

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration,
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
Statistical Reporting Service and World Agricultural Outlook Board

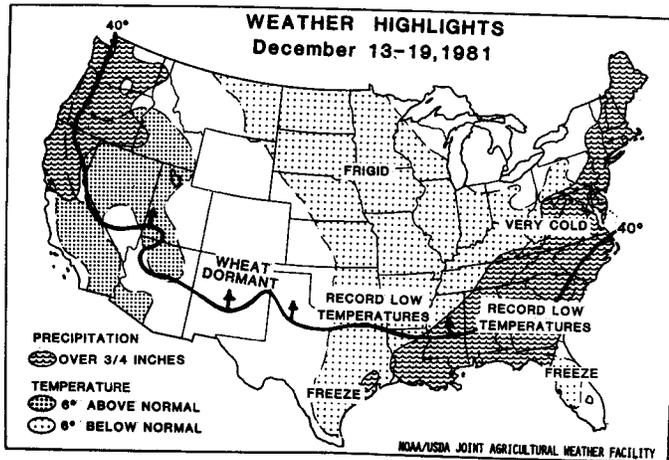
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Dec. 22, 1981

National Weather Summary

December 13-19, 1981



HIGHLIGHTS: An outbreak of arctic air into the northern Plains moved slowly southward and eastward and by the end of the week had covered most of the eastern United States. The coldest weather of the season enveloped many areas. Freezing temperatures dipped into parts of southern Texas, crossed the South, and reached the Everglades in Florida. Average temperatures were as much as 17° colder than normal in parts of the northern Plains. Seasonal precipitation was heavy, causing some flooding in the Northwest. Moderate precipitation in the South and east coast States was needed in some of the dry areas.

SUNDAY...Rain or snow fell over much of the Nation. A cold front reached from the western Great Lakes to a low pressure center in the central Plains and then into western Texas. Snow fell from Nebraska northward and eastward while rain covered the rest of the Plains. Rain also fell from Texas to the central Ohio Valley and eastward through Georgia. Snow covered the central Appalachians. Rain or snow fell through the Northwest from central California to the central and northern Rockies.

MONDAY...Very cold weather settled over the north central States. Morning temperatures dipped to readings below zero in much of North Dakota and Minnesota. Rain fell from southeastern Texas to Florida and Georgia and northward to Virginia. Snow fell through most of the Appalachians and the Northeast. Light showers dotted the Northwest, and a low center in Montana spread light snow through the northern Plains.

TUESDAY...Precipitation fell through the east coast States and eastern Great Lakes. Snow covered most

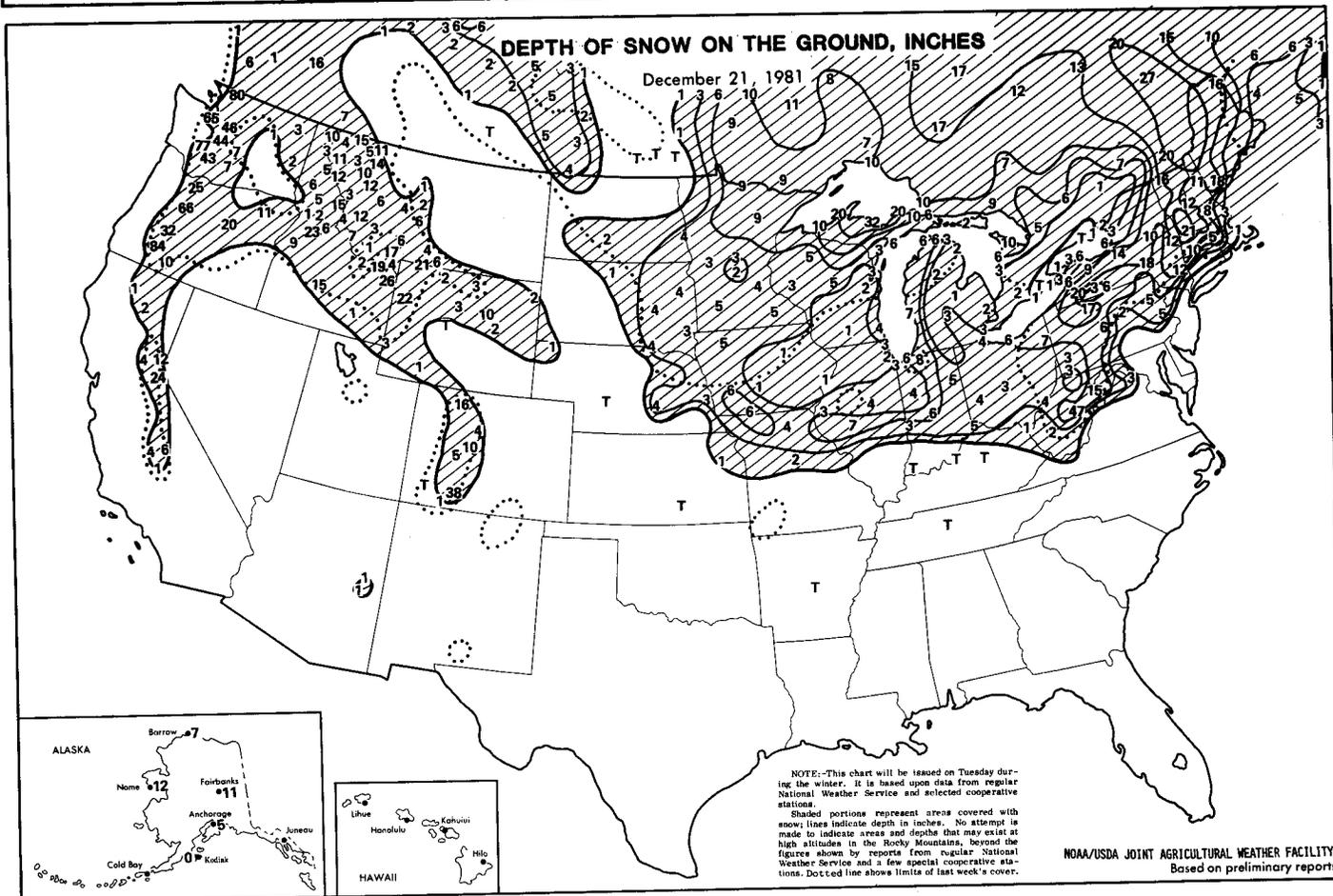
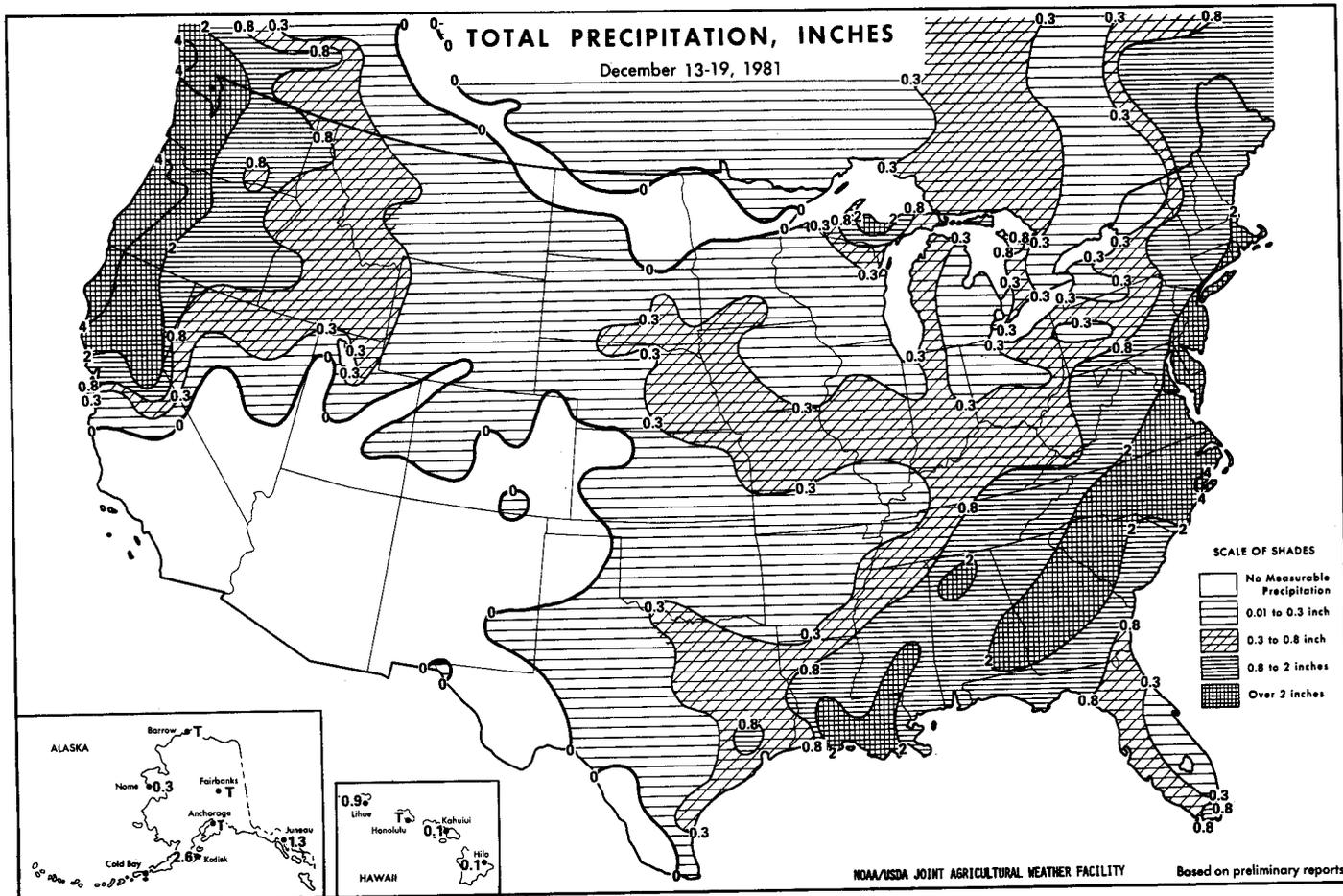
of the Appalachians and from Maryland northward. Some heavy snow accumulated in eastern New York and central New England. Thunderstorms and at least one tornado raked Florida. A storm center in the central Plains spread snow through the Missouri Valley and still another Pacific storm brought rain or snow to the Northwest. Frigid weather spread through the northern Plains and western Great Lakes. The mercury dropped to -16° at Fargo, North Dakota.

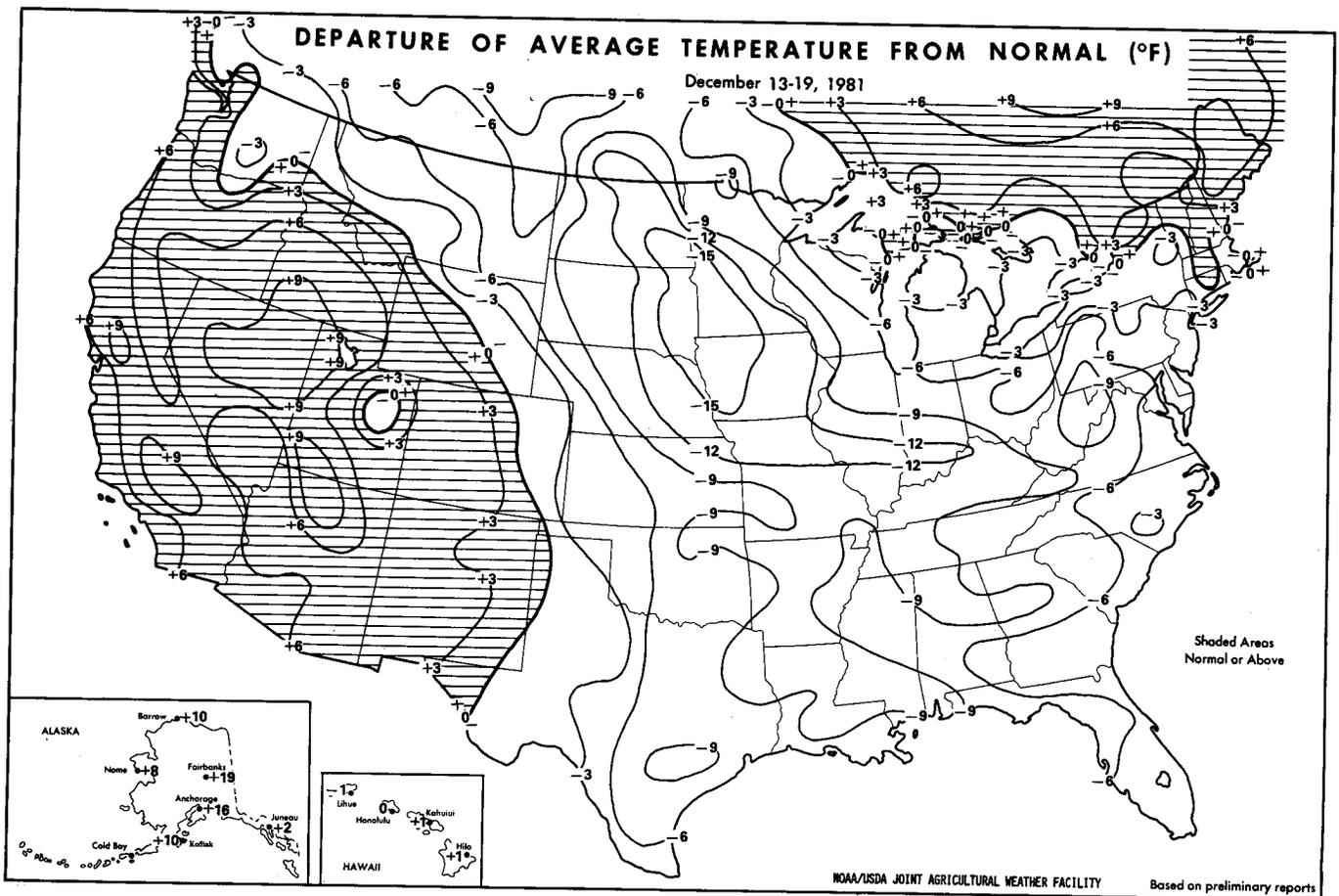
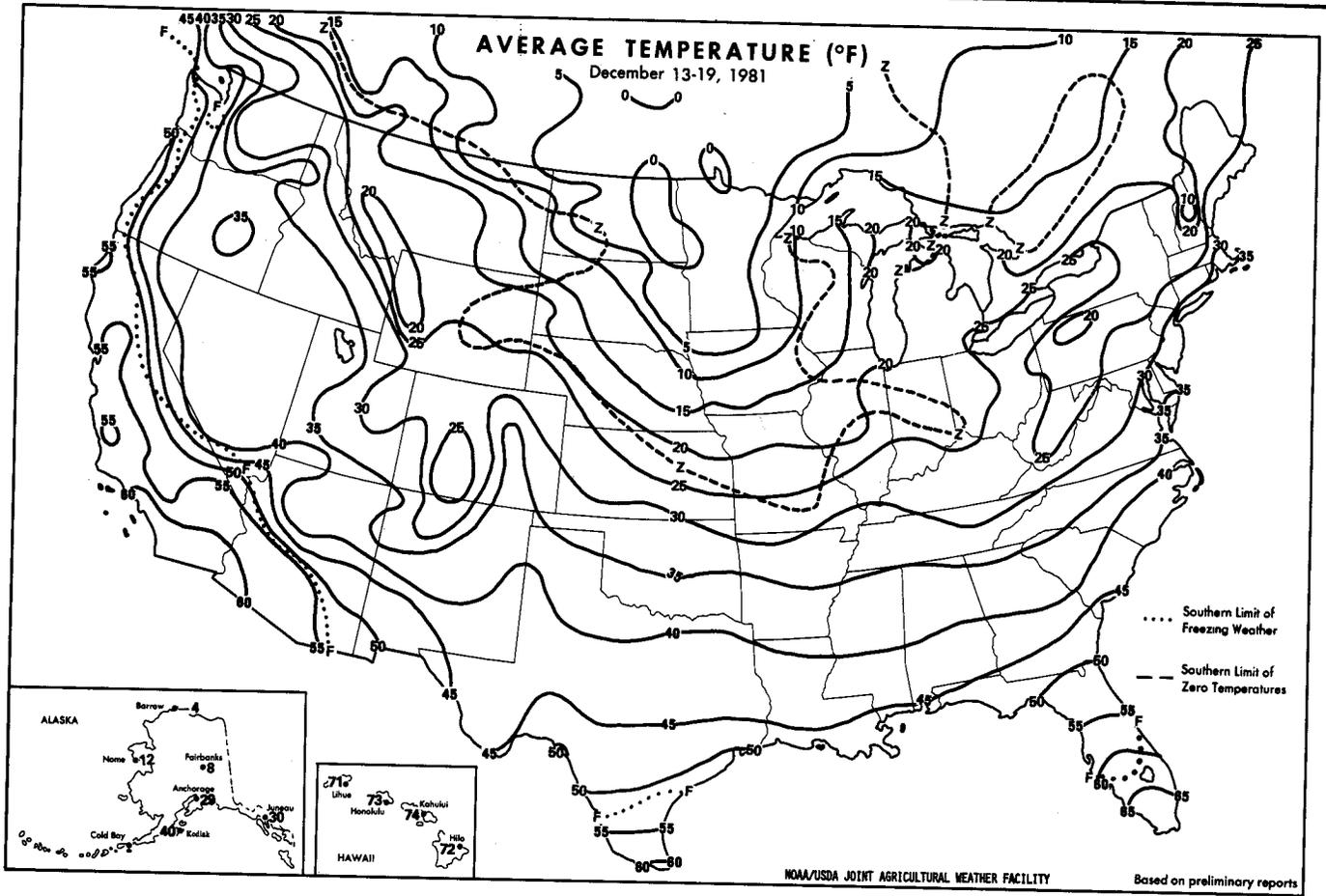
WEDNESDAY...Snow dominated the picture from the northern and central Rockies into the Plains and eastward to the central and northern Appalachians. The snow changed to rain during the day from Kansas to the Ohio Valley. Some light rain showers fell from southeastern Texas into Tennessee, and rain showers fell along the Northeastern coast. The low temperature at Fargo, North Dakota, dropped to -17°, and freezing temperatures reached from the Texas Panhandle to northern Florida.

THURSDAY...Only light snow continued over the central and northern Plains but a heavy snow cover remained. A storm center in Ohio moved northeasterly and spread snow through the Midwest, Great Lakes, and from Pennsylvania northward. Rain or mixed rain and snow fell throughout the rest of the East. Light showers began again along the Pacific coast from Washington to northern California. Very cold air was moving southward through the Plains and reached into northern Texas.

FRIDAY...The outbreak of arctic air plunged southward through Texas and brought record cold temperatures into the central Plains. Norfolk, Nebraska, posted a record low of -17°, while Topeka showed -4° and Little Rock had 11°. Freezing temperatures reached deep into southern Texas threatening tender vegetables. The cold air mass moved eastward. Light rain fell through Florida and along the east coast. Light snow in the Tennessee Valley extended northward through the Great Lakes and through New England. (continued on backcover)

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Weather Data for the Week Ending Dec. 19, 1981

| STATES AND STATIONS | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | | | |
|---------------------------|--------------------|--------------------|-----------------|----------------|---------|--------------------------|----------------------|--------------------------|-----------------------------|------------------------------|------------------------------|-----------------------------|-----------------------------|--------------------|--------------------|----------------|--------------|---------------------|---------------------|----|
| | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE Nov. 29 | PCT. NORMAL SINCE Nov. 29 | TOTAL, IN., SINCE Jan. 1 | PCT. NORMAL SINCE Jan. 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | TEMPERATURE °F | | | | |
| | | | | | | | | | | | | | | | | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE | |
| AL BIRMINGHAM | 44 | 28 | 52 | 12 | 36 | -9 | 1.1 | -.1 | .8 | 3.8 | 109 | 39.0 | 76 | 89 | 49 | 0 | 5 | 4 | 1 | 2 |
| MOBILE | 55 | 34 | 74 | 17 | 45 | -8 | 1.7 | .3 | .7 | 2.8 | 72 | 53.3 | 82 | 84 | 53 | 0 | 2 | 4 | 1 | 1 |
| MONTGOMERY | 51 | 35 | 60 | 19 | 43 | -5 | 1.3 | -.1 | .8 | 2.7 | 79 | 42.4 | 88 | 89 | 59 | 0 | 3 | 4 | 1 | 0 |
| AK ANCHORAGE | 34 | 24 | 41 | 15 | 29 | 16 | T | -.2 | T | .2 | 25 | 20.5 | 142 | 88 | 65 | 0 | 7 | 1 | 0 | 0 |
| BARROW | 2 | -9 | 17 | -27 | -4 | 10 | T | 0 | T | .1 | 50 | -- | -- | 86 | 68 | 0 | 7 | 2 | 0 | 0 |
| FAIRBANKS | 16 | -1 | 36 | -17 | 8 | 19 | T | -.1 | T | .4 | 100 | 10.1 | 95 | 79 | 60 | 0 | 7 | 1 | 0 | 1 |
| JUNEAU | 35 | 24 | 47 | 8 | 30 | 2 | 1.3 | .3 | .5 | 2.1 | 64 | 52.3 | 99 | 88 | 71 | 0 | 6 | 6 | 1 | 0 |
| KODIAK | 42 | 38 | 45 | 32 | 40 | 10 | 2.6 | 1.5 | 1.0 | 6.6 | 194 | 68.6 | 125 | 92 | 76 | 0 | 1 | 7 | 2 | 0 |
| NOME | 22 | 2 | 31 | -10 | 12 | 8 | .3 | -.1 | .1 | 1.0 | 167 | 16.4 | 106 | 83 | 58 | 0 | 7 | 5 | 0 | 0 |
| AZ FLAGSTAFF | 53 | 25 | 57 | 19 | 39 | 9 | 0 | -.5 | 0 | 0 | 0 | 22.0 | 116 | 87 | 29 | 0 | 7 | 0 | 0 | 0 |
| PHOENIX | 72 | 46 | 76 | 45 | 59 | 7 | 0 | -.2 | 0 | .5 | 83 | 6.9 | 106 | 70 | 23 | 0 | 0 | 0 | 0 | 0 |
| TUCSON | 70 | 40 | 73 | 36 | 55 | 4 | 0 | -.2 | 0 | .6 | 100 | 13.9 | 132 | 61 | 18 | 0 | 0 | 0 | 0 | 0 |
| WINSLOW | 54 | 23 | 61 | 18 | 39 | 5 | 0 | -.1 | 0 | .7 | 233 | 9.6 | 120 | -- | -- | 0 | 7 | 0 | 0 | 0 |
| YUMA | 75 | 50 | 77 | 46 | 63 | 7 | 0 | -.1 | 0 | .1 | 33 | 1.6 | 50 | 45 | 18 | 0 | 0 | 0 | 0 | 0 |
| AR FORT SMITH | 43 | 26 | 62 | 14 | 35 | -7 | .1 | -.6 | .1 | 1.9 | 90 | 40.5 | 97 | 86 | 47 | 0 | 5 | 1 | 0 | 0 |
| LITTLE ROCK | 43 | 25 | 58 | 11 | 34 | -9 | .3 | -.6 | .2 | 1.4 | 52 | 41.8 | 90 | 84 | 50 | 0 | 4 | 2 | 0 | 0 |
| CA BAKERSFIELD | 67 | 46 | 80 | 41 | 57 | 9 | 0 | -.1 | 0 | 0 | 0 | 5.6 | 104 | 82 | 48 | 0 | 0 | 0 | 0 | 0 |
| EUREKA | 61 | 49 | 72 | 37 | 55 | 6 | 4.9 | 3.4 | 3.4 | 7.7 | 175 | 40.8 | 108 | 91 | 78 | 0 | 0 | 6 | 2 | 0 |
| FRESNO | 62 | 45 | 74 | 41 | 54 | 8 | T | -.4 | T | .1 | 8 | 9.3 | 94 | 96 | 63 | 0 | 0 | 1 | 0 | 0 |
| LOS ANGELES | 69 | 51 | 73 | 48 | 60 | 4 | 0 | -.4 | 0 | 0 | 0 | 9.6 | 86 | 91 | 49 | 0 | 0 | 0 | 0 | 0 |
| RED BLUFF | 59 | 45 | 64 | 35 | 52 | 6 | 2.1 | 1.2 | 1.4 | 2.8 | 112 | 29.5 | 140 | 91 | 64 | 0 | 0 | 4 | 1 | 0 |
| SAN DIEGO | 70 | 53 | 73 | 50 | 61 | 5 | 0 | -.4 | 0 | .7 | 58 | 10.4 | 116 | 92 | 49 | 0 | 0 | 0 | 0 | 0 |
| SAN FRANCISCO | 59 | 50 | 62 | 42 | 54 | 5 | 1.1 | .2 | .9 | 1.4 | 54 | 21.3 | 116 | 91 | 68 | 0 | 0 | 0 | 0 | 0 |
| STOCKTON | 61 | 45 | 70 | 39 | 53 | 8 | .7 | -.1 | .6 | .8 | 47 | 15.2 | 115 | 99 | 69 | 0 | 0 | 2 | 1 | 0 |
| CO DENVER | 48 | 22 | 58 | 12 | 35 | 3 | .1 | 0 | -.1 | .3 | 100 | 12.4 | 82 | 84 | 30 | 0 | 7 | 1 | 0 | 0 |
| GRAND JUNCTION | 43 | 24 | 48 | 18 | 33 | 4 | T | -.1 | T | .2 | 67 | 8.0 | 107 | 88 | 44 | 0 | 7 | 1 | 0 | 0 |
| PUEBLO | 49 | 23 | 58 | 12 | 36 | 3 | T | -.1 | T | 0 | 0 | 7.1 | 58 | 77 | 30 | 0 | 7 | 0 | 0 | 0 |
| CT BRIDGEPORT | 37 | 26 | 42 | 18 | 32 | -2 | 2.0 | 1.2 | 1.1 | 3.3 | 138 | 31.9 | 85 | 87 | 54 | 0 | 6 | 4 | 2 | 2 |
| HARTFORD | 35 | 23 | 40 | 10 | 29 | 1 | 1.7 | .8 | .8 | 3.1 | 107 | 34.3 | 82 | 78 | 53 | 0 | 7 | 5 | 1 | 1 |
| DC WASHINGTON | 40 | 29 | 45 | 19 | 34 | -2 | 1.7 | 1.0 | .9 | 2.3 | 110 | 31.3 | 83 | 83 | 59 | 0 | 6 | 3 | 2 | 2 |
| FL APALACHICOLA | 60 | 39 | 67 | 23 | 50 | -6 | 1.2 | -.4 | 1.1 | 2.8 | 122 | 37.5 | 66 | 89 | 59 | 0 | 2 | 3 | 1 | 0 |
| DAYTONA BEACH | 66 | 40 | 78 | 26 | 53 | -6 | T | -.4 | T | .4 | 33 | 37.2 | 75 | 91 | 52 | 0 | 1 | 2 | 0 | 0 |
| FORT MYERS | 72 | 50 | 81 | 35 | 61 | -4 | -.5 | -.2 | .5 | .8 | 89 | 52.3 | 98 | 97 | 54 | 0 | 0 | 1 | 0 | 0 |
| JACKSONVILLE | 64 | 38 | 77 | 23 | 51 | -4 | .4 | -.2 | .4 | 1.1 | 73 | 33.7 | 63 | 92 | 47 | 0 | 2 | 1 | 0 | 0 |
| KEY WEST | 73 | 62 | 79 | 51 | 68 | -3 | T | -.3 | T | 0 | 0 | 26.9 | 68 | 89 | 70 | 0 | 0 | 1 | 0 | 0 |
| MIAMI | 75 | 55 | 83 | 39 | 65 | -3 | .1 | -.2 | .1 | .1 | 10 | 51.1 | 86 | 89 | 55 | 0 | 0 | 1 | 0 | 0 |
| ORLANDO | 69 | 44 | 80 | 30 | 57 | -5 | .2 | -.2 | .1 | .7 | 64 | 45.5 | 90 | 92 | 45 | 0 | 1 | 3 | 0 | 0 |
| TALLAHASSEE | 58 | 35 | 68 | 22 | 47 | -6 | 1.6 | .6 | 1.0 | 3.0 | 107 | 48.9 | 82 | 98 | 59 | 0 | 4 | 4 | 2 | 2 |
| TAMPA | 66 | 44 | 75 | 21 | 55 | -6 | .7 | -.2 | .6 | 1.0 | 67 | 36.4 | 75 | 96 | 54 | 0 | 1 | 1 | 0 | 0 |
| WEST PALM BEACH | 74 | 53 | 79 | 39 | 63 | -3 | -.1 | -.5 | .1 | .2 | 13 | 47.8 | 79 | 93 | 55 | 0 | 0 | 1 | 0 | 0 |
| GA ATLANTA | 41 | 26 | 49 | 11 | 34 | -9 | 1.2 | .2 | .9 | 2.7 | 96 | 37.6 | 80 | 91 | 55 | 0 | 4 | 3 | 1 | 0 |
| AUGUSTA | 49 | 26 | 59 | 17 | 38 | -8 | 3.2 | 2.4 | 1.6 | 4.2 | 183 | 39.5 | 95 | 94 | 45 | 0 | 5 | 3 | 2 | 2 |
| MACON | 52 | 33 | 65 | 21 | 43 | -5 | 2.3 | 1.3 | 1.4 | 3.0 | 107 | 43.0 | 99 | 89 | 48 | 0 | 3 | 4 | 2 | 0 |
| SAVANNAH | 56 | 34 | 68 | 20 | 45 | -5 | .8 | .1 | .4 | 1.6 | 76 | 38.5 | 78 | 85 | 46 | 0 | 3 | 3 | 0 | 0 |
| HI HILO | 80 | 64 | 83 | 63 | 72 | 1 | -.1 | -3.6 | .1 | 8.4 | 74 | -- | -- | 90 | 67 | 0 | 0 | 1 | 0 | 0 |
| HONOLULU | 82 | 65 | 84 | 62 | 73 | 0 | T | -.8 | T | .4 | 17 | 9.1 | 42 | 96 | 62 | 0 | 0 | 2 | 0 | 0 |
| KAHULUI | 83 | 65 | 85 | 59 | 74 | 1 | -.1 | -.6 | .1 | .7 | 37 | -- | -- | 84 | 61 | 0 | 0 | 3 | 1 | 0 |
| LIHUE | 81 | 62 | 86 | 60 | 71 | -1 | .9 | -.5 | .7 | 1.6 | 37 | -- | -- | 94 | 61 | 0 | 0 | 3 | 1 | 0 |
| ID BOISE | 46 | 34 | 52 | 29 | 40 | 8 | 1.1 | -.8 | .5 | 1.3 | 118 | 13.7 | 117 | 84 | 59 | 0 | 4 | 5 | 1 | 0 |
| LEWISTON | 41 | 33 | 46 | 30 | 37 | 2 | .6 | -.3 | .3 | .8 | 100 | 13.6 | 105 | 90 | 70 | 0 | 3 | 3 | 0 | 0 |
| POCATELLO | 40 | 27 | 48 | 17 | 34 | 7 | .4 | -.2 | .3 | .4 | 57 | 12.7 | 123 | 89 | 66 | 0 | 5 | 2 | 0 | 0 |
| IL CAIRO | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CHICAGO | 26 | 12 | 36 | 1 | 19 | -8 | .1 | -.3 | .1 | 1.0 | 77 | 38.7 | 123 | 84 | 58 | 0 | 7 | 2 | 0 | 0 |
| MOLINE | 26 | 12 | 41 | 0 | 19 | -8 | T | -.4 | T | .8 | 62 | 36.2 | 102 | 76 | 49 | 0 | 7 | 2 | 0 | 0 |
| PEORIA | 27 | 13 | 40 | -3 | 20 | -8 | .4 | 0 | .3 | .9 | 69 | 38.6 | 112 | 87 | 60 | 0 | 6 | 3 | 0 | 0 |
| ROCKFORD | 25 | 11 | 36 | 0 | 18 | -7 | T | -.3 | T | .6 | 50 | 34.6 | 96 | 84 | 53 | 0 | 7 | 1 | 0 | 0 |
| SPRINGFIELD | 26 | 11 | 40 | -15 | 18 | -12 | .6 | -.2 | .5 | 1.1 | 85 | 46.6 | 135 | 86 | 58 | 0 | 7 | 2 | 1 | 0 |
| IN EVANSVILLE | 35 | 20 | 42 | 8 | 27 | -8 | .3 | -.5 | .2 | 1.1 | 48 | 41.5 | 101 | 78 | 53 | 0 | 7 | 4 | 0 | 0 |
| FORT WAYNE | 27 | 18 | 36 | 3 | 22 | -6 | .2 | -.3 | .1 | .4 | 27 | 35.0 | 101 | 89 | 66 | 0 | 7 | 2 | 0 | 0 |
| INDIANAPOLIS | 29 | 13 | 40 | -9 | 21 | -10 | .6 | 0 | .5 | 1.0 | 53 | 35.0 | 93 | 89 | 61 | 0 | 7 | 3 | 0 | 0 |
| SOUTH BEND | 30 | 20 | 34 | 9 | 25 | -3 | .5 | -.1 | .2 | 1.2 | 71 | 37.5 | 105 | 90 | 66 | 0 | 7 | 5 | 0 | 0 |
| IA BURLINGTON | 24 | 8 | 37 | -5 | 16 | -11 | .2 | -.2 | .2 | .8 | 80 | -- | -- | 88 | 65 | 0 | 7 | 1 | 0 | 0 |
| DES MOINES | 19 | 8 | 37 | -9 | 14 | -11 | .3 | -.1 | .2 | 1.2 | 171 | 31.1 | 100 | 78 | 59 | 0 | 6 | 3 | 0 | 0 |
| DUBUQUE | 21 | 7 | 35 | -3 | 14 | -8 | -- | -- | -- | -- | -- | -- | -- | 92 | 58 | 0 | 7 | - | 0 | 0 |
| SIOUX CITY | 14 | -2 | 33 | -17 | 6 | -17 | .5 | -.4 | .3 | 1.5 | 300 | 20.5 | 80 | 91 | 72 | 0 | 7 | 4 | 0 | 0 |
| KS CONCORDIA | 25 | 14 | 39 | 0 | 20 | -10 | .2 | 0 | .2 | 1.8 | 300 | 33.9 | 124 | 87 | 66 | 0 | 6 | 1 | 0 | 0 |
| DODGE CITY | 38 | 20 | 49 | 9 | 29 | -4 | T | -.1 | T | .2 | 67 | 24.5 | 119 | 88 | 55 | 0 | 6 | 1 | 0 | 0 |
| GOODLAND | 38 | 16 | 47 | 9 | 27 | -3 | T | -.1 | T | .9 | 300 | 22.3 | 134 | 89 | 46 | 0 | 7 | 0 | 0 | 0 |
| TOPEKA | 27 | 15 | 40 | -4 | 21 | -11 | .1 | -.2 | .1 | 1.0 | 100 | 40.3 | 118 | 89 | 67 | 0 | 6 | 1 | 0 | 0 |
| WICHITA | 33 | 19 | | | | | | | | | | | | | | | | | | |

Weather Data for the Week Ending Dec. 19, 1981

| STATES AND STATIONS | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | | |
|---------------------------|--------------------|--------------------|-----------------|----------------|---------|--------------------------|----------------------|--------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------|----------------------------|--------------|----------------|-------------|----|---------------------|---------------------|
| | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE Nov. 29 | PCT. NORMAL SINCE Nov. 29 | TOTAL, IN., SINCE Jan. 1 | PCT. NORMAL SINCE Jan. 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | TEMPERATURE | | PRECIPITATION | |
| | | | | | | | | | | | | | | | | | | °F | °F | .01 INCH OR MORE | .50 INCH OR MORE |
| LAKE CHARLES | 56 | 37 | 68 | 25 | 46 | -8 | .4 | .9 | .4 | 1.2 | 30 | 48.6 | 91 | 92 | 54 | 0 | 2 | 3 | 0 | | |
| NEW ORLEANS | 58 | 38 | 77 | 27 | 48 | -7 | 1.8 | .6 | .8 | 2.8 | 78 | 52.0 | 95 | 90 | 59 | 0 | 2 | 4 | 3 | | |
| SHREVEPORT | 49 | 30 | 63 | 19 | 40 | -9 | .6 | .4 | .4 | 1.6 | 57 | 41.2 | 95 | 94 | 53 | 0 | 4 | 3 | 0 | | |
| ME CARIBOU | 29 | 17 | 35 | 7 | 23 | 7 | 1.2 | .6 | .7 | 2.9 | 153 | 45.9 | 92 | 84 | 67 | 0 | 7 | 4 | 1 | | |
| PORTLAND | 34 | 23 | 38 | 15 | 28 | 3 | 1.5 | .6 | .9 | 3.4 | 113 | 45.5 | 114 | 83 | 53 | 0 | 7 | 4 | 1 | | |
| MD BALTIMORE | 36 | 23 | 41 | 16 | 29 | -5 | 2.0 | .2 | 1.1 | 2.8 | 117 | 30.8 | 79 | 85 | 55 | 0 | 6 | 3 | 2 | | |
| MA BOSTON | 35 | 27 | 38 | 19 | 31 | -2 | 2.1 | 1.1 | 1.5 | 5.6 | 187 | 35.1 | 86 | 90 | 58 | 0 | 5 | 5 | 1 | | |
| CHATHAM | 42 | 29 | 54 | 21 | 36 | -1 | 3.2 | .7 | 2.7 | 7.4 | -- | 45.4 | -- | 87 | 64 | 0 | 6 | 5 | 1 | | |
| MI ALPENA | 27 | 17 | 36 | 9 | 22 | -1 | .1 | .4 | T | .4 | 27 | 20.6 | 75 | 91 | 68 | 0 | 7 | 2 | 0 | | |
| DETROIT | 30 | 19 | 35 | 5 | 25 | -4 | .1 | .4 | T | .5 | 33 | 31.7 | 102 | 89 | 61 | 0 | 7 | 2 | 0 | | |
| FLINT | 27 | 15 | 32 | -2 | 21 | -5 | .2 | .2 | .1 | .6 | 46 | 33.7 | 115 | 94 | 76 | 0 | 7 | 3 | 0 | | |
| GRAND RAPIDS | 30 | 18 | 34 | 9 | 24 | -3 | .1 | .4 | T | .5 | 31 | 44.5 | 139 | 82 | 63 | 0 | 7 | 5 | 0 | | |
| HOUGHTON LAKE | 27 | 16 | 33 | 5 | 22 | -1 | T | .4 | T | .2 | 14 | 29.6 | 104 | 87 | 62 | 0 | 7 | 2 | 0 | | |
| LANSING | 28 | 16 | 34 | 3 | 22 | -5 | .1 | .4 | .1 | .2 | 14 | 30.8 | 104 | 94 | 76 | 0 | 7 | 2 | 0 | | |
| MARQUETTE | 22 | 7 | 35 | -9 | 15 | -3 | 2.2 | 1.7 | .8 | 3.4 | 200 | 33.6 | 94 | 98 | 73 | 0 | 7 | 5 | 3 | | |
| MUSKEGON | 30 | 20 | 37 | 5 | 25 | -3 | .4 | .2 | .2 | 1.1 | 61 | 32.0 | 103 | 86 | 59 | 0 | 7 | 5 | 0 | | |
| MN SAULT STE. MARIE | 24 | 11 | 34 | -4 | 17 | -3 | .4 | .1 | .4 | 1.3 | 72 | 27.5 | 87 | 87 | 61 | 0 | 7 | 4 | 0 | | |
| DULUTH | 15 | -1 | 30 | -7 | 7 | -7 | T | .3 | T | .1 | 11 | 27.3 | 92 | 80 | 58 | 0 | 7 | 0 | 0 | | |
| INT'L FALLS | 10 | -4 | 20 | -15 | 3 | -5 | T | .2 | T | .4 | 50 | 21.8 | 85 | 91 | 68 | 0 | 7 | 1 | 0 | | |
| MINNEAPOLIS | 14 | 0 | 33 | -11 | 7 | -11 | T | .1 | .1 | .5 | 83 | 26.9 | 104 | 87 | 58 | 0 | 7 | 2 | 0 | | |
| ROCHESTER | 13 | -2 | 31 | -12 | 6 | -13 | .1 | .1 | .1 | .5 | 83 | 32.7 | 119 | 90 | 71 | 0 | 7 | 1 | 0 | | |
| MS SAINT CLOUD | 11 | -4 | 30 | -15 | 3 | -13 | .1 | .1 | .1 | .4 | 67 | 24.7 | 92 | 80 | 67 | 0 | 7 | 1 | 0 | | |
| JACKSON | 49 | 32 | 61 | 15 | 40 | -9 | 1.3 | .1 | .7 | 3.7 | 106 | 44.5 | 93 | 91 | 57 | 0 | 3 | 2 | 2 | | |
| MO MERIDIAN | 50 | 32 | 60 | 16 | 41 | -6 | 2.0 | .6 | 1.4 | 4.4 | 113 | 41.0 | 82 | 83 | 50 | 0 | 3 | 4 | 2 | | |
| KANSAS CITY | 28 | 15 | 40 | -3 | 21 | -11 | .3 | .1 | .3 | 1.3 | 108 | 47.9 | 128 | 82 | 58 | 0 | 6 | 2 | 0 | | |
| SAINT LOUIS | 25 | 10 | 41 | -13 | 18 | -13 | .4 | 0 | .3 | 1.8 | 164 | 42.2 | 115 | 83 | 57 | 0 | 6 | 2 | 0 | | |
| SPRINGFIELD | 29 | 15 | 40 | -2 | 22 | -12 | .5 | 0 | .4 | 1.5 | 100 | 44.1 | 126 | 93 | 58 | 0 | 7 | 2 | 0 | | |
| MT BILLINGS | 35 | 20 | 49 | 5 | 28 | -8 | .2 | .4 | .1 | 1.7 | 100 | 42.4 | 108 | 92 | 56 | 0 | 5 | 3 | 0 | | |
| GLASGOW | 33 | 16 | 48 | 7 | 24 | -2 | .2 | .1 | .1 | .2 | 50 | 15.8 | 113 | 88 | 58 | 0 | 7 | 2 | 0 | | |
| GREAT FALLS | 18 | 3 | 30 | -5 | 10 | -7 | .1 | 0 | .1 | .1 | 33 | 8.7 | 78 | 81 | 56 | 0 | 7 | 1 | 0 | | |
| HAVRE | 34 | 15 | 55 | 5 | 24 | -3 | .3 | .1 | .2 | .3 | 60 | 14.3 | 97 | 87 | 56 | 0 | 6 | 4 | 0 | | |
| HELENA | 19 | 1 | 39 | -6 | 10 | -8 | T | 0 | T | 0 | 0 | 9.5 | 83 | 97 | 68 | 0 | 7 | 1 | 0 | | |
| KALISPELL | 30 | 13 | 42 | 2 | 22 | -2 | .2 | .1 | .2 | .2 | 67 | 13.6 | 127 | 84 | 62 | 0 | 7 | 3 | 0 | | |
| MILES CITY | 27 | 12 | 35 | 3 | 20 | -4 | .6 | .2 | .2 | 1.4 | 127 | 18.2 | 110 | 95 | 77 | 0 | 7 | 5 | 0 | | |
| MISSOULA | 22 | 9 | 30 | -5 | 16 | -6 | .1 | 0 | .1 | .1 | 33 | 10.6 | 78 | 99 | 63 | 0 | 7 | 1 | 0 | | |
| NE GRAND ISLAND | 28 | 13 | 39 | 2 | 21 | -4 | .5 | .3 | .2 | 1.5 | 250 | 16.8 | 130 | 98 | 79 | 0 | 7 | 5 | 0 | | |
| LINCOLN | 21 | 6 | 38 | -16 | 13 | -14 | .6 | .4 | .5 | 2.5 | 625 | 23.6 | 102 | 86 | 68 | 0 | 7 | 2 | 1 | | |
| NORFOLK | 20 | 3 | 36 | -18 | 11 | -13 | .4 | .3 | .2 | 1.9 | 475 | 21.4 | 92 | 85 | 65 | 0 | 6 | 2 | 1 | | |
| NORTH PLATTE | 27 | 13 | 37 | 2 | 20 | -7 | .2 | .1 | .1 | 1.4 | 467 | 23.7 | 120 | 96 | 77 | 0 | 7 | 3 | 0 | | |
| OMAHA | 19 | 5 | 36 | -15 | 12 | -14 | .3 | .1 | .2 | 2.1 | 350 | 28.6 | 97 | 81 | 62 | 0 | 7 | 4 | 0 | | |
| VALENTINE | 23 | 4 | 34 | -11 | 13 | -11 | .5 | .5 | .4 | 1.2 | 1200 | 18.6 | 105 | 92 | 75 | 0 | 7 | 4 | 0 | | |
| NV ELY | 48 | 22 | 54 | 8 | 35 | 9 | .1 | .1 | T | .1 | 17 | 10.2 | 136 | 84 | 37 | 0 | 7 | 3 | 0 | | |
| LAS VEGAS | 62 | 38 | 69 | 33 | 50 | 5 | .5 | .2 | .4 | .5 | 71 | 6.1 | 88 | 90 | 50 | 0 | 4 | 1 | 0 | | |
| RENO | 52 | 30 | 59 | 18 | 41 | 8 | .4 | .2 | .1 | .5 | 83 | 7.4 | 90 | 91 | 54 | 0 | 5 | 4 | 0 | | |
| WINNEMUCCA | 48 | 29 | 55 | 18 | 39 | 8 | .5 | .2 | .4 | .5 | 71 | 6.1 | 88 | 90 | 50 | 0 | 4 | 1 | 0 | | |
| NH CONCORD | 31 | 16 | 36 | -6 | 23 | -1 | 1.5 | .8 | .7 | 3.3 | 138 | 45.2 | 129 | 93 | 58 | 0 | 7 | 5 | 1 | | |
| NJ ATLANTIC CITY | 40 | 22 | 44 | 15 | 31 | -3 | 2.2 | 1.3 | 1.3 | 3.7 | 132 | -- | -- | 97 | 66 | 0 | 6 | 3 | 2 | | |
| TRENTON | 35 | 27 | 39 | 19 | 31 | -4 | 2.1 | 1.3 | 1.0 | 3.7 | 168 | 39.6 | 101 | 76 | 50 | 0 | 7 | 3 | 2 | | |
| NM ALBUQUERQUE | 53 | 26 | 57 | 20 | 39 | 4 | 0 | .1 | 0 | .2 | 67 | 7.7 | 100 | 66 | 23 | 0 | 6 | 0 | 0 | | |
| ROSWELL | 57 | 28 | 73 | 17 | 43 | 3 | .1 | 0 | .1 | .1 | 33 | 24.6 | 78 | 29 | 0 | 5 | 1 | 0 | | | |
| NY ALBANY | 29 | 20 | 35 | 3 | 24 | -1 | 1.5 | .8 | .7 | 2.6 | 124 | 29.6 | 91 | 89 | 63 | 0 | 7 | 6 | 1 | | |
| BINGHAMTON | 27 | 18 | 33 | 8 | 23 | -2 | .6 | .1 | .2 | 1.6 | 80 | 29.5 | 81 | 92 | 63 | 0 | 7 | 5 | 0 | | |
| BUFFALO | 30 | 21 | 36 | 10 | 26 | -2 | .2 | .5 | .1 | 1.5 | 68 | 35.1 | 100 | 94 | 65 | 0 | 7 | 2 | 0 | | |
| NEW YORK | 36 | 28 | 40 | 22 | 32 | -3 | 2.7 | 1.9 | 1.2 | 4.2 | 168 | 34.1 | 84 | 82 | 53 | 0 | 6 | 4 | 2 | | |
| ROCHESTER | 30 | 20 | 36 | 9 | 25 | -2 | .5 | 0 | .3 | 1.7 | 100 | 34.3 | 112 | 94 | 75 | 0 | 7 | 3 | 0 | | |
| SYRACUSE | 30 | 21 | 35 | 5 | 26 | -2 | .6 | .2 | .4 | 2.0 | 87 | 34.4 | 97 | 93 | 70 | 0 | 7 | 5 | 0 | | |
| NC ASHEVILLE | 40 | 23 | 50 | 12 | 32 | -7 | 1.1 | .3 | .7 | 2.2 | 92 | 31.5 | 71 | 95 | 63 | 0 | 6 | 2 | 1 | | |
| CHARLOTTE | 44 | 28 | 50 | 17 | 36 | -6 | 2.1 | 1.3 | 1.2 | 3.2 | 139 | 34.6 | 83 | 88 | 51 | 0 | 5 | 2 | 2 | | |
| GREENSBORO | 42 | 26 | 48 | 17 | 34 | -5 | 2.2 | 1.5 | 1.4 | 2.7 | 129 | 38.3 | 96 | 86 | 49 | 0 | 6 | 2 | 2 | | |
| HATTERAS | 52 | 32 | 61 | 27 | 42 | -5 | 2.1 | 1.1 | 1.4 | 5.1 | 165 | 49.8 | 91 | 91 | 60 | 0 | 4 | 3 | 1 | | |
| RALEIGH | 45 | 27 | 55 | 21 | 36 | -4 | 2.3 | 1.6 | 1.6 | 2.6 | 124 | 34.1 | 82 | 85 | 46 | 0 | 6 | 3 | 1 | | |
| WILMINGTON | 54 | 31 | 65 | 22 | 43 | -4 | 2.4 | 1.6 | 2.0 | 3.2 | 133 | 41.7 | 79 | 89 | 51 | 0 | 4 | 3 | 1 | | |
| ND BISMARCK | 13 | -5 | 27 | -15 | 4 | -12 | .1 | 0 | T | .3 | 75 | 14.2 | 89 | 91 | 67 | 0 | 7 | 3 | 0 | | |
| FARGO | 3 | -14 | 11 | -20 | -6 | -18 | T | .1 | T | .4 | 133 | 17.4 | 89 | 79 | 64 | 0 | 7 | 0 | 0 | | |
| WILLISTON | 17 | 1 | 25 | -7 | 9 | -6 | T | .1 | T | .1 | 33 | 11.0 | 79 | 91 | 68 | 0 | 7 | 0 | 0 | | |
| OH AKRON-CANTON | 29 | 23 | 35 | 14 | 26 | -3 | .4 | .1 | .3 | 1.7 | 100 | 39.4 | 114 | 78 | 57 | 0 | 7 | 3 | 0 | | |
| CINCINNATI | 29 | 13 | 40 | -6 | 21 | -12 | .4 | .2 | .4 | 1.6 | 84 | 33.4 | 88 | 92 | 66 | 0 | 7 | 2 | 0 | | |
| CLEVELAND | 30 | 24 | 34 | 15 | 27 | -3 | .6 | .1 | .3 | 1.8 | 106 | 37.6 | 108 | 75 | 54 | 0 | 7 | 4 | 0 | | |
| COLUMBUS | 30 | 21 | 36 | 12 | 25 | -5 | .3 | .2 | .2 | 1.0 | 63 | 36.0 | 100 | 93 | 68 | 0 | 7 | 3 | 0 | | |
| DAYTON | 30 | 18 | 38 | 0 | 24 | -7 | .3 | .2 | .3 | 1.1 | 69 | 41.2 | 123 | 94 | 71 | 0 | 7 | 2 | 0 | | |
| TOLEDO | 29 | 18 | 35 | 1 | 24 | -4 | .2 | .3 | .2 | .9 | 56 | 36.5 | 117 | 90 | 61 | 0 | 7 | 3 | 0 | | |
| YOUNGSTOWN | 28 | 21 | 33 | 14 | 25 | -4 | .2 | .4 | .2 | 1.6 | 84 | 33.9 | 92 | 90 | 66 | 0 | 7 | 2 | 0 | | |
| OK OKLAHOMA CITY | 41 | 24 | 49 | 12 | 32 | -8 | .1 | .2 | .1 | .6 | 67 | 38.7 | 123 | 89 | 57 | 0 | 6 | 1 | 0 | | |

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

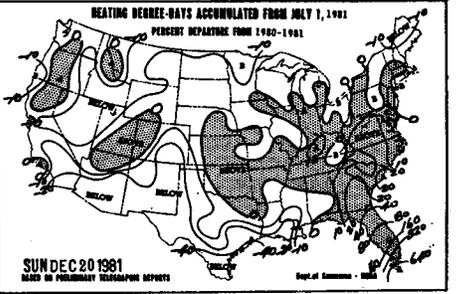
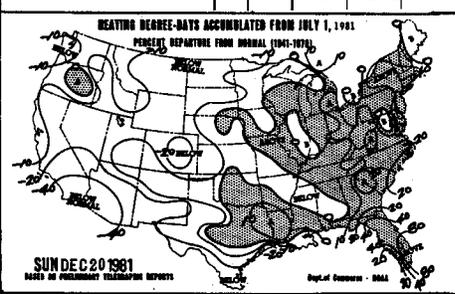
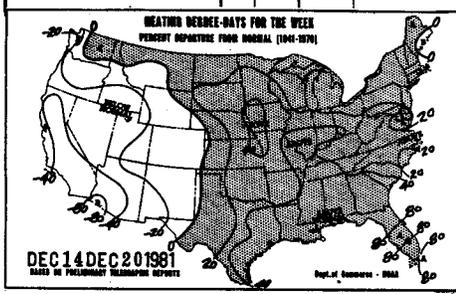
Weather Data for the Week Ending Dec. 19, 1981

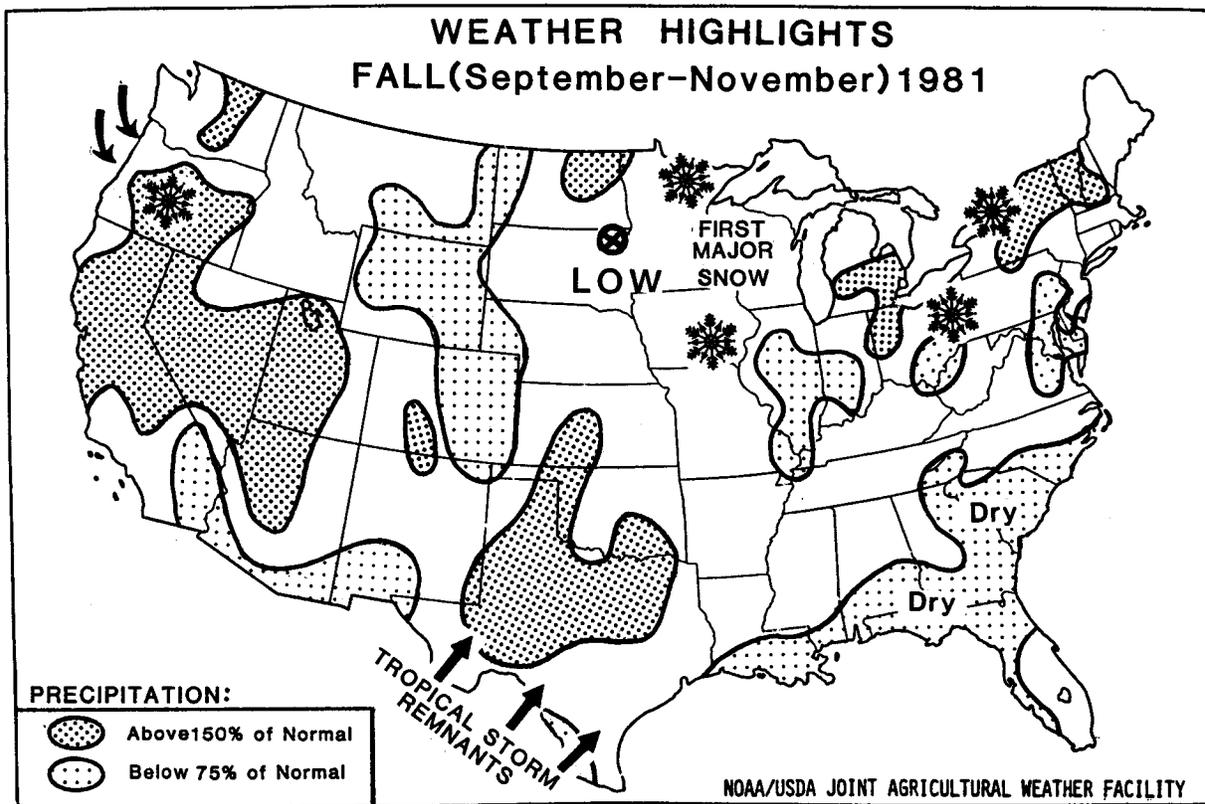
| STATES AND STATIONS | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | | |
|---------------------------|--------------------|--------------------|-----------------|----------------|---------|--------------------------|----------------------|--------------------------|-----------------------------|------------------------------|------------------------------|-----------------------------|-----------------------------|--------------------|--------------------|--------------|--------------|---------------------|---------------------|
| | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE Nov. 29 | PCT. NORMAL SINCE Nov. 29 | TOTAL, IN., SINCE Jan. 1 | PCT. NORMAL SINCE Jan. 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | TEMPERATURE | | PRECIPITATION | |
| | | | | | | | | | | | | | | | | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| OR TULSA | 38 | 25 | 51 | 12 | 32 | -8 | .1 | .2 | .1 | .9 | 75 | 37.0 | 101 | 91 | 64 | 0 | 4 | 1 | 0 |
| OR ASTORIA | 55 | 42 | 61 | 37 | 48 | 5 | 2.9 | .5 | .8 | 11.4 | 156 | 66.0 | 107 | 88 | 63 | 0 | 0 | 6 | 3 |
| OR BURNS | 38 | 28 | 41 | 19 | 33 | 5 | 1.7 | 1.3 | .6 | 1.9 | 158 | 13.6 | 120 | 69 | 64 | 0 | 6 | 5 | 1 |
| OR MEDFORD | 50 | 38 | 55 | 30 | 44 | 6 | 3.4 | 2.6 | 2.5 | 5.9 | 246 | 19.9 | 101 | 98 | 75 | 0 | 2 | 5 | 1 |
| OR PENDLETON | 42 | 29 | 57 | 27 | 36 | 0 | .7 | .4 | .3 | 1.6 | 145 | 14.6 | 118 | 95 | 72 | 0 | 7 | 4 | 0 |
| OR PORTLAND | 48 | 40 | 57 | 37 | 44 | 3 | 2.8 | 1.5 | .7 | 7.4 | 185 | 33.0 | 93 | 97 | 71 | 0 | 0 | 7 | 4 |
| OR SALEM | 52 | 38 | 58 | 31 | 45 | 4 | 3.2 | 1.7 | .9 | 7.5 | 167 | 38.8 | 101 | 92 | 72 | 0 | 1 | 6 | 3 |
| PA ALLENTOWN | 32 | 21 | 37 | 10 | 27 | -4 | 1.3 | .5 | .7 | 2.7 | 104 | 34.3 | 83 | 83 | 58 | 0 | 7 | 3 | 1 |
| PA ERIE | 32 | 25 | 37 | 15 | 28 | 0 | .4 | .3 | .3 | 1.4 | 67 | 40.7 | 110 | 79 | 53 | 0 | 7 | 4 | 0 |
| PA HARRISBURG | 33 | 22 | 40 | 15 | 28 | -5 | .9 | .2 | .6 | 1.8 | 82 | 34.3 | 96 | 85 | 58 | 0 | 7 | 4 | 1 |
| PA PHILADELPHIA | 36 | 24 | 39 | 18 | 30 | -4 | 2.5 | 1.7 | 1.4 | 4.0 | 167 | 36.8 | 95 | 89 | 59 | 0 | 7 | 4 | 2 |
| PA PITTSBURGH | 28 | 20 | 32 | 12 | 24 | -6 | .4 | .2 | .3 | 2.1 | 117 | 36.1 | 102 | 84 | 54 | 0 | 7 | 5 | 0 |
| PA SCRANTON | 29 | 18 | 34 | 7 | 24 | -5 | .8 | .2 | .4 | 1.8 | 95 | 35.3 | 103 | 84 | 61 | 0 | 7 | 4 | 0 |
| RI PROVIDENCE | 33 | 24 | 37 | 16 | 29 | -2 | 2.3 | 1.4 | 1.5 | 5.5 | 190 | 35.7 | 87 | 88 | 56 | 0 | 6 | 5 | 2 |
| SC CHARLESTON | 55 | 32 | 65 | 21 | 43 | -5 | 1.3 | .5 | .8 | 2.4 | 109 | 47.1 | 93 | 93 | 55 | 0 | 4 | 3 | 1 |
| SC COLUMBIA | 50 | 29 | 58 | 19 | 39 | -6 | 2.9 | 2.1 | 1.5 | 3.9 | 170 | 34.7 | 76 | 96 | 44 | 0 | 5 | 3 | 2 |
| SC GREENVILLE | 43 | 28 | 48 | 19 | 36 | -7 | 2.6 | 1.7 | 1.5 | 4.5 | 167 | 32.2 | 70 | 84 | 48 | 0 | 5 | 2 | 2 |
| SD ABERDEEN | 15 | -4 | 25 | -13 | 6 | -11 | -.1 | -.1 | -.1 | -.1 | -.1 | -.1 | -.1 | 80 | 57 | 0 | 7 | - | - |
| SD HURON | 14 | -8 | 33 | -19 | 3 | -16 | .3 | .2 | .2 | 1.3 | 433 | 15.7 | 81 | 86 | 65 | 0 | 7 | 4 | 0 |
| SD RAPID CITY | 24 | 9 | 36 | -9 | 17 | -10 | .3 | .2 | .3 | .3 | 100 | 14.4 | 82 | 90 | 64 | 0 | 7 | 1 | 0 |
| SD SIOUX FALLS | 14 | -9 | 33 | -22 | 3 | -17 | .2 | .1 | .2 | .7 | 140 | 17.9 | 73 | 80 | 59 | 0 | 7 | 3 | 0 |
| TN CHATTANOOGA | 41 | 26 | 50 | 14 | 34 | -7 | 1.3 | .1 | 1.1 | 3.6 | 103 | 43.3 | 88 | 84 | 53 | 0 | 5 | 4 | 1 |
| TN KNOXVILLE | 42 | 27 | 51 | 16 | 35 | -6 | 1.0 | 0 | .6 | 2.3 | 77 | 41.5 | 93 | 83 | 51 | 0 | 5 | 3 | 1 |
| TN MEMPHIS | 42 | 26 | 53 | 13 | 34 | -8 | .3 | .7 | .3 | 1.5 | 50 | 38.0 | 80 | 87 | 51 | 0 | 5 | 3 | 0 |
| TN NASHVILLE | 41 | 23 | 50 | 8 | 32 | -8 | .6 | .4 | .3 | 2.3 | 79 | 39.9 | 89 | 82 | 50 | 0 | 6 | 3 | 0 |
| TX ABILENE | 55 | 33 | 73 | 19 | 44 | -2 | .3 | 0 | .1 | .7 | 100 | 27.7 | 117 | 84 | 48 | 0 | 2 | 2 | 0 |
| TX AMARILLO | 50 | 24 | 62 | 16 | 37 | -1 | T | .2 | T | .2 | 40 | 21.3 | 109 | 90 | 35 | 0 | 6 | 0 | 0 |
| TX AUSTIN | 57 | 36 | 73 | 26 | 46 | -6 | .1 | .5 | .1 | .3 | 18 | 45.9 | 143 | 84 | 52 | 0 | 2 | 1 | 0 |
| TX BEAUMONT | 56 | 38 | 72 | 26 | 47 | -7 | .3 | .9 | .2 | 1.1 | 32 | 47.5 | 89 | 91 | 56 | 0 | 2 | 2 | 0 |
| TX BROWNSVILLE | 73 | 47 | 85 | 36 | 60 | -3 | T | .3 | T | .7 | 78 | 30.2 | 121 | 91 | 53 | 0 | 0 | 2 | 0 |
| TX CORPUS CHRISTI | 62 | 41 | 76 | 33 | 52 | -7 | .3 | .1 | .3 | .9 | 82 | 43.9 | 156 | 95 | 59 | 0 | 0 | 1 | 0 |
| TX DEL RIO | 60 | 42 | 71 | 29 | 51 | -1 | .1 | .1 | .1 | .1 | 25 | 27.4 | 161 | 80 | 50 | 0 | 1 | 1 | 0 |
| TX EL PASO | 63 | 31 | 71 | 20 | 47 | 3 | .1 | .1 | .1 | .2 | 67 | 12.7 | 163 | 77 | 23 | 0 | 5 | 1 | 0 |
| TX FORT WORTH | 50 | 33 | 70 | 20 | 41 | -7 | .3 | .2 | .2 | .7 | 54 | 44.9 | 140 | 85 | 50 | 0 | 4 | 2 | 0 |
| TX GALVESTON | 58 | 44 | 70 | 37 | 51 | -6 | .3 | .6 | .1 | 1.2 | 46 | 34.8 | 85 | 89 | 65 | 0 | 0 | 2 | 0 |
| TX HOUSTON | 56 | 38 | 73 | 30 | 47 | -8 | 1.0 | .1 | .8 | 4.8 | 171 | 55.1 | 117 | 92 | 58 | 0 | 2 | 3 | 1 |
| TX LUBBOCK | 51 | 29 | 63 | 18 | 40 | -1 | .2 | .1 | .2 | .7 | 175 | 23.1 | 127 | 89 | 43 | 0 | 4 | 1 | 0 |
| TX MIDLAND | 60 | 28 | 74 | 14 | 44 | -1 | .1 | .1 | .1 | .1 | 25 | 17.5 | 132 | 79 | 30 | 0 | 5 | 1 | 0 |
| TX SAN ANGELO | 59 | 29 | 76 | 17 | 44 | -4 | T | .1 | T | 0 | 0 | 30.0 | 174 | 92 | 39 | 0 | 5 | 1 | 0 |
| TX SAN ANTONIO | 57 | 31 | 74 | 20 | 44 | -9 | .1 | .2 | .1 | .4 | 40 | 37.1 | 134 | 95 | 53 | 0 | 5 | 2 | 0 |
| TX VICTORIA | 59 | 38 | 75 | 27 | 48 | -8 | .1 | .3 | .1 | 1.0 | 71 | 44.7 | 133 | 93 | 52 | 0 | 2 | 2 | 0 |
| TX WACO | 52 | 33 | 71 | 22 | 42 | -7 | .5 | 0 | .5 | 1.0 | 67 | 33.8 | 110 | 90 | 57 | 0 | 4 | 2 | 0 |
| TX WICHITA FALLS | 48 | 28 | 61 | 17 | 38 | -6 | .3 | 0 | .3 | 1.0 | 111 | 31.5 | 115 | 89 | 55 | 0 | 5 | 2 | 0 |
| UT BLANDING | 42 | 26 | 47 | 19 | 34 | 4 | 0 | .3 | 0 | .1 | 11 | 12.0 | 105 | 77 | 49 | 0 | 7 | 0 | 0 |
| UT SALT LAKE CITY | 46 | 30 | 58 | 21 | 38 | 8 | .4 | .1 | .2 | .4 | 40 | 15.1 | 101 | 84 | 54 | 0 | 5 | 3 | 0 |
| VT BURLINGTON | 27 | 20 | 34 | 12 | 24 | 2 | .4 | .1 | .3 | 1.3 | 76 | 41.1 | 131 | 80 | 61 | 0 | 7 | 5 | 0 |
| VA BURLINGTON | 35 | 25 | 43 | 16 | 30 | -7 | 1.7 | 1.0 | 1.0 | 2.2 | 105 | 34.2 | 92 | 90 | 60 | 0 | 7 | 2 | 2 |
| VA NORFOLK | 48 | 28 | 59 | 25 | 38 | -4 | 2.2 | 1.5 | 1.6 | 3.1 | 148 | 38.5 | 88 | 82 | 49 | 0 | 6 | 3 | 1 |
| VA RICHMOND | 41 | 26 | 46 | 20 | 34 | -5 | 2.2 | 1.5 | 1.2 | 2.9 | 126 | 34.1 | 82 | 89 | 58 | 0 | 6 | 4 | 2 |
| VA ROANOKE | 37 | 23 | 43 | 16 | 30 | -7 | 1.4 | .7 | .8 | 2.0 | 95 | 29.6 | 78 | 84 | 53 | 0 | 7 | 2 | 2 |
| WA COLVILLE | 32 | 23 | 43 | 17 | 27 | 0 | .7 | .3 | .5 | 1.9 | 136 | 24.3 | 152 | 95 | 85 | 0 | 7 | 5 | 0 |
| WA OMAK | 34 | 22 | 47 | 12 | 28 | -1 | 1.3 | -.1 | .6 | 1.9 | -.1 | 13.6 | -.1 | -.1 | 0 | 7 | 4 | 1 | 0 |
| WA QUILAYUTE | 50 | 37 | 55 | 34 | 44 | 3 | 3.2 | .4 | 1.1 | 13.7 | 129 | 101.6 | 98 | 98 | 73 | 0 | 0 | 6 | 3 |
| WA SEATTLE-TACOMA | 49 | 41 | 51 | 37 | 45 | 5 | 2.3 | 1.0 | .9 | 4.5 | 113 | 34.5 | 94 | 87 | 51 | 0 | 0 | 6 | 2 |
| WA SPOKANE | 33 | 22 | 44 | 14 | 28 | -2 | .9 | .3 | .3 | 2.1 | 131 | 14.6 | 85 | 94 | 81 | 0 | 7 | 5 | 0 |
| WA WALLA-WALLA | 42 | 31 | 58 | 29 | 36 | 0 | .8 | .3 | .5 | 2.7 | 193 | 22.3 | 139 | 97 | 78 | 0 | 6 | 3 | 1 |
| WA YAKIMA | 35 | 20 | 45 | 10 | 28 | -4 | 1.8 | 1.5 | .8 | 2.1 | 263 | 8.6 | 116 | 91 | 70 | 0 | 7 | 5 | 1 |
| WV BECKLEY | 32 | 20 | 43 | 10 | 26 | -7 | .7 | 0 | .4 | 1.2 | 57 | 35.2 | 85 | 96 | 66 | 0 | 7 | 5 | 0 |
| WV CHARLESTON | 35 | 23 | 43 | 16 | 29 | -7 | 1.0 | .3 | .5 | 1.4 | 67 | 34.8 | 87 | 93 | 62 | 0 | 7 | 5 | 0 |
| WV HUNTINGTON | 34 | 23 | 42 | 13 | 28 | -7 | .9 | .2 | .5 | 1.2 | 55 | 36.4 | 96 | 80 | 58 | 0 | 7 | 4 | 1 |
| WV PARKERSBURG | 31 | 23 | 36 | 14 | 27 | -8 | .3 | .3 | .2 | .9 | 50 | 30.5 | 82 | 69 | 51 | 0 | 7 | 2 | 0 |
| WI GREEN BAY | 24 | 11 | 37 | 1 | 18 | -3 | .1 | .2 | .1 | .4 | 40 | 22.9 | 85 | 93 | 66 | 0 | 7 | 1 | 0 |
| WI LA CROSSE | 18 | 2 | 34 | -8 | 10 | -12 | .1 | .1 | .1 | .7 | 88 | 34.2 | 118 | 99 | 74 | 0 | 7 | 2 | 0 |
| WI MADISON | 23 | 8 | 35 | 0 | 16 | -6 | T | .3 | T | .5 | 56 | 31.7 | 106 | 92 | 58 | 0 | 7 | 1 | 0 |
| WI MILWAUKEE | 25 | 12 | 36 | 4 | 18 | -6 | .1 | .3 | .1 | .6 | 50 | 32.9 | 116 | 84 | 53 | 0 | 7 | 1 | 0 |
| WY CASPER | 36 | 12 | 46 | -1 | 24 | -2 | .2 | .1 | .2 | .2 | 67 | 10.9 | 102 | 86 | 54 | 0 | 6 | 1 | 0 |
| WY CHEYENNE | 39 | 17 | 46 | 5 | 28 | -1 | .2 | .1 | .2 | .3 | 75 | 16.4 | 112 | 86 | 46 | 0 | 7 | 2 | 0 |
| WY LANDER | 38 | 13 | 50 | 4 | 25 | 2 | T | .1 | T | 0 | 0 | 10.1 | 75 | 93 | 49 | 0 | 7 | 2 | 0 |
| WY SHERIDAN | 33 | 8 | 43 | 0 | 21 | -5 | .2 | .1 | .1 | .4 | 80 | 13.8 | 87 | 89 | 55 | 0 | 7 | 3 | 0 |
| PR SAN JUAN | 84 | 73 | 87 | 71 | 78 | 1 | 4.0 | 3.0 | 2.0 | 10.0 | 303 | 66.7 | 116 | 93 | 69 | 0 | 0 | 5 | 2 |

BASED ON PRELIMINARY REPORTS AND 1941-70 NORMALS

HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING DEC. 20, 1981.
BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JULY 1, 1981.

Table with columns for STATES AND STATIONS, WEEKLY ACCUMULATION, and SEASONAL ACCUMULATION. Rows list various states and cities with their respective heating degree day values.





Fall Weather Review

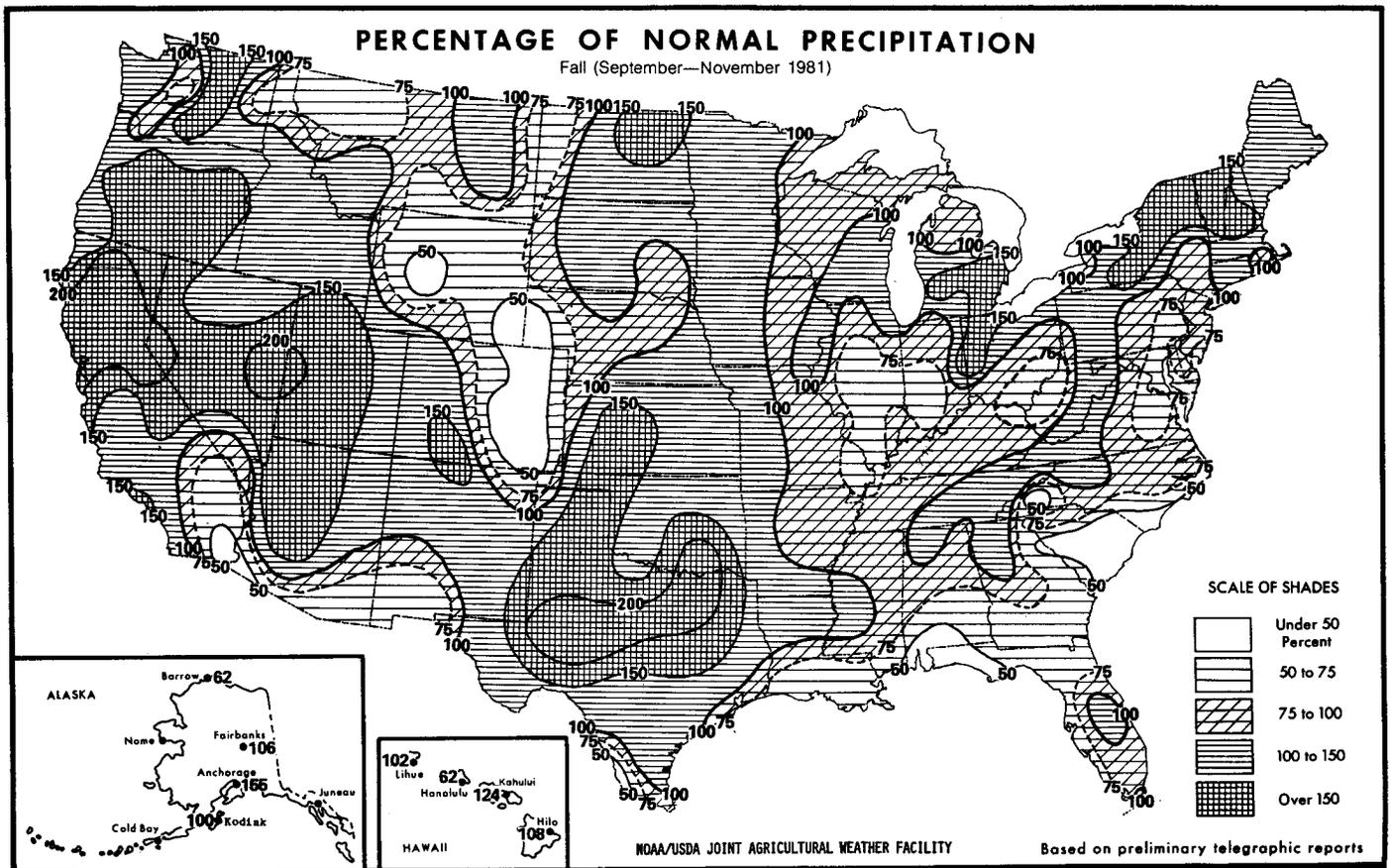
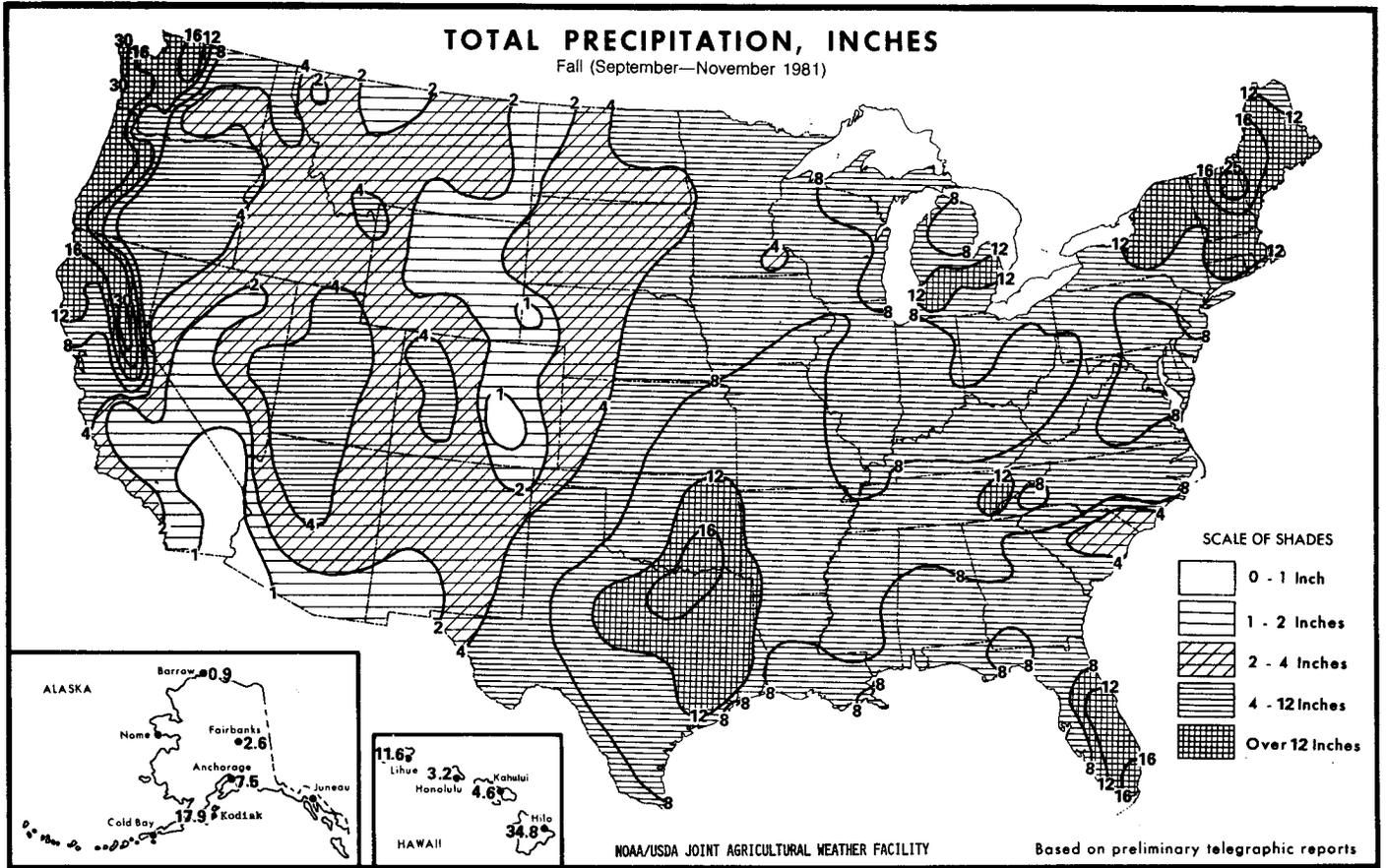
HIGHLIGHTS: An early beginning of seasonal rains in the West resulted in above-normal precipitation from the coast to the western slope of the Rockies. Snow pack in most of the mountain storage areas was well above normal. At midseason, the remnants of three tropical systems moved across Mexico and triggered heavy rain from Texas to Arkansas and Missouri. The seasonally persistent low pressure system in the Gulf of Alaska spawned storms that plagued the west coast with wind, rain, and snow. The season's first major snowstorm formed in the northern Plains during the latter part of the season and spread snow cover from the Great Lakes and Midwest to the central and northern Appalachians. Average temperatures were generally warmer than normal in the West and cooler in the East. Average temperatures for the season were 3 to 4° above normal in the northern Plains.

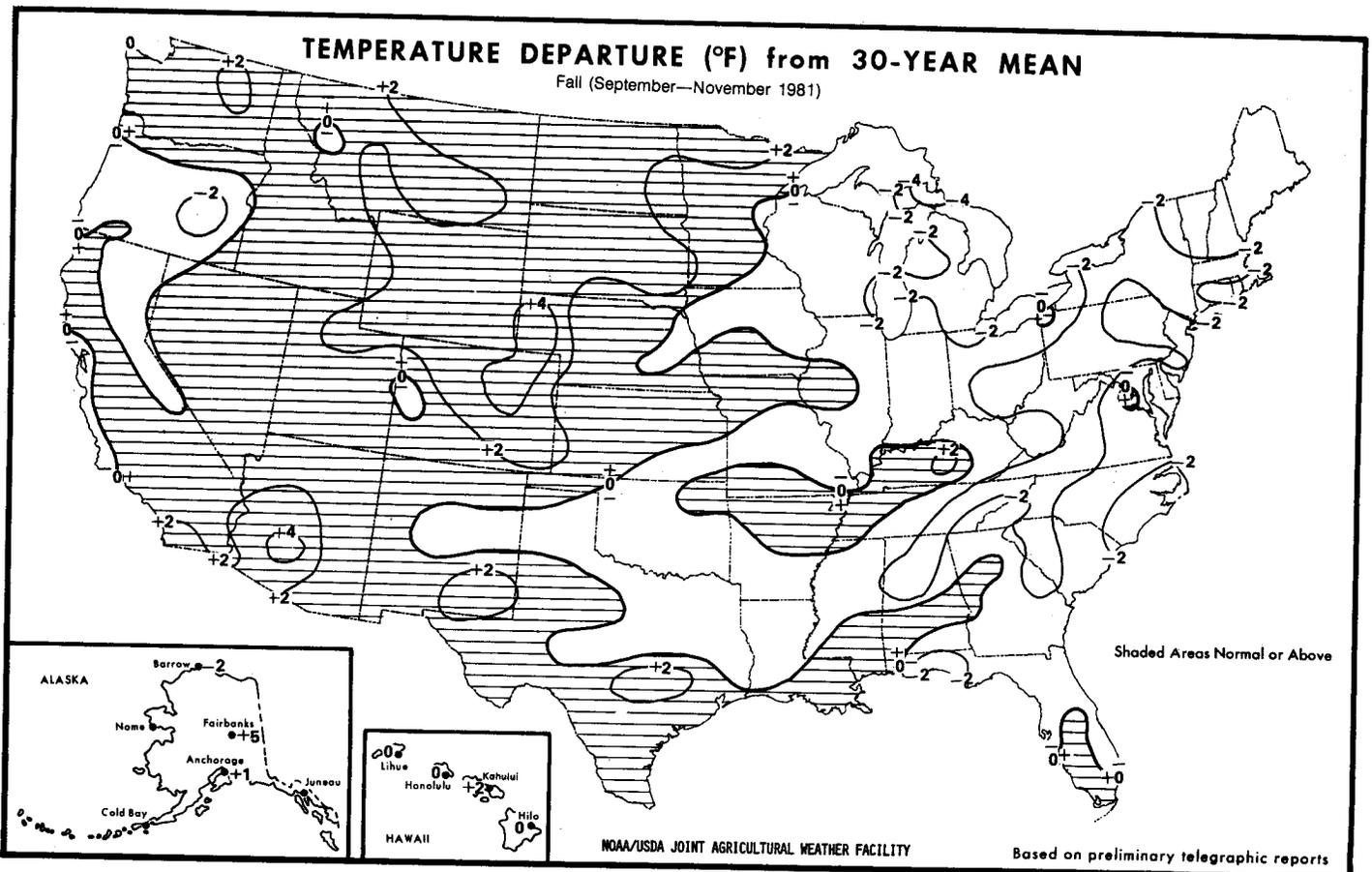
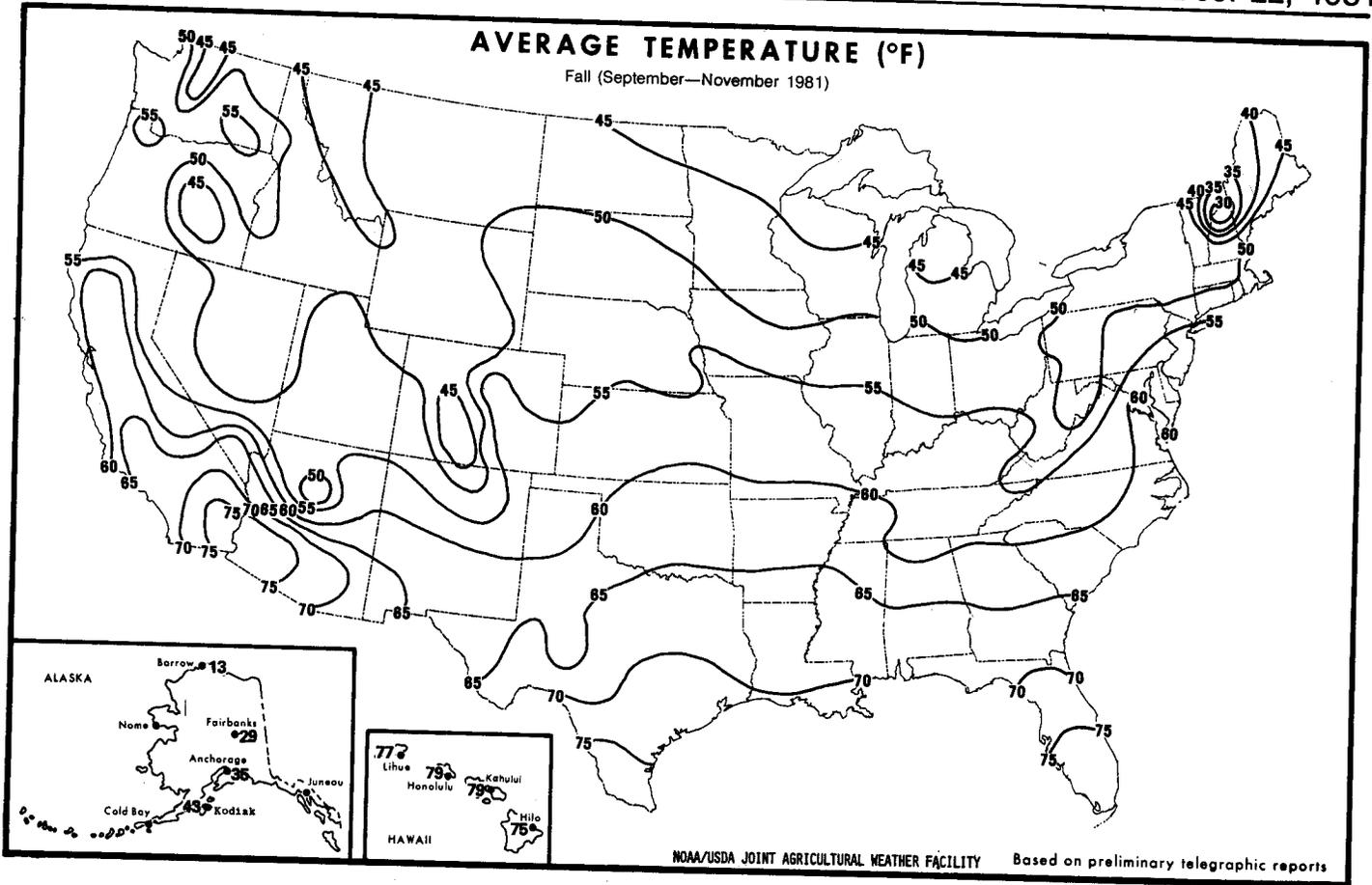
SEPTEMBER...A series of cool Canadian air masses pushed into the northern Plains and spread southward and eastward. Showers were triggered where the cooler air encountered moisture. Moisture from the Pacific Ocean across Mexico, and some from the Gulf of Mexico, accounted for good rains from the southern Rockies and High Plains of Texas into the central Plains. Much of the winter wheat areas of the central and southern Plains had adequate moisture to plant winter wheat. The extreme northern Plains, the Great Lakes region, the Northeast, and all of the Appalachian Mountain chain had above-normal rain. The area east of the Appalachians from New England southward remained drier than normal. Seasonal rains began in the Northwest and Southwest. The cool air from central Canada kept most of the East cooler than normal; the West was warmer than normal.

OCTOBER...The remnants of three tropical systems moved across Mexico and triggered heavy rains

through most of Texas and into Missouri. Some of the deluges, though mostly beneficial, washed out newly planted grains which had to be replanted. One storm moved eastward and spread moisture through the very dry southern States. Above-normal rain spread over the Appalachians and helped some drought areas but did not reach the east coast in normal amounts. The seasonal rain in the West extended into southern California and over the Plateau to the Rockies. Rain came to the Montana winter wheat region after seeding and should promote good germination. A hard freeze (28° or colder) moved southward to Kansas and then to Tennessee. Although average temperatures were colder than normal over much of the Nation, winter wheat made good progress, and stands showed fair to mostly good condition.

NOVEMBER...A large low pressure system in the Gulf of Alaska persisted all month and spawned storms that plagued the west coast with high winds, heavy rain, and snow in the mountains. After moving through the Rockies, the storms regenerated in the central Plains and triggered heavy rain from the Texas Panhandle to the northern Plains. The season's first major snow storm formed in the northern Plains and moved through the Great Lakes and Midwest to the central and northern Appalachians. A tropical storm east of Florida spread good rain over the Atlantic side of that State, but most of the east coast States had very little rain. Much of New England and western New York had about normal precipitation. Rain in the central Plains promoted germination and growth of winter wheat but persistent rainy days in the western Corn Belt slowed harvest of corn and soybeans. Lack of rain across the South hurt fall crops and worsened the dryness in much of the east coast States. Most of the Nation averaged warmer than normal temperatures--8 to 10° warmer in the northern Plains--but the east coast was a little cooler than normal.





National Agricultural Summary

December 14-20, 1981

HIGHLIGHTS: Freezing temperatures plunged into the southeastern region of the Nation setting many record low readings and causing varying amounts of damage to Florida's citrus and vegetable crops. Most of the citrus belt escaped serious freeze damage, although varying amounts of slush ice was found in a small percentage of the oranges in the southwestern interior of the State. The cold weather in some areas caused severe damage to tender vegetable crops, and supplies were expected to decline. Winter wheat was in good to excellent condition in Kansas and parts of the Corn Belt, and was in good condition elsewhere. Cotton harvest was virtually complete except in the southern Plains and the Southwest where some fields remained to be picked. Other row crop harvests were complete in nearly all areas. Pastures rated fair to good from Texas eastward. Livestock continued in good condition, and supplemental feeding became more widespread.

SMALL GRAINS: Winter wheat rated mostly good except in Kansas and parts of the Corn Belt where the crop was reported in good to excellent condition. Most northern growing areas had sufficient snow cover to prevent damage from winds. Wheat conditions in Montana were good despite little or no snow cover in major wheat areas. Cold weather in Kansas should stop the spread of leaf rust. Seeding was winding down on schedule in the Southeast. Texas wheat growth was slowed by freezing temperatures. However, the cold weather helped reduce damage from greenbugs and other insects. Leaf rust was becoming more severe. Late seeding of oats continued, but rain is needed for germination. Good moisture for small grains prevailed in California; application of herbicides remained active.

COTTON: The cotton harvest was virtually complete in all major producing areas except the southern Plains and the Southwest. Harvest reached 87% complete in Texas and 93% in Arizona and New Mexico. Picking was nearing completion in all areas of Arizona except Maricopa County where the second picking was well underway. The New Mexico harvest continued active though declining. Harvest progressed rapidly on the Plains in Texas under favorable weather conditions. Cotton was being stored in modules until ginned. Clean-up operations and stalk destruction activities remained active and made good progress in preparation for next year's crop.

OTHER CROPS: Completion of the corn harvest was hampered by snow and wet fields. A hard freeze was needed in some areas so equipment could be moved onto the fields. Combining of late-planted soybeans neared completion ahead of normal in the Southeast. The Georgia and North Carolina harvest reached 98 and 97%, respectively. Sugarcane harvest hit full swing in Florida and Louisiana. Arizona's sugarbeets developed better than average and were showing good growth. Potato growers in the major producing areas were busy grading and marketing this year's crop. Digging was active in the Riverside and Stockton areas of California. Tobacco auctions closed for the holidays. Growers were busy stripping and

preparing for market. The Texas peanut harvest neared completion before light rain halted fieldwork.

VEGETABLES: A late week cold front brought frost and freezing temperatures to some of Florida's vegetable growing areas; damage was particularly heavy in the Immokalee-Everglades areas. Tender crops such as cucumbers, squash, peppers, and tomatoes suffered severe damage in these areas; but light damage hit other areas. Supplies of these crops were expected to be reduced. Total vegetable shipments ranged only slightly below the previous week. Volume declined for cauliflower, sweet corn, cucumbers, okra, radishes, and tomatoes. The strawberry crop remained in excellent condition with a good fruit set. Harvesting was light but increasing in volume.

The lettuce harvest in California was active in the Palo Verde Valley. The volume of cutting remained light in other areas. The broccoli and cauliflower supplies remained light. Early rains affected the quality. The carrot harvest was light in the Desert areas, but active in the San Joaquin Valley and the central coast. Planting of lettuce, dry onions, and winter vegetables was active in Arizona. The lettuce harvest hit full swing in the Yuma area but wound down in other areas. Spinach, cabbage, and carrot development made good progress in the Texas Rio Grande Valley. The broccoli and cauliflower harvests remained active. Harvest was in full swing in the San Antonio-Winter Garden area. Spinach and carrot harvests increased. Conditions remain fair in the Trans-Pecos region where more moisture is needed. Growers were wrapping up the chili pepper harvest, while cabbage cutting remained active.

PASTURES AND LIVESTOCK: Pastures generally rated fair to good from Texas eastward, although cold weather slowed the growth of grasses. Small grain fields in Texas provided good grazing with significant movement of cattle onto fields. Supplemental feeding became more widespread. Livestock remained in generally good condition. Hay supplies continued good.

FRUITS AND NUTS: Florida's citrus trees were exposed to the coldest temperatures of the 1981-82 season this past weekend. Most of the citrus belt escaped serious freeze damage. The coldest readings were recorded on the morning of the 20th in a cold pocket in the southwestern interior of the State. Varying amounts of slush ice were found in oranges in these colder areas. Wind blew during most of the night and prevented any significant frost formation. The only evidence of tree damage was some leaf curl in the coldest locations.

California growers harvested an increasing amount of oranges in the San Joaquin Valley. However, avocado growers slowed harvests as they waited for better prices. The Navel orange harvest was 25 to 30% completed, ahead of last year's pace of 15% finished. Harvests of grapefruit and early oranges in the Rio Grande Valley of Texas were slowed, and shipments were light. Arizona growers made good progress with the lemon, grapefruit, Navel orange, and early tangerine harvests.

State Summaries of Weather and Agriculture

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

FLORIDA FRUIT CUTTING SURVEY

Results of a fruit cutting survey of oranges taken the morning of December 20 show that 92 percent of the oranges cut had no internal ice. The sample of 116 groves excluded areas north of Lake County, east of Highlands County and south of Hardee County. Sample fruit were cut on the cape and at depths of 1/4 inch, 1/2 inch and through the center of the fruit. Sample percentages are compared below with those for the same area sampled on the coldest January mornings of 1977 and 1981.

| Date | Orange Cutting Survey - Presence of Ice - Percent | | | | | |
|-------------------|---|---------|---------|--------|-------------|----------------|
| | Ice Not Observed | Slush | | | Hard Center | Total With Ice |
| | | 1/4 in. | 1/2 in. | Center | | |
| January 20, 1977 | 2 | 2 | 4 | 44 | 48 | 98 |
| January 13, 1981 | 10 | 3 | 2 | 36 | 49 | 90 |
| December 20, 1981 | 92 | 4 | 2 | 2 | -- | -- |

ALABAMA: Temperatures much below normal with all reporting temperatures in the teens and some stations reporting single digit lows. All stations received some rainfall, heaviest in east and south.

Fieldwork: 2.7 days. Soil moisture adequate. Activities: Fence repair, machinery maintenance, plowing, pecan harvest, soil testing, and lime spreading. Wheat seeded 99%. Plowing 25%. Conditions: Wheat fair to good; livestock, pastures fair.

ARIZONA: Mostly sunny skies, mild temperatures, no precipitation. Average temperatures mostly 2 to 10° above normal.

Cotton harvest full swing, 93% acreage picked at least once, 85% last year, 90% average. Harvest winding down all areas except Maricopa County where 2nd picking well underway. Sorghum harvest virtually complete. Alfalfa haying seasonally slow, new plantings establishing good stands. Sugarbeet development better than average rate, top, tap root growth very good. Land preparations, planting wheat and barley made very good progress, continued full swing. Later plantings all stages. Lettuce harvest continued full swing Yuma area, winding down central areas. Harvest mixed vegetables made good progress. Land preparation, planting lettuce and mixed vegetables, for late winter early spring active. Planting dry onions virtually complete, earliest plantings good stand, growing well. Picking lemons, grapefruit, navels, miscellaneous oranges, early variety tangerines active, very good progress. Ranges declined with cool, dry weather. Higher elevations fair to good. Mid-to-lower desert ranges poor to fair. Soil moisture, stock water short to adequate. Livestock fair to good.

ARKANSAS: Very cold week with some new record low temperatures. Precipitation was light and spotty but below normal. Highest temperatures 62°, lowest 43°. All departures near normal, ranged from -8 to -19°. Most rainfall 0.40 in., least zero.

Winter wheat mostly in good condition. Late planted fields have not germinated. Pastures below average, but cattle in good condition. Feed plentiful. Soil moisture short.

CALIFORNIA: Still warm and dry in the south, especially the southeast interior where weekly mean temperatures were as much as 10° above normal. Statewide mean temperatures generally above normal.

Precipitation confined to northern half with scattered light amounts early in the week. Heavy rain began along the North Coast late 18th and spread east into the northern Sierra Nevada. Some totals were in the 1.00 to 3.00 in. range.

Field activities stopped north due to heavy rains. Good moisture, small grains. Herbicide application active, grains and alfalfa fields. Cotton 97% harvested, 96% last year. Corn, milo nearing completion. Cultural activities in full swing in Central Valley, weather permitting. Avocado growers slowing harvest, waiting for better prices. Lemons increasing in San Joaquin Valley. Navels 25 to 30% done, 15% 1980. Broccoli harvest continues Central Coast and Desert. Supplies light with quality variable. Cauliflower supplies remain light, variable quality along Central Coast. Earlier rains affected broccoli, cauliflower quality. Carrot harvest continues San Joaquin and Central Coast. Harvest in Desert areas remains light quality good. Celery light supply, cutting active Central Coast, increasing South Coast. Lettuce active Palo Verde Valley, light in Imperial Valley. Lettuce from Imperial very variable in weight and quality. Potato digging active Riverside-Stockton. Potato movement from cellars active, Tulelake-Butte Valley. Market tomato harvest seasonally light along South Coast. Northern ranges making excellent development. Southern ranges greening up. Cattle, sheep making good gains on good to excellent feed conditions. Calving, lambing continue.

COLORADO: Temperatures averaged 4 to 6° above normal in the mountains and west and 1 to 3° above normal in the east. Precipitation amounts ranged from none in the San Luis Valley and the eastern Plains to light along the East Slope. A storm system early in the week dumped moderate snow in the central and northern mountains. The northern mountains received light to moderate snow again over the weekend.

FLORIDA: A period of welcomed rains, a warmup followed by a bitter cold, record breaking weekend. Rains fell most areas as fronts moved through, 15th and 18th. Rain mostly light and less than 0.50 in. except some 1.00 to 2.00 in. amounts, north. Temperatures fluctuated with the frontal passage but dipped sharply as the coldest air mass thus far this season settled in late on the 18th. The weekend was one of the coldest in the last 100 years. A hard freeze occurred with readings in the lower 20's as far south as the Everglades. Afternoon readings under strong, cold northerly winds averaged 20 to 25° below

normal. Long established temperature records were broken Statewide. Variable high cloudiness, winds helped some areas escape the long duration of the freeze; the air was too dry for frost formation. Temperatures averaged around 10° below normal.

Soil moisture short central, south; surface moisture generally adequate most of north, Panhandle. Harvest practically complete all field crops except sugarcane. Sugarcane harvest in full swing. Small grains growing slowly due to cold weather. Field activities limited by cold. Rains improved winter pasture prospects, especially in Panhandle; however, cold, drying conditions severely limited forage growth southward through lower central Peninsula. Cattle condition varies from poor to good, but mostly fair. Most citrus escaped freeze damage with help of wind and clouds; however, some slush ice found in citrus in southwest interior counties. Early-mid orange harvest very active last week. Mild days, cool nights prevailed most of week in vegetable areas. Rainfall mostly light, scattered showers. A late week cold front brought frost, freezing temperatures into the low 20's, some areas. Freeze damage to tender crops such as cucumbers, squash, peppers and tomatoes was severe some areas but light other areas. Supplies will be reduced. Winds light to moderate but gusty accompanying the front. Total vegetable shipments only slightly below previous week. Crops increasing were cabbage, carrots, celery, escarole, lettuce, parsley, peppers. Supplies about steady snap beans, Chinese cabbage, eggplant, squash. Volume declined cauliflower, sweet corn, cucumbers, okra, radishes, tomatoes. Strawberry crop excellent condition. Bloom, fruit set are good. Harvest light but increasing slightly.

GEORGIA: Wet and very cold. Temperatures averaged about 4 to 7° below normal. Rainfall averaged 0.50 to 1.00 in. coastal sections, extreme north and around 2.00 in. elsewhere. Even colder 19th and 20th, records for low temperatures broken numerous areas, no precipitation.

Soil moisture short to mostly adequate. Three days suitable for fieldwork. Completing small grain planting and late crop harvesting. Land preparation for spring planting underway. Cotton 98% harvested, 100% last year, 96% average. Soybeans 98% harvested, 96% last year, 94% average. Pecans fair to good, 89% gathered, 87% last year and 86% average. Wheat 96% planted, 94% last year and average. Rye 99% planted, 97% last year, 96% average. Other small grains 99% seeded, 96% last year and average. Pastures poor to fair. Cattle and hogs fair to good.

HAWAII: Weather generally favorable Island Chain, except for some heavy weekend rains Island of Oahu. Wet conditions curtailed farm operations. No serious crop damage reported. Winds were also stronger on Oahu affecting crop progress in exposed areas. Crop condition other Islands fair to good. Spray frequent to control insects and diseases. Vegetables: Supplies adequate. However, green onion and Manoa lettuce production down. Bananas: Supplies steady. Papayas: Light harvest expected. Pineapples: Harvesting down. Pickings sporadic. Sugar: Only few mills in operation. Pastures: Rains beneficial. Most pastures in fair to good condition.

IDAHO: Except for north, temperatures were above normal. Highs in the 50's. Lows ranged from -6° in Fairfield to 25° in Boise. Precipitation was well above average in most locations.

The weather was mild and final fieldwork was being finished up. Fences were repaired and a few

ranchers were starting to feed hay to their cattle to get them into condition for calving. Feed supplies were more than adequate. Potato marketing was active.

ILLINOIS: Temperatures 9 to 14° below normal, record lows set. Precipitation 0.05 to 0.65 in. over most of State, up to 8 in. snow in central districts and 1 to 2 in. snow northern districts.

Winter wheat 3% excellent, 84% good and 13% fair. Corn and soybean acreage 68% tilled, 75% last year, 66% average. Soil moisture 2% short, 90% adequate, 8% surplus. Pastures 60% good, 34% fair, 6% poor. Repairing and storing machinery, some grain hauling, livestock feeding, general farm chores.

INDIANA: Cold and snowy. Temperatures averaged much below normal reaching 11° below zero. Snow cover 4 to 12 in., heaviest near Lake Michigan.

Field activities continued into mid-week. Completion of corn harvest and preparation of land for spring planted crops were the main activity of farmers. Later in week weather conditions halted most fieldwork. Other activities: Snow removal, cutting firewood, storing equipment, caring for livestock, and usual chores.

IOWA: Unseasonably cold week with moderate-to-heavy precipitation south and light north and east central. Snow fell early week with heavy snow south the 16th. Subzero temperatures began the 16th but moderated on the weekend. Freezing rain and drizzle fell the night of 20th, 21st over the south while in the north snow and freezing rain fell. Temperatures averaged 10 to 15° below normal with lows to -20° at Spencer and Shenandoah the 19th.

KANSAS: Bitter cold Arctic air after 16th with record breaking subzero lows northeast. Average temperatures ranged 20 to 24° northeast and 27 to 30° elsewhere. These were 1 to 5° below normal west and 8 to 12° below normal central and east. Precipitation averaged 0.25 in. to over 0.50 in. northeast and traces or only few hundredths west and south.

Arrival of winter weather hampered efforts to clean up late harvest. Corn harvested 100%, last year 100%. Sorghum harvested 99%. Soybeans harvested 98%, last year 100%. Wheat condition good to excellent, cold weather should stop spread of leaf rust. Cattle on stubble receiving supplemental feed. Feed and roughage supplies adequate. Principal activities included fieldwork and bookkeeping. Days suitable fieldwork: 4.0.

KENTUCKY: Temperatures averaged more than 10° below normal, with coldest reading over weekend. Precipitation fell as snow on the 14th and rain on the 17th, averaging 0.50 to 1.00 in.

Farm activity minimal. Some stripping and marketing of tobacco. Burley market closed until January 4. About 70% estimated crop sold. Soil moisture levels low some areas. Fall seeded wheat does not look as good as year ago.

LOUISIANA: Rainfall generally spotty and light with greatest 24-hour total 1.07 in. Temperatures ranged from a low of 14° to a high of 77°.

Activities: Pecan and sugarcane harvest continued, feeding and caring for livestock, and routine chores.

MARYLAND AND DELAWARE: Temperatures averaged 4° below normal. Highs averaged in the upper 30's to mid 40's and lows averaged in the upper teens to mid 20's.

The greatest precipitation, at Cambridge, was 3.87 in. and the least was reported

at Hancock at 0.73 in. the remainder of the stations reporting averaged 1.85 in. of precipitation. Saturday and Sunday were clear and cold with high of 29° and low 15°.

MICHIGAN: Warm daytime temperatures and very low night time temperatures worked against each other. Statewide averages range from 2 to 5° below normal. Precipitation amounts were high in the western Upper Peninsula and near normal in the eastern Upper and northwest Lower. The remainder of the State received below normal amounts of precipitation. This continues the trend of a drier than normal month of December.

MINNESOTA: Temperatures averaged from 17° below normal southwest to 4° below normal northeast. Extremes were 33° at Waseca and -25° at Pipestone. Precipitation totaled less than 0.25 in. Snowfall generally less than 3 in. except 4 in. at Pipestone. Snow on ground at week's end ranged from less than 2 in. northwest to generally 2 to 4 in. elsewhere except 6 to 8 in. south central and north central.

MISSISSIPPI: Week began damp and cool. Mid-week was cool with little significant precipitation. A cold front moved through State resulting in a very cold weekend. Precipitation was light in north with amounts generally less than 0.50 in. The south had moderate amounts averaging 1.50 in. Low temperature for the weekend fell below freezing. University had the coldest reading with a low of 0° 19th.

Soil moisture short to adequate. Days suitable for fieldwork: 1.8. Hay and roughage and feed grain supplies adequate. Wheat condition fair to good. Pasture condition fair and livestock condition fair to good.

MISSOURI: Very cold weather brought temperatures 4 to 14° below normal. Snow fell in the northern two-thirds of state, while rain fell over the south.

MONTANA: Cooler temperatures noted over State. Coldest were north central and northeast where modified Arctic air held a firm grip. Temperatures averaged 7° below normal over these areas. Over southwest temperatures near normal. Highest 54° at Lewiston, lowest 22° below zero Wisdom. Moderate precipitation over most of State early in week with west, southwest and south central receiving heaviest amounts.

Moisture in form of rain and snow during first of week, followed by warm temperatures helped moisture supplies. Winter wheat condition relatively good despite little or no snowcover in major wheat areas. Mild winter and open grazing kept feed requirements for livestock below normal. Livestock condition good to excellent.

NEBRASKA: Cold week with temperatures 15 to 20° below normal over central and east. Panhandle and west near normal. Precipitation about 1.50 in. over north central and east. Southwest less than 0.10 in.

NEVADA: Light rain beginning of week north. Mostly sunny and mild middle of period. Heavy flow of moist air invaded end of week with heavy rainfall northwest. Temperatures averaged well above normal--particularly north. Extremes: 69 and 8°.

Warm weather easy on livestock. Grading and marketing potatoes.

NEW ENGLAND: Temperatures: Averaged near or a little below normal, with the coldest weather occurring over the weekend. Precipitation: Early week, dry; mid-week, 1.50 to 2.50 in. of

rainfall over southern New England; generally less than 1.00 in. of rainfall over northern New England. Light snow or flurries persisted over the north through the end of the week, adding another 0.50 in. of water equivalent.

NEW JERSEY: Temperatures 4 to 6° below normal, averaging 26° north, 31° south and 33° coastal. Extremes: 5° at Newton and 52° at Atlantic City and Cape May Court House. Precipitation well above normal averaging 2.08 in. north, 2.43 in. south and 2.06 in. coastal. Heaviest 24 hour total reported 1.57 in. at Long Valley. Snow fell on several days, with 6 to 12 in. reported from some northwestern counties.

Farmers caring for livestock and tending to other normal winter chores.

NEW MEXICO: Dry conditions prevailed with average temperatures from 2 to 5° above normal.

Soil moisture conditions short to adequate. Fall and winter moisture has been limited thus far from both rain and snowfall. Cotton harvest continued active, though declining, 93% harvested, compared to 82% last year and 85% historically. Wheat and barley fields in mostly good condition, however, some dryland fields in need of moisture. Grazing of fields continued active. Grain sorghum harvest nearing completion. Harvest of pecans active in most areas. Red chile harvest continuing. Ranges in fair to good condition but in need of moisture in most areas. Cattle and sheep in good condition. Supplemental feeding remains limited as grazing of wheat and barley fields increasing.

NEW YORK: Three storms dropped snow on eastern sections. One foot of snow on 15th at several locations from Catskills across the Hudson Valley. Only light snow in western areas. Several eastern stations had snowfall totals exceeding 20 in. Temperatures near or above seasonal levels early week, well below normal over weekend.

NORTH CAROLINA: Average temperatures 10° below normal. Precipitation 1.00 to 3.00 in. throughout the entire State.

Harvest: Cotton 98%, 1980 99%, 97% average; sorghum grain 100%, 1980 100%; soybeans 97%, 1980 94%, 89% average; corn for grain 100%, 1980 100%, 99% average. Plantings: Wheat 99%, 1980 98%, 99% average; oats 100%, 1980 99%; barley 100%, 1980 98%; rye 98%, 1980 97%. Major farm activities: Cutting firewood and repair farm equipment.

NORTH DAKOTA: Much colder weather prevailed during the week. Temperatures average 6 to 17° below normal. East central averaged the coldest with minus 4°, while the southwest was the warmest with an average temperature of 11°. Precipitation in the form of snow during the week and some freezing rain over the weekend averaged near 0.25 in. in the south west, slightly above normal. Precipitation in south central averaged near normal, remaining areas were relatively dry and averaged slightly below normal. Light snow cover over much of the State. Weather was cold but otherwise normal winter conditions prevailed, no blizzards. The colder weather improved grain and sugar beet storage conditions.

OHIO: Average high temperatures from 10 to 15° below normal. Lows as much as 10° below normal. Lows had fallen to below zero over most western sections by 21st. Snowfall toward weekend left 3 to 8 in. outside snow belt by 18th. Water equivalent still below normal. Snow protection kept cold from penetrating ground. Soil temperatures mid-30's.

Snow protected winter wheat.

OKLAHOMA: Temperatures averaged from 3° below normal Panhandle to 10° below normal central. There was no significant precipitation.

Wheat remains good condition but precipitation needed. Cotton harvest continuing. Cattle condition good with supplemental feeding.

OREGON: Temperatures ranged from 2 to 6° above normal for all parts of the State except the north central region, which averaged 1° below normal. Daytime highs ranged from 43 to 55°. Lows occurred in the extreme eastern sections, where temperatures of 13 to 17° were reported. Precipitation of 2.00 to 4.00 in. reported along the coast; stations east of the Cascades reported amounts from 0.60 to 1.40 in. Lighter amounts ranging from 0.20 to 0.80 in. were reported for the extreme eastern sections. Amounts of 1.90 to 3.80 in. fell through the Willamette Valley.

Soil moisture supplies surplus in west, adequate to surplus in east. Winter wheat condition fair to good in west, good in east. Excessive rains caused many fields in the Willamette Valley to lay underwater for four or five days. Some erosion damage throughout the State, especially in late-seeded wheat due to heavy rains and runoff from melted snow. Last of filberts harvested. Carrot and cabbage harvest continues. Livestock condition fair to mostly good. Range and pasture conditions fair to mostly good. Recent heavy rains softened pasture ground in west to the point of possible damage by grazing. Lambing begun.

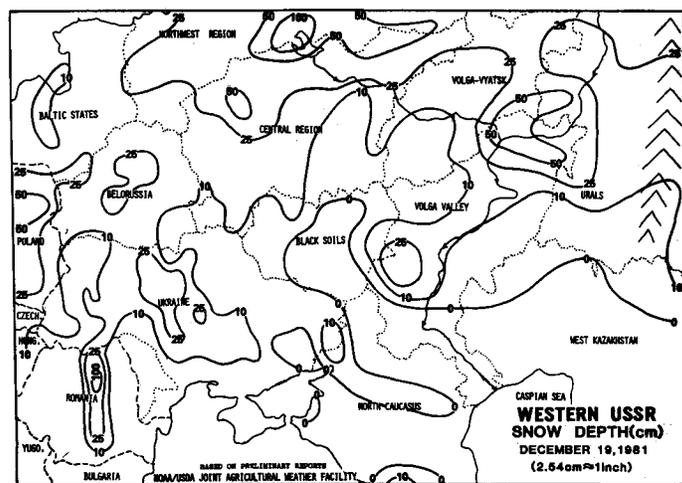
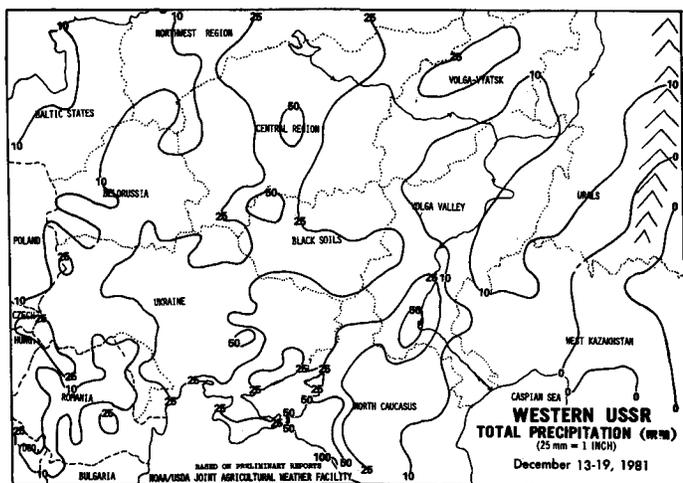
PENNSYLVANIA: Strong cold air advection through most of period produced coldest week since early February with temperatures averaging 4 to 10° below normal. Extremes 40° and minus 15°. First

(continued on page 19)

International Weather and Crop Summary

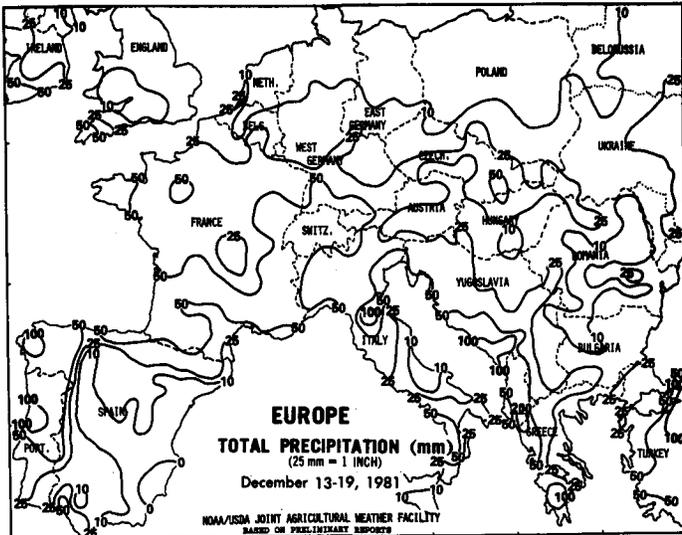
December 13-19, 1981

- WESTERN USSR:** Widespread precipitation continues; snow cover advancing southward.
- EUROPE:** Beneficial rains fall on some winter wheat areas in the Iberian Peninsula and northern Italy.
- MEXICO:** Seasonal weather favored most crops and livestock.
- NORTHWESTERN AFRICA:** Extremely beneficial rainfall allowed widespread winter grain sowing in northern Morocco.
- SOUTH AFRICA:** Continuing showers maintained favorable growing conditions.
- SOUTH AMERICA:** Showers beneficial for crop growth but slows wheat harvest.
- AUSTRALIA:** Dry weather aids grain harvest.
- EASTERN ASIA:** Light precipitation benefited winter grains in China and South Korea.
- SOUTH ASIA:** Some light rain improved conditions in southern winter grain areas of India.



WESTERN USSR: Widespread precipitation continued to fall on most of the region. Above-normal rainfall occurred in a band stretching from the central Ukraine northeastward into the Black Soils and northward into the Central Region. Crop areas along the Black Sea coast of the North Caucasus received the heaviest precipitation with some stations reporting amounts greater than 50 mm.

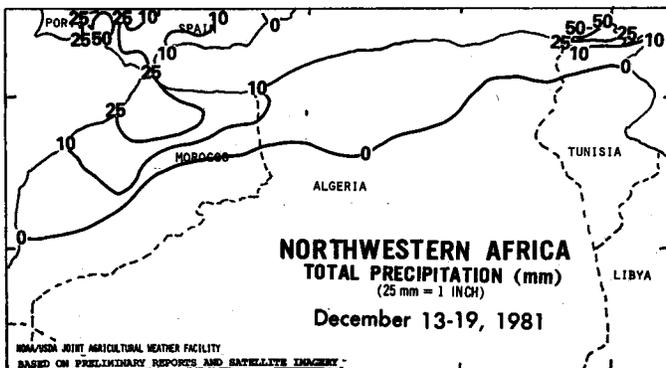
Other areas such as the Baltic States, Northwest Region, Volga-Vyatsk, western Urals, Volga Valley, and West Kazakhstan received lighter amounts of rainfall. In general, the precipitation fell as rain in the eastern Ukraine and the North Caucasus and as snow in the north and west, resulting in an increase in snow cover. Temperatures remained above normal in the east and below normal in the west.



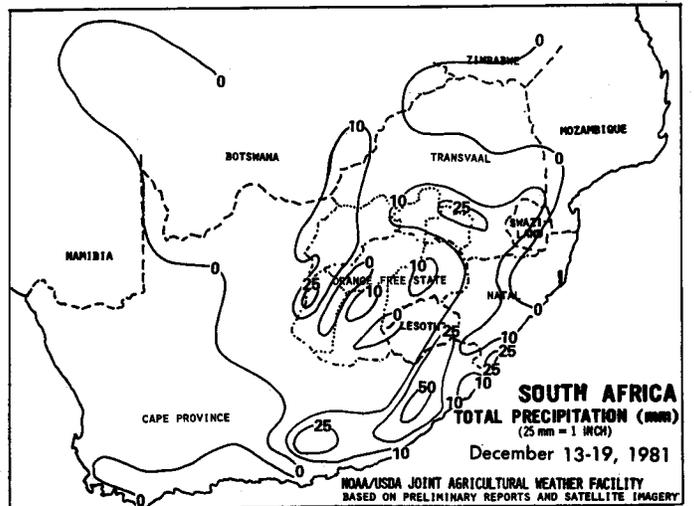
EUROPE: Beneficial precipitation fell on winter wheat areas of Portugal, northcentral and southwestern Spain, and northern Italy. Rainfall was heaviest in Portugal with lighter amounts from 10 to 25 mm occurring in Spain and Italy. The precipitation encouraged winter wheat planting in those areas of Portugal and Spain, and improved soil moisture for dormant winter wheat in northern Italy. Wet weather occurred in France and Yugoslavia with lighter amounts of rainfall reported in central Europe this week. Temperatures were generally below normal in all areas except those in close proximity to the Mediterranean Sea.



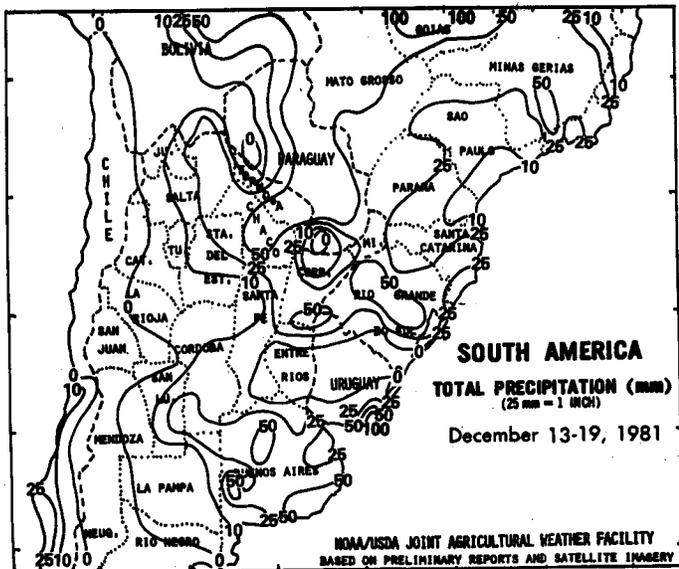
MEXICO: Near-seasonal weather prevailed over most principal agricultural areas, generally favoring crops and livestock. The west coast was slightly warmer than normal though with sunny warm days; high temperatures averaged in the low 30s(C). Tender vegetables progressed rapidly but it was probably too warm for wheat. Overnight lows of around 14°C were cool enough for fruit set of tomatoes in the Culiacan Valley. A few showers in the state of Veracruz maintained soil moisture in coffee and immature canefields.



NORTHWESTERN AFRICA: Beneficial precipitation spread over most crop areas of Morocco late in the week. Amounts of slightly more than 25 mm across the north should permit widespread winter grain sowing. Even if rains continue normally for the rest of the season, some potential yield declines can be expected because of late sowing. Precipitation of about 10 mm in the south may have permitted some sowing, but additional moisture is needed quickly for growth to continue. Only light precipitation fell in winter grain areas of Algeria and Tunisia. Western Algeria remains too dry for successful sowing, but soil moisture in Tunisia and eastern Algeria should be adequate for crop growth, despite temperatures ranging substantially above normal during the week.

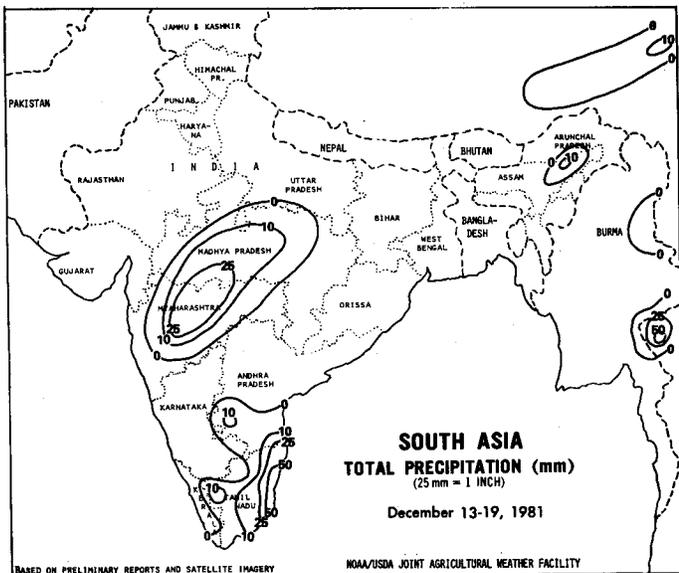
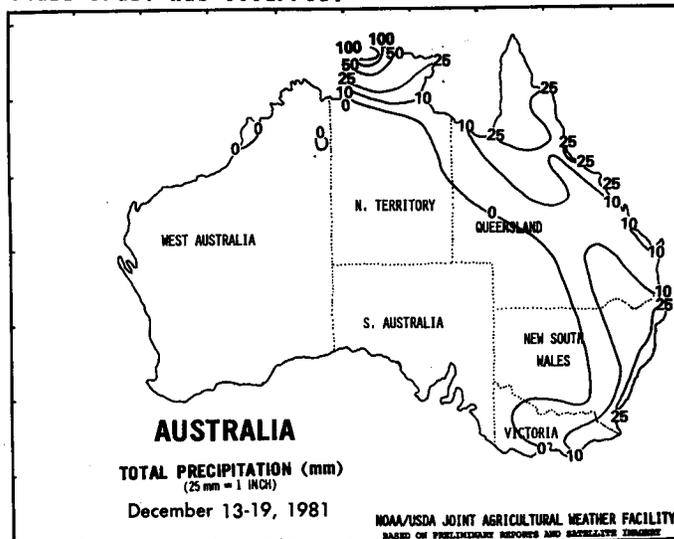


SOUTH AFRICA: Rainshowers persisted throughout the week in the Maize Triangle. Coverage was variable, with totals ranging from near zero to well above normal. This was good follow-up moisture after last week's generous rains. With corn planting essentially complete, conditions are quite favorable for early growth. Timely rains will be needed throughout the growing season, but crop prospects now appear good.



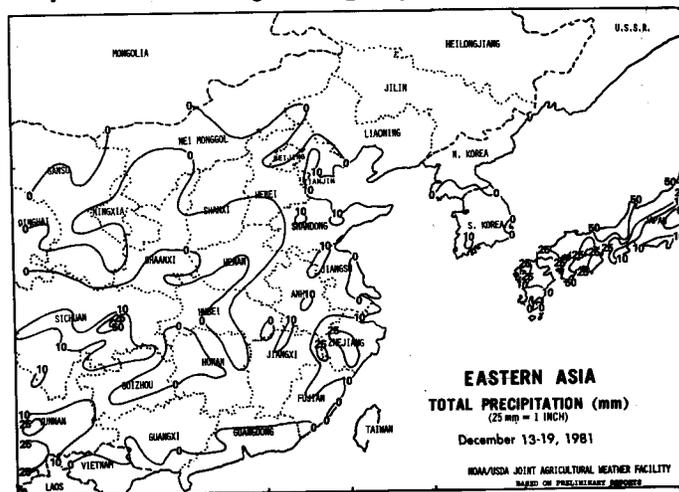
SOUTH AMERICA: Widespread showers occurred over nearly all crop areas. Locally heavy rain slowed the wheat harvest in Buenos Aires and delayed completion of the harvest in Rio Grande do Sul. In Argentina, the moisture benefited vegetative growth of corn, sorghum, sunflowers, and first-crop soybeans, which account for about 20 percent of Argentina's total soybean crop. The second crop is planted after the wheat harvest. The delayed corn crop should be entering the pollination period within the next few weeks. Showers aided cotton growth in northeastern Argentina. In Brazil, soybean plantings are nearly complete and soil moisture is adequate. Early-planted soybeans in Parana and Sao Paulo are in the flowering to pod-filling stages. The commercial citrus groves, centered primarily in Sao Paulo, rely on a good seasonal rainfall distribution. Beneficial rains in late October and November, following the prolonged drought, likely promoted substantial late blooms which should improve prospects for setting fruit. These rains also aided the recovery of coffee trees, although some reports indicate that dropping of small fruit has occurred.

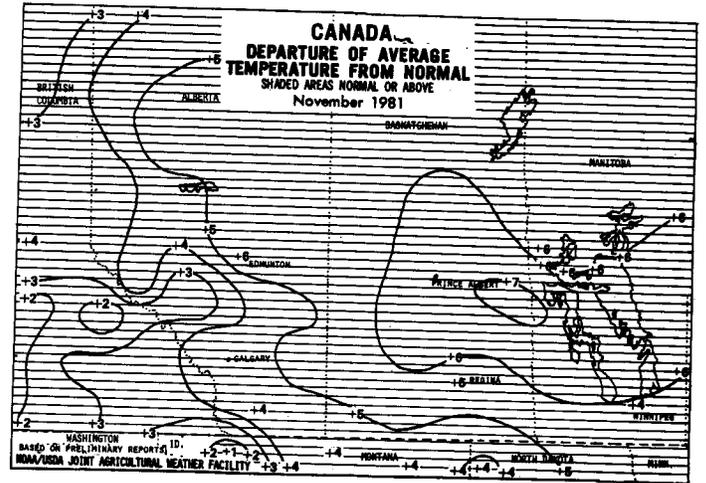
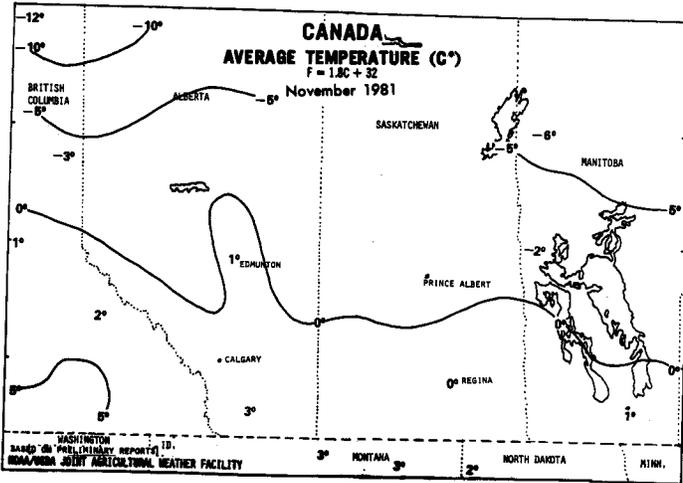
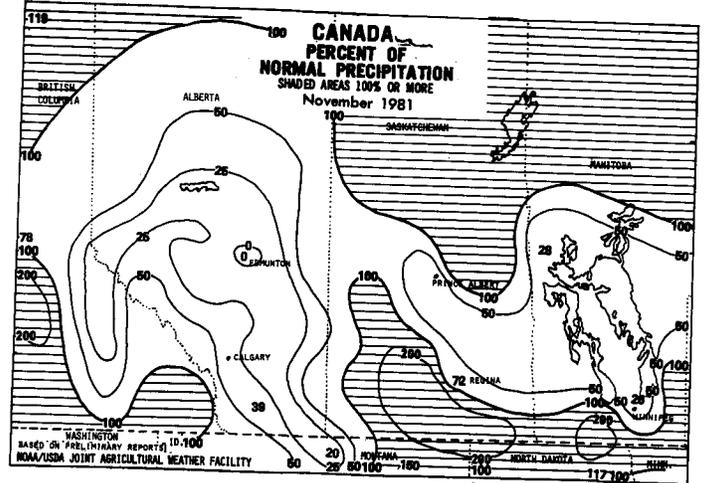
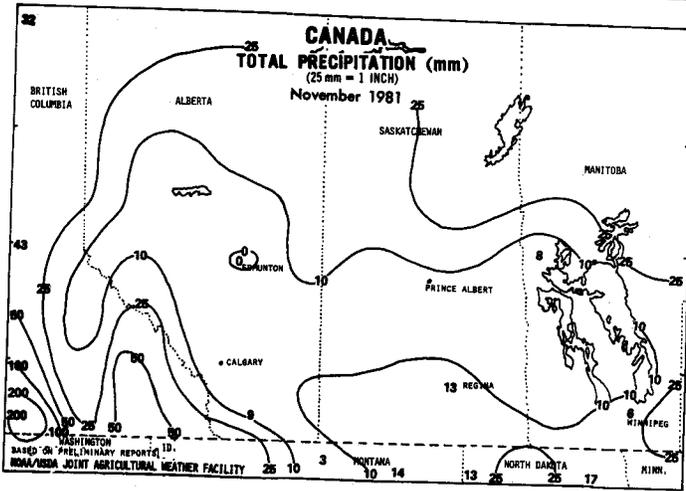
AUSTRALIA: Favorably dry weather aided the harvest of wheat, barley, and other grain crops throughout southern Australia. The recent dry weather should maintain relatively good quality levels of the maturing crops in southern areas and facilitate a rapid harvest pace. Showers were confined mostly to east coastal areas of Victoria, New South Wales, and Queensland. The moisture benefited Queensland's sugarcane crop grown along coastal areas. Locally heavy rain, associated with monsoon activity, fell on extreme northern portions of the Northern Territory and Queensland.



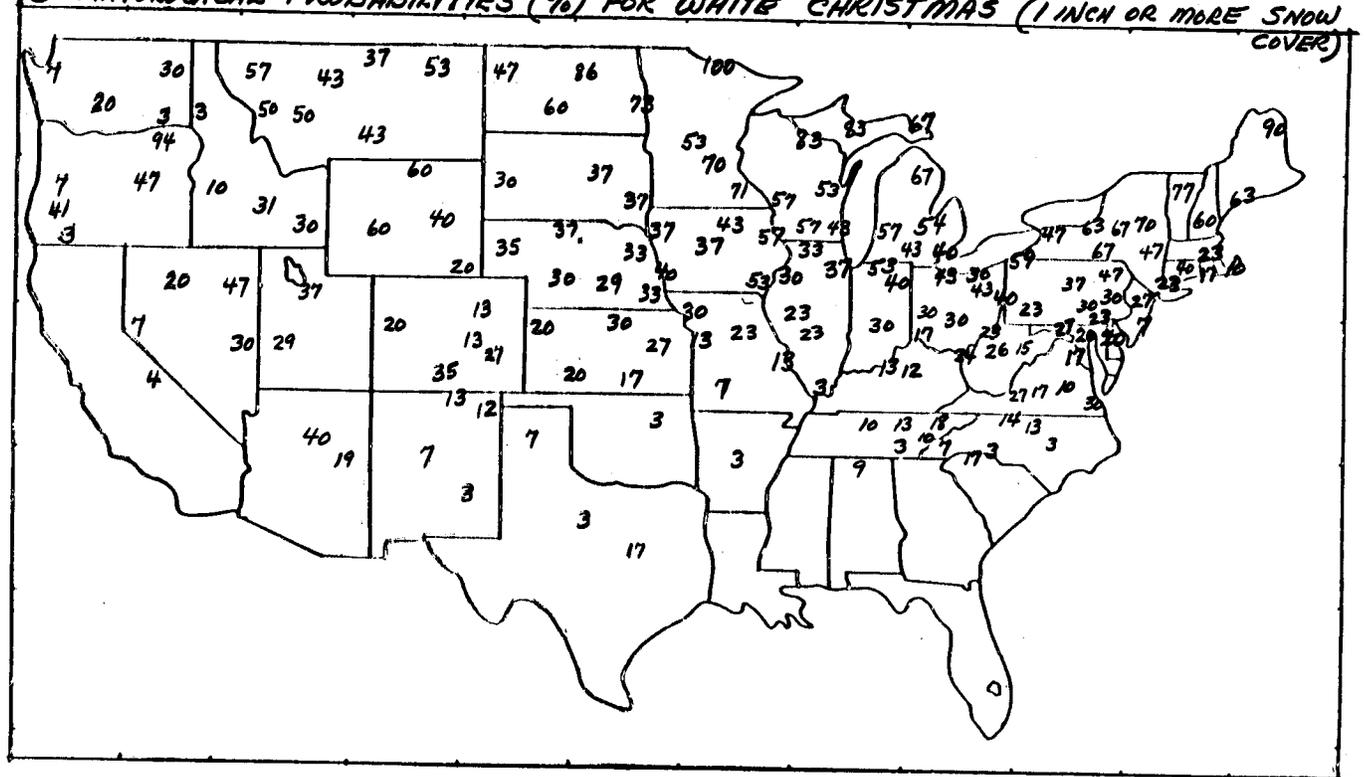
EASTERN ASIA: Two weak, westerly systems produced light precipitation over much of eastern China from Beijing southward to the hills south of the Yangtze River Valley. The precipitation maintained good moisture conditions in southern parts of the winter grain belt and improved conditions in the northern areas of Shandong and Hebei. The crop remained dormant over most of the area as temperatures stayed near normal, with averages of well below freezing in the north. In South Korea, light precipitation improved moisture conditions, but winter grains remained dormant. Temperatures averaged slightly below normal.

SOUTH ASIA: A weak, westerly storm moved across central India late in the week, dropping more than 10 mm of rain over parts of Madhya Pradesh and Maharashtra. The moisture improved growing conditions for unirrigated winter crops; little rainfall has occurred in that area since the end of October. Growing conditions remained favorable in northern crop areas as fair weather prevailed. Crops in peninsular India benefited from renewed northeast monsoonal rains, while rainless weather in Bangladesh and West Bengal allowed fields to dry somewhat, following last week's locally heavy rains. Temperatures over the region remained near normal.





CLIMATOLOGICAL PROBABILITIES (%) FOR WHITE CHRISTMAS (1 INCH OR MORE SNOW COVER)



(continued from page 15)

significant snowfall of season 14th and 15th when 4 to 10 in. accumulated over much of the Susquehanna Valley and Poconos followed by several more inches from second storm next day. Melted precipitation ranged from less than 0.50 in. northwestern half of State to 2.50 in. extreme southeast where mostly rain and freezing rain fell.

PUERTO RICO: Island average rainfall 6.32 in. or 5.32 in. above normal. Highest total 21.7 in. Temperatures averaged 78° on Coasts and 74° Interior Divisions. Extremes: 91 and 57°.

SOUTH CAROLINA: Temperatures averaged below normal. By the weekend, temperatures ranged from the sub-teens in the mountains and mid-teens to lower 20's elsewhere. Welcomed rains occurred during the first part of the week throughout the State. Rainfall amounts were well above normal.

Cotton harvest completed, except for final scrapping delayed by wet weather. Soybean harvest nearing completion. Pecan harvesting in its final stages. Tobacco bed preparation active. Farmers busy pruning fruit trees, caring for livestock, sampling and liming soil.

SOUTH DAKOTA: Extreme cold over entire State. Temperatures varied from 5 to 21° below normal. Extremes: 49 and -27°. Precipitation widespread. Largest amounts in west and south central. Up to 0.75 in. Total precipitation for the year above normal only in central and northwest.

TENNESSEE: A storm along the Gulf Coast caused precipitation ranging from less than 0.10 in. in the west to over 1.00 in. in the east during the first half of the week. High pressure during the latter part of the week caused very cold temperatures, about 10° below normal.

Tobacco marketing in full swing. Farm activities include caring for livestock, repair of machinery and general farm chores.

TEXAS: Crops: Coldest weather of season invaded State. Hard freeze killed most remaining summer, fall vegetation. Fieldwork continued. Cotton harvest progressed rapidly on Plains with mostly open weather with cotton being stored in modules until ginned. Clean-up operations and stalk destruction also progressed rapidly in preparation for next year's crop. Cold temperatures slowed growth of small grains. In some areas, moisture needed. Some late seeding oats has continued but rain needed for germination. Wheat growth slowed by freezing temperatures, however, cold temperatures should help reduce damage from greenbugs and other insects. Leaf rust also becoming more severe. Reported wheat condition Statewide 15% excellent; 61% good; 22% fair; 2% poor. Peanut harvest neared completion before light rain halted operations.

Weather: After partly cloudy skies, a strong cold front pushed southward across the State on 17th. Precipitation with this front scarce, though the Northern Panhandle did receive a dusting of snow. The front also produced a few light showers in East Texas. Fair, cold weather on 18th turned for the worse 19th and 20th as general cloudy skies and light drizzle occurred over the eastern two-thirds of State.

Range and livestock: Range, pastures remained in fair condition, although freezing temperatures, limited moisture slowed growth of grasses. Small grains providing good grazing, movement of cattle to grain fields steady. Supplemental feeding picked up, producers feeding protein cubes, cottonseed. Hay supplies good. Livestock in good condition.

Commercial vegetables: Rio Grande Valley, development of spinach, cabbage, carrots continues. Harvest of broccoli, cauliflower active. Harvest of grapefruit, early oranges slowed, shipments light. San Antonio-Winter Garden area, fall vegetable harvest in full swing. Irrigation necessary during season. Uvalde, carrot, spinach harvest underway. Trans-Pecos region, conditions remained fair, moisture needed. Cabbage harvest active, harvest of chili peppers wrapping up. Coastal Bend, activities light, some land preparation underway. Pecan harvest continued, heavy activity. Yields good but quality only fair.

Cotton harvested 87%, 82% 1980, 87% average. Wheat planted all purposes 99%, 100% 1980, 99% average. Wheat emerged 97%, 96% 1980. Peanuts harvested 99%, 96% 1980, 99% average. Pecans harvested 77%, 79% 1980, 85% average. Soybeans harvested 98%, 95% 1980, 99% average. Oats planted 99%, 98% 1980, 100% average.

UTAH: Recurring periods of rain in valleys and snow in mountains northwest half of State. Accumulated amounts moisture generally light to moderate. Average temperatures continued much above normal, ranging between 3 and 13° above.

Sorting and marketing of onions, potatoes, and apples continued. Routine chores and care of livestock.

VIRGINIA: Unseasonably cold; temperatures averaged from 2 to 10° below normal. Extremes from 60° to near 10°. Between 1.00 and 3.00 in. of water equivalent precipitation occurred over the State including up to 6 in. of snow in the northern and western parts.

Rain and snow improved topsoil moisture; rated 22% short, 65% adequate, 13% surplus. Days suitable for fieldwork; 1.7. Harvesting late corn and soybeans until rain and snow stopped fieldwork. Harvesting winter vegetables. Pastures rated in good condition. Winter grazing crops and small grains also in good condition. Livestock continue in good condition, calving and lambing normal. Some extra efforts are being made to reduce effects of cold weather on young. Most stock are being fed supplemental hay or silage. Outdoor activities are minimal due to cold weather.

WASHINGTON: West: Near normal temperatures for the week ranging from slightly cooler than normal in the north to slightly warmer into southwest. Precipitation totals were mostly below normal, except in south Puget Sound where totals were 0.01 in. to 0.02 in. above normal. Digging of rhubarb crowns for early forcing progressed. Pruning and tying of caneberrries continued. Farm activity generally slow. Christmas tree operators tapering off their activities. Hay supplies adequate.

East: Average temperatures were cooler than normal varying from 2 to 5° below in the Yakima area. Precipitation above normal. Snow reported at many sites with depths varying from 2 to 14 in. Pruning of tree fruits and grapes continued. Field corn harvested. Small grains in average condition with adequate soil moisture. Hay and pasture feed supplies plentiful.

WEST VIRGINIA: Temperatures averaged 6 to 9° below normal. High 46°, low 3°. Precipitation near normal. Entire State snow covered, 1 to 2 in. most areas. Deeper in the higher elevations; 26 in. Canaan Valley, 45 in. Snowshoe.

Soil moisture adequate to short. One day suitable for fieldwork. Main activities: Caring and feeding of livestock, general maintenance. Hay, grain, and other feed supplies adequate. Some ice on water supplies.

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WISCONSIN: A cold Arctic high pressure system dominated the weather. Light snow flurries were a daily occurrence with snowfall amounts ranging from 1 to 4 in. More significant snow reported in the Lake Superior snowbelt later in the week. A storm that passed south of the State on the 16th brought a blast of Arctic air and snowfall in the Lake Superior and Lake Michigan areas. Approximately 6 in. of snow fell along a belt from Manitowoc to Kenosha on 16th and 17th. Two feet of new snow fell over the Gogebic range in north. Pence, in Iron County, recorded 18 in. of snow in a 24-hour period with accumulation of up to 33 in. reported on the 20th. The high temperature, 36°

recorded in Racine on the 14th while Baldwin recorded the low, -11° on the 16th.

WYOMING: Warm daytime temperatures and cool nights. Warmest areas west and central, while north and east shared the coolest readings. Snake Drainage Basin averaged 8.4° above normal. Warmest 56°, coldest -11°. Precipitation in east little above normal. Central and western below normal.

Winter wheat mostly good condition, additional moisture needed for good development. Livestock mostly good condition. Supplemental feeding increasing.

(continued from first page)

SATURDAY...The arctic air persisted in the Plains, but a portion moved eastward and into the South. Sioux Falls, South Dakota, dropped to -20°. Temperatures in the teens reached the shores of the Gulf of Mexico, and records were broken throughout the Southeast. In Florida, Apalachicola reached 23°, Gainesville 25°, Daytona Beach 26°, Orlando 30°, Tampa 32°, and West Palm Beach 46°. The cold air continued to pour into the area. As cold air blew over the warmer Great Lakes, light snow was triggered to the east and south. Heavy rain or snow fell in the Northwest from central California to the northern Rockies and through Washington.

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