WEEKLY WEATHER AND CROP BULLETIN

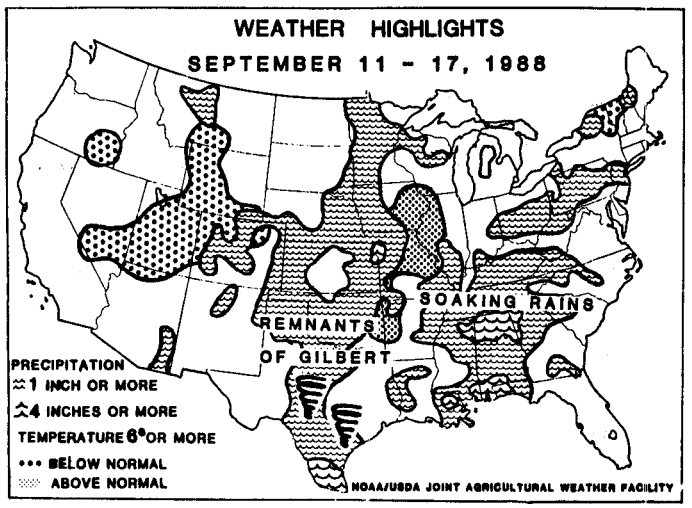
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration, National Weather Service

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

Volume 75, No. 38 | Washington, D.C. | Sept. 20, 1988

National Weather Summary

September 11-17, 1988



HIGHLIGHTS: Gilbert, the most powerful hurricane of the century in the western hemisphere, moved through the Caribbean, across the Yucatan Peninsula, and into northeastern Mexico. Gilbert brought torrential rain and numerous tornadoes to Texas at week's end. The northward flow of warm moist air caused above-normal temperatures and widespread rain in the central and southern Great Plains and Mississippi Valley.

SUNDAY...Showers and thunderstorms were scattered behind a strong cold front that extended from the upper Mississippi Valley to the central Rockies. Snow over Montana and Wyoming dampened the forest fires. Remnants of Hurricane Florence contributed to locally heavy rain over the central Gulf Coast States and middle Mississippi Valley. Hurricane Gilbert strengthened as it moved westward toward Jamaica.

MONDAY...Hurricane Gilbert smashed into Jamica with 125 m.p.h. winds. Rain showers, aided by moisture from the remains of Florence, were numerous over the Ohio Valley and across Pennsylvania. The cold front, pressing across the Great Lakes and middle Mississippi Valley, pushed these showers. Strong thunderstorms dumped heavy rain over northern Alabama. Showers were scattered over the central Rockies.

TUESDAY...Gilbert raged across the northwest Caribbean after devastating Jamaica and the Cayman Islands. The massive hurricane produced rain as far north as Florida. Maximum sustained winds were 175 m.p.h. near the center as the barometric pressure lowered to 26.28 inches of mercury, the lowest ever measured in the Atlantic, Caribbean, or Gulf of Mexico. Showers and thunderstorms extended ahead of a frontal system from New England to the central Appalachians and across the southern Great Plains. Showers covered the central Rockies and central High Plains.

WEDNESDAY...Gilbert crossed the Yucatan into the Gulf of Mexico. The hurricane still packed winds of 120 m.p.h. after weakening while moving over the peninsula. Thunderstorms produced torrential rain in the Texas Panhandle. Other thunderstorms extended over the Great Plains and North Carolina.

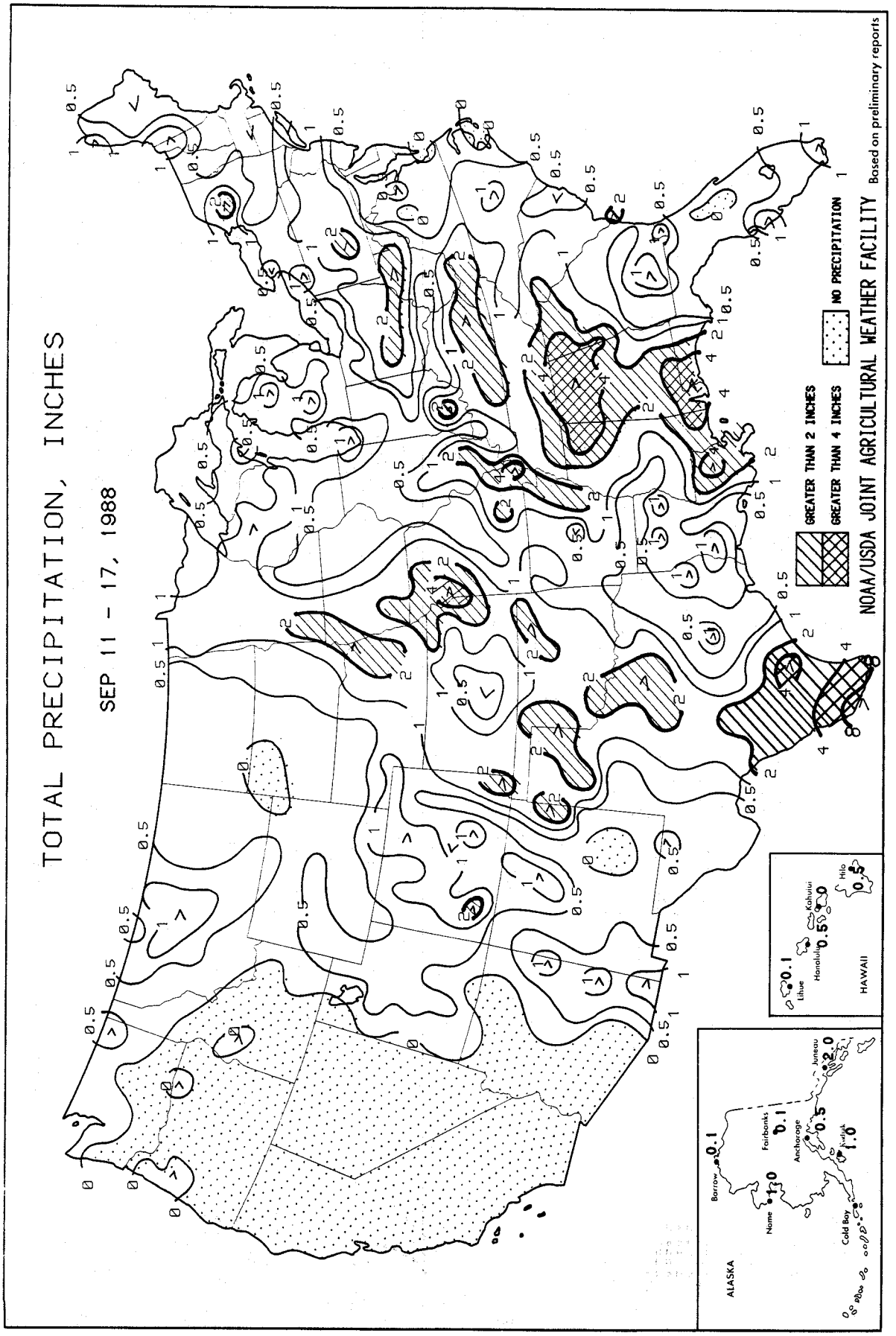
THURSDAY...Gilbert churned to the northwest toward Brownsville, Texas with 120 m.p.h. winds. Rainshowers covered the Gulf coast. An upper level disturbance produced thunderstorms over the central and southern Plains and middle Missouri Valley.

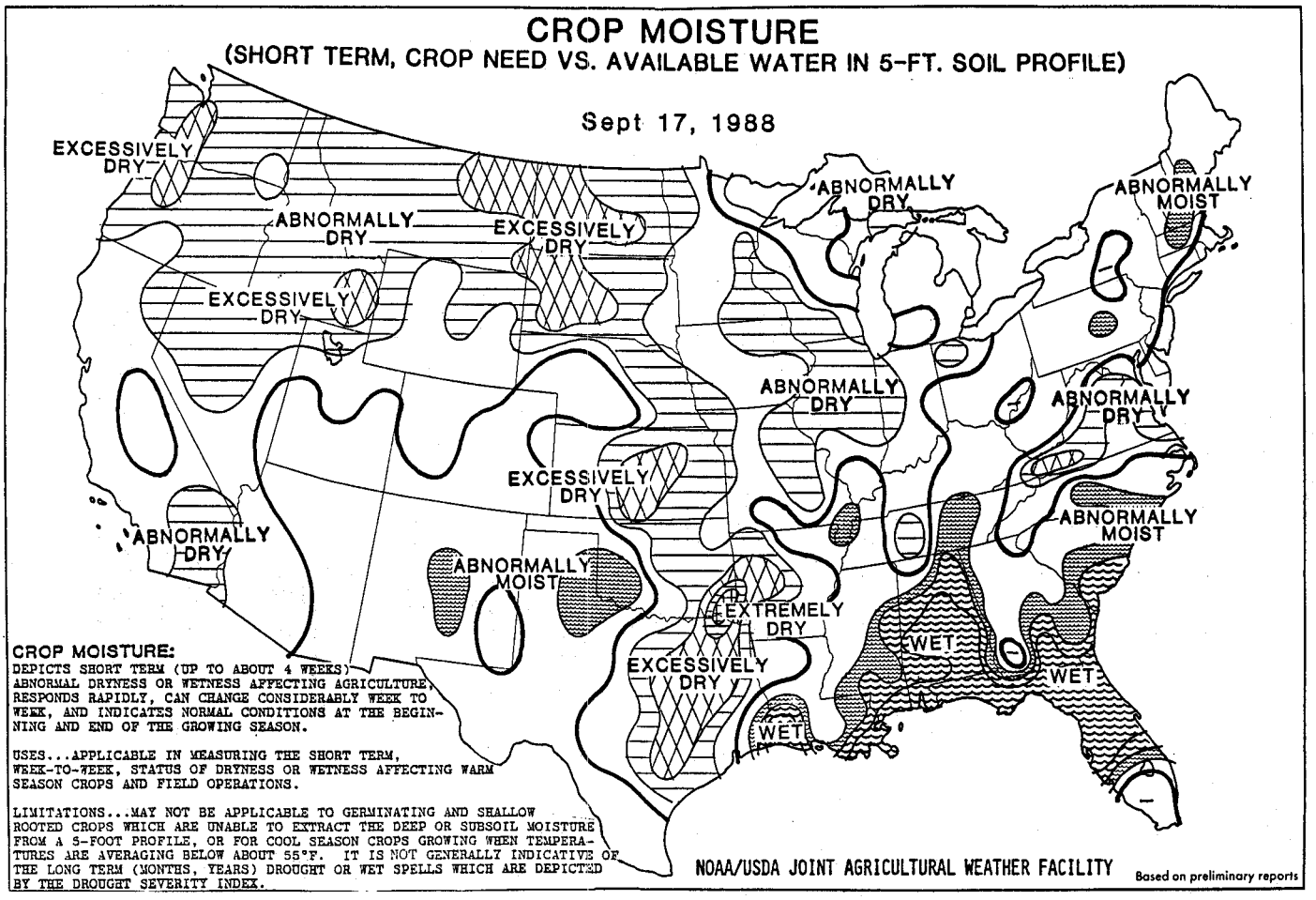
FRIDAY...Gilbert struck northeastern Mexico and southern Texas with high winds and torrential rain. Gilbert also spawned numerous tornadoes. The very moist flow of tropical air brought widespread rain to the central Gulf Coast States. The upper level disturbance moved eastward, producing rain from the Great Lakes to the lower Mississippi Valley. Cool air moved into the northeast as several low temperature records for this date were broken.

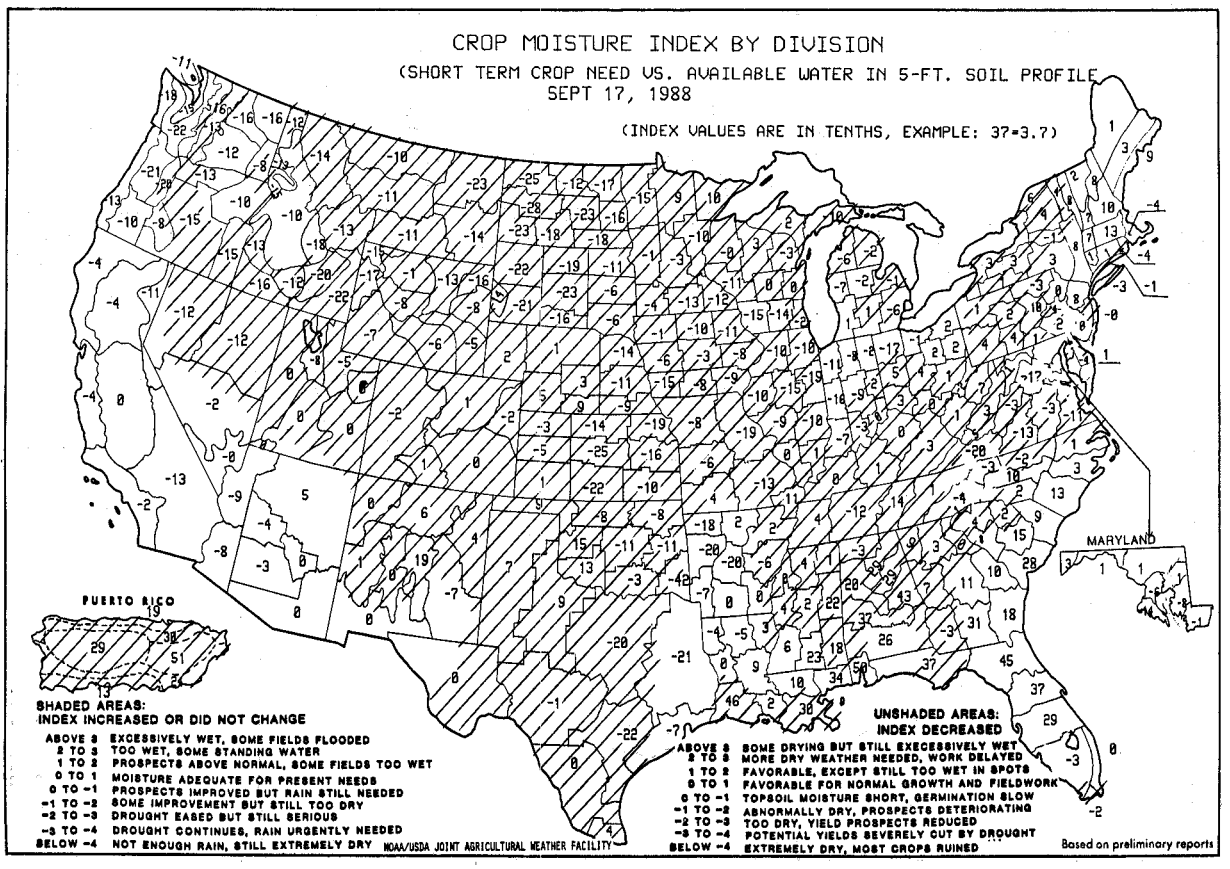
SATURDAY...Gilbert was downgraded to a tropical depression as it moved over land and spread heavy rain from the middle Rio Grande Valley to southwest Missouri. Tornadoes continued to strike Texas. Extensive rain covered the Atlantic Coast States. A frontal system swept over the northern Rockies, bringing rain and snow.

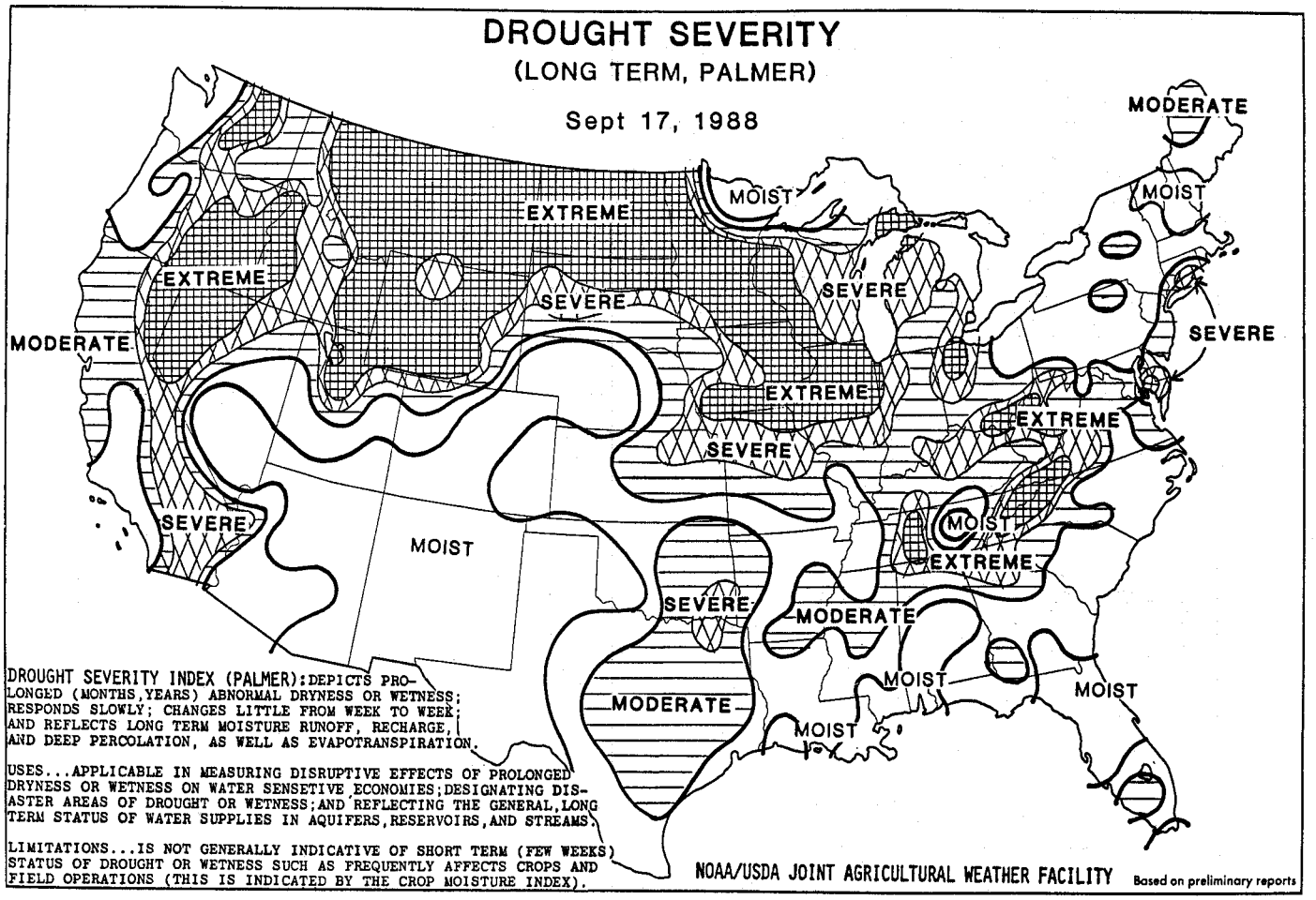
Contents

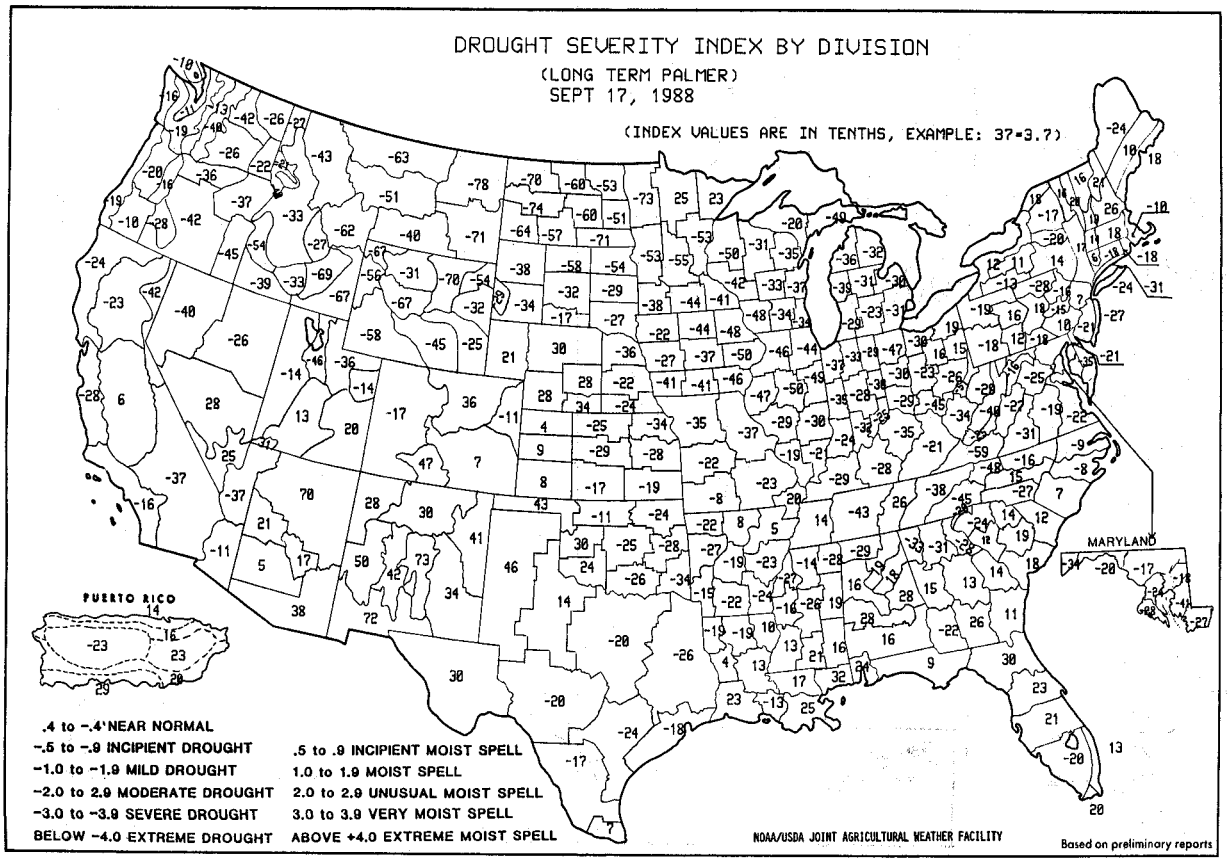
	Page
National Weather Summary	1
Total Precipitation	2
Crop Moisture & Crop Moisture Index	3
Drought Severity & Drought Severity Index	4
Precipitation Needed to End Drought & Extreme Maximum Temperature	5
Average Temperature & Departure	6
Total Growing Degree Days and Departure	7
Hurricane Gilbert	8
National Water Conditions, August 1988	9
National Weather Data for Selected Cities	10
Cooling Degree Days Table	13
National Agricultural Summary (Includes Crop Production Forecast)	14
1988 Weather Extremes	15
State Summaries of Weather and Agriculture	16
Crop Progress & Condition Tables	22
International Weather and Crop Summary (Includes Monthly Maps)	24
Subscription and Mailing Permit Information	36

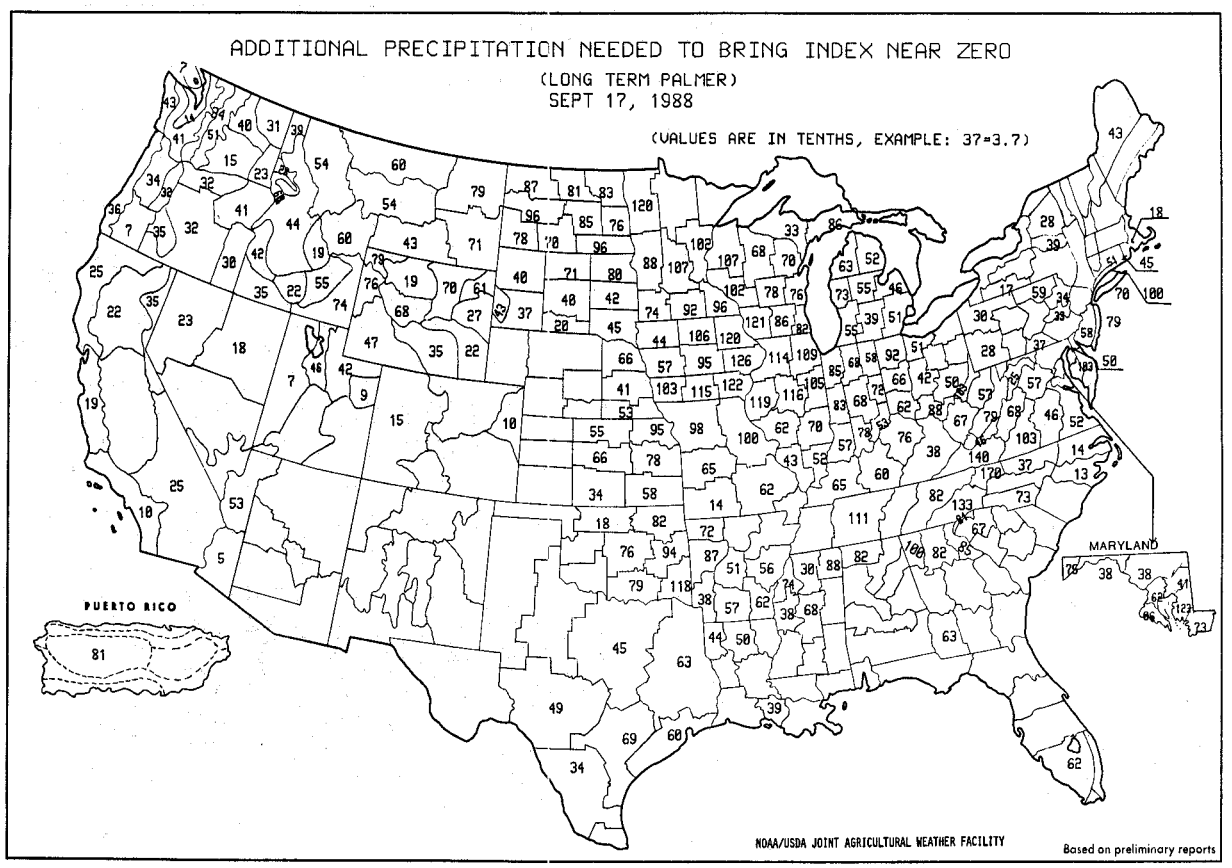

TOTAL PRECIPITATION, INCHES
SEP 11 - 17, 1988
GREATER THAN 2 INCHES
GREATER THAN 4 INCHES
NO PRECIPITATION
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA
Barrow
Nome
Fairbanks
Anchorage
Juneau
Cold Bay
Kodiak
HAWAII
Lihue
Honolulu
Kahului
Hilo

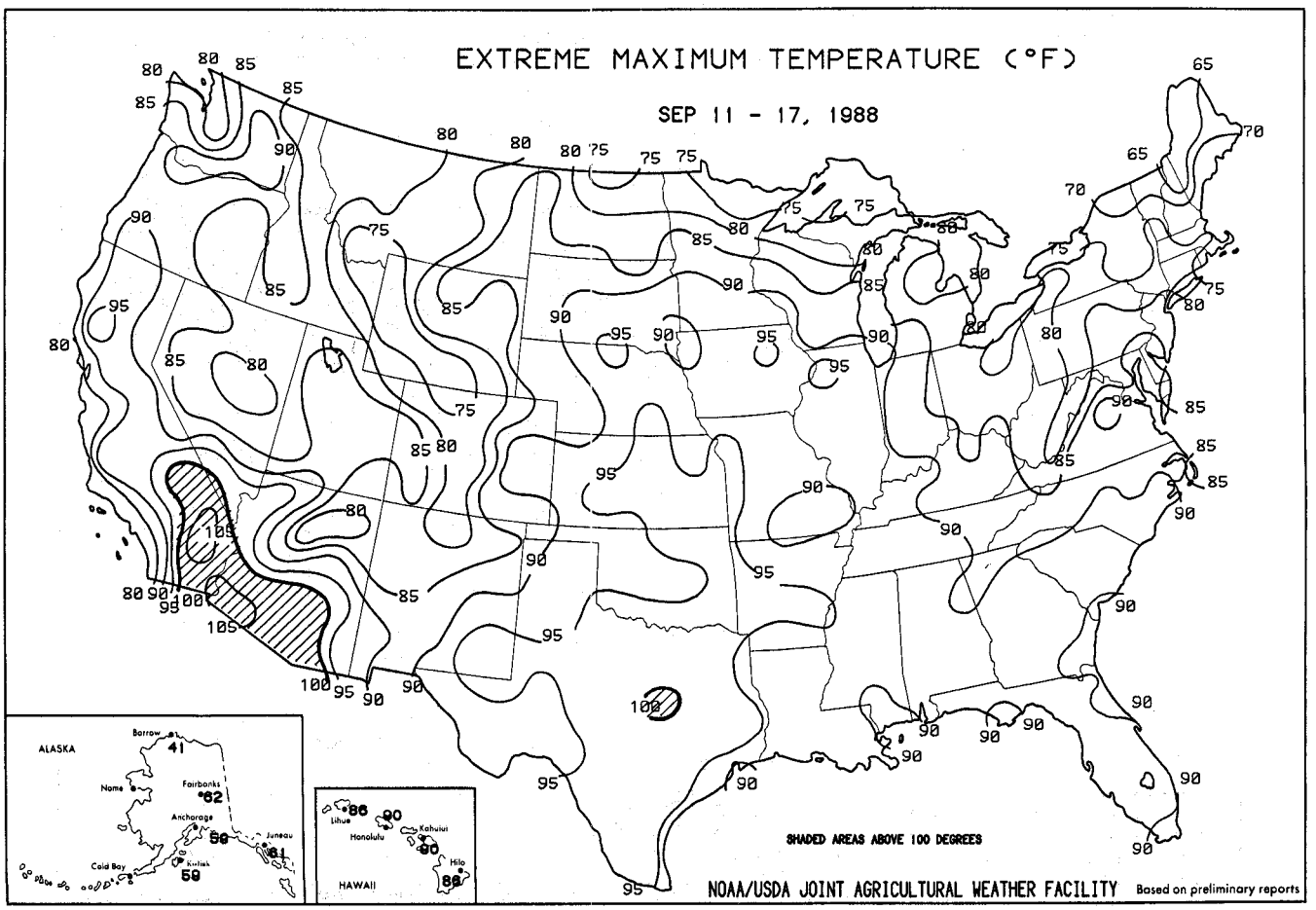

CROP MOISTURE
(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
Sept 17, 1988
EXCESSIVELY DRY
ABNORMALLY DRY
EXCESSIVELY DRY
EXCESSIVELY DRY
ABNORMALLY DRY
ABNORMALLY MOIST
ABNORMALLY DRY
ABNORMALLY DRY
EXCESSIVELY DRY
ABNORMALLY DRY
ABNORMALLY MOIST
ABNORMALLY MOIST
EXTREMELY DRY
EXCESSIVELY DRY
WET
WET
WET
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

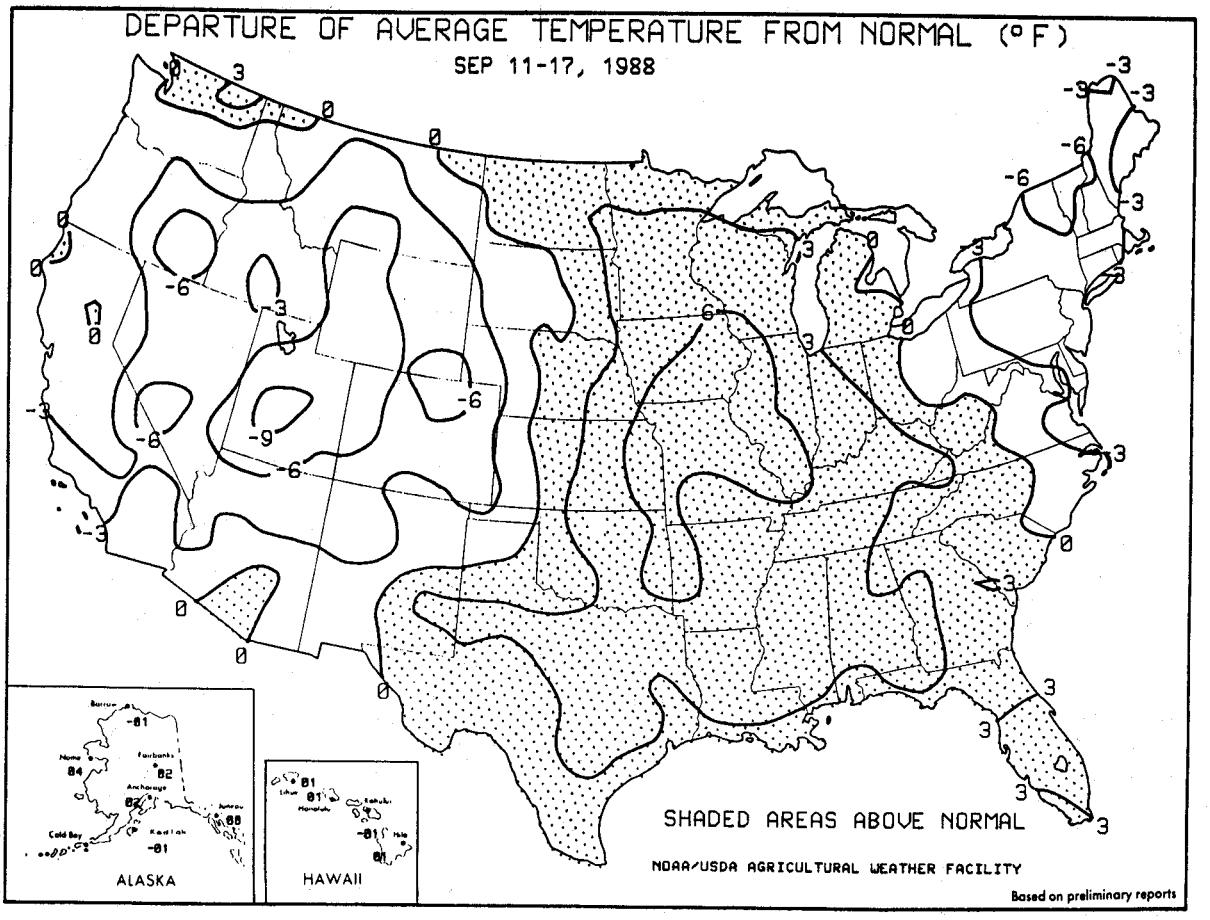

CROP MOISTURE INDEX BY DIVISION
(SHORT TERM CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE
SEPT 17, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
MARYLAND
PUERTO RICO
SHADED AREAS:
INDEX INCREASED OR DID NOT CHANGE
ABOVE 3 EXCESSIVELY WET, SOME FIELDS FLOODED
2 TO 3 TOO WET, SOME STANDING WATER
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

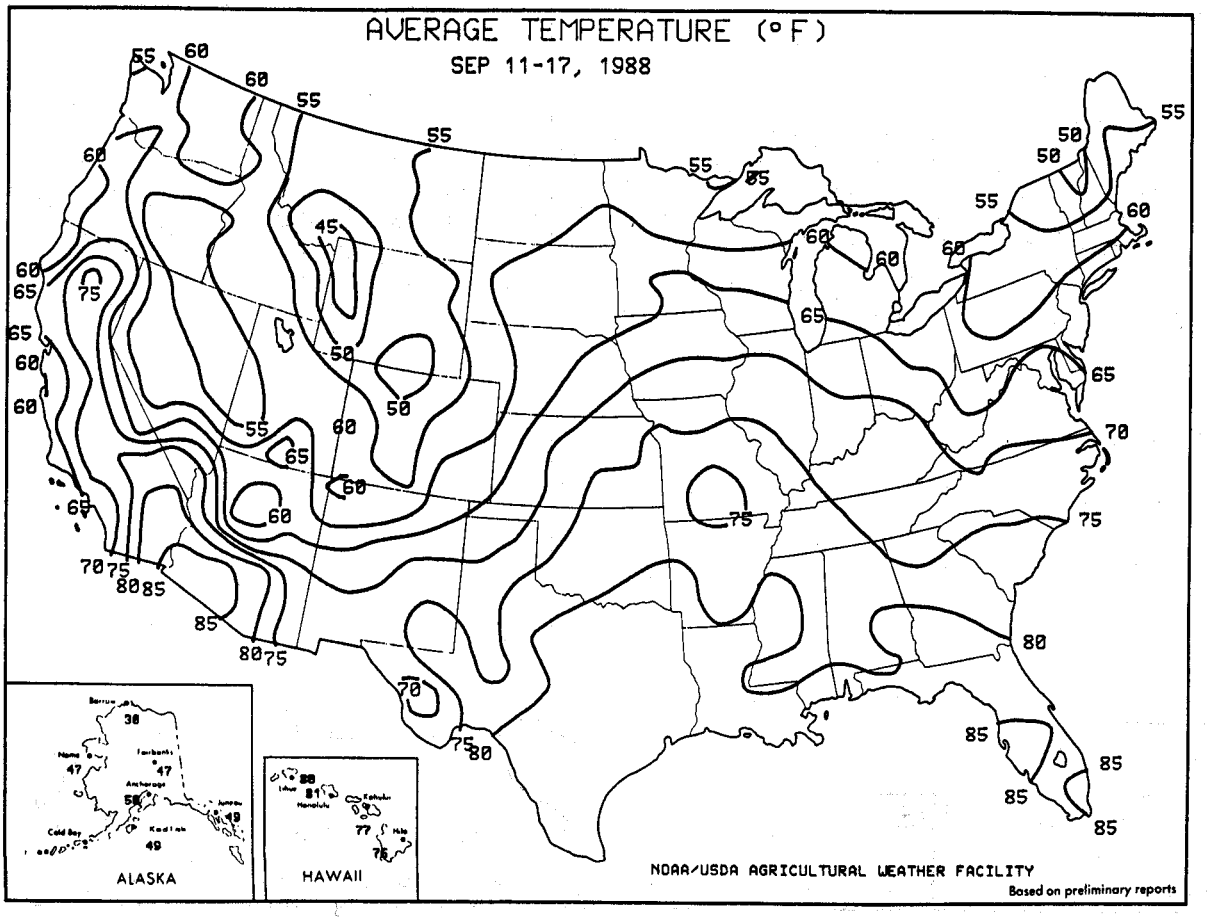

DROUGHT SEVERITY
(LONG TERM, PALMER)
Sept 17, 1988
MODERATE
MOIST
EXTREME
EXTREME
SEVERE
SEVERE
MOIST
SEVERE
MODERATE
EXTREME
EXTREME
SEVERE
SEVERE
MOIST
MOIST
EXTREME
SEVERE
MODERATE
MOIST
MOIST
MODERATE
MOIST
DROUGHT SEVERITY INDEX (PALMER): DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; RESPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.
USES...APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSETIVE ECONOMIES; DESIGNATING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL, LONG TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.
LIMITATIONS...IS NOT GENERALLY INDICATIVE OF SHORT TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

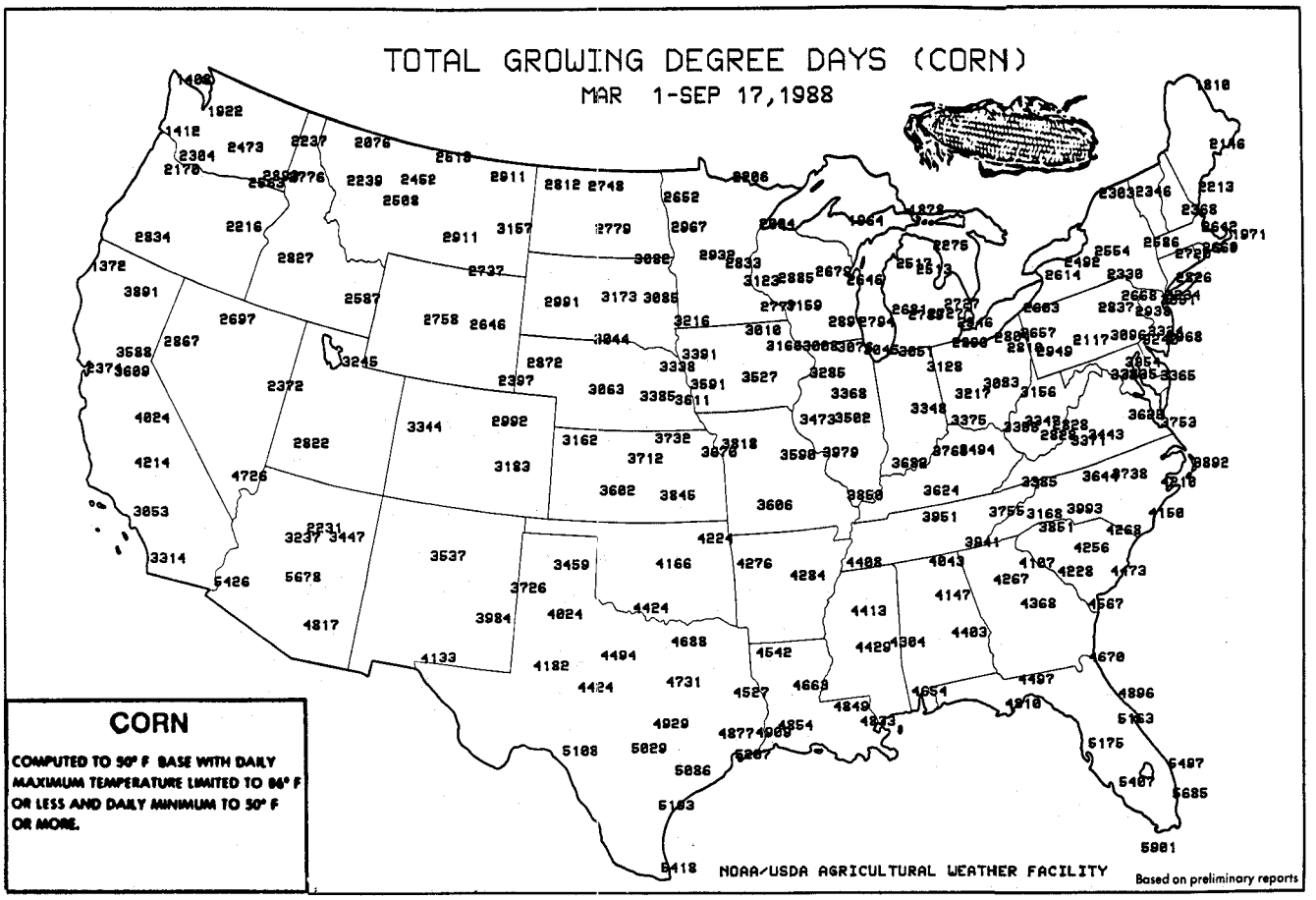

DROUGHT SEVERITY INDEX BY DIVISION
(LONG TERM PALMER)
SEPT 17, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
PUERTO RICO
MARYLAND
.4 to -.4 NEAR NORMAL
-.5 to -.9 INCIPIENT DROUGHT
-1.0 to -1.9 MILD DROUGHT
-2.0 to 2.9 MODERATE DROUGHT
-3.0 to -3.9 SEVERE DROUGHT
BELOW -4.0 EXTREME DROUGHT
.5 to .9 INCIPIENT MOIST SPELL
1.0 to 1.9 MOIST SPELL
2.0 to 2.9 UNUSUAL MOIST SPELL
3.0 to 3.9 VERY MOIST SPELL
ABOVE +4.0 EXTREME MOIST SPELL
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

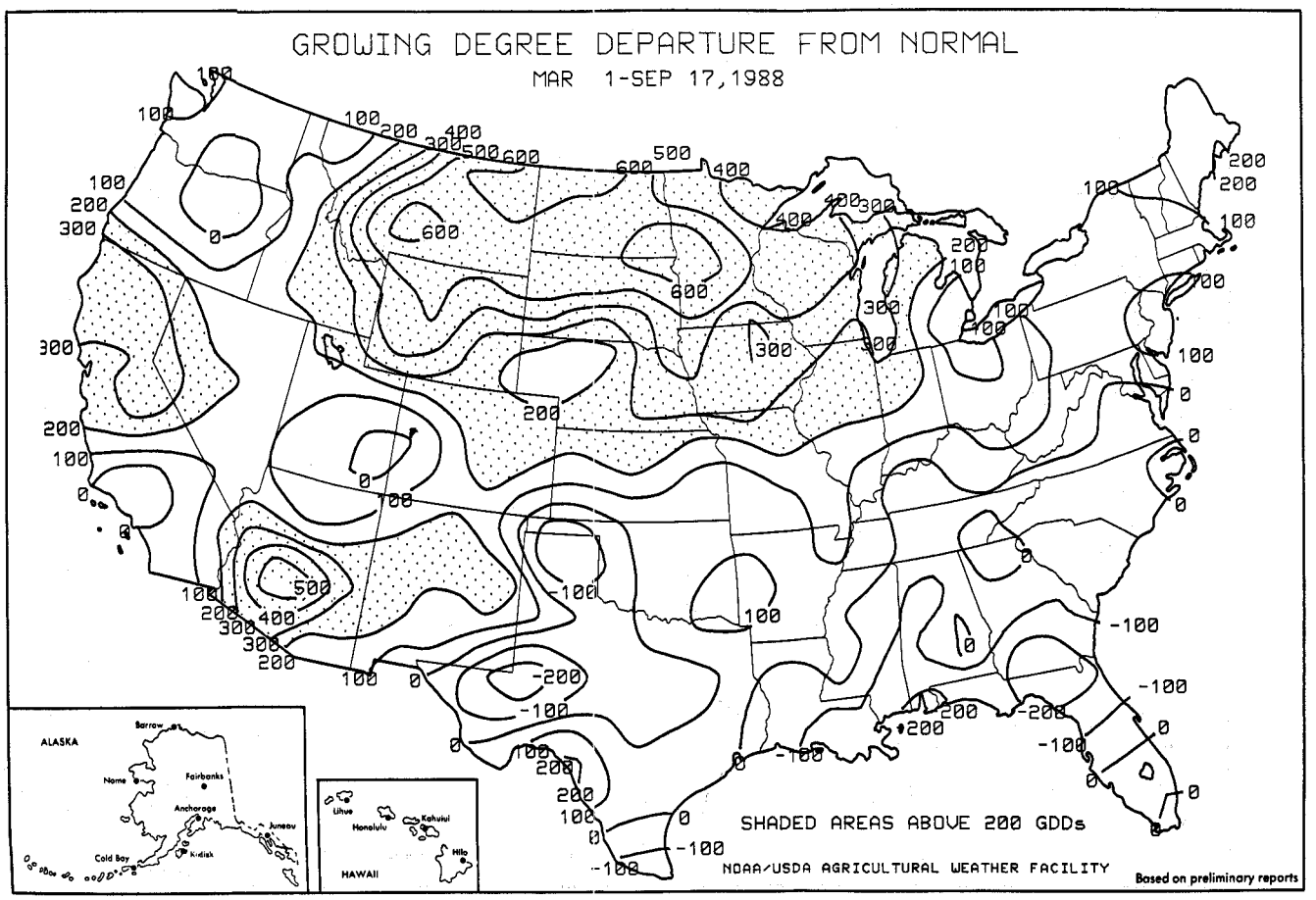

ADDITIONAL PRECIPITATION NEEDED TO BRING INDEX NEAR ZERO
(LONG TERM PALMER)
SEPT 17, 1988
(VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
PUERTO RICO
MARYLAND
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

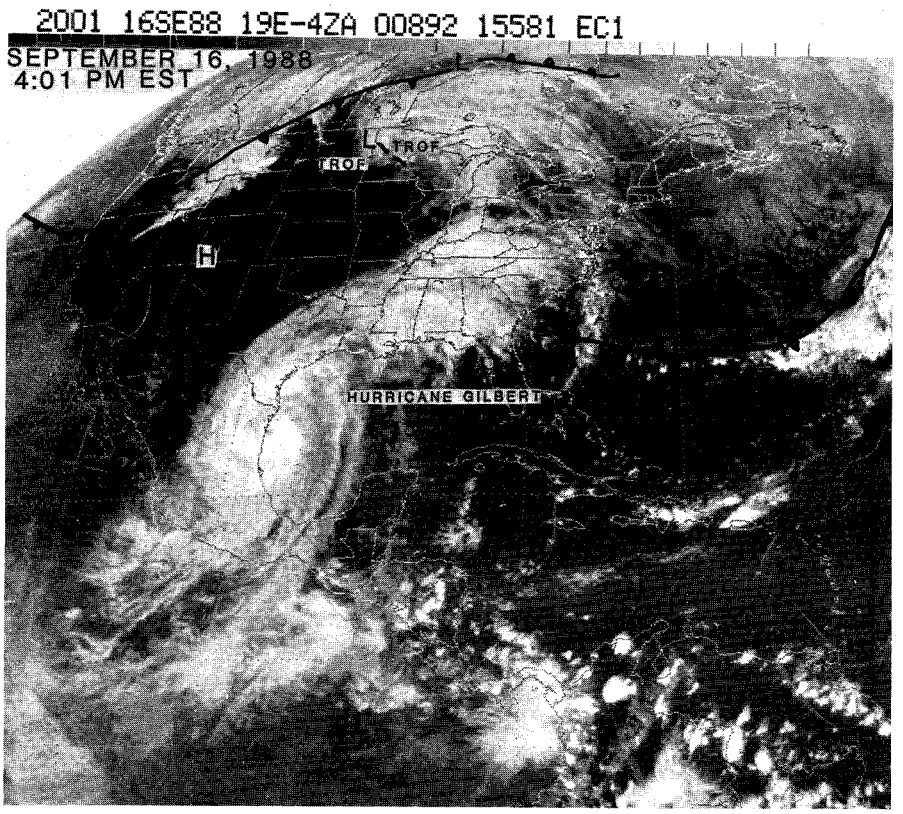

EXTREME MAXIMUM TEMPERATURE (°F)
SEP 11 - 17, 1988
ALASKA
Barrow 41
Nome
Fairbanks 62
Anchorage 58
Juneau 61
Cold Bay
Kodiak 59
HAWAII
Lihue 86
Honolulu 90
Kahului 90
Hilo 88
SHADED AREAS ABOVE 100 DEGREES
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
SEP 11-17, 1988
SHADED AREAS ABOVE NORMAL
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA
HAWAII


AVERAGE TEMPERATURE (°F)
SEP 11-17, 1988
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports
ALASKA
HAWAII

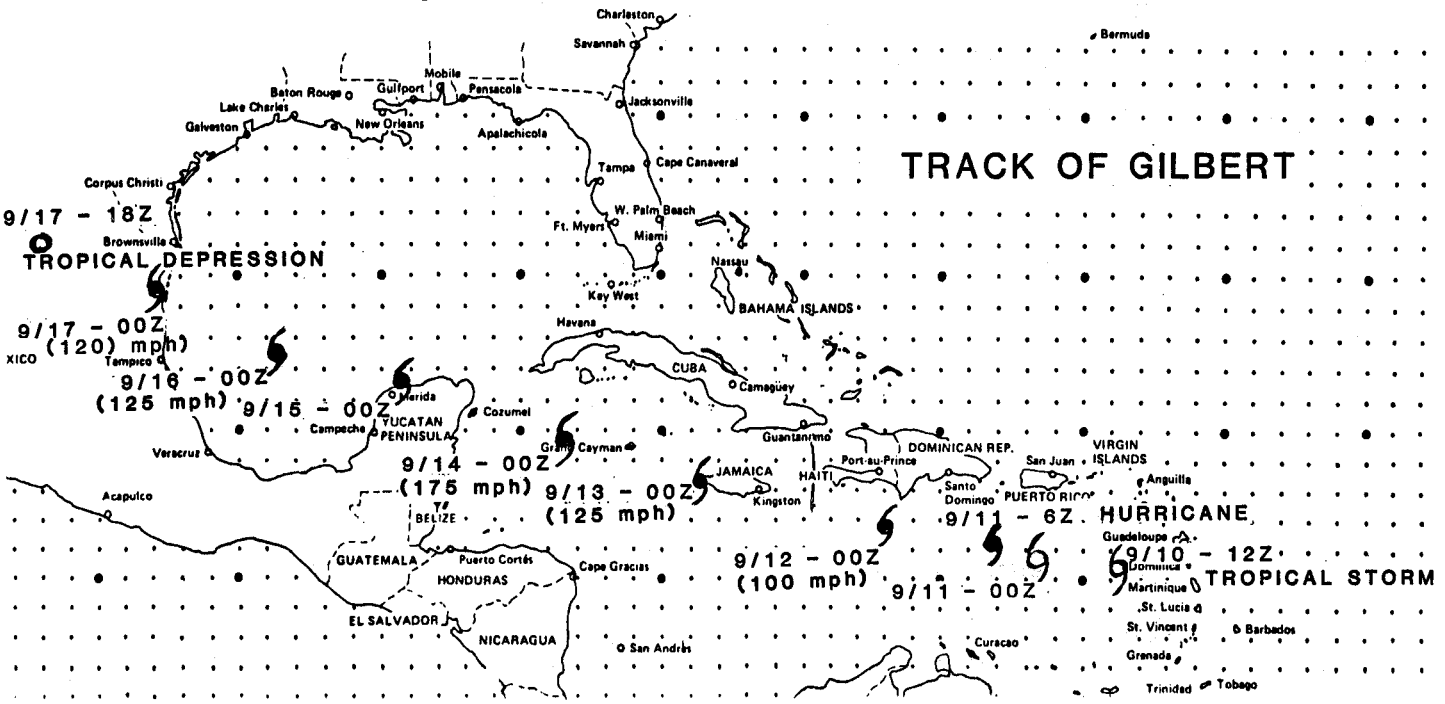

TOTAL GROWING DEGREE DAYS (CORN)
MAR 1-SEP 17,1988
CORN
COMPUTED TO 50° F BASE WITH DAILY MAXIMUM TEMPERATURE LIMITED TO 86° F OR LESS AND DAILY MINIMUM TO 50° F OR MORE.
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


GROWING DEGREE DEPARTURE FROM NORMAL
MAR 1-SEP 17,1988
ALASKA
Barrow
Nome
Fairbanks
Anchorage
Juneau
Cold Bay
Kodiak
HAWAII
Lihue
Honolulu
Kahului
Hilo
SHADED AREAS ABOVE 200 GDDs
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports



Hurricane Gilbert blasts northeastern Mexico with 120 m.p.h. maximum sustained winds and torrential rain of over 200 mm. The northward flow of warm moist air brings drenching rains to the Southeast and Ohio Valley.

Gilbert developed as a tropical storm on September 9, 1988, at 1000 GMT and trekked west northwest, inundating much of the Caribbean with 100-250 mm of rain. Before smashing into the Yucatan, the pressure in the eye dropped to 885 millibars, the lowest recorded for a western hemisphere hurricane.



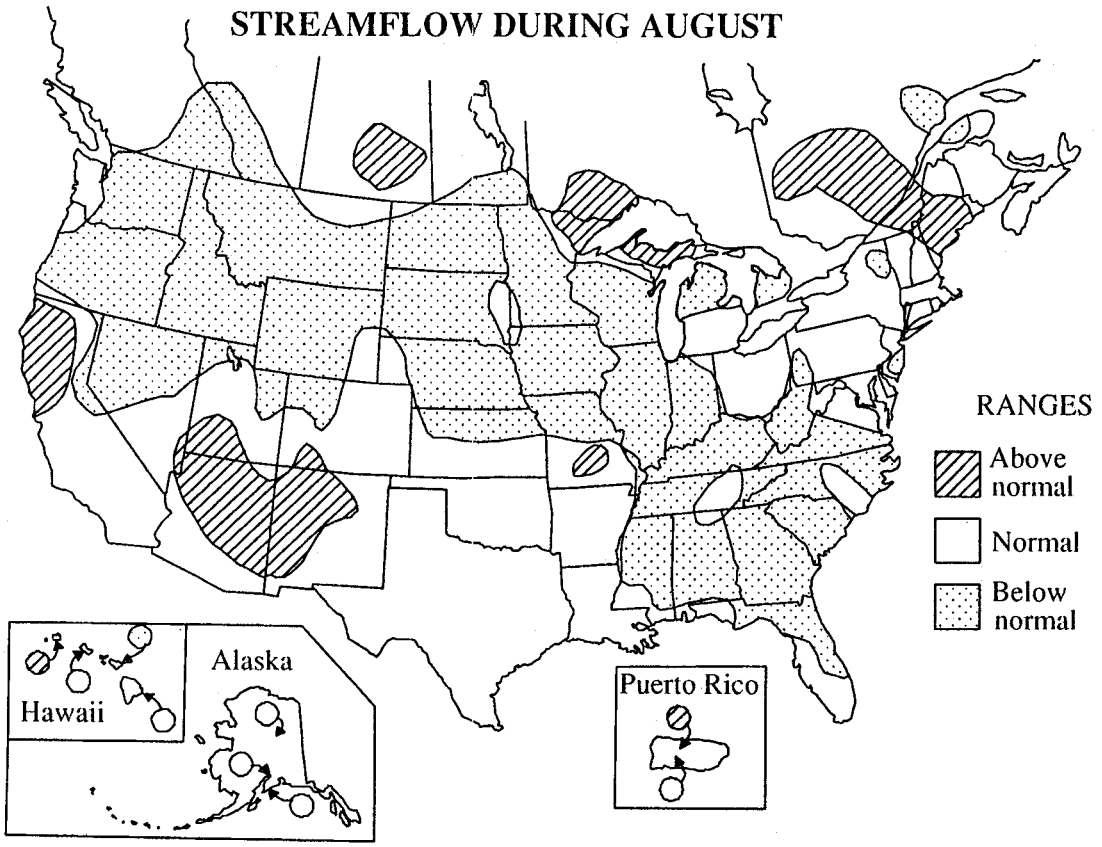
National Water Conditions

Department of the Interior
Geological Survey

CANADA
Department of the Environment
Water Resources Branch

AUGUST 1988

STREAMFLOW DURING AUGUST



More than half of the 163 streamflow stations in the conterminous United States had flows in the below-normal range during August. The combined flow of the St. Lawrence River, near Massena, New York, the Mississippi at Vicksburg, Mississippi, and the Ohio at Louisville, Kentucky averaged 327.3 billion gallons per day (bgd), the third lowest for August in 59 years of record, and 31 percent below the long-term mean for August.

The St. Lawrence had the highest average flow in the United States for the third consecutive month, 158.3 bgd, just 7 percent below its long-term median. The Mississippi at Vicksburg, which usually has the highest flow of the three rivers, averaged only 105.4 bgd, 52 percent below its median and the second-lowest August flow recorded. The Ohio at Louisville averaged 63.5 bgd, 32 percent below median and in the normal range.

While low water prevailed over much of the country, some areas experienced abnormally high streamflows. The Sturgeon near Sidnaw, Michigan, for example, averaged flows of 98 million gallons per day (mgd), more than twice the August median. The Little Androscoggin River near South Paris, Maine had 37 mgd, almost three times its median.

By contrast, some of the drought-stricken streams were extremely low. The Bad River was dry near Fort Pierre, South Dakota. At Grand Forks, North Dakota, the Red River of the North flowed with 209 mgd, 72 percent below normal. The Alapha River at Statenville, Georgia averaged 30 mgd, 88 percent below median.

National Weather Data for Selected Cities

Weather Data for the Week Ending September 17, 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	85	70	91	67	77	3	5.3	4.2	2.6	7.6	297	29.2	70	99	68	1	0	4	2
MOBILE	88	73	93	71	81	2	4.5	2.9	3.7	10.6	265	52.9	105	100	66	3	0	3	2
MONTGOMERY	89	72	94	69	81	3	1.9	.8	1.2	7.8	283	47.8	129	100	63	4	0	4	2
AK ANCHORAGE	56	44	59	38	50	2	.6	0	.3	.9	60	8.4	83	95	62	0	0	4	0
BARROW	35	26	41	24	30	-1	.1	-.1	.1	.1	20	2.8	82	99	87	0	7	1	0
FAIRBANKS	59	36	62	31	48	2	T	-.3	T	.8	113	8.3	105	94	45	0	2	1	0
JUNEAU	55	43	61	37	49	0	2.2	.7	1.0	3.6	105	34.9	107	99	69	0	0	4	2
KODIAK	55	44	59	35	49	-1	.9	-.6	.4	3.0	87	51.7	130	97	72	0	0	6	0
NOME	52	42	56	31	47	4	.9	.4	.4	1.1	76	10.8	99	91	70	0	1	5	0
AZ PHOENIX	100	74	104	71	87	2	0	-.1	0	0	0	3.9	82	36	14	7	0	0	0
PRESCOTT	81	46	86	41	63	-2	0	-.3	0	.1	9	12.8	90	58	19	0	0	0	0
TUCSON	97	65	102	60	81	0	T	-.3	T	.8	99	8.8	107	58	16	7	0	0	0
YUMA	102	73	105	71	88	0	0	-.1	0	T	0	2.3	144	36	12	7	0	0	0
AR FORT SMITH	94	69	98	64	81	7	1.3	.5	.9	2.5	141	23.2	80	97	45	5	0	2	1
LITTLE ROCK	87	70	95	69	79	4	.2	-.9	.1	.2	10	27.2	76	87	59	4	0	2	0
CA BAKERSFIELD	91	60	93	54	75	-2	0	0	0	0	0	3.0	77	70	23	6	0	0	0
EUREKA	65	50	82	46	57	0	0	-.2	0	0	0	15.9	69	92	66	0	0	0	0
FRESNO	91	58	93	54	74	0	0	0	0	0	0	5.5	78	74	18	5	0	0	0
LOS ANGELES	70	60	72	59	65	-5	0	0	0	0	0	4.6	55	88	63	0	0	0	0
REDDING	90	59	92	50	75	-2	0	-.2	0	0	0	16.9	66	44	13	6	0	0	0
SACRAMENTO	88	55	92	51	72	0	0	-.1	0	0	0	6.9	64	81	19	1	0	0	0
SAN DIEGO	73	65	73	64	69	-1	0	0	0	0	0	6.7	102	83	63	0	0	0	0
SAN FRANCISCO	74	52	86	50	63	-1	0	0	0	0	0	7.3	58	94	46	0	0	0	0
CO DENVER	68	44	85	41	56	-7	.9	.6	.4	.9	127	13.4	109	92	44	0	0	4	0
GRAND JUNCTION	70	49	86	45	59	-8	.6	.4	.5	.6	155	6.5	118	81	31	0	0	2	1
PUEBLO	75	49	91	42	62	-4	1.3	1.1	.8	1.7	329	10.6	117	94	43	1	0	4	1
CT BRIDGEPORT	71	53	75	45	62	-4	.9	.1	.9	1.9	101	26.0	89	82	45	0	0	3	1
HARTFORD	72	46	77	37	59	-5	.2	-.7	.2	1.8	77	28.2	91	91	43	0	0	2	0
DC WASHINGTON	79	60	91	53	70	-2	.1	-.6	.1	1.1	57	22.6	79	87	44	1	0	1	0
FL APALACHICOLA	87	77	88	73	82	3	.1	-2.0	.1	10.2	195	56.2	132	94	67	0	0	3	0
DAYTONA BEACH	87	77	88	75	82	2	.3	-1.3	.3	4.2	107	29.4	81	92	70	0	0	1	0
JACKSONVILLE	88	73	89	68	80	1	1.0	-.6	1.0	12.9	330	49.4	120	97	63	0	0	2	1
KEY WEST	88	79	89	77	84	0	1.2	-.3	.5	1.5	41	32.8	123	89	69	0	0	4	1
MIAMI	90	81	92	78	85	4	.8	-1.1	.6	1.1	25	40.2	95	86	62	5	0	3	1
ORLANDO	95	79	98	77	87	5	T	-1.5	T	4.5	118	41.5	103	88	49	7	0	0	0
TALLAHASSEE	91	73	92	65	82	3	.1	-1.5	.1	3.4	87	40.3	79	96	52	6	0	1	0
TAMPA	92	77	93	75	84	3	.5	-1.0	.2	11.1	288	42.2	111	96	52	7	0	4	0
WEST PALM BEACH	90	80	91	76	85	3	.6	-1.6	.4	1.4	27	55.3	131	86	64	5	0	5	0
GA ATLANTA	84	69	91	63	76	3	1.9	1.1	1.4	6.0	326	34.4	93	96	63	1	0	3	1
AUGUSTA	87	69	93	67	78	3	.6	-.3	.6	5.5	259	33.0	96	98	61	4	0	2	1
MACON	87	71	94	69	79	3	.7	-.1	.4	5.6	283	35.4	101	99	62	2	0	2	0
SAVANNAH	87	72	90	70	80	3	1.0	-.3	1.0	8.4	262	41.7	102	99	60	2	0	1	1
HI HILO	84	68	86	66	76	1	.6	-.9	.5	1.6	42	82.8	94	91	59	0	0	5	0
HONOLULU	89	73	90	70	81	1	.5	.4	.3	.6	242	7.9	55	85	48	4	0	3	0
KAHULUI	88	66	90	63	77	-1	T	-.1	T	T	0	12.9	105	87	48	1	0	0	0
LIHUE	85	74	86	72	80	1	.1	-.4	.1	.1	10	25.3	93	86	62	0	0	1	0
ID BOISE	74	45	89	38	59	-4	0	-.1	0	0	0	6.9	87	55	19	0	0	0	0
LEWISTON	77	48	89	41	63	-2	0	-.2	0	.2	40	7.0	78	67	21	0	0	0	0
POCATELLO	68	41	79	30	55	-5	T	-.1	T	T	3	4.6	61	72	26	0	1	1	0
IL CHICAGO	80	58	90	50	69	5	1.9	.9	1.9	2.1	86	17.8	68	77	43	1	0	1	1
MOLINE	84	58	95	48	71	6	.1	-.8	.1	.2	7	16.9	58	92	44	1	0	1	0
PEORIA	85	61	92	53	73	7	.4	-.5	.3	.5	23	12.3	46	88	38	1	0	3	0
QUINCY	87	62	93	58	74	7	.5	-.5	.5	.5	20	12.5	43	86	38	2	0	1	0
ROCKFORD	82	56	93	45	69	6	.1	-.8	.1	.8	38	15.2	54	89	41	1	0	1	0
SPRINGFIELD	86	62	92	54	74	6	1.3	.5	1.1	1.3	68	14.4	55	91	41	1	0	3	1
IN EVANSVILLE	86	64	94	57	75	5	.2	-.4	.1	.6	40	24.3	78	96	53	1	0	3	0
FORT WAYNE	78	54	83	47	66	1	T	-.6	T	.5	35	23.4	90	95	50	0	0	1	0
INDIANAPOLIS	81	59	86	51	70	3	.3	-.4	.2	.7	43	20.9	71	96	56	0	0	2	0
SOUTH BEND	78	56	86	46	67	2	.3	-.4	.3	2.0	109	21.0	75	91	53	0	0	1	0
IA DES MOINES	82	60	91	53	71	6	.6	-.1	.6	.8	41	15.1	61	90	44	1	0	2	1
SIOUX CITY	77	57	89	49	67	3	3.0	2.4	2.9	3.0	203	18.4	87	89	53	0	0	2	1
WATERLOO	83	55	95	42	69	7	.1	-.7	.1	.2	8	13.8	52	87	36	1	0	2	0
KS CONCORDIA	83	60	96	55	71	3	.9	.2	.6	.9	49	13.2	59	86	43	2	0	2	1
DODGE CITY	81	58	96	52	70	0	.4	-.1	.3	1.0	93	12.4	72	93	46	2	0	2	0
GOODLAND	73	53	91	48	63	-2	1.6	1.2	1.0	1.6	183	19.4	141	92	48	1	0	4	2
TOPEKA	88	62	94	55	75	6	1.2	.4	.6	1.2	58	16.6	64	92	48	4	0	3	1
WICHITA	87	64	93	58	76	5	.1	-.7	.1	.1	5	14.4	65	91	47	3	0	1	0
KY BOWLING GREEN	81	64	88	55	73	2	2.4	1.6	1.2	4.2	229	27.4	75	99	63	0	0	3	2
LEXINGTON	81	63	85	53	72	3	1.1	.3	.6	4.5	229	27.1	77	97	59	0	0	4	1
LOUISVILLE	85	64	90	57	74	4	.3	-.5	.2	.9	46	26.2	80	94	51	1	0	3	0
LA ALEXANDRIA	89	73	91	70	81	3	.1	-.6	0	2.7	151	32.2	82	90	58	4	0	2	0
BATON ROUGE	88	74	92	70	81	3	2.9	1.8	2.6	8.5	317	61.2	144	97	54	4	0	2	1
LAKE CHARLES	90	73	93	71	82	3	.6	-.8	.3	7.3	216	47.4	122	99	61	4	0	3	0
NEW ORLEANS	88	75	89	71	81	2	2.0	.6	1.3	5.6	158	65.5	144	100	71	0	0	4	1

Based on 1951-80 normals

Weather Data for the Week Ending September 17, 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	90	71	94	66	81	3	.9	.1	.7	1.5	78	21.6	67	99	55	5	0	4	1
ME CARIBOU	60	42	68	35	51	-3	.3	-.5	.2	1.6	79	22.4	87	96	58	0	0	3	0
PORTLAND	67	45	72	40	56	-3	.1	-.7	.1	1.2	65	29.8	103	92	47	0	0	2	0
MD BALTIMORE	77	55	87	49	66	-3	.2	-.6	.1	1.0	50	24.0	78	92	47	0	0	3	0
SALISBURY	77	53	85	48	65	-4	.3	-.6	.3	2.3	97	34.8	104	96	49	0	0	2	0
MA BOSTON	70	53	73	47	62	-3	.1	-.7	.1	1.0	51	25.3	84	79	44	0	0	2	0
CHATHAM	67	55	71	49	61	-1	.1	-.8	.1	.9	41	24.1	75	78	50	0	0	1	0
MI ALPENA	71	45	82	38	58	0	.2	-.5	.2	.6	30	18.0	84	99	51	0	0	1	0
DETROIT	75	54	82	46	64	1	.1	-.4	.1	1.1	86	14.6	63	90	52	0	0	2	0
FLINT	75	50	82	40	63	1	.1	-.5	.1	.5	34	16.1	74	92	49	0	0	1	0
GRAND RAPIDS	75	51	80	42	63	0	.7	-.1	.6	2.4	126	19.2	79	94	53	0	0	2	1
HOUGHTON LAKE	70	48	76	36	59	1	1.6	1.0	.9	2.5	152	18.3	89	95	54	0	0	3	1
LANSING	75	51	81	40	63	1	.7	0	.7	2.6	145	19.1	87	96	55	0	0	1	1
MARQUETTE	68	43	77	33	56	1	.7	-.2	.4	2.5	110	24.7	91	95	54	0	0	3	0
MUSKEGON	74	51	82	41	63	1	.1	-.6	.1	1.6	94	17.6	80	95	54	0	0	2	0
SAULT ST. MARIE	67	44	78	37	56	1	.4	-.5	.4	1.0	44	19.0	82	99	60	0	0	3	0
MN ALEXANDRIA	72	52	89	39	62	4	1.8	1.3	1.0	2.4	173	18.6	93	90	52	0	0	3	2
DULUTH	68	46	79	38	57	3	1.5	.7	1.3	2.6	134	23.0	100	99	61	0	0	3	1
INT'L FALLS	66	45	71	35	55	2	.7	-.1	.4	.8	43	18.6	98	95	58	0	0	3	0
MINNEAPOLIS	78	53	89	42	66	5	.1	-.5	.1	.8	51	12.7	60	87	40	0	0	3	0
ROCHESTER	76	52	91	42	64	5	.2	-.6	.2	.6	31	13.8	62	89	43	1	0	2	0
MS GREENWOOD	90	73	94	69	81	5	1.2	.4	.7	3.2	167	20.4	52	94	57	3	0	4	1
JACKSON	90	72	93	70	81	4	.4	-.4	.3	1.9	91	27.0	70	99	59	5	0	3	0
MERIDIAN	88	71	92	68	79	3	1.5	.7	.9	7.3	351	35.6	88	98	65	2	0	4	1
MO CAPE GIRARDEAU	85	68	90	64	76	--	1.9	1.0	.9	6.2	276	25.2	76	95	55	1	0	3	2
COLUMBIA	89	63	94	57	76	6	.2	-.8	.2	.2	7	19.3	70	92	41	2	0	1	0
KANSAS CITY	87	64	96	56	75	5	5.7	4.6	4.6	5.7	231	18.4	66	90	49	3	0	3	2
SAINT LOUIS	89	67	94	62	78	8	T	-.6	T	T	1	20.2	79	91	45	3	0	1	0
SPRINGFIELD	85	64	90	60	75	5	.4	-.6	.3	.4	18	33.3	114	97	56	1	0	2	0
MT BILLINGS	62	44	76	36	53	-6	1.0	.7	1.0	1.0	141	7.1	61	85	45	0	0	2	1
GLASGOW	71	44	82	33	58	0	.1	-.1	.1	.1	22	6.0	64	84	35	0	0	2	0
GREAT FALLS	65	40	83	32	53	-5	1.4	1.2	1.0	1.9	323	9.5	77	88	44	0	2	3	1
HAVRE	68	41	83	37	54	-3	1.0	.8	1.0	1.0	172	4.8	49	94	41	0	0	1	1
HELENA	64	38	81	32	51	-5	.9	.7	.8	1.7	338	7.9	85	93	45	0	1	2	1
KALISPELL	70	38	83	29	54	0	.6	.3	.6	.8	128	9.9	86	92	32	0	1	1	1
MILES CITY	69	47	84	38	58	-2	.1	-.1	.1	.1	17	2.5	21	80	34	0	0	1	0
MISSOULA	70	38	84	28	54	-2	.3	0	.2	.3	47	8.9	91	86	30	0	1	2	0
NE GRAND ISLAND	78	56	95	53	67	3	1.6	1.0	1.1	1.6	107	18.5	94	90	47	2	0	2	1
LINCOLN	81	59	93	52	70	4	2.2	1.5	2.0	2.2	125	12.7	56	91	52	2	0	2	1
NORFOLK	77	55	92	47	66	2	2.4	1.9	2.0	3.0	244	20.3	101	93	50	2	0	2	1
NORTH PLATTE	73	50	89	46	62	-1	.8	.4	.7	.8	82	17.6	105	95	49	0	0	4	1
OMAHA	80	59	92	52	69	4	.7	-.2	.5	1.1	51	16.1	65	89	58	2	0	2	1
SCOTTSBLUFF	70	44	88	40	57	-5	.4	.2	.3	.4	72	13.9	112	95	41	0	0	2	0
VALENTINE	75	48	95	41	62	1	.1	-.3	.1	.1	10	17.5	117	81	38	1	0	3	0
NV ELY	69	34	79	29	52	-5	T	-.2	T	T	0	6.0	89	65	20	0	3	0	0
LAS VEGAS	90	63	97	55	76	-4	0	-.1	0	T	0	2.2	75	27	12	4	0	0	0
RENO	76	41	85	36	59	-2	0	-.1	0	0	0	2.4	49	48	12	0	0	0	0
WINNEMUCCA	76	33	87	28	54	-5	0	-.1	0	0	0	4.3	79	46	13	0	5	0	0
NH CONCORD	68	40	74	31	54	-5	.2	-.5	.2	1.3	70	25.7	102	99	46	0	1	3	0
NJ ATLANTIC CITY	73	49	83	42	61	-6	.1	-.5	.1	2.2	128	24.6	81	92	47	0	0	1	0
NM ALBUQUERQUE	78	54	84	50	66	-4	1.1	.9	.6	1.8	355	11.7	199	84	33	0	0	3	1
CLOVIS	83	59	90	52	71	2	.3	-.2	.3	1.0	95	17.7	132	85	36	1	0	1	0
ROSWELL	90	60	95	55	75	4	T	-.4	T	.1	5	11.7	143	68	24	4	0	0	0
NY ALBANY	69	44	74	34	57	-5	.4	-.3	.3	1.1	58	22.1	87	98	49	0	0	2	0
BINGHAMTON	65	45	71	35	55	-5	.2	-.6	.1	1.3	67	26.1	99	96	54	0	0	3	0
BUFFALO	72	49	83	42	61	-2	.5	-.3	.5	1.6	78	26.5	101	89	43	0	0	2	0
NEW YORK	73	58	81	51	65	-4	1.2	.4	1.0	2.6	128	28.5	93	76	43	0	0	2	1
ROCHESTER	71	46	79	39	58	-4	.5	-.1	.4	1.2	75	19.0	84	98	50	0	0	2	0
SYRACUSE	69	47	77	38	58	-4	.5	-.3	.2	.9	49	24.1	86	93	53	0	0	3	0
NC ASHEVILLE	76	61	86	57	69	2	.8	-.1	.7	2.7	122	18.5	56	100	69	0	0	2	1
CHARLOTTE	81	68	90	62	75	2	.9	0	.9	4.5	216	26.5	81	91	53	1	0	2	1
GREENSBORO	79	65	88	60	72	2	.9	0	.7	3.2	151	26.4	83	94	60	0	0	2	1
HATTERAS	81	65	84	59	73	-2	T	-1.4	T	2.1	61	33.9	86	92	52	0	0	0	0
NEW BERN	85	64	94	60	74	0	T	-1.4	T	2.0	58	42.0	103	94	50	1	0	1	0
RALEIGH	81	62	90	57	72	0	.8	.1	.8	4.2	214	26.9	85	96	54	1	0	2	1
WILMINGTON	83	66	92	62	75	-1	.5	-.9	.4	2.7	76	52.2	125	97	53	1	0	2	0
ND BISMARCK	71	44	82	35	58	0	.2	-.1	.1	.2	23	8.3	65	94	38	0	0	3	0
FARGO	73	48	85	39	61	3	.7	.3	.5	.7	60	9.2	58	95	47	0	0	3	0
GRAND FORKS	70	46	79	34	58	2	1.1	.7	.8	1.1	92	10.1	67	95	48	0	0	3	1
WILLISTON	71	44	87	37	57	0	T	-.3	T	.1	15	7.7	68	86	36	0	0	1	0
OH AKRON-CANTON	74	52	80	45	63	-1	.7	0	.5	4.8	275	24.8	91	96	59	0	0	4	1
CINCINNATI	82	60	86	56	71	3	.6	-.1	.5	2.3	136	29.8	99	94	55	0	0	3	0
CLEVELAND	75	53	80	47	64	0	.3	-.4	.3	1.7	101	20.0	76	95	54	0	0	1	0
COLUMBUS	77	56	81	52	66	0	1.2	.5	.8	3.5	207	28.7	100	98	61	0	0	2	1

Weather Data for the Week Ending September 17, 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	78	57	82	51	68	1	3.1	2.5	1.7	4.5	322	24.5	92	95	56	0	0	3	2
TOLEDO	76	53	81	44	64	1	.3	-.3	.3	1.1	76	17.3	73	90	51	0	0	2	0
YOUNGSTOWN	74	48	82	43	61	-2	.8	.1	.7	2.5	138	23.0	83	96	53	0	0	3	1
OK OKLAHOMA CITY	88	67	94	65	78	4	1.6	.7	1.3	1.7	90	22.6	94	90	48	3	0	4	1
TULSA	89	68	96	63	79	5	1.5	.4	.9	1.8	73	22.0	76	91	46	5	0	4	1
OR ASTORIA	69	47	85	37	58	-1	T	-.7	T	T	2	31.4	78	94	54	0	0	0	0
BURNS	71	32	82	24	51	-8	0	-.1	0	0	0	4.9	76	62	18	0	3	0	0
MEDFORD	84	45	91	39	65	-1	0	-.2	0	0	0	6.8	61	71	17	2	0	0	0
PENDLETON	75	49	86	44	62	-2	.1	-.1	.1	.1	17	7.4	95	55	22	0	0	1	0
PORTLAND	78	49	93	44	64	1	T	-.4	T	T	0	19.5	89	84	29	1	0	0	0
SALEM	79	43	90	40	61	-1	0	-.4	0	0	0	18.8	81	83	25	1	0	0	0
PA ALLENTOWN	71	49	82	42	60	-5	1.2	.2	.9	3.0	127	31.1	97	91	51	0	0	3	1
ERIE	72	51	80	47	62	-1	1.3	.4	.5	2.6	114	24.4	88	87	51	0	0	4	0
HARRISBURG	73	51	84	42	62	-6	1.1	.3	.7	2.3	111	27.4	96	94	51	0	0	3	1
PHILADELPHIA	74	55	85	49	65	-4	.5	-.4	.3	2.4	120	29.9	98	86	46	0	0	2	0
PITTSBURGH	76	51	83	46	64	-1	.8	.2	.5	1.8	111	20.2	73	92	57	0	0	3	1
SCRANTON	68	48	77	38	58	-5	.9	.2	.7	1.7	91	24.9	99	93	53	0	0	3	1
RI PROVIDENCE	70	50	74	42	60	-3	.2	-.6	.2	1.9	93	27.5	88	90	47	0	0	1	0
SC CHARLESTON	87	71	91	65	79	3	T	-1.1	T	7.1	236	37.4	90	96	59	2	0	1	0
COLUMBIA	86	69	95	65	77	2	1.2	.2	1.2	5.9	226	35.7	91	96	56	3	0	1	1
FLORENCE	84	67	93	62	76	0	.4	-.5	.4	3.2	130	30.5	87	93	56	1	0	1	0
GREENVILLE	80	67	90	61	73	1	1.7	.6	1.5	4.4	165	28.5	74	97	67	1	0	4	1
SD ABERDEEN	73	49	84	35	61	2	.7	.4	.6	.7	79	12.2	81	94	46	0	0	2	1
HURON	77	49	94	39	63	2	.7	.4	.6	.7	91	14.5	94	91	39	1	0	3	1
RAPID CITY	72	47	88	39	59	-2	T	-.2	T	T	3	8.4	60	91	36	0	0	1	0
SIOUX FALLS	75	53	89	46	64	3	1.8	1.2	1.5	1.8	110	14.2	72	96	46	0	0	4	1
TN CHATTANOOGA	83	66	91	64	75	2	3.8	2.7	1.5	6.3	251	33.2	86	98	67	1	0	4	3
KNOXVILLE	83	65	89	57	74	2	1.0	.3	.7	2.5	149	24.3	70	99	65	0	0	3	1
MEMPHIS	90	72	94	70	81	6	1.8	.9	1.5	3.3	153	28.7	74	95	53	5	0	3	1
NASHVILLE	86	69	93	63	78	5	1.2	.4	.9	1.7	76	19.6	54	97	59	3	0	4	1
TX ABILENE	92	70	96	68	81	4	1.1	.4	1.1	1.3	77	14.0	80	82	35	6	0	2	1
AMARILLO	82	58	91	50	70	0	1.8	1.4	1.2	2.9	280	23.3	147	91	46	1	0	2	2
AUSTIN	94	73	97	64	84	4	.3	-.6	.3	.3	13	15.9	72	93	42	6	0	1	0
BEAUMONT	90	74	93	70	82	3	.4	-.9	.3	6.0	190	37.2	92	97	62	4	0	2	0
BROWNSVILLE	90	74	93	68	82	0	5.4	4.1	4.7	6.7	227	20.3	119	97	61	5	0	2	2
CORPUS CHRISTI	90	74	94	67	82	1	2.8	1.1	2.5	3.5	90	12.8	55	97	60	5	0	4	1
DEL RIO	90	72	95	66	81	0	2.2	1.5	2.0	2.2	145	12.5	101	76	39	5	0	2	1
EL PASO	90	59	92	56	75	-1	.3	0	.3	.8	99	9.1	160	82	27	3	0	2	0
FORT WORTH	94	72	97	68	83	5	.9	.1	.8	2.3	124	17.0	74	90	42	6	0	2	1
GALVESTON	87	78	89	73	83	3	.3	-1.2	.3	6.3	174	32.1	111	90	63	0	0	1	0
HOUSTON	93	73	96	68	83	4	.5	-.7	.3	.7	25	19.5	59	97	50	7	0	3	0
LUBBOCK	88	61	93	56	75	3	.2	-.3	.2	1.4	119	11.4	82	85	35	4	0	1	0
MIDLAND	88	62	93	57	75	1	.5	0	.5	4.3	360	16.9	166	88	38	6	0	1	1
SAN ANGELO	92	65	96	57	78	2	1.1	.4	1.1	1.5	85	11.5	88	86	35	6	0	1	1
SAN ANTONIO	93	72	98	65	83	3	.8	-.1	.6	.8	38	17.7	85	95	48	6	0	2	1
VICTORIA	92	74	96	71	83	3	1.4	-.1	.7	1.5	41	11.4	43	95	50	5	0	4	2
WACO	97	71	100	59	84	4	.1	-.7	0	.1	5	14.5	65	89	38	6	0	2	0
WICHITA FALLS	90	67	97	59	79	2	4.0	3.2	2.6	4.9	260	19.0	95	91	48	4	0	3	2
UT BLANDING	70	44	81	39	57	-7	.6	.4	.6	1.0	196	9.2	119	84	38	0	0	2	1
CEDAR CITY	71	39	83	30	55	-9	T	-.2	T	T	6	10.3	135	70	21	0	2	1	0
SALT LAKE CITY	70	47	87	39	59	-7	.1	-.1	0	.1	11	6.5	58	67	24	0	0	2	0
VT BURLINGTON	64	43	69	35	53	-6	.6	-.2	.3	.8	44	18.6	77	94	50	0	0	3	0
VA NORFOLK	78	59	88	55	68	-5	0	-1.0	0	1.6	61	31.0	91	95	52	0	0	0	0
RICHMOND	78	58	89	50	68	-3	T	-.8	T	1.7	83	29.4	91	96	52	0	0	1	0
ROANOKE	77	60	86	51	69	0	.6	-.2	.5	1.9	108	24.0	83	96	61	0	0	2	1
WA QUILLAYUTE	68	41	80	35	54	-3	T	-1.4	T	.4	14	57.9	93	97	50	0	0	1	0
SEATTLE-TACOMA	73	50	84	45	62	2	.1	-.4	.1	.1	11	17.2	77	94	41	0	0	1	0
SPOKANE	72	46	85	38	59	-1	.3	.1	.3	.6	143	9.2	87	76	27	0	0	1	0
YAKIMA	77	39	86	33	58	-3	0	-.1	0	0	0	3.5	70	85	24	0	0	0	0
WV BECKLEY	74	57	80	46	65	2	1.0	.1	.6	3.1	147	24.0	74	95	61	0	0	4	1
CHARLESTON	79	59	83	50	69	1	.4	-.3	.2	1.6	90	20.0	62	97	56	0	0	4	0
HUNTINGTON	79	59	85	50	69	0	.3	-.4	.2	2.1	114	24.9	80	98	57	0	0	4	0
PARKERSBURG	77	57	83	51	67	-1	1.8	1.1	1.0	3.1	184	23.3	80	98	58	0	0	4	2
WI GREEN BAY	74	52	85	42	63	4	1.0	.2	1.0	2.5	136	15.2	71	92	52	0	0	1	1
LACROSSE	80	55	93	48	68	6	.3	-.6	.3	.4	18	16.7	70	86	40	1	0	1	0
MADISON	80	52	89	43	66	5	.2	-.5	.1	1.0	55	15.5	65	90	45	0	0	3	0
MILWAUKEE	76	58	88	54	67	4	.3	-.4	.3	1.9	114	17.8	76	89	53	0	0	2	0
WAUSAU	74	51	83	46	63	5	.8	-.1	.8	1.0	41	14.6	59	93	45	0	0		1
WY CASPER	63	43	82	37	53	-5	.5	.3	.2	.6	149	5.3	59	87	48	0	0	4	0
CHEYENNE	60	40	79	33	50	-8	1.6	1.3	1.0	1.6	245	14.6	129	94	59	0	0	5	1
LANDER	61	40	80	37	51	-8	.7	.5	.4	.9	202	6.8	67	84	47	0	0	4	0
SHERIDAN	65	44	87	39	55	-3	.6	.3	.4	.6	89	8.1	68	83	41	0	0	2	0
PR SAN JUAN	86	76	87	74	81	-1	1.0	-.5	.8	4.3	126	45.4	126	92	76	0	0	4	1

Cooling Degree Days Summary

CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NESDIS-NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 9-17-1988
ACCUMULATIONS ARE FROM JANUARY 1
-999 = 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	88	19	3	1665	-73	-252	-4	-13
AL MOBILE	MOB	109	13	0	2082	-208	-139	-9	-6
AL MONTGOMERY	MGM	111	23	9	1883	-171	-307	-8	-14
AK ANCHORAGE	ANC	0	0	0	0	0	-2	-999	-999
AK BARROW	BRW	0	0	0	0	0	0	-999	-999
AK FAIRBANKS	FAI	0	0	0	124	68	34	-999	-999
AK JUNEAU	JNU	0	0	0	0	0	-6	-999	-999
AK KODIAK	ADQ	0	0	0	0	0	-8	-999	-999
AK NOME	OME	0	0	0	0	0	-2	-999	-999
AZ FLAGSTAFF	FLG	0	0	0	136	10	79	8	139
AZ PHOENIX	PHX	157	14	13	4112	877	83	27	2
AZ PRESCOTT	PRC	5	-9	-6	876	281	129	47	17
AZ TUCSON	TUS	113	1	13	2922	458	172	19	6
AZ WINSLOW	INW	18	-15	0	1154	-1	112	0	11
AZ YUMA	YUM	159	-2	22	3734	157	-197	4	-5
AR FORT SMITH	FSM	115	48	38	2077	260	26	14	1
AR LITTLE ROCK	1M1	98	28	15	1895	7	-308	0	-14
CA BAKERSFIELD	BFL	74	-15	27	2061	-20	185	-1	10
CA EUREKA	EKA	4	4	4	4	4	1	-999	-999
CA FRESNO	FAT	66	-2	26	1930	331	123	21	7
CA LOS ANGELES	LAX	4	-31	-21	456	-84	140	-16	44
CA SACRAMENTO	SAC	47	-3	19	1403	323	312	30	29
CA SAN DIEGO	SAN	29	-13	5	609	-46	182	-7	43
CA SAN FRANCISCO	SFO	4	-10	0	136	70	41	-999	-999
CA STOCKTON	SCK	41	-20	16	1302	-4	182	0	16
CO DENVER	DEN	0	-14	-7	895	235	174	36	24
CO GRAND JUNCTION	GJT	5	-27	-4	1359	197	412	17	44
CO PUEBLO	PUB	12	-17	1	1069	63	148	6	16
CT BRIDGEPORT	BDR	4	-15	-17	905	186	119	26	15
CT HARTFORD	BDL	2	-10	-4	820	162	117	25	17
DE WILMINGTON	ILG	10	-19	-49	1184	212	-35	22	-3
DC WASHINGTON	DCA	35	-13	-50	1523	163	-138	12	-8
FL APALACHICOLA	AQQ	120	18	5	2083	-129	-226	-6	-10
FL DAYTONA BEACH	DAB	122	17	12	2224	-108	-53	-5	-2
FL FORT MEYER	FMY	141	22	7	2989	102	-33	4	-1
FL JACKSONVILLE	JAX	109	13	-7	2118	-29	-157	-1	-7
FL KEY WEST	EYW	131	5	-16	3346	-215	-165	-6	-5
FL MIAMI	MIA	146	27	11	3228	114	-94	4	-3
FL ORLANDO	MCO	153	36	18	2580	-148	-165	-5	-6
FL TALLAHASSEE	TLH	120	22	21	1934	-234	-241	-11	-11
FL TAMPA	TPA	137	23	14	2579	-99	-87	-4	-3
FL WEST PALM BEACH	PBI	140	22	13	2943	69	-76	2	-3
GA ATLANTA	ATL	80	20	-6	1761	212	-197	14	-10
GA AUGUSTA	AGS	94	21	-24	2240	451	-260	25	-10
GA MACON	MCN	101	18	6	1882	-136	-315	-7	-14
GA SAVANNAH	SAV	104	18	-10	2033	-4	-302	0	-13
HI HILO-HAWAII	ITO	81	4	-9	2387	170	-22	8	-1
HI HONOLULU-OAHU	HNL	115	3	-18	3552	420	239	13	7
HI KAHULUI-MAUI	OGG	88	-10	-20	2859	133	290	5	11
HI LIHUE-KAUAI	LIH	104	6	-10	3011	353	427	13	17
ID BOISE	BOI	6	-15	-20	873	148	98	20	13
ID LEWISTON	LWS	12	-8	-17	859	135	41	19	5
ID POCATELLO	PIH	0	-8	-10	612	171	267	39	77
IL CHICAGO	ORD	34	20	10	1130	415	83	58	8
IL MOLINE	MLI	46	32	23	1224	352	-44	40	-3
IL PEORIA	PIA	56	36	25	1300	387	28	42	2
IL QUINCY	UIN	67	39	40	1312	244	-34	23	-3
IL ROCKFORD	RFD	34	26	19	1067	374	77	54	8
IL SPRINGFIELD	SPI	62	31	14	1343	239	-86	22	-6
IN EVANSVILLE	EVV	70	27	-13	1429	110	-169	8	-11
IN FORT WAYNE	FWA	18	-3	-16	1080	330	87	44	9
IN INDIANAPOLIS	IND	38	11	-21	1233	288	68	30	6
IN SOUTH BEND	SBN	25	10	4	1089	404	61	59	6
IA DES MOINES	DSM	44	25	33	1384	404	199	41	17
IA DUBUQUE	DBQ	30	25	19	993	422	167	74	20
IA SIOUX CITY	SUX	28	9	20	1272	357	188	39	17
IA WATERLOO	ALO	34	28	26	1138	486	142	75	14
KS CONCORDIA	CNK	46	12	8	1623	340	128	27	9
KS DODGE CITY	DDC	35	-5	2	1520	110	294	8	24
KS GOODLAND	GLD	22	-1	12	1156	244	197	27	21
KS TOPEKA	TOP	72	35	36	1430	115	-9	9	-1
KS WICHITA	ICT	76	27	28	1787	185	190	12	12
KY BOWLING GREEN	BWG	56	10	-4	1278	-84	-174	-6	-12
KY LEXINGTON	LEX	48	10	-26	1318	205	-133	18	-9
KY LOUISVILLE	SDF	67	23	-11	1506	226	-112	18	-7
LA ALEXANDRIA	AEX	114	22	-4	2315	71	-185	3	-7
LA BATON ROUGE	BTR	115	19	3	2264	-7	-89	0	-4
LA LAKE CHARLES	LCH	117	21	6	2225	-77	-188	-3	-8
LA NEW ORLEANS	MSY	115	16	-1	2158	-180	-262	-8	-11
LA SHREVEPORT	SHV	113	24	11	2132	-62	-177	-3	-8
ME CARIBOU	CAR	0	0	0	304	157	122	107	67
ME PORTLAND	PWM	0	0	0	536	282	230	111	75
MD BALTIMORE	BWI	18	-18	-54	1305	213	-49	20	-4
MD SALISBURY	SBY	12	-19	-66	1217	188	-90	18	-7
MA BOSTON	BOS	2	-14	-18	867	194	270	29	45
MA CHATHAM	CHH	0	-7	-4	349	101	156	41	81
MI ALPENA	APN	4	4	4	519	339	78	188	18
MI DETROIT	DTW	10	-3	-12	987	392	18	66	2
MI FLINT	FNT	11	4	-9	816	372	-55	84	-6
MI GRAND RAPIDS	GRR	12	4	2	832	276	10	50	1
MI HOUGHTON LAKE	HTL	4	0	4	622	333	52	115	9
MI LANSING	LAN	14	7	-1	813	294	-31	57	-4
MI MARQUETTE	MQT	0	0	0	354	202	52	133	17
MI MUSKEGON	MKG	8	4	-3	720	279	28	63	4
MI SAULT ST MARIE	SSM	1	1	1	267	127	38	91	17
MN ALEXANDRIA	AXN	16	12	13	964	507	258	111	37
MN DULUTH	DLH	3	3	3	387	237	128	158	49
MN INT'L FALLS	INL	0	0	0	414	199	118	93	40
MN MINNEAPOLIS	MSP	20	15	18	1138	491	255	76	29
MN ROCHESTER	RST	17	13	13	817	345	135	73	20
MN SAINT CLOUD	STC	10	9	10	857	460	241	116	39
MS GREENWOOD	GWO	115	37	11	1963	-76	-283	-4	-13
MS JACKSON	JAN	115	30	15	2033	-45	-159	-2	-7
MS MERIDIAN	MEI	104	23	7	1790	-178	-266	-9	-13
MO CAPE GIRARDEAU	CGI	80	31	1	1568	63	-258	4	-14
MO COLUMBIA	COU	77	40	48	1390	184	-35	15	-2
MO KANSAS CITY	MCI	75	40	47	1673	394	155	31	10
MO SAINT LOUIS	STL	91	47	23	1776	394	12	29	1
MO SPRINGFIELD	SGF	69	27	33	1291	-13	-223	-1	-15
MT BILLINGS	BIL	1	-10	-6	1030	484	494	89	92
MT GLASGOW	GGW	0	-7	-7	949	489	473	106	99
MT GREAT FALLS	GTF	4	-4	3	537	161	227	43	73
MT HAVRE	HVR	0	-6	0	574	159	266	38	86
MT HELENA	HLN	0	-5	-2	560	268	312	92	126
MT KALISPELL	FCA	0	-2	0	212	42	62	25	41
MT MILES CITY	MLS	1	-14	-11	1260	496	555	65	79
MT MISSOULA	MSO	0	0	0	333	113	139	51	72
NE GRAND ISLAND	GRI	33	15	22	1239	236	100	24	9
NE LINCOLN	LNK	39	16	22	1452	357	163	33	13
NE NORFOLK	OFK	29	13	21	1207	294	136	32	13
NE NORTH PLATTE	LBF	8	-5	3	941	176	111	23	13
NE OMAHA	ON4	36	12	29	1389	255	184	22	15
NE SCOTTSBLUFF	BFF	0	-16	-3	878	165	202	23	30
NE VALENTINE	VTN	10	-2	9	1111	364	276	49	33
NV ELY	ELY	0	-3	0	262	70	149	36	132
NV LAS VEGAS	LAS	80	-31	-19	2876	136	37	5	1
NV RENO	RNO	0	-6	-12	844	494	287	141	52
NV WINNEMUCCA	WMC	0	-7	-15	746	239	216	47	41
NH CONCORD	CON	0	-4	0	596	248	177	71	42
NJ ATLANTIC CITY	ACY	7	-10	-41	1003	224	17	29	2
NM ALBUQUERQUE	ABQ	13	-20	-14	1020	-200	156	-16	18
NM CLOVIS	CVS	45	12	15	1199	62	-73	5	-6
NM ROSWELL	ROW	72	17	29	1560	-193	62	-11	4
NY ALBANY	ALB	0	-8	-1	728	239	106	49	17
NY BINGHAMTON	BGM	0	-5	-4	594	272	132	84	29
NY BUFFALO	BUF	2	-9	-10	701	230	-13	49	-2
NY NEW YORK	LGA	13	-20	-29	1231	225	93	22	8
NY ROCHESTER	ROC	0	-11	-11	657	137	35	26	6
NY SYRACUSE	SYR	0	-11	-5	696	199	39	40	6
NC ASHEVILLE	AVL	35	7	-6	810	4	-189	0	-19
NC CAPE HATTERAS	HAT	57	-11	-32	1446	46	-192	3	-12
NC CHARLOTTE	CLT	71	18	-14	1561	95	-336	6	-18
NC GREENSBORO	GSO	53	14	-24	1285	24	-301	2	-19
NC NEW BERN	EWN	67	-1	-36	1734	106	-276	7	-14
NC RALEIGH DURHAM	RDU	50	3	-35	1379	48	-293	4	-18
NC WILMINGTON	ILM	68	-5	-33	1627	-117	-336	-7	-17
ND BISMARCK	BIS	2	-1	-1	864	390	336	82	64
ND FARGO	FAR	7	3	-1	1002	527	303	111	43
ND GRAND FORKS	GFK	0	-1	-5	709	291	186	70	36
ND WILLISTON	ISN	0	-7	-8	890	448	430	101	93
OH AKRON-CANTON	CAK	9	-8	-14	850	249	38	41	5
OH CLEVELAND	CLE	12	-6	-10	897	307	29	52	3
OH COLUMBUS	CMH	14	-11	-33	1000	178	-155	22	-13
OH CINCINNATI	CVG	43	12	-20	1206	218	-61	22	-5
OH DAYTON	DAY	23	-4	-29	1151	251	56	28	5
OH TOLEDO	TOL	10	-5	-12	905	306	3	51	0
OH YOUNGSTOWN	YNG	4	-8	-15	703	229	-20	48	-3
OK OKLAHOMA CITY	OKC	90	26	17	1902	128	-1	7	0
OK TULSA	TUL	97	27	37	1989	101	-100	5	-5
OR ASTORIA	AST	3	3	3	19	-2	5	-999	-999
OR BURNS	4BW	0	-7	-21	285	-60	61	-17	27
OR MEDFORD	MFR	14	-8	14	884	258	74	41	9
OR PENDLETON	PDT	8	-12	-4	617	-89	-18	-13	-3
OR PORTLAND	PDX	14	6	14	384	68	-85	22	-18
OR SALEM	SLE	4	-1	4	248	17	-41	7	-14
PA ALLENTOWN	ABE	5	-16	-22	955	222	91	30	11
PA ERIE	ERI	6	-2	-18	729	351	-50	93	-6
PA HARRISBURG	CXY	7	-22	-40	1080	111	-12	11	-1
PA PHILADELPHIA	PHL	11	-20	-51	1283	247	-30	24	-2
PA PITTSBURGH	PIT	5	-14	-30	931	311	-15	50	-2
PA SCRANTON	AVP	3	-11	-8	771	220	140	40	22
RI PROVIDENCE	PVD	0	-12	-14	805	241	169	43	27
SC CHARLESTON	CHS	98	18	-13	1921	60	-301	3	-14
SC COLUMBIA	CAE	88	14	-15	1849	-30	-322	-2	-15
SC FLORENCE	FLO	75	2	-25	1807	-27	-258	-1	-12
SC GREENVILLE	GSP	61	9	-6	1443	17	-267	1	-16
SD ABERDEEN	ABR	5	-1	2	1097	509	342	87	45
SD HURON	HON	15	5	12	1100	371	241	51	28
SD RAPID CITY	RAP	7	-8	5	1046	399	353	62	51
SD SIOUX FALLS	FSD	20	10	20	1220	480	286	65	31
TN CHATTANOOGA	CHA	70	13	7	1520	34	-308	2	-17
TN KNOXVILLE	TYS	63	12	-3	1381	12	-204	1	-13
TN MEMPHIS	MEM	111	42	13	2043	137	-253	7	-11
TN NASHVILLE	BNA	90	32	9	1708	159	-159	10	-9
TX ABILENE	ABI	111	31	24	2086	-138	69	-6	3
TX AMARILLO	AMA	36	-4	12	1117	-231	6	-17	1
TX AUSTIN	AUS	133	31	8	2585	37	74	1	3
TX BROWNSVILLE	BRO	122	5	96	1465	-1602	690	-52	89
TX CORPUS CHRISTI	CRP	122	4	-19	2744	-209	96	-7	4
TX DEL RIO	DRT	114	3	-13	2653	-221	291	-8	12
TX EL PASO	ELP	69	1	12	1672	-293	-3	-15	0
TX FORT WORTH	DFW	127	29	16	2425	-127	26	-5	1
TX GALVESTON	GLS	127	19	-6	2464	13	-154	1	-6
TX HOUSTON	IAH	127	30	0	2462	92	-143	4	-5
TX LUBBOCK	LBB	70	22	22	1636	58	57	4	4
TX MIDLAND ODESSA	MAF	72	4	-8	1667	-296	-31	-15	-2
TX BEAUMONT	BPT	120	17	5	2353	-80	-121	-3	-5
TX SAN ANGELO	SJT	95	10	6	1969	-374	150	-16	8
TX SAN ANTONIO	SAT	126	22	-17	2667	66	145	3	6
TX VICTORIA	VCT	126	17	-18	2685	-7	24	0	1
TX WACO	ACT	133	29	15	2536	-40	36	-2	1
TX WICHITA FALLS	SPS	97	14	10	2231	-49	113	-2	5
UT BLANDING	4BL	0	-11	-1	787	173	216	28	38
UT CEDAR CITY	CDC	0	-16	-7	785	121	191	18	32
UT SALT LAKE CITY	SLC	9	-13	-11	1367	410	328	43	32
VT BURLINGTON	BTV	0	-3	-2	629	250	131	66	26
VA LYNCHBURG	LYH	34	1	-17	1163	135	-91	13	-7
VA NORFOLK	ORF	24	-32	-70	1483	117	-279	9	-16
VA RICHMOND	RIC	31	-13	-54	1396	131	-189	10	-12
VA ROANOKE	ROA	35	2	-25	1117	80	-287	8	-20
WA COLVILLE	63S	2	-2	-16	362	54	-103	18	-22
WA QUILLAYUTE	UIL	0	-4	0	38	-2	22	-999	-999
WA SEATTLE-TACOMA	SEA	8	1	8	189	9	-5	5	-3
WA SPOKANE	GEG	6	-3	-4	452	44	69	11	18
WA WALLA WALLA	ALW	16	-7	-16	914	70	-61	8	-6
WA YAKIMA	YKM	0	-7	-12	391	-83	-90	-18	-19
WV BECKLEY	BKW	17	3	10	1046	589	510	129	95
WV CHARLESTON	CRW	29	-2	-22	1169	216	-138	23	-11
WV HUNTINGTON	HTS	33	-3	-27	1153	99	-183	9	-14
WV PARKERSBURG	PKB	18	-16	-28	1037	74	-171	8	-14
WI GREEN BAY	GRB	12	8	9	777	393	130	102	20
WI LACROSSE	LSE	27	22	16	1158	489	175	73	18
WI MADISON	MSN	24	20	19	893	434	132	95	17
WI MILWAUKEE	MKE	21	17	7	989	528	112	115	13
WI WAUSAU	AUW	11	11	10	745	382	108	105	17
WY CASPER	CPR	4	-5	3	736	287	323	64	78
WY CHEYENNE	CYS	0	-5	0	450	148	158	49	54
WY LANDER	LND	0	-8	-1	827	399	411	93	99
WY SHERIDAN	SHR	3	-3	-2	850	437	514	106	153

National Agricultural Summary

September 12-18, 1988

HIGHLIGHTS: Rain in the central and southeastern areas improved soil moisture conditions. Soil moisture remained mostly short in the central Plains and the West and was mostly adequate in the East. Most areas had 5 to 6 suitable days for fieldwork.

Winter wheat seeding was 21 percent (%) finished, 9 percentage points behind 1987 and 1 point behind the 5-year average. Rain improved planting and germination conditions in Kansas. Corn was 79% mature, 17 points ahead of normal. Crop maturity continued far ahead of normal in the central and northern Plains States. Harvest was 13% complete, 4 points ahead of normal. Harvest was well ahead of normal in Iowa, Kansas, and Minnesota. Fifty-three percent of the soybean acreage was dropping leaves, 11 points ahead of normal. Harvest was 7% finished, 4 points ahead of normal. Harvest was well ahead of normal in Iowa and Minnesota. Sorghum was 56% mature, 14 points ahead of normal. Harvest was 26% finished, 1 point ahead of normal. Nebraska's crop was 88% mature, 54 points ahead of normal. Harvest was behind normal in much of the South. Fifty-four percent of the cotton acreage was opening bolls, 7 points behind last year but average. Harvest was 10% complete, 4 points behind 1987 but average. Harvest was ahead of normal in Alabama and Texas and just beginning in California. Pasture and range conditions continued to improve in the East. Livestock was in mostly fair to good condition.

SMALL GRAINS: Winter wheat seeding was 21% complete, 9 points behind 1987 and 1 point behind normal. Kansas seeding was 10% finished, 5 points behind normal. Rain improved planting and germination conditions. Oklahoma seeding was 15% finished, which was average. Seeding was 45% complete, 19 points behind the average in South Dakota. Wind erosion and poor stands were a problem in some areas. In Washington, some areas were still too dry for seeding. Fifty-two percent of the crop was seeded, 6 points ahead of normal. Seeding was well behind normal in Idaho, Montana, Nebraska, and South Dakota. Seeding was 39% finished, 3 points behind normal in Colorado.

CORN: Corn was 79% mature, 3 points behind 1987 but 17 points ahead of normal. Harvest was 13% finished, 3 points behind 1987 but 4 points ahead of the average. Crop maturity continued far ahead of normal in the central and northern Plains States. Nebraska's crop was 90% mature, 43 points ahead of the average. In Minnesota, the crop was 92% mature, 50 points ahead of normal. Crop maturity lagged behind normal in the eastern Corn Belt. In Ohio, only 26% of the crop was mature, 32 points behind average. High winds caused some lodging in Texas. Iowa's harvest was 30% complete, 15 points ahead of normal. Harvest was behind normal in Georgia, Kentucky, North Carolina, and Ohio.

SOYBEANS: Soybeans were mostly fair. Fifty-three percent of the acreage was dropping leaves, 5 points behind 1987 but 11 points ahead of normal. Harvest was 7% finished, 2 points behind 1987 but 4 points ahead of normal. Percent of acreage dropping leaves in the central and northern Plains States was far ahead of normal. In Nebraska, 87% of the acreage was dropping leaves, 56 points ahead of normal. Percent of acreage dropping leaves was behind average in the South. Minnesota's harvest was 25% finished, 23 points ahead of the average. In Iowa, harvest was 16% complete, 15 points ahead of normal. Illinois' harvest was 9% finished, 15 points behind 1987 and 2 points behind the average. Harvest was less than 1% complete in the South.

SORGHUM: Sorghum was mostly fair to good. Sorghum was 56% mature, 6 points ahead of 1987 and 14 points ahead of normal. Harvest was 26% finished, 3 points behind 1987 but 1 point ahead of normal. Crop maturity was far ahead of normal in the Plains States. Nebraska's crop was 88% mature, 54 points ahead of average. Kansas' crop was 40% mature, 20 points ahead of normal. Harvest was behind normal in the Southern States. Harvest was 63% finished, 4 points ahead of normal in Texas. In Kansas, harvest was 10% complete, 5 points ahead of average. Nebraska's harvest was 7% finished, 6 points ahead of normal.

COTTON: Cotton was mostly good to fair. Fifty-four percent of the acreage was opening bolls, 7 points behind 1987 but average. Harvest was 10% finished, 4 points behind 1987 but average. In Texas, 30% of the acreage was opening bolls, which was average. Scattered hail and heavy rain damaged some of the crop in the High Plains. Cool temperatures continued to slow crop progress. Texas harvest was 17% complete, 4 points ahead of normal. Alabama's harvest was 17% finished, 9 points ahead of normal. In southern California, harvest was becoming more active. Defoliation was just beginning in central California. Mississippi's harvest was 10% finished, 2 points behind normal.

OTHER FIELD CROPS: Rice harvest was 38% finished, 12 points behind normal. California's harvest was becoming more active. Arkansas' harvest was 21% finished, 36 points behind 1987 and 19 points behind normal.

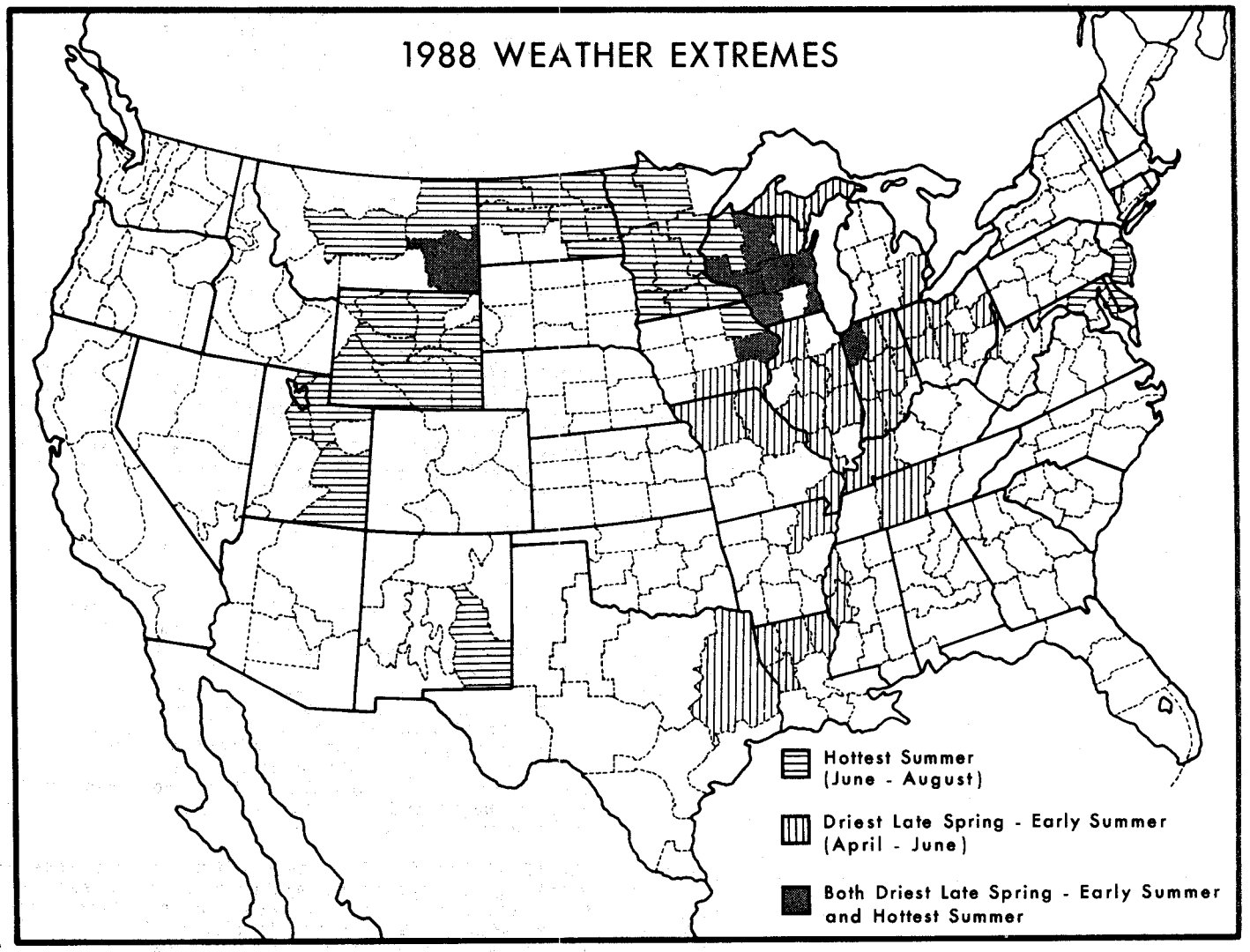
Peanut harvest continued in the southeast. In southern Texas, harvest continued and was just beginning in central Texas.

Tobacco harvest continued behind normal. Flue-cured harvest was 80% complete, 2 points behind normal in North Carolina. The crop was mostly good. Harvested burley tobacco was of good quality in Kentucky.

FRUITS AND NUTS: Florida's citrus groves were in mostly good condition, although a few areas were still too wet. Texas' citrus groves suffered some light wind damage from Hurricane Gilbert. The extent of the damage is still unknown. The early orange harvest will begin soon. Pecan harvest continued. High winds caused excessive nut droppage in some areas. Lemon harvest continued in Arizona. The grapefruit crop continued to size and mature satisfactorily. In California, harvest activity included apples, dates, pomegranates, almonds, and valencia oranges. Table and wine grape harvest was also active. Kiwifruit harvest is expected to begin soon.

VEGETABLES: Dry weather improved conditions in Florida's vegetable producing areas. Heavy rains during the previous week caused some losses in the west-central areas. In Arizona, planting and irrigation of lettuce, cauliflower, and broccoli continued. Fall planted vegetables were mostly good. Rain delayed fall vegetable planting in Rio Grande Valley, Texas. Rain slowed carrot and pepper harvests in the High Plains. In the Trans-Pecos area, tomato and pepper harvests continued. California vegetable harvest included

(Continued to back cover)



Map courtesy of the National Climatic Data Center.

1988 Weather Extremes

The drought of 1988 set many new high temperature and low precipitation records. Based on climate division data going back to 1895, this was the hottest summer on record for large areas of the northern Plains, the Rockies, and parts of the mid-Atlantic region. Additionally, it was the driest April-through-June period for much of the Corn Belt and in parts of the South. When precipitation is averaged across the entire country, the 1988 April-through-June period is the driest since records began.

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: Nearly all areas received at least 1.00 in. rainfall; 2.00 to 5.00 in. common over northern half, near coast. Temperatures 2 to 4° above normal.

Days suitable for fieldwork 3.8. Soil moisture 5% very short, 11 short, 53% adequate, 31% surplus. Heavy rains early in week; moisture from Hurricane Gilbert on 15th through weekend further delayed crop harvest, small grain seedings. Dry weather now needed most areas. Soybeans 88% setting pods, 94% 1987, 98% avg.; 25% turning yellow, 42% 1987, 37% avg.; 11% dropping leaves, 23% 1987, 17% avg.; 6% mature, 17% 1987, 10% avg.; 1% very poor, 5% poor, 36% fair, 56% good, 2% excellent. Corn 63% harvested, 72% 1987, 70% avg. Sorghum 38% harvested, 47% 1987, 47% avg.; 4% poor, 47% fair, 49% good. Cotton 82% bolls opened, 76% 1987, 65% avg.; 17% harvested, 24% 1987, 8% avg.; 15% very poor, 31% poor, 38% fair, 16% good. Peanuts 9% dug, 15% 1987, 26% avg.; 3% combined, 9% 1987, 16% avg.; 31% fair, 69% good. Wheat 11% seeded, 10% 1987, 6% avg. Pastures mostly fair; livestock mostly good. Primary activities: Harvesting corn, sorghum, peanuts, vegetables; defoliating, harvesting cotton; spraying peanuts to control disease; planting small grains; fertilizing pastures; managing fish ponds; repairing machinery; the routine care of livestock, poultry.

ALASKA: Primarily clear skies Tanana Valley, some precipitation elsewhere in Railbelt but principally good harvesting week. Killing frost had yet to end growing season most of Matanuska Valley, Kenai Peninsula. Lows 3° cooler than normal to 5° warmer than normal. Highs normal to 5° above normal. Seasonal precipitation totals 3.25 in. wetter than normal Big Delta to 2.60 in. drier than normal Wasilla.

Days suitable for haying or harvest of small grains 5.0. Topsoil, subsoil moisture supplies adequate. Second crop hay 65% harvested, 65% 1987. Winter hay availability adequate to mostly surplus. Small grain 95% harvested, 80% 1987. Commercial potatoes 70% harvested, 75% dug 1987. Vegetable harvest winding down.

ARIZONA: Cooler, drier air 10th, 11th; scattered showers, thunderstorms, east. Low pressure system 12th; cooling, scattered showers; Mogollon Rim, White Mountains northward. Dry air, sunny mild days, clear cool nights 13th, 14th. Minimum temperatures upper 20s, 30s higher elevations; 40s at 5,000 ft.; and 60s in western deserts. Slight warming trend 15th to 17th; mostly sunny skies; partly cloudy conditions. Temperatures 5° below to 2° above normal.

Cotton 89% good, 11% excellent; nearly all acreage opening bolls; 3% harvested. Defoliation, harvest, west. Defoliation, central. Pink boll worm treatments central, east. Whitefly infestations northwest, central. Boll weevil infestations, east. American-pima cotton maturing slower than normal. Alfalfa harvest active, good curing conditions. New crop seeding, west. Lemon harvest continued, west. Grapefruit sizing, maturing satisfactorily. Planting, irrigation fall lettuce, cauliflower, broccoli continued. Stand establishment all fall vegetables progressed normally. Asparagus harvest delayed last week. Central areas, honeydews, cantaloup, watermelons harvested. East, apple harvest, packing continued. Green chilies, winter squash, white corn harvested.

ARKANSAS: Warm weather returned. Rainfall all sections, some moderate amounts. Temperature extremes 56°; 100°. Rainfall totals 0.02 to 3.54 in.

Days suitable for fieldwork 6.0. Soil moisture supplies 69% short, 27% adequate, 4% surplus. Major farming activities: Combining corn, rice, sorghum; picking cotton; applying insecticides, defoliants; draining rice fields; preparing wheat ground; fertilizing, planting fall pastures; cutting hay; bushhogging weeds, bushes. Soybeans 99% blooming, 100% 1987, 99% avg.; 93% setting pods, 96% 1987, 95% avg.; 17% yellowing, 30% 1987, 24% avg. Rice 73% ripe, 92% 1987, 71% avg. Corn 77% harvested, 91% 1987, 84% avg. Sorghum 97% turning color, 100% 1987. Apples 75% harvested, yields good. Pecan fruit developing well, trees loaded. Watermelon harvest nearly complete. Pasture, range 4% very poor, 34% poor, 45% fair, 17% good. Hay, roughage supplies 1% very short, 81% short, 16% adequate, 2% surplus. Stockwater supplies 47% short, 51% adequate, 2% surplus. Livestock good. Large mosquito,gnat, fly population bothersome.

CALIFORNIA: Weak high pressure prevailed. Dry conditions continued, no rainfall. Temperatures near to slightly cooler than normal.

Excellent weather promoted harvest, other field activities. Rice harvest slowly increased, more fields drained. Cotton harvest increased southern areas, defoliation began central. Corn silage, sugarbeets, dry bean, hay harvests active. Corn grain, sunflower harvests increased. Safflower, alfalfa seed harvests neared completion. Disease, insect controls when needed. Apple, date, pomegranate, almond, valencia orange harvests active. Raisin grapes 50% on ground, 30% in rolls, 20% in bins. Table, wine grape picking active. Kiwifruit neared harvest. Broccoli harvest moderate to fairly light, good quality Salinas, Santa Maria. Lettuce growers westside thinning, weeding, harvest to begin mid-October. Frost Tulelake-Butte Valley killed potato vines, eliminated need desiccants. Harvest of norgolds, chipping varieties begun. Cauliflower harvest light supply, good quality Salinas. Planting began San Joaquin Valley. Young cauliflower irrigated Westside. Sweet corn all stages. Cucumbers, squash, okra, various peppers moving local markets. Melon harvest continued San Joaquin, Westside. Strawberries fair, decreasing volume Salinas-Watsonville, Santa Maria. Livestock generally good. Range, pasture higher elevation drying. Movement to market continued. Water supplies short. Hay, roughage supplies 15% short, 85% adequate.

COLORADO: Moderate to heavy rains 12th through 15th accompanied by much cooler temperatures. Precipitation 0.23 to 3.30 in. Temperature 2 to 9° below normal.

Days suitable for fieldwork 3.0. Soil moisture 4% very short, 28% short, 57% adequate, 11% surplus. Corn 90% dented, 38% mature, 2% harvested. Dry beans 76% cut, 45% threshed. Oats 87% harvested. Dry onion 51% harvested. Fall potatoes 17% harvested. Summer potatoes 52% harvested. Winter wheat 39% planted, 21% emerged. Livestock mostly good to excellent. Ranges, pastures fair to good.

FLORIDA: Rather breezy most of week. Interaction Hurricane Gilbert, high pressure east, south. Rain

spotty, mostly light, fast moving showers. Local rains 3.00 in. or more western Panhandle; wind circularization from Hurricane Gilbert. Weekend rains over 2.00 in. northeast from stalled front; otherwise, considerable sunshine. Very warm with temperatures 2 to 4° above normal during week; near normal, weekend.

Soil moisture adequate to surplus. Rain delayed peanut harvest, haymaking. Boll rot developed, some cotton fields. Sugarcane, soybeans good progress. Sugarcane planting active. Pastures mostly good to excellent. Low lying areas, west central Peninsula drying out well from previous week's heavy rains. Cattle, calves mostly good to excellent. Marketing calves continued active. Citrus groves very good. Some blocks still too wet; however, high sand hill growers started to irrigate. New crop testing continued; 1988-89 season start expected within 10 days. Caretakers very active with ideal weather. Drying weather over most vegetable producing areas. Some loss tomatoes, other fall crop acreage, west central areas from heavy rains, flooding previous week. Crops, other areas fair to good. No damage from Hurricane Gilbert.

GEORGIA: Rain 1.00 to 3.00 in. north, west central, east. Isolated totals 5.00 in. central, south 0.50 in. or less. Rain 3 to 5 days north, 2 days southwest. Temperatures 2° above normal. Hottest upper 80s to low 90s. Coolest upper 50s mountains to mid and upper 60s central, south.

Days suitable for fieldwork 4.3. Soil moisture 9% short, 76% adequate, 15% surplus. Corn harvest delayed by wet soil. Cotton boll rot more prevalent because of rains. Sorghum fair to good, grain harvest nearly 2 weeks behind. Peanut harvest, maturity delayed by cool temperatures, wet soils. White mold increased. Tobacco harvest nearly complete. Rye, other small grains 4% and 2% planted, respectively. Apples good, 62% harvested. Pecans fair to mostly good, spraying for aphids. Pastures, hay improved. Cattle, hogs fair to good.

HAWAII: Mostly sunny after few morning showers. Water restrictions lifted in one major vegetable growing area after heavy weekend rains. Temperatures lower, daily mid to high 80s. Rainfall none to 1.60 in. High temperatures mid-80s to 90s. Winds variable 5 to 20 mph.

Days suitable for fieldwork 7.0. Irrigation heavy all areas. Pesticide spraying intensive. Most crops fair to good. Chinese cabbage production moderate. Head cabbage output steady, some smaller heads noticed. Cucumber production heavy some areas, overall moderate. Snap bean production expected to increase. Banana, papaya production seasonally heavy. Ginger root plantings steady progress, more rainfall helpful.

IDAHO: Temperatures 5° below normal. Precipitation north, east; below normal statewide.

Days suitable for fieldwork 7.0. Soil moisture 44% very short, 47% short, 9% adequate. Potatoes 8% harvested, 17% 1987, 18% avg. Winter wheat 10% planted, 4% 1987, 23% avg. Very little emergence. Sugarbeets 2% harvested, 2% 1987, 5% avg. Onions 43% harvested, 58% 1987. Dry beans over 50% harvested, 42% avg. Apples 8% harvested, 28% 1987. Plums 87% harvested. Hops over 75% harvested. Third cutting of alfalfa hay 69% harvested, 52% 1987, 39% avg. Range, pasture poor. Hay, roughage supplies 3% very short, 36% short, 58% adequate, 3% surplus. Livestock good, moving off summer ranges.

ILLINOIS: Temperature lows 3 to 8° above normal, highs 2 to 8° above normal. Precipitation 0.50 to 1.50 in., over 2.50 in. Chicago area.

Days suitable for fieldwork 6.5. Soil moisture 91% short, 9% adequate. Soybeans 93% turning yellow, 92% 1987, 83% avg. Alfalfa 3rd crop cut 97%, 90% 1987, 97% avg.; 1% very poor, 18% poor, 57% fair, 23% good, 1% excellent. Hay, roughage supplies 2% very short, 59% short, 36% adequate, 3% surplus. Pasture 19% very poor, 40% poor, 34% fair, 7% good.

INDIANA: Temperatures 3 to 6° above normal statewide. Lows 40 to low 50s, highs 80s to low 90s. Precipitation below normal, scattered. Totals 0.01 to 2.50 in.

Days suitable for fieldwork 6.1. Topsoil moisture 45% short, 55% adequate. Subsoil moisture 83% short, 17% adequate. Corn, soybean, pasture conditions improved. Pastures 5% very poor, 26% poor, 57% fair, 12% good. Corn 5% very poor, 37% poor, 52% fair, 6% good. Soybeans 94% turning yellow, 97% 1987, 88% avg. Wheatland 48% plowed, 42% 1987, 36% avg. Tobacco 70% harvested, 95% 1987, 77% avg. Hay, roughage for feeding season 5% very short, 53% short, 42% adequate. Livestock water supplies 2% very short, 17% short, 81% adequate. Scattered showers moved in by weekend bringing needed moisture.

IOWA: Temperatures 4 to 8° above normal, extremes 41°; 95°. Precipitation 1.30 in., extremes 0.46 to 3.81 in.

Days suitable for fieldwork 6.0. Topsoil moisture 80% short, 20% adequate; subsoil moisture 100% short. Corn lodging 4% none, 63% light, 32% moderate, 1% heavy. Ear droppage 1% none, 71% light, 27% moderate, 1% heavy. Soybeans 99% leaves turning, 89% 1987, 83% avg. Winter wheat 12% seeded, 3% 1987, 10% avg. Livestock mostly good. Respiratory problems in livestock increased due to changing temperatures. Pseudorabies on increase in hogs some areas. Pasture 32% very poor, 36% poor, 25% fair, 7% good.

KANSAS: Temperatures mid 70s east, upper 60s west, 5 to 8° above normal east, normal to slightly above elsewhere. Precipitation 1.00 to 2.00 in. west, 2.00 to 4.00 in. east, 0.25 to 0.50 in. elsewhere.

Days suitable for fieldwork 5.5. Topsoil moisture 70% short, 29% adequate, 1% surplus. Subsoil moisture 77% short, 23% adequate. Harvest corn, sorghum, soybeans good progress early but rain mid to late week drove farmers from most fields. Wheat seeding behind schedule but rain provided adequate moisture for planting, germination. Some stands emerged. Range, pastures continued to decline but recent rain should revive some areas before dormancy. Hay, roughage supplies 12% very short, 56% short, 32% adequate.

KENTUCKY: Mild high temperatures cool overnight weather. Rainfall below normal most locations. Lows lower 50s, highs upper 70s. Rain spotty.

Days suitable for fieldwork 5.4. Soil moisture 4% very short, 64% short, 32% adequate. Primary activities cut, house tobacco, bale hay, cut corn silage. Early corn yields down, late corn better yields. Corn 13% very poor, 34% poor, 45% fair, 8% good. Late beans continued to grow, develop beans. Some problems with pod worms. Tobacco continued to add size, weight. Leaves good size, quality good. Little if any house burn. Burley 76% cut. Dark tobacco 84% cut. Tobacco 1% very poor, 19% fair, 70% good, 9% excellent. Pastures 4% very poor, 11% poor, 46% fair, 39% good. Hay, roughage supplies 6% very short, 66% short, 27% adequate, 1% surplus.

LOUISIANA: Temperatures 1 to 4° above normal. Temperature extremes 59°; 96°. Rainfall 0.11 to 3.53 in.

Days suitable for fieldwork 4.3. Soil moisture 14% short, 44% adequate, 42% surplus. Corn 94% harvested. Rice 93% ripe. Soybeans 100% blooming; 98% setting pods; 23% turning color. Farmers

continued spraying insecticides, fungicides. Sweetpotatoes good; 46% harvested. Sugarcane good; 30% planted. Rain slowed planting. Hay final cutting 53%. Hay, roughage supplies 47% short, 53% adequate. Livestock feed obtained from pastures 90%. Livestock, pecans good. Pastures fair to good. Vegetables fair. Main activities: Harvesting corn, cotton, hay, rice, sorghum, soybeans, sweetpotatoes; planting sugarcane; preparing winter pastures, fall vegetables for planting.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.41 in. Temperature 67°, normal 69°. Temperature extremes 39°; 91°.

Days suitable for fieldwork 5.9. Topsoil moisture 70% adequate, 30% surplus. Subsoil moisture 25% short, 75% adequate. Hay supplies 20% short, 80% adequate. Corn 45% poor, 45% fair, 10% good; 85% dent, 91% avg.; 55% mature, 60% avg.; silage 75% harvested, 75% avg.; grain 15% harvested, 20% avg. Soybeans 40% fair, 60% good; 90% podded, 98% avg.; 25% turning, 35% avg. Tobacco 100% good; 90% harvested, 75% avg. Alfalfa 3rd cutting 95%, 98% avg. Apples, peaches 50% fair, 50% good. Peaches 98% harvested, 100% avg. Apples 45% harvested, 40% avg.

DELAWARE: Precipitation 0.27 in. Temperature 67°, normal 69°. Temperature extremes 43°; 87°.

Days suitable for fieldwork 6.9. Topsoil moisture 100% adequate. Subsoil moisture 100% adequate. Hay supplies 100% adequate. Corn 100% fair; 97% dent, 95% avg.; 45% mature, 80% avg.; silage 85% harvested, 75% avg.; grain 25% harvested, 25% avg. Soybeans 100% good; 15% turning, 40% avg. Alfalfa 4th cutting 60%, 75% avg. Apples, peaches 100% good. Peaches 100% harvested, 99% avg. Apples 35% harvested, 35% avg.

MICHIGAN: Temperatures 1 to 5° above normal. Temperature extremes 34°; 83°. Precipitation none to 1.60 in.

Days suitable for fieldwork 6.0. Soil moisture 35% short, 65% adequate. Corn 20% mature, 55% 1987, 35% avg.; 1% harvested, 5% 1987, 2% avg.; 10% very poor, 30% poor, 35% fair, 22% good, 3% excellent. Soybeans 30% shedding, 70% 1987, 50% avg.; none harvested, 2% 1987, none avg.; 5% very poor, 15% poor, 35% fair, 35% good, 10% excellent. Dry beans 20% mature, 45% 1987, 50% avg.; 5% very poor, 25% poor, 40% fair, 25% good, 5% excellent. Winter wheat 8% planted, 10% 1987, 4% avg. Pastures supplied 35% livestock feed. Major activities: Corn silage harvesting, hay harvesting, dry bean harvesting, fruit, vegetable harvesting, winter wheat seeding.

MINNESOTA: Temperatures 3 to 7° above normal. Temperature extremes 33°; 95°. Precipitation 0.54 to 1.94 in. Greatest weekly total 2.67 in.

Days suitable for fieldwork 6.0. Topsoil moisture 34% very short, 50% short, 16% adequate. Corn 92% mature, 85% 1987, 42% avg.; 18% combined, 3% 1987, 1% avg.; 76% silage cut, 64% 1987, 28% avg.; 24% moisture content, 26% 1987. Soybeans 98% shedding leaves, 94% 1987, 51% avg.; 59% mature, 55% 1987, 19% avg.; 25% combined, 8% 1987, 2% avg.; 12% moisture content, 13% 1987. Dry edible beans 60% harvested, 75% 1987, 40% avg. Potatoes 40% harvested, 60% 1987, 38% avg. Flax 74% harvested, 91% 1987, 64% avg. Sunflowers 17% harvested, 6% 1987, 1% avg. Winter wheat 88% seeded, 91% 1987, 70% avg. Rye 88% seeded, 89% 1987, 69% avg. Hay, grain 71% stubble plowed, 72% 1987, 58% avg. Hay supplies 12% very short, 56% short, 31% adequate, 1% surplus. Livestock feed now obtained from pastures 31%.

MISSISSIPPI: Hurricane Gilbert brought cloudy skies, warm temperatures, above average rainfall. Extremes 58°; 97°.

Days suitable for fieldwork 4.4, 5.9 1987, 5.7 avg. Soil moisture 10% very short, 15% short, 55% adequate, 15% surplus, 5% excessive. Corn fair to poor; 45% harvested, 75% 1987, 60% avg. Sorghum fair; 44% harvested, 82% 1987, 59% avg. Cotton good; 90% open bolls, 94% 1987, 83% avg.; 10% harvested, 15% 1987, 12% avg. Rice good; 30% harvested, 65% 1987, 47% avg. Soybeans fair; 1% harvested, 2% 1987, 1% avg. Hay 82% harvested, 90% 1987, 88% avg. Corn silage 94% harvested, 96% 1987, 95% avg. Sorghum silage 84% harvested, 94% 1987, 86% avg. Sweetpotatoes 36% harvested, 38% avg. Peanuts 54% harvested, 53% avg. Wheat 11% planted, 7% 1987. Livestock good. Pasture good. Pecans fair. Hay, roughage supplies 50% short, 50% adequate. Hurricane Gilbert did not greatly affect Mississippi. Weekend rain delayed cotton harvest slightly. Activities: Harvesting silage crops, rice, corn, sorghum, defoliating cotton.

MISSOURI: Temperatures 3 to 8° above normal, warmest northeast. Heavy rains western, southeastern areas, lighter elsewhere.

Days suitable for fieldwork 5.6 Topsoil moisture 59% short, 33% adequate, 8% surplus. Row crop harvest delayed by rain. Corn harvest ranges 16% central, east central to 61% southeast. Sorghum harvest varies 2% northeast to 27% southeast. Stockwater supplies 20% critically short, 43% short, 37% adequate. Pastures 24% very poor, 35% poor, 38% fair, 2% good. Pasture supplying 61% of livestock feed requirements.

MONTANA: Temperatures near normal. All stations some moisture with most well above normal. Rain 18th, 19th south and southeast. Another system caused rain or snow north on 17th, spread across State. Two storms dropped over 1.00 in. of precipitation at most locations.

Days suitable for fieldwork 5.5. Topsoil moisture 84% short, 15% adequate, 1% surplus. Weekend rains improved situation considerably. Subsoil moisture 91% short, 8% adequate, 1% surplus. Potatoes 6% harvested, 5% 1987, 6% avg; corn silage 71% harvested, 15% 1987, 3% avg.; dry beans 51% harvested, 18% 1987, 33% avg.; 2nd cut alfalfa 95% harvested, 89% 1987, 89% avg.; 3rd cut alfalfa 47% harvested. Pasture, range feed 59% very poor, 27% poor, 11% fair, 2% good. Cattle, calves moved from summer pastures 64%, 15% 1987, 33% avg.; sheep, lambs moved from summer ranges 69%, 18% 1987, 38% avg.

NEBRASKA: Temperatures varied across State with below normal temperatures west, above normal temperatures east. Most areas received rain 0.10 to 3.00 in. Extremes 36°; 95°.

Days suitable for fieldwork 4.7. Topsoil moisture 29% short, 66% adequate, 5% surplus. Subsoil moisture 79% short, 21% adequate. Row crop harvesting continued ahead of 1987 and average. Harvesting for grain progress corn 10%, soybeans 5%, sorghum 7%. Corn producers worried about ear droppage in northeast. Third cutting alfalfa complete; 5% very poor, 10% short, 60% adequate, 25% surplus. Winter wheat 45% planted, 69% 1987, 57% avg. Pasture, range feeds supplies 10% very short, 45% short, 45% adequate.

NEVADA: Upper level low pressure system early lowered temperatures to slightly below normal. High pressure system midweek brought high temperatures but short lived as another low pressure air movement end of period dropped temperatures to below normal. No precipitation.

Dry weather allowed good progress alfalfa seed combining, potato digging, harvesting remaining

acreage small grains, hay. Movement cattle to lower elevation ranges full swing. Hay roughage supplies 33% short, 60% adequate, 7% surplus.

NEW ENGLAND: Precipitation 0.50 to 1.00 in. Vermont, coastal Connecticut, 0.25 to 0.50 in. remainder. Temperatures 50° near Canadian border to low 60s southern coast. Temperatures near normal.

Days suitable for fieldwork 6.0. Fieldwork 1.0 days ahead. Soil moisture 10% short, 80% adequate, 10% surplus. Grazing availability 100% adequate. Maine potatoes 10% harvested, 23% 1987, 15% avg.; good. Rhode Island potatoes 70% dug, 54% 1987, 67% avg.; good. Connecticut River Valley potatoes 35% harvested, 38% 1987, 39% avg.; fair to good. Maine oats 90% harvested, 79% 1987, 63% avg.; fair. Field corn 25% harvested, 20% 1987, 18% avg.; good. Sweet corn 91% picked, 89% 1987, 89% avg.; good. Outdoor tobacco fair to good. Shade tobacco harvest complete; good to excellent. Second crop hay 90% cut, 91% 1987, 92% avg.; fair to good. Third crop hay 62% cut, 49% 1987, 61% avg.; good. Apples 19% picked, 27% 1987, 22% avg.; good; medium size; color good. Cranberry harvest less than 1%; good; better than average size; color good to excellent. Major farm activities: Harvesting corn silage, hay, vegetables, fruits.

NEW JERSEY: Temperatures below normal. Extremes 32°; 85°. Rainfall 1.54 in. north, 0.80 in. central, 0.39 in. south. Heaviest 24-hour total 1.30 in. on 12th, 13th. Estimated soil moisture percent field capacity 96% north, 77% central, 71% south. Four inch soil temperatures 60° north, 63° central, 64° south.

Fieldwork active 5 to 6 days suitable. Below normal temperatures slowed late season crop growth. Soil moisture adequate. Fall vegetable harvest increased. Peach harvest complete; supplies moved from storages. Fall variety apple harvest active. Corn silage making continued active. Grain corn, soybeans maturing. Some hay still cut. Pasture growth improved. Seeding of small grain, cover crops general. Hay, roughage supplies 30% short, 70% adequate.

NEW MEXICO: Heavy rain north central, northeastern areas; temperatures 32 to 96°.

Days suitable for fieldwork 6.5. Soil moisture 13% short, 62% adequate, 25% surplus. Cotton 62% bolls open; 50% fair, 50% good. Wheat 50% fair, 50% good; 60% planted. Cattle 38% fair, 49% good, 13% excellent. Sheep 17% fair, 66% good, 17% excellent. Range 33% fair, 56% good, 11% excellent. Hay, roughage stock supplies 44% short, 56% adequate.

NEW YORK: Cool, scattered frost many upstate areas 16th. Afternoon temperatures 65 to 70° most days. Rainfall near or little above normal.

Days suitable for fieldwork 5.6. Soil moisture mostly adequate. Pasture, hay fair to good, corn mostly good. Third cutting of alfalfa 46%, 61% 1987, 51% avg. Corn silage harvest underway. McIntosh apple harvest active. Concord grape harvest underway. Ideal weather for fall vegetable crops. Wayne County onion harvest started. Vegetable harvest at peak.

NORTH CAROLINA: Temperatures near normal, statewide. Temperature extremes 47°; 94°. Precipitation none to 1.30 in.

Days suitable for fieldwork 5.5. Soil moisture 8% short, 88% adequate, 4% surplus. Pasture 2% poor, 38% fair, 56% good, 4% excellent. Flue-cured tobacco 80% harvested, 79% 1987, 82% avg. Tobacco 1% very poor, 26% fair, 68% good, 5% excellent. Peanuts 4% poor, 34% fair, 62% good. Sweetpotatoes 20% fair, 72% good, 8% excellent; 15% harvested, 15% 1987, 13% avg. Hay 5% poor, 39% fair, 55% good, 1% excellent. Livestock feed obtained from pastures 77%. Apples 42% harvested, 49% 1987, 43% avg.; 11% poor, 33% fair, 56% good. Corn silage 79% harvested, 88% 1987, 80% avg. Sorghum for grain 29% harvested, 22% 1987, 20% avg.; 3% poor, 44% fair, 53% good. Burley tobacco 62% harvested, 76% 1987, 63% avg. Major farm activities: Tobacco harvesting, marketing; baling hay; harvesting corn silage, corn, sweetpotatoes sorghum, apples; spraying soybeans, peanuts, cotton; shearing Christmas trees; land preparation for fall planting; tending livestock, general farm maintenance.

NORTH DAKOTA: Temperatures near normal statewide. Extremes 31°; 87°. Precipitation received as two weather systems passed through. Amounts 0.12 to 0.80 in.

Days suitable for fieldwork 6.0. Moisture supplies improved with recent rains. Topsoil 49% very short, 30% short, 21% adequate. Subsoil 75% very short, 22% short, 3% adequate. Row crop harvest continued rapid pace. Sunflower 8% harvested, none 1987, none avg.; corn for grain 10%, none 1987, 1% avg.; flax 80%, 59% 1987, 52% avg.; dry edible beans 75%, 48% 1987, 37% avg.; soybeans 40%, 12% 1987, 6% avg.; corn for silage 81% cut, 44% 1987, 44% avg.; potatoes 34% dug, 64% 1987, 39% avg.; sugarbeets 1% lifted, 10% 1987, 7% avg. Pastures furnished 55% roughage requirements; 98% very poor to poor, 1% fair, 1% good. Hay, roughage supplies 26% very short, 60% short, 14% adequate.

OHIO: Low temperatures 50s. High temperature mid to high 70s. Temperature 1 to 4° above normal. Rainfall 0.29 to 3.01 in.

Days suitable for fieldwork 5.4. Soil moisture 23% short, 74% adequate, 3% surplus. Crop conditions slightly improved. Row crop harvests advanced slowly. Weeds, bean leaf beetle caused problems in soybeans; some spraying to control. Soybeans poor to fair. Grasslands fair; rains interfered with hay curing. Harvests of fruits, vegetable, tobacco continued. Winter wheat planting slow.

OKLAHOMA: Temperatures 2° below normal Panhandle to 6° above normal east central. Precipitation 0.10 in. southeast to 4.55 in. southwest.

Days suitable for fieldwork 6.0. Topsoil moisture 65% short, 35% adequate. Subsoil moisture 70% short, 30% adequate. Cotton 50% fair, 50% good; 25% open bolls, 10% 1987, 20% avg. Sorghum 5% poor, 20% fair, 75% good; 75% coloring, 90% 1987, 90% avg.; 15% mature, 20% 1987, 30% avg.; 5% harvested, 3% 1987, 5% avg. Peanuts 50% mature, 20% 1987, 20% avg. Soybeans 90% setting pods, 98% 1987, 95% avg.; 5% mature, 25% 1987, 15% avg. Corn 35% harvested, 70% 1987, 55% avg. Pastures fair. Cattle marketings average, prices down from preceding week.

OREGON: Temperatures mostly 2° below normal. Many eastern sites had lows below freezing. Greatest precipitation upper valleys west, northeast mountains.

Soil moisture 71% short, 29% adequate. Barley harvest essentially complete. Barley 1% seeded, 3% 1987. Hay, roughage supplies 21% short, 70% adequate, 9% surplus. Earliest winter wheat emerged Columbia Basin. Fall field preparations major activity around State. Red clover seed harvested Willamette Valley. Little high elevation bentgrass harvested west. Grass seed fields planted central, western areas. Dry beans 80% harvested Malheur County. Silage corn harvested Jackson, Malheur Counties. Fourth alfalfa cutting on irrigated land southwest. Bartlett pear harvest

complete. Apples, winter pears now being picked. Peach harvest winding down. Prunes shriveling on trees west. Filberts falling Willamette Valley. Cranberries sprinkled for scald control due to heat south coast. Onions harvested Malheur County, Willamette Valley, Jackson County. Potato harvest continued Malheur County, Willamette Valley, Hermiston-Boardman area; sprayed for vine kill central area. Sweet corn harvest continued Willamette Valley, Jackson County. Carrot seed harvest neared completion central area. Livestock mostly good. Stockwater short southeast. Federal grazing allotments conclude in 2 weeks. Range, pasture poor to fair. Fall grass green-up behind normal.

PENNSYLVANIA: Rain from Hurricane Florence, frontal systems gave Commonwealth above normal rainfall. Temperature 60°, 5° below normal. Temperature extremes 34°; 86°. Precipitation 1.18 in., 0.33 in. above normal.

Days suitable for fieldwork 5.0. Soil moisture 32% short, 68% adequate. Corn 91% dough, 100% 1987, 99% avg.; 54% dent, 83% 1987, 72% avg.; 12% mature, 34% 1987, 20% avg.; none harvested, 3% 1987, 1% avg. Ensilage corn 26% harvested, 40% 1987. Corn 15% very poor, 27% poor, 34% fair, 20% good, 4% excellent. Soybean 7% very poor, 23% poor, 36% fair, 28% good, 6% excellent. Wheat 13% planted, 27% 1987. Barley 23% planted, 38% 1987. Tobacco 78% harvested, 82% 1987. Potatoes 41% harvest, 50% 1987. Third cutting alfalfa 81%, 66% 1987; 4th cutting 29%, 32% 1987. Second cutting clover-timothy 94%, 92% 1987. Hay, roughage supplies 13% very short, 53% short, 34% adequate. Livestock feed now obtained from pastures 28%. Quality of hay fair to good. Feed from pastures average to below average. Apples 32% harvested, 42% 1987. Peaches 91% harvested, 94% 1987. Grapes 15% harvested, 38% 1987. Fall plowing 44%, 46% 1987. Activities: Harvesting corn silage, hay, haylage, tobacco, fruit, potatoes, other vegetables; planting wheat, barley; fall plowing; controlling weeds, insects; caring for livestock; maintaining machinery.

PUERTO RICO: Island rainfall 3.26 in., 1.42 in. above normal. Highest weekly total rainfall 10.42 in. Pico Del Este-Luquillo, 6.70 in. Maunabo, 6.68 in. Juncos. Highest 24-hour total 3.60 in. Pico Del Este-Luquillo. Accumulated total rainfall since January 1st 46.70 in., 13% above normal. San Juan WSFO mean temperature 81°, 1° above normal. Total rainfall 1.63 in., 0.23 in. above normal. Divisional temperature 79 to 80° on coasts, 75° interior. Mean station temperature 67° Pico Del Este-Luquillo to 82° San Juan City. Lowest minimum temperature Adjuntas. Highest maximum temperature 95° San Sebastian.

SOUTH CAROLINA: Temperatures 2° below seasonal levels upstate to normal elsewhere. Showers alleviated moderate drought conditions across northwest counties, while Midlands and Coastal Plains received enough to delay fieldwork.

Days suitable for fieldwork 4.8. Soil moisture 15% short, 76% adequate, 9% surplus. Cotton 51% open bolls, 73% 1987, 73% avg.; 2% very poor, 24% poor, 71% fair, 3% good. Soybeans 91% setting pods, 89% 1987, 89% avg.; 13% leaves turning, 15% 1987, 14% avg.; 4% leaves shedding, 3% 1987, 2% avg.; 1% poor, 34% fair, 60% good, 5% excellent. Tobacco fair to good; 95% harvested, 97% 1987, 97% avg.; 25% stalks destroyed, 43% 1987, 43% avg. Corn fair; 98% matured, 100% 1987, 100% avg.; 43% harvested, 61% 1987, 68% avg. Peanuts fair; 3% harvested, 11% 1987, 9% avg. Sorghum fair to good; 23% harvested, 43% 1987, 30% avg. Pastures fair to good. Hay, roughage supplies 9% very short, 56% short, 34% adequate, 1% surplus.

SOUTH DAKOTA: Temperatures 2° below to 7° above normal. Extremes 34°; 100°. Rainfall above normal over much of east, below normal over much of west, central.

Days suitable for fieldwork 5.2. Topsoil moisture 55% critically short, 27% short, 18% adequate. Livestock feed obtained from pastures 75%. Fall seeding behind normal, row crop progress ahead of normal. Concerns with wind erosion, spotty wheat stands in fall.

TENNESSEE: Cold front moved through State midweek. Rainfall southeast early week, statewide late week. Temperatures 3 to 5° above normal. Precipitation 1.00 in. above normal statewide.

Days suitable for fieldwork 4.4. Soil moisture 7% very short, 45% short, 48% adequate. Corn 64% mature, 93% 1987, 82% avg.; 12% harvested, 41% 1987, 25% avg. Burley 76% harvested, 89% 1987, 77% avg. Main activities: Tobacco, corn, sorghum harvest; seeding wheat.

TEXAS: Strong ridge over Tennessee Valley, middle Atlantic States pumped very warm, humid air into area early week. Showers few, far between. Cool front brushed northwest setting off few thunderstorms northern Blacklands to Panhandle. Late week focus shift southward to Hurricane Gilbert. Storm plowed into southern Gulf 15th, bringing winds, showers coastal areas. Gilbert moved into northern Mexico 16th, weekend torrential rains south. Storm swept central, north later weekend. Some tornadoes accompanied storm south. Temperatures slightly below normal High Plains, near or slightly above normal elsewhere. Slightly below normal Lower Valley. Rainfall variable. Northwest, south above normal. East dry.

Crops: General corn harvest for grain nearing High Plains, fields mature. Some lodging because hail, high winds. Harvest silage winding down. Yields very good. Some light harvest grain continued, conditions allowed. Corn 100% dented, 100% 1987, 99% avg. Grain sorghum harvest winding down Hill Country, Cross-Timbers, fair yields late crop. Fields mature Plains, rains slowed light harvest. Hail caused some damage. Producers' expectations crop very good; most producers would like late frost. Sorghum 100% headed, 100% 1987, 100% avg.; 91% turning color, 95% 1987, 89% avg. Cotton High Plains hurt some by hail, scattered heavy rain. Crop still looks good; continued warmer weather needed to open bolls. Dryland fields Cross-Timbers very stressed for moisture. Some defoliation. Harvest continued minimal delays Blacklands, very good yields. Heavy rain from hurricane could hurt remaining crop. Bolls continued open Trans-Pecos, boll weevils remained problem. Warmer weather needed. Small grain seeding slowed Plains by rain. Early stands look good, rain should help. Newly planted fields received too much rain some areas, may need replanting. Planting increased Low Plains some scattered rain. More rain needed to get fields up to stands. Producers dry planting parts Blacklands, central. Harvest 1st crop rice virtually completed Upper Coast ahead of hurricane. Additional rain help 2nd crop. Peanut harvest continued south before rain. Dryland yields low. Irrigated fields look good. Harvest began some areas central, Cross-Timbers early varieties. Harvest began Low Plains. Soybeans normal progress Plains. Most irrigation operations completed. Some plants lose leave harvest began. Upper Coast harvest slowed end week. Other Field Crops: Peanuts 6% harvested, 8% 1987, 8% avg. Soybeans 28% harvested, 17% 1987, 10% avg. Sunflowers 13% harvested, 4% 1987, 8% avg. Oats 7% planted, 17% 1987, 21% avg.

Commercial Vegetables: Rio Grande Valley damage minimal from rain. Planting operations slowed as

fields dry out. Citrus growers narrowly missed another disaster, damage very light. Winds could cause some scarring; extent not yet known. Harvest begin soon early oranges. San Antonio-Winter Garden early planted fields look good. Rainfall help with irrigation needs. East sweetpotato harvest continued. Planting continued, rain needed for growth progress. High Plains carrot, pepper harvest slowed by rain. Yields remained good. Trans-Pecos tomato, peppers harvested. Pecan harvest neared early varieties south, east. High winds from Hurricane Gilbert caused excessive drop some areas. Shucks began splitting Cross-Timbers, central. Trans-Pecos crop looks good.

Range and Pasture: Range, pasture condition much improved Plains. Other areas central, south should improve with expected rain. Haying operations remained active east. Stockers continued arrive Plains. Some dairy herds affected by corn with aflatoxin. Marketings remained steady, also livestock conditions. Hay, roughage supplies 13% very short, 42% short, 41% adequate, 4% surplus.

UTAH: Precipitation light western, heavy eastern. Temperatures 3 to 6° below normal.

Days suitable for fieldwork 5.7. Soil moisture 46% short, 54% adequate. Winter wheat 51% seeded, 72% 1987, 63% avg. Corn 81% dent, 75% 1987, 65% avg.; 64% matured, 49% 1987, 37% avg.; silage 43% harvested, 45% 1987, 24% avg. Alfalfa 3rd cutting 80% harvested, 73% 1987, 56% avg. Onion harvest at midpoint. Potato, apple harvests continued. Livestock movement from summer range 14% cattle, 2% 1987, 4% avg.; 12% sheep, 2% 1987, 4% avg. Irrigation water supplies 33% very short, 29% short, 38% adequate. Stockwater supplies 8% very short, 50% short, 42% adequate. Hay, roughage supplies 32% short, 56% adequate, 12% surplus. Range feed 8% very poor, 42% poor, 31% fair, 19% good. Cattle, sheep mostly fair to good.

VIRGINIA: Temperatures near normal. Rain beginning, end period. Temperature 42 to 91°. Most areas received 0.50 in. rain or less. Maximum 2.00 in. central location.

Days suitable for fieldwork 6.2. Topsoil moisture 37% short, 58% adequate, 3% surplus. Grain corn 25% harvested, 46% 1987, 39% avg.; silage 60% harvested, 75% 1987, 71% avg. Soybeans mostly good. Corn earworm spraying winding down. Peanuts excellent. Some sprayed for leafspot. Harvest to begin next period. Flue-cured tobacco 69% harvested, 54% 1987, 69% avg. Burley tobacco 54% harvested, 74% 1987, 80% avg. Barley 6% seeded, 9% 1987, 12% avg. Wheat seeding began. Apples 33% harvested, on schedule. Fall hay cut, seeded. Cattle sales active.

WASHINGTON: Cool marine air dominated first part of week, later high pressure returned. Little precipitation west of Cascades; small amounts east. Temperatures remained near to slightly below normal entire period.

Planting fall grains, harvest late season field crops continued. Winter wheat 52% seeded, 48% 1987, 46% avg. Emergence winter wheat crops continued. Growers Adams, Lincoln Counties monitoring seedlings for Russian wheat aphids. Soil moisture 80% short, 20% adequate. Some areas very dry; Okanogan County too dry to seed fall grains. Processing, fresh market potato harvest continued. Dry bean, corn silage, hop, mint harvests also ongoing. Corn grain harvest began. Cutting 3rd crop hay winding down. Harvest of golden delicious, gravenstein, other early apple varieties ongoing. Red delicious apple maturity continued progress; few early maturing orchards expected to reach optimum quality this week. D'Anjou pear harvest well underway. Late blueberry harvest winding down. Cranberry crop well colored. Sweet corn harvest continued. Squash, melons, beans, carrots also being reaped. Dry onion harvest neared midpoint. Cauliflower, cucumbers, lettuce being harvested west of Cascades.

WEST VIRGINIA: Temperature 66°, 1° above normal. Extremes 39° Greenbank; 87° Creston, Gary, Weston. Precipitation 1.24 in., 0.09 in. below to 1.15 in. above normal.

Days suitable for fieldwork 4.9. Soil moisture 9% very short, 57% short, 34% adequate. Corn fair to poor; 97% dough, 40% mature. Apples good to fair. Feed supplies 18% very short, 39% short, 43% adequate. Feed from pasture 76%. Farm activities: General farm maintenance, livestock care, haying.

WISCONSIN: Warm, temperatures 64°, 4° above normal. Extremes 33°; 93°. Precipitation 0.80 to 2.08 in.

Days suitable for fieldwork 4.9. Soil moisture 91% short, 9% adequate. Crops 8% very poor, 37% poor, 45% fair, 10% good. Corn slight improvement 9% very poor, 37% poor, 38% fair, 16% good; 88% in dent, 92% 1987, 77% avg.; 63% mature, 65% 1987, 44% avg.; drying rapidly. Corn for grain 5% harvested, 3% 1987, none avg.; silo filling 52%, 43% 1987, 18% avg.; earliest ever completion for some. Third crop hay 74% cut, 69% 1987, 54% avg. Some 4th to be cut after frost. Soybeans 71% turning, 71% 1987, 63% avg.; 46% shedding, 39% 1987, 29% avg. Winter wheat, rye up; some still planting. Fall plowing 11%, 9% 1987, 7% avg. Feed, roughage supplies 19% very short, 59% short, 22% adequate.

WYOMING: Temperatures below normal. Precipitation above normal.

Days suitable for fieldwork 5.0. Topsoil moisture 76% short, 24% adequate. Oats 5% mature, 5% 1987, 10% avg.; 95% harvested, 95% 1987, 90% avg. Dry beans 90% windrowed, 65% 1987, 70% avg.; 55% combined, 45% 1987, 60% avg. Corn milk stage 5% 1987; 15% dough, 15% 1987, 15% avg.; 45% dented, 55% 1987, 55% avg.; 35% mature, 25% 1987, 25% avg.; 5% harvested, none 1987, 5% avg. Corn silage 55% harvested, 55% 1987, 60% avg. Sugarbeets 5% dug, 10% 1987, 10% avg. Potatoes 25% harvested, 40% 1987, 45% avg. Winter wheat 50% seeded, 60% 1987, 75% avg.; 10% emerged, 20% 1987, 40% avg.; most fair. Alfalfa 3rd cutting 60%, 45% 1987, 45% avg. Roughage supplies 10% very short, 60% short, 25% adequate, 5% surplus. Livestock feed obtained from pastures 85%. Prospects for winter grazing poor to fair. Livestock producers plan to winter less cattle, sheep than 1987.

CROP PROGRESS 1/

FOR WEEK ENDING SEPTEMBER 18, 1988

RICE
% HARVESTED

	1988	1987	AVG.
ARK	21	57	40
CALIF	5	2	4
LA	75	89	84
MISS	30	65	47
TEX	99	100	96
5 STATES	38	60	50

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

GRAIN SORGHUM
% MATURE

	1988	1987	AVG.
ARK	74	94	NA
ILL	77	85	NA
KANS	40	30	20
LA	93	96	95
MISS	79	93	91
MO	50	74	66
NEBR	88	47	34
OKLA	15	20	30
S DAK	61	64	34
TENN	68	91	69
TEX	65	70	69
11 STATES	57	52	NA
EXCL. STATES WITH NA	56	50	42

THESE 11 STATES PRODUCED 96% OF THE 1987 GRAIN SORGHUM CROP.

NA - NOT AVAILABLE.

SOYBEANS
% DROPPING LEAVES

	1988	1987	AVG.
ALA	11	23	17
ARK	4	11	11
GA	15	20	23
ILL	64	72	59
IND	62	87	62
IOWA	76	58	50
KANS	70	45	35
KY	28	46	28
LA	9	27	20
MICH	30	70	50
MINN	98	94	51
MISS	9	22	22
MO	37	42	32
NEBR	87	41	31
N C	1	4	5
OHIO	40	87	54
S C	4	3	2
S DAK	98	87	61
TENN	18	44	23
19 STATES	53	57	42

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

CORN
% MATURE

	1988	1987	AVG.
COLO	38	25	24
GA	100	100	100
ILL	90	97	79
IND	69	97	71
IOWA	99	91	70
KANS	85	80	60
KY	64	89	71
MICH	20	55	35
MINN	92	85	42
MO	88	91	83
NEBR	90	61	47
N C	92	94	95
OHIO	26	80	58
PA	12	34	20
S DAK	89	77	52
TEX	97	94	90
WIS	63	65	44
17 STATES	79	82	62

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

GRAIN SORGHUM
% HARVESTED

	1988	1987	AVG.
ARK	44	84	64
ILL	4	40	10
KANS	10	10	5
LA	65	82	85
MISS	44	82	59
MO	13	36	25
NEBR	7	2	1
OKLA	5	3	5
S DAK	4	8	1
TENN	18	68	41
TEX	63	57	59
11 STATES	26	29	25

THESE 11 STATES PRODUCED 96% OF THE 1987 GRAIN SORGHUM CROP.

SOYBEANS
% HARVESTED

	1988	1987	AVG.
ALA	0	11	2
ARK	0	0	0
GA	0	1	1
ILL	9	24	11
IND	4	24	4
IOWA	16	3	1
KANS	5	3	2
KY	1	6	2
LA	1	2	2
MICH	0	2	0
MINN	25	8	2
MISS	1	2	1
MO	2	4	3
NEBR	5	1	1
N C	0	0	0
OHIO	2	16	4
S C	0	0	0
S DAK	7	3	2
TENN	0	0	0
19 STATES	7	9	3

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

CORN
% HARVESTED

	1988	1987	AVG.
COLO	2	0	0
GA	71	84	83
ILL	12	25	10
IND	4	20	5
IOWA	20	6	5
KANS	35	25	10
KY	7	32	17
MICH	1	5	2
MINN	18	3	1
MO	25	30	22
NEBR	10	3	2
N C	24	28	37
OHIO	2	12	7
PA	0	3	1
S DAK	6	0	0
TEX	74	68	68
WIS	5	3	0
17 STATES	13	16	9

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

WINTER WHEAT
% PLANTED

	1988	1987	AVG.
ARK	0	0	1
CALIF	0	0	0
COLO	39	33	42
GA	1	0	3
IDAHO	10	4	23
ILL	3	2	2
IND	3	3	4
KANS	10	25	15
MICH	8	10	4
MO	8	5	4
MONT	7	30	20
NEBR	45	69	57
N MEX	60	50	NA
N C	0	0	0
OHIO	5	2	0
OKLA	15	35	15
OREG	9	3	4
S DAK	45	78	66
TEX	37	37	23
WASH	52	48	46
20 STATES	21	31	NA
EXCL. STATES WITH NA	21	30	22

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

NA - NOT AVAILABLE.

COTTON
% BOLLS OPENING

	1988	1987	AVG.
ALA	82	76	65
ARIZ	99	87	91
ARK	77	93	77
CALIF	80	95	81
GA	58	65	62
LA	84	92	77
MISS	90	94	83
MO	49	100	77
N MEX	62	50	83
N C	80	88	85
OKLA	25	10	20
S C	51	73	73
TENN	54	86	71
TEX	30	34	30
14 STATES	54	61	54

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

COTTON
% HARVESTED

	1988	1987	AVG.
ALA	17	24	8
ARIZ	3	5	2
ARK	3	23	11
CALIF	0	0	0
GA	5	3	4
LA	11	20	16
MISS	10	15	12
MO	1	38	12
N MEX	0	0	0
N C	0	4	1
OKLA	0	0	0
S C	0	2	5
TENN	4	24	8
TEX	17	15	13
14 STATES	10	14	10

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 SEPTEMBER 18, 1988

SOYBEANS

STATE	VP	P	F	G	EX
ALA	1	5	36	56	2
ARK	0	11	50	39	0
GA	0	3	31	59	7
ILL	7	23	59	11	0
IND	3	27	56	14	0
IOWA	6	35	46	13	0
KANS	2	47	27	22	2
KY	1	7	57	31	4
LA	0	5	41	43	11
MICH	5	15	35	35	10
MINN	10	34	48	8	0
MISS	0	7	55	35	3
MO	10	29	47	14	0
NEBR	6	17	66	11	0
N C	1	2	27	68	2
OHIO	12	25	40	22	1
S C	0	1	34	60	5
S DAK	2	5	59	30	4
TENN	0	14	58	28	0
19 STATE	5	23	49	22	1

COTTON

STATE	VP	P	F	G	EX
ALA	15	31	38	16	0
ARIZ	0	0	0	89	11
ARK	0	0	12	83	5
CALIF	0	0	15	70	15
GA	18	19	50	13	0
LA	0	0	54	44	2
MISS	0	5	35	60	0
MO	0	0	38	54	8
N MEX	0	0	50	50	0
N C	4	0	23	69	4
OKLA	0	0	50	50	0
S C	2	24	71	3	0
TENN	4	8	32	56	0
TEX	0	5	35	54	6
14 STATE	1	4	35	55	5

GRAIN SORGHUM

STATE	VP	P	F	G	EX
ARK	0	5	45	46	4
ILL	0	5	62	33	0
KANS	7	31	35	22	5
LA	0	9	39	52	0
MISS	0	15	50	35	0
MO	4	13	53	29	1
NEBR	0	30	43	27	0
OKLA	0	5	20	75	0
S DAK	5	29	35	31	0
TENN	3	7	65	25	0
TEX	0	1	31	49	19
11 STATE	3	19	37	34	7

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

International Weather and Crop Summary

September 11 - 17, 1988

USSR ... In Western USSR, dry weather over the eastern two-thirds of the Ukraine, the North Caucasus, and the lower Volga helps summer crop harvesting and winter grain planting. In the New Lands, periodic showers in the Urals and West Siberia cause harvest delays.

EUROPE ... Heavy rain favors newly planted winter grains in sections of the southeast.

SOUTH ASIA ... Showers continue in the south, benefiting reproductive to filling crops. Rain tapers off in the east, allowing floodwaters to subside.

EASTERN ASIA ... Heavy rain delays summer crop harvest across central, northeastern and eastern crop areas. Typhoon Hal brushes eastern Japan.

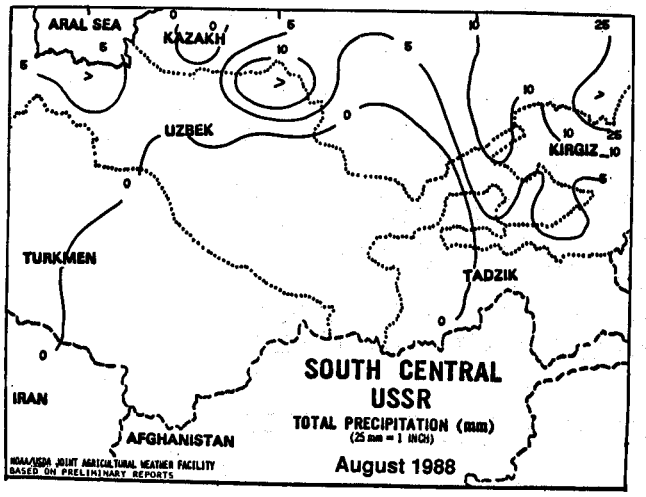
SOUTHEAST ASIA ... Showers benefit Thailand's rainfed rice. Variable rain continues over the Philippines.

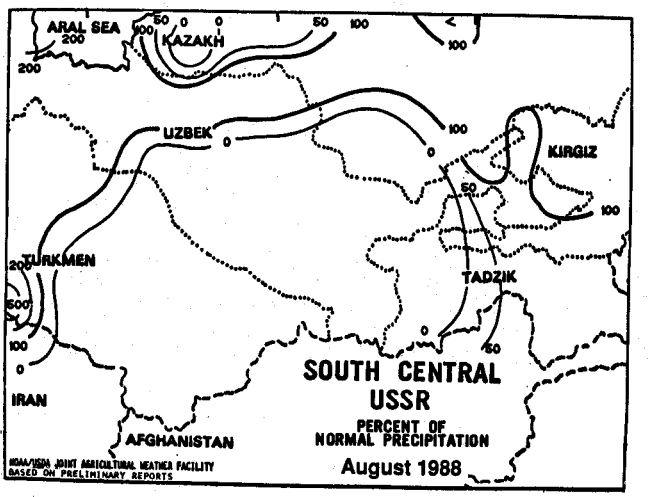
SOUTH AMERICA ... Beneficial rain in southern Brazil improves conditions for early summer crop planting. Dry weather prevails again in Argentina.

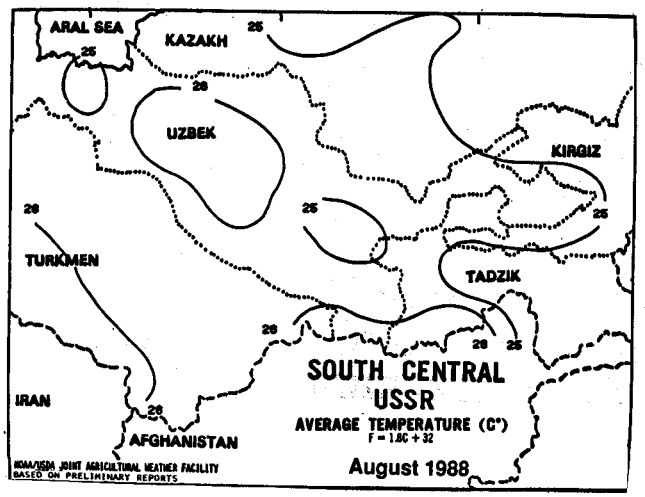
AUSTRALIA ... Rainfall favors jointing to heading winter cereals in most growing areas. Heavy rain causes possible localized flooding along the southeast coast.

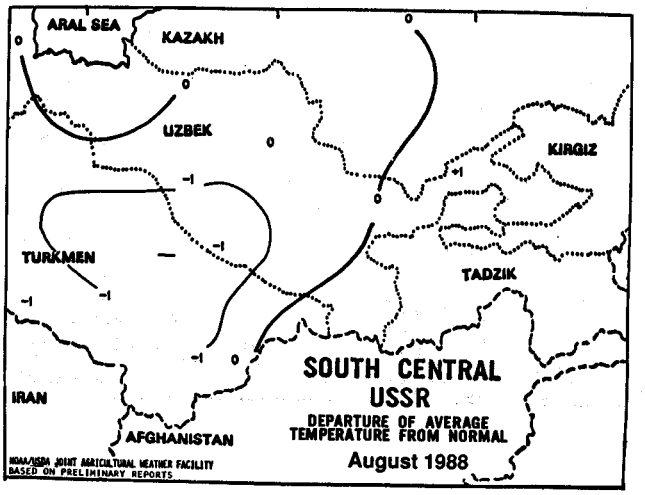
MEXICO ... Hurricane Gilbert pounds the Yucatan peninsula midweek and northeastern Mexico at week's end.

CANADA ... Rain slows spring wheat and oilseed harvesting but improves moisture conditions for winter wheat planting.

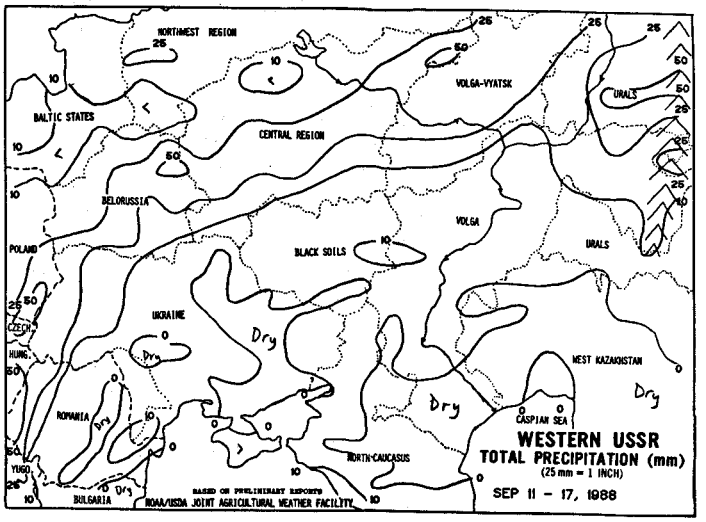


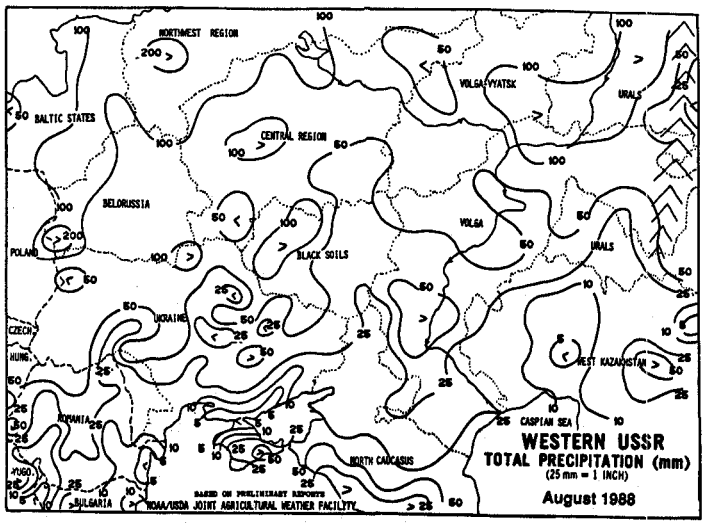


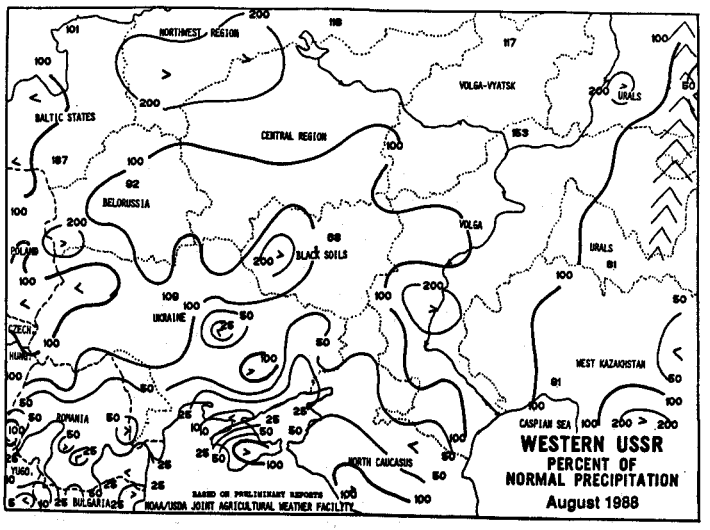


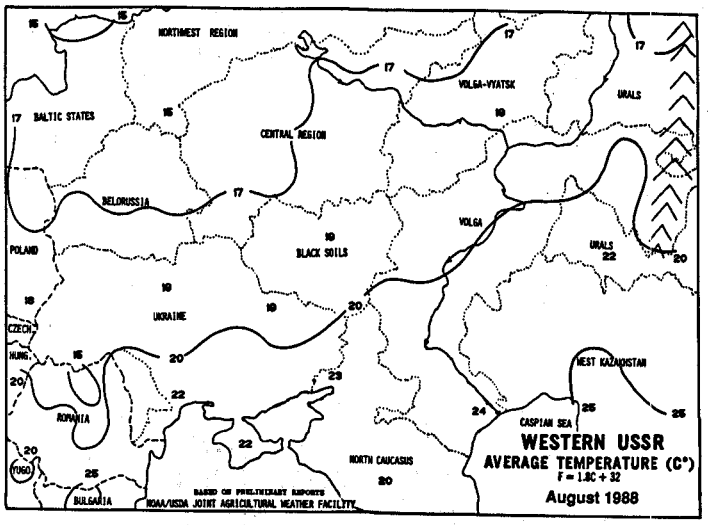


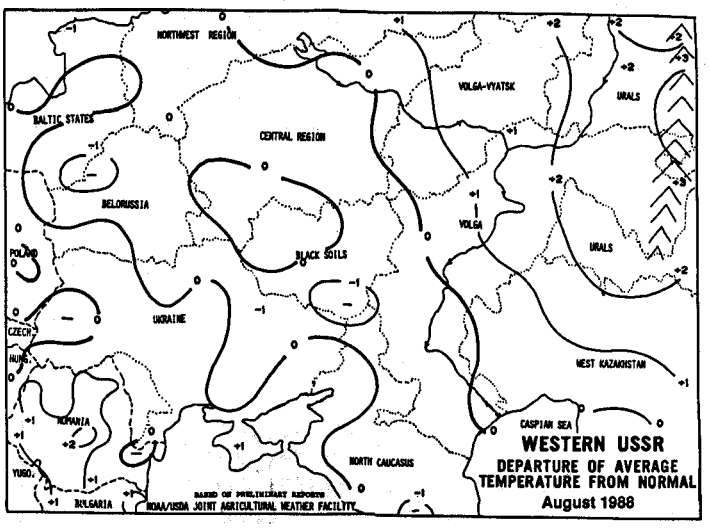
USSR ... Periodic showers (10-35mm) over the Baltic States, Belorussia, the western Ukraine, the Central Region, and the Volga Vyatsk benefited winter grain emergence and early plant establishment, but may have delayed final harvest efforts. Mostly dry weather over the eastern two-thirds of the Ukraine, the North Caucasus, and the lower Volga helped summer crop harvesting and winter grain planting. In August, crop harvesting progressed rapidly and planting of 1989 winter grain crops began in northern areas. Above-normal precipitation for August covered the Baltic States, Belorussia, and the western and northern Ukraine, delaying spring grain harvesting. Widespread showers from August 7-19 in the upper Volga, the Volga Vyatsk, and the eastern portion of the Central Region may have delayed crop harvesting but improved soil moisture for winter grain planting. Dry weather returned to these areas on August 20 and continued until month's end, allowing uninterrupted harvesting and winter grain planting. Further south, below-normal precipitation for August in the eastern Ukraine and North Caucasus covered corn in the filling to maturing stages.



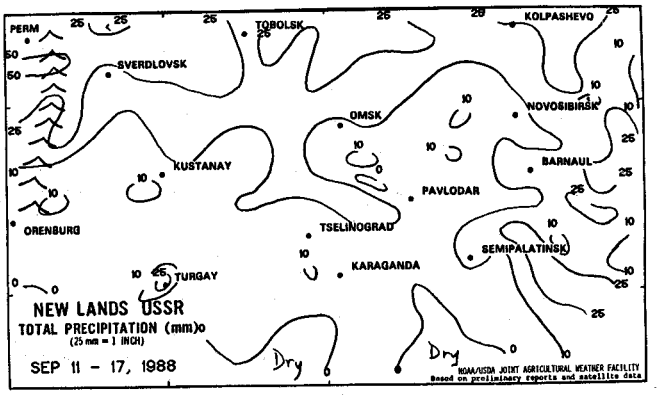


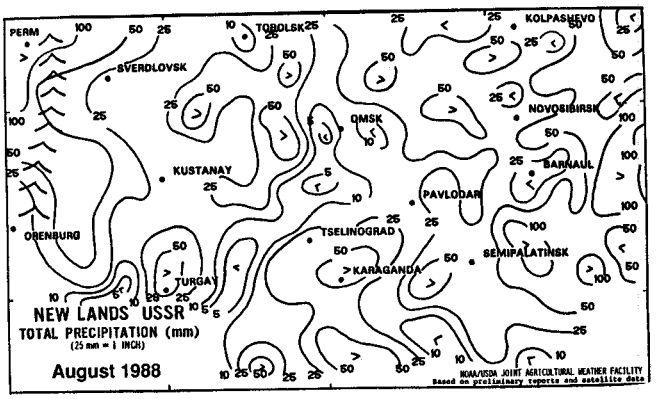


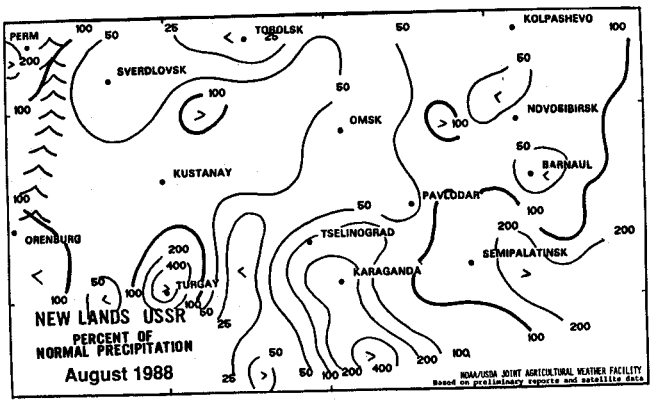


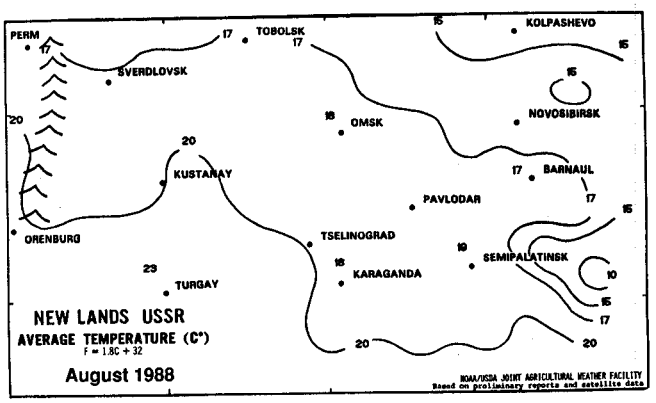


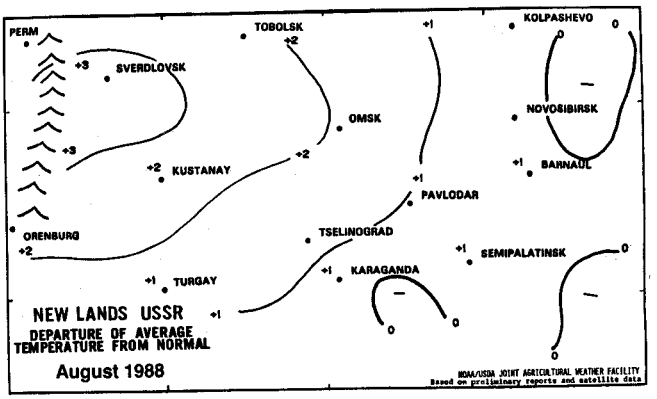
NEW LANDS ... In crop areas east of the Ural mountains, periodic showers (10-33mm) over the northern Urals and West Siberia likely delayed spring grain harvesting. Light, scattered showers over Kazakhstan caused only brief harvest delays. In August, unseasonable warm, dry weather over most spring grain areas helped spring grain harvesting in the southern Urals and Kazahkstan, and hastened crop maturity in West Siberia. Crop areas which received above-normal precipitation for August were few, including areas around Perm, Orenburg, Karaganda, and Semipalatinsk.



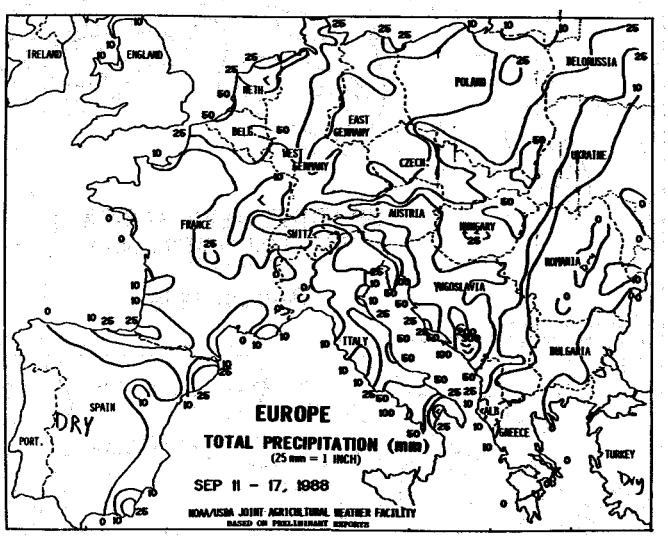


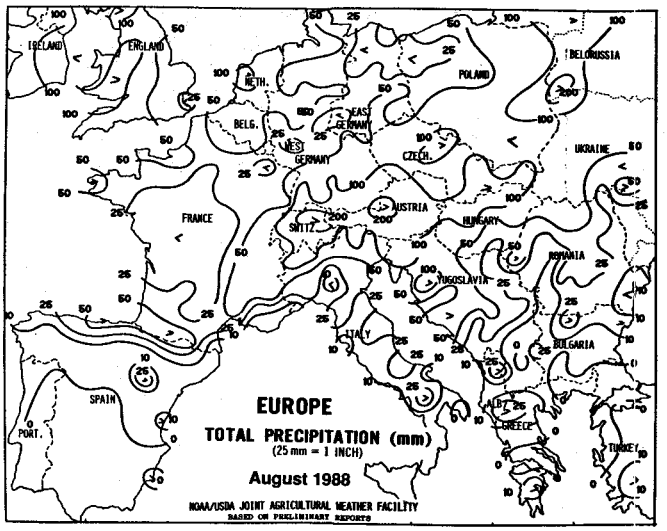


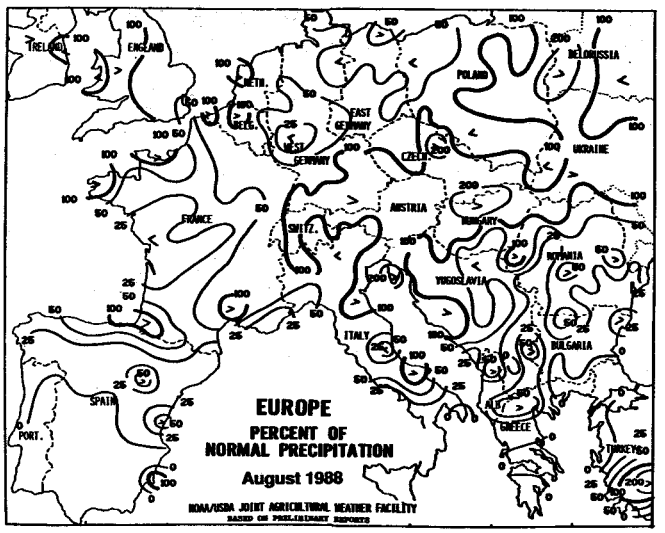


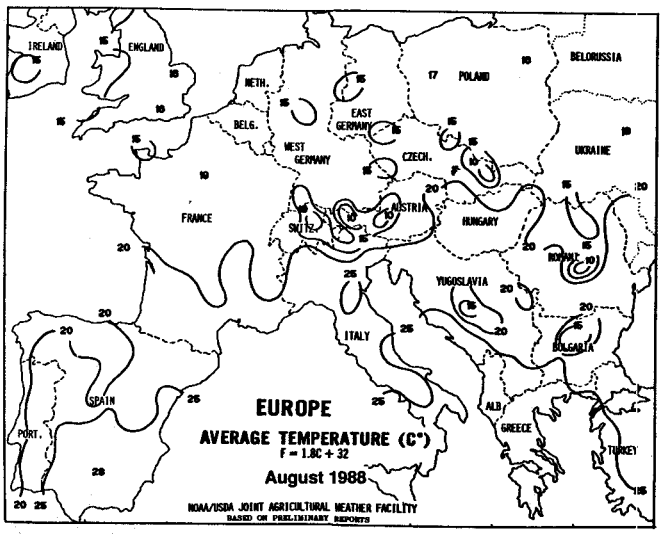


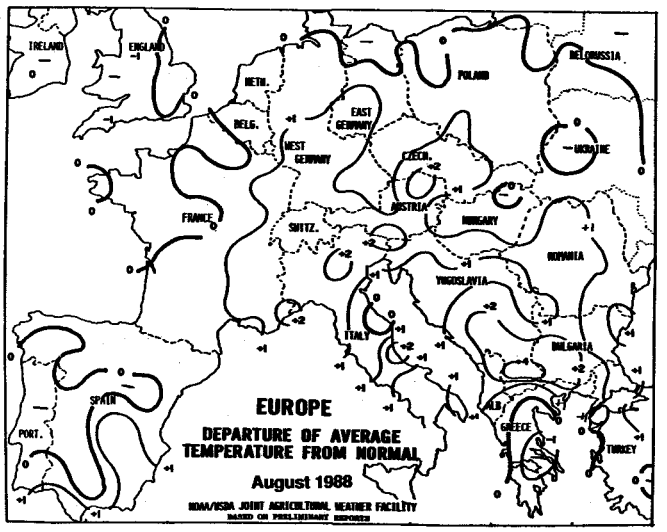
EUROPE ... Heavy rain (25-50mm, with scattered rainfall in excess of 75mm) covered sections of southern and eastern Italy, Austria, Hungary, northern and central Yugoslavia, and western Romania, further alleviating dryness which had persisted over much of the region since mid summer. The rain increased soil moisture to adequate levels for germination and establishment of newly planted winter crops. Much of the rest of southern Europe, however, remained dry. In the north, favorably dry harvest and planting weather early in the week was followed by moderate to heavy rain (15-40mm) and fieldwork delays across Benelux, West Germany, northern East Germany, and eastern Poland. During August, precipitation was below normal over crop areas in southeastern, western, and north-central Europe. Rainfall was above normal over northeastern Europe and western sections of the United Kingdom. Temperatures during the month were near normal to above normal over much of the continent except for the extreme west, where they were below normal.

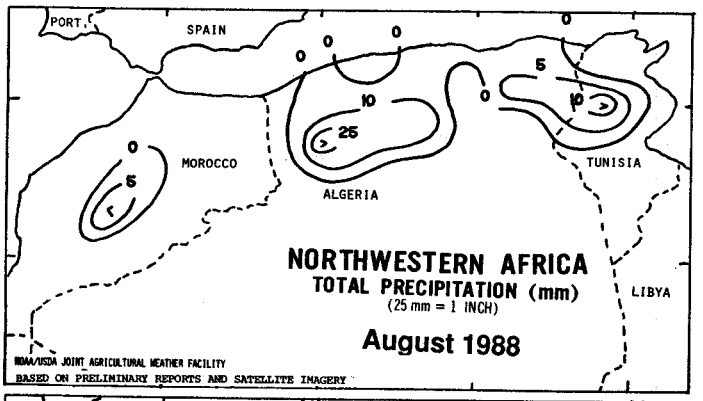


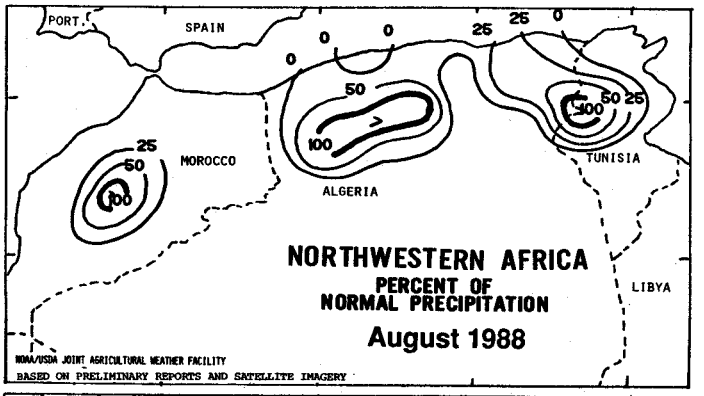


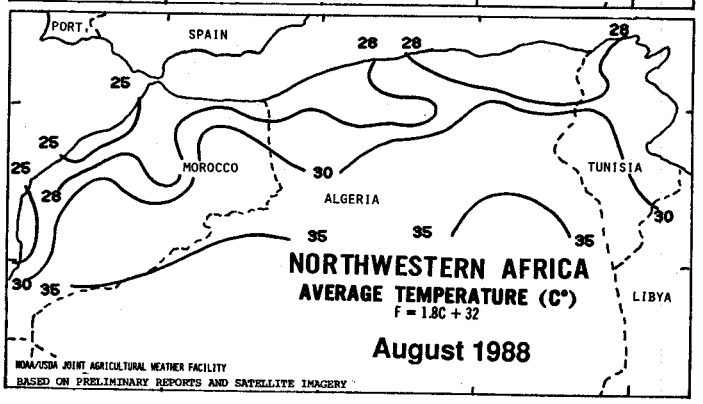


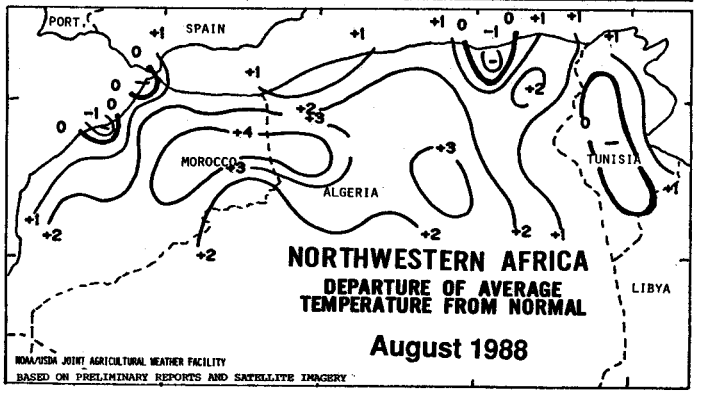


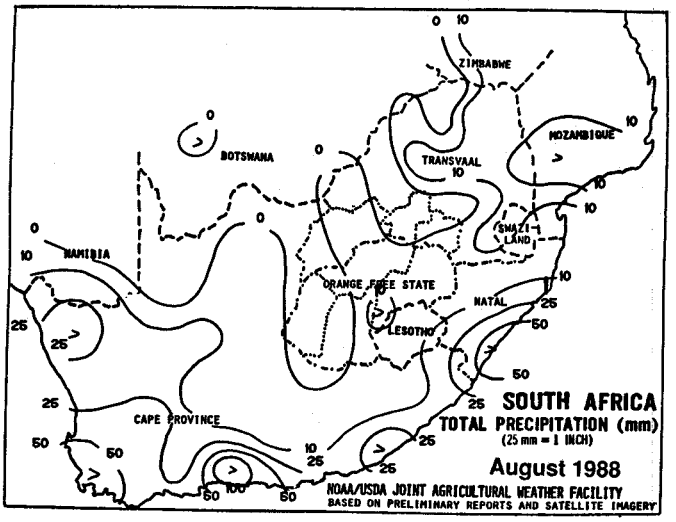


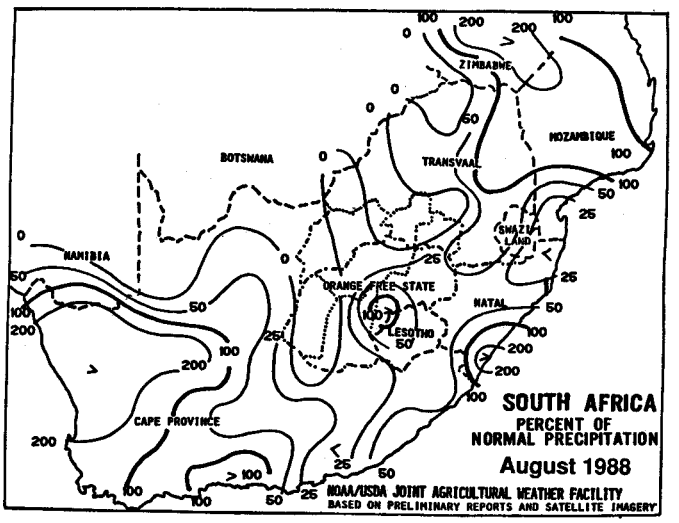

PORT.
SPAIN
MOROCCO
ALGERIA
TUNISIA
LIBYA
NORTHWESTERN AFRICA
TOTAL PRECIPITATION (mm)
(25 mm = 1 INCH)
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

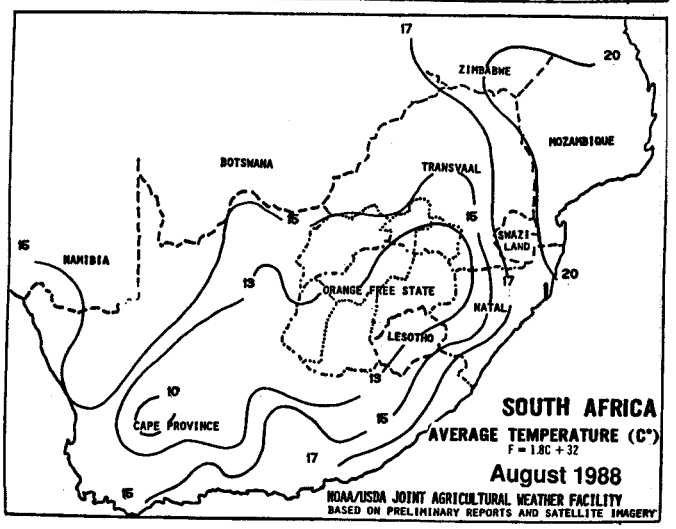

PORT.
SPAIN
MOROCCO
ALGERIA
TUNISIA
LIBYA
NORTHWESTERN AFRICA
PERCENT OF
NORMAL PRECIPITATION
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

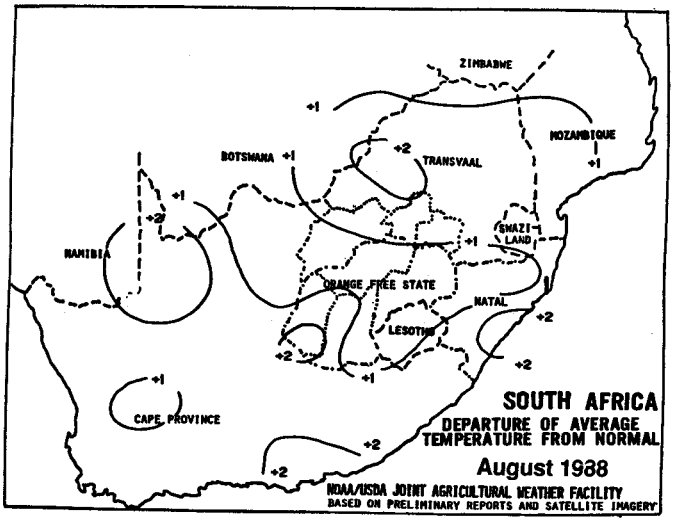

PORT.
SPAIN
MOROCCO
ALGERIA
TUNISIA
LIBYA
NORTHWESTERN AFRICA
AVERAGE TEMPERATURE (C°)
F = 1.8C + 32
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY


PORT.
SPAIN
MOROCCO
ALGERIA
TUNISIA
LIBYA
NORTHWESTERN AFRICA
DEPARTURE OF AVERAGE
TEMPERATURE FROM NORMAL
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

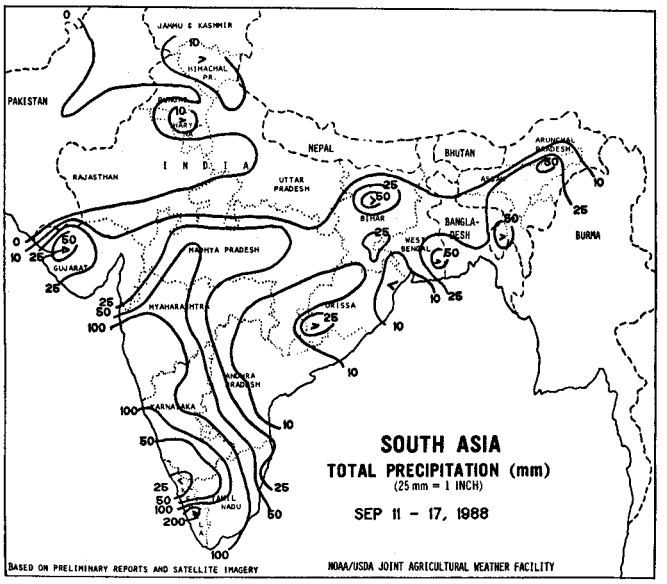

ZIMBABWE
BOTSWANA
MOZAMBIQUE
TRANSVAAL
NAMIBIA
SWAZI LAND
ORANGE FREE STATE
NATAL
LESOTHO
CAPE PROVINCE
SOUTH AFRICA
TOTAL PRECIPITATION (mm)
(25 mm = 1 INCH)
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

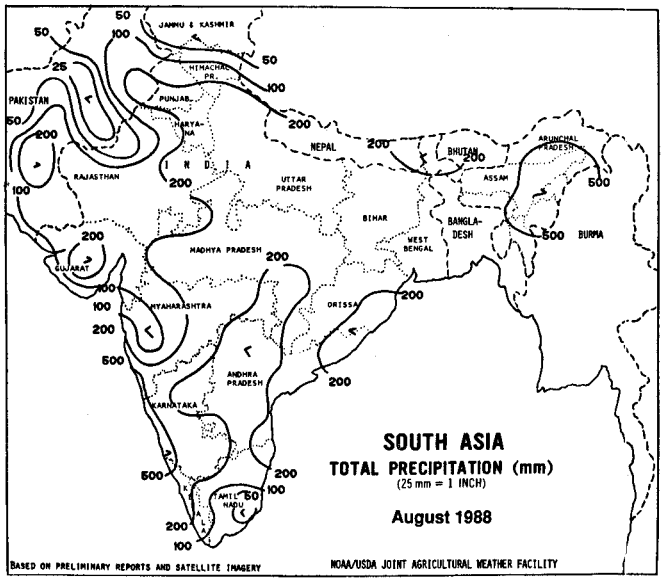

ZIMBABWE
BOTSWANA
MOZAMBIQUE
TRANSVAAL
NAMIBIA
SWAZI LAND
ORANGE FREE STATE
NATAL
LESOTHO
CAPE PROVINCE
SOUTH AFRICA
PERCENT OF
NORMAL PRECIPITATION
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

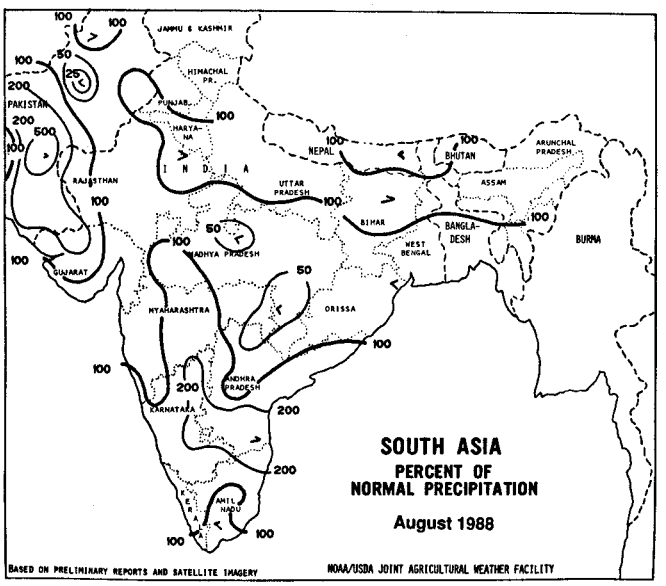

ZIMBABWE
BOTSWANA
MOZAMBIQUE
TRANSVAAL
NAMIBIA
SWAZI LAND
ORANGE FREE STATE
NATAL
LESOTHO
CAPE PROVINCE
SOUTH AFRICA
AVERAGE TEMPERATURE (C°)
F = 1.8C + 32
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

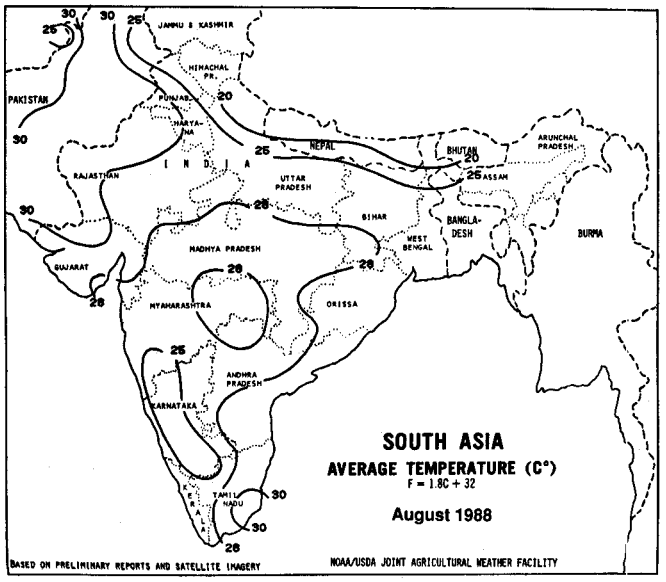

ZIMBABWE
BOTSWANA
MOZAMBIQUE
TRANSVAAL
NAMIBIA
SWAZI LAND
ORANGE FREE STATE
NATAL
LESOTHO
CAPE PROVINCE
SOUTH AFRICA
DEPARTURE OF AVERAGE
TEMPERATURE FROM NORMAL
August 1988
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
BASED ON PRELIMINARY REPORTS AND SATELLITE IMAGERY

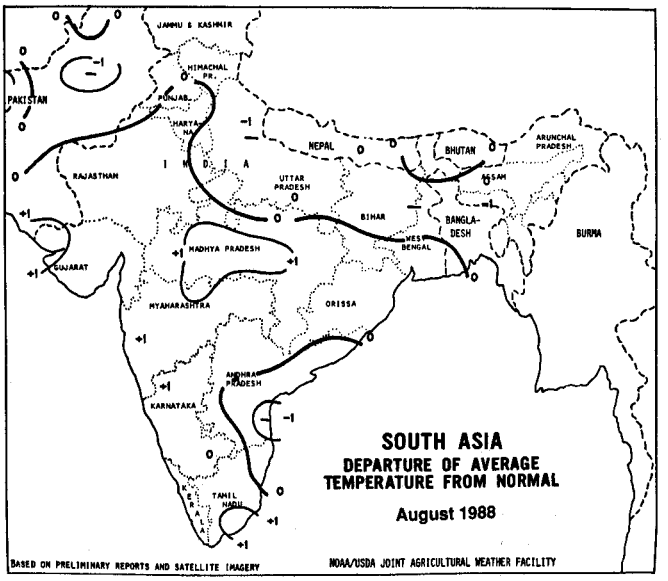
SOUTH ASIA ... Widespread rain (25-100mm or more) continued over southern crop areas from Maharashtra to Tamil Nadu, with drier weather returning to all but western Andhra Pradesh. Although moisture had been limited for normal development in some southern regions, rainfall since mid August has improved conditions for reproductive to filling summer crops. Light to moderate rain (10-55mm) fell in central India from Gujarat to south-central Madhya Pradesh, but mostly dry, warm weather continued elsewhere, limiting moisture for rainfed crops. Hot, mostly dry weather continued across northern India. In the east, rainfall was light (2-17mm) over northern and central Bangladesh, helping floodwaters to subside. Moderate rain (25-73mm) in southern Bangladesh and India's eastern states maintained local flood conditions. In August, rainfall was near to above normal over most of South Asia with heavy rain across the north and east, causing local flooding and crop damage, especially in eastern India and Bangladesh. August temperatures averaged below normal in the north and east and slightly above normal elsewhere.



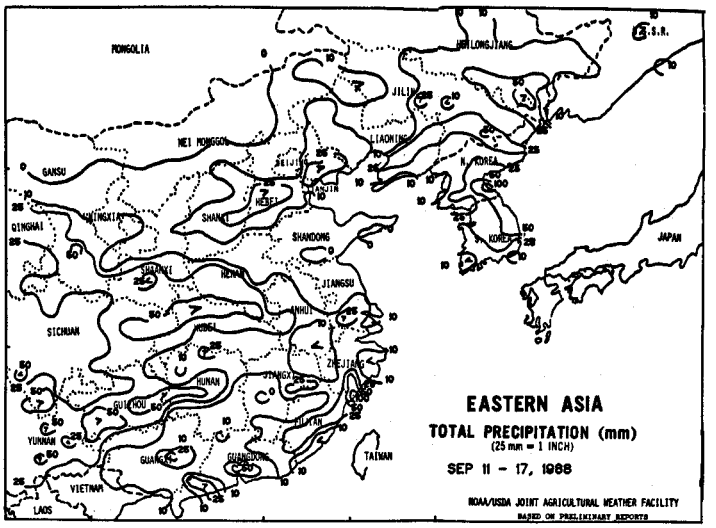


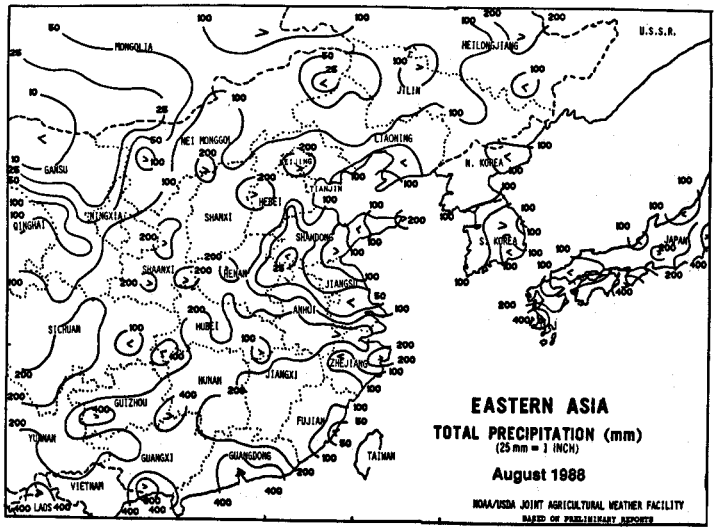


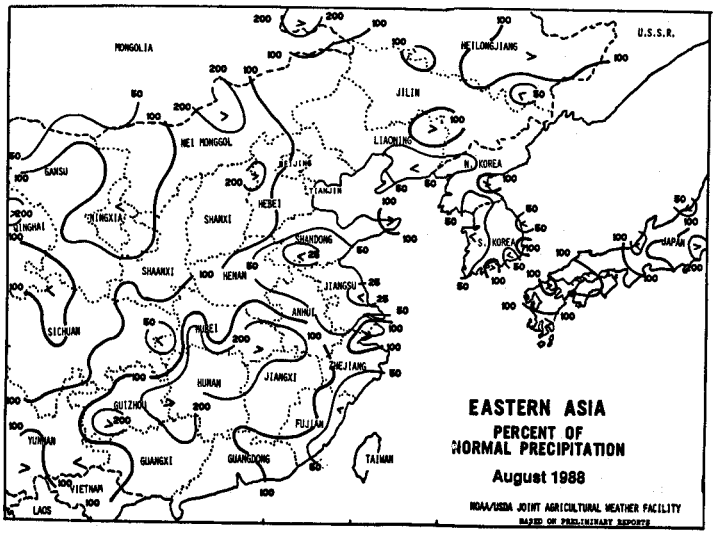


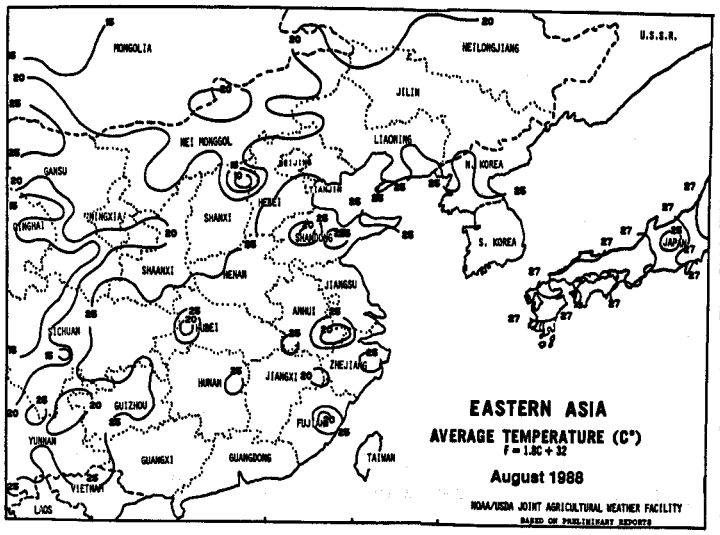


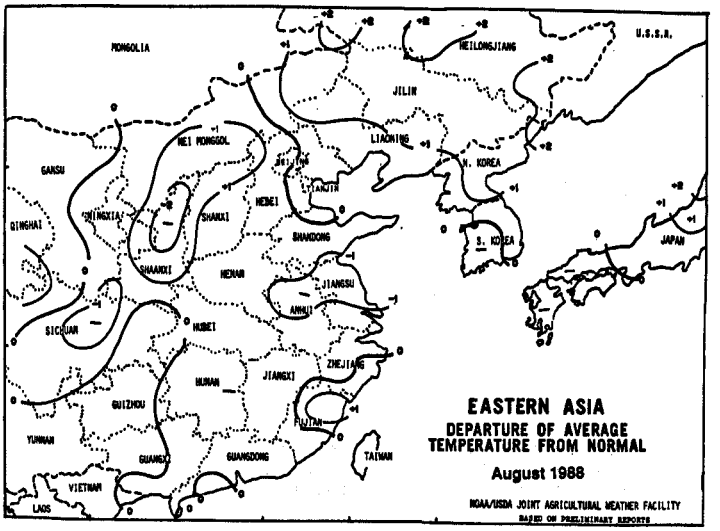
EASTERN ASIA ... Early-week heavy rain (25-75mm, with isolated rainfall greater than 75mm) led to a continuation of saturated soils and scattered flooding across western sections of China's Yangtze Valley. Heavy rain in much of the region since early August has benefited vegetative to filling late double-crop rice but caused extensive delays in harvest of the intermediate crop. Moderate to heavy rain (20-75mm) also delayed rice, corn and soybean harvests across crop areas in Manchuria, the Korean Peninsula, and Japan. Windy conditions accompanied the rainfall in eastern Japan due to Typhoon Hal, which passed offshore of the eastern coast of Honshu on Friday. In the North China Plain, scattered showers (5-20mm) caused only minor delays in summer crop harvest and early planting of winter grains. Precipitation in August ranged from much above normal in the Yangtze Valley to below normal in the North China Plain and South Korea.



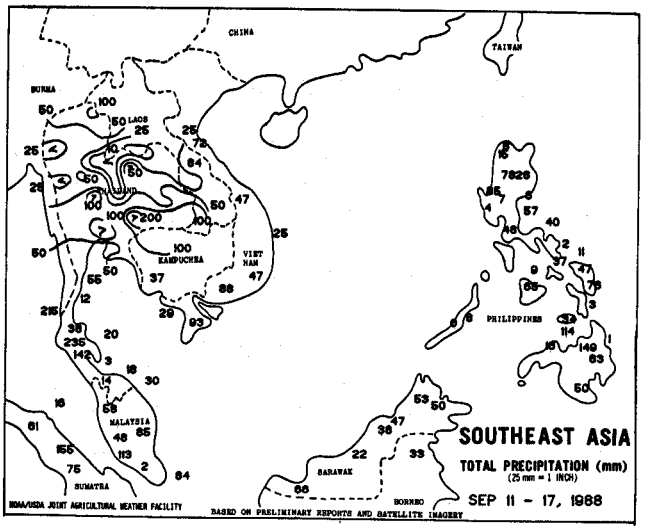


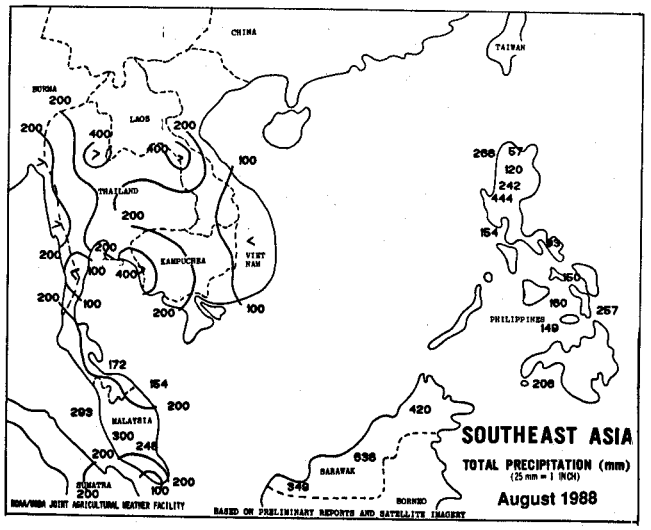


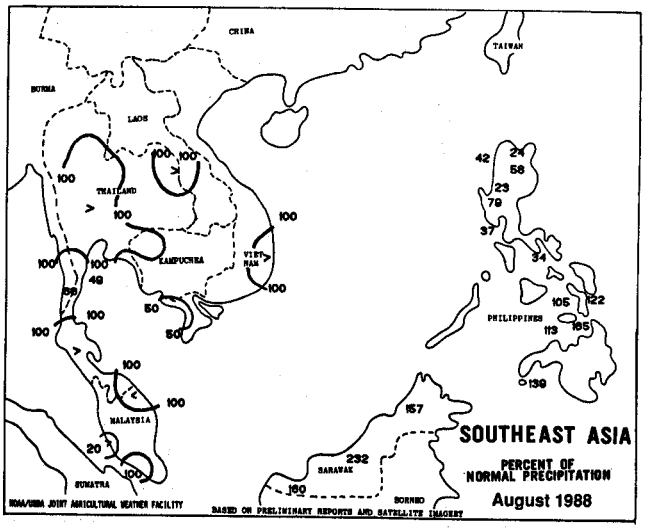


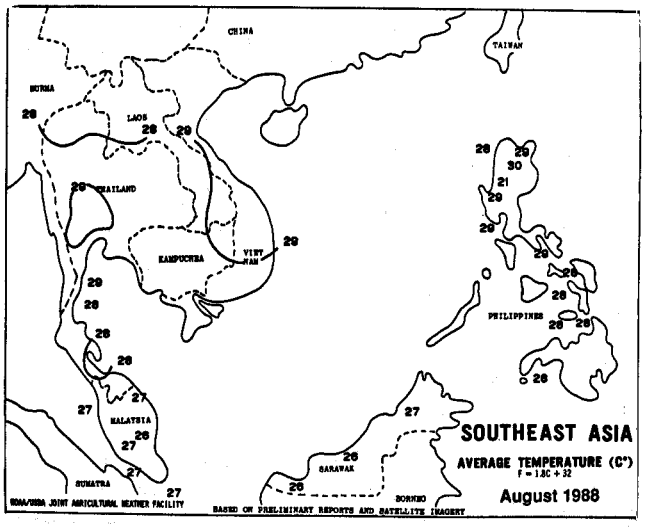


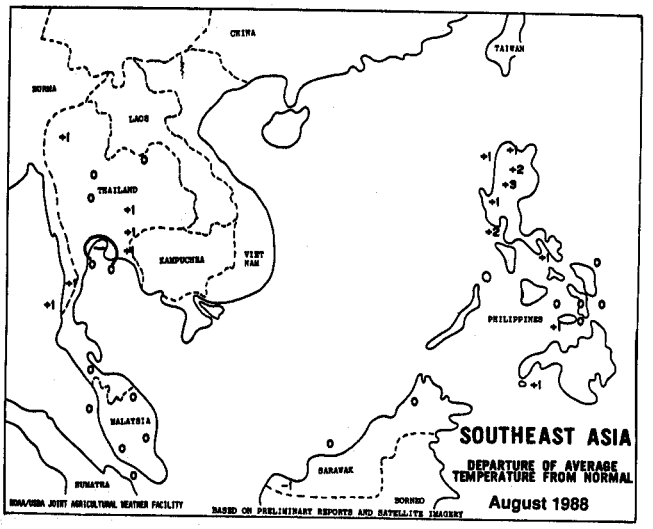
SOUTHEAST ASIA ... Moderate to heavy rain (25-100mm or more) covered rainfed rice areas of northern Thailand and from south-central Thailand to southern Laos. Light rain (4-25mm), however, covered a large portion of northeastern Thailand. Beneficial rainfall in recent weeks over southeastern Thailand's Khorat Plateau has improved moisture conditions for rainfed rice. Light rain (13-19mm) covered rice regions of northern Vietnam but moderate to heavy rain fell elsewhere, with heavy showers (100-249mm) likely causing local flooding in peninsular Thailand. In August, rainfall was near to above normal over most of Indochina as mid-month heavy showers likely caused local flooding in Malaysia. August temperatures averaged near normal. In the Philippines, scattered showers covered the islands with heaviest rainfall (50-149mm) over portions of western and southern Luzon, central Mindanao, and some central islands. In August, rainfall was below normal over most of Luzon but near to above normal elsewhere. Temperatures averaged 1-3 degrees C above normal over the northern half of the islands.



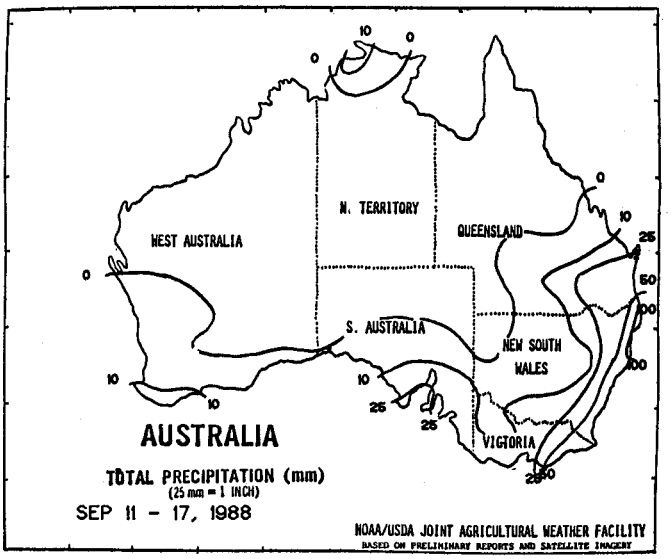


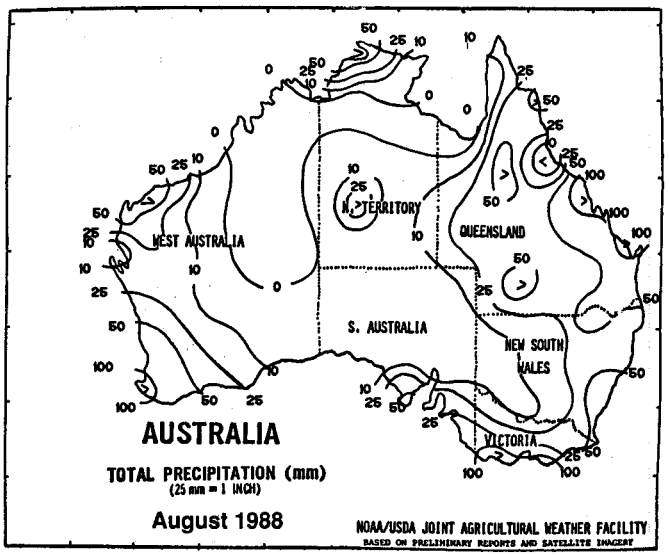


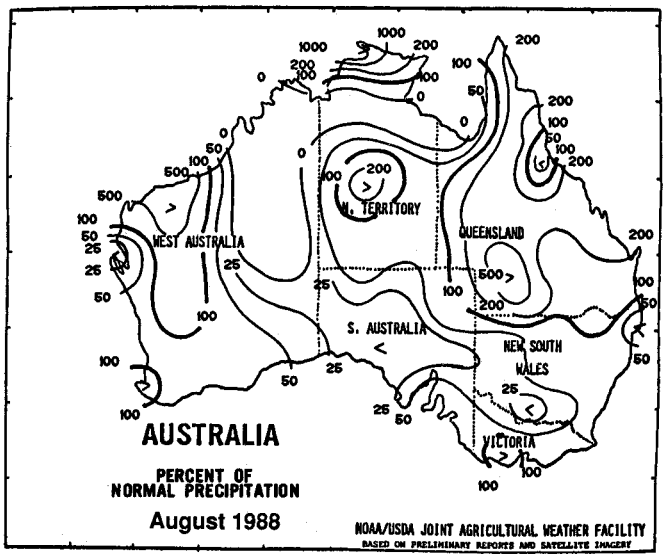


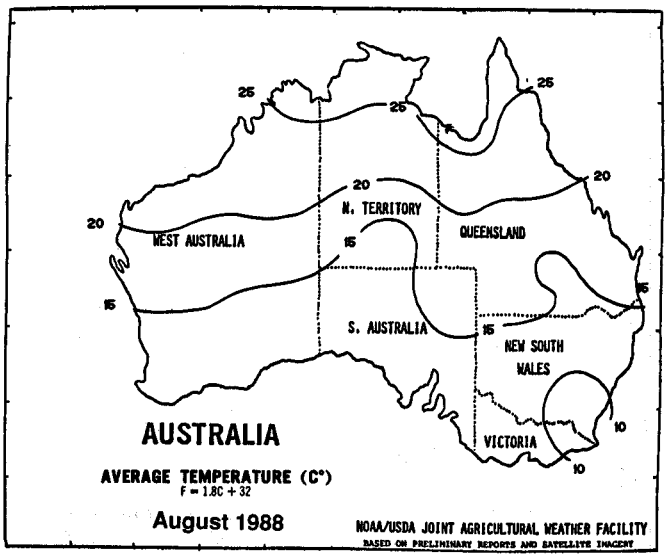


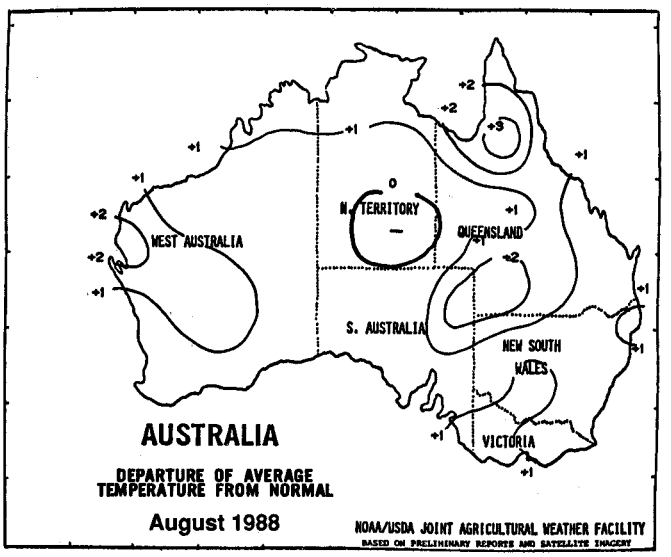
AUSTRALIA ... A slow moving frontal system brought scattered rain (5-35mm, with isolated rainfall greater than 35mm) to sections of southeastern Queensland, New South Wales, and Victoria. The rain favored jointing to heading winter grains. Very heavy rain (40-80mm, with isolated rainfall greater than 80mm) along coastal New South Wales and Victoria may have caused localized flooding. In growing areas of South Australia and Western Australia, light to moderate rain benefited mostly jointing winter cereals. In August, precipitation was above normal in crop areas of Queensland and northern New South Wales, and normal to below normal over southern New South Wales, Victoria, South Australia, and Western Australia. Mean temperatures for the month were near normal to above normal over nearly all areas.



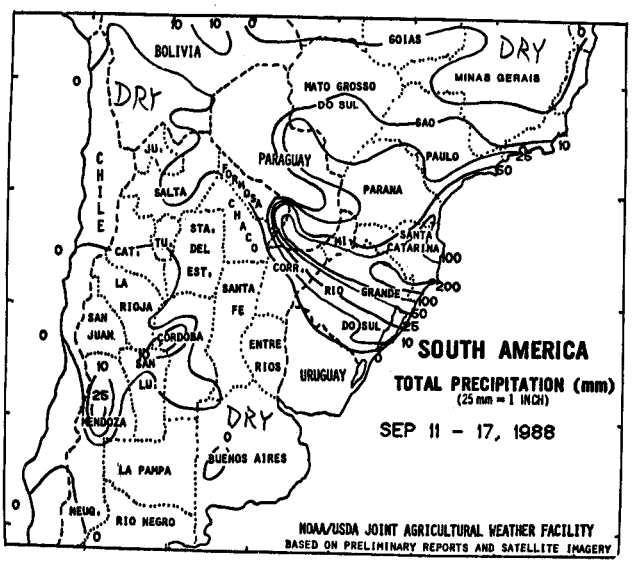


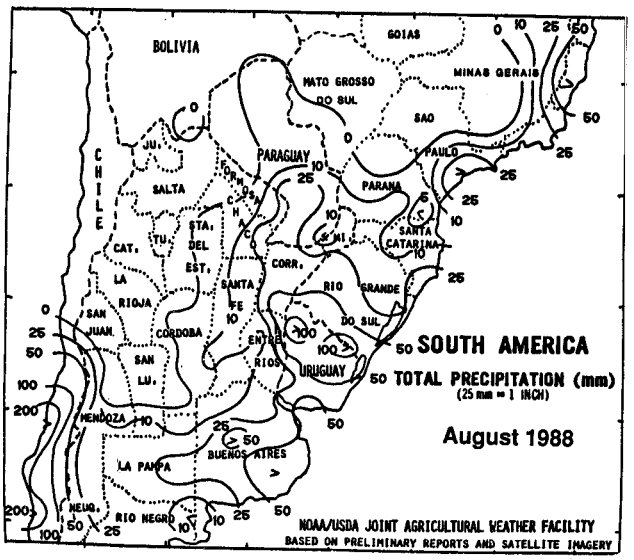


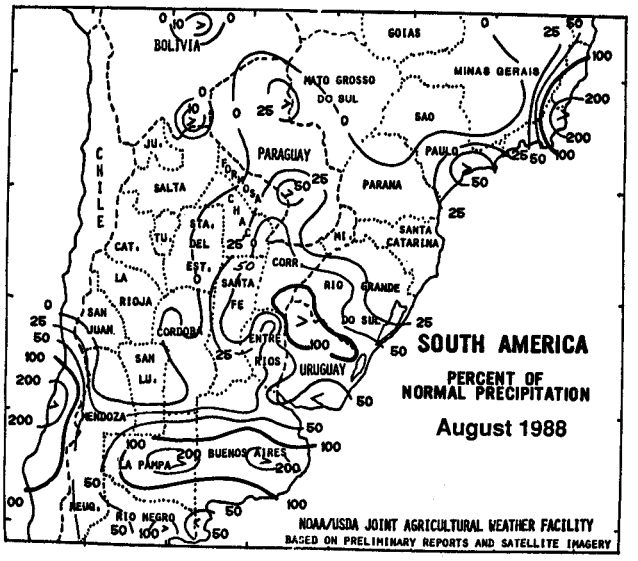


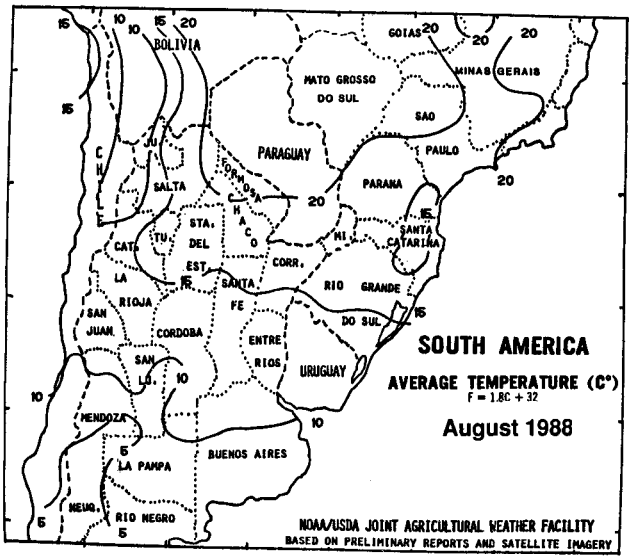


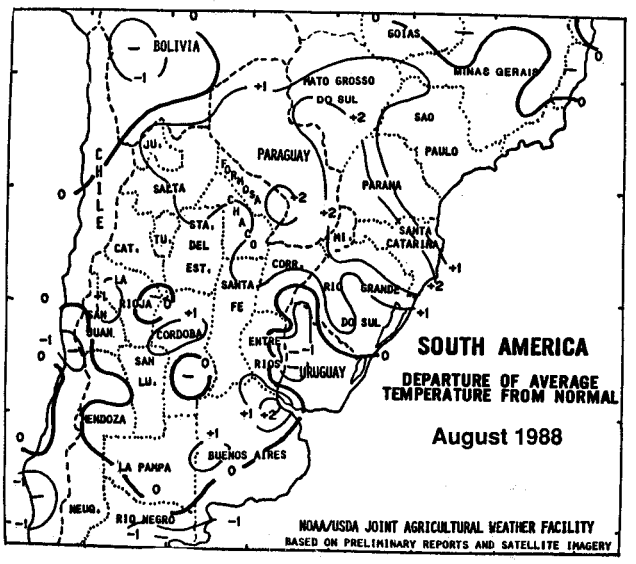
SOUTH AMERICA ... In south-central Brazil, heavy rain (110-200mm or more) soaked northern Rio Grande do Sul and eastern Santa Catarina, likely causing flooding in eastern portions. Beneficial showers (25-50mm) helped grain-filling wheat and moistened topsoils for early summer crop planting in central Rio Grande do Sul, western Santa Catarina, and Parana. The first significant showers (10-20mm) since late June fell over southern Mato Grosso do Sul and southern Sao Paulo. In August, below-average rainfall and above-average temperatures prevailed over the region. In Argentina, dry weather prevailed over nearly all crop areas, except for light showers (2-5mm) in southern Cordoba. While August rainfall averaged above normal over central Buenos Aires, major wheat areas of the southwest and north received below-average monthly rainfall. In fact, well-below-average August rain limited topsoil moisture in southern Cordoba, southern Santa Fe, and northwestern Buenos Aires. Dryness is hampering early sunflower planting in northern Argentina.



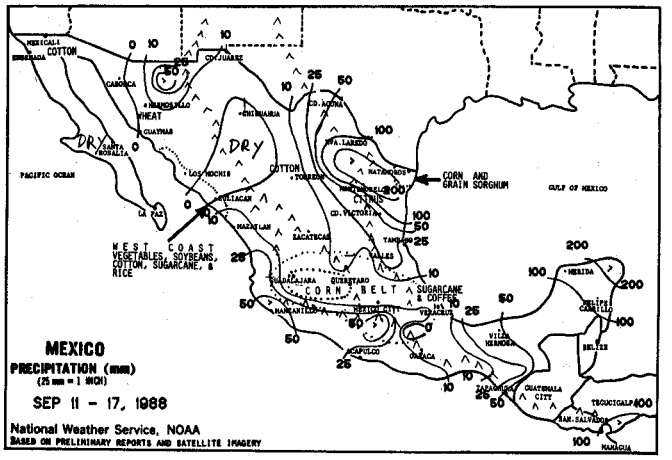


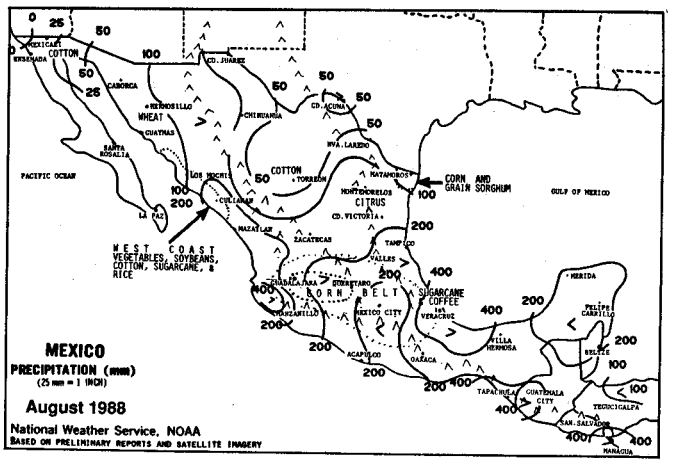


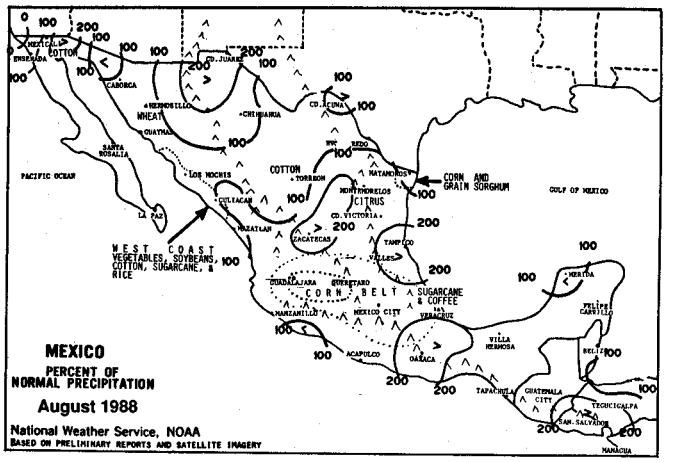


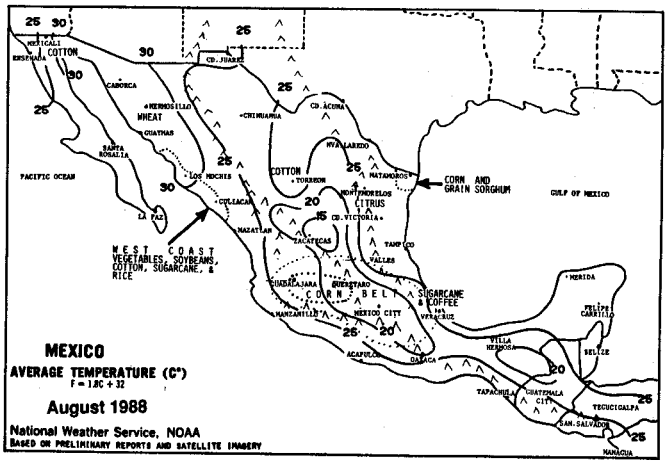


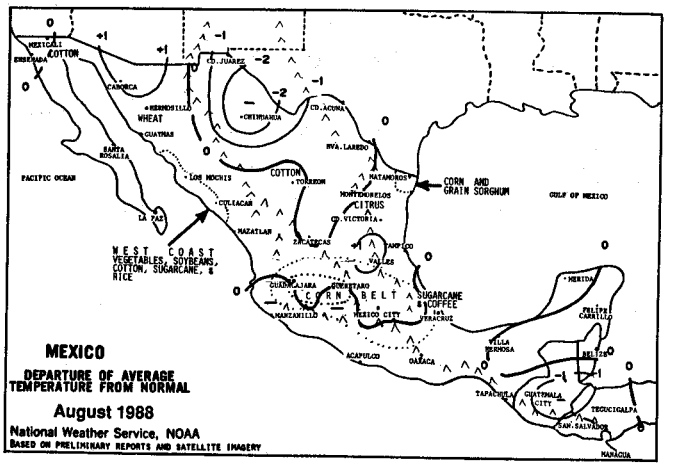
MEXICO ... Hurricane Gilbert hit the Yucatan peninsula midweek with torrential rain and destructive winds. Following a steady west-northwest direction through the Gulf of Mexico, the powerful storm landed over northeastern Mexico late in the week between Tampico and Matamoros. Weekly rainfall averaged 100-200mm in the path of the hurricane, with locally heavier downpours inundating both the Yucatan and the northeast. At its peak, the most intense hurricane ever recorded in the Western Hemisphere produced wind speeds of 175mph and gusts reaching 200mph in the Carribbean Sea. Wind speeds in excess of 100mph hit northeastern Mexico before the storm dissipated in mountainous terrain. Mostly light rain fell elsewhere in Mexico, including the Southern Plateau corn belt. Above-average rainfall for August provided ample moisture for corn development in the Southern Plateau.



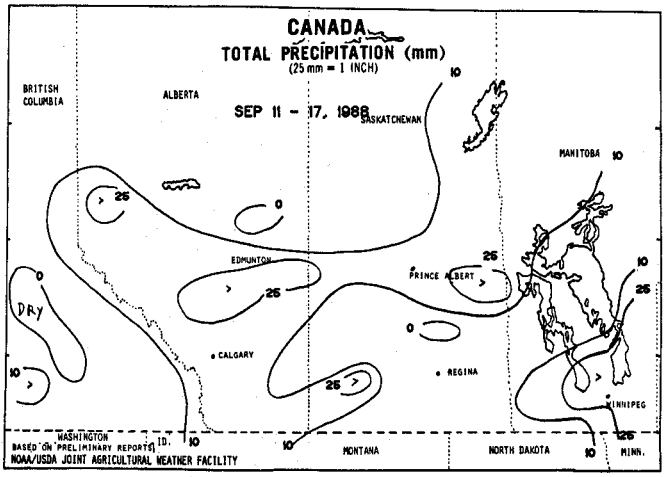


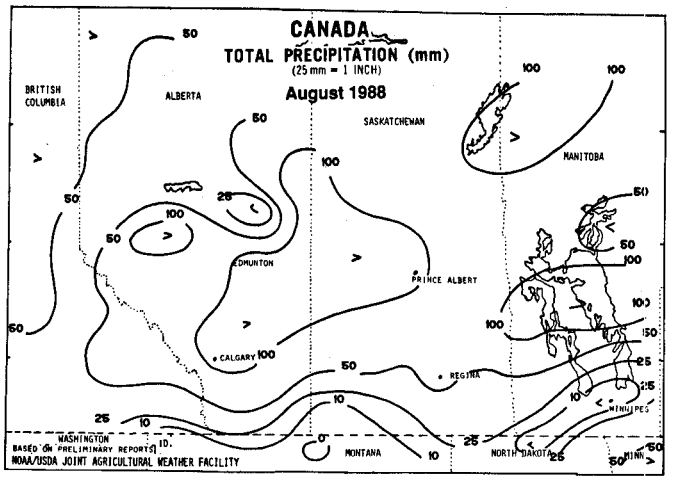


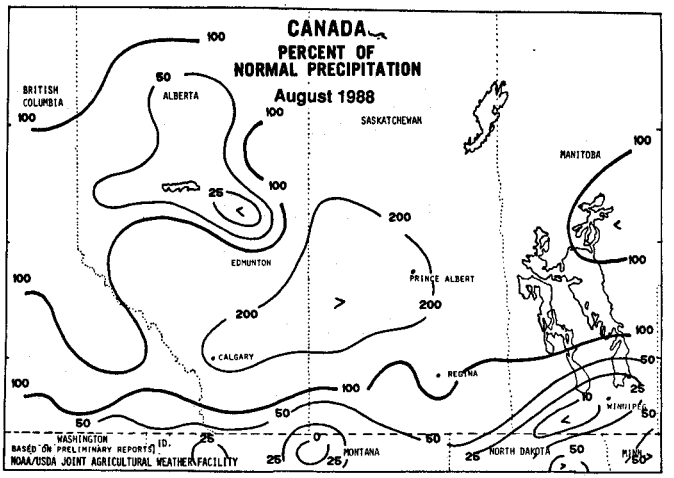


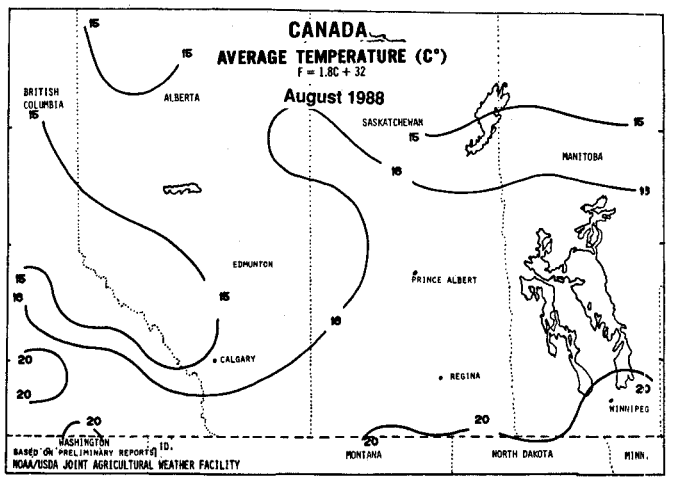


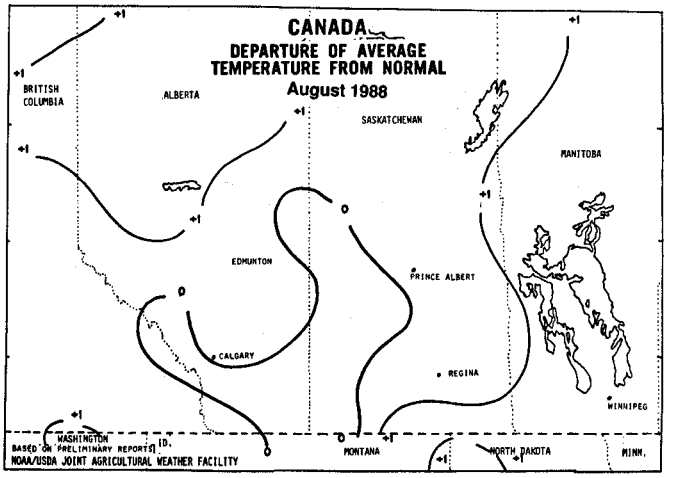
CANADA ... Moderate rain (10-32mm) covered crop regions of Alberta and parts of southern Saskatchewan, slowing harvest of late planted spring crops but improving conditions for winter wheat planting. Moderate rain (10-37mm) also covered much of Manitoba. Temperatures dipped below freezing again in northern Alberta, but most late planted crops should be maturing. In August, heavy rain brought some relief to late planted crops in Alberta and northern Saskatchewan, affected by heat stress in July. The rainfall persisted, however, leaving portions of northern Alberta too wet for maturing crops. Generally drier weather elsewhere favored harvesting, but hot weather early in the month stressed late planted crops from eastern Saskatchewan eastward.











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

Annual subscriptions: domestic $25, foreign $33 (in U.S. funds by international money order or check drawn on U.S. bank) payable to U.S. Department of Commerce, NOAA. POSTMASTER: Send address changes to Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington, D.C. 20250. Order subscriptions from the office and address listed above. Second class postage paid at Washington, D.C. and additional mailing offices.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service/Climate Analysis Center
Managing Editor (Acting) . . . . Douglas Le Comte
Meteorologists . . . . . Tom Heddinghaus
Vilhelm Bjerknes, Wes Byrd, Jeff Logan, and Jeff Savadel

Subscriptions (202) 447-7917

U.S. DEPARTMENT OF AGRICULTURE
Economics Management Staff
Editor . . . . . Sharon Lee
National Agricultural Statistics Service
Agricultural Statistician . . . Tom Kurtz
World Agricultural Outlook Board
Agricultural Weather Analysts. . Ray Motha,
Tom Puterbaugh, Mark Brusberg, and Jeff Andresen

(Continued from p. 14)

broccoli, cauliflower, sweet corn, cucumbers, squash, okra, and various peppers. San Joaquin Valley's melon harvest also continued.

PASTURES AND LIVESTOCK: Pasture condition was mostly poor to fair. Conditions improved in most areas. Livestock movement from summer ranges in the West continued. Livestock was mostly fair to good. Fluctuating temperatures increased respiratory problems in Iowa.

Crop Production Forecast

CORN FOR GRAIN production is forecast at 4.46 billion bushels, down slightly from last month and 37 percent below 1987's crop.

SORGHUM GRAIN production is forecast at 540 million bushels, down 27 percent from last year.

SOYBEAN PRODUCTION is forecast at 1.47 billion bushels, 23 percent below 1987 and the smallest crop since 1976.

ALL WHEAT production is forecast at 1.81 billion bushels, down 14 percent from last season.

ALL COTTON production is forecast at 14.7 million bales, down 2 percent from August 1 and slightly below the 1987 level.

ALL TOBACCO production is forecast at 1.30 billion pounds, 10 percent above last year's level and 3 percent above the August 1 estimate.

PEANUT production is forecast at 4.33 billion pounds, up 20 percent from last year but slightly below the August 1 forecast.

NOAA/USDA Joint Agricultural
Weather Facility
Room 5844 USDA South Building
Washington, D.C. 20250

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

WEEKLY NEWS BULLETIN
SECOND CLASS

SECOND CLASS MAIL
POSTAGE AND FEES PAID
NOAA PERMIT NO.

ISSN 0043 1974