+ 6	.4	- .7
Wichita . . .	44	0	2.1	+ .3	Columbus . . .	35	- 4	3.0	- .4	Cheyenne . . .	38	+ 7	.4	- .8
KY. Lexington . . .	40	- 4	2.9	- 1.9	Dayton . . .	35	- 4	2.5	- .7	Lander . . .	34	+ 3	.1	- 1.1
Louisville . . .	42	- 2	3.8	- 1.3	Toledo . . .	29	- 7	2.3	- .2	Sheridan . . .	34	+ 3	.1	- 1.1
										P.R. San Juan . . .	80	+ 4	3.5	+ 1.5

Based on 1941-70 normals



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WATER SUPPLY OUTLOOK FOR THE WESTERN UNITED STATES  
Issued as of April 1, 1978

The table below shows the runoff forecast in percent of the 15-year (1958-72) 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, 1978, for the Missouri, Yellowstone, and North Platte Basins; November 1, 1977 to June 30, 1978 for the Little Colorado Basins; and January 1 to June 30, 1978, for the Gila Basin. The publication "Water Supply Outlook for the Western United States," issued as of April 1, 1978, contains the complete water supply forecasts for about 375 stations in the Western United States.

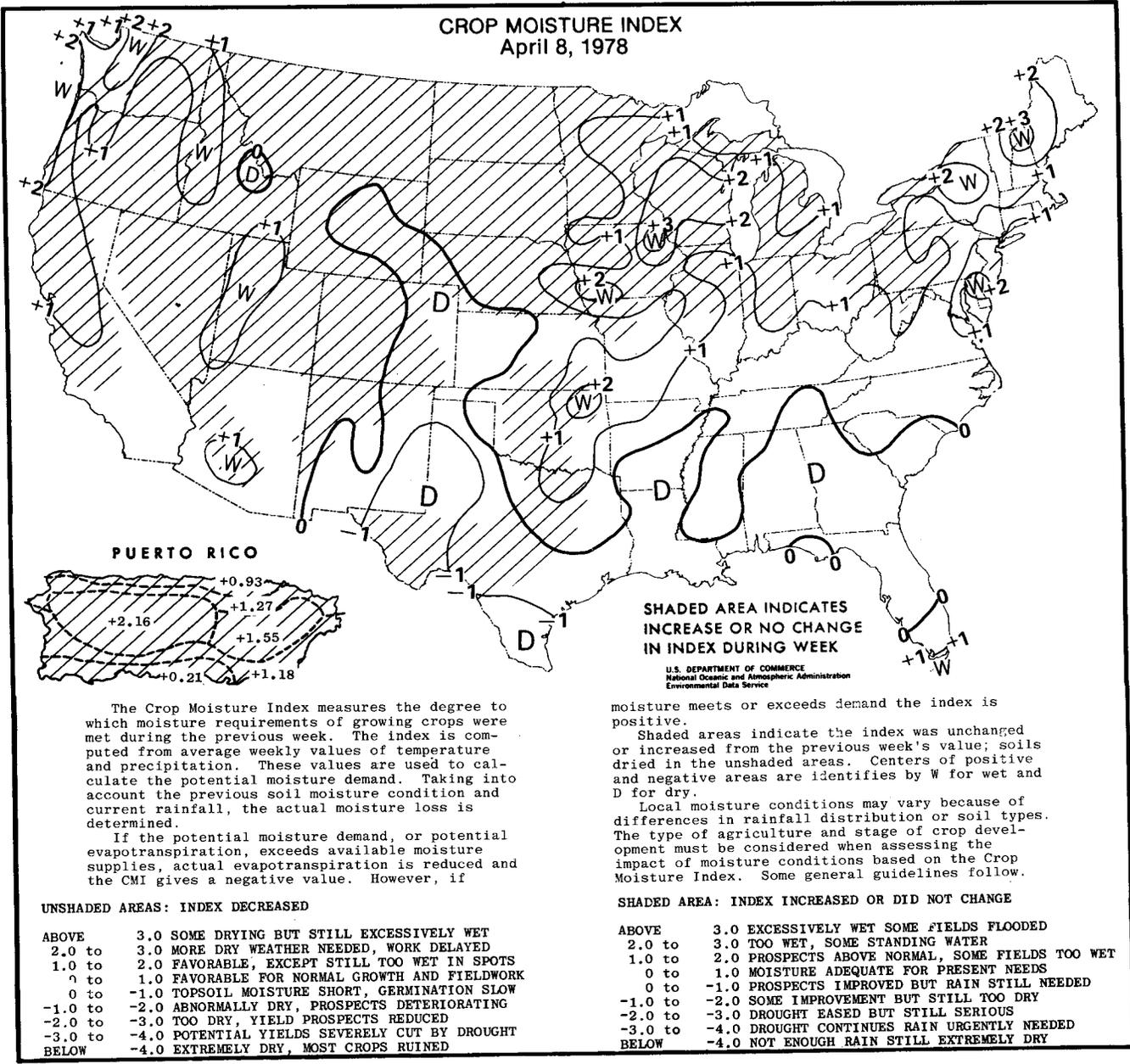
River	Station	Forecast 1,000 Acre-feet	Percent 15-year average
Columbia	Grand Coulee, WA	60,400	88
Columbia	The Dalles, OR	93,700	90
Snake	Lower Granite, WA	20,800	93
Sacramento	Red Bluff, CA	12,100	135
San Joaquin	Big Creek, CA	2,300	176
Weber	Gateway, UT	359	118
Jordan	Utah Lake, UT	330	126
Truckee	L. Tahoe-Farad	330	116
Colorado	L. Powell infl.	11,755	150
Green	Green River, UT	4,520	145
San Juan	Bluff, UT	1,476	144
Little Colo.	Woodruff, AZ	19.4	226
Gila	Soloman, AZ	34	148
Rio Grande	San Marcial, NM	370	110
Arkansas	Pueblo, CO	290	108
Missouri	Ft. Peck, MT	5,010	105
Yellowstone	Sidney, MT	7,560	108
North Platte	Glendo, WY	1,030	125

Office of Hydrology  
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