



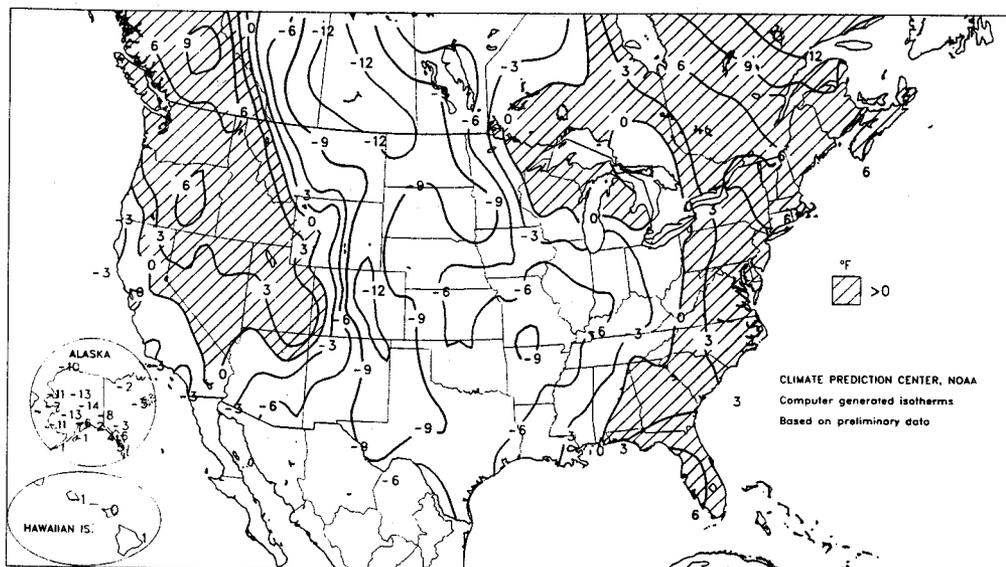
(Continued from front cover)

Across the East, warmth lingered for a final day on Sunday. Among the two dozen daily records were highs of 71°F in Washington, DC, 70°F in Charleston, WV, and 66°F in Pittsburgh, PA. Charleston's temperature finally dipped to the freezing mark on January 6 for the first time since December 26, a span of more than 11 days. In contrast, bitterly cold air cloaked Alaska, where McGrath noted their first of three consecutive daily-record lows at -58°F. Two days later, on January 7, a site near Jim River registered -66°F, while Fairbanks' reading of -51°F was their lowest since February 3, 1993. By midweek, a series of storms began to dislodge Alaska's brutal chill. Kodiak tallied daily-record rainfall on Wednesday (1.98 inches) and Thursday (2.10 inches). In Cold Bay, a wind gust to 84 mph was clocked on Wednesday morning, 1 mph shy of their January record. By Friday, McGrath's high of 42°F was a daily record and represented a 100-degree swing from Tuesday's low.

Poised to deliver the remnants of Alaska's cold wave, an arctic front punched into the northern Plains at midweek, progressing to the East and Gulf Coasts by week's end. By Friday, highs failed to crack the -10°F barrier as far south as Sioux Falls, SD (-12°F). Although only light snow dusted the northern Plains, strong winds and powder from last week's storm resulted in prolonged blizzard conditions. On Saturday, Sheridan, WY (-31°F) and Billings, MT (-23°F) notched their first of three consecutive daily-record lows. In Missouri, Springfield's high of 6°F was their lowest maximum since December 22, 1990. The center of the arctic high-pressure system crossed the U.S.-Canadian border at week's end with a pressure of 30.95 inches (1,048 millibars).

Departure of Average Temperature from Normal (°F)

JAN 5 - 11, 1997



# National Weather Data for Selected Cities

Weather Data for the Week Ending January 11, 1997

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	.05 INCH OR MORE
AL BIRMINGHAM	47	33	70	13	40	-1	3.23	2.04	-	6.61	95	3.33	178	93	53	0	3	4	2
MOBILE	58	41	73	27	50	0	1.47	0.39	0.87	8.44	120	1.48	87	85	51	0	2	5	1
MONTGOMERY	52	39	72	22	45	1	2.07	0.84	0.66	6.27	90	2.07	116	85	52	0	2	5	1
AK ANCHORAGE	19	-1	45	-20	9	-6	0.01	-0.18	0.01	0.25	18	0.01	3	79	56	0	7	1	0
BARROW	-15	-30	-7	-41	-23	-10	0.02	-0.01	0.02	0.02	12	0.02	50	74	70	0	7	1	0
FAIRBANKS	-16	-33	12	-51	-24	-14	0.03	-0.08	0.03	0.50	48	0.03	15	82	73	0	7	1	0
JUNEAU	34	26	42	13	30	6	-	-	-	-	-	-	-	94	73	0	4	-	-
KODIAK	33	25	43	10	29	-1	4.74	3.00	2.11	11.12	116	4.74	175	89	71	0	5	4	3
NOME	10	-8	39	-25	1	-8	0.66	0.47	0.28	1.29	111	0.66	220	85	82	0	7	4	0
AZ PHOENIX	58	41	63	33	48	-4	0.02	-0.15	0.02	0.02	2	0.02	7	63	30	0	0	1	0
PRESCOTT	43	21	54	18	32	-	0.00	-0.36	0.00	0.24	11	0.00	0	92	41	0	7	0	0
TUCSON	54	35	64	29	44	-8	0.70	0.48	0.52	0.83	59	0.83	244	84	41	0	3	3	1
YUMA	65	45	69	37	55	-1	0.00	-0.08	0.00	0.01	2	0.00	0	54	25	0	0	0	0
AR FORT SMITH	38	25	51	12	32	-5	0.32	-0.12	0.32	2.18	59	0.32	44	80	50	0	6	1	0
LITTLE ROCK	-	-	-	-	-	-	0.79	0.08	-	4.08	69	0.79	66	-	-	-	-	-	-
CA BAKERSFIELD	53	35	57	31	44	-3	0.34	0.16	0.34	2.58	288	0.86	319	93	54	0	2	1	0
EUREKA	53	35	55	31	44	-4	0.00	-1.41	0.00	24.52	298	3.26	148	92	50	0	3	0	0
FRESNO	52	34	58	31	43	-2	0.15	-0.28	0.15	5.56	266	1.32	197	96	54	0	3	1	0
LOS ANGELES	62	48	67	45	55	-1	0.03	-0.48	0.03	5.46	224	0.73	94	82	49	0	0	1	0
REDDING	58	34	67	29	46	2	0.00	-1.41	0.00	8.76	113	1.05	48	83	39	0	3	0	0
SACRAMENTO	53	36	57	32	45	0	0.04	-0.79	-	7.63	210	1.82	144	95	59	0	1	-	-
SAN DIEGO	61	47	63	42	54	-3	0.04	-0.37	0.04	0.72	32	0.08	12	80	43	0	0	1	0
SAN FRANCISCO	56	42	59	38	49	1	0.08	-0.90	0.08	9.33	201	2.54	167	88	58	0	0	1	0
CO DENVER	27	9	41	-7	18	-11	0.17	0.06	0.08	0.21	26	0.17	94	88	48	0	7	4	0
GRAND JUNCTION	36	22	42	17	29	3	0.00	-0.12	0.00	0.55	63	0.02	10	82	45	0	7	0	0
PUEBLO	29	3	49	-9	16	-13	0.08	0.00	0.08	0.30	55	0.08	62	87	55	0	7	1	0
CT BRIDGEPORT	41	29	49	20	35	5	0.31	-0.43	0.12	6.89	148	0.36	30	85	49	0	5	3	0
HARTFORD	36	25	46	15	31	6	0.31	-0.49	0.21	6.02	117	0.43	34	87	48	0	6	3	0
DC WASHINGTON	47	33	71	22	40	5	0.65	0.02	0.53	6.16	150	0.65	65	81	37	0	4	4	1
FL PANAMA CITY	66	47	75	34	56	6	-	-	-	-	-	-	-	92	82	0	0	-	-
DAYTONA BEACH	74	53	81	35	63	5	0.72	0.11	0.72	2.73	78	0.72	77	99	58	0	0	1	1
JACKSONVILLE	65	50	80	36	58	3	1.04	0.37	0.57	4.28	109	1.04	100	96	66	0	0	5	1
KEY WEST	79	70	83	66	75	5	0.53	0.06	0.30	1.97	72	0.55	75	86	66	0	0	3	0
MIAMI	79	62	84	59	71	3	0.15	-0.29	0.12	1.17	46	0.15	22	91	51	0	0	3	0
ORLANDO	77	53	84	37	65	6	0.34	-0.15	0.34	2.48	85	0.34	45	98	52	0	0	1	0
TALLAHASSEE	64	46	81	30	55	5	1.63	0.56	0.99	7.80	116	1.65	98	97	58	0	2	5	1
TAMPA	75	58	80	45	66	8	0.54	0.13	0.54	2.65	94	0.54	83	94	87	0	0	1	1
WEST PALM BEACH	79	59	85	55	69	3	0.75	0.22	0.56	2.25	73	0.75	90	95	48	0	0	4	1
GA ATLANTA	49	35	70	17	42	1	2.21	1.14	0.97	5.18	86	2.28	137	87	52	0	2	5	2
AUGUSTA	53	38	69	24	45	1	2.13	1.24	1.05	4.24	88	2.16	155	92	51	0	1	4	2
MACON	53	39	72	23	46	0	3.34	2.32	1.32	7.06	119	3.83	239	92	49	0	2	6	3
SAVANNAH	58	43	74	28	51	2	2.06	1.25	0.73	4.91	116	2.21	175	94	54	0	1	4	2
HI HILO	81	65	85	61	73	1	0.39	-1.91	0.21	7.63	49	0.74	20	88	63	0	0	3	0
HONOLULU	81	64	82	60	72	-1	0.00	-0.87	0.00	5.28	103	3.39	251	89	61	0	0	0	0
KAHULUI	81	63	84	58	72	0	0.78	-0.18	0.76	12.42	259	2.23	150	91	61	0	0	2	1
LIHUE	-	62	-	57	-	-	-	-	-	-	-	-	-	93	66	-	-	-	-
ID BOISE	41	25	46	19	33	5	0.10	-0.23	0.06	4.07	218	1.31	252	90	55	0	7	2	0
LEWISTON	40	30	44	23	35	2	0.11	-0.19	0.07	3.28	193	0.67	140	95	64	0	4	2	0
POCATELLO	33	20	39	3	26	4	0.08	-0.17	0.07	3.75	252	0.62	159	89	60	0	7	2	0
IL CHICAGO	25	10	39	-3	17	-4	0.13	-0.26	0.13	1.70	55	0.56	89	84	64	0	7	1	0
MOLINE	23	7	36	-4	15	-5	0.00	-0.39	0.00	0.77	27	0.08	10	81	59	0	7	0	0
PEORIA	24	9	40	-3	17	-5	0.14	-0.24	0.14	1.23	40	0.15	24	76	57	0	7	1	0
QUINCY	23	9	37	-4	16	-8	-	-	-	-	-	-	-	85	54	0	7	-	-
ROCKFORD	23	7	36	-6	15	-3	0.05	-0.27	0.05	2.48	97	0.34	64	87	60	0	7	1	0
SPRINGFIELD	24	9	42	-7	17	-8	0.20	-0.18	0.12	0.91	27	0.20	32	80	57	0	7	2	0
IN EVANSVILLE	31	18	54	-1	24	-8	0.25	-0.45	0.15	4.64	95	1.14	103	85	63	0	6	3	0
FORT WAYNE	26	11	52	-3	19	-5	0.13	-0.33	0.12	3.87	107	0.68	91	90	67	0	7	2	0
INDIANAPOLIS	27	13	49	-7	20	-5	0.40	-0.16	0.36	3.72	88	1.40	154	87	60	0	7	2	0
SOUTH BEND	24	11	41	-1	18	-6	0.28	-0.30	0.18	3.10	74	0.70	78	89	68	0	7	2	0
IA DES MOINES	22	3	38	-8	13	-7	0.00	-0.23	0.00	0.57	33	0.05	14	82	56	0	7	0	0
SIOUX CITY	18	0	34	-12	9	-8	0.00	-0.14	0.00	0.50	51	0.34	155	85	68	0	7	0	0
WATERLOO	20	3	34	-9	11	-3	0.05	-0.14	0.05	1.22	76	0.31	100	93	60	0	7	1	0
KS CONCORDIA	30	11	44	-3	20	-5	0.00	-0.14	0.00	0.07	7	0.00	0	74	35	0	7	0	0
DODGE CITY	31	14	39	4	22	-7	0.04	-0.07	-	0.04	5	0.04	18	74	41	0	7	-	-
GOODLAND	29	8	43	-3	18	-10	0.03	-0.06	0.02	0.07	13	0.03	21	85	43	0	7	2	0
TOPEKA	30	12	42	-2	21	-6	0.04	-0.19	0.04	0.04	2	0.04	11	75	42	0	7	1	0
WICHITA	32	16	39	3	24	-6	0.34	0.14	0.34	0.37	22	0.34	103	72	44	0	7	1	0
KY BOWLING GREEN	35	20	58	0	28	-5	0.14	-0.76	0.14	5.52	85	0.72	50	84	53	0	6	1	0
LEXINGTON	33	17	58	0	25	-6	0.36	-0.32	0.17	5.67	112	0.48	44	86	58	0	6	4	0
LOUISVILLE	34	19	58	1	26	-5	0.33	-0.34	0.13	4.96	106	0.75	71	81	55	0	6	3	0
LA BATON ROUGE	53	39	75	27	46	-4	2.23	1.12	1.95	4.13	57	2.30	131	93	53	0	2	2	1
LAKE CHARLES	53	39	74	29	46	-4	2.74	1.67	1.89	5.31	79	2.75	162	87	52	0	1	3	2
NEW ORLEANS	56	44	74	31	50	-1	3.74	2.61	2.69	9.35	124	3.85	215	89	58	0	1	3	2
SHREVEPORT	43	33	59	20	38	-7	2.08	1.10	1.41	4.31	68	2.08	134	85	56	0	2	3	1

Based on 1961-90 normals

Weather Data for the Week Ending January 11, 1997

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	82 AND BELOW	01 INCH OR MORE	05 INCH OR MORE	
ME CARIBOU	24	13	31	8	19	10	1.92	1.33	1.00	5.56	134	1.94	204	91	72	0	7	3	2	
ME PORTLAND	35	22	42	15	29	8	0.52	-0.32	0.27	6.86	117	0.52	39	84	56	0	7	3	0	
MD BALTIMORE	44	29	69	19	37	5	0.52	-0.18	0.41	7.49	166	0.52	47	82	41	0	5	3	0	
MD SALISBURY	48	32	68	18	40	5	0.58	-0.25	0.49	6.84	136	0.58	44	91	41	0	5	2	0	
MA BOSTON	40	28	52	21	34	5	0.23	-0.60	0.10	5.96	112	0.29	22	78	51	0	6	4	0	
MA CHATHAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MI ALPENA	24	12	36	5	18	0	0.84	0.44	0.43	7.42	280	2.23	348	88	69	0	7	4	0	
MI DETROIT	30	15	59	3	23	-1	0.13	-0.31	0.13	3.04	86	0.48	68	83	59	0	7	1	0	
MI FLINT	29	15	59	7	22	0	0.15	-0.19	0.12	2.40	91	0.34	61	91	69	0	7	3	0	
MI GRAND RAPIDS	25	15	43	9	20	-2	0.44	-0.02	0.32	3.17	89	0.83	122	91	73	0	7	5	0	
MI HOUGHTON LAKE	23	13	43	7	18	1	0.14	-0.23	0.12	3.31	131	1.14	183	91	69	0	7	3	0	
MI LANSING	27	13	49	5	20	-1	0.22	-0.14	0.20	3.00	115	0.38	66	91	70	0	7	2	0	
MI MARQUETTE	20	6	30	-7	13	1	1.82	1.30	0.93	8.26	241	3.82	455	89	75	0	7	6	1	
MI MUSKOGON	27	18	40	14	22	-2	0.17	-0.42	0.12	2.99	76	1.10	117	87	67	0	7	2	0	
MI SAULT ST. MARIE	17	4	20	0	10	-3	0.12	-0.47	0.08	4.19	110	0.12	13	80	60	0	5	2	0	
MN ALEXANDRIA	6	-8	19	-19	-1	-8	-	-	-	-	-	-	-	88	73	0	7	-	-	
MN DULUTH	13	1	23	-12	7	0	0.06	-0.24	0.05	0.93	54	0.42	87	85	68	0	7	2	0	
MN INT'L FALLS	11	-4	22	-27	3	2	0.08	-0.14	0.04	1.65	139	0.17	50	81	66	0	7	3	0	
MN MINNEAPOLIS	16	0	28	-13	8	-4	0.29	0.07	0.15	2.60	184	0.91	260	81	61	0	7	2	0	
MN ROCHESTER	16	1	29	-12	9	-3	0.28	0.07	0.13	2.16	164	0.98	327	85	67	0	7	3	0	
MS GREENWOOD	42	32	60	14	37	-5	-	-	-	-	-	-	-	93	53	0	3	-	-	
MS JACKSON	47	34	72	19	40	-3	1.98	0.67	0.98	5.30	64	1.98	95	91	53	0	3	4	2	
MS MERIDIAN	50	35	72	19	42	-2	1.57	0.37	-	4.39	55	1.69	89	92	55	0	3	-	-	
MO CAPE GIRARDEAU	34	19	50	-3	26	-5	0.04	-0.66	0.04	3.27	59	0.43	38	85	53	0	6	1	0	
MO COLUMBIA	26	11	41	-3	19	-7	0.37	0.00	0.23	0.76	24	0.37	61	83	51	0	7	2	0	
MO KANSAS CITY	27	9	37	-6	18	-7	0.02	-0.25	0.02	0.02	1	0.02	5	78	49	0	7	1	0	
MO SAINT LOUIS	26	14	44	-1	20	-9	0.36	-0.08	0.30	1.26	34	0.36	50	80	54	0	7	2	0	
MO SPRINGFIELD	28	14	43	-4	21	-9	0.53	0.12	0.37	1.24	37	0.53	79	85	54	0	7	2	0	
MT BILLINGS	22	9	37	-23	16	-7	0.15	-0.07	0.12	0.90	80	0.74	211	86	54	0	7	2	0	
MT GLASGOW	7	-10	27	-27	-1	-11	0.00	-0.08	0.00	0.51	93	0.00	0	82	70	0	7	0	0	
MT GREAT FALLS	22	7	41	-25	15	-8	0.05	-0.17	0.05	0.41	34	0.05	14	88	64	0	7	1	0	
MT HAVRE	16	-3	36	-41	6	-7	0.08	-0.06	0.07	0.53	70	0.08	36	87	64	0	7	2	0	
MT HELENA	27	8	39	-24	18	-1	0.13	-0.02	0.13	0.77	92	0.18	72	79	63	0	7	1	0	
MT KALISPELL	32	19	37	5	25	6	0.36	-0.01	0.21	3.87	168	0.60	102	91	72	0	6	4	0	
MT MILES CITY	18	-1	37	-21	8	-7	0.00	-0.14	0.00	0.49	59	0.05	23	89	66	0	7	0	0	
MT MISSOULA	31	18	38	2	24	3	0.80	0.30	0.35	5.46	333	1.01	210	95	74	0	6	4	0	
NE GRAND ISLAND	28	7	43	-7	18	-4	0.00	-0.11	0.00	0.15	17	0.00	0	74	38	0	7	0	0	
NE LINCOLN	27	5	43	-7	16	-5	0.00	-0.14	0.00	0.12	11	0.00	0	82	42	0	7	0	0	
NE NORFOLK	22	3	41	-12	13	-6	0.00	-0.11	0.00	0.36	39	0.02	11	80	59	0	7	0	0	
NE NORTH PLATTE	29	4	44	-8	17	-4	0.00	-0.08	0.00	0.00	0	0.00	0	78	31	0	7	0	0	
NE OMAHA	28	4	67	-9	16	-5	0.01	-0.17	0.01	0.37	27	0.05	15	79	59	0	7	1	0	
NE SCOTTSBLUFF	27	6	41	-3	17	-8	0.10	-0.01	0.06	0.35	47	0.16	94	84	41	0	7	2	0	
NE VALENTINE	23	3	41	-11	13	-9	0.00	-0.10	0.00	0.18	27	0.04	25	82	49	0	7	0	0	
NV ELY	36	14	44	6	25	1	0.00	-0.17	0.00	1.09	110	0.76	292	84	46	0	7	0	0	
NV LAS VEGAS	55	37	61	31	46	1	0.00	-0.11	0.00	0.00	0	0.00	0	64	26	0	1	0	0	
NV RENO	45	21	52	18	33	1	0.03	-0.22	0.03	4.19	306	1.24	318	92	34	0	7	1	0	
NV WINNEMUCCA	40	19	45	14	29	1	0.00	-0.17	0.00	3.57	305	0.59	211	87	38	0	7	0	0	
NH CONCORD	32	22	40	15	27	8	0.73	0.14	0.46	6.60	162	0.85	91	85	52	0	7	3	0	
NJ ATLANTIC CITY	45	29	58	20	37	5	0.44	-0.36	0.36	7.02	154	0.44	35	86	49	0	6	2	0	
NM ALBUQUERQUE	37	20	47	13	29	-5	0.23	0.12	-	0.30	43	0.30	150	84	51	0	7	-	-	
NM CLOVIS	29	20	37	14	24	-12	-	-	-	-	-	-	-	98	66	0	7	-	-	
NM ROSWELL	37	21	50	11	29	-10	-	-	-	-	-	-	-	92	60	0	6	-	-	
NY ALBANY	33	21	50	12	27	6	0.29	-0.27	0.14	4.54	119	0.36	40	95	61	0	6	3	0	
NY BINGHAMTON	30	19	52	10	25	3	0.47	-0.10	0.20	6.94	178	0.80	66	93	60	0	6	4	0	
NY BUFFALO	33	19	62	12	26	2	2.11	1.45	0.85	5.70	121	2.29	216	93	60	0	7	6	2	
NY NEW YORK	42	31	58	21	36	5	0.37	-0.34	0.22	6.31	140	0.40	36	82	45	0	4	3	0	
NY ROCHESTER	33	21	59	16	27	3	0.41	-0.08	0.21	3.49	100	0.52	67	86	58	0	7	5	0	
NY SYRACUSE	33	22	56	9	28	5	0.35	-0.21	0.12	4.87	119	0.62	68	88	57	0	6	4	0	
NC ASHEVILLE	42	28	65	10	35	-1	1.57	0.68	0.83	5.48	94	1.57	111	89	51	0	5	4	1	
NC CHARLOTTE	50	35	69	22	43	3	1.30	0.47	0.94	3.95	82	1.34	103	88	42	0	3	5	1	
NC GREENSBORO	45	30	65	12	37	1	1.04	0.32	0.51	4.89	108	1.05	93	81	52	0	5	5	1	
NC HATTERAS	57	44	65	34	50	5	1.02	-0.19	0.76	6.53	102	2.22	117	85	53	0	0	3	1	
NC NEW BERN	55	41	73	32	48	4	1.07	0.12	0.92	4.44	86	2.13	143	86	41	0	3	3	1	
NC RALEIGH	52	35	75	22	44	5	1.28	0.51	1.05	4.33	97	1.46	121	83	48	0	2	4	1	
NC WILLMINGTON	57	40	70	28	49	5	0.85	-0.22	0.85	4.70	82	2.05	123	95	55	0	1	1	1	
ND BISMARCK	9	-12	25	-21	-1	-10	0.12	0.01	0.09	1.30	197	0.62	365	81	67	0	7	2	0	
ND FARGO	6	-10	16	-17	-2	-8	0.03	-0.14	0.02	0.51	57	0.31	119	84	72	0	7	2	0	
ND GRAND FORKS	6	-8	11	-15	-1	-5	0.15	-0.02	0.13	0.88	97	0.15	58	89	62	0	7	2	0	
ND WILLISTON	5	-15	27	-29	-5	-13	0.04	-0.10	0.04	1.2										

Weather Data for the Week Ending January 11, 1997

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	0.1 INCH OR MORE	0.5 INCH OR MORE
OK TOLEDO	28	14	68	1	21	-2	0.33	-0.11	0.25	3.48	96	0.93	129	86	62	0	7	2	0
OK YOUNGSTOWN	30	17	64	1	24	-1	0.24	-0.28	0.21	2.97	79	0.29	35	88	63	0	7	2	0
OK OKLAHOMA CITY	36	24	43	14	30	-5	0.38	0.13	-	0.38	21	0.38	95	70	41	0	6	-	-
OR TULSA	35	21	46	10	28	-7	0.23	-0.13	0.23	0.33	12	0.23	40	74	41	0	6	1	0
OR ASTORIA	49	41	62	32	45	3	1.33	-1.04	0.56	23.92	167	3.88	104	98	88	0	1	4	2
OR BURNS	40	22	49	10	31	8	0.01	-0.23	0.01	3.99	259	1.04	267	95	61	0	7	1	0
OR MEDFORD	43	28	50	22	35	-3	0.00	-0.65	0.00	12.30	283	2.34	223	96	46	0	7	0	0
OR PENDLETON	47	33	54	25	40	8	0.00	-0.36	0.00	2.02	93	0.33	59	84	60	0	4	0	0
OR PORTLAND	48	41	52	37	45	6	0.54	-0.75	0.33	13.75	168	1.62	79	97	75	0	0	5	0
OR SALEM	48	39	55	36	43	4	0.02	-1.40	0.02	16.77	185	2.06	91	97	76	0	0	1	0
PA ALLENTOWN	37	26	50	15	32	5	0.55	-0.18	0.37	7.88	170	0.57	49	80	47	0	6	2	0
PA ERIE	33	19	66	6	26	0	0.35	-0.19	0.30	2.77	62	0.45	51	88	64	0	7	3	0
PA HARRISBURG	-	-	-	-	-	-	0.35	-0.30	-	6.34	150	0.38	36	-	-	-	-	-	-
PA PHILADELPHIA	44	30	66	20	37	8	0.36	-0.44	0.28	9.15	187	0.41	33	79	38	0	4	3	0
PA PITTSBURGH	35	19	66	5	27	1	0.68	0.08	0.57	2.60	68	0.71	75	82	55	0	6	2	1
PA SCRANTON	36	24	55	11	30	5	0.32	-0.17	0.24	5.63	172	0.36	47	81	52	0	6	2	0
RI PROVIDENCE	41	28	52	20	34	6	0.53	-0.38	0.28	7.30	126	0.69	48	78	46	0	6	4	0
SC CHARLESTON	58	42	71	27	50	2	1.64	0.86	0.75	3.82	87	1.68	138	91	54	0	1	4	2
SC COLUMBIA	53	38	70	24	46	2	2.14	1.15	1.07	4.49	87	2.15	140	91	51	0	1	4	2
SC FLORENCE	54	39	72	28	47	3	-	-	-	-	-	-	-	88	47	0	1	-	-
SC GREENVILLE	48	34	67	20	41	1	1.93	1.00	1.04	6.19	110	2.02	138	87	44	0	4	5	1
SD ABERDEEN	8	-13	25	-16	-2	-12	0.26	0.12	0.23	2.19	304	1.32	600	88	73	0	7	3	0
SD HURON	11	-5	27	-15	3	-10	0.01	-0.07	0.01	1.11	188	0.83	638	90	77	0	7	1	0
SD RAPID CITY	21	5	37	-13	13	-9	0.02	-0.06	0.02	1.41	227	0.42	323	78	54	0	7	1	0
SD SIOUX FALLS	12	-8	29	-16	3	-11	0.18	0.07	0.13	1.05	118	0.27	142	87	69	0	7	2	0
TN CHATTANOOGA	44	31	69	11	37	0	1.79	0.68	1.08	5.17	74	1.79	101	86	50	0	3	4	2
TN KNOXVILLE	42	29	68	7	35	-1	1.84	0.87	0.95	7.25	119	1.90	123	87	52	0	4	4	2
TN MEMPHIS	39	27	54	8	33	-7	0.24	-0.65	0.14	7.06	99	0.89	61	77	50	0	6	3	0
TN NASHVILLE	38	24	59	5	31	-5	0.30	-0.54	0.18	4.96	83	0.90	67	82	52	0	6	4	0
TX ABILENE	39	27	54	18	33	-9	0.08	-0.14	0.04	0.08	6	0.08	23	82	48	0	6	2	0
TX AMARILLO	30	20	41	6	25	-9	0.38	0.27	0.30	0.43	74	0.38	224	94	51	0	7	4	0
TX AUSTIN	49	33	66	25	41	-8	0.77	0.41	0.50	2.93	120	0.77	135	82	48	0	5	3	1
TX BEAUMONT	53	39	73	30	48	-5	2.18	1.05	1.31	5.44	83	2.18	122	91	52	0	2	3	2
TX BROWNSVILLE	62	44	81	34	53	-6	0.06	-0.30	0.03	0.84	47	0.06	11	94	62	0	0	2	0
TX CORPUS CHRISTI	57	40	75	31	48	-7	0.10	-0.25	0.08	0.84	46	0.11	20	86	55	0	1	2	0
TX DEL RIO	54	33	71	25	44	-5	0.09	-0.18	0.04	0.45	31	0.10	27	86	40	0	5	3	0
TX EL PASO	45	28	58	10	36	-7	0.07	-0.02	0.07	0.31	41	0.31	194	79	46	0	5	1	0
TX FORT WORTH	41	30	54	21	36	-6	0.31	-0.08	0.26	0.79	29	0.32	51	84	51	0	5	3	0
TX GALVESTON	54	42	69	33	48	-5	0.66	-0.12	0.64	4.36	92	0.80	65	87	60	0	0	2	1
TX HOUSTON	53	37	72	28	45	-5	0.35	-0.54	0.28	4.48	72	0.38	27	90	50	0	3	3	0
TX LUBBOCK	33	22	44	12	28	-11	0.22	0.14	0.21	0.22	33	0.22	169	86	53	0	7	2	0
TX MIDLAND	38	25	50	17	32	-11	0.06	-0.05	0.03	0.08	12	0.08	47	88	50	0	6	2	0
TX SAN ANGELO	41	28	54	20	34	-9	0.41	0.24	0.34	0.46	45	0.41	158	87	54	0	6	3	0
TX SAN ANTONIO	51	33	68	27	42	-7	0.18	-0.19	0.10	1.73	84	0.19	33	85	45	0	4	3	0
TX VICTORIA	53	38	71	32	45	-6	0.23	-0.54	0.18	3.37	81	1.36	114	89	51	0	2	3	0
TX WACO	42	30	54	20	36	-9	1.77	1.41	0.83	3.74	155	1.77	316	88	64	0	6	4	2
TX WICHITA FALLS	39	28	51	17	33	-6	0.27	-0.02	-	0.27	16	0.27	71	81	42	0	5	-	-
UT CEDAR CITY	39	21	51	5	30	1	0.28	0.14	0.26	1.86	207	0.88	400	87	48	0	7	2	0
UT SALT LAKE CITY	37	25	46	20	31	4	0.46	0.20	0.45	2.85	156	1.12	267	80	51	0	7	2	0
VT BURLINGTON	30	19	47	8	25	8	0.71	0.27	0.32	4.47	144	0.85	121	88	54	0	6	5	0
VA NORFOLK	51	39	71	28	45	6	0.81	-0.04	0.81	4.63	101	0.81	61	87	47	0	2	1	1
VA RICHMOND	48	33	68	22	41	5	0.62	-0.12	0.62	5.53	127	0.62	56	81	41	0	4	1	1
VA ROANOKE	43	30	66	14	37	2	0.93	0.35	0.76	3.60	93	0.95	102	80	36	0	5	3	1
WA QUILLAYUTE	47	39	49	28	43	3	4.64	1.30	3.89	20.67	100	6.33	120	98	87	0	1	5	2
WA SEATTLE-TACOMA	46	40	48	35	43	4	0.23	-1.05	0.12	13.48	170	2.18	107	98	88	0	0	3	0
WA SPOKANE	37	28	41	20	33	6	0.02	-0.46	0.02	4.41	139	0.31	41	96	69	0	6	1	0
WA YAKIMA	38	21	44	17	30	1	0.03	-0.27	-	5.82	318	0.23	50	90	72	0	7	-	-
WV BECKLEY	36	21	59	6	28	-1	1.06	0.39	0.46	4.01	93	1.10	103	87	46	0	6	4	0
WV CHARLESTON	42	25	70	9	33	1	0.40	-0.27	0.23	2.17	49	0.40	38	78	47	0	5	3	0
WV HUNTINGTON	38	21	69	4	29	-1	0.50	-0.19	0.34	2.65	57	0.52	47	84	51	0	6	3	0
WV PARKERSBURG	38	21	69	6	29	-1	0.77	0.04	0.36	3.19	78	0.77	68	88	48	0	6	3	0
WI GREEN BAY	22	7	34	-3	15	0	0.10	-0.18	0.06	1.99	102	0.77	171	87	68	0	7	2	0
WI LACROSSE	21	7	34	-3	14	0	0.38	0.18	-	2.55	159	1.14	345	82	57	0	7	-	-
WI MADISON	23	7	35	-4	15	-1	0.24	-0.04	0.21	2.12	102	0.82	178	85	61	0	7	2	0
WI MILWAUKEE	27	12	39	0	19	0	0.15	-0.25	0.15	1.91	85	0.57	89	80	57	0	7	1	0
WI WAUSAU	20	4	32	-5	12	0	0.23	0.00	0.11	2.97	165	1.20	324	81	60	0	7	3	0
WY CASPER	21	1	33	-17	11	-11	0.12	-0.02	0.06	0.91	105	0.47	214	87	57	0	7	4	0
WY CHEYENNE	22	6	35	-10	14	-12	0.17	0.09	0.14	0.21	39	0.20	154	84	47	0	7	2	0
WY LANDER	29	11	43	-8	20	1	0.05	-0.06	0.05	0.46	62	0.15	88	77	51	0	7	1	0
WY SHERIDAN	22	3	37	-31	13	-7	0.22	0.05	0.12	1.00	101	0.29	112	90	55	0	7	3	0
PR SAN JUAN	-	71	-	69	-	-	0.10	-0.62	0.07	4.35	77	1.06	91	84	82	-	-	3	0

Based on 1961-90 normals

Note: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

# National Agricultural Summary

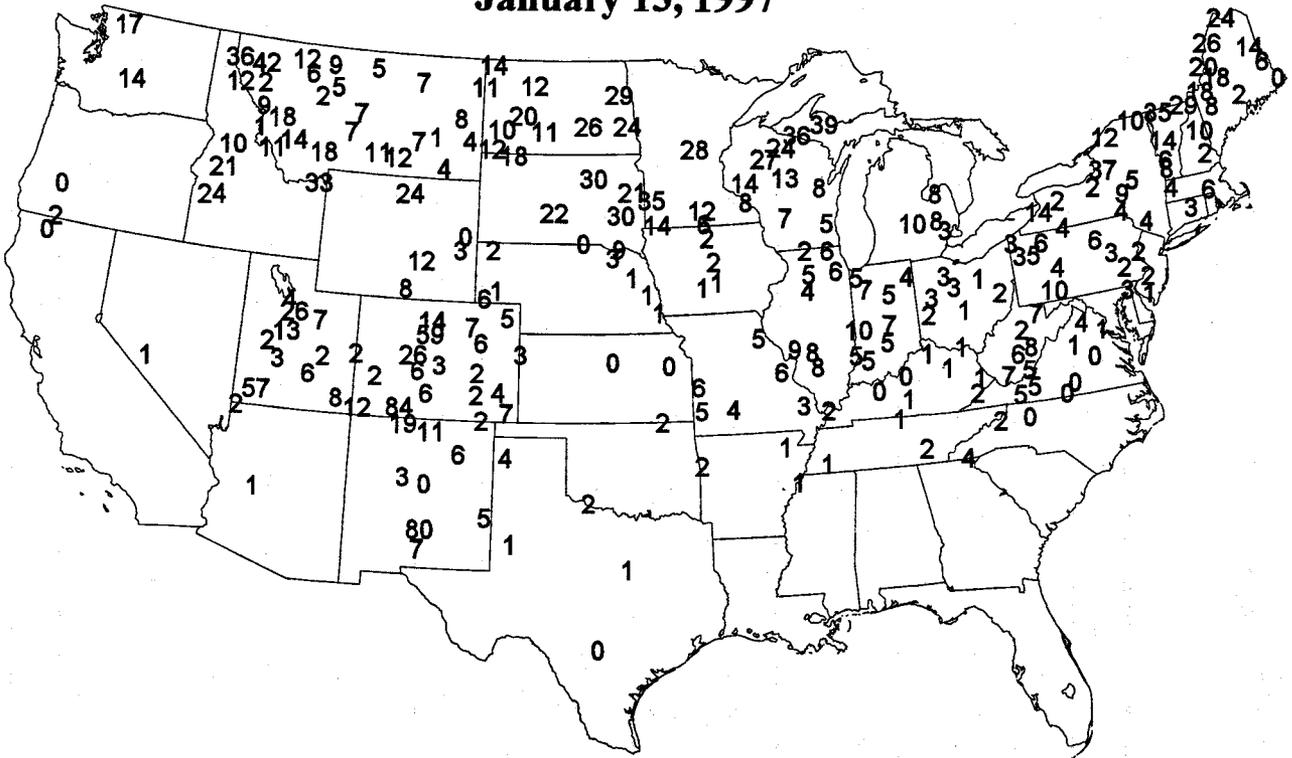
January 6 - 12, 1997

## HIGHLIGHTS

Sub-zero temperatures and windy conditions over the central and northern Great Plains threatened small grain fields that lacked adequate snow cover. Much below-normal temperatures covered western and central Kansas on January 11-13, where gaps in the snow cover left some winter wheat vulnerable to freeze damage. Wheat in the southern Great Plains, however, was unharmed by the chilly weather. Dry weather over

the Pacific Coast brought welcomed relief to producers in low-lying areas who were still assessing flood damage. Dry conditions in Florida's citrus belt were diminished by late-week rains, but many groves were still irrigated to maintain good growth. Harvest of the Sunshine State's early- and mid-season citrus was active, while windy conditions stalled some vegetable harvest progress in southern Florida.

### SNOW DEPTH (Inches) January 13, 1997



*The NWS co-operative observer network is the principal source of the snow depth reports. Gaps in data coverage will be disappearing as more data come online.*

Experimental product based on preliminary data  
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

## 1996 Weather Review

Highlights in 1996 included record wetness over much of the country, especially along both coasts; severe cold and snow over central and eastern regions early in the year; major drought across the southern Plains during the first half of the year; mostly favorable growing weather across the Corn Belt this summer; a very active tropical storm season along the eastern seaboard; and damaging storms and floods along the West Coast near the beginning and end of the year. For the year as a whole, most of the country was cooler and wetter than normal (figs. 1 and 2).

### Winter (December 1995 - February 1996)

The winter was wet and mild across the Rockies and Pacific States, unusually dry over the central and southern Plains and Southwest, and cold and stormy across the northern Plains and eastern third of the country. The dryness over the hard red winter wheat region in the Plains States continued the pattern that began during the autumn of 1995. Total winter precipitation failed to exceed 1 inch over much of Nebraska, Kansas, west Texas, and New Mexico.

**Table 1. Temperature/Precipitation Rankings for 1996**

Based on the Period 1895-1996

1 = Driest/Coldest, 102 = Wettest/Hottest

Region	Precipitation	Temperature
Northeast	102	39
East North Central	64	9
Central	80	11
Southeast	69	19
West North Central	93	15
South	40	48
Southwest	46	99
Northwest	102	73
West	97	101
National	96	49

Frequent snowstorms, headlined by the "Blizzard of '96" on January 6-8, characterized the winter over the East, with locations from the Great Lakes region to the mid-Atlantic and New England States recording the snowiest season of the century, if not for all time. Wet, mild weather after the snowfalls of early January led to massive snowmelt, producing severe flooding across the eastern seaboard on January 19-24.

A severe cold wave peaked on February 2-5, setting numerous monthly and all-time records from the upper Midwest into the Southeast. The central Plains' winter wheat was exposed to readings as low as  $-20^{\circ}\text{F}$  on February 3. For the western Great Lakes region, this was the most severe short-term cold outbreak

since 1899. Florida sustained its worst freeze of the year on February 5, but crops escaped major damage. Bitter cold in the Pacific Northwest in early February gave way to mild, rainy weather, contributing to major flooding in Oregon and Washington around February 6-9. Floodwaters were the highest since 1964 in Portland, Oregon.

### Spring (March - May)

Stagnant high pressure aloft over the West coupled with troughing over the East caused precipitation to target the Corn Belt and miss areas to the west, resulting in continued drought over the southern Plains and more stormy weather over the the Midwest and East. Precipitation totals reached only 50 percent of normal from southern California eastward to Texas, while amounts exceeded 150 percent of normal across much of the Northwest, Corn Belt, and mid-Atlantic regions. A change in the circulation pattern contributed to drought relief in the central Plains, but unrelenting rainfall and persistent coolness to the east slowed corn and soybean planting and development.

The spring of 1996 was one of the coldest on record from the northern Plains to the Northeast, with temperatures averaging as much as  $6^{\circ}\text{F}$  below normal in the Dakotas. In contrast, readings averaged 2 to 4  $^{\circ}\text{F}$  above normal across the Southwest. Precipitation totaled less than 2 inches over southern Texas and the western Texas Panhandle, as well as Arizona and New Mexico. Brownsville, Texas tallied its driest January-May on record (0.79 inches).

Freezes on March 7-10 and 21-23 damaged wheat, ground crops, and tree blooms, including peaches from Texas to South Carolina. Monthly temperatures averaged as much as  $6^{\circ}\text{F}$  below normal over the Southeast.

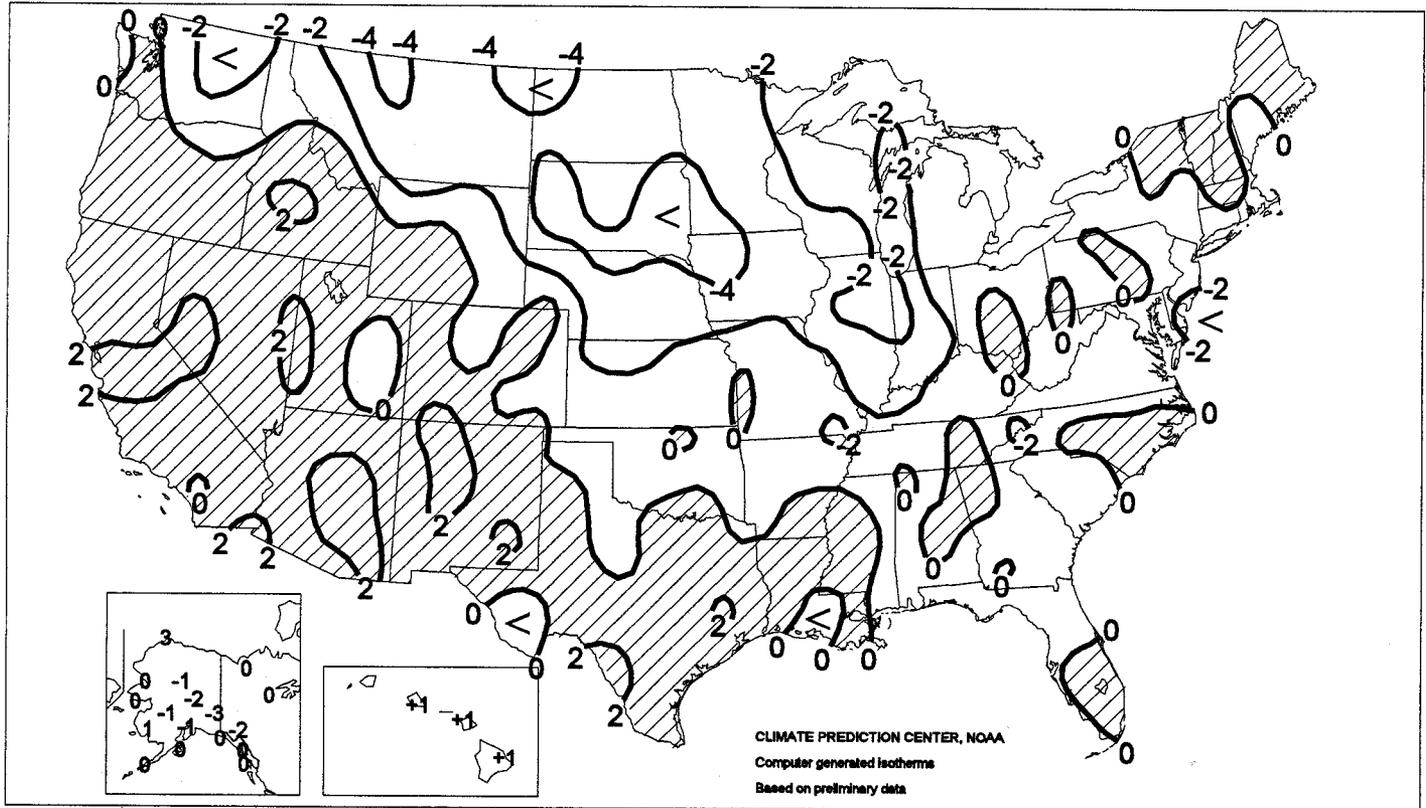
Heavy rain began to cause flood problems during April in the lower Ohio Valley, where over 8 inches fell. Totals from late April to late June reached 12 to 16 inches or more across the Midwest. Severe thunderstorms contributed to the ample amounts, with many storms delivering hail, damaging winds, and tornadoes. On April 19, the Illinois record for the most tornadoes in 1 day was broken when 30 separate storms were sighted. Damaging twisters also struck Arkansas in the Ft. Smith area on April 21 and Kentucky on May 28.

May saw the hottest weather of the year for many places east of the Rockies, as temperatures soared into the 90's and 100's on May 16-23 from Texas to New England, breaking scores of daily records and more than a dozen monthly records.

### Summer (June - August)

The circulation pattern changed remarkably little in the winter, spring, and summer, with troughing over the East steering a steady

**Departure of Average Temperature from Normal (°F)  
Annual 1996**



**Figure 1**

progression of Canadian air masses toward the central and eastern parts of the country. Ridging aloft over the West kept conditions hot and dry from the Continental Divide to the Pacific coast. Above-normal rainfall relieved drought from Nebraska south to Texas and west to New Mexico, but areas from Montana to the Great Basin recorded totals mostly under 50 percent of normal. Temperatures averaging some 2 to 4°F above normal across this region intensified dry conditions, resulting in a record year for wildfires. As of September 1, fires had consumed 5.67 million acres across the continental 49 States, establishing 1996 as the worst fire year in 20 years of records.

The summer featured numerous bouts of heavy rains from the Midwest to the mid-Atlantic and Northeast, as well as the lower Mississippi Valley. Summer rainfall exceeded 16 inches in some areas. Especially noteworthy was the large thunderstorm complex over the Midwest during July 15-19. Flooding resulted from torrential rains over northern Illinois on July 17-18. Aurora, Illinois set a State record when 16.91 inches of rain fell in 24 hours.

Days with high temperatures were few and far between from the central States to the east coast. For the first time since 1915, Portland, Maine did not see readings above 86°F during the summer. In Charleston, West Virginia, the mercury failed to reach

90°F during June-August. Across the western Corn Belt, temperatures averaged 2 to 4°F below normal for the 3 months.

Tropical storms and hurricanes contributed to the unusually wet year across the East. Four named storms struck the U.S. mainland this year, a fifth crossed Puerto Rico, and three other Atlantic storms and one Pacific storm contributed to rains over the continental United States.

Hurricane Bertha hit the North Carolina coast on July 12 bearing winds exceeding 100 mph. The storm's remnants dropped 2-6 inches of rain in a swath up to the Northeast.

### Autumn (September - November)

Hurricane Fran was the most destructive hurricane of the year, striking North Carolina on September 5 with gusts near 120 mph. The storm brought up to 9 inches of rain to the State and led to major river flooding from the Carolinas to Pennsylvania. The National Hurricane Center estimated the final death toll at 34 and damage total at \$3.2 billion. Later, Hurricane Hortense crossed Puerto Rico on September 10 with 80-mph winds and rainfall totals up to 23 inches. Hurricane Lili did not strike land, but the storm contributed to the unusually high rainfall totals accompanying a "nor'easter" on October 19-22. Areas from New

Percent of Normal Precipitation  
Annual 1996

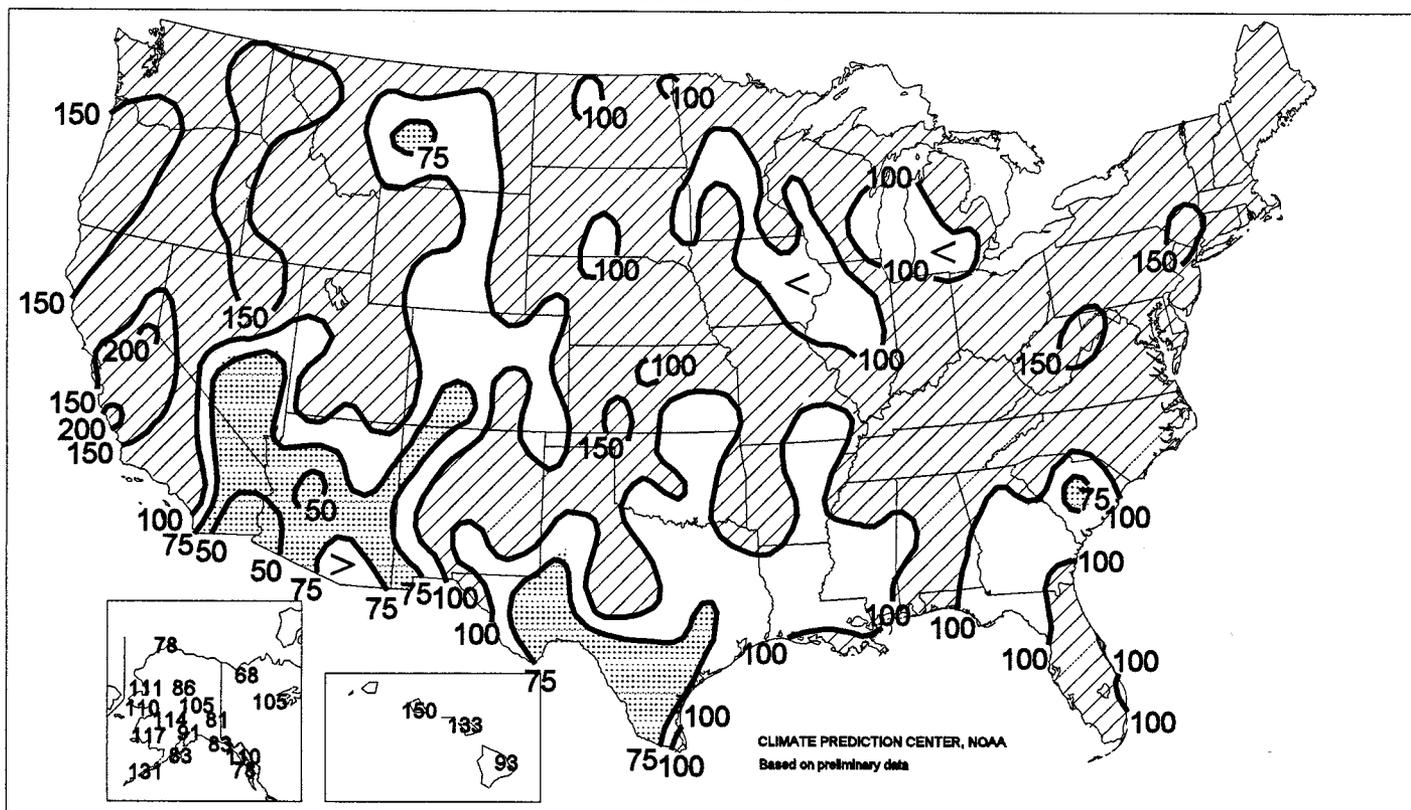


Figure 2

Jersey to Maine recorded 5-10 inches of rain, and locally higher amounts were noted. Over Maine, up to 19.19 inches fell.

Autumn was wet and cool for most of the country. Canadian air masses brought record cold and snow to the country in November. Extremely heavy lake-effect snows accompanied a polar blast on November 9-14, with over 50 inches reported downwind of Lake Erie. A cold wave on November 24-26 sent temperatures plummeting across the northern Plains. Aberdeen, South Dakota recorded -24°F on the 26th, exceeding the old daily record by 8°F.

The "Pineapple Express" jet stream transported huge amounts of moisture from Hawaii to the West Coast during November. Honolulu, Hawaii recorded 18.58 inches of rain in only 2 weeks (November 3-16). Heavy rain and snow caused floods and mudslides in the Pacific Northwest during November 17-20.

**December**

December featured record rain and snow across the Northwest and California. Nonstop heavy precipitation during the last week of the year resulted in major flooding for Idaho, Washington, Oregon,

California, and Nevada. Some locations in the Sierra Nevada totaled more than 40 inches of precipitation for the month. Snowmelt from mild weather at the end of the year contributed to the flooding, which became especially acute in northern California by the first week of the new year.

Heavy rain and snow also contributed to record annual precipitation totals over the Northeast in December. Back-to-back snowstorms in early December caused enormous damage to trees and powerlines in New England, leaving more than 400,000 utility customers without power.

Several cold outbreaks and blizzards threatened livestock and winter crops this month. A December 18-19 cold spell accompanied a blizzard in the northern Plains that had wind chills drop to -30°F to -50°F. In Texas, Brownsville's reading of 29°F was their lowest in 6 years. Thermometers dipped well below 0°F as far south as western Kansas and the plains of Colorado on the 19th. A second outbreak brought subzero reading to the Plains States on December 25-26, including a low of -36°F at Glasgow, Montana.

# PRECIPITATION SUMMARY

## Annual 1996

STATES AND STATIONS	PRECIPITATION				STATES AND STATIONS	PRECIPITATION				STATES AND STATIONS	PRECIPITATION			
	TOTAL	NORMAL	DEPARTURE	% NORMAL		TOTAL	NORMAL	DEPARTURE	% NORMAL		TOTAL	NORMAL	DEPARTURE	% NORMAL
AL BIRMINGHAM	62.73	54.58	8.15	115%	MUSKEGON	26.97	32.46	-5.49	83%	RI PROVIDENCE	61.51	45.64	5.87	113%
AL HUNTSVILLE	60.17	57.18	2.99	105%	WHITE LAKE	34.45	N/A	N/A	N/A	SC CHARLESTON	45.70	51.05	-5.35	90%
AL MOBILE	66.73	63.96	2.77	104%	MN DULUTH	37.04	30.00	7.04	123%	COLUMBIA	33.16	49.91	-16.75	66%
AK MONTGOMERY	63.11	53.43	9.68	118%	INTL FALLS	28.59	24.36	4.23	117%	GREENVILLE	53.70	51.27	2.43	105%
AK JUNEAU	58.88	54.31	5.57	110%	MINNEAPOLIS	28.06	28.32	-2.26	92%	SD ABERDEEN	24.99	18.55	6.44	135%
AK KODIAK	56.41	67.58	-11.17	83%	ROCHESTER	30.07	29.68	0.41	101%	HURON	20.87	20.08	0.79	104%
AZ FLAGSTAFF	11.81	22.80	-10.99	52%	ST. CLOUD	21.54	27.43	-5.89	79%	RAPID CITY	22.36	17.28	5.08	129%
AZ PHOENIX	4.38	7.66	-3.28	57%	JACKSON	54.96	55.37	-0.41	99%	SIoux FALLS	19.84	23.86	-4.02	83%
AZ TUCSON	10.50	12.00	-1.50	88%	MERIDIAN	54.72	56.71	-1.99	96%	TN BRISTOL	50.10	40.85	9.25	123%
AR FORT SMITH	57.00	40.90	16.10	139%	TUPELO	63.18	55.87	7.31	113%	CHATTANOOGA	55.55	53.65	1.90	104%
AR LITTLE ROCK	51.43	49.25	2.18	104%	COLUMBIA	41.30	39.05	2.25	106%	KNOXVILLE	50.76	47.30	3.46	107%
CA BLUE CANYON	126.14	62.67	63.47	201%	KANSAS CITY	40.82	37.62	3.20	108%	MEMPHIS	76.01	52.10	23.91	146%
CA EUREKA	60.61	37.53	23.08	161%	ST. JOSEPH	34.07	35.69	-1.62	95%	NASHVILLE	48.66	47.30	1.36	103%
CA SACRAMENTO	24.33	17.52	6.81	139%	ST. LOUIS	43.81	37.51	6.30	117%	ABILENE	28.96	24.40	4.56	119%
CO ALAMOSA	5.43	7.57	-2.14	72%	SPRINGFIELD	44.86	43.04	1.82	104%	AMARILLO	20.59	19.58	1.03	105%
CO CO. SPRINGS	16.93	16.24	0.69	104%	BILLINGS	13.37	14.98	-1.61	89%	AUSTIN	29.58	31.88	-2.30	93%
CO DENVER	10.25	16.11	-5.86	64%	BUTTE	16.81	12.10	4.71	139%	BEAUMONT	49.29	57.29	-8.00	86%
CO GRAND JUNCTION	10.06	8.84	1.42	116%	GLASGOW	10.40	10.96	-0.56	95%	BROWNSVILLE	28.72	26.61	2.11	108%
CO PUEBLO	13.03	11.19	1.84	116%	GREAT FALLS	12.24	15.21	-2.97	80%	CORPUS CHRISTI	18.62	30.13	-11.51	62%
CT BRIDGEPORT	56.43	41.66	13.77	133%	HELENA	10.00	11.60	-1.60	86%	DALLAS-FT. WORTH	33.22	33.70	-0.48	99%
CT HARTFORD	56.50	44.26	12.24	128%	KALISPELL	25.78	16.49	9.29	156%	DEL RIO	11.29	18.24	-6.95	62%
DE WILMINGTON	52.44	40.84	11.60	128%	MILES CITY	13.59	N/A	N/A	N/A	EL PASO	9.25	8.81	0.44	105%
DC WASHINGTON	51.02	38.63	12.39	132%	MISSOULA	19.55	13.46	6.09	145%	GALVESTON	38.31	42.28	-3.97	91%
FL DAYTONA BEACH	60.50	47.89	12.61	126%	GRAND ISLAND	31.11	24.90	6.21	125%	HOUSTON	42.82	54.11	-11.29	79%
FL FT. LAUDERDALE	67.06	60.84	6.42	111%	HASTINGS	29.80	27.80	2.00	107%	LUBBOCK	14.13	18.65	-4.52	76%
FL FT. MYERS	57.29	53.37	3.92	107%	KEARNEY	31.20	24.79	6.41	126%	MIDLAND	8.84	14.96	-6.12	59%
FL JACKSONVILLE	60.66	51.32	9.34	118%	LINCOLN	35.89	28.30	7.59	127%	SAN ANGELO	22.50	20.45	2.05	110%
FL KEY WEST	40.05	39.59	0.46	101%	NORFOLK	24.97	25.15	-0.18	99%	SAN ANTONIO	17.80	30.98	-13.18	57%
FL LAKELAND	51.01	N/A	N/A	N/A	NORTH PLATTE	24.79	19.30	5.49	128%	VICTORIA	29.61	37.41	-7.80	79%
FL MELBOURNE	49.52	46.49	4.03	109%	OMAHA	31.52	29.91	1.61	105%	WACO	26.82	31.95	-5.13	84%
FL MIAMI	51.26	55.91	-4.65	92%	SCOTTSBLUFF	16.49	15.28	1.23	108%	WICHITA FALLS	22.83	28.90	-6.07	79%
FL ORLANDO	56.66	48.11	8.55	118%	VALENTINE	17.04	18.23	-1.19	93%	UT SALT LAKE CITY	17.33	16.18	1.15	107%
FL PENSACOLA	66.76	62.23	4.52	107%	ELKO	15.24	9.93	5.31	153%	VT BURLINGTON	41.27	34.47	6.80	120%
FL RUSKIN	44.52	N/A	N/A	N/A	ELY	7.31	10.13	-2.82	72%	VA DULLES AIRPORT	58.08	40.24	17.84	144%
FL SARASOTA	47.19	N/A	N/A	N/A	LAS VEGAS	2.76	4.13	-1.37	67%	LYNCHBURG	N/A	40.88	N/A	N/A
FL TAMPA	49.41	43.92	5.49	113%	RENO	12.21	7.53	4.68	162%	NORFOLK	53.76	44.53	9.23	121%
GA ATHENS	45.91	49.74	-3.83	92%	WINNEMUCCA	10.71	8.23	2.48	130%	RICHMOND	54.19	43.16	11.03	126%
GA ATLANTA	44.96	50.77	-5.81	89%	CONCORD	47.30	36.37	10.93	130%	WA HANFORD	12.19	6.28	5.93	195%
GA AUGUSTA	38.30	44.66	-6.36	86%	NEWARK	58.06	43.97	14.09	132%	SAND POINT	48.69	N/A	N/A	N/A
GA COLUMBUS	44.26	51.00	-6.74	87%	ALBUQUERQUE	9.76	8.88	0.88	110%	SEATTLE	61.73	37.19	14.54	139%
GA MACON	38.50	44.63	-6.13	86%	ALBANY	48.54	36.17	12.37	134%	SPOKANE	25.13	16.48	8.65	152%
GA SAVANNAH	37.89	49.34	-11.45	77%	BINGHAMTON	49.00	36.99	12.01	132%	WV YAKIMA	14.78	7.97	6.81	186%
HI HILO	120.21	129.19	-8.98	93%	BROOKHAVEN LAB	60.22	48.04	12.18	125%	WA BECKLEY	55.73	41.03	14.70	136%
ID HONOLULU	32.97	22.02	10.96	150%	BUFFALO	48.22	38.58	9.64	125%	CHARLESTON	54.66	42.53	12.13	129%
ID POCATELLO	13.58	12.14	1.44	112%	CENTRAL PARK	56.19	47.25	8.94	119%	ELKINS	73.13	44.84	28.29	163%
IL CHICAGO	30.72	35.82	-5.10	86%	ROCHESTER	45.62	31.96	13.56	142%	HUNTINGTON	49.97	43.39	6.58	115%
IL MIDWAY AIRPORT	40.39	N/A	N/A	N/A	SYRACUSE	39.39	38.94	0.45	101%	WI GREEN BAY	25.39	28.88	-3.49	88%
IL MOLINE	27.88	39.14	-11.26	71%	ASHEVILLE	47.17	47.59	-0.42	99%	LACROSSE	29.87	30.55	-0.68	98%
IL PEORIA	29.50	36.25	-6.75	81%	CHARLOTTE	40.15	43.09	-2.94	93%	MADISON	31.31	30.88	0.43	101%
IL ROCKFORD	42.83	36.28	6.55	118%	GREENSBORO	N/A	42.62	N/A	N/A	MILWAUKEE	24.14	32.93	-8.79	73%
IL ROMEVILLE	42.30	N/A	N/A	N/A	RALEIGH-DURHAM	59.13	41.43	17.70	143%	WY CASPER	10.80	12.52	-1.92	85%
IL SPRINGFIELD	32.52	35.35	-2.83	92%	WILMINGTON	64.44	-54.27	10.17	119%	CHIYENNE	15.80	14.40	1.40	110%
IN EVANSVILLE	64.08	43.14	20.94	149%	BISMARCK	20.61	15.47	5.14	133%	LAENDER	11.85	13.01	-1.16	91%
IN FT. WAYNE	44.43	34.83	9.60	126%	DICKINSON	15.37	16.11	-0.74	96%	RIVERTON	6.03	N/A	N/A	N/A
IN INDIANAPOLIS	56.82	39.94	16.88	142%	FARGO	20.78	19.45	1.33	107%	SHERIDAN	N/A	14.48	N/A	N/A
IN SOUTH BEND	45.50	39.14	6.36	116%	JAMESTOWN	18.09	16.89	1.20	107%	PR SAN JUAN	67.26	50.86	16.40	132%
IN BURLINGTON	34.41	36.12	-1.71	95%	MINOT	15.91	18.57	-2.66	86%					
IN CEDAR RAPIDS	30.93	33.77	-2.84	92%	WILLISTON	14.69	13.67	1.02	107%					
IN DES MOINES	40.72	33.17	7.55	123%	AKRON-CANTON	46.26	36.82	9.44	126%					
IN DUBUQUE	32.16	38.43	-6.27	84%	CINCINNATI	53.40	41.33	12.07	129%					
IN SIOUX CITY	31.84	25.86	5.78	122%	CLEVELAND	46.36	36.63	9.73	127%					
IN WATERLOO	29.73	33.75	-4.02	89%	COLUMBUS	46.57	38.09	7.48	120%					
KS CONCORDIA	28.41	28.78	-0.37	99%	DAYTON	54.70	36.64	18.06	149%					
KS GOODLAND	19.27	18.20	1.07	106%	MANSFIELD	53.39	39.66	13.73	135%					
KS DODGE CITY	32.43	21.49	10.94	151%	TOLEDO	30.29	32.97	-2.68	92%					
KS TOPEKA	37.52	35.23	2.29	107%	YOUNGSTOWN	41.93	37.32	4.61	112%					
KS WICHITA	28.49	29.33	-0.84	97%	OKLAHOMA CITY	37.90	33.42	4.48	113%					
KY JACKSON	58.80	49.67	9.13	118%	TULSA	33.66	40.59	-6.93	83%					
KY LEXINGTON	53.79	44.55	9.24	121%	ASTORIA	92.86	66.40	26.46	140%					
KY LOUISVILLE	56.44	44.39	12.05	127%	BURNS	13.89	9.96	3.93	139%					
LA PADUCAH	56.73	49.30	7.43	115%	EUGENE	77.17	49.37	27.80	156%					
LA BATON ROUGE	59.23	60.89	-1.66	97%	MEDFORD	31.41	18.86	12.55	167%					
LA LAKE CHARLES	53.79	54.96	-1.17	98%	PENDLETON	14.52	12.02	2.50	121%					
LA NEW ORLEANS	57.06	61.88	-4.82	92%	PORTLAND	63.56	36.30	27.26	175%					
LA SHREVEPORT	44.80	46.11	-1.51	97%	SALEM	66.71	39.18	27.55	170%					
ME CARIBOU	40.42	36.60	3.82	110%	TILLAMOOK	122.73	N/A	N/A	N/A					
ME PORTLAND	56.27	44.34	11.93	127%	ALLENTOWN	56.91	43.52	13.39	131%					
MD BALTIMORE	58.33	40.76	17.57	143%	ERIE	49.25	41.53	7.72	119%					
MA BOSTON	52.87	41.52	11.35	127%	HARRISBURG	52.43	40.50	11.93	129%					
MA WORCESTER	57.04	47.88	9.16	119%	PHILADELPHIA	56.46	41.41	15.05	136%					
MI GRAND RAPIDS	27.59	35.97	-8.38	77%	PITTSBURGH	45.47	36.85	8.62	123%					
MI LANSING	30.32	30.57	-0.25	99%	SCRANTON	49.00	36.18	12.82	135%					
MI MARQUETTE	42.43	35.30	7.13	120%	WILLIAMSPORT	54.01	40.72	13.29	133%					

Based on 1961-90 normals.

# International Weather and Crop Summary

January 5 - 11, 1997

## HIGHLIGHTS

**FSU-WESTERN:** Light snow accompanied a gradual warming trend, improving overwintering conditions for winter grains.

**EUROPE:** Temperatures moderated over the continent, improving overwintering conditions for winter grains.

**SOUTH AMERICA:** In southern Brazil, showers eased the drying trend, but additional rain is still needed for summer crops. In central Argentina, widespread showers favored summer crops, but slowed late winter wheat harvesting.

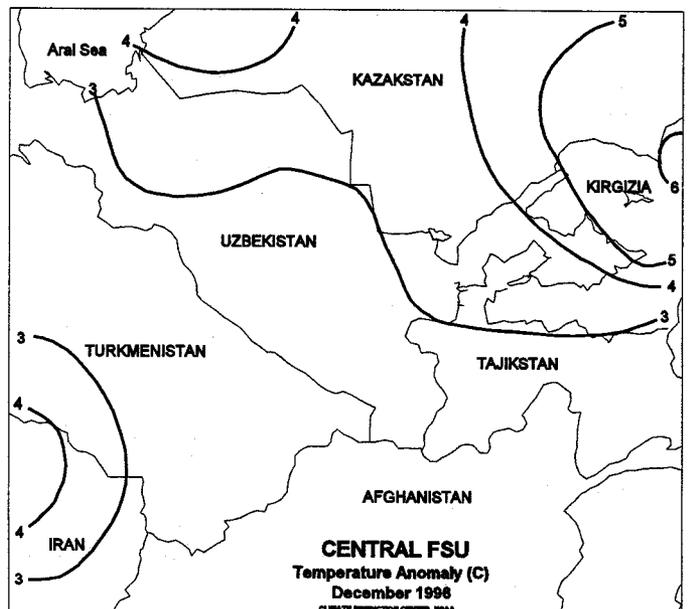
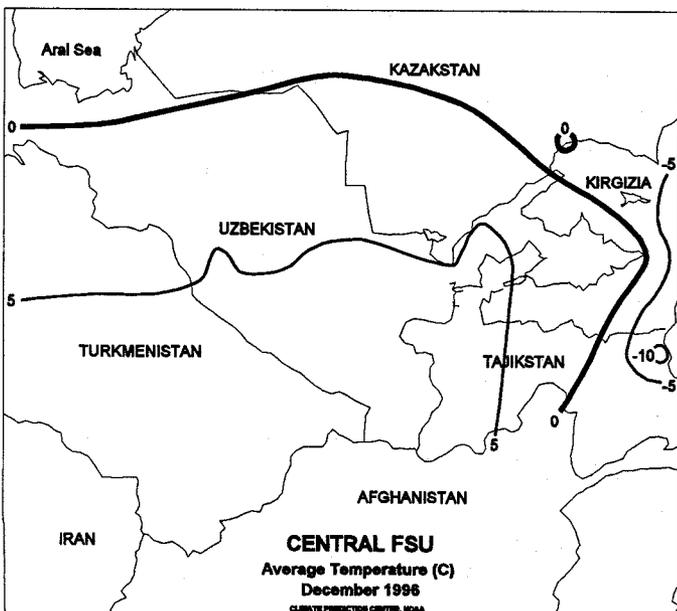
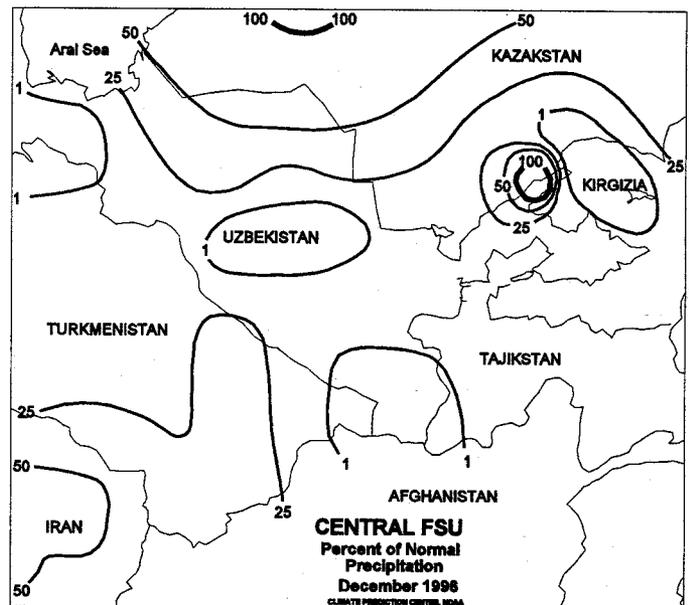
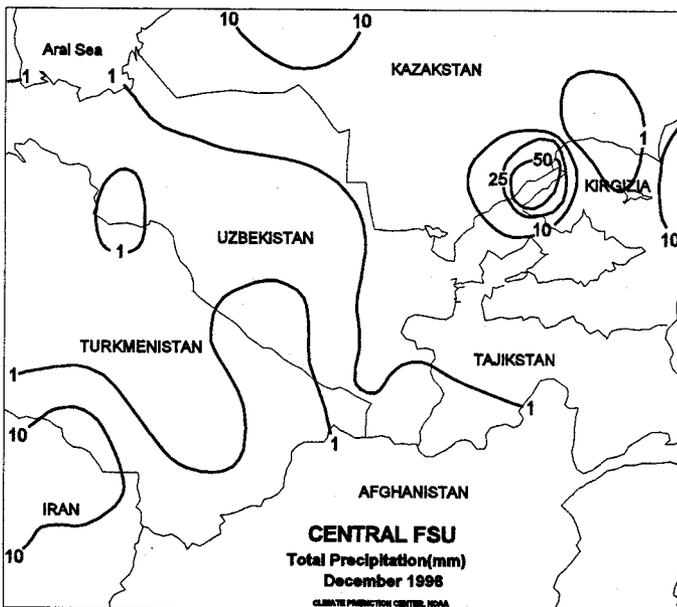
**AUSTRALIA:** Dry, warm weather dominated the east, enhancing crop growth but causing some stress in the western grazing areas.

**SOUTH AFRICA:** Drier, favorably mild weather returned to the western corn belt.

**SOUTHEAST ASIA:** Across Java, seasonable showers maintained irrigation supplies for main-season rice and possibly caused additional flooding.

**EASTERN ASIA:** Cold weather had minimal impact on dormant winter wheat across the North China Plain.

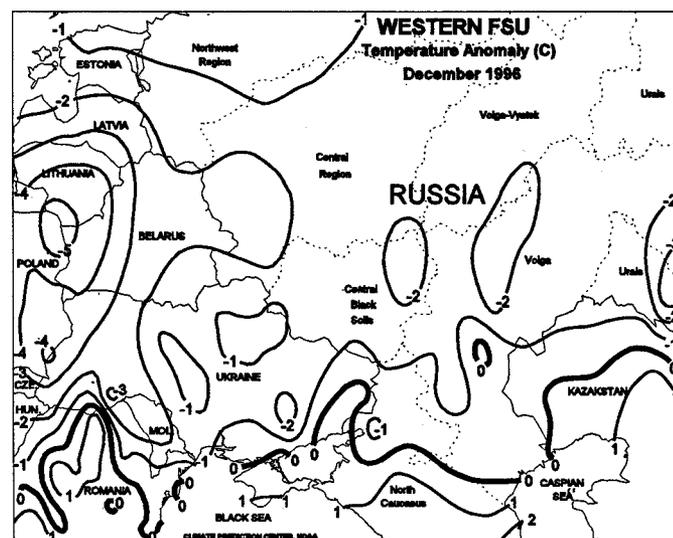
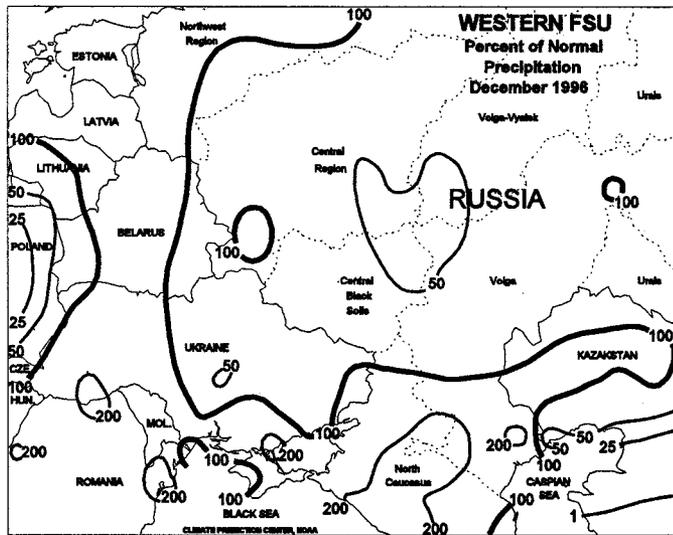
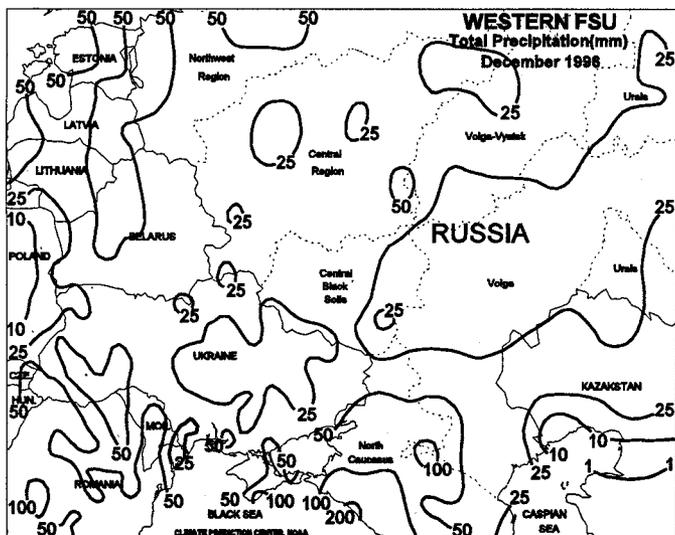
**NORTHWESTERN AFRICA:** Light to moderate showers in Algeria and Tunisia brought temporary relief to winter grains previously stressed by prolonged dryness.

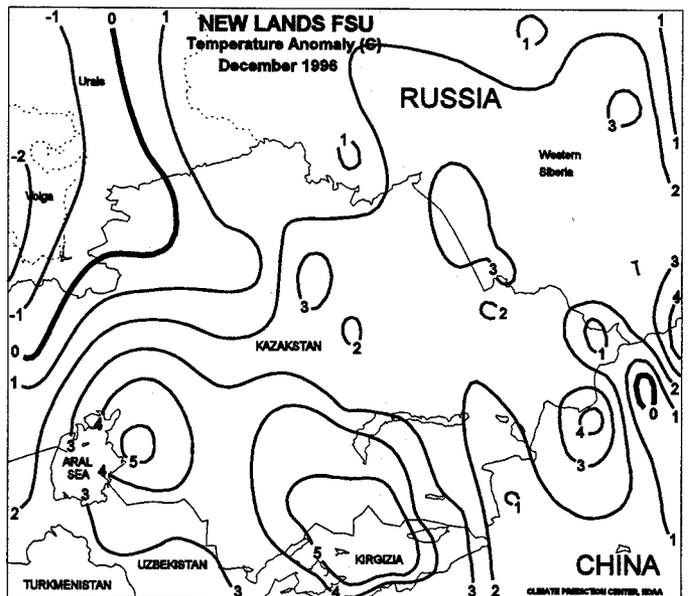
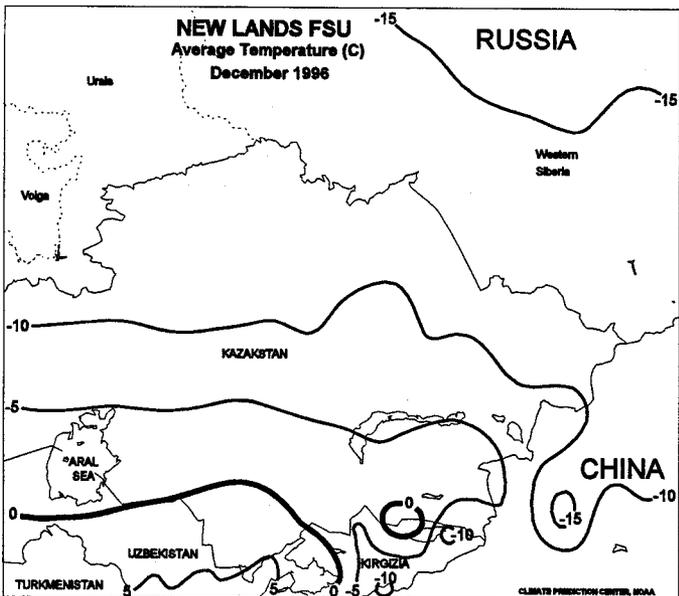
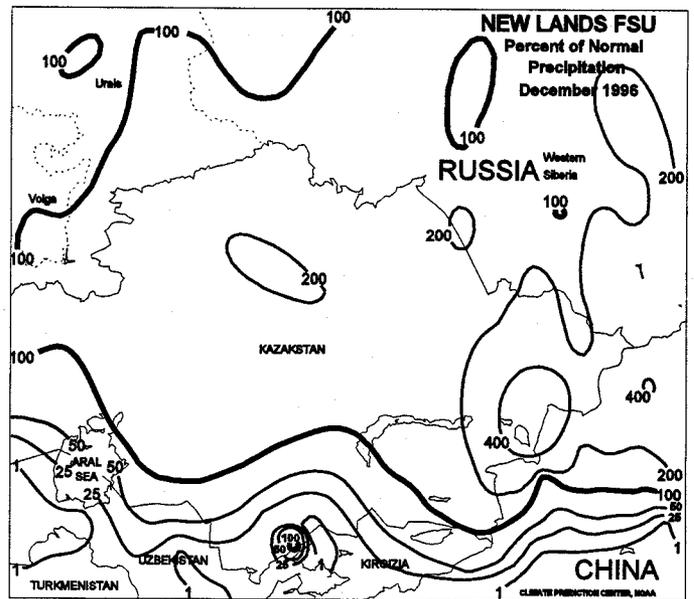
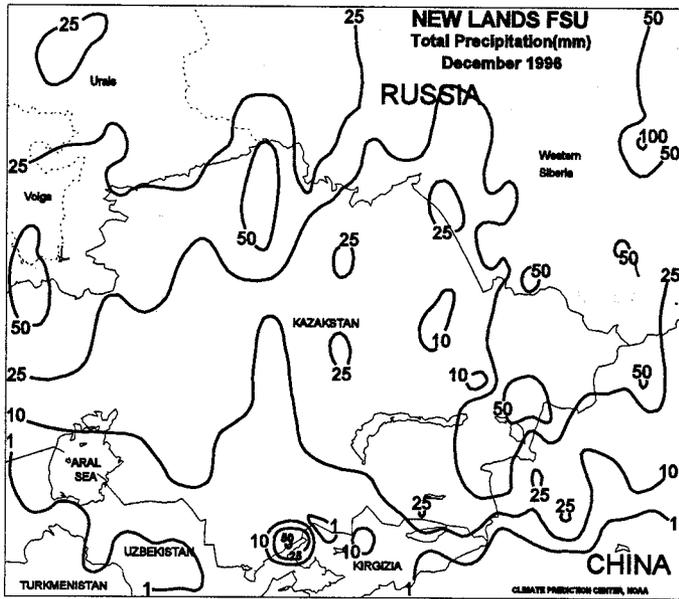


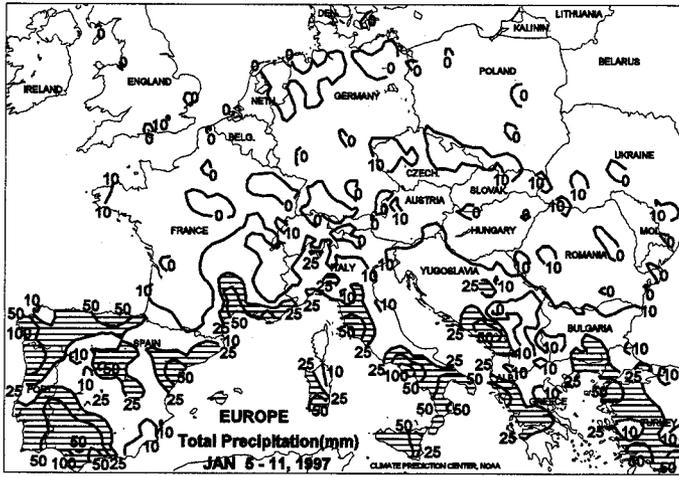


**FSU-WESTERN**

Light snow (2-21 mm liquid equivalent) accompanied a gradual moderation in temperatures over Russia, Ukraine, Belarus, and the Baltics, improving overwintering conditions for winter grains. Weekly temperatures averaged 2 to 7 degrees C below normal over most of the region. Lowest temperatures ranged from -20 to -30 degrees C over most of Russia, and -15 to -22 over Ukraine, Belarus, and Baltics. In December, above-normal precipitation fell in southern and western Ukraine, the North Caucasus Region in Russia, Belarus, and the Baltics, increasing moisture reserves. Elsewhere, precipitation was below normal in northeastern Ukraine and the remainder of Russia. Following a prolonged period of unusually mild weather, temperatures in late December fell sharply in Ukraine, Russia, Belarus, and the Baltics. Lowest temperatures occurred during December 24, 1996 to January 4, 1997, ranging from -20 to -36 degrees C in most areas. The exceptions were in southern Ukraine and western areas in North Caucasus region in Russia, where temperatures ranged from -10 to -20 degrees C. In most areas, snow accompanied the bitter cold, providing some protection from extreme cold. However, snow cover was thin and patchy in a band that stretched across northern Ukraine eastward into Russia (northern tip of North Caucasus and central Volga Valley), leaving winter grains vulnerable to potential freeze damage.

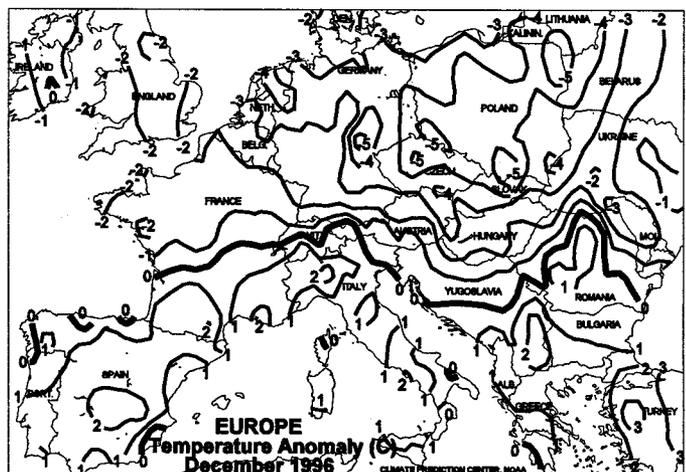
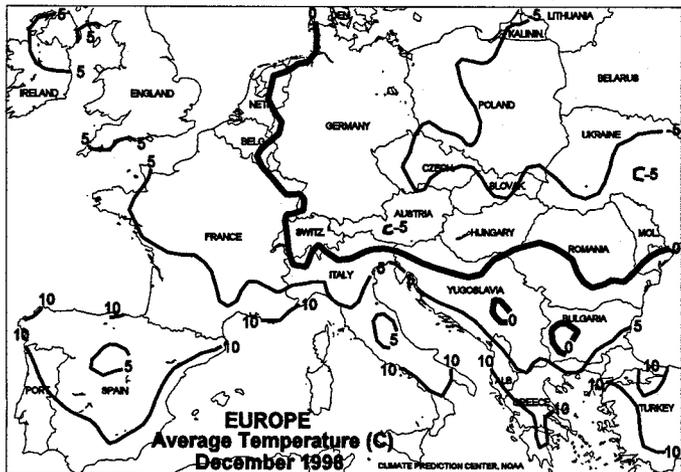
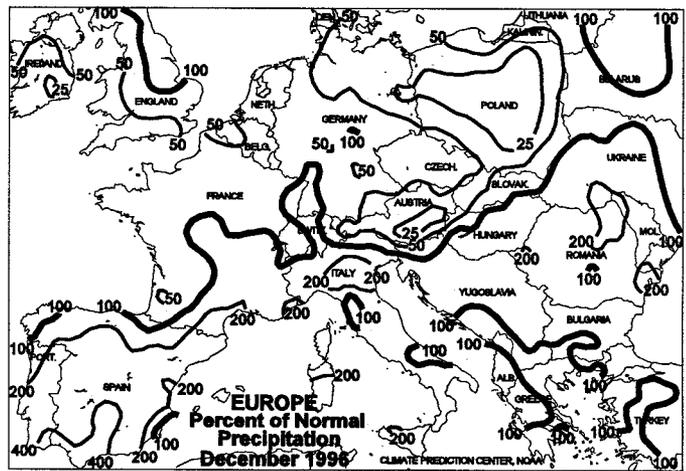
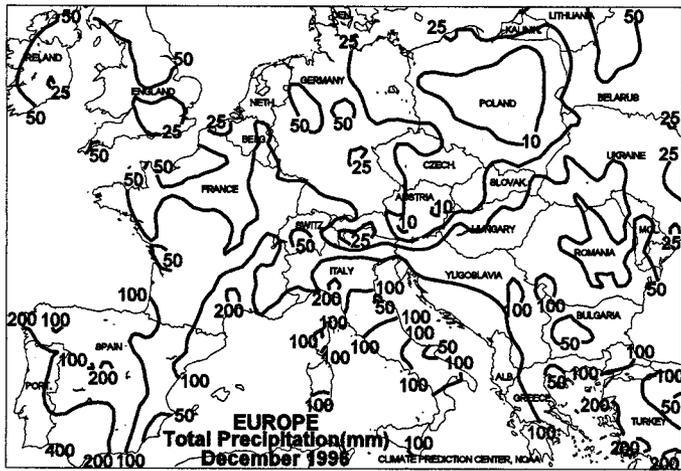


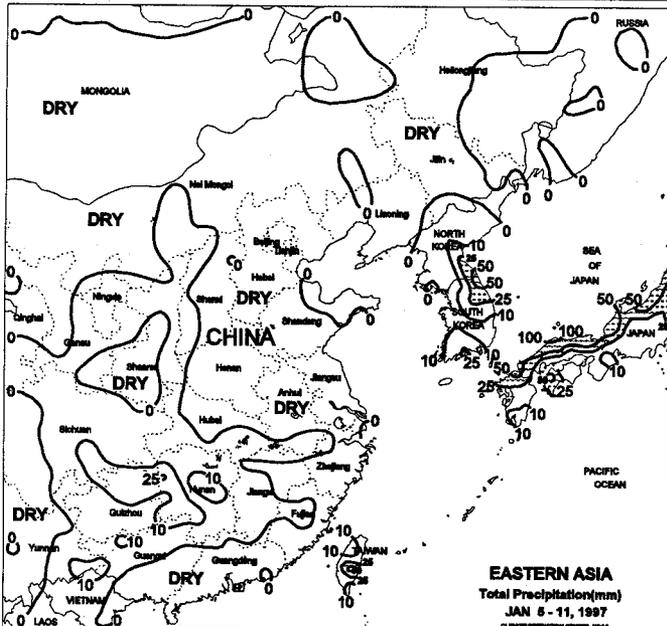




EUROPE

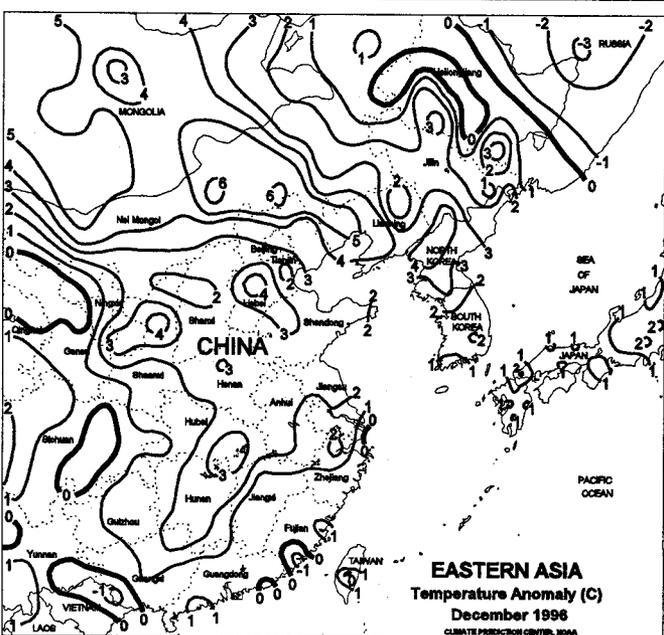
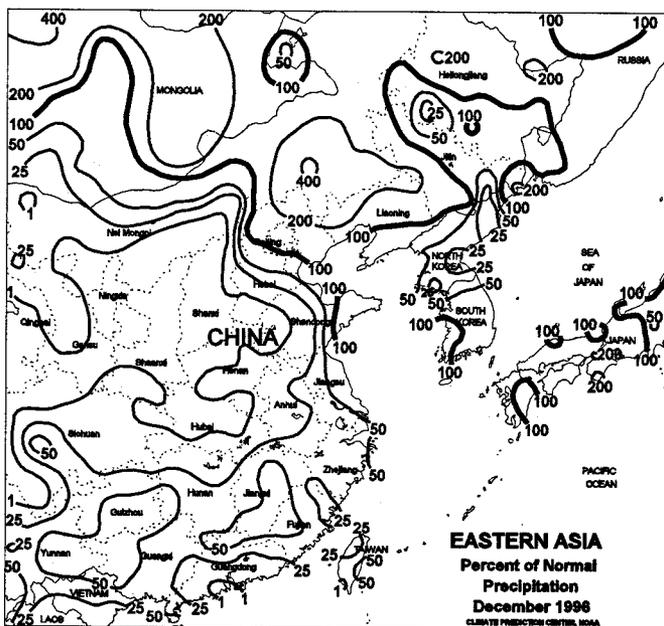
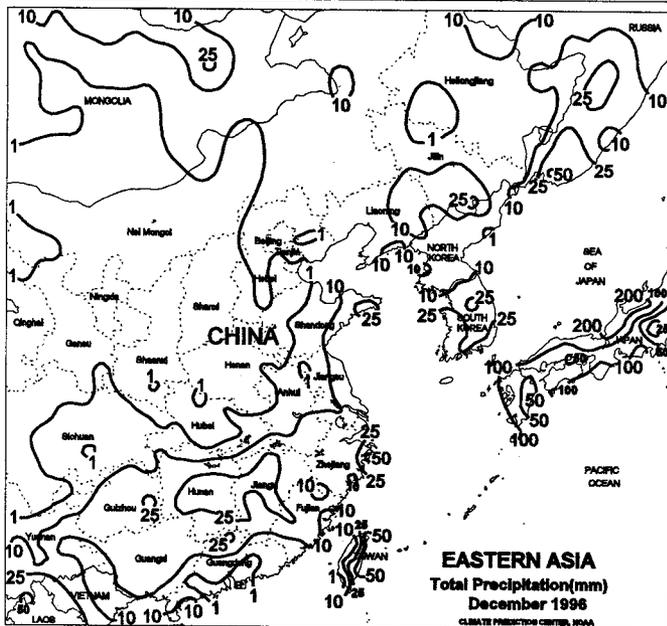
Temperatures moderated over most of the continent, improving overwintering conditions for winter crops. However, weekly temperatures still averaged 4 to 8 degrees C below normal from England and northern France, eastward through Germany, into Poland. Lowest temperatures ranged from -3 to -10 degrees C in England, France, and most of southeastern Europe, and -10 to -20 degrees C in northern Germany, the Czech Republic, and Poland. Little, if any, precipitation fell over northern and eastern Europe. Farther south, moderate to heavy rain (50-110 mm) continued in southern Spain, keeping soils waterlogged. The wet weather in Spain reportedly caused delays in winter grain planting and late sugar beet harvesting. Farther east, lesser amounts of rain (15-68 mm) fell in northern Italy and Greece. In December, below-normal precipitation and unseasonably cool weather occurred in northern Europe, while mild weather accompanied above-normal rainfall in southern and southeastern Europe. Greatest amounts of rain fell in Spain and Portugal, where precipitation amounts ranged from 200 to 400 percent of normal.

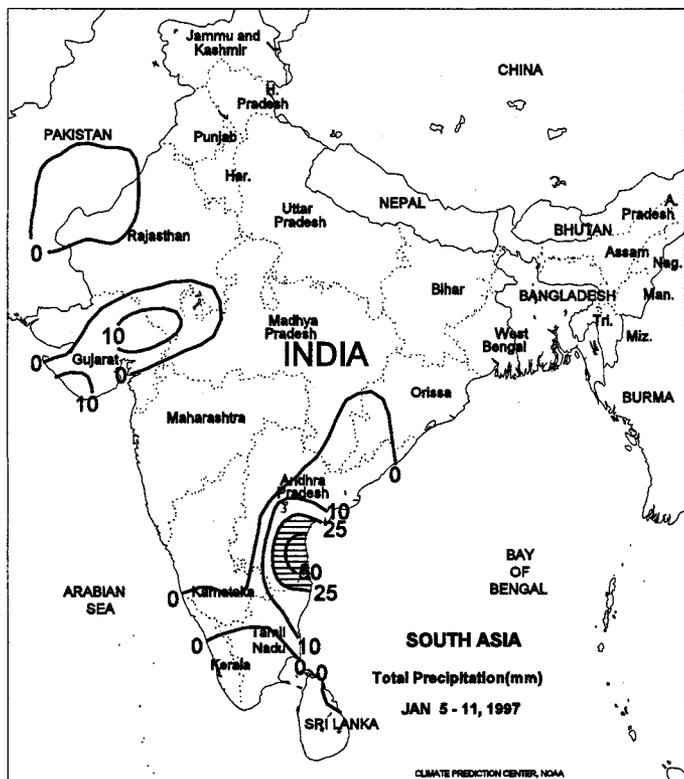




**EASTERN ASIA**

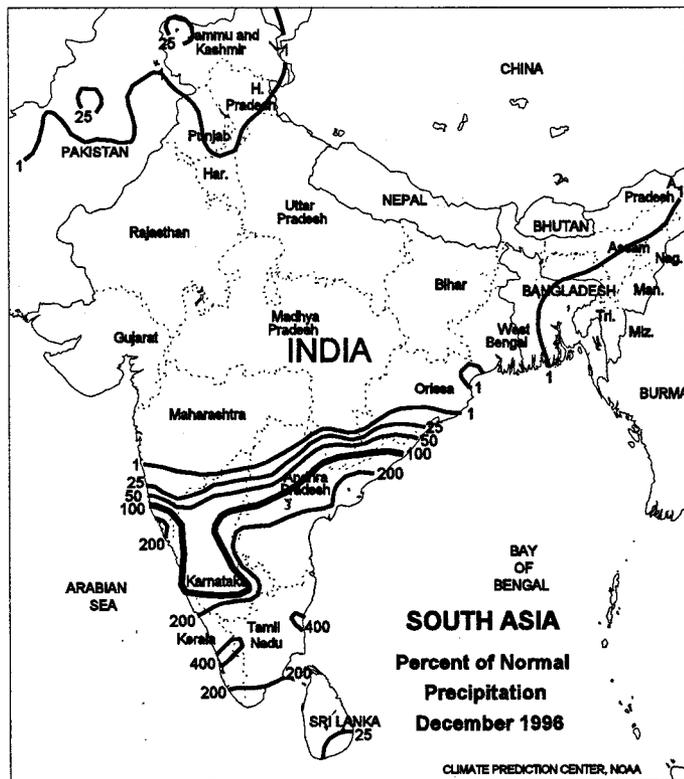
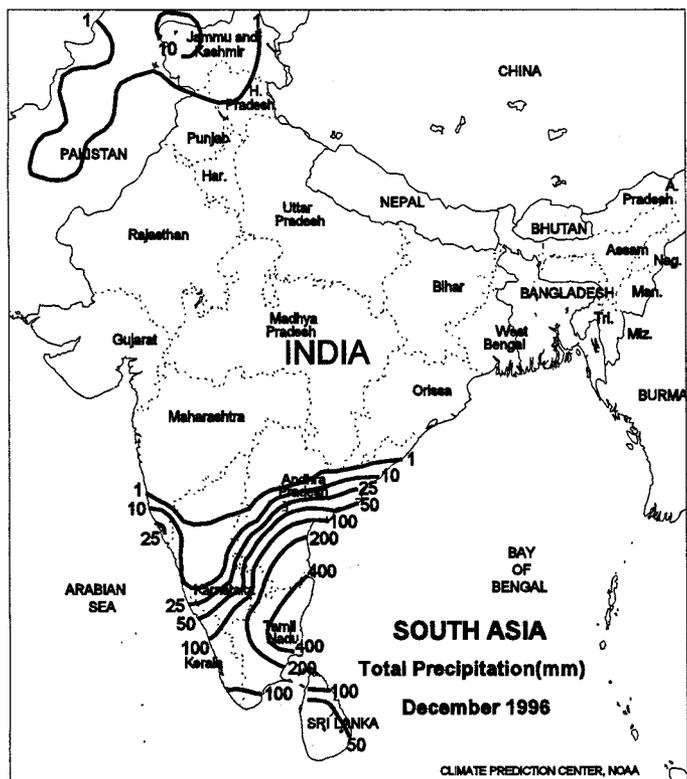
Cold weather (minimum temperatures ranging from -7 to -14 degrees C; 2-4 degrees C below normal) had little impact on dormant winter wheat across the North China Plain. Light to moderate rain (5-20 mm) fell across south-central China (Sichuan, Guizhou, Hunan, and Jiangxi), favoring winter grains and oilseeds. During December, little or no precipitation (less than 5 mm) fell across the North China Plain, where typically 5 to 15 mm fall during December. Below-normal December precipitation (less than 75 percent of normal rainfall) also occurred across central and southern China.

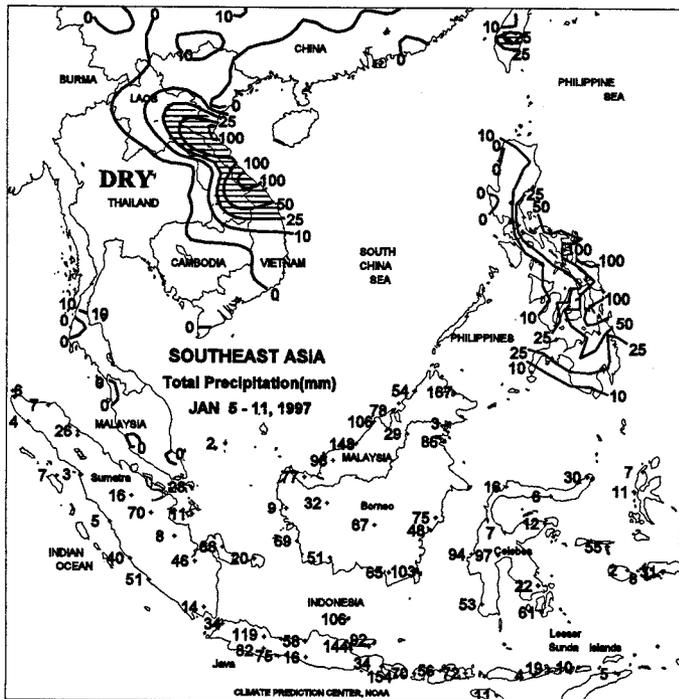
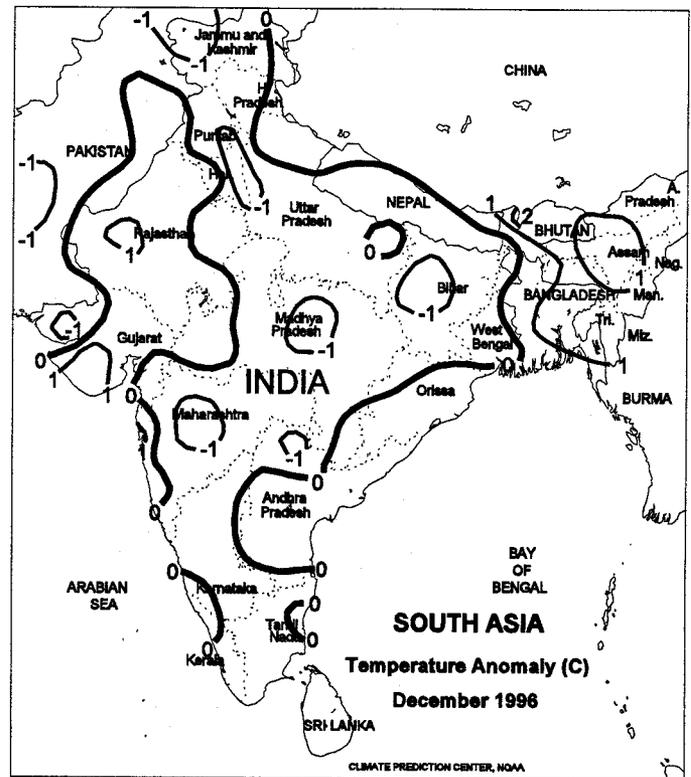
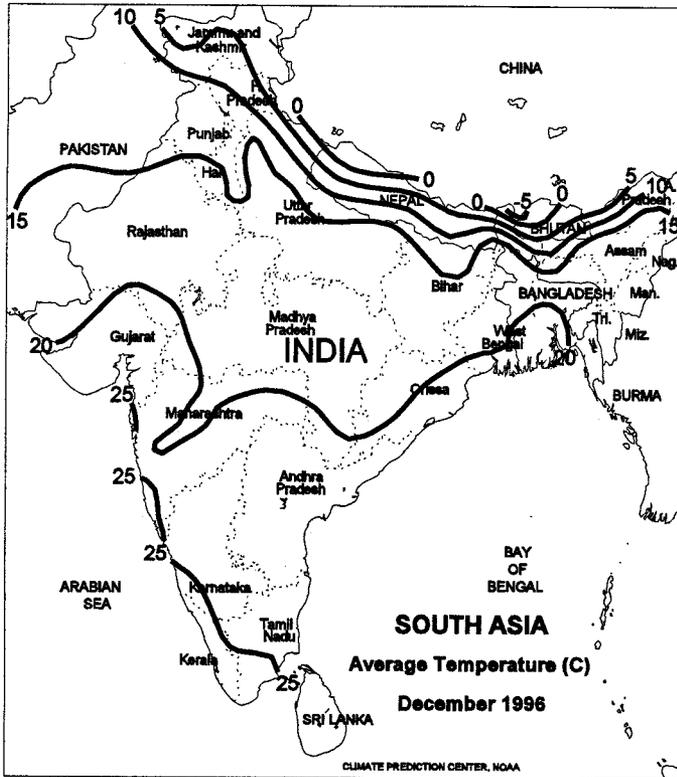




**SOUTH ASIA**

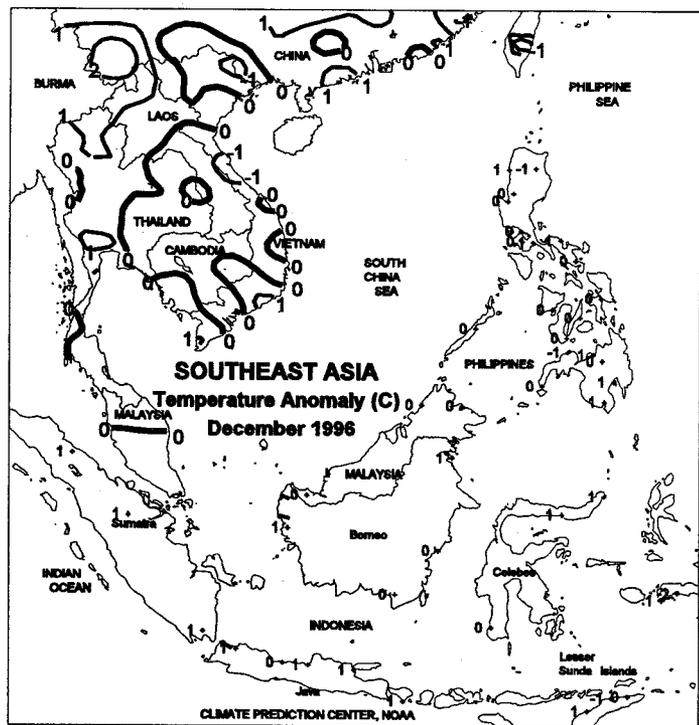
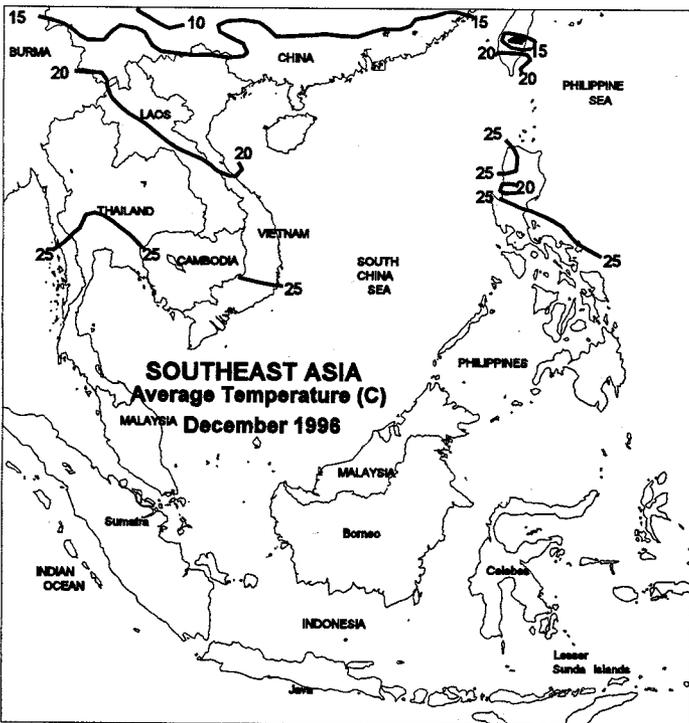
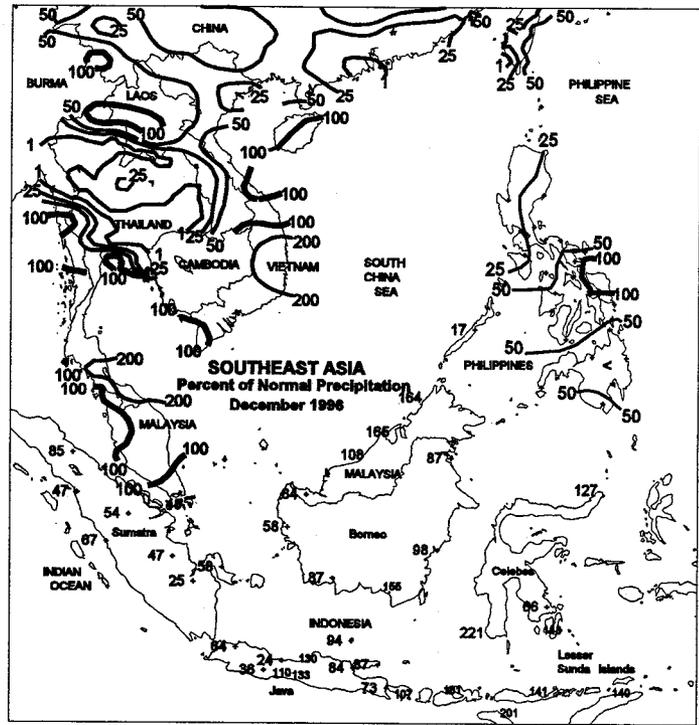
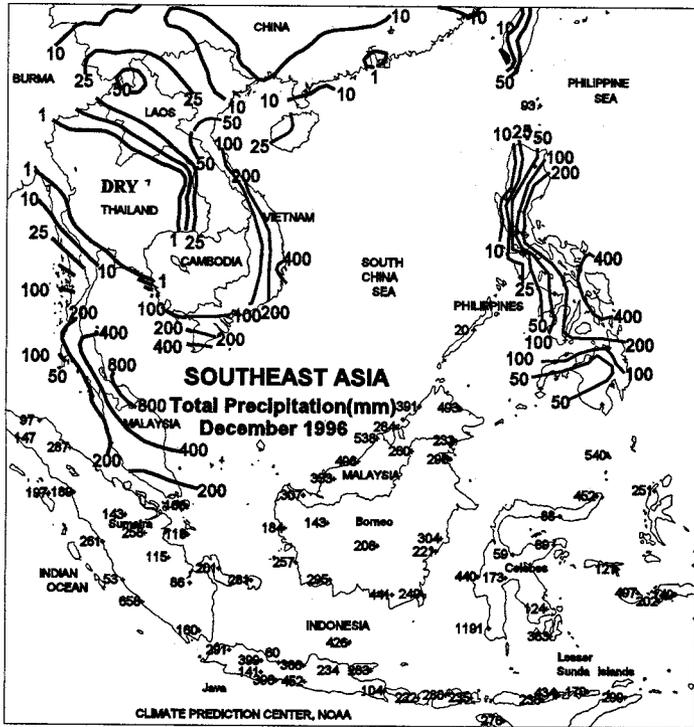
In December, showers lingered over India's southern tip well into the month, exacerbating flooding in coastal rice areas. Dry weather elsewhere favored summer grain, oilseed, and cotton harvesting and allowed winter grain and oilseed planting to progress toward completion. Periods of unseasonable cold in the northwest stressed livestock but likely had no significant impact on crops.

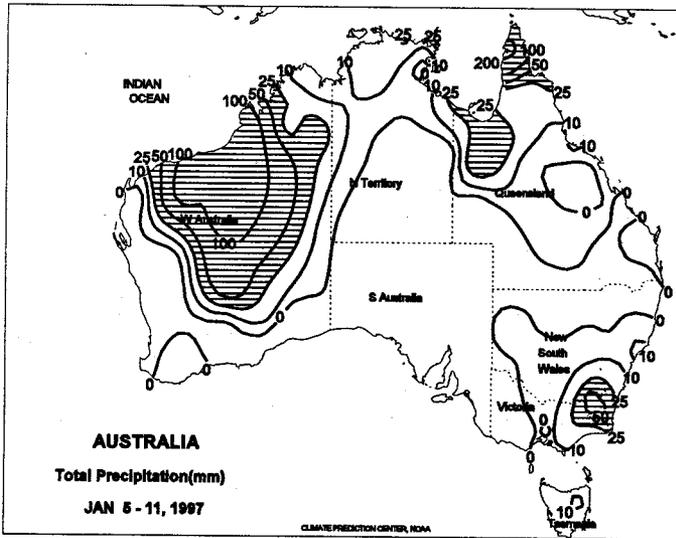




**SOUTHEAST ASIA**

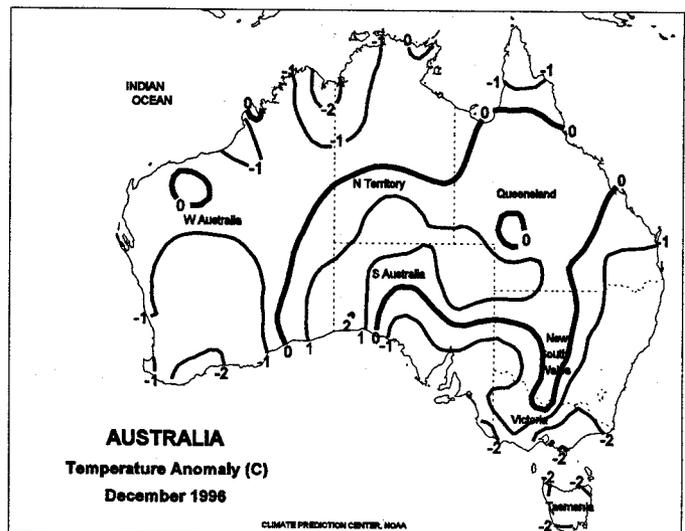
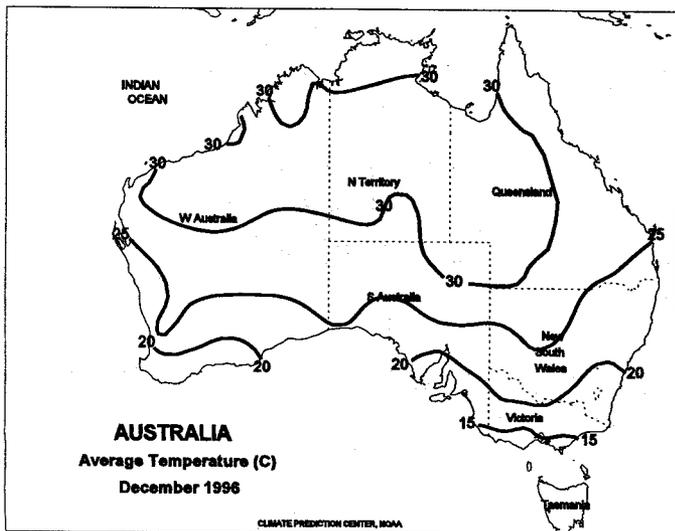
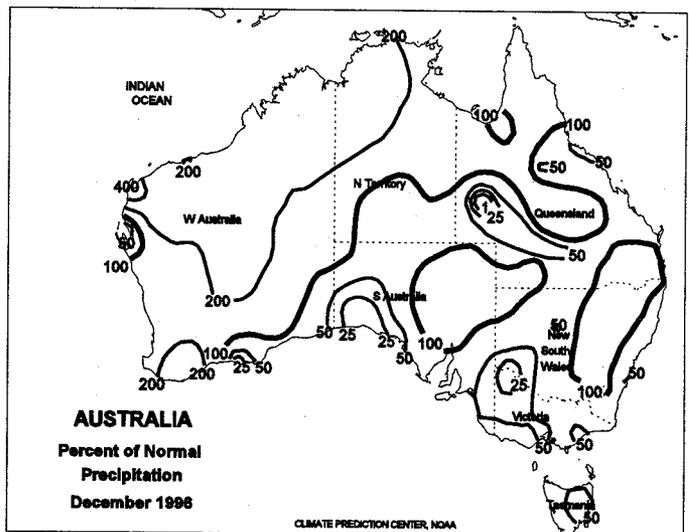
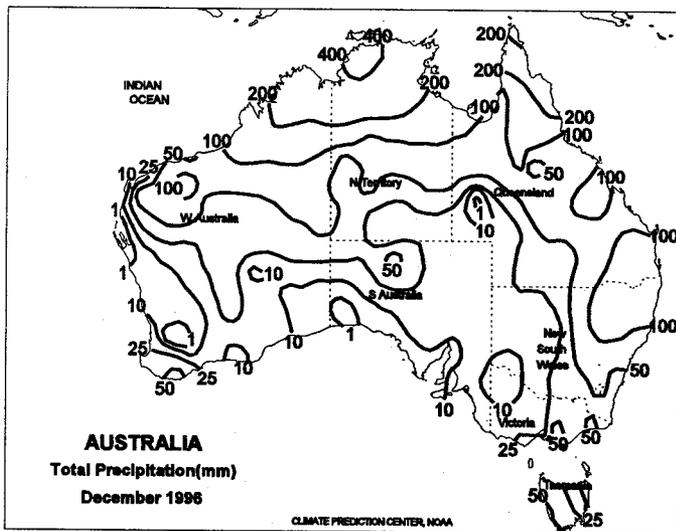
Moderate to heavy (20-120 mm) showers covered Java, maintaining irrigation supplies for main-season rice and causing some additional flooding. Seasonable showers (20-60 mm, with isolated amounts greater than 100 mm) returned to the eastern Philippines, aiding second-season grains. Seasonably dry weather favored harvesting across Thailand and northern and southern Vietnam. Moderate to heavy showers (40-145 mm) fell across north-central Vietnam, which is not a major rice growing area. During December, rainfall averaged near to above normal across Java. Early-month wetness caused some flooding across the island, but more seasonable rainfall later in the month eased some of the wetness. Below-normal December rainfall aided rice harvesting in Thailand and northern Vietnam. Above-normal rainfall interrupted plantation crop fieldwork across peninsular Thailand and Malaysia. December rainfall averaged near to slightly below average across the Philippines.

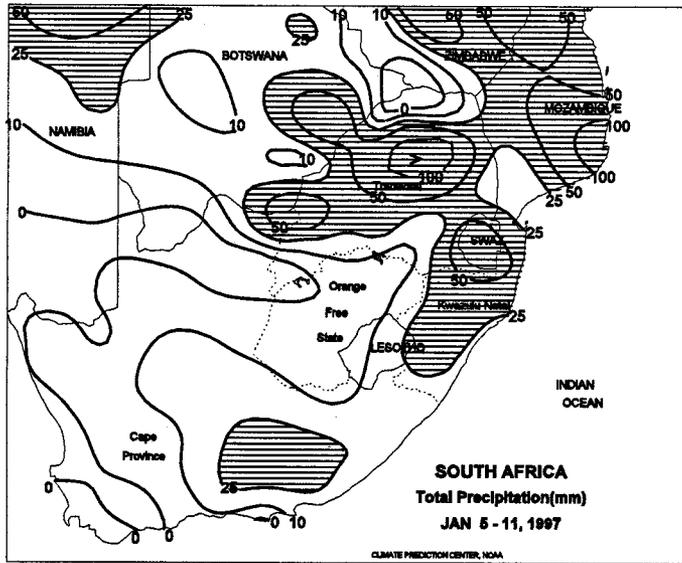




**AUSTRALIA**

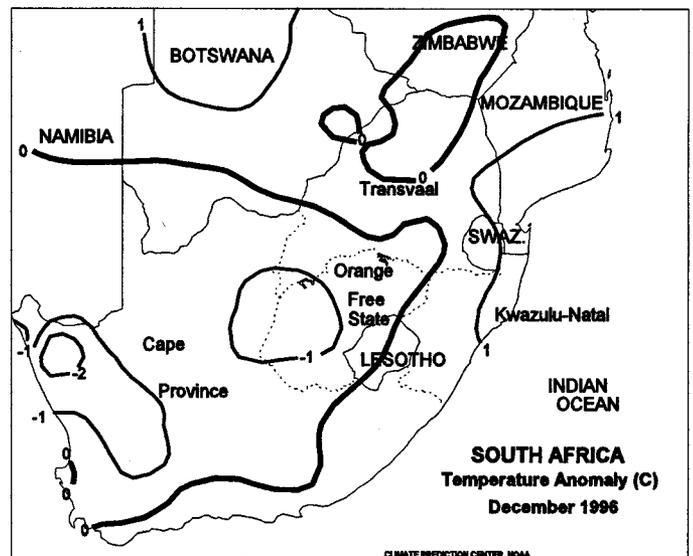
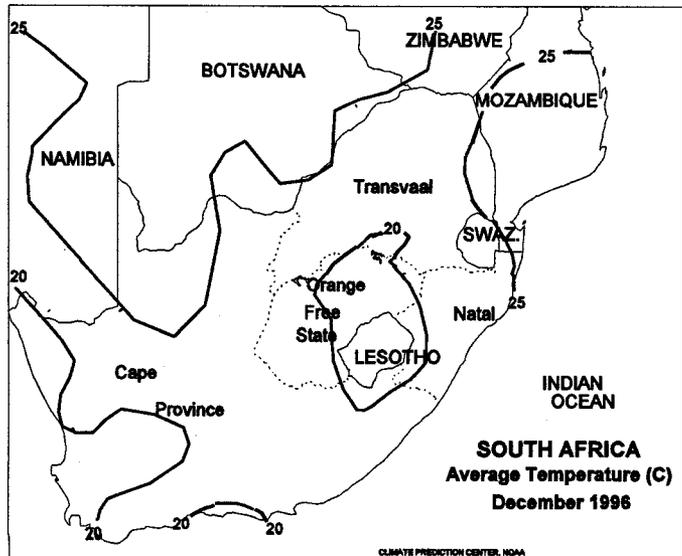
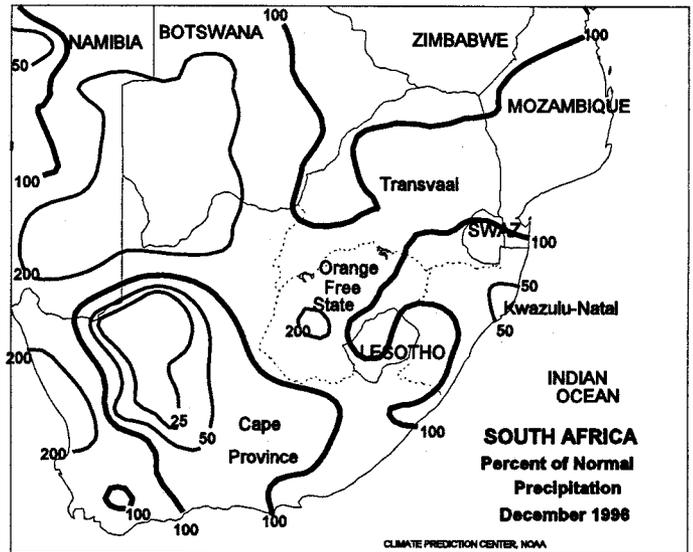
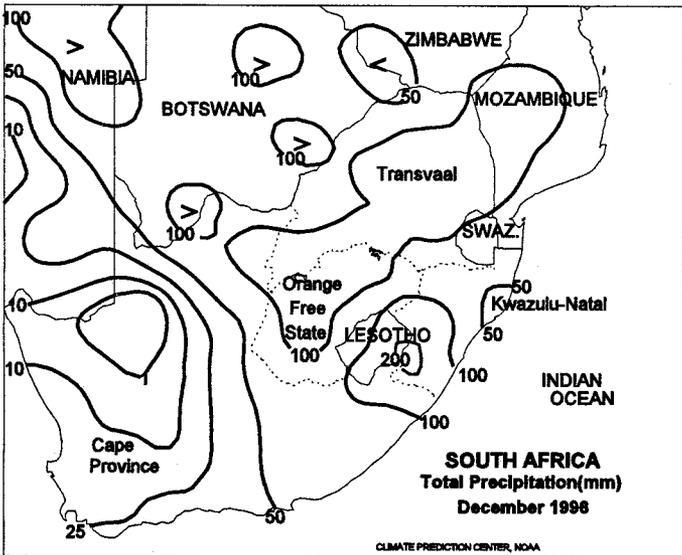
Dry weather dominated eastern Australia's main farming areas, with only a few locations receiving light showers. Temperatures averaged near to below normal in the main sorghum and cotton areas, but highs reached the mid-30's C at the western edge. Highs reached 40 degrees C in western Queensland's rangeland, resulting in some stress. In Western Australia, moisture from Tropical Cyclone Rachel failed to reach the main agricultural areas in the south. In New Zealand, moderate to heavy showers (25-51 mm) from a tropical cyclone fell in pasture lands of South Island, including those along the east coast. Rainfall averaged less than 25 mm over North Island. During December, timely rain in eastern Australia benefited sorghum, cotton, and sugarcane. An overall lack of stressful heat aided early crop development. The heaviest rain (25-50 mm or greater) fell early in the month, slowing late fieldwork. However, only scattered, mostly light showers occurred in pasture and grazing lands from southern South Australia to western Queensland. Winter grain harvesting advanced toward completion in the west and southeast, with only a few minor delays due to rain.

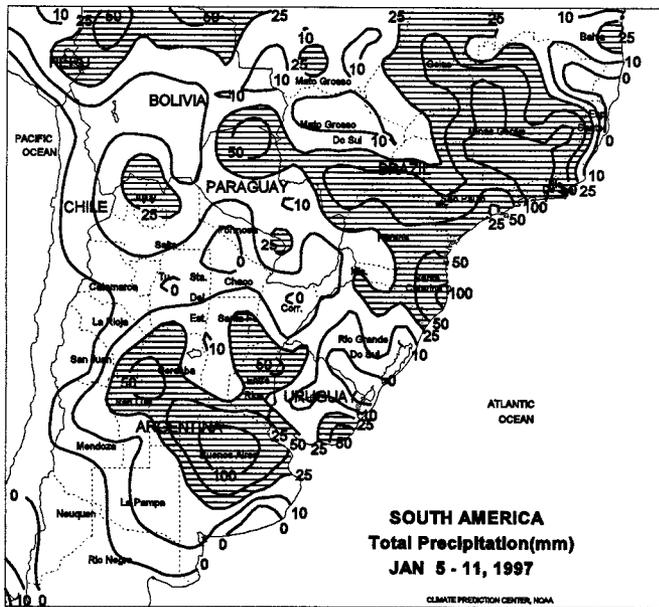




**SOUTH AFRICA**

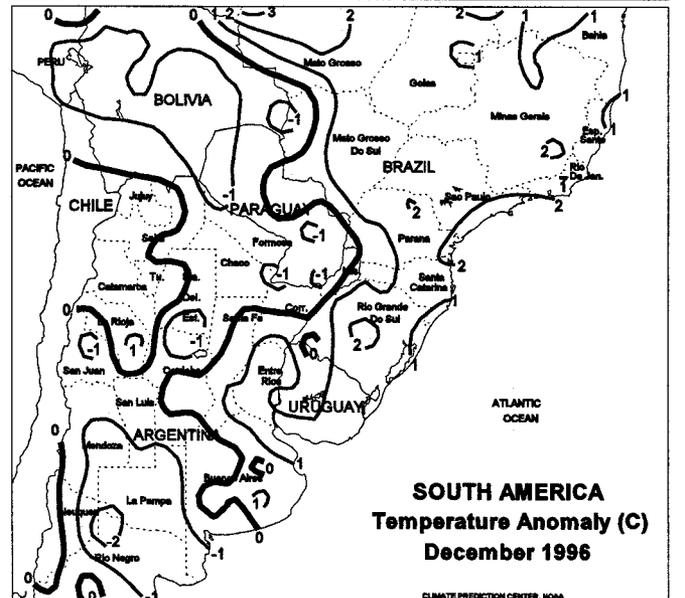
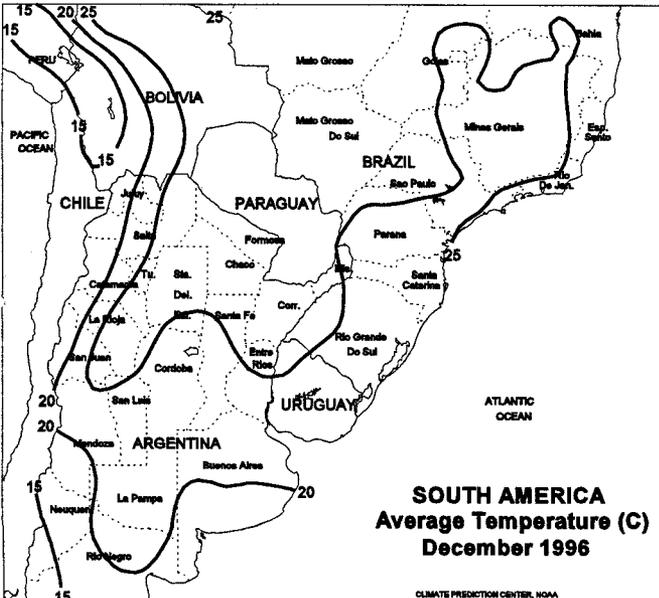
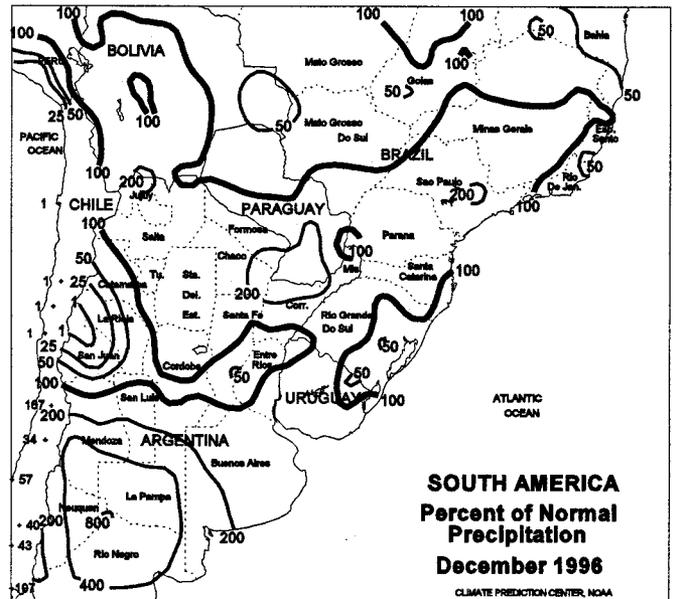
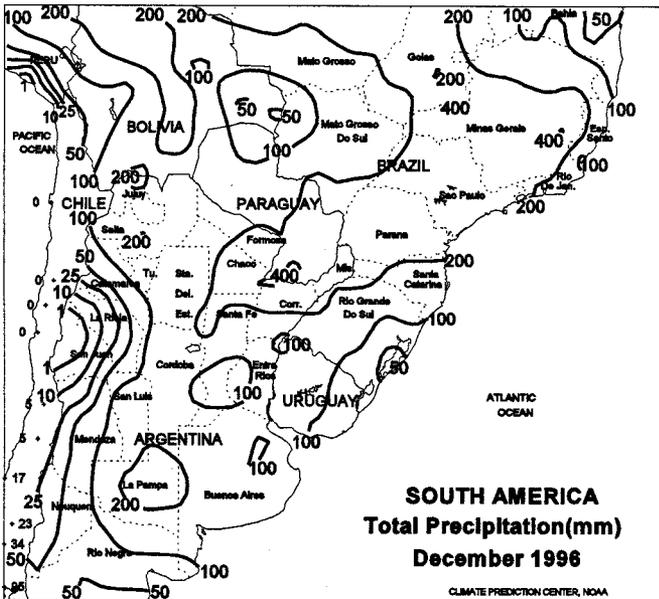
Following last week's soaking rain, drier weather moved into the western corn belt. Rainfall totaled 10 mm or less over most crop areas of North West and Orange Free State, but highs remained in the lower 30's C in the traditionally warmest areas. Somewhat heavier rain (10-25 mm or more) fell in the northeastern section of the corn belt and crop areas in Kwazulu-Natal and Eastern Cape. Corn was vegetative to reproductive across the region. Throughout December, beneficial rain maintained generally favorable growing conditions in central and eastern sections of the corn belt. In the western corn belt, most of December's rain came late in the month and was preceded by periods of stressful heat (highs in the mid 30's C in the absence of rainfall). Sugarcane areas of Kwazulu-Natal also trended drier than normal for much of December but highs were limited to the lower 30's C.

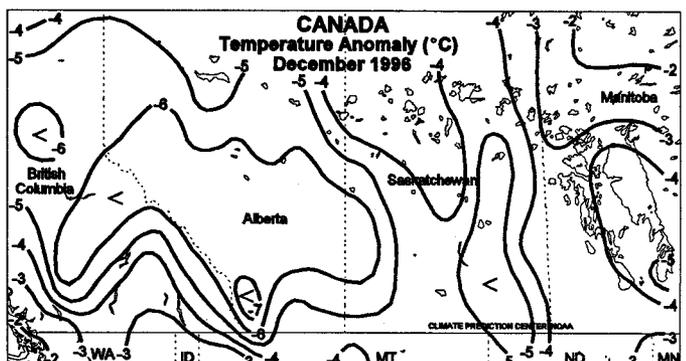
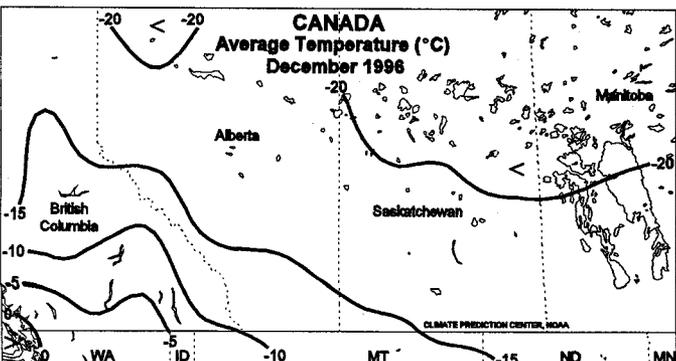
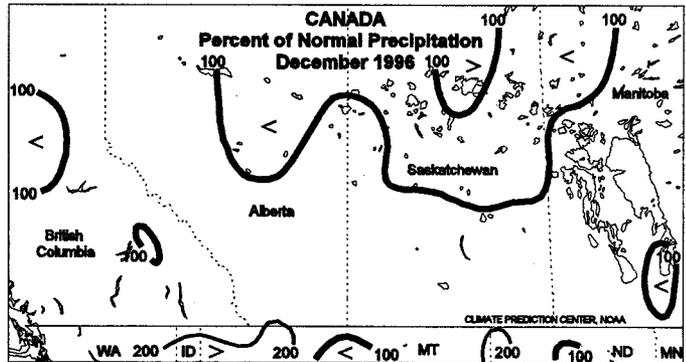
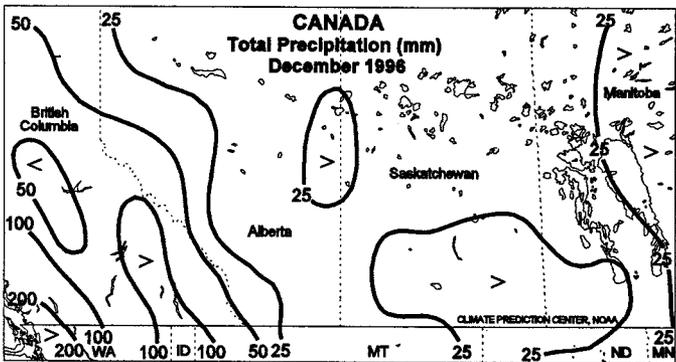
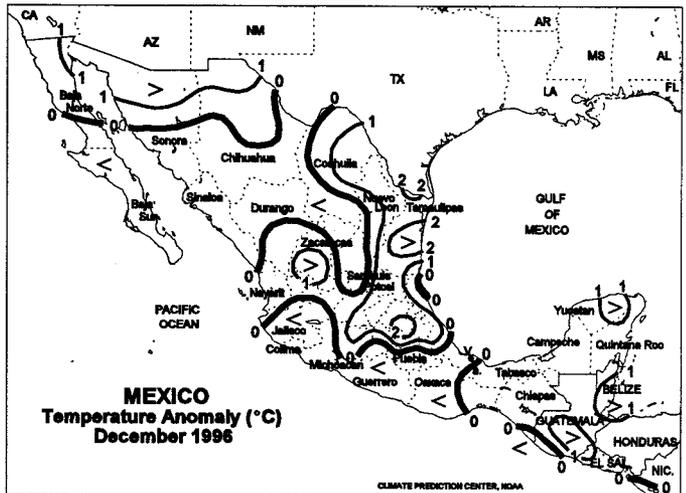
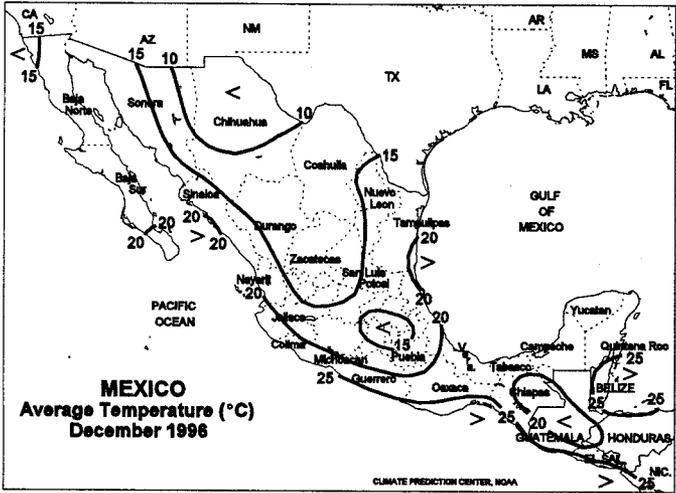
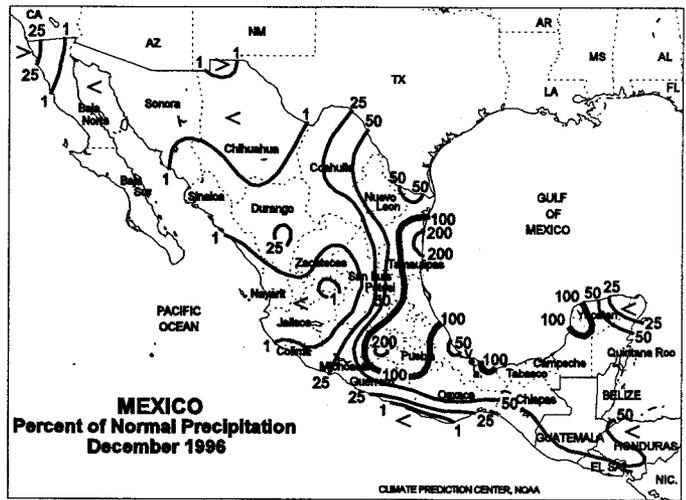
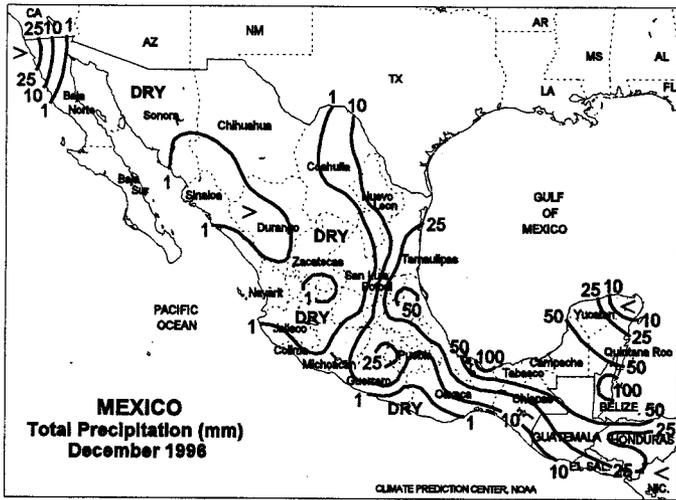




**SOUTH AMERICA**

In southern Brazil, light to moderate showers (10-45 mm) eased a drying trend that started in late December across Rio Grande do Sul. This moisture was beneficial for soybeans nearing reproduction. However, additional rain is still needed across west-central Rio Grande do Sul, where warm and somewhat dry weather prevailed (less than 10 mm and maximum temperatures greater than 35 degrees C). Elsewhere in Brazil, moderate showers (25-65 mm) favored soybeans and corn. Heavier showers (80-130 mm) exacerbated flooding across southern Minas Gerais. Scattered light rain (2-12 mm) and warm weather (maximum temperatures ranging from 33 to 37 degrees C) prevailed across southern Paraguay, aiding soybean and cotton development. Soil moisture supplies should be adequate in Paraguay due to abundant rainfall so far this season. In Argentina, widespread showers (15-60 mm) fell across the main summer crop region of southern Santa Fe, southern Cordoba, eastern La Pampa, and northern Buenos Aires, aiding vegetative soybeans and reproductive corn. Heavier amounts of 100 to 170 mm were reported across northern Buenos Aires, causing some isolated flooding and slowing second-crop soybean planting. Drier weather (less than 15 mm) fell across southern Buenos Aires, causing only minor delays to the remaining (Continued on page 23)

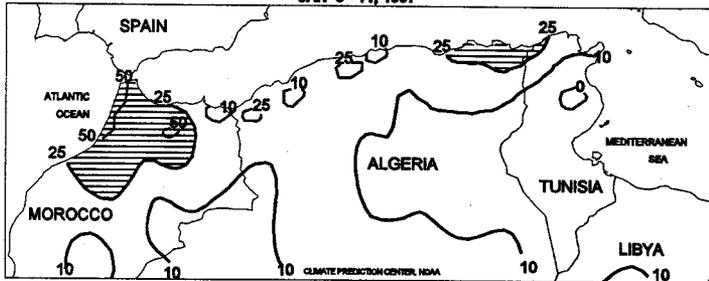




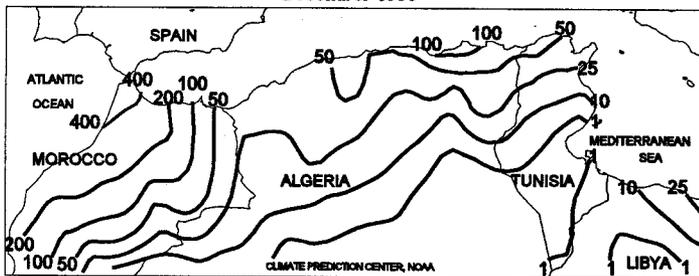
**NORTHWESTERN AFRICA**

Widespread showers (10-38 mm) in Algeria and Tunisia brought temporary relief to winter grains stressed by prolonged dryness since the beginning of the growing season. Furthermore, the rain in these countries may have promoted some additional late-season planting of winter grains, delayed by previous dryness. Most areas in Algeria and Tunisia lack adequate subsoil moisture, and timely rains will be needed throughout the remainder of the growing season to prevent crop stress and improve yield prospects. In Morocco, wet weather (20-54 mm) continued to maintain saturated soils, although the rainfall has tapered off somewhat from the heavy amounts of previous weeks. Drier weather is needed to help ease excessive moisture conditions. In December, below-normal precipitation fell in Algeria and Tunisia, continuing a below-normal precipitation pattern that has persisted in these areas since the beginning of the growing season. The dryness in these areas has likely slowed winter grain planting and created unfavorable conditions for crop emergence and early establishment. In contrast, unseasonable heavy rains fell in Morocco, where precipitation amounts ranged from 200 to 400 percent of normal. Although the wet weather provided abundant moisture for winter grain development, it likely caused some delays in late-season planting.

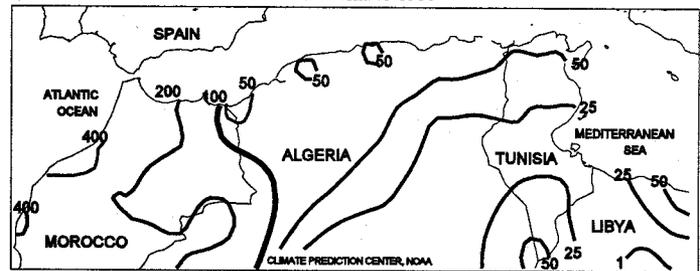
**NORTHWEST AFRICA TOTAL PRECIPITATION (mm)  
JAN 5 - 11, 1997**



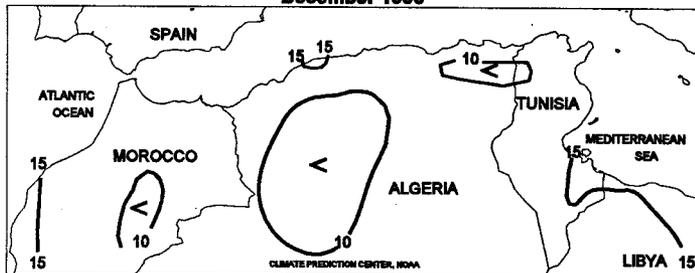
**NORTHWEST AFRICA Total Precipitation (mm)  
December 1996**



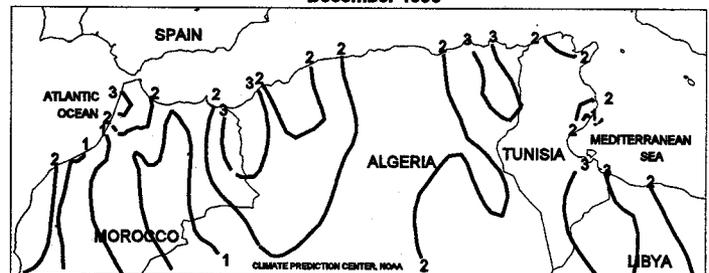
**NORTHWEST AFRICA Percent of Normal Precipitation  
December 1996**



**NORTHWEST AFRICA Average Temperature (C)  
December 1996**



**NORTHWEST AFRICA Temperature Anomaly (C)  
December 1996**



*(Continued from page 21)*

wheat harvest. Reports indicated that as of January 3, 85 percent of the winter wheat has been harvested and over 90 percent of all the summer crops had been planted. Temperatures averaged 1 to 3 degrees C above normal across most of Argentina, Brazil, and Paraguay, except for central and southern Buenos Aires, which reported temperatures 1 to 3 degrees C below normal. During December, rainfall averaged near to above normal across most of southern Brazil and central Argentina. Near- to slightly below-normal rainfall occurred in Mato Grosso and Goias in Brazil. Much-above-normal rainfall (greater than 200 percent of normal) prevailed across portions of southern Paraguay and western Buenos Aires and La Pampa in Argentina, causing some flooding, but boosting soil moisture for summer crops.

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

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**Selected 1996 Precipitation and Temperature Highlights**

**Record Highest Annual Precipitation (Inches)**

Location	Total	Previous/Year
Tillamook, OR	122.73	118.88 in 1971
Astoria, OR	92.86	87.39 in 1968
Eugene, OR	77.17	65.56 in 1995
Elkins, WV	73.13	65.37 in 1906
Blue Hill, MA	N/A	65.51 in 1972
Salem, OR	66.71	63.50 in 1937
Evansville, IN	64.08	63.13 in 1950
Portland, OR	63.56	51.09 in 1950
Philadelphia, PA	56.46	55.28 in 1873
Binghamton, NY	49.00	48.04 in 1972
Medford, OR	31.41	30.15 in 1983
Kalispell, MT	25.78	23.93 in 1990
Yakima, WA	14.78	13.85 in 1995

**Record Annual Snowfall (Inches)**

Location	Total	Previous/Year
Kalispell, MT	149.0	115.2 in 1951
Butte, MT	125.1	115.8 in 1927
Salt Lake City, UT	108.3	99.5 in 1952
Missoula, MT	106.1	77.9 in 1963
Elko, NV	100.8	85.4 in 1983
Glasgow, MT	65.8	53.5 in 1967
Indianapolis, IN	54.8	50.9 in 1895

**Record Lowest Average Temperature**

Location	Avg.	Dep.	Previous
Gt. Falls, MT	40.2°F	-4.4°F	40.4°F in 1951
Glasgow, MT	38.3°F	-4.3°F	38.4°F in 1978
Sioux City, IA	45.1°F	-3.4°F	not available

**Notes:** Information contained in the tables on page 10 and above was compiled from preliminary climatic reports issued by the National Weather Service (NWS). Due to the installation of ASOS (automated observing equipment) and the relocation of many NWS forecast offices away from former airport sites, there have been and will continue to be changes in reporting locations. For example, precipitation totals are no longer being tabulated for Detroit's airport site, but instead are being reported by the forecast office in White Lake, MI. At the completion of NWS modernization, reliable precipitation data will be available from about 120 forecast offices, approximately 45 of which will be located at former airport sites.

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