

Weekly Weather & Crop Bulletin

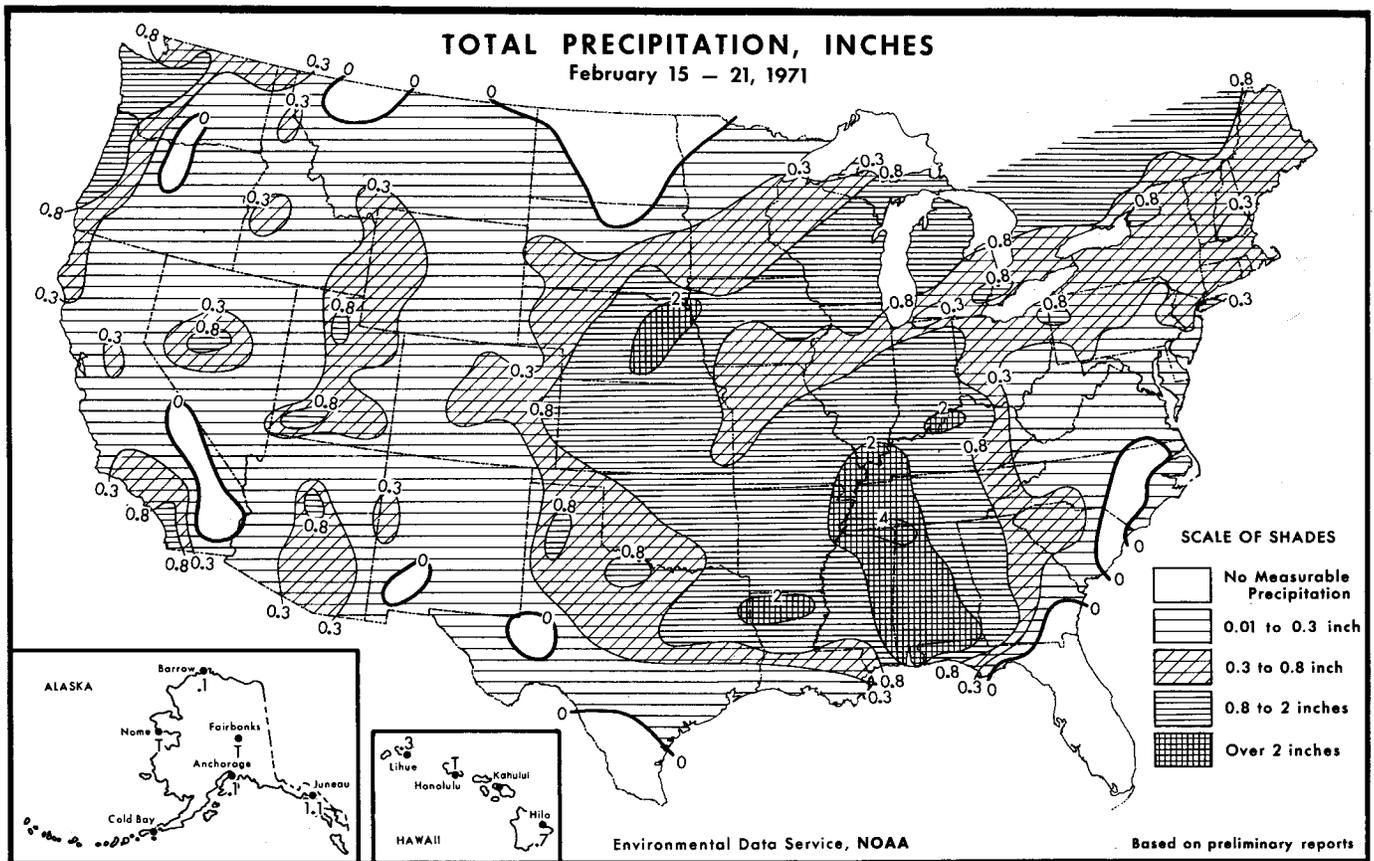
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NATIONAL WEATHER SUMMARY

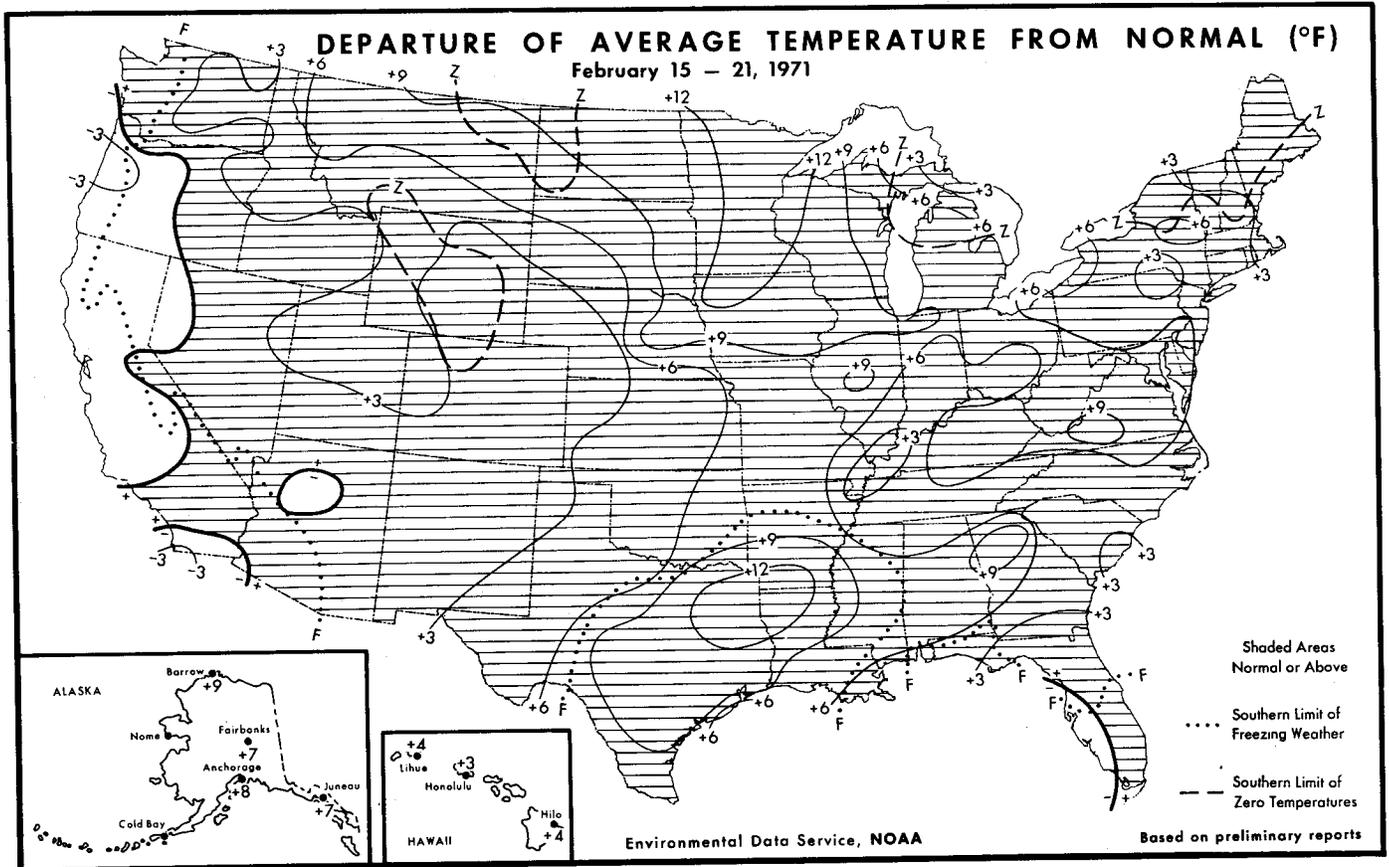
HIGHLIGHTS: Last week was the warmest week since December over the East. Severe blizzards from the central Great Plains to the Great Lakes halted highway travel. Tornadoes ravaged the Deep South.

PRECIPITATION: High pressure provided clear skies over most of the Nation at the beginning of the week. The main exceptions were light rains in the Far Northwest, scattered rains that dotted the southern Great Plains and the lower Mississippi River Valley, and some light snow flurries in the Great Lakes area. This pattern held fairly well through Tuesday. Early Wednesday, however, one frontal system set off rain showers in the Southwest while another storm moved across the Mississippi River Valley. It produced snow in the Great Lakes area and rain with a few thunderstorms southeast of the storm center.

On Wednesday, a front extended from Lake Ontario to the southern Appalachians. This disturbance caused snow from Lake Ontario eastward to the coast. In some areas the snow was mixed with sleet or freezing rain. Rain showers fell along the Atlantic seaboard. Two inches or more of snow fell in parts of New York, Pennsylvania, and southern New England. A storm in the West dumped 9 inches of snow at Cedar City, Utah, Wednesday. At nearby Bryce Canyon, the snow was accompanied by thunder.

At midweek a storm, moving out of the central Rocky Mountains to the nearby Great Plains, caused widespread precipitation. Snow fell in the mountains, severe thunderstorms occurred over mid-America, and a number of tornadoes touched down in eastern Colorado, Kansas, Oklahoma, and Texas.

The weekend brought severe weather to large areas. One storm moving across the Great Lakes



toward Canada late Friday and early Saturday caused hazardous driving from Iowa to Upper Michigan due to snow mixed with sleet and freezing rain. Thunderstorms occurred from the Ohio River Valley to the Gulf Coast. Snow continued in the Northeast.

A storm developed in the Southwest and early Saturday it was centered along the Utah-Arizona border. It caused hazardous wintry weather over parts of several States. It dumped several inches to a foot or more of snow on central and eastern Nevada, southern Utah, north central and northeastern Arizona, northwestern New Mexico, and southwestern Colorado. It then moved from the Rockies to the adjoining Great Plains whitening a large area from Wyoming and Nebraska across Kansas and Oklahoma to the Texas Panhandle where snow depths on the level ranged from a few inches to more than a foot. Winds, gusting to 30 to 50 m.p.h., drifted the snow badly and visibility at times fell to near zero. Traffic was halted in some areas due to low visibility, strong winds, and drifted snow. Gage, Oklahoma measured 17 inches Sunday evening. Numerous severe thunderstorms and tornadoes occurred in the South from Texas to North Carolina. Scores of persons were killed, hundreds injured and property damages were estimated in the millions of dollars. By late Sunday night, the storm was still raging with blizzards on the cold side of the system and violent thunderstorms and tornadoes on the warm side east of the storm.

TEMPERATURE: High pressure brought pleasant weather to much of the Nation early in the week. Pacific air warmed the West while warm, moist, Gulf air moved northward over the central and eastern portions of the Country. Few localities experienced subzero weather. The temperature at Pellston, in northern Lower Michigan, plunged to 18° below zero Tuesday morning. Subzero weather also occurred in northern New York, northern New England, and West Yellowstone, Mont., Wednesday morning. Afternoon temperatures were generally above the seasonal normals. Valentine, Nebr., registered 59° Monday afternoon. Southern Texas warmed to the 80's almost every afternoon with the mercury soaring to 89° at Catulla Thursday.

A cooling trend occurred over the West late in the week but the cold was not enough to offset the warm weather that preceded it. Temperatures over the West averaged slightly warmer than normal. The warming trend in the East continued. Minimums Sunday morning ranged from slightly above freezing in southern New York to the upper 50's and low 60's in the Deep South. Parts of the East averaged 5° to 8° warmer than normal. In general, it was the 1st mild week in more than 2 months.

L. W. Dye

NATIONAL AGRICULTURAL SUMMARY

AGRICULTURAL HIGHLIGHTS: Warmer temperatures and additional moisture are expected to be of much value to the wheat crop in the Great Plains. Seeding of spring grains continues in Pacific Northwest. Planting of crops beginning in southern areas of Nation.

SMALL GRAINS: Above normal temperatures and additional moisture were beneficial to winter wheat in the Great Plains and Pacific Northwest. Snow provided protective covering for wheat fields which had become susceptible to wind damage. Rain and snow improved the moisture supply in Kansas and Nebraska. Some greening of wheat crop in western and central Kansas. In the Southern Plains warmer weather, rain and snow improved wheat prospects and the supply of moisture which had been short.

Seeding of spring oats and barley made very little progress in Kansas where seedings are behind a year earlier. Some progress made in seeding these crops in Oklahoma with 31 percent of the oats and 23 percent of the barley acreage planted. Conditions remained favorable for seeding oats and barley in Washington, Oregon and California.

Warmer weather throughout the South aided the growth of small grains which experienced the coldest temperatures of the year a week earlier. Condition of the crop is fair to good. Soil moisture is adequate.

Farmers in some areas of the Nation have begun to top dress small grains and pastures.

OTHER CROPS: Planting of cotton is expected to start in Yuna county Arizona during first week of March. Seeding of tobacco beds is well underway in the Carolinas, Virginia and Georgia. Tobacco growers in Kentucky are preparing seed beds. Strawberry plants are blooming in Louisiana with harvest of frost protected berries expected to reach a considerable volume about March 1. Planting of safflower continued in California, while plantings in Arizona were completed. Sugar beet plantings were well underway in California. Cantaloupe plantings in Arizona are very active. Watermelon planting was becoming very common in South Texas. Even though the soil moisture level was increased in Texas, additional moisture will be needed to assure germination of planted crops. In Florida young sugar cane plants sustained frost damage but are expected to recover. Planting of potatoes in Florida are about complete.

Fruits and Nuts: Harvest of navel oranges continued in the central Valley of California. Lemon harvest was active, but grapefruit harvest continued at a slow pace. Harvesting of avocados became more active during the week. Favorable temperatures have resulted in bud development of deciduous crops being ahead of schedule in the Sacramento and San Joaquin Valleys. Citrus harvest in Arizona is limited to Maricopa county. Harvest of the citrus crop in Texas continued, with increased activity in Valencia orange harvest. The condition of citrus trees and fruit vary in Florida with harvest of oranges and grapefruit continuing.

Vegetables: Harvest of California vegetables was variable. Asparagus cuttings increased while broccoli harvest was complete in the Imperial Valley. Harvest of artichokes, cauliflower, and celery was slow. In the Imperial Valley, harvesting of lettuce was past the peak and cabbage was 75 percent complete. Winter potatoes of good quality were being dug but movement was slow. Lower Rio Grande Valley harvest of cabbage, carrots, and lettuce became very active during the week. Above normal temperatures were beneficial to the growth of onions, lettuce, carrots and cabbage in Arizona. Harvest of vegetable crops in Florida continues but shipments show a decline. Replanting in southern area of Florida is active but was delayed in the central area and northward.

PASTURES AND LIVESTOCK: In the Central Plains additional snow kept livestock on a full winter feed ration. Cold temperatures and blowing snow caused livestock much discomfort.

Milder weather in the West reduced the need for supplemental feeding as animals were getting some feed from crop residues. Conditions were ideal for calving, lambing, and sheep shearing.

Favorable weather in the South relieved the stress on livestock and reduced feeding requirements which had been heavy a week earlier.

In the Great Lakes and New England areas weather conditions required producers to give extra care to their herds.

Dry conditions which have prevailed from Oklahoma to the Southwest were relieved some by additional moisture but pastures have not recovered enough to furnish sufficient grazing.

Robert Karnes
Agricultural Statistician

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

February 21, 1971

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 . . .	56	+ 7	2.8	+1.4	New Orleans . . .	63	+ 5	.2	-.8	OKLA. Okla. City . .	48	+ 6	1.8	+1.5
Mobile . . .	62	+6	2.0	+ .8	Shreveport . . .	61	+10	3.0	+2.0	Tulsa . . .	49	+ 7	1.0	+ .6
Montgomery . . .	59	+ 8	2.2	+1.1	MAINE. Caribou . .	15	+ 2	.2	-.3	OREG. Astoria . . .	43	0	1.7	-.8
ALASKA. Anchorage .	28	+ 9	.1	-.1	Portland . . .	25	+ 2	.8	-.2	Burns . . .	32	+ 1	.2	-.1
Barrow . . .	26	+ 8	T	-.1	MD. Baltimore . . .	43	+ 7	.2	-.5	Medford . . .	39	- 2	.2	-.4
Fairbanks . . .	5	+ 7	T	-.1	MASS. Boston . . .	32	+ 2	.6	-.2	Pendleton . . .	41	+ 3	.3	0
Juneau . . .	34	+ 7	1.1	+ .3	Chatham . . .	34	---	.3	---	Portland . . .	44	+ 1	.6	-.5
Nome . . .	---	---	T	-.2	MICH. Alpena . . .	23	+ 4	1.4	+1.0	Salem . . .	40	- 3	.9	-.4
ARIZ. Flagstaff . .	29	- 1	1.4	+ .9	Detroit . . .	34	+ 7	.9	+ .4	PA. Allentown . . .	34	+ 5	.3	-.3
Phoenix . . .	57	+ 2	.4	+ .2	Flint . . .	30	+ 8	.7	+ .2	Erie . . .	33	+ 7	.6	+1.0
Tucson . . .	53	0	.5	+ .2	Grand Rapids . .	---	---	---	---	Harrisburg . . .	37	+ 4	.2	-.4
Winslow . . .	41	+ 2	.2	+ .1	Houghton Lake . .	25	+ 6	1.7	+1.4	Philadelphia . . .	40	+ 6	.2	-.5
Yuma . . .	58	0	T	-.1	Lansing . . .	---	---	---	---	Pittsburgh . . .	36	+ 6	.3	-.3
ARK. Fort Smith . .	52	+ 8	1.7	+ .8	Marquette . . .	26	+ 6	.9	+ .5	Scranton . . .	30	+ 2	.2	-.3
Little Rock . . .	54	+ 9	.9	-.2	Muskegon . . .	32	+ 6	.9	+ .4	R.I. Providence . .	33	+ 3	.4	-.4
CALIF. Bakersfield .	52	- 1	.4	+ .1	S. Ste. Marie . . .	18	+ 2	.8	+ .5	S.C. Charleston . .	53	+ 1	0	-.9
Eureka . . .	46	- 2	.5	-1.0	MINN. Duluth . . .	24	+13	.3	+ .1	Columbia . . .	54	+ 5	.3	-.7
Fresno . . .	49	- 2	.2	-.4	Internat'l Falls .	21	+13	T	-.2	Greenville . . .	49	+ 3	.7	-.4
Los Angeles . . .	56	+ 2	.7	-1.1	Minneapolis . . .	28	11	.6	+ .4	S. DAK. Aberdeen .	26	+ 9	T	-.2
Red Bluff . . .	48	- 2	.1	-.8	Rochester . . .	29	+12	.8	+ .6	Huron . . .	27	+ 9	.7	+ .6
San Diego . . .	54	- 3	1.2	+ .6	St. Cloud . . .	27	+13	.5	+ .3	Rapid City . . .	29	+ 4	.5	+ .4
San Francisco . . .	50	- 1	.2	-.7	MISS. Jackson . . .	61	+10	1.2	0	Sioux Falls . . .	30	+10	.7	+ .4
Stockton . . .	50	0	.4	-.2	Meridian . . .	59	+ 8	2.8	+1.5	TENN. Chattanooga .	49	+ 4	1.6	+ .2
COLO. Denver . . .	33	+ 1	.6	+ .4	MO. Columbia . . .	43	+ 8	.9	+ .4	Knoxville . . .	48	+ 5	.6	-.7
Grand Junction . .	38	+ 4	T	-.2	Kansas City . . .	44	+ 7	.4	+ .1	Memphis . . .	49	+ 5	4.1	+3.0
Pueblo . . .	37	+ 2	.1	0	St. Louis . . .	44	+ 8	1.2	+ .7	Nashville . . .	49	+ 6	1.8	+ .7
CONN. Bridgeport . .	35	+ 4	.4	-.3	Springfield . . .	45	+ 7	1.1	+ .6	TEX. Abilene . . .	56	+ 7	.5	+ .2
Hartford . . .	33	+ 4	.4	-.3	MONT. Billings . .	31	+ 4	T	-.1	Amarillo . . .	45	+ 3	1.3	+1.2
D.C. Washington . .	45	+ 7	.1	-.5	Glasgow . . .	22	+ 7	T	-.1	Austin . . .	66	+11	.2	-.5
FLA. Apalachicola .	57	0	0	-1.0	Great Falls . . .	32	+ 7	T	-.2	Beaumont . . .	66	+10	T	-1.1
Ft. Myers . . .	64	- 2	0	-.6	Havre . . .	27	+ 9	T	-.1	Brownsville . . .	73	+ 8	T	-.4
Jacksonville . . .	59	0	T	-.8	Helena . . .	30	+ 5	.1	0	Corpus Christi . .	70	+ 9	T	-1.4
Key West . . .	71	0	0	-.5	Kalispell . . .	33	+ 7	T	-.2	Dallas . . .	62	+12	1.9	+1.2
Lakeland . . .	65	+ 2	T	-.6	Miles City . . .	28	+ 7	.1	0	Del Rio . . .	65	+ 8	T	-.2
Miami . . .	69	+ 1	T	-.5	Missoula . . .	34	+ 8	T	-.2	El Paso . . .	53	+ 3	T	-.1
Orlando . . .	64	+ 2	0	-.6	NEBR. Grand Island	36	+ 9	2.7	+2.5	Fort Worth . . .	60	+10	.6	0
Tallahassee . . .	57	+ 1	0	-1.1	Lincoln . . .	38	+ 8	1.2	+ .9	Galveston . . .	63	+ 5	T	-.8
Tampa . . .	62	- 1	0	-.7	Norfolk . . .	34	+10	3.0	+2.8	Houston . . .	65	+10	.1	-.7
GA. Atlanta . . .	56	+10	1.5	+ .3	North Platte . . .	31	+ 2	1.2	+1.1	Lubbock . . .	48	+ 4	.8	-.7
Augusta . . .	54	+ 4	.3	-.6	Omaha . . .	35	+ 9	1.0	+ .8	Midland . . .	54	+ 5	T	-.2
Macon . . .	58	+ 6	.7	-.4	Valentine . . .	28	+ 4	.6	+ .5	San Angelo . . .	60	+ 9	.3	+ .1
Savannah . . .	58	+ 4	T	-.9	NEV. Ely . . .	30	+ 3	.3	+ .1	San Antonio . . .	67	+11	.1	-.3
HAWAII. Hilo . . .	75	+ 4	.7	-2.4	Las Vegas . . .	51	+ 2	T	-.1	San Antonio . . .	68	+ 9	.1	-.5
Honolulu . . .	75	+ 3	T	-8.0	Reno . . .	35	- 2	.2	-.1	Victoria . . .	64	+11	.8	+ .2
Kahului . . .	---	---	---	---	Winnemucca . . .	34	+ 1	.2	-.1	Waco . . .	64	+11	.8	+ .2
Lihue . . .	75	+ 4	.3	+ .9	N. H. Concord . . .	27	+ 4	.3	-.3	Wichita Falls . . .	53	+ 5	1.3	+ .9
IDAHO. Boise . . .	39	+ 3	.4	+ .1	N. J. Atlantic City	40	+ 5	.1	-.7	UTAH. Blanding . .	36	+ 2	.4	+ .1
Lewiston . . .	40	+ 3	.1	-.1	Trenton . . .	40	+ 6	.4	-.3	Salt Lake City . .	38	+ 4	1.1	+ .8
Pocatello . . .	30	+ 2	.3	+ .1	N. MEX. Albuquerque	44	+ 3	.2	+ .1	VT. Burlington . .	21	+ 3	.5	+ .1
ILL. Cairo . . .	42	0	3.0	+2.2	Roswell . . .	49	+ 6	.2	+ .1	VA. Lynchburg . . .	48	+ 9	.1	-.6
Chicago . . .	37	+ 9	.5	+ .1	N. Y. Albany . . .	30	+ 6	.5	0	Norfolk . . .	48	+ 6	.1	-.7
Moline . . .	37	+11	.7	+ .4	Binghamton . . .	26	+ 2	.5	-.1	Richmond . . .	46	+ 6	T	-.7
Peoria . . .	37	+ 8	.5	+ .1	Buffalo . . .	31	+ 7	.4	-.3	Roanoke . . .	50	+11	.1	-.6
Rockford . . .	36	+11	1.4	+1.0	New York . . .	39	+ 5	.2	-.6	WASH. Colville . .	33	+ 2	.5	+ .1
Springfield . . .	43	+10	.9	+ .4	Rochester . . .	29	+ 4	.4	-.3	Omak . . .	42	+ 1	1.3	-1.6
IND. Evansville . .	42	+ 3	1.9	+1.1	Syracuse . . .	29	+ 5	.6	-.2	Quillayute . . .	43	+ 1	1.3	+ .2
Fort Wayne . . .	35	+ 6	1.3	+ .8	N. C. Asheville . .	46	+ 5	.3	-.5	Seattle-Tacoma . .	43	+ 1	.2	-.3
Indianapolis . . .	36	+ 4	1.4	+ .9	Charlotte . . .	48	+ 3	.4	-.5	Spokane . . .	35	+ 4	.2	-.3
South Bend . . .	37	+10	.1	-.4	Greensboro . . .	46	+ 5	.1	-.7	Walla Walla . . .	41	+ 1	.3	-.1
IOWA. Burlington .	38	+ 9	.8	+ .5	Hatteras . . .	50	+ 3	.1	-.9	Yakima . . .	39	+ 4	T	-.2
Des Moines . . .	34	+10	.5	+ .2	Raleigh . . .	49	+ 6	T	-.9	W. VA. Beckley . .	42	+ 7	.2	-.8
Dubuque . . .	33	+10	1.6	+1.3	Wilmington . . .	53	+ 4	.1	-.8	Charleston . . .	42	+ 6	.2	-.7
Sioux City . . .	36	+12	2.2	+1.9	N. DAK. Bismarck .	24	+ 9	T	-.1	Huntington . . .	46	+ 8	.2	-.5
KANS. Concordia . .	38	+ 5	1.2	+1.0	Fargo . . .	23	+11	T	-.1	Parkersburg . . .	42	+ 6	.3	-.4
Dodge City . . .	40	+ 4	1.6	+1.4	Williston . . .	23	+ 9	T	-.1	WIS. Green Bay . .	26	+ 7	1.0	+ .7
Goodland . . .	34	+ 2	1.2	+1.0	OHIO. Akron-Canton	36	+ 7	.5	-.1	La Crosse . . .	31	+11	.9	+ .6
Topeka . . .	39	+ 5	1.0	+ .7	Cincinnati . . .	41	+ 5	1.1	+ .4	Madison . . .	31	+11	1.7	+1.4
Wichita . . .	41	+ 4	1.1	+ .8	Cleveland . . .	34	+ 5	.8	+ .2	Milwaukee . . .	30	+ 7	1.5	+1.2
KY. Lexington . . .	44	+ 8	1.2	+ .4	Columbus . . .	37	+ 5	.3	-.3	WYO. Casper . . .	27	0	.2	0
Louisville . . .	43	+ 7	2.1	+1.3	Dayton . . .	37	+ 6	.6	+ .1	Cheyenne . . .	29	+ 1	.3	+ .2
LA. Baton Rouge . .	63	+ 7	.3	-.7	Toledo . . .	35	+ 7	.4	-.1	Lander . . .	28	+ 3	.3	+ .1
Lake Charles . . .	65	+ 8	.1	-1.1	Youngstown . . .	33	+ 5	.8	+ .2	Sheridan . . .	28	+ 3	.1	-.1
										P. R. San Juan . .	77	+ 2	1.6	+1.1

* Departures are from 30-year means (1931-60). Based on preliminary reports.

CONDENSED STATE SUMMARIES

These summaries provide brief descriptions of condition and activities important on a national scale. Detailed reports of crop and weather conditions during the growing season are contained in State issues of Weekly Weather and Crop Bulletins published by field offices of the Statistical Reporting Service, U.S.D.A. in cooperation with NOAA State Climatologists.

ALABAMA: Clearing and cold weather early in period, then a rapid warming with unseasonably high temperatures Wednesday through Sunday. General rains began Friday and continued through Sunday. Rainfall for week heavy all sections and average temperatures much above normal. Warm temperatures promoted growth of small grains. Land preparation in south active prior to weekend rains, limited elsewhere. Principal activities pruning fruit trees, taking soil samples, caring for poultry and livestock. Irish potato planting continued in south, seed supplies arriving in north. Livestock condition fair to good.

ARIZONA: Temperatures much above normal at beginning of week but fell on 17th as colder air moved into State. This change of airmass was accompanied by showers in most sections with snow above about 5,000 feet. Water totals of over 1.00 inch reported in White Mountains and along Mogollon Rim. Field preparations active. Cotton planting expected to start next week southern Yuma County. Small grain planting complete, most fields making good progress under favorable conditions. Early-planted small grains beginning to head Yuma area. Safflower crop good condition. Limited cutting of alfalfa hay and green chop underway. Harvest lettuce, cabbage continued active Yuma. Immature lettuce, cabbage, carrots and onions making good growth. Planting cantaloups in full swing. In Salt River Valley, Pinal, Pinal Counties spring lettuce crop making good progress. Citrus harvest limited Maricopa County. New foliage starting to develop all areas. Ranges fair, supplemental feeding required most areas.

ARKANSAS: Temperatures well above normal ranging from 4° above normal at Mountain Home to 12° above normal at Marked Tree. Extremes: 24° at Gilbert on 16th and 75° at Texarkana also on 16th. Rainfall general over State with most stations reporting from 1.00 to 2.00 inches. Heaviest was 2.34 inches at Marked Tree. Limited work early in period. Activities included late harvest of cotton and soybeans. Top dressing small grains and pastures southern half of State. Early gardening in progress including planting of Irish potatoes. Moderate temperatures late in week stimulated growth of wheat and oats. Significant grazing in south. Livestock mostly good condition with normal winter feeding required.

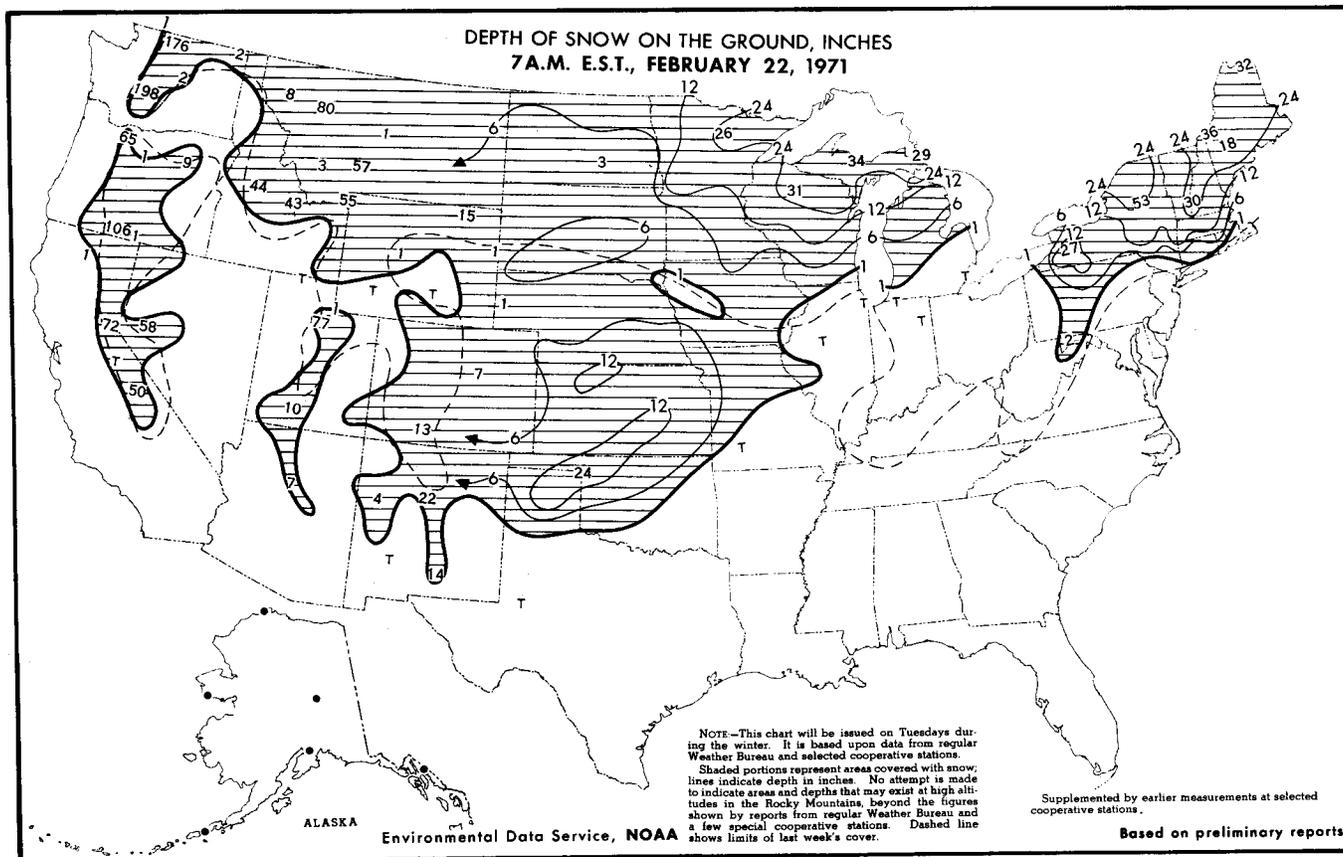
CALIFORNIA: Weather cooler with a slight break in winter drought. Average temperatures 1° to 4° above normal. Precipitation latter half of week with heaviest amounts on coast south of Point Conception. Rains benefited small grains; mostly in southern California. Planting continues coastal areas and Sacramento Valley. Cotton planting started Imperial Valley. Planting sugar beets Sacramento and San Joaquin Valleys; thinning and weeding early fields. Harvest over-wintered beets continues. Planting safflower Sacramento Valley. Field preparation to plant rice, corn, beans, milo. Winter orchard operations well advanced; new plantings continue. Dry weather causing concern. Almonds approaching full bloom Sacramento Valley; buds swell stage San Joaquin Valley. Bud development other deciduous crops ahead of schedule. Navel orange harvest continues

moderate pace; frost-damaged fruit becoming apparent. Lemon harvest active. Grapefruit harvest continues slow pace. Avocado harvest increasing. Range lands good condition. Additional rainfall needed maintain grass growth. Strong north winds north State areas dried range. Light supplemental feeding continues. Warm weather aided lambing and calving operations interior valleys. Lambing virtually complete Sacramento Valley. Artichoke harvest Castroville district light. Asparagus cutting Imperial, Orange, Riverside Counties continues increase; early cuttings Delta district. Broccoli harvest complete Imperial Valley; continues Santa Maria, Salinas districts. Cabbage 75% complete Imperial Valley; fair quality. Carrot harvest Imperial and San Joaquin Valleys increased. Central coast light volume. Harvesting cauliflower, celery continues slow. Lettuce past peak Imperial Valley; some small sizes. Digging winter potatoes Kern district, shipping fall crops Tule Lake continues slow; good quality. Strawberry harvest south coast light.

COLORADO: Mostly warm and dry first half; general storm and colder last half of period. Thunderstorms, rain, hail, and sleet some eastern areas turning to snow over weekend. Light to moderate snow mountains and west. Light to locally heavy east. High winds caused severe drifting in some eastern plains areas. Winter wheat and barley good to excellent. Most fields dormant. Strong wind and blowing snow caused little damage to wheat. Rain, snow most areas improved surface soil moisture. Range and pasture condition fair. Quality of forage deteriorating. Ranges snow covered northwest area and some eastern plains areas. Supplementary feeding widespread. Hay supply adequate. Livestock good condition.

FLORIDA: Monday through Sunday, February 15-21. Temperatures average near or slightly below normal as most temperatures behind cold front early portion of week were offset by well above-normal temperatures on weekend of 20th and 21st. Little or no precipitation throughout week in only scattered showers. Small grains growth slowed by freeze. Land preparation, disease control active. Young plant cane sustained extensive frost damage, but expect to recover. Small grains furnishing improved grazing. Cattle fair. Calving active. Supplemental feeding continues. Citrus trees and fruit condition vary - excellent to poor. Rain needed. Undamaged trees showing new growth, buds, and open blossom. New growth and pinhead bloom on most defoliated trees. Harvest active. Vegetable shipments continue to decline. Harvest continues all producing areas. Strong winds February 13, followed by freezing temperatures 15 and 16th damaged most crops. Warming trend followed, generally helpful, but growth maturity slowed. Quality, quantity reduced. Replanting south area active. Seeding, transplanting tender crops central area northward delayed, reactivated late last week. Most seeding north area in March. Most potato planting complete.

GEORGIA: Cool beginning of period followed by springlike weather remainder of week. Highs in 60's and low 70's north and middle and high 70's in south on 5 or 6 days. Lows in 40's and 50's



most of week. Averages ranged from 6° to 12° above normal and were as much as 20° higher than previous week parts of north. No rain until Friday night when moderate to heavy amounts fell in parts of west and north. General rainfall all areas except southeast on Sunday with amounts ranging from heavy in parts of extreme west and southwest to light in northeast. Soil moisture adequate to excessive. Land preparation delayed many areas due to wet soil. Small grains fair to good. Livestock good with supplemental feeding general.

HAWAII: Weather generally clear with scattered light showers isolated areas. Field preparations and plantings on the uptrend. Crop progress generally improved with favorable weather. Supplies of bananas and papayas light but vegetables adequate. Sugarcane harvesting increasing; and cattle in fair to good condition. Ample range feed.

IDAHO: Temperatures continue to average above normal, averaging up to 12° above normal southeast, but generally 5° to 10° above. Precipitation last half of week generally light and less than normal except slightly above normal scattered areas across southern part of the State. Mild weather good for livestock. Heavy supplemental feeding still necessary except for southwestern ranges. Winter grains in good condition.

ILLINOIS: Precipitation totals 0.50 to 1.50 inches north and central and 1 to 3 inches south. Temperatures averaged 5° to 8° above normal south and 8° to 11° above central and north. No snow on ground. Winter-sown grains in good condition.

Soil moisture adequate. Livestock care, feeding, machinery repair and maintenance main activities.

INDIANA: First warm week since late December. Temperature averaged 5° to 10° above normal. Week's high 70° at Evansville on 18th, coldest 13° on 16th also at Evansville. Two major storms on 19th and 22d produced abundant rain in showers and thunderstorms. Some glaze north on 22d. Precipitation heavy except northwest; weeks total between 1.16 to 3.09 inches except 0.16 to 0.56 inch northwest. Heaviest in south. Snow melt and runoff from rain produced rising river levels. Some lowland flooding. By 22d soil thawed out in south, thawed 4 to 6 inches at surface in central and north. Frozen soil layer to depths of 18 to 22 inches central and north under bare soil, 8 to 12 inches under sod cover. Main farm activity caring for livestock.

IOWA: Warm wet week. Temperatures averaged about 10° above normal. Rainfall 0.50 to 1.00 inch south, 1.00 to 3.00 inches north. Rain and heavy snow melt caused most streams to run full with some flooding. Colder weekend with snow.

KANSAS: Two major storms during period. Showers and thundershowers most of State 18th. Near blizzard parts west 19th. One of the most intense winter storms in years February 21. Blizzard or near-blizzard conditions most of State. Three to 12 inches of badly drifted snow. Locally over 15 inches southwest, south-central, and north-central. Unofficial depth of 20 inches reported south-central. Weekly mean temperatures averaged 2° to 5° above seasonal. Winter wheat benefited considerably from light to moderate rains and heavy

snow late last week. Most wheat fields were well protected by snow from blowing winds and cold temperatures. Mild weather early in week promoted some growth and greening in western and central Kansas. Few oats and barley sown due to wet conditions. Surface and subsoil moisture generally adequate in eastern 2/3 of Kansas and western counties were bolstered by snows late in week.

KENTUCKY: Temperatures below normal becoming unseasonably mild 17th to 20th and cooler on 21st. For week 5° to 9° above normal. Rain, a few thunderstorms on 19th. Heavy rain moving into west and central night of 21st. Totals to 7 p.m. 21st, 2.28 inches southwest to about 0.10 inch in east. One to 5 inches snow cover morning of 15th. Melting by morning of 17th. Partly sunny to sunny 17th and 18th, mostly cloudy balance. Livestock good to fair condition. Supplies adequate. Small grains generally good condition. Some tobacco beds being burned in preparation for seeding.

LOUISIANA: Sharply warmer than last week with mean temperatures in 60's; 7° to 10° above normal and 18° to 23° warmer than last week. Sharply colder late Sunday and Monday. Scattered showers last half heaviest in north, strong squall line Sunday produced heavy rains and severe local storms northeast. One tornado with 6 fatalities in Madison Parish near Waverly. Weekly rainfall totals less than 0.50 inch south 1.00 to 5.00 inches or more north. Temperature extremes: 82° Baton Rouge Sunday and 30° Shreveport today. Greatest 1-day precipitation 2.12 inches measured Monroe 6 a.m. Sunday. Farming activities mainly plowing, top dressing winter grazing crops, harvesting winter vegetables, caring for livestock, and repairing machinery. Soil moisture adequate to surplus. Strawberry plants in good condition, blooming heavily. Harvest of frost-protected berries should reach notable volume about March 1. Wheat and oats mostly good condition. Livestock fair to good condition, supplemental feeding active.

MARYLAND AND DELAWARE: Mild 18th to 21st, averaged 2° to 7° above normal. First above-normal week since December. Extremes: 73°, 3°. Precipitation on 17th and 20th light, mostly less than 0.20 inch. There was considerable thawing during week. Winter grains fair to good. Some sheet erosion north central as heavy rains 13th thawed and washed slopes. Top dressing starting in southern shore but most fields too wet. Seeding of tobacco beds delayed by cold and wet. Livestock chores, machinery and farmstead maintenance chief farm activities.

MICHIGAN: Temperatures ranged from 5° to 10° above normal over entire State. This is 1st week in nearly 2 months that temperatures have been above normal. Cool at beginning and ending of week with much above-normal temperatures midweek. Precipitation ranged from 0.25 inch western Upper Peninsula to 0.75 inch in eastern Upper Peninsula. In Lower Peninsula, precipitation was in excess of 0.75 inch with a heavier belt from south-central portion northward with the greatest amounts in north-central portion of State, reaching 1.52 inches at Houghton Lake. Precipitation mostly as snow with rain, freezing rain, or drizzle in southern 3/4 of Lower Peninsula. Upper Peninsula and northern 1/4 of Lower Peninsula are nearly 2.00 inches above normal precipitation since November 1.

MINNESOTA: Temperatures exceptionally warm during week. Averaged nearly 13° above normal. Precipitation, generally 0.50 to 1.00 inch of a mixture of snow, rain, and freezing rain fell south and east of a line from Sioux Falls-Alexander-Duluth. Heaviest was in southern 2 tiers of counties with 0.75 to 1.00 inch of precipitation. Snowfalls of 3 to 4 inches occurred from west-central to northeast. Snow depths remain near same in northern 2/3 of State but warm temperatures and rains in southern 1/3 reduced all depths from 6 to 10 inches from previous week.

MISSISSIPPI: Warming trend but for many stations it was the 3d consecutive week of below-normal temperature averages. Nearly all stations, except in Lower Delta, averaged below normal by 2° to 4°. One day with light rain and 2 or more days at some northwestern locations. Weekly totals mostly under 0.60 inch. Over the weekend: 1.00 to 5.00 inches of rain; greatest 1-day 3.24 inches Saturday morning Bay Springs. Sunday numerous tornadoes. Scores killed, hundreds injured, damages in millions of dollars. Soil moisture adequate to surplus. Winter wheat and oats fair to good condition. Pastures mostly poor to fair and livestock generally fair. Main farm activity caring for livestock and repairing equipment. Some plowing, with plowing for 1971 crop 15% complete for the State. Average of 2 days suitable for fieldwork.

MISSOURI: A typical springlike week. Temperatures warmed rapidly into 60's and 70's by midweek. On Thursday, Hannibal reported a new record high temperature of 70°. Extremes for the week were 16° at Bethany on Monday and 75° at Elsberry, and 74° at St. Louis on Friday. Light showers and thundershowers Wednesday and Friday. Heavier precipitation brought a return to winter Sunday. Precipitation amounts ranged from less than 0.50 inch in the northeast to more than 1.00 inch in south. A major snow storm was just entering State on Sunday and had already accumulated 1 to 3 inches of snow in the western portion of State.

MONTANA: Continued warm throughout the week with temperatures averaging 7° above normal. General precipitation extreme southern mountains, very light and scattered elsewhere. Supplemental feeding reduced. Open range available for grazing western and central Montana. Eastern districts difficult grazing. Feed and concentrate supplies adequate to surplus. Hay for sale central and south-western districts. Calving and lambing condition ideal. Calving 15% complete, lambing 10% Shearing 15% complete. Light wind damage to winter wheat.

NEBRASKA: Widespread rain and numerous thunderstorms Thursday in southeast half of State except extreme southeast corner. Amounts generally above 1.00 inch and ranged up to 3.00 inches and above. Widespread flooding in Northeast. Statewide snow over weekend with blizzard conditions eastern parts. Unseasonably warm to Thursday night. Cold over weekend.

NEVADA: Temperatures 4° above normal northeast to near normal elsewhere. Moderate precipitation throughout. 0.04 inch at Las Vegas to 1.37 inch at Austin. Locally moderate snowfall ranging from 4 inches at Virginia City to 12 inches at Austin. Otherwise generally light. Supplemental feeding continues with feed supplies reported as

adequate. Lower elevation ranges open and clear. Early calving and lambing underway. Livestock continue in generally good condition. Some field-work is underway in southern valleys.

NEW ENGLAND: Seasonable to mild temperatures with means ranging from near normal to mostly 2° to 6° above normal. Precipitation variable from 0.20 to 1.00 inch falling February 17 to 18, mostly as snow and on 20th as snow in north, rain in south, and in the central as a mixture of rain and ice pellets before turning to freezing rain and then snow, with roads becoming extremely hazardous in evening. Accidents numerous.

NEW JERSEY: Another mild week with temperatures averaging from 2° to 7° above normal. Readings varied from middle teens in north on 17th to middle 60's in south on 20th. Light rain Wednesday and Saturday averaged 0.20 inch over southern 1/3 of State and 0.30 inch over central and North Jersey. Snow cover on morning of 22d from 1 to 4 inches over northwestern counties.

NEW MEXICO: Scattered precipitation began Wednesday becoming general Saturday night. Totals generally less than 0.25 inch except in mountains. More than 1 foot of snow in some central and southern mountains. Temperatures averaged above normal for week but cooling through week to much below normal weekend. Top and subsoil moisture very short to short. Light snow over much of State - not enough to alleviate drought condition. Land preparation beginning. Irrigated wheat condition fair to good; dryland condition fair. Spring lettuce up to stand and in fair condition. Ranges poor to good. Livestock fair to good.

NEW YORK: Temperatures averaged above normal all sections for 1st such week since early December. Early week seasonably cold with minimums zero to -10° northern half and 5° to 15° southern interior on 17th. Maximums low 50's southeast and near 45° elsewhere on 18th becoming mostly 30° to low 40's through 21st. Precipitation week ending on 19th totaled from 0.40 to 0.80 inch coastal and Hudson Valley and up to 1.50 to 2.50 inches Lake Ontario plain to central counties and north to Canadian Border occurring mostly on 13th and 14th. Additional precipitation mostly as rain on 20th with heaviest 0.40 inch eastern 1/3. Some melting of snow cover but depths of 20 to 40 inches continue much of eastern half with 6 to 18 inches from Lake Erie to eastern Finger Lakes.

NORTH CAROLINA: Steadily rising temperatures averaging a little above normal. Good outdoor weather during work week becoming showery over weekend with amounts mostly 0.50 inch or less. Soil moisture decreased steadily, now mostly adequate. Small grains mostly fair with little change from previous week. Pastures mostly fair. Hay and feed grain supplies remained mostly adequate. Seeding of tobacco plant beds well underway.

NORTH DAKOTA: Temperatures averaged 8° above normal south, 11° above normal north. Little or no precipitation. Mild temperatures past week enabled farmers and ranchers to market livestock, haul feed and roughage, and repair machinery and buildings. Livestock in good condition with feed supplies adequate.

OHIO: Mild week. Temperatures climbed gradually from 20's on 15th to 50's on 19th. Temperatures were below seasonal normal only on 15th and 16th. Temperatures during remainder of week averaged

about 9° above normal. Rains were heaviest over north and southwest. Most remaining areas received less than 0.25 inch of precipitation through 21st. However, heavy rains spread across Ohio on 21st and 22nd. Cincinnati recorded 2.26 inches for 24 hours ending at 7:00 a.m. 22d. Rivers and streams were exceeding flood stage many southwest locations on 22d. Farm activity very limited, mostly care and feeding of livestock. Some farm operators pruning fruit trees and preparing equipment for 1971 maple syrup production.

OKLAHOMA: Temperatures averaged 5° to 9° above normal. Extremes: 83° and 18°. All areas of State received precipitation. Totals ranged from 0.50 inch Panhandle to 2.00 inches east-central. Snow blanketed most of State Sunday except extreme southern, east-central, and southeast portions. Up to 2 feet of snow fell in Panhandle with amounts other areas ranging from 1 inch southwest to around 15 inches north-central. Weekend rain and snow fell over most of State expected to improve wheat and other small grain prospect. Seeding spring oats and barley expected to move ahead rapidly in response to new moisture supplies. Shortage of surface soil moisture in western portion of State should be temporarily relieved. Wheat responded to warmer weather and showed moderate improvement from previous week. Wheat condition at 23% poor, 46% fair, and 31% good. Seeding spring oats and barley moved ahead last week but still substantially behind year ago. Thirty-one percent oats and 23% barley acreage seeded. Native range feeding continues all areas and small grain pasture still furnishing only limited grazing. Supplemental feeding continues. Livestock fair to good.

OREGON: Sixth consecutive mild week with sharp cooling last night of week. Temperatures averaged 3° to 6° above normal western half, 8° to 10° above east side. Minima, 19° to 30° eastern 2/3 of State, 30° to 41° west side. Maxima ranged 53° to 70°. One to 2 rainy days east of Cascades totaled 0.10 to 0.40 inch, western valleys and coast 4 to 7 wet days totaling 1.00 to 2.10 inches except southwestern valleys 0.30 to 0.60 inch. Continued mild weather has allowed some plowing and seeding. Fall-seeded grain looks good except for a few small areas in Willamette Valley which are under water. Some freeze damage to clover in Willamette Valley. Orchard pruning continues. Hay supplies appear to be adequate with continued mild weather.

PENNSYLVANIA: A mild week. Frontal activity Wednesday, Friday, Sunday gave frequent periods and varying amounts of precipitation mainly in the form of rain. Temperatures averaged about 5° above normal. Cool first 3 days, mild through Saturday, and cooler again Sunday. Extremes: 64° at Philadelphia on 21st and 2° at Blairsville on 17th. For the week greatest water equivalent precipitation totals were along the windward side of the Alleghenys where around 1.00 inch was recorded. Lowest totals were in southeast Piedmont where less than 0.25 inch fell. Remainder received from 0.25 to 0.75 inch. Routine winter farm chores.

PUERTO RICO: Moderate showers northern coast and western interior early in week. Light showers rest of Island except generally no rain south coast. Island average rainfall 0.60 inch or about 0.10 inch below normal. Crop prospects deteriorating some southern zones due to shortage of moisture. Temperatures averaged 75° on coast and 70° interior with an average departure of 0.4° above normal. Highest maximum 90° lowest minimum 51°. Sugar cane

harvesting made good progress under dry weather conditions. Coffee plantations continued pruning, cultivating, and fertilizing operations. Tobacco harvesting and drying continued with good progress. Pastures good to excellent all divisions except south where some zones too dry. Minor crops in general abundance on market with citrus continuing heavy. Planting and cultivating operations progressed well except some southern zones too dry.

SOUTH CAROLINA: Snow and rain ended as week began. Precipitation totals ranged from 0.20 inch at the coast to 0.80 in the upper Piedmont. Clear and cold early in week becoming mild in latter part. Temperatures averaged about 3° below normal. Rain began again late on 20th. Soil moisture adequate to wet all areas. Farming activities picked up. Land preparation on the way. Peach tree pruning and cabbage planting continued.

SOUTH DAKOTA: Weekly temperatures are from 3° above normal in west to 13° above normal in extreme southeast. Extremes: 2° Huron and Lemmon on 21st and Philip on 22d to 61° at Hot Springs on 15th. Precipitation fell mostly as rain, locally heavy, in southeast and as snow elsewhere over State on 18th and 19th with total ranging from trace in northwest to over central and south-central part of State. White Lake reported 15" and Huron received 11". Heavy icing occurred in southeast with Marion reporting 1" on 19th. Snow cover 19th mostly 4" to 8", but spotty areas reported 1 foot or more. Snow with generally colder temperatures provided protective covering for winter wheat and rye crops in most areas. Supplemental feeding continued at high rate. Early calving and lambing proceeding normally. Some tree damage due freezing rain in vicinity of Marion. Localized flooding reported extreme southeast.

TENNESSEE: Temperatures averaged 3° to 9° above normal, some 18° to 22° warmer than averages of preceding week. General rain with locally severe thunder storms over weekend. Totals variable from 0.25 inch in northeast to 4.00 in west. Clearing moving in from southwest end of period. General farm repairs and farm planting main activities. Livestock condition good to fair. Stored feed supplies adequate. Condition of small grains and winter pasture fair to good. Some tobacco bedding started.

TEXAS: A paralyzing blizzard accompanied by 12 to 24 inches of snow and 60 m.p.h. winds isolated the Texas Panhandle Sunday. The heavy snow brought beneficial moisture to the drought-stricken area. Pampa received 2.67 inches moisture for the week. Generous rains of from 1.00 to more than 4.00 fell in north-central and northeast Texas Thursday through Sunday. Only light amounts fell in southwestern Texas. Strong winds buffeted entire State Sunday. Increased levels of moisture was received this week as a cold front swept across State dumping up to 24 inches of snow on northern High Plains and triggering scattered showers over Plains, northeastern, and southeastern parts of State. Seeding of cotton, corn, and sorghum in Lower Valley and South Texas has begun but increased levels of soil moisture is needed to assure proper germination. Primary activities this week were preplant irrigation, application of herbicide and fertilizer, planting activities and management of livestock. Lower Rio Grande Valley cabbage, carrot, lettuce harvest active. Light supplies other winter vegetables available all South Texas. Early spring onions good progress, blading beginning. Lower Valley

spring vegetables good progress. Watermelon planting active South Texas. Citrus harvest continues with valencia orange harvest increasing.

UTAH: Moderate to heavy precipitation southwest portion and over and along Wasatch Mountains. Zion National Park 2.02 inches, largest amount reported. Northwest desert and east Utah received less than 0.50 inch. Temperatures averaged 4° to 10° above normal except 12° to 14° above Uinta Basin. Strong damaging easterly canyon winds northern Utah late Friday night and Saturday, gusts to 88 m.p.h.. Extensive damage some areas. Storms added soil moisture and improved range feed palatability most of State. Supplemental feeding heavy in colder areas. Adequate feed supplies. Lambing and calving started on farms. Irrigation water supply outlook very good most of State.

VIRGINIA: Temperatures below normal at beginning, much above normal over weekend. Light showers Saturday. Mild weather and rain early last week thawed soils making fields too muddy to work. Warm temperatures and sunny skies at end of week helped dry well-drained fields so farmers could begin spreading some fertilizer and lime. Muddy conditions caused some lambing and calving problems in northern and south-western Virginia.

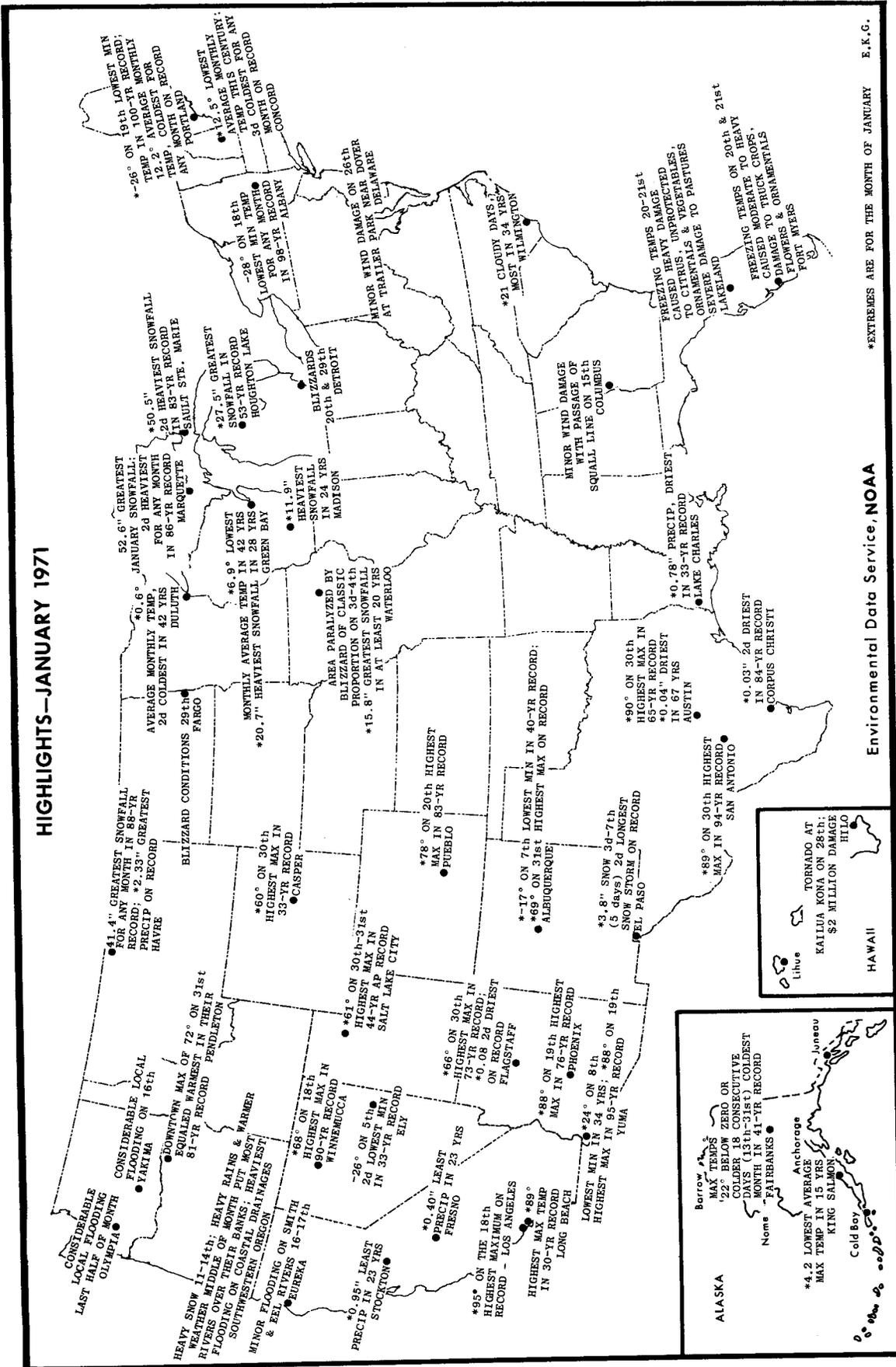
WASHINGTON: West of Cascades: Mild with showers throughout week. Average temperatures 3° above normal. Precipitation amounts 1.00 to 2.50 inches. Plowing starting on lighter and well-drained soils. Lifting certified strawberry plants starting. Tulips, iris and daffodils making good growth. East of Cascades: Mild temperatures and light precipitation. Average temperatures 5° to 8° above normal. Precipitation amounts trace to 0.15 inch central basin, 0.15 to 0.30 inch extreme eastern counties. Seeding spring grain and application of fertilizer underway. Fall-seeded wheat in southern counties looking good. Pruning orchards continues. Dormant sprays for pear psylla being applied Yakima Valley and Columbia Basin. Live-stock doing well. Feed supply adequate.

WEST VIRGINIA: Light snow beginning of period with light rain and warmer weather by midweek. Mild and damp balance of period. Heavy rains northern areas night of 21st. Over 0.50 inch totals. Main farm activities caring for livestock. Soil moisture adequate to surplus.

WISCONSIN: Mild and wet. Heavy thunderstorm rains southern areas after midweek. Some totals in excess of 2.00 inches. Up to 8 inches of snow in extreme north. Also considerable melting of snow cover south. Most rain and melt water going into unfrozen soils with runoff relatively minor. Some flooding along southern streams caused mainly by ice jams. Northern areas continue to experience increase in water equivalent of snow cover. Up to 8 inches in some areas. Farm activities mainly care and feeding of livestock.

WYOMING: Temperatures averaged well above normal statewide as light snows recorded at most stations. Afton reported most moisture with 0.75 inch. Maxima mostly 45° to 55° west of Divide and Upper Platte Drainage, 50's to low 60's elsewhere. Minima mostly 5° to 15° west of Divide, 10° to 25° east. Temperature extremes: 64° at Torrington and -3° at Moran. Feeding and caring for livestock continue to be main activities. Some field work and early shearing are underway. Stock water and feed supplies are adequate and soil moisture outlook is good.

HIGHLIGHTS—JANUARY 1971



*EXTREMES ARE FOR THE MONTH OF JANUARY E.K.G.

Environmental Data Service, NOAA

Lihue
KAILUA KONA ON 28th;
\$2 MILLION DAMAGE
HILO

TORNADO AT
KAILUA KONA ON 28th;
\$2 MILLION DAMAGE
HILO

HAWAII

ALASKA

Barrow
MAX TEMPS
22° BELOW ZERO OR
COLDER 18 CONSECUTIVE
DAYS
WATNA 13th-21st COLDEST
WATNA 11th-14th DRIEST
FAIRBANKS

Anchorage
*4.2 LOWEST AVERAGE
MAX TEMP IN 15 YRS
KING SALMON
Cold Bay

PRETTY SHRUBS AND VINES PREDICT CROP PROGRESS

Joseph M. Caprio
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For more than a decade agriculturalists and climatologists throughout the West have been watching the flowering of home lawn lilacs as a key to when and where to grow food and feed crops. More recently the honeysuckle has been established as an even more widely adopted indication species. Most economically important crops are developed to fit a narrow range of climatic conditions; the lilac and honeysuckle are good crop indicator plants because they respond uniformly to weather over a wide range and a large area, making mapping possible. From these maps specific crop varieties and hybrids can be recommended with confidence for a given latitude, altitude or aspect of slope. These flowers which have been pleasing only our esthetic senses now can indirectly tickle our palates.

The normal dates when purple lilacs bloom have been determined from phenological data collected in the Western U.S. during the 10-year period 1957-66. It is these normals which guide selection and planning for individual crops. The progress of a given spring season, as indicated by early or late flowering, aids in determining date of planting certain annuals.

The dates of begin bloom in the spring of 1970 were compared with the 10-year normal. These departures from the normal time of bloom were plotted and analyzed on the map in Figure 1.

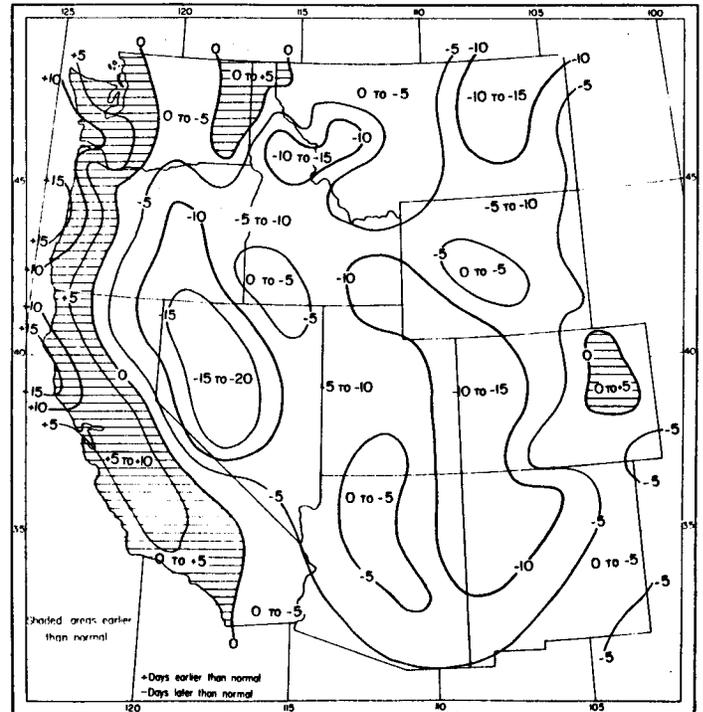
Shaded areas on the map indicate those places where lilac bloom was earlier than normal in the spring of 1970. Areas not shaded were later than normal in the Western Region.

Lilacs began to bloom earlier than normal in 1970 over most of California, western Oregon and western Washington. Bloom was more than 15 days earlier than normal along some coastal sections of Oregon and northern California. Lilacs generally bloomed earlier than normal over a portion of eastern Colorado and in a zone extending from northeastern Washington into northwestern Montana. Anomalies of more than 10 days later than normal were common over extensive areas east of the Pacific coastal States. A zone of more than 15 days later than normal is indicated in central Nevada.

The earlier than normal bloom along the West Coast was associated with higher than normal February and March temperatures in that area. The lateness of the season over most of the Western Region was associated with a colder than normal March and a very cold April. April temperatures over a large portion of the Western Region were more than 6°F. below normal. Temperatures in May were generally near normal throughout most of the West; but in eastern Colorado, where bloom was early, May averaged more than 3°F. above normal. June was 3° to 6°F. warmer than normal along extreme northern parts of the region.

Honeysuckle Bushes Observed for Third Year

Phenological data on the two genotypes of honeysuckle, Arnold Red and Zabeli, were collected for the third year throughout the eleven western states. Honeysuckle data for Texas will be recorded for the first time in the spring of 1971.



Departure of begin bloom date in 1970 from the 10-year (1957-66) normal.

Observers Instruction Booklet

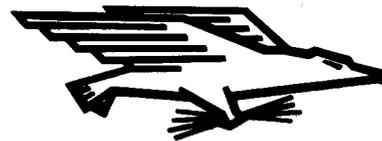
The Western Regional publication "Instructions for Phenological Observations of Purple Common Lilac and Red Berry Honeysuckle" is being sent to cooperators in the Phenological Survey* this winter in time for the 1971 observation season. This publication, identified as Montana Agricultural Experiment Station Circular 250, contains instructions for establishing and maintaining phenological sites and for making phenological observations on the purple common lilac and red berry honeysuckle. The booklet also includes a discussion of phenology and how this science provides useful information for many aspects of human activity -- hay fever sufferers, for example.

The Phenology Program of the U. S. International Biological Program

The Committee for the Phenology Program of the United States International Biological Program (IBP) is presently headed by Dr. Forest W. Stearns of the University of Wisconsin at Milwaukee. Efforts by the Committee are currently directed to the realization of nation-wide phenological observations. Among other applications, such a program could contribute to the realization of useful systems analysis output in ecological studies on the various biomes being conducted in connection with the United States International Biological Program. Phenological data may also prove valuable by providing "ground truth" needed in connection with the Earth Resources Technical Satellites (ERTS)-A and -B which are scheduled for launching in 1971 and 1972.

*Carried out in cooperation with the Environmental Data Service, National Weather Service, Agricultural Research Service, Forest Service, and the Universities in the Western States.

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ITEMS PUBLISHED REGULARLY IN WEEKLY WEATHER AND CROP BULLETIN

Weather Summaries:

Weather of the Week Each issue
 Weather, Monthly Summaries First issue of each month
 Weather, Seasonal Summaries Second issue of Mar., June, Sept., and Dec.
 Precipitation, 3-month Summaries Second issue of Jan., Feb., Apr., May, July, Aug., Oct., and Nov.

Agricultural Summaries:

Small Grains Each issue
 Corn April to December
 Soybeans April to December
 Cotton April to December
 Other Crops Each issue
 Pastures and Livestock Each issue

Condensed Telegraphic Summaries Each issue
 Ice in the Great Lakes Summaries February to March
 Water Supply Forecasts for Western States January to April
 Floods Whenever they occur

Charts:

Weekly:
 Total Precipitation Each issue
 Departure of Average Temperature from Normal (°) Each issue
 Depth of Snow on Ground, Inches December to March
 Total Growing Degree Days April to November
 Crop Moisture Index April to November

Monthly:
 Temperature Departure from 30-Year Mean First issue of following month
 Total Precipitation, Inches First issue of following month
 Percentage of Normal Precipitation First issue of following month
 Weather Highlights First issue after 20th of following month

Bimonthly:
 Average Monthly Weather Outlook First issue after 1st and 15th of each month

Seasonal:
 Temperature Departure from 30-Year Mean (°F) Second issue of Mar., June, Sept., and Dec.
 Total Precipitation, Inches Second issue of Mar., June, Sept., and Dec.
 Percentage of Normal Precipitation for Season Second issue of Mar., June, Sept., and Dec.
 Percentage of Normal Precipitation for Previous 3 months
 Second issue of Jan., Feb., Apr., May, July, Aug., Oct., and Nov.

Tabulations:

Temperature and Precipitation Data for Week Each issue
 Heating Degree Days for Month, September to March First issue of following month