

WEEKLY WEATHER AND CROP BULLETIN

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

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

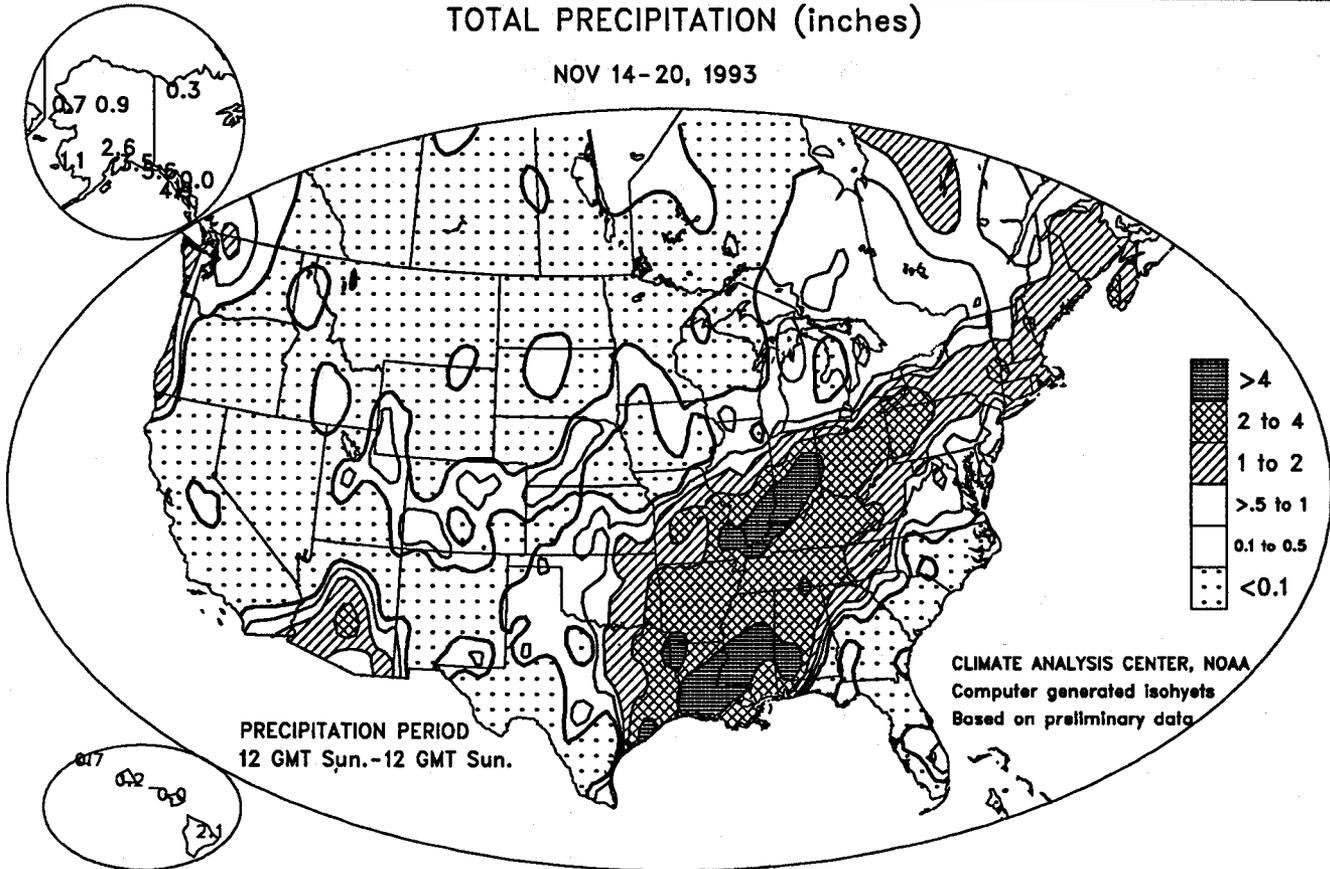
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Washington, D.C.

November 23, 1993

TOTAL PRECIPITATION (inches)

NOV 14-20, 1993



CLIMATE ANALYSIS CENTER, NOAA
Computer generated isohyets
Based on preliminary data

PRECIPITATION PERIOD
12 GMT Sun.-12 GMT Sun.

HIGHLIGHTS

November 14 - 20, 1993

After dumping as much as 30 inches of snow in the mountains of southern Arizona, a compact but powerful storm system delivered flooding rains to the lower Ohio and lower Mississippi River Valleys. Early in the week, balmy weather spread northward through the East, while stormy conditions developed in the Southwest. More than 6 dozen daily records were broken in the eastern third of the Nation between Sunday and Tuesday, with 80°F readings reaching as far north as the Middle Atlantic States. Boston, MA attained its second-highest November temperature (78°F on Monday) on record, as did Richmond, VA (86°F). Bridgeport, CT, with 78°F, tied its November record. Many locations, including Philadelphia, PA, New York (Central Park), NY, and Wilmington, DE, reached 80°F later in the year than ever before. Meanwhile in the Southwest, mountain snow depths (Continued to p. 12)

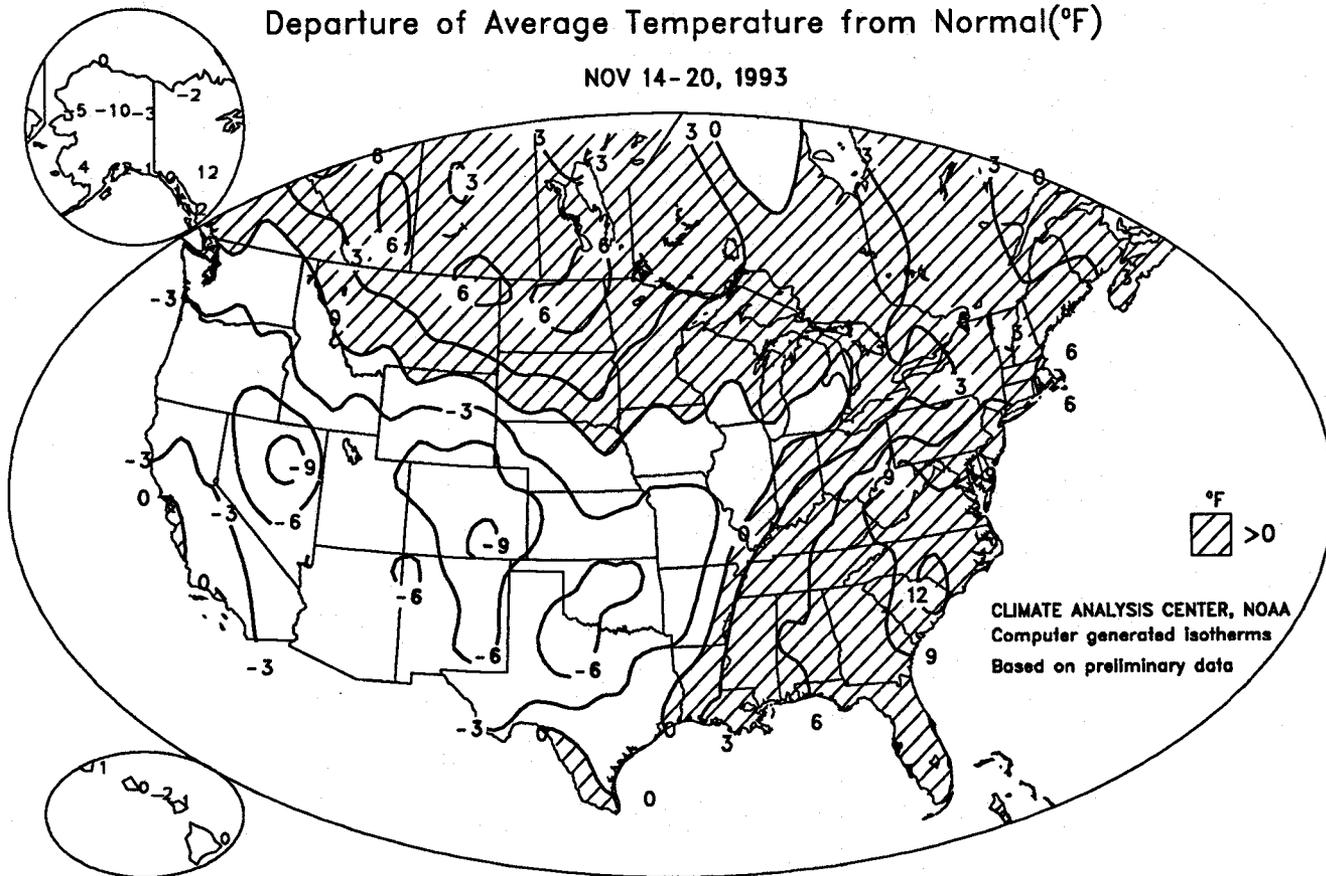
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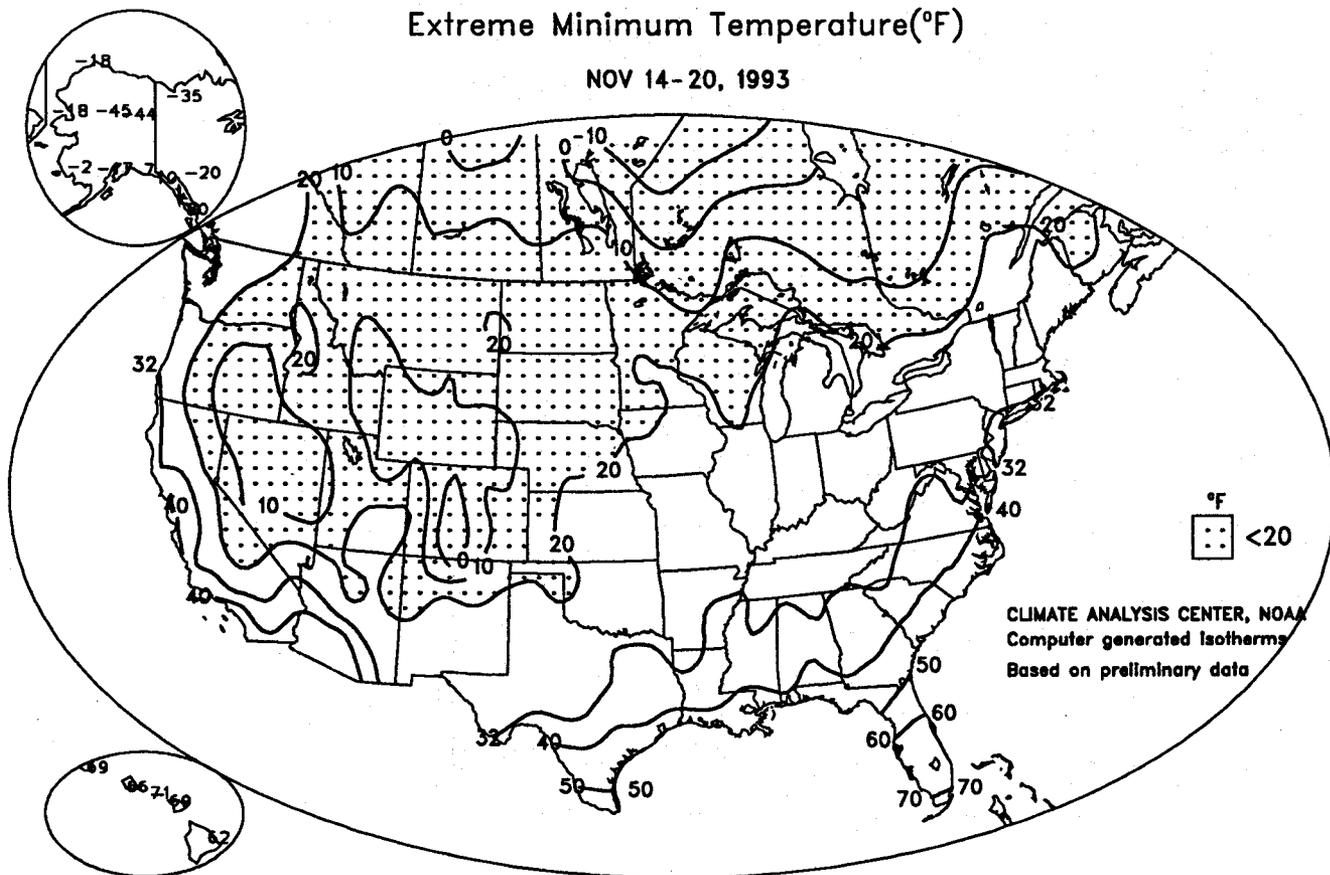
Departure of Average Temperature from Normal(°F)

NOV 14-20, 1993



Extreme Minimum Temperature(°F)

NOV 14-20, 1993



National Weather Data for Selected Cities

Weather Data for the Week Ending November 20, 1993

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS							
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Sept 1	PCT. NORMAL SINCE Sept 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE	MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP.	
																			.01 INCH OR MORE	.50 INCH OR MORE		
AL BIRMINGHAM	66	52	80	32	59	6	1.3	.3	.5	9.9	105	34.9	73	94	66	0	0	1	1	4	1	
MOBILE	72	55	80	38	63	4	2.2	1.3	2.1	11.5	101	56.7	99	95	71	0	0	1	1	3	1	
MONTGOMERY	70	52	85	39	61	6	2.1	1.2	1.5	12.7	145	47.6	98	96	63	0	0	2	2	2	0	
AK ANCHORAGE	25	14	37	-7	20	-1	.5	.2	.4	8.0	146	16.5	114	85	59	0	0	7	7	2	0	
BARROW	6	-10	12	-18	-2	-1	.4	.0	.0	2.1	172	5.1	123	83	74	0	0	7	7	3	0	
FAIRBANKS	10	-6	30	-36	2	-1	.4	.0	.0	4.0	169	10.8	110	81	69	0	0	7	7	3	0	
JUNEAU	41	30	49	13	36	4	1.9	.8	1.3	22.0	122	53.6	111	96	73	0	0	2	4	4	1	
KODIAK	42	31	49	24	37	3	.4	-.4	.0	18.2	100	64.3	109	67	49	0	0	5	0	0	0	
NOOME	23	3	36	-8	13	-2	.1	-.1	-.1	7.9	176	17.1	124	83	64	0	0	7	2	2	0	
AZ PHOENIX	67	48	74	43	57	4	2.2	2.0	1.6	4.1	213	13.3	207	87	43	0	0	0	0	2	2	
FRESNOCO	51	29	60	24	40	-3	1.4	1.1	.7	3.4	82	16.9	97	95	46	0	0	5	2	2	1	
TUCSON	67	41	77	36	54	-5	.6	.4	.5	2.3	71	14.8	139	88	43	0	0	0	0	2	1	
YUMA	69	52	75	48	61	-3	1.1	1.0	.7	1.3	185	4.8	184	66	38	0	0	0	0	2	1	
AR FORT SMITH	55	40	63	31	48	-2	2.1	1.2	1.4	14.9	154	44.3	121	93	63	0	0	1	2	2	1	
LITTLE ROCK	55	43	75	34	49	-3	3.8	2.7	2.0	11.9	104	41.8	97	90	65	0	0	0	0	2	2	
CA BAKERSFIELD	66	40	72	36	53	-2	.0	-.2	.0	.4	44	7.0	144	75	35	0	0	0	0	0	0	
EUREKA	56	40	58	37	48	-1	.1	-1.5	-.1	.9	12	31.3	107	90	58	0	0	0	0	2	0	
FRESNO	66	38	69	34	52	-1	.0	-.3	.0	1.0	61	12.5	145	89	37	0	0	0	0	0	0	
LOS ANGELES	74	52	82	49	63	-2	.0	-.4	.0	.3	18	18.8	194	65	25	0	0	0	0	0	0	
REDDING	65	33	71	26	49	-2	.0	-.3	.0	3.1	47	39.3	152	70	22	0	0	4	4	0	0	
SACRAMENTO	63	37	64	31	50	-3	.0	-.7	.0	1.3	42	20.4	146	93	38	0	0	2	0	0	0	
SAN DIEGO	70	49	76	47	60	-2	.2	-.1	.2	.7	45	16.2	207	80	39	0	0	0	1	0	0	
SAN FRANCISCO	65	47	69	42	56	-1	.0	-.7	.0	.6	19	20.0	129	78	37	0	0	0	0	0	0	
CO DENVER	49	19	58	9	34	-5	.5	.3	.5	5.8	206	14.3	98	89	39	0	0	7	1	1	1	
GRAND JUNCTION	45	27	48	21	36	-6	.2	.0	.0	2.1	73	11.1	118	83	49	0	0	6	1	1	0	
PUEBLO	42	12	57	5	27	-13	.2	-.1	.2	1.4	76	13.6	128	90	60	0	0	7	1	1	0	
CT BRIDGEPORT	60	43	78	36	51	6	.6	-.3	.4	11.6	133	32.2	87	86	53	0	0	0	3	3	0	
HARTFORD	57	34	78	26	46	4	1.1	.2	.5	11.2	112	39.5	102	92	55	0	0	4	5	5	1	
DC WASHINGTON	64	49	83	34	57	8	.5	-.3	.5	7.0	83	33.0	96	94	60	0	0	0	0	2	0	
FL APALACHICOLA	77	61	80	52	69	8	.1	-.7	-.1	13.2	102	47.5	96	94	60	0	0	0	0	1	0	
DAYTONA BEACH	81	63	84	60	72	7	.1	-.6	-.1	9.2	74	32.9	74	100	64	0	0	0	0	1	0	
JACKSONVILLE	79	59	84	48	69	5	.0	-.6	.0	19.2	154	45.3	99	98	68	0	0	0	0	0	0	
KEY WEST	84	76	85	74	80	5	.1	-.6	.0	11.9	97	33.8	92	87	71	0	0	0	2	0	0	
MIAMI	85	74	87	70	80	6	.1	-.6	.0	25.6	168	60.2	113	85	64	0	0	0	0	0	0	
ORLANDO	83	66	87	63	74	7	.1	-.6	.0	10.0	101	43.7	97	98	61	0	0	0	0	0	0	
TALLAHASSEE	79	55	86	40	67	8	.1	-.8	-.1	9.0	83	49.1	83	95	59	0	0	0	1	0	0	
TAMPA	85	67	89	62	76	9	.1	-.3	-.1	11.0	121	36.2	88	95	60	0	0	0	0	1	0	
WEST PALM BEACH	84	72	84	66	78	5	1.6	.8	.7	20.9	120	59.8	107	99	68	0	0	0	0	5	2	
GA ATLANTA	70	52	81	39	61	8	.4	-.6	.2	9.9	110	43.7	97	95	64	0	0	0	0	3	0	
AUGUSTA	78	51	87	36	65	10	.6	-.6	.0	8.2	110	34.5	85	96	47	0	0	0	0	0	0	
MACON	75	51	83	34	63	7	.5	-.5	.0	9.5	143	45.5	116	98	53	0	0	0	0	1	0	
SAVANNAH	79	60	85	49	69	11	.7	-.5	.0	13.3	161	44.5	98	94	56	0	0	0	0	0	0	
HI HILO	80	67	83	62	74	0	4.5	1.1	2.1	24.6	89	94.4	84	91	68	0	0	0	0	6	2	
HONOLULU	85	71	87	66	78	1	.1	-.7	.0	2.0	39	5.4	31	75	51	0	0	0	0	0	0	
KAHULUI	83	71	85	69	77	2	.2	-.6	.0	2.7	86	10.2	61	76	57	0	0	0	1	0	0	
LIHUE	81	73	82	69	77	2	.2	-.1	.2	7.6	73	17.8	49	78	63	0	0	0	1	0	0	
ID BOISE	49	25	57	18	37	-3	.2	-.4	.0	.5	19	11.4	111	79	29	0	0	5	0	0	0	
LEWISTON	44	30	50	24	37	-4	.4	-.4	.0	.9	36	11.7	108	86	50	0	0	4	1	0	0	
POCATELLO	46	15	54	8	31	-14	.3	-.3	.0	1.3	52	16.7	157	86	31	0	0	7	0	0	0	
IL CHICAGO	45	32	49	23	39	-6	.2	-.5	.2	7.4	91	43.1	133	89	66	0	0	4	2	0	0	
MOLINE	45	31	51	24	38	-1	.1	-.5	.1	5.2	60	48.9	136	94	69	0	0	4	3	0	0	
PEORIA	46	34	51	27	40	-4	.7	.0	.4	11.2	135	51.9	158	96	75	0	0	4	3	0	0	
QUINCY	43	34	50	27	39	-3	1.1	.4	.5	10.4	104	35.9	99	90	69	0	0	3	3	1	0	
ROCKFORD	44	30	49	20	37	-4	.4	-.2	.4	5.5	65	40.4	121	93	60	0	0	4	2	0	0	
SPRINGFIELD	46	35	50	26	41	-3	1.8	1.2	.9	11.3	148	45.8	145	93	72	0	0	3	3	2	2	
IN EVANSVILLE	57	44	72	33	50	5	4.0	3.0	2.4	14.8	167	42.0	103	94	70	0	0	0	4	2	2	
FORT WAYNE	49	36	59	27	43	-6	2.0	1.3	1.0	8.7	125	39.2	127	92	60	0	0	3	3	2	2	
INDIANAPOLIS	51	40	62	26	46	-5	6.1	5.4	4.1	15.3	201	47.7	135	89	70	0	0	1	3	2	2	
SOUTH BEND	45	34	48	26	40	-4	.5	-.3	.4	13.0	147	43.9	126	89	65	0	0	3	3	0	0	
IA DES MOINES	44	30	53	27	37	-7	.1	-.3	.1	8.2	103	54.7	170	96	63	0	0	6	1	0	0	
SIoux CITY	44	26	53	18	35	-8	.1	-.2	.1	3.9	70	31.6	128	95	64	0	0	7	1	0	0	
WATERLOO	43	28	51	22	35	-7	.2	-.3	.2	5.2	71	51.9	163	94	60	0	0	6	1	0	0	
KS CONCORDIA	47	31	56	25	39	-8	.2	-.1	.1	4.5	78	43.3	157	92	63	0	0	4	2	0	0	
DODGE CITY	47	28	62	21	37	-7	.5	.3	.2	2.5	66	25.5	124	92	65	0	0	6	2	0	0	
GOODLAND	41	22	53	16	31	-10	.3	-.3	.5	3.2	108	20.2	116	93	60	0	0	7	2	0	0	
TOPEKA	46	33	54	25	40	-5	.3	-.2	.2	9.4	114	46.3	139	96	66	0	0	2	2	0	0	
WICHITA	47	32	58	26	40	-6	.3	-.2	.2	4.0	48	31.5	96	96	69	0	0	3	2	0	0	
KY BOWLING GREEN	60	45	74	31	53	6	1.8	.7	1.1	8.9	93	31.4	71	99	77	0	0	1	5	1	3	
LEXINGTON	58	43	75	28	50	5	2.7	1.9	1.1	11.6	147	41.3	105	92	68	0	0	1	5	3	1	
LOUISVILLE	59	44	73	30	51	5	1.7	.8	.8	10.8	130	44.4	113	95	71	0	0	1	3	2	2	
LA BATON ROUGE	71	53	84	38	62	3	2.4	1.3	1.4	10.4	94	57.4	107	94	60	0	0	0	0	3	2	
LAKE CHARLES	71	53	80	40	62	2	4.8	3.8	3.2	11.9	96	56.8	118	96	71	0	0	0	0	3	3	
NEW ORLEANS	74	58	84	47	66	5	1.3	.2	.9	8.4	75	49.7	91	93	76	0	0	0	0	3	1	
SHREVEPORT	63	46	79	34	55	0	4.1	3.1	2.7	12.6	122	55.5	129	96	64	0	0	0	0	2	2	

Based on 1961-90 normals.

Weather Data for the Week Ending November 20, 1993

STATES AND STATIONS	TEMPERATURE °F							PRECIPITATION						RELATIVE HUMIDITY, PERCENT	NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Sept 1	PCT. NORMAL SINCE Sept 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1		AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE		32 AND BELOW	
														90 AND ABOVE			32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
ME CARIBOU	38	27	46	21	33	3	1.9	.1	.3	12.0	135	35.6	111	90	70	0	7	5	0	
PORTLAND	53	33	63	24	43	5	1.9	.1	.3	10.9	105	37.5	99	97	52	0	4	5	2	
MD BALTIMORE	63	46	79	27	54	5	1.3	.5	.9	7.7	90	35.6	98	89	51	0	1	1	1	
SALISBURY	68	47	81	27	57	5	1.0	.3	.9	9.4	102	43.0	106	94	55	0	1	2	5	
MA BOSTON	61	43	78	34	52	7	1.0	.3	.9	10.1	110	35.6	99	92	49	0	0	0	1	
CHATHAM	56	44	63	35	50	6	.9	.1	.4	10.2	97	33.3	85	94	68	0	0	0	0	
MI ALPENA	43	29	51	21	36	2	.9	.2	.4	5.3	79	24.7	95	93	62	0	0	4	4	
DETROIT	47	36	58	27	42	2	.9	.2	.4	7.1	106	28.8	100	85	63	0	0	3	3	
FLINT	42	32	49	22	37	2	.4	.5	.2	7.3	97	29.7	109	89	62	0	0	3	3	
GRAND RAPIDS	44	32	49	22	38	1	.1	.1	.1	13.6	148	44.0	137	88	58	0	0	4	4	
HOUGHTON LAKE	41	31	47	21	36	1	.4	.4	.2	4.9	69	25.3	99	91	63	0	0	3	3	
LANGSTON	43	31	48	20	37	0	.0	.0	.0	8.4	101	34.0	119	92	65	0	0	4	4	
MARQUETTE	37	22	42	15	29	0	.0	.0	.0	9.8	101	30.9	97	92	58	0	0	0	0	
MUSKEGON	46	32	50	22	39	0	.0	.0	.0	7.3	83	34.1	120	91	61	0	0	0	0	
SAULF ST. MARIE	40	27	45	22	33	1	.5	.5	.2	10.5	114	30.5	101	92	59	0	0	2	2	
MN ALEXANDRIA	38	24	43	20	31	2	.0	.3	.4	3.1	53	25.4	104	96	70	0	0	0	0	
DULUTH	36	22	40	12	25	1	.0	.3	.0	3.3	44	29.5	105	87	57	0	0	0	0	
INT'L FALLS	38	21	43	10	30	6	.1	.2	.1	3.1	52	20.6	89	87	59	0	0	1	0	
MINNEAPOLIS	41	26	46	23	34	1	.1	.2	.1	3.9	65	31.2	117	88	57	0	0	1	0	
ROCHESTER	40	27	45	22	33	2	.1	.3	.1	4.2	61	37.4	133	92	65	0	0	2	2	
MS GREENWOOD	66	50	85	31	58	4	1.7	.5	1.1	9.0	88	38.9	83	96	66	0	1	4	1	
JACKSON	65	51	81	34	58	3	5.0	3.9	2.3	11.4	123	45.1	96	98	69	0	0	3	3	
MERIDIAN	68	47	81	27	57	2	3.9	2.8	1.9	12.3	132	51.1	104	94	65	0	0	3	3	
MO CAPE GIRARDEAU	56	42	74	30	49	0	3.1	2.1	1.9	13.9	153	44.8	111	96	68	0	1	3	3	
COLUMBIA	45	34	51	28	40	-3	2.8	2.0	1.5	18.0	192	60.7	174	98	74	0	3	3	2	
KANSAS CITY	45	33	52	28	39	-4	.4	-.1	.3	11.1	117	50.0	141	94	61	0	4	2	2	
SAINT LOUIS	49	39	52	31	44	-2	2.9	2.1	1.9	15.9	200	52.6	158	92	67	0	1	3	2	
SPRINGFIELD	48	35	53	25	41	-4	1.4	.5	.9	22.6	205	53.9	136	95	69	0	2	2	1	
MT BILLINGS	46	26	52	20	36	2	.0	-.2	.0	4.0	131	15.4	110	86	39	0	7	1	0	
GLASGOW	46	23	54	18	35	6	.0	-.1	.0	1.2	65	15.7	149	90	50	0	7	0	0	
GREAT FALLS	42	27	47	14	34	1	.0	-.2	.0	3.5	143	22.5	160	81	46	0	5	0	0	
HAVRE	44	25	51	18	35	6	.0	-.1	.0	.4	20	12.8	122	91	50	0	5	0	0	
HELENA	43	23	52	8	33	3	.0	-.1	.0	2.2	106	18.5	171	89	38	0	7	0	0	
KALISPELL	41	24	46	12	33	2	.2	-.1	.1	2.8	96	20.8	146	87	50	0	7	2	0	
MILES CITY	47	24	57	20	36	5	.0	-.1	.1	1.3	52	18.4	139	82	40	0	7	0	0	
MISSOULA	41	24	49	14	32	1	.2	.0	.1	2.6	108	13.4	112	91	59	0	7	2	0	
NE GRAND ISLAND	47	25	54	19	36	-1	.1	-.2	.1	3.8	77	32.5	136	90	62	0	7	1	0	
LINCOLN	45	28	52	22	37	-1	.1	-.2	.1	5.6	86	25.3	94	94	59	0	7	1	0	
NORFOLK	45	26	53	16	36	0	.1	-.1	.1	5.2	108	33.6	140	88	60	0	6	1	0	
NORTH PLATTE	46	21	61	18	34	-1	.5	.3	.5	3.6	118	26.0	139	90	51	0	7	1	0	
OMAHA	43	29	51	24	36	-2	.1	-.2	.1	5.6	79	41.2	147	92	58	0	6	1	0	
SCOTTSBLUFF	41	15	50	-2	28	-7	.3	-.2	.3	6.3	274	23.9	165	90	48	0	7	1	0	
VALENTINE	47	21	54	17	34	-2	.0	-.2	.0	3.6	85	20.0	92	85	39	0	7	0	0	
NV ELY	41	12	50	0	26	-7	.0	-.1	.0	1.8	74	9.8	105	79	45	0	7	1	0	
LAS VEGAS	60	40	65	33	50	-4	.1	-.1	.1	.2	22	4.8	135	71	27	0	0	1	0	
RENO	52	24	58	19	38	-2	.0	-.2	.0	1.4	112	6.3	102	82	28	0	7	0	0	
WINNEVOCCA	48	12	53	2	30	-7	.0	-.2	.0	.6	37	6.8	96	88	25	0	7	0	0	
NH CONCORD	54	29	74	19	41	5	1.5	.6	.9	9.7	114	26.6	83	96	50	0	6	4	1	
NJ ATLANTIC CITY	64	43	80	30	54	8	.3	-.6	.3	7.2	89	34.1	95	94	61	0	1	1	0	
NM ALBUQUERQUE	52	31	59	28	41	-2	.4	-.3	.2	2.1	94	8.8	107	89	44	0	5	3	0	
CLOVIS	54	29	67	24	42	-5	.1	-.1	.1	2.2	53	14.0	83	82	36	0	5	1	0	
ROSWELL	56	31	64	25	43	-7	.1	.0	.1	1.5	44	9.9	83	91	43	0	5	1	0	
NY ALBANY	53	34	74	26	44	4	1.3	.5	.9	8.4	105	36.2	112	96	57	0	5	5	1	
BINGHAMTON	50	34	66	24	42	4	1.5	.8	1.1	9.6	114	37.8	115	91	64	0	5	4	1	
BUFFALO	49	36	63	28	43	3	1.1	.1	.4	11.0	120	35.3	105	89	60	0	2	4	0	
NEW YORK	64	47	80	36	56	9	.1	-.8	.1	9.9	111	38.0	101	86	50	0	0	2	0	
ROCHESTER	50	34	63	27	42	2	.7	.0	.3	8.9	122	25.6	81	95	66	0	4	4	0	
SYRACUSE	51	34	67	26	43	3	1.1	.2	.7	14.1	148	44.5	129	94	66	0	5	5	1	
NC ASHEVILLE	63	47	74	28	55	8	.5	-.5	.3	3.6	31	31.9	64	89	67	0	1	2	0	
CHARLOTTE	71	55	82	38	63	11	.2	-.6	.1	4.2	47	30.8	80	90	53	0	0	3	0	
GREENSBORO	68	52	81	32	60	11	.1	-.6	.0	5.3	59	37.7	98	93	60	0	1	3	0	
HATTERAS	74	62	79	53	68	11	.0	-.1	.0	17.1	125	53.6	107	92	66	0	0	1	0	
NEW BERN	74	53	85	44	64	9	.0	-.7	.0	9.1	89	42.1	85	98	55	0	0	0	0	
RALEIGH	72	54	86	37	63	12	.1	-.6	.1	7.4	92	32.6	88	92	56	0	0	1	0	
WILMINGTON	78	56	86	40	67	12	.0	-.8	.0	16.9	138	57.0	110	93	53	0	0	0	0	
ND BISMARCK	48	20	54	13	34	6	.0	-.1	.0	1.2	4	13	25.2	170	96	50	0	6	0	0
FARGO	41	22	51	18	32	4	.0	-.2	.0	1.2	29	19.6	105	81	53	0	7	0	0	
GRAND FORKS	42	22	49	18	32	6	.0	-.1	.0	1.3	33	20.3	116	87	58	0	7	0	0	
WILLISTON	43	23	50	20	33	7	.0	-.1	.0	.6	26	17.9	138	90	53	0	6	0	0	
OH AKRON-CANTON	51	39	64	24	45	4	3.3	2.5	1.6	12.4	163	36.7	112	90	71	0	1	3	2	
CINCINNATI	56	41	68	27	49	5	2.2	1.4	1.5	8.7	108	35.3	95	88	64	0	1	3	1	
CLEVELAND	51	38	63	28	44	2	2.3	1.5	1.2	12.2	152	37.1	115	87	66	0	1	4	2	
COLUMBUS	55	42	69	28	48	8	2.4	1.6	1.8	8.7	114	35.1	104	90	68	0	1	3	2	
DAYTON	53	40	67	27	46	4	3.5	2.8	2.0	12.9	183	48.4	148	93	69	0	2	3	2	

Based on 1961-90 normals.

Weather Data for the Week Ending November 20, 1993

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS							
	AVERAGE	MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Sept 1	PCT. NORMAL SINCE Sept 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	
																				TEMP. °F	PRECIP.		
TOLEDO	47	34	59	26	40	1	1.4	.7	.8	7.6	111	27.5	95	90	69	0	0	4	2	2	2		
YOUNGSTOWN	50	37	64	26	44	3	3.5	2.8	2.1	10.2	125	33.1	99	93	73	0	0	2	4	4	2		
OK OKLAHOMA CITY	53	34	63	24	43	3	1.5	.0	.3	5.3	61	31.7	101	95	59	0	0	2	2	2	0		
TULSA	51	34	61	27	43	3	1.6	.0	.5	9.8	93	37.4	100	97	62	0	0	2	2	2	0		
OR ASTORIA	51	35	52	28	43	1	1.1	-1.6	.4	3.9	26	38.2	73	98	71	0	0	0	0	0	0		
BURNS	44	12	47	5	28	5	.8	-1.3	.0	.4	19	8.4	100	77	29	0	0	2	4	0	0		
MEDFORD	49	24	52	19	36	7	1.1	-1.7	.0	.7	17	13.6	95	93	42	0	0	7	2	2	0		
PENDLETON	50	31	57	23	41	0	0	-1.4	.4	.3	11	12.1	122	79	42	0	0	3	1	0	0		
PORTLAND	49	37	54	29	43	3	.4	-.9	.3	2.1	27	24.4	87	97	68	0	0	2	2	2	0		
SALEM	48	34	52	24	41	-4	-.2	-1.3	.2	1.5	18	26.9	89	95	60	0	0	2	2	2	0		
PA ALLENTOWN	60	38	77	32	49	6	.7	-.3	.7	14.0	149	46.1	119	96	58	0	0	1	1	2	1		
ERIE	50	39	63	31	45	2	1.9	1.0	1.1	11.7	108	33.8	92	90	64	0	0	1	3	2	2		
HARRISBURG	59	44	78	33	52	8	.5	-.4	.4	11.6	132	41.2	113	89	58	0	0	0	2	0	0		
PHILADELPHIA	66	46	81	34	56	11	.1	-.8	.1	9.9	99	36.8	90	91	56	0	0	1	1	0	0		
PITTSBURGH	58	41	73	26	50	8	2.3	1.6	1.1	10.1	140	35.3	107	87	56	0	0	1	5	2	2		
SCRANTON	55	37	72	28	46	5	.6	-1.1	.5	11.5	140	34.1	104	91	60	0	0	2	3	0	0		
RI PROVIDENCE	62	39	78	30	51	7	1.2	-.1	.6	9.4	93	34.9	88	95	52	0	0	2	3	1	1		
SC CHARLESTON	78	60	85	47	69	11	.0	-.6	.0	10.5	113	49.3	104	98	55	0	0	2	0	0	0		
COLUMBIA	77	53	86	34	65	11	.0	-.7	.0	8.5	99	35.0	77	98	49	0	0	0	0	0	0		
FLORENCE	79	57	89	41	68	13	.0	-.6	.0	6.2	81	30.6	77	93	44	0	0	0	0	0	0		
GREENVILLE	69	50	80	31	59	8	.4	-.5	.3	5.4	52	34.2	75	95	56	0	0	1	3	0	0		
SD ABERDEEN	41	24	50	14	32	3	.0	-.2	.0	2.2	56	26.3	129	92	56	0	0	5	0	0	0		
HURON	44	27	51	21	35	4	.0	-.2	.0	3.4	91	28.6	147	91	54	0	0	5	0	0	0		
RAPID CITY	51	22	60	16	37	2	.0	-.1	.0	2.4	89	18.7	117	89	34	0	0	7	1	0	0		
SIOUX FALLS	42	26	49	20	34	2	.0	-.2	.0	3.5	63	35.3	155	92	58	0	0	6	1	0	0		
TN CHATTANOOGA	66	52	78	31	59	9	1.6	.5	1.1	6.2	60	34.2	73	96	66	0	0	1	4	1	1		
KNOXVILLE	66	48	80	31	57	8	1.1	.2	.6	9.1	110	36.8	89	97	65	0	0	1	3	1	1		
MEMPHIS	63	49	78	35	56	4	3.2	1.9	1.8	9.4	96	38.0	85	91	62	0	0	1	3	2	2		
NASHVILLE	62	46	78	32	54	5	1.9	.9	1.2	7.3	84	37.2	90	93	67	0	0	1	5	1	1		
TX ABILENE	59	37	70	25	48	-4	.4	-.1	.3	6.0	89	17.9	78	83	44	0	0	1	2	0	0		
AMARILLO	53	29	65	21	41	-4	.1	.0	.1	2.1	53	17.4	92	94	45	0	0	6	2	0	0		
AUSTIN	68	47	76	38	57	-3	.3	-.3	.2	3.6	42	25.2	86	90	47	0	0	2	2	0	0		
BRAUNMONT	72	53	83	42	62	2	3.4	2.3	1.4	13.5	98	65.0	128	92	66	0	0	0	3	3	3		
BROWNSVILLE	76	61	86	50	69	0	.2	-.1	.1	7.8	79	24.9	100	92	70	0	0	0	3	0	0		
CORPUS CHRISTI	74	55	83	49	65	-1	.1	-.3	.0	3.7	38	32.8	115	91	52	0	0	0	2	0	0		
DEL RIO	74	48	82	40	61	1	.0	-.3	.0	1.5	23	14.2	61	81	30	0	0	0	0	0	0		
EL PASO	61	38	69	33	50	-2	.4	-.3	.4	2.0	71	8.9	109	79	39	0	0	0	2	2	1		
FORT WORTH	62	43	75	35	52	-1	1.0	.5	.6	9.7	93	30.0	87	93	56	0	0	2	2	1	0		
GALVESTON	70	56	78	50	63	-1	1.0	.2	.4	14.1	129	44.7	119	84	72	0	0	0	3	3	0		
HOUSTON	71	50	78	37	60	0	2.1	.9	1.5	9.7	71	55.3	116	96	64	0	0	0	2	2	0		
LUBBOCK	56	32	69	27	44	-5	.2	.0	.2	1.0	20	12.4	69	88	45	0	0	4	2	2	0		
MIDLAND	61	36	74	29	49	-4	.0	-.2	.0	3.3	64	16.1	111	83	37	0	0	2	0	0	0		
SAN ANGELO	64	37	74	24	51	-4	.1	-.2	.0	3.1	47	14.9	77	87	41	0	0	1	2	0	0		
SAN ANTONIO	71	46	80	35	59	-1	.2	-.4	.2	4.2	50	31.5	110	90	40	0	0	0	2	0	0		
VICTORIA	71	50	81	41	61	-2	.1	-.7	.1	5.2	40	47.2	114	94	53	0	0	0	3	0	0		
WACO	62	41	74	31	52	-5	1.3	.8	1.2	10.6	123	29.9	102	93	56	0	0	1	2	1	0		
WICHITA FALLS	58	34	69	25	46	-6	.5	.2	.3	5.8	68	26.7	89	94	55	0	0	3	2	0	0		
UT CEDAR CITY	47	23	53	17	35	-4	.0	-.2	.0	1.8	69	9.7	93	87	41	0	0	7	1	0	0		
SALT LAKE CITY	48	24	55	19	36	-5	.4	-.3	.0	3.0	83	17.5	121	86	45	0	0	7	1	0	0		
VT BURLINGTON	48	32	60	26	40	4	.0	.0	.2	8.8	106	31.5	101	93	54	0	0	5	4	0	0		
VA NORFOLK	72	55	84	45	64	12	.1	-.5	.1	8.2	92	32.4	80	91	59	0	0	0	3	0	0		
RICEMOND	70	52	86	30	61	11	.5	-.3	.4	6.4	71	36.4	94	88	52	0	0	1	2	0	0		
ROANOKE	64	50	82	37	57	10	.4	-.3	.4	7.4	77	32.4	87	86	54	0	0	0	1	0	0		
WA QUILLAYUTE	49	37	51	31	43	-1	2.3	-.9	.9	8.9	36	53.6	63	99	72	0	0	1	6	2	2		
SEATTLE-TACOMA	49	38	52	33	44	-1	.5	-.9	.3	2.1	23	22.7	78	94	63	0	0	0	1	3	0		
SPOKANE	40	23	47	15	32	-2	.2	-.4	.2	.9	30	11.4	86	93	59	0	0	7	1	0	0		
YAKIMA	49	18	59	13	34	-5	.0	-.3	.0	.5	36	5.2	83	91	46	0	0	7	0	0	0		
WV BECKLEY	61	44	78	27	53	10	1.1	.4	.5	8.9	109	34.7	94	95	59	0	0	1	5	0	0		
CHARLESTON	64	46	85	31	55	9	1.0	.2	.9	12.1	143	37.1	98	90	59	0	0	1	4	1	0		
HUNTINGTON	62	46	82	30	54	10	1.3	.4	.7	10.5	122	37.9	98	88	57	0	0	1	5	2	0		
PARKERSBURG	60	44	79	30	52	8	.5	-.1	.4	7.9	107	34.7	94	92	60	0	0	1	3	0	0		
WI GREEN BAY	42	26	47	18	34	1	.0	-.5	.0	6.0	84	32.7	123	88	56	0	0	6	1	0	0		
LACROSSE	42	30	46	25	36	1	.0	-.4	.0	2.7	38	39.5	137	89	55	0	0	6	0	0	0		
MADISON	43	27	50	18	35	1	.3	-.2	.2	5.3	70	42.1	141	87	58	0	0	5	3	0	0		
MILWAUKEE	45	33	50	24	39	2	.4	-.2	.4	5.3	70	35.1	118	91	61	0	0	3	3	0	0		
WAUSAU	40	26	47	16	33	1	.0	-.4	.0	7.4	89	35.0	114	84	50	0	0	6	1	0	0		
WY CASPER	39	22	45	14	30	-2	.1	-.1	.1	2.8	115	15.0	130	82	48	0	0	7	1	0	0		
CHEYENNE	39	17	43	9	28	-7	.2	.1	.2	6.1	258	18.5	134	86	50	0	0	7	3	0	0		
LANDER	36	12	46	4	24	-6	.2	.0	.2	3.2	114	16.0	131	82	46	0	0	7	1	0	0		
SHERIDAN	44	17	55	8	30	-1	.3	.1	.2	2.9	92	16.8	124	88	45	0	0	7	2	0	0		

Based on 1961-90 normals.

HEATING DEGREE DAYS (Base 65° F) November 14 - 20, 1993

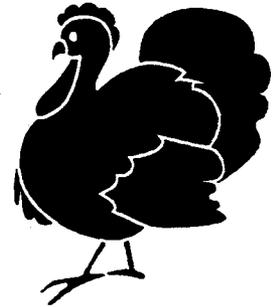
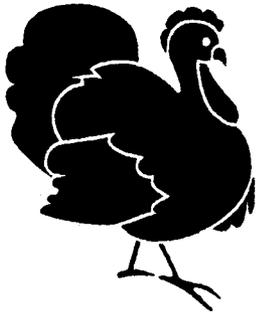
(Cumulative totals and departures from normal are for the period July 1 - November 20, 1993)

STATES AND STATIONS	WEEKLY		CUMULATIVE			STATES AND STATIONS	WEEKLY		CUMULATIVE			STATES AND STATIONS	WEEKLY		CUMULATIVE		
	TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP from '92		TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP from '92		TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP from '92
AL BIRMINGHAM	56	-30	413	42	48	LA BATON ROUGE	39	-10	261	101	112	TULSA	154	44	707	282	246
HUNTSVILLE	65	-33	495	64	61	LAKE CHARLES	28	-21	195	51	67	OR ASTORIA	153	24	1295	67	66
MOBILE	35	-11	229	67	54	NEW ORLEANS	21	-24	175	45	52	EUGENE	176	40	944	66	195
MONTGOMERY	48	-20	312	60	52	SHREVEPORT	72	8	362	150	148	MEDFORD	200	49	807	-14	185
AK ANCHORAGE	317	3	2289	-474	-687	ME BANGOR	166	-35	1422	87	-159	NORTH BEND	147	41	1160	41	180
BARROW	462	-10	4762	-799	-836	PORTLAND	153	-33	1284	46	-134	PENDLETON	170	1	974	-39	50
BETHEL	308	-33	2778	-533	-763	MD BALTIMORE	76	-55	685	49	-84	PORTLAND	155	19	745	-100	34
COLD BAY	188	-28	2410	-365	-489	MA BOSTON	93	-47	839	85	-193	REDMOND	211	19	1602	138	270
FAIRBANKS	435	-11	2995	-414	-873	MI ALPENA	199	-10	1651	184	-177	SALEM	167	24	864	-120	108
JUNEAU	202	-34	1902	-497	-431	DETROIT	162	-14	1023	14	-145	PA ALLENTOWN	109	-46	949	86	-128
KING SALMON	275	-27	2417	-619	-803	FLINT	195	13	1385	272	50	BRADFORD	173	-32	1505	-27	-131
KOTzebue	440	34	3497	-361	-675	GRAND RAPIDS	186	-7	1330	186	-2	ERIE	141	-13	1019	151	-17
MCCRATH	398	-34	2972	-607	-901	LANSING	195	5	1369	207	-71	PHILADELPHIA	68	-65	552	-101	-181
NOME	361	13	3276	-374	-806	MUSKOGON	181	-1	1301	203	-7	PITTSBURGH	107	-54	943	11	-113
ST PAUL ISLAND	188	-37	2694	-508	-554	TRAVERSE CITY	189	-9	1368	98	-169	SCRANTON	130	-38	1101	123	-46
YAKUTAT	235	-6	2190	-433	-541	MN DULUTH	252	-9	2123	286	01	WILLIAMSPORT	135	-31	1069	118	-14
AZ FLAGSTAFF	237	36	1389	-28	118	INT'L FALLS	246	-41	2231	275	36	RI PROVIDENCE	100	-49	907	67	-95
PHOENIX	53	21	74	-12	46	MINNEAPOLIS	219	-10	1511	228	53	SC CHARLESTON	8	-48	195	-11	-24
TUCSON	74	29	118	-9	15	ROCHESTER	220	-12	1609	254	-32	COLUMBIA	24	-51	330	-4	-49
AR FORT SMITH	119	14	546	147	172	MS JACKSON	59	-13	409	125	158	GREENVILLE	48	-48	481	60	-78
LITTLE ROCK	112	16	507	142	174	MERIDIAN	50	-21	339	30	89	SD ABERDEEN	228	-22	1557	132	-73
CA FRESNO	88	4	181	-104	-11	MO COLUMBIA	175	25	941	230	141	HURON	205	-29	1498	183	-9
LOS ANGELES	17	-15	45	-82	31	KANSAS CITY	181	22	934	201	125	PIERRE	225	3	1401	197	62
SACRAMENTO	105	19	244	-49	34	SAINT LOUIS	146	11	728	137	100	RAPID CITY	199	-19	1402	77	29
SAN DIEGO	36	8	64	-29	40	SPRINGFIELD	164	27	828	195	205	ST LOUIS	214	-15	1442	152	23
SAN FRANCISCO	63	-11	305	-252	38	MT BILLINGS	199	-17	1483	132	208	SN BRISTOL	63	-65	696	43	-45
CO COLORADO SPRINGS	234	38	1378	213	265	GLASGOW	212	-45	1731	129	113	CHATTANOOGA	50	-55	435	-22	-95
DENVER	217	30	1208	150	258	GREAT FALLS	213	-11	1943	394	330	KNOXVILLE	60	-57	581	29	04
GRAND JUNCTION	202	25	1006	172	244	HAVRE	208	-47	1830	194	130	MEMPHIS	69	-23	439	76	103
CT HARTFORD	131	-33	1073	152	-109	HELena	219	-20	1859	197	284	NASHVILLE	80	-27	575	93	92
DE WILMINGTON	72	-61	659	-3	-151	KALISPELL	225	-18	2016	60	227	TX ABILENE	118	42	454	194	248
DC WASHINGTON	63	-46	551	72	-127	MISSOULA	227	-6	1767	58	167	AMARILLO	166	28	810	216	205
FL DAYTONA BEACH	0	-21	51	8	21	NE GRAND ISLAND	202	4	1166	152	34	AUSTIN	52	10	223	116	107
FORT MYERS	0	-7	14	4	14	NORTH PLATTE	218	6	1332	142	105	BROWNSVILLE	8	-4	70	48	49
JACKSONVILLE	6	-32	115	1	04	OMAHA	201	11	1133	196	91	CORPUS CHRISTI	18	-5	100	53	54
KEY WEST	0	0	0	0	00	SCOTTSBLUFF	254	48	1471	278	253	DALLAS FT WORTH	88	23	379	176	198
MIAMI	0	0	4	4	04	NV ELKO	275	66	1815	440	308	EL PASO	104	11	355	50	86
ORLANDO	0	-14	38	11	23	Ely	270	51	1813	289	435	HOUSTON	35	-10	207	77	87
PENSACOLA	23	-21	165	24	39	LAS VEGAS	103	28	251	24	61	LUBBOCK	146	35	592	154	226
TALLAHASSEE	12	-38	176	13	30	RENO	190	13	853	-260	66	LUFKIN	59	2	311	135	110
TAMPA	0	-17	35	-1	09	WINNEMUCCA	245	50	1288	35	144	MIDLAND ODESSA	112	21	460	125	204
WEST PALM BEACH	0	-5	10	5	10	NH CONCORD	164	-34	1401	103	-139	SAN ANGELO	100	29	385	141	183
GA ATHENS	41	-42	390	41	-19	NJ ATLANTIC CITY	84	-52	808	80	-98	SAN ANTONIO	47	4	222	97	107
ATLANTA	43	-43	350	-16	-20	ALBANY	72	-54	631	36	-94	VICTORIA	35	0	165	72	85
AUGUSTA	29	-44	279	-36	-46	NM ALBUQUERQUE	163	13	695	42	150	WACO	90	28	388	216	231
MACON	38	-32	318	36	10	NY ALBANY	147	-32	1196	120	-155	WICHITA FALLS	132	39	542	213	283
SAVANNAH	6	-45	183	3	-2	BINGHAMTON	161	-28	1408	181	-175	UT CEDAR CITY	209	27	1059	40	174
ID BOISE	196	16	1123	60	101	BUFFALO	153	-22	1176	141	-92	SALT LAKE CITY	204	30	1017	94	155
POCATELLO	239	29	1591	262	342	MASSENA	161	-51	1361	-31	-293	VT BURLINGTON	171	-29	1335	47	-181
IL CHICAGO	182	2	1165	216	16	NEW YORK	67	-59	596	-1	-159	VA LYNCHBURG	60	-64	623	7	-60
MOLINE	188	7	1090	176	-18	ROCHESTER	161	-14	1226	164	-143	NORFOLK	23	-68	369	-31	-86
PEORIA	176	6	1008	170	33	SYRACUSE	153	-21	1205	134	-132	RICHMOND	47	-63	508	-25	-131
ROCKFORD	195	-1	1241	209	-12	NC ASHEVILLE	66	-59	693	7	-50	ROANOKE	61	-64	679	37	-66
SPRINGFIELD	170	11	948	185	136	CAPE HATTERAS	6	-60	125	-118	-111	WA OLYMPIA	164	4	1166	-158	111
IN EVANSVILLE	101	-33	710	73	96	CHARLOTTE	32	-61	388	-8	-51	QUILLAYUTE	151	2	1411	-71	47
FORT WAYNE	154	-15	1024	114	-36	GREENSBORO	43	-68	548	26	-94	SEATTLE TACOMA	148	7	966	-64	98
INDIANAPOLIS	136	-22	971	176	100	RALEIGH DURHAM	32	-67	477	32	-65	SPOKANE	231	16	1500	77	178
SOUTH BEND	176	4	1145	195	58	WILMINGTON	15	-47	222	-29	-93	YAKIMA	218	29	1260	74	165
IA DES MOINES	195	8	1157	235	91	ND BISMARCK	216	-46	1766	151	-8	WV BECKLEY	88	-66	881	-66	-48
MASON CITY	219	-3	1470	224	13	FARGO	232	-33	1719	139	-18	CHARLESTON	78	-52	728	54	-29
SIoux CITY	208	3	1280	231	47	MINOT	219	-48	1882	194	35	HUNTINGTON	81	-51	723	32	-2
WATERLOO	205	-5	1240	74	-33	WILLISTON	224	-48	1941	220	110	WI EAU CLAIRE	218	-15	1611	237	89
KS CONCORDIA	178	8	964	198	48	OH AKRON CANTON	138	-25	1088	150	-103	GREEN BAY	213	-6	1480	141	-39
DODGE CITY	192	33	978	294	159	CLEVELAND	143	-16	1002	95	-88	MADISON	209	-3	1345	85	-4
GOODLAND	235	45	1254	249	195	COLUMBUS	114	-44	870	11	-59	MILWAUKEE	181	-13	1062	-57	-150
RUSSELL	181	15	944	202	131	CINCINNATI	111	-36	882	127	14	WT CASPER	241	12	1452	-20	225
TOPEKA	177	18	915	181	122	DAYTON	129	-29	963	125	11	CHEYENNE	259	44	1728	281	347
WICHITA	175	27	812	201	200	TOLEDO	171	-7	1102	81	-33	LANDER	283	40	1663	177	388
KY LEXINGTON	105	-32	771	92	47	YOUNGSTOWN	146	-24	1147	110	-123	ROCK SPRINGS	287	39	1970	286	409
LOUISVILLE	97	-31	702	89	120	OK OKLAHOMA CITY	151	39	672	252	262	SHERIDAN	240	6	1747	212	319

Based on 1961-90 normals.

National Agricultural Summary

November 15 - 21, 1993



HIGHLIGHTS: Rain fell over the Mississippi Delta early in the week, and then spread over the lower and middle Mississippi Valley and the lower Ohio Valley by midweek. The rains caused local flooding in parts of the Ohio Valley and harvest delays in the parts of the eastern Corn Belt. At the end of the week, a storm brought heavy rains to the northern Pacific Coast and snow to the northern Rockies. Temperatures were generally above normal in the East and northern Plains, and below normal in the West and southern Plains. Cold weather pushed into the extreme northern Great Plains at the end of the week.

SMALL GRAINS: Winter wheat emergence was at 90 percent (%), compared with 88% last year and a 91% average. Emergence continued behind average in the Northwest, the middle Mississippi Valley, and Texas. Winter wheat condition was rated at 69% good to excellent, compared with 68% good to excellent last week. Recent moisture improved winter wheat in Texas and Kansas but flooded some fields in Ohio. Cold weather caused insect problems to decline on wheat in the Northwest. The planting of other small grains in the Southeast neared completion and continued in the South. Wet soil conditions hindered planting of small grains in the Texas Blacklands. Small grains in other areas of Texas and parts of California could use more moisture.

CORN: Corn harvest in the 17 major producing States reached 93% complete, compared with 68% last year and a 91% average. Good progress was made in the upper Great Lakes States. Progress was behind average in the central Great Plains. This week's precipitation slowed harvest activities in the Ohio Valley. High moisture content and low test weights were still a concern for producers in the upper Mississippi Valley and has caused some harvest delays. Mold occurred on some immature corn in Wisconsin.

SOYBEANS: The soybean harvest neared completion but wet conditions caused delays. In the lower Ohio Valley, producers were concerned about soybeans in wet, low-lying fields. In Georgia and the Carolinas, the harvest advanced to 48% complete, compared with 53% last year and 58% average.

COTTON: Harvest progress was ahead of average in all major States except Arkansas and Mississippi. Cotton harvest in the 14 producing States advanced to 88%, compared with 78% last year and an 80% average. Rains hindered harvests in Arizona, Tennessee, and parts of Texas.

SORGHUM: Although wet weather and muddy fields hindered progress in many areas, the sorghum harvest neared completion. Harvest progress in Colorado, New Mexico, and Oklahoma neared 73% complete, compared with 85% last year.

OTHER FIELD CROPS: This week's rainfall improved onion planting conditions in Georgia. In Louisiana, rain kept fields muddy which hindered the sugarcane harvest. The peanut harvest continued in Oklahoma and Texas. Progress in Oklahoma was behind last year and average. In Texas, the crop showed damage from the dry summer and early frost. Tobacco stripping in Tennessee benefited from this week's rain and early morning fog. Snow hindered the potato harvest in parts of the Coachella Valley in California.

FRUITS AND NUTS: Rain slowed the citrus harvest in Arizona. In Florida, the citrus groves were in very good condition, although

the dry conditions slowed some new growth and caused some producers to irrigate their crop. In California and Florida, the citrus harvests were active. Most non-citrus harvests were completed in California. The pecan harvest gained momentum in the South and New Mexico. Pecans in Texas showed damage from previous freezes. Some pecans in the Upper Coast of Texas, that had been blown to the ground from last week's high winds, were damaged by this week's wet conditions.

VEGETABLES: Rains hampered the vegetable harvest in Arizona. Warm weather and mostly clear skies helped the Florida vegetable crop. Planting and harvesting of vegetables in California continued with no unusual problems reported. The vegetable crop in Texas continued to make good progress. Some Texas pepper plants damaged from previous freezes showed improvement.

PASTURE AND LIVESTOCK: Pasture feed conditions remained generally fair to good across the Nation. Hay supplies were generally adequate across the country, but shortages remain in parts of Texas and Iowa. Livestock condition remained generally good across the Nation. Supplemental feeding continued where needed.

Crop Condition (Percent)

for the Week Ending November 21, 1993

WINTER WHEAT

State	VP	P	F	G	EX
AR	0	0	15	80	5
CA	0	0	10	85	5
CO	0	3	9	61	27
GA	0	1	41	52	6
ID	0	0	26	66	8
IL	2	9	30	57	2
IN	0	6	36	55	3
KS	0	5	6	50	39
MI	2	8	25	45	20
MO	2	5	53	40	0
MT	0	8	35	42	15
NE	0	0	5	81	14
NC	0	0	39	61	0
OH	1	2	20	55	22
OK	0	0	53	47	0
OR	0	0	25	70	5
SD	0	0	19	74	7
TX	1	11	50	33	5
WA	0	0	27	73	0
19 State	0	4	27	54	15
Prev Week	0	3	29	52	16
Prev Year	1	6	31	46	16

VP - Very Poor P - Poor F - Fair
G - Good EX - Excellent

State Summaries of Weather and Agriculture

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

ALABAMA: Rainfall 0.44 to 2.22 in. north; 0.17 to 1.75 in. central; 0.07 to 3.56 in. south. Temperatures 1° below normal to 4° above normal north; 0 to 5° above normal central; 1 to 7° above normal south. Lows 22 to 34° north; 22 to 36° central; 28 to 36° south. Highs 69 to 82° north; 73 to 83° central; 78 to 85° south.

Days suitable for fieldwork 4.2. Soil moisture 10% short, 74% adequate, surplus 16%. Sorghum harvested 96%, 100% 1992, 100% avg. Wheat seeded 71%, 73% 1992, 68% avg. Pasture feed 4% very poor, 16% poor, 49% fair, 28% good, 3% excellent. Primary activities: Harvesting sorghum, cotton, soybeans, land preparation for seeding small grains, general care of livestock, poultry, catfish.

ARIZONA: Cloudy, rainy; snow higher elevations 14th to 15th. Sunny rest of period. Temperatures 2 to 7° below normal. Extremes 10°; 70° higher elevations; 28°; 76° deserts.

Cotton harvest delayed due to rain; 94% harvested, 96% 1992, 85% avg. Stalk shredding, plow down activity halted by rain. Small grains field preparations slowed by rain. Small grain seeded 15%, 19% 1992, 16% avg. Alfalfa good. Harvest light to moderate all areas. Sheeping off activities increased western, central areas. Rains curtailed harvest of fruits, vegetables statewide. Cauliflower harvested western areas. Lemons, grapefruits, naval oranges, broccoli harvested western, central areas. Central areas, tangerines, tangelos, cantaloupe, mixed greens, parsley, radishes, spinach, green onions, beets, bok choy, cabbage, cilantro, dill, kale, leeks, napa, rapini, swiss chard, sweet corn, pecans harvested. Apples, tomatoes harvested eastern production areas. Lettuce harvested western, central, eastern.

ARKANSAS: Temperatures a little below normal. Rain, thunderstorms first part of week, becoming cold, dry by the weekend. Extremes 19°; 70°. Rainfall 0.18 to 4.18 in.

Days suitable for fieldwork 4. Soil moisture supplies adequate to surplus. Main farming activities: Wheat, oats seedbed preparation; planting wheat, oats; wheat, pasture fertilization; poultry house maintenance; shredding cotton stalks; harvesting cotton, soybeans. Cotton classing office reported 975,404 bales had been classed as of Nov. 18, 1993, compared to 1,206,003 bales as of Nov. 19, 1992. Rice, sorghum harvest complete. Soybeans harvested 85%, 93% 1992, 89% avg. Wheat planted 70%, 76% 1992, 74% avg. Pecans good. Pastures supplied average feed to herds for the week. Livestock good condition.

CALIFORNIA: Upper level low brought below-seasonal temperatures to most areas; small amounts precipitation few locations.

Scattered rainfall slowed field activities. Many producers waiting additional moisture before planting. Planting winter wheat progressed. Field preparation, herbicide application fall, winter grains continuing. Planting oats, winter forage crops starting. Producers burned rice straw, stubble, permitted regions. Cotton harvest nearly completed. Producers plowing down cotton fields many areas, preparing 1994 crop. Corn for grain, silage harvested scattered areas. Dry beans, sugarbeets harvested. 1994 sugarbeets irrigated, treated herbicides. Final season alfalfa hay cutting many areas. Most non-citrus fruit crop harvests completed. Harvests active dates, avocados in southern California. Picking of navel oranges, lemons, grapefruit, tangerines active. Harvest broccoli central, Coachella valleys under way. Merced County cauliflower harvest continued. Along central coast, harvest broccoli, cauliflower, celery continued. Sweet corn harvested Fresno, Riverside Counties. Fall head lettuce harvest Palo Verde Valley

begun, shredding companies harvesting central valley. Spring 1994 head lettuce crop Fresno County planted. Melon harvest Palo Verde Valley completed. Harvest of potatoes higher locations Coachella Valley slowed due snowfall. Sweet potato harvest Merced County completed. Processing tomatoes planted, while late season fresh market tomatoes harvested San Joaquin Valley. Ground work crops continued around State. Other crops harvested: Eggplant, cucumbers, cabbage, snap beans, okra, peppers, pumpkins, squash. Rangeland beginning to green up. Additional rainfall needed to promote good grass growth. Supplemental feeding light to moderate. Livestock in good condition.

COLORADO: The 15th brought dense fog to many areas across the State, but little precipitation. High pressure began to build on the 15th, continued through the weekend. Hardly any moisture was recorded at lower elevations during the period except for some light rain and snow with a fast moving front on the 19th. Front also produced some gusty winds, colder temperatures. Dry, seasonal conditions prevailed over the weekend. Temperatures for State mostly 6 to 9° below normal. Locations near the Front Range were generally 3 to 4° below normal, those near the Kansas border 8 to 10° below normal for the period.

Winter wheat emerged 100%, 100% 1992, 100% avg. Corn harvest making slow, steady progress. With muddy field conditions, most producers will be able to finish next week as temperatures drop, fields freeze. There are some areas where corn has high moisture content; much of that is going directly to feedlots. Corn harvested 90%, 80% 1992, 89% avg. Winter wheat 3% poor, 9% fair, 61% good, 27% excellent.

FLORIDA: Temperatures 3 to 9° above normal. Highs; middle, upper 80s. Lows; middle 30s Panhandle, 60s to near 70° elsewhere. Most areas received rain 1 or less days. Rain totals generally under 0.20 in., isolated spots along southeast recording over 1.00 in.

Soil moisture short to adequate with scattered areas surplus. Cotton, soybean harvest winding down. Sugarcane harvest active. Small grain, sugarcane planting active. Pecan harvest active. Citrus groves, trees, fruit very good condition. Very little rain, irrigation some areas. New growth slowed. Fruit loss from splitting minimal. Early fruit harvest very active for Thanksgiving fresh markets. Caretakers clean cutting cover crops, dirt banking young trees, placing heaters for the winter season. Warmer than average temperatures, relatively clear skies over Central, South vegetable producing areas. Condition of crops mostly good. Harvesting activity increasing all areas. Celery, iceberg lettuce harvesting begun. Volume leaders: Tomatoes, peppers, cucumbers, squash, snap beans. Also available; cabbage, Chinese cabbage, carrots, sweet corn, iceberg, specialty lettuces, radishes, cherry tomatoes, watermelons. Pastures feed fair to excellent; 25% fair, 70% good, 5% excellent. Cattle herds fair to good.

GEORGIA: Record warmth first half of the week. Temperatures 4 to 8° above normal. Warmest mid 70s mountains, 80s central, south. Coldest low 20s mountains, 40s southeast coast. Extremes 17°; 88°. Rainfall confined to north, northwest. Rainfall 0.50 in. or less, except 0.50 to over 1.00 in. rainfall totals extreme northwest. Central, southern areas no rain.

Days suitable for fieldwork 5.5. Soil moisture 1% very short, 14% short, 85% adequate. Cotton 2% very poor, 23% poor, 54% fair, 21% good; combining another slow week. Sorghum 4% very poor, 9% poor, 75% fair, 12% good; 94% harvested for grain, 88% 1992, 94% avg. Peanuts 99% threshed, 100% 1992, 100% avg. Soybeans 13%

very poor, 42% poor, 38% fair, 7% good; 67% harvested, 67% 1992, 75% avg. Wheat 39% planted, 37% 1992, 37% avg. Small grain seed-bed preparation active. Planting ahead of average. Rye 90% planted, 91% 1992, 85% avg. Other small grains 1% poor, 39% fair, 56% good; 4% excellent; 71% planted, 77% 1992, 67% avg. Onions 4% poor, 93% fair, 3% good; 19% planted, 51% 1992, NA avg. Rains improved conditions for planting. Other vegetables 11% very poor, 12% poor, 52% fair, 25% good. Apples 91% harvested, 100% 1992, 100% avg. Pecans 1% poor, 14% fair, 81% good, 4% excellent; 53% harvested, 62% 1992, 56% avg.; harvesting very active. Pasture feed 3% very poor, 23% poor, 45% fair, 29% good; overseeding pastures continues. Cattle, hogs fair to good. Activities: Soil sampling, applying fertilizer, lime to small grains, mowing cotton stalks, harvesting fall vegetables, routine care of livestock, poultry.

HAWAII: Sunny skies, cool overnight temperatures, local gusts typified the weather. Hawaii island experienced increased rainfall. Temperatures low 60s to mid 80s. Rainfall none to 3.30 in.

More rainfall, Hawaii island, beneficial to drier areas. Spraying efforts increased, wet areas to limit disease outbreaks. After Nov. 3, heavy rains, some low-lying windward Oahu fields still muddy; operations limited to harvesting. Maui growers concerned about root aphid attacking head cabbage, mustard cabbage, broccoli, cauliflower. Department of Agriculture advising growers on pest control. Papaya growers on Hawaii island still battling papaya ringspot virus spread. Banana shipments near last week's level. Tomato harvesting increasing.

IDAHO: Temperatures normal to 6° below normal. Precipitation 0.01 to 0.62 in. north, none to 0.02 in. east, none rest of State.

Soil moisture adequate. Hay, roughage supplies adequate. Activities: Marketing grain, fall plowing, weaning calves. Livestock in good condition.

ILLINOIS: Wetter than normal conditions occurred across the southern half of State, while drier than normal conditions occurred across the northern half last week. Highs mid 40s to lower 50s. Lows mid 20s to upper 30s. Extremes in the upper teens. Precipitation 1.00 to 3.00 in. south, central, 0.10 in. or less in the north.

Farmers were finishing harvest on corn, soybeans, sorghum last week, in addition to seeding winter wheat. Other farm activities included continued fall tillage, fertilizer applications, tending livestock.

INDIANA: Temperatures 0 to 3° above normal. High temperatures mid 40s to mid 50s. Lows 30s to upper 40s. Rainfall water equivalent, 1.00 to 2.00 in., most of the State. Last 2 weeks, rainfall totaled 3.00 to 7.00 in. over central, southern areas.

Days suitable for fieldwork 1. Rain, saturated soils slowed harvesting, field activities. Pasture feed 89% of normal, 90% last week. Topsoil 11% adequate, 89% surplus. Subsoil 27% adequate, 73% surplus. Moisture content of harvested corn 20%. Tobacco processed for sale 40%. Land tilled for spring crops 48%.

IOWA: Temperatures 1 to 4° above normal. Extremes 18° northeast; 61° west central. Measurable precipitation limited to southeast quarter of State; maximum 0.21 in.; State average only a trace (normal 0.34 inch).

Days suitable for fieldwork 4.0. Topsoil 83% adequate, 17% surplus. Subsoil 46% adequate, 54% surplus. 1994 Row crop acreage fall tilled 48%, 25% 1992, 48% normal. 1994 row acreage fall fertilizer 38%, 19% 1992, 40% normal. Winter wheat 1% very poor, 11% poor, 55% fair, 32% good, 1% excellent. Hay, roughage availability for livestock feed 51% short, 49% adequate. Quality of hay, roughage supplies 50% poor, 47% fair, 3% good. Utilization of stubble fields for grazing 40% limited, 47% moderate, 13%

extensive. Grain movement 4% none, 69% light, 25% moderate, 2% heavy. Livestock herds were in mostly good condition.

KANSAS: Temperatures normal north central, 1 to 3° below normal elsewhere. Southeast received 2.17 in. rain, moderate amounts precipitation elsewhere in form of rain or snow.

Days suitable for fieldwork 2.5. Topsoil 10% short to very short, 67% adequate, 23% surplus. Subsurface moisture 3% short to very short, 90% adequate, 7% surplus. Rain, snow swept across State early in week slowing fall harvest in most areas. Soybean harvest completed, some harvest progress made on corn, sorghum. Farmers in western, central areas able to harvest on frozen ground early in morning, late at night; elsewhere able to harvest late in week. Rain, snow brought much needed moisture to all areas. Topsoil moisture south central improved greatly. Rains helped thicken wheat stands, improved prospects for grazing. Wheat pastured 10%, 10% 1992, 10% avg. Wheat acreage starting to show light amounts of stress in isolated areas from wheat streak mosaic, greenbugs, lack of sunshine. Overall, wheat crop looks good. Majority of corn that remains to be harvested in northwest. Sorghum harvested 97%, 60% 1992, 98% avg. Majority of sorghum remaining to be harvested in western third of State. Cattle moving to winter forages. Sale barn activity high. Cattlemen continue to prepare livestock for winter; monitor weaning, calving; address health problems. Pastures, range continue to provide forage, winter feeding programs underway.

KENTUCKY: Average temperature 49.8°. Mean precipitation around 1.60 in., varying from 0.60 in. at Cumberland Gap to 2.83 in. at Paducah, 3.27 in. at Markland.

Day suitable for fieldwork 1.0 as rain, wet soils limited field activity. Soil moisture 2% short, 39% adequate, 59% surplus. Soybean harvest 88% complete, 88% 1992, 90% avg. Farmers concerned about beans low lying fields, need extended dry period. Burley markets open 22nd, ample supply tobacco warehouse floors. Burley 48% stripped, 47% 1992, 48% avg. Condition stripped tobacco 1% poor, 3% fair, 86% good, 10% excellent. Winter wheat 92% seeded, 95% 1992, 95% avg. Emerged wheat mostly good. Pastures supplying good late season feed, most cattle receiving some supplement.

LOUISIANA: Temperatures 0.2 to 5.1° above normal. Extremes 32°; 85°. Rainfall 1.86 in. southeast to 6.17 in. south central.

Days suitable for fieldwork 2.5. Soil moisture 36% adequate, 64% surplus. Pecans 58% harvested, 71% 1992, 57% avg. Harvest rapidly gaining momentum. Soybeans 94% harvested, 96% 1992, 95% avg. Halted due to wet conditions. Sweet potatoes 95% harvested, 94% 1992, 95% avg. Sugarcane 2% poor, 52% fair, 46% good; 58% harvested, 55% 1992, 57% avg. Progress slow but steady with muddy fields causing more downtime. Wheat 73% planted, 70% 1992, 74% avg.; 63% emerged, 59% 1992, 59% avg. Made progress late in the week. Livestock 50% fair, 50% good. Pasture feed 5% poor, 12% fair, 83% good. Fertilizing pastures, ryegrass was active. Vegetables 5% very poor, 13% poor, 62% fair, 20% good. Harvesting greens, cabbage in southeastern, Florida parishes.

MARYLAND & DELAWARE: MARYLAND: Precipitation 0.69 in., normal 0.76 in. Temperature 56.6°, normal 44.7°. Extremes 30°; 83°.

Days suitable for fieldwork 4.7. Topsoil 89% adequate, 11% surplus. Subsoil 22% short, 72% adequate, 6% surplus. Small grains good. Wheat 93% seeded, 83% 1992, 91% avg. Rye 95% seeded, 89% 1992, 94% avg. Field corn 94% harvested for grain, 81% 1992, 93% avg. Soybeans 79% harvested, 67% 1992, 80% avg. Sorghum 87% harvested, 89% 1992, N/A avg. Tobacco 22% stripped, 21% 1992, 29% avg. Other hay fourth cut 91% complete, 93% 1992, 80% avg. Alfalfa fifth cut 80% complete, 75% 1992, 73% avg. Hay supplies adequate. Pasture good.

DELAWARE: Precipitation 0.57 in., normal 0.83 in. Temperature 57.4°, normal 46.1°. Extremes 39°; 81°.

Days suitable for fieldwork 5.2. Topsoil 100% adequate. Subsoil 33% short, 67% adequate. Small grains good. Wheat 92% seeded, 88% 1992, 91% avg. Soybeans 74% harvested, 79% 1992, 82% avg. Sorghum 68% harvested, 81% 1992, N/A avg. Other hay fourth cut 96% complete, 100% 1992, N/A avg. Alfalfa hay fifth cut 95% complete, 100% 1992, 94% avg. Hay supplies short. Pasture poor to fair.

MICHIGAN: Extremes 14°; 51°. Precipitation none to 1.32 in. across the State.

Days suitable for fieldwork 5.5. Soil moisture 70% adequate, 30% surplus. Pasture feed 75% of normal. Major activities included: Fall tillage, harvesting corn, hauling manure, making cider.

MINNESOTA: Temperatures 2 to 6° above normal for the State. Extremes 8°; 53°. Precipitation 0.15 to 0.33 in. below normal for State. Precipitation none to 0.15 in. for State. Greatest weekly precipitation was 0.38 in. Snowfall 1 to 2 in. for north central, northeast, a trace or less elsewhere. Snow depth at week's end 1 to 4 in. for northeast, north central, none elsewhere.

Days suitable for fieldwork 3.5. Topsoil 1% short, 71% adequate, 28% surplus. Subsoil 68% adequate, 32% surplus. Corn 92% combined, 69% 1992, 93% avg.; 29% moisture content, 26% 1992, 19% avg.

MISSISSIPPI: Temperature 59°, 4.5° above normal. Extremes 31°; 85°. Precipitation 2.24 in. northeast district to 4.94 in. south central district averaging 3 days. Rainfall 3.33 in., 2.17 in. above normal. Soil temperatures 60°.

Days suitable for fieldwork 1.2, 4.4 1992, 3.6 avg. Soil moisture 25% adequate, 50% surplus, 25% excessive. Cotton 94% harvested, 96% 1992, 97% avg.; 6% very poor, 63% poor, 29% fair, 2% good. Soybeans 87% harvested, 89% 1992, 88% avg.; 22% poor, 62% fair, 16% good. Wheat 90% planted, 83% 1992, 84% avg.; 80% emerged, 73% 1992, 67% avg.; 34% fair, 65% good, 1% excellent. Pecans 45% harvested, 41% 1992, 47% avg.; 4% very poor, 26% poor, 46% fair, 24% good. Livestock 14% fair, 64% good, 22% excellent. Pasture feed 89% of normal. Activities: Completing crop harvest, equipment maintenance.

MISSOURI: Temperatures 2° below normal across most of the State to 7° above normal southeast. Precipitation 1.18 in., varying from 0.10 in. northwest to 2.79 in. southeast.

Muddy fields, damp weather prevented harvesting until late in week. Soybean harvest 95%, 93% 1992, 97% avg. Sorghum harvest 95%, 87% 1992, 96% avg.

MONTANA: Temperatures normal, except east 5 to 8° above normal. Precipitation none to light statewide.

Grazing open. Most livestock moved from summer range.

NEBRASKA: Temperatures 1 to 4° above normal. Precipitation early week varying from a few tenths east to nearly 1.50 in. central.

Days suitable for fieldwork 3.1. Topsoil 81% adequate, 19% surplus. Subsoil 1% short, 86% adequate, 13% surplus. Corn harvest 90%, 66% 1992, 93% avg. Sorghum harvest 97%, 88% 1992, 96% avg. Winter wheat 5% fair, 81% good, 14% excellent. Pasture, range 101% of normal.

NEVADA: Cold air mass across all of State first of week accompanied by gusty winds, scattered rain, snow showers. Amounts were light. Second push of cold air moved cross the State on 18th. Precipitation with this system was also light. Temperatures averaged 3 to 8° below normal throughout the State. Extremes 0°; 68°.

Preparations for winter continue. Livestock movement to winter ranges nearing completion. Main farm/ranch activities feeding, caring for livestock, general maintenance.

NEW ENGLAND: Precipitation 0.36 to 1.94 in. region wide. Temperatures 33 to 42° north; 40 to 51° south. Maximum temperatures 46 to 74° north; 67 to 78° south. Minimum temperatures 16 to 25° north; 19 to 31° south.

Field corn 100% harvested, 100% 1992, 100% avg. Field corn good to fair. Major farm activities: Preparing for winter.

NEW JERSEY: Temperatures much above normal. Extremes 21°; 82°. Rainfall 0.54 in. north, 0.10 in. central, 0.28 in. south. Heaviest 24 hour total 0.72 in. on 17th, 18th. Estimated soil moisture, in percent field capacity, averaged 89% north, 77% central, 58% south. Four inch soil temperatures averaged 47° north, 50° central, 53° south.

Fall variety apple harvest nearly complete. Harvesting of corn, soybeans in some areas. Cranberry harvest complete. Planting of cover crops.

NEW MEXICO: Temperatures almost 3° below normal for State. Extremes 6° northern mountains; 70° several locations. Some precipitation fell early in the week as a winter storm traversed the State. Most of the precipitation was in the form of snow above 5,000 feet. Higher 0.25 to 0.50 in.

Days suitable for fieldwork 6.0. Soil moisture 62% short, 38% adequate. Crop conditions: Alfalfa harvest complete. Cotton 12% fair, 66% good, 22% excellent. Small amount of corn harvest left. Irrigated sorghum 20% fair, 75% good, 5% excellent. Dryland sorghum 40% poor, 40% fair, 20% good. Sorghum harvest 60% complete; harvest hampered by wet weather. Irrigated wheat 43% fair, 57% good. Dryland wheat 60% poor, 30% fair, 10% good. Chile poor to excellent, mostly good; red harvest continued. Lettuce fair to good, harvest slowing. Pecans poor to mostly good; harvest increasing. Cattle, sheep poor to excellent, mostly good. Range feed conditions 69% of normal.

NEW YORK: Week started mild. Many high temperature records broken on 15th. More seasonal at midweek, very cold by weekend. Temperatures normal to slightly above normal. Extremes 16°; 79°. Precipitation was well above normal, except in extreme southeastern areas where below normal amounts were received. Most areas picked up 1.00 to 2.00 in. of precipitation. Lake effect snows occurred across areas downwind of Lake Ontario on 20th.

Corn harvest continued active. Apple growers packing apples, making cider, doing orchard clean-up work. Potato growers packing, grading potatoes. Wine making in full swing. Other major activities: Tending livestock, harvesting the few late season vegetables that remain, hunting.

NORTH CAROLINA: Temperatures 8° to 12° above normal. Smallest positive departures were in the mountains. Precipitation 2.53 in. at Highland to no rain at several locations.

Days suitable for fieldwork 5.7. Soil moisture 35% short, 65% adequate. Crop condition: wheat 39% fair, 61% good. Oats 35% fair, 65% good. Barley 44% fair, 56% good. Rye 43% fair, 57% good. Pasture feed 15% poor, 58% fair, 27% good. Cotton 67% fair, 33% good. Soybeans 15% poor, 62% fair, 23% good. Hay, roughage supplies 2% very short, 34% short, 64% adequate. Feed grain supplies 2% very short, 13% short, 85% adequate. Apples harvested 100%, 100% 1992, 100% avg. Sorghum for grain 90%, 82% 1992, 86% avg. Sweet potatoes harvested 95%, 100% 1992, 100% avg. Cotton harvested 89%, 58% 1992, 79% avg. Peanuts dug 100%, 100% 1992, 100% avg. Peanuts threshed 100%, 97% 1992, 99% avg. Wheat emerged 50%, 59% 1992 52% avg. Major activities: Planting small grain; harvesting soybeans, peanuts, corn for grain, cotton, sweet potatoes. Other activities included: Land preparation; tending livestock; general farm maintenance.

NORTH DAKOTA: Mild, very dry. Temperatures 6 to 9° above normal. Extremes 6° south central; 56° south central.

Cattle, sheep in good condition. Hay supplies adequate with additional supplies of feed quality grains available. Some areas with poor quality small grains, corn holding calves for back grounding. Ranchers busy moving hay, working calves.

OHIO: Rain kept soils saturated in most areas. Low pressure moved southwest to northeast bringing colder temperatures, over 1.00 in. of rain to many areas by the 18th. Lows in the 20s on the 20th, 21st. Temperatures near or slightly above normal with highs in the mid 40s to mid 50s, average lows in the 30s. Precipitation generally 1.00 to 2.00 in. Lake effect snow fell in the extreme northeast on the 20th.

Days suitable for fieldwork 2.4. Topsoil 1% short, 47% adequate, 52% surplus, wettest since early May. Short moisture mostly in north-central. Surplus moisture mostly in west central. Sugarbeets harvested 100%. Pasture feed 3% very poor, 13% poor, 32% fair, 45% good, 7% excellent. Harvested corn moisture 21%, high variability. Northwestern, west central, south central areas lead the State in corn harvesting progress. Second crop soybeans remain to be harvested in the south. Harvesting activities were curtailed by muddy conditions. Flooding of some winter wheat occurred.

OKLAHOMA: Temperatures 7° below normal southeast to 2° above normal southwest. Precipitation 0.16 in. west central to 1.38 in. southeast.

Days suitable for fieldwork 4.3. Topsoil 20% short, 52% adequate, 28% surplus. Subsoil 19% short, 81% adequate. Sorghum 76% harvested, 88% 1992, 81% avg. Soybeans 87% harvested, 76% 1992, 77% avg. Peanuts 82% harvested, 94% 1992, 90% avg. Feeder cattle, calves steady to \$5.00 higher.

OREGON: Temperatures mostly below normal statewide. Precipitation Willamette Valley, coastal areas 0.25 to 1.00 in., elsewhere mostly dry.

Soil moisture short to mostly adequate. 1994 winter wheat crop 96% emerged; 25% fair, 70% good, 5% excellent. Hood River Valley apple picking complete. Willamette Valley wine grape harvest winding down. Christmas tree, holly harvests underway. Livestock good to excellent. Range, pasture feed conditions mostly good. Weaning, processing cows, hauling calves to market continues.

PENNSYLVANIA: The beginning of the week was warm. Below normal temperatures by weekend. Midweek precipitation made field work difficult, especially in the northwest. Temperature 50°, 8° above normal. Extremes 19°; 81°. Precipitation 1.15 in., 0.39 in. above normal.

Days suitable for fieldwork 3. Soil moisture 56% adequate, 44% surplus. Soybean harvest 80% complete, 72% 1992. Fall plowing 92% complete, 91% 1992. Fourth-cutting alfalfa 87% complete, 91% 1992. Quality of hay made 44% poor, 39% fair, 17% good. Apple harvest 100% complete, 100% 1992. Activities: Harvesting corn; harvesting soybeans; hauling manure; fixing fence; caring for livestock.

PUERTO RICO: No weather data available.

SOUTH CAROLINA: Very high temperatures, dry conditions most of week. Temperatures 6 to 11° above normal. Rainfall 0.10 in.

Days suitable for fieldwork 6.4. Soil moisture 5% very short, 49% short, 46% adequate. Barley fair to good; 77% planted, 83% 1992, 77% avg.; 69% emerged, 76% 1992, 66% avg. Oats fair; 81% planted, 82% 1992, 77% avg.; 70% emerged, 70% 1992, 62% avg. Rye fair; 81% planted, 86% 1992, 75% avg.; 72% emerged, 75% 1992, 63% avg. Wheat fair; 43% planted, 39% 1992, 42% avg.; 26% emerged, 26% 1992, 25% avg. Sorghum poor; 82% harvested, 94% 1992, 83% avg. Soybeans 15% very poor, 41% poor, 36% fair,

8% good; 93% mature, 95% 1992, 95% avg.; 40% harvested, 43% 1992, 49% avg. Cotton 1% very poor, 44% poor, 55% fair; 93% harvested, 77% 1992, 86% avg. Sweet potatoes poor to fair; 85% harvested, 93% 1992, 88% avg. Pecans fair. Pasture feed 12% very poor, 27% poor, 50% fair, 11% good. Winter grazing fair; 94% planted, 92% 1992, 91% avg.; 88% emerged, 87% 1992, 83% avg.

SOUTH DAKOTA: Temperatures near normal to slightly above normal last week. Extremes 1°; 62°. Precipitation was below normal with most stations reporting none. Western third of the State received light precipitation. Maximum 0.25 in.

Days suitable for fieldwork 3.5. Topsoil 3% very short, 15% short, 65% adequate, 17% surplus. Subsoil 2% very short, 16% short, 62% adequate, 20% surplus. Winter rye 3% very poor, 26% fair, 58% good, 13% excellent. Some fields in the eastern half of the State were becoming very soft due to last week's storm. Corn yields vary greatly. High moisture content, low test weight continue to be a problem in corn. Livestock 1% very poor, 2% fair, 79% good, 18% excellent. Pasture feed conditions 88% of normal. Calves were being moved to market. Feed supplies were mostly adequate as some producers had started winter feeding.

TENNESSEE: Temperatures 2 to 10° above normal across the State. Highs in mid 50s to mid 60s, lows in upper 30s to mid 40s range. Rainfall in all regions of State. West received the heaviest amounts, up to 2.50 in.

Heavy rainfall in major cotton areas stalled harvest. Soybean harvest also delayed in west, advancing at a normal pace elsewhere. Early morning fogs and rain provided good tobacco stripping weather. Excessive field moisture kept many from seeding wheat, rains helped already-sown fields. Tobacco warehouses reporting a good quality crop on hand for early sales. Cattle movement to market still heavy.

TEXAS: Early in week cold front moved through bringing showers, thunderstorms across State, mainly over eastern third. Some cooling accompanied front. However, stronger cooling occurred late in week on heels of a dry front. Freezing temperatures were recorded with second front into South Central Texas. Temperatures below normal statewide. Readings 10° below normal on both southern High, southern Low Plains. Precipitation was near to below normal except in northern East Texas where amounts were slightly above normal. All districts reported some precipitation.

Crops: Cotton: wet weather slowed harvest in many parts of Plains, allowed gins to catch up on modules. Some good yields were reported in High Plains. In Low Plains, reports of low yields continued. Warm, dry weather assisted harvest of cotton in Trans-Pecos. Rain also delayed harvest in parts of Blacklands where harvest was winding down. Grain sorghum: harvest was basically completed across State except in Northern High Plains where isolated fields remain. Small grains recent moisture should improve wheat conditions in Low Plains. In High Plains, some areas were still in need of rain. Open conditions in Edwards Plateau have promoted growth of small grains, some areas could use more moisture. In Cross Timbers, some producers were having to contend with winter grain mites in their fields. Planting of small grains was slowed in Blacklands due to wet soil conditions. Winter wheat continued to be planted in southern areas. Wheat 68% normal, 59% 1992. Peanuts the dry summer, early freeze hurt quality, yield of peanuts in most parts of State. In Edwards Plateau where some low yields of dryland peanuts were reported, grade of peanuts was fair to good with some traces of freeze damage. Peanut condition 56% normal. Soybeans harvest continued along Upper Coast where some unharvested fields have experienced severe damage from excessive rainfall.

Commercial Vegetables: In Rio Grande Valley, onion crop made good progress. Pepper plants continued to improve from minor injury received from earlier frosts. In San Antonio-Winter Garden, onion planting continued. Cabbage, spinach made good progress. In East Texas, harvest of fall vegetables continued. Some soil preparation

was completed. In High Plains, carrot, turnip harvest continued. Some producers prepared land, fertilized. Handling, shipping of pumpkins was winding down. In Trans-Pecos, chile harvest continued. Some producers were controlling weeds, irrigating fields along Rio Grand River. Pecans harvest continued across State. Freeze damage has become more apparent in some areas of State. In Edwards Plateau, freezes prevented pecans from opening, dropping from trees. In South Central Texas, harvest was in full swing with fair to good yields being reported. Strong winds have blown nuts out of trees in some parts of Upper Coast, wet weather was causing deterioration of nuts on ground.

Range and Livestock: Small grain fields provided varied amounts of forage. Pastures in High Plains could use some rain. Hay supplies continued to be short in many areas. Some producers in Trans-Pecos were feeding cottonseed to livestock as supplement. Livestock remained fair to good across State.

UTAH: Temperature maximums 4° below normal, minimums 1° below normal. Precipitation throughout the State was light to moderate, with all divisions reporting measurable rain.

Major farm activities include: Marketing grains, hay, onions; winterizing buildings, irrigation systems; feeding, caring of livestock. Several reports indicate storage problems with onions due to immature onions, heavy rains received during harvest.

VIRGINIA: No weather data available.

Days suitable for fieldwork 5.0. Topsoil 4% very short, 41% short, 49% adequate, 6% surplus. Pasture feed 5% very poor, 21% poor, 49% fair, 25% good. Corn harvested for grain 98%, 94% 1992, 95% avg. Soybeans harvested 65%, 63% 1992, 75% avg. Cotton harvesting 92% completed, 45% 1992, 66% avg. Winter apple harvest completed. Winter grains, grazing crops condition 12% poor, 39% fair, 46% good, 3% excellent. Winter wheat 82% seeded, 74% 1992, 82% avg. Oats seeding completed. Barley 100% seeded, 97% 1992, 97% avg. Forage from pastures, grazing crops dairy cattle 11%, beef cattle 55%, sheep 59%. Fall plowing, gassing tobacco plantbeds. Stripping, grading fire, burley tobacco.

WASHINGTON: Temperatures 4° below normal to 1° above normal west; 4° below normal to 2° above normal east. Precipitation 0.26 to 0.72 in. west; none to 0.53 in. east. Freezing temperatures reported across the entire State, with lows ranging from 24 to 33° in the west, 14 to 26° in the east.

Days suitable for fieldwork 4.9. Soil moisture 41% short, 59% adequate. Hay, other roughage supplies 98% adequate, 2% surplus. Range, pasture feed 18% poor, 69% fair, 13% good. Winter wheat dryland 30% fair, 70% good; irrigated 5% fair, 95% good. Barley dryland 30% fair, 70% good; irrigated 80% good, 20% excellent. Corn 100% good. Aphid problems were declining in winter cereals due to the cold temperatures. Grain corn harvest continued. Potato

harvest was nearly complete. Grape harvest was mostly finished. Pruning, tying were underway in raspberry fields. Christmas tree farms were busy preparing for the upcoming season, as harvest of both trees, wreath boughs were underway.

WEST VIRGINIA: Temperature 49°. Extremes 30°; 78°. Precipitation 0.80 in.

Days suitable for fieldwork 3.0. Soil moisture 9% short, 68% adequate, 23% surplus. Pasture feed 15% poor, 30% fair, 42% good, 13% excellent; 86% of normal. Cattle 4% fair, 96% good. Sheep 1% fair, 99% good. Corn 89% harvested. Wheat good; 93% sown. Barley good. Soybeans 87% harvested. Farm activities: Moving livestock, feeding livestock, chopping silage, harvesting corn, harvesting soybeans, sowing wheat, general maintenance.

WISCONSIN: Quiet weather continued over State for a second week. Temperatures a few degrees above mid-November normals; only trace amounts of precipitation occurred at most locations. Temperature 34°; 1° below normal. Extremes 9°; 54°. Precipitation trace to 0.10 in.

Corn for grain 88% harvested, 47% 1992, 82% avg. Farmers had another dry week to complete their fall activities. This makes it the eighth consecutive week where there has been no district receiving more than one inch of precipitation. Despite this dry weather, farmers, Ag Agents indicated that soil moisture levels have been good. Dry weather has helped farmers complete their intended fall tillage, prepare fields for next spring. The only fields left to be tilled are those which have not been harvested yet. After a cold growing season 2 years ago and a wet growing season this year, farmers are hoping for a better year in 1994. Except for the northeast, every district received over 30.00 in. of rain since April 1, 1993. Precipitation since April 1 this year was 34.20 in. This compares to 27.60 in. last year, and a normal (1961-1990) of 26.00 in. Farmers made good progress on corn harvesting this past week as the percent of acreage completed moved ahead of normal. Comments have indicated that high moisture levels have been preventing some farmers from harvesting. Mold has begun to show in some immature corn. Test weights have been reported low and yields have been disappointing. Reports have indicated that alfalfa, winter wheat, rye continue to look good; however, snowcover is needed to protect them from winterkill.

WYOMING: Last week was cold, damp across State. Temperatures 2 to 10° below normal. Only isolated areas had normal or above temperatures. Precipitation average or above for all but northwest areas of the State.

Days suitable for fieldwork a few. Topsoil were adequate or better for most of the State. Sugarbeets, corn harvest were wrapping up. Cattle, calves, sheep, lambs are mostly moved from summer ranges. Cattle, calves, sheep, lambs are in good condition.

(Continued from front cover)

reached 12 inches on southern California's Mt. Laguna, east of San Diego, and 32 inches on southern Arizona's 9,157-foot Mt. Lemmon, near Tucson. Heavy rain fell on the desert floor, where Phoenix, AZ received more than 2 inches. Farther east, significant rain fell on Sunday in the lower Ohio and lower Mississippi Valleys, saturating the ground prior to the arrival of the storm from the Southwest. Heavy rain returned on Tuesday, pushing weekly rainfall above 4 inches. Local flooding occurred in the central Gulf Coast States, while major flooding developed in central and southern Indiana. Selected weekly

rainfall included 5.00 inches in Jackson, MS, 4.77 inches in Lake Charles, LA, and 6.13 inches in Indianapolis, IN. In Indiana, considerable flooding resulted on the White River and its tributaries. Minor flooding transpired in neighboring southern Illinois and western Ohio. Late in the week, drier, cooler air overspread much of the Nation. Snow squalls developed downwind of the Great Lakes, while winds increased in the Northwest in advance of an arctic cold front. North of the front, temperatures dropped to as low as -45°F in Interior Alaska.

International Weather and Crop Summary

HIGHLIGHTS

November 14 - 20, 1993

FSU: Bitter cold continued over winter grain areas.

EUROPE: Abundant rain broke the long dry spell in Greece, while bitter cold air stressed winter grains in Poland.

SOUTH ASIA: A cyclone hit western India near the Pakistan border, but had minor crop impact.

EASTERN ASIA: Moisture continued to favor winter wheat in the North China Plain. Showers slowed late double-crop rice harvesting across central and southern China.

SOUTHEAST ASIA: Tropical Storm Kyle brought heavy showers to Philippine rice and corn areas. Heavy rain in Java boosted irrigation for rice planting, currently underway.

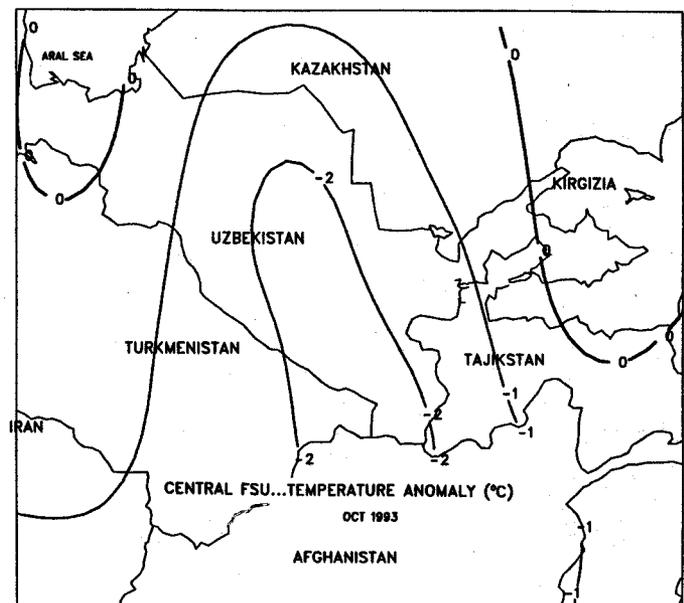
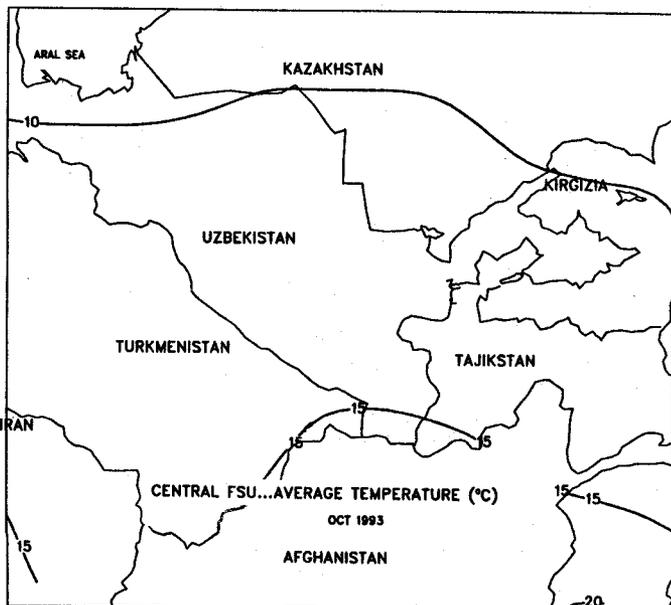
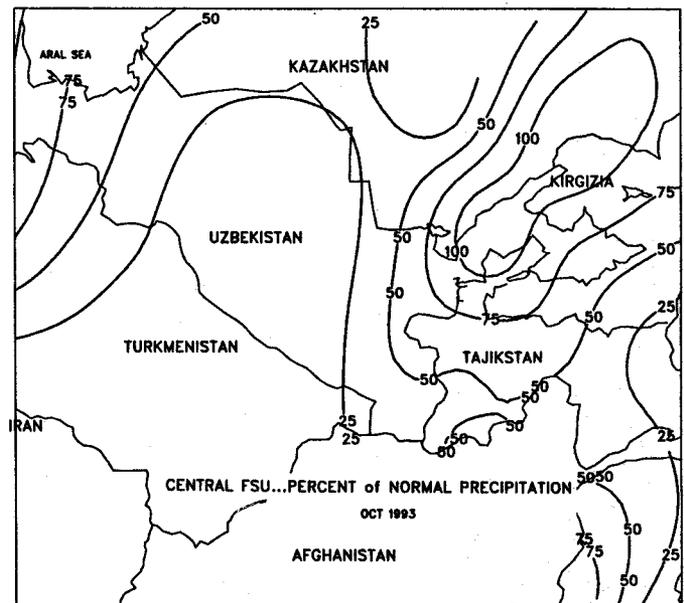
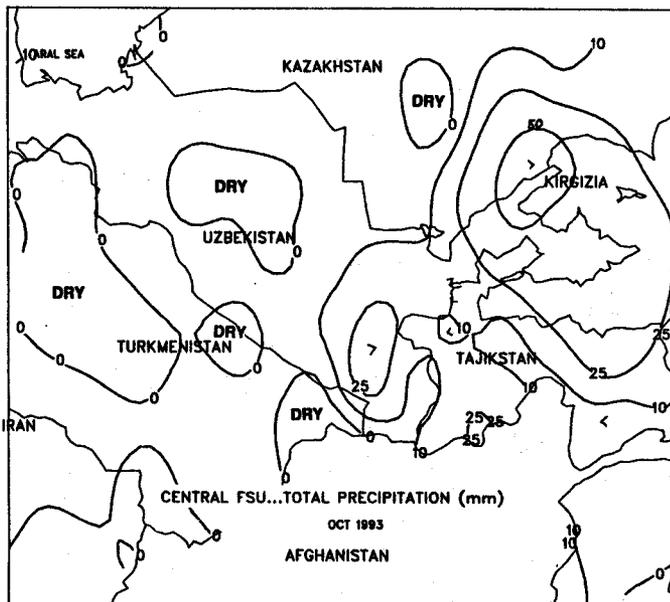
AUSTRALIA: Wet, cool weather hampered western wheat harvesting and reduced grain quality.

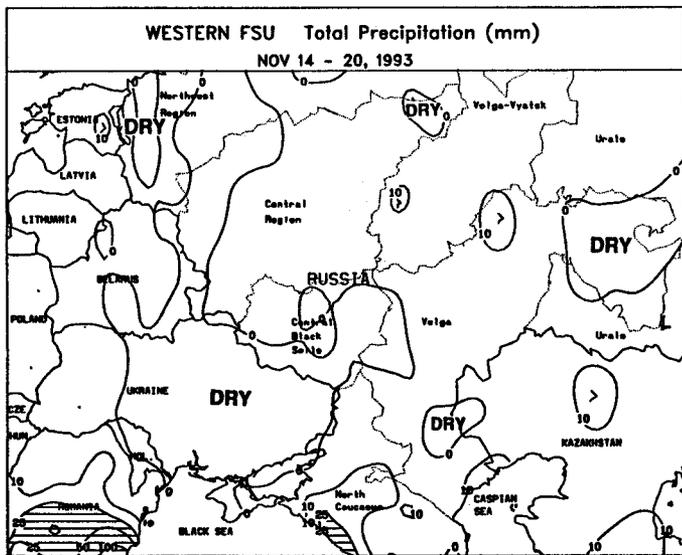
SOUTH AMERICA: Heavy rains caused fieldwork delays and local flooding in extreme southern Brazil and northern Argentina.

MEXICO: Dry weather continued to aid corn harvesting across the main corn belt.

NORTHWESTERN AFRICA: Conditions remained too dry for widespread winter grain planting in eastern Algeria and Tunisia.

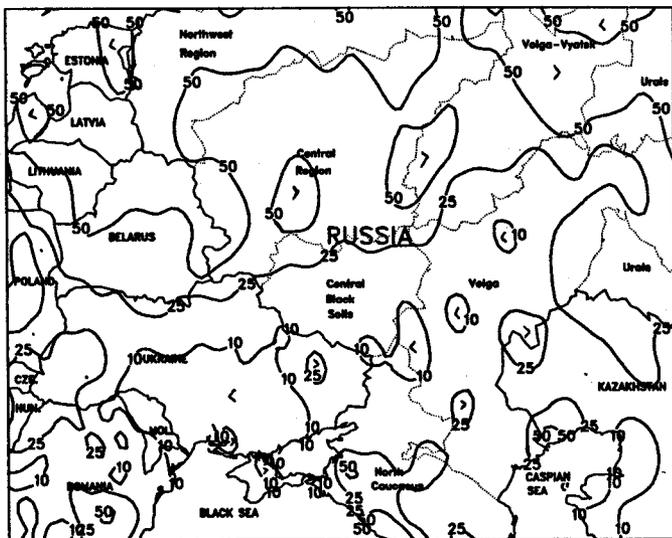
SOUTH AFRICA: Dry weather aided corn planting.



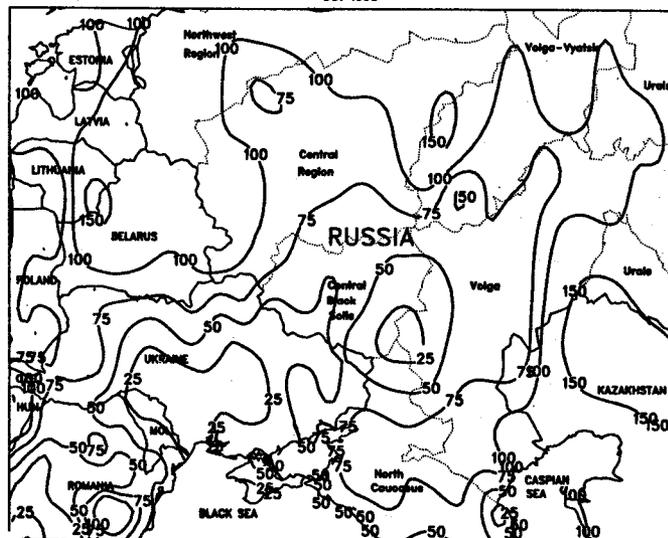


FSU-WESTERN: Bitter cold continued over winter grain areas, with lowest temperatures ranging from -13 to -22 degrees Celsius (C). The potential for winterkill was approached in areas where temperatures fell below -20 degrees C. However, a variable snow cover and short duration at extreme cold minimized the threat of significant winterkill. Greatest amounts of snow (8-22 mm liquid equivalent) fell over parts of North Caucasus and Baltic States. This past week's cold weather was highly unusual for this early in the winter season, with weekly average temperatures ranging from 8 to 14 degrees C below normal. In October, corn, sunflower, and sugar beet harvests were well underway in Ukraine and southern crop areas in Russia (lower Volga Valley, Black soils Region, and North Caucasus), helped by below-normal precipitation. Soil moisture was favorable for winter grain establishment in most areas, except for southern Ukraine and parts of North Caucasus when persistent dryness reduced soil moisture for germination and establishment. In northern areas of Russia (Central Region, Volga Vyatsk, and Black Soils Region), above-normal temperatures in early October allowed continued growth in winter grains. However, a cooling trend which began around mid-October lasted through this past week and intensified, causing winter grains to enter dormancy over most areas.

WESTERN FSU...TOTAL PRECIPITATION (mm)
OCT 1993

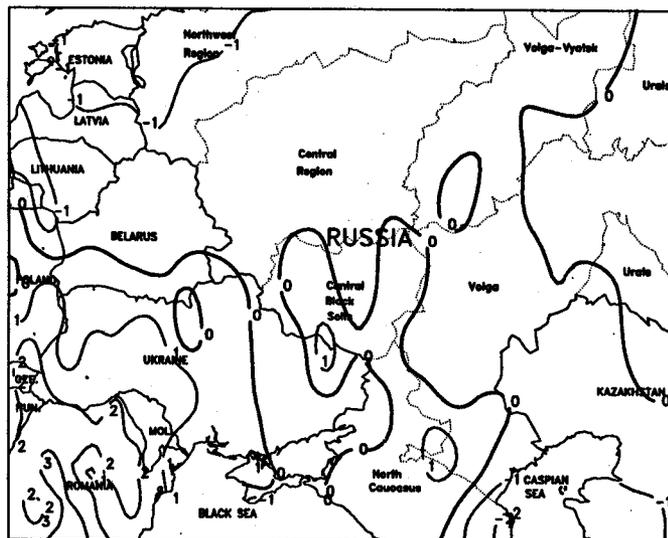
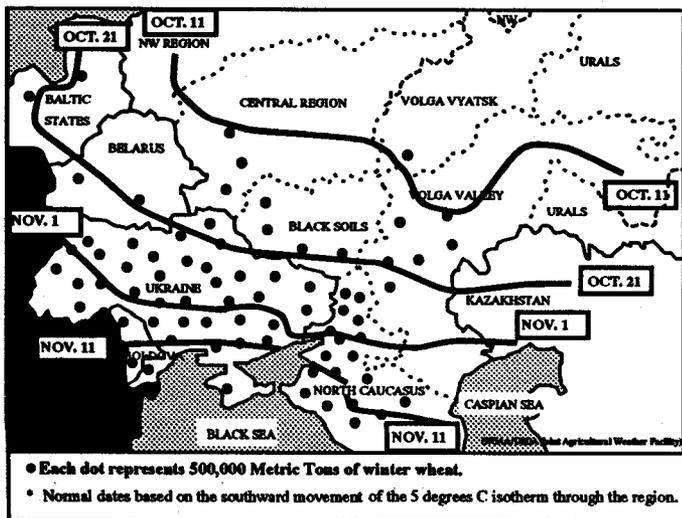


WESTERN FSU...PERCENT of NORMAL PRECIPITATION
OCT 1993



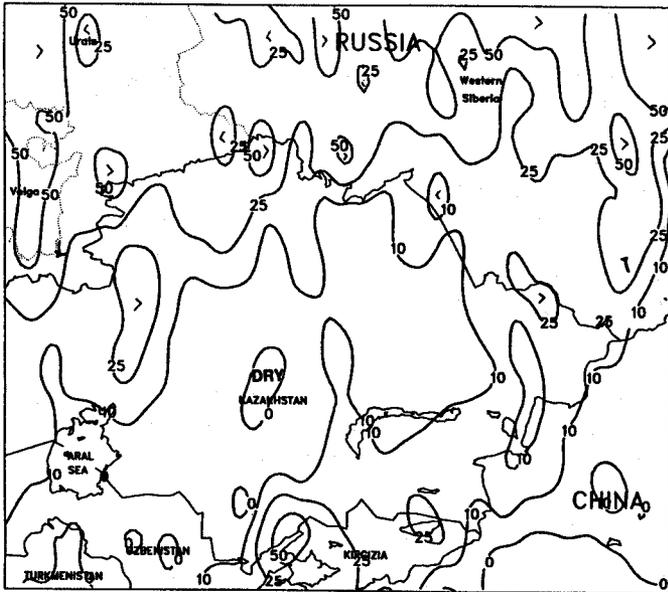
FORMER SOVIET UNION (WESTERN)
NORMAL DATES FOR END OF VEGETATIVE PERIOD *

WESTERN FSU...TEMPERATURE ANOMALY (°C)
OCT 1993

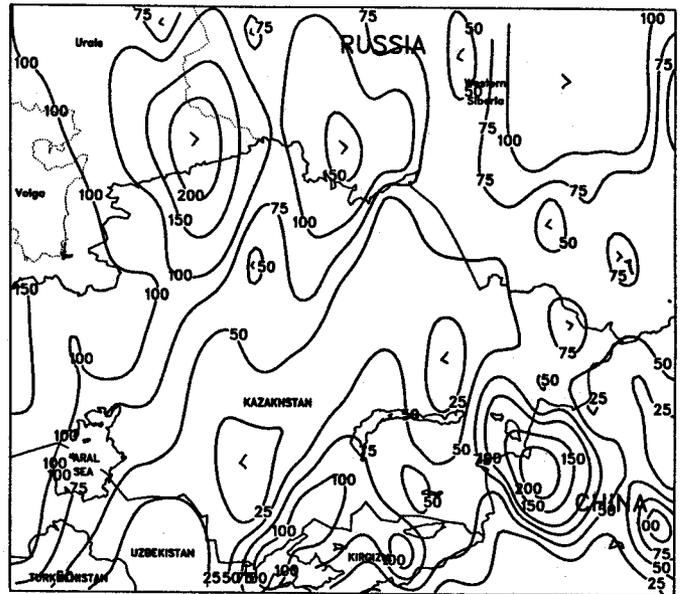


• Each dot represents 500,000 Metric Tons of winter wheat.
* Normal dates based on the southward movement of the 5 degrees C isotherm through the region.

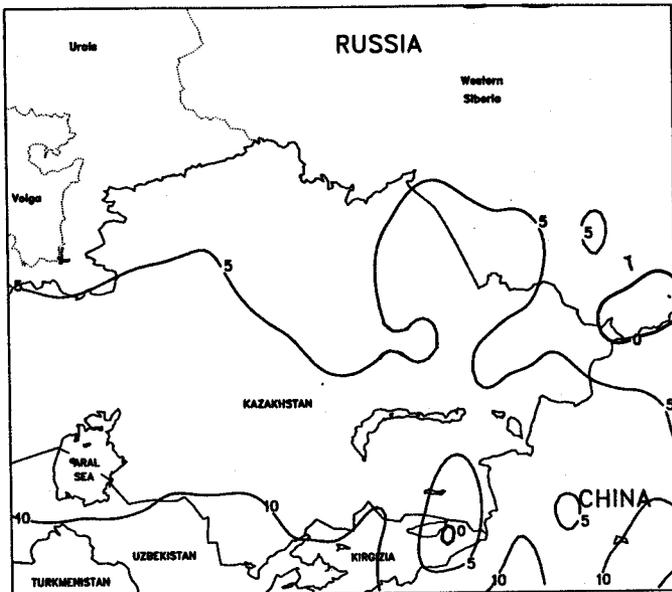
NEWLANDS FSU...TOTAL PRECIPITATION (mm)
OCT 1993



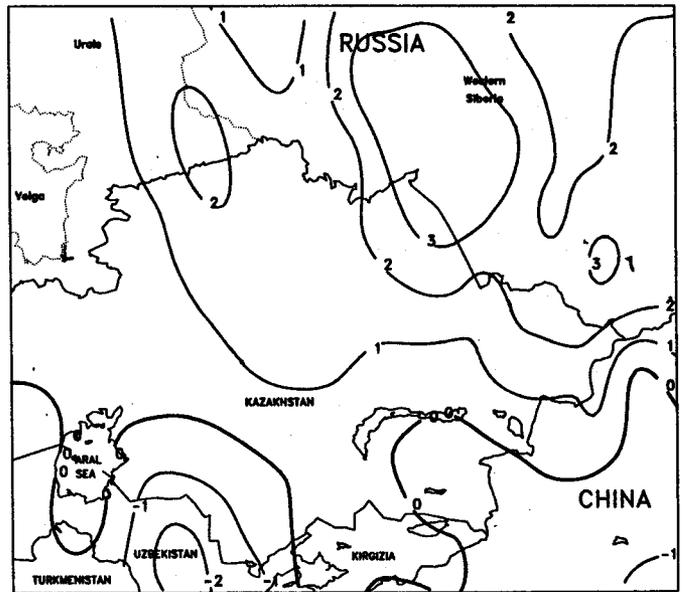
NEWLANDS FSU...PERCENT of NORMAL PRECIPITATION
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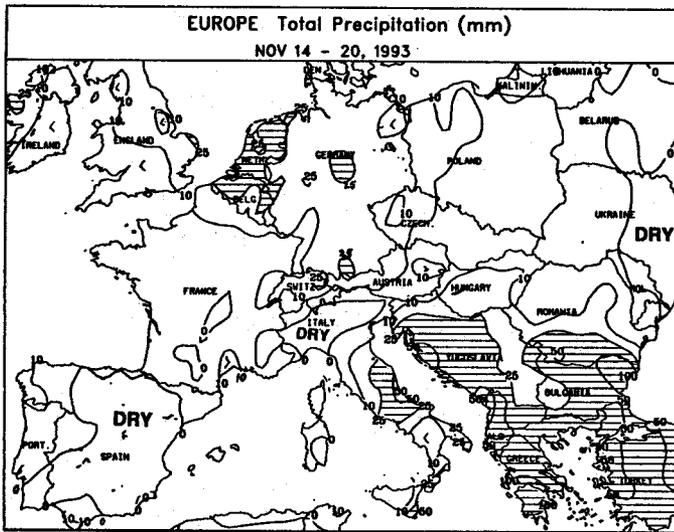


NEWLANDS FSU...AVERAGE TEMPERATURE (°C)
OCT 1993

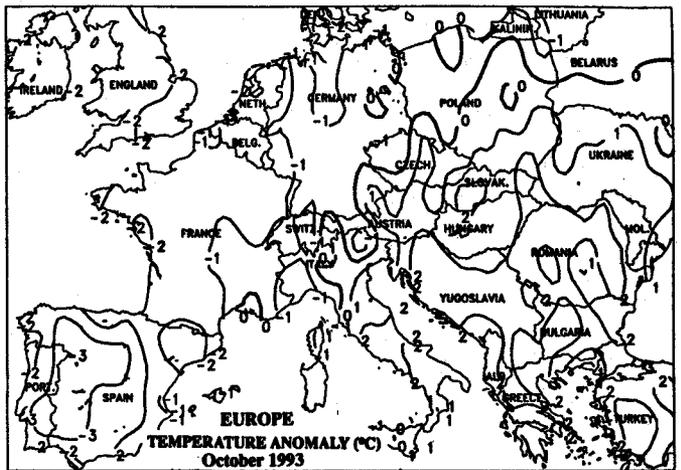
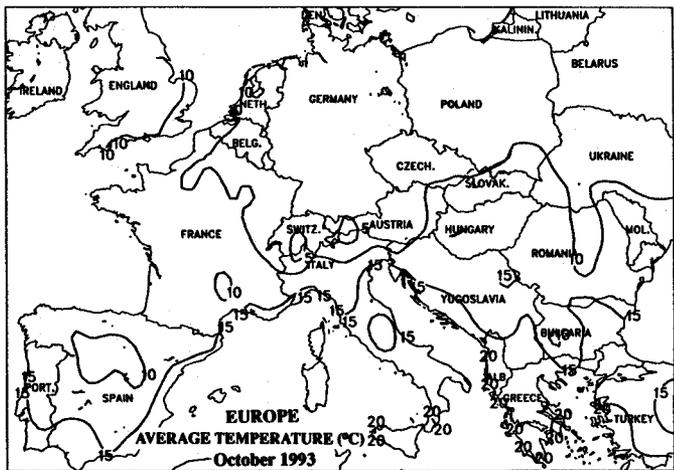
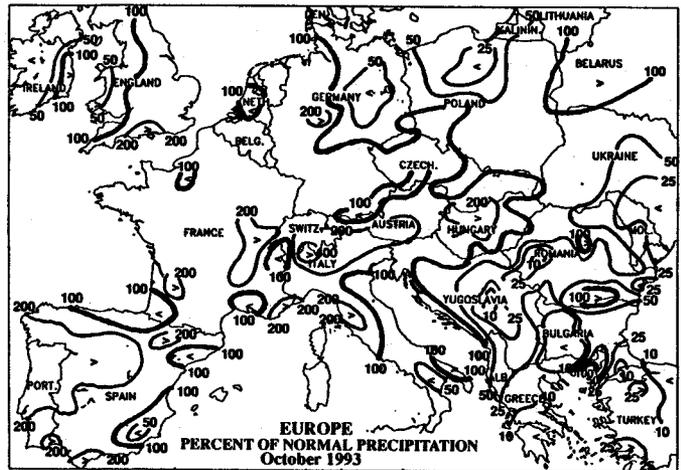
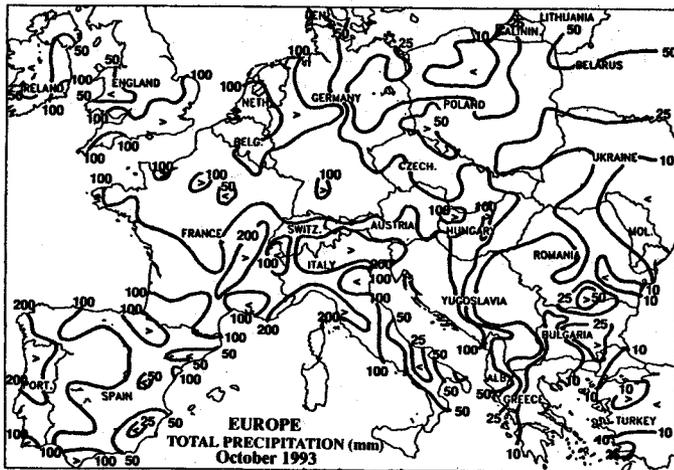


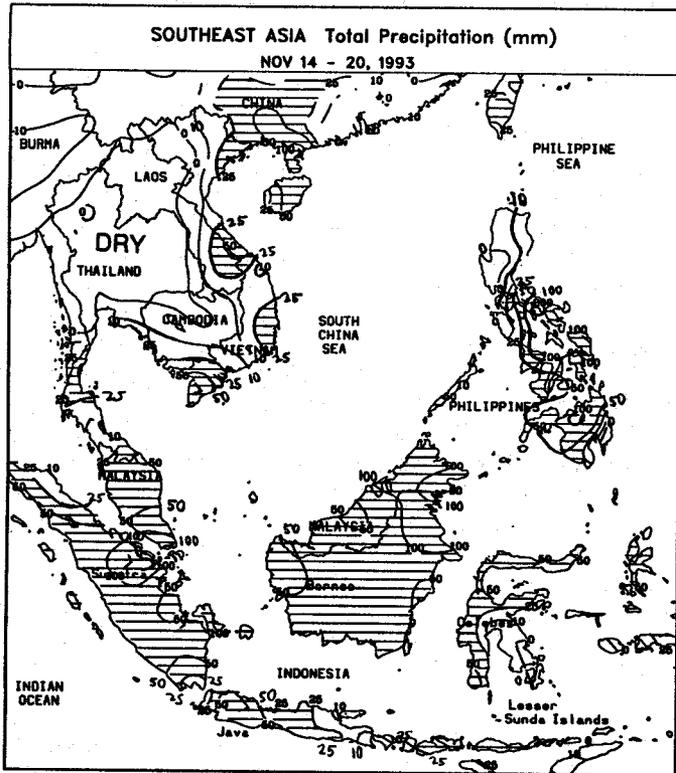
NEWLANDS FSU...TEMPERATURE ANOMALY (°C)
OCT 1993



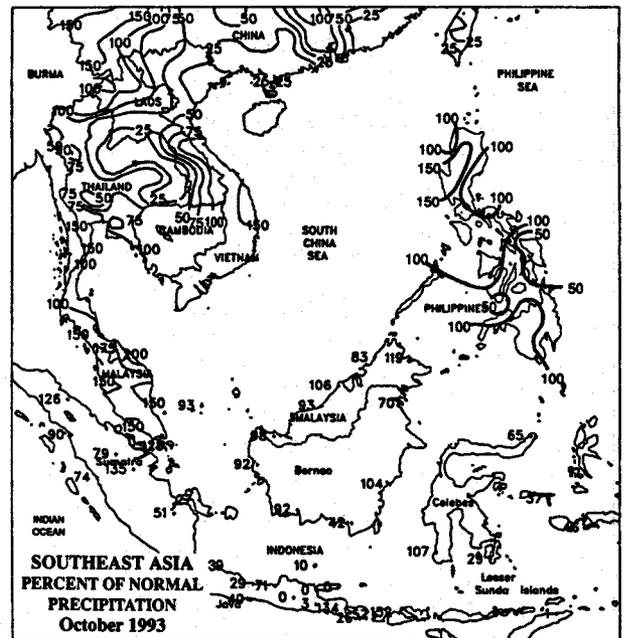
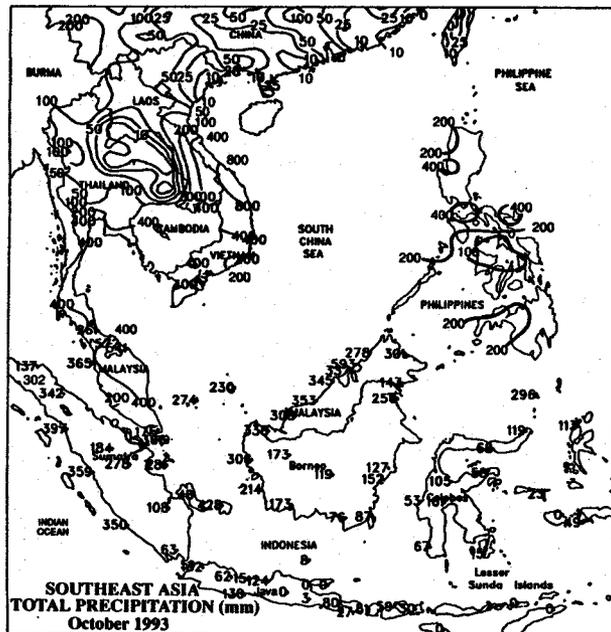


EUROPE: Abundant rain (50-129 mm) soaked the parched crop areas of Greece, and 15-55 mm of much-needed precipitation fell in Bulgaria. Widespread precipitation over much of southeastern Europe helped winter crops that had insufficient soil moisture for establishment. Variable precipitation (10-35 mm) covered north-central Europe, eastern England, and southern Italy, providing favorable moisture for growth in the Mediterranean region, but slowed sugar beet harvesting in the north. Mostly dry weather promoted winter grain planting in Spain. Bitter cold air settled over eastern Europe recently, with minimum temperatures plummeting to the -15 to -20 degrees C range in eastern Poland, extreme eastern Slovakia, Romania, and northern Bulgaria. Most areas had a much-needed snow cover, providing some protection to winter crops. With the exception of the unseasonably cold weather in the east, weather conditions improved recently from October extremes. Excessive wetness in October across western Europe disrupted harvesting from southern England to Italy's Po Valley, but brought ample early-season moisture for winter crop planting in the Iberian peninsula. In contrast, well-below-normal October rainfall in the southeast raised concern about low moisture reserves. Favorable weather for winter grain planting prevailed in the northeast.

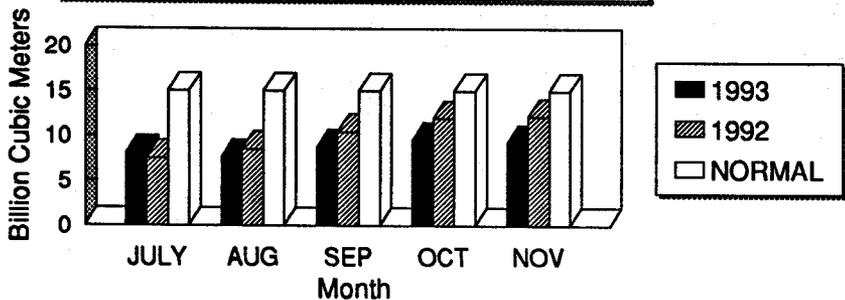




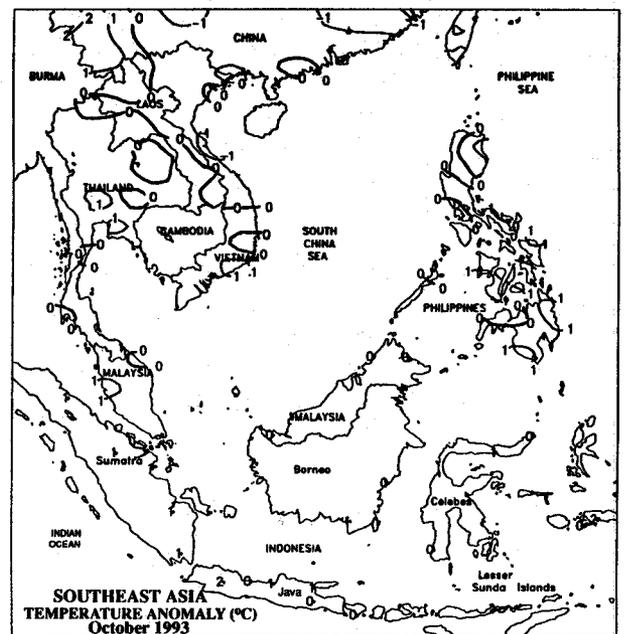
SOUTHEAST ASIA: Tropical Storm Kyle crossed central Philippines with sustained winds of about 35 knots, bringing heavy showers (50-196 mm) to most primary grain and sugarcane areas. On November 23, Kyle struck southern Vietnam at typhoon strength. Prior to that, moderate rain (10-25 mm or more) fell over Vietnam, with isolated heavy showers (50-100 mm) reported in the north and extreme south. Moderate to heavy rain (25-105 mm) continued throughout the Malay Peninsula and eastern Malaysia, and heavy rain (50-148 mm) covered western Java, boosting irrigation reserves for rice planting. In October, unseasonable showers lingered early in the month over Indochina, especially central and southern Vietnam which reported coastal flooding. Rainfall was near to above normal throughout the Philippines, due partly to Typhoon Flo, which struck Luzon on October 4, and Typhoon Ira, which struck Luzon on November 1, producing showers prior to making landfall.

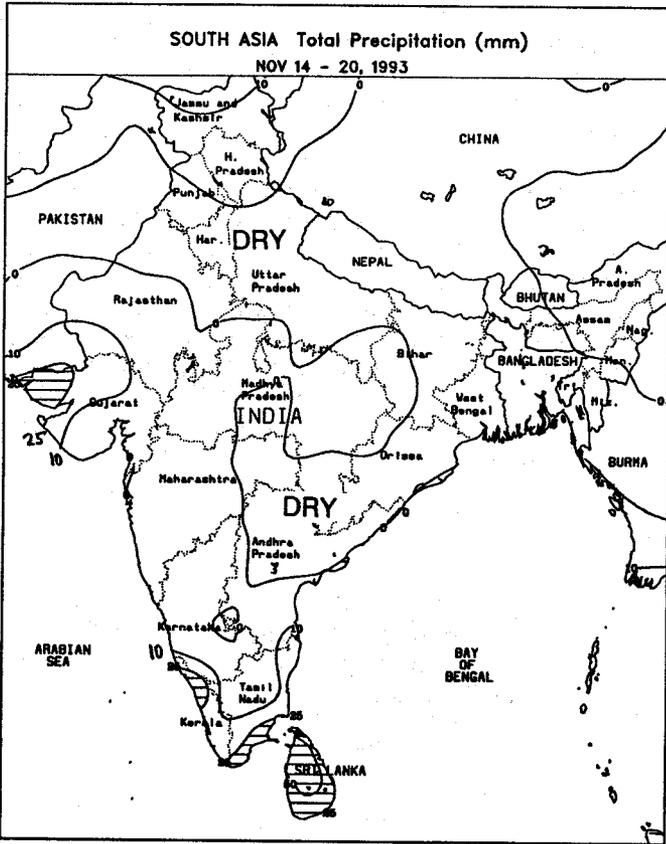


Thailand Reservoir Levels
Bumipol and Sirikit Reservoirs

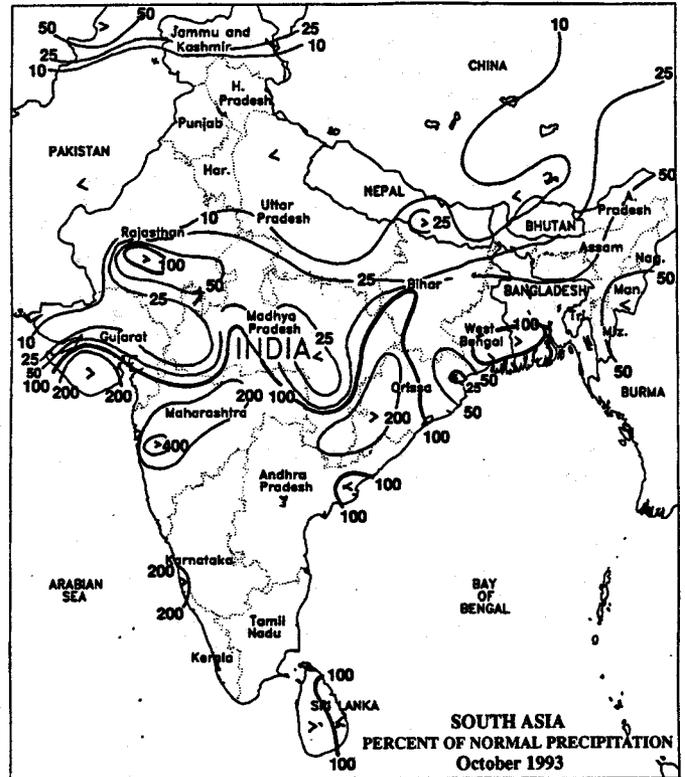
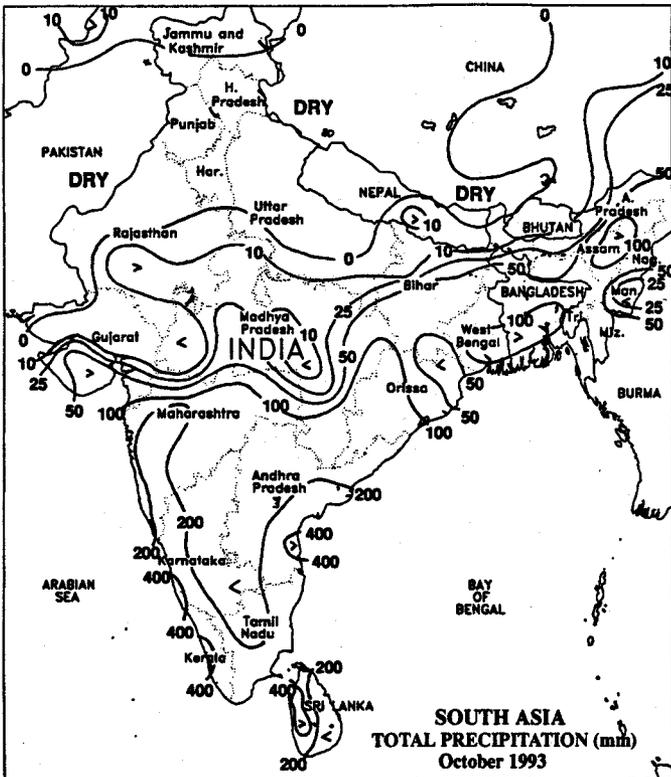


Source: U.S. Agricultural Counselor in Bangkok

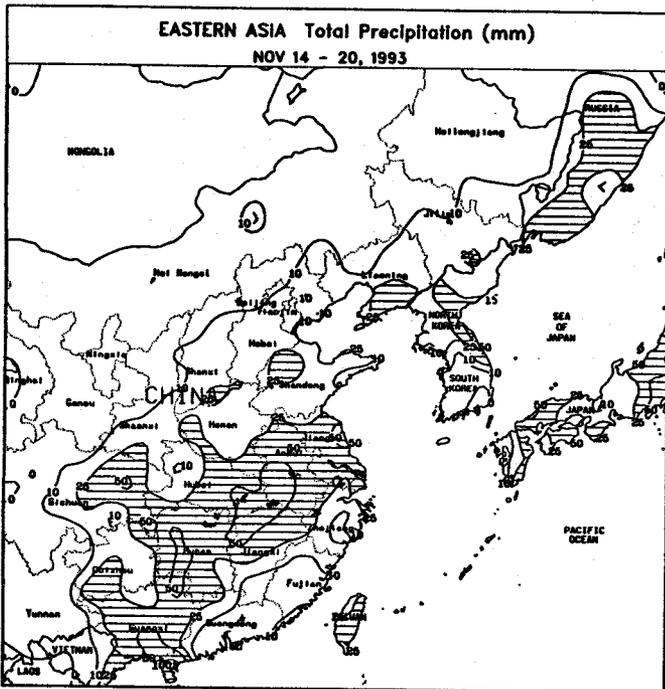
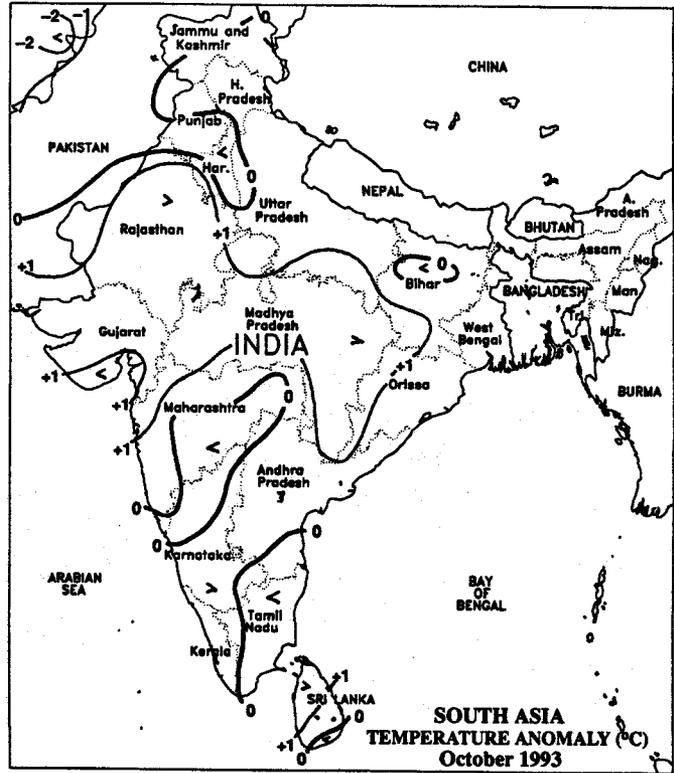
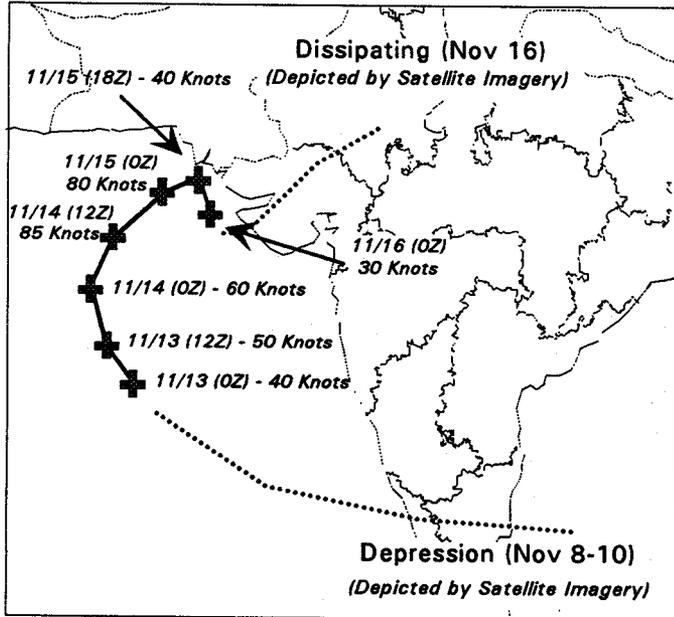




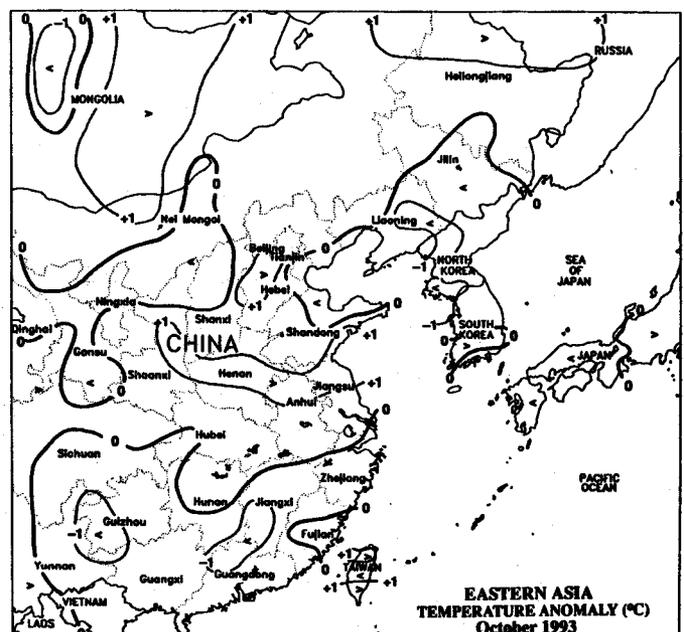
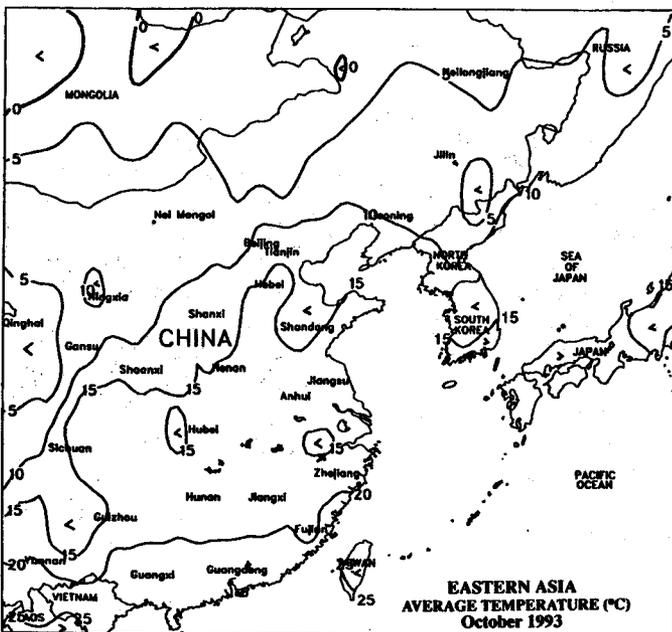
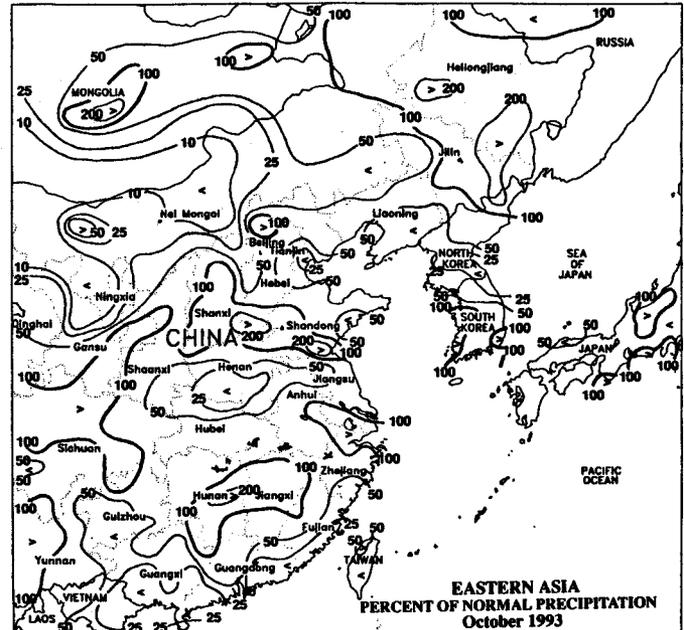
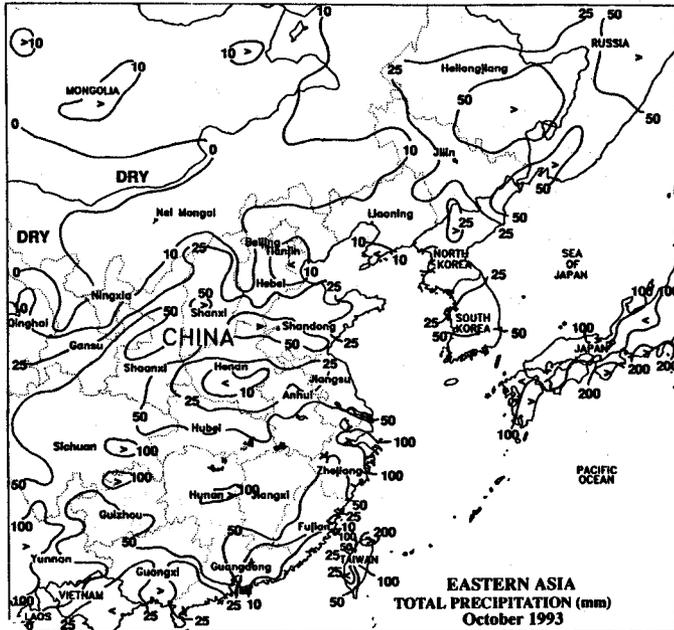
SOUTH ASIA: On November 16, the tropical cyclone that struck southern India made landfall in the northern Arabian Sea near the Pakistan/India border. Although the storm reached typhoon strength, it weakened prior to making landfall and dissipated rapidly over India's western desert, bring only scattered, light showers to the region. Satellite imagery depicted potentially heavy showers over the rice and cotton region in southern Pakistan, but harvests are usually nearing completion by this time. Elsewhere, moderate rain (10-50 mm) was limited to coastal areas of India's southern tip. In October, the monsoon continued its southward progress, resulting in seasonably drier conditions throughout the region by month's end. However, a late surge of moisture in mid-October covered central India, threatening quality of boll-opening cotton. Near-normal rainfall in southern India aided development of fall grains, oilseeds, and cotton, as drier weather in the north and east favored winter grain and oilseed planting.

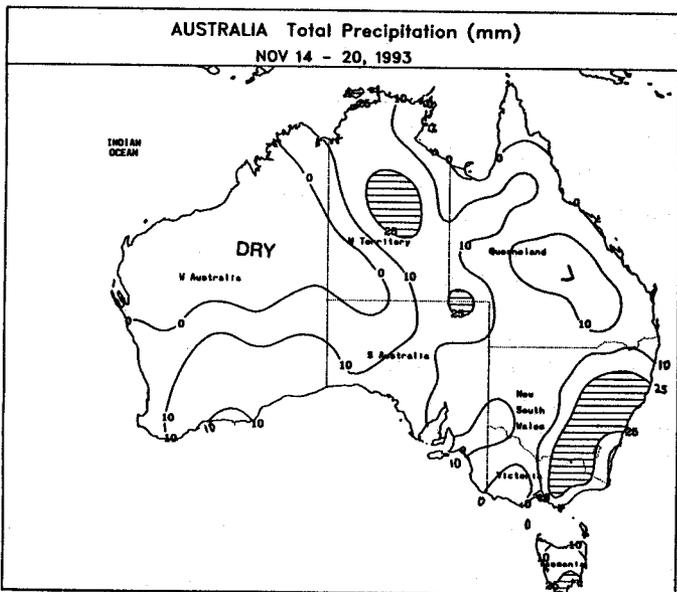


CYCLONE STRIKES S. & W. INDIA Nov 8 to 16, 1993

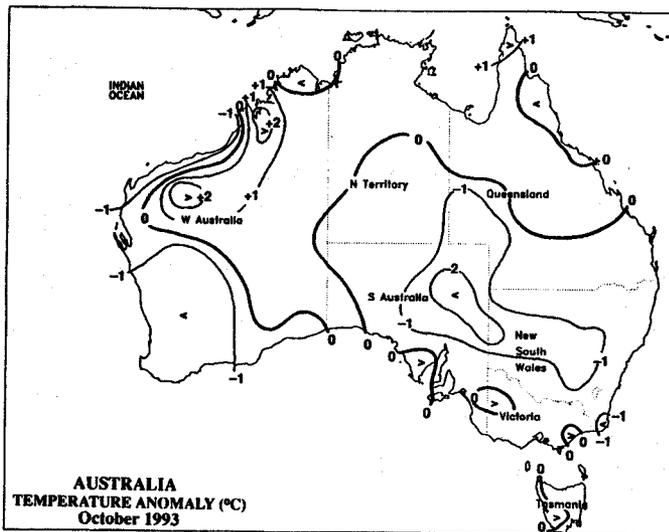
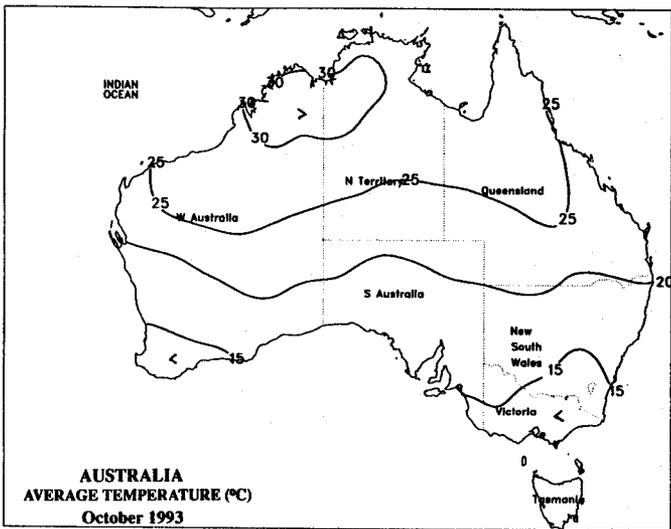
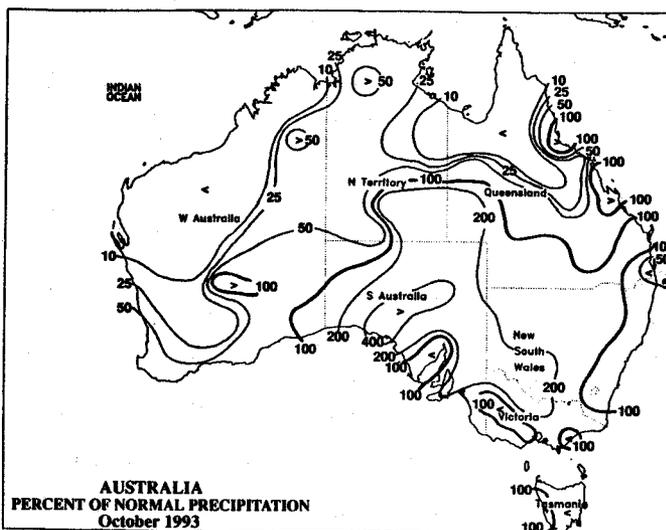
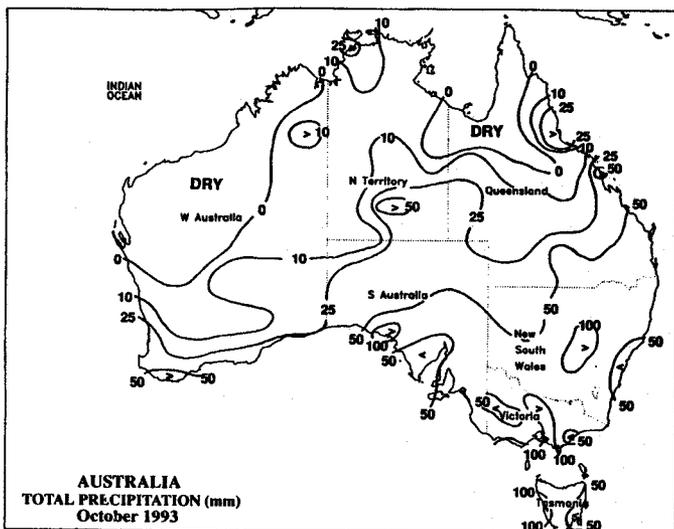


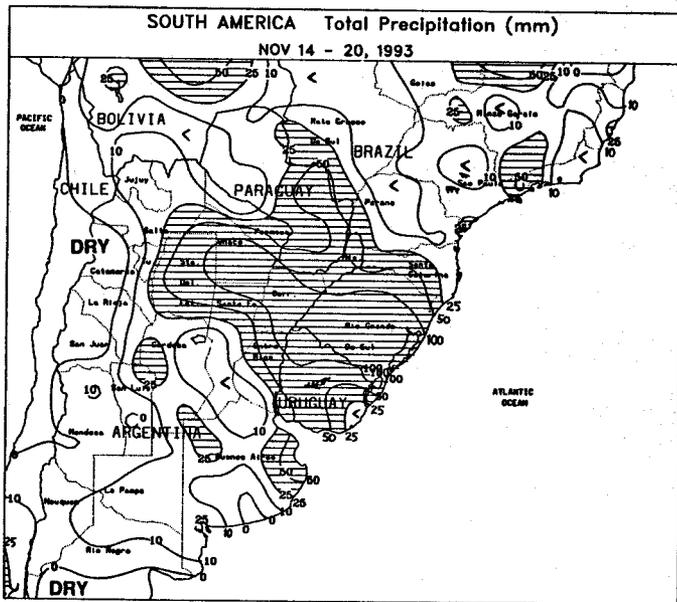
EASTERN ASIA: Light to moderate precipitation (10-40 mm) fell across the North China Plain, benefiting vegetative winter wheat. Colder weather swept into the region late in the week, producing light snow. The resulting snow cover helped to protect winter wheat from minimum temperatures in the -5 to -15 degrees C range. Widespread showers (15-60 mm) covered central and portions of southern China, slowing late double-crop rice and sugarcane harvesting. Weekly temperatures averaged 2 to 4 degrees C below normal across the North China Plain and 1-2 degrees C above normal throughout southern China. During October, portions of the North China Plain (Shandong, northern Henan, and Shanxi) received near- to above-normal rainfall, benefiting germinating winter wheat. Most of central and southern China reported near- to below-normal rainfall, favoring rice harvesting.



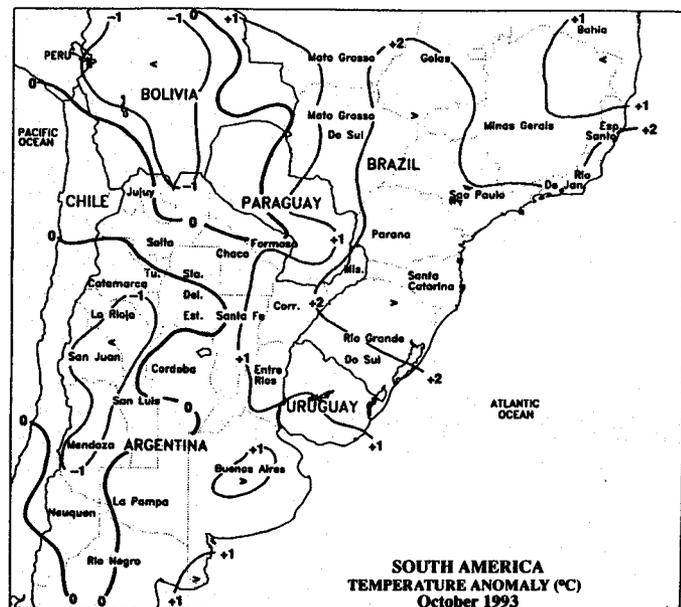
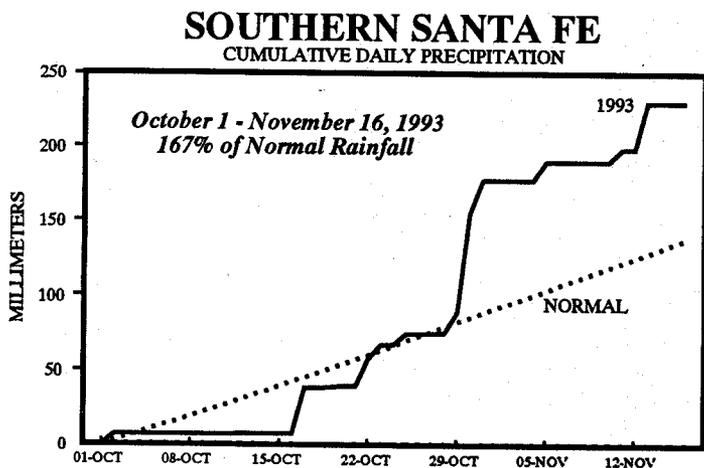
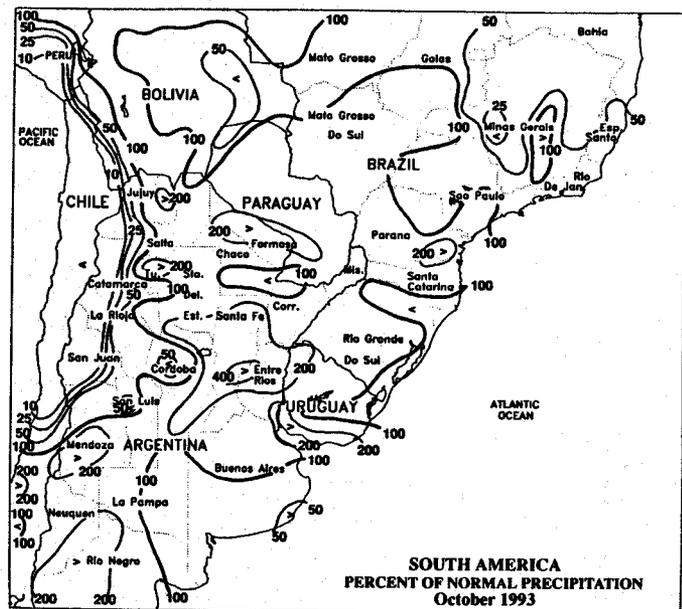
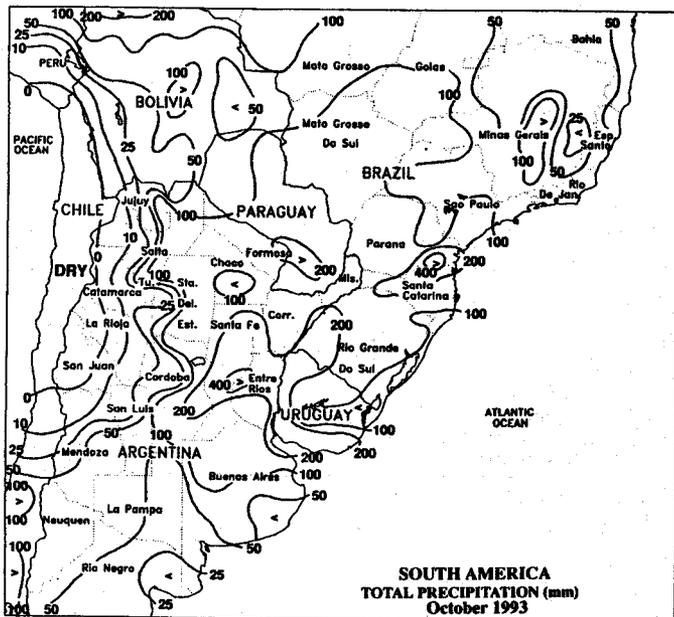


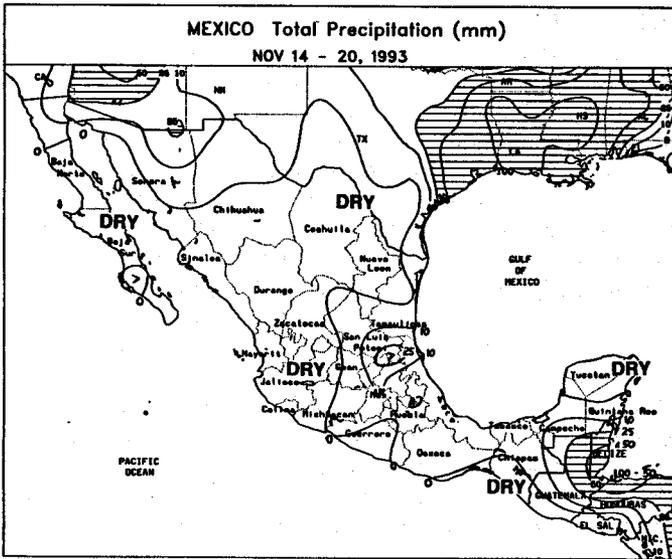
AUSTRALIA: Persistent light rain (3-15 mm), coupled with cool weather (temperatures averaged 2-4 degrees below normal), in the western crop areas slowed winter wheat harvesting and increased the potential for grain diseases. Light to moderate rain (6-40 mm) fell across southern Queensland and New South Wales, slowing wheat harvesting. The rains increased topsoil moisture for summer crop planting, which usually begins in October and can extend into early January. Temperatures across the east averaged 1-3 degrees C above normal. Light rain (5-15 mm) favored late-maturing wheat in the southern wheat regions. During October, above- to much-above-normal rain was reported across the southern and eastern crop areas, increasing soil moisture for summer crops, but slowing early wheat harvesting. Western Australia received below-normal rainfall stressing late-filling wheat.



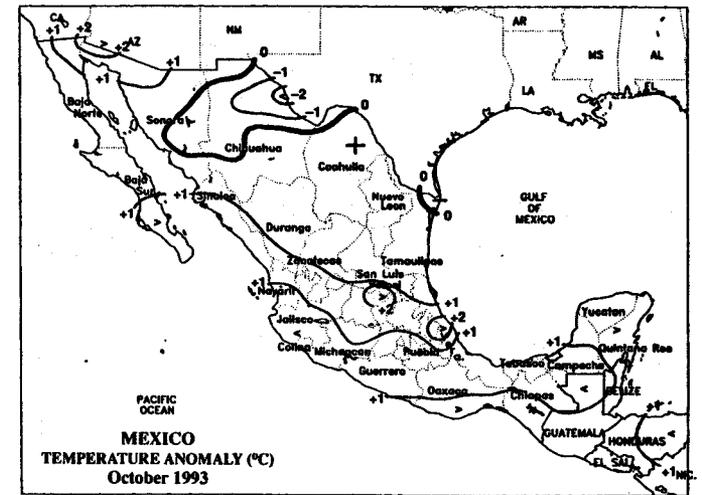
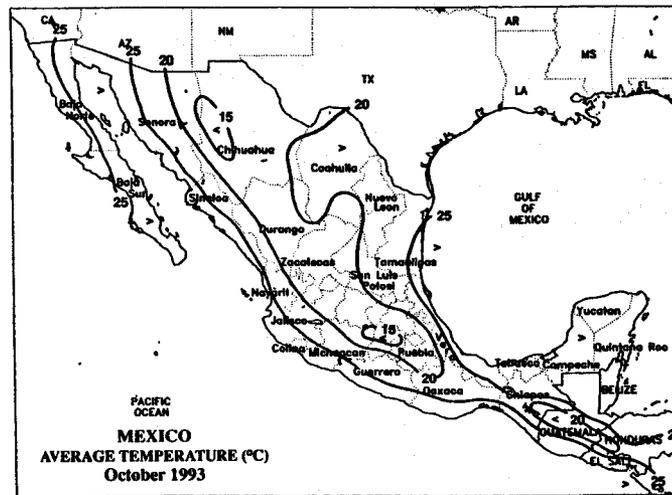
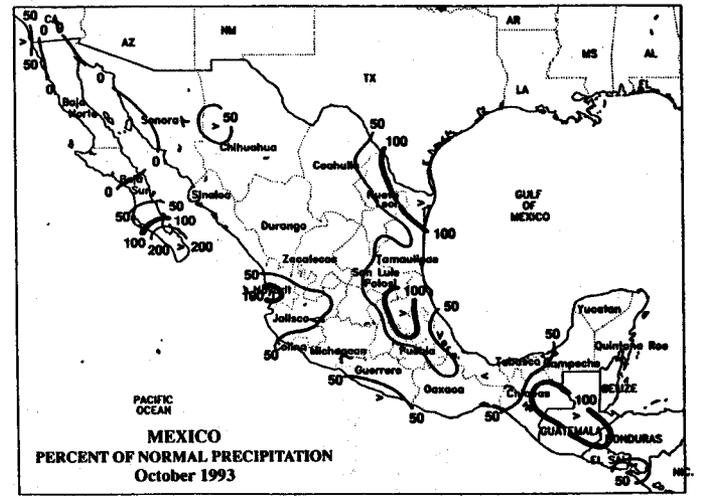
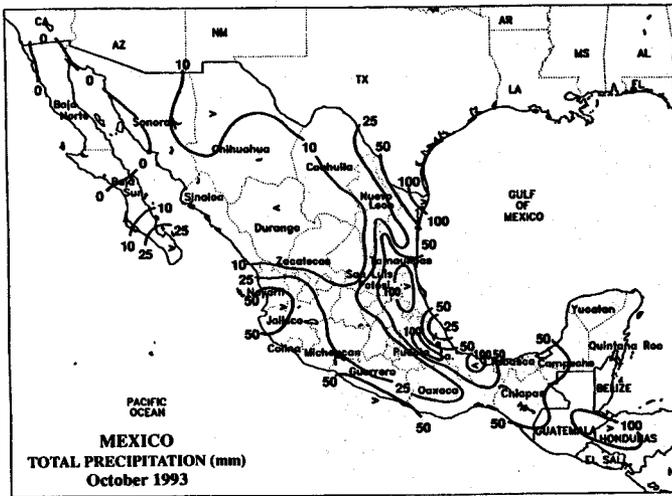


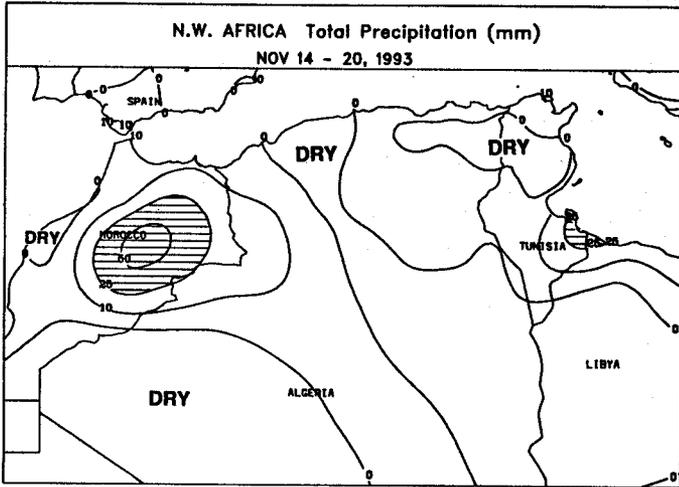
SOUTH AMERICA: Across southern Brazil, heavy showers (20-120 mm) fell across Rio Grande do Sul, Santa Catarina, and extreme southwestern Parana, causing local flooding and delaying soybean and corn planting. Eastern Goias and western Minas Gerais received moderate to heavy showers (10-70 mm), increasing soil moisture for summer crops. Light to moderate showers (5-20 mm) fell across coastal Bahia, favoring cocoa. Dry, warm weather continued across the inland cocoa areas. Scattered light rains (5-15 mm) prevailed elsewhere, allowing summer crop planting to progress. In Argentina, heavy showers (40-175 mm) covered the northern cotton regions, causing local flooding and possibly washing out newly planted cotton. Scattered showers (10-40 mm) slowed summer crop planting and winter grain maturation across northern Buenos Aires, southern Santa Fe, and southern Cordoba. Weekly temperatures averaged 2-4 degrees C above normal across southern Brazil and 1-3 degrees C below normal across central and northern Argentina. During October, above- to much-above-normal rainfall was reported across most of southern Brazil and northern and central Argentina. The only significant crop areas receiving below-normal October rainfall were southern Buenos Aires and La Pampa in Argentina and portions of southern Mato Grosso and Sao Paulo in Brazil.



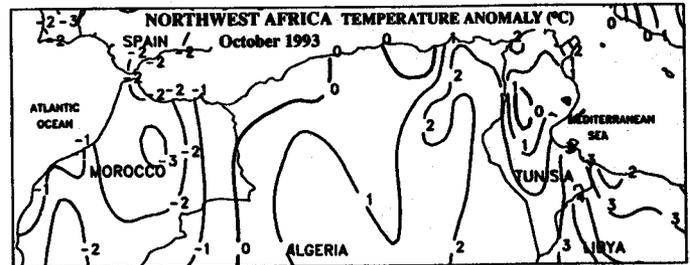
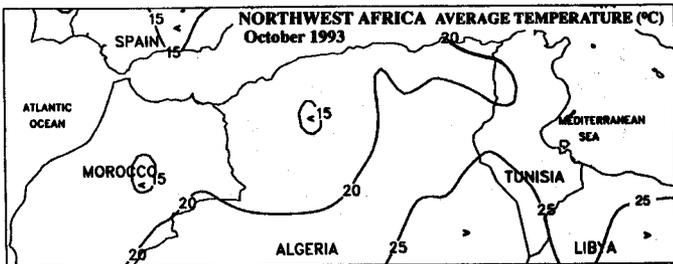
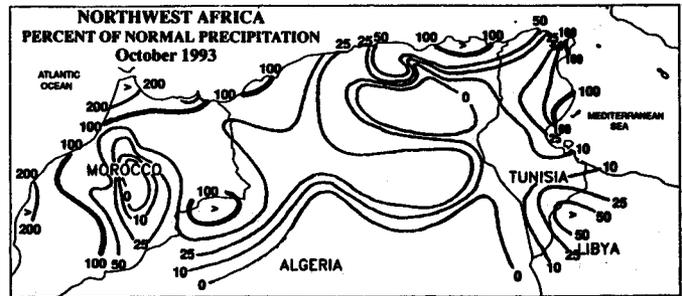
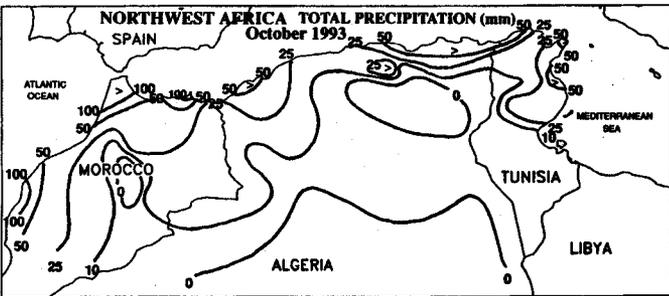


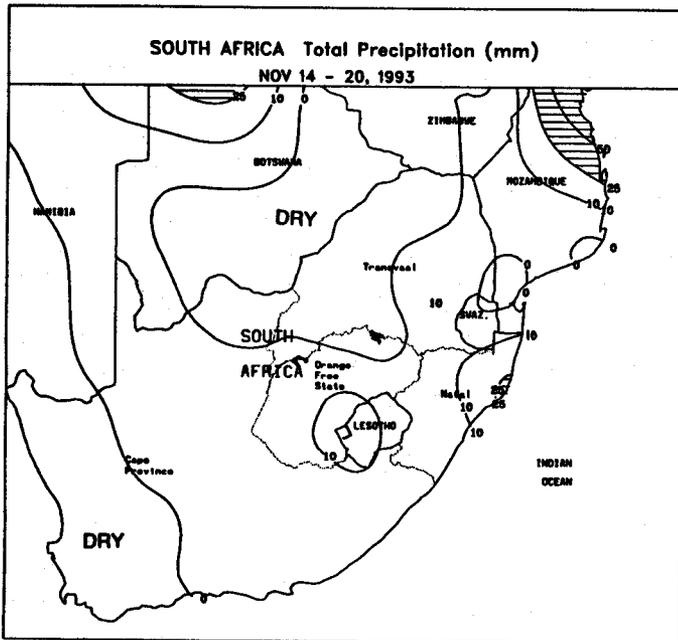
MEXICO: Dry weather continued to favor winter wheat and vegetable planting across the northwest and corn harvesting in the main corn belt. Scattered showers (5- 25 mm) fell across east-central Mexico slowing fieldwork. This is the last regular weekly summary until next spring. During October, below-normal rainfall favored fieldwork across the central and northwest crop areas. East-central Mexico received near-normal October rainfall.





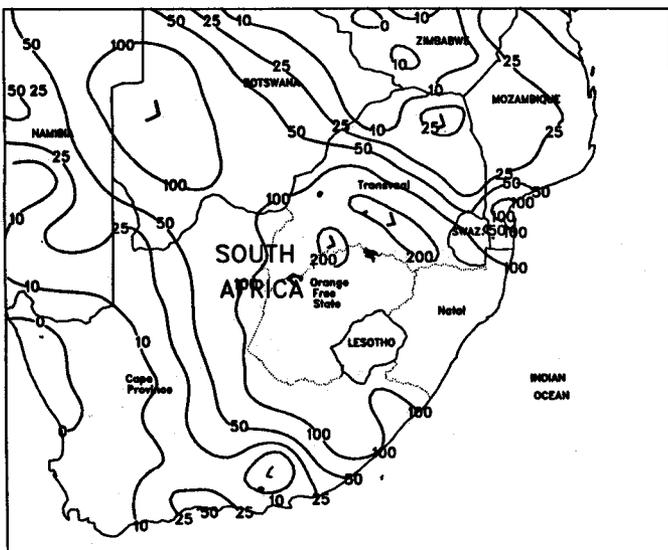
NORTHWESTERN AFRICA: Little, if any, precipitation covered winter grains in Morocco, Algeria, and Tunisia. Light scattered rain (generally less than 10 mm) over Morocco and western Algeria followed near- to above-normal precipitation in October, maintaining favorable topsoil moisture for winter grain germination and establishment. Greatest amounts of rain (25-38 mm) fell east of the principal growing areas. In contrast, well-below-normal precipitation since October has covered winter grain areas in eastern Algeria and Tunisia, where topsoil remained too dry for widespread uniform seed germination. As a result, significant rain is needed in these areas before planting can become widespread. Since the bulk of winter grains are usually planted from mid-November to mid-December over the region, substantial time remains for planting.



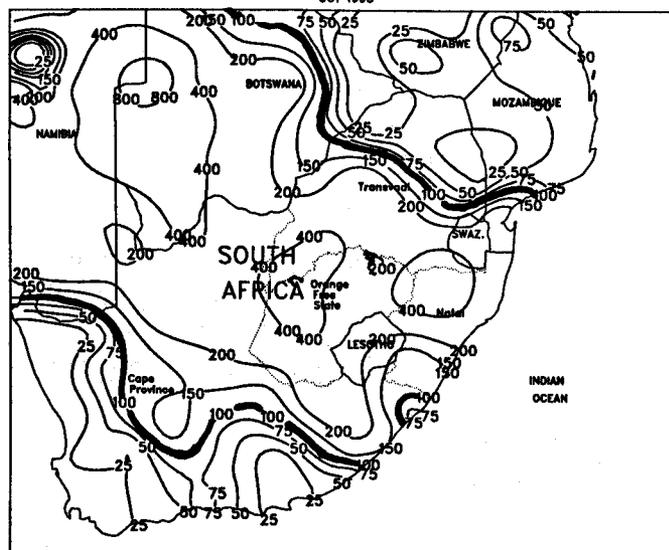


SOUTH AFRICA: Mostly dry, warm weather covered the primary crop regions, aiding corn planting. However, rainfall has been tapering off in recent weeks with highs this week reaching the mid 30's C. Western crop areas of Transvaal and Orange Free State are prone to bouts of hot, dry weather which could rapidly reduce moisture reserves despite this season's wet start. In October, unusually heavy showers early in the month resulted in above-normal rainfall at all primary corn and sugarcane locations. The moisture improved planting prospects but hampered wheat harvests. Drier weather by month's end allowed fieldwork to occur, but in Natal, more rain was needed for sugarcane development following two seasons of drought.

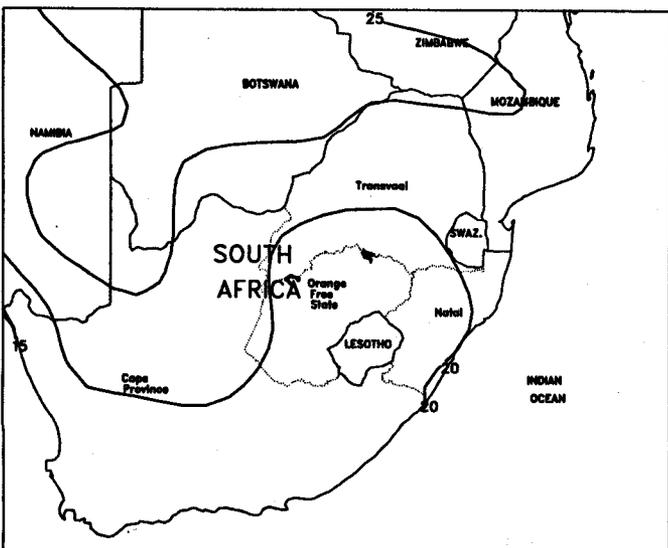
SOUTH AFRICA...TOTAL PRECIPITATION (mm)
OCT 1993



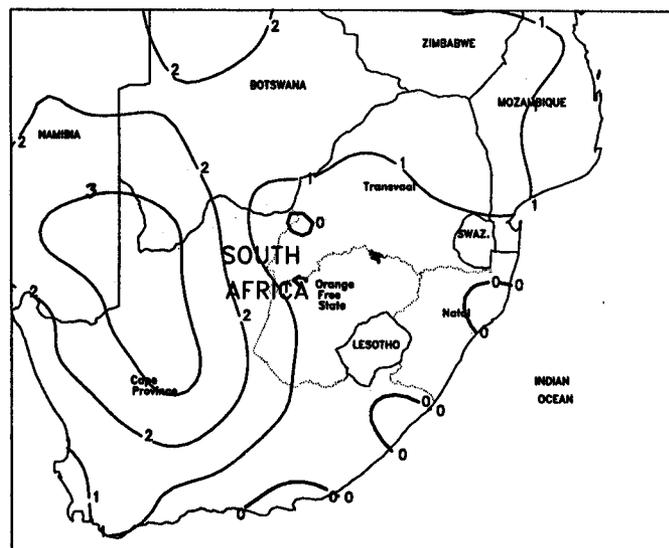
SOUTH AFRICA...PERCENT of NORMAL PRECIPITATION
OCT 1993

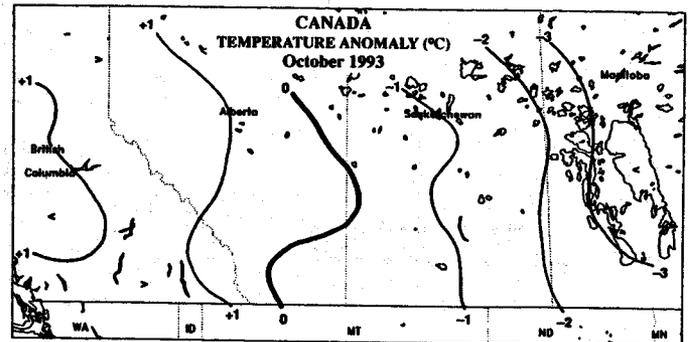
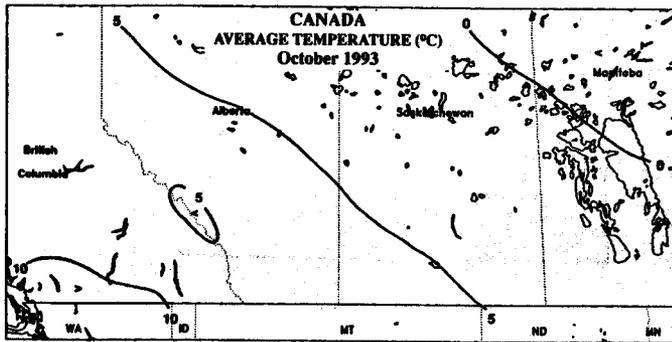
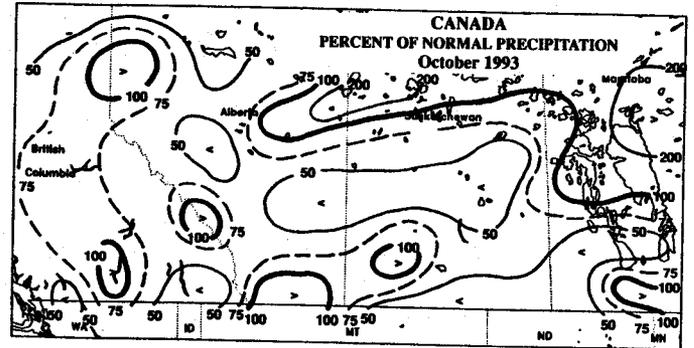
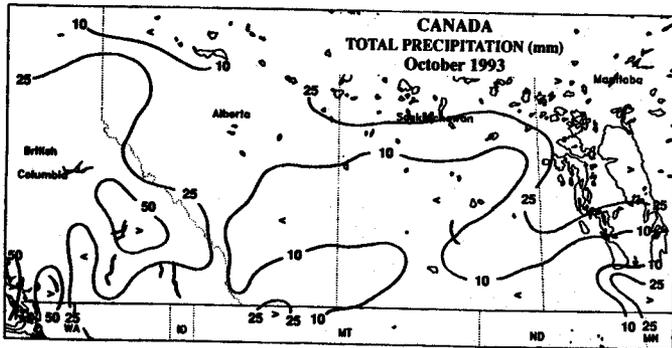


SOUTH AFRICA...AVERAGE TEMPERATURE (°C)
OCT 1993



SOUTH AFRICA...TEMPERATURE ANOMALY (°C)
OCT 1993





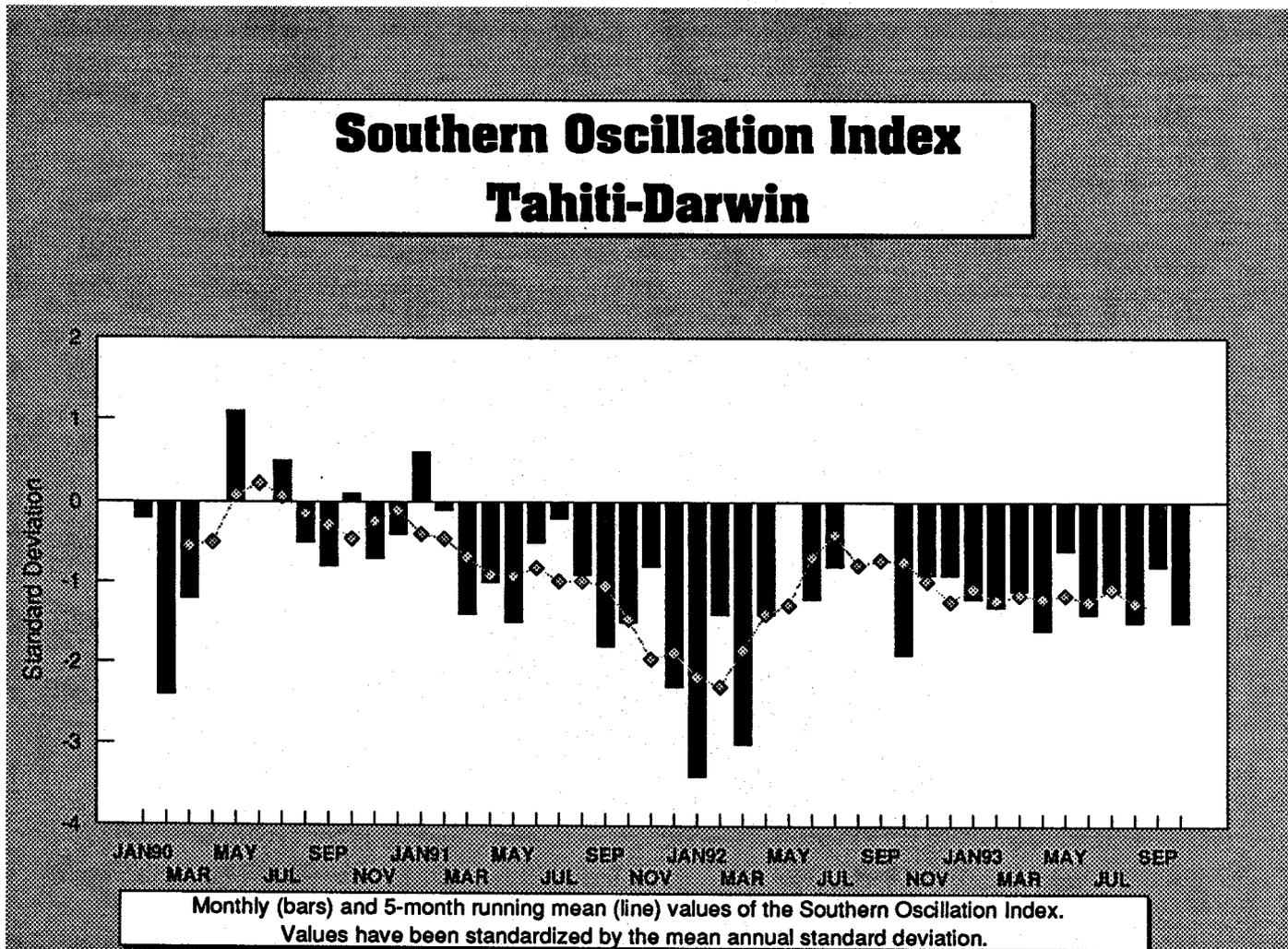
El Niño/Southern Oscillation Update

The following ENSO update is derived from the advisory issued by the Climate Analysis Center/National Meteorological Center on November 15, 1993.

Sea surface temperature (SST) anomalies during October increased slightly in the eastern Pacific and decreased along the equator in the vicinity of the date line. SST anomalies greater than +1 degree C were observed just south of the equator in the eastern Pacific and in scattered areas both north and south of the equator in the central Pacific.

The Southern Oscillation Index (SOI) during October was -1.5, reflecting a continuation of the large-scale pattern of sea level pressure anomalies that has dominated the tropical Pacific for the past 3 years. Consistent with a negative SOI, tropical convection was enhanced over the central equatorial Pacific, and low-level equatorial easterlies remained weaker than normal throughout the tropical Pacific.

A number of factors--including the persistent patterns of weaker-than-normal low-level easterlies, increasing positive SST anomalies, enhanced equatorial convection near the date line, and negative values of the SOI--indicate the potential for redevelopment of mature warm episode conditions during the next few months. However, the warm episode conditions, if they develop, are expected to be weak, as the three objective forecasting techniques used at the Climate Analysis Center indicate only near- or slightly warmer-than-normal conditions in the tropical Pacific during the next two seasons.



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Crop Progress

for the Week Ending November 21, 1993

WINTER WHEAT (Percent Emerged)

	Current	Last Wk	1992	Avg.
AR	70	58	76	74
CA	25	15	20	21
CO	100	99	100	100
GA	22	18	23	21
ID	93	90	96	97
IL	80	71	100	99
IN	94	87	92	91
KS	97	96	96	95
MI	95	90	85	95
MO	75	65	82	91
MT	85	83	100	95
NE	100	100	100	100
NC	50	43	59	52
OH	98	93	93	91
OK	94	93	76	92
OR	96	94	99	92
SD	100	100	100	100
TX	84	79	75	85
WA	93	92	99	97
19 States	90	88	88	91

These 19 States produced 90% of the 1992 winter wheat crop.

CORN (Percent Harvested)

	Current	Last Wk	1992	Avg.
CO	90	81	80	89
GA	100	100	100	100
IL	98	96	75	95
IN	90	85	62	83
IA	97	92	73	94
KS	98	95	90	100
KY	96	94	94	94
MI	80	65	20	75
MN	92	80	69	93
MO	94	92	77	94
NE	90	80	66	93
NC	100	98	100	98
OH	87	80	46	77
PA	73	61	48	68
SD	88	77	53	90
TX	100	100	100	100
WI	88	70	47	82
17 States	93	86	68	91

These 17 States produced 94% of the 1992 corn crop.

COTTON (Percent Harvested)

	Current	Last Wk	1992	Avg.
AL	94	87	80	92
AZ	94	90	96	85
AR	93	89	91	95
CA	98	95	99	98
GA	88	85	67	84
LA	98	96	98	98
MS	94	90	96	97
MO	97	94	89	96
NM	74	69	60	53
NC	89	81	58	79
OK	74	67	47	46
SC	93	88	77	86
TN	94	92	89	93
TX	77	70	57	56
14 States	88	83	78	80

These 14 States produced 99% of the 1992 cotton crop.

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