

WEEKLY WEATHER AND CROP BULLETIN

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

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service and World Agricultural Outlook Board

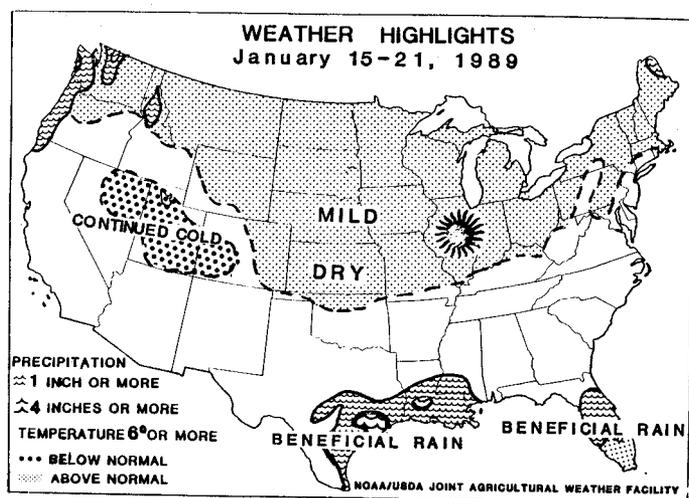
Volume 76, No. 3

Washington, D.C.

Jan. 24, 1989

National Weather Summary

January 15-21, 1989



WEDNESDAY: Skies remained sunny across much of the Nation. Precipitation was again limited to scattered snow across the Great Lakes into New England, and rain along the northern Pacific and western Gulf coasts.

THURSDAY: Rain showers and thunderstorms extended from the Rio Grande Valley into the central Gulf Coast States. Snow showers stretched from the upper Mississippi Valley to New England. Strong winds were behind a frontal system moving across the North Central States. A large stagnant high pressure system remained anchored over the Great Basin. Unseasonably mild weather persisted over much of the Nation in contrast to the continued bitter cold in Alaska.

FRIDAY: Beneficial rain spread from the western Gulf coast into Florida. Frontal systems brought snow, rain, and gusty winds across the Great Lakes into the Northeast and along the northern Pacific coast. The rest of the Nation was dominated by high pressure and pleasant weather on Inaugural Day.

SATURDAY: Much needed rain was widespread across Florida. Heavy rain soaked the central portions of the State. A Pacific front spread rain and snow from the Northwest into the northern Rockies. A deep low pressure system caused high winds over the Northeast. Fair and mild conditions continued over much of the country.

HIGHLIGHTS: Dry and mild weather prevailed over much of the Nation, including the winter wheat regions in the Great Plains. Frontal systems brought rain and snow into the Pacific Northwest and northern Rockies, while much needed rain soaked the western Gulf coast and Florida during the latter half of the week. In contrast to the above-normal temperatures across most of the country, bitter cold weather remained in the Great Basin, central Rockies, and Alaska. Temperatures again dropped below freezing in much of California.

SUNDAY: Light rain and drizzle covered the eastern third of the Nation, while snow showers were scattered across the Great Lakes. A Pacific storm brought rain into the Northwest with heavy snow in the higher elevations. High pressure and fair weather dominated most of the country by evening.

MONDAY: Dry and mild weather prevailed as two large high pressure systems covered most of the United States. Frontal systems brought light rain or snow across the northern tier of States. Heavy rain fell along the northern Pacific coast.

TUESDAY: The high pressure systems continued to provide fair and mild weather for most of the country. Snow showers remained over the upper Great Lakes and in the Northeast. Rain was scattered along the northern Pacific and western Gulf coasts. High temperature records for the date were set in Florida and in the western Corn Belt. Gusty winds again prevailed across the eastern slope of the northern Rockies.

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1988 WEATHER REVIEW

HIGHLIGHTS

The highlight of the year was clearly the Drought of 1988, which was one of the most intense and widespread of the century. Hot, dry weather, which gripped the country during the spring and summer, cut corn production by 30 percent from 1987 levels, soybeans by 20 percent, and spring wheat by over 50 percent. Low water levels stalled barge traffic on the Mississippi and Ohio Rivers, and dry vegetation contributed to fires which burned more than 5 million acres. In the Midwest, which bore the brunt of the drought's effect, this was the most severe drought since 1936. But heat and dryness affected nearly every State in the country. Though rain and snow improved supplies across much of the country in the late summer and autumn, subsoil moisture remained below normal in the northern Plains, northern Rockies, and Pacific States into the new year (see Drought Severity map, p. 7). In addition, a dry autumn contributed to serious drought in the central and southern Plains States, raising concern for the country's winter wheat crop.

WINTER (DECEMBER 1987-FEBRUARY 1988)

For the third consecutive winter, the northern Plains States were warmer than normal, with temperatures in much of North Dakota and Montana averaging 4 degrees or more above normal. Readings across most of the remainder of the country were mostly within 2 degrees of normal. Precipitation was also light in the northern Plains, with large sections recording half the normal accumulation of snow and rain. However, central areas of the country to the South were generally above normal. The Pacific and Appalachian States were drier than normal.

SPRING (MARCH-MAY)

Dry, warm weather affected much of the country, raising concern for spring-planted crops. The prolonged drought continued across the northern Plains, with March-May cumulative precipitation under 75 percent of normal. Temperatures averaging over 4 degrees above normal exacerbated the dryness in the northern Plains. Rainfall was below normal in nearly every other part of the country as well, except mainly the Southwest and Northwest. Rainfall was half normal in the Tennessee Valley, contributing to severe drought in these States.

SUMMER (JUNE-AUGUST)

June was the hottest June in more than 50 years in the northern Plains, with temperatures ranging from 5 to over 12 degrees above normal. It was also one of the driest Junes ever in the eastern half of the country, with many areas measuring less than 1 inch of rain. By the end of the month, severe drought covered over 35 percent of the contiguous United States. For the country as a whole, April-June precipitation levels were the lowest of this century. July and August were characterized by a series of severe heat waves which sometimes stretched from the Pacific to the Atlantic coasts. From June 1 through August 18, more than 1,000 high temperature records were set or tied. In one 3-day period alone, August 15-17, 130 records were set or tied. June-August temperatures averaged above normal across more than 80 percent of the country, including Alaska and Hawaii. Temperatures averaged over 6 degrees above normal in parts of the northern Plains. Heavy showers in July and August eased drought conditions in the Ohio Valley and the northern Plains, but rainfall for the summer totaled under 50 percent of normal in the western Corn Belt and the northern Rockies.

AUTUMN (SEPTEMBER-NOVEMBER)

Much of the eastern half of the country and the Northwest received above-normal precipitation, relieving or ending long-term moisture deficits in the previously drought-stricken Mississippi, Ohio, and Tennessee Valleys. In

Figure 1

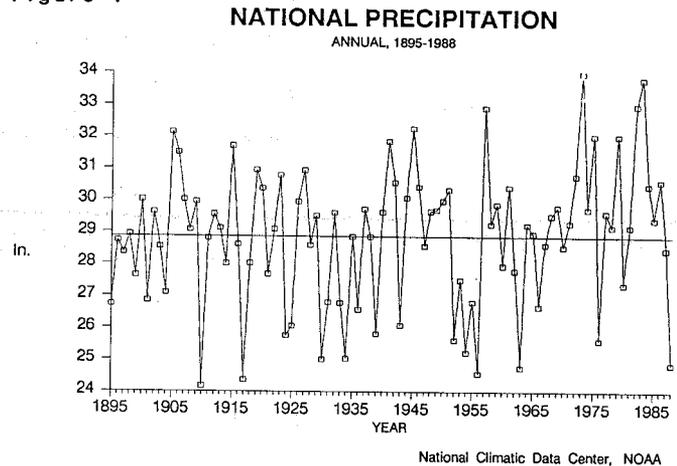
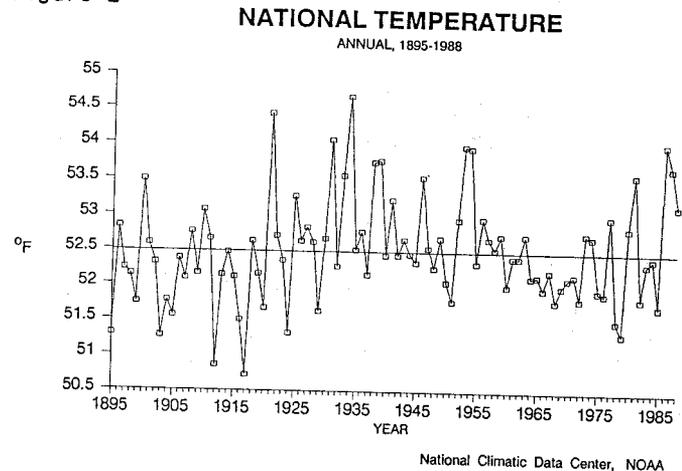


Figure 2



contrast, abnormally dry conditions persisted in the northern and central Plains and central Rockies. Dry weather also prevailed over southern Texas and southern Florida, which had the driest autumn in the past 50 years. Unseasonably mild weather persisted throughout the western third of the Nation and along the Gulf coast. Temperatures averaged below normal in much of the East.

SUMMARY

The year was the fifth driest on record (figure 1), and the third consecutive year with above-normal temperatures (figure 2). Parts of Minnesota and Iowa received less than 20 inches of rain for the year (figure 3). Annual precipitation totaled under 75 percent of normal in the important food-producing States of Illinois, Iowa, Missouri, Kansas, Texas, and California (figure 4). In addition, large areas of the northern Plains and northern Rockies measured under 75 percent of normal precipitation. Deficits in these areas generally ranged from 5 to 15 inches, with east Texas up to 20 inches below normal for the year. Totals in parts of the Tennessee Valley and in southern Florida were also under 75 percent of normal.

(Continued to p. 12)

Figure 3

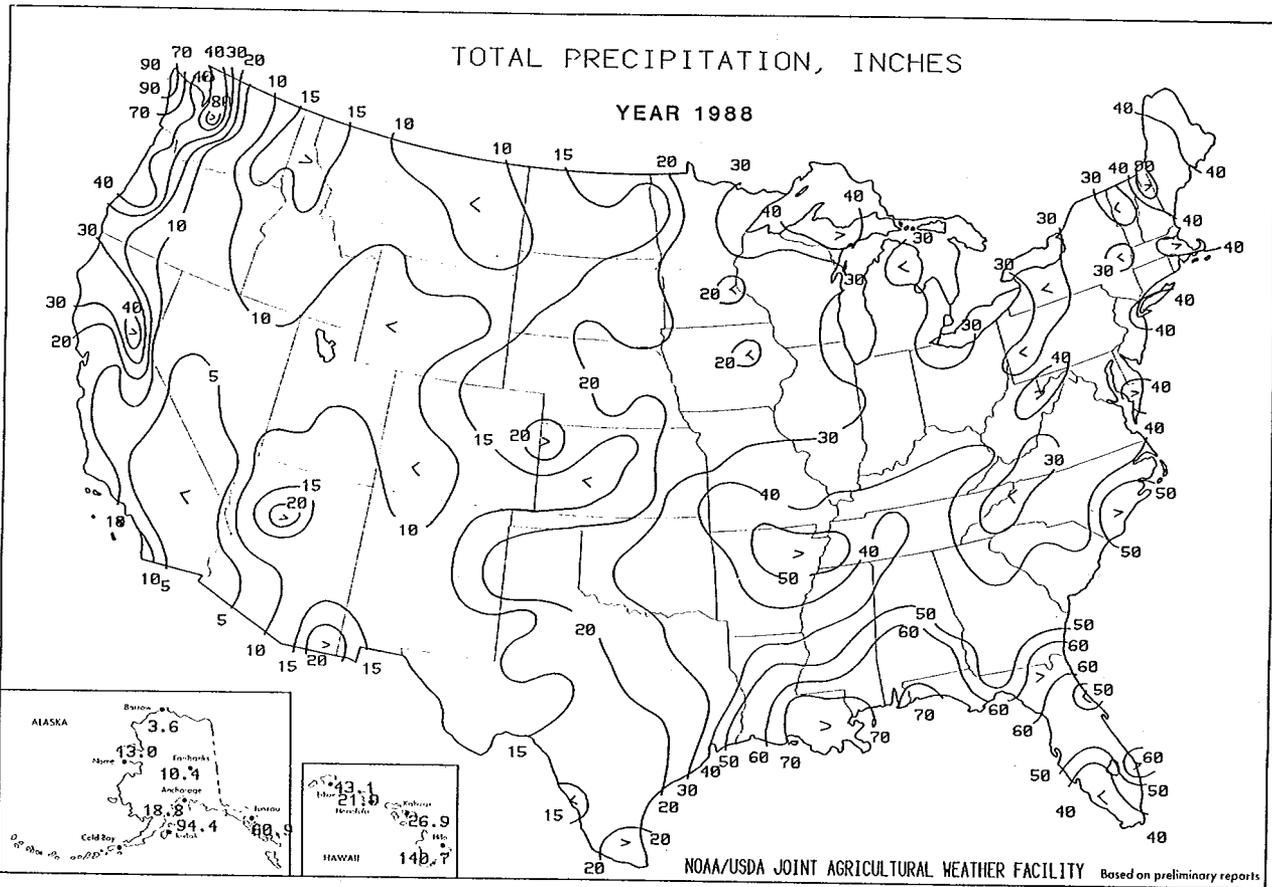


Figure 4

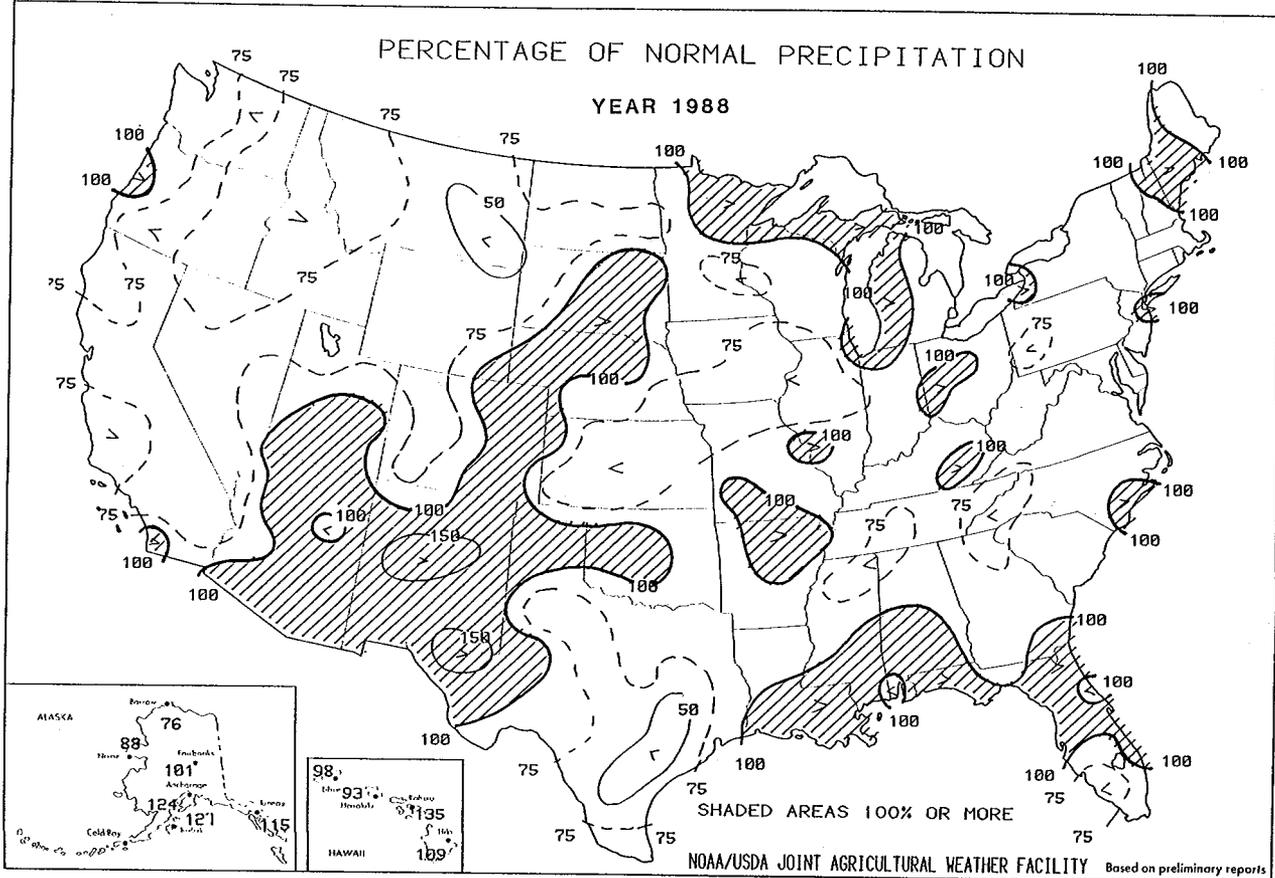


Figure 5

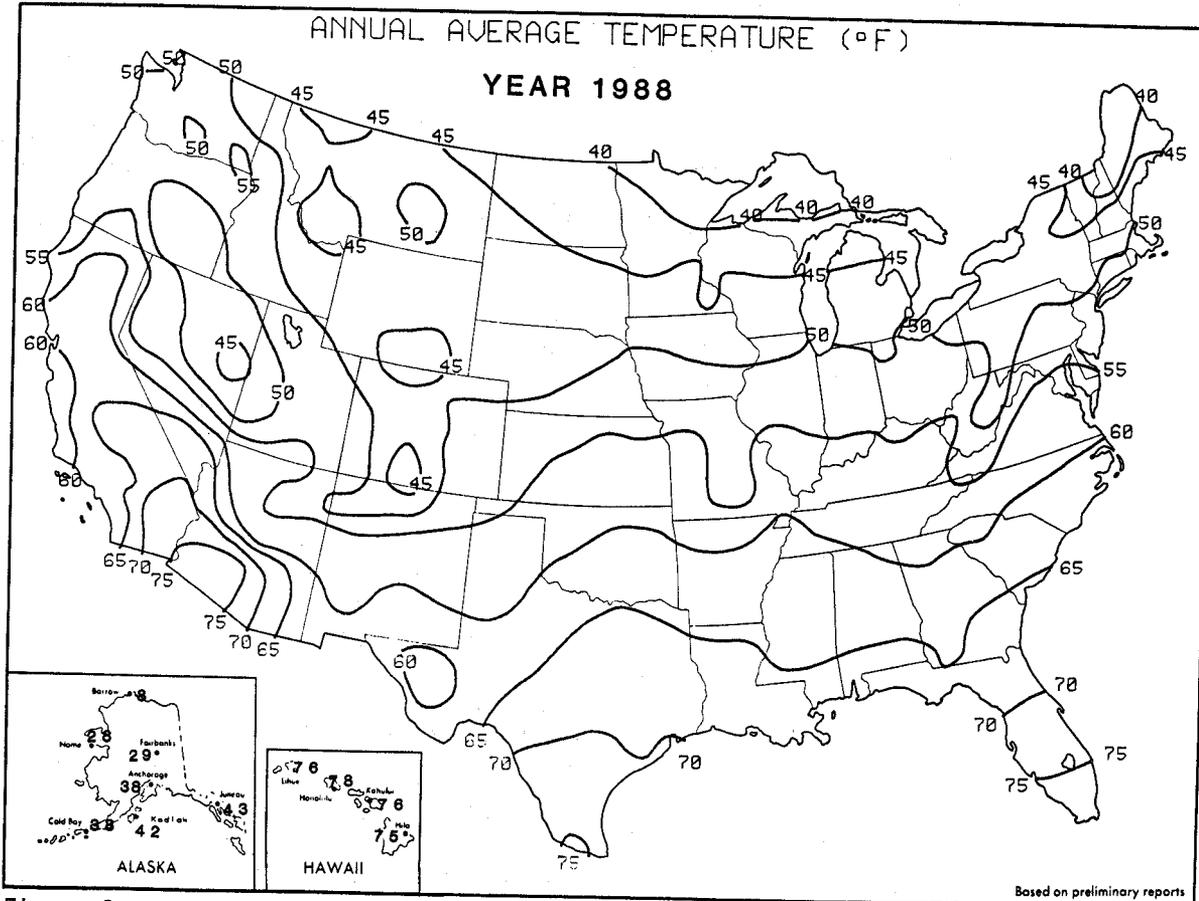
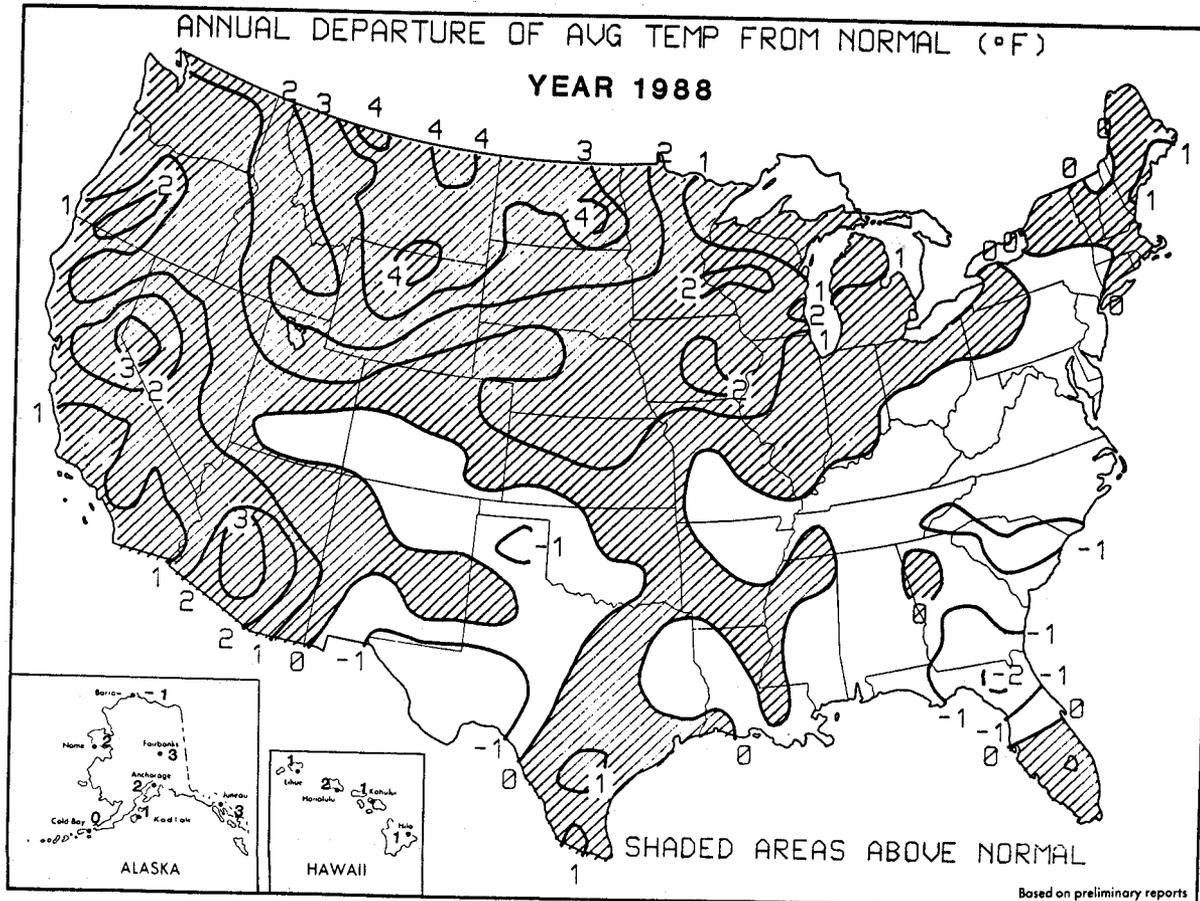
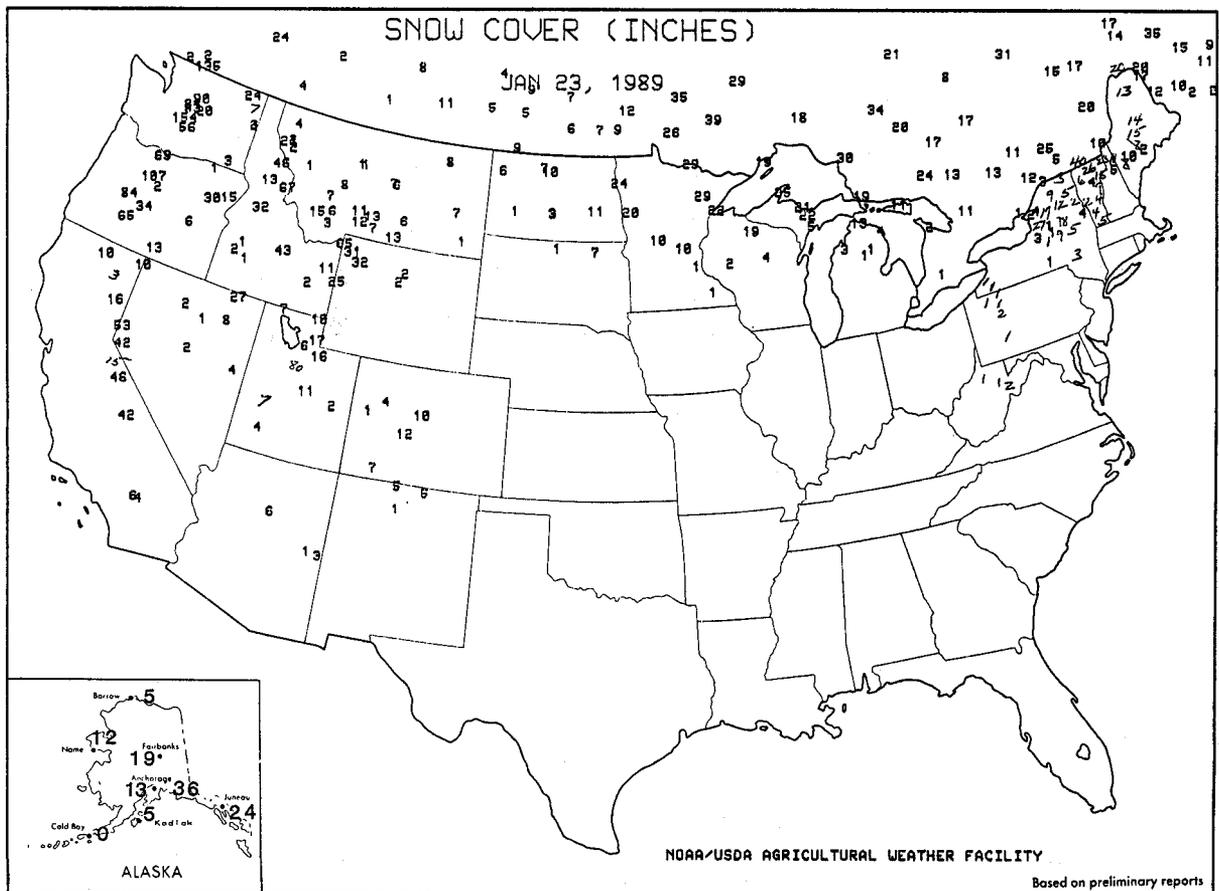
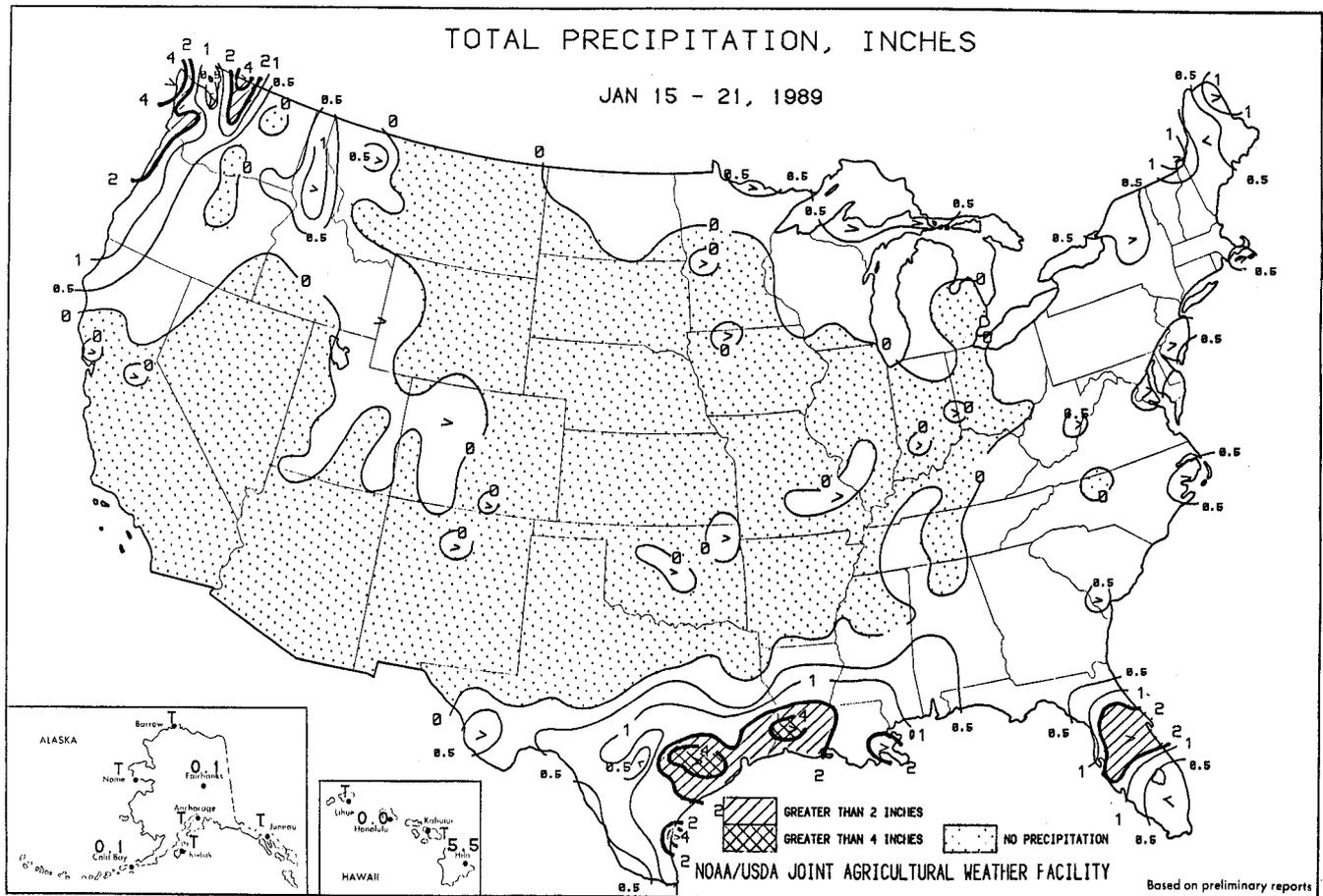
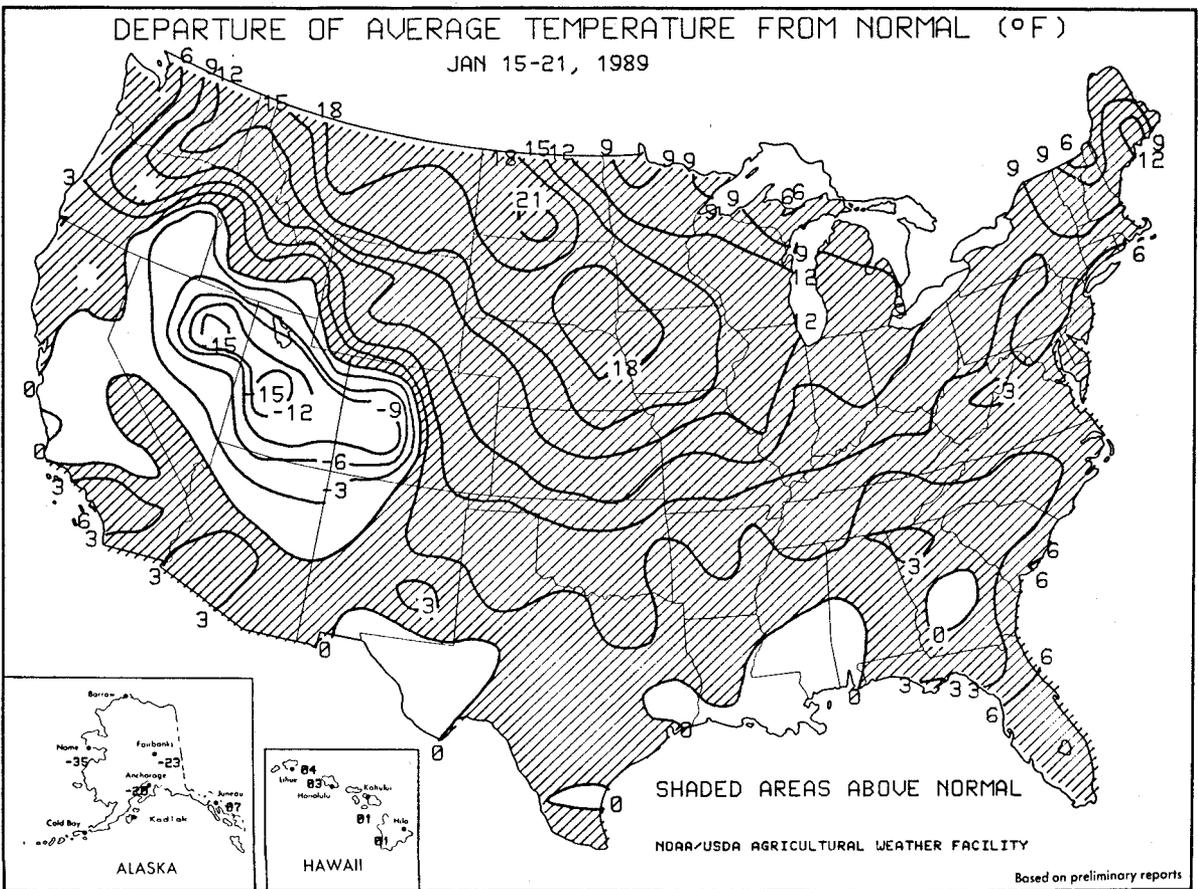
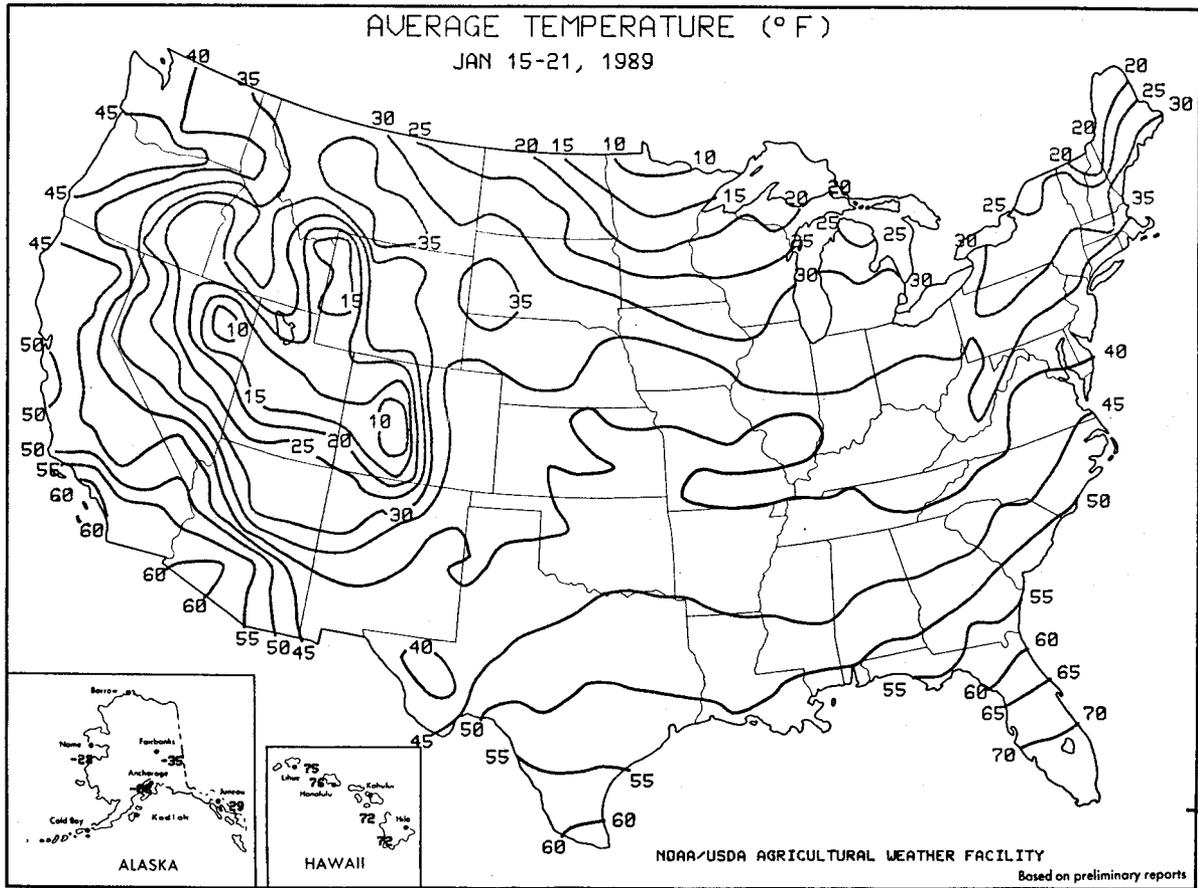
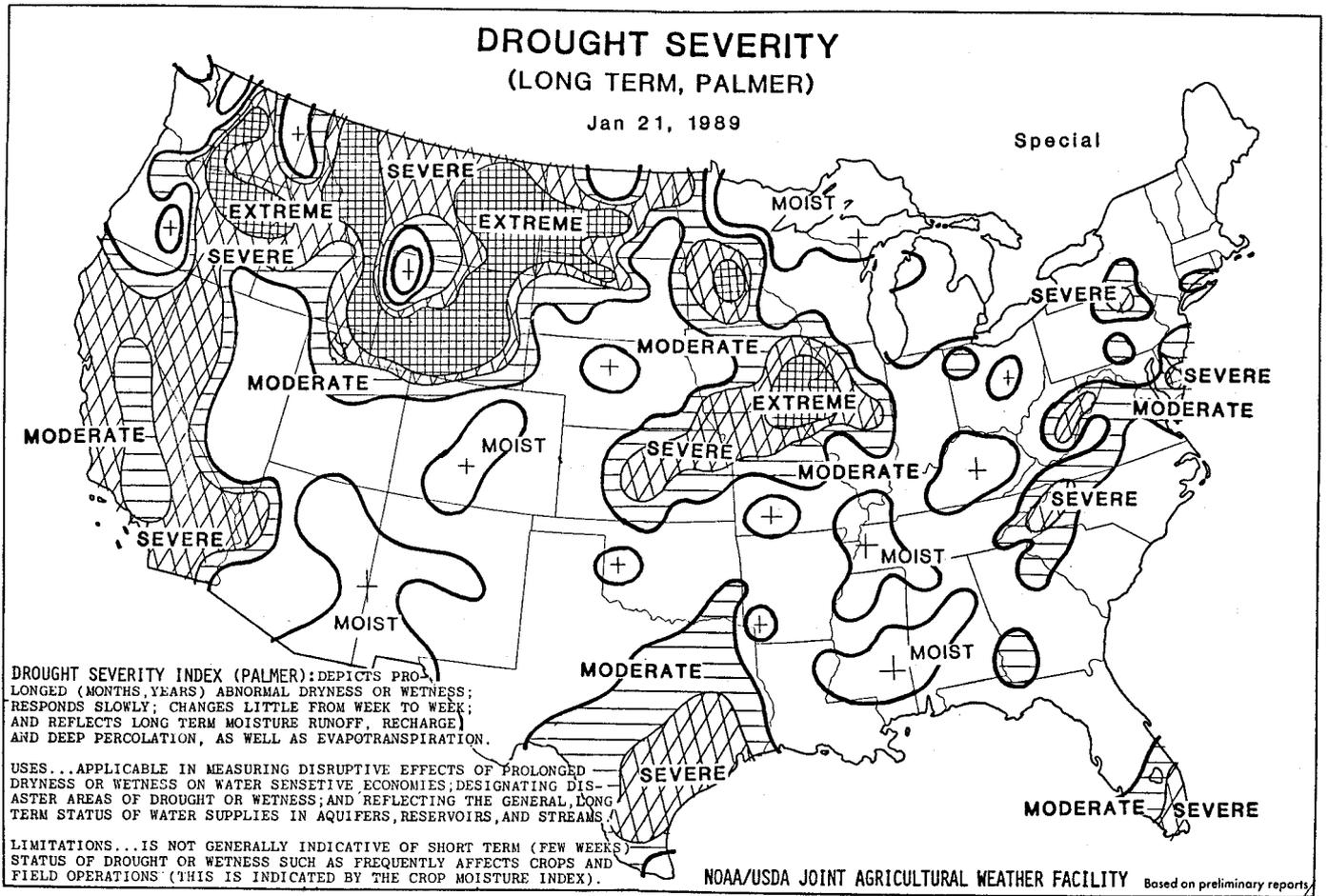


Figure 6



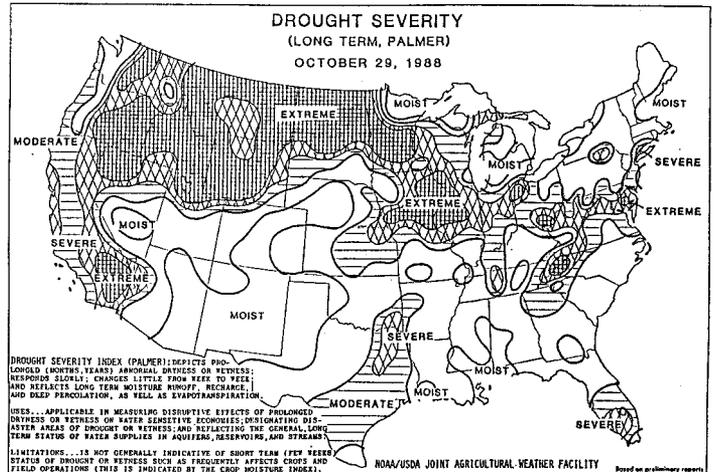


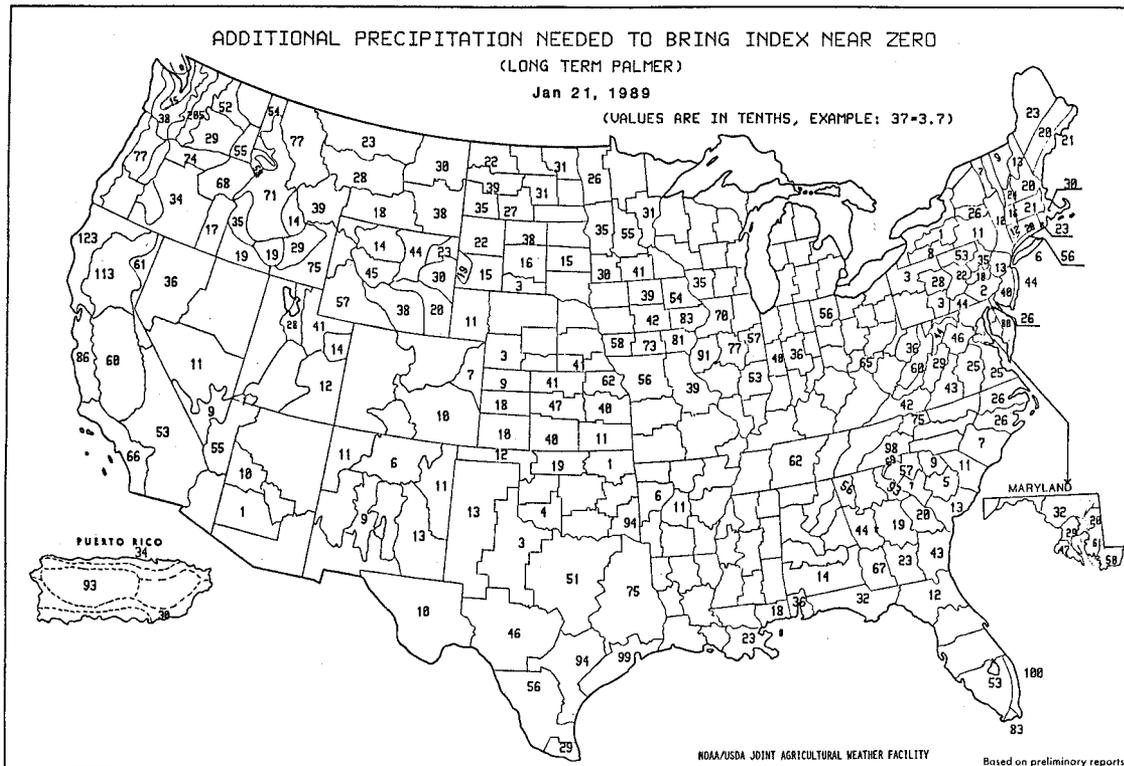
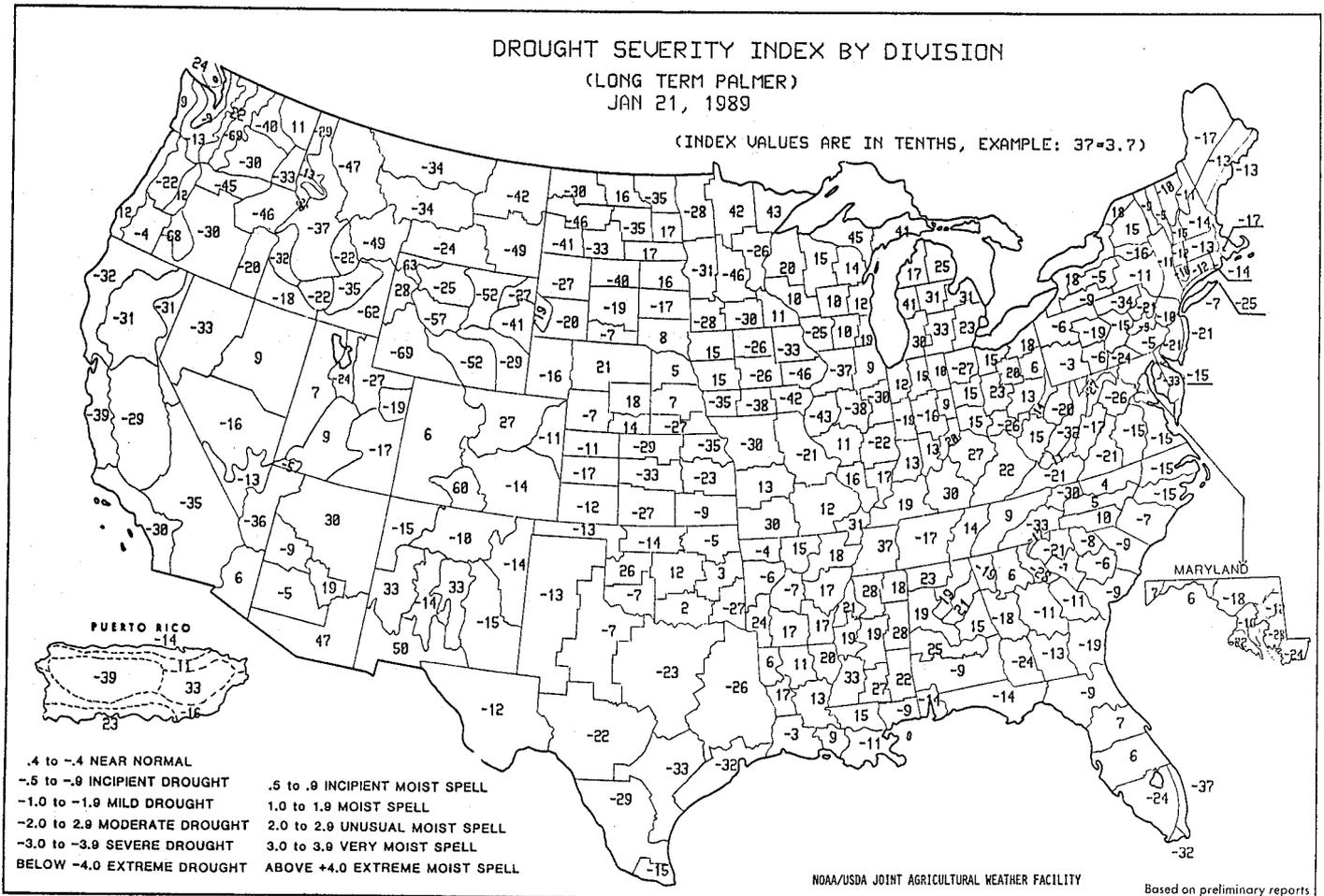




DROUGHT UPDATE

Autumn and winter precipitation have relieved or eliminated long-term drought in many areas of the country, especially in the Ohio Valley and in portions of the northern Plains and the Pacific Northwest. However, moisture deficits linger in parts of the northern Plains, Appalachians, the northern Rockies, and California. In addition, a dry autumn contributed to severe drought in eastern Iowa, northwestern Illinois, Kansas, southeast Texas, and southern Florida. Comparing the Drought Severity map for October 29 with the current map, dated January 21, shows that drought has worsened in Texas and Kansas, but has moderated or ended in most other parts of the country. The drought in Kansas and Texas has affected winter grain crops. Elsewhere, the drought is mainly being reflected in low subsoil moisture supplies. The accompanying map indicates that several inches or more precipitation is needed to eliminate the deficits that have accumulated in these areas. This situation means that spring rainfall will be especially important for summer crops in the western Corn Belt and the other areas with long-term drought.





National Weather Data for Selected Cities

Weather Data for the Week Ending January 21, 1989

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 Dec 1	PCT. NORMAL SINCE Dec 1	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
AL BIRMINGHAM	56	31	62	25	44	1	T	-1.1	T	7.7	90	4.2	118	95	40	0	4	1	0
MOBILE	57	41	62	34	49	-1	.6	-.4	.4	3.8	44	2.0	64	94	56	0	0	3	0
MONTGOMERY	59	36	67	27	47	1	.4	-.6	.2	5.8	76	1.4	48	93	46	0	2	3	0
AK ANCHORAGE	1	-17	13	-24	-8	-20	T	-.2	T	1.8	111	.3	48	76	60	0	7	1	0
BARROW	-28	-42	-23	-48	-35	-21	T	-.1	T	.3	93	T	6	70	62	0	7	0	0
FAIRBANKS	-31	-39	-16	-48	-35	-23	T	-.1	T	1.0	91	.5	138	73	61	0	7	3	0
JUNEAU	31	26	34	21	29	7	1.4	.5	.5	8.6	120	3.7	148	99	73	0	7	7	0
KODIAK	23	15	28	10	19	-11	T	-1.3	T	12.2	129	1.2	31	68	38	0	4	0	0
NOME	-22	-35	-7	-41	-29	-35	T	-.2	T	2.2	186	.8	150	76	60	0	7	0	0
AZ PHOENIX	71	44	77	38	58	5	0	-.2	0	.8	59	.6	128	54	16	0	0	1	0
PRESCOTT	55	21	62	16	38	2	0	-.4	0	1.8	65	1.2	106	74	23	0	7	0	0
TUCSON	68	37	73	29	53	2	0	-.2	0	.7	48	.7	118	55	13	0	2	0	0
YUMA	70	50	76	44	60	4	0	-.1	0	.7	117	.6	236	34	16	0	0	0	0
AR FORT SMITH	53	25	65	20	39	2	0	-.4	0	2.3	57	.7	52	96	50	0	7	0	0
LITTLE ROCK	54	35	65	28	44	5	0	-.9	0	5.3	77	2.1	79	73	45	0	2	0	0
CA BAKERSFIELD	60	31	67	28	46	-3	0	-.2	0	1.0	82	.2	35	95	49	0	4	0	0
EUREKA	54	41	58	36	48	0	.9	-.7	.9	10.6	96	4.4	90	93	75	0	0	1	1
FRESNO	57	30	64	28	44	-2	0	-.5	0	2.9	98	.5	35	100	55	0	5	0	0
LOS ANGELES	76	48	81	40	62	6	0	-.7	0	3.1	85	.6	28	59	20	0	0	0	0
REDDING	64	33	73	29	49	2	T	-1.9	T	5.1	40	1.4	25	86	35	0	5	1	0
SACRAMENTO	57	32	60	29	45	-1	0	-.9	0	3.5	63	.5	19	99	52	0	4	0	0
SAN DIEGO	72	45	77	41	59	3	0	-.5	0	2.5	74	.3	19	68	22	0	0	0	0
SAN FRANCISCO	59	40	65	35	50	0	0	-1.1	0	4.4	64	.7	22	96	50	0	0	0	0
CO DENVER	53	22	60	12	37	6	0	-.1	0	1.4	167	.4	124	70	20	0	7	0	0
GRAND JUNCTION	33	3	42	-3	18	-7	0	-.1	0	.5	48	.3	66	92	49	0	7	0	0
PUEBLO	56	14	64	7	35	0	0	-.1	0	.7	149	.1	41	86	20	0	7	0	0
CT BRIDGEPORT	43	29	50	16	36	6	.3	-.4	.3	2.4	41	.8	36	77	45	0	5	1	0
HARTFORD	43	24	50	6	33	8	.3	-.5	.2	2.0	30	.6	25	83	42	0	6	3	0
DC WASHINGTON	49	31	59	24	40	5	.4	-.3	.4	3.5	68	2.2	113	84	37	0	4	1	0
FL APALACHICOLA	65	48	76	40	56	4	.5	-.4	.4	1.9	32	.7	30	92	49	0	0	2	0
DAYTONA BEACH	76	53	85	47	64	7	1.5	-.9	1.4	2.4	64	1.5	96	97	54	0	0	2	1
JACKSONVILLE	70	45	83	37	58	4	.4	-.3	.3	2.2	51	1.1	58	97	44	0	0	2	0
KEY WEST	81	70	83	68	75	5	.4	0	.4	.6	22	.4	39	89	66	0	0	1	0
MIAMI	83	66	85	65	75	8	.2	-.3	.2	.7	23	.6	43	93	53	0	0	1	0
ORLANDO	77	56	84	51	67	7	2.1	1.6	1.9	3.1	95	2.1	155	97	54	0	0	3	1
TALLAHASSEE	66	40	78	30	53	2	.1	-.9	.1	1.2	16	.2	5	94	39	0	2	2	0
WEST PALM BEACH	76	57	82	53	66	7	.9	-.5	.7	2.6	73	.9	68	95	55	0	0	2	1
GA ATLANTA	82	65	85	61	73	8	.2	-.4	.2	2.6	65	.7	41	97	56	0	0	1	0
AUGUSTA	56	34	62	29	45	3	T	-1.1	T	3.4	45	2.2	66	78	35	0	3	1	0
MACON	59	32	68	26	46	1	.1	-.8	0	2.8	47	1.5	55	93	40	0	4	2	0
SAVANNAH	66	40	80	35	53	4	.1	-.8	.1	3.9	55	1.6	55	92	39	0	3	2	0
HI HILO	79	66	82	64	72	1	7.6	5.5	2.7	36.9	195	23.5	375	95	66	0	0	7	4
HONOLULU	82	69	83	65	76	3	0	-.9	0	8.6	143	1.9	73	83	55	0	0	0	0
KAHULUI	82	63	85	60	72	1	T	-.9	T	10.8	195	.6	20	90	55	0	0	0	0
LIHUE	79	71	79	64	75	4	T	-1.4	T	13.2	134	6.3	145	84	65	0	0	0	0
ID BOISE	39	23	48	18	31	1	T	-.4	T	1.8	72	.9	83	89	61	0	7	0	0
LEWISTON	49	36	56	31	43	11	.1	-.2	.1	1.8	78	1.3	129	79	47	0	2	1	0
POCATELLO	32	13	38	5	22	-1	T	-.2	T	1.7	100	.5	65	85	61	0	7	1	0
IL CHICAGO	42	23	49	17	32	12	T	-.4	T	2.9	83	.5	44	85	49	0	7	0	0
MOLINE	44	22	54	16	33	13	0	-.4	0	2.1	69	.6	49	89	55	0	7	0	0
PEORIA	44	24	57	20	34	13	0	-.4	0	2.7	86	.5	40	94	49	0	7	0	0
QUINCY	46	27	58	22	37	14	0	-.3	0	2.0	75	.1	12	85	46	0	6	0	0
ROCKFORD	39	23	46	16	31	13	T	-.3	T	2.1	71	.3	30	88	59	0	7	0	0
SPRINGFIELD	45	26	58	21	36	12	0	-.3	0	3.7	114	.4	39	86	46	0	7	0	0
IN EVANSVILLE	49	28	59	21	39	8	0	-.7	0	5.3	96	2.6	124	87	45	0	5	0	0
FORT WAYNE	40	26	48	12	33	10	.1	-.4	.1	3.7	96	1.2	86	89	59	0	6	1	0
INDIANAPOLIS	44	27	52	19	35	10	T	-.6	T	3.7	78	1.2	66	86	51	0	6	0	0
SOUTH BEND	40	24	50	16	32	9	T	-.5	T	4.1	89	1.2	70	86	55	0	6	1	0
IA DES MOINES	47	24	59	17	36	17	0	-.2	0	1.2	70	.3	52	76	33	0	7	0	0
ST LOUIS	47	24	54	19	36	20	0	-.1	0	1.3	110	.7	171	84	38	0	7	0	0
WATERLOO	37	22	42	16	30	16	0	-.2	0	1.3	77	.8	138	92	60	0	7	0	0
KS CONCORDIA	54	27	63	20	40	15	0	-.1	0	.7	67	.1	27	55	22	0	7	0	0
DODGE CITY	57	22	66	16	40	10	0	-.1	0	.1	13	T	0	61	19	0	7	0	0
GOODLAND	54	20	62	12	37	10	0	-.1	0	.6	95	.1	52	69	20	0	7	0	0
TOPEKA	54	23	63	18	38	12	0	-.2	0	1.0	51	.1	16	83	28	0	7	0	0
WICHITA	55	23	63	19	39	10	0	-.1	0	.5	38	T	7	81	27	0	7	0	0
KY BOWLING GREEN	48	29	58	21	39	5	T	-1.0	T	11.4	148	5.2	162	92	54	0	5	1	0
LEXINGTON	46	28	55	17	37	6	T	-.8	T	7.2	115	3.6	145	83	45	0	5	0	0
LOUISVILLE	48	30	57	20	39	7	T	-.8	T	6.6	115	3.2	138	78	41	0	5	0	0
LA ALEXANDRIA	59	45	65	37	52	4	1.9	.9	1.4	12.1	154	6.4	209	83	52	0	0	3	1
BATON ROUGE	57	42	63	31	50	-1	1.1	0	.7	12.2	150	4.0	128	96	63	0	1	3	1
LAKE CHARLES	58	43	60	34	50	1	2.9	1.9	2.3	9.1	109	4.3	132	94	58	0	0	3	1
NEW ORLEANS	59	44	67	33	52	-1	1.3	.2	.7	6.1	71	2.1	64	95	66	0	0	3	2

Based on 1951-80 normals

Weather Data for the Week Ending January 21, 1989

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 Dec 1	PCT. NORMAL SINCE Dec 1	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
SHREVEPORT	57	38	61	29	47	2	T	-1.9	T	8.6	129	3.9	141	96	49	0	3	0	0
ME CARIBOU	27	11	38	-4	19	9	1.2	-1.7	T	2.8	58	1.8	109	95	66	0	7	6	1
PORTLAND	40	24	49	7	32	11	1.5	-1.4	T	2.0	29	.8	32	92	55	0	7	4	0
MD BALTIMORE	50	28	59	19	39	6	1.3	-1.3	T	3.6	67	2.7	129	85	35	0	5	1	0
SALISBURY	50	29	58	17	40	5	T	-1.7	T	2.0	33	1.3	57	87	39	0	4	1	0
MA BOSTON	45	30	53	15	38	8	1.2	-1.7	T	1.4	19	.4	14	76	39	0	5	2	0
CHATHAM	43	30	48	16	36	5	1.4	-1.6	T	2.3	29	.9	31	87	58	0	4	1	0
MI ALPENA	34	13	38	-4	23	5	1.3	-1.1	T	2.3	72	1.0	84	93	61	0	4	4	0
DETROIT	40	27	47	12	33	10	T	-1.4	T	2.7	70	.7	53	86	54	0	4	0	0
FLINT	39	24	46	8	31	10	T	-1.4	T	2.3	74	1.0	93	83	52	0	5	0	0
GRAND RAPIDS	38	25	45	12	32	10	T	-1.4	T	2.5	63	.6	42	85	57	0	6	1	0
HOUGHTON LAKE	32	19	36	8	26	9	1.1	-1.2	T	2.7	91	.8	76	89	59	0	7	4	0
LANSING	39	24	46	10	31	11	T	-1.4	T	2.1	57	.8	69	84	53	0	7	0	0
MARQUETTE	27	6	32	-13	17	5	1.6	-1.2	T	4.0	105	1.7	118	94	70	0	7	4	0
MUSKOGON	39	26	44	12	33	10	1.1	-1.5	T	4.0	95	1.2	71	86	58	0	5	2	0
SAULT ST. MARIE	30	12	33	-6	21	8	1.6	-1.1	T	5.5	136	1.9	124	91	67	0	7	5	0
MN ALEXANDRIA	30	7	39	-6	18	13	T	-1.2	T	.9	65	.5	83	90	73	0	7	1	0
DULUTH	26	7	32	-10	17	10	1.3	-1.1	T	2.7	129	1.6	193	91	64	0	7	2	0
INT'L FALLS	22	-4	36	-23	9	10	1.6	-1.4	T	2.8	189	2.1	351	95	69	0	7	4	0
MINNEAPOLIS	34	16	39	2	25	14	T	-1.2	T	1.1	76	.4	71	87	62	0	7	0	0
ROCHESTER	33	16	37	6	25	16	T	-1.2	T	1.3	90	.2	31	91	67	0	7	0	0
MS GREENWOOD	54	34	62	28	44	1	0	-1.2	T	9.7	107	4.3	121	96	47	0	3	0	0
JACKSON	55	36	62	28	45	0	T	-1.1	T	8.4	95	3.6	103	99	54	0	3	1	0
MERIDIAN	55	35	62	27	45	0	1.4	-1.7	T	10.4	113	2.9	83	97	52	0	3	2	0
MO CAPE GIRARDEAU	50	29	66	23	39	11	T	-1.6	T	5.8	101	2.9	144	90	50	0	5	0	0
COLUMBIA	50	26	61	20	38	10	0	-1.4	T	4.3	134	.9	71	86	39	0	6	0	0
KANSAS CITY	51	27	59	21	39	12	0	-1.3	T	1.0	41	.1	12	82	35	0	5	0	0
SAINT LOUIS	52	32	62	26	42	14	0	-1.4	T	5.0	150	1.8	153	72	34	0	4	0	0
SPRINGFIELD	52	23	63	17	37	6	0	-1.3	T	3.3	90	.2	14	86	34	0	7	0	0
MT BILLINGS	46	29	54	15	38	17	T	-1.2	T	1.0	71	.5	70	56	33	0	5	0	0
GLASGOW	37	14	43	-2	25	18	T	-1.1	T	.9	163	.5	204	90	63	0	7	0	0
GREAT FALLS	46	31	54	19	39	20	0	-1.2	T	1.6	113	.7	98	71	43	0	2	0	0
HAVRE	40	26	44	7	33	21	0	-1.1	T	.6	62	.1	27	82	59	0	5	0	0
HELENA	46	28	51	14	37	19	1.1	-1.1	T	1.0	91	.7	142	77	39	0	4	1	0
KALISPELL	40	27	44	14	34	14	1.4	0	T	3.4	127	1.1	97	91	62	0	4	5	0
MILES CITY	38	21	42	8	30	16	0	-1.1	T	1.1	104	.5	112	67	48	0	7	0	0
MISSOULA	41	26	46	11	33	12	1.2	-1.1	T	1.4	66	.7	70	91	63	0	5	1	0
NE GRAND ISLAND	52	22	59	13	37	16	0	-1.1	T	.4	42	.1	42	71	23	0	7	0	0
LINCOLN	52	23	60	18	37	18	0	-1.1	T	.8	75	.2	54	72	25	0	6	0	0
NORFOLK	49	24	56	17	36	19	0	-1.1	T	1.8	189	.9	273	75	29	0	6	0	0
NORTH PLATTE	52	14	61	11	33	12	0	-1.1	T	.5	83	.2	60	89	22	0	7	0	0
OMAHA	49	26	59	21	38	18	0	-1.2	T	1.0	83	.2	48	86	37	0	7	0	0
SCOTTSBLUFF	52	17	61	9	34	10	0	-1.1	T	.4	49	T	0	65	22	0	7	0	0
VALENTINE	51	16	59	6	33	16	0	-1.1	T	.2	48	T	12	68	20	0	7	0	0
NV ELY	39	1	48	-8	20	-4	0	-1.2	T	1.2	96	.4	70	83	42	0	7	0	0
LAS VEGAS	60	33	67	25	47	2	0	-1.1	T	.6	100	.5	166	58	21	0	3	0	0
RENO	45	19	48	16	32	0	0	-1.3	T	1.0	46	.1	14	94	47	0	7	0	0
WINNEMUCCA	41	7	43	1	24	-6	0	-1.2	T	.6	40	.1	9	89	47	0	7	0	0
NH CONCORD	38	22	48	4	30	10	1.3	-1.3	T	1.5	28	.5	24	92	53	0	7	3	0
NJ ATLANTIC CITY	47	24	54	11	36	4	1.5	-1.3	T	2.4	41	1.8	76	90	40	0	6	1	0
NM ALBUQUERQUE	51	22	57	16	37	2	0	-1.1	T	.2	28	.2	67	63	21	0	7	0	0
CLOVIS	55	22	64	16	39	1	0	-1.1	T	1.5	159	T	3	61	20	0	7	0	0
ROSWELL	61	23	72	19	42	3	0	-1.1	T	.5	82	T	0	55	16	0	7	0	0
NY ALBANY	38	21	44	0	30	9	T	-1.5	T	1.2	25	.2	9	84	49	0	7	2	0
BINGHAMTON	34	19	42	2	27	6	1.1	-1.5	T	2.3	50	1.1	65	86	52	0	7	4	0
BUFFALO	39	23	45	6	31	7	1.4	-1.2	T	3.2	58	1.0	49	87	53	0	7	3	0
NEW YORK	45	33	51	17	39	8	1.3	-1.4	T	3.1	54	1.9	90	73	38	0	2	3	0
ROCHESTER	37	23	44	5	30	6	1.3	-1.3	T	1.7	42	.6	40	91	59	0	7	3	0
SYRACUSE	38	21	46	1	30	7	1.3	-1.3	T	2.7	54	.8	42	90	54	0	6	7	0
NC ASHEVILLE	52	28	60	18	40	3	1.1	-1.7	T	3.1	58	1.7	77	85	33	0	5	1	0
CHARLOTTE	56	32	61	28	44	4	1.1	-1.7	T	3.2	54	1.6	64	81	35	0	3	1	0
GREENSBORO	51	28	60	22	39	2	T	-1.8	T	2.1	37	.9	38	84	38	0	6	0	0
HATTERAS	58	41	67	30	49	5	1.9	-1.2	T	4.3	56	3.6	108	90	48	0	2	3	1
NEW BERN	58	38	67	28	48	4	1.7	-1.2	T	2.8	44	1.9	69	89	42	0	3	2	1
RALEIGH	55	29	63	23	42	3	T	-1.8	T	2.3	42	1.3	53	81	33	0	5	1	0
WILMINGTON	61	38	71	32	50	4	1.1	-1.7	T	1.5	26	.9	37	88	36	0	2	2	0
ND BISMARCK	39	15	45	4	27	21	1.1	0	T	1.2	151	.5	158	90	62	0	7	2	0
FARGO	29	5	34	-8	17	13	T	-1.1	T	2.8	285	1.7	450	91	76	0	7	0	0
GRAND FORKS	26	0	37	-10	13	11	1.1	-1.1	T	3.2	287	1.3	256	90	76	0	7	1	0
WILLISTON	34	14	39	5	24	18	T	-1.1	T	1.6	196	.8	255	91	67	0	7	2	0
OH AKRON-CANTON	40	25	46	8	33	8	1.2	-1.4	T	3.5	78	1.7	93	87	54	0	6	1	0
CINCINNATI	45	28	53	19	36	7	T	-1.7	T	5.6	109	2.8	129	92	56	0	6	0	0
CLEVELAND	41	28	48	18	34	9	T	-1.5	T	3.4	75	.9	51	84	49	0	4	1	0
COLUMBUS	43	28	49	16	35	8	T	-1.6	T	4.3	96	1.8	96	85	49	0	5	1	0

Weather Data for the Week Ending January 21, 1989

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 Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	42	28	51	16	35	9	T	-6	T	4.9	116	2.3	128	83	52	0	6	0	0
TOLEDO	40	25	48	9	32	9	T	-4	T	3.0	74	1.0	71	88	55	0	6	0	0
YOUNGSTOWN	40	27	46	17	33	9	.1	-5	.1	3.0	66	1.1	60	84	53	0	5	1	0
OK OKLAHOMA CITY	53	28	63	20	41	5	T	-2	T	1.7	95	.4	53	86	42	0	6	0	0
TULSA	54	28	66	23	41	6	0	-3	0	2.2	80	.4	39	91	41	0	6	0	0
OR ASTORIA	50	41	54	33	45	4	2.4	-1	1.2	14.3	75	7.0	92	98	84	0	0	6	1
BURNS	33	11	36	5	22	-5	T	-3	T	1.0	37	.3	25	87	83	0	7	1	0
MEDFORD	45	31	55	26	38	0	.6	-2	.6	3.4	57	2.1	85	99	72	0	4	1	1
PENDLETON	51	37	57	29	44	11	.4	0	.4	2.0	70	1.6	135	81	53	0	1	1	0
PORTLAND	49	42	55	35	45	7	.6	-8	.4	5.2	48	2.9	66	96	74	0	0	4	0
SALEM	50	40	55	35	45	6	.8	-8	.6	6.7	55	3.4	69	97	77	0	0	5	1
PA ALLENTOWN	45	24	52	14	35	8	.2	-6	.2	2.5	41	1.5	64	85	39	0	7	1	0
ERIE	39	27	47	15	33	8	.1	-4	.1	3.5	71	.9	53	85	53	0	5	1	0
HARRISBURG	47	25	55	16	36	7	.1	-6	.1	2.8	54	1.9	95	87	37	0	7	2	0
PHILADELPHIA	47	28	54	20	37	6	.5	-3	.5	3.0	54	2.1	94	84	39	0	6	1	0
PITTSBURGH	42	28	48	16	35	8	.1	-5	.1	3.6	81	1.5	75	84	47	0	5	2	0
SCRANTON	40	23	49	7	32	6	.1	-4	.1	1.8	45	.7	48	84	43	0	7	1	0
RI PROVIDENCE	45	27	53	13	36	8	.3	-6	.3	1.7	23	.7	24	87	41	0	6	1	0
SC CHARLESTON	64	43	77	39	54	6	.3	-5	.2	2.7	51	2.0	91	82	40	0	0	3	0
COLUMBIA	60	32	69	27	46	1	.1	-9	0	2.5	38	1.7	59	88	37	0	4	2	0
FLORENCE	59	34	67	27	47	2	.1	-7	.1	2.6	47	1.8	76	86	38	0	2	2	0
GREENVILLE	57	30	62	25	43	2	.1	-9	.1	3.4	49	1.5	51	89	34	0	4	1	0
SD ABERDEEN	34	13	40	0	23	16	0	-1	0	1.9	232	.5	161	89	67	0	7	0	0
HURON	42	20	52	11	31	20	T	-1	T	.9	117	.2	84	88	50	0	7	0	0
RAPID CITY	53	23	64	11	38	17	0	-1	0	.5	68	T	0	67	23	0	7	0	0
STOUX FALLS	42	20	49	12	31	19	T	-1	T	.5	52	.2	52	86	46	0	7	0	0
TN CHATTANOOGA	54	30	62	23	42	4	T	-1.1	T	8.4	96	4.9	136	94	37	0	5	1	0
KNOXVILLE	51	27	58	20	39	1	T	-1.0	T	8.2	106	4.3	133	92	37	0	6	1	0
MEMPHIS	54	32	67	27	43	4	0	-1.0	0	12.7	158	6.8	214	91	43	0	3	0	0
NASHVILLE	52	30	62	25	41	4	T	-1.0	T	7.8	101	3.9	125	92	45	0	5	0	0
TX ABILENE	61	31	69	22	46	3	0	-2	0	.8	54	T	5	87	30	0	3	0	0
AMARILLO	58	21	67	14	40	5	0	-1	0	.2	21	T	0	62	17	0	7	0	0
AUSTIN	61	42	74	32	51	3	.6	.2	.5	2.5	83	1.4	136	90	50	0	1	2	0
BEAUMONT	58	43	62	38	51	-1	2.7	1.8	2.0	11.4	149	5.6	202	94	61	0	0	3	1
BROWNSVILLE	71	55	77	43	63	3	1.1	.9	.8	1.6	82	1.5	190	95	68	0	0	5	1
CORPUS CHRISTI	64	48	70	37	56	1	1.4	1.0	1.2	2.8	121	1.8	168	93	66	0	0	3	1
DEL RIO	64	41	70	27	52	2	.6	.5	.3	1.0	117	.6	191	80	38	0	1	3	0
EL PASO	61	26	68	17	44	-1	0	-1	0	.4	72	T	4	54	18	0	7	0	0
FORT WORTH	59	34	64	26	46	3	0	-4	0	3.0	104	.5	44	94	46	0	4	0	0
GALVESTON	60	49	68	42	54	1	2.8	2.2	1.4	8.3	145	5.4	256	94	70	0	0	3	3
HOUSTON	60	42	66	31	51	-1	1.7	1.0	.8	4.2	68	2.9	124	95	56	0	1	3	2
LUBBOCK	61	25	71	19	43	4	0	-1	0	.7	115	.2	60	54	15	0	7	0	0
MIDLAND	60	26	68	18	43	0	T	-1	T	.6	84	.1	24	85	22	0	6	0	0
SAN ANGELO	64	31	71	22	47	2	0	-1	0	.9	88	.1	29	90	29	0	4	0	0
SAN ANTONIO	63	40	72	28	52	2	.3	-1	.3	1.2	52	.6	56	90	47	0	1	1	0
VICTORIA	62	45	70	33	54	2	2.2	1.8	1.6	5.0	147	2.7	220	94	63	0	0	4	1
WACO	59	38	68	28	49	3	.8	.5	.8	3.1	105	1.1	104	96	51	0	2	1	1
WICHITA FALLS	57	28	69	22	43	3	0	-2	0	1.3	71	.2	25	95	39	0	5	0	0
UT CEDAR CITY	37	5	45	-2	21	-9	0	-1	0	1.7	157	1.0	234	99	51	0	7	0	0
SALT LAKE CITY	30	10	37	7	20	-8	T	-3	T	1.2	52	.5	58	97	66	0	7	1	0
VT BURLINGTON	35	19	45	0	27	11	.2	-3	.1	1.2	33	.3	24	89	54	0	7	5	0
VA NORFOLK	54	34	62	26	44	4	.1	-7	.1	3.2	56	2.5	99	77	42	0	4	2	0
RICHMOND	54	28	62	21	41	5	.2	-6	.2	2.7	47	1.9	85	85	33	0	4	1	0
ROANOKE	53	28	61	21	40	5	.1	-6	.1	2.7	56	1.4	71	72	24	0	6	1	0
WA QUILLAYUTE	48	36	51	31	42	3	6.1	3.0	2.1	25.7	93	13.6	135	100	81	0	3	6	3
SEATTLE-TACOMA	47	39	50	34	43	4	.7	-7	.3	5.9	56	2.5	59	99	76	0	0	6	0
SPOKANE	41	32	48	27	37	11	T	-5	T	2.5	58	.7	42	95	73	0	4	3	0
YAKIMA	51	29	61	23	40	12	T	-3	T	.9	38	.2	17	90	47	0	5	0	0
WV BECKLEY	43	26	50	16	34	4	.2	-6	.2	4.8	88	2.6	113	80	39	0	5	3	0
CHARLESTON	47	29	54	20	38	5	T	-8	T	5.1	89	2.4	100	81	40	0	5	2	0
HUNTINGTON	47	29	55	20	38	6	T	-7	T	6.6	123	3.4	154	73	38	0	4	1	0
PARKERSBURG	46	29	51	18	38	6	T	-6	T	5.4	114	2.9	144	79	44	0	4	1	0
WI GREEN BAY	34	19	43	11	27	13	T	-2	T	1.1	49	.3	30	93	60	0	7	2	0
LACROSSE	36	20	44	12	28	14	T	-2	T	.9	53	.1	20	86	57	0	7	1	0
MADISON	37	22	43	17	30	14	T	-2	T	2.0	86	.4	50	83	56	0	7	0	0
MILWAUKEE	39	24	45	17	32	13	T	-3	T	2.0	62	.5	46	83	55	0	7	1	0
WAUSAU	31	14	38	5	23	12	.2	0	.1	2.0	104	.6	91	90	57	0	7	2	0
WY CASPER	42	21	48	5	32	9	0	-1	0	.6	78	.1	39	66	34	0	7	0	0
CHEYENNE	46	24	53	12	35	9	0	-1	0	.5	84	T	0	61	25	0	6	0	0
LANDER	44	15	51	2	30	10	0	-1	0	.8	89	T	9	72	33	0	7	0	0
SHERIDAN	46	24	56	14	35	15	T	-2	T	.4	35	.2	38	71	34	0	6	0	0
PR SAN JUAN	82	69	86	68	76	-1	.3	-4	.2	6.4	100	2.4	114	91	66	0	0	5	0

National Agricultural Summary

January 16-22, 1989

HIGHLIGHTS: Lack of moisture continued to stress winter wheat in the central and southern Plains. Snow cover was limited in most of the northern Plains and the Corn Belt. Small grains in the Delta and the Southeast were mostly good. Florida's citrus and vegetable producing areas received needed rain. Wet, foggy mornings slowed citrus harvest in California. Soil moisture remained mostly adequate to surplus, but rain limited fieldwork in the Delta. Above-normal temperatures reduced livestock stress in most areas.

SMALL GRAINS: Insect damage and lack of moisture continued to stress winter wheat in the central and southern Plains. In Kansas, winter wheat continued to show moisture stress. Greenbug damage was a continuing problem in the southwest and south-central areas. Lack of moisture was causing winter wheat to turn yellow in Oklahoma. Moisture was needed, especially in the western area. Continued mild temperatures have allowed greenbug populations to increase. Rain benefited small grains in central and eastern Texas. Continued lack of moisture stressed small grains in the Cross-Timbers and Plains areas. Growth continued good in the Blacklands and the east. Producers topdressed fields in the Blacklands. Greenbug damage was evident in many fields. Snow cover was needed in most of the northern Plains. Snow cover was adequate in North Dakota and portions of South Dakota. Montana's winter wheat was mostly fair to good with only light wind damage. Winter wheat was mostly good in Oregon. In the Corn Belt, winter wheat was mostly good to fair but lacked snow cover. Small grains in the Delta and Southeast were mostly good. Seeding continued in Arizona and California. Wet soil slowed seeding in California.

OTHER FIELD CROPS: Rain slowed land preparation and fertilizer application in the Delta. Tobacco plant bed preparation and seeding continued in the Southeast. In California, cotton seedbeds were pre-irrigated and fertilized. Plowdown and stalk shredding were active in central Arizona. In the western area, land leveling and pre-irrigation for the 1989 crop were underway.

FRUIT AND NUTS: Needed rain benefited Florida's citrus areas. Producers were able to discontinue irrigation in most areas. Cool temperatures slowed new growth. Early and midseason orange harvests were active. Grapefruit movement was strong. Tangerine, grapefruit, and lemon harvests continued in western and central Arizona. Texas' citrus harvest continued. Pruning and dormant spraying continued where weather permitted in California. Grapefruit, lemon, and navel orange harvests continued. Wet, foggy mornings slowed citrus harvest.

VEGETABLES: Florida's vegetable producing areas received beneficial rains. Spring crop planting was active. Winter crop harvest continued. Volume leaders were tomatoes, peppers, cabbage, celery, lettuce, and squash. Lesser supplies of snap beans, strawberries, carrots, radishes, sweet corn, eggplant, and endive were available. Vegetable harvest continued in Arizona. Crops harvested included lettuce, broccoli, cauliflower, green onions, and carrots. Asparagus harvest was expected to begin soon. Rain slowed the Texas' vegetable harvest. Cold weather limited vegetable harvest in California. Cauliflower and broccoli supplies were light and of variable quality in the Santa Maria area. Lettuce producers continued to thin, cultivate, and apply fungicides in the Kingsburg-Dinuba area. Tomato bed preparation was complete in the Brentwood-Tracy area. The planting of tomatoes for processing was completed in the Kingsburg area.

PASTURES & LIVESTOCK: Above-normal temperatures reduced livestock stress in most areas. Fluctuating temperatures caused some respiratory problems for livestock in Illinois. Rain and mild temperatures stimulated forage growth in Florida. Rain improved pasture conditions in central and southern Texas. In the Plains area, use of fall seeded small grains for grazing continued to decrease due to lack of moisture. Range and pasture conditions continued to improve in California. Pastures were mostly fair to good in the Delta and Southeast.

(Continued from p. 2)

Yearly temperatures near 45 degrees (figure 5) ranged up to 4 degrees above normal in the northern Plains (figure 6). Temperatures averaged 1-3 degrees above normal across the Pacific States. In spite of the oppressive summer heat, temperatures in the eastern third of the country averaged near or even slightly below normal. At Washington, DC's official recording site (National Airport), this was the first year since 1972 that temperatures averaged below normal. Though 1988 was the third year of above-normal temperatures, the average was not as high as in the preceding 2 years (figure 2).

Douglas Le Conte

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 NASS State Statistical Offices in cooperation with the National Weather Service.

ALABAMA: Rainfall mainly limited to southern half; mostly 0.33 in. or less. Temperatures near normal. Soil moisture mostly adequate. Small grains mostly good to excellent. Warm, wet conditions causing disease problems extreme south. Also causing premature blooming of fruit trees, strawberries. Some early irish potatoes planted south. Livestock, pastures mostly fair to good. Primary activities: Routine care livestock, poultry; applying nitrogen to small grains; planting fruit trees; repairing fences, equipment.

ARIZONA: Sunny skies, warmer temperatures prevailed 15th, 16th. Sunshine 17th, except for high cloudiness south. Considerable warming higher elevations central, northern areas. Warming continued 18th to 20th; temperatures middle 70s south central deserts. Temperatures cooled 5 to 10° afternoon 21st. No precipitation 15th to 21st. Temperatures 2° below to 6° above normal.

Wheat, barley 97% seeded, 88% stands established. Warmer weather provided favorable growth, development. Early plantings elongation stage; later plantings pre-jointing stages. Cotton harvest virtually complete. Plowdown, stalk shredding active central. Land leveling, pre-irrigation for 1989 crop underway west. Alfalfa good, heavy sheep grazing. Citrus groves protected against freeze west. Harvest tangerines, grapefruit, lemons west, central. Boston, leaf, romaine, head lettuce; broccoli, cauliflower, cabbage, kale, napa, escarole, bok choy, endive, celery, rapini, green onions, parsley, carrots harvested west central. Asparagus harvest expected weekend.

ARKANSAS: Unseasonably warm, dry. Temperature extremes 13°; 69°. Rainfall none to 0.01 in.

Very little farm activity due to moisture in fields. Soil moisture adequate to surplus. Small grains progressed normally. Pastures fair. Livestock good, grazing wheat some areas.

CALIFORNIA: High pressure limited rainfall. Temperatures warmed to near, above normal. Nighttime remained cold. Dense fog central valley.

Wet soils limited fieldwork. Seeding small grains continued. Broadleaf weed controls, conditions permitted. Sheep grazed alfalfa. Fertilizing, irrigating wheat, 1989 cotton seedbeds prepared. Harvest ongoing barley, alfalfa green-chop southern areas. Weed controls some alfalfa. Pruning main activity deciduous orchards, vineyards. Dormant spraying, weed control continued as weather permitted. Beekeepers prepared for pollination season. Grapefruit, lemon harvests continued. Navel orange harvest ongoing. Satsuma mandarin harvest winding down. Wet, foggy mornings slowed citrus harvests. Vegetable activity limited most areas due cold weather. Growers Modesto-Turlock experienced mild weather vegetable harvest continued full swing. Broccoli supplies Salinas-Watsonville, Santa Maria light, variable quality. Harvesting broccoli Kingsburg-Dinuba westside remained active. Cauliflower light, variable quality Santa Maria. Growers Kingsburg-Dinuba continued thin, cultivate, apply fungicides, lettuce fields. Tomato beds Brentwood-Tracy prepared, ready for planting, processing tomato plantings completed Kingsburg. Livestock fair to good. Range, pasture conditions improved. New rangeland feed emerged, cold weather slowed growth. Lack rainfall brought dry conditions

foothill. Supplemental feeding necessary, feed adequate most areas. Water low to very low lack of run-off. Some calving, lambing occurred.

COLORADO: With ample sunshine, no significant weather systems affected State, temperatures 5° above normal east of Continental Divide. Much of west slope colder than normal due to snow cover, cold air trapped in valleys. Temperatures in river basin 10° below normal. Although moisture not problem for winter wheat yet, no snow cover at this time. Colder temperatures expected for remainder of week.

Livestock, pasture conditions remained unchanged.

FLORIDA: Peninsula first significant rains in over a month. Weekly totals near 0.33 in., west; 1.00 to 6.00 in. north; 1.00 to 4.00 in. central; up to 1.50 in. south. Greatest weekly total 6.70 in. Daytona Beach. Measurable rain on about 3 days. Temperatures 2° below normal west, about 2° above normal north, 4° above central, 7° above normal south. Extremes 30° Tallahassee to 86° Immokalee.

Soil moisture short most areas. Higher than normal temperatures caused small grain development faster than normal. Warm temperatures contributed to increased disease, small grains. Tobacco bed planting nearly completed. Sugarcane harvest active. Much needed rains at weekend, most of Peninsula, combined with relatively warm soil temperatures, stimulated forage growth. Upper northwestern Peninsula, eastern Panhandle remained generally dry as well as some areas lower southern Peninsula. Pastures extreme western Panhandle fair to good; elsewhere Panhandle, much of Peninsula, mostly poor to fair. Some low ground areas continued good. Cattle good or better, few areas western Panhandle, coastal area of Peninsula; elsewhere mostly fair. Rain most citrus areas, irrigation discontinued. Cool temperatures helped slow new growth. Early, midseason orange harvest active all areas. White, colored grapefruit movement strong. Harvest tangerines, tangelos active fresh, processed use. Late week cold front with accompanying rain welcomed throughout vegetable producing areas. Spring planting continued active. Harvest winter crops steady. Volume leaders: Tomatoes, peppers, cabbage, celery, lettuce, squash. Lesser supplies available snap beans, strawberries, carrots, radishes, sweet corn, eggplant, escarole, endive. Immokalee spring watermelons being planted.

GEORGIA: Temperatures near normal. Extremes 16° Blairsville; 74° Albany. Rain mainly southeast. Totals less than 0.25 in. Coastal locations 1.00 in.

Soil moisture short southwest, adequate elsewhere. Main activities: Land preparation, tobacco bed preparation, pruning peach trees. Tobacco plants good to excellent. Small grains good, growing fast. Pastures poor to good. Cattle, hogs good.

HAWAII: Mostly favorable weather. Sunny skies, daily temperatures in 80s, light rainfall, cooling trade winds aided farming activities, crop development. Winds 10 to 20 mph. Temperatures upper 60s to low 80s. Rainfall none to 4.50 in.

Days suitable for fieldwork 7.0. Crops fair to good. Many crops improved growth. Chinese cabbage production steady, moderate volume. Head cabbage output steady, good quality. Tomato supplies steady. Banana production light to

moderate. Papaya production seasonally low. Ginger root harvesting active. Pesticide spraying heavy to prevent disease outbreaks following last weeks rainy weather.

IDAHO: Northern areas above normal temperatures, rest of State near normal to below normal temperatures. Precipitation below normal except some northern areas.

Continued cold weather limited farm activities to indoor work, except for general livestock care. Marketing, shipping farm products common. Indoor farm related activities included equipment maintenance, preparing taxes, financing for next crop year, attending seminars, conferences. Lambing, calving activities increased. Livestock good. Hay, roughage mostly adequate. Short supplies more areas.

ILLINOIS: Temperatures 10 to 17° above normal north, central; 5 to 10° above normal south. Precipitation negligible, only trace amounts few areas.

Soil moisture 59% short, 37% adequate, 4% surplus. Several people hauling water for livestock. Winter wheat 24% fair, 72% good, 4% excellent. Concern that freezing, thawing may cause heaving. Minor ice damage north, snow cover would be beneficial. Hay, roughage 27% short, 71% adequate, 2% surplus. Plenty low quality hay cut from government program acres. Livestock good to excellent. Mild weathers good for gains, feeding, marketing. Concern with respiratory problems due to fluctuating temperatures.

INDIANA: Temperatures 8 to 13° above normal. Lows mid to upper 20s, highs 50s to near 60s. Precipitation light to none statewide.

Wet soils limited field activities. Other activities: Hauling grain, processing tobacco, attending meetings, purchasing supplies, hauling manure, tax preparation, repairing equipment, mending fence, care of livestock. Wheat mostly good, livestock good. Hay short some areas.

IOWA: An extremely mild week, temperatures 15 to 22° above normal; extremes 14° on 21st Decorah, Fayette to 62° on 22nd Sioux City. Most areas no precipitation, maximum weekly total of 0.01 in. Spencer.

Livestock mostly good, but almost too warm for cattle feeders. Main activities include feeding livestock, spreading manure, tax work.

KANSAS: Temperatures 40°, 42° northern third, southern two-thirds 41°, 10 to 12° above normal southern third; 13 to 15° above central, 13 to 18° above northern third. Some scattered precipitation late week, otherwise dryness continued across State except southeast, east central 0.06 in., 0.01 in. respectively. Mild, dry over most State.

Wheat needs precipitation relieve moisture stress. Greenbug, damage continued during mild days southwest, south central areas. Lack snow cover leaving wheat vulnerable freeze damage.

KENTUCKY: Mild, dry. Lows upper 20s, 2° above normal. Highs near 50°, 6° above normal. Rain mostly non-existent, few hundredths some areas.

Beautiful winter weather. Good conditions for winter crops, livestock. Burley markets beginning to close, prices little weaker, lower quality 7% going to pool. Water generally adequate.

LOUISIANA: Temperatures 1° below to 2° above normal. Extremes 26°; 72°. Rainfall below normal north, normal central, southeast, above normal southwest; 0.03 in. northwest to 3.30 in. southwest.

Main activities: Wet soils continued to slow fieldwork. Caring for livestock, routine chores.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.69 in. Temperature 39°, normal 32°. Temperature extremes 11°; 61°.

Main farm activities caring for livestock, maintaining machinery.

DELAWARE: Precipitation 0.74 in. Temperature 40°, normal 34°. Temperature extremes 19°; 59°.

Main farm activities caring for livestock, maintaining machinery.

MICHIGAN: Temperatures 7 to 11° above normal. Temperature extremes -11°; 48°. Precipitation none to 0.61 in. across State. Moderate snow accumulation limited to northern counties, little or none elsewhere. Mild weather eliminated snow cover southern areas.

Wheat condition unchanged. Activities: Some corn, soybeans being salvaged off fields southeastern counties. Hay sales "brisk" lower area; supplies north described as short. Fruit trees being pruned southwest. Weather good for marketing crops, livestock.

MINNESOTA: Temperatures 12 to 21° above normal. Temperature extremes -23°; 51°. Precipitation none to 0.36 in. Greatest weekly total 0.44 in. Snowfall none to 5 in. Snow depth none to 34 in.

Extremely mild temperatures eased feeding, bedding requirements. Snow cover gone many areas, more precipitation desperately needed.

MISSISSIPPI: Dry, cool; rainfall 0.44 in. Maximum precipitation 2.51 in. Temperatures 1° below normal. Extremes 23°; 68°.

Days suitable for fieldwork 0.0, 0.3 1988, 2.0 avg. Soil moisture mostly surplus, some excessive. Wheat, pasture, livestock remained good. Hay, roughage short to adequate. Feed grains adequate. Activities: Planning 1989 crop year.

MISSOURI: Temperatures 14° above normal north, 6° above normal south. Virtually no precipitation except bootheel 0.67 in. Northern counties short of moisture, particularly northwest.

Wheat poor to fair northern areas, fair to good central, south; mostly dormant, no winterkill.

MONTANA: Warm temperatures over State. West, southwest 13 to 21° above normal. All other areas 16 to 22° above. West good precipitation accumulations. All other areas dry.

Winter wheat remained fair to good. Overwintering Russian wheat aphid several areas. Wind damage most light. Warm temperatures eased livestock care.

NEBRASKA: Dry, very mild; temperatures 12 to 22° above normal. No precipitation. Extremes 6°; 71°.

NEVADA: Quiet week weather wise. High pressure remained aloft entire period. Some clouds but no precipitation. Generally fair skies resulted mild days, cold nights.

Low night temperatures hard on newborn calves, lambs. Snow cover melt plus night freezing temperatures not favorable fall planted grains.

NEW ENGLAND: Precipitation 0.50 to 1.00 in. northern Maine, 0.25 to 0.50 in. remainder north, less than 0.25 in. south. Temperatures upper teens northern Maine to low 30s south coast. Temperatures 5 to 10° above normal.

Major farm activities: Tending livestock, machinery repair.

NEW JERSEY: Temperatures near normal, 29° north, 34° south, 37° coastal. Extremes -2°; 57°. Precipitation below normal, 0.02 in. north, none south, coastal. Heaviest 24-hour total 0.03 in. on 18th, 19th.

Farmers caring for livestock, tending to normal winter chores.

NEW MEXICO: Dry conditions persisted over State. Temperatures -10°; 73°.

NEW YORK: Some precipitation all areas; only St. Lawrence Valley, snow belt significant amount. Boonesville 1.50 in. of water. Other amounts down to just 0.02 in. Albany. Weather unseasonably warm most of week, brief cold snap on 21st. Temperatures 15° below zero Newcomb to 51° New York City. Series of weak storms moved across southern Canada, however they were not able to tap enough moisture to bring allot of snow or rain to area.

Warmer weather made outside chores easier. Farmers caring for livestock, doing winter maintenance work.

NORTH CAROLINA: Temperatures 1 to 3° above normal across State. Temperature extremes 15°; 71°. Precipitation none to 0.90 in.

Days suitable for fieldwork 3.8. Soil moisture 8% short, 86% adequate, 6% surplus. Pasture 4% very poor, 12% poor, 32% fair, 52% good. Oats 2% poor, 31% fair, 65% good, 2% excellent. Barley 34% fair, 62% good, 4% excellent. Rye 2% poor, 30% fair, 66% good, 2% excellent. Wheat 2% poor, 29% fair, 66% good, 3% excellent. Feed grains 1% very short, 9% short, 90% adequate. Hay, roughage 9% short, 88% adequate, 3% surplus. Major farm activities: Tending livestock, general farm maintenance. Other activities: Repairing equipment; tobacco plantbed preparation, seeding; breaking land; cutting firewood.

NORTH DAKOTA: Very mild temperatures 14 to 19° above normal. Extremes -16° northeast; 50° southwest. Precipitation none southeast to 0.16 in. northeast.

Soil moisture short to adequate. Snow cover provided adequate protection for winter seedings, alfalfa. Hay, feed mostly adequate. Livestock on supplemental forages. Limited farm activity included livestock work, machinery repair.

OHIO: Dry, mild. Temperatures 6 to 12° above normal. Extremes lower teens to lower 50s. Precipitation only few hundredths of an inch. Soil temperatures mid to upper 30s.

Soil surfaces drying rapidly. Only shallow frozen layers in soil.

OKLAHOMA: Temperatures 5° above normal southeast to 10° above normal northeast. No precipitation.

Dry weather causing wheat to turn yellow. Moisture needed statewide but particularly west. Warm weather increased greenbug infestations. Cattle good; prices stable to slightly higher than last week.

OREGON: Temperatures above normal, except southeast cool, snow covered. Normal precipitation, highest amounts near coast.

Soil moisture adequate most areas. Snow melted lower elevations north central. Fall seeded wheat good west of Cascades, Columbia Basin. Willamette Valley grass seed fields fair, some slugs in seedling rye grasses. Wine grape, fruit, nut pruning in progress west. Ranges fair to good east; hay being fed. Western pasture still short; lambing underway; calving started.

PENNSYLVANIA: Unseasonably mild temperatures, dry. Temperature 32°, 6° above normal. Temperature

extremes 2°; 55°. Precipitation 0.09 in., 0.56 in. below normal.

Activities: Hauling manure; caring for livestock; maintaining machinery; fixing fences; grading potatoes; cutting firewood.

PUERTO RICO: Island rainfall 0.56 in., 0.10 in. below normal. Highest total rainfall 3.03 in. Pico Del Este-Luquillo, 1.30 in. Canovanas, 1.10 in. Maunabo. Highest 24-hour total 1.10 in. Maunabo. Total rainfall since January 1st 2.23 in., 5% above normal. San Juan WSFO temperature 75°, 1° below normal. Rainfall 0.26 in., 0.40 in. below normal. Divisional temperature 75° on coasts, 67 to 71° interior. Station temperature 60° Pico Del Este-Luquillo to 78° San Juan City. Lowest minimum temperature 45° Adjuntas. Highest maximum temperature 89° San Sebastian.

SOUTH CAROLINA: Rainfall very light. Most areas less than 0.10 in. Colder weather moved in 21st, temperatures 1 to 3° above normal. Winter to date warmest since 1975.

Main activities: Tobacco seedbed preparation, planting; constructing new, repairing old tobacco curing barns; care of livestock, poultry; equipment maintenance, routine farm chores.

SOUTH DAKOTA: Temperatures above normal; 12 to 21° above average. Extremes -3°; 64°. Very little precipitation; 0.02 in. northeast. Precipitation for year above normal northeast, southeast corner of State, below normal elsewhere. Snow cover 1 to 3 in. north central, 1 to 10 in. northeast; bare ground south, west.

Crop conditions unchanged.

TENNESSEE: Fair, dry, warm. High pressure main feature most of week. Dry fronts passed through 18th to 20th. Temperatures near normal Plateau, 2 to 6° above normal elsewhere. Lows 30°; highs 55°.

Meetings, income tax preparation, caring for livestock, routine farm chores main activities.

TEXAS: Week began with mostly clear skies across much of State, except light showers Lower Rio Grande Valley. Midweek over running clouds, weak cold front combined with weather disturbance from southwest, produced showers over large part of State. Panhandle, far west shower free. Cooler, drier air weekend. Temperatures above normal, below normal Lower Valley, Coastal Bend. Precipitation below normal northern, western areas, above normal amounts elsewhere.

Crops: Small grains received large boost central, many areas good rain which should improve overall conditions. Producers still topdressing fields Blacklands, growth remained good. Fields east too wet for much grazing; additional moisture help. Dryland fields Cross-Timbers, Plains missed any good moisture, remained stressed. Some later planted fields appeared dying. Cattle moved off many wheat fields, grazing decreased. Irrigation continued where available. Some producers planting oats to supplement loss of wheat; moisture needed. Greenbugs heavy many fields. Other Field Crops: Pecans 100% harvested, 99% 1987, 99% avg.

Commercial Vegetables: Rio Grande Valley harvest most vegetables continued at reduced rate because wet weather. Quality good. Few early melons planted. Harvest oranges slowed, growers completed harvest some orchards. Grapefruit harvest about same. San Antonio-Winter Garden late week rain help with irrigation needs. Harvest most vegetables slowed some later week because rain. Some spinach fields showed some drought stress. Pecan harvest virtually completed west, excellent crop. Peach trees beginning to bud east with mild weather.

Range and Livestock: Ranges, pastures temporarily revived central, south with slow rain. Additional moisture still needed. Grazing small grains Plains continued to decrease because lack of moisture. Producers continued to move livestock off pastures because lack of forage. Cattle feeding active. Mild weather helped body conditions. Grazing improved east, some fields too muddy to graze following heavy rains.

UTAH: Precipitation none to light. Temperatures 4 to 13° below normal.

Snow cover generally good on fall seeded grains. Winter wheat fair to good. Winter range feed mostly fair. Major farm activities; livestock chores, hauling manure, repairing equipment, summarizing tax records, attending farm meetings.

VIRGINIA: Cloudy, wet to start. Next 6 days mild, dry. Temperatures 3 to 4° above normal. Range 13 to 62°. Precipitation 0.70 in. west, 0.10 in. east.

Days suitable for fieldwork 3.1. Topsoil moisture 12% short, 77% adequate, 11% surplus. Winter grains, grazing crops 20% poor, 47% fair, 33% good. Calving, lambing active. Main activities: Livestock care, meetings, tax preparation. Soil, forage sampling active.

WASHINGTON: Warmer than normal. Temperatures 3 to 6° above normal west, 7 to 12° above normal east. Precipitation 0.69 to 2.62 in. west, none to 0.33 in. east.

Days suitable for fieldwork 1.7. Soil moisture 40% adequate, 60% surplus. Range, pasture mostly adequate. Hay, other roughage mostly adequate. Activities: Repair work, lambing, calving, meetings. Forced rhubarb harvest King, Pierce Counties. Dormant sprays applied Cowlitz County.

WEST VIRGINIA: Temperature 35°, 2 to 7° above normal. Extremes 7° Greenbank; 58° Gary, Williamson, Romney, Creston. Precipitation 0.04 in., well below normal.

Days suitable for fieldwork 4.8. Soil moisture 33% short, 59% adequate, 8% surplus. Wheat, barley fair to good. Livestock good to fair. Feed 6% very short, 25% short, 69% adequate. Farm activities: General farm maintenance, plowing, spreading manure, livestock care.

WISCONSIN: Temperatures mild 28°. Extremes -10°; 50°. Precipitation trace to 0.20 in. Snowfall 1 to 4 in. north 17th.

WYOMING: Temperatures above normal. Precipitation below normal.

Winter wheat fair to good. Weather damage negligible but additional moisture needed. Livestock fair to good. Supplemental feeding most areas. Sheep shearing begun early lambing flocks.

International Weather and Crop Summary

January 15-21, 1989

HIGHLIGHTS

WESTERN USSR ... Unseasonably warm weather covers dormant winter grains. Widespread precipitation continues to increase moisture reserves.

EUROPE ... Unfavorably dry weather continues in the south. Abnormally warm temperatures persist in the north.

SOUTH ASIA ... Cooler-than-normal weather continues across the northern winter wheat regions, possibly affecting crops in or nearing the heading stage.

EASTERN ASIA ... Moderate to heavy rain continues in southeastern China. Much above-normal temperatures cover northern and eastern crop areas.

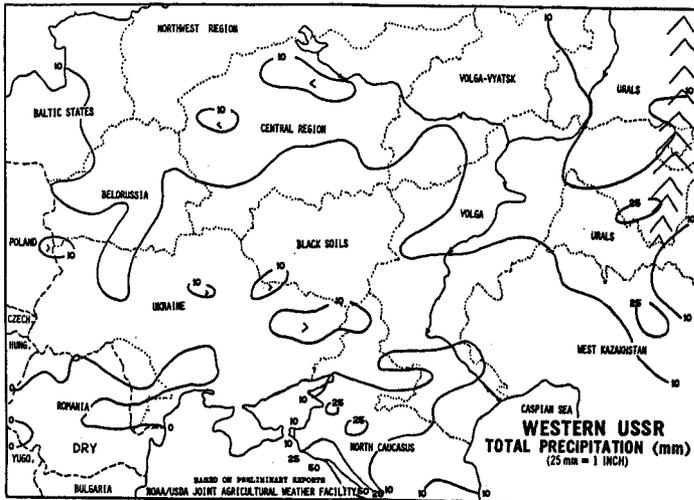
SOUTHEAST ASIA ... Widespread showers continue across Indonesia, Malaysia, and the eastern Philippines, likely causing local flooding.

SOUTH AMERICA ... Moderate to heavy rains help relieve drought stress in Argentina. Widespread rain continues in most Brazilian crop areas.

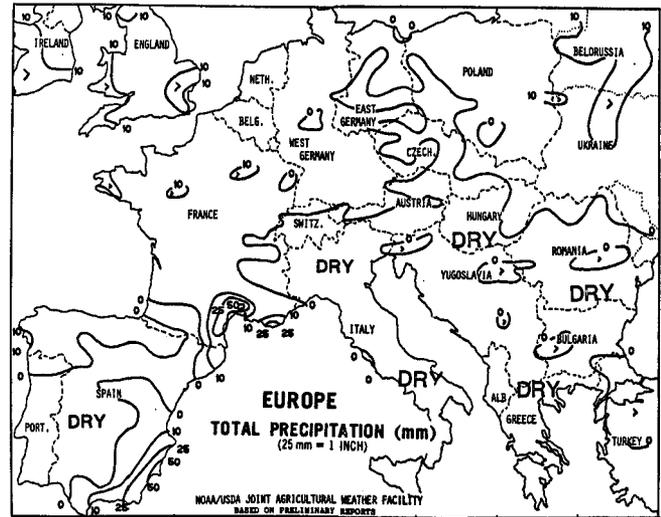
AUSTRALIA ... Light rain favors summer crops in New South Wales. Heavy rain continues in coastal Queensland.

SOUTH AFRICA ... Rain and seasonable temperatures cover the primary crop regions, favoring vegetative to reproductive corn.

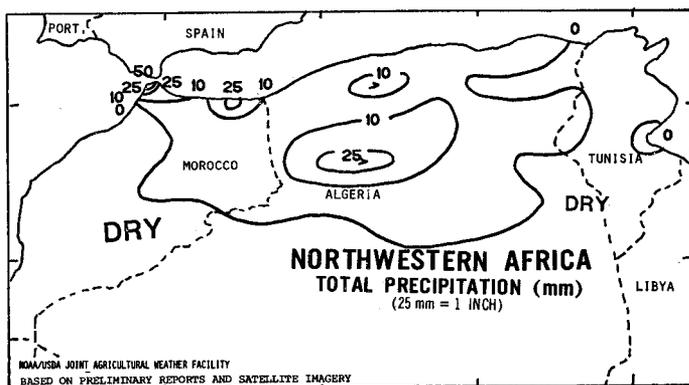
NORTHWESTERN AFRICA ... Dry weather stresses winter grains in the vegetative stage.



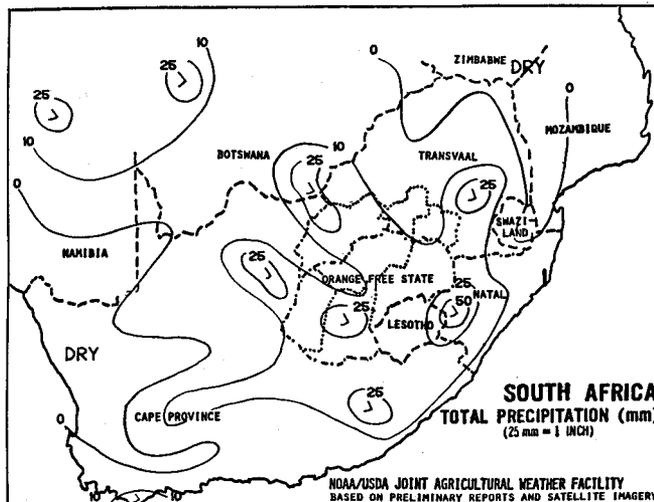
WESTERN USSR ... Unseasonably warm weather continued over most of the region. Weekly average temperatures ranged from 2 to 5 degrees Celsius (C) above normal in the extreme south and 6 to 9 degrees C above normal over the remainder of the region. Highest weekly temperatures ranged from 2 to 3 degrees C in the Central Region, the Black Soils Region, the Volga, and the northern North Caucasus. In the Baltic States, Belorussia, the Ukraine, and the western North Caucasus, where crop areas are snow free, highest weekly temperatures ranged from 5 to 10 degrees C. Widespread precipitation continued over most of the region except for crop areas in and around Moldavia, where the weather was mostly dry. Heaviest amounts of precipitation (16-40mm) fell as rain in the western and central North Caucasus.



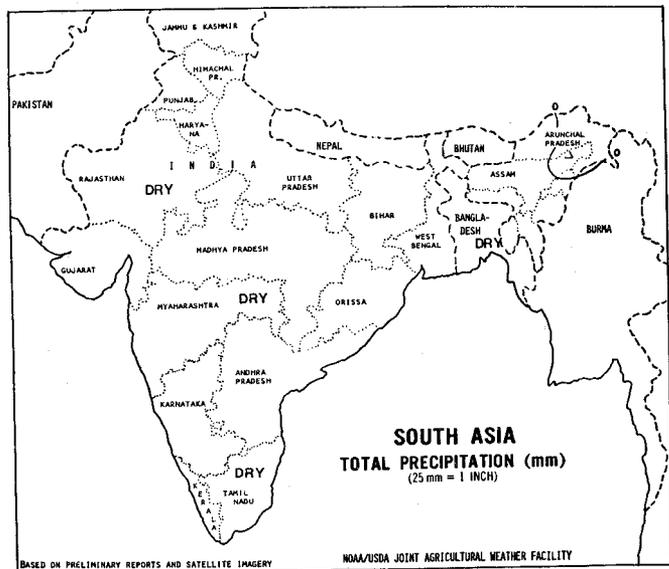
EUROPE ... Mostly dry weather continued across much of southern Europe except for southern Spain and southern France, where scattered showers (5-60mm, with isolated rainfall in excess of 80mm) provided beneficial moisture. Soil moisture in sections of central and northern Spain, southern France, northern Italy, and the western Balkans remains unfavorably low due to abnormally low late fall and winter precipitation. In the north, light to moderate rain (5-15mm) covered sections of the northwest, while mostly light rain (less than 10mm) fell in the northeast. Much-warmer-than-normal mean temperatures (as much as 9 degrees C above normal in sections of Poland) continued across most northern crop areas, possibly causing some vegetative development of winter grains in the northwest. Mean temperatures in the south were near normal to below normal.



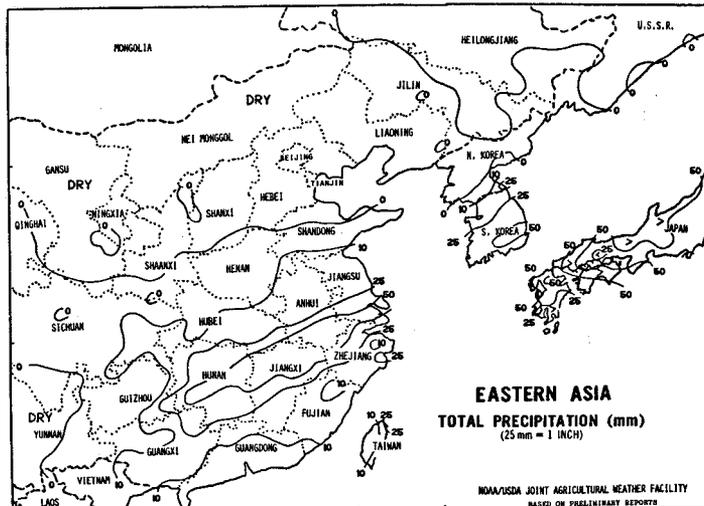
NORTHWESTERN AFRICA ... Dry weather returned to Morocco where winter grains, in the vegetative stage, had to rely on limited soil moisture reserves to meet crop-moisture demands. In Algeria and Tunisia, persistent dryness increased stress on winter grains, hampering vegetative growth. Winter grains in minor producing areas of western Algeria have received well-below-normal rainfall since the beginning of the growing season. The unfavorable dryness in western Algeria has likely caused spotty plant emergence and stunted vegetative growth.



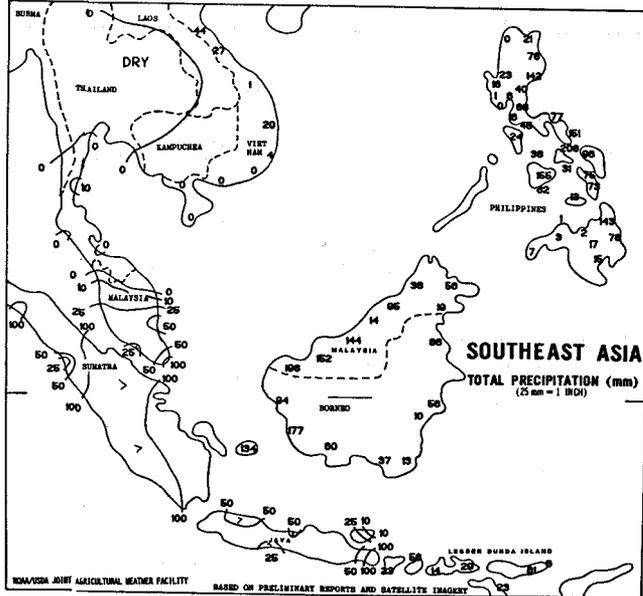
SOUTH AFRICA ... Scattered, light to moderate showers (2-23mm) covered the Maize Triangle and crop regions from the eastern Cape Province to Natal, benefiting vegetative to reproductive corn. Temperatures averaged near normal, with high temperatures ranging from 26 to 32 degrees C across primary crop regions. However, hot, dry weather returned to minor growing regions of the northern Transvaal, stressing vegetative to reproductive crops.



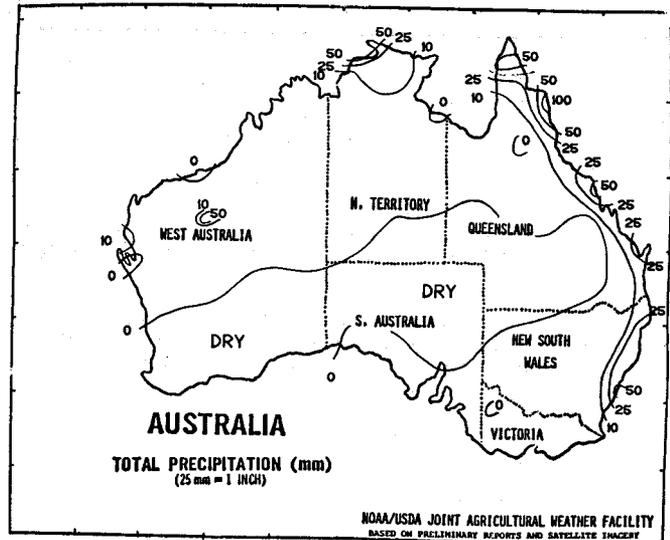
SOUTH ASIA ... Dry weather returned to northern grain regions of Pakistan and India, but temperatures continued cool, averaging 1-5 degrees below normal. Local freezing temperatures (as low as -1 degree C) were reported in India's Punjab state as elsewhere across the north, temperatures dipped below 5 degrees C for the second week. Normally, winter wheat across the north is in or nearing the heading stage of development, making the crop susceptible to frost damage. Dry, seasonable weather continued across southern India.



EASTERN ASIA ... Moderate to heavy rain (10-70mm, with isolated rainfall in excess of 70mm) continued across much of the Yangtze Valley, sections of southern China, and Taiwan. Light to moderate rain and snow (5-20mm) also persisted early in the week across southern sections of the North China Plain. Abundant precipitation since late December has dramatically improved soil moisture levels in much of eastern China, although long-term precipitation deficits still exist in some areas. Elsewhere, heavy rain (25-100mm, with isolated rainfall greater than 100mm) fell in South Korea and Japan, possibly causing flooding in sections of western Honshu. Much-warmer-than-normal mean temperatures (as much as 10 degrees C above normal in North Korea) covered northern and eastern crop areas, while temperatures were below normal in the west and south.

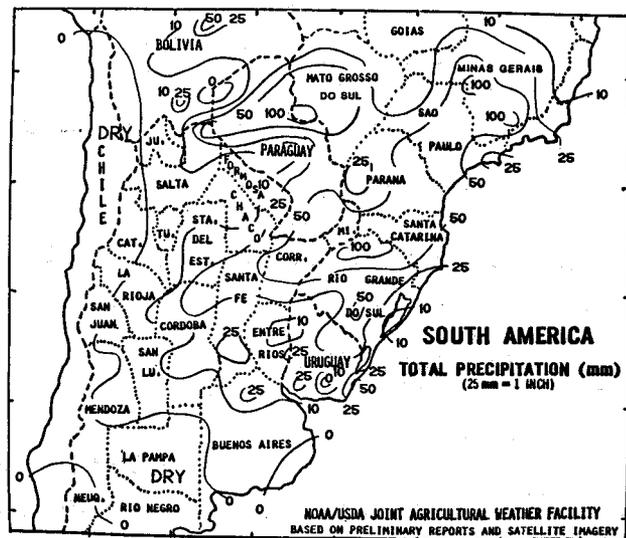


SOUTHEAST ASIA ... Widespread, moderate to heavy showers (50-100mm or more) covered most of Indonesia and Malaysia, with local flooding likely in central Sumatra and southern growing regions of eastern Malaysia. Rainfall decreased over Java, with amounts ranging from 25 to 70mm over most areas. Moisture conditions across the region are generally favorable for rice planting and vegetative growth. In the Philippines, variable showers covered most growing regions with locally heavy showers (100-200mm or more) from central Luzon to northern Mindanao, likely causing some flooding. Moderate rain (21-78mm) benefited newly planted grains in northern Luzon.



AUSTRALIA ... Light rain (less than 10mm) favored vegetative to reproductive summer crops in New South Wales, while summer growing areas in Queensland remained dry. Below-normal rainfall during the spring and summer has caused soil moisture to become short in sections of interior Queensland. In contrast, heavy seasonal rains (10-100mm) continued mostly favorable conditions for vegetative sugarcane in coastal eastern Queensland. In the south, scattered light rain (less than 10mm) fell over sections of Victoria and South Australia. Crop areas in Western Australia remained seasonably dry. Mean temperatures were above normal in Western Australia and interior Queensland and below normal elsewhere.

SOUTH AMERICA ... In Argentina, moderate to heavy rain (10-44mm) on the 19th and 20th helped relieve heat and moisture stress on corn and soybeans across Santa Fe, Cordoba, and northern Buenos Aires. Cooler temperatures accompanied the rainfall, following stressful maximum temperatures in the 37-42 degree C range early in the week. Soil moisture remained limited in most areas for crops entering or continuing through highly moisture sensitive reproductive phases of development. In Brazil, widespread moderate to heavy rain (15-50mm, with scattered rainfall in excess of 50mm) continued to keep soil moisture at mostly favorable levels from Mato Grosso do Sul and Minas Gerais southward to Rio Grande do Sul. Very heavy rain (100-121mm) in sections of southwestern Mato Grosso do Sul and southern Minas Gerais may have caused localized flooding. In Rio Grande do Sul, the rainfall reversed a drier-than-normal trend over the past several weeks and benefited reproductive soybeans. Mean temperatures were near normal to above normal in all crop areas.



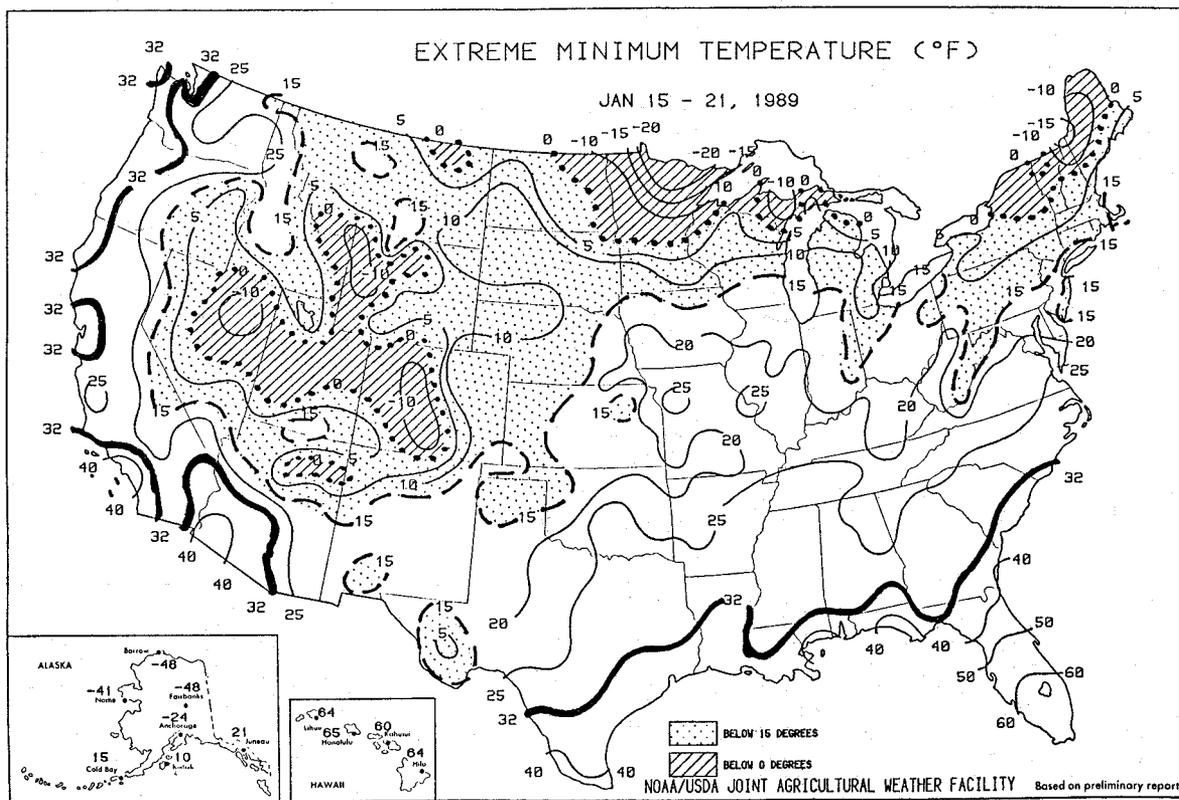
The Weekly Weather and Crop Bulletin (ISSN 0043-1974) is published weekly and jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the Weekly Weather Chronicle. It is issued under general authority of the Act of January 12, 1895 (44-USC 213), 53d Congress, 3d Session. NOAA is responsible for managing, printing, and distributing the bulletin. The contents may be reprinted freely, with proper credit.

Annual subscriptions: domestic \$35, foreign \$50 (in U.S. funds by international money order or check drawn on U.S. bank) payable to U.S. Department of Commerce, NOAA. POSTMASTER: Send address changes to Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington, D.C. 20250. Order subscriptions from the office and address listed above. Second class postage paid at Washington, D.C. and additional mailing offices.

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WEEKLY NEWS BULLETIN
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ISSN 0043 1974