WEEKLY WEATHER AND CROP BULLETIN

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

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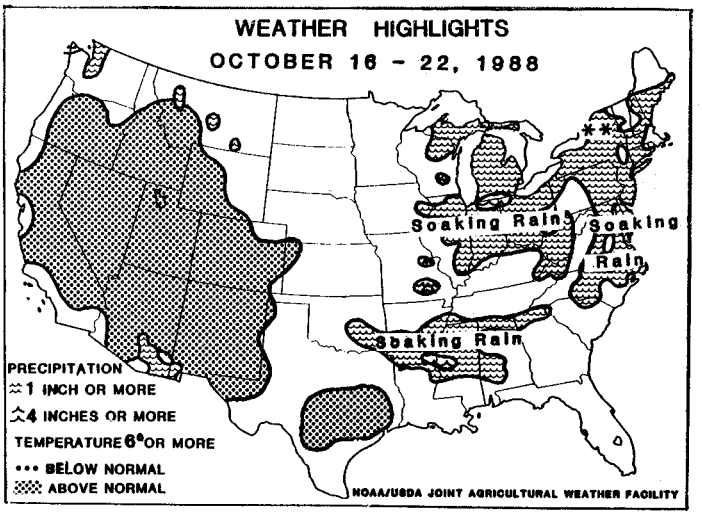
National Weather Summary

October 16-22, 1988



HIGHLIGHTS: Heavy rain relieved long-term moisture deficits in the eastern Corn Belt, upper Delta, and the middle Atlantic Coast States. Persistent showers covered the southern portions of the Southwest. Much above-normal temperatures again prevailed in the West.

SUNDAY...Thunderstorms developed along a cold front moving through the upper Great Lakes and eastern Corn Belt. These storms produced high wind, heavy rain, and hail. Showers were scattered across the northern Rockies and northern Plains. A Pacific storm brought high wind and rain to the Northwest. Continued heavy rain in the Cascade Mountains of western Washington caused severe flooding. Thunderstorms in Arizona produced locally heavy rain. Unseasonably warm weather prevailed over California.

MONDAY...The frontal system moved through the eastern Corn Belt and triggered more severe thunderstorms with heavy rain, high wind, and hail. Scattered rain covered the north-central and Great Lakes States. Warm weather remained over California and the Southwest.

TUESDAY...The frontal system continued southeastward causing rain with locally heavy amounts from New England to the mid-Atlantic States to the upper Delta. An upper air disturbance produced rain showers over the upper Mississippi Valley and the Great Lakes. Showers were also scattered from the Pacific Northwest into western Montana and in the Southwest. Record-high temperatures for the date were again set or tied in California and Nevada.

WEDNESDAY...The cold front draped from the Atlantic Ocean through the Carolinas and the Gulf Coast States into Texas. The high pressure system, centered over the eastern Corn Belt, brought chilly weather into the Northeast. Light rain was scattered across the Great Plains States, middle Mississippi Valley, lower Great Lakes, and southern Arizona.

THURSDAY...Rain showers were widespread throughout the Mississippi Valley. Thunderstorms and locally heavy rain moved across Arkansas into Alabama. An upper level disturbance brought more rain to southern Arizona and into southwestern New Mexico.

FRIDAY...Widespread rain covered the eastern third of the Nation. A strong low pressure system brought heavy rain to the mid-Atlantic coast and into New England. Wet snow fell over West Virginia and the Catskills of eastern New York. An approaching cold front caused high wind and rain in the northern Rockies.

SATURDAY...The low pressure system moved across New England and brought continued heavy rain to the Northeast. Three to five inches of snow fell across Upstate New York. The cold front pushed through the upper Mississippi Valley and the central Plains and triggered showers and thunderstorms in the Central United States. Warm weather prevailed in the West.

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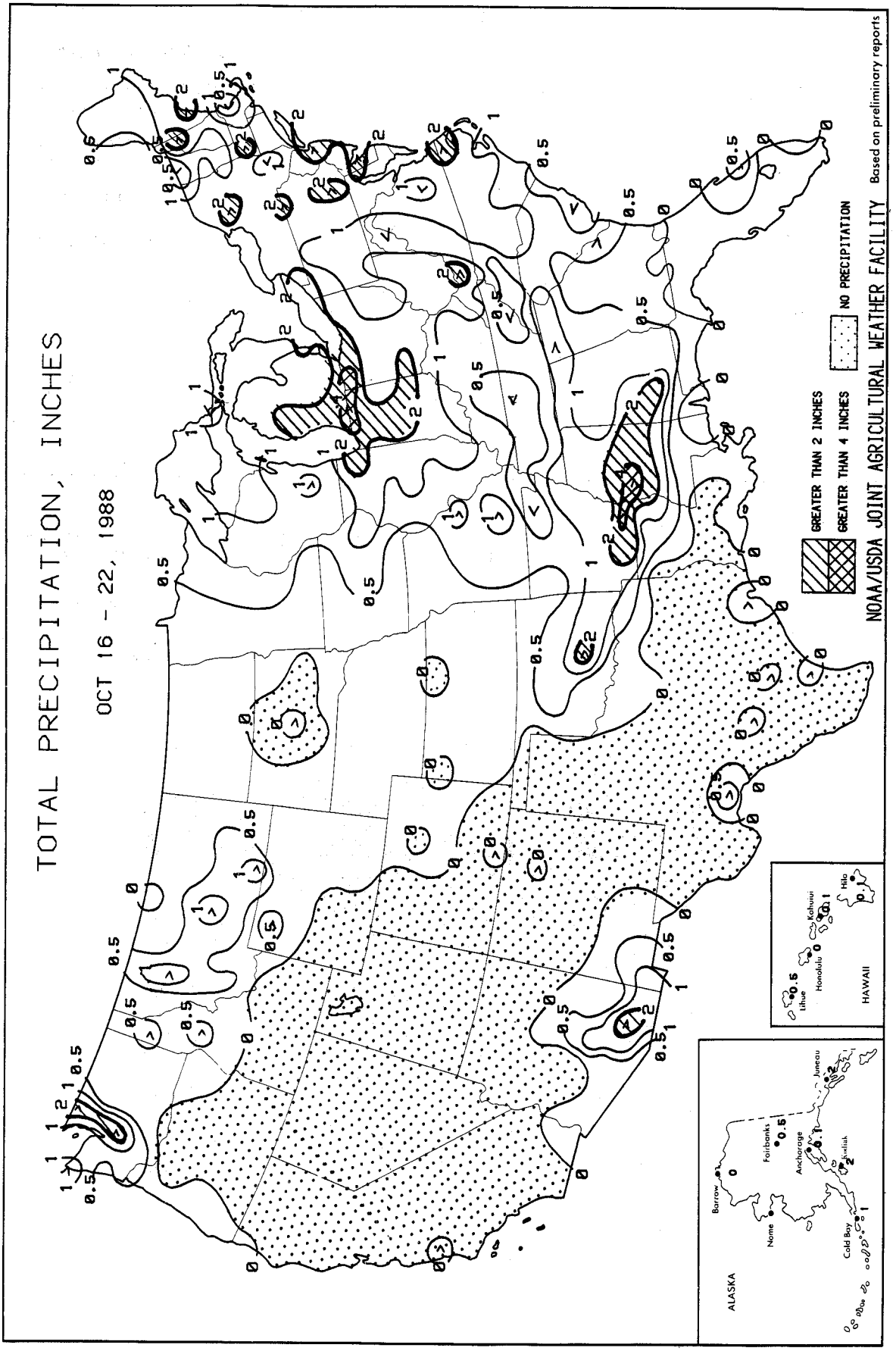
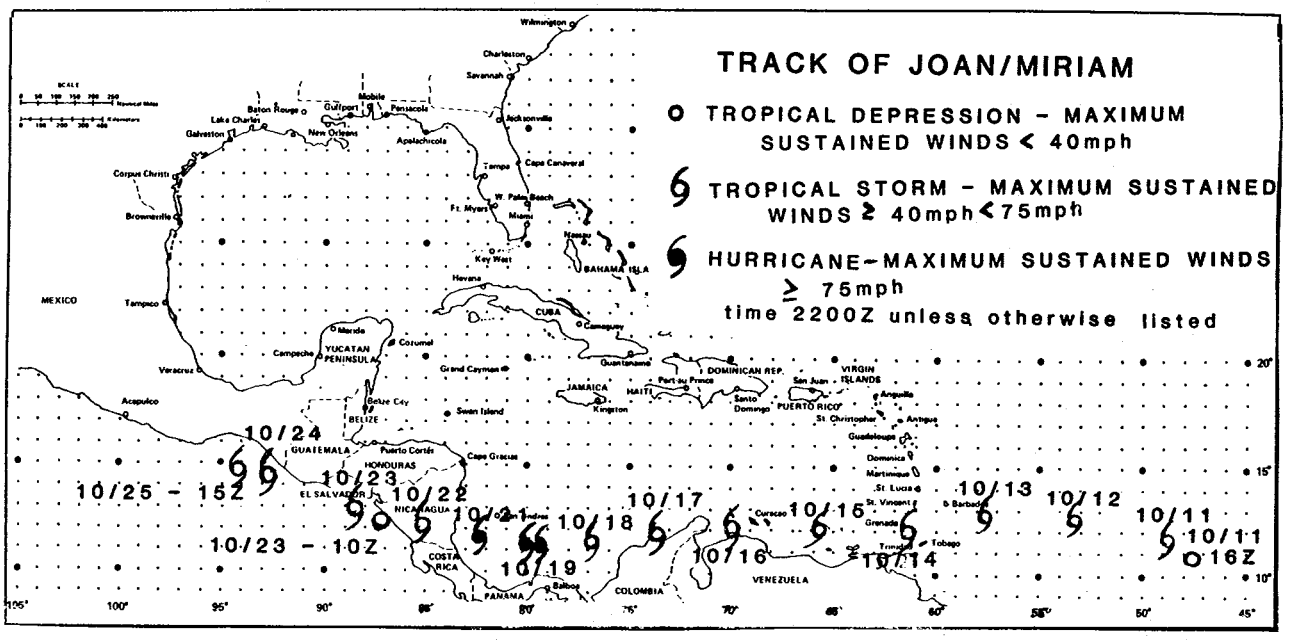
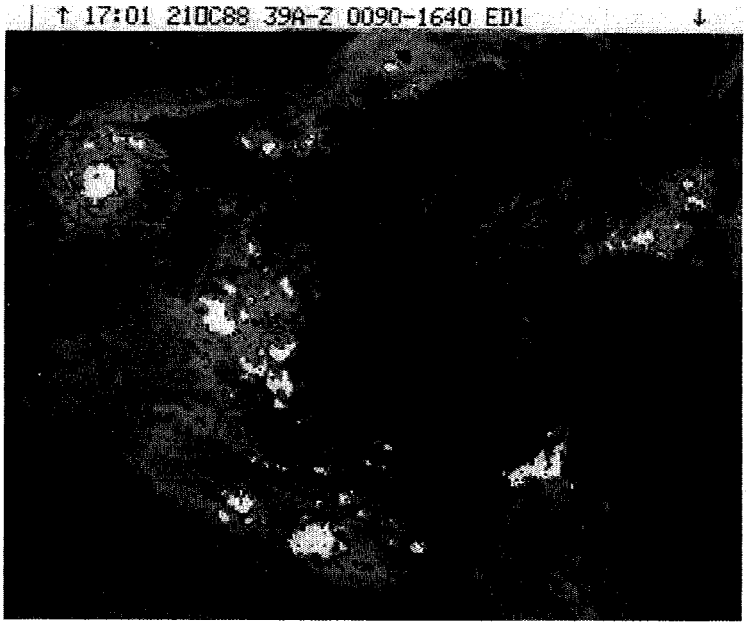
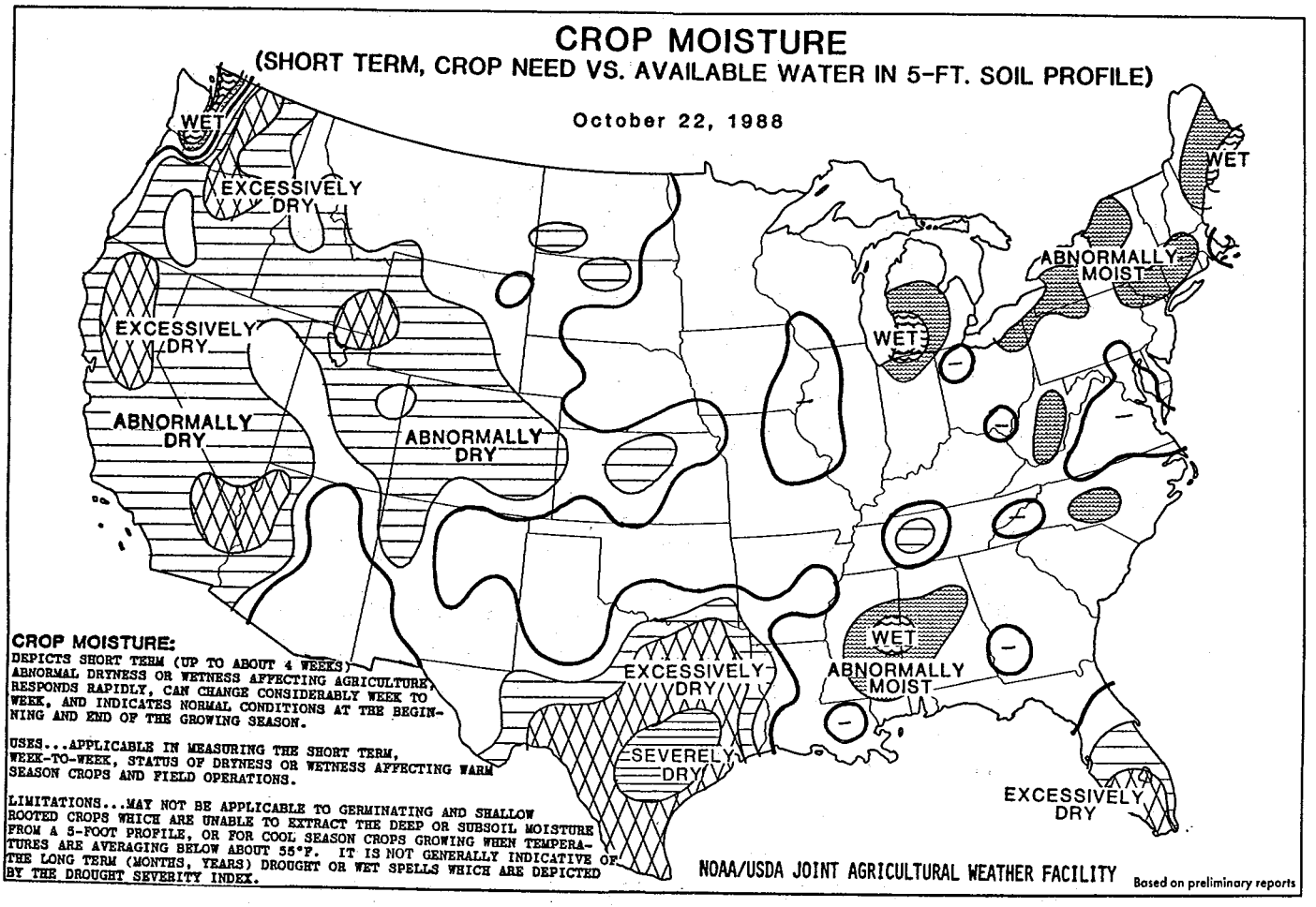

TOTAL PRECIPITATION, INCHES
OCT 16 - 22, 1988
GREATER THAN 2 INCHES
GREATER THAN 4 INCHES
NO PRECIPITATION
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA
Barrow
Nome
Fairbanks
Anchorage
Juneau
Kodiak
Cold Bay
HAWAII
Lihue
Honolulu
Kahului
Hilo

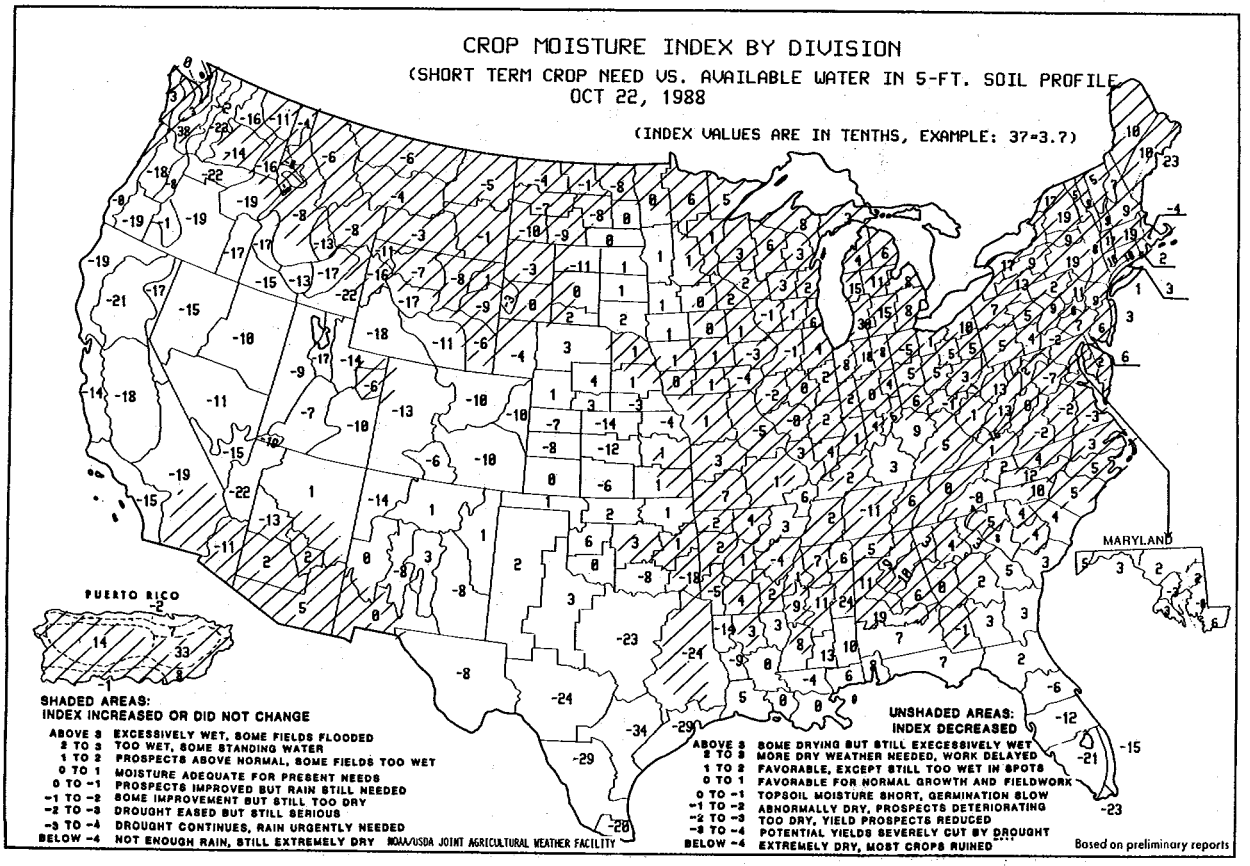


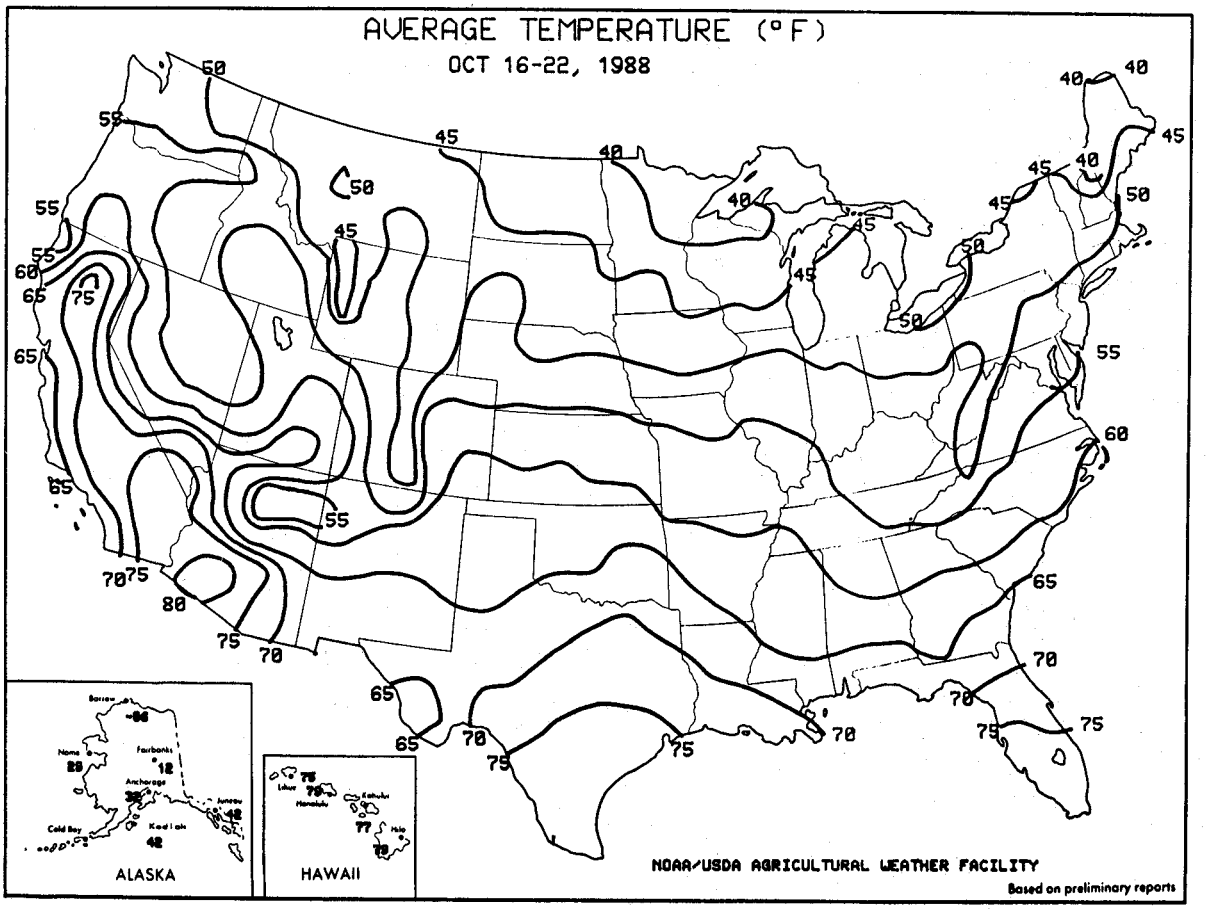
Hurricane Joan

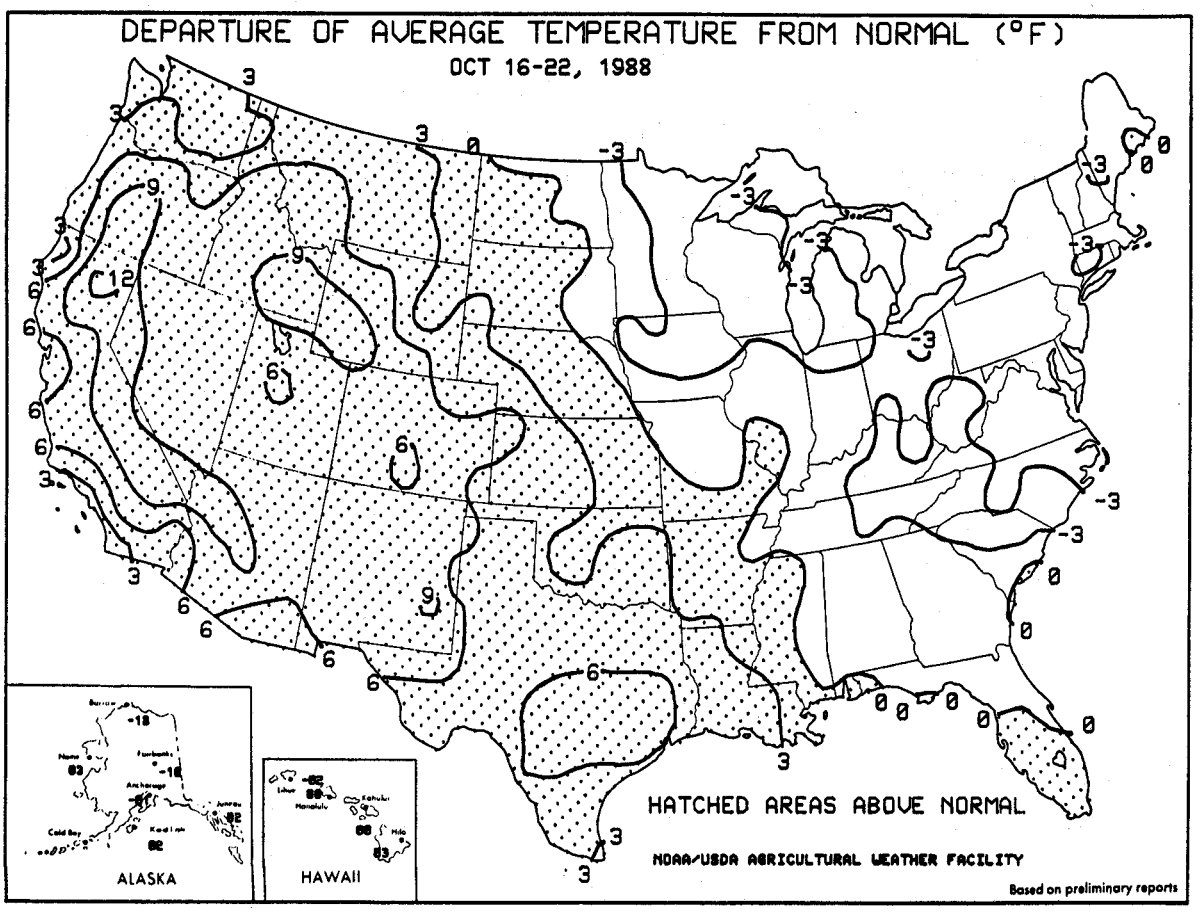
Heavy rains, flash floods, mud slides, and high winds, generated by Hurricane Joan, plagued Central and South American countries from Venezuela to Guatemala late last week and over the weekend. Joan hit Nicaragua especially hard as the storm struck the east coast near Bluefields on the morning of October 22 with over 125 mph winds and torrential rains. Property damage was enormous, as reports indicated Bluefields and the interior town of Rama were devastated by wind and water. The storm crossed the country and was renamed as a Pacific storm (Tropical Storm Miriam). Only two other times in the past 100 years (1971 and 1911) have hurricanes traversed Nicaragua and remained strong enough to be renamed as Pacific storms. Hurricane Irene, which struck the southern Nicaraguan coast on September 19, 1971, followed a track across the southern Caribbean similar to Joan's, but Joan was more powerful.

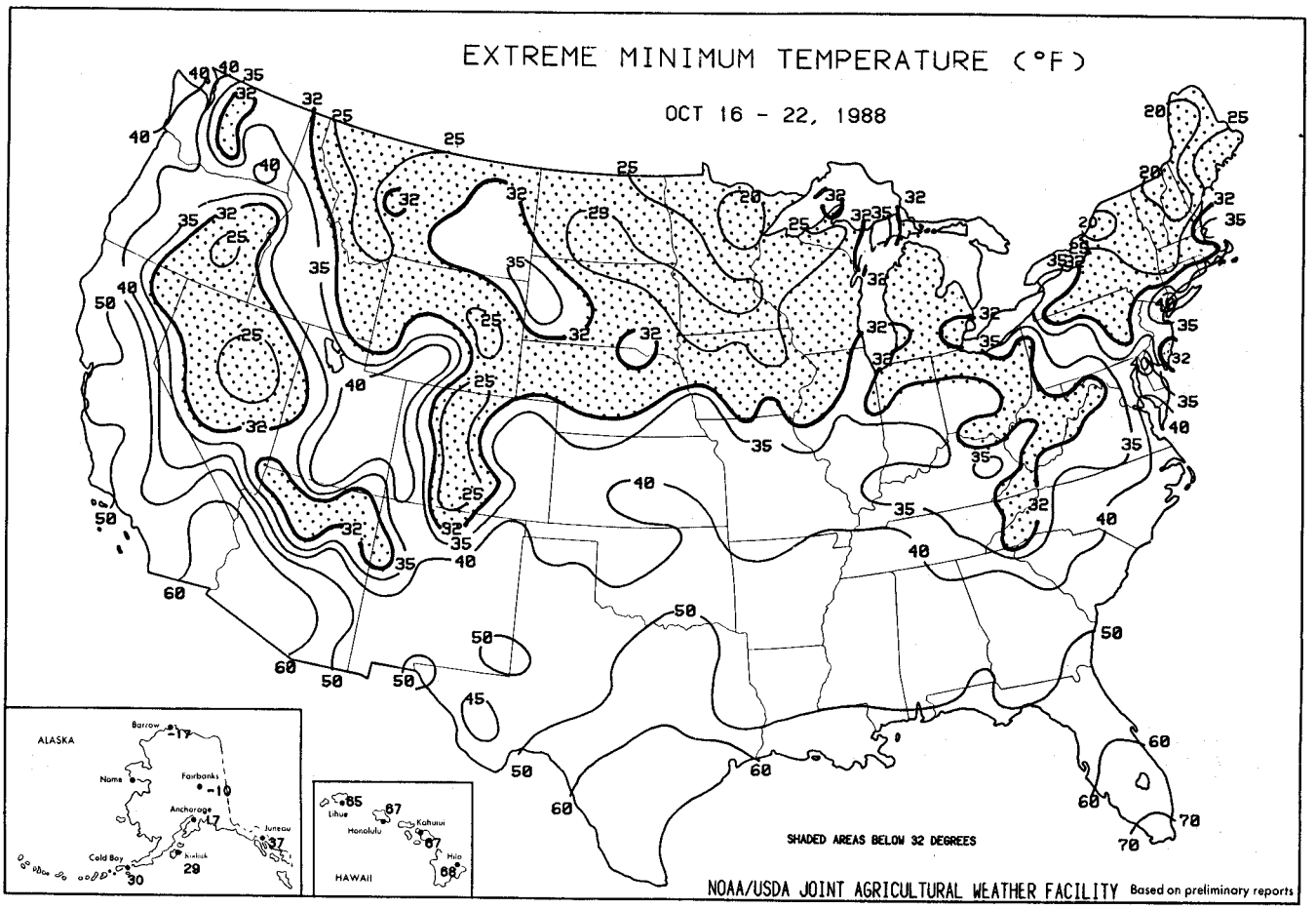



CROP MOISTURE
(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
October 22, 1988
WET
EXCESSIVELY DRY
EXCESSIVELY DRY
ABNORMALLY DRY
ABNORMALLY DRY
WET
ABNORMALLY MOIST
WET
EXCESSIVELY DRY
SEVERELY DRY
WET
ABNORMALLY MOIST
EXCESSIVELY DRY
CROP MOISTURE:
DEPICTS SHORT TERM (UP TO ABOUT 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK, AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.
USES...APPLICABLE IN MEASURING THE SHORT TERM, WEEK-TO-WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS.
LIMITATIONS...MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A 5-FOOT PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55°F. IT IS NOT GENERALLY INDICATIVE OF THE LONG TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


CROP MOISTURE INDEX BY DIVISION
(SHORT TERM CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE
OCT 22, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
MARYLAND
PUERTO RICO
SHADED AREAS:
INDEX INCREASED OR DID NOT CHANGE
ABOVE 3 EXCESSIVELY WET, SOME FIELDS FLOODED
2 TO 3 TOO WET, SOME STANDING WATER
1 TO 2 PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
0 TO 1 MOISTURE ADEQUATE FOR PRESENT NEEDS
0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2 SOME IMPROVEMENT BUT STILL TOO DRY
-2 TO -3 DROUGHT EASED BUT STILL SERIOUS
-3 TO -4 DROUGHT CONTINUES, RAIN URGENTLY NEEDED
BELOW -4 NOT ENOUGH RAIN, STILL EXTREMELY DRY
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
UNSHADED AREAS:
INDEX DECREASED
ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
2 TO 3 MORE DRY WEATHER NEEDED, WORK DELAYED
1 TO 2 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1 TO -2 ABNORMALLY DRY, PROSPECTS DETERIORATING
-2 TO -3 TOO DRY, YIELD PROSPECTS REDUCED
-3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DROUGHT
BELOW -4 EXTREMELY DRY, MOST CROPS RUINED
Based on preliminary reports


AVERAGE TEMPERATURE (°F)
OCT 16-22, 1988
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
OCT 16-22, 1988
HATCHED AREAS ABOVE NORMAL
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


EXTREME MINIMUM TEMPERATURE (°F)
OCT 16 - 22, 1988
ALASKA
Barrow
Nome
Fairbanks
Anchorage
Juneau
Cold Bay
Kodiak
HAWAII
Lihue
Honolulu
Kahului
Hilo
SHADED AREAS BELOW 32 DEGREES
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

National Weather Data for Selected Cities

Weather Data for the Week Ending October 25, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	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
AL BIRMINGHAM	71	47	79	41	59	-2	.9	.4	.4	9.9	161	31.5	70	99	49	0	0	3	0
MOBILE	80	55	85	49	68	0	0	-.5	0	15.6	187	57.9	106	98	49	0	0	0	0
MONTGOMERY	77	48	84	44	63	-1	.8	.4	.7	10.9	173	50.9	125	99	46	0	0	2	1
AK ANCHORAGE	36	27	41	17	32	-1	.2	-.2	.1	3.9	107	11.5	93	91	66	0	5	3	0
BARROW	0	-11	3	-17	-6	-18	T	-.1	T	.6	67	3.3	84	84	76	0	7	0	0
FAIRBANKS	22	2	28	-10	12	-10	.3	.1	.2	1.7	106	9.2	105	83	54	0	7	2	0
JUNEAU	45	39	46	37	42	2	2.6	.8	.8	13.1	109	44.4	108	99	79	0	0	7	2
KODIAK	48	35	51	29	42	2	2.1	.5	.9	14.6	130	63.4	133	98	71	0	2	5	1
NOME	34	24	38	12	29	3	.2	-.1	.2	1.6	49	11.3	89	79	52	0	5	2	0
AZ PHOENIX	93	70	96	66	82	10	T	-.1	T	2.4	225	6.3	116	69	27	6	0	0	0
PRESCOTT	80	45	83	43	63	9	0	-.3	0	.5	22	13.2	85	69	22	0	0	0	0
TUCSON	87	61	93	58	74	5	1.3	1.1	1.0	2.9	150	10.9	117	86	32	3	0	4	1
YUMA	91	69	100	68	80	6	.4	.4	.4	.5	110	2.7	148	76	33	4	0	1	0
AR FORT SMITH	76	51	88	40	63	3	.2	-.5	.2	6.4	117	27.0	83	100	45	0	0	2	0
LITTLE ROCK	70	53	83	45	62	0	.8	.2	.3	2.5	40	29.4	74	78	52	0	0	3	0
CA BAKERSFIELD	91	58	94	56	74	7	0	-.1	0	0	0	3.0	73	68	27	4	0	0	0
EUREKA	59	52	60	48	55	1	T	-.7	T	.5	21	16.4	65	97	90	0	0	0	0
FRESNO	90	55	93	52	72	9	0	-.1	0	0	0	5.5	75	78	27	3	0	0	0
LOS ANGELES	71	62	79	60	67	1	T	-.1	T	.1	33	4.7	55	94	71	0	0	0	0
REDDING	95	54	99	50	74	9	0	-.5	0	.1	5	17.0	62	56	14	5	0	0	0
SACRAMENTO	89	53	93	48	71	8	0	-.2	0	.2	24	7.1	62	89	24	2	0	0	0
SAN DIEGO	71	64	77	62	68	2	T	-.1	T	T	0	6.7	97	95	72	0	0	0	0
SAN FRANCISCO	77	54	90	51	66	5	0	-.3	0	.5	54	7.7	58	95	47	1	0	0	0
CO DENVER	72	41	78	33	57	6	T	-.2	T	.9	49	13.5	100	77	25	0	0	0	0
GRAND JUNCTION	75	44	78	42	60	6	0	-.2	0	.8	58	6.6	103	59	20	0	0	0	0
PUEBLO	79	39	88	31	59	7	T	-.2	T	1.8	132	10.7	108	75	18	0	1	0	0
CT BRIDGEPORT	61	46	71	35	53	-1	1.8	1.0	1.3	5.5	98	29.6	90	85	57	0	0	2	1
HARTFORD	59	38	70	24	49	-3	1.2	.4	.8	4.1	65	30.6	87	92	49	0	2	3	1
DC WASHINGTON	66	47	77	41	57	-1	1.3	.6	1.2	3.5	66	25.0	78	88	45	0	0	2	1
FL APALACHICOLA	80	58	85	53	69	0	0	-.6	0	12.0	109	58.0	120	97	49	0	0	0	0
DAYTONA BEACH	82	62	86	55	72	0	0	-1.0	0	7.9	78	33.2	78	98	52	0	0	0	0
JACKSONVILLE	80	56	84	51	68	-1	T	-.8	T	18.7	201	55.2	118	98	48	0	0	1	0
KEY WEST	84	74	86	71	79	0	0	-1.1	0	4.1	41	35.4	107	88	63	0	0	0	0
MIAMI	87	70	88	69	79	1	T	-1.5	T	4.6	34	43.7	85	89	48	0	0	1	0
ORLANDO	84	64	87	58	74	0	T	-.6	T	7.0	82	44.0	98	98	50	0	0	1	0
TALLAHASSEE	81	50	84	44	65	-2	0	-.6	0	6.0	69	42.9	77	97	44	0	0	0	0
TAMPA	85	63	88	54	74	1	0	-.4	0	13.7	174	44.7	106	94	46	0	0	0	0
WEST PALM BEACH	85	69	88	67	77	0	T	-1.7	T	5.3	35	59.1	113	92	55	0	0	0	0
GA ATLANTA	70	51	78	45	60	0	.7	.1	.4	10.6	218	39.0	97	89	45	0	0	3	0
AUGUSTA	74	46	83	39	60	-2	.6	.2	.6	9.1	184	36.6	99	96	45	0	0	1	1
MACON	76	47	83	42	62	-2	.2	-.2	.1	8.5	181	38.3	101	96	41	0	0	2	0
SAVANNAH	78	53	82	45	65	0	.9	.5	.9	11.9	174	45.2	101	95	42	0	0	1	1
HI HILO	87	71	88	68	79	3	.2	-2.2	.1	12.6	95	93.9	97	90	57	0	0	2	0
HONOLULU	88	70	90	67	79	0	T	-.5	T	1.0	57	8.3	52	87	50	1	0	0	0
KAHULUI	84	70	86	67	77	0	.2	-.1	.2	.8	100	13.7	105	95	63	0	0	1	0
LIHUE	82	68	83	65	75	-2	.5	-.6	.5	2.3	43	27.5	87	90	61	0	0	1	0
ID BOISE	72	44	77	38	58	7	0	-.2	0	.2	23	7.1	83	77	30	0	0	0	0
LEWISTON	65	46	75	38	56	6	T	-.2	T	.9	62	7.8	77	82	45	0	0	1	0
POCATELLO	68	45	72	29	56	10	0	-.2	0	T	3	4.6	54	76	37	0	1	0	0
IL CHICAGO	57	39	75	32	48	-4	3.8	3.4	3.6	8.5	153	24.2	83	95	55	0	2	4	1
MOLINE	59	42	76	30	51	-1	1.5	.9	.6	4.2	74	20.9	64	92	48	0	1	6	1
PEORIA	62	43	79	32	52	0	.6	0	.3	3.7	66	15.5	51	91	49	0	1	5	0
QUINCY	65	43	82	32	54	0	.2	-.5	.1	1.7	26	13.8	42	88	41	0	1	2	0
ROCKFORD	56	39	72	31	48	-3	1.0	.3	.4	3.9	67	18.3	58	93	56	0	1	5	0
SPRINGFIELD	63	45	78	34	54	-1	1.0	.5	.9	4.2	82	17.4	59	92	46	0	0	5	1
IN EVANSVILLE	65	43	78	34	54	-1	1.0	.4	.8	2.7	62	26.4	77	95	53	0	0	3	1
FORT WAYNE	56	41	67	31	49	-3	1.6	1.0	1.0	4.1	94	27.0	94	97	62	0	2	3	1
INDIANAPOLIS	59	43	71	33	51	-2	2.3	1.8	1.1	3.8	84	24.0	74	95	57	0	0	4	2
SOUTH BEND	55	41	69	30	48	-4	4.1	3.3	3.5	10.3	187	29.2	93	97	63	0	2	7	1
IA DES MOINES	58	38	67	28	48	-4	.5	.1	.3	3.5	75	17.8	65	91	47	0	1	3	0
SIOUX CITY	59	36	65	29	47	-4	.1	-.3	.1	5.3	139	20.6	88	96	54	0	3	2	0
WATERLOO	56	36	70	24	46	-3	.6	.1	.4	2.3	45	15.9	54	98	49	0	3	4	0
KS CONCORDIA	70	44	80	36	57	2	T	-.4	T	1.1	25	13.4	54	78	34	0	0	0	0
DODGE CITY	76	46	84	40	61	5	.1	-.2	.1	3.4	122	14.8	78	86	28	0	0	1	0
GOODLAND	75	42	84	36	58	7	T	-.2	T	2.2	107	20.0	134	83	27	0	0	0	0
TOPEKA	71	42	84	33	56	0	.3	-.4	.1	2.2	40	17.7	60	92	37	0	0	3	0
WICHITA	73	47	87	38	60	3	.1	-.5	.1	1.5	28	15.8	62	89	36	0	0	2	0
KY BOWLING GREEN	62	42	77	34	52	-4	.3	-.3	.1	8.5	167	31.7	80	99	56	0	0	3	0
LEXINGTON	62	42	73	34	52	-3	.8	.3	.5	6.9	143	29.4	77	97	54	0	0	6	0
LOUISVILLE	63	45	78	37	54	-2	.7	.2	.4	2.5	49	27.8	78	92	50	0	0	4	0
LA ALEXANDRIA	80	59	86	47	70	4	.1	-.6	.1	5.0	100	34.5	81	95	51	0	0	1	0
BATON ROUGE	83	58	86	51	71	4	T	-.6	T	11.0	177	63.7	138	95	48	0	0	0	0
LAKE CHARLES	83	60	86	52	71	4	T	-.8	T	9.1	110	49.3	112	100	51	0	0	0	0
NEW ORLEANS	82	59	85	52	70	2	.3	-.3	.3	7.6	100	67.5	136	99	55	0	0	1	0

Weather Data for the Week Ending October 25, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	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
SHREVEPORT	80	58	90	48	69	4	0	-.6	0	2.2	42	22.3	63	94	47	1	0	0	0
ME CARIBOU	48	35	58	23	41	-1	1.0	.3	.6	4.2	74	24.9	85	91	57	0	2	3	1
PORTLAND	54	40	59	24	47	0	2.3	1.4	2.2	4.6	78	33.2	101	94	59	0	2	2	1
MD BALTIMORE	63	43	74	36	53	-2	1.3	.6	1.2	3.5	63	26.5	77	91	48	0	0	3	1
SALISBURY	66	44	75	35	55	-1	1.5	.7	1.2	6.0	91	38.5	102	95	48	0	0	3	1
MA BOSTON	59	44	70	35	52	-2	.4	-.3	.3	2.8	50	27.2	80	89	58	0	0	3	0
CHATHAM	56	46	61	38	51	-1	3.1	2.3	1.9	6.7	106	29.9	82	87	69	0	0	5	2
MI ALPENA	53	38	64	28	45	-1	1.2	.8	.6	4.1	90	21.5	89	98	58	0	2	6	1
DETROIT	55	43	63	33	49	-2	1.9	1.4	1.4	6.8	184	20.2	80	93	62	0	0	5	1
FLINT	55	40	63	28	47	-2	1.2	.7	.5	5.2	137	20.8	86	94	64	0	2	4	0
GRAND RAPIDS	53	37	62	27	45	-5	2.2	1.7	1.4	11.5	226	28.3	103	98	63	0	3	5	2
HOUGHTON LAKE	50	40	60	30	45	-1	1.9	1.4	.8	6.5	147	22.3	96	96	66	0	1	6	2
LANSING	54	39	64	29	47	-2	1.4	1.0	.6	8.5	200	25.0	102	97	64	0	2	4	2
MARQUETTE	45	31	54	25	38	-4	1.3	.6	.5	7.5	119	29.7	96	96	66	0	3	7	1
MUSKEGON	53	38	62	30	46	-4	2.2	1.6	.9	9.0	183	25.0	99	99	67	0	3	6	2
SAULT ST. MARIE	51	36	61	26	43	-1	.9	.3	.5	5.7	96	23.7	88	98	63	0	2	4	1
MN ALEXANDRIA	49	34	58	29	42	-3	.4	0	.2	4.6	127	20.8	93	93	56	0	3	2	0
DULUTH	47	30	58	20	38	-5	.6	.1	.3	6.9	143	27.3	105	99	55	0	5	5	0
INT'L FALLS	46	27	55	21	37	-5	.3	0	.2	4.4	98	22.2	103	97	54	0	6	4	0
MINNEAPOLIS	53	34	63	27	44	-4	.7	.3	.4	3.5	91	15.4	65	97	49	0	3	5	0
ROCHESTER	52	32	62	23	42	-5	.4	-.1	.3	4.1	82	17.4	68	95	51	0	5	3	0
MS GREENWOOD	73	55	83	46	64	2	2.7	2.1	1.0	10.6	202	27.8	66	92	51	0	0	3	3
JACKSON	74	53	84	45	63	0	2.0	1.5	1.3	7.3	142	32.4	77	100	53	0	0	3	1
MERIDIAN	73	48	82	41	61	-2	2.1	1.5	1.1	12.8	238	41.1	95	100	50	0	0	3	2
MO CAPE GIRARDEAU	67	46	83	35	57	--	.6	0	.3	9.8	181	28.8	79	96	50	0	0	3	0
COLUMBIA	65	45	87	36	55	-1	.5	-.2	.2	3.2	51	22.4	70	93	43	0	0	4	0
KANSAS CITY	67	44	81	38	56	-2	.2	-.5	.1	8.7	129	21.4	66	86	42	0	0	2	0
SAINT LOUIS	66	49	85	38	57	1	.9	.4	.5	3.4	79	23.7	83	91	43	0	0	5	0
SPRINGFIELD	68	45	83	37	57	0	.8	.1	.4	6.4	97	39.2	118	95	49	0	0	4	0
MT BILLINGS	63	40	71	33	51	4	.8	.5	.4	2.9	139	9.0	69	84	34	0	0	2	0
GLASGOW	60	36	65	32	48	3	.1	0	.1	1.1	82	6.9	68	81	37	0	1	1	0
GREAT FALLS	62	38	73	28	50	3	.3	.2	.2	2.6	165	10.1	76	87	38	0	1	2	0
HAVRE	61	34	74	26	48	3	T	-.1	T	1.5	104	5.3	50	87	40	0	3	0	0
HELENA	61	41	70	32	51	7	.6	.5	.3	2.7	208	8.9	88	85	40	0	1	3	0
KALISPELL	56	36	63	24	46	5	.4	.2	.3	2.6	145	11.6	92	95	52	0	3	3	0
MILES CITY	57	41	63	34	49	2	.7	.5	.7	1.9	107	4.2	33	76	45	0	0	1	1
MISSOULA	59	39	66	26	49	6	.5	.3	.3	1.0	63	9.7	89	94	51	0	2	3	0
NE GRAND ISLAND	66	38	75	32	52	1	T	-.2	T	3.3	100	20.1	94	89	39	0	1	1	0
LINCOLN	66	41	76	35	54	1	T	-.3	T	6.2	149	16.7	67	87	44	0	0	1	0
NORFOLK	63	38	73	30	50	0	T	-.3	T	5.5	179	22.8	104	89	45	0	2	1	0
NORTH PLATTE	69	34	81	31	52	3	T	-.2	T	1.6	71	18.4	102	96	34	0	4	1	0
OMAHA	62	41	71	34	51	-2	.1	-.3	.1	3.7	74	18.7	67	88	55	0	0	2	0
SCOTTSBLUFF	68	34	78	29	51	3	.1	-.1	.1	1.1	67	14.5	108	94	31	0	2	2	0
VALENTINE	63	34	76	27	49	1	.1	-.1	.1	1.8	86	19.2	119	81	38	0	3	1	0
NV ELY	74	29	77	25	52	7	0	-.1	0	.6	50	6.6	88	64	18	0	6	0	0
LAS VEGAS	90	59	93	57	74	9	0	-.1	0	T	0	2.2	69	33	13	5	0	0	0
RENO	81	37	86	35	59	10	0	-.1	0	.1	13	2.5	47	70	15	0	0	0	0
WINNEMUCCA	77	31	82	27	54	7	0	-.1	0	.3	43	4.6	77	65	18	0	4	0	0
NH CONCORD	56	37	66	18	46	0	.6	-.1	.5	2.7	52	27.1	95	97	54	0	2	3	1
NJ ATLANTIC CITY	65	40	73	31	53	-2	1.6	.9	1.5	5.8	118	28.2	84	97	52	0	1	4	1
NM ALBUQUERQUE	80	47	81	44	63	7	0	-.2	0	3.0	206	12.9	189	70	19	0	0	0	0
CLOVIS	77	46	87	42	62	5	0	-.4	0	2.7	85	19.4	124	89	32	0	0	0	0
ROSWELL	83	51	93	49	67	9	0	-.2	0	1.6	62	13.2	137	78	29	1	0	0	0
NY ALBANY	57	38	71	25	48	-1	1.0	.4	.8	2.8	53	23.8	83	97	53	0	2	3	1
BINGHAMTON	53	38	72	31	46	-2	1.7	1.0	1.3	4.2	76	29.0	97	92	53	0	3	3	1
BUFFALO	59	42	76	34	50	0	1.5	.9	.7	6.3	118	31.2	106	90	52	0	0	5	2
NEW YORK	61	49	71	42	55	-1	1.8	1.1	1.4	5.6	98	31.5	92	89	50	0	0	2	1
ROCHESTER	59	39	76	33	49	-1	1.3	.7	.7	3.6	80	21.4	84	96	54	0	0	4	1
SYRACUSE	58	38	76	29	48	-2	1.9	1.1	1.5	4.9	91	28.1	89	89	49	0	3	4	1
NC ASHEVILLE	63	37	75	29	50	-4	.3	-.4	.2	5.5	91	21.3	58	98	45	0	2	3	0
CHARLOTTE	68	46	80	39	57	-2	1.2	.7	.8	6.9	126	28.9	80	94	41	0	0	3	1
GREENSBORO	66	43	77	36	54	-3	1.1	.4	1.0	6.1	103	29.3	82	92	41	0	0	2	1
HATTERAS	70	53	76	46	62	-2	1.4	.4	1.4	5.7	62	37.6	83	93	55	0	0	2	1
NEW BERN	73	47	82	42	60	-2	.6	-.2	.3	4.0	49	44.0	97	94	49	0	0	2	0
RALEIGH	67	44	80	36	56	-3	1.6	1.0	1.0	8.6	166	31.2	90	95	42	0	0	2	2
WILMINGTON	72	47	81	41	60	-4	.7	.1	.4	4.1	52	53.7	117	98	49	0	0	2	0
ND BISMARCK	56	31	63	21	44	-1	.1	-.1	.1	.7	36	8.9	63	90	36	0	3	3	0
FARGO	53	35	60	28	44	-1	.4	.1	.2	3.6	131	12.2	69	91	48	0	1	3	0
GRAND FORKS	53	32	58	23	43	-1	.2	0	.1	2.2	78	11.2	67	91	44	0	4	3	0
WILLISTON	56	32	62	26	44	0	.3	.1	.2	1.8	94	9.3	75	90	37	0	3	2	0
OH AKRON-CANTON	56	42	68	32	49	-2	1.5	1.0	.6	7.1	158	27.1	91	96	64	0	1	6	1
CINCINNATI	60	42	76	32	51	-3	1.3	.8	.4	4.6	99	32.1	97	98	52	0	1	5	0
CLEVELAND	57	44	70	35	51	-2	1.6	1.0	.6	4.0	87	22.3	77	92	58	0	0	5	1
COLUMBUS	59	42	68	34	51	-2	1.1	.7	.4	4.9	123	30.2	97	98	56	0	0	4	0

Weather Data for the Week Ending October 25, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	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	58	42	67	34	50	-3	1.8	1.4	1.0	7.3	197	27.3	95	93	56	0	0	4	1
TOLEDO	56	40	63	31	48	-2	3.7	3.3	3.2	5.8	150	21.9	84	95	57	0	2	4	1
YOUNGSTOWN	55	41	70	31	48	-2	1.6	1.0	.4	5.8	118	26.4	85	97	65	0	1	6	0
OK OKLAHOMA CITY	75	53	88	42	64	3	.8	.2	.8	7.1	130	28.0	102	93	48	0	0	1	1
TULSA	75	52	88	41	63	2	.1	-.6	.1	6.8	100	27.1	81	90	40	0	0	1	0
OR ASTORIA	61	48	67	41	54	2	.7	-.8	.3	3.3	44	34.7	75	97	71	0	0	4	0
BURNS	72	34	75	25	53	6	0	-.2	0	.1	10	5.0	69	85	27	0	2	0	0
MEDFORD	81	44	85	38	62	10	0	-.4	0	.3	19	7.2	56	89	28	0	0	0	0
PENDLETON	66	45	75	39	55	4	.1	-.1	.1	.4	32	7.7	89	80	42	0	0	1	0
PORTLAND	65	50	70	43	57	4	.1	-.7	.1	1.9	53	21.4	87	97	67	0	0	2	0
SALEM	68	49	76	39	58	7	T	-.8	T	1.1	29	19.9	76	96	55	0	0	0	0
PA ALLENTOWN	61	41	75	34	51	-1	1.4	.8	1.3	5.1	84	33.2	93	94	44	0	0	2	1
ERIE	57	45	73	36	51	0	3.4	2.6	2.6	10.3	159	32.1	101	93	59	0	0	6	1
HARRISBURG	62	42	77	34	52	-2	1.7	1.1	1.3	4.6	84	29.7	93	94	46	0	0	2	1
PHILADELPHIA	64	44	75	39	54	-1	1.6	1.0	1.5	4.7	87	32.2	95	95	49	0	0	3	1
PITTSBURGH	58	42	72	34	50	-1	.8	.2	.4	3.4	76	21.8	71	94	60	0	0	4	0
SCRANTON	58	40	76	30	49	-1	1.5	.8	.9	3.6	68	26.7	94	90	43	0	1	3	2
RI PROVIDENCE	60	41	69	28	51	-1	.8	-.1	.6	4.1	66	29.7	84	92	54	0	2	2	1
SC CHARLESTON	76	52	81	45	64	0	.2	-.4	.2	10.4	148	40.7	90	97	49	0	0	1	0
COLUMBIA	73	45	83	37	59	-3	.5	0	.5	8.8	146	38.6	91	96	41	0	0	2	0
FLORENCE	72	47	82	40	60	-2	1.0	.5	.6	7.7	133	35.0	91	97	45	0	0	2	1
GREENVILLE	69	43	80	35	56	-4	.8	.1	.6	7.4	104	31.5	73	96	44	0	0	3	1
SD ABERDEEN	56	36	63	23	46	0	T	-.2	T	5.3	240	16.8	103	86	42	0	1	1	0
HURON	59	35	67	26	47	0	T	-.3	T	3.7	156	17.5	103	86	41	0	2	0	0
RAPID CITY	62	39	69	34	51	3	.7	.5	.6	1.3	84	9.7	65	89	39	0	0	2	1
SIOUX FALLS	57	33	63	25	45	-3	T	-.3	T	4.4	113	16.8	76	90	48	0	4	1	0
TN CHATTANOOGA	67	45	79	38	56	-2	.9	.2	.5	8.5	133	35.3	83	98	52	0	0	5	1
KNOXVILLE	66	42	77	33	54	-4	.2	-.4	.1	3.6	75	25.3	67	96	49	0	0	3	0
MEMPHIS	70	52	84	47	61	0	1.5	1.0	1.3	6.5	126	32.0	77	93	50	0	0	3	1
NASHVILLE	65	46	83	39	55	-3	.2	-.3	.1	3.0	55	21.0	53	95	57	0	0	3	0
TX ABILENE	81	57	90	48	69	5	T	-.5	T	1.7	37	14.4	70	82	41	1	0	0	0
AMARILLO	77	47	88	40	62	5	0	-.3	0	3.8	140	24.2	138	87	32	0	0	0	0
AUSTIN	88	64	89	63	76	8	0	-.7	0	1.8	29	17.4	66	96	41	0	0	0	0
BEAUMONT	84	62	86	57	73	4	T	-.8	T	11.1	140	42.3	94	99	51	0	0	0	0
BROWNSVILLE	88	65	90	63	77	2	0	-.7	0	7.6	96	21.2	96	96	49	1	0	0	0
CORPUS CHRISTI	88	64	89	60	76	3	.1	-.4	.1	6.7	78	16.1	58	99	48	0	0	1	0
DEL RIO	84	63	86	57	73	4	T	-.5	T	4.6	103	14.9	97	82	41	0	0	0	0
EL PASO	85	54	89	51	70	7	.1	-.1	0	2.1	110	10.4	153	86	29	0	0	2	0
FORT WORTH	81	58	89	51	70	4	T	-.7	T	4.9	87	19.5	74	89	47	0	0	0	0
GALVESTON	82	72	85	70	77	6	.1	-.4	.1	10.1	127	35.9	108	88	58	0	0	1	0
HOUSTON	88	64	90	61	76	7	T	-.8	T	1.9	24	20.7	54	96	40	1	0	1	0
LUBBOCK	80	51	93	41	65	6	0	-.4	0	2.3	67	12.3	76	90	36	1	0	0	0
MIDLAND	83	54	92	49	68	5	0	-.3	0	5.1	163	17.7	146	92	38	1	0	0	0
SAN ANGELO	84	56	88	47	70	5	0	-.4	0	3.2	70	13.3	83	89	40	0	0	0	0
SAN ANTONIO	88	66	90	63	77	8	0	-.6	0	1.0	18	17.9	73	93	38	2	0	0	0
VICTORIA	88	66	89	64	77	7	T	-.7	T	2.8	32	12.8	40	95	43	0	0	0	0
WACO	86	61	90	53	73	6	T	-.7	T	5.6	104	20.1	77	95	45	2	0	0	0
WICHITA FALLS	79	55	93	46	67	4	.1	-.5	.1	7.2	134	21.2	91	90	47	2	0	2	0
UT BLANDING	—	—	—	—	—	—	0	-.3	0	1.1	56	9.3	102	**	**	0	0	0	0
CEDAR CITY	78	38	81	35	58	8	0	-.2	0	.3	18	10.5	124	64	17	0	0	0	0
SALT LAKE CITY	72	45	77	40	59	8	0	-.3	0	.1	4	6.5	53	74	29	0	0	0	0
VT BURLINGTON	55	37	70	24	46	0	.5	-.1	.4	3.3	63	21.0	76	87	50	0	2	3	0
VA NORFOLK	68	48	79	45	58	-2	1.2	.4	.6	4.1	61	33.5	88	92	48	0	0	2	2
RICHMOND	68	43	79	33	55	-2	.8	-.1	.8	3.9	63	31.5	87	95	44	0	0	2	1
ROANOKE	64	42	76	33	53	-3	.5	-.3	.4	4.0	70	26.0	80	92	43	0	0	3	0
WA QUILLAYUTE	58	43	61	33	51	2	1.1	-1.4	.5	11.4	85	68.8	94	100	76	0	0	4	0
SEATTLE-TACOMA	60	49	66	44	54	3	1.0	.1	.8	3.6	83	20.6	81	98	73	0	0	3	1
SPOKANE	58	36	67	31	47	1	.1	-.2	.1	1.7	124	10.4	89	87	46	0	2	1	0
YAKIMA	65	36	73	31	51	2	T	-.1	T	.2	28	3.7	68	91	42	0	2	1	0
WV BECKLEY	57	40	71	29	48	-2	1.5	.9	.7	7.7	140	28.6	80	92	52	0	1	5	1
CHARLESTON	61	42	73	34	52	-3	1.5	.9	.9	5.0	104	23.4	66	96	51	0	0	4	1
HUNTINGTON	62	41	74	31	52	-4	1.3	.8	.8	4.0	86	26.8	79	96	50	0	1	6	1
PARKERSBURG	60	41	71	29	50	-4	.6	.1	.6	5.0	109	25.2	79	94	47	0	1	2	1
WI GREEN BAY	52	35	63	28	44	-3	.8	.4	.4	5.1	109	17.7	73	97	58	0	3	5	0
LACROSSE	54	37	66	28	45	-4	.5	.1	.3	5.7	116	22.1	82	97	50	0	2	5	0
MADISON	54	35	69	26	45	-4	.9	.4	.4	4.5	97	19.0	71	93	50	0	3	5	0
MILWAUKEE	55	40	70	32	47	-2	.7	.2	.3	7.2	162	23.2	88	93	53	0	1	5	0
WAUSAU	49	35	59	28	42	-4	1.0	.6	.4	4.3	78	17.9	64	97	52	0	3	5	0
WY CASPER	64	32	72	25	48	2	.1	-.1	.1	.9	63	5.5	56	86	31	0	3	1	0
CHEYENNE	64	36	68	31	50	4	.1	-.1	.1	1.7	112	14.8	121	87	32	0	3	2	0
LANDER	67	38	73	34	53	8	0	-.3	0	.9	52	6.8	59	69	24	0	0	0	0
SHERIDAN	63	38	71	32	50	5	.1	-.2	.1	1.1	55	8.6	65	89	35	0	1	1	0
PR SAN JUAN	88	75	90	73	82	0	.4	-.9	.2	8.2	83	49.2	116	89	69	1	0	4	0

Heating Degree Days Summary

CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NESDIS-NOAA
LAST DATE OF DATA COLLECTION PERIOD IS 10-22-1988

ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

STATE CITY	CALL	WEEK TOTAL	WEEK DEV FROM NORM	WEEK DEV FROM L YR	CUM TOTAL	CUM DEV FROM NORM	CUM DEV FROM L YR	CUM DEV FROM NORM PRCT	CUM DEV FROM L YR PRCT
AL BIRMINGHAM	BHM	43	10	-14	165	85	-14	**	**
AL MOBILE	MOB	2	-11	-23	43	22	-30	**	**
AL MONTGOMERY	MGM	20	-1	-18	92	51	-23	**	**
AK ANCHORAGE	ANC	229	7	54	1581	-33	112	-2	8
AK BARROW	BRW	489	120	205	4087	345	523	9	15
AK FAIRBANKS	FAI	370	75	151	1814	-9	327	0	22
AK JUNEAU	JNU	158	-10	16	1558	-7	287	0	23
AK KODIAK	ADQ	163	-10	8	1572	-52	90	-3	6
AK NOME	OME	250	-20	41	2223	-149	110	-6	5
AZ FLAGSTAFF	FLG	83	-49	-36	582	-111	-127	-16	-18
AZ PHOENIX	PHX	0	-2	0	0	-2	0	**	**
AZ PRESCOTT	PRC	13	-66	-35	126	-117	33	-48	35
AZ TUCSON	TUS	0	-7	0	0	-8	0	**	**
AZ WINSLOW	INW	18	-50	-45	101	-61	-4	-38	-4
AZ YUMA	YUM	0	-1	0	0	-1	0	**	**
AR FORT SMITH	FSM	27	-9	-16	97	11	-46	**	**
AR LITTLE ROCK	1M1	33	0	-10	108	32	-25	**	**
CA BAKERSFIELD	BFL	0	-12	0	1	-18	1	**	**
CA EUREKA	EKA	68	-9	-5	856	-140	101	-14	13
CA FRESNO	FAT	0	-22	0	0	-42	0	**	**
CA LOS ANGELES	LAX	1	-13	-1	8	-81	4	**	**
CA SACRAMENTO	SAC	0	-21	-7	9	-33	1	**	**
CA SAN DIEGO	SAN	0	-6	0	0	-22	0	**	**
CA SAN FRANCISCO	SFO	18	-16	-2	214	-148	41	-41	24
CA STOCKTON	SCK	0	-17	-5	11	-19	1	**	**
CO DENVER	DEN	57	-43	-79	328	-61	-106	-16	-24
CO GRAND JUNCTION	GJT	35	-44	-60	203	-49	25	-19	14
CO PUEBLO	PUB	44	-41	-76	247	-43	-64	-15	-21
CT BRIDGEPORT	BDR	80	10	2	324	104	-4	47	-1
CT HARTFORD	BDL	114	18	17	490	136	36	38	8
DE WILMINGTON	ILG	82	12	7	324	120	41	59	14
DC WASHINGTON	DCA	54	5	-1	220	96	4	77	2
FL APALACHICOLA	AQQ	0	-7	-10	13	6	-19	**	**
FL DAYTONA BEACH	DAB	0	0	-1	0	0	-2	**	**
FL FORT MEYER	FMY	0	0	0	0	0	0	**	**
FL JACKSONVILLE	JAX	2	-3	-10	24	14	-21	**	**
FL KEY WEST	EYW	0	0	0	0	0	0	**	**
FL MIAMI	MIA	0	0	0	0	0	0	**	**
FL ORLANDO	MCO	0	0	0	0	0	0	**	**
FL TALLAHASSEE	TLH	8	0	-11	55	43	-18	**	**
FL TAMPA	TPA	0	0	0	0	0	0	**	**
FL WEST PALM BEACH	PBI	0	0	0	0	0	0	**	**
GA ATLANTA	ATL	35	2	2	128	52	10	**	**
GA AUGUSTA	AGS	38	9	18	137	80	96	**	**
GA MACON	MCN	23	2	-18	110	68	-23	**	**
GA SAVANNAH	SAV	7	-6	-13	61	35	-16	**	**
HI HILO-HAWAII	ITO	0	0	0	0	0	0	**	**
HI HONOLULU-OAHU	HNL	0	0	0	0	0	0	**	**
HI KAHULUI-MAUI	OGG	0	0	0	0	0	0	**	**
HI LIHUE-KAUAI	LIH	0	0	0	0	0	0	**	**
ID BOISE	BOI	50	-49	-64	227	-178	-104	-44	-31
ID LEWISTON	LWS	64	-37	-50	199	-199	-49	-50	-20
ID POCATELLO	PIH	59	-67	-80	390	-182	-130	-32	-25
IL CHICAGO	ORD	118	29	4	407	101	-45	33	-10
IL MOLINE	MLI	100	11	-27	358	56	-104	19	-23
IL PEORIA	PIA	91	3	-32	334	47	-106	16	-24
IL QUINCY	UIN	81	4	-25	290	47	-58	19	-17
IL ROCKFORD	RFD	121	22	-16	431	46	-116	12	-21
IL SPRINGFIELD	SPI	82	7	-17	306	77	-47	34	-13
IN EVANSVILLE	EVV	77	14	-31	266	80	-67	43	-20
IN FORT WAYNE	FWA	114	21	-11	409	70	-72	21	-15
IN INDIANAPOLIS	IND	98	18	-25	350	93	-60	36	-15
IN SOUTH BEND	SBN	116	25	-6	417	72	-62	21	-13
IA DES MOINES	DSM	115	26	-19	350	57	-72	19	-17
IA DUBUQUE	DBQ	129	16	-21	461	31	-137	7	-23
IA SIOUX CITY	SUX	123	27	-30	411	72	-95	21	-19
IA WATERLOO	ALO	130	16	-13	480	20	-66	4	-12
KS CONCORDIA	CNK	54	-11	-65	230	10	-62	5	-21
KS DODGE CITY	DDC	32	-31	-68	216	35	-53	19	-20
KS GOODLAND	GLD	45	-51	-81	319	-29	-68	-8	-18
KS TOPEKA	TOP	62	-8	-55	247	20	-45	9	-15
KS WICHITA	ICT	41	-15	-47	176	18	-46	11	-21
KY BOWLING GREEN	BWG	89	30	-19	298	131	-30	78	-9
KY LEXINGTON	LEX	91	23	-8	324	113	5	54	2
KY LOUISVILLE	SDF	79	18	-15	249	72	-49	41	-16
LA ALEXANDRIA	AEX	3	-13	-17	27	-3	-14	**	**
LA BATON ROUGE	BTR	0	-12	-18	19	0	-25	**	**
LA LAKE CHARLES	LCH	0	-11	-15	8	-10	-27	**	**
LA NEW ORLEANS	MSY	0	-9	-15	11	2	-27	**	**
LA SHREVEPORT	SHV	4	-14	-19	36	2	-23	**	**
ME CARIBOU	CAR	165	4	29	1017	21	74	2	8
ME PORTLAND	PWM	123	-1	5	603	-9	-20	-1	-3
MD BALTIMORE	BWI	80	14	3	301	122	15	68	5
MD SALISBURY	SBY	68	5	-2	279	107	29	62	12
MA BOSTON	BOS	93	14	32	373	79	85	27	30
MA CHATHAM	CHH	95	10	16	400	7	18	2	5
MI ALPENA	APN	135	3	-5	734	-22	35	-3	5
MI DETROIT	DTW	112	11	-8	446	55	-36	14	-7
MI FLINT	FNT	123	15	-3	554	75	-25	16	-4
MI GRAND RAPIDS	GRR	138	32	15	549	112	-24	26	-4
MI HOUGHTON LAKE	HTL	138	1	6	706	-29	37	-4	6
MI LANSING	LAN	127	18	-1	575	119	-11	26	-2
MI MARQUETTE	MQT	185	34	0	1038	84	14	9	1
MI MUSKEGON	MKG	133	23	13	527	74	-10	16	-2
MI SAULT ST MARIE	SSM	149	4	-2	906	-23	39	-2	4
MN ALEXANDRIA	AXN	160	25	-27	630	-14	-5	-2	-1
MN DULUTH	DLH	186	34	-11	902	-31	5	-3	1
MN INT'L FALLS	INL	196	35	-9	934	-56	-26	-6	-3
MN MINNEAPOLIS	MSP	149	28	-10	512	25	-42	5	-8
MN ROCHESTER	RST	159	32	-13	609	57	-99	10	-14
MN SAINT CLOUD	STC	163	28	-18	662	5	-49	1	-7
MS GREENWOOD	GWO	24	-9	-23	102	25	-31	**	**
MS JACKSON	JAN	24	0	-13	99	51	-21	**	**
MS MERIDIAN	MEI	35	6	-11	138	72	-15	**	**
MO CAPE GIRARDEAU	CGI	64	10	-19	232	86	-33	59	-12
MO COLUMBIA	COU	79	9	-29	278	71	-52	34	-16
MO KANSAS CITY	MCI	67	3	-58	246	58	-74	31	-23
MO SAINT LOUIS	STL	65	0	-18	205	14	-57	7	-22
MO SPRINGFIELD	SGF	67	9	-33	271	91	-50	51	-16
MT BILLINGS	BIL	94	-22	-56	431	-123	-127	-22	-23
MT GLASGOW	GGW	118	-20	-79	536	-166	-138	-24	-20
MT GREAT FALLS	GTF	103	-22	-64	581	-117	-199	-17	-26
MT HAVRE	HVR	121	-20	-67	626	-109	-204	-15	-25
MT HELENA	HLN	96	-50	-64	550	-265	-174	-33	-24
MT KALISPELL	FCA	130	-35	-57	754	-240	-196	-24	-21
MT MILES CITY	MLS	108	-15	-91	446	-127	-155	-22	-26
MT MISSOULA	MSO	110	-44	-66	602	-211	-165	-26	-22
NE GRAND ISLAND	GRI	90	1	-68	369	11	-114	3	-24
NE LINCOLN	LNK	78	-8	-67	296	-6	-115	-2	-28
NE NORFOLK	OFK	100	0	-69	416	7	-117	2	-22
NE NORTH PLATTE	LBF	92	-19	-71	453	2	-130	0	-22
NE OMAHA	ON4	93	10	-47	292	17	-141	6	-33
NE SCOTTSBLUFF	BFF	94	-17	-67	414	-52	-154	-11	-27
NE VALENTINE	VTN	113	-4	-73	512	37	-134	8	-21
NV ELY	ELY	91	-49	-41	558	-153	-75	-22	-12
NV LAS VEGAS	LAS	0	-16	0	0	-22	0	**	**
NV RENO	RNO	40	-70	-38	252	-286	24	-53	11
NV WINNEMUCCA	WMC	74	-48	-40	389	-167	-2	-30	-1
NH CONCORD	CON	128	2	9	698	113	-16	19	-2
NJ ATLANTIC CITY	ACY	85	10	0	385	180	54	88	16
NM ALBUQUERQUE	ABQ	10	-52	-78	105	-36	-308	-26	-75
NM CLOVIS	CVS	23	-32	-40	110	-46	-3	-29	-3
NM ROSWELL	ROW	2	-34	-40	35	-46	-22	**	**
NY ALBANY	ALB	118	8	23	561	106	-30	23	-5
NY BINGHAMTON	BGM	134	15	29	723	180	57	33	9
NY BUFFALO	BUF	101	-2	4	495	56	21	13	4
NY NEW YORK	LGA	65	4	12	255	76	18	42	8
NY ROCHESTER	ROC	111	11	9	590	162	31	38	6
NY SYRACUSE	SYR	115	10	17	560	123	38	28	7
NC ASHEVILLE	AVL	100	29	2	350	124	-21	55	-6
NC CAPE HATTERAS	HAT	22	4	8	93	57	27	**	**
NC CHARLOTTE	CLT	58	17	14	191	89	14	87	8
NC GREENSBORO	GSO	75	19	5	268	129	14	93	6
NC NEW BERN	EWN	34	3	7	146	73	45	**	**
NC RALEIGH DURHAM	RDU	67	21	7	223	110	7	97	3
NC WILMINGTON	ILM	37	12	13	143	95	38	**	**
ND BISMARCK	BIS	146	8	-62	667	-26	-124	-4	-16
ND FARGO	FAR	146	8	-53	611	-43	-123	-7	-17
ND GRAND FORKS	GFK	155	8	-53	717	-62	-87	-8	-11
ND WILLISTON	ISN	145	0	-57	665	-79	-119	-11	-15
OH AKRON-CANTON	CAK	113	16	-11	479	119	-31	33	-6
OH CLEVELAND	CLE	98	7	-17	416	59	-67	17	-14
OH COLUMBUS	CMH	98	11	-20	396	99	-11	33	-3
OH CINCINNATI	CVG	98	21	-22	348	108	-46	45	-12
OH DAYTON	DAY	103	20	-13	382	107	-34	39	-8
OH TOLEDO	TOL	115	13	-15	467	79	-65	20	-12
OH YOUNGSTOWN	YNG	116	13	-14	557	126	-21	29	-4
OK OKLAHOMA CITY	OKC	26	-8	-26	129	42	-12	**	**
OK TULSA	TUL	28	-7	-28	146	54	-9	**	**
OR ASTORIA	AST	73	-15	-23	720	-24	19	-3	3
OR BURNS	4BW	83	-44	-52	584	-35	-65	-6	-10
OR MEDFORD	MFR	19	-65	-28	101	-215	-21	-68	-17
OR PENDLETON	PDT	68	-28	-46	217	-171	-111	-44	-34
OR PORTLAND	PDX	53	-29	-16	223	-179	26	-45	13
OR SALEM	SLE	47	-44	-40	337	-139	13	-29	4
PA ALLENTOWN	ABE	96	6	8	417	100	4	32	1
PA ERIE	ERI	96	-7	-1	436	-3	4	-1	1
PA HARRISBURG	CXY	90	11	1	380	128	12	51	3
PA PHILADELPHIA	PHL	73	5	8	283	91	20	47	8
PA PITTSBURGH	PIT	104	7	-6	448	92	-5	26	-1
PA SCRANTON	AVP	113	11	16	533	122	13	30	2
RI PROVIDENCE	PVD	98	8	21	415	86	44	26	12
SC CHARLESTON	CHS	11	-6	-7	79	42	-6	**	**
SC COLUMBIA	CAE	43	10	-11	157	91	-26	**	**
SC FLORENCE	FLO	36	9	4	142	86	7	**	**
SC GREENVILLE	GSP	64	25	4	206	111	-12	**	**
SD ABERDEEN	ABR	130	2	-62	581	26	-81	5	-12
SD HURON	HON	125	4	-59	542	21	-77	4	-12
SD RAPID CITY	RAP	98	-16	-71	446	-89	-131	-17	-23
SD SIOUX FALLS	FSD	139	21	-35	532	44	-74	9	-12
TN CHATTANOOGA	CHA	62	16	-16	192	77	-40	67	-17
TN KNOXVILLE	TYS	76	25	-10	240	114	-55	90	-19
TN MEMPHIS	MEM	34	-1	-23	118	37	-34	**	**
TN NASHVILLE	BNA	71	21	-18	209	81	-46	63	-18
TX ABILENE	ABI	5	-18	-17	18	-30	-23	**	**
TX AMARILLO	AMA	30	-24	-57	151	5	-52	3	-26
TX AUSTIN	AUS	0	-10	-11	0	-14	-11	**	**
TX BROWNSVILLE	BRO	0	0	-114	4	4	-327	**	**
TX CORPUS CHRISTI	CRP	0	-1	0	0	-1	0	**	**
TX DEL RIO	DRT	0	-5	-4	0	-5	-4	**	**
TX EL PASO	ELP	0	-24	-10	12	-28	1	**	**
TX FORT WORTH	DFW	5	-9	-17	17	-5	-31	**	**
TX GALVESTON	GLS	0	-2	0	0	-2	0	**	**
TX HOUSTON	IAH	0	-8	-7	1	-11	-14	**	**
TX LUBBOCK	LBB	16	-22	-37	71	-21	-17	**	**
TX MIDLAND ODESSA	MAF	0	-24	-20	39	-12	1	**	**
TX BEAUMONT	BPT	0	-7	-11	6	-6	-17	**	**
TX SAN ANGELO	SJT	0	-17	-20	24	-7	-17	**	**
TX SAN ANTONIO	SAT	0	-11	-1	0	-18	-1	**	**
TX VICTORIA	VCT	0	-4	-2	0	-6	-2	**	**
TX WACO	ACT	0	-10	-20	4	-10	-37	**	**
TX WICHITA FALLS	SPS	10	-16	-21	47	-19	-31	**	**
UT BLANDING	4BL	53	-47	-37	250	-107	16	-30	7
UT CEDAR CITY	CDC	48	-51	-41	309	-48	92	-13	42
UT SALT LAKE CITY	SLC	43	-49	-46	220	-103	13	-32	6
VT BURLINGTON	BTV	129	2	34	701	85	35	14	5
VA LYNCHBURG	LYH	84	21	13	309	126	22	69	8
VA NORFOLK	ORF	48	11	-11	159	71	3	**	**
VA RICHMOND	RIC	69	14	-1	262	109	14	71	6
VA ROANOKE	ROA	83	17	6	340	143	32	73	10
WA COLVILLE	63S	135	-5	-17	556	-157	31	-22	6
WA QUILLAYUTE	UIL	98	-10	-15	846	-87	25	-9	3
WA SEATTLE-TACOMA	SEA	73	-21	-10	425	-165	60	-28	16
WA SPOKANE	GEG	124	-6	-21	457	-171	-59	-27	-11
WA WALLA WALLA	ALW	60	-23	-50	155	-138	-91	-47	-37
WA YAKIMA	YKM	100	-13	-37	370	-145	-75	-28	-17
WV BECKLEY	BKW	115	17	-35	468	86	-90	23	-16
WV CHARLESTON	CRW	92	18	-5	344	111	-20	48	-5
WV HUNTINGTON	HTS	93	22	-13	336	98	-15	41	-4
WV PARKERSBURG	PKB	102	29	-5	393	155	11	65	3
WI GREEN BAY	GRB	146	23	-2	588	15	-49	3	-8
WI LACROSSE	LSE	136	23	-9	450	11	-72	3	-14
WI MADISON	MSN	141	18	-5	526	14	-101	3	-16
WI MILWAUKEE	MKE	122	9	3	432	-2	-66	0	-13
WI WAUSAU	AUW	159	28	-12	651	11	-43	2	-6
WY CASPER	CPR	118	-13	-55	513	-117	-177	-19	-26
WY CHEYENNE	CYS	103	-26	-62	546	-94	-160	-15	-23
WY LANDER	LND	83	-52	-72	412	-239	-153	-37	-27
WY SHERIDAN	SHR	101	-31	-70	472	-215	-242	-31	-34

National Agricultural Summary

October 17-23, 1988

HIGHLIGHTS: Rain slowed harvest progress in the Midwest, the East, and portions of the South. Soil moisture was mostly short to adequate in the West. Soil moisture in the East was mostly adequate to short. There were 4 to 5 days suitable for fieldwork in the Midwest and the East and 6 days in the Great Plains and the West.

Winter wheat seeding was 89 percent (%) complete, 1 percentage point behind 1987 but 10 points ahead of the 5-year average. Crop emergence was 73% complete, 4 points behind 1987 but 9 points ahead of normal. Corn harvest was 74% finished, 8 points behind 1987 but 18 points ahead of the average. Harvest was more than 20 points ahead of normal in the western Corn Belt. Soybean harvest was 71% finished, 12 points behind 1987 but 13 points ahead of normal. Harvest was more than 20 points ahead of normal in the western Corn Belt and the central Great Plains. Sorghum harvest was 73% finished, 2 points and 15 points ahead of last year and normal, respectively. Cotton harvest was 41% complete, 7 points behind 1987 but slightly ahead of the 39% normal. Rain virtually halted harvest in Arizona. Rice harvest continued at a normal pace and was 94% complete, slightly behind last year's 98%. Livestock was good.

SMALL GRAINS: Winter wheat was mostly good to fair. Seeding was 89% finished, 10 points ahead of the average. Seeding was complete in Nebraska and South Dakota. Seventy-three percent of the crop was emerged, 9 points ahead of the average. Kansas' seeding was 10 points ahead of the 85% average. Emergence and early growth were good. Seeding was 90% finished, 15 points ahead of normal in Oklahoma. Russian wheat aphids were a problem in Idaho, Oregon, and Washington. Germination has been slowed by lack of rain in Oregon and Washington. Texas producers were fighting green bug and armyworm infestations. Seeding progress has been slowed by lack of moisture. Early growth has been good in the Plains area. Early seeded fields continued to be grazed.

CORN: Corn harvest was 74% complete, 8 points behind 1987 but 18 points ahead of normal. Harvest was more than 20 points ahead of normal in the western Corn Belt. Illinois' harvest was 22 points ahead of the 69% normal. In Iowa, harvest was 95% finished, 40 points ahead of normal. Nebraska's harvest was 80% complete, 30 points ahead of the average. Minnesota's harvest was 51 points ahead of the 44% normal. Ohio's harvest was only 26% complete, 21 points behind the average. High grain moisture content delayed harvest in Kentucky. European corn borer has caused problems in unharvested fields in North Carolina.

SOYBEANS: Ninety-four percent of the soybean acreage was in the leaf dropping stage, slightly behind the 95% normal. Percent of acreage dropping leaves was behind normal in the Delta and most of the Southeast. Harvest was 71% finished, 12 points behind 1987 but 13 points ahead of the average. Harvest was more than 20 points ahead of normal in the western Corn Belt and the central Great Plains. Harvest was nearing completion in Iowa, Minnesota, and South Dakota. Illinois' harvest was 95% complete, 16 points ahead of the average. Harvest was 33 points ahead of the 66% normal in Minnesota. Harvest was behind normal in most of the Delta and Southeast.

SORGHUM: Harvest was 73% finished, 2 points and 15 points ahead of 1987 and normal, respectively. Harvest was nearing completion in Arkansas, Louisiana, and Mississippi and was complete in Tennessee. Nebraska's harvest was 33 points ahead of the 57% normal. Harvest was 60% finished, 20 points ahead of normal in Kansas. Recent frost accelerated maturity in the central and western areas. Texas' harvest was 78% complete, 4 points ahead of the average. Harvest was just beginning in the High Plains. Oklahoma's harvest was 15 points behind the 35% normal.

COTTON: Ninety-one percent of the acreage was in the boll opening stage, 9 points and 7 points ahead of last year and normal, respectively. The percent of acreage opening bolls was over 90% in all the major producing States except Texas. Harvest was 41% finished, 7 points behind 1987 but slightly ahead of the 39% normal. Arizona's harvest was 13 points behind the 39% normal. Heavy rains virtually halted harvest. Rain also washed off chemicals used to induce defoliation. California's harvest was 25% complete, 1 point behind normal. Producers in the southern area were spraying for boll weevil infestations. Harvest gained momentum in the Texas High Plains. Warm, daytime temperatures aided opening bolls. Harvest was 27% finished, 5 points ahead of normal. Mississippi's harvest was 76% complete, 6 points ahead of normal. Rain slowed harvest progress late last week.

OTHER FIELD CROPS: Rice harvest was 94% finished, 4 points behind last year but normal. Harvest was over 90% finished in all the major producing States except California. Harvest was nearing completion in Louisiana.

Peanut harvest was 80% finished, 7 points behind normal in Georgia. Early frost has accelerated harvest in North Carolina. Frost damaged part of Virginia's crop. Some producers in central and southern Texas cut fields for hay because of poor crop development.

Burley tobacco stripping was 12% finished, 1 point behind normal in Kentucky. The crop continued to cure well. Stripping was 30% complete, 3 points ahead of normal in Tennessee.

FRUIT AND NUTS: Florida's citrus groves remained in good condition but still needed rain. Producers continued irrigating to maintain surface moisture. Cool temperatures accelerated natural colorbreak. Orange and grapefruit harvests continued. Tangelo and Robinson tangerine harvests began. Orange and grapefruit harvests continued in Texas. Pecan harvest activity increased in the Cross-Timbers area. Shucks were splitting in the Trans-Pecos and Low Plains. Lemon harvest continued in central and western Arizona. Orange harvest began. Honeydew, cantaloup, and watermelon harvests continued in the Salt River Valley. In California, almond harvest was complete and pistachio harvest neared completion. Desert lemon harvest continued. New crop naval oranges and mandarins continued to color. Rasin harvest was finished and table grape harvest approached completion. Some wineries were still receiving wine grapes for crushing. Fall avocado and soft date harvests continued in Riverside county.

VEGETABLES: Warm days and cool nights continued to benefit the vegetable crops in Florida. Fall

(Continued to back cover)

State Summaries of Weather and Agriculture

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

ALABAMA: Rainfall totals mostly 0.50 in.; 1.00 to 2.00 in. common north, west central. Temperatures 2 to 4° below normal north; near normal extreme south.

Days suitable for fieldwork 5.6. Soil moisture 30% short, 67% adequate, 3% surplus. Excellent conditions most areas for harvest, small grain seedings. Soybeans 92% turning yellow, 98% 1987, 97% avg.; 73% dropping leaves, 91% 1987, 86% avg.; 54% mature, 80% 1987, 69% avg.; 26% harvested, 42% 1987, 32% avg.; 2% poor, 44% fair, 54% good. Corn 93% harvested, 96% 1987, 95% avg. Cotton 63% harvested, 90% 1987, 69% avg. Sorghum 79% harvested, 81% 1987, 82% avg. Peanuts 91% dug, 95% 1987, 91% avg.; 80% combined, 87% 1987, 85% avg. Winter wheat 38% seeded, 40% 1987, 30% avg. Pastures mostly fair; livestock mostly good. Primary activities: Harvesting row crops, sweetpotatoes, pecans, fall vegetables, catfish; soil testing; planting small grains, annual forage crops; building fish ponds; routine care of livestock, poultry.

ARIZONA: Mostly sunny skies 16th to 18th northern two-thirds. Partly cloudy, isolated showers, thunderstorms near Mexican border. Activity increased southern areas 19th; locally heavy showers, isolated hail. Skies mostly sunny north, west 20th. Southeast continued cloudy, scattered showers, isolated thunderstorms. Sunshine, except some scattered clouds southeast 22nd. Rainfall 0.25 to 0.50 in. White Mountains; 0.50 to 1.50 in. southeast, south central; very little elsewhere. Temperatures 4 to 9° above normal.

Unusually heavy, unexpected rains virtually halted cotton harvest. Over 2.00 in. rain southeast. Southern areas also received rains; fields difficult to work. Initial effects "stringing out" of open bolls; some ground loss of unharvested cotton. Defoliation interrupted; chemical washing off in rains. Cotton 26% harvested, 55% 1987. Alfalfa harvest delayed many areas due to rains. Considerable damage to cut, windrowed alfalfa hay Yuma County. Harvest continued normally northwest. Over 50% seedings completed west. Western area lemon harvest, packing progressed; good sizing, quality reported. Grapefruit harvest progressed limited scale. Asparagus harvest continued Yuma, Poston areas. Cantaloup, honeydew melons still harvested. Lettuce, cauliflower, broccoli continued good progress. Cultivation, weeding of established plantings continued. Whiteflies, leaf miners prevalent in fall lettuce. Lemon harvest progressed central areas; good size, quality. Some grapefruit harvested. Harvest of oranges just began; very little progress. Lettuce, honeydew melons, cantaloup harvested Aguila area. Honeydew melons, cantaloup, watermelon harvested Salt River Valley. Granny smith apples harvested, packed east. Assorted vegetables harvested. Harvest slowed due to rain; no crop damage.

ARKANSAS: Warm early, cool late week. Scattered rain throughout week, heaviest amounts south portion. Temperature extremes 34°; 88°. Rainfall 0.10 to 3.66 in.

Days suitable for fieldwork 6.0. Soil moisture 31% short, 64% adequate, 5% surplus. Major farming activities: Row crop harvest; small grain seeding; pasture fertilization, seeding; sudan silage harvest; working cattle; preparing for winter feeding. Harvest slowed due to rains, late maturity. Cotton yields, grades excellent. Rice yields better than expected. Soybeans 66% dropping leaves, 87% 1987, 76% avg.; 47% mature, 75% 1987, 57% avg. Corn harvest virtually completed. Wheat 30% seeded, 51% 1987, 34% avg. Oats 50% seeded, 57% 1987, 41% avg. Pecans began falling; yield, nut size looked good. Some insect problems affecting green leaf vegetables. Some pastures providing excellent grazing. Pasture, range 2% very poor, 11% poor, 57% fair, 30% good. Hay, roughage mostly short. Stockwater 34% short, 64% adequate, 2% surplus.

CALIFORNIA: High pressure dominated weather pattern. Exception small band clouds spawning thundershowers southern most State. Temperatures mostly well above normal, several new highs set.

Normal progress harvest, land preparation. Rice harvest good progress, winding down some areas. Stubble burning slowed, poor smoke dissipation. Cotton defoliation tapered off, harvest full swing. Plant shredding active. Boll weevil treatments southern areas. Dry bean, sugarbeet, field corn, alfalfa harvests normal. Extra alfalfa cutting possible some central valley fields, warm weather. Late variety apples picked. Fall avocados, soft dates harvested Riverside County. Raisin harvest finished, table grape harvest approached completion San Joaquin Valley. Some wineries still receiving wine grapes for crushing. Kiwifruit, olive, persimmon, pomegranate, pineapple quince harvests continued. Almond harvest complete; growers busy pruning trees, hauling to hullers. Pistachio harvest almost complete. Late variety walnuts actively harvested; Yuba County 10 to 15% sunburn. Desert lemon picking continued. Western county lemons, desert grapefruit harvests began Riverside County. New crop navel oranges, manderins continued to color. Rain, dew caused mildew, spotting, Imperial Valley melons. Elsewhere, weather favorable. Westside lettuce harvest began, good quality. Harvested broccoli, cauliflower, carrots, celery, mixed melons, potatoes, sweetpotatoes, tomatoes. Planted onions Westside. Young, lower Westside broccoli, carrot, tomato plantings look good. Livestock fair to good, statewide. Range, non-irrigated pasture forage dry, irrigated pasture normal. Supplemental feeding continued. Livestock movement active. Water supplies very low.

COLORADO: High winds along front range early week, first freeze of season some areas weekend. Mild, dry; few isolated showers in mountains, southeast very little measurable precipitation. Temperatures 4 to 7° above normal most locations.

Days suitable for fieldwork 6.4. Soil moisture 15% very short, 63% short, 22% adequate. Third, 4th cuttings of alfalfa progressed 88%, 52% respectively. Corn 97% mature, grain 38% harvested, silage 99% harvested. Dry beans 99% cut, 98% threshed. Dry onion 84% harvested. Summer potato 97% harvested, fall potato harvest complete. Sorghum 78% mature, 36% harvested. Sugarbeet harvest jumped to 48%. Winter wheat 99% planted, 90% emerged. Livestock mostly good. Range, pasture condition remained mostly fair to good.

FLORIDA: High pressure area over mid-Atlantic States produced moderate northeast to eastern flow over State. Showers confined to east coast into 18th as high weakened. By 19th, cold front moved into north becoming stationary across south 22nd,

with showers continuing along east coast but dry conditions continuing elsewhere. Temperatures remained seasonably cool north, but highs above normal western portions central, south. Rainfall along east coast under 1.00 in., little or no rain elsewhere.

Soil moisture short to adequate. Cool weather slowed cotton harvest. Peanut harvest, haymaking active. Dry weather slowed small grain planting. Sugarcane harvest started with first mill operating. With cooler temperatures, permanent pastures declined seasonally northern Peninsula, Panhandle; grazing mostly fair, but varied widely from poor to good. Additional rain needed most areas for winter pasture planting, germination, growth. Grazing only fair several dry east central Peninsula areas; but elsewhere lower Peninsula mostly good to excellent. Cattle fair to good, Panhandle, northern Peninsula; elsewhere, mostly good to excellent. Citrus trees, groves remained generally good, although rain needed many areas. Irrigation used to maintain soil moisture, fruit growth all areas. Cool weather benefited natural color break. Fresh shipment harvest oranges, navels, grapefruit, k-early citrus increased. Harvest robinson tangerines, tangelos began. Seasonal cultural practices continued. Warm days, cool nights over vegetable producing areas benefited most crops. Rainfall continued light. Planting active winter crops. Harvest fall crops gaining. Fair to good volume available cucumbers, eggplant, peppers, radishes, sweet corn, squash. First ruskin tomatoes harvested.

GEORGIA: Temperatures 2 to 4° below normal north, near normal extreme south. Warmest low 70s mountains, mid 80s extreme south. Coldest mid 30s to low 40s; freezing mountains, east central. Rain 0.50 to 1.00 in. north, 0.50 in. central, less than 0.25 in. south. Local totals 1.00 to 2.00 in. north. Rain 2 to 4 days north, central; 1 or 2 days south.

Days suitable for fieldwork 5.7. Soil moisture 4% very short, 38% short, 57% adequate, 1% surplus. Cotton harvest normal pace, some northern areas slow defoliating. Peanuts 93% dug, 96% 1987, 93% avg.; 80% threshed, 91% 1987, 87% avg. Ideal harvesting weather early, rain stopped digging late week. Soybean harvest gained momentum, slight frost damage on late beans north. Rye, other small grain seeding near average. Pecans fair to good; 5% harvested, 10% avg. Pasture, hay fair to good. Cattle, hogs mostly good.

HAWAII: Variable weather. Eastward moving shower band brought cooler temperatures, rain. Unstable weather continued through weekend. Mostly sunny mornings, cloudy afternoons. Temperatures 60s to high 80s. Rainfall none to 3.90 in. Winds variable, light 5 to 15 mph.

Days suitable for fieldwork 7.0. Crop condition improved. Cooler weather reduced pesticide spraying, irrigation levels. Chinese cabbage production steady, moderate volume. Head cabbage output steady, good quality. Cucumber production heavy. Tomato supplies up, field mostly good. Banana production seasonally heavy. Papaya production steady, moderate to heavy volume.

IDAHO: Temperatures remained 2 to 10° above normal. Precipitation slight to none except north where some areas above normal.

Days suitable for fieldwork 6.0. Virtually all potatoes harvested, same as 1987, 92% avg. Sugarbeets 56% harvested, 68% 1987, 55% avg. Nearly all winter wheat sown, 86% 1987, 92% avg.; 65% emerged; fair to good. Russian wheat aphid infestations. Grain corn 33% harvested, 42% 1987, 36% avg. Apples 73% harvested, 98% 1987, 87% avg. Livestock good.

ILLINOIS: Temperatures 2 to 6° below normal. Precipitation 1.00 to 2.00 in. most stations, more than 4.00 in. Chicago.

Days suitable for fieldwork 4.8. Soil moisture 76% short, 22% adequate, 2% surplus. Pasture 4% very poor, 18% poor, 52% fair, 25% good, 1% excellent; livestock roughage supplied 47%, 52% 1987, 63% avg.

INDIANA: Temperatures 4 to 6° below normal. Lows lower 30s to 50s, highs mid 70s. Precipitation 1.00 in. to above 3.00 in.

Days suitable for fieldwork 3.2. Topsoil moisture 11% short, 78% adequate, 11% surplus. Subsoil moisture 72% short, 26% adequate, 2% surplus. Soybeans 100% mature, 100% 1987, 99% avg. Rye 92% seeded, 94% 1987, 81% avg. Pastures 25% poor, 59% fair, 15% good, 1% excellent. Hay, roughage 2% very short, 39% short, 59% adequate, 1% surplus. Recent rains slowed harvest but replenished moisture supplies.

IOWA: Temperatures 3 to 7° below normal. Extremes 22°; 75°. Precipitation 0.35 in.; extremes 0.02 to 2.34 in.

Days suitable for fieldwork 5.5. Topsoil moisture 64% short, 36% adequate; subsoil moisture 95% short, 5% adequate. Corn, soybean harvest nearly complete. Grain storage availability 2% short, 63% adequate, 35% surplus. Fall tillage 40%, 34% 1987, 19% avg. Fall fertilizer application 30%, 26% 1987, 16% avg. Considerable utilization of corn stalks, bean stubble by cattlemen.

KANSAS: Temperatures mid upper 50s. Northwest warmest 7° above normal, rest State 1 to 3° above normal. Rainfall light, most areas trace to only few hundredths. Southeast highest 0.17 in., rest of State 0.10 in. or less.

Days suitable for fieldwork 6.5. Topsoil moisture 60% short, 40% adequate. Subsoil moisture 60% short, 40% adequate. Harvest corn, sorghum, soybeans excellent progress under near ideal weather conditions. Recent frost central, western areas should help sorghum dry down, allow harvest to continue rapid pace. Wheat seeding neared completion, emergence, early growth good. Some grazing noted. Range, pasture fair, grazing pressure reduced as livestock move to stubble fields, wheat pasture. Hay, forage supplies 48% short, 52% adequate.

KENTUCKY: Seasonably cool temperatures. Lows low to mid 40s; highs 60s, 5° below normal. Rainfall 0.50 to over 2.00 in.

Days suitable for fieldwork 4.8. Soil moisture 19% very short, 45% short, 36% adequate. Corn harvesting delayed some areas due high corn moisture content. Soybean harvest continued, 38% mature awaiting harvest. Burley 12% stripped, 14% 1987, 13% avg.; good, few problems with curing. Wheat 58% seeded, 64% 1987, 50% avg.; 5% poor, 25% fair, 69% good, 1% excellent. Pastures continued variable.

LOUISIANA: Temperatures 1 to 3° above normal. Temperature extremes 43°; 90°. Rainfall none to 0.85 in.

Days suitable for fieldwork 5.8. Soil moisture 5% very short, 32% short, 58% adequate, 5% surplus. Soybeans 27% fair, 64% good, 9% excellent; 95% turning color. Sweetpotatoes 86% harvested. Sugarcane good; 96% planted, 17% harvested. Winter wheat 13% planted; 7% emerged. Hay final cutting 94%. Hay, roughage 3% very short, 25% short, 66% adequate, 6% surplus. Pecans fair to good; 5%

harvested. Livestock good. Pastures, vegetables fair to good. Rice growers southwest harvesting 2nd crop. Main activities: Harvesting cotton, hay, rice, sorghum, soybeans, sugarcane, sweetpotatoes; planting sugarcane, wheat, winter pastures.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.64 in. Temperature 55°, normal 56°. Temperature extremes 24°; 78°.

Days suitable for fieldwork 5.0. Topsoil moisture 5% very short, 30% short, 65% adequate. Subsoil moisture 5% very short, 45% short, 50% adequate. Hay 15% short, 85% adequate. Corn grain 80% harvested, 80% avg. Soybeans 99% turning, 99% avg.; 95% shedding leaves, 95% avg.; 35% harvested, 30% avg. Alfalfa 4th cutting 95%, 95% avg. Apples 90% harvested, 90% avg. Winter wheat 65% seeded, 60% avg. Barley 80% seeded, 85% avg. Rye 70% planted, 80% avg. Oats 45% seeded, 70% avg.

DELAWARE: Precipitation 0.53 in. Temperature 55°, normal 56°. Temperature extremes 32°; 79°.

Days suitable for fieldwork 5.2. Topsoil moisture 100% adequate. Subsoil moisture 100% adequate. Hay 100% adequate. Corn grain 85% harvested, 85% avg. Soybeans 100% turning, 100% avg.; 90% shedding leaves, 90% avg.; 35% harvested, 30% avg. Apples 90% harvested, 90% avg. Winter wheat 60% seeded, 35% avg. Barley 90% seeded, 70% avg. Rye 55% seeded, 45% avg.

MICHIGAN: Temperatures 1 to 4° below normal. Temperature extremes 25°; 71°. Precipitation 0.82 to 4.06 in.

Days suitable for fieldwork 3.0. Soil moisture 1% short, 55% adequate, 44% surplus. Corn 25% harvested, 50% 1987, 30% avg. Soybeans 40% harvested, 65% 1987, 40% avg. Winter wheat 90% planted, 90% 1987, 75% avg.; 70% emerged, 60% 1987, none avg.; 2% poor, 18% fair, 45% good, 35% excellent. Dry beans 55% harvested, 80% 1987, 80% avg. Major activities: Limited harvest of corn for grain, soybeans; chopping corn, hay for silage; seeding winter wheat, harvesting sugarbeets, picking last of fruit, vegetables.

MINNESOTA: Temperatures 3 to 6° below normal. Temperature extremes 19°; 66°. Precipitation 0.05 to 0.60 in. Greatest weekly total 0.75 in.

Days suitable for fieldwork 5.8. Topsoil moisture 19% very short, 61% short, 20% adequate. Corn 95% combined, 88% 1987, 44% avg.; 18% moisture content, 17% 1987, 24% avg.; 59% land plowed, 50% 1987, 22% avg. Soybeans 99% combined, 98% 1987, 66% avg.; 12% moisture content, 10% 1987, 14% avg.; 67% land plowed, 67% 1987, 34% avg. Sunflowers 98% harvested, 90% 1987, 52% avg. Sugarbeets 99% harvested, 97% 1987, 81% avg.

MISSISSIPPI: Cool nights, warm days, above average rainfall for most of State. Southern counties drier. Maximum weekly rainfall 4.32 in. Extreme temperatures 33°; 90°.

Days suitable for fieldwork 4.2, 6.2 1987, 3.5 avg. Soil moisture 5% short, 50% adequate, 35% surplus, 10% excessive. Fieldwork progressed rapidly during first part week, slowed due to rain last part week. Corn 88% harvested, 97% 1987, 93% avg. Sorghum 95% harvested, 99% 1987, 96% avg. Cotton 76% harvested, 94% 1987, 70% avg. Soybeans fair; 27% harvested, 57% 1987, 38% avg. Rice 94% harvested, 100% 1987, 97% avg. Sweetpotatoes 86% harvested, 78% avg. Peanuts 90% harvested, 99% avg. Hay 95% harvested, 99% 1987. Silage harvest virtually complete. Pecans good to fair; 5% harvested, 9% 1987. Pastures good, livestock good. Wheat 43% planted, 21% 1987, 24% avg.; 33% emerged. Hay, roughage 22% short, 75% adequate, 3% surplus. Activities: Row crop harvest, fall planting.

MISSOURI: Temperatures 2° below normal. Rainfall 0.50 in.

Days suitable for fieldwork 5.3. Topsoil moisture 63% short, 33% adequate, 4% surplus; northern areas short. Soybean harvest varied; 32% southeast to 88% northwest. Harvesting of soybeans, sorghum, corn ahead of average. Pastures, winter wheat need rain. Pastures 18% very poor, 20% poor, 41% fair, 20% good, 3% excellent. Livestock water supplies 26% critically short, 36% adequate; many farmers northern counties hauling water.

MONTANA: Rain early week statewide. Over 1.00 in. moisture parts of south central, central. North central, northeast received least. Temperatures 3 to 4° above normal east, 8° above southwest.

Days suitable for fieldwork 5.8. Topsoil moisture 53% short, 45% adequate, 2% surplus. Subsoil moisture 89% short, 9% adequate, 2% surplus. Potatoes 98% harvested, 93% 1987, 84% avg. Sugarbeets 90% harvested, 69% 1987, 62% avg. Winter wheat 10% poor, 40% fair, 43% good, 7% excellent. Cattle, calves moved from summer ranges 90%, 72% 1987, 74% avg. Sheep, lambs moved 95%, 74% 1987, 79% avg.

NEBRASKA: Cool, mostly dry; light amounts of rainfall, generally less than 0.10 in. Temperatures 1° above normal to 4° below normal. Extremes 26°; 81°.

Days suitable for fieldwork 6.7. Topsoil moisture 50% short, 50% adequate. Subsoil moisture 67% short, 33% adequate. Corn 80% harvested, 72% 1987, 50% avg. Soybean 95% harvested, 95% 1987, 65% avg. Sorghum 90% harvested, 83% 1987, 57% avg. Winter wheat 24% fair, 76% good. Pasture range, feed 4% very short, 36% short, 60% adequate.

NEVADA: Pacific storms kept well to north by strong, high pressure ridge. As result, no precipitation, temperatures well above normal. Temperature extremes 19°; 93°.

Mild, sunny weather favored work operations. Most livestock on winter grazing areas.

NEW ENGLAND: Precipitation 2.00 to 2.50 in. coastal Maine, eastern, central Massachusetts; 1.25 to 2.00 in. remainder Maine, southern New England, 0.75 to 1.25 in. Vermont, New Hampshire. Temperatures 40° near Canadian border to 50° southern coast. Temperatures below normal.

Major farm activities: Harvesting remainder of fall vegetables, chopping corn, fall clean-up.

NEW JERSEY: Temperatures below normal. Extremes 21°; 81°. Rainfall 1.60 in. north, 2.33 in. central, 1.55 in. south. Heaviest 24-hour total 2.70 in. on 21st, 22nd. Estimated soil moisture percent field capacity 83% north, 76% central, 78% south. Four inch soil temperatures 48° north, 53° central, south.

Harvest of hardy vegetables active. Sweetpotato, apple, cranberry harvest active. Soybean, corn for grain combining progressed well. Grain, cover crop seeding continued; early seeded fields good growth. Pasture growth very limited. Hay, roughage 25% short, 75% adequate. Hay making complete.

NEW MEXICO: Temperatures 2 to 8° above normal; precipitation recorded only southwest area.

Days suitable for fieldwork 6.6. Soil moisture 22% short, 78% adequate. Cotton 96% bolls open, 20% harvested; 18% fair, 82% good. Wheat 23% fair, 66% good, 11% excellent; 97% planted, 93% emerged. Cattle 11% fair, 89% good. Sheep 100% good. Ranges 5% poor, 26% fair, 69% good.

NEW YORK: Temperatures near normal. Lows 20s to low 30s. Highs mid 60s to 70s. Precipitation

above normal. Rainfall 1.00 to 2.00 in. most places.

Days suitable for fieldwork 4.5. Soil moisture mostly adequate, few areas surplus. Pastures fair to good. Hay, corn fair to mostly good. Third cutting alfalfa 91%, 84% 1987, 87% avg. Silage corn 87% harvested, 80% 1987, 74% avg.; grain 17% harvested, 26% 1987, 17% avg. Wet conditions slowed corn harvesting. Cool weather slowed early growth of winter grains. Apple harvesting continued active major producing area along Lake Ontario. Vegetable harvest complete. Late season cabbage moved into storage.

NORTH CAROLINA: Temperatures 2 to 3° below normal, statewide. Temperature extremes 27°; 83°. Precipitation 0.29 to 2.27 in.

Days suitable for fieldwork 5.1. Soil moisture 2% very short, 23% short, 71% adequate, 4% surplus. Pasture 4% poor, 27% fair, 65% good, 4% excellent. Peanuts 3% very poor, 3% poor, 47% fair, 47% good; 83% dug, 70% 1987, 75% avg.; 59% threshed, 59% 1987, 60% avg. Sweetpotatoes 38% fair, 60% good, 2% excellent; 80% harvested, 77% 1987, 70% avg. Apples 93% harvested, 88% 1987, 84% avg.; 26% fair, 74% good. Sorghum for grain 68% harvested, 70% 1987, 63% avg.; 10% poor, 44% fair, 44% good, 2% excellent. Hay 3rd cutting 84%. Major farm activities: Planting small grains, cover crops; fall land preparation. Other activities: Digging peanuts, sweetpotatoes; harvesting, marketing tobacco; harvesting apples, soybeans, cotton, corn for grain; tagging, shearing Christmas trees; making hay; attending State fair; tending livestock, general farm maintenance. Peanut harvest accelerated due to early frost. European corn borer caused problems in corn remaining in fields.

NORTH DAKOTA: Temperatures 1 to 2° below normal. Extremes 18°; 83°. Scattered showers statewide, snow flurries east.

Days suitable for fieldwork 6.7. Topsoil moisture 60% very short, 38% short, 2% adequate. Subsoil moisture 75% very short, 25% short. Late season row crop harvest well ahead of normal pace. Sunflower 91% combined, 82% 1987, 50% avg.; corn for grain 93%, 78% 1987, 56% avg.; sugarbeets 99% lifted, 100% 1987, 88% avg. Pastures 67% very poor, 27% poor, 6% fair; furnishing 46% of roughage requirements. Main activities: Moving hay to winter quarters, preparing equipment for winter storage, marketing large volume of calves.

OHIO: Temperatures 3 to 5° subnormal. Lows upper 20s. Highs low 60s to mid 70s. Precipitation above 1.00 in. statewide.

Days suitable for fieldwork 4.2. Soil moisture 24% short, 68% adequate, 8% surplus. Rains benefited wheat seedings, slowed harvest activity. Soybean harvest progress near average. Corn harvest lagging. Moisture of harvested grain: 23% corn, 15% soybeans. Pastures mostly fair. Winter wheat good.

OKLAHOMA: Temperatures 2° below normal west central to 1° above normal southeast. Precipitation none Panhandle to 1.01 in. east central.

Days suitable for fieldwork 6.2. Topsoil moisture 35% short, 65% adequate. Subsoil moisture 25% short, 75% adequate. Wheat 25% fair, 75% good; 90% planted, 95% 1987, 75% avg.; 65% emerged, 75% 1987, 45% avg. Cotton 20% fair, 80% good; 95% open bolls, 70% 1987, 80% avg.; 25% harvested, 5% 1987, 10% avg. Sorghum 60% mature, 95% 1987, 95% avg.; 20% harvested, 30% 1987, 35% avg. Peanuts 25% harvested, 55% 1987, 35% avg. Soybeans 55% mature, 90% 1987, 80% avg.; 15% harvested, 25% 1987, 30% avg. Pastures good to fair. Cattle good; marketings average, prices stable to slightly higher.

OREGON: Temperature above normal entire State. Coast 4 to 6° above normal; most other areas 6 to 11° above. Rainfall heaviest along coast, northeast. North, central coast 0.50 to 0.75 in. precipitation. Northeast 0.25 in., elsewhere rainfall less than 0.10 in.

Soil moisture 87% short, 13% adequate. Barley 35% seeded, 62% 1987. Fall grain seeding continued. Germination slowed by lack of moisture statewide. Russian wheat aphid in wheat Columbia Basin, northeast; some fall spraying. Germination slowed by lack of moisture statewide. Hay, grain harvests wrapped up northeast mountains, Klamath Basin. Flaming grass seed fields Willamette Valley. Sugarbeet 50% harvested Malheur County. Corn for grain 25% harvested Hermiston-Boardman. Apple harvest essentially completed over weekend Hood River; orchard clean-up, lime applications underway. Early wine grape varieties all harvested Willamette Valley; later varieties being picked or awaiting optimum maturity. Filbert harvest continued on schedule. Last of winter pears harvested Willamette Valley; orchard clean-up sprays applied to cherries, peaches. Potatoes 90 to 95% dug. Seed potatoes 90 to 95% harvest finished Baker, Wallowa Counties. Sweet corn, cauliflower seasons essentially complete Willamette Valley; some over-winter onions seeded. Livestock fair to good. Most calves weaned, showed heavier weights than expected. Many calves sold. Range, pasture poor to fair. Dry, abnormally warm weather slowing fall regrowth. Some cattlemen have started feeding hay.

PENNSYLVANIA: Indian summer start of week. Eastern half received first good rain since early September. Temperature 49°, 3° below normal. Temperature extremes 24°; 79°. Precipitation 1.33 in., 0.67 in. above normal.

Days suitable for fieldwork 5.0. Soil moisture 43% short, 53% adequate, 4% surplus. Corn 78% mature, 94% 1987, 92% avg.; 23% harvested, 36% 1987, 29% avg. ensilage 84% harvested, 91% 1987, 92% avg.; 14% very poor, 30% poor, 35% fair, 17% good, 4% excellent. Soybean 21% harvest, 38% 1987, 28% avg.; 8% very poor, 20% poor, 37% fair, 30% good, 5% excellent. Potatoes 86% harvested, 88% 1987, 95% avg. Fall plowing 89%, 89% 1987, 91% avg. Winter wheat 85% planted, 81% 1987, 85% avg. Barley 96% planted, 92% 1987, 96% avg. Third cutting alfalfa 98%, 91% 1987; 4th cutting 74%, 66% 1987. Hay fair. Amount of feed being obtained from pastures average to below average. Apples 78% harvested, 82% 1987. Grapes 92% harvested, 88% 1987. Activities: Harvesting corn grain, corn silage, soybeans, hay, haylage, fruit, potatoes, other vegetables; planting wheat, barley; fall plowing; spreading manure, fertilizer; caring for livestock; maintaining machinery.

PUERTO RICO: Island rainfall 1.52 in., 0.27 in. below normal. Highest weekly total rainfall 4.41 in. Maunabo, 3.75 in. Rio Blanco Lower, 3.59 in. Pico Del Este-Luquillo. Highest 24-hour total 4.23 in. Maunabo. Total rainfall since January 1st 53.42 in., 6% above normal. San Juan WSFO mean temperature 82°, 1° above normal. Total rainfall 0.40 in., 0.93 in. below normal. Divisional temperature 80 to 81° on coasts, 74° interior division, mean station temperature 67° Pico Del Este-Luquillo to 82° San Juan City. Lowest minimum temperature 53° Adjuntas. Highest maximum temperature 92° several places.

SOUTH CAROLINA: Seasonal temperatures, no precipitation.

Days suitable for fieldwork 5.3. Soil moisture 3% very short, 50% short, 47% adequate. Cotton 95% open bolls, 100% 1987, 100% avg.; 40% harvested, 80% 1987, 65% avg.; 2% very poor, 14% poor, 84% fair. Soybeans 90% leaves turning, 91% 1987, 91% avg.; 53% leaves shedding, 64% 1987, 67% avg.; 32% matured, 49% 1987, 38% avg.; 6% harvested, 9% 1987, 8% avg.; 4% poor, 43% fair, 48% good, 5% excellent. Tobacco stalks 84% destroyed, 95% 1987, 88% avg. Corn poor to fair; 93% harvested, 100% 1987, 99% avg. Peanuts fair; 68% harvested, 71% 1987, 72% avg. Sweetpotatoes fair to good; 71% harvested, 68% 1987, 61% avg. Apples fair; 88% harvested, 86% 1987, 90% avg. Sorghum fair to good; 58% harvested, 72% 1987, 67% avg. Pastures fair to good. Livestock good.

SOUTH DAKOTA: Temperatures 4° below to 7° above normal. Extremes 20°; 80°. Precipitation above normal over most of west central, southwest; below normal most other locations.

Days suitable for fieldwork 5.8. Topsoil moisture 23% critically short, 35% short, 42% adequate.

TENNESSEE: Cold front 17th. Weak low pressure moved across State 20th through 22nd resulting in rainy weather. Temperatures near normal west to 10° below normal northeast. Precipitation 0.25 to 1.00 in.

Days suitable for fieldwork 5.0. Soil moisture 6% very short, 36% short, 55% adequate, 3% surplus. Pasture feed normal. Corn 90% harvested, 93% 1987, 72% avg. Burley tobacco 30% stripped, 32% 1987, 27% avg. Wheat 46% seeded, 50% 1987, 41% avg. Main activities: Cotton, corn, soybean harvest; tobacco stripping.

TEXAS: Fair skies beginning week. Upper level disturbance created some showers, thunderstorms northern sections, fair weather elsewhere. Temperatures above normals fair weather, several record highs. Few areas few degrees below normal. Precipitation below normal.

Crops: Corn producers High Plains another good week for harvesting. Many producers wind down operations. Yields very good. Grain sorghum harvest getting underway High Plains. Early yields good. Later maturing fields need frost mature out. Harvest virtually completed other areas. Sorghum 95% mature, 93% 1987, 93% avg. Cotton harvest increased High Plains. Warmer days aided opening bolls. Defoliating operations increased. Harvest continued Low Plains, Cross-Timbers. Yields affected by boll weevils. Harvest began Trans-Pecos. Some harvest completed northern Blacklands. Small grain planting continued; progress slow some areas because dry conditions. Greenbugs, armyworms attacked many emerging fields, spraying operations active. Above average growth Plains; portions central showing slow growth. Irrigation began Plains, dryland fields need rain soon. Early fields providing some grazing. Peanut harvest increased Low Plains, Cross-Timbers, continued central, south. Yields, grades good northern areas, low south, central. Parts State too dry to harvest. Many fields cut for hay because poor development. Harvest soybeans increased High Plains. Yields good. Some late beans harvested northern Blacklands. Harvest sugarbeets increased High Plains. Sugarcane harvest began, good progress Rio Grande Valley. Sugar yields very good early crop. Other Field Crops: Peanuts 47% harvested, 27% 1987, 36% avg. Pecans 9% harvested, 10% 1987, 10% avg. Soybeans 60% harvested, 41% 1987, 35% avg. Sugarbeets 27% harvested, 25% 1987, 26% avg. Sunflowers 52% harvested, 50% 1987, 53% avg. Oats 53% planted, 74% 1987, 66% avg.

Commercial Vegetables: Rio Grande Valley harvest tomatoes, peppers, cucumbers, cabbage continued. Harvest oranges, grapefruit increased. Yields, quality good. San Antonio-Winter Garden fall melons, cucumbers being harvested. Growth, stands good other vegetables. Increase insects some fields. East sweetpotato harvest winding down. Additional plantings continued. High Plains carrots, pumpkins, cucumbers, peppers harvested. Trans-Pecos peppers, cucumbers harvested. Chili harvest continued. Some planting continued. Pecan harvest expanded Cross-Timbers. Yields, quality good early nuts. Harvest also continued central, southern areas. Lack of moisture some areas caused poor filling. Shucks splitting Trans-Pecos, Low Plains.

Range and Pasture: Forage supplies continued decrease many central, southern areas, dry conditions persisted. Heavy supplemental feeding continued these areas. Livestock good; heavy marketings occurred because lack of native forage. Plains pastures good; rainfall would help bring cool season grasses. Early small grains supplied some grazing. East remained very dry, limited hay cuttings.

UTAH: Precipitation light. Temperatures 5 to 8° above normal.

Corn for grain, apple harvest continued. Potato, onion harvest near completion. Winter ranges dry. Livestock movement to winter ranges almost complete; fair to good. Major farm activities: Finalizing harvest, hauling hay, livestock movement, marketing calves, lambs, culls.

VIRGINIA: Cold initially, then cool. Temperatures several degrees below normal. Range 21 to 79°. Rain end period varied, most 1.28 in. central area.

Days suitable for fieldwork 5.7. Topsoil moisture 12% very short, 61% short, 20% adequate, 7% surplus. Frost damage apparent peanuts, late planted soybeans. Grain corn 75% harvested, 81% 1987, 75% avg. Soybeans 16% harvested, 17% 1987, 17% avg. Peanuts 88% dug, 89% 1987, 91% avg.; 76% combined, 80% 1987, 82% avg. Graded, cured, tobacco. Marketed flue-cured tobacco. Some hay, alfalfa cut. Wheat 34% seeded, 48% 1987, 39% avg. Barley 72% seeded, 86% 1987, 78% avg. Cattle sales active. Pastures 2% very poor, 21% poor, 36% fair, 33% good, 8% excellent.

WASHINGTON: Several weather systems moved through State bringing rain showers, cool temperatures. Lows mostly high 30s to 40s. Showers mostly western area.

Days suitable for fieldwork 5.0. Mild weather continued. Seeding fall grains, dry beans harvest winding down. Russian wheat aphid infestations varying degrees, all major cereal producing counties. Spraying occurred Grant, Douglas Counties; hampered by strong winds Benton County. Dryland low soil moisture, same as last fall. Moderate frost damage occurred to winter wheat in Adams, Lincoln Counties. Winds destroyed early wheat plantings Garfield County. Cool temperatures kept soil moisture near surface Whitman County, benefited winter wheat seedings. Winter wheat 5% poor, 30% fair, 65% good; 92% planted, 88% 1987, 93% avg. Fall potato harvest continued. Harvest red delicious apples winding down, later varieties ongoing. Concord grape harvest continued, yields light. Cranberry harvest full swing. Sweet corn, storage onion harvest mostly finished, carrot harvest continued. Absence of killing frost allowed continued harvest of late season vegetables such as squash, sweet corn, tomatoes, cucumbers. Cauliflower harvest winding down Skagit County. Pumpkins ripening for Halloween.

(Continued to back cover)

Crop Progress 1/

FOR WEEK ENDING OCTOBER 23, 1988

SOYBEANS
% DROPPING LEAVES

	1988	1987	AVG.
ALA	73	91	86
ARK	66	87	76
GA	86	96	93
ILL	100	100	100
IND	100	100	100
IOWA	100	100	100
KANS	100	99	95
KY	94	99	94
LA	83	93	86
MICH	100	100	100
MINN	100	100	100
MISS	86	97	95
MO	98	100	97
NEBR	100	100	100
N C	63	57	53
OHIO	100	100	100
S C	53	64	67
S DAK	100	100	100
TENN	100	100	100
19 STATES	94	97	95

THESE 19 STATES PRODUCED 96% OF THE 1987 SOYBEANS CROP.

SOYBEANS
% HARVESTED

	1988	1987	AVG.
ALA	26	42	32
ARK	24	61	31
GA	14	23	22
ILL	95	97	79
IND	73	95	71
IOWA	98	100	73
KANS	70	75	45
KY	34	55	30
LA	45	70	44
MICH	40	65	40
MINN	99	98	66
MISS	27	57	38
MO	70	83	45
NEBR	95	95	65
N C	7	13	10
OHIO	70	92	69
S C	6	9	8
S DAK	98	97	68
TENN	28	54	28
19 STATES	71	83	58

THESE 19 STATES PRODUCED 96% OF THE 1987 SOYBEANS CROP.

RICE
% HARVESTED

	1988	1987	AVG.
ARK	93	99	93
CALIF	85	90	82
LA	99	100	99
MISS	94	100	97
TEX	100	100	100
5 STATES	94	98	94

THESE 5 STATES PRODUCED 97% OF THE 1987 RICE CROP.

GRAIN SORGHUM
% HARVESTED

	1988	1987	AVG.
ARK	95	99	94
ILL	87	97	66
KANS	60	60	40
LA	98	100	100
MISS	95	99	96
MO	83	93	68
NEBR	90	83	57
OKLA	20	[illegible]	35
S DAK	87	93	55
TENN	100	100	100
TEX	78	70	74
11 STATES	73	71	58

THESE 11 STATES PRODUCED 96%

COTTON
% HARVESTED

	1988	1987	AVG.
ALA	63	90	69
ARIZ	26	55	39
ARK	67	91	68
CALIF	25	50	26
GA	47	67	50
LA	80	92	71
MISS	76	94	70
MO	62	93	72
N MEX	20	15	15
N C	27	48	43
OKLA	25	5	10
S C	40	80	65
TENN	62	89	67
TEX	27	19	22
14 STATES	41	48	39

THESE 14 STATES PRODUCED 100% OF THE 1987 COTTON CROP.

WINTER WHEAT
% EMERGED

	1988	1987	AVG.
ARK	15	30	NA
CALIF	1	2	2
COLO	90	91	90
GA	9	8	10
IDAHO	65	61	67
ILL	55	61	45
IND	60	60	55
KANS	80	85	65
MICH	70	60	NA
MO	54	53	35
MONT	74	87	62
NEBR	100	100	99
N MEX	93	90	NA
N C	18	10	NA
OHIO	50	57	48
OKLA	65	75	45
OREG	36	26	35
S DAK	95	100	96
TEX	72	74	56
WASH	72	67	74
20 STATES	71	75	NA
EXCL. STATES WITH NA	73	77	62

THESE 20 STATES PRODUCED 91% OF THE 1987 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

WINTER WHEAT
% PLANTED

	1988	1987	AVG.
ARK	30	51	34
CALIF	10	15	14
COLO	99	98	99
GA	12	11	17
IDAHO	96	86	92
ILL	92	92	69
IND	86	88	73
KANS	95	98	85
MICH	90	90	75
MO	72	80	52
MONT	97	98	85
NEBR	100	100	100
N MEX	97	95	NA
N C	27	26	26
OHIO	85	90	75
OKLA	90	95	75
OREG	67	57	65
S DAK	100	100	100
TEX	90	88	74
WASH	92	88	93
20 STATES	89	90	NA
EXCL. STATES WITH NA	89	90	79

THESE 20 STATES PRODUCED 91% OF THE 1987 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

CORN
% HARVESTED

	1988	1987	AVG.
COLO	38	33	42
GA	95	97	97
ILL	91	94	69
IND	55	88	57
IOWA	95	89	55
KANS	90	90	70
KY	64	89	70
MICH	25	50	30
MINN	95	88	44
MO	92	93	71
NEBR	80	72	50
N C	82	87	88
OHIO	26	82	47
PA	23	36	29
S DAK	81	80	45
TEX	99	97	96
17 STATES	74	82	56

THESE 17 STATES PRODUCED 94% OF THE 1987 CORN CROP.

COTTON
% BOLLS OPENING

	1988	1987	AVG.
ALA	100	100	98
ARIZ	100	100	100
ARK	98	100	98
CALIF	100	100	100
GA	92	95	94
LA	100	100	100
MISS	99	100	100
MO	97	100	100
N MEX	96	100	100
N C	99	100	100
OKLA	95	70	80
S C	95	100	100
TENN	100	100	100
TEX	81	63	68
14 STATES	91	82	84

THESE 14 STATES PRODUCED 100% OF THE 1987 COTTON CROP.

1/ AVERAGES FOR THESE SUMMARIES ARE FOR THE YEARS 1983 - 1987.

Crop Condition

FOR WEEK ENDING OCTOBER 23, 1988

WINTER WHEAT

STATE	VP	P	F	G	EX
ARK	0	0	33	49	18
CALIF	0	0	0	100	0
COLO	0	5	19	67	9
GA	0	0	34	66	0
IDAHO	7	16	30	36	11
ILL	0	0	27	69	4
IND	0	3	46	49	2
KANS	0	13	15	45	27
MICH	0	2	18	45	35
MO	0	3	51	46	0
MONT	0	10	40	43	7
NEB	0	0	24	76	0
N MEX	0	0	23	66	11
N C	0	0	25	75	0
OHIO	1	4	31	54	10
OLKA	0	0	25	75	0
OREG	0	9	41	50	0
S DAK	0	10	23	64	3
TEX	1	9	28	49	13
WASH	0	5	30	65	0
19 STATE	0	6	25	58	11

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

International Weather and Crop Summary

October 16-22, 1988

HIGHLIGHTS

WESTERN USSR ... Mostly dry, cool weather favors hardening of winter grains. Showers are confined to portions of the Ukraine and North Caucasus, and northernmost grain areas.

EUROPE ... Moderate to heavy rain falls over the south. Above-normal temperatures benefit establishing winter crops over most growing areas.

SOUTH ASIA ... A Tropical Cyclone brings high winds and heavy showers to Bangladesh, causing coastal flooding and storm damage.

EASTERN ASIA ... Moderate to heavy rain causes continuing fieldwork delays in the upper Yangtze Valley. Light to moderate rain benefits winter crops in the North China Plain.

SOUTHEAST ASIA ... Heavy showers in western Thailand cause flooding from Bangkok northward. Typhoon Pat crosses the northern Philippines, bringing high winds and locally heavy rain.

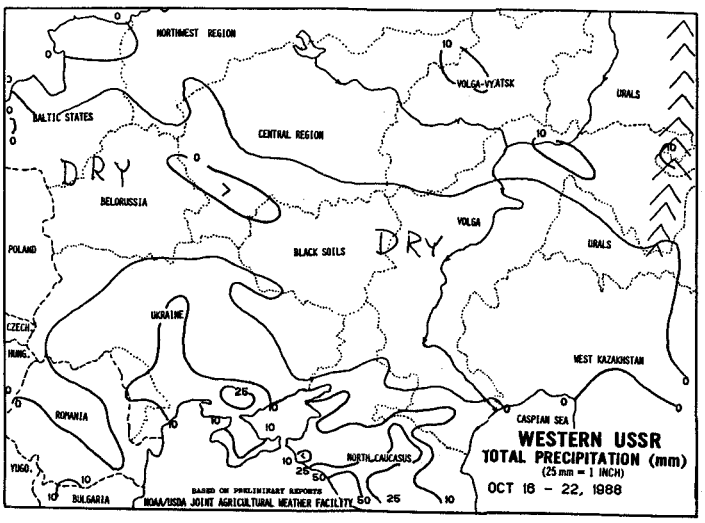
SOUTH AMERICA ... Beneficial rain stimulates summer crop planting and emergence in Brazil and Argentina.

AUSTRALIA ... Light to moderate rain favors reproductive to filling winter grains in the southeast. Above-normal temperatures continue in all but the southwest.

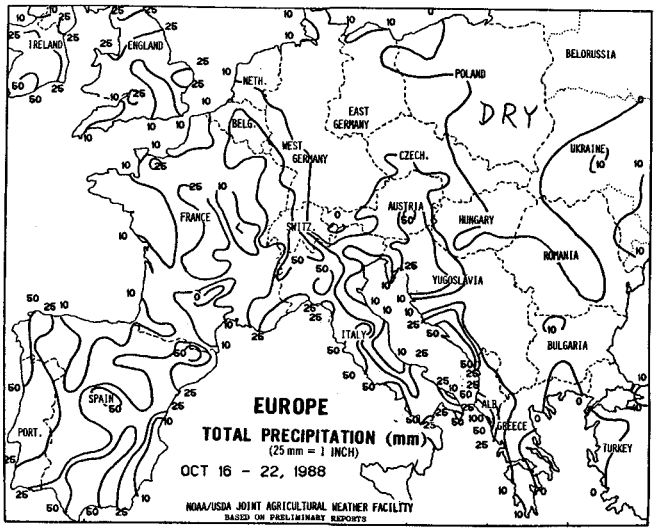
MEXICO ... Beneficial showers help wheat planting in the northwest. Dryness favors summer crop harvesting in the Southern Plateau.

SOUTH AFRICA ... Heavy showers cover the Maize Triangle, causing corn planting delays and local flooding.

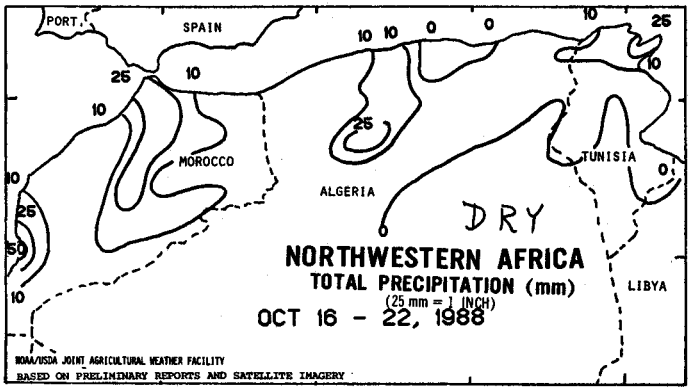
NORTHWESTERN AFRICA ... Showers moisten topsoils before winter grain planting.



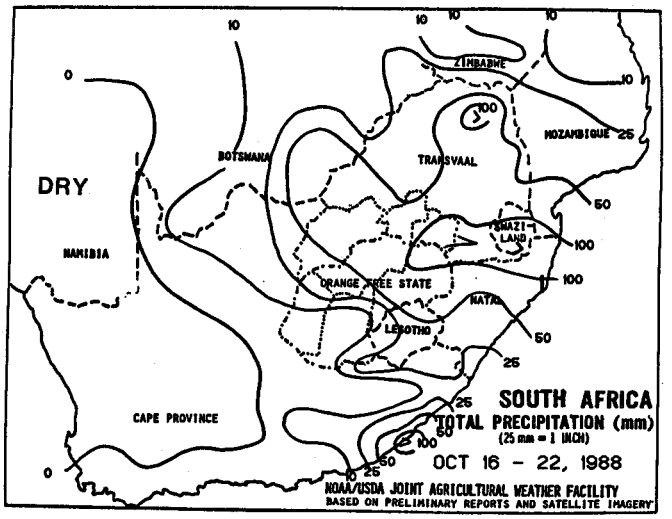
WESTERN USSR ... Mostly dry, cool weather prevailed from the southern Baltic States and Belorussia through the Black Soils Region to the Volga valley, with winter grains progressing through the cold hardening phase toward winter dormancy. Light rain and snow showers fell across the northern winter grain areas in the Central Region and Volga Vyatsk. Showers and scattered thunderstorms fell in the Ukraine and North Caucasus, where summer crop harvesting is nearing completion. The heaviest rain (10-80mm) fell in the southwestern Ukraine, extending into Crimea and in the North Caucasus to the south and east of the Sea of Azov. Dry weather covered the extreme eastern Ukraine and northern North Caucasus.



EUROPE ... Scattered moderate to heavy rain (25-50mm, with isolated rainfall greater than 50mm) fell over sections of Portugal, Spain, southern France, Italy, and western Yugoslavia. The rain benefited newly planted winter crops in most areas but caused a continuation of localized flooding in northern Italy. Light to moderate rain (5-20mm, with scattered amounts greater than 25mm) covered the remainder of western Europe, resulting in summer crop harvest delays. In northern and eastern Europe, mostly light rain (less than 10mm) fell from West Germany southeastward to the Balkans, while sections of Poland, Czechoslovakia, Hungary, and Romania remained dry. Above-normal temperatures in all but southwestern and extreme eastern crop areas benefited establishing winter crops, although scattered frost and freezing temperatures occurred in the extreme northeast late in the week.

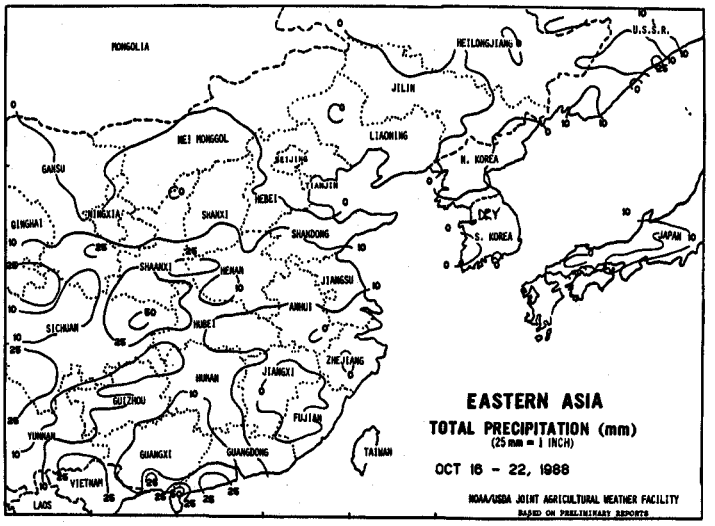


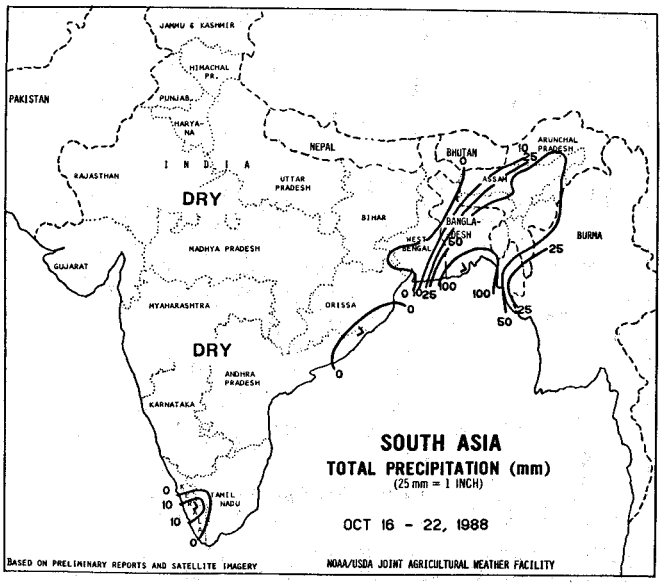
NORTHWESTERN AFRICA ... Showers fell over Morocco early in the week, providing beneficial pre-planting moisture. While it may be too early to begin winter grain planting, the recent rain (4-56mm) helped moisten topsoils. Showers and isolated thunderstorms were scattered across northern Algeria and northern Tunisia, providing variable amounts ranging from 1 to 37mm. The most significant rain (greater than 10mm) was concentrated mostly over northern and southwestern Morocco, west-central crop areas of Algeria, and northeastern Tunisia.



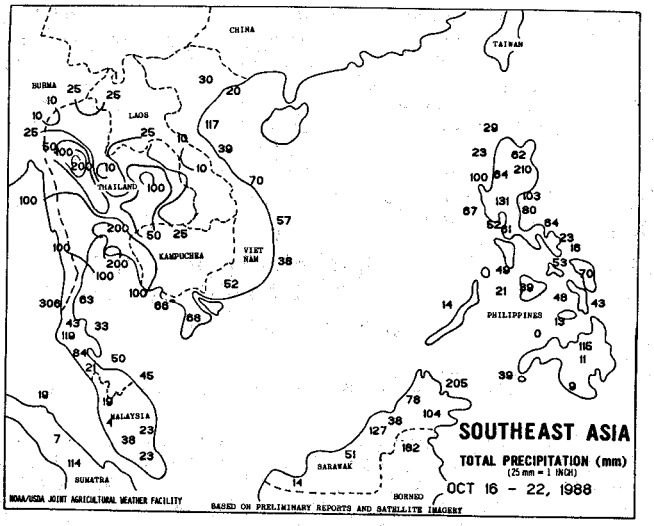
SOUTH AFRICA ... Heavy rain (50-100mm or more) covered most of the Maize Triangle, improving subsoil moisture levels but leaving most regions too wet for corn planting. Rainfall exceeded 100mm over a large region in the eastern Triangle and locally over coastal regions of the Cape Province, likely causing local flooding. Variable, generally lighter rain (10-50mm) covered the western Maize Triangle and most crop regions of Natal and the Cape Province, improving planting conditions.

EASTERN ASIA ... Moderate to heavy rainfall (20-50mm, with isolated rainfall greater than 50mm) continued over sections of the upper Yangtze Valley, keeping soils saturated and causing further delays in summer crop harvest and winter crop planting. Light to moderate rain (5-20mm) benefited newly planted winter crops in sections of east-central China, although portions of Shandong and surrounding provinces still remain unfavorably dry for normal crop establishment. Light to moderate showers (5-25mm) also favored filling late-crop rice in southeastern China and Taiwan. Tropical Storm Pat moved just south of Hainan on the 21st and 22nd, bringing high winds, heavy rain (50-150mm, with isolated rainfall greater than 150mm), and flooding to much of the island. Beneficial dry weather covered most crop areas in Manchuria, the Korean Peninsula, and Japan. Newly emerging crops were favored by above-normal temperatures over nearly all growing areas.



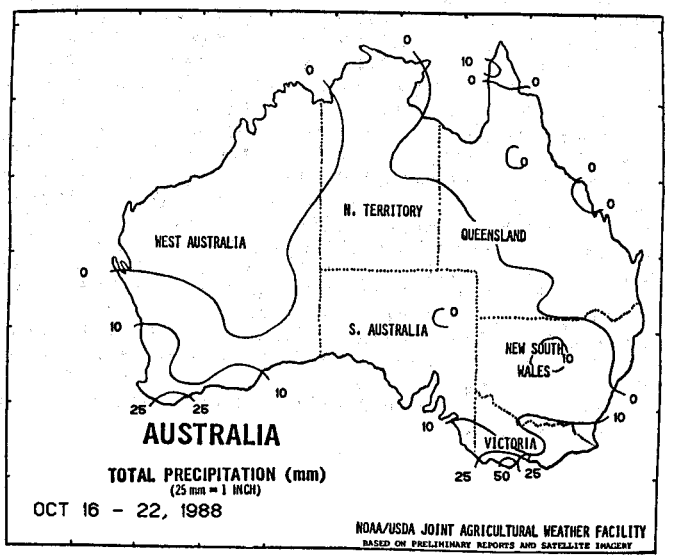


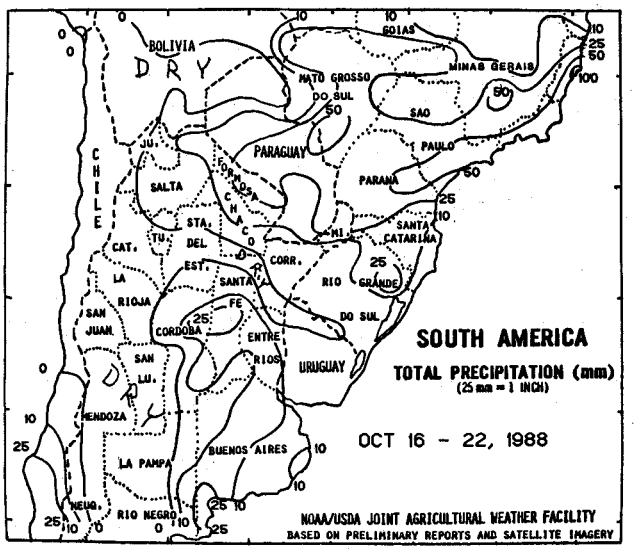
SOUTH ASIA ... A tropical cyclone moved into Bangladesh early in the week, bringing heavy rain (50-100mm or more) and sustained winds of 65 knots to coastal regions which experienced flooding and storm damage. The cyclone brought more heavy rain (25-64mm) to India's eastern states as it moved inland and dissipated, causing flooding in already wet regions. Elsewhere in South Asia, dry, warm weather favored maturing grain and oilseeds and winter wheat planting activities. After 3 weeks of dry, warm weather, however, more rain is needed in southern areas for cotton which is flowering to forming bolls.



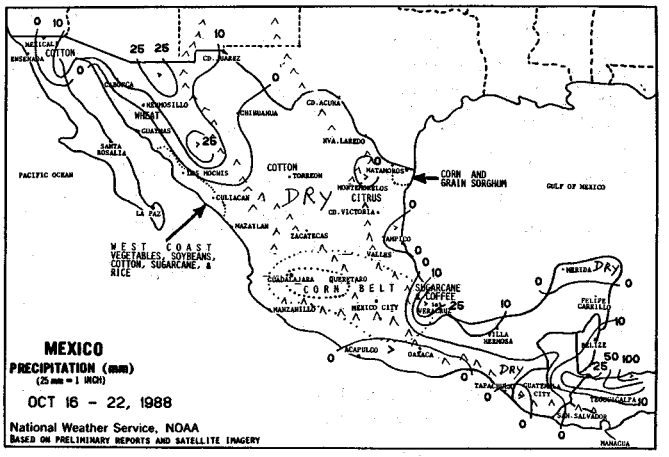
SOUTHEAST ASIA ... Early-week heavy showers (100-200mm or more) covered crop regions along Thailand's Chao Phraya river from the Northern Hills region to Bangkok, promoting more flooding. To the east, moderate showers (25-50mm or more) benefited late crops from northeastern Thailand to the southern Khorat Plateau. Moderate to heavy showers (20-50mm or more) fell elsewhere in Indochina, with heavy showers (100mm or more) in peninsular Thailand and, from Tropical Storm Pat, in portions of northern Vietnam. Winds from Pat caused lodging of crops already soaked from recent weeks of wet weather. Typhoon Pat crossed the northern Philippines at midweek, bringing locally heavy rain and strong winds to northern grain regions, causing local crop damage. Variable showers fell elsewhere, with locally heavy rain (50-100mm or more) returning to the southeast late in the week ahead of a second tropical system.

AUSTRALIA ... Mostly light rain (less than 10mm) benefited reproductive to filling winter cereals across sections of South Australia, Victoria, and southern New South Wales. Dry weather remained over northern New South Wales and southern Queensland, allowing rapid progress in summer crop planting but causing moisture stress in some filling winter grains. Seasonal summer rainfall normally begins in eastern Australia by late October and persists through March or April. In Western Australia, light to moderate rain (10-20mm) fell over most growing areas, favoring reproductive to filling cereals. Above-normal temperatures over all but southwestern Australia continued to accelerate crop developmental rates and increase daily evaporative losses.

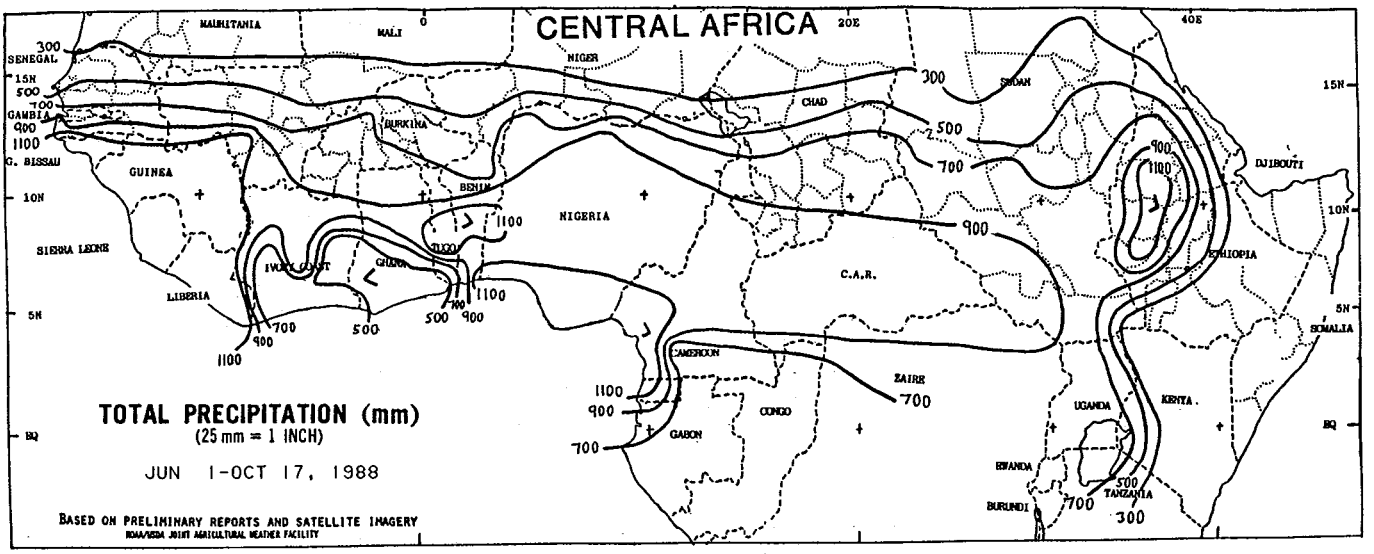


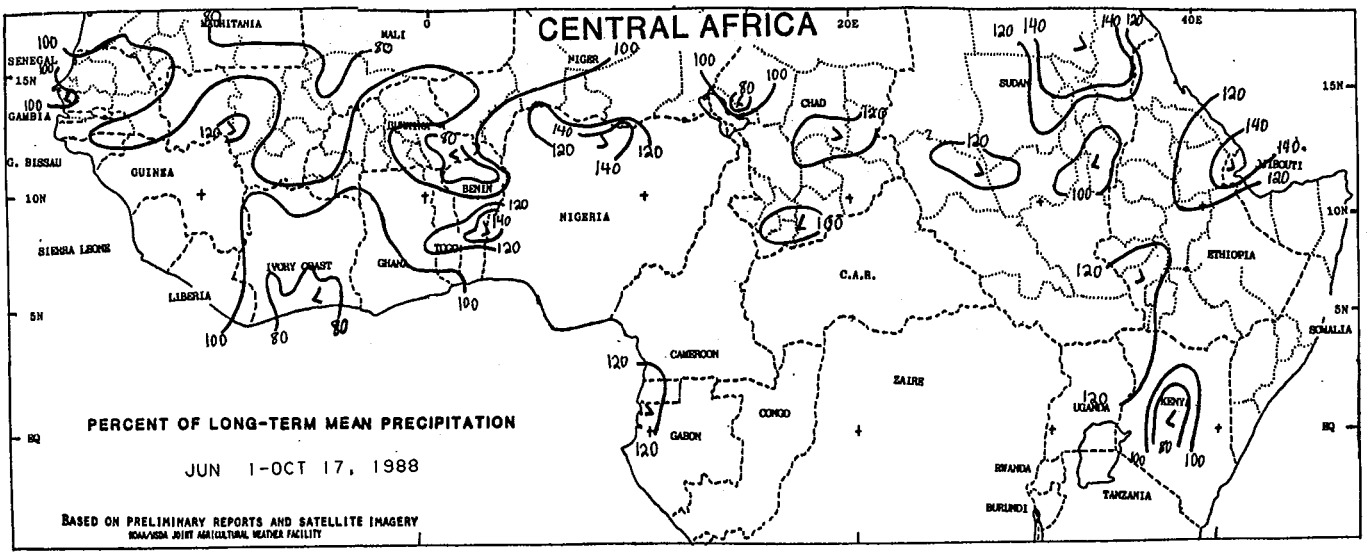


SOUTH AMERICA ... Widespread showers fell over south-central Brazil, improving topsoil moisture for summer crop planting and emergence. Weekly rainfall ranging from 25 to 50mm covered western Santa Catarina, Parana, Mato Grosso do Sul, eastern Sao Paulo, and southeastern Minas Gerais. Rainfall totaled 10-25mm over western Sao Paulo and northern Rio Grande do Sul. The recent moisture will stimulate corn and early soybean planting, delayed by a prolonged dry spell, and help coffee tree flowering. In Argentina, light to moderate showers fell over most summer crop areas, maintaining favorable topsoil moisture conditions for planting and crop establishment. Weekly rainfall averaged 10-25mm in southern Santa Fe, northern cotton areas of Formosa and Chaco, and central Buenos Aires, stretching from the northeast to the southwest. Mostly dry weather prevailed in western crop areas of Cordoba.



MEXICO ... Showers in the northwest provided favorable moisture for wheat planting and emergence. Weekly rainfall ranged from 36 to 43mm at scattered locations along the western edge of the Sierra Madre Occidental range, helping northwestern irrigation reservoirs. Elsewhere, mostly dry weather favored summer crop harvesting in the northeast and the Southern Plateau corn belt. Showers were confined to east coastal areas from just north of Veracruz to Villahermosa in the southeast. Dry weather covered the Yucatan peninsula.





AFRICAN AGRICULTURAL SUMMARY

Dry weather prevailed in the Sahel countries during early and mid-October as the harvest continued. Moderate to heavy rains during October have maintained mostly favorable prospects for second season maize in Cote d'Ivoire, Ghana, Togo, and Benin. Heavy rains in southwestern Ethiopia, southern Sudan, Uganda, Rwanda, Burundi, and westward across Zaire, Congo, and Gabon probably caused local flooding, though lighter, more seasonable rains have eased the threat of flooding since mid-October in southwest Ethiopia and southern Sudan. Moderate rains have maintained favorable growing conditions for recently-planted maize in Kenya. Unseasonably heavy rains during the past 2 weeks have provided beneficial moisture for early sowing of maize and other main season crops in Zambia, Zimbabwe, Malawi, Swaziland, Mozambique, and Botswana.

Preliminary analysis of cumulative rainfall totals in the Sahel countries of West Africa indicates that 1988 has been the wettest year since 1974 and one of the three wettest since 1968. Total rainfall averaged for the region since June 1, 1988, is between 95 and 100 percent of the 1951-80 mean. This translates to good to excellent harvest prospects across the region, though flooding caused local crop losses in both West and East Africa and significant damage to crops in parts of Sudan.

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(Continued from p. 11)

harvests and winter plantings continued active. Vegetable harvest continued in Texas. Sweet potato harvest neared completion in the east. Rain slowed Arizona's vegetable harvest. Whiteflies and leaf miners were present in fall lettuce. California's harvest activities included lettuce, broccoli, cauliflower, and tomatoes. Winter crop plantings were good.

PASTURES AND LIVESTOCK: Livestock was mostly good. Pastures were fair to good. Crop residue grazing continued to increase.

(Continued from p. 16)

WEST VIRGINIA: Temperature 49°, 2° below normal. Extremes 27° Greenbank, White Sulfur Springs; 79° Moorefield.

Days suitable for fieldwork 4.3. Soil moisture 20% very short, 57% short, 23% adequate. Corn fair to poor; 65% harvested. Apples good to fair; 62% harvested. Feed supplies 10% very short, 36% short, 54% adequate. Farm activities: General farm maintenance, livestock care, haying, seeding small grains.

WISCONSIN: Cold, temperatures 44°, 3° below normal. Extremes 19°; 59°. Precipitation 0.70 to 1.60 in. Alternating periods rain, clear.

Days suitable for fieldwork 4.1. Soil moisture 67% short, 33% adequate. Subsoil moisture mostly short. Corn for grain 66% harvested, 71% 1987, 32% avg. Many baling stalks for feed, bedding. Corn silo filling 97%, 98% 1987, 80% avg. Soybeans 74% harvested, 84% 1987, 39% avg.; yields vary, fairly good southeast. Kidney bean yields down. Fall plowing 42%, 41% 1987, 25% avg. Pastures normal.

WYOMING: Temperatures above normal. Precipitation below normal except northeast corner.

Days suitable for fieldwork 7.0. Topsoil moisture 91% short, 9% adequate. Corn 25% harvested, 40% 1987, 40% avg. Sugarbeets 80% dug, 90% 1987, 90% avg. Most dry beans, potatoes harvested. Most winter wheat planted; fair to good. Livestock fair to good. Movement to winter pastures, markets continued. Hay 60% short.

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