

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

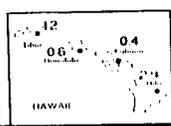
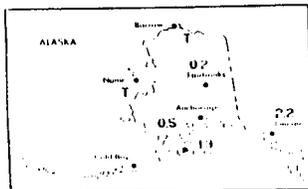
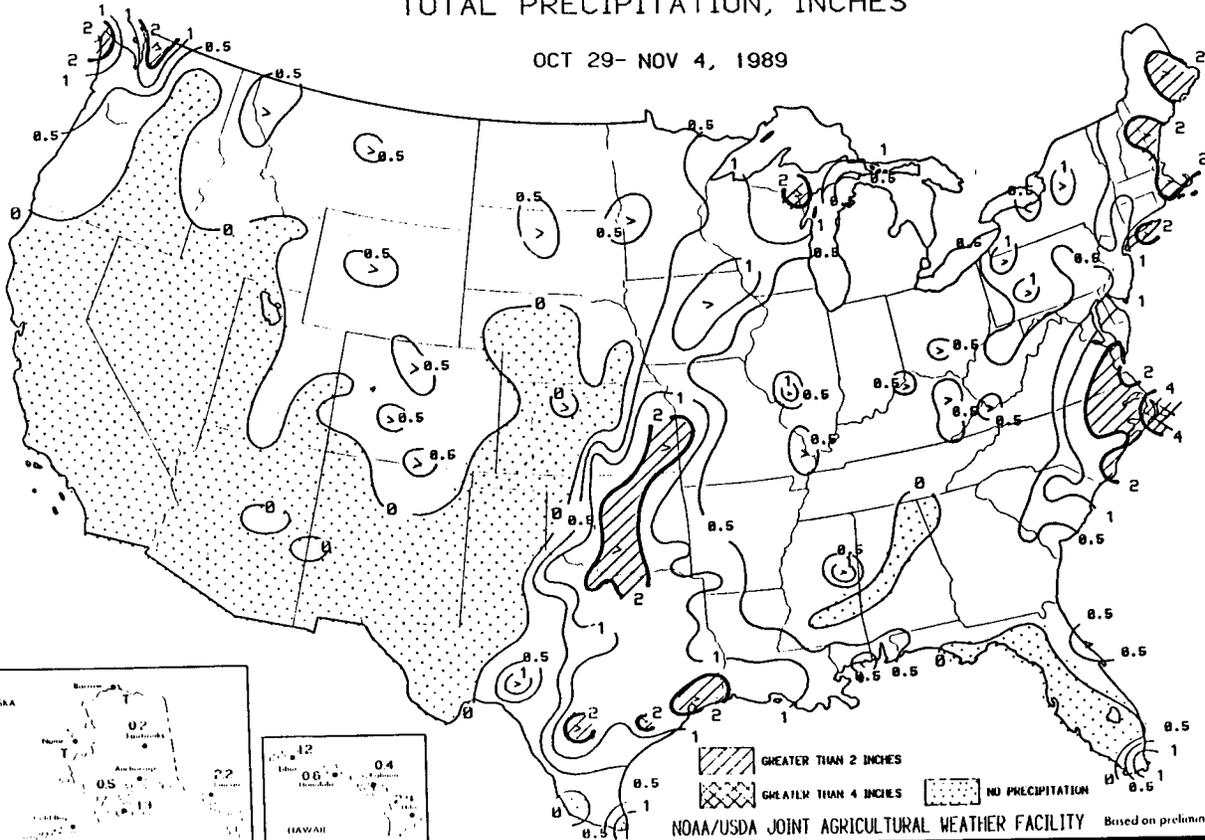
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Nov. 7, 1989

TOTAL PRECIPITATION, INCHES

OCT 29 - NOV 4, 1989



NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY Based on preliminary reports

HIGHLIGHTS

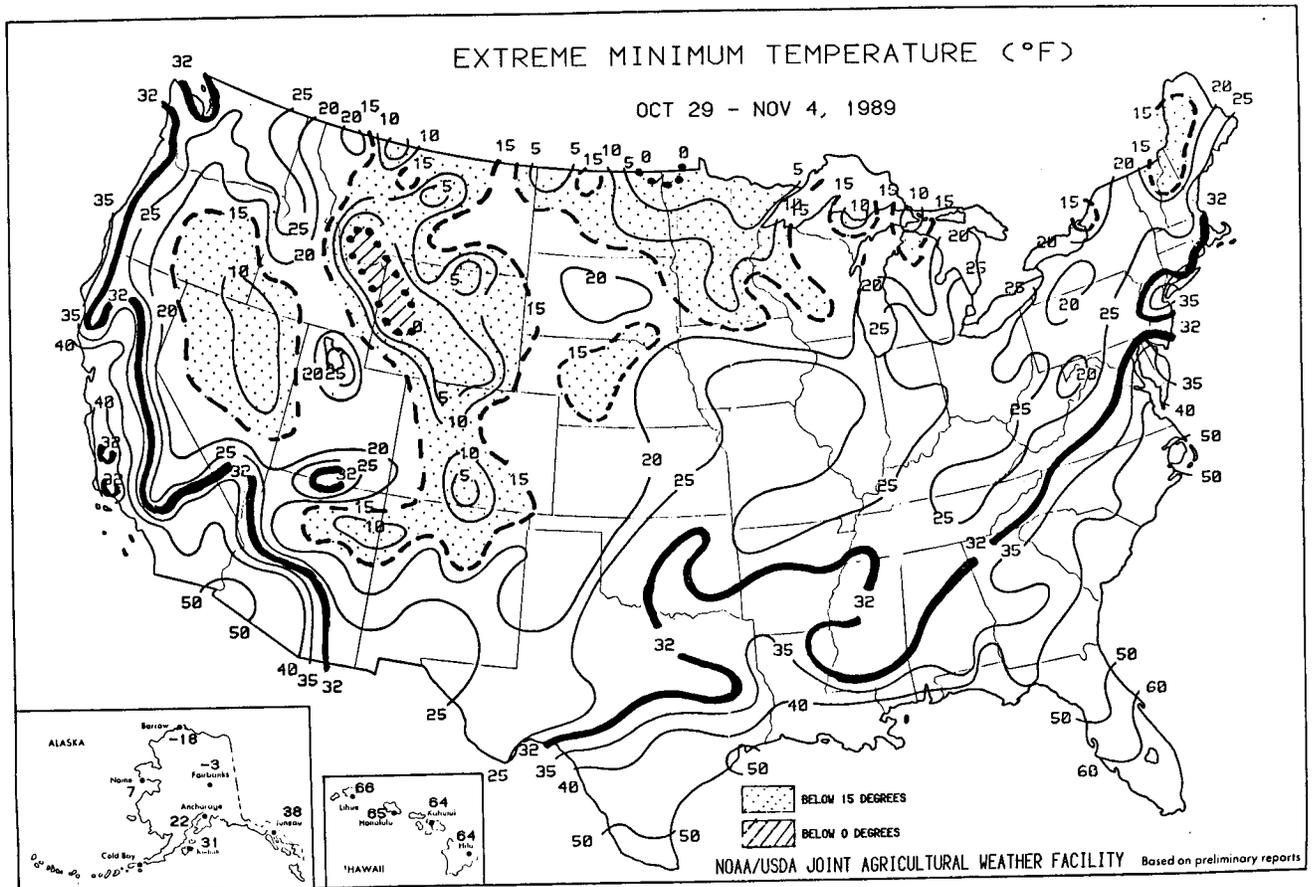
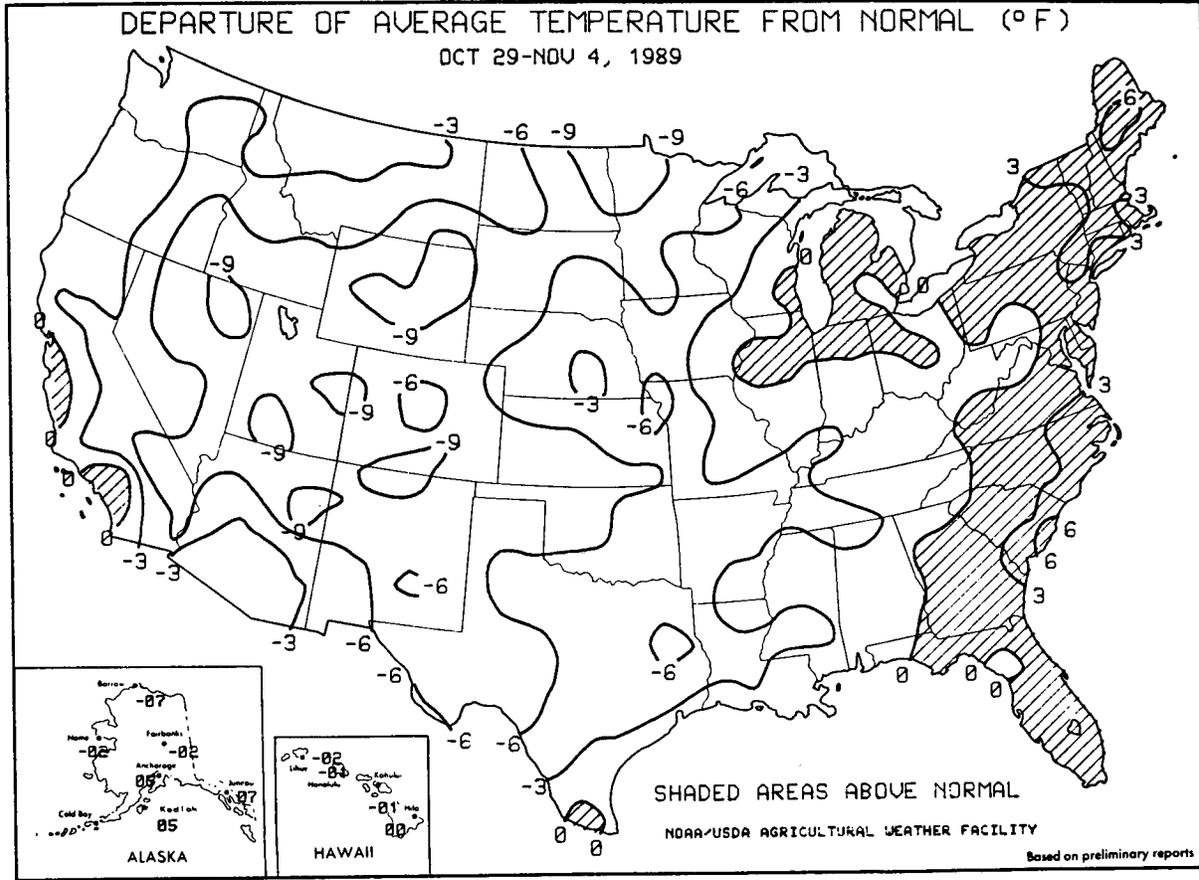
Oct. 29 - Nov. 4, 1989

Early in the week, a strong cold front caused heavy rain from **southern Texas** to the **upper Great Lakes**. Cold air surged in behind the front and remained over much of the **western two-thirds of the Nation**. Temperatures dipped into the teens over **Montana's** winter wheat. Showers brought substantial rain to the **eastern seaboard** and snow and light rain to the **northern tier of States** throughout the week. Over 3 feet of snow fell across portions of **upper Michigan**. Dry weather again prevailed over much of the remainder of the **Nation**. During the latter part of the week, the cold air replaced the record warmth over the **eastern third of the country**. Temperatures dropped below freezing into the **middle Atlantic States** at week's end.

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National Weather Data for Selected Cities

Weather Data for the Week Ending **November 4, 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 SEP 1	PCT. NORMAL SINCE SEP 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	70	41	79	31	55	-2	T	-1.7	T	7.3	100	52.7	114	93	40	0	0	0	0	0	0	
MOBILE	73	48	81	38	60	-3	T	-1.4	T	5.8	61	45.8	82	94	49	0	0	1	0	2	1	0
MONTGOMERY	72	41	82	30	57	-3	T	-1.2	T	8.6	118	59.2	143	98	43	0	0	1	1	6	0	0
AK ANCHORAGE	36	29	42	22	33	5	T	1.5	T	8.0	186	25.6	199	98	82	0	0	5	5	6	0	0
BARROW	6	-7	11	-18	0	-7	T	-1.1	T	.9	78	7.1	170	91	82	0	0	7	7	3	0	0
FAIRBANKS	17	6	22	-3	11	-2	T	-1.1	T	2.2	114	9.0	99	86	72	0	0	7	7	3	0	0
JUNEAU	46	42	49	38	44	7	T	1.4	T	18.1	108	36.9	84	98	89	0	0	1	1	6	2	1
KODIAK	46	38	49	31	42	5	T	1.3	T	13.6	97	43.8	87	96	73	0	0	1	1	3	0	0
NOME	25	15	29	7	20	-2	T	-1.2	T	3.5	93	18.7	143	83	61	0	0	7	7	0	0	0
AZ PHOENIX	81	51	84	49	66	0	T	0	T	.9	71	4.5	79	39	13	0	0	0	0	0	0	0
PRESCOTT	64	26	69	19	45	-4	T	-1.1	T	1.3	44	9.4	59	50	10	0	0	7	7	0	0	0
TUCSON	78	48	81	40	62	-2	T	-1.2	T	1.9	82	6.2	65	44	12	0	0	0	0	0	0	0
YUMA	80	56	87	51	68	-1	T	-1.1	T	.4	67	7.2	368	23	10	0	0	0	2	1	1	0
AR PORT SMITH	66	37	81	25	51	-4	T	-1.5	T	4.3	63	46.1	136	97	38	0	0	0	0	1	0	0
LITTLE ROCK	63	44	78	34	53	-3	T	-1.1	T	6.0	79	45.4	111	76	49	0	0	0	0	0	0	0
CA BAKERSFIELD	74	40	77	38	57	0	T	0	T	.5	108	2.8	65	75	28	0	0	0	0	0	0	0
EUREKA	62	45	65	40	53	0	T	-1.1	T	3.8	89	23.1	86	88	58	0	0	0	0	0	0	0
FRESNO	72	40	76	39	56	-3	T	-1.2	T	1.5	219	6.4	83	94	29	0	0	0	0	0	0	0
LOS ANGELES	80	53	84	50	67	3	T	0	T	.6	115	3.8	43	73	14	0	0	0	0	0	0	0
REDDING	73	41	80	33	57	-2	T	-1.9	T	8.5	234	28.4	98	87	27	0	0	0	0	0	0	0
SACRAMENTO	70	42	72	36	56	0	T	-1.4	T	4.6	344	13.7	114	92	39	0	0	0	0	0	0	0
SAN DIEGO	76	51	79	48	64	0	T	-1.2	T	.7	102	2.7	37	69	18	0	0	0	0	0	0	0
SAN FRANCISCO	69	49	74	47	59	1	T	-1.4	T	2.7	182	10.0	72	90	35	0	0	6	2	2	0	0
CO DENVER	52	25	64	18	38	0	T	0	T	2.5	109	14.7	106	81	56	22	0	0	7	0	0	0
GRAND JUNCTION	50	24	55	18	37	-10	T	-2.0	T	.5	28	5.5	81	68	20	0	0	7	0	0	0	0
PUEBLO	56	19	70	11	38	-9	T	-1.2	T	1.1	68	6.9	68	88	20	0	0	1	1	3	1	0
CT BRIDGEPORT	60	45	72	30	53	2	T	1.3	T	10.6	150	46.8	136	83	54	0	0	1	1	2	1	0
HARTFORD	60	40	76	29	50	3	T	1.5	T	12.7	160	50.6	139	89	45	0	0	0	0	4	4	0
DC WASHINGTON	63	47	75	34	55	2	T	1.9	T	12.3	192	46.0	139	96	57	0	0	0	0	0	0	0
FL APALACHICOLA	77	57	84	48	67	2	T	0	T	13.1	107	47.4	97	92	50	0	0	0	0	0	1	0
DAYTONA BEACH	78	61	81	54	70	2	T	0	T	16.8	143	40.0	91	97	87	0	0	0	2	2	0	0
JACKSONVILLE	78	58	83	47	68	3	T	-1.0	T	15.8	150	47.5	100	96	56	0	0	0	0	0	0	0
KEY WEST	83	72	85	69	78	0	T	-1.1	T	5.9	50	23.0	66	91	64	0	0	0	0	0	0	0
MIAMI	86	69	88	66	77	2	T	-1.1	T	8.5	54	41.0	77	93	58	0	0	0	0	0	0	0
ORLANDO	81	63	86	59	72	2	T	-1.5	T	12.0	124	39.7	87	96	56	0	0	0	1	0	0	0
TALLAHASSEE	78	49	85	35	63	0	T	-1.6	T	7.9	80	54.4	96	98	45	0	0	0	0	0	0	0
TAMPA	82	63	83	57	72	2	T	-1.4	T	8.0	91	36.8	86	96	55	0	0	0	0	5	0	0
WEST PALM BEACH	83	67	86	64	75	1	T	-1.5	T	10.2	58	35.8	66	96	61	0	0	0	0	0	5	0
GA ATLANTA	68	47	76	36	58	1	T	-1.7	T	13.4	221	54.8	133	89	43	0	0	0	1	0	0	0
AUGUSTA	72	48	80	37	60	2	T	-1.2	T	6.1	106	43.4	115	97	52	0	0	0	0	1	0	0
MACON	72	46	80	33	59	-1	T	-1.1	T	4.8	87	39.7	103	95	45	0	0	0	0	1	0	0
SAVANNAH	77	56	81	44	66	4	T	-1.1	T	12.8	166	40.3	89	90	50	0	0	0	0	1	0	0
HI HILO	82	68	84	64	75	0	T	-1.2	T	23.0	125	159.2	156	93	65	0	0	0	0	2	0	0
HONOLULU	86	68	88	65	77	-1	T	-1.0	T	5.8	205	21.1	124	89	53	0	0	0	0	0	0	0
KAHULUI	84	67	89	64	76	-1	T	-1.4	T	4.8	351	33.5	247	92	57	0	0	0	0	2	1	0
LIHUE	81	68	82	66	75	-2	T	-1.2	T	9.0	121	50.1	149	94	62	0	0	0	6	1	0	0
ID BOISE	52	27	59	20	39	-6	T	-2.4	T	2.5	172	9.8	108	86	35	0	0	4	1	6	0	0
LEWISTON	53	36	61	30	44	-1	T	-2.2	T	1.3	67	12.7	121	76	46	0	0	4	1	1	0	0
POCATELLO	44	21	54	12	33	-9	T	-2.2	T	1.3	78	8.4	94	86	45	0	0	0	3	3	0	0
IL CHICAGO	56	37	75	20	47	0	T	-1.1	T	5.4	85	26.8	90	85	45	0	0	0	2	1	0	0
MOLINE	55	39	73	29	47	1	T	-1.2	T	6.6	99	30.4	91	84	48	0	0	0	3	1	0	0
PEORIA	57	37	75	27	47	0	T	-1.4	T	4.4	69	20.7	67	87	43	0	0	0	3	1	0	0
QUINCY	57	38	73	30	48	-1	T	-1.1	T	4.9	63	17.2	50	84	47	0	0	0	2	2	0	0
ROCKFORD	54	34	74	17	44	-1	T	-1.3	T	2.8	40	24.8	76	96	50	0	0	4	4	0	0	0
SPRINGFIELD	58	37	76	25	48	-1	T	-1.5	T	6.5	107	26.6	88	93	47	0	0	2	1	0	0	0
IN EVANSVILLE	62	34	78	24	48	-3	T	-1.1	T	4.4	79	44.3	126	95	43	0	0	0	5	1	0	0
FORT WAYNE	57	35	74	28	46	0	T	-1.1	T	6.2	115	32.1	108	94	49	0	0	0	2	1	0	0
INDIANAPOLIS	58	35	75	23	47	0	T	-1.1	T	11.0	197	45.9	138	85	44	0	0	0	3	4	0	0
SOUTH BEND	56	38	74	28	47	0	T	-1.5	T	5.4	80	30.9	95	86	45	0	0	0	3	1	0	0
IA DES MOINES	52	34	66	28	43	-3	T	-1.0	T	7.7	141	28.4	100	93	56	0	0	0	4	3	1	0
SIOUX CITY	50	33	63	18	41	-2	T	-1.1	T	4.5	103	18.6	78	83	43	0	0	0	4	4	0	0
WATERLOO	56	33	71	23	44	-4	T	-1.2	T	6.2	104	18.9	62	96	63	0	0	0	4	0	0	0
KS CONCORDIA	50	33	63	18	41	-2	T	-1.0	T	5.3	107	24.3	95	79	44	0	0	0	3	0	0	0
DOUG CITY	57	28	71	18	43	-7	T	-1.2	T	2.4	75	20.2	105	76	24	0	0	0	5	0	0	0
GOODLAND	53	25	67	19	39	-6	T	-1.1	T	1.4	58	17.8	117	75	28	0	0	0	5	2	1	0
GOOPLAND	56	32	66	24	44	-6	T	-1.7	T	12.1	185	37.8	123	94	49	0	0	0	5	1	0	0
TUPEKA	58	32	71	23	45	-6	T	-1.2	T	7.8	126	34.2	130	87	42	0	0	0	5	1	0	0
WICHITA	58	32	71	23	45	-6	T	-1.2	T	8.4	141	49.0	128	97	43	0	0	0	3	1	0	0
KY BOWLING GREEN	64	35	80	25	50	-2	T	-1.2	T	5.5	85	53.9	131	93	42	0	0	0	3	1	0	0
LEXINGTON	60	36	77	27	48	-2	T	-1.4	T	8.4	141	49.0	128	97	43	0	0	0	2	2	0	0
LOUISVILLE	63	36	78	27	49	-2	T	-1.3	T	5.1	81	47.0	122	89	38	0	0	0	0	1	1	0
LA ALEXANDRIA	70	45	81	37	57	-5	T	-1.5	T	1.2	19	53.4	122	98	43	0	0	0	0	3	1	1
BATON ROUGE	74	48	83	41	61	-2	T	-1.1	T	7.7	103	68.6	145	97	50	0	0	0	0	4	1	0
LAKE CHARLES	72	51	82</																			

Weather Data for the Week Ending November 4, 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	PCT. NORMAL SINCE Sep 1	TOTAL, IN., SINCE Sep 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	PRECIPITATION	
																		.01 INCH OR MORE	.50 INCH OR MORE
ME SIREVEPORT	68	43	81	38	55	-5	.5	-2	.5	2.6	40	55.3	151	95	48	0	0	1	1
ME CARIBOU	54	39	70	22	47	-9	1.0	.3	1.6	6.1	87	27.5	90	87	53	0	2	4	1
ME FORTLAND	58	38	75	25	48	4	2.3	1.3	1.1	10.5	137	36.6	105	93	51	0	1	3	2
MD BALTIMORE	61	42	73	28	52	1	.4	-3	1.2	8.7	126	47.9	135	98	60	0	1	3	0
MA SALISBURY	65	43	77	31	54	2	1.7	.9	1.2	12.6	156	48.7	125	99	54	0	1	3	1
MA BOSTON	60	45	76	32	53	3	1.3	.4	1.2	11.4	158	38.5	109	92	52	0	1	2	1
MA CHATHAM	58	45	67	34	52	2	1.8	.9	1.2	10.2	128	41.1	108	93	67	0	0	3	2
MI ALPENA	51	34	73	20	43	1	.3	-2	.1	4.3	79	18.3	73	86	48	0	3	3	0
MI DETROIT	55	36	72	27	45	0	.3	-3	.2	4.8	103	25.5	97	90	50	0	2	2	0
MI FLINT	54	37	73	25	46	1	.2	-4	.1	6.0	127	27.4	110	87	42	0	3	3	0
MI GRAND RAPIDS	53	36	74	20	45	0	.1	-5	0	6.5	104	28.2	99	91	45	0	3	3	0
MI HOUGHTON LAKE	50	34	71	15	42	1	.2	-3	.1	2.4	45	17.3	72	88	52	0	3	4	0
MI LANSING	53	34	73	17	44	-1	.2	-3	.2	4.8	95	26.2	104	91	46	0	3	2	0
MI MARQUETTE	41	26	68	6	33	-4	1.3	.6	.6	5.1	67	24.1	75	95	72	0	5	6	1
MI MUSKOGON	52	38	72	25	45	0	.4	-2	.2	4.3	71	21.4	82	88	49	0	3	4	0
MI SAULT ST. MARIE	45	31	69	10	38	-1	1.3	.6	.6	4.0	55	20.3	73	96	62	0	4	6	1
MN ALEXANDRIA	38	24	49	13	31	-7	.5	.2	.3	4.9	113	20.2	88	96	66	0	6	3	0
MN DULUTH	35	23	53	5	29	-8	.8	.4	.5	5.8	101	24.9	93	94	68	0	7	6	0
MN INT'L. FALLS	33	19	46	2	26	-8	.2	-1	.2	3.3	65	19.7	89	89	60	0	7	2	0
MN MINNEAPOLIS	44	29	65	15	37	-5	.4	0	.2	2.0	44	21.7	90	88	51	0	5	3	0
MN ROCHESTER	44	27	61	11	35	-6	.8	.4	.6	2.5	41	21.6	82	95	70	0	6	6	1
MS GREENWOOD	69	44	81	33	57	-1	.1	-8	.1	7.7	116	59.3	136	88	33	0	0	1	0
MS JACKSON	71	40	82	29	56	-4	T	-7	T	5.7	90	41.6	97	94	31	0	1	1	0
MS MERIDIAN	71	40	82	29	56	-2	T	-6	T	9.8	150	57.6	129	98	36	0	1	0	0
MO CAPE GIRARDEAU	61	37	77	24	49	--	.6	-1	.4	4.4	67	46.9	125	94	46	0	2	2	0
MO COLUMBIA	58	36	75	25	47	-3	.3	-3	.3	3.0	40	33.4	102	85	46	0	4	2	0
MO KANSAS CITY	54	34	64	23	44	-7	.9	.4	.7	11.7	149	37.1	112	92	52	0	4	2	1
MO SAINT LOUIS	61	42	78	31	52	1	.3	-3	.3	2.6	49	27.3	93	74	36	0	1	1	0
MO SPRINGFIELD	60	37	76	25	48	-3	.5	-2	.4	3.5	45	30.5	89	88	42	0	2	2	0
MT BILLINGS	44	27	55	17	36	-6	.1	-1	.1	2.8	110	13.5	101	77	47	0	5	2	0
MT GLASGOW	45	24	58	14	35	-4	.3	.2	.3	1.1	75	9.8	96	85	49	0	5	3	0
MT GREAT FALLS	48	28	54	18	38	-3	.3	.1	.3	2.6	135	20.8	153	79	40	0	5	2	0
MT HAVRE	50	26	58	11	38	0	.5	.3	.5	1.7	101	10.8	100	84	40	0	5	2	0
MT HELENA	46	24	53	10	35	-3	.1	0	.1	1.9	121	11.7	113	88	41	0	5	2	0
MT KALISPELL	44	27	47	20	36	-1	.6	0	.1	3.0	138	17.3	133	93	54	0	5	3	0
MT MISSOULA	48	29	60	19	38	-2	1	.3	.4	1.1	50	13.5	103	89	40	0	5	1	0
MT MISSOULA	41	25	52	17	35	-2	.2	.1	.2	1.6	79	12.5	110	90	49	0	5	4	0
NE GRAND ISLAND	56	38	69	21	42	-3	.2	0	.2	7.1	203	21.5	99	87	41	0	6	2	0
NE LINCOLN	54	28	69	22	41	-3	T	-3	T	9.1	191	23.2	91	87	41	0	6	0	0
NE NORFOLK	52	26	67	21	39	-5	T	-2	T	3.9	111	15.8	70	94	44	0	6	1	0
NE NORTH PLATTE	54	20	66	14	37	-5	T	-2	T	1.2	45	13.7	75	88	32	0	7	0	0
NE OMAHA	52	31	65	25	42	-5	.1	-3	.1	7.4	128	21.8	77	86	49	0	5	2	0
NE SCOTTSBLUFF	48	23	59	19	35	-7	T	-1	T	2.3	123	9.3	68	85	36	0	7	1	0
NE VALENTINE	47	23	60	17	35	-6	.1	-1	.1	2.6	109	12.0	74	76	44	0	7	1	0
NV ELY	53	10	65	6	32	-8	0	-1	0	.8	55	6.5	85	72	19	0	7	0	0
NV LAS VEGAS	68	39	76	35	54	-6	0	-1	0	T	2	2.2	66	29	11	0	0	0	0
NV RENO	61	22	73	19	41	-3	0	-1	0	1.6	268	6.8	124	81	21	0	7	0	0
NV WINNEMUCCA	54	17	65	13	36	-7	0	-2	0	1.5	150	4.7	76	88	26	0	7	0	0
NH CONCORD	58	34	75	24	46	3	1.1	.3	.8	9.9	148	34.8	116	97	44	0	3	3	1
NJ ATLANTIC CITY	63	40	73	26	51	0	.8	0	.6	10.5	164	46.1	132	96	52	0	2	4	1
NM ALBUQUERQUE	57	28	65	24	43	-8	0	-1	0	1.3	75	4.7	67	46	14	0	6	0	0
NM CLOVIS	58	27	73	18	43	-9	0	-2	0	1.5	39	14.1	88	74	21	0	5	0	0
NM ROSWELL	65	30	79	24	47	-5	0	-1	0	2.2	75	6.2	63	56	17	0	4	0	0
NY ALBANY	58	37	74	25	48	2	.9	.2	.6	8.7	133	37.4	125	91	49	0	2	3	1
NY BINGHAMTON	53	36	70	22	45	1	.6	-2	.4	7.8	115	35.3	113	96	55	0	3	2	0
NY BUFFALO	57	37	73	23	47	1	.6	-2	.5	6.9	104	34.1	111	87	43	0	2	3	0
NY NEW YORK	62	49	73	36	56	3	.7	-2	.5	11.0	153	51.5	144	85	53	0	0	2	1
NY ROCHESTER	57	36	74	22	47	1	.3	-3	.2	6.1	110	29.4	111	93	46	0	2	2	0
NY SYRACUSE	57	37	74	23	47	1	1.1	.3	.8	10.4	152	32.3	99	93	53	0	2	2	1
NC ASHEVILLE	62	38	72	30	50	-1	.1	-6	.1	11.2	152	52.9	140	98	52	0	2	2	0
NC CHARLOTTE	67	50	77	39	59	3	T	-6	T	11.4	172	43.1	116	95	50	0	0	1	0
NC GREENSBORO	63	45	75	35	54	1	.2	-4	.1	11.2	157	44.3	121	98	53	0	0	2	0
NC HATTERAS	71	62	78	54	66	6	4.0	3.0	1.9	28.8	256	79.4	169	94	65	0	0	5	2
NC NEW BERN	71	54	77	44	63	4	1.5	.8	.9	14.6	153	57.1	122	97	61	0	0	3	2
NC RALEIGH	67	48	75	37	58	3	1.1	.5	1.1	8.5	134	47.9	133	97	53	0	0	1	1
NC WILMINGTON	70	55	76	43	63	3	2.5	1.9	1.8	14.8	163	58.4	124	96	67	0	0	3	2
ND BISMARCK	41	21	50	12	31	-6	.3	.2	.1	1.6	73	10.6	75	94	56	0	7	5	0
ND FARGO	37	19	46	7	28	-10	.3	.1	.1	2.6	79	17.9	99	93	56	0	7	4	0
ND GRAND FORKS	36	14	45	2	25	-11	.1	-1	.1	1.0	32	11.2	66	89	52	0	7	2	0
ND WILLISTON	41	25	52	9	33	-4	.2	.1	.1	2.3	110	10.7	86	92	61	0	6	4	0
OH AKRON-CANTON	56	36	71	26	46	-1	.4	-1	.2	6.1	111	35.1	114	90	51	0	2	3	0
OH CINCINNATI	59	35	76	30	47	-2	.4	-3	.3	6.2	107	44.7	131	84	42	0	3	2	0
OH CLEVELAND	57	36	74	26	47	-1	.3	-3	.2	9.2	161	38.6	129	89	50	0	2	3	0
OH COLUMBUS	60	36	76	28	48	0	.4	-1	.3	4.7	96	39.5	124	87	45	0	2	2	0

Weather Data for the Week Ending November 4, 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 Sep 1	PCT. NORMAL SINCE Sep 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	56	36	73	28	46	-2	.3	-1.2	.3	7.2	154	43.9	148	88	48	0	2	1	0
TOLEDO	56	34	74	25	45	0	.3	-1.3	.3	4.7	99	34.3	128	89	43	0	3	1	0
YOUNGSTOWN	57	33	74	21	45	0	.3	-1.1	.3	9.2	151	39.5	124	93	47	0	3	3	0
OK OKLAHOMA CITY	60	39	68	30	49	-6	1.4	-1.9	1.3	7.9	122	40.5	143	85	42	0	1	1	1
TULSA	63	42	72	33	52	-3	1.5	-1.3	1.3	6.1	75	29.3	85	82	37	0	0	2	2
OR ASTORIA	58	39	60	32	49	-1	.7	-1.3	.6	6.5	61	41.8	85	96	60	0	1	1	1
BURNS	53	18	64	11	36	-6	0	0	0	1.0	68	8.9	117	84	28	0	6	0	0
MEDFORD	63	29	68	25	46	0	0	0	0	2.6	97	13.5	99	91	34	0	7	0	0
PENDLETON	55	33	62	24	44	-2	.2	-1.3	.2	1.0	57	10.9	120	83	39	0	5	1	0
PORTLAND	59	39	62	32	49	-1	.2	-1.8	.2	3.4	66	23.2	89	96	46	0	2	1	0
SALEM	59	33	64	28	46	-2	.2	-1.9	.2	3.7	67	21.0	75	97	50	0	3	1	0
PA ALLENTOWN	60	41	76	26	51	3	.6	-1.2	.4	10.4	139	41.9	113	92	52	0	1	3	0
ERIE	58	42	74	31	50	3	.6	-1.2	.5	7.3	91	35.6	107	83	44	0	2	2	1
HARRISBURG	59	41	74	26	50	1	.6	0	.4	8.3	124	43.8	135	94	57	0	1	3	0
PHILADELPHIA	63	43	76	29	53	2	.2	-1.1	.1	8.6	129	45.8	131	94	52	0	2	3	0
PITTSBURGH	59	36	74	23	47	0	.3	-1.2	.2	6.8	123	38.6	122	90	45	0	2	2	0
SCRANTON	57	39	73	26	48	2	.5	-1.1	.4	8.8	137	34.6	116	94	52	0	1	3	2
RI PROVIDENCE	62	43	76	31	52	2	2.4	1.5	1.9	13.7	176	50.4	136	93	49	0	1	3	1
SC CHARLESTON	76	57	80	48	67	6	.6	-1.1	.6	18.0	223	49.4	107	93	55	0	0	2	1
COLUMBIA	72	49	80	40	61	2	.6	-1.1	.6	8.0	112	45.3	104	99	56	0	2	0	0
FLORENCE	71	52	79	40	62	3	.4	-1.1	.3	9.9	148	45.3	116	94	57	0	0	3	0
GREENVILLE	66	45	76	36	55	0	.1	-1.6	0	8.6	101	42.1	95	94	49	0	0	3	0
SD ABERDEEN	40	24	47	19	32	-7	.3	-1.1	.2	3.1	119	17.9	107	96	67	0	6	6	0
HURON	46	25	57	21	36	-5	.1	-1.2	.1	1.9	68	13.3	76	92	55	0	6	2	0
RAPID CITY	44	24	55	19	34	-7	.3	-1.1	.2	4.6	246	12.4	82	91	53	0	6	2	0
ST LOUIS	47	25	61	19	36	-5	.1	-1.1	.1	3.6	81	14.7	66	90	52	0	6	4	0
TN CHATTANOOGA	66	39	78	29	53	-1	T	-1.8	T	13.0	168	62.7	143	99	42	0	1	1	0
KNOXVILLE	65	38	77	29	52	-2	.1	-1.6	.1	10.6	174	48.5	124	98	47	0	1	1	0
MEMPHIS	65	43	80	30	54	-3	T	-1.7	T	8.1	132	53.2	124	85	40	0	1	1	0
NASHVILLE	66	38	81	29	52	-2	.1	-1.6	.1	9.9	149	51.1	126	90	39	0	2	1	0
TX ABILENE	67	40	77	29	54	-1	.1	-1.3	.1	5.1	91	27.3	128	77	30	0	2	1	0
AMARILLO	61	28	76	18	45	-7	0	-1.2	0	2.5	79	19.0	106	71	20	0	5	0	0
AUSTIN	72	49	80	41	60	-3	1.1	.5	1.0	2.5	34	24.5	89	85	42	0	0	2	1
BEAUMONT	73	53	84	44	63	-2	2.1	1.2	1.1	3.3	35	60.8	131	94	55	0	0	2	2
BROWNSVILLE	80	61	87	57	71	-1	1.8	1.3	1.0	5.5	61	18.5	81	92	53	0	0	1	0
CORPUS CHRISTI	79	58	89	48	69	-1	T	-1.3	T	2.2	23	15.5	54	88	46	0	0	0	0
DEL RIO	68	46	75	36	57	-8	T	-1.3	T	1.7	34	7.5	47	73	35	0	4	1	0
EL PASO	68	33	75	28	51	-7	0	-1.1	0	.7	33	7.1	102	51	17	0	1	1	1
FORT WORTH	67	43	81	30	55	-6	1.8	1.2	1.8	4.4	66	39.0	142	89	38	0	1	1	1
GALVESTON	72	59	80	51	65	-2	1.4	.8	1.0	4.2	46	39.1	115	94	63	0	0	3	1
HOUSTON	71	51	81	38	61	-4	1.7	.9	1.3	4.5	47	54.7	139	94	55	0	0	3	1
LUBBOCK	65	33	80	20	49	-5	0	-1.3	0	3.8	95	14.7	88	65	19	0	3	0	0
MIDLAND	66	35	80	22	50	-7	0	-1.2	0	3.0	83	7.9	63	74	25	0	3	0	0
SAN ANGELO	68	37	79	24	53	-7	.1	-1.2	.1	3.2	62	16.9	102	85	29	0	3	1	0
SAN ANTONIO	71	47	80	36	59	-5	1.6	1.0	.8	7.4	106	19.8	78	85	43	0	0	2	2
VICTORIA	74	54	85	43	64	-3	.4	-1.2	.4	6.3	64	22.8	69	92	50	0	0	2	0
WACO	70	44	82	28	57	-5	.6	0	.6	1.2	18	27.6	102	90	38	0	1	1	1
WICHITA FALLS	66	40	79	31	53	-5	1.9	1.5	1.9	7.6	122	36.3	150	89	32	0	1	1	1
UT CEDAR CITY	63	19	65	16	36	-9	0	-1.2	0	.7	40	6.2	71	89	25	0	7	0	0
SALT LAKE CITY	50	30	61	25	40	-6	T	-1.3	T	2.3	107	9.9	77	84	34	0	6	0	0
VT BURLINGTON	56	39	70	22	47	5	.7	.1	.5	9.7	151	32.9	115	88	52	0	0	3	0
VA NORFOLK	66	53	72	41	59	3	1.8	1.1	.8	9.2	113	51.0	130	97	66	0	0	4	2
RICHMOND	65	45	74	32	55	2	.7	-1.1	.5	9.4	122	44.7	119	97	54	0	1	2	0
ROANOKE	63	41	75	26	52	0	.2	-1.5	.2	13.1	188	47.9	141	98	48	0	2	2	1
WA QUILLAYUTE	54	37	58	30	45	-1	2.8	.1	2.3	12.6	70	62.5	81	98	72	0	0	2	1
SEATTLE-TACOMA	53	40	57	35	47	-2	.7	-1.4	.6	4.2	69	24.5	90	98	68	0	0	2	1
SPOKANE	47	27	54	22	37	-3	.2	-1.2	0	1.9	96	11.5	94	98	56	0	6	3	0
YAKIMA	53	27	61	21	40	-3	0	-1.2	0	.7	76	4.5	80	92	46	0	6	0	0
WV BECKLEY	57	38	68	27	47	1	.2	-1.4	.2	8.6	129	39.2	107	88	51	0	2	1	0
CHARLESTON	62	35	77	24	49	-1	.2	-1.4	.2	11.4	191	53.3	146	96	44	0	2	2	0
HUNTINGTON	61	36	77	26	49	-2	.4	-1.2	.3	10.7	189	55.4	158	93	40	0	2	2	0
PARKERSBURG	60	35	76	26	48	-2	.2	-1.3	.1	11.1	198	50.1	152	95	45	0	2	2	0
WI GREEN BAY	48	34	74	18	41	-1	1.2	.7	1.1	5.4	99	18.7	75	90	54	0	3	4	1
LACROSSE	47	32	64	18	39	-4	.8	.4	.4	4.8	84	21.3	77	92	58	0	5	4	0
MADISON	51	34	72	23	45	0	.4	0	.3	2.9	52	23.2	84	90	51	0	3	4	0
MILWAUKEE	53	38	72	23	45	1	.3	-1.2	.2	6.0	112	28.2	104	83	46	0	4	5	1
WAUSAU	43	31	65	16	37	-3	1.6	1.1	1.1	4.0	63	20.3	70	94	62	0	6	3	0
WY CASPER	38	20	55	9	29	-10	.4	.2	.3	4.4	262	13.1	129	85	56	0	5	0	0
CHEYENNE	45	23	54	10	34	-6	T	-1.1	T	2.0	112	11.9	96	81	35	0	5	7	0
LANDER	38	17	54	3	27	-11	.5	.3	.4	3.4	157	14.8	125	88	52	0	6	2	0
SHERIDAN	39	20	48	3	30	-9	.2	0	.1	3.6	148	12.4	91	86	56	0	6	3	0

October Weather and Crop Summary

HIGHLIGHTS: Harvest weather prevailed over the Great Plains, Corn Belt, and Delta, while above-normal precipitation covered much of the East. A large portion of the country from the northern and central Rockies to the Appalachians experienced alternating periods of record-warm and cold conditions throughout the month. Above-normal temperatures generally persisted over the southern Plains and along the Atlantic seaboard. Early in the month, moisture from the remnants of Pacific Hurricane Raymond caused unseasonable rain in the Southwest and contributed to substantial rain from the southern High Plains to the middle Mississippi Valley. Torrential rain also fell along Florida's Atlantic coast. At midmonth, Hurricane Jerry smashed into Galveston, TX, and subsequently, moisture from the remains brought heavy rain along the central Gulf coast and into the upper Ohio Valley. Also during midmonth, unusual early heavy snow blanketed the eastern Corn Belt. Late in the month, scattered showers and thunderstorms brought needed moisture into the Great Plains and western Corn Belt, while Pacific storms caused early season rain in California. Cold arctic air plunged into the North Central States at month's end as temperatures plummeted into the teens over Montana's winter wheat.

OCTOBER 1-7: A pair of slow moving cold fronts crossed the eastern two-thirds of the Nation. Cold air advanced southward into the North Central States behind the fronts, as temperatures fell below freezing across the northern half of the Corn Belt. Record-low temperatures for the date were broken from the Pacific Northwest to the eastern Corn Belt on the 3rd and 4th. Early in the week, showers and thunderstorms again brought substantial rain to the Southeast and along the Atlantic coast. During the latter half of the week, moisture from the remnants of Pacific Hurricane Raymond caused unseasonable heavy rain over the Southwest and contributed to heavy rain from the Texas Panhandle into the middle Mississippi Valley. Otherwise, dry conditions again covered much of the Great Plains and Mississippi Valley. Warm weather prevailed across the South.

OCTOBER 8-14: Harvest conditions prevailed as warm and dry weather covered the western two-thirds of the Nation. The unseasonably high temperatures spread across the East, with record-low temperatures early in the week being replaced by an Indian summer. A stationary front across Florida during the first of the week caused torrential rain along the southern Atlantic coast. Over a foot of rain inundated St. Augustine, FL, on Monday night and Tuesday morning. A tropical depression in the Gulf of Mexico intensified to become Hurricane Jerry and was approaching Galveston, TX, at week's end.

OCTOBER 15-21: Hurricane Jerry struck Galveston, TX, with sustained winds of 75 MPH at the first of the week. Meanwhile, a strong cold front extended across the Great Lakes through the central Rockies, causing scattered precipitation with snow in the Rockies and central High Plains. Subsequently, the front raced southeastward and combined with moisture from the remains of Jerry to bring rain from the central Gulf coast to the Northeast. Flooding resulted from torrential rain over western Kentucky. A low-pressure system formed along the front over

the Southeast and then edged up the Atlantic seaboard causing soaking rain, as unusual early season heavy snow fell over the eastern Corn Belt. The 3-8 inches of snow on October 19-20 set October records across Indiana. Cold air plunged southward behind the front into the Mississippi and Ohio Valleys and the Southeast. Numerous record-low temperatures for the date were broken, and temperatures dropped below freezing to the Gulf coast. Record-high temperatures in Florida on Thursday were replaced by record lows the following day. Showers fell across the Pacific Coast States at week's end, as a frontal system moved inland.

OCTOBER 22-28: A huge area of high pressure remained anchored over the East and brought warm and sunny harvest weather to much of the eastern two-thirds of the Nation. Numerous high temperature records were broken across the North Central States. In Florida, however, record-low temperatures at the first of the week were followed by persistent showers along the eastern half of the State. A pair of Pacific storm systems spread rain with snow in the higher elevations across the Western States. During the latter part of the week, a strong cold front caused scattered showers and thunderstorms, with locally heavy rain from Texas to the northern Plains and upper Mississippi Valley.

OCTOBER 29-31: The strong cold front progressed eastward across the Great Plains and Mississippi Valley, triggering widespread rain with locally heavy amounts. Cold arctic air moved into the northern Rockies and northern Plains, as temperatures dipped into the teens over Montana's winter wheat.

WINTER WHEAT PLANTING

Dry weather during October allowed winter wheat planting to progress at a normal pace. At the beginning of October, planting was 71 percent (%) complete, 9 percentage points ahead of the 5-year average. By month's end, planting was 91% complete, 7 points ahead of normal. Dry soil conditions slowed germination and emergence in the Great Plains and the Pacific Northwest. By midmonth, planting was complete in Nebraska and South Dakota and nearly complete in Colorado, Kansas, Michigan, Montana, Oklahoma, and Washington. By the end of the month, planting was over 90% complete in 11 of the 19 major producing States. Seventy-seven percent of the crop was emerged, 7 points ahead of normal. The crop was in mostly good to fair condition. Rain was needed in the Great Plains and Pacific Northwest.

By month's end, planting was 99% complete, 9 points ahead of normal in Kansas. Oklahoma's planting was 97% complete, 17 points ahead of normal. Condition was mostly good in Kansas and good to fair in Oklahoma, but rain was needed. In Texas, planting was 89% complete, 5 points ahead of normal. Condition was mostly fair and rain was needed, especially in the High Plains and Cross Timbers area. Condition was good to fair in Colorado and Montana. In western Nebraska, rain slowed insect activity and improved condition. In Oregon and Washington, Russian wheat aphids were a continuing problem. Planting lagged behind normal in California, Georgia, and North Carolina.

OCTOBER Weather in Historical Perspective

Preliminary data for October 1989 indicate that temperatures across the contiguous United States averaged slightly above the long-term mean (fig. 1) and ranks as the 42nd warmest October on record. The standard error of estimate of 0.26 degrees F is shown by the +.

Historical precipitation for October is given in figure 2. The precipitation for each climatic division in the country was first standardized using the gamma distribution over the 1951-80 period. The standardized values were then weighted by area and averaged to determine a national standardized precipitation value. Negative values are dry and positive values are wet. The standardized national precipitation ranks October 1989 as the 21st driest.

The temperature and precipitation rankings for October 1989 for the nine climatically homogeneous regions in the United States are listed in table 1. The Northeast and Southeast regions were comparatively wet, while the central third of the country was generally drier than normal. In spite of several unusually cold and unusually warm spells during the month, all of the regions had average monthly temperatures near the middle of the historical distribution. See *Weekly Weather and Crop Bulletin*, October 11, 1989, Vol. 76, No. 40 for a map of the nine regions.

Nationally, 1989 so far has been slightly warmer than the long-term mean and the coolest in the past 4 years (fig. 3). The Northeast region has been the wettest May through October period on record (fig. 4).

Figure 2 U.S. NATIONAL MEAN PRECIP INDEX
OCTOBER, 1895-1989

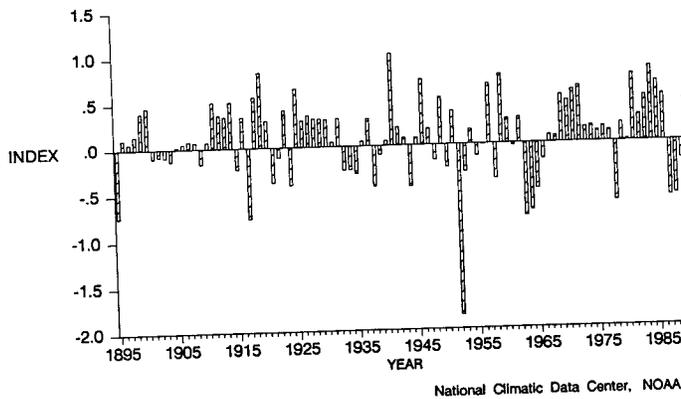


Figure 3 U.S. NATIONAL TEMPERATURE
JANUARY-OCTOBER, 1895-1989

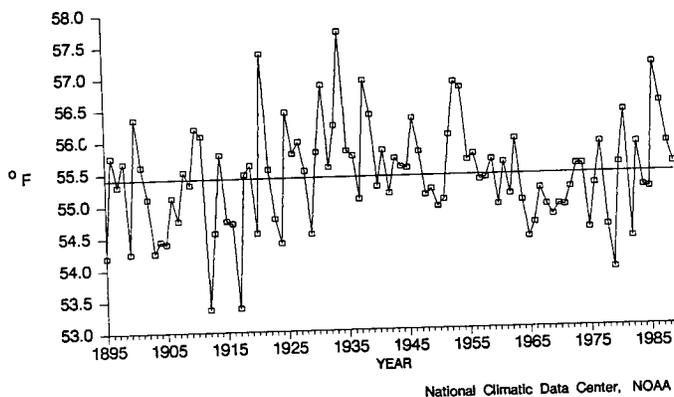


Figure 1 U.S. NATIONAL TEMPERATURE
OCTOBER, 1895-1989

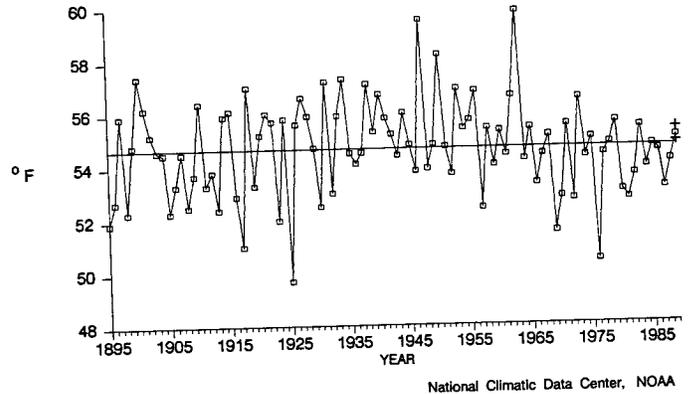
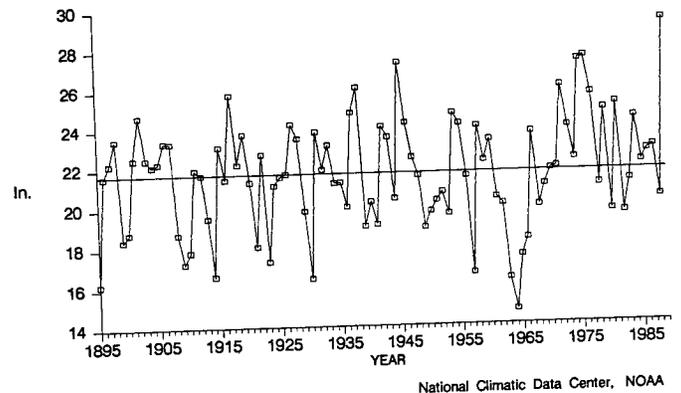
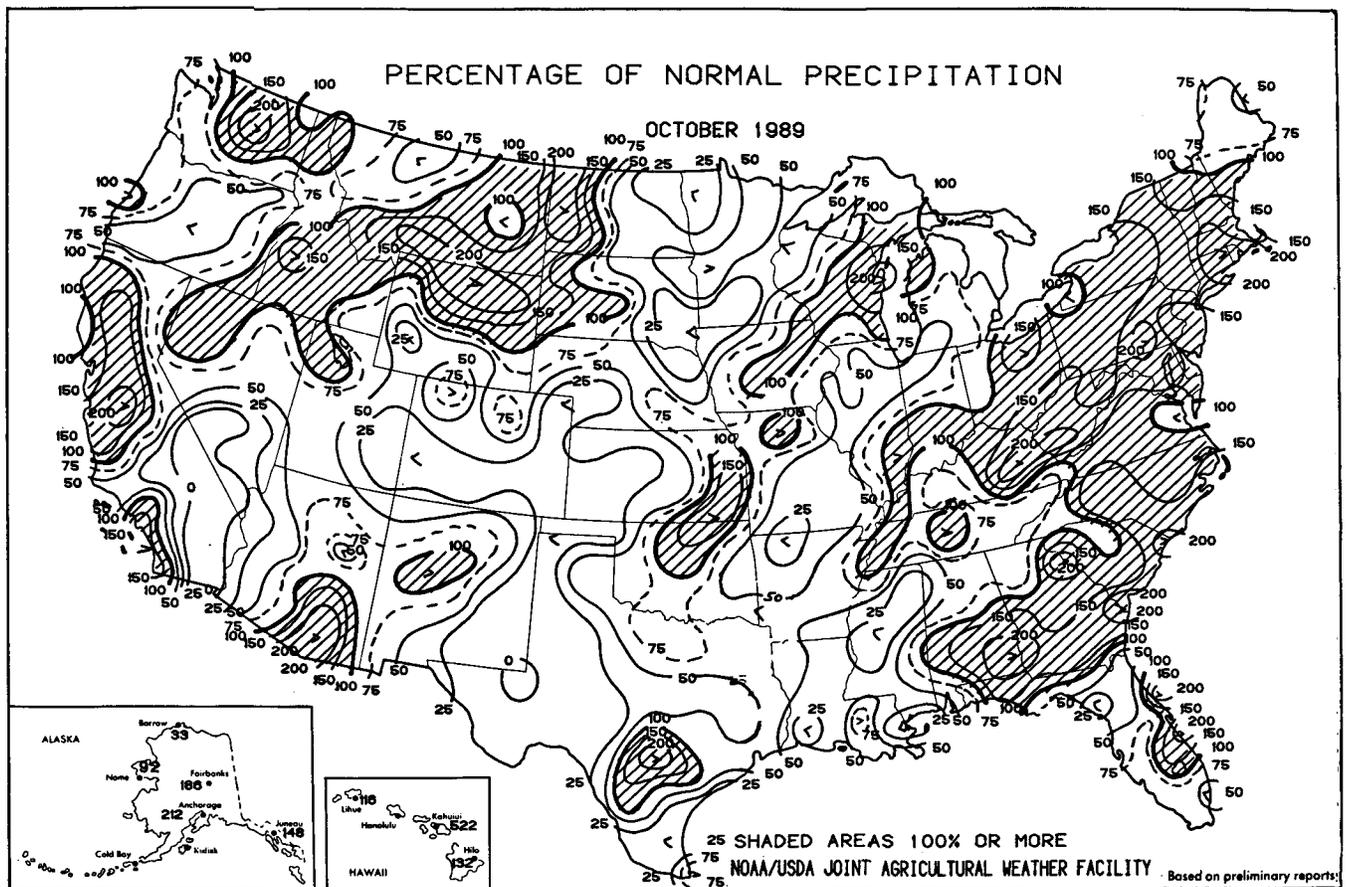
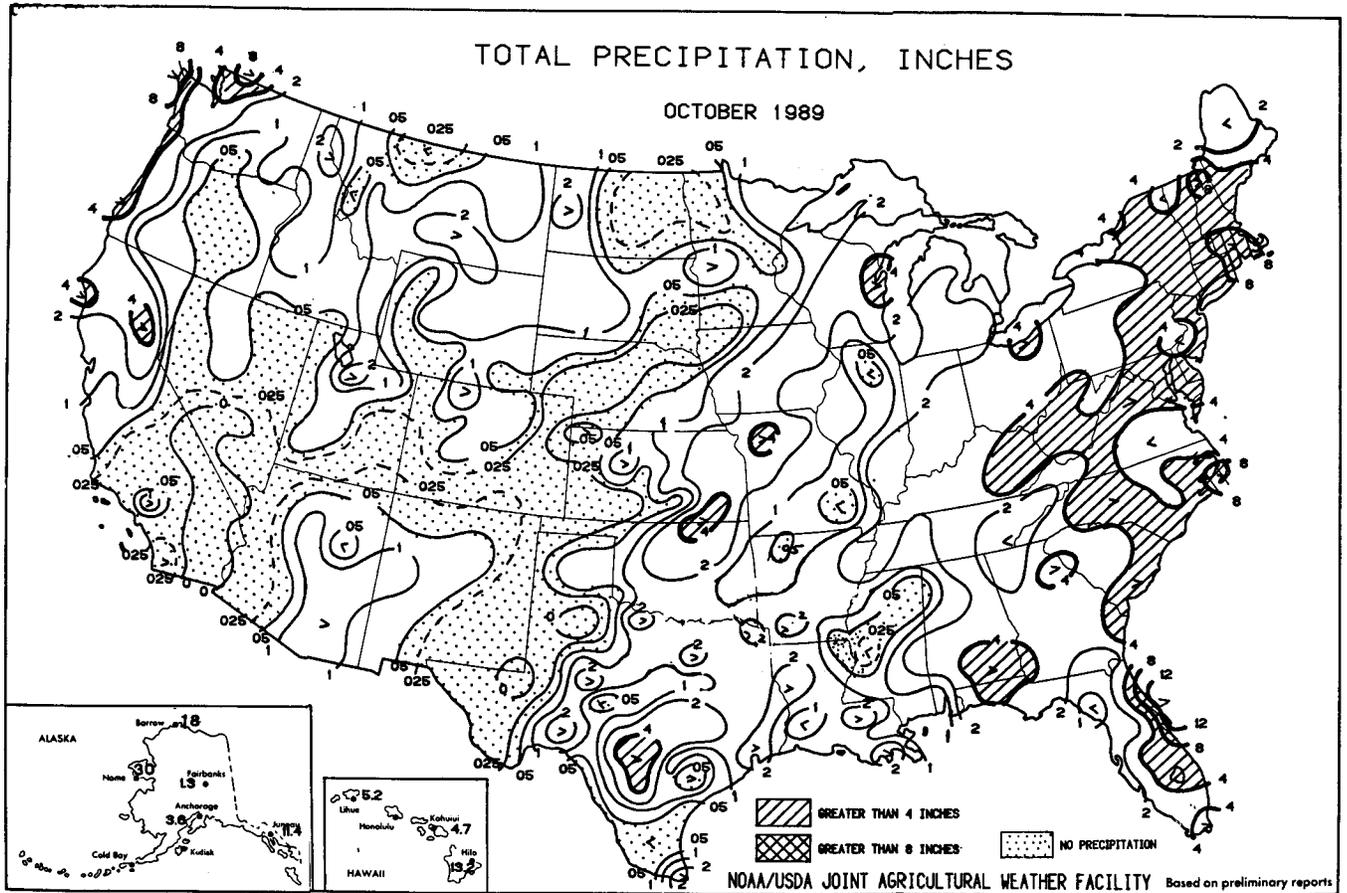


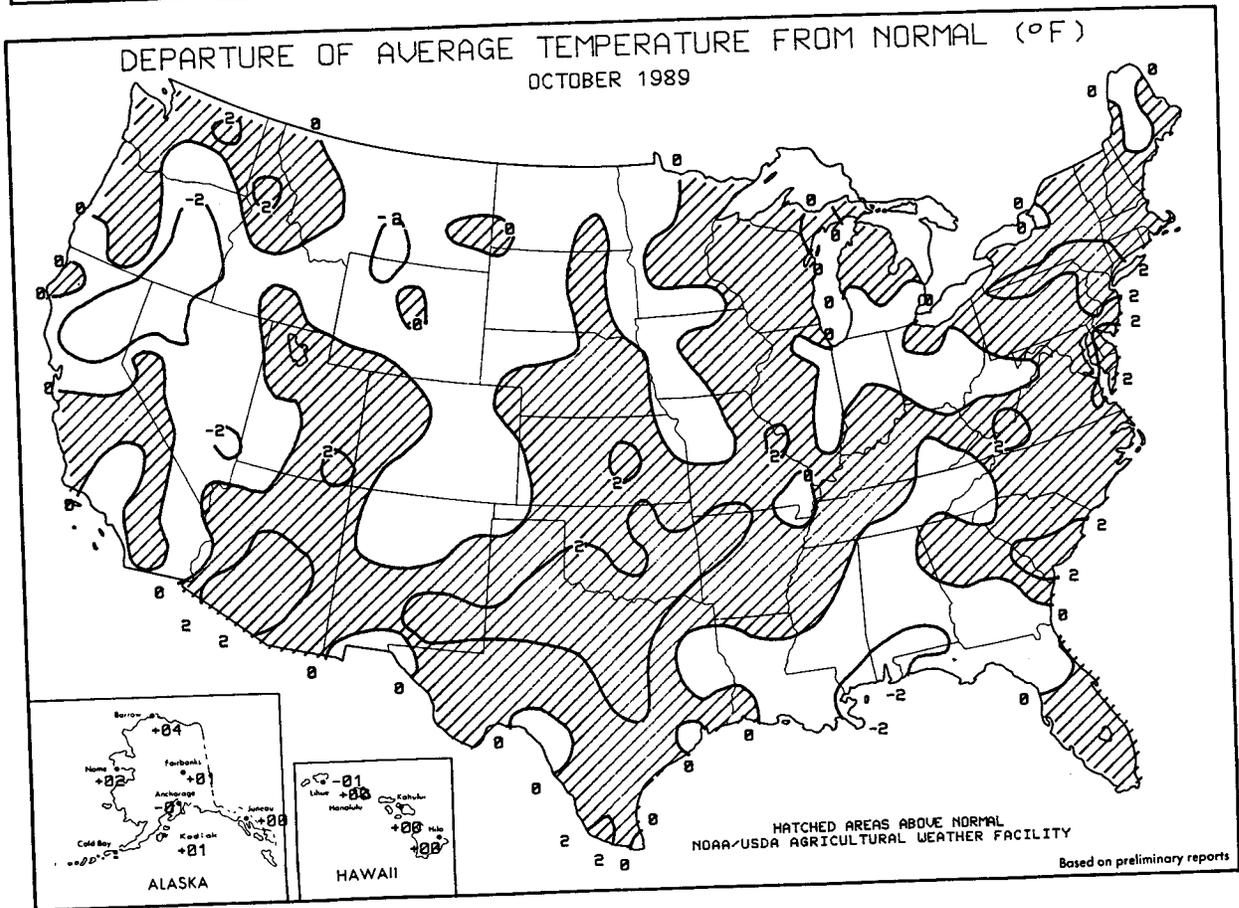
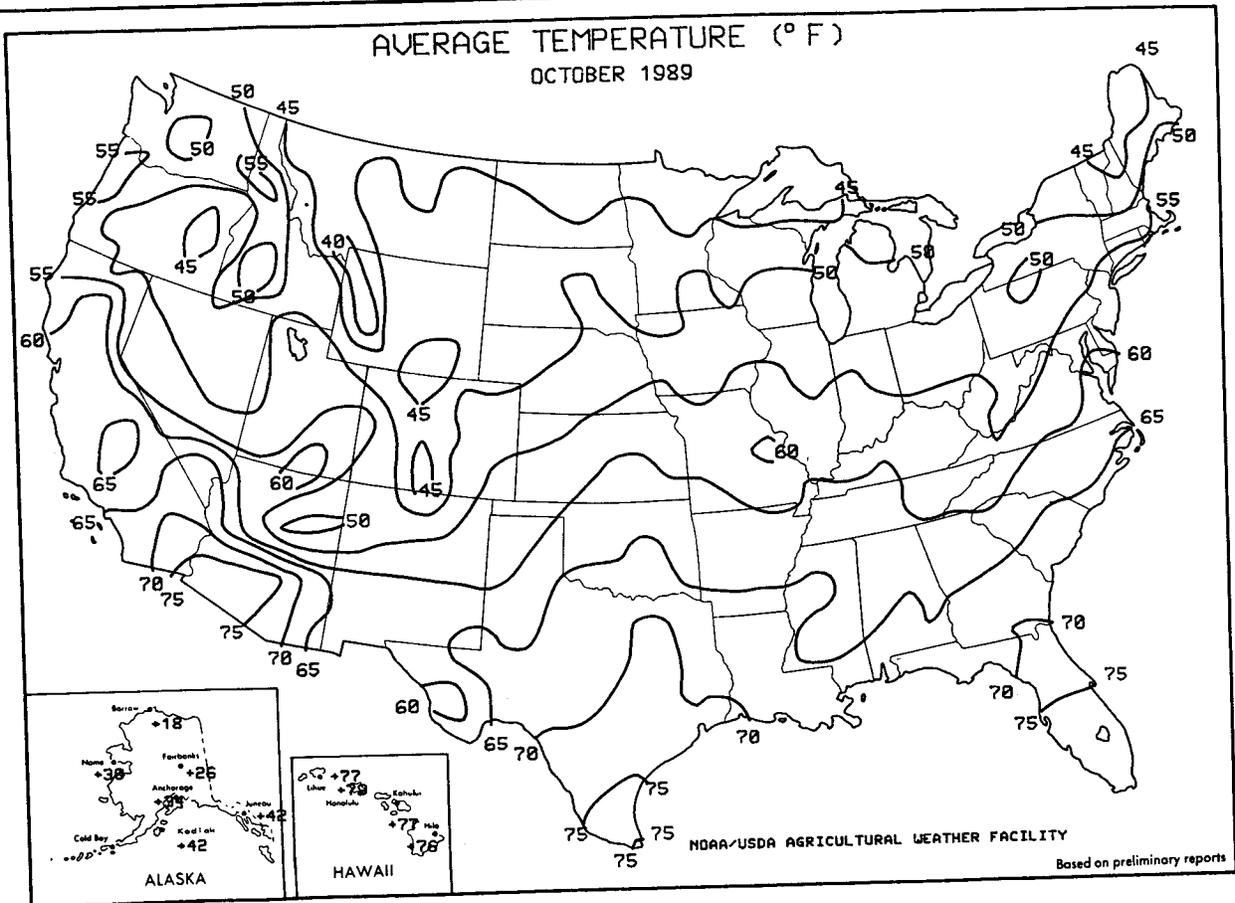
Table 1. Temperature and Precipitation Rankings for October 1989, based on the period 1895-1989.
1 = driest/colest, 95 = wettest/hottest.

Region	Precipitation	Temperature
National	25	54
Northeast	75	57
East North Central	22	58
Central	43	51
Southeast	65	45
West North Central	29	43
South	11	55
Southwest	21	64
Northwest	40	38
West	47	47

Figure 4 NORTHEAST U.S. PRECIPITATION
MAY-OCTOBER, 1895-1989







Temperature and Precipitation Data for October 1989

Temperature and Precipitation Data for October 1989				Temperature and Precipitation Data for October 1989				Temperature and Precipitation Data for October 1989						
States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches		States and Stations	Temperature °F		Precipitation Inches	
	Average	Departure	Total	Departure		Average	Departure	Total	Departure		Average	Departure	Total	Departure
AL BIRMINGHAM	62	-1	1.4	-1.2	LA PADUCAH	60	1	3.5	0.9	DAYTON	54	-1	1.6	-0.4
AL HUNTSVILLE	61	0	2.7	-0.3	LA ALEXANDRIA	66	-2	0.8	-2.1	DAYTON MANSFIELD	53	0	3.2	1.3
AL MOBILE	66	-2	0.9	-1.7	LA BATON ROUGE	68	0	2.2	-0.5	DAYTON TOLEDO	52	0	1.4	-0.6
AL MONTGOMERY	64	-1	3.8	1.5	LA LAKE CHARLES	69	0	0.7	-2.9	DAYTON YOUNGSTOWN	52	1	2.9	0.3
AK ANCHORAGE	34	-1	3.6	1.9	LA NEW ORLEANS	68	-2	0.5	-2.1	OK OKLAHOMA CITY	63	1	3.3	0.6
AK BARROW	18	4	0.2	-0.3	LA SHREVEPORT	67	0	1.5	-1.1	OK TULSA	64	1	2.8	-0.6
AK FAIRBANKS	27	1	1.3	0.5	ME CARIBOU	45	2	1.6	-1.5	OR ASTORIA	53	0	5.3	-0.9
AK JUNEAU	42	0	11.4	3.7	ME PORTLAND	50	1	4.8	1.0	OR BURNS	44	-4	0.4	-0.4
AK KODIAK	41	1	7.1	0.2	MD BALTIMORE	58	1	4.8	1.7	OR EUGENE	54	1	3.0	-0.5
AK NOME	30	2	1.3	0.1	MD SALISBURY	50	2	5.0	1.3	OR MEDFORD	55	1	0.7	-1.0
AZ FLAGSTAFF	48	1	1.3	-0.2	MA BOSTON	55	0	5.6	2.3	OR PENDLETON	52	0	0.8	-0.1
AZ PHOENIX	77	4	0.5	-0.2	MA CHATHAM	55	1	5.1	1.4	OR PORTLAND	55	1	1.7	-1.3
AZ PRESCOTT	57	2	0.5	-0.7	MI ALPENA	48	0	2.2	0.1	OR SALEM	53	0	2.5	-0.8
AZ TUCSON	71	1	1.8	1.0	MI DETROIT	52	0	1.7	-0.4	PA ALLENTOWN	55	1	4.3	1.3
AZ WINSLOW	56	-1	0.3	-0.6	MI FLINT	51	0	1.7	-0.4	PA ERIE	55	2	3.3	-0.3
AZ YUMA	78	2	T	-0.3	MI GRAND RAPIDS	51	0	1.5	-1.1	PA HARRISBURG	56	1	5.6	2.9
AR FORT SMITH	64	1	0.8	-2.4	MI HOUGHTON LAKE	48	1	1.3	-1.0	PA PHILADELPHIA	58	1	3.4	0.6
AR LITTLE ROCK	64	1	1.5	-1.4	MI LANSING	51	1	1.3	-0.6	PA PITTSBURGH	53	0	2.0	-0.4
CA BAKERSFIELD	67	-1	T	-0.3	MI MARQUETTE	45	0	3.5	0.2	PA SCRANTON	53	1	4.7	1.9
CA BISHOP	55	-2	0	-0.2	MI MUSKEGON	50	-1	1.6	-1.2	PA WILLIAMSPORT	54	1	4.3	1.1
CA EUREKA	55	1	2.9	0.2	MI SAULT ST. MARIE	46	0	2.4	-0.4	RI PROVIDENCE	54	1	8.4	4.7
CA FRESNO	65	1	0.4	0.0	MN ALEXANDRIA	47	1	1.2	-0.7	SC CHARLESTON	69	3	4.1	1.2
CA LOS ANGELES	66	-1	0.3	0.1	MN DULUTH	45	0	1.0	-1.2	SC COLUMBIA	65	1	2.3	-0.3
CA REDDING	61	-5	3.7	1.7	MN INT'L FALLS	43	1	1.2	-0.6	SC FLORENCE	65	1	4.5	2.1
CA SACRAMENTO	63	-1	1.6	0.8	MN MINNEAPOLIS	50	1	0.5	-1.3	SC GREENVILLE	62	1	3.1	-0.3
CA SAN DIEGO	66	0	0.5	0.2	MN ROCHESTER	49	0	1.7	-0.7	SD ABERDEEN	47	-1	0.6	-0.4
CA SAN FRANCISCO	61	0	1.4	0.4	MN ST. CLOUD	46	-1	0.7	-1.4	SD HURON	49	0	0.3	-1.1
CA ALAMOSA	42	-2	0.1	-0.6	MS GREENWOOD	65	1	0.5	-2.3	SD RAPID CITY	49	-1	1.5	0.7
CA CO. SPRINGS	50	-1	0.3	-0.5	MS JACKSON	64	-1	0.2	-2.1	SD SIOUX FALLS	49	0	0.1	-1.5
CA DENVER	51	0	0.8	0.1	MS MERIDIAN	63	-1	2.7	0.1	TN BRISTOL	57	0	1.8	-0.7
CA GRAND JUNCTION	55	0	0.1	-0.7	MS TUPELO	62	0	0.4	-2.6	TN CHATTANOOGA	61	1	1.8	-1.2
CA PUEBLO	53	-1	0.1	-0.7	MO COLUMBIA	58	0	1.4	-1.8	TN KNOXVILLE	59	0	1.5	-1.2
CT BRIDGEPORT	55	0	7.0	3.7	MO KANSAS CITY	58	-1	2.9	-0.4	TN MEMPHIS	64	1	2.4	0.0
CT HARTFORD	53	1	7.6	4.1	MO SAINT LOUIS	61	3	1.0	-1.4	TN NASHVILLE	61	1	3.6	1.1
DC WASHINGTON	60	1	5.5	2.6	MO SPRINGFIELD	60	1	1.1	-2.1	TX ABILENE	68	2	1.0	-1.4
FL APALACHICOLA	70	0	2.6	-0.6	MT BILLINGS	47	-2	2.1	0.9	TX AMARILLO	60	1	0.7	-0.6
FL DAYTONA BEACH	73	0	11.6	7.0	MT GLASGOW	46	-1	0.6	0.1	TX AUSTIN	72	2	2.2	-1.2
FL FT. MYERS	76	-1	2.0	-1.9	MT GREAT FALLS	47	-2	0.4	-0.4	TX BEAUMONT	71	1	1.2	-2.5
FL JACKSONVILLE	71	0	1.4	-2.4	MT HAVRE	45	-1	0.2	-0.4	TX BROWNSVILLE	75	-1	3.1	-0.5
FL KEY WEST	80	0	2.7	-2.3	MT HELSNA	45	0	0.5	-0.1	TX CORPUS CHRISTI	74	1	0.1	-2.6
FL MIAMI	79	1	2.7	-4.5	MT KALISPELL	43	0	0.9	-0.1	TX DEL RIO	71	0	0.5	-1.8
FL ORLANDO	75	0	1.8	-1.3	MT MILES CITY	49	0	0.6	-0.3	TX EL PASO	63	-1	0.2	-0.5
FL TALLAHASSEE	68	-1	3.4	0.3	MT MISSOULA	45	1	0.5	-0.4	TX FORT WORTH	69	2	2.0	-1.0
FL TAMPA	75	1	1.9	-0.4	NE GRAND ISLAND	54	1	0.9	-0.1	TX GALVESTON	73	0	1.9	-0.7
FL WEST PALM BEACH	78	0	5.8	-1.9	NE LINCOLN	54	0	0.8	-0.9	TX HOUSTON	70	0	1.8	-2.0
GA ATHENS	61	1	5.9	3.2	NE NORFOLK	52	0	0.3	-1.0	TX LAREDO	76	1	0.5	-1.7
GA ATLANTA	64	2	1.7	-0.8	NE NORTH PLATTE	51	1	0.1	-0.8	TX LUBBOCK	64	3	0.0	-1.8
GA AUGUSTA	65	2	2.1	0.1	NE OMAHA	55	0	1.2	-0.8	TX MIDLAND	65	1	0.2	-1.2
GA MACON	64	-1	2.3	0.3	NE SCOTTSDALE	49	-1	0.7	-0.1	TX SAN ANGELO	68	1	0.4	-1.6
GA SAVANNAH	69	2	4.7	2.4	NE VALENTINE	49	0	0.6	-0.2	TX SAN ANTONIO	71	1	5.8	3.0
HI HILO	76	0	13.2	3.2	NV ELKO	46	-2	0.3	-0.3	TX VICTORIA	73	1	3.9	0.6
HI HONOLULU	79	0	5.7	3.8	NV ELY	46	0	0.3	-0.3	TX WACO	70	2	0.9	-2.1
HI KAHULUI	77	0	4.7	3.8	NV LAS VEGAS	67	0	T	-0.2	TX WICHITA FALLS	66	1	2.3	-0.3
HI LIHUE	77	-1	5.2	0.7	NV RENO	51	1	0.4	0.1	UT BLANDING	-	-	0.3	-1.2
ID BOISE	51	-1	1.2	0.5	NV WINNEMUCCA	48	0	0.6	0.0	UT CEDAR CITY	51	-1	0.5	-0.3
ID LEWISTON	55	3	0.6	-0.4	NH CONCORD	49	1	4.9	1.8	UT SALT LAKE CITY	53	1	1.8	0.7
ID POCATELLO	47	-1	0.8	-0.1	NJ ATLANTIC CITY	57	1	4.5	1.4	VT BURLINGTON	50	2	3.0	0.2
IL CAIRO	-	-	1.6	-0.9	NM ALBUQUERQUE	57	-1	1.0	0.1	VT LYNCHBURG	59	2	3.7	0.3
IL CHICAGO	54	1	1.5	-0.5	NM CLOVIS	57	-1	0.1	-1.8	VA NORFOLK	63	1	2.9	-0.5
IL MOLINE	55	1	1.2	-1.5	NM ROSWELL	64	4	0.1	-1.0	VA RICHMOND	60	1	3.5	-0.2
IL PEORIA	55	1	1.6	-1.0	NY ALBANY	52	1	5.5	2.6	VA ROANOKE	58	1	4.1	0.7
IL QUINCY	57	1	2.0	-1.3	NY BINGHAMTON	50	1	3.4	0.3	VA COLVILLE	44	-2	1.0	-0.2
IL ROCKFORD	52	0	0.9	-2.0	NY BUFFALO	51	0	3.0	0.1	VA QUILLYAYUTE	51	1	9.8	-0.6
IL SPRINGFIELD	57	1	1.0	-1.6	NY NEW YORK	59	2	5.5	2.2	VA SEATTLE-TACOMA	53	1	3.1	-0.3
IN EVANSVILLE	58	1	2.2	-0.3	NY ROCHESTER	52	0	3.1	0.6	VA SPOKANE	47	0	1.6	0.5
IN FORT WAYNE	53	0	2.1	-0.5	NY SYRACUSE	51	0	4.1	1.0	VA WALLA WALLA	54	0	1.3	-0.1
IN INDIANAPOLIS	55	0	2.9	0.4	NC ASHEVILLE	56	0	3.0	-0.2	WA YAKIMA	49	-1	0.7	0.2
IN SOUTH BEND	53	0	1.5	-1.8	NC CHARLOTTE	63	3	4.1	1.4	WV BECKLEY	54	2	5.3	2.6
IA DES MOINES	54	0	2.3	0.1	NC GREENSBORO	59	1	5.0	1.9	WV CHARLESTON	57	1	4.1	1.5
IA DUBUQUE	52	1	2.2	-0.7	NC HATTERAS	67	2	8.4	3.5	WV ELKINS	51	0	3.8	0.8
IA SIOUX CITY	53	0	0.2	-1.5	NC NEW BERN	64	1	5.3	2.0	WV HUNTINGTON	56	0	4.3	2.0
IA WATERLOO	52	1	3.1	0.8	NC RALEIGH	61	1	3.4	0.7	WV PARKERSBURG	55	-1	4.5	2.0
KS CONCORDIA	58	1	1.1	-0.7	ND WILLINGTON	66	1	4.6	1.6	WI GREEN BAY	50	1	4.8	2.7
KS DODGE CITY	59	1	0.1	-1.2	ND BISMARCK	45	-1	0.2	-0.6	WI LA CROSSE	52	1	2.7	0.6
KS GOODLAND	54	1	0.3	-0.6	ND FARGO	46	-1	0.3	-1.0	WI MADISON	51	1	1.9	-0.3
KS TOPEKA	57	0	3.4	0.6	ND GRAND FORKS	44	-1	0.2	-1.0	WI MILWAUKEE	53	2	2.7	0.5
KS WICHITA	61	2	0.4	-2.1	ND WILLISTON	45	-1	1.8	1.0	WI WAUSAU	49	2	2.8	0.6
KY BOWLING GREEN	60	2	2.1	-0.8	OH AKRON-CANTON	52	0	2.5	0.2	WY CASPER	47	-1	1.2	0.3
KY JACKSON	58	3	7.4	5.3	OH CINCINNATI	56	0	3.2	0.7	WY CHEYENNE	47	-1	0.4	-0.3
KY LEXINGTON	57	0	3.4	1.1	OH CLEVELAND	54	0	4.5	2.1	WY LANDER	46	0	1.2	0.0
KY LOUISVILLE	58	1	2.7	0.0	OH COLUMBUS	54	0	2.5	0.6	WY SHERIDAN	46	-1	2.7	1.6
									PR SAN JUAN	82	1	2.1	-3.8	

Based on 1951-80 normals.

Heating Degree Days (Base 65°) For October 1989

States and Stations	TOTAL	Depart	States and Stations	TOTAL	Depart	States and Stations	TOTAL	Depart
AL. Birmingham . . .	150	13	MD. Baltimore . . .	229	-32	OK. Okla. City . . .	135	-10
Mobile . . .	71	21	MA. Boston . . .	294	-35	Tulsa . . .	126	-20
Montgomery . . .	111	25	MI. Alpena . . .	318	-32	OR. Astoria . . .	371	-4
AK. Anchorage . . .	956	14	Chatham . . .	525	-30	Burns . . .	629	99
Barrow . . .	1449	-126	Detroit . . .	400	-14	Medford . . .	313	-22
Fairbanks . . .	1195	-45	Flint . . .	422	-33	Pendleton . . .	403	15
Nome . . .	1074	-73	Grand Rapids . . .	424	-19	Portland . . .	306	-26
AZ. Flagstaff . . .	540	-12	Houghton Lake . . .	520	-41	Salem . . .	367	-5
Phoenix . . .	1	-12	Lansing . . .	437	-15	PA. Allentown . . .	309	-55
Tucson . . .	25	-5	Marquette . . .	610	-32	Erie . . .	320	-100
Winslow . . .	290	20	S. Ste. Marie . . .	582	-29	Harrisburg . . .	292	-28
Yuma . . .	3	-5	MN. Duluth . . .	633	-12	Philadelphia . . .	220	-53
AR. Fort Smith . . .	126	-17	Internatl Falls . . .	670	-18	Pittsburg . . .	364	-34
Little Rock . . .	110	-22	Minneapolis . . .	470	-18	Scranton . . .	377	-40
CA. Bakersfield . . .	61	11	Rochester . . .	500	-12	RI. Providence . . .	332	-34
Eureka . . .	306	-26	St. Cloud . . .	576	12	SC. Charleston . . .	50	-26
Fresno . . .	73	-15	MS. Jackson . . .	109	11	Columbia . . .	110	-13
Los Angeles . . .	15	-40	Meridian . . .	125	7	Greenville . . .	152	-10
Redding . . .	135	56	MO. Columbia . . .	244	-31	SD. Aberdeen . . .	561	25
Stockton . . .	94	18	Kansas City . . .	267	9	Huron . . .	491	-14
San Diego . . .	13	-19	St. Louis . . .	183	-75	Rapid City . . .	495	13
San Francisco . . .	138	-10	Springfield . . .	204	-38	Sioux Falls . . .	481	-8
CO. Denver . . .	424	10	MT. Billings . . .	546	59	TN. Chattanooga . . .	164	-26
Pueblo . . .	373	27	Glasgow . . .	596	13	Knoxville . . .	204	3
CO. Bridgeport . . .	305	20	Great Falls . . .	575	39	Memphis . . .	102	-35
Hartford . . .	354	-37	Havre . . .	609	17	Nashville . . .	158	-35
DC. Washington . . .	167	-30	Helena . . .	611	-6	TX. Abilene . . .	92	1
FL. Apalachicola . . .	45	21	Kalispell . . .	684	-14	Amarillo . . .	185	-30
Jacksonville . . .	47	26	Miles City . . .	498	-17	Austin . . .	39	2
Key West . . .	0	0	Missoula . . .	618	-30	Beaumont . . .	45	12
Miami . . .	1	1	NE. Grand Island . . .	345	-32	Brownsville . . .	16	16
Orlando . . .	21	21	Lincoln . . .	343	-10	Corpus Christi . . .	17	6
W. Palm Beach . . .	8	8	Norfolk . . .	402	-15	Del Rio . . .	40	13
Tallahassee . . .	74	36	North Platte . . .	437	-26	El Paso . . .	108	12
Tampa . . .	17	17	Omaha . . .	343	-23	Fort Worth . . .	80	24
GA. Atlanta . . .	103	-27	Valentine . . .	9999	9512	Galveston . . .	30	20
Augusta . . .	97	-10	NV. Ely . . .	596	7	Houston . . .	47	11
Macon . . .	115	29	Las Vegas . . .	70	7	Lubbock . . .	115	-42
Savannah . . .	59	1	Reno . . .	417	-39	Midland . . .	98	4
ID. Boise . . .	421	15	Winnemucca . . .	523	18	San Angelo . . .	84	9
Lewiston . . .	322	-87	NH. Concord . . .	484	-37	San Antonio . . .	42	1
Pocatello . . .	556	32	NJ. Atlantic City . . .	260	-38	Victoria . . .	28	8
IL. Chicago . . .	344	-24	NM. Albuquerque . . .	260	18	Waco . . .	67	21
Moline . . .	334	-36	NY. Albany . . .	413	-37	Wichita Falls . . .	100	-5
Peoria . . .	317	-44	Binghamton . . .	446	-47	UT. Salt Lake City . . .	355	-22
Rockford . . .	372	-40	Buffalo . . .	411	-12	VT. Burlington . . .	451	-79
Springfield . . .	269	-38	New York . . .	182	-64	VA. Lynchburg . . .	221	-37
Fort Wayne . . .	384	0	Rochester . . .	383	-29	Norfolk . . .	134	-12
Indianapolis . . .	313	-17	Syracuse . . .	406	-19	Richmond . . .	181	-40
South Bend . . .	381	5	NC. Asheville . . .	279	-7	Roanoke . . .	234	-30
IA. Des Moines . . .	345	-12	Charlotte . . .	111	-55	WA. Quillayute . . .	426	-27
Dubuque . . .	394	-52	Greensboro . . .	206	-15	Seattle-Tacoma . . .	362	-26
Souix City . . .	389	-9	Hatteras . . .	39	-37	Spokane . . .	554	15
KS. Concordia . . .	255	-22	Raleigh . . .	167	-20	Walla Walla . . .	339	7
Dodge City . . .	236	-15	Wilmington . . .	74	-20	Yakima . . .	497	29
Goodland . . .	361	-33	ND. Bismark . . .	606	20	WV Beckley . . .	334	-64
Topeka . . .	276	0	Fargo . . .	599	19	Charleston . . .	270	-31
Wichita . . .	193	-26	Williston . . .	609	-8	Huntington . . .	283	-10
KY. Lexington . . .	267	-13	OH. Akron-Canton . . .	391	-3	WI. Green Bay . . .	475	-40
Louisville . . .	230	-20	Cincinnati . . .	297	-19	La Crosse . . .	417	-31
LA. Baton Rouge . . .	62	14	Cleveland . . .	350	-21	Madison . . .	437	-11
Lake Charles . . .	47	2	Columbus . . .	345	-10	Milwaukee . . .	381	-63
New Orleans . . .	53	22	Dayton . . .	347	5	WY Casper . . .	574	22
Shreveport . . .	85	9	Toledo . . .	396	-23	Cheyenne . . .	566	23
ME. Caribou . . .	613	-66	Youngstown . . .	382	-41	Lander . . .	581	17
Portland . . .	464	-51				Sheridan . . .	598	40

BASED ON 1951-80 NORMALS.

National Agricultural Summary

October 30–November 5, 1989

HIGHLIGHTS: Ideal harvest weather prevailed in most areas. Portions of the **southern Great Plains** and **western Corn Belt** received some beneficial rains, but soil moisture was still mostly short to adequate. Soil moisture was short to adequate in the **Great Plains** and most of the **Delta** and was mostly adequate in the **East**.

Winter wheat was mostly good to fair with 83 percent (%) of the acres emerged, 4 percentage points ahead of the 5-year average. Planting was 93% complete, 4 points ahead of normal. Corn harvest was 88% complete, 10 points ahead of normal. Soybean harvest was 87% complete, 11 points ahead of normal. Cotton harvest advanced 12 points and was 55% complete, 5 points ahead of normal. Sorghum harvest advanced 13 points and was 85% complete, 6 points ahead of normal.

SMALL GRAIN: Winter wheat was mostly good to fair with 83% of the acres emerged, 4 points ahead of normal. Planting was 93% complete, 4 points ahead of normal. Planting was complete or nearly complete in 13 of the 19 major producing States. Planting continued to lag behind normal in Georgia and North Carolina. Rain was needed in the Great Plains where the crop was mostly good to fair. In Texas, the crop was mostly fair. Russian wheat aphids were a continuing problem in portions of the Pacific Northwest. Planting advanced 20 points in Arkansas.

CORN: Corn harvest was 88% complete, 10 points ahead of normal. Harvest was nearly complete in Georgia, Illinois, Iowa, Kansas, Minnesota, South Dakota, and Texas. Harvest advanced 20 or more points in Colorado, Indiana, and Michigan. Harvest lagged behind normal in Ohio and Pennsylvania, 17 and 10 points, respectively. Harvest was near or ahead of normal in the other major producing States.

SOYBEANS: Soybean harvest was 87% complete, 11 points ahead of normal. Harvest was complete in Minnesota and South Dakota and nearly complete in Illinois, Iowa, Michigan, and Nebraska. Harvest advanced rapidly in the Delta and eastern Corn Belt. Harvest advanced 20 or more points in Arkansas, Kentucky, Mississippi, Ohio, and Tennessee. Harvest was normal or ahead of normal except in Georgia and South Carolina. In Georgia, harvest was 32% complete, 16 points behind normal.

COTTON: Cotton harvest advanced 12 points and was 55% complete, 5 points ahead of normal. Harvest advanced 20 or more points in Arkansas, California, and Mississippi. Harvest lagged more than 10 points behind normal in Alabama, Georgia, and South Carolina. In Texas, harvest was 36% complete, 10 points ahead of normal. Harvest was active in the Plains, Cross Timbers, and Trans-Pecos areas and was winding down in portions of the Blacklands. Frost early in the week damaged late maturing fields in the Plains. Stalk destruction was active in Arizona and California.

SORGHUM: Sorghum harvest advanced 13 points and was 85% complete, 6 points ahead of normal. In Kansas, harvest advanced 20 points and was 80% complete, 5 points ahead of normal. Harvest was nearly complete in Nebraska. In Texas, harvest was 86% complete, 5 points ahead of normal. Harvest was active in the Plains area where frost damaged some late maturing fields.

OTHER FIELD CROPS: In California, rice harvest was nearly complete. Producers were burning rice stubble as air quality regulations permitted. Peanut harvest was complete in Georgia and Virginia and continued in the Carolinas. In Texas, rain slowed peanut harvest in the Hill Country. Oklahoma's peanut harvest was 20 points ahead of normal. Burley tobacco stripping continued in Kentucky and Tennessee.

FRUIT AND NUTS: Cool, dry, windy weather conditions prevailed in Florida's citrus producing areas. Irrigation was active. New foliage growth slowed. Fresh market fruit shipments increased seasonably, and harvest of fruit for processing was underway. In Georgia, pecan harvest was 31% complete, 3 points ahead of normal. Apple harvest was nearly complete. Pecan harvest was active in Arkansas, Louisiana, and Mississippi. In Texas, pecan harvest continued in the Cross Timbers area and was underway in the Trans-Pecos. Small fruit sizes continued to slow citrus harvests in the Rio Grande Valley. In Arizona, lemon, grapefruit, and navel orange harvests continued. In California, old crop Valencia orange harvest was nearly complete and navel orange harvest continued. Pistachio and walnut harvests were virtually complete. In western Oregon, apple, hazelnut, and walnut harvests were nearly complete. Apple and grape harvests were complete in Washington. New York's apple harvest was near completion.

VEGETABLES: In Florida, harvest of fall vegetable crops increased seasonably. Sweet potato harvest continued at a near-normal pace in Louisiana, Mississippi, and North Carolina. Vegetable harvests increased seasonably in the Rio Grande Valley, Texas. Onion planting was active. Cold weather ended the bell pepper harvest in the Trans-Pecos area. Asparagus harvest and packing continued in western Arizona. Fall lettuce harvest was active in the central area. Broccoli harvest was complete in California. In the San Joaquin Valley, sweet corn harvest was complete. Lettuce harvest was active in Fresno County. Riverside County pumpkin harvest was complete. Potato harvest was complete in Washington and nearly complete in Oregon.

PASTURES AND LIVESTOCK: Pastures were fair to good in the Delta and the East and mostly fair to poor in the Great Plains and the West. Livestock was in mostly good condition.

Crop Progress

FOR WEEK ENDING NOVEMBER 5, 1989

COTTON			
	% HARVESTED		
	1989	1988	AVG.
ALA	70	86	82
ARIZ	58	48	60
ARK	76	83	78
CALIF	75	70	69
GA	59	61	71
LA	94	89	83
MISS	76	84	80
MO	89	87	79
N MEX	40	40	29
N C	52	64	55
OKLA	8	25	15
S C	59	64	72
TENN	80	82	81
TEX	36	34	26
14 STATES	55	55	50

THESE 14 STATES PRODUCED 99% OF THE 1988 COTTON CROP.

SOYBEANS			
	% HARVESTED		
	1989	1988	AVG.
ALA	56	51	56
ARK	65	50	48
GA	32	40	48
ILL	99	100	89
IND	93	91	86
IOWA	99	100	91
KANS	85	95	65
KY	68	69	54
LA	92	64	63
MICH	95	70	70
MINN	100	99	95
MISS	68	43	50
MO	89	90	63
NEBR	99	100	90
N C	24	15	22
OHIO	90	84	86
S C	16	20	21
S DAK	100	100	93
TENN	68	69	53
19 STATES	87	84	76

THESE 19 STATES PRODUCED 95% OF THE 1988 SOYBEANS CROP.

CORN			
	% HARVESTED		
	1989	1988	AVG.
COLO	71	80	73
GA	99	98	99
ILL	96	99	86
IND	69	81	75
IOWA	97	100	80
KANS	95	97	90
KY	86	82	79
MICH	80	60	55
MINN	97	99	79
MO	93	99	82
NEBR	93	95	75
N C	92	92	93
OHIO	45	56	62
PA	40	44	50
S DAK	98	91	71
TEX	99	100	99
WIS	74	88	62
17 STATES	88	91	78

THESE 17 STATES PRODUCED 94% OF THE 1988 CORN CROP.

GRAIN SORGHUM			
	% HARVESTED		
	1989	1988	AVG.
ARK	99	99	97
ILL	87	96	78
KANS	80	85	75
LA	100	100	100
MISS	97	99	98
MO	91	95	79
NEBR	95	98	85
OKLA	45	45	50
S DAK	100	100	86
TENN	100	100	100
TEX	86	91	81
11 STATES	85	89	79

THESE 11 STATES PRODUCED 96% OF THE 1988 GRAIN SORGHUM CROP.

WINTER WHEAT			
	% EMERGED		
	1989	1988	AVG.
ARK	49	41	NA
CALIF	10	5	8
COLO	97	95	95
GA	7	12	17
IDAHO	88	88	87
ILL	84	89	72
IND	79	78	76
KANS	90	90	85
MICH	95	85	75
MO	77	72	59
MONT	90	95	84
NEBR	100	100	100
N C	28	37	NA
OHIO	74	70	74
OKLA	80	80	70
OREG	80	70	63
S DAK	100	95	100
TEX	70	91	77
WASH	95	86	87
19 STATES	81	83	NA

EXCL. STATES WITH NA 83 85 79
THESE 19 STATES PRODUCED 87% OF THE 1989 WINTER WHEAT CROP.
NA - NOT AVAILABLE.

WINTER WHEAT			
	% PLANTED		
	1989	1988	AVG.
ARK	72	57	54
CALIF	30	35	32
COLO	100	100	100
GA	12	21	27
IDAHO	100	100	100
ILL	98	98	85
IND	94	94	87
KANS	99	98	95
MICH	100	98	90
MO	90	89	68
MONT	100	100	100
NEBR	100	100	100
N C	36	48	48
OHIO	96	96	91
OKLA	97	97	90
OREG	95	83	86
S DAK	100	100	100
TEX	91	97	88
WASH	99	98	98
19 STATES	93	94	89

THESE 19 STATES PRODUCED 87% OF THE 1989 WINTER WHEAT CROP.

Crop Condition

PERCENT

FOR WEEK ENDING NOVEMBER 5, 1989

WINTER WHEAT						
STATE	VP	P	F	G	EX	
ARK	0	2	16	66	16	
CALIF	NA					
COLO	1	5	23	64	7	
GA	0	1	19	79	1	
IDAHO	0	3	9	72	16	
ILL	0	0	8	77	15	
IND	0	0	31	62	7	
KANS	0	2	34	49	15	
MICH	0	3	12	55	30	
MO	0	6	59	33	2	
MONT	0	5	25	65	5	
NEB	1	2	40	57	0	
N C	0	9	66	23	2	
OHIO	0	2	27	60	11	
OKLA	0	7	20	68	5	
OREG	0	15	20	65	0	
S DAK	0	7	25	54	14	
TEX	2	22	45	26	5	
WASH	0	0	35	65	0	
19 STATE	0	6	31	54	9	
PREV WEEK	1	7	26	55	11	
PREV YEAR	1	6	36	47	10	

VP - VERY POOR P - POOR F - FAIR
G - GOOD EX - EXCELLENT

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: Rain 0.30 in. across south, 0.50 to 1.00 in. over north. Temperatures 1 to 2° below normal.

Days suitable for fieldwork 6.1. Soil moisture 36% short, 64% adequate. Crop harvest, small grain seedings full swing; dry, mild conditions prevailed. Corn 97% harvested, 96% 1988, 99% avg. Cotton 70% harvested, 86% 1988, 82% avg.; 65% fair, 35% good. Soybeans 97% dropping leaves, 92% 1988, 94% avg.; 91% mature, 77% 1988, 89% avg.; 56% harvested, 51% 1988, 56% avg.; 18% poor, 46% fair, 36% good. Sorghum 93% harvested, 90% 1988, 90% avg. Winter wheat 60% seeded, 57% 1988, 47% avg. Livestock, pastures good to fair. Primary activities: Harvesting row crops, hay, fall vegetables; preparing land, planting wheat, winter annuals; applying fertilizer, lime to cropland; general care of livestock, poultry, catfish.

ARIZONA: Temperatures normal to 9° below normal. Extremes 5°; 85°. Dry, cold front swept across State; clear, cool nights; sunny, mild days; precipitation none.

Cotton harvest continued; stalk shredding, plow down light. Small grain seedbed preparation began. Alfalfa hay harvest active west, central; light east; stand renovations, new stand establishments normal. Lemon, grapefruit, asparagus harvest, packing continued west; tangerine type fruit also harvested; harvest, packing lemons, grapefruit, navel oranges, tangerine type fruit, central. Cantaloupe, fall lettuce harvest continued along with a variety of vegetables. Apple packing continued east, fall lettuce harvest active. Ranges in poor condition despite light showers mid October; extremely dry, below average feed. Other ranges are spotty northeast, north central feed very coarse, dry; south central ranchers pulling cattle off the range. Cattle, calves fair to good; ranchers weaning calves, culling. Stockwater mostly short to adequate. Sheep, lambs good.

ARKANSAS: Cool week. Rainfall moderate in west to none in east. Extremes 14°; 85°. Rainfall none to 1.23 in.

Days suitable for fieldwork 6.0. Soil moisture 63% short, 37% adequate. Rice 100% harvested, 98% 1988, 97% avg. Soybeans 100% yellowing, 97% 1988, 96% avg.; shedding 96%, 87% 1988, 89% avg.; mature 87%, 73% 1988, 75% avg. Soybean 2% poor, 88% fair, 10% good. Cotton 92% fair, 8% good. Oats 84% planted, 72% 1988, 66% avg. Main activities: Cotton, rice, sorghum, soybean harvest; fertilizing, seeding wheat; disking rice, soybean stubble; marketing livestock. Soybean harvest rapid pace, yields varied. Cotton gins backlogged southeast, field scrapping continued. Early germinated wheat fields good stand. Pecan harvest underway. Some cattle losses from perilla mint poisoning, anaplasmosis, southwest. Feeding hay.

CALIFORNIA: Fair, dry weather. Overall warming trend through week.

Open weather, rapid progress field activities entire week. Rice harvest good progress, winding down. Stubble burned, air quality regulations allowed. Seeding preparations small grains increased, seeding gained momentum. Cotton harvest full swing. Shredding, discing active, pink bollworm quarantine compliance. Dry bean, corn, sugarbeet harvests progressed. Alfalfa

harvest normal. Sheep grazing some alfalfa. Picking apples winding down. Date harvest ongoing. Raisin harvest near done. Late table grapes packed. Packing of figs, kiwi, persimmons, pomegranates continued. Late almond harvests winding down. Pistachio, walnut harvests virtually complete. Pecan, olive harvests active. Old crop valencia orange harvest near completion. Navel orange harvest progressed. Fall cultural practices active. Desert grapefruit, lemon harvests ongoing. Tangerine harvest slowed. Broccoli harvested, quality good. Cauliflower movement light, quality variable. Celery supplies moderate to heavy, quality good. San Joaquin Valley sweet corn harvested. Lettuce harvest active, Fresno County. Cantaloupe, honeydew melon harvests continued. Fall potato harvest ongoing, Riverside County. Riverside County pumpkin harvest complete, ongoing other areas. Squash, fresh market tomato picking continued. Livestock good statewide. Range, pasture conditions improving some coastal, valley areas due to rains, heavy dew. Supplementary feeding necessary most areas.

COLORADO: Snow, cooler temperatures beginning of week gave way to warmer temperatures later. Precipitation trace to 0.41 in. over State. Temperatures 5 to 8° below normal, except San Luis Valley was around 10° below normal.

Days suitable for fieldwork 5.2. Soil moisture 21% very short, 62% short, 17% adequate. Alfalfa 3rd cutting complete, 4th cutting 52% cut. Corn 71% harvested. Sorghum 59% harvested. Sugarbeets 89% harvested. Winter wheat 97% emerged, remains good. Livestock good. Range, pasture fair to good.

FLORIDA: Temperatures 1° or so below normal, Panhandle, mostly 1 to 3° above normal elsewhere. Highs low 80s Panhandle; low to mid 80s remainder of north. Afternoon temperatures central, south mid to upper 80s with around 90° southern interior. Morning lows reached mid 30s Panhandle interior, Big Bend to mid 50s central mid to upper 60s southeast coast. Rainfall generally insignificant. Totals, Panhandle under 0.50 in.; elsewhere mostly under 0.10 in. with isolated heavier amounts only near 0.50 in.

Soil moisture Panhandle, southern Peninsula mostly adequate; northern, central Peninsula short to adequate. Cotton, soybean harvest active. Haying active, southern Peninsula. Sugarcane harvest becoming active; planting virtually complete. Soil moisture shortages delayed small grain planting some areas. Lack of precipitation, cooler weather reduced grazing. Panhandle pastures poor to fair; northern Peninsula severe to fair; central Peninsula remained good; southern Peninsula good to excellent. Cattle good. Cool, dry, windy, citrus growing areas. Irrigation continued. New foliage growth slowing. Fresh fruit shipments increasing. Grove run fruit now being accepted for processing. Caretakers disking cover crops, applying few sprays for fresh fruit. Weather near ideal for fieldwork, major vegetable producing areas. Precipitation continued limited. Planting winter crops active. Harvest fall crops increased. Volume leaders: Tomatoes, cucumbers, squash, sweet corn, peppers, snap beans, eggplant. Also available: Carrots, escarole, specialty lettuce, radishes. First Belle Glade sweet corn harvested.

GEORGIA: Temperatures 1 to 2° below normal north, 1 to 2° above normal south. Coldest morning on 4th, lows in 20s north, 30s central, southwest, 40s southeast. Warmest 70s north, 80s south. Most rain under 0.25 in. Totals 0.50 to 1.00 in. extreme northwest late weekend.

Days suitable for fieldwork 5.9. Soil moisture 3% very short, 50% short, 45% adequate, 2% surplus. Cotton harvest full swing, yields good thus far. Sorghum grain 85% harvested, 83% 1988, 83% avg. Peanut harvest complete. Soybeans 1% very poor, 9% poor, 33% fair, 50% good, 7% excellent; Good harvest progress. Wheat seeding slow. Rye, other small grains fair to good, seeding near or ahead avg. Apples 92% harvested, 100% 1988, 100% avg. Pecans 5% very poor, 9% poor, 54% fair, 32% good; 31% harvested, 23% 1988, 28% avg. Pastures, hay fair to good. Cattle, hogs good.

HAWAII: Fair weather continued over islands. Warm, sunny days with cool evenings temperatures prevailed. Winds variable 5 to 15 mph., temperatures mid 60s to upper 80s. Rainfall none to 4.90 in.

Days suitable for farm work 7.0. Papaya production active. Pineapple, sugar harvesting continuous.

IDAHO: No weather data available.

Winter wheat good. Sugarbeet, corn for grain harvest continued. Farm activities: Fieldwork, machinery preparation for winter, attending seminars. Russian wheat aphid infestation in east slight or controlled by cold weather. Livestock good. Livestock activities: Selling calves, culling cows. Hay, forage adequate.

ILLINOIS: Temperatures normal to 2° below normal. Light precipitation 0.20 in or less most areas.

Days suitable for fieldwork 6.50. Soil moisture 64% short, 35% adequate, 1% surplus. Pasture 8% poor, 43% fair, 47% good, 2% excellent. Livestock roughage requirements from pasture 52%, 43% 1988, 54% avg.

INDIANA: Temperatures up to 2° below normal. Lows low to upper 30s, highs mid to upper 50s. Precipitation up to 0.50 in.

Days suitable for fieldwork 6.2. Topsoil 14% short, 84% adequate, 2% surplus. Subsoil 9% short, 89% adequate, 2% surplus. Corn 20% moisture content, soybeans 13% moisture content. Rye 97% seeded, 94% 1988, 94% avg. Spring tilling of land 30%, 39% 1988, 28% avg. Pasture 5% poor, 40% fair, 49% good, 6% excellent. Corn, soybean harvest continue to advance rapidly.

IOWA: Temperatures 1 to 6° below normal. Extremes 12°; 67°. Rainfall none to 1.12 in., average 0.28 in.

Days suitable for fieldwork 4.8. Topsoil 52% short, 48% adequate. Subsoil 95% short, 5% adequate. Row crop acreage fall tilled 42%, NA 1988, 34% avg. Row crop acreage with fall fertilizer applied 34%, NA 1988, 26% avg. Livestock good. Pasture 7% very poor, 23% poor, 49% fair, 21% good.

KANSAS: Temperatures mid to upper 50s, 3 to 7° below normal. Precipitation amounts generally a few hundredths west to over 2.0 in. east.

Days suitable for fieldwork 4.5. Surface moisture supplies concern many areas, especially where wheat needs to establish good growth before winter. Topsoil 57% short, 32% adequate, 11% surplus. Subsoil 29% short, 69% adequate, 2% surplus. Moisture shortages exist in western third of State, central, south central areas.

Corn, sorghum, soybean harvest good progress, generally behind last year. Supplies hay, forage, feed grains adequate across State. Cattle continue to be moved off pastures onto corn, sorghum stubble. Wheat grazing is underway where stands established.

KENTUCKY: Weather cool, dry. Temperatures 1 to 3° below normal with readings 60s, 70s 30th, 29th. Temperatures chilly mid week with lows dipping into 20s 4th. Precipitation light 0.20 to 0.30 in., scattered near 0.50 in. Most rain fell 31st.

Days suitable fieldwork 4.9. Soil moisture 10% short, 87% adequate, 3% surplus. Full maturity soybeans did well, most late double crop beans reached maturity before hard frost. Burley tobacco 25% stripped, 23% 1988, 26% avg. Houseburn 55% crop. Houseburn most prevalent early housed burley. Some mold tip ends. Quality in barns good. Stripped tobacco quality 2% poor, 23% fair, 68% good, 7% excellent. Winter wheat 78% seeded, 79% 1988, 69% avg. Germination, early growth good. Some hay being harvested. Pastures 1% poor, 8% fair, 63% good, 28% excellent.

LOUISIANA: Temperatures 2 to 3° below normal. Extremes 30°; 86°. Rainfall 0.04 to 1.72 in.

Days suitable for fieldwork 6.0. Soil moisture 19% very short, 48% short, 24% adequate, 9% surplus. Cotton harvested 94%, 89% 1988, 83% avg. Pecans harvested 29%, 13% 1988, 19% avg. Soybeans harvested 92%, 64% 1988, 63% avg. Sugarcane harvested 37%, 35% 1988, 28% avg. Sucrose content remains high. Sweet potatoes harvested 87%, 91% 1988, 89% avg. Wheat planted 41%, 27% 1988, 28% avg.; emerged 17%, 18% 1988, 18% avg. Livestock 40% fair, 60% good. Pasture 5% very poor, 28% poor, 46% fair, 21% good. Moisture needed for proper growth. Vegetable 7% very poor, 14% poor, 63% fair, 16% good.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.66 in. Temperature 56°, normal 51°. Extremes 27°; 79°.

Days suitable for fieldwork 4.2. Topsoil 76% adequate, 24% surplus. Subsoil 88% adequate, 12% surplus. Field corn good; harvested for grain 78%, 89% 1988, 89% avg. Soybeans good; 52% harvested, 56% 1988, 51% avg. Pasture good. All hay adequate. Wheat 81% seeded, 79% 1988, 78% avg. Barley 93% seeded, 100% 1988, 95% avg. Rye 79% seeded, 85% 1988, 89% avg. Oats 26% seeded, 74% 1988, 86% avg.

DELAWARE: Precipitation 0.86 in. Temperature 57°, normal 51°. Extremes 30°; 79°.

Days suitable for fieldwork 4.8. Topsoil 100% adequate. Subsoil 83% adequate, 17% surplus. Field corn fair to good; harvested for grain 96%, 99% 1988, 95% avg. Soybeans good; 39% harvested, 56% 1988, 51% avg. Pasture good. All hay short to adequate. Wheat 70% seeded, 68% 1988, 67% avg. Barley 83% seeded, 95% 1988, 94% avg. Rye 92% seeded, 66% 1988, 78% avg.

MICHIGAN: Temperatures 2 below to 3° above normal. Extremes 7°; 75°. Precipitation 0.01 to 1.63 in. across State.

Days suitable for fieldwork 6.0. Soil moisture 20% short, 80% adequate. Corn 80% harvested, 60% 1988, 55% avg. Soybeans 95% harvested, 70% 1988, 70% avg. Winter wheat 100% planted, 98% 1988, 90% avg.; 95% emerged, 85% 1988, 75% avg.; 3% poor, 12% fair, 55% good, 30% excellent. Major activities: Corn for grain, soybean, sugarbeet harvesting, fall tillage.

MINNESOTA: Temperatures 4 to 9° below normal. Extremes -2°; 65°. Precipitation 0.18 to 1.21 in. Greatest weekly total 2.19 in.

Corn 97% harvested, 99% 1988, 79% avg. Soybeans 100% harvested, 99% 1988, 95% avg.

MISSISSIPPI: Cool, dry. Temperatures 56°, 3° below normal. Extremes 26°; 84°. Freezes over northern half of State. Rainfall 0.14 in., 0.61 in. below normal. Excellent week for harvesting.

Days suitable for fieldwork 6.2, 3.6 1988, 4.3 avg. Soil moisture 50% short, 50% adequate. Corn 93% harvested, 93% 1988, 97% avg. Cotton 76% harvested, 84% 1988, 80% avg. Pecans fair to poor; 10% harvested, 12% 1988, 19% avg. Rice, sorghum harvest nearly complete. Soybeans fair; 68% harvested, 43% 1988, 50% avg. Sweet potatoes 80% harvested, 93% 1988, 89% avg. Wheat 64% planted, 50% 1988, 40% avg. Livestock good. Pastures fair to good. Main activities: Harvesting cotton, soybeans, planting wheat, fall tillage.

MISSOURI: Temperatures 1° to 6° below. Rainfall widespread, mostly less than 0.50 in. Some west central areas over 1.00 in.

Days suitable for fieldwork 4.4. Topsoil 46% short, 51% adequate, 3 percent surplus. Subsoil 56% short, 44% adequate. Pasture 1% very poor, 22% poor, 44% fair, 32% good, 1% excellent. Livestock water supply 7% critically short, 35% short, 58% adequate. Corn harvesting 100% southeast, elsewhere 88% north central to 97% south central. Soybeans harvested 76% south west to 96% northeast. Grain sorghum harvested 100% southeast, elsewhere 74% southwest to 92% east central. Wheat seeded 81% west central to 96% east central. Wheat emerged 68% west central to 83% northwest. Ground worked at least once for spring crops 37%, 39% 1988, 34% avg.

MONTANA: Temperatures near normal north central to below normal rest of State. Parts of southwest, south central 5 to 7° below. Rain or snow over entire State. Amounts 0.02 to 1.06 in. Harvest of all crops virtually complete. Soil moisture short in eastern counties. Grazing providing most of cattle, sheep feed.

NEBRASKA: Temperatures 4° below normal. Extremes 13°; 69°. Little to no precipitation.

Days suitable for fieldwork 6.6. Topsoil 71% short, 29% adequate. Subsoil moisture 86% short, 14% adequate. Yields for both dryland, irrigated crops varied greatly from area to area, also within areas. Irrigation costs generally above normal. Sugarbeet harvest virtually complete. Many operators shedding stalks, disking, applying fertilizer. Most unharvested corn western counties. Rain needed to replenish soil moisture, help winter wheat crop. Damp, humid weather slowed soybean harvest southeast. Pasture, range feed 23% very short, 60% short, 17% adequate. Hay, roughage 8% very short, 47% short, 45% adequate. Livestock continue to graze stalks, some producers baling crop residues. Cattlemen weaning calves, moving them to market. Cattle in north still being shipped out of area due to short hay supplies. Cattle from Montana, Dakotas arriving in east to graze stalks, later placement on feed. Dry, dusty conditions causing problems, such as pneumonia in some calves.

NEVADA: High pressure ridge provided a weak cool, dry north westerly flow aloft. Entire State dry except a trace precipitation brushed northeast. Single digit minimum temperatures. Highs 40 to 50s north with 60 to 70s south. Temperatures 5 to 10° below normal Statewide.

Sixth cuttings alfalfa hay completed extreme south, other areas in windup stage fourth cuttings. All garlic, winter wheat, barley planted for 1990 harvest. Growing season about

ended. Ranchers, farmers preparing for usual winter chores.

NEW ENGLAND: Precipitation 2.50 in. coastal Maine; 1.50 to 2.00 coastal Massachusetts, Rhode Island; 1.00 to 1.50 in. remainder New England. Temperatures low 40s Canadian border to low 50s south coast.

Cranberry harvest basically complete. Major farm activities: Fall cleanup, harvesting remainder of late fall vegetables.

NEW JERSEY: Temperatures near normal; 47° north, 50° south, 53° coastal. Extremes 24°; 74°. Precipitation slightly below normal; 0.79 in. north, 0.80 in. south, 0.68 in. coastal. Heaviest 24-hour total 1.02 in on 31st, 1st.

Soil moisture adequate to excessive. Light harvest of hardy fall vegetables continued. Apple, cranberry harvest near completion. Harvest of soybeans, corn for grain active as soil conditions permit. Fall sown grain, cover crop growth good. Pasture growth very limited. Cider making increased.

NEW MEXICO: Temperatures well below normal; limited precipitation north central, northwestern areas.

Days suitable for fieldwork 6.9. Soil moisture 92% short, 8% adequate. Cotton 40% harvested, 13 points above average. Wheat planted 100%; 99% emerged; 15% poor, 50% fair, 35% good; moisture badly needed most areas. Cattle 45% fair, 55% good. Sheep 50% fair, 50% good. Ranges, pastures 33% poor, 50% fair, 17% good.

NEW YORK: Week started with a continuation of warm Indian Summer weather with many places reaching the 70s. The 31st remained mild, turned wet with much of the weeks rain falling. Rainfall of 2.00 to 3.00 in. fell on parts of Long Island. Weather got progressively cooler as the week went on. Arrival of a very cold air mass on the 3rd set off widespread showers, even a little snow. Temperatures on the 4th only reached 30s, lower 40s.

Fieldwork delayed by rain, wetness. Much corn remains for harvest. Progress slightly behind average. Apple harvest essentially complete as growers finish up on drops. Cabbage harvest continued active. Other vegetable harvests finished.

NORTH CAROLINA: Temperatures 1° below to 5° above normal across State. Extremes 25°; 78°. Precipitation none to 4.14 in.

Days suitable for fieldwork 5.1. Soil moisture 7% short, 85% adequate, 8% surplus. Pasture 1% very poor, 17% poor, 60% fair, 18% good, 4% excellent. Livestock feed from pasture 77%. Crop condition: Wheat 9% poor, 66% fair, 23% good, 2% excellent; oats 7% poor, 69% fair, 23% good, 1% excellent; barley 8% poor, 69% fair, 23% good; rye 6% poor, 73% fair, 21% good; Hay, roughage supplies 3% short, 83% adequate, 14% surplus. Feed grain supplies 5% short, 93% adequate, 2% surplus. Harvesting completed: Sorghum 70%, 83% 1988, 76% avg.; sweet potatoes 87%, 92% 1988, 87% avg.; peanuts dug 98%, 95% 1988, 97% avg.; peanuts threshed 90%, 85% 1988, 89% avg. Plantings completed: wheat 36%, 48% 1988, 48% avg.; oats 66%, 71% 1988, 68% avg.; barley 72%, 73% 1988, 69% avg.; rye 62%, 60% 1988, 64% avg. Major activities: Planting small grains, cover crops; fall land preparation; corn for grain harvest, soybean harvest. Other activities included: digging peanuts, sweet potatoes; harvesting cotton, apples; cutting hay; preparing Christmas trees for sale; tending livestock, general farm maintenance.

NORTH DAKOTA: Temperatures 5 to 11° below normal. Extremes -4° northeast; 67° southeast. Precipitation 0.15 to 0.33 in. across State.

Days suitable for fieldwork 3.7. Soil moisture very short. Topsoil 41% very short, 47% short, 12% adequate. Subsoil 60% very short, 36% short, 4% adequate. Sunflower 100% harvested, 100% 1988, 85% avg.; corn 99%, 100% 1988, 87% avg. Pasture 27% very poor, 54% poor, 19% fair; furnished 59% roughage requirements.

OHIO: Daily high temperatures mid to upper 50s; mostly near normal. Daily low temperatures mid to upper 30s; also near normal. Precipitation 0.40 to 0.50 in. Soil temperature at 4 inch depth under bare soil upper 40s to low 50s.

Days suitable for fieldwork 5.3. Soil moisture 4% short, 85% adequate, 11% surplus. Farm activities included harvesting corn, soybeans; planting winter wheat; fall plowing. Mid week showers caused soybeans to become too damp to combine; some farmers switched to corn harvest. Winter wheat mostly good, improved from previous week.

OKLAHOMA: Temperatures 10° below normal west central to 5° below normal southeast. Precipitation none several areas to 0.41 in. southeast.

Days suitable for fieldwork 6.1. Topsoil 57% short, 40% adequate, 3% surplus. Subsoil 25% short, 75% adequate. Wheat 7% poor, 20% fair, 68% good, 5% excellent; 97% planted, 97% 1988, 90% avg.; 80% emerged, 80% 1988, 70% avg. Cotton 5% very poor, 5% poor, 60% fair, 30% good; 8% harvested, 25% 1988, 15% avg. Hail, frost damaged bolls. Sorghum 45% harvested, 45% 1988, 50% avg. Soybeans 55% harvested, 40% 1988, 40% avg. Peanuts 75% harvested, 65% 1988, 55% avg. Pastures good to fair. Cattle good; marketings, prices stable.

OREGON: Temperatures near normal coast, slightly below normal western valleys. East of Cascades temperatures 2° below normal, except Baker was 6° below normal. Coastal areas 0.20 in. precipitation, heavier amounts along extreme north coast where 0.64 in. fell at Astoria. Willamette Valley 0.10 in., north Cascades 0.70 in. Elsewhere only isolated amounts of less than 0.10 in.

Soil moisture improved, mostly adequate. Some Russian wheat aphid in wheat Columbia Basin. Rye grass seeding about completed Willamette Valley. Field corn harvest continued Hermiston-Boardman. Sugarbeet harvest winding down Malheur County. Finishing apple, hazelnut, walnut harvesting west. Cranberry harvest 95% completed south coast. Some late season vegetables harvested Willamette Valley. Finishing up potato harvest Hermiston, Ontario, Klamath Falls areas. Livestock good. Range, pasture fair to good.

PENNSYLVANIA: Indian summer for first few days. Cold front moved through State during middle of week with coldest temperatures for season. Rain fell during mid week. Temperature 47°, normal 47°. Extremes 15°; 77°. Precipitation 0.58 in., 0.10 in. below normal.

Days suitable for fieldwork 5. Soil moisture 10% short, 88% adequate, 2% surplus. Corn 89% mature, 90% 1988, 96% avg.; 40% harvested, 44% 1988, 50% avg. Ensilage corn 93% harvested, 95% 1988, 98% avg. Corn 2% very poor, 9% poor, 24% 1988, 98% avg. Soybean harvest fair, 45% good, 20% excellent. Soybean harvest 42% complete, 42% 1988, 49% avg.; 1% very poor, 6% poor, 29% fair, 50% good, 14% excellent. Fall plowing 91% complete, 95% 1988, 97% avg. Winter wheat 95% planted, 94% 1988, 96% avg. Fourth cutting alfalfa 79% complete, 86% 1988. Quality

of hay made during week fair. Amount of feed being obtained from pastures average. Apple harvest 95% complete, 91% 1988. Grape harvest 95% complete, 99% 1988. Activities: Harvesting hay, haylage, corn, corn silage, soybeans; fall planting, plowing; maintaining machinery, caring for livestock.

PUERTO RICO: Rainfall 0.90 in., 0.75 in. below normal. Highest rainfall 3.45 in. at Canovanas, 3.38 in. Jayuya, 2.26 in. Pico Del Este. Highest 24 hour total 2.10 in. Canovanas. Temperature 80° on coast, 74 to 75° in Interior with mean station, 63° at Cerro Maravilla to 82° at Guayama, San Juan WFSO. Extremes 58°; 92°.

SOUTH CAROLINA: Precipitation light, 0.25 in. in western part of State to 1.50 in. in northeast. Temperatures below normal.

Days suitable for fieldwork 5.2. Soil moisture 43% short, 55% adequate, 2% surplus. Cotton 1% very poor, 5% poor, 74% fair, 14% good, 6% excellent, 59% harvested, 64% 1988, 72% avg. Soybeans 2% poor, 76% fair, 22% good, 98% leaves turning, 100% 1988, 99% avg.; 88% shedding leaves, 83% 1988, 88% avg.; 76% matured, 77% 1988, 75% avg.; 16% harvested, 20% 1988, 21% avg. Tobacco 90% stalks destroyed, 91% 1988, 93% avg. Sorghum fair to good, 61% harvested, 68% 1988, 73% avg. Peanuts fair to good, 90% harvested, 88% 1988, 85% avg. Pasture, hay fair to good. Livestock good.

SOUTH DAKOTA: Temperatures 4 to 9° below normal. Extremes 4°; 70°. Precipitation since September 3rd above normal many areas, 4.21 in. above normal to 2.27 in. below normal. Precipitation widespread, heaviest north, west, maximum 2.06 in. Precipitation 2.00 to 5.00 in. snow on ground in higher elevations.

Days suitable for fieldwork 5. Topsoil 15% critically short, 50% short, 34% adequate, 1% surplus. Subsoil 36% critically short, 54% short, 10% adequate. Winter rye, wheat good to fair. Major activities: Working cattle, harvesting row crops, fall tillage, fencing.

TENNESSEE: Mostly sunny, cool week. Widespread rainfall 30th followed by dry conditions. Cold front brought below normal temperatures Statewide.

Days suitable for fieldwork 5.5. Soil moisture 12% short, 86% adequate, 2% surplus. Burley tobacco 52% stripped, 55% 1988, 47% avg. Wheat 72% seeded, 73% 1988, 58% avg. Harvest continues at full steam. Soybeans maturing quickly. Pastures, cattle mostly good.

TEXAS: Week started off chilly note, strong cold front swept rapidly through State. Temperatures well below normal behind front as skies cleared. Freezes extended into Hill Country, central. Widespread rains as front passed. Most rains concentrated Coastal Plains. Skies cleared mid week, conditions warmed rapidly. Early week cloudiness left temperature averages below normal all areas. rainfall below normal almost areas, except eastern sections.

Crops: Corn harvest virtually complete High Plains. Grain sorghum very active Plains with open weather. Late maturing fields further hurt by hard freeze early week. Some fields damaged so severely, may not be harvested. Mostly good yields early fields. Sorghum 98% mature, 100% 1988, 98% avg. Cotton harvest continued steady pace Plains, Cross Timbers, Trans Pecos. Irrigated yields good. Some dryland fields sustained significant weather damage, may not be harvested. Many unopened bolls many not open because latest cold weather. Harvest winding down parts Blacklands. Scattered rain slowed final activity slightly. Cotton 90% open bolls, 92%

1988, 79% avg. Small grain seeding should increase Blacklands, central with recent moisture. Rainfall may be too late for earlier planted fields that never emerged, emerged to poor stands. Some frost damage weaker stands. Better stands these areas benefit from moisture. Varied conditions Cross Timbers, Low Plains. Rainfall should benefit most fields. Most fields High Plains up to stands. Irrigated fields some early grazing. Dryland fields need rain. Peanut harvest good progress Low Plains, Cross Timbers. Yields, grades vary. Rainfall Hill Country, south slowed harvest some. Dryland yields poor. Soybean harvest good progress Plains, yields remained good. Harvest Upper Coast slowed some by rain. Yields decline in area. Yields good northeast. Sugarbeet harvest continued High Plains. Recent cold weather may lower content. Sugarcane producers suffered through dry growing season, salt buildups because heavy irrigation. Other crops: Peanut harvested 47%, 64% 1988, 52% avg. Pecans 17%, 23% 1988, 41% avg. Sunflowers harvested 43%, 64% 1988, 63% avg. Oats planted 78%, 70% 1988, 77% avg.

Commercial Vegetables: Rio Grande Valley, irrigation steady. Harvest increasing. Onion planting also increasing. Harvest citrus remained slow because slow sizing. Yields down from last season. San Antonio Winter Garden, planted fields doing well under irrigation. Harvest increasing. High Plains, hard freeze ended most vegetable production. Few carrots were harvested. Trans Peco, bell pepper harvest cut short by cold weather. Pecan harvest increased last week, light crop many areas. freeze caused some leaf loss Cross Timber. Harvest just beginning Trans Pecos, good crop expected.

Range and Livestock: Native grasses again nipped by cold temperatures north. Growth summer grasses ended. Recent rain help winter grasses Blacklands, central. Early irrigated wheat fields providing grazing from stockers High Plains. Producers many areas continued feed hay steady rate. Livestock fair to good.

UTAH: Temperatures 9° below normal. Light precipitation mountainous portion of north, otherwise mostly zero.

Days suitable for fieldwork 6.7. Cool temperatures, moderate showers improved soil moisture in some areas, dry soil conditions continued most areas. Field activity minimal. Livestock supplemental feeding continued. Major farm activities: Cleanup, equipment maintenance, planning, construction of new facilities.

VIRGINIA: Temperatures above normal, rainfall abundant. Precipitation 0.12 to 1.59 in. Extremes 28°; 78°. Temperatures 2 to 6° above normal.

Days suitable for fieldwork 5.2. Topsoil 3% short, 86% adequate, 11% surplus. Grain corn 84% harvested, 78% 1988, 79% avg. Soybeans 39% harvested, 23% 1988, 25% avg. Peanut harvest completed. Wheat 58% seeded, 44% 1988, 49% avg. Barley 93% seeded, 82% 1988, 85% avg. Oats 87% seeded, 80% 1988, 88% avg. Winter grains, grazing crops 4% poor, 8% fair, 48% good, 40% excellent. Pastures 8% fair, 60% good, 32% excellent. Forage from pastures, winter grazing crops dairy cattle 26%, beef cattle 92%, sheep 92%. Marketed feeder cattle, tobacco. Seeded small grains, gassed tobacco plant beds.

WASHINGTON: Temperatures 4 to 8° below normal, east; 3 to 7° below normal, west. Precipitation none to 0.36 in., east; none to 2.00 in., west.

Days suitable for fieldwork 6.6. Soil moisture 15% short, 85% adequate. Range, pasture 50% short, 50% adequate. Hay, other roughage 90% adequate,

10% surplus. Seeding of winter wheat neared completion. Emerged wheat looks good in northwest part of State. Some wheat 3 to 5 tiller stage in central part of State. Russian wheat aphid problems continued. Winter wheat planted 99%, 98% 1988, 98% avg.; emerged 95%, 86% 1988, 87% avg.; 35% fair, 65% good. Dry bean, grape, apple, potato, corn silage harvests were complete. Corn for grain harvest lags behind normal at 35%, 60% 1988, 68% avg. Major activities for the week included: Cleaning orchards; pruning caneberry fields; applying fertilizers, herbicides, rodenticide; harvesting cranberries, carrots, cabbage, celery, pumpkins, squash; moving cattle off ranges; beginning winter feeding programs; marketing calves.

WEST VIRGINIA: Temperature 47°, 1° below normal. Extremes 16°; 80°. Precipitation 0.31 in. well below normal.

Days suitable for fieldwork 4.3. Soil moisture 89% adequate, 11% surplus. Corn good; 58% harvested. Wheat seeding 75% complete. Hay good to fair; 3rd cut 83% harvested. Pastures good. Cattle, calves, sheep, lambs good. Farm activities: Corn, hay harvest, stripping tobacco, marketing cattle, planting small grains.

WISCONSIN: Cooler temperature 40°, normal. Extremes: 5°; 72°. Precipitation 0.20 to 1.10 in. Most north central, northeast. Snow 1.00 to 4.00 in.

Days suitable for fieldwork 2.3. Soil moisture 62% short, 38% adequate. Corn grain 74% harvested, 88% 1988, 62% avg. Soybeans 93% harvested, 91% 1988, 72% avg. Fall plowing 42% complete, 65% 1988, 43% avg.

WYOMING: Temperatures below normal. Most areas recorded precipitation.

Corn harvest continues. Most dry beans, sugarbeets harvested. Winter wheat fair to good. Livestock movement to winter pastures, markets, continues. Livestock fair to good.

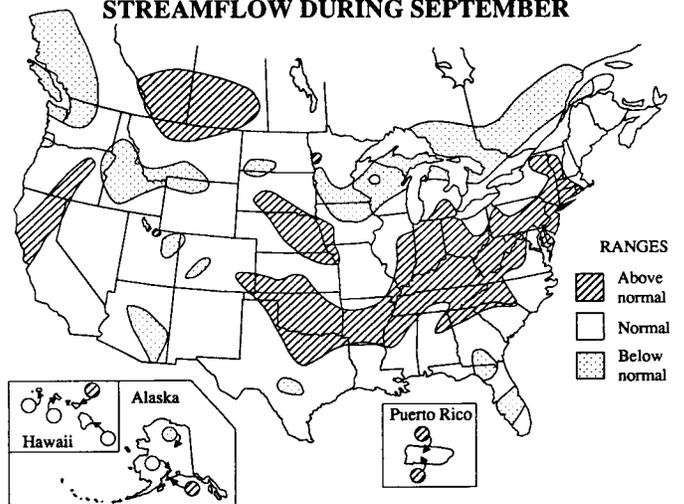
National Water Conditions

SEPTEMBER 1989

UNITED STATES
Department of the Interior
Geological Survey

CANADA
Department of the Environment
Water Resources Branch

STREAMFLOW DURING SEPTEMBER



October 1989

MONTHLY DATA FROM SELECTED FOREIGN CITIES
 CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
 *** = DATA NOT AVAILABLE

International Weather and Crop Summary

HIGHLIGHTS

October 29 - November 4, 1989

USSR ... Precipitation increases in the Ukraine and North Caucasus, benefiting winter grain establishment. Winter grains in the northeast enter dormancy about 2 weeks later than usual.

EUROPE ... Widespread rain and above-normal temperatures accelerate growth of winter grains across the north.

SOUTH ASIA ... Rain in southernmost India improves irrigation levels but causes local flooding.

EASTERN ASIA ... Heavy rain continues in the Yangtze Valley. Rain delays late rice harvest in Japan and the Korean Peninsula.

SOUTHEAST ASIA ... Typhoon Gay brings inundating rain to peninsular Thailand. Beneficial rain continues over Indonesia.

SOUTH AFRICA ... Widespread showers continue to improve corn planting conditions.

SOUTH AMERICA ... Widespread showers benefit crops throughout the region, but a brief frost episode may hurt Argentina's southern wheat.

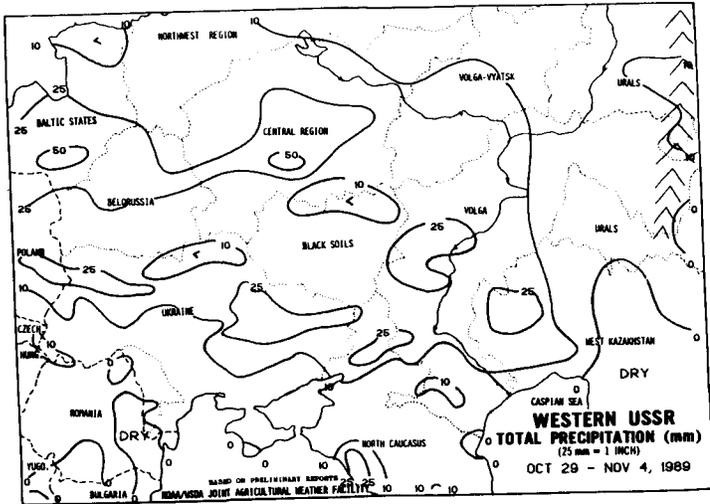
AUSTRALIA ... Heavy rain continues in east-central crop areas, delaying winter grain harvest but benefiting summer crops.

MEXICO ... Mostly dry weather prevails, except along the eastern coast where showers benefit winter vegetable planting in the north.

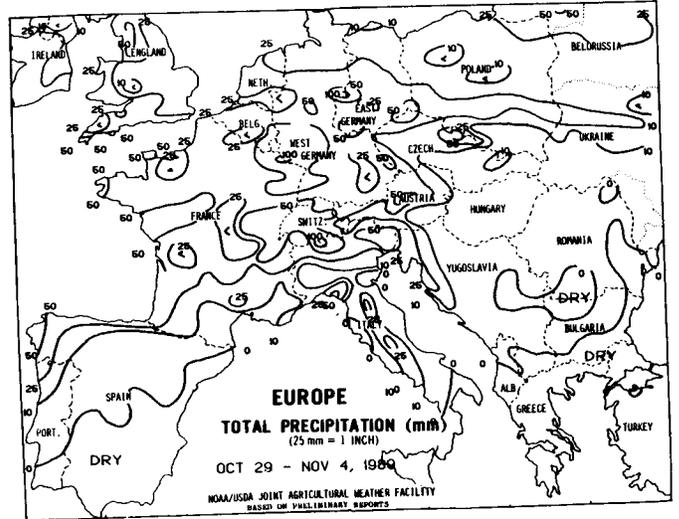
NORTHWESTERN AFRICA ... Dry weather covers winter grain areas in Morocco, Algeria, and Tunisia.

COUNTRY CITY	TEMPERATURE (C)					PRECIPITATION (MM)		
	AVG MAX	AVG MIN	HI	LO	DPART F/NRMM	TOTAL	DPART F/NRMM	
NORWAY OSLO	9	2	16	-5	6	1.2	49.3	-43.7
SWEDEN STOCKHOLM	10	5	15	-1	8	0.3	69.4	18.0
FINLND HELSINKI	8	3	13	-3	5	-0.1	53.6	-12.7
U KING GLASGOW	14	8	17	0	11	1.0	118.6	-11.4
EDINBURGH	14	8	19	1	11	1.4	47.4	-9.9
BIRMINGHAM	15	8	18	2	12	1.6	82.2	30.5
LONDON	17	9	21	2	13	2.0	72.8	11.1
IRELND DUBLIN	15	10	18	6	12	1.5	74.3	6.0
ICELND REYKJAVIK	7	4	11	-3	5	0.4	60.2	-35.0
DENMRK COPENHAGEN	13	8	16	1	11	1.2	68.4	9.5
LUXEMB LUXEMBOURG	15	8	22	2	11	2.1	35.1	-22.8
SWITZL ZURICH	16	7	20	2	11	2.4	102.8	30.8
GENEVA	18	6	23	-1	12	1.9	42.3	-29.5
FRANCE PARIS	18	10	24	3	14	2.8	15.2	-31.8
STRASBOURG	17	7	24	1	12	2.1	40.7	2.5
BOURGES	19	8	28	3	14	2.4	31.1	-27.0
BORDEAUX	21	10	28	3	16	2.7	32.8	-49.4
TOULOUSE	20	10	24	3	15	2.0	30.3	-19.8
MARSEILLE	21	10	25	4	16	0.3	21.6	-62.4
SPAIN VALLADOLID	22	8	27	5	15	2.4	23.4	-17.3
MADRID	23	10	29	4	16	1.6	6.4	-46.9
SEVILLE	28	15	35	11	21	2.0	127.6	59.3
E GRMY LEIPZIG	16	8	24	2	12	2.9	26.7	-16.5
DRESDEN	16	9	25	2	12	3.0	56.4	4.4
W GRMY HAMBURG	15	8	20	1	11	1.8	61.9	3.7
BERLIN	16	9	23	4	12	2.4	26.5	-15.0
DUSSELDORF	17	11	23	2	14	3.2	58.7	6.6
STUTTGART	16	5	27	-1	11	1.1	21.9	-19.5
NURNBERG	16	6	23	-2	11	2.4	44.8	0.8
MUNICH	16	5	25	-1	11	2.4	56.5	-1.1
AUSTRI VIENNA	17	7	23	1	12	1.9	27.4	-22.6
INNSBRUCK	17	5	23	0	11	1.6	24.5	-35.6
CZECH PRAGUE	15	6	23	-1	10	1.9	22.7	-14.9
POLAND WARSAW	14	7	22	2	11	2.3	43.6	4.4
LODZ	14	7	22	0	11	2.6	31.3	-7.8
KATOWICE	15	7	23	1	11	2.8	34.7	-19.4
PRZEMYSL	14	8	23	3	11	2.5	34.5	-12.7
HUNGAR BUDAPEST	17	7	23	1	12	1.1	10.8	-28.4
YUGOSL SARAJEVO	17	3	25	-2	10	0.1	61.5	-68.5
ROMANI BUCHAREST	19	6	23	1	12	0.8	44.9	15.2
BULGAR SOFIA	16	6	22	1	11	0.1	45.1	18.3
ITALY MILAN	18	8	27	4	13	0.6	6.1	-107.6
VERONA	17	7	22	4	12	-0.9	2.5	-71.7
VENICE	16	8	22	1	12	-1.7	7.6	-70.5
GENOA	21	14	22	13	18	-0.1	36.4	-135.6
ROME	21	10	23	6	15	-1.2	54.3	-28.1
NAPLES	22	10	25	7	16	0.3	144.8	22.0
GREECE THESSALONIKA	20	10	26	5	15	-1.0	15.8	-34.5
LARISSA	21	8	26	3	15	-1.6	26.4	-33.9
ATHENS	22	15	27	10	18	-1.4	73.8	9.0
TURKEY ISTANBUL	18	12	29	9	15	-0.3	47.4	-16.6
ANKARA	17	4	25	-2	10	-1.5	47.8	29.8
CYPRUS LARNACA	26	15	30	13	21	-1.0	23.2	-2.7
USSR TALLINN	9	4	15	-4	7	0.5	83.7	25.2
LENINGRAD	8	4	13	-1	6	0.7	90.1	29.6
KAUNAS	11	6	18	-2	9	1.7	107.2	58.8
MINSK	10	5	18	-4	7	1.4	72.1	24.9
KAZAN	7	3	14	-8	5	1.5	144.5	101.3
MOSCOW	8	3	16	-2	5	0.6	120.1	64.6
SVERDLOVSK	6	-1	16	-13	2	1.3	67.4	30.7
OMSK	8	-1	19	-12	4	2.1	55.0	25.0
KUSTANAY	9	1	18	-9	5	2.4	48.4	22.7
KRASNOYARSK	8	-1	17	-8	4	2.6	40.4	5.9
NOVOSIBIRSK	8	0	17	-11	4	3.4	42.5	12.0
BARNAUL	9	1	18	-9	5	2.1	47.8	2.7
KHABAROVSK	10	0	21	-5	5	0.2	23.6	-18.9
VLADIVOSTOK	12	7	20	-3	10	1.1	35.6	-26.7
KIEV	12	6	23	0	9	1.4	59.1	20.0
LVOV	14	6	23	-2	10	1.9	32.7	-15.8
KIROVOGRAD	14	6	20	-4	10	1.2	16.1	-15.4

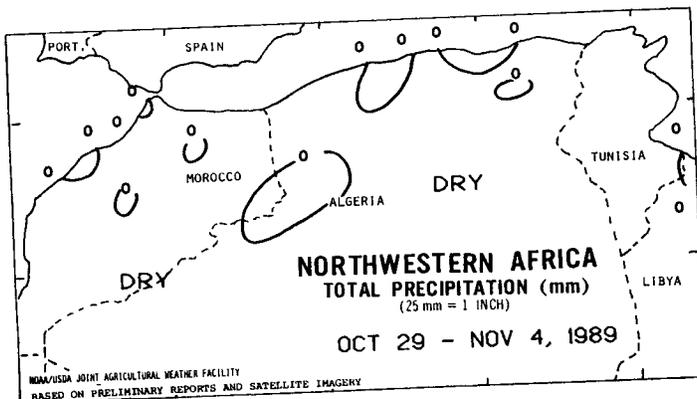
COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)			COUNTRY CITY		TEMPERATURE (C)					PRECIPITATION (MM)		
October 1989		AVG	AVG	HI	LO	DPART	DPART			October 1989		AVG	AVG	HI	LO	DPART	DPART		
		MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM			MAX	MIN	MAX	MIN	AVG	F/NRM	TOTAL	F/NRM
USSR	ODESSA	16	9	21	0	12	1.1	10.5	-9.3	TANZAN	DAR ES SALAAM	30	20	38	10	25	-0.3	122.1	64.9
	YALTA	18	11	25	6	14	-0.2	21.8	-25.2	TOGO	LOME	30	24	31	21	27	0.8	143.0	44.8
	VORONEZH	10	4	18	-2	7	1.0	67.6	28.0	B FASO	OUAGADOUGOU	35	22	37	19	29	-0.2	49.0	9.5
	SARATOV	10	5	17	-3	7	2.2	110.5	73.5	IVRY C	ABIDJAN	30	23	32	21	26	0.5	86.6	-81.6
	KHARKOV	12	6	20	-2	9	1.6	61.8	28.5	MOZAMB	MAPUTO	28	18	36	14	23	0.7	28.6	-32.0
	VOLGOGRAD	12	4	18	-3	8	0.6	40.3	9.6	ZAMBIA	KABWE	30	17	38	13	24	-0.6	16.3	-5.0
	ROSTOV	14	7	25	-2	10	1.3	41.0	4.4	ZIMBAB	HARARE	28	15	33	11	21	0.0	58.2	21.3
	ASTRAKHAN	17	6	23	-4	11	2.1	8.4	-7.4	S AFRI	PHRETORIA	26	14	32	10	20	0.1	35.9	-35.2
	KRASNODAR	17	6	27	0	12	0.5	38.5	2.9		KHOONSTAD	26	9	33	2	18	-1.1	45.4	-20.6
	ORENBURG	10	3	20	-10	6	2.3	31.1	-10.6		JOHANNESBURG	24	10	30	3	17	-0.4	63.1	-5.4
	TSELINOGRAD	10	1	22	-12	6	2.8	36.9	19.3		BETHAL	24	9	31	0	16	-0.9	73.4	-4.6
	KARAGANDA	11	1	25	-14	6	3.2	38.2	10.1		DURBAN	23	17	28	13	20	-0.1	97.0	6.2
	TBILISI	18	10	25	3	14	0.3	40.6	-0.4	CANADA	CAPE TOWN	20	10	30	4	15	-0.5	49.2	13.5
	TASHKENT	24	9	33	1	16	3.3	6.0	-26.7		TORONTO	15	4	25	-3	10	0.5	76.6	14.8
	ASHKHABAD	26	11	40	3	19	3.0	4.1	-13.7		MONTREAL	14	5	24	-2	10	0.8	124.9	49.4
SYRIA	DAMASCUS	27	9	35	4	18	-1.7	2.4	-7.3		WINNIPEG	13	-1	23	-10	6	-0.3	16.6	-14.2
ISRAEL	JERUSALEM	24	13	32	9	19	-1.8	7.6	-14.9		REGINA	12	-2	22	-11	5	-0.2	50.8	32.0
PAKIST	KARACHI	34	22	37	17	28	0.5	0.1	0.1		SASKATOON	11	-2	19	-8	5	0.1	19.5	3.1
INDIA	AMRITSAR	33	15	36	10	24	-0.8	0.1	-24.7		LETHBRIDGE	14	0	24	-12	7	-0.5	19.6	1.7
	NEW DELHI	34	19	37	15	26	0.2	4.1	-31.3		CALGARY	13	-1	21	-9	6	0.3	6.1	-11.5
	AHMEDABAD	37	21	39	17	29	0.4	0.1	-10.7		EDMONTON	11	-1	20	-7	5	-0.4	15.2	-1.4
	INDORE	34	17	36	15	26	0.5	0.1	-35.5		VANCOUVER	14	7	20	-1	11	0.6	96.9	-17.2
	CALCUTTA	32	25	35	22	28	0.5	251.5	119.5	MEXICO	GUADALAJARA	26	13	31	7	19	0.3	79.8	10.0
	VERAVAL	33	22	37	20	27	-0.3	0.1	-26.5		MEXICO CITY	23	10	26	5	17	1.8	40.1	5.6
	BOMBAY	34	23	37	20	29	1.0	79.0	-38.0		ACAPULCO	33	25	35	24	29	0.5	9.3	-150.5
	POONA	32	18	35	13	25	-0.4	22.0	-54.4		BERMUD ST. GEORGES	28	23	29	14	25	0.8	226.5	65.2
	BEGAMPET	32	20	34	14	26	0.9	35.4	-53.6	BAHAMA	NASSAU	31	22	33	18	27	1.0	33.5	-173.1
	MADRAS	33	25	36	23	29	0.7	129.9	-148.8	CUBA	HAVANA	30	23	33	20	26	0.7	84.6	-92.0
	MANGALORE	31	23	33	22	27	0.5	166.8	-39.2	JAMAIC	KINGSTON	33	25	35	23	29	1.7	10.1	-168.1
H KONG	HONG KONG	27	24	31	19	26	0.5	17.6	-103.6	P RICO	SAN JUAN	30	25	31	22	28	0.3	28.5	-112.1
N KREA	PYONGYANG	16	4	21	-4	10	-1.3	73.4	21.3	GUADEL	RAIZET	31	25	32	23	28	1.9	30.2	-138.1
S KREA	SEOUL	19	10	24	2	14	0.8	73.5	24.5	MARTINQ	LAMENTIN	31	25	32	23	28	2.5	18.8	-212.3
JAPAN	SAPPORO	16	8	21	3	12	1.6	71.5	-43.9	BARBAD	BRIDGETOWN	30	25	31	23	28	0.3	27.8	-140.0
	NAGOYA	22	14	27	7	18	0.9	56.0	-65.0	TRINID	PORT OF SPAIN	33	23	34	22	28	1.7	37.1	-128.3
	TOKYO	21	15	26	11	18	0.5	200.0	18.9	COLOMB	BOGOTA	19	8	20	5	14	0.6	93.7	-19.6
	YOKOHAMA	20	15	26	11	17	0.4	222.5	35.8	VENEZU	CARACAS	31	25	33	24	28	0.3	21.0	-23.5
	KYOTO	23	13	27	7	18	1.2	42.0	-82.4	F GUIA	CAYENNE	32	23	33	22	27	0.9	80.2	11.7
	OSAKA	23	14	28	9	19	0.6	36.5	-77.5	BRAZIL	FORTALEZA	29	24	30	23	27	-0.8	6.1	-7.3
THAILN	PHETCHABUN	32	23	35	20	27	0.0	153.1	59.2		BELO HORIZONTE	28	22	28	21	25	-0.5	43.0	-3.4
	BANGKOK	32	24	35	20	28	0.3	315.8	98.3		CAMPO GRANDE	31	19	37	10	25	1.3	78.4	-83.7
MALAYS	KUALA LUMPUR	31	24	33	23	28	1.3	260.6	-8.6		FRANCA	27	15	32	10	21	0.3	42.0	-89.1
VIETNM	HANOI	28	23	33	18	25	0.2	136.4	37.3		RIO DE JANEIRO	23	20	27	18	21	-1.5	6.1	-78.7
CHINA	HARBIN	12	1	20	-8	6	1.1	27.2	-0.5		LONDRINA	27	14	30	10	21	-0.5	50.0	-130.9
	HAMI	20	4	27	-3	12	2.0	1.1	-0.5		SANTA MARIA	24	13	30	9	19	-0.4	22.0	-155.0
	LANCHOW	17	6	22	1	12	2.1	50.4	25.7	PERU	LIMA	21	16	25	14	19	1.6	0.6	0.6
	BEIJING	20	8	26	3	14	1.6	6.0	-18.1	BOLIVI	LA PAZ	16	1	20	-1	9	-1.1	5.3	-32.1
	TIENTSIN	20	10	27	4	15	1.5	16.9	-8.0	CHILE	SANTIAGO	23	6	31	1	15	0.5	1.2	-9.6
	LHASA	17	2	21	-3	10	0.6	6.7	-0.8	ARGENT	IGUAZU	28	15	34	8	21	***	210.3	***
	KUNMING	20	13	28	7	16	1.6	100.8	17.0		FORMOSA	27	17	38	9	22	0.0	129.0	-14.0
	CHENGCHOW	23	10	28	3	17	1.7	5.4	-38.6		CERES	27	12	35	1	20	0.3	26.4	-50.3
	YEHCHANG	23	15	28	8	19	0.6	117.6	40.5		CORDOBA	26	11	34	1	18	0.5	42.1	-28.2
	HANKOW	23	15	28	9	19	1.6	139.1	76.9		RIO CUARTO	24	11	33	3	18	1.1	44.0	-47.6
	CHIHKIANG	23	14	30	8	19	0.9	67.2	-29.9		ROSARIO	23	11	31	1	17	-0.1	57.2	-40.7
	SHANGHAI	23	14	26	10	19	0.8	11.1	-39.2		BUENOS AIRES	22	10	29	2	16	0.2	57.2	-36.4
	NANCHANG	24	17	28	10	20	0.7	45.9	-9.6		SANTA ROSA	22	9	30	-1	15	0.0	42.3	-31.3
	TAIPEI	27	23	30	19	25	1.4	17.1	-104.8		TRES ARROYOS	19	7	25	-2	13	-0.4	32.4	-34.5
	CANTON	30	22	33	17	26	1.9	8.1	-60.7	MIDW I	MIDWAY ISLAND	27	23	28	20	25	0.9	145.6	-36.9
	NANNING	29	21	33	13	25	1.7	6.6	-62.5	N CALD	NOUMEA	27	19	31	16	23	1.0	11.6	-35.1
CNRY I	LAS PALMAS	27	21	34	18	24	1.8	20.2	4.9	FIJI	NAUSORI	28	22	30	20	25	1.0	221.2	22.3
MOROCC	CASABLANCA	26	18	37	13	22	2.8	17.6	-19.9	SAMOA	PAGO PAGO	30	25	31	23	27	0.8	241.4	-39.3
	MARRAKECH	29	17	35	12	23	2.6	27.7	6.1	TAHITI	PAPEETE	30	22	32	20	26	0.8	144.1	59.3
ALGERI	ALGER	26	15	31	10	21	1.7	20.6	-88.2	N ZEAL	AUCKLAND	19	13	21	8	16	1.4	139.9	49.1
	BATNA	22	10	28	4	16	1.2	23.6	-5.4	PA N G	PORT MORESBY	31	24	33	21	27	0.0	139.2	106.2
TUNISI	TUNIS	24	15	26	10	20	-0.1	60.8	-16.9	AUSTRL	DARWIN	33	26	36	23	29	0.2	24.0	-55.6
NIGER	NIAMEY	37	23	40	19	30	0.0	8.1	-8.0		MOREE	27	12	34	4	19	-0.4	36.0	-12.9
MALI	TIMBUKTU	38	24	42	18	31	-0.3	3.9	1.1		BRISBANE	26	15	31	10	21	-0.2	18.6	-79.7
	BAMAKO	34	23	37	20	29	1.2	38.4	-25.9		PERTH	19	9	25	7	14	-2.2	84.7	31.1
MAURIT	NOUAKCHOTT	36	24	43	20	30	0.9	0.1	-9.5		CEDUNA	22	10	35	5	16	-0.6	4.1	-20.5
SENEGL	DAKAR	31	25																



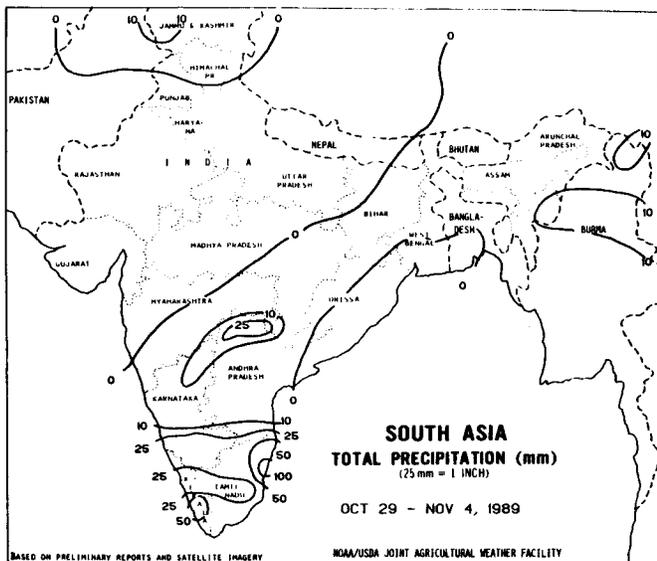
WESTERN USSR ... Precipitation increased in the Ukraine and North Caucasus. Significant rain (10-35mm) over the northern Ukraine and the northern North Caucasus benefited winter grain establishment but slowed final summer crop harvest efforts. Light precipitation (less than 10mm) over the southern Ukraine and the central North Caucasus caused only brief delays in final harvest efforts. Precipitation over the northern half of the region continued widespread, with greatest rainfall (25-50mm) covering the southern Baltic States, northern Belorussia, and the Central Region. Unseasonably warm weather continued to cover most areas, with weekly average temperatures ranging from 2 to 4 degrees Celsius (C) above normal. Regarding the 1990 winter grain crop, adequate moisture and mild weather since planting have provided very favorable conditions for emergence and plant establishment prior to dormancy. Continued unseasonably mild weather, however, is causing winter grains in the north to enter dormancy later than usual. This past week, winter grains in the Central Region, Volga Vyatsk, and upper Volga began entering dormancy about 2 weeks later than usual.



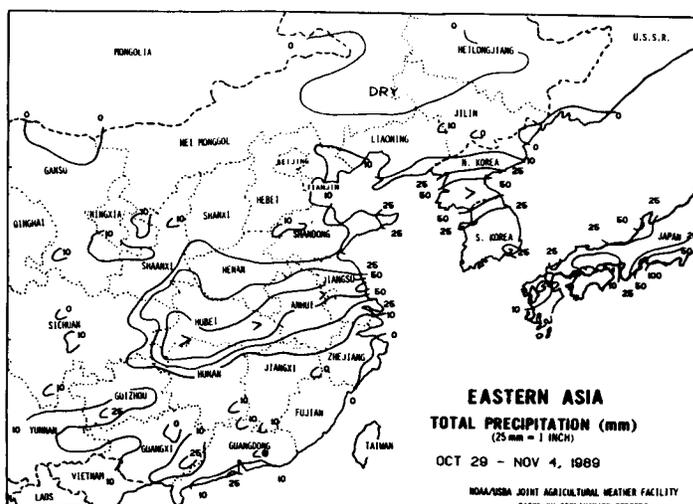
EUROPE ... Widespread rain (10-60mm, with scattered amounts in excess of 60mm) fell from France and the United Kingdom eastward to Poland, delaying sugarbeet lifting but improving soil moisture for winter grains establishment after several weeks of below-normal precipitation. Vegetative growth of winter grains in northern and central crop areas continued at an accelerated pace due to persistent above-normal temperatures (mean weekly temperatures 2-6 degrees C above normal). In the south, scattered rain (5-50mm, with isolated amounts in excess of 50mm) favored recently planted winter crops in northern sections of the Iberian Peninsula and Italy. Scattered light rain (less than 10mm) fell in sections of the northern Balkans, while the southern Balkans continued mostly dry.



NORTHWESTERN AFRICA ... Mostly dry weather covered winter grain areas in Morocco, Algeria, and Tunisia. Although light precipitation in recent weeks has helped to promote early season fieldwork in most areas, soaking rain is needed to promote widespread planting. Furthermore, the rainy season has not yet begun in western Algeria. Usually, the bulk of winter grain planting over the region occurs from mid-November to mid-December.

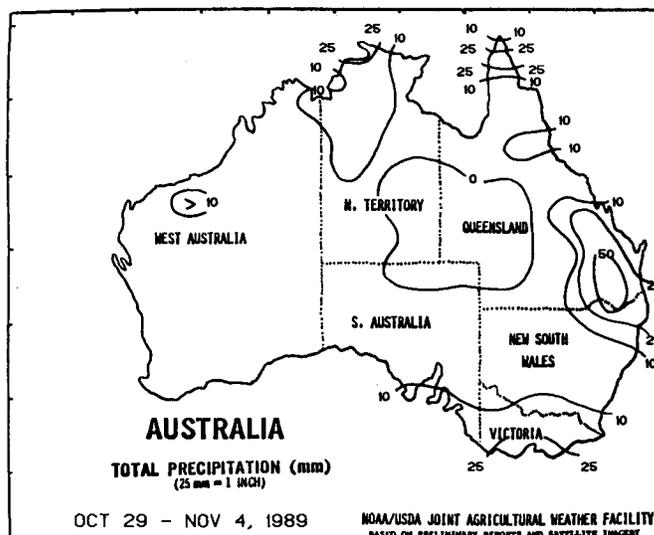


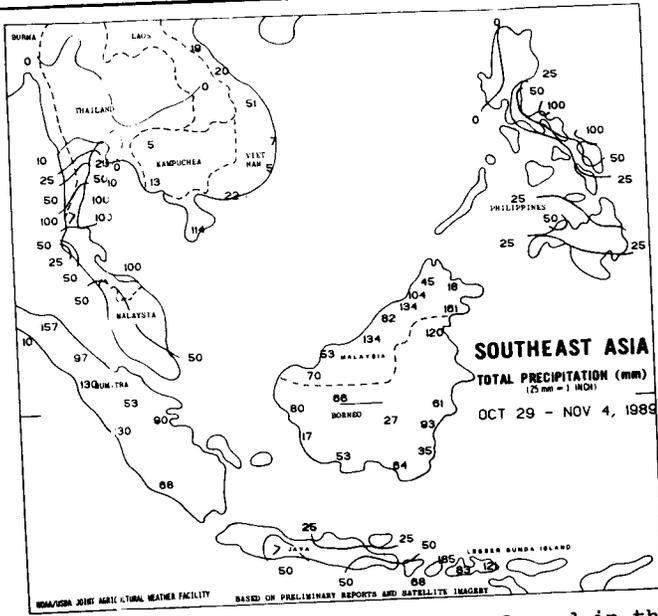
SOUTH ASIA ... Variable rainfall (10-50mm or more) continued over India's southern tip, increasing local irrigation reserves for fall planted crops. Heaviest rain (96-130mm) fell over northeastern Tamil Nadu, likely causing local flooding. Mostly dry, seasonably warm weather dominated central and eastern India, although scattered showers (7-43mm) caused minor fieldwork delays over Maharashtra, northern Andhra Pradesh, and northern Karnataka. Rain (10-14mm) in the primary winter wheat areas was limited to northernmost areas of Pakistan and India as planting elsewhere progressed.



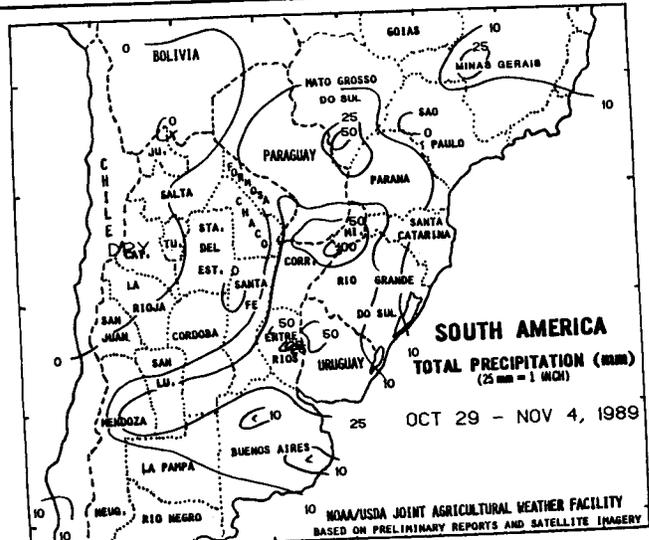
EASTERN ASIA ... Heavy rain (25-75mm, with isolated amounts in excess of 75mm) continued for the third consecutive week in much of the Yangtze Valley, causing extensive delays in late fall fieldwork. Very heavy rain (75-128mm) on already saturated soils likely caused localized flooding in sections of northern Hunan and southern Hubei. Moderate to heavy rain (15-70mm, with scattered amounts in excess of 70mm) in much of Japan and the Korean Peninsula caused delays in late single rice harvest. In contrast, scattered, mostly light showers (less than 10mm) caused only minor delays in late double crop rice harvest across southern China. Above-normal temperatures favored vegetative growth of winter crops in nearly all growing areas.

AUSTRALIA ... Heavy rain (25-70mm, with isolated amounts in excess of 70mm) continued for the second consecutive week across crop areas of southeastern Queensland and northeastern New South Wales, delaying winter grains harvest but benefiting recently planted summer crops. Below-normal temperatures (1-3 degrees C below normal) further lengthened harvest delays and slowed germination and growth of summer crops. In the southeast, light to moderate rain (5-15mm) favored filling winter grains in southern New South Wales and South Australia, and reproductive to filling crops in Victoria. Light rain (less than 10mm) fell in crop areas of Western Australia. Winter grains harvest is beginning in northern crop areas of Western Australia and western crop areas of South Australia.

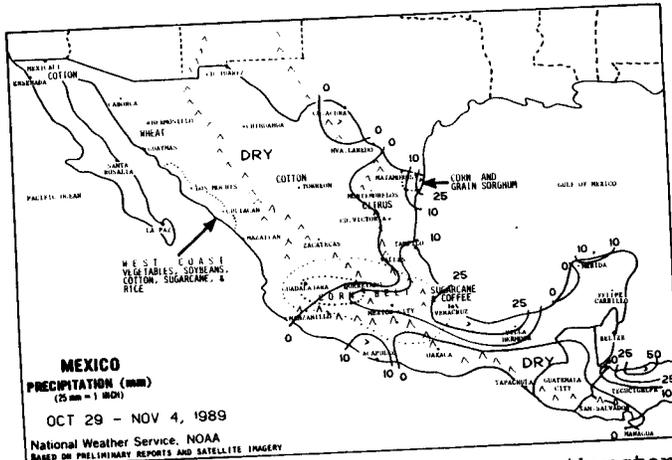




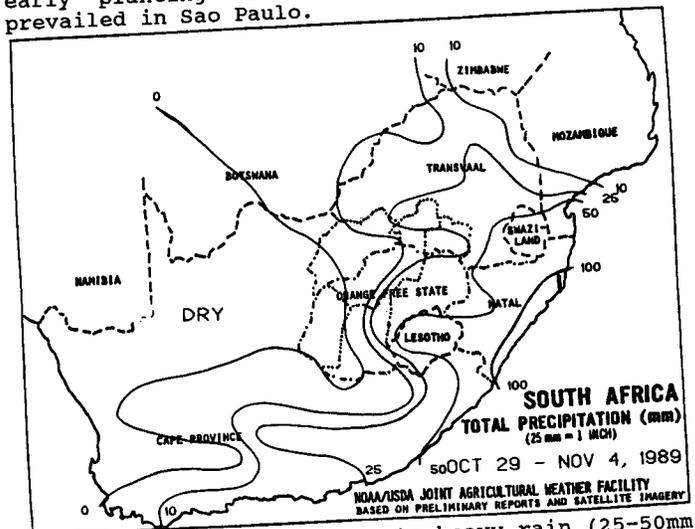
SOUTHEAST ASIA ... Typhoon Gay formed in the Gulf of Thailand and, on November 4, crossed over the Thai Peninsula into the Andaman Sea, bringing inundating rain and locally high winds to areas that produce rubber, tobacco, and tropical fruit crops. Sustained winds from Gay reached 80 knots. Rain and winds from the storm, however, missed the rainfed grain regions north of Bangkok where dry, warm weather favored crop maturation. In the Philippines, seasonably drier weather continued over western Luzon but heavy showers (50-100mm or more) covered southern Luzon, the east-central islands, and much of Mindanao. Moderate to heavy rain (25-50mm or more) also continued to the south over Malaysia and Indonesia, improving main season planting conditions but causing local flooding.



SOUTH AMERICA ... In Argentina, periodic showers brought much needed moisture (10-42mm) to southern portions of Cordoba and Santa Fe, improving topsoils for summer crop planting following prolonged dryness. Showers (9-24mm) covered much of Buenos Aires as well. Unusually cold weather, however, followed early week showers, producing frost and even subfreezing minimum temperatures in southern and eastern Buenos Aires. While the duration of the cold spell was short lived, wheat in early grain filling stages was vulnerable to frost damage. Elsewhere, locally heavy rain (50-100mm or more) fell over extreme eastern Argentina, western Uruguay, and western Rio Grande do Sul, Brazil. Widespread lighter rain (10-25mm) fell over most soybean areas of south-central Brazil, where early planting is underway. Mostly dry weather prevailed in Sao Paulo.



MEXICO ... Dry weather covered the northwestern wheat areas, the west coast farming region, the north-central rangelands, and western and southern portions of the Southern Plateau corn belt. Showers (10-46mm) in extreme northeastern Mexico benefited winter vegetable planting, while variable rain (10-31mm) in the eastern corn belt and sugarcane areas of Veracruz caused minor harvest delays. Scattered showers occurred in the south, mostly along coastal areas of the Bay of Campeche. Dry weather prevailed in the southwest, except for an isolated shower (15mm) at Acapulco.



SOUTH AFRICA ... Moderate to heavy rain (25-50mm or more) continued across grain regions of the eastern Cape Province, Natal, and much of the eastern and central Maize Triangle, maintaining favorable moisture levels for corn planting. The first substantial rain of the season (22-55mm) covered areas of the southeastern Orange Free State which represent the southern Maize Triangle. Light rain (3-10mm), however, covered primary corn regions of the northwest Triangle, where persistent below-normal rainfall since mid-August has provided only limited planting moisture. Heavy showers (100-157mm) over Natal's coastal sugar regions likely caused local flooding.

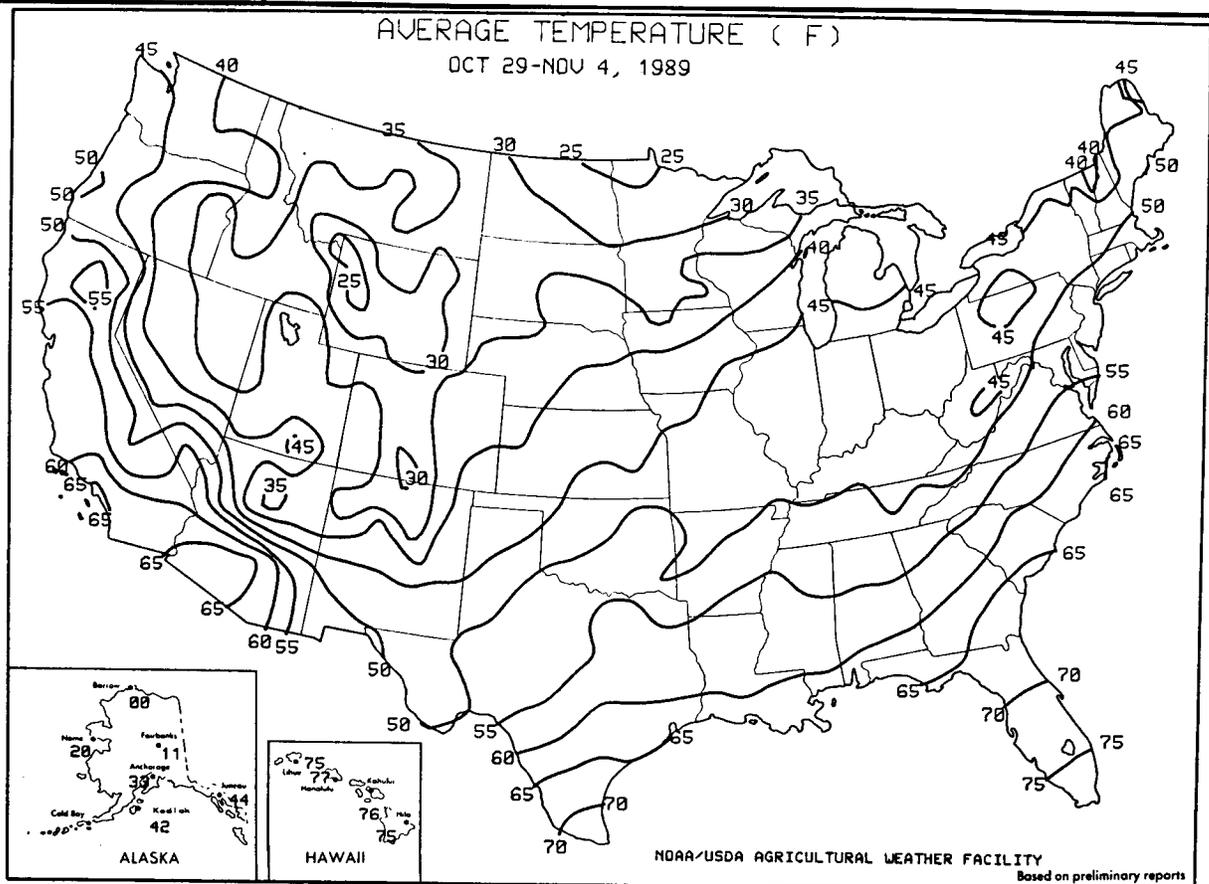
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