

# 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

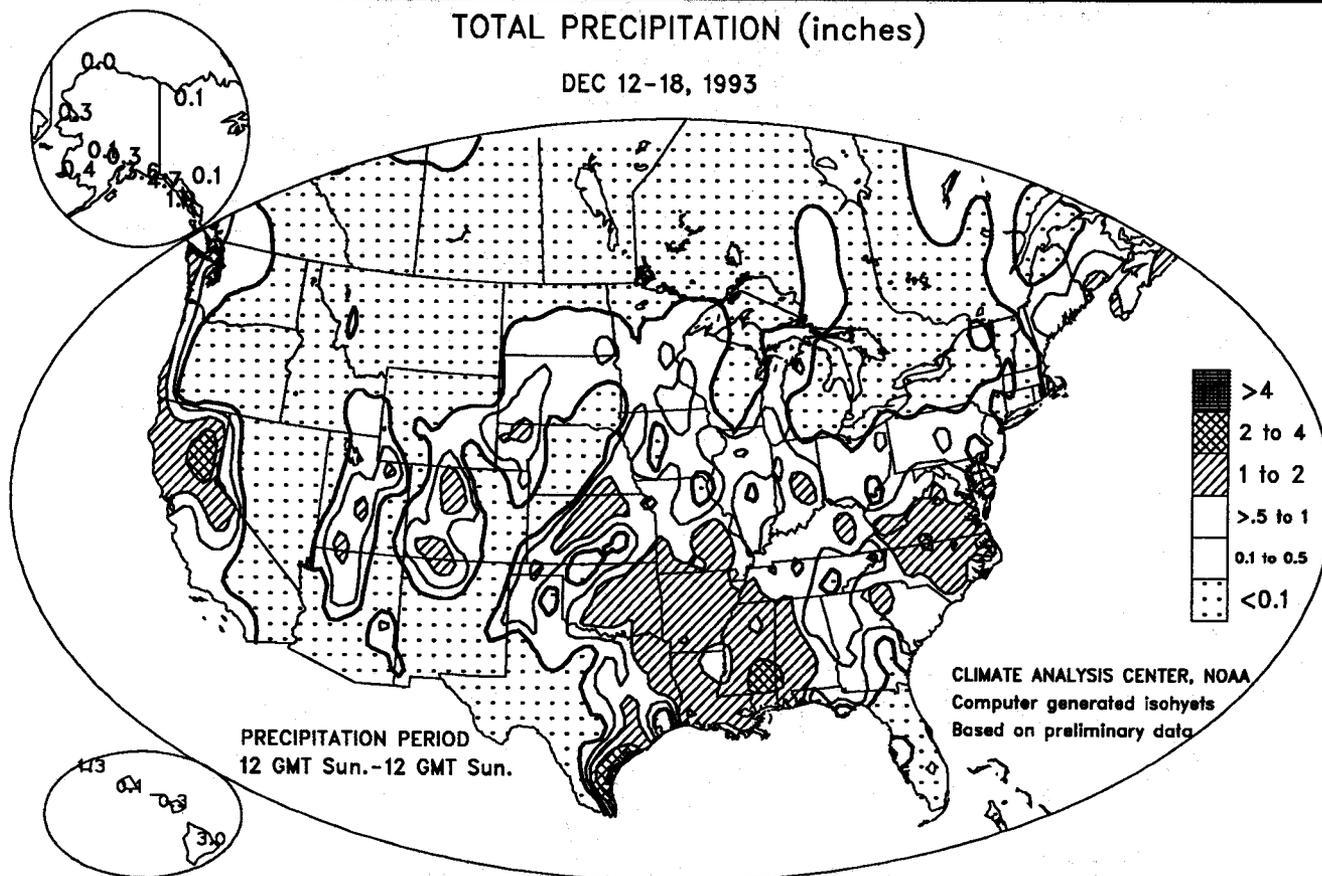
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December 21, 1993

## TOTAL PRECIPITATION (inches)

DEC 12-18, 1993



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

PRECIPITATION PERIOD  
12 GMT Sun.-12 GMT Sun.

## HIGHLIGHTS

December 12 - 18, 1993

Despite unsettled weather due to a slow progression of storm systems, above-normal temperatures covered much of the Nation for the third consecutive week. Early in the week, high winds roiled Atlantic waters in the wake of a coastal storm, while strong winds and precipitation spread across the **central and southern Plains** in association with a developing storm. By Tuesday morning, snow depths reached 7 inches in **Sioux City, IA**, 3 inches in **Grand Island, NE**, and 2 inches in **Russell, KS**. Farther south, thunderstorms swept across the **Gulf Coast States**, dumping as much as 2 inches of rain. At midweek, stormy weather affected both coasts. Mountain snowfall included 3 inches at **Truckee, CA** and 4 inches in **Beckley, WV**, while rainfall locally topped an inch in lower elevations of **northern California** and the **Middle Atlantic States**. Late in the week, snow developed in the **central Rockies** and progressed into the **northern Plains**

and **Great Lakes States**. **Casper, WY** garnered 10 inches of snow, while **Rapid City, SD** added 3 inches. Farther south, locally heavy rain drenched coastal Texas, where **Corpus Christi** reported 4.40 inches. Late-week rains also soaked parts of **Hawaii**, with more than 7 inches falling in **Hilo** on Friday.

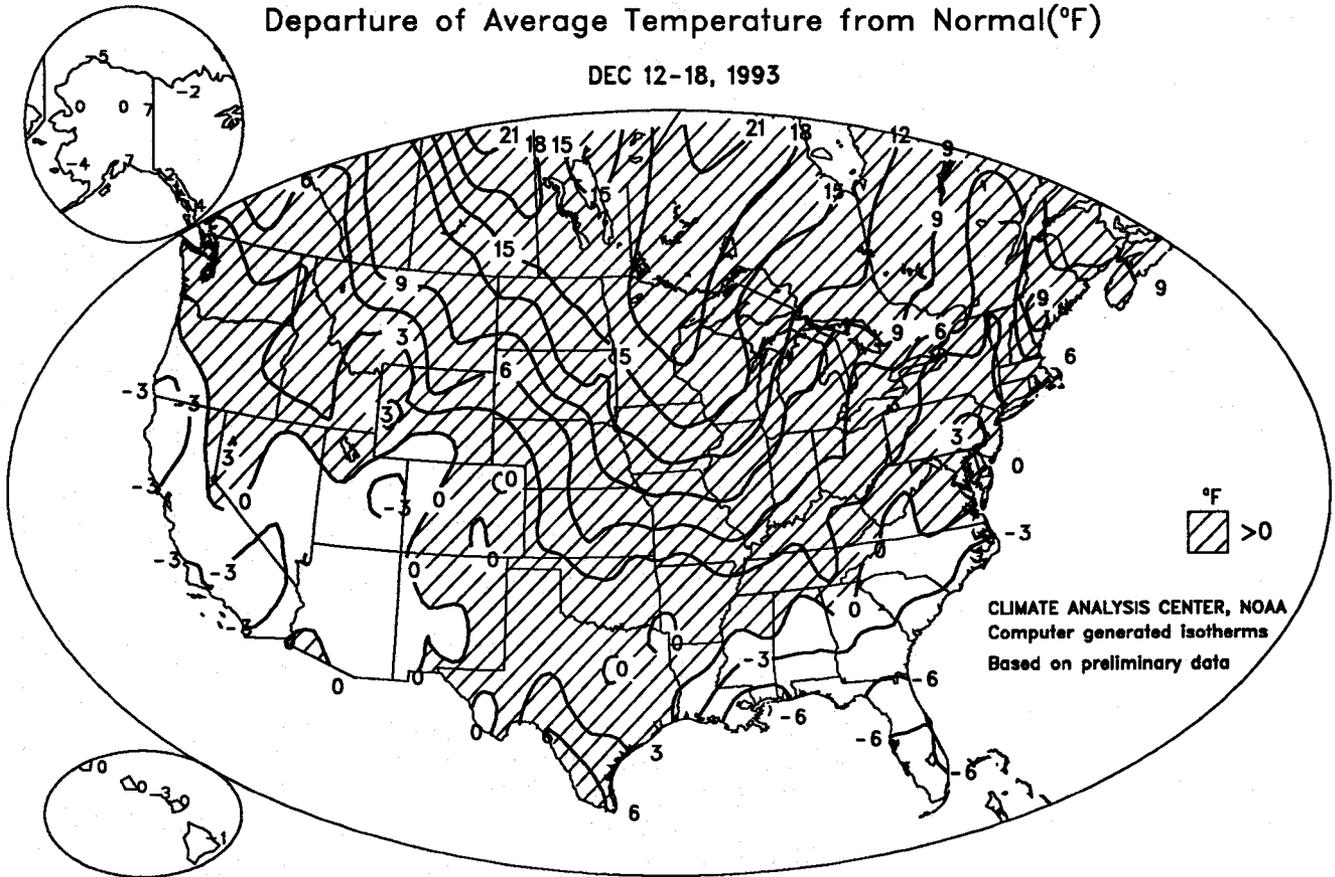
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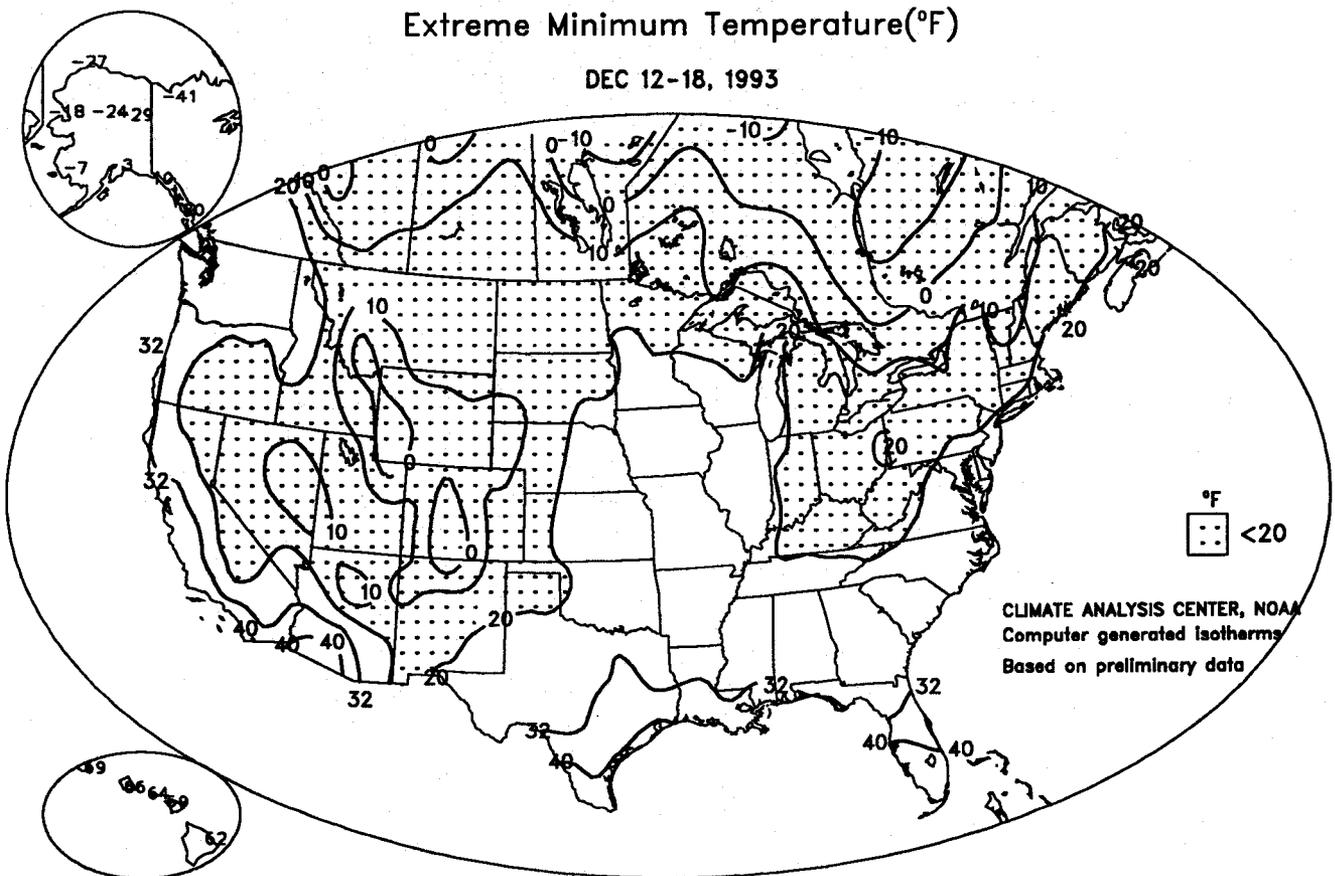
Departure of Average Temperature from Normal(°F)

DEC 12-18, 1993



Extreme Minimum Temperature(°F)

DEC 12-18, 1993



# National Weather Data for Selected Cities

Weather Data for the Week Ending December 18, 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 Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE	MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP.	
																			.01 INCH OR MORE	.50 INCH OR MORE		
AL BIRMINGHAM	49	37	57	22	43	-2	1.0	-2	.8	2.7	93	37.8	72	86	63	0	0	1	1	1	1	
MOBILE	57	37	66	31	47	-6	1.2	-2	1.2	1.6	53	58.3	95	94	59	0	0	1	1	1	1	
MONTGOMERY	54	38	58	25	46	-2	1.0	-2	.9	3.4	115	51.0	97	92	57	0	0	1	1	1	1	
AK ANCHORAGE	29	19	46	4	24	7	1.0	-2	.2	27	16.8	109	86	72	70	0	0	1	1	1	1	
BARROW	-11	-23	5	-28	-17	-6	1.0	-2	.1	129	5.3	124	75	70	70	0	0	1	1	1	1	
FAIRBANKS	1	-13	20	-20	-6	0	1.0	-2	T	4	10.9	103	79	72	70	0	0	1	1	1	1	
JUNEAU	37	31	42	18	34	7	1.7	-7	T	3.4	131	58.5	112	97	84	0	0	4	4	5	5	
KODIAK	40	27	43	20	34	3	1.8	-3	T	3.4	90	70.3	109	94	60	0	0	1	1	1	1	
NOME	16	2	27	-7	9	2	1.3	-3	T	1.1	216	18.7	128	83	69	0	0	7	7	4	4	
AZ PHOENIX	65	44	70	40	54	0	1.0	-2	T	4	13.4	184	77	25	25	0	0	1	1	1	1	
PRESCOTT	49	25	59	18	37	1	1.1	-1	T	.5	50	17.3	92	84	35	0	0	7	7	2	2	
TUCSON	66	37	75	31	51	-1	1.0	-3	T	0	14.8	128	78	21	21	0	0	2	2	0	0	
YUMA	67	47	70	41	57	1	1.1	-1	T	0	4.6	155	54	20	20	0	0	0	0	0	0	
AR FORT SMITH	49	36	53	32	42	2	1.0	-2	T	2.9	149	47.6	119	91	62	0	0	2	2	3	3	
LITTLE ROCK	51	37	57	33	44	4	1.0	-3	T	4.1	142	47.4	100	93	56	0	0	2	2	1	1	
CA BAKERSFIELD	54	38	61	34	46	4	1.3	-3	T	.6	174	8.2	150	89	37	0	0	0	0	1	1	
BUREKA	54	41	58	35	47	-1	1.0	-3	T	6.8	190	39.1	111	92	64	0	0	2	2	1	1	
FRESNO	52	37	59	33	44	-1	1.0	-3	T	1.0	132	13.8	139	98	47	0	0	0	0	1	1	
LOS ANGELES	63	45	66	43	54	-2	1.4	-4	T	.9	95	20.4	180	79	34	0	0	2	2	0	0	
REDDING	52	33	57	26	42	-2	1.2	-0	T	3.2	100	43.9	142	92	53	0	0	4	4	2	2	
SACRAMENTO	52	36	56	28	44	-1	1.5	-1	T	1.7	119	23.4	143	99	66	0	0	1	1	1	1	
SAN DIEGO	62	48	67	44	55	-2	1.3	-1	T	.7	75	17.2	185	82	28	0	0	0	0	2	2	
SAN FRANCISCO	54	43	58	40	49	-1	1.0	-4	T	2.1	125	23.4	128	89	56	0	0	2	2	0	0	
CO DENVER	44	20	59	10	32	2	1.1	-1	T	.1	32	14.5	96	90	34	0	0	6	6	2	2	
GRAND JUNCTION	40	21	50	16	30	-1	1.0	-2	T	.2	49	11.3	112	92	43	0	0	7	7	4	4	
PUEBLO	45	13	61	6	29	-2	1.0	-1	T	0	14.5	131	95	38	38	0	0	7	7	0	0	
CT BRIDGEPORT	45	31	52	21	38	3	1.0	-8	T	3.5	170	36.4	90	84	43	0	0	4	4	0	0	
HARTFORD	44	27	48	19	35	6	1.0	-9	T	2.6	112	43.6	102	85	43	0	0	5	5	0	0	
DC WASHINGTON	47	33	53	23	40	0	1.0	-6	T	3.4	186	40.4	108	88	51	0	0	3	3	2	1	
FL APALACHICOLA	62	41	69	34	51	-4	1.0	-8	T	.9	40	49.5	93	92	51	0	0	0	0	1	1	
DAYTONA BEACH	65	42	72	34	54	-7	1.0	-6	T	.1	9	34.0	73	92	51	0	0	0	0	1	1	
JACKSONVILLE	63	38	73	28	51	-7	1.0	-6	T	.1	8	46.3	96	92	47	0	0	2	2	1	1	
KRY WEST	73	62	80	56	68	-4	1.0	-4	T	1.7	139	35.5	92	81	59	0	0	1	1	0	0	
MIAMI	75	55	81	47	65	-5	1.0	-4	T	0	60.5	110	82	45	45	0	0	0	0	0	0	
ORLANDO	68	44	75	38	56	-6	1.0	-5	T	.1	8	43.9	93	94	50	0	0	0	0	1	1	
TALLAHASSEE	62	35	68	28	48	-5	1.0	-7	T	.9	30	50.4	79	94	50	0	0	2	2	1	1	
TAMPA	67	47	73	37	57	-5	1.0	-3	T	.4	31	36.6	85	90	53	0	0	0	0	1	1	
WEST PALM BEACH	72	50	79	43	61	-7	1.0	-5	T	3	61.2	105	94	53	53	0	0	0	0	0	0	
GA ATLANTA	53	37	63	27	45	1	1.0	-7	T	1.6	64	47.1	96	95	49	0	0	1	2	0	0	
AUGUSTA	57	32	65	25	45	-2	1.0	-6	T	1.5	81	37.1	86	96	46	0	0	3	3	1	1	
MACON	55	35	66	28	45	-4	1.0	-7	T	1.7	71	48.3	113	97	47	0	0	3	3	1	1	
SAVANNAH	59	37	69	27	48	-3	1.0	-4	T	.7	43	46.6	97	95	48	0	0	2	2	1	1	
HI HILO	77	65	82	62	71	-1	9.5	6.8	7.0	13.7	185	112.1	90	95	72	0	0	0	7	3	3	
HONOLULU	81	68	83	66	75	0	1.0	-9	T	.1	4	5.5	27	79	56	0	0	0	0	1	0	
KAHULUI	81	66	85	59	74	0	1.0	-6	T	.5	28	12.0	62	79	60	0	0	0	0	1	0	
LIHUE	78	70	79	69	74	1	1.0	-9	T	1.5	52	21.0	52	81	70	0	0	0	0	3	0	
ID BOISE	41	25	46	20	33	3	1.0	-2	T	1.0	122	12.7	111	92	49	0	0	7	7	1	0	
LEWISTON	41	32	47	26	36	2	1.0	-3	T	.0	62	12.6	105	78	59	0	0	3	3	0	0	
POCATELLO	34	15	50	5	24	0	1.0	-3	T	.5	83	17.8	153	93	68	0	0	7	7	3	0	
IL CHICAGO	43	34	46	21	38	12	1.0	-7	T	.5	60	44.9	129	89	56	0	0	1	5	0	0	
MOLINE	43	32	47	24	38	12	1.0	-8	T	.3	68	50.6	132	95	67	0	0	3	5	0	0	
PEORIA	43	34	47	24	39	12	1.0	-7	T	1.1	72	54.0	153	94	73	0	0	1	4	0	0	
QUINCY	42	35	47	27	39	10	1.0	-4	T	.8	53	37.0	95	87	65	0	0	1	2	0	0	
ROCKFORD	41	32	50	20	36	12	1.0	-6	T	1.1	86	42.3	119	90	65	0	0	2	3	0	0	
SPRINGFIELD	44	36	46	26	40	10	1.0	-7	T	1.0	59	47.5	139	91	63	0	0	1	3	0	0	
IN EVANSVILLE	46	36	49	21	41	4	1.0	-6	T	2.2	102	45.5	103	94	68	0	0	1	3	0	0	
FORT WAYNE	43	32	45	19	38	9	1.0	-4	T	1.1	60	41.7	124	92	69	0	0	3	3	0	0	
INDIANAPOLIS	43	33	46	19	38	7	1.0	-6	T	1.6	81	50.3	130	87	61	0	0	3	4	1	1	
SOUTH BEND	43	32	45	20	37	8	1.0	-6	T	.9	42	46.0	121	90	64	0	0	3	4	0	0	
IA DES MOINES	43	33	52	29	38	14	1.0	-7	T	.7	82	55.7	166	96	65	0	0	2	5	0	0	
SIOUX CITY	39	27	58	19	33	12	1.0	-4	T	.4	85	32.3	127	93	75	0	0	6	4	0	0	
WATERLOO	41	31	47	25	36	16	1.0	-5	T	.4	63	52.8	159	91	66	0	0	4	3	0	0	
KS CONCORDIA	41	32	60	27	36	7	1.1	-9	1.1	1.1	212	44.5	156	89	69	0	0	6	4	1	1	
DODGE CITY	43	30	63	24	36	4	1.0	-9	1.0	1.0	255	26.5	125	88	61	0	0	6	1	1	1	
GOODLAND	41	21	59	13	31	1	1.0	-1	T	4	20.2	113	94	55	0	0	7	1	0	0		
TOPKA	42	33	56	26	38	7	1.0	-5	T	.9	101	47.3	136	88	64	0	0	3	3	1	1	
WICHITA	43	34	60	28	39	5	1.0	-2	T	.4	41	31.8	93	87	69	0	0	4	1	0	0	
KY BOWLING GREEN	47	35	57	19	41	3	1.0	-6	T	5.4	181	37.3	76	95	63	0	0	2	3	0	0	
LEXINGTON	44	34	48	17	39	3	1.0	-5	T	2.5	104	44.7	104	95	62	0	0	2	4	0	0	
LOUISVILLE	46	35	51	21	40	3	1.0	-4	T	2.1	95	46.9	109	95	77	0	0	2	4	0	0	
LA BATON ROUGE	57	39	66	32	48	-5	1.3	-0	1.3	2.3	71	59.8	102	95	58	0	0	1	1	1	1	
LAKE CHARLES	61	42	71	36	52	-2	1.0	-3	T	.8	58	58.6	111	92	53	0	0	0	2	1	1	
NEW ORLEANS	58	39	71	32	49	-6	1.0	-4	T	.9	58	51.8	87	95	66	0	0	1	1	1	1	
SHERBOURNE	58	39	68	30	48	1	1.0	-4	T	.5	43	57.0	120	92	49	0	0	2	3	0	0	

Based on 1961-90 normals.

Weather Data for the Week Ending December 18, 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 Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1		PCT. NORMAL SINCE Jan 1	AVERAGE	MAXIMUM	MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	
													.01 INCH OR MORE							.50 INCH OR MORE	
ME CARIBOU	33	22	40	13	27	12								86	49	0	0	6	1	0	0
PORTLAND	41	28	46	19	34	6								88	53	0	0	5	4	0	0
MD BALTIMORE	47	31	54	24	39	2								84	49	0	0	5	2	1	0
SALISBURY	47	29	51	23	38	2								86	54	0	0	5	3	1	0
MA BOSTON	42	31	45	25	36	3								87	61	0	0	5	4	1	0
CHATHAM	43	35	46	30	39	4								87	61	0	0	5	4	1	0
MI ALPENA	39	26	45	9	33	9								93	67	0	0	3	6	1	0
DETROIT	42	32	48	17	37	9								92	61	0	0	6	1	0	0
FLINT	40	29	45	14	35	7								85	63	0	0	2	5	0	0
GRAND RAPIDS	40	31	44	17	36	8								95	63	0	0	5	1	0	0
HOUGHTON LAKE	39	29	47	13	34	11								95	66	0	0	3	2	0	0
LANSING	40	31	45	15	35	9								95	66	0	0	5	2	0	0
MARQUETTE	37	27	40	16	32	14								89	63	0	0	3	1	0	0
MUSKOGON	42	32	50	22	37	9								95	59	0	0	5	4	0	0
SAULT ST. MARIE	38	25	49	14	32	13								86	60	0	0	3	2	0	0
MN ALEXANDRIA	35	26	40	23	31	18								95	50	0	0	5	2	0	0
DULUTH	35	29	39	19	32	19								98	80	0	0	7	2	0	0
INT'L FALLS	31	23	34	14	27	20								96	72	0	0	7	3	0	0
MINNEAPOLIS	39	31	44	26	35	17								91	69	0	0	7	0	0	0
ROCHESTER	38	31	43	24	34	17								91	69	0	0	6	4	0	0
MS GREENWOOD	54	40	58	32	47	0								94	74	0	0	5	4	1	0
JACKSON	52	36	58	30	44	-3								96	62	0	0	1	1	1	0
MERIDIAN	54	40	62	28	47	-2								99	61	0	0	1	2	1	0
MO CAPE GIRARDEAU	47	38	49	24	42	6								92	64	0	0	1	4	0	0
COLUMBIA	44	33	52	27	38	8								98	68	0	0	3	3	1	0
KANSAS CITY	43	34	57	28	38	8								94	72	0	0	2	5	1	0
SAINT LOUIS	46	38	52	29	42	8								94	62	0	0	1	3	0	0
SPRINGFIELD	43	33	50	26	38	3								90	67	0	0	3	3	1	0
MT BILLINGS	38	24	50	20	31	5								91	47	0	0	6	1	0	0
GLASGOW	30	21	40	17	25	10								91	78	0	0	7	1	0	0
GREAT FALLS	39	23	50	13	31	7								96	51	0	0	7	3	0	0
HAVRE	36	20	44	17	28	11								95	68	0	0	7	0	0	0
HELENA	37	20	43	11	29	8								87	57	0	0	7	0	0	0
KALISPELL	34	19	43	16	27	4								90	68	0	0	7	3	0	0
MILES CITY	36	21	50	14	28	9								93	63	0	0	7	0	0	0
MISSOULA	36	23	42	19	29	6								90	63	0	0	7	1	0	0
NE GRAND ISLAND	39	29	62	24	34	9								95	74	0	0	6	2	0	0
LINCOLN	40	30	58	26	35	10								93	72	0	0	5	2	0	0
NORFOLK	39	29	60	25	34	12								94	75	0	0	5	3	0	0
NORTH PLATTE	36	23	48	15	30	6								93	67	0	0	7	1	0	0
OMAHA	40	30	57	25	35	10								95	72	0	0	5	3	0	0
SCOTTSBLUFF	37	16	47	1	26	0								89	54	0	0	7	2	0	0
VALENTINE	36	23	61	13	30	4								83	63	0	0	7	2	0	0
NV ELY	32	5	36	-1	19	-7								79	53	0	0	7	2	0	0
LAS VEGAS	54	34	58	31	44	-1								83	27	0	0	3	1	0	0
RENO	45	27	55	19	36	3								79	35	0	0	6	1	0	0
WINNEMUCCA	39	23	44	10	31	1								93	61	0	0	7	2	0	0
NE CONCORD	41	23	48	12	32	8								91	50	0	0	5	2	0	0
NJ ATLANTIC CITY	46	29	51	23	38	2								89	48	0	0	5	2	0	0
NM ALBUQUERQUE	47	26	51	18	37	2								81	30	0	0	6	1	0	0
CLOVIS	54	28	65	22	41	3								79	31	0	0	6	1	0	0
ROSWELL	59	27	65	21	43	2								61	24	0	0	5	1	0	0
NY ALBANY	36	21	40	15	28	2								82	55	0	0	6	0	0	0
BINGHAMTON	36	21	43	10	29	2								90	66	0	0	6	3	0	0
BUFFALO	41	26	46	13	33	4								91	59	0	0	5	2	0	0
NEW YORK	45	32	50	24	39	2								85	39	0	0	4	2	0	0
ROCHESTER	38	23	44	13	31	1								92	66	0	0	6	0	0	0
SYRACUSE	35	18	39	9	27	-2								92	68	0	0	7	1	0	0
NC ASHEVILLE	45	29	50	20	37	-2								90	52	0	0	3	2	0	0
CHARLOTTE	51	35	61	25	43	0								93	45	0	0	2	3	1	0
GREENSBORO	50	32	60	22	41	0								96	48	0	0	3	3	1	0
HATTERAS	50	42	54	30	46	-3								87	56	0	0	1	4	0	0
NEW BERN	51	34	59	26	43	-4								82	49	0	0	4	2	0	0
RALEIGH	50	32	57	23	41	-2								88	49	0	0	5	3	1	0
WILMINGTON	54	35	64	26	45	-3								85	45	0	0	2	1	1	0
ND BISMARCK	32	20	38	0	26	12								98	81	0	0	7	3	0	0
FARGO	34	26	39	24	30	18								92	78	0	0	7	2	0	0
GRAND FORKS	31	20	34	10	25	15								95	79	0	0	7	0	0	0
WILLISTON	31	21	42	17	26	13								94	78	0	0	7	3	0	0
OH AKRON-CANTON	40	29	48	16	34	3								89	64	0	0	4	2	0	0
CINCINNATI	42	32	43	16	37	3								96	65	0	0	2	3	1	0
CLEVELAND	40	31	44	20	36	4								89	62	0	0	2	2	0	0
COLUMBUS	43	32	49	15	38	7								95	61	0	0	3	2	0	0
DAYTON	41	31	46	17	36	4								91	67	0	0	2	3	0	0

Based on 1961-90 normals.

Weather Data for the Week Ending December 18, 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 Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
TOLEDO	41	29	46	13	35	7	.1	-.6	.1	.7	38	29.3	92	93	68	0	3	1	0
YOUNGSTOWN	40	27	46	18	34	4	.3	-.4	.2	1.8	98	36.0	99	91	63	0	3	1	0
OK OKLAHOMA CITY	47	34	60	28	41	1	.9	-.5	.7	1.3	146	32.9	100	88	63	0	3	1	0
TULSA	47	35	55	30	41	2	.9	-.4	.5	1.8	129	39.2	99	93	65	0	3	1	0
OR ASTORIA	47	36	51	29	42	0	.3	-2.1	.2	8.0	129	51.3	83	98	76	0	2	1	0
BURNS	34	23	39	16	28	3	.3	-1.3	.8	.8	122	9.4	99	86	59	0	7	7	0
MEDFORD	47	28	55	20	37	0	.3	-1.7	.7	2.3	117	16.5	94	98	65	0	6	6	0
PENDLETON	40	32	48	28	36	2	1.1	-1.3	.7	.7	68	13.6	119	95	57	0	2	2	0
PORTLAND	49	37	52	28	43	2	.3	-1.1	.1	4.4	123	29.8	88	98	64	0	2	2	0
SALEM	47	35	51	22	41	1	.3	-1.1	.1	4.4	123	29.8	88	98	64	0	2	2	0
PA ALLENTOWN	45	26	52	18	36	4	.2	-1.3	.2	6.2	154	33.9	93	96	67	0	6	6	0
ERIE	40	28	43	22	34	2	.2	-.6	.2	3.6	173	51.6	123	86	56	0	6	6	0
HARRISBURG	45	32	50	24	38	5	1.1	-.7	.1	1.6	70	36.8	92	82	56	0	2	2	0
PHILADELPHIA	48	34	53	24	41	7	1.1	-.7	.1	3.2	162	47.6	122	75	51	0	5	5	0
PITTSBURGH	42	31	47	20	36	5	.2	-.4	.1	2.6	121	41.1	93	82	46	0	3	3	0
SCRANTON	41	24	47	16	32	2	.2	-.4	.1	1.4	82	37.5	105	89	55	0	3	3	0
RI PROVIDENCE	43	30	47	23	37	4	.4	-.4	.1	1.7	110	38.2	108	92	59	0	5	5	0
SC CHARLESTON	57	36	67	27	47	4	.7	-.7	.7	3.9	152	40.4	92	86	54	0	6	6	0
COLUMBIA	55	32	63	22	44	-3	.4	-.4	.7	1.3	77	51.7	103	95	46	0	2	2	1
FLORENCE	55	35	62	26	45	-2	.9	-.4	.4	1.3	64	37.9	78	96	49	0	4	4	1
GREENVILLE	51	33	62	25	42	-1	.7	-.9	.6	1.4	81	32.4	76	87	42	0	2	2	1
SD ABERDEEN	33	26	39	19	30	14	1.1	-.0	.1	2.1	87	38.4	78	91	44	0	2	3	3
BURON	35	26	44	19	31	12	.2	-.1	.1	.2	63	27.8	133	93	71	0	7	7	0
RAPID CITY	36	23	41	9	29	5	.2	-.1	.1	.3	104	29.6	149	94	75	0	7	7	0
STOICK FALLS	37	28	47	24	32	14	.1	-.1	.1	.3	100	19.6	119	96	66	0	6	6	0
TN CHATTANOOGA	53	37	60	26	45	3	.6	-.6	.4	3.4	112	38.2	74	93	51	0	2	4	0
KNOXVILLE	48	36	56	21	42	2	.3	-.7	.2	6.2	235	44.2	98	94	64	0	2	3	0
MEMPHIS	57	40	56	31	45	2	.8	-.5	.7	4.4	128	42.8	86	92	60	0	2	2	1
NASHVILLE	47	37	58	22	42	2	.9	-.2	.7	5.2	190	42.7	94	93	60	0	1	3	1
TX ARLINGEN	58	36	67	25	47	2	.8	-.2	.5	.5	82	18.4	77	86	36	0	2	1	0
AMARILLO	49	26	70	20	38	1	.8	-.7	.7	.8	296	18.1	94	95	36	0	5	2	1
AUSTIN	63	46	69	39	55	3	.4	-.1	.2	.5	45	25.9	83	90	48	0	4	4	0
BRAUNMONT	63	45	73	37	54	0	.3	-.8	.2	1.2	43	66.4	120	89	51	0	0	2	0
BROWNSVILLE	78	57	85	44	68	6	.7	-.4	.4	.7	96	25.7	98	92	51	0	0	2	0
CORPUS CHRISTI	74	53	81	37	63	5	4.4	4.1	3.8	4.4	620	37.3	126	89	42	0	0	2	2
DEL RIO	70	47	74	35	58	6	.1	-.2	.0	.1	11	14.3	59	76	34	0	0	2	0
EL PASO	62	33	69	25	48	4	.8	-.1	.8	.3	8.9	103	63	19	0	3	1	0	
FORT WORTH	56	39	61	32	47	2	.6	-.2	.6	2.3	182	32.5	89	94	52	0	1	1	0
GALVESTON	65	54	74	48	59	3	.3	-.5	.2	.6	28	45.3	111	79	47	0	0	2	0
HOUSTON	62	45	72	35	54	1	.6	-.5	.4	2.1	70	57.4	110	92	54	0	0	3	0
LUBBOCK	56	28	73	22	42	2	.3	-.1	.3	.3	100	12.7	69	93	35	0	6	1	0
MIDLAND	63	31	72	25	47	1	.1	-.1	.1	.1	18	16.1	108	91	28	0	5	1	0
SAN ANGELO	64	36	67	23	50	4	.8	-.1	.1	.2	43	15.1	75	93	32	0	2	1	0
SAN ANTONIO	65	44	73	33	55	3	.2	-.2	.1	.3	30	31.9	105	84	41	0	0	3	0
VICTORIA	69	47	78	36	58	3	1.6	.9	1.4	3.1	180	50.5	114	90	47	0	0	3	1
WACO	56	39	61	31	48	-1	.6	-.2	.6	.9	77	31.2	100	95	58	0	2	2	1
WICHITA FALLS	53	34	67	27	44	1	.8	-.4	.4	1.6	175	28.3	91	96	56	0	4	0	0
UT CEDAR CITY	40	15	50	8	28	-2	.2	-.1	.2	.3	59	10.1	90	94	45	0	7	2	0
SALT LAKE CITY	40	21	52	15	30	1	.7	-.4	.6	.8	88	18.8	119	95	62	0	7	2	1
VT BURLINGTON	33	16	37	9	24	1	.8	-.5	.7	.8	53	33.6	100	90	55	0	7	1	0
VA NORFOLK	48	35	52	26	41	-2	1.5	-.8	1.2	2.2	121	34.9	81	87	55	0	3	3	1
RICEMOND	49	32	54	24	41	0	.9	-.2	.7	1.9	98	40.3	96	90	29	0	4	3	1
ROANOKE	46	29	55	21	37	-1	.8	-.1	.8	4.3	243	38.7	97	86	54	0	4	3	1
WA QUILLAYUTE	46	36	49	27	41	1	1.8	-1.7	.8	9.7	108	66.7	68	98	83	0	3	3	2
SEATTLE-TACOMA	47	36	52	27	41	1	.5	-.9	.3	3.9	113	27.8	80	95	73	0	3	3	0
SPOKANE	33	27	39	24	30	3	.1	-.5	.1	1.6	112	13.4	87	96	79	0	7	2	0
YAKIMA	41	29	48	22	35	5	.1	-.2	.1	1.0	120	6.3	86	96	69	0	6	1	0
WV BECKLEY	40	28	45	13	34	0	.7	-.0	.6	3.1	162	38.8	98	87	62	0	5	3	1
CHARLESTON	46	32	54	17	39	2	.3	-.5	.2	2.2	106	40.6	99	90	60	0	2	4	0
HUNTINGTON	44	32	49	17	38	3	.5	-.3	.4	2.2	105	41.1	98	95	63	0	2	3	0
PARKERSBURG	44	31	48	18	37	2	.1	-.5	.1	1.3	80	36.7	93	90	58	0	3	1	0
WI GREEN BAY	41	32	45	19	36	16	.1	-.2	.1	.4	39	33.7	119	91	64	0	2	1	0
LACROSSE	42	31	50	26	37	17	.8	-.3	.7	.8	3	40.9	136	83	54	0	3	0	0
MADISON	41	33	46	22	37	15	.2	-.2	.1	.3	26	43.3	137	89	67	0	1	3	0
MILWAUKEE	43	36	47	23	40	15	.1	-.4	.1	.7	46	36.8	115	89	63	0	1	2	0
WAUSAU	38	30	47	21	34	17	.2	-.2	.1	.5	57	36.3	112	89	57	0	5	2	0
WY CASPER	34	18	50	2	26	2	.3	-.2	.3	.4	95	15.6	128	88	54	0	7	3	0
CHEYENNE	38	19	53	10	28	1	.2	-.1	.1	.2	65	18.8	132	91	42	0	7	3	0
LANDER	33	14	42	2	23	3	.1	-.0	.1	.1	31	16.3	127	83	49	0	7	1	0
SHERIDAN	40	19	49	12	29	7	.8	-.2	.8	.8	2	16.8	118	95	50	0	7	0	0

Based on 1961-90 normals.

## HEATING DEGREE DAYS (Base 65° F)

December 12 - 18, 1993

(Cumulative totals and departures from normal are for the period July 1 - December 18, 1993)

STATES AND STATIONS	WEEKLY		CUMULATIVE		STATES AND STATIONS	WEEKLY		CUMULATIVE		STATES AND STATIONS	WEEKLY		CUMULATIVE				
	TOTAL	DEPARTURE	TOTAL	DEPARTURE		TOTAL	DEPARTURE	TOTAL	DEPARTURE		TOTAL	DEPARTURE	TOTAL	DEPARTURE	DEP from '92		
AL BIRMINGHAM	152	15	876	26	-32	LA BATON ROUGE	116	29	607	152	96	TULSA	166	-17	1284	228	74
HUNTSVILLE	156	1	1003	35	-23	LAKE CHARLES	92	6	472	42	-9	OR ASTORIA	160	0	1900	77	22
MOBILE	124	39	559	105	50	NEW ORLEANS	115	36	488	96	77	EUGENE	174	6	1635	127	179
MONTGOMERY	133	25	718	86	22	SHREVEPORT	115	-9	744	131	-4	MEDFORD	192	0	1504	-34	196
AK ANCHORAGE	287	-54	3538	-558	-597	ME BANGOR	240	-55	2322	-58	-196	NORTH BEND	141	8	1672	58	190
BARRON	565	29	6789	-835	-871	PORTLAND	213	-57	2100	-96	-168	PENDLETON	199	-17	1821	5	-50
BETHEL	422	25	4244	-585	-801	MD BALTIMORE	180	-18	1332	4	-57	PORTLAND	156	-18	1372	-119	-30
COLD BAY	222	-16	3325	-370	-534	MA BOSTON	201	-20	1541	21	-190	REDMOND	225	-8	2547	201	161
FAIRBANKS	492	-8	4888	-459	-655	MI ALPENA	223	-66	2564	57	-166	SALEM	165	-10	1493	-150	39
JUNEAU	212	-52	2768	-652	-423	DETROIT	195	-62	1776	-145	-175	PA ALLENTOWN	203	-30	1674	-9	-146
KING SALMON	329	-16	3636	-725	-837	FLINT	211	-55	2234	181	70	BRADFORD	252	-30	2436	-113	-106
KOTZEBUE	456	-9	5231	-416	-726	GRAND RAPIDS	205	-61	2161	59	-28	KRIE	218	-17	1795	103	20
MCGRATH	473	-24	4774	-716	-778	LANSING	206	-65	2209	80	-88	PHILADELPHIA	166	-38	1120	-245	-213
NOME	389	-18	4745	-458	-966	MUSKOGON	193	-63	2108	91	-46	PITTSBURGH	198	-37	1661	-104	-167
ST PAUL ISLAND	271	19	3718	-456	-645	TRAVLERSE CITY	196	-82	2213	-56	-225	SCRANTON	226	-19	1873	27	-28
YAKUTAT	244	-21	3121	-532	-511	MN DULUTH	232	-134	3285	129	-5	WILLIAMSPORT	217	-21	1844	47	40
AZ FLAGSTAFF	276	27	2302	-49	-28	INT'L FALLS	263	-143	3484	70	22	RI PROVIDENCE	196	-30	1614	-19	-95
PHOENIX	73	-5	257	-78	-77	MINNEAPOLIS	207	-123	2533	74	35	SC CHARLESTON	126	30	507	-35	-64
TUCSON	96	3	371	-65	-159	ROCHESTER	213	-123	2647	96	-91	COLUMBIA	146	19	777	7	-83
AR FORT SMITH	156	-18	1085	88	40	MS JACKSON	144	24	851	154	127	GREENVILLE	159	7	1019	68	-141
LITTLE ROCK	146	-14	1012	96	58	MERIDIAN	126	10	723	17	13	SD ABERDEEN	247	-102	2710	27	-65
CA FRESNO	143	5	626	-145	-15	MO COLUMBIA	183	-50	1677	150	39	HURON	239	-90	2625	125	13
LOS ANGELES	71	15	189	-137	-36	KANSAS CITY	186	-57	1698	112	33	PIERRE	248	-62	2488	165	56
SACRAMENTO	145	6	720	-63	41	SAINT LOUIS	158	-61	1367	20	-22	RAPID CITY	249	-38	2366	-16	-132
SAN DIEGO	68	12	243	-31	04	SPRINGFIELD	190	-18	1508	142	96	STOIX FALLS	227	-101	2534	67	20
SAN FRANCISCO	114	4	659	-289	44	MT BILLINGS	237	-40	2447	69	96	TX BRISTOL	169	-18	1294	-25	-132
CO COLORADO SPRINGS	240	-8	2249	160	62	GLASGOW	276	-74	2998	122	240	CHATTANOOGA	141	-26	947	-89	-170
DENVER	227	-12	2040	93	-59	GREAT FALLS	235	-53	2934	317	249	KNOXVILLE	158	-16	1149	-17	-70
GRAND JUNCTION	241	-13	1907	162	124	HAVRE	258	-75	2961	94	91	MEMPHIS	135	-14	914	37	-22
CT HARTFORD	205	-45	1845	50	-125	HELENA	253	-55	2976	172	174	NASHVILLE	158	-13	1149	71	35
DE WILMINGTON	179	-25	1289	-87	-139	KALISPELL	266	-31	3153	86	147	TX ABILENE	125	-12	881	156	106
DC WASHINGTON	175	-5	1135	41	-136	MISSOULA	247	-45	2880	79	22	AMARILLO	190	-8	1514	207	-38
FL DAYTONA BEACH	79	31	202	12	18	NE GRAND ISLAND	216	-62	2077	59	-104	AUSTIN	72	-24	475	56	-4
FORT MYERS	33	10	56	-17	04	NORTH PLATTE	245	-41	2294	56	-72	BROWNSVILLE	9	-31	159	21	07
JACKSONVILLE	99	25	356	2	-18	OMAHA	211	-75	2039	91	30	CORPUS CHRISTI	28	-33	238	7	-15
KEY WEST	5	-1	5	-1	02	SCOTTSDUFF	270	-3	2457	259	-32	DALLAS FT WORTH	122	-8	768	138	75
MIAMI	15	8	19	-5	06	NV ELKO	277	0	2878	485	149	EL PASO	120	-27	784	-39	-160
ORLANDO	60	25	140	3	08	ELY	323	46	2879	320	378	HOUSTON	79	-9	474	62	-9
PENSACOLA	99	15	423	2	16	LAS VEGAS	144	7	723	28	-13	LUBBOCK	156	-16	1159	115	59
TALLAHASSEE	115	26	461	-2	20	RENO	203	-25	1595	-365	-74	LUFKIN	100	-4	658	126	-31
TAMPA	52	11	135	-25	-1	WINNEMUCCA	237	-11	2200	27	92	MIDLAND ODESSA	126	-17	920	79	41
WEST PALM BEACH	31	15	44	-6	08	NH CONCORD	228	-57	2291	-20	-159	SAN ANGELO	104	-30	758	63	53
GA ATHENS	147	8	876	49	-89	NJ ATLANTIC CITY	189	-15	1476	29	-74	SAN ANTONIO	70	-21	479	50	12
ATLANTA	138	-6	777	-82	-151	NEWARK	181	-22	1239	-57	-76	VICTORIA	47	-25	365	37	05
AUGUSTA	140	16	696	-43	-88	NM ALBUQUERQUE	199	-9	1391	-21	-93	WACO	120	2	773	213	147
MACON	138	23	743	72	-23	NY ALBANY	254	-17	2074	50	-123	WICHITA FALLS	148	-8	1050	183	152
SAVANNAH	114	20	469	-36	-58	BINGHAMTON	254	-17	2308	115	-166	UT CEDAR CITY	257	15	1935	26	28
ID BOISE	224	-22	2013	55	-78	BUFFALO	220	-32	1995	64	-85	SALT LAKE CITY	242	-7	1915	100	-27
POCATELLO	284	1	2701	338	161	MASSENA	263	-52	2321	-180	-262	VT BURLINGTON	284	-10	2268	-59	-114
IL CHICAGO	186	-83	1958	63	-101	NEW YORK	181	-18	1193	-93	-182	VA LYNCHBURG	177	-9	1229	-42	-99
MOLINE	190	-89	1922	32	-131	ROCHESTER	239	-13	2078	120	-141	NORFOLK	164	16	852	-56	-65
PEORIA	184	-83	1784	16	-74	SYRACUSE	267	10	2102	124	-63	RICHMOND	169	-5	1052	-85	-146
ROCKFORD	199	-88	2090	42	-147	NC ASHEVILLE	191	12	1359	35	-69	ROANOKE	193	6	1324	23	-96
SPRINGFIELD	175	-72	1682	58	59	CAPE HATTERAS	132	20	429	-196	-143	WA OLYMPIA	170	-19	1873	-170	44
IN EVANSVILLE	166	-42	1355	-10	19	CHARLOTTE	153	-5	881	-54	-102	QUILLAYUTE	165	-10	2073	-73	16
FORT WAYNE	191	-63	1781	-26	-124	GREENSBORO	167	-5	1128	7	-140	SEATTLE TACOMA	162	-11	1609	-71	45
INDIANAPOLIS	188	-50	1702	69	26	RALEIGH DUREHAM	169	12	996	7	-76	SPOKANE	241	-20	2490	82	31
SOUTH BEND	194	-58	1937	92	-11	WILMINGTON	142	26	589	-44	-117	YAKIMA	210	-38	2213	113	68
IA DES MOINES	189	-97	2019	95	-43	ND BISMARCK	271	-86	2993	78	35	WV BECKLEY	215	-2	1601	-122	-125
MASON CITY	208	-120	2475	65	-95	FARGO	244	-131	2895	-32	-83	CHARLESTON	182	-14	1324	-38	-139
SIoux CITY	221	-82	2293	164	39	MINOT	279	-80	3099	96	25	HUNTINGTON	185	-12	1330	-54	-95
WATERLOO	202	-112	2167	-107	-163	WILLISTON	269	-95	3188	136	97	WI EAU CLAIRE	210	-127	2652	74	79
KS CONCORDIA	200	-48	1767	113	-125	OH AKRON CANTON	213	-27	1858	72	-134	GREEN BAY	199	-115	2392	-67	-165
DODGE CITY	198	-30	1748	244	-149	CLEVELAND	205	-33	1749	4	-113	MADISON	194	-109	2229	-115	-143
GOODLAND	238	-12	2140	211	-94	COLUMBUS	190	-41	1557	-120	-132	MILWAUKEE	176	-109	1846	-285	-282
RUSSELL	200	-40	1735	130	-96	CINCINNATI	196	-24	1582	50	-55	WY CASPER	271	-19	2450	-102	-2
TOPEKA	190	-50	1694	113	39	DAYTON	203	-30	1701	39	-73	CHEYENNE	255	-6	2696	265	163
WICHITA	184	-41	1513	108	25	TOLEDO	206	-54	1891	-52	-44	LANDEER	291	-20	2787	141	98
KY LEXINGTON	184	-19	1419	23	-39	YOUNGSTOWN	216	-33	1929	12	-144	ROCK SPRINGS	312	5	3126	287	190
LOUISVILLE	172	-24	1326	26	68	OK OKLAHOMA CITY	169	-12	1267	219	114	SHERIDAN	248	-50	2767	124	64

Based on 1961-90 normals.

# National Agricultural Summary

December 13 - 19, 1993

**HIGHLIGHTS:** Fieldwork was slowed in the South and Southeast by an early-week storm that dropped rain from the Gulf States to the eastern seaboard. Precipitation early in the week also hindered fieldwork along the Pacific Coast. Snow cover for fall-planted small grains was replenished in some areas as a mid-week storm brought snow from the central Plains to parts of the upper Great Lakes. Livestock across much of the Nation benefited from this week's above-normal temperatures. Temperatures in the Southeast and Southwest averaged 3 to 6 degrees below normal, increasing the need for supplemental feeding in areas of the Southwest and slowing the growth of small grains in the Southeast.

**SMALL GRAINS:** Above-normal temperatures caused winter wheat snow cover to mostly disappear in many areas of Washington. Snow across the upper Great Plains at midweek replenished the snow cover there. In North Dakota, the snow depth was adequate to provide protection. Small grain fields from eastern Texas to the lower Mississippi Valley needed more sunshine to promote growth. Land preparation in the Southeast continued to make good progress. However, the cool conditions slowed growth of fields already emerged. Dryland wheat and small grain fields in New Mexico, parts of Oklahoma, and southern Texas needed more rain. In the Midwest, the crop was in mostly good condition. However, ponding was reported in some fields of Indiana. Greenbug problems were reported in some Texas grain fields.

**COTTON:** Cotton harvest in the Texas High Plains neared completion. In the Texas Low Plains, just a few fields remained to be harvested. Harvest clean-up activities were active in the South, Southwest, and California.

**OTHER FIELD CROPS:** The soybean harvest reached completion in the Southeast. Onion planting advanced in Georgia and California. A shortage of onion plants in Georgia caused concern. In Texas, onion fields were cultivated. This week's conditions allowed the onion crop in the Rio Grande Valley to make good progress. The sugarcane harvest was active in Louisiana, Texas, and Florida. The peanut harvest neared completion in Texas. Some wind erosion occurred on harvested fields in the Texas Low Plains. Cold weather slowed the potato harvest in the Coachella Valley of California.

**FRUITS AND NUTS:** Citrus harvests advanced in Arizona, California, Florida, and Texas. Good colored fruit was harvested

in California and Florida. Wet weather in California hindered weed control and pruning activities in some orchards. Fruit tree pruning was active in Washington. Late-season fertilizers were applied to Washington orchards where the ground was not frozen and not snow covered. Dry conditions slowed tree growth in Florida. Irrigation was active in all Florida fruit-producing areas. The pecan harvest continued across the Southeast, South, and Southwest. In Mississippi, harvest progress was behind last year and average. The harvest was near completion in Florida. Wet conditions delayed harvest activities in the Texas Blacklands.

**VEGETABLES:** The vegetable harvest advanced in California, Florida, Texas, and Arizona. Rain again hindered field activities in northern and central California. Cooler weather slowed vegetable growth in Florida. Dry conditions in Florida caused many vegetable producers to irrigate their fields. Slight wind damage occurred to some vegetables growing in the Homestead, Florida area. Favorable growing conditions over the Texas vegetable areas allowed the crops to make good progress. In California, the planting of spring vegetables was active.

**PASTURE AND LIVESTOCK:** Mild conditions allowed most livestock producers to continue supplemental feeding at a reduced rate. Pasture feed conditions remained generally fair to good across the Nation. However, some pastures in Texas and the South could use more sunshine and warm weather to boost growth. Nationally, hay supplies were generally adequate, although supplies were reported tight in some areas of Texas, Georgia, Tennessee, and Illinois. Livestock were in mostly good condition across the Nation. Muddy feedlots were a concern for some producers in the Midwest. Lice and tick infestation occurred in some herds in Texas.

## 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 0.35 to 1.67 in. north; 0.73 to 1.46 in. central; 0.59 to 2.38 in. south. Temperatures 4° below normal to 3° above normal north; 3° below normal to 1° above normal central; 5° below normal to 1° above normal south. Lows 24 to 38° north; 26 to 38° central; 29 to 37° south. Highs 54 to 59° north; 52 to 60° central; 60 to 69° south.

Activities: Cultivating fields; care of livestock, poultry, catfish.

**ARIZONA:** Below normal temperatures. Temperatures varied 4° below normal to normal. Extremes -1°; 66° higher elevations; 21°; 75° deserts. Scattered rain, snow above 5,000 feet, midweek.

Limited cotton harvest continues. Stalk shredding, plow down active central, eastern areas. Small grains field preparations active. Small grain seeded 77%, 69% 1992, 68% avg.; established 59%,

48% 1992, 46% avg. Alfalfa good. Harvest active. Sheeping off activities mostly light. Grapefruit, navel oranges, lemons available central, western areas. Tangerines, tangelos, sweet oranges also available central area. Vegetable harvest active. Available from western area: Iceberg, Boston, leaf, romaine, broccoli, cabbage, spinach, celery, endive, escarole. Central crops available included: mixed greens, leeks, green onions, radishes, rapini, rutabagas. Apples, pecans available eastern areas. Potato harvest near complete.

**ARKANSAS:** Temperatures near normal. Rainfall first part of week. Extremes 21°; 64°. Rainfall 0.67 to 1.41 in.

Days suitable for fieldwork 3. Soil moisture supplies adequate to surplus. Wheat conditions fair to good, needs sunshine, dry weather. Activities: Marketing calves; working cattle; poultry house

maintenance. Cotton gins were cleaning up modules, starting to close down. Livestock good. Producers feeding hay, supplies adequate. Pastures good.

**CALIFORNIA:** Pacific weather system brought measurable precipitation most of State early week. Valley fog developed central valley.

Scattered rainfall, widespread fog prevailed. Field activities delayed. Precipitation assisted germination, emergence small grains, winter forage. Winter wheat good, excellent. Planting, field preparation fall, winter crops continued. Alfalfa planting progressed scattered areas. Cotton harvest wound down. Producers shredding, discing harvested acres comply plow down pink bollworm control. Milo harvest winding down. 1994 sugarbeets growing well. Pruning, weed control, replanting, slowed by wet weather. Avocado picking continued in southern areas. Central valley Navel orange harvest active with good color and quality. Lemon, grapefruit, tangerine picking active. Harvest broccoli, cabbage continued central valley. Carrot harvest completed Coachella Valley. Cauliflower harvest nearing completion Tulare County. Along central coast, broccoli, celery harvests were light, 1994 Spring broccoli being planted. Riverside County head lettuce harvest continued, while fall head lettuce harvest winding down central valley. Fresno County reported 1994 Spring lettuce crop up, maturing. Onions planted Riverside County. Winter potato harvest Coachella Valley slowed cold temperatures. Rain delayed field activities San Joaquin, other northern valley counties. Other crops harvested: eggplant, cabbage, snap beans, sweet potatoes, okra, squash, peppers. Range, pastures turning green, more moisture fell. Cattle moved to foothills. Stock ponds starting to fill. Newborn calves good condition. Sheep grazing alfalfa.

**COLORADO:** Temperatures dropped 15 to 20°, as colder air settled in over the State. There were a couple of storms. 1st storm on the 15th, 16th dumped heavy snow in the southwest mountains, locally heavy snow in the northern mountains. Other areas received light snow from this storm. Late on the 19th another storm dropped light snow in the mountains, northeast part of the State. Southeast region was the driest part of the State through the week.

Precipitation was still light on the eastern winter wheat growing region. Snowcover would reduce the risk of wind erosion. No wind erosion problems reported so far. Care of livestock major activity.

**FLORIDA:** Temperatures 1 to 7° below normal. Highs; 60s Panhandle, 70s Peninsula except low 80s southeast coast. Lows; 30s north, inland central; 40s along central coast, south. Rain 1 to 2 days during week, most locations reporting amounts 1.00 in. or less below normal. Rain totals generally less than 0.20 in. Peninsula, between 0.40 to 2.40 in. Panhandle.

Soil moisture short to adequate throughout State. Sugarcane harvesting, planting active. Small grain planting virtually complete. Pecan harvest winding down. Citrus groves very good condition. Moisture short, irrigation all areas. Tree growth slowed. Good on-tree early fruit color. Early orange harvest increasing. Several juice plants running 2, 3 shifts. Grapefruit movement very active for process, fresh use. Dancy, early tangerine harvest very active for Christmas trade. Tangelos being utilized for both fresh, processing. Caretakers cutting cover crops, preparing young trees for winter. Vegetable crops in good condition; however cooler weather has slowed crop growth. Weather dry except for showers southwest. Irrigation active. Slight wind damage to tomatoes, strawberry plants at Homestead. Volume leaders; tomatoes, peppers, squash, cucumbers, snap beans. Also available; cabbage, chinese cabbage, carrots, sweet corn, celery, iceberg, specialty lettuces, radishes, strawberries, cherry tomatoes, watermelons. Pasture feed 15% poor, 55% fair, 30% good. Cattle herds mostly fair to good.

**GEORGIA:** Temperatures within 1 to 2° normal. Warmest upper 50s mountains to upper 60s extreme south. Coldest mid to upper

20s mountains to mostly low to mid 30s elsewhere. Rainfall 0.50 in. or less, local totals near 1.00 in. Rain 2 to 4 days northern areas, 1 or 2 days central, south.

Soil moisture short north, adequate rest of State. Land preparation underway for spring planting except extreme north. Field activity slowed some due to showers, cooler temperatures. Soybean harvest nearing completion. Pecan harvest good progress. Cotton harvest nearing completion many areas. Small grains good, seeding complete north, ahead of average most other areas. Disease problems slowing growth some small grains southern areas. Topdressing small grains just starting extreme southern areas. Onions good, planting proceeding well but shortage of plants causing concern. Tobacco plants good. Pastures poor to fair, concern over winter forage supplies increasing. Cattle, hogs good.

**HAWAII:** Winter storm brought 6 in. snowfall to peaks Mauna Kea, Mauna Loa, Hawaii island on 19th. Rainfall variable causing some road closures on Maui, Hawaii islands. Rains varied from none to 12.90 in. Temperatures high 50s to low 80s.

Cool, wet conditions unfavorable for crop growth. Farming activities delayed or interrupted from rains, muddy fields. Cavendish banana production near last week's level. Papaya output high but will seasonally decline. Tomato picking heavy.

**IDAHO:** Temperatures 5° above to 3° below normal. Precipitation none to 0.25 in. north, none to 0.20 in. southwest, none to 0.18 in. south central, none to 0.31 in. east. State low -6° at Fairfield.

Soil moisture adequate. Hay, roughage supplies adequate. Activities: Marketing, educational meetings, shop activities, livestock care. Livestock reported in good condition.

**ILLINOIS:** First half of December was mild with temperatures 4 to 8° above normal. Highs 40 to 50°. Lows upper 20s to upper 30s. Precipitation was less than 1.00 in. north, over 1.00 in. most of the south, 2.00 in. southern tip of the State.

Winter wheat 1% excellent, 31% good, 38% fair, 30% poor. Farmers reported many acres of winter wheat were not planted due to excess soil moisture. Muddy feedlots were also a major concern for farmers, in addition to hay supplies which were mostly adequate to short throughout the State. Soil moisture 25% adequate, 75% surplus.

**INDIANA:** Cloudy week. Temperatures 8 to 12° above normal north, 4 to 6° above normal south. Highs varied in the low to mid 40s. Mean lows, low to upper 30s. Rainfall was seasonable central, south with below normal amounts northeast. Overall amounts varied from 0.25 to 0.75 in.

Rainy weather continued. Corn harvest, plowing isolated areas. Soils remain wet most areas. Wheat mostly good, ponds some fields. Hay supplies adequate. Pastures, feedlots wet. Livestock, mostly good condition. Other activities: Selling grain, hauling manure, tax preparation, machinery maintenance, farm meetings, purchasing supplies, stripping tobacco.

**IOWA:** Wet week, temperatures 7 to 15° above normal. Extremes 19°, 48°. Snowfall 3 to 8 in. northwest (13th). Persistent light rain or drizzle statewide remainder of week. Precipitation 0.26 in. Ottumwa (southeast) to 1.19 in. Galva (west-central); average 0.51 in. (normal 0.24 in.).

Fall weather has been very good for livestock producers.

**KANSAS:** It was another warm week across State. All districts were above normal. Warmest district was the northeast region with 6° above normal. It was the coolest in the southeast, south central districts with 3° above normal. Elsewhere, temperatures 4 to 5° above normal. Temperatures continued above seasonal levels across State. Temperatures upper 30s, slightly below last week's levels but above normal. Precipitation ranged from 0.13 in. southwest to just over an inch in the north central, northeastern districts.

Little or no damage to the wheat crop would be expected at these levels. Livestock continue to do much better than a year ago.

**KENTUCKY:** Dry, mild weather. Daytime highs upper 40s, lows upper 30s. Highs near normal, lows almost 10° below mean. Rainfall light, around 0.50 in., about 0.50 in. below normal.

Soil moisture mostly adequate. Kentucky burley sales reached 336.3 million lbs. thru Dec. 16. Price \$182.90 per cwt. Market closed for holidays, sales resume Jan 4. For the tobacco belt, around 75% of this year's estimated production has been sold, with 33.1% going to the pool. Pastures limited. Livestock satisfactory, some supplemental feeding.

**LOUISIANA:** Temperatures 5.7° below to 0.4° above normal. Extremes 28°; 71°. Rainfall 0.66 in. north central to 1.45 in. east central.

Fieldwork was slightly delayed because of rain early in the week. North: topdressing winter pasture, managing cattle herds, shredding cotton stalks, performing maintenance on fences, machinery. South: sugarcane harvest continues, winter wheat planting near complete, equipment repair active, cattlemen managing herds, crawfish harvest active.

**MARYLAND & DELAWARE:** MARYLAND: Precipitation 0.52 in., normal 0.77 in. Temperature 38.4°, normal 35.6°. Extremes 12°; 57°.

Activities: Attending meetings. Caring for livestock.

DELAWARE: Precipitation 0.54 in., normal 0.86 in. Temperature 39.0°, normal 37.1°. Extremes 21°; 53°.

Activities: Attending meetings. Caring for livestock.

**MICHIGAN:** Extremes 17°; 50°. Precipitation none to 0.27 in.

Corn harvest was virtually complete. Major activities included cutting wood, getting ready for Christmas, pruning orchards, repairing machinery, spreading manure.

**MINNESOTA:** Temperatures 14 to 20° above normal for the State. Extremes 11°; 50°. Precipitation 0.05 in. below normal for the north central, near normal to 0.42 in. above normal elsewhere. Precipitation 0.13 to 0.69 in. for the State. Greatest weekly precipitation 0.81 in. Snowfall 1 to 4 in. for the State. Snow depth at weekend averaged less than 1 in. for the southern third of the State, 5 to 10 in. elsewhere.

Last week brought unseasonably mild temperatures to the State. Such weather eases the burden livestock producers face this winter with the poor quality of feed available.

**MISSISSIPPI:** Temperature 45°, 1.3° below normal. Extremes 19°; 74°. Most areas across the State received near normal precipitation. State 1.23 in., 0.15 below normal. Soil temperatures 47°.

Days suitable for fieldwork 1.8, 1.3 1992, 2.5 avg. Soil moisture 13% adequate, 87% surplus. Hay supply 13% short, 87% adequate. Feed grain 13% short, 87% adequate. Pecans 89% harvested, 95% 1992, 95% avg.; 30% poor, 70% fair. Livestock 18% fair, 75% good, 7% excellent. Pasture feed 84% of normal.

**MISSOURI:** Temperatures above normal; varied from 3° above normal southwest to 11° above normal northeast. Average precipitation 0.74 in., ranging from 0.44 in. southwest to 0.95 in. northwest.

Farmers mostly doing chores, preparing for the Christmas holiday.

**MONTANA:** Temperatures above normal, except southwest 2 to 6° below normal. Precipitation light to very light statewide.

Protectiveness of snowcover for winter wheat is poor to fair. Winter wheat fair to mostly good. Grazing is mostly open with over half the livestock receiving some supplemental feed.

**NEBRASKA:** Temperatures varied across the State with the western section near normal while the rest of State was up to 10° above normal. Less than a tenth of an inch precipitation fell in the north to an inch east.

Producer activities included machinery repair/winterizing, livestock care.

**NEVADA:** Widespread precipitation 14th, up to 0.75 in. central areas, 0.46 in. extreme south. Temperatures slightly above normal west to slightly below remainder of state. Extremes -9°; 63°.

Livestock good, feeding requirements greater due to cooler weather. Major activities, general maintenance, care, feeding of livestock.

**NEW ENGLAND:** Precipitation none to 0.77 in. regionwide. Temperatures 23 to 33° north; 27 to 38° south. Maximum temperatures 37 to 48° north; 42 to 52° south. Minimum temperatures 1 to 19° north; 4 to 23° south.

Farm activities: Caring for livestock. Selling Christmas trees.

**NEW JERSEY:** Temperatures were above normal, 36° north, 39° south, 41° coastal. Extremes 15°; 55°. Precipitation was below normal; 0.27 in. north, 0.19 in. south, 0.34 in. coastal. Heaviest 24 hour total 0.42 in. on 15th, 16th. Heaviest 24-hour snowfall 4 in. on the 18th, 19th. Snow on 20th 1 to 2 in. extreme north.

Farmers busy deer hunting, cutting, digging, selling Christmas trees, pruning fruit trees, caring for livestock.

**NEW MEXICO:** Temperatures generally below normal; extremes 1° north to 70° southeast. Very little precipitation, with totals ranging from none to 0.51 in.

Crop activities slowing. Pecan harvest near end. Cotton harvest complete except for a small amount of stripping. Dryland wheat in need of moisture. Supplemental feeding increasing on livestock operations.

**NEW YORK:** Temperatures slightly above normal. Mildest temperatures were along the coast. Extremes 5°; 50°. Precipitation was sparse, majority of areas received 0.25 in. or less. Isolated amounts of 0.50 in. Catskills, 1.00 in. Adirondacks.

Major activities: Caring for livestock, moving crops from storage, orchard maintenance, machinery repair, planning for upcoming year.

**NORTH CAROLINA:** Temperature extremes 20° (Asheville); 64° (Wilmington). Precipitation 0.24 in. at New Bern to 0.91 in. at Charlotte.

**NORTH DAKOTA:** Southern half of the State received 3 to 6 in. of snow while the northern half reported less than normal precipitation. Temperatures 8 to 14° above normal. Extremes 0° south central; 46° southwest.

Snowcover sufficient to protect fall-seeded crops in most areas. Grain marketing relatively normal. Cattle, sheep in good condition with few health problems reported. Feed, forage in good supply. Hazardous road conditions as melting snow re-froze at night.

**OHIO:** Sunshine was scarce as low pressure moved up the East Coast early in the week, another low pressure center crossed the State on the 18th, 19th. Precipitation was frequent in occurrence but was not great in amount; generally only 0.10 to 0.15 in. fell. Temperatures 4 to 10° above normal; nighttime temperatures 10 to 12° warmer than normal. Highs mostly 40 to 45° with lows generally in the 30s.

Livestock have benefited from warm temperatures, requiring less than normal amounts of roughage. Poinsettias have been moving rapidly with supply not keeping up with demand in some areas.

**OKLAHOMA:** Temperatures 3° below normal Panhandle to 1° above normal northeast. Precipitation none west central, southwest, southeast to 0.18 in. central.

Continued dry weather is inhibiting small grain plant development in the Panhandle where soil moisture is less than adequate. Feeder steers were steady to \$1.00 lower. Feeder heifers were steady to \$1.00 higher. Calves were steady to \$2.00 higher.

**OREGON:** Temperatures near normal. Precipitation 0.35 to 2.00 in. coastal areas, Coastal Range, 0.30 to 0.40 in. Willamette Valley, near 0.50 in. southwestern valleys, elsewhere less than 0.10 in.

Soil moisture mostly adequate. Winter orchard clean up continued. Livestock good to excellent. Supplemental feeding statewide.

**PENNSYLVANIA:** Mild week. Precipitation on 19th. Snow 4 to 6 in. north central, northeast regions. Temperature 36°, 4° above normal. Extremes 9°; 56°. Precipitation 0.24 in., 0.48 in. below normal.

Activities: Hauling manure; fixing fence; caring for livestock.

**PUERTO RICO:** Island rainfall 0.37 in. was 0.61 in. below normal. Highest rainfall, 3.11 in. at Villalba, 2.45 in. at Cerro Maravilla, 1.84 in. Juana Diaz. Highest 24 hour total 2.90 in. at Villalba on Dec. 14. Island temperatures 76 to 77° on Coasts, 72° Interior with mean station temperature 79.6° at San Juan WSFO to 61.8° Cerro Maravilla. Extremes 55°; 91°.

**SOUTH CAROLINA:** Temperatures across State 1 to 4° below normal. Average rainfall 0.60 in.

Land preparation, planting of small grains continued to make excellent progress, as moisture levels remained adequate. Overall small grains looked good as growth has began to slow down due to cold weather. Fall grazing looks good.

**SOUTH DAKOTA:** Temperatures about 5 to 15° above normal last week. Extremes -5°; 59°. Precipitation mainly in the form of snow occurred across most of the State last week. Extreme west-central areas received up to 1 foot of snow, while lesser amounts occurred across the rest of the State. Maximum 1.03 in.

Farm activities include: Livestock care, equipment maintenance.

**TENNESSEE:** Scattered light rains were reported across the State through the 15th. Mild, dry weather on the 16th, 17th was replaced by more scattered rains and cooler temperatures over the weekend. Temperatures averaged slightly above normal. Chattanooga had the greatest departure: 5° above normal. Elsewhere it was mainly 1 to 3° higher than normal. Abundant cloud cover kept temperatures from fluctuating widely as highs were mainly in the 40s to 50s, lows were in the 30s to low 40s. Precipitation 0.50 in. below normal across the State. Wettest place was Dyersburg which received 0.98 in. of rain, which was 0.13 in. below normal.

Farm activity has subsided considerably. Livestock chores, routine farm maintenance are the main activities. Warmer weather, light rains have helped keep the wheat crop in good condition. Cattle are in good. Feed supplies are expected to be tight throughout the winter, most producers have finished with fall culling.

**TEXAS:** Week began with strong winds across most of State, by midweek a pattern of warm days, cool nights returned. Most areas received minimal amounts of moisture, and were still in need of additional rain. Eastern half of State could use more sunshine to promote growth of small grains. Sugarcane, citrus harvest continued in Rio Grande Valley. Picking of gift fruit concluded last week with excellent size, quality being reported. Sugarbeet harvest continued in Northern High Plains. Supplemental feeding of cattle continued in most areas. Livestock remained in fair to good condition.

**Crops:** Cotton harvest neared completion High Plains as conditions allowed. In Low Plains, where few fields remained to be harvested, producers shredded stalks and plowed fields. Small grains in South Texas, oat stands continued to show signs of drought stress, some fields may have been lost from lack of rain. Last week's rain will help growth of small grains in High Plains, more moisture is needed. Greenbug infestations active in some fields in Low Plains. Producers were spraying some fields for greenbugs, winter grain mites in Cross Timbers. Fields in need of rain in Edwards Plateau. Wheat 66% normal, 67% 1992. Peanut harvest winding down, reports of below average dryland yields continued. High winds caused blowing dust from some harvested fields on Low Plains.

**Commercial Vegetables:** Rio Grande Valley harvest of broccoli, cabbage, early carrots, greens continued. Carrot, onion crops made good progress. East Texas winter vegetables made good progress. Some land preparation was completed for spring planting. High Plains land preparation continued for spring planting. San Antonio-

Winter Garden spinach crop made good progress. Trans-Pecos chili harvest winding down. Onion fields were cultivated. Fields along Rio Grande were irrigated. Pecan harvest delayed in Blacklands due to wet conditions. Reports of yields were mixed across State. Low prices may reduce quantity of native pecans that will be harvested.

**Range and Livestock:** Supplemental feeding continued across State. Livestock remained in fair to good condition. In Edwards Plateau, goats were being clipped and some ranchers were having to contend with lice and tick infestations on cattle. In South Texas, some ranchers were burning prickly pear to supplement the feeding of cattle. Southern Low Plains could use some warm temperatures, sunshine to promote growth of winter wheat pastures. Stocker cattle continued to be moved onto small grain pastures.

**UTAH:** Temperature maximums were normal, minimums 3° above normal. Precipitation was light to moderate across the entire State.

Major farm activities: Marketing hay, grains, onions; feeding, caring for livestock; shopwork.

**VIRGINIA:** Temperatures near normal. Extremes 10°; 59°. Most areas received about 0.75 in. of rain.

Days suitable for fieldwork 3.0. Topsoil 1% short, 61% adequate, 38% surplus. Soybeans harvested 95%, 90% 1992, 95% avg. Winter grains, grazing crops condition 2% poor, 32% fair, 62% good, 4% excellent. Forage from pastures, grazing crops dairy cattle 6%, beef cattle 26%, sheep 30%. Fixing fences, attending pesticide recertification meetings, marketing fire, burley tobacco, cutting Christmas trees, applying fertilizer, pruning fruit trees, taking soil samples.

**WASHINGTON:** Temperatures 1 to 4° above normal west; 2° below normal to 9° above normal east. Precipitation 0.32 to 1.33 in. west; 0.08 to 0.50 in. east. Freezing temperatures across the entire State.

Days suitable for fieldwork 4.0. Soil moisture 20% short, 72% adequate, 8% surplus. Hay, other roughage supplies 4% very short, 10% short, 86% adequate. Range, pasture feed 13% very poor, 43% poor, 38% fair, 6% good. Winter wheat dryland 55% fair, 45% good; irrigated 5% fair, 95% good. Barley dryland 95% fair, 5% good; irrigated 15% fair, 85% good. Rain, snow were spotty during the week. Many areas in western areas continued to have standing water in fields. Snowcover for winter grains melted in many areas, while a few areas received additional cover. Fruit tree pruning continued. Limited late season fertilization of fruit trees was underway in areas with no snowcover, unfrozen ground. Some pruning, tying of caneberries continued. U-cut Christmas tree harvest continued, while the commercial tree harvest was finished.

**WEST VIRGINIA:** Temperature 37°. Extremes 5°; 55°. Precipitation 0.51 in.

Corn virtually harvested. Soybeans virtually harvested. Farm activities: Feeding livestock, bookkeeping, general maintenance.

**WISCONSIN:** Even though much of the week was cloudy, temperatures remained above normal. Precipitation fairly light. Some areas in the west and north received 1 to 2 in. of snow on 17th. Average temperature 35°. Extremes 20°; 53°. Mid-December frost depth 0.50 in. 1993, 1.80 1992, 4.50 32-yr avg. Snow depth 0.4 in. 1993, 3.9 1992, 4.5 32-yr avg. Data on frost, snow depths relate to December 17, 1993. This is the lowest snow, frost depth on record.

There was very little field activity going on; hauling manure, limited corn harvesting. Farmers are preparing for the holidays.

**WYOMING:** Temperatures were generally above normal; 1° below in Rawlins to 6° above normal in Deaver. Precipitation was mostly normal except for the extreme west where precipitation was below normal, and the extreme east where precipitation was above normal. Alva, Lusk reported the largest amounts of precipitation with 0.53 in., 0.42 in. respectively.

Topsoil moisture supplies mostly adequate. Winter wheat fair to good. Livestock mostly good. Hay, roughage supplies mostly adequate.

# International Weather and Crop Summary

## HIGHLIGHTS

December 12 - 18, 1993

**FSU-WESTERN:** The combination of unseasonably warm weather and rain melted protective snow cover, leaving dormant winter grains vulnerable to weather extremes.

**EUROPE:** Wet weather covered most winter grain areas, but dryness prevailed over the Mediterranean region.

**SOUTH ASIA:** Seasonably dry, warm weather favored winter crop planting and summer crop dry down.

**EASTERN ASIA:** The North China Plain remained seasonably dry for dormant winter wheat, while showers replenished reservoirs across southern China.

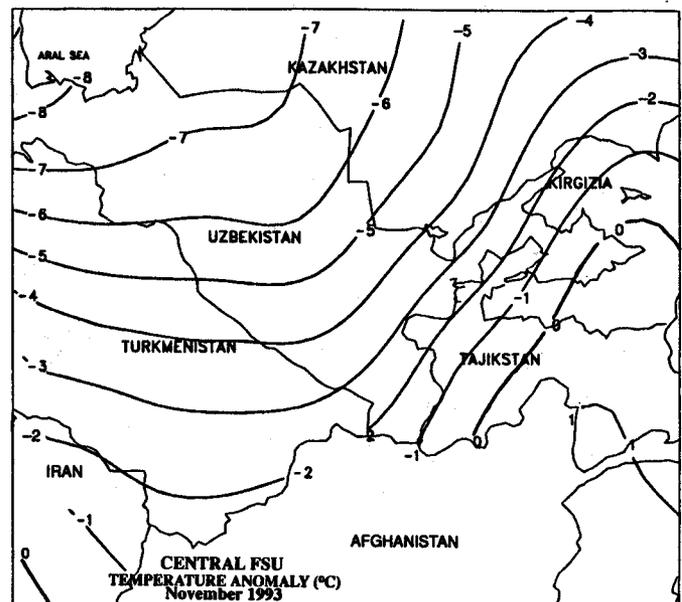
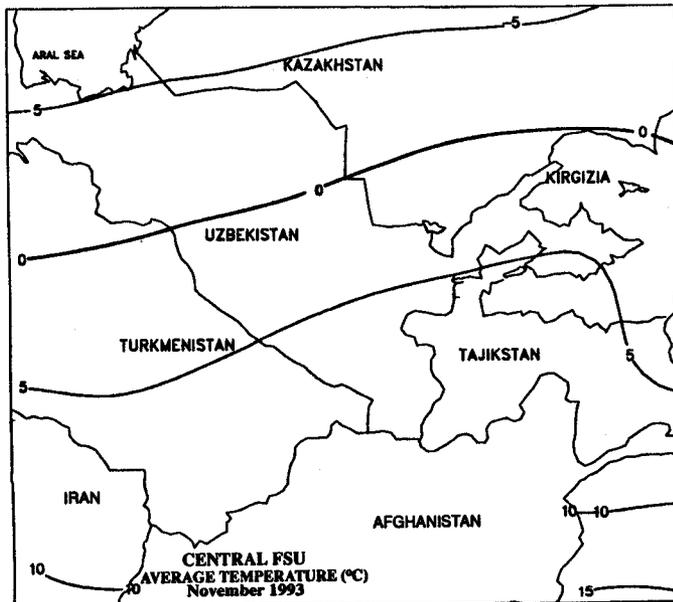
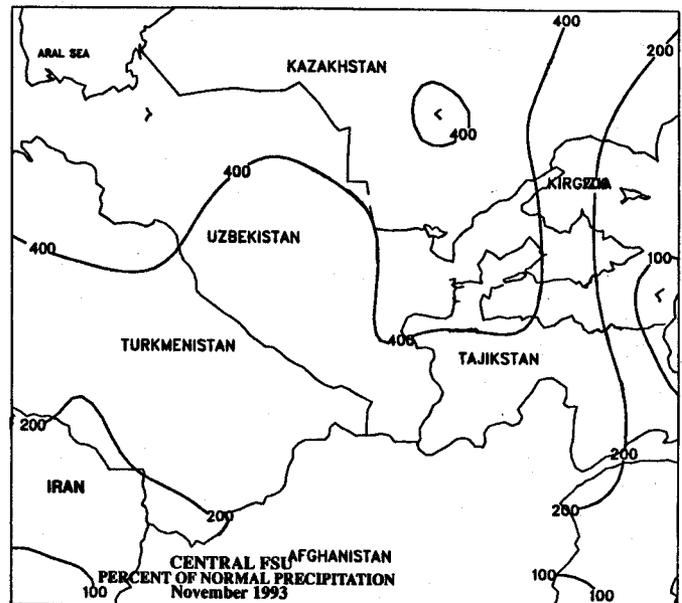
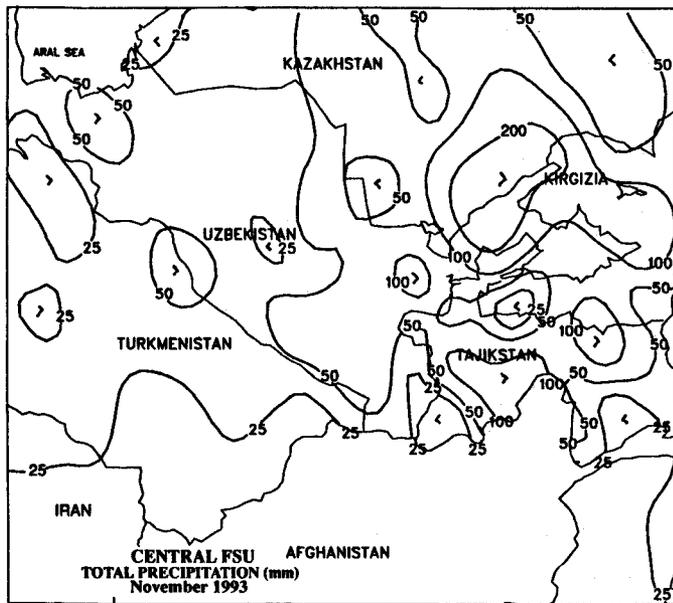
**SOUTHEAST ASIA:** Heavy rain, with some local flooding, continued in the Philippines and the Malay Peninsula.

**AUSTRALIA:** Rain slowed southern wheat harvesting, while dry weather favored western fieldwork. Dry weather aided late eastern summer crop planting.

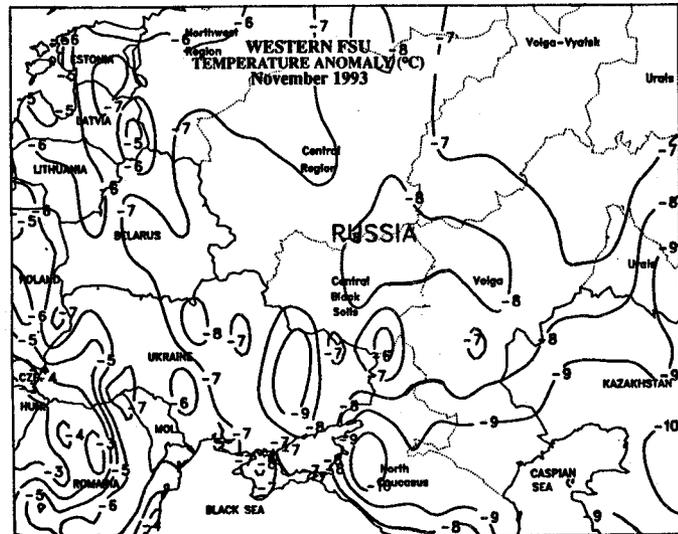
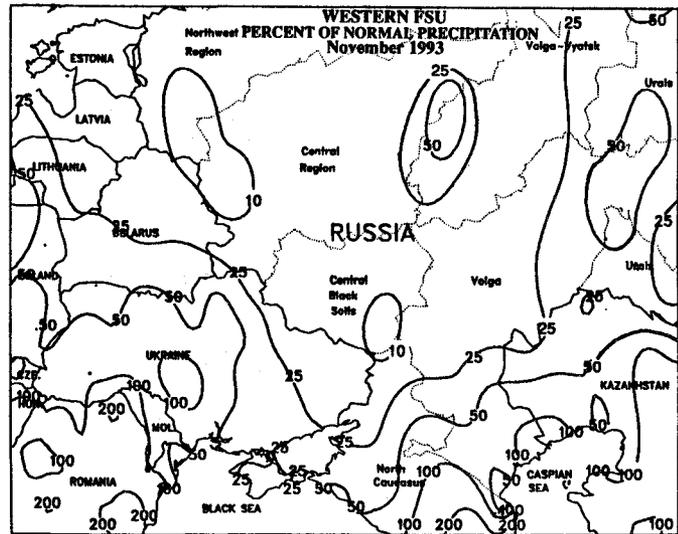
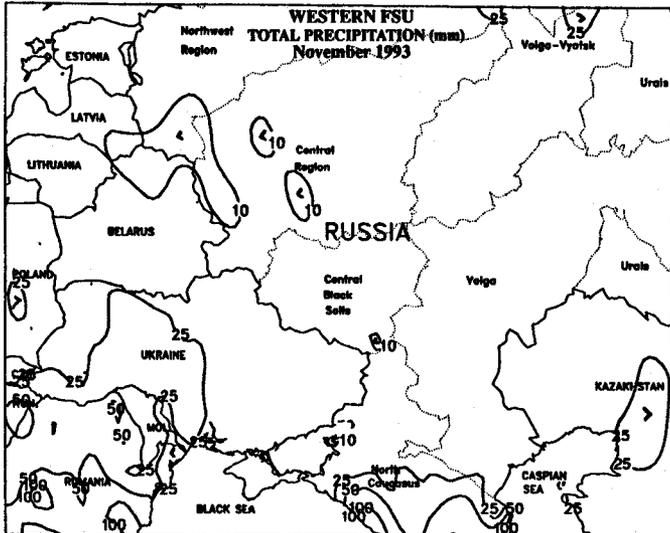
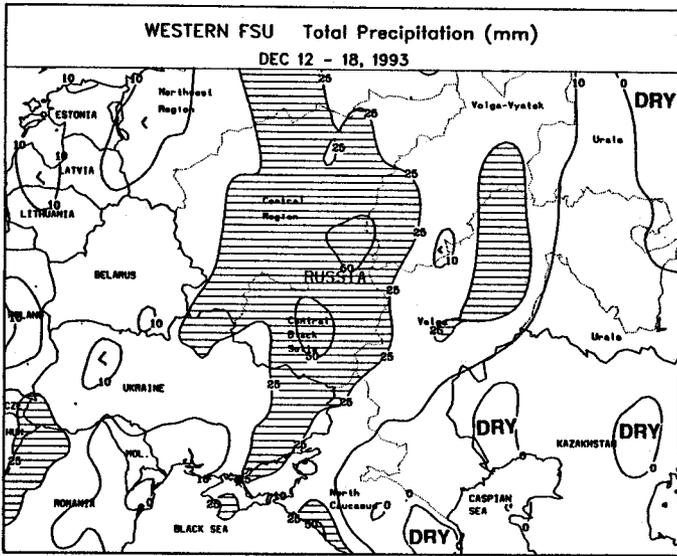
**SOUTH AMERICA:** In Argentina, wet weather slowed winter wheat maturation and harvesting and summer crop planting. Across southern Brazil, showers benefited germinating to vegetative soybeans.

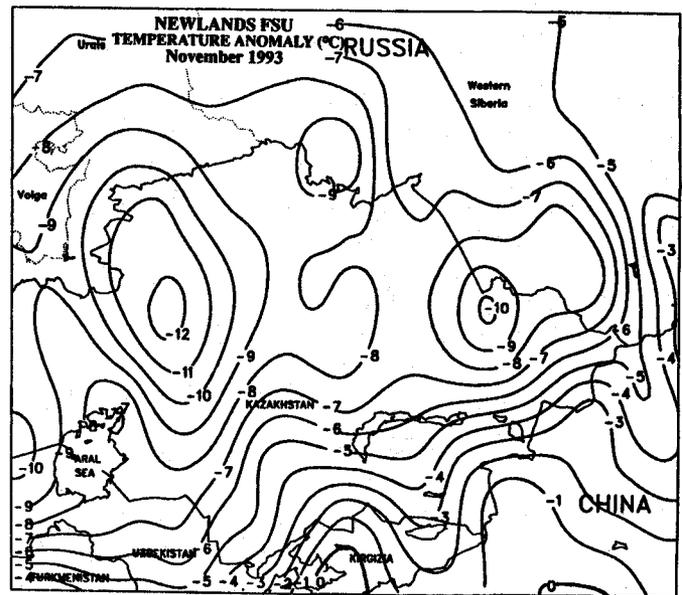
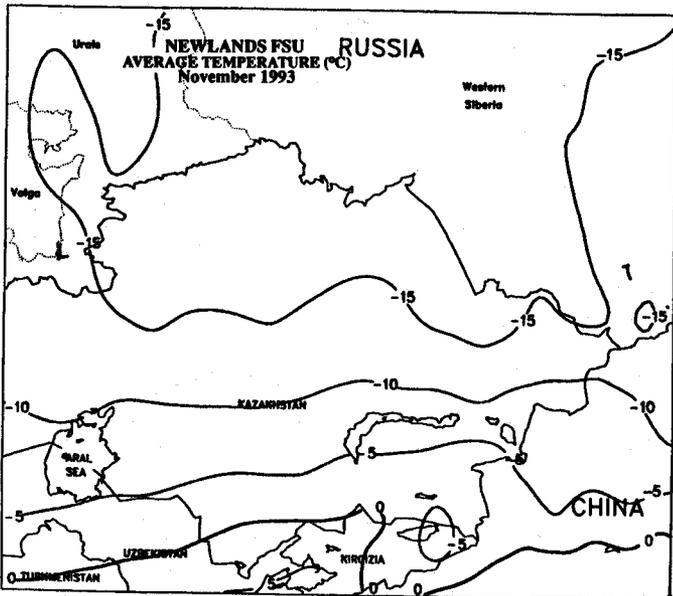
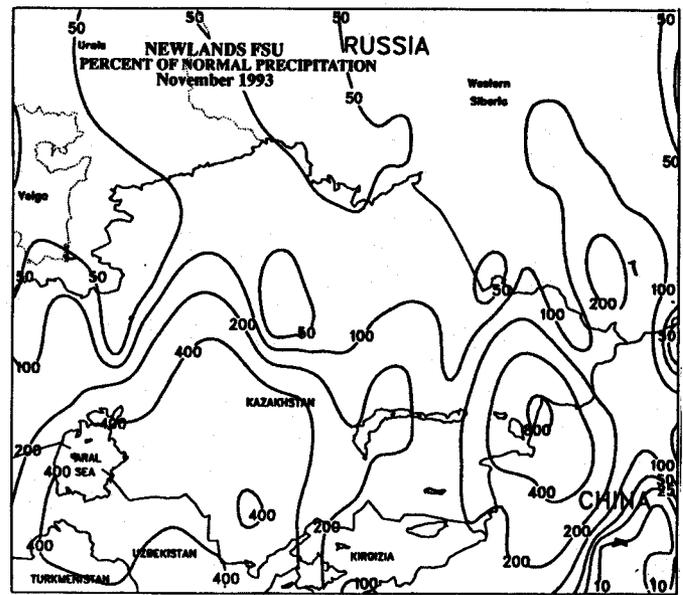
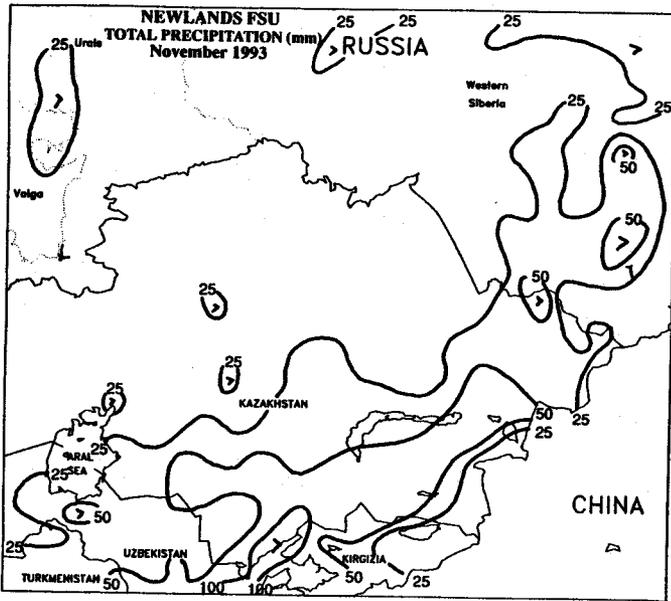
**NORTHWESTERN AFRICA:** Light showers helped winter grains in Morocco and western Algeria. Moisture is limited for germination and establishment in eastern Algeria and Tunisia.

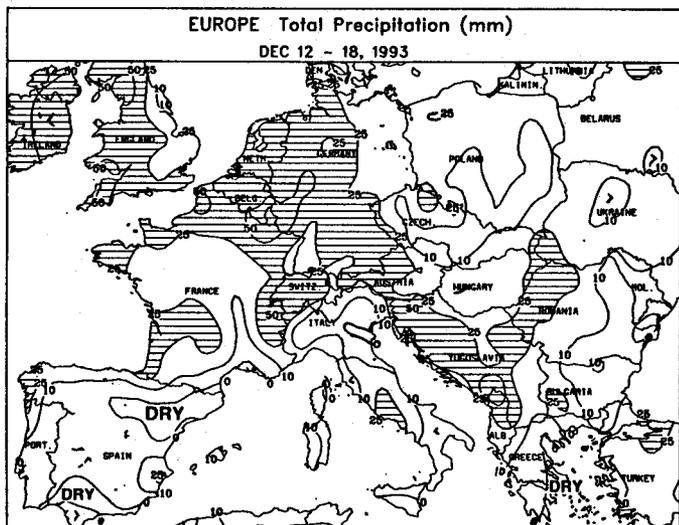
**SOUTH AFRICA:** Widespread showers covered most corn areas, benefiting crop establishment.



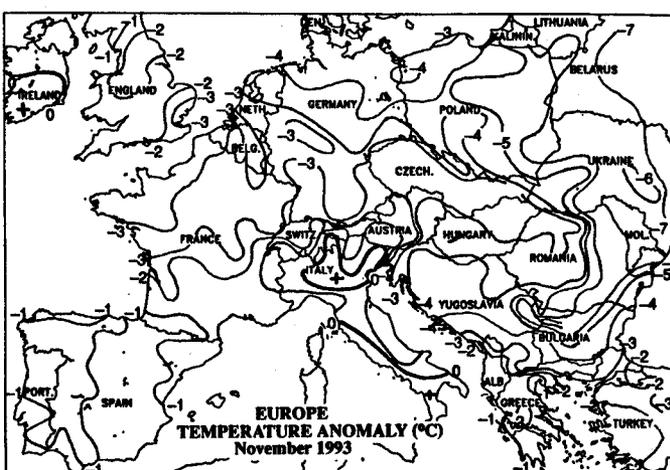
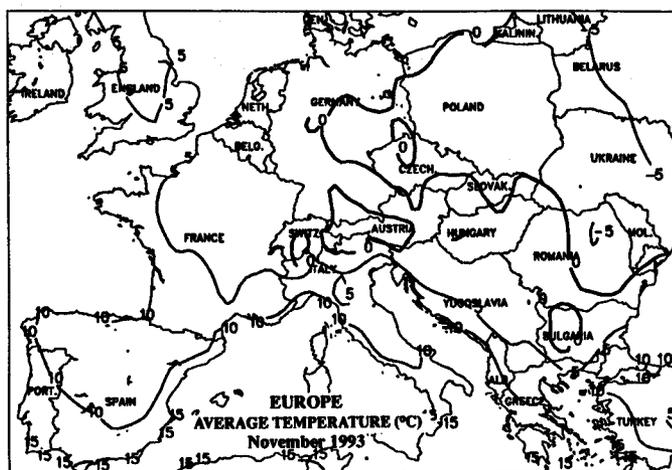
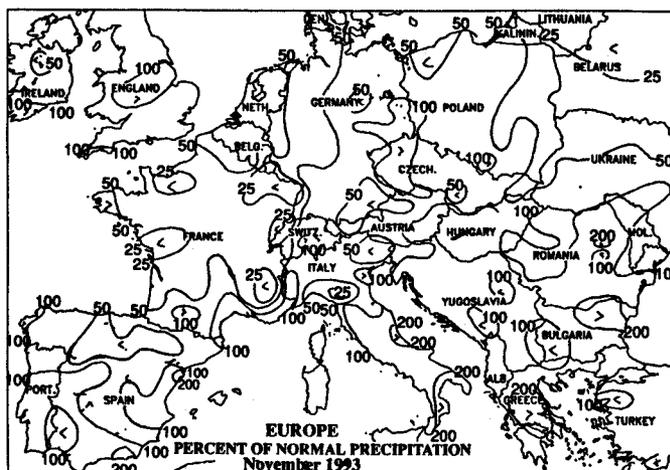
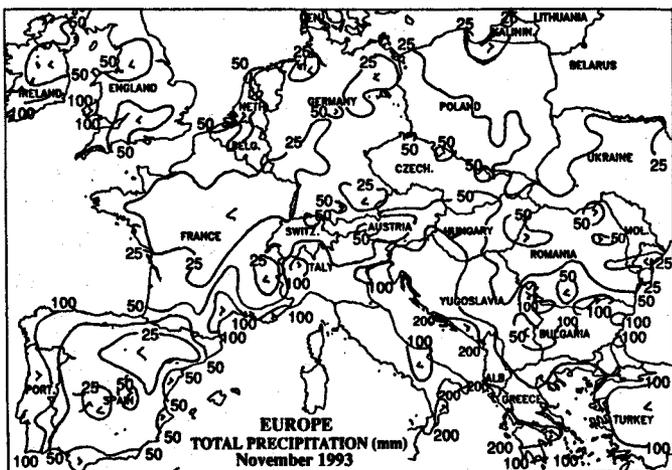
**FSU-WESTERN:** Unseasonably warm weather favored dormant winter grains. However, the combination of unusually warm weather and rain over southern Belarus, Ukraine, and North Caucasus in Russia, melted most of the protective snow cover, leaving winter grains vulnerable to weather extremes. Greatest amounts of moisture (25-50 mm) covered parts of Russia (Central Region, Black Soils Region, and the upper Volga) and eastern Ukraine. The precipitation fell as snow early in the week but turned to rain by week's end. Weekly average temperatures were 2-4 degrees Celsius (C) above normal over Belarus, Russia, and Ukraine. In contrast, snow cover increased in the Central Region and Volga Vyatsk. In November, the coldest weather in the 43-year period of record (1950-1993) covered winter grains. In Russia, lowest temperatures (-21 to -28 degrees C) were mostly confined to major rye-producing areas, with winter wheat areas experiencing minimum temperatures that ranged from -15 to -20 degrees C. Although variable snow cover in areas of extreme cold reduced the threat of widespread winterkill, localized damage was likely. In Ukraine, the combination of a dry fall and early arrival of winter in the south caused poor germination and limited plant establishment, making winter grains more susceptible to winterkill in coming months.

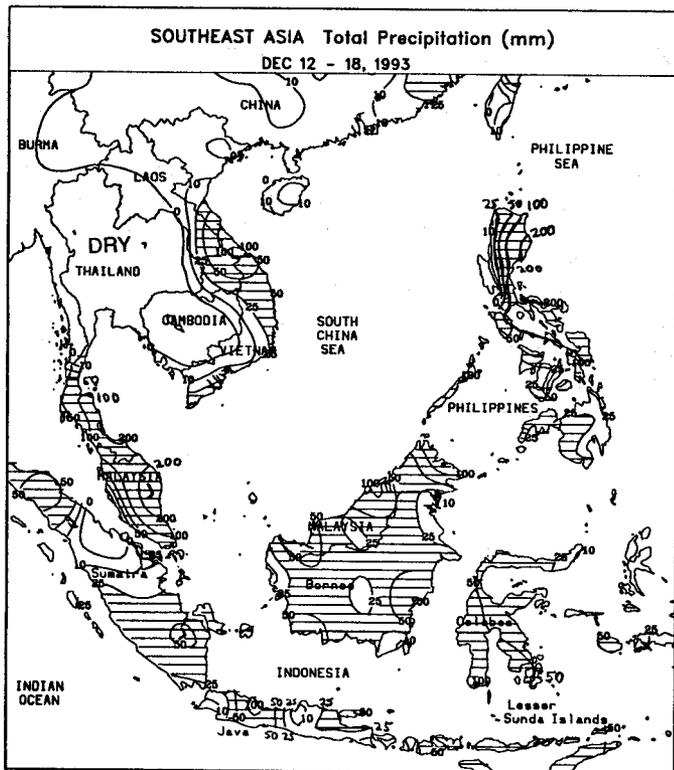




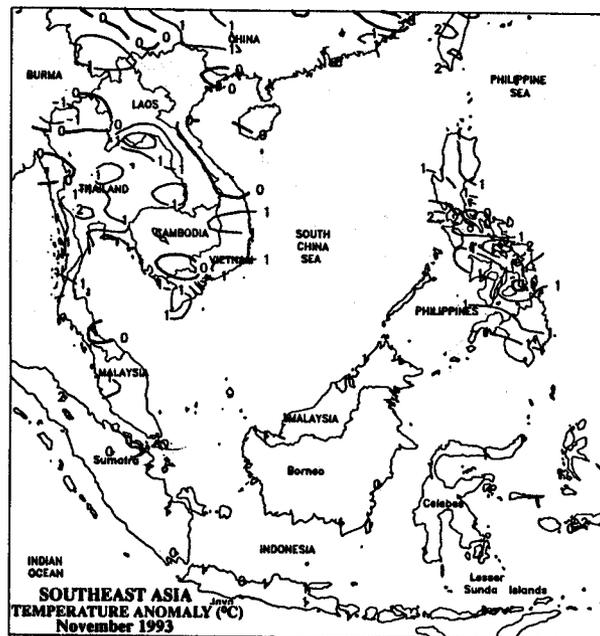
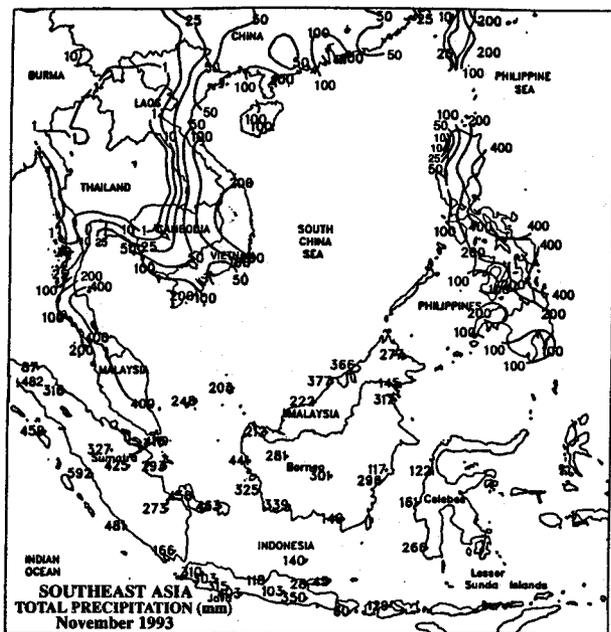
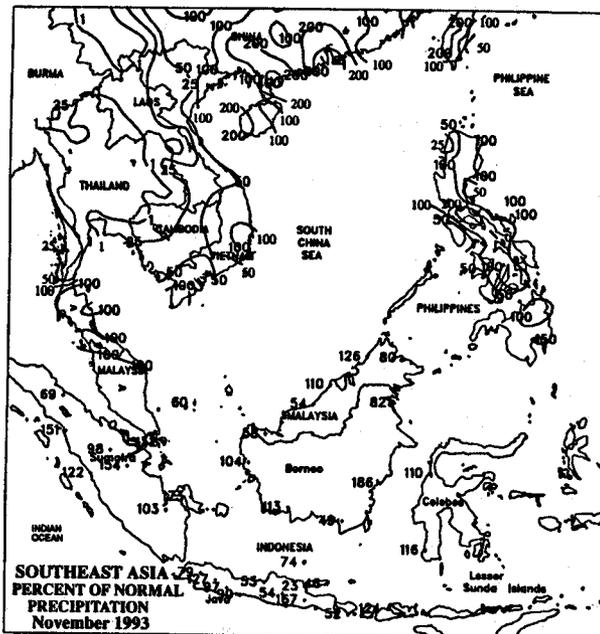


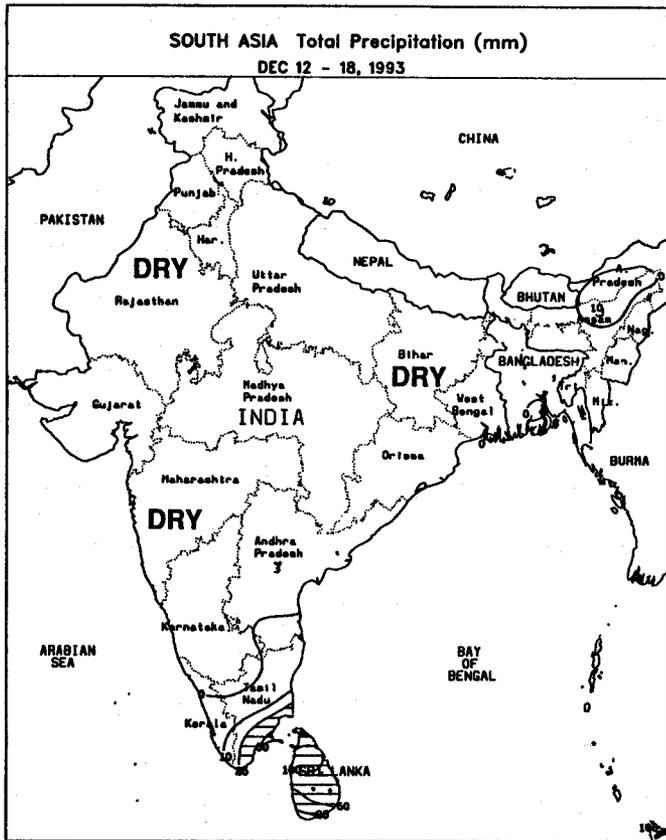
**EUROPE:** Wet weather covered much of Europe, except along the Mediterranean region from Spain to Greece, where mostly dry weather prevailed. Soaking rain (25-90 mm) kept fields too wet for any late sugar beet harvesting from the United Kingdom and western Germany in the northwest to the former Yugoslavia and western Romania in the southeast. Widespread 10-25 mm rainfall also maintained adequate soil moisture reserves for winter grains in France, Poland, and Hungary. Temperatures averaged 2-4 degrees C above normal over most crop areas, but maximum temperatures of 4-8 degrees C across northern and eastern Europe kept winter crops dormant. The recent weather is a reversal of November's weather pattern. In the Mediterranean region, above-average precipitation helped emerging winter crops. Nearly twice the normal precipitation in Greece and eastern Bulgaria broke the long drought. Drier-than-normal weather prevailed over northern Europe, with unseasonably cold weather stressing newly hardened winter crops. Moisture reserves were diminishing for winter barley in north-central Spain.



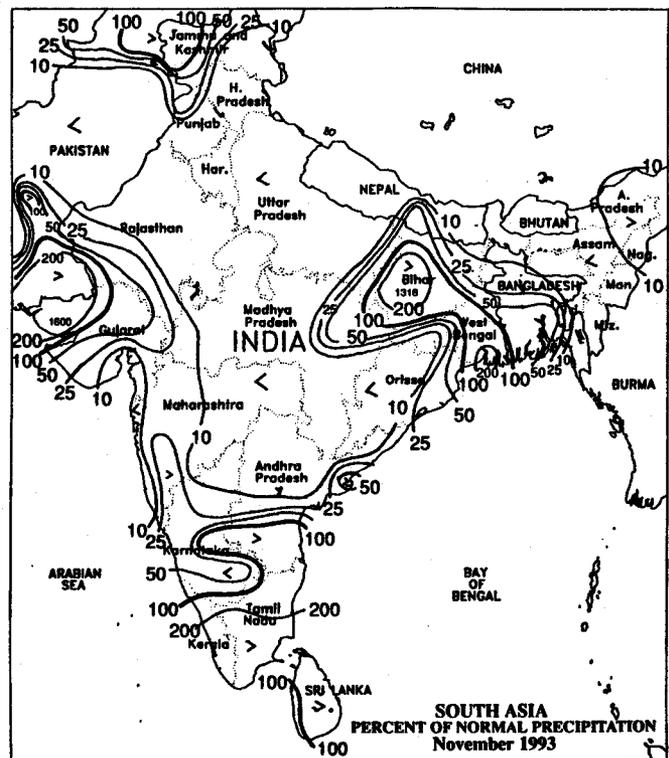
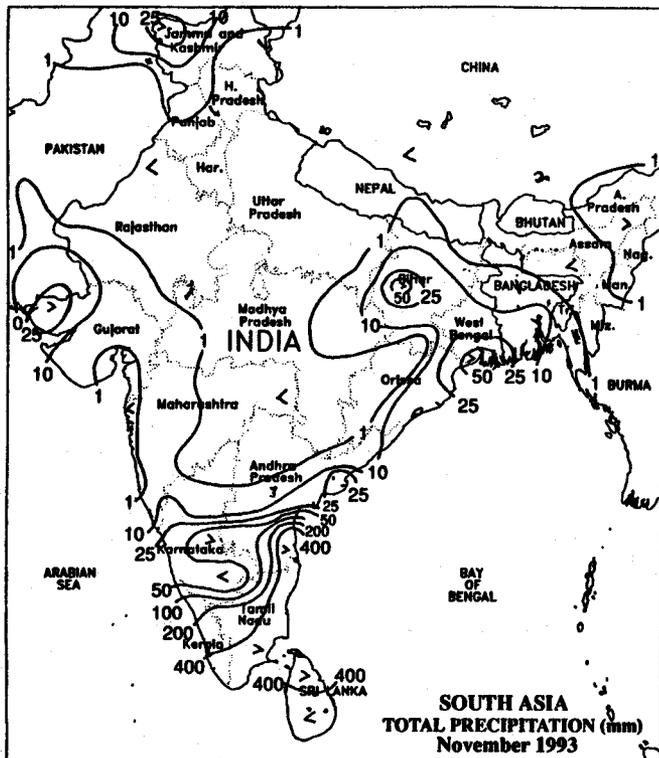


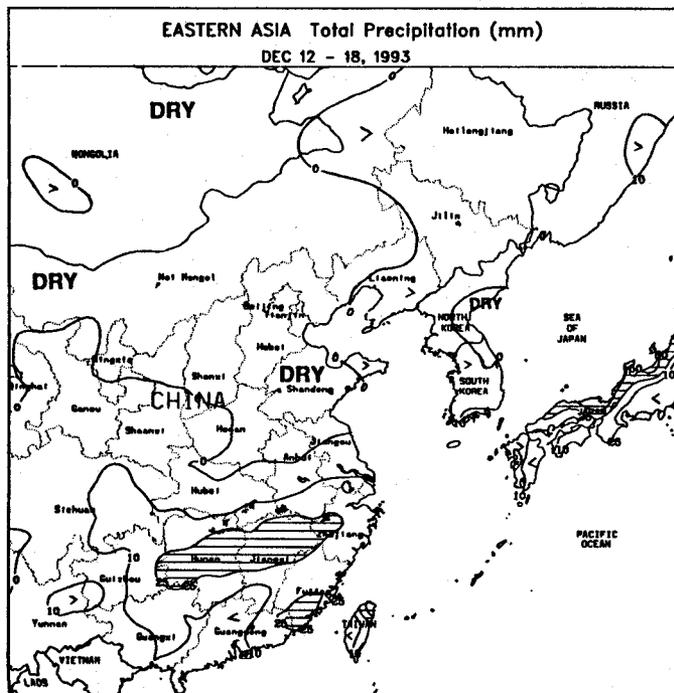
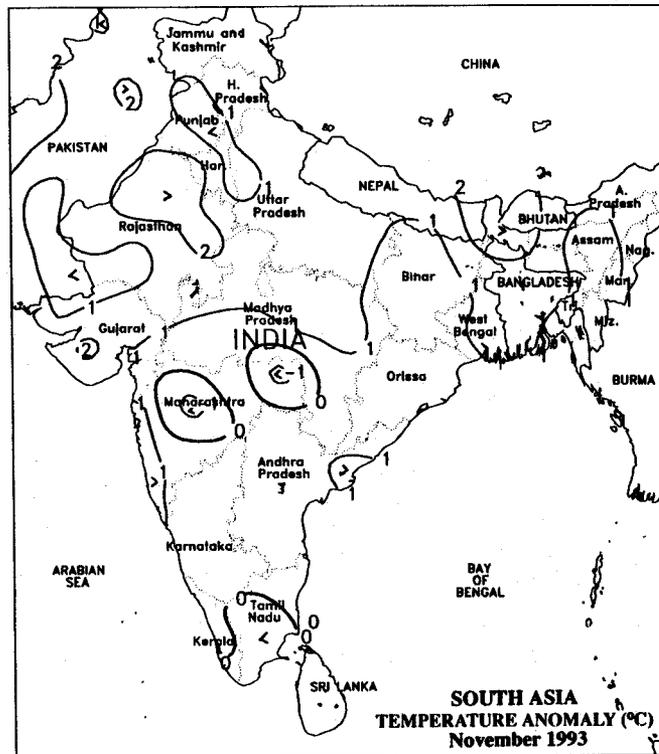
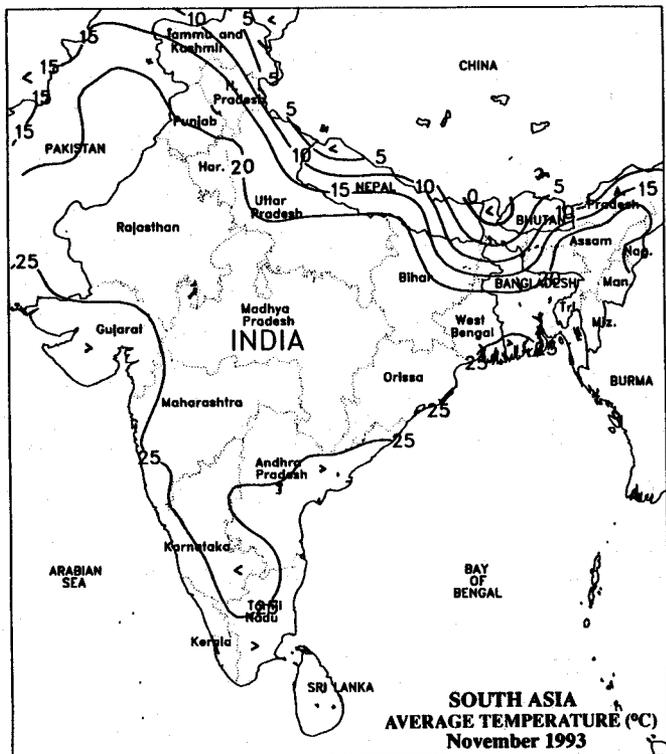
**SOUTHEAST ASIA:** Heavy showers (100-215 mm), caused partly by a new tropical depression, covered a large area of central and northeastern Philippines, worsening flooding in recently typhoon-damaged areas. Variable, more moderate showers (5-62 mm) fell elsewhere in the Philippines. Moderate rain (20-52 mm) also fell along Vietnam's central coast, maintaining unfavorably wet conditions for rice replanting. Further south, inundating rains (100-325 mm) along the east coast of the Malay peninsula, caused by remnants of Typhoon Manny, likely flooded some rice and oil palm areas. Moderate to heavy rain (25-50 mm, with local totals exceeding 100 mm) boosted moisture for Java's rice, currently being planted. In November, tropical storm activity in the western Pacific resulted in near- to above-normal rainfall throughout the Philippines. Typhoon Ira caused some flooding and damage to rice, sugarcane, and copra early in the month. In Vietnam, monthly rainfall was near to below normal. However, most of the rain (100-300 mm or more) along the central coast accompanied Typhoon Kyle, causing flooding and likely damaging newly planted winter rice and unharvested main-season crops. November rainfall was near to above normal over Malaysia and Indonesia, including most Javan rice areas.



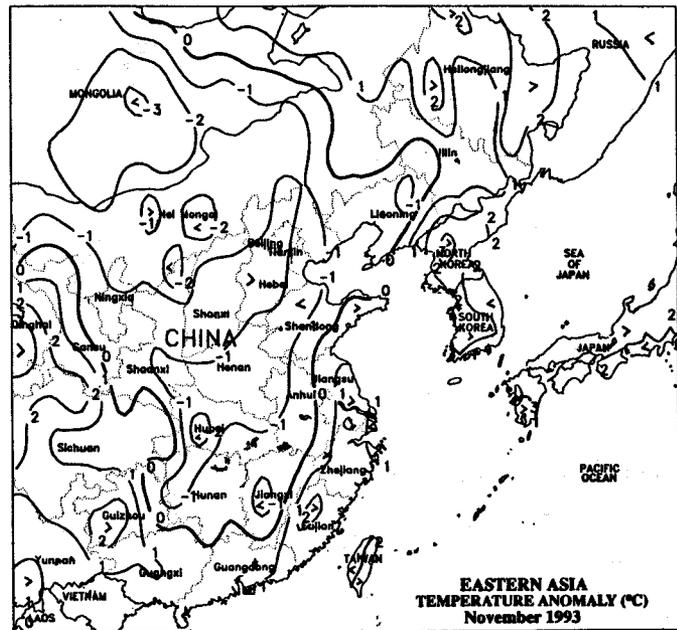
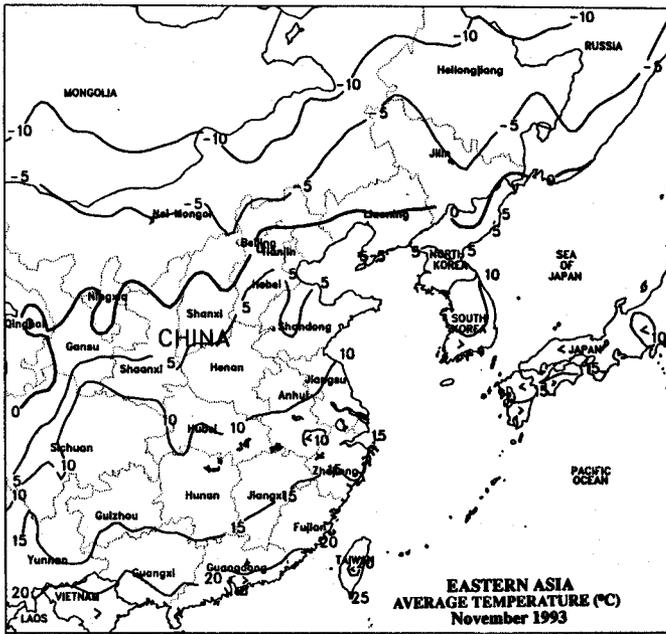
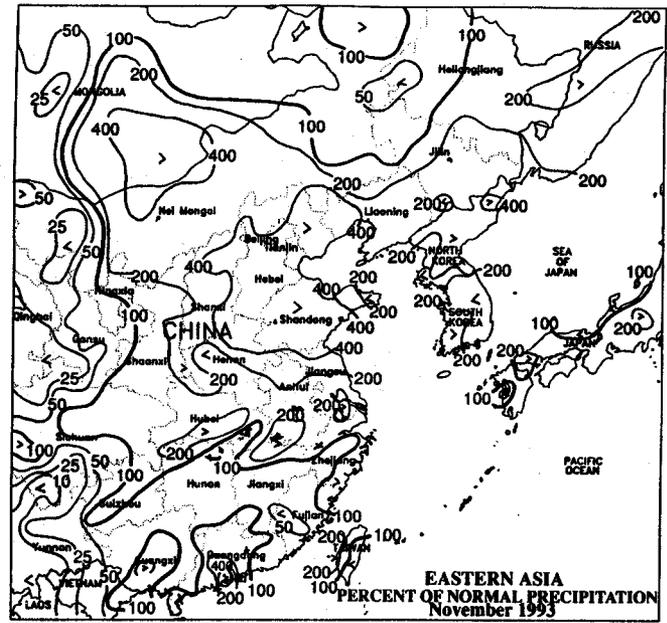
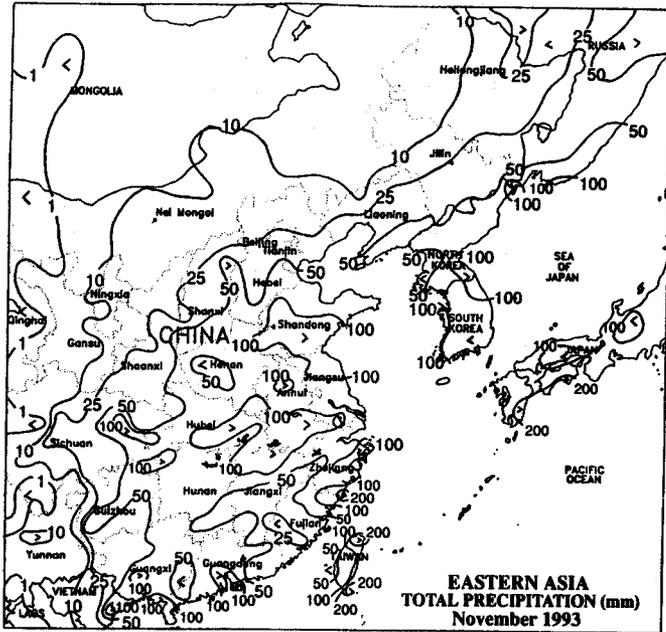


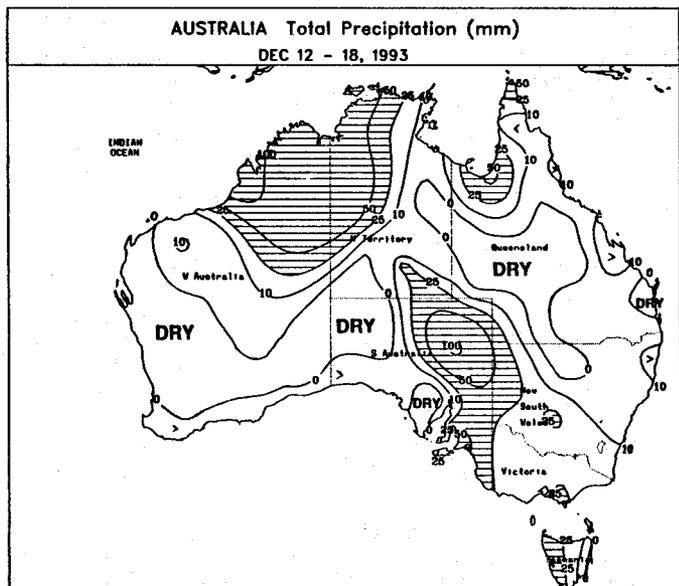
**SOUTH ASIA:** Seasonably dry, warm weather aided late winter crop planting, as well as early development of the mostly irrigated crops. Summer crop harvesting progressed across the region. In the south, dry, warm weather benefited reproductive to filling fall crops following last week's heavy showers. However, heavier showers (50-120 mm) persisted over Sri Lanka. In November, mostly dry, warmer-than-normal weather dominated all but southern India, favoring winter grain and oilseed planting and summer crop dry down. Although local areas of Pakistan and India's northern half reported above-normal rainfall, totals generally ranged from 25 to 80 mm and the events were brief in duration. In southern India, frequent tropical activity along the southeast coast in November caused unseasonably heavy rain over southernmost crop areas. In early November, a cyclone inundated southeast coastal rice areas.



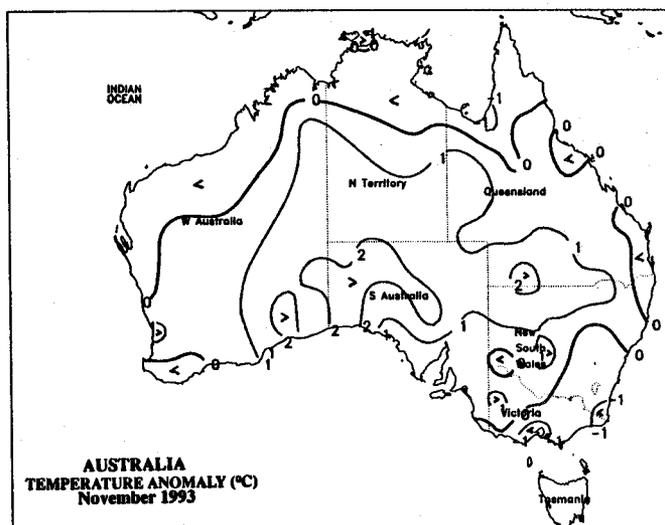
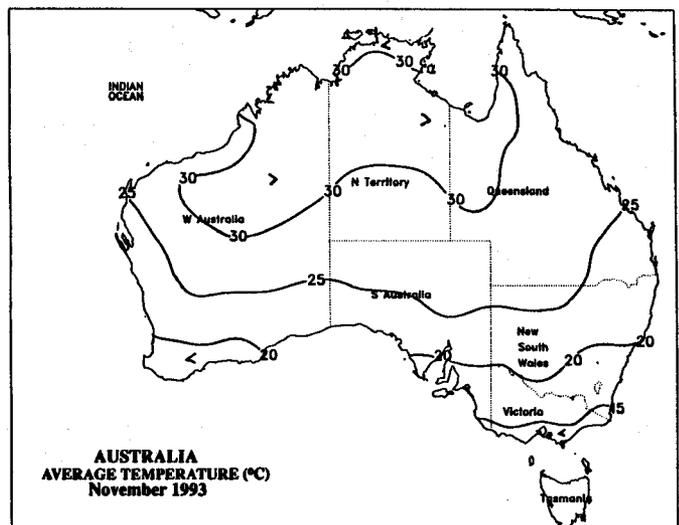
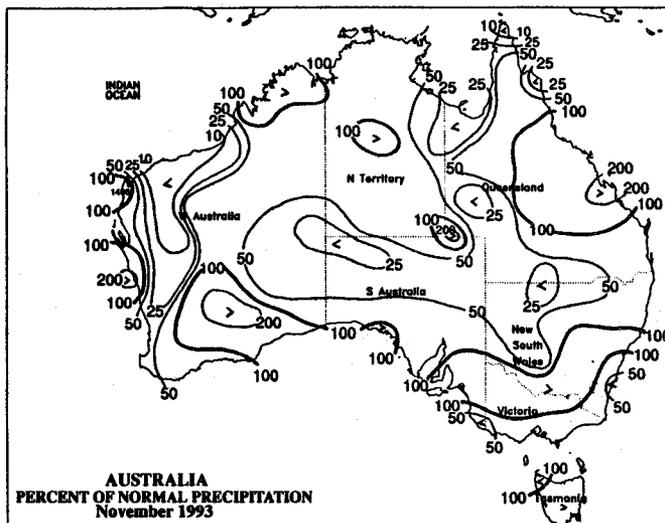
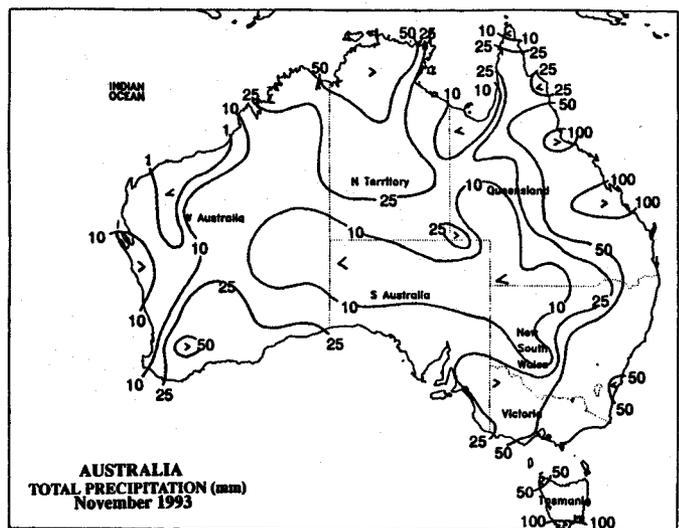


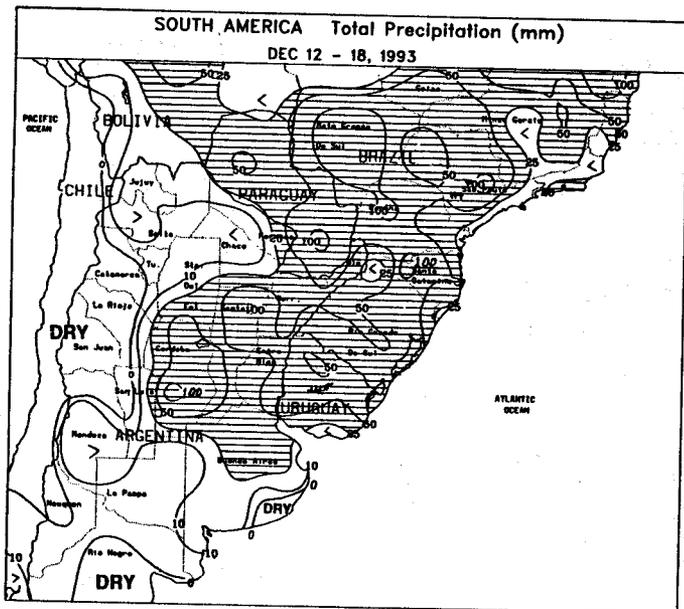
**EASTERN ASIA:** Seasonably dry, cool weather continued across the North China Plain, keeping winter wheat dormant. Widespread showers (10-50 mm) covered the Yangtze Valley and southern China, replenishing reservoirs. Weekly temperatures averaged 2-4 degrees C below normal across central and southern China, while the North China Plain experienced near-normal temperatures. During November, the North China Plain received much-above-normal precipitation, greatly benefiting vegetative winter wheat but possibly slowing late cotton harvesting. Central China reported above- to much-above-normal rainfall, slowing rice harvesting but increasing reservoir levels. Portions of interior southern China received below-normal November rainfall.





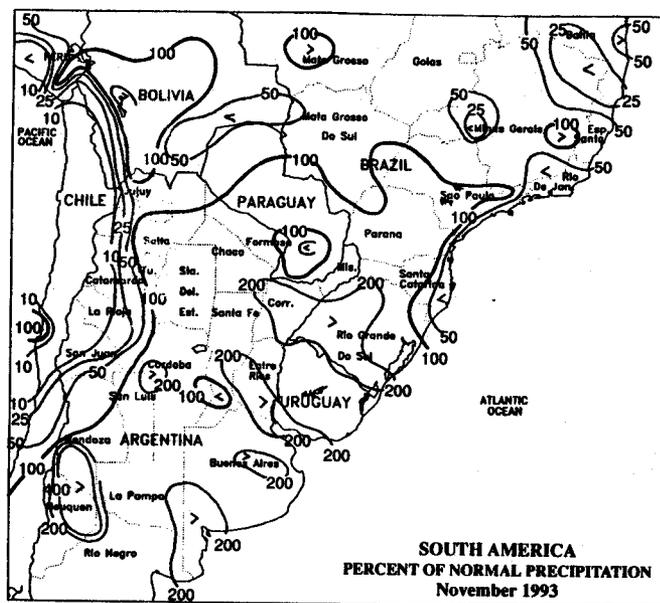
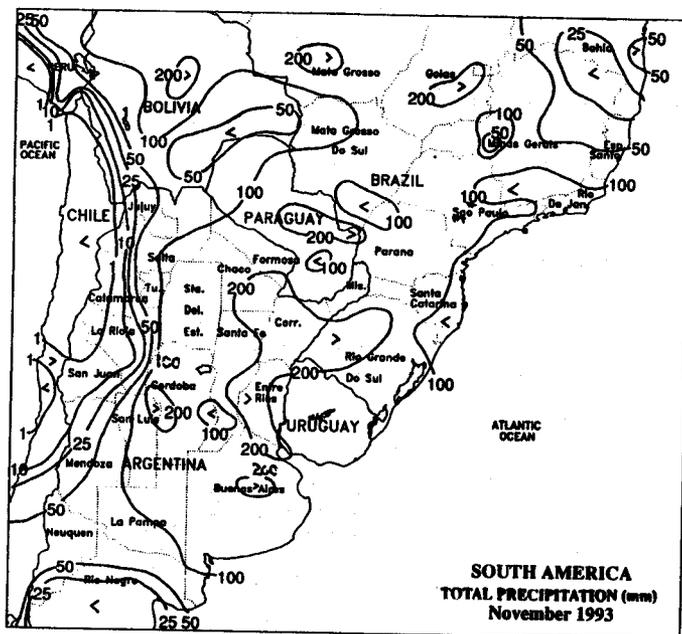
**AUSTRALIA:** Light to moderate rain (10-70 mm) fell across southern New South Wales, Victoria, and southeastern South Australia, slowing winter wheat harvesting. Localized damage to wheat was possible in areas that experienced thunderstorms and associated hail and gusty winds. Mostly dry weather favored western wheat harvesting and eastern summer crop planting. Weekly temperatures averaged 1-3 degrees C below normal across the east and south and near normal in the west. During November, rainfall averaged near to above normal across the southeast, favoring filling winter wheat. Below-normal monthly rainfall prevailed in the eastern summer crop region, stressing cotton and sorghum.

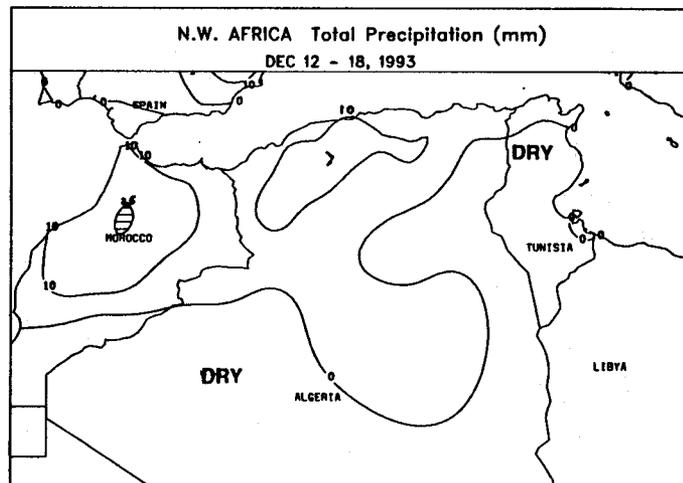
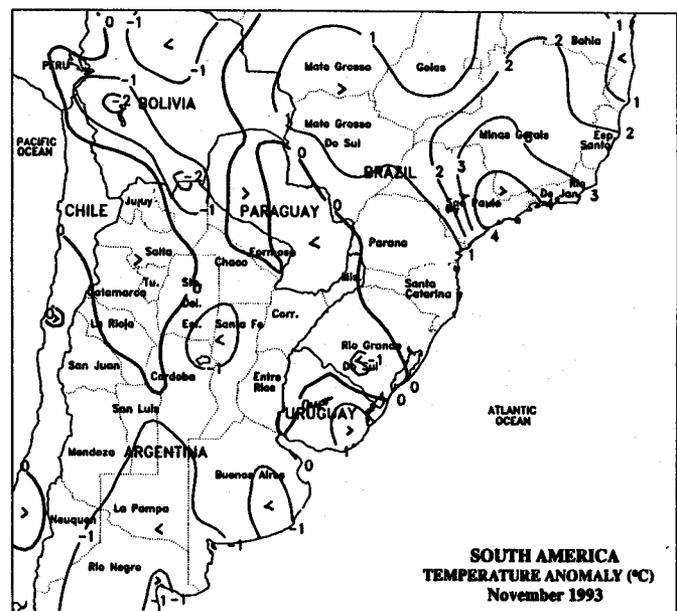




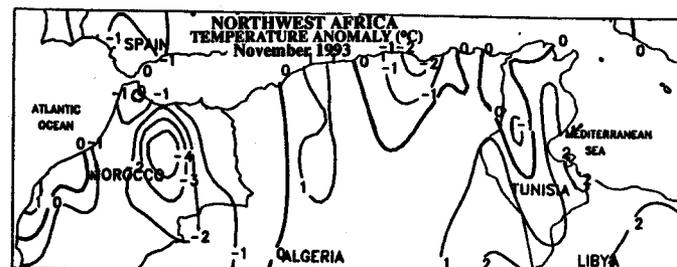
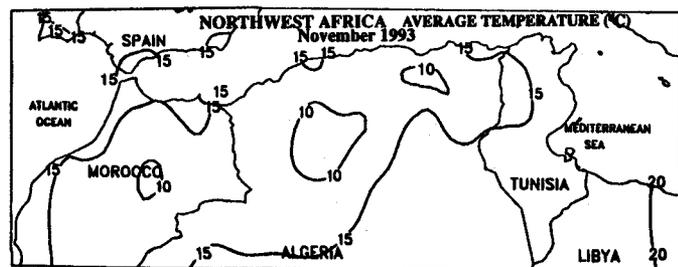
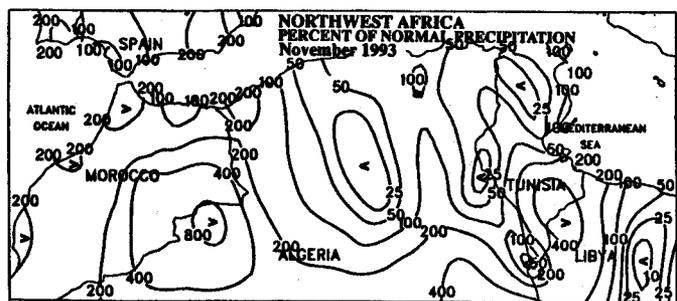
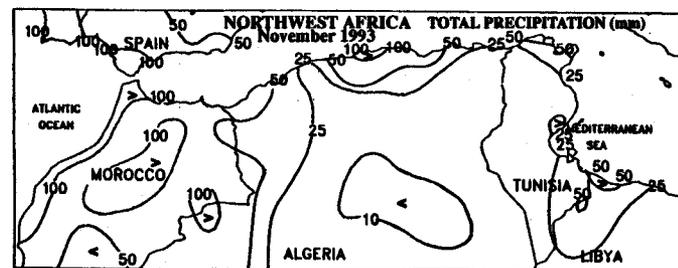
**SOUTH AMERICA:** In Argentina, moderate to heavy showers (14-100 mm) covered northern Buenos Aires, southern Cordoba, and southern Santa Fe, slowing winter wheat maturation and harvesting and possibly reducing grain quality. The thunderstorms and showers possibly caused some localized wheat lodging and slowed corn, sorghum, and soybean planting. Light to moderate rain (5-16 mm) fell across La Pampa and southern Buenos Aires, favoring late-filling wheat. The northern cotton areas received only light rain (1-10 mm), allowing some replanting to occur. Weekly temperatures averaged near normal across the region, while November temperatures averaged slightly below normal (1/2 to 1 degree C). November continued to be wet across Argentina, as rainfall averaged 100 to 200 percent of normal across the central and southern crop areas and over 200 percent in the north.

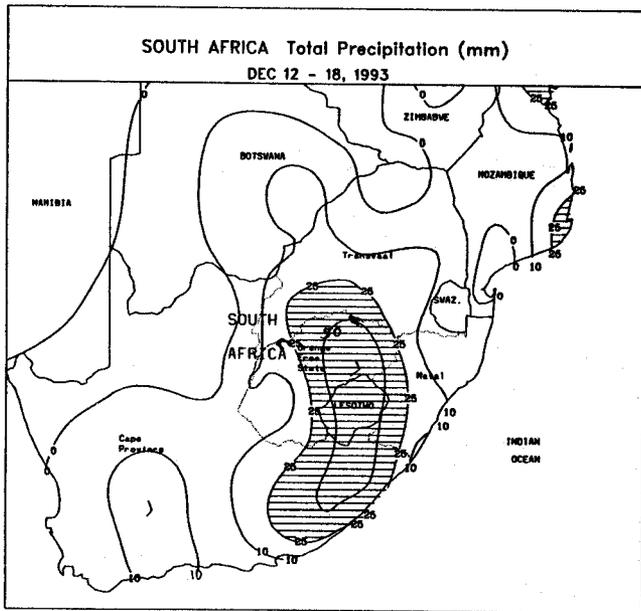
In southern Brazil, persistent showers (20-120 mm) again prevailed across the southern crop region, slowing late summer crop planting. Soybean planting is about 90 percent completed. Elsewhere across southern Brazil, widespread showers (25-100 mm, with isolated amounts greater than 150 mm) favored germinating summer crops. The showers were especially beneficial for coffee and citrus in Sao Paulo and eastern Minas Gerais, which received about 40-60 percent of normal November rainfall and experienced unusually warm November temperatures (2-3 degrees C above normal). Rio Grande do Sul received twice the normal November rainfall, while Parana and Mato Grosso do Sul received near-normal rainfall. The northern soybean areas (Mato Grosso and Goias) reported scattered showers, averaging from below-normal to slightly above-normal November rainfall.





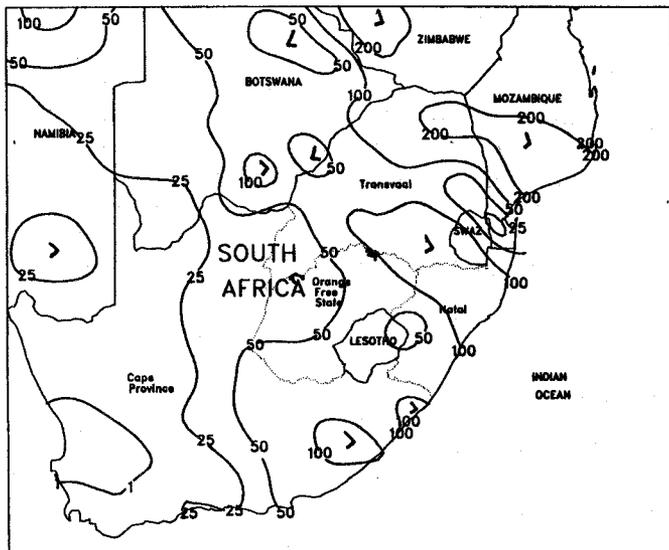
**NORTHWESTERN AFRICA:** Winter grain planting was well underway in Morocco, Algeria, and Tunisia. Widespread light showers (10-25 mm) over Morocco and western Algeria continued November's beneficial rainfall pattern, providing adequate moisture for germination and early growth. In contrast, little, if any, precipitation continued November's well-below-normal rainfall over eastern Algeria and Tunisia. As a result, moisture for germination and establishment is limited in these areas and rain is needed to ensure a good start to this year's growing season.



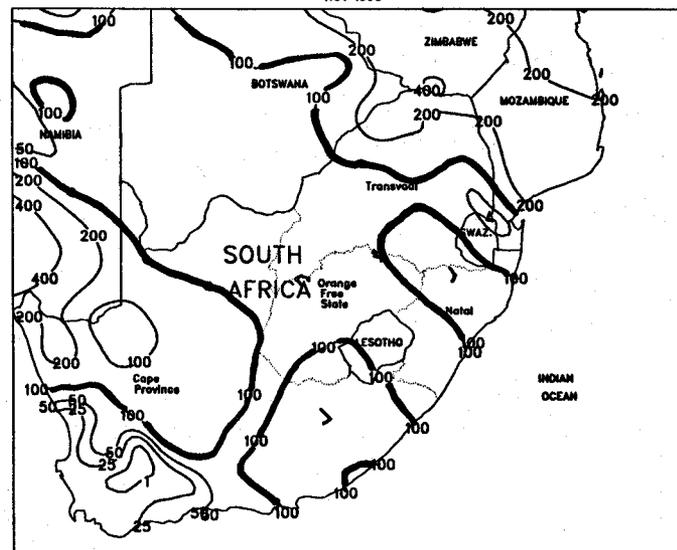


**SOUTH AFRICA:** Light to moderate showers (15-50 mm, with local accumulations exceeding 80 mm) covered most corn areas, including crops in western Transvaal that had been stressed by the recent warm weather (highs in the mid-30's C). Dry, warm weather persisted, however, in western Orange Free State. In Natal, rainfall tapered off across coastal sugarcane areas, with totals ranging from 1 to 18 mm. Heavier rain (20-53 mm) soaked crops in the eastern Cape Province. In November, frequent periods of light to moderate showers resulted in near- to above-normal rainfall in primary eastern corn and sugarcane areas. The moisture favored planting and emergence of corn and other summer crops. However, drier-than-normal conditions in western corn areas reduced topsoil moisture for crop establishment. Monthly temperatures averaged near normal, but periods of hot weather in the west accompanied the drying trend.

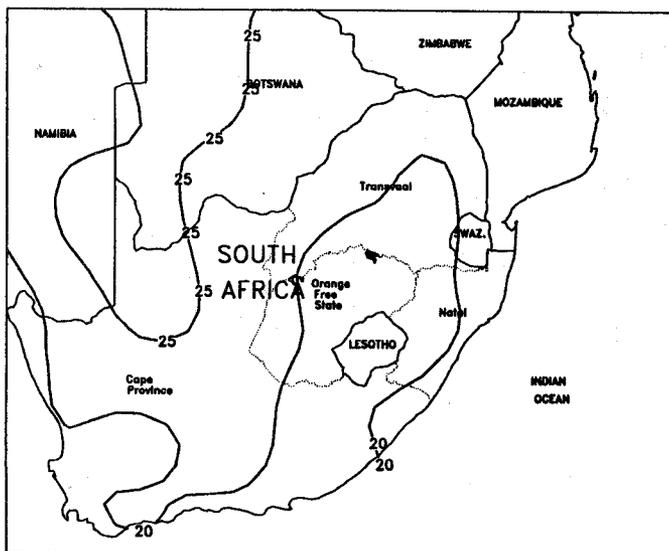
SOUTH AFRICA...TOTAL PRECIPITATION (mm)  
NOV 1993



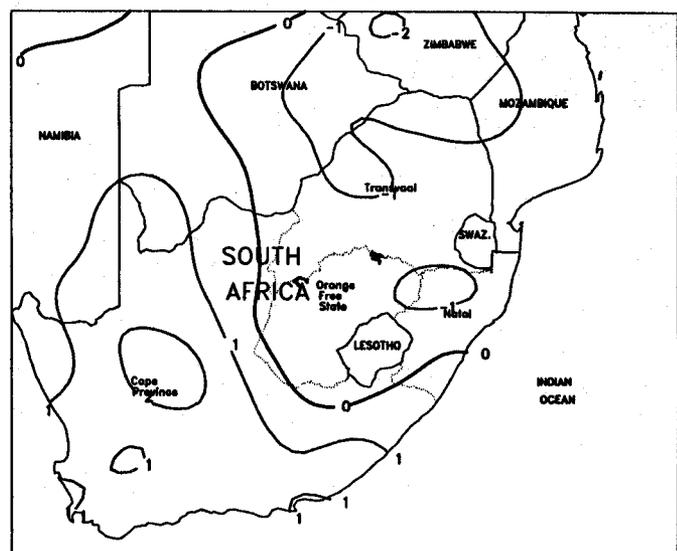
SOUTH AFRICA...PERCENT of NORMAL PRECIPITATION  
NOV 1993

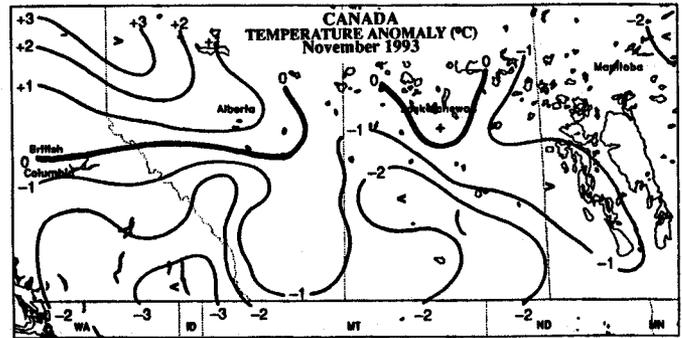
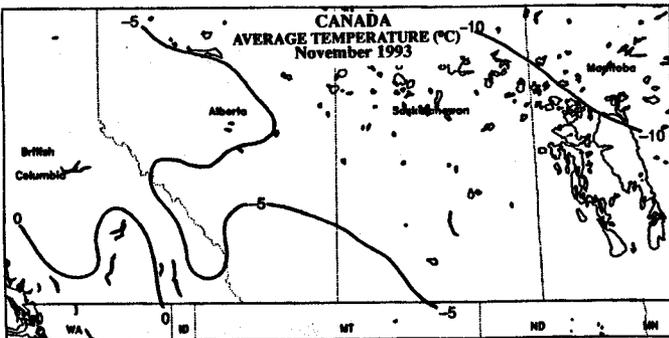
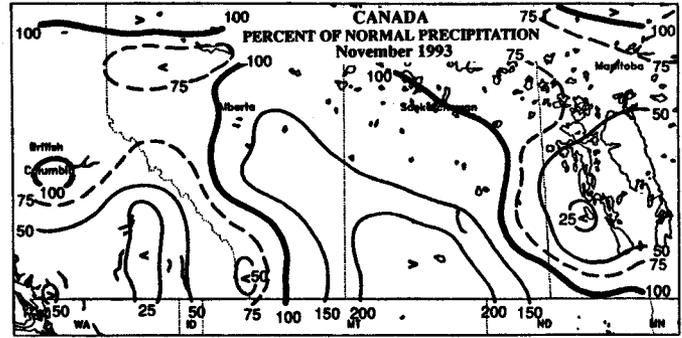
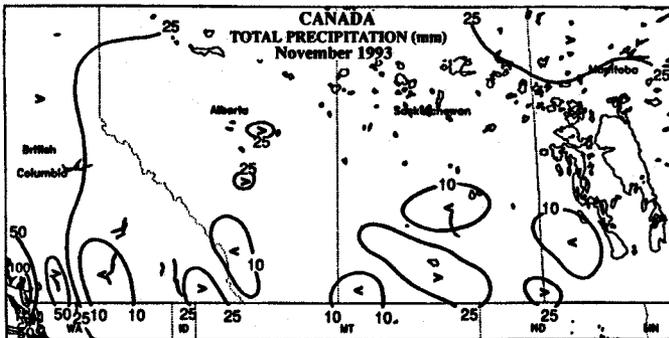
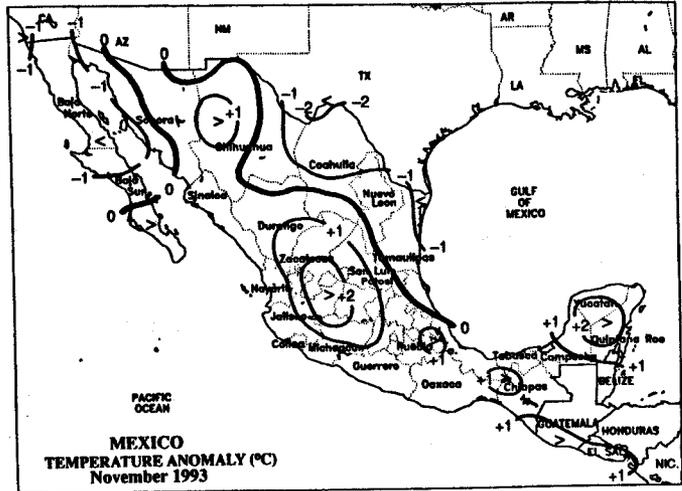
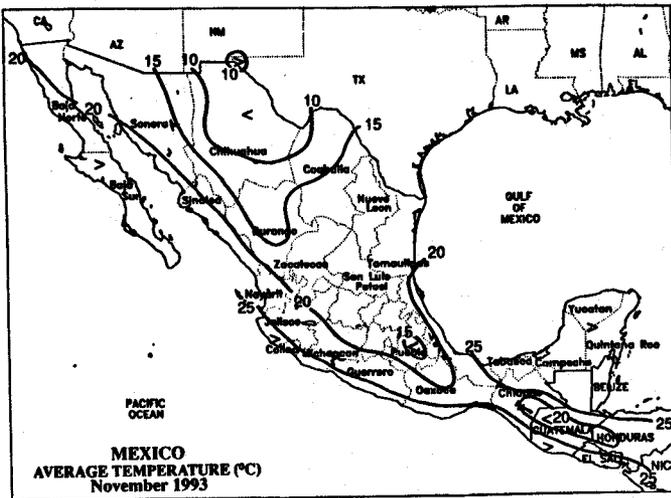
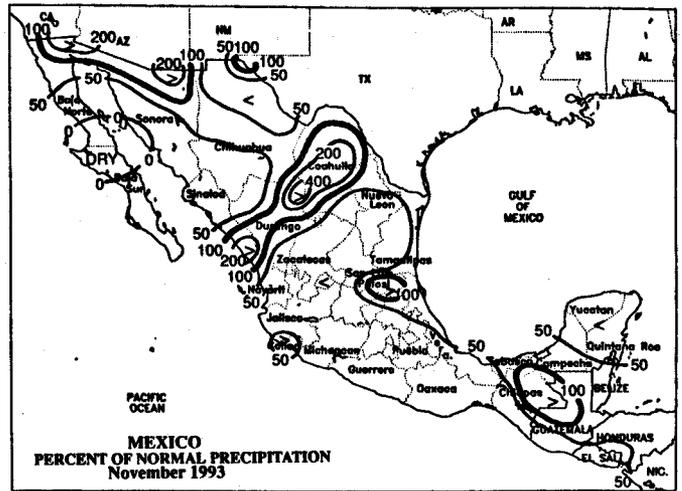
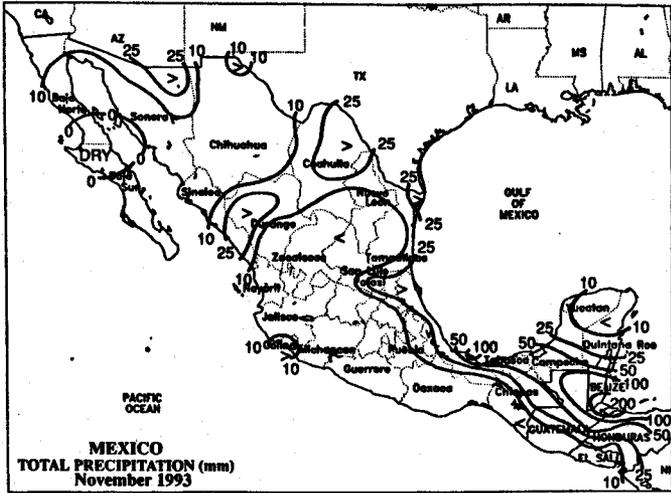


SOUTH AFRICA...AVERAGE TEMPERATURE (°C)  
NOV 1993



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





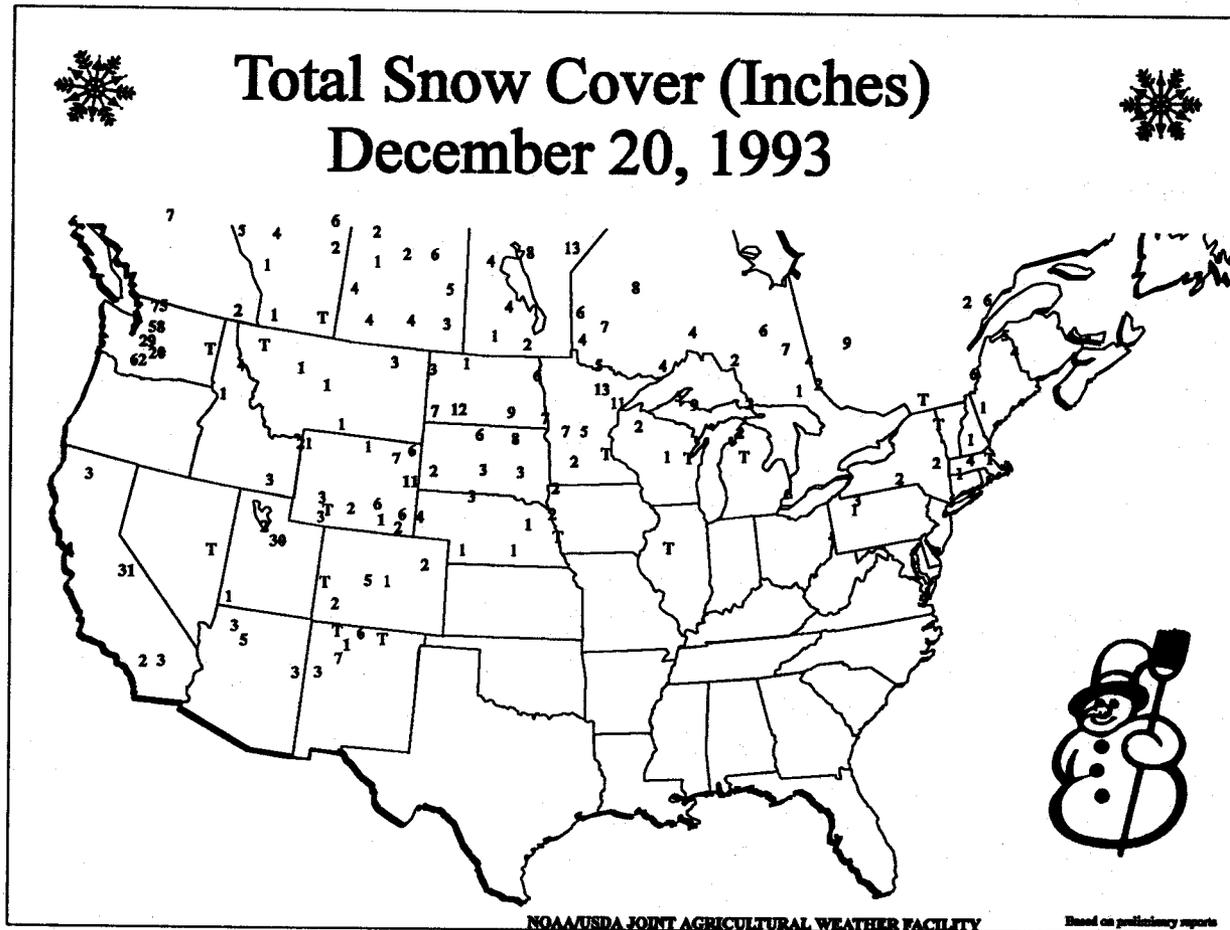
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