

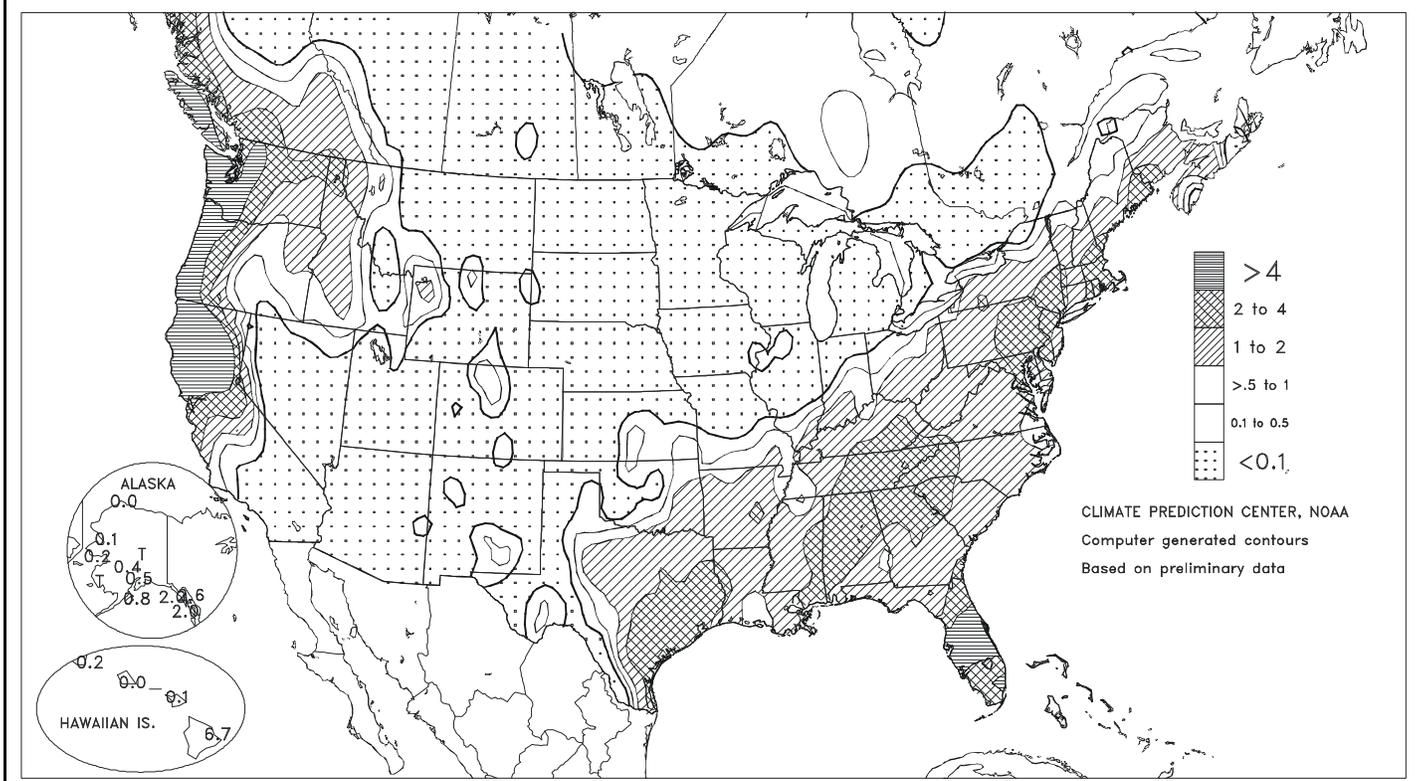
WEEKLY WEATHER AND CROP BULLETIN

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

Total Precipitation (Inches)

DEC 8 - 14, 2002



CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

HIGHLIGHTS

December 8 - 14, 2002

Highlights provided by USDA/WAOB

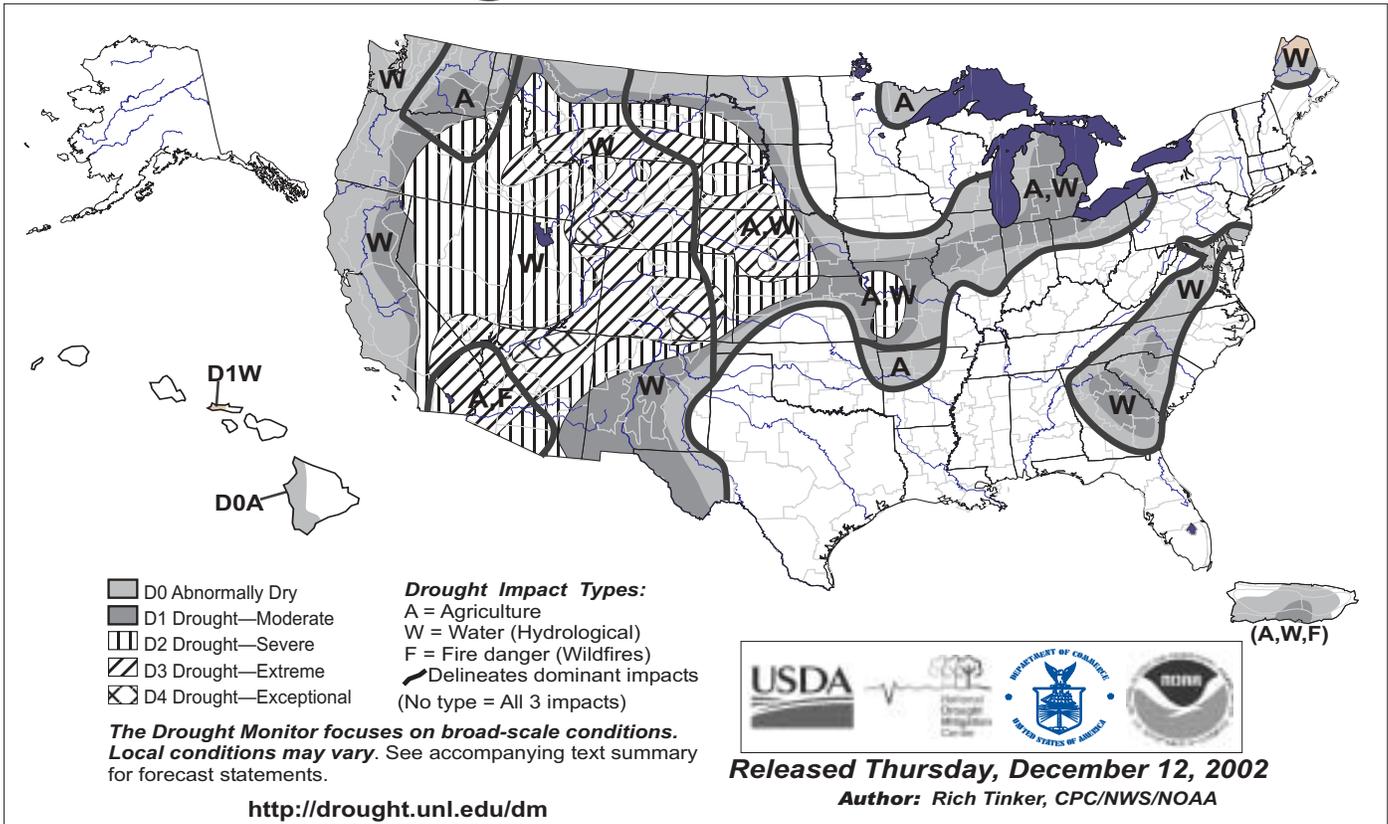
Storminess returned to the **West** for the first time in more than a month, providing much-needed rain and snow from the **Pacific Northwest and northern Rockies southward into central California and the Sierra Nevada**. The previous episode of **Western** storminess lasted only a few days (November 7-9) and was followed by a quick return to the same general weather pattern that has dominated the country since early October. The mid-December moisture boosted high-elevation snow packs and aided pastures and winter grains. However, mild, dry weather persisted in the **central and southern Rockies** and the **Southwest**, where the effects of long-term precipitation
(Continued on page 3)

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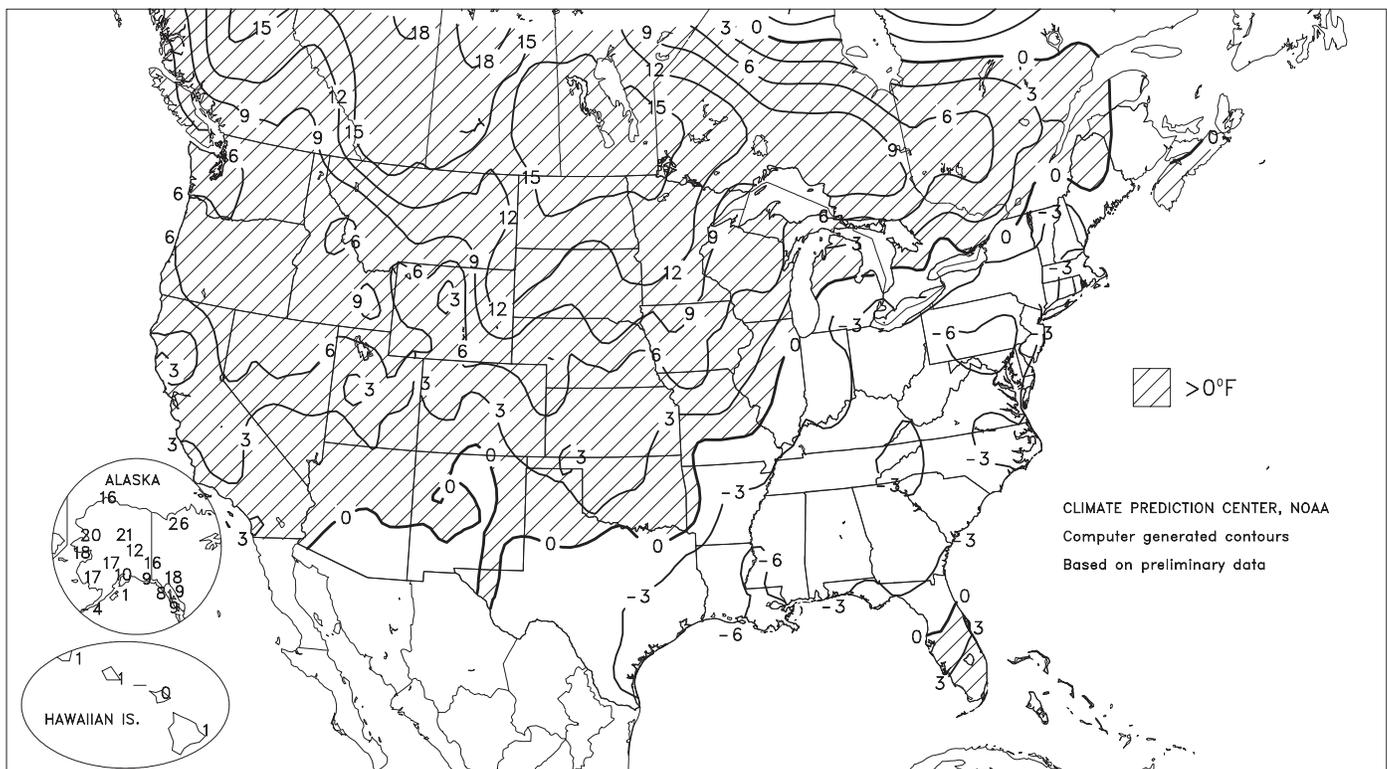
U.S. Drought Monitor

December 10, 2002
Valid 7 a.m. EST



Departure of Average Temperature from Normal (°F)

DEC 8 - 14, 2002



(Continued from front cover)

deficits included drought-stressed rangelands and reduced irrigation reserves. Mild, dry weather also continued on the **Plains**, although soil moisture remained adequate in most areas from **Texas to south-central Kansas**. However, the **northern and central High Plains** remained in the grip of a significant drought, leaving much of the winter wheat poorly established and exposed to potential weather extremes. Weekly temperatures averaged 3 to 17°F above normal on the **northern and central High Plains**, eroding an already patchy snow cover. Above-normal temperatures were also observed in the **upper Midwest**, but cool weather lingered across the **Ohio Valley and lower Great Lakes region**. A drier-than-normal autumn and the lack of a significant **Midwestern** snow cover aided livestock and favored off-season fieldwork. Cool (as much as 7°F below normal), wet weather again slowed or halted fieldwork across the **South**, hampering winter wheat planting and final summer crop harvesting. Rain also caused some lowland flooding, particularly in the saturated **western Gulf Coast region**. Across **Florida's peninsula**, heavy rain (2 to 8 inches or more) eliminated citrus irrigation requirements but caused flash flooding. Farther north, more early-season snow and ice affected areas from the **northern Mid-Atlantic States into New England**.

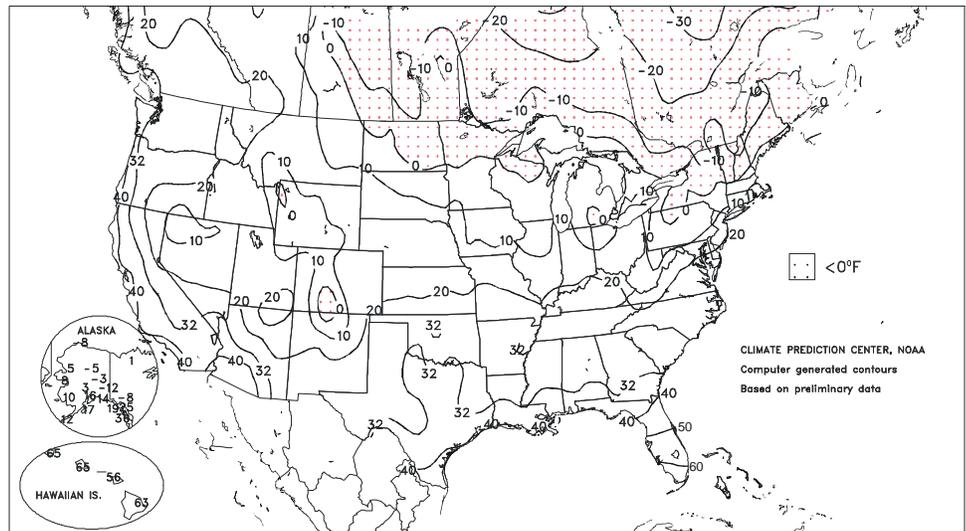
Precipitation associated with the Pacific storminess was heaviest across **northern California**, where 72-hour totals (ending at 10 a.m. PST on December 16) reached 13.58 inches in St. Helena (Napa County) and 12.28 inches on **Anderson Peak (Monterey County)**.

On December 13-14, consecutive daily-record rainfall totals were reported at several **northern California** locations, including **Redding** (3.07 and 2.55 inches) and **San Francisco** (2.47 and 0.88 inches). **San Rafael, CA**, received a daily-record total of 6.24 inches on Friday. Heavy rain caused flooding in several basins, including the **Napa Valley**. On December 16, the **Napa River** crested more than 1 foot above flood stage in **St. Helena** and **Napa**, but remained more than 4 feet below the locations' March 1995 high-water marks. In addition, high winds raked the **West Coast States**. Peak wind gusts in **northern California** for December 15 included 71 mph in **Redding** and 61 mph in **San Francisco** and **Red Bluff**. Farther north, gusts on the **Oregon coast** were clocked to 95 mph in **Gold Beach** and 93 mph on **Cape Blanco**. High winds also swept into the **Great Basin**, where **Reno, NV**, reported a peak gust to 82 mph on December 14. Gusts topped 130 mph at a few locations in the **Sierra Nevada**. According to preliminary information from the California Department of Water Resources, the storminess added an average of 3 inches of liquid to the **Sierra Nevada** snow pack, leaving the cumulative total of 7 inches near the mid-December normal.

In contrast, the week ended with a 30th consecutive day (November 15 - December 14) without measurable precipitation in **Kansas City, MO**, their fourth-longest dry spell on record. **Kansas City's** longest such streak was 36 days, from May 24 - June 28, 1988. Farther south and east, however, at least 2 inches of precipitation fell in many locations from **southern and eastern Texas to the East Coast (Florida to coastal New England)**. **Florida** noted two episodes of heavy rain, resulting in daily-record totals in **St. Petersburg** on December 9 (4.16 inches) and 12 (1.98 inches). Elsewhere in

Extreme Minimum Temperature (°F)

DEC 8 - 14, 2002



Florida, Melbourne netted 5.06 inches on December 9, nearly twice their former December daily record (2.64 inches on December 28, 1978). Farther north, back-to-back storm systems shattered several daily-rainfall records, including 1.63 inches (on December 11) in **Harrisburg, PA**, 1.63 inches (on December 13) in **Augusta, GA**, and 1.99 inches (on December 14) in **Boston, MA**.

Bitterly cold weather lingered across the **Northeast**, allowing some of the mid- to late-week precipitation to fall as freezing rain and snow. On Monday, daily-record lows included -7°F in **Montrose, PA**, and -10°F in **Boonville, NY**. Elsewhere in **New York**, lows dipped to -17°F in **Lake Placid** and -23°F in **Saranac Lake**. Midweek snowfall totaled 15 inches in **East Jewett, NY**; a late-week storm dropped 13 inches on **Portage, ME**. Meanwhile, mild air began to overspread the **northern Plains and upper Midwest**. **International Falls, MN**, set or tied daily-record highs on December 10, 11, and 13 (41, 43, and 39°F). More than four dozen daily-record highs were established across the **northwestern half of the Nation** toward week's end. On Saturday, records included 61°F in **Havre, MT**, 64°F in **Pendleton, OR**, 65°F in **Lewiston, ID**, and 66°F in **Walla Walla, WA**.

Most of **Alaska** experienced warmer-than-normal weather for the twelfth consecutive week, with temperatures averaging at least 20°F above normal in some interior and western parts of the State. However, temperatures fell closer to normal levels as the week progressed, accompanied by snowfall in parts of **southern Alaska**. **McGrath** noted a daily-record snowfall of 4.6 inches on December 10, followed the next day by a record total (5.0 inches) in **Anchorage**. Although **Anchorage** netted 11.2 inches of snow (149 percent of normal) during the first 15 days of December, their season-to-date total of 13.3 inches remained less than half of normal. Meanwhile in **Juneau**, where daily-record highs (46 and 48°F) were noted on December 8 and 9, the season-to-date snowfall through December 15 stood at 0.7 inch (3 percent of normal). Farther south, most of **Hawaii** experienced another week with only light showers. The notable exception was the **Big Island**, where heavy rain fell on December 10-11. Twenty-four hour rainfall topped 5 inches in several locations, including **Pahoa** (6.00 inches), **Piihonua** (5.40 inches), and Mountain View (5.09 inches). Meanwhile on **Maui, Kahului** posted a low of 56°F on December 13, followed the next day by a daily-record low of 57°F.

Weather Data for Mississippi and the Missouri Bootheel

Weather Data for the Week Ending December 14, 2002

Data provided by the Mississippi State Delta Research and Extension Center (DREC),
the Southern Regional Climate Center (SRCC), and the University of Missouri.

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								4-INCH SOIL TEMP. °F		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				
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
MS BATESVILLE X	48	34	51	27	41	-3	0.88	-0.50	0.60	2.33	84	64.76	123	-	-	0	3	3	1	
MS BELZONI X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS CLARKSDALE X	47	33	51	26	40	-5	1.69	0.46	0.80	2.79	110	66.36	129	-	-	0	2	4	2	
MS CLEVELAND X	48	33	50	27	41	-6	1.03	-0.14	0.85	2.29	96	56.82	108	-	-	0	3	3	1	
MS GREENVILLE X	48	35	51	30	41	-5	1.21	0.02	0.80	2.83	115	53.14	103	-	-	0	2	3	1	
MS GREENWOOD X	50	34	56	30	42	-6	0.98	-0.21	0.61	2.86	120	50.71	99	-	-	0	4	4	1	
MS INDIANOLA 1S	48	35	54	31	41	-	1.03	-	0.76	2.69	-	50.80	-	47	44	0	1	4	1	
MS INVERNESS 5E	49	35	54	31	42	-	1.02	-	0.71	3.08	-	47.46	-	48	43	0	1	4	1	
MS LYON	48	34	55	30	41	-	0.70	-	0.66	1.95	-	50.77	-	47	41	0	2	2	1	
MS MACON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS MOORHEAD X	48	35	54	32	42	-6	0.23	-1.10	0.23	1.17	44	35.88	68	-	-	0	1	1	0	
MS ONWARD	50	35	56	33	43	-	1.24	-	0.51	2.85	-	48.26	-	50	46	0	0	4	2	
MS PERTHSHIRE	48	33	55	29	41	-	0.88	-	0.84	2.09	-	-	-	47	40	0	3	3	1	
MS ROLLING FORK X	50	34	57	28	42	-5	1.41	0.15	1.15	2.16	86	41.21	78	-	-	0	2	2	1	
MS SCOTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS SIDON	50	36	55	33	43	-	0.81	-	0.38	2.37	-	54.18	-	50	42	0	0	5	0	
MS STARKVILLE	48	37	56	31	42	-	1.39	-	0.90	2.60	-	-	-	49	43	0	2	4	1	
MS TUNICA X	46	34	50	29	40	-4	1.03	-0.25	0.90	1.03	39	61.98	121	-	-	0	4	3	1	
MS TUNICA 1W	47	33	53	29	40	-	0.73	-	0.39	2.01	-	52.65	-	44	41	0	2	3	0	
MS VANCE	48	34	53	29	41	-	0.95	-	0.85	2.62	-	59.49	-	45	44	0	2	4	1	
MS VERONA	48	37	55	30	42	-	0.94	-	0.51	3.26	-	57.60	-	49	43	0	1	4	1	
MS VICKSBURG X	51	34	53	25	42	-8	1.21	-0.05	0.68	3.31	131	54.89	100	-	-	0	1	3	1	
MS YAZOO CITY X	49	33	55	24	41	-8	0.65	-0.75	0.53	2.19	80	59.54	106	-	-	0	3	2	1	
MS STONEVILLE X	48	34	51	29	41	-5	1.10	-0.16	0.99	2.78	110	58.92	117	49	41	0	3	3	1	
MO DELTA	41	27	50	19	34	-4	0.72	-0.22	0.67	0.82	39	51.25	103	37	34	0	6	2	1	
MO STEELE	46	33	51	31	39	-1	0.71	-0.67	0.63	1.84	70	45.51	90	44	38	0	1	2	1	
MO GLENNONVILLE	43	31	50	27	37	-2	0.74	0.08	0.63	1.43	80	37.81	87	42	36	0	2	2	1	
MO PORTAGEVILLE LF	46	33	50	29	38	-2	0.78	-0.35	0.64	1.46	63	40.83	84	47	38	0	1	2	1	
MO CLARKTON	44	30	51	27	36	-3	0.70	0.04	0.58	1.62	91	47.86	109	42	36	0	4	2	1	
MO CARDWELL	45	32	50	29	38	-3	0.80	-0.37	0.72	1.71	77	41.38	83	46	39	0	4	2	1	
MO CHARLESTON	43	30	49	25	36	-3	0.67	-0.58	0.62	1.31	56	44.30	94	42	36	0	5	2	1	
MO PORTAGEVILLE DC	45	33	50	29	38	-2	0.89	-0.24	0.73	1.64	71	38.92	80	-	-	0	2	2	1	

Compiled by USDA/OCE/WAOB's Stoneville Field Office.

X Based on 1971-2000 normals.

- Sufficient data not available.

Weather and Crop Summary: Rainfall continued to inhibit soil drying and fieldwork. Overcast skies prevailed for most of the week.

U.S. Crop Production Highlights

The following information was released by USDA's Agricultural Statistics Board on December 10, 2002. Forecasts refer to December 1.

All cotton production is forecast at 17.4 million 480-pound bales, down 2 percent (%) from November and 14% lower than last year's record-high production. This has resulted in a yield decrease of 17 pounds from last month and 57 pounds from last year. Harvested area, at 12.9 million acres, is unchanged from November but 7% below 2001. Southeastern growers are continuing to see the results of adverse weather that has affected their season.

The **all orange** December forecast for the 2002-03 crop is 11.3 million tons, unchanged from the October 1 forecast but down 10% from last season's final utilization. Florida's all orange forecast remains at 197 million boxes (8.87 million tons), 14%

below the previous season. Weather conditions this fall have included generally below-normal temperatures and near-normal rainfall in most areas. Early and midseason varieties are forecast at 113 million boxes (5.09 million tons), unchanged from the October forecast but 12% below last season. Fruit sizes followed the typical November growth pattern. Droppage continues to be above average, nearing the maximum of the past 10 seasons. Florida's Valencia forecast is unchanged at 84 million boxes (3.78 million tons) but is 18% below last season. Fruit sizes remain above the 10-season maximum. The fruit growth rate is slowing and is expected to continue to slow until harvest. Arizona, California, and Texas orange production forecasts are carried forward from October.

National Weather Data for Selected Cities

Weather Data for the Week Ending December 14, 2002

Data Provided by Climate Prediction Center (301-763-8000, Ext. 7503)

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	0.1 INCH OR MORE	
																		50 INCH OR MORE	50 INCH OR MORE
AL BIRMINGHAM	47	37	53	31	42	-4	2.11	1.30	1.42	3.39	172	60.57	118	96	66	0	1	5	2
AL HUNTSVILLE	46	36	53	29	41	-3	2.65	1.58	2.16	3.88	152	48.42	89	94	78	0	2	4	1
AL MOBILE	54	42	61	34	48	-5	1.76	0.89	0.92	2.52	116	66.06	104	95	65	0	0	3	2
AL MONTGOMERY	50	40	56	29	45	-5	1.11	0.13	0.64	1.28	54	34.06	65	98	73	0	1	3	1
AK ANCHORAGE	30	23	34	16	27	9	0.46	0.25	0.46	0.81	172	16.38	106	93	85	0	6	1	0
AK BARROW	10	1	19	-8	5	15	0.00	0.00	0.00	0.05	500	4.59	114	91	87	0	6	0	0
AK FAIRBANKS	12	-1	16	-3	6	11	0.02	-0.12	0.01	0.02	7	13.00	131	87	83	0	6	2	0
AK JUNEAU	42	35	48	25	38	8	2.07	1.03	1.00	2.82	118	59.30	107	93	88	0	2	6	2
AK KODIAK	36	24	43	17	30	-1	0.52	-0.90	0.52	4.84	150	88.80	125	85	69	0	5	1	1
AK NOME	31	22	38	8	26	17	0.18	-0.01	0.10	0.95	202	13.87	87	92	85	0	5	4	0
AZ FLAGSTAFF	49	21	52	18	35	4	0.00	-0.33	0.00	0.02	3	12.22	56	82	27	0	6	0	0
AZ PHOENIX	68	46	71	44	57	2	0.00	-0.17	0.00	0.01	3	2.68	35	59	36	0	0	0	0
AZ TUCSON	66	39	71	36	52	0	0.00	-0.18	0.00	0.14	36	7.36	64	63	39	0	0	0	0
AZ YUMA	72	46	74	44	59	1	0.00	-0.07	0.00	0.00	0	0.29	11	52	41	0	0	0	0
AR FORT SMITH	50	37	56	27	43	1	1.25	0.55	0.72	2.68	151	41.16	97	99	69	0	1	4	1
AR LITTLE ROCK	48	34	57	28	41	-3	1.75	0.80	0.90	3.75	158	43.00	88	96	62	0	2	2	2
CA BAKERSFIELD	64	44	69	37	54	7	0.00	-0.12	0.00	0.00	0	2.89	48	82	68	0	0	0	0
CA FRESNO	59	42	66	37	51	6	0.18	-0.04	0.10	0.19	38	4.69	45	92	80	0	0	3	0
CA LOS ANGELES	66	50	69	48	58	0	0.00	-0.30	0.00	0.01	1	3.44	29	91	49	0	0	0	0
CA REDDING	52	45	57	37	48	3	5.77	4.95	2.81	5.78	306	19.19	62	99	94	0	0	5	2
CA SACRAMENTO	56	45	64	42	50	4	2.06	1.63	1.11	2.06	206	12.85	78	99	79	0	0	5	2
CA SAN DIEGO	66	52	68	49	59	1	0.00	-0.21	0.00	0.00	0	2.24	23	84	59	0	0	0	0
CA SAN FRANCISCO	60	52	64	48	56	6	3.86	3.36	2.41	3.93	339	12.84	70	95	84	0	0	4	2
CA STOCKTON	56	43	61	38	49	3	1.35	1.04	0.73	1.36	184	8.55	67	98	94	0	0	5	2
CO ALAMOSA	35	-2	41	-5	17	-1	0.00	-0.05	0.00	0.24	185	4.44	63	86	58	0	6	0	0
CO CO SPRINGS	50	22	55	18	36	7	0.00	-0.07	0.00	0.00	0	7.52	44	64	17	0	6	0	0
CO DENVER INTL	52	23	59	15	37	7	0.00	-0.05	0.00	0.00	0	7.15	53	48	19	0	6	0	0
CO GRAND JUNCTION	44	21	47	19	33	4	0.00	-0.07	0.00	0.09	50	7.76	90	71	50	0	6	0	0
CO PUEBLO	56	16	65	14	36	5	0.00	-0.05	0.00	0.18	129	3.78	31	71	32	0	6	0	0
CT BRIDGEPORT	40	27	47	15	33	-3	1.46	0.82	0.54	1.60	106	40.89	97	80	55	0	4	4	1
CT HARTFORD	37	20	43	8	28	-4	1.48	0.81	0.57	1.66	103	39.57	90	85	62	0	5	4	1
DC WASHINGTON	41	32	48	25	36	-5	1.94	1.37	1.36	2.53	192	32.40	86	91	65	0	3	3	2
DE WILMINGTON	40	27	48	15	33	-4	2.00	1.36	1.39	2.38	159	37.68	92	87	53	0	5	3	2
FL DAYTONA BEACH	67	55	72	45	61	0	4.62	4.12	1.68	5.04	431	55.39	116	96	72	0	0	4	3
FL JACKSONVILLE	61	47	71	40	54	-2	1.86	1.39	0.90	2.68	244	52.02	102	96	76	0	0	5	1
FL KEY WEST	80	72	83	70	76	4	3.91	3.52	3.88	3.93	442	41.36	110	88	75	0	0	2	1
FL MIAMI	82	69	86	59	75	5	2.17	1.74	1.25	2.91	280	62.80	109	95	66	0	0	3	2
FL ORLANDO	69	58	78	48	63	0	4.79	4.35	2.19	5.97	569	60.99	130	94	77	0	0	5	3
FL PENSACOLA	56	45	60	37	51	-4	0.88	0.17	0.48	1.34	79	60.29	97	93	67	0	0	3	0
FL TALLAHASSEE	57	44	70	32	51	-3	0.94	0.22	0.31	1.78	106	51.25	84	97	72	0	1	4	0
FL TAMPA	69	58	75	50	63	-1	3.32	7.87	3.93	9.06	871	56.04	129	95	76	0	0	4	3
FL WEST PALM	79	66	84	53	72	3	1.69	1.08	0.90	2.16	133	60.16	100	95	74	0	0	4	2
GA ATHENS	47	38	49	31	42	-3	1.90	1.23	1.08	2.43	154	43.37	95	89	73	0	1	2	2
GA ATLANTA	46	38	51	32	42	-4	1.78	1.08	1.08	2.25	132	44.71	93	95	82	0	1	4	2
GA AUGUSTA	52	38	54	30	45	-3	1.90	1.36	1.63	2.19	183	38.81	91	82	67	0	1	3	1
GA COLUMBUS	49	40	58	33	45	-5	1.39	0.56	0.80	1.75	89	41.40	90	95	68	0	0	3	1
GA MACON	50	40	57	31	45	-3	1.66	0.95	1.20	1.86	112	37.80	88	91	67	0	1	2	1
GA SAVANNAH	56	43	71	37	50	-2	1.52	1.04	0.58	1.87	176	44.81	94	98	78	0	0	5	2
HI HILO	80	65	82	63	73	1	6.71	4.59	3.50	7.22	131	130.6	108	91	76	0	0	5	2
HI HONOLULU	83	70	85	65	77	2	0.00	-0.54	0.00	0.00	0	12.19	73	79	68	0	0	0	0
HI KAHULUI	82	64	85	56	73	-1	0.13	-0.42	0.13	0.34	28	14.89	88	79	68	0	0	1	0
HI LIHUE	80	69	80	65	74	1	0.24	-0.66	0.14	0.41	20	31.29	85	83	75	0	0	3	0
ID BOISE	47	33	58	23	40	9	0.37	0.11	0.17	0.37	59	5.31	46	89	72	0	3	5	0
ID LEWISTON	50	37	65	26	43	9	0.36	0.17	0.20	0.36	78	9.83	81	89	75	0	1	4	0
ID POCATELLO	45	29	54	19	37	11	0.02	-0.17	0.01	0.02	4	6.90	58	83	65	0	4	2	0
IL CHICAGO/O'HARE	39	24	45	8	32	3	0.00	-0.49	0.00	0.22	18	32.81	94	87	67	0	5	0	0
IL MOLINE	45	23	49	5	34	6	0.00	-0.44	0.00	0.00	0	32.20	87	80	54	0	5	0	0
IL PEORIA	42	24	46	11	33	4	0.00	-0.50	0.00	0.00	0	31.65	91	91	60	0	6	0	0
IL ROCKFORD	41	22	46	3	32	6	0.00	-0.42	0.00	0.05	5	31.98	90	84	57	0	5	0	0
IL SPRINGFIELD	43	22	47	11	32	0	0.00	-0.51	0.00	0.00	0	38.51	112	87	55	0	5	0	0
IN EVANSVILLE	40	29	46	20	35	-2	1.15	0.43	0.60	1.48	83	44.39	104	96	83	0	4	3	1
IN FORT WAYNE	37	21	41	9	29	-1	0.04	-0.52	0.04	0.06	5	31.62	90	90	60	0	6	1	0
IN INDIANAPOLIS	38	27	40	17	32	-1	0.27	-0.33	0.15	0.27	18	36.97	94	96	74	0	5	2	0
IN SOUTH BEND	37	23	42	13	30	0	0.00	-0.62	0.00	0.06	4	26.90	71	87	65	0	6	0	0
IA BURLINGTON	44	24	48	12	34	5	0.00	-0.43	0.00	0.00	0	36.31	98	84	53	0	5	0	0
IA CEDAR RAPIDS	44	20	50	5	32	7	0.00	-0.30	0.00	0.00	0	36.32	111	93	52	0	6	0	0
IA DES MOINES	48	23	54	9	35	9	0.00	-0.26	0.00	0.00	0	25.46	75	90	60	0	6	0	0
IA DUBUQUE	40	22	46	5	31	7	0.00	-0.34	0.00	0.04	5	40.91	118	86	67	0	5	0	0
IA SIOUX CITY	46	16	58	11	31	8	0.09	-0.03	0.09	0.11	35	25.49	99	90	64	0	6	1	0
IA WATERLOO	48	16	54	1	32	9	0.00	-0.22	0.00	0.00	0	30.66	94	89	61	0	6	0	0
KS CONCORDIA	48	25	55	15	37	6	0.00	-0.15	0.00	0.00	0	18.15	65	92	74	0	5	0	0
KS DODGE CITY	49	27	64	22	38	4	0.00	-0.14	0.00	0.08	24	14.02	64	89	54	0	6	0	0
KS GOODLAND	56	22	63	18	39	9	0.00	-0.05	0.00	0.00	0	9.85	50	72	35	0	6	0	0
KS TOPEKA	49	28	59	19	38	5	0.01	-0.27	0.01	0.01	1	27.83	80	93	67				

Weather Data for the Week Ending December 14, 2002

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	5.0 INCH OR MORE
KY WICHITA	46	32	55	26	39	4	0.33	0.07	0.26	0.96	152	33.19	112	98	80	0	4	2	0
KY JACKSON	39	31	43	22	35	-4	1.85	1.00	1.19	2.71	133	51.02	108	96	77	0	4	4	1
KY LEXINGTON	36	30	37	20	33	-4	1.09	0.31	0.69	1.46	80	46.72	107	92	79	0	4	3	1
KY LOUISVILLE	40	32	43	23	36	-3	0.97	0.25	0.42	1.43	82	47.67	112	97	79	0	3	3	0
KY PADUCAH	43	30	48	24	36	-2	1.07	0.17	0.84	1.80	82	48.62	103	95	65	0	3	2	1
LA BATON ROUGE	58	39	62	34	48	-5	0.70	-0.29	0.24	3.52	152	56.37	94	97	58	0	0	4	0
LA LAKE CHARLES	57	42	62	36	50	-4	1.43	0.59	1.13	8.49	422	84.54	155	96	63	0	0	5	1
LA NEW ORLEANS	58	44	63	37	51	-5	0.82	-0.17	0.43	1.37	57	59.09	96	93	72	0	0	2	0
LA SHREVEPORT	52	37	62	30	45	-4	1.67	0.80	1.57	3.27	158	37.98	78	96	64	0	2	2	1
ME CARIBOU	27	12	34	-11	19	1	0.36	-0.23	0.36	0.77	55	35.24	99	89	73	0	6	1	0
ME PORTLAND	36	20	45	4	28	-1	1.40	0.59	1.11	1.42	74	41.12	94	81	58	0	5	2	1
MD BALTIMORE	39	27	45	15	33	-5	2.20	1.59	1.61	3.16	218	37.51	94	96	72	0	5	3	2
MA BOSTON	40	27	47	12	34	-2	2.78	2.07	1.93	2.87	172	38.86	96	92	61	0	4	4	1
MA WORCESTER	35	23	42	5	29	-1	1.98	1.27	0.95	2.19	130	42.65	91	92	53	0	5	4	1
MI ALPENA	39	20	47	9	29	4	0.00	-0.33	0.00	0.02	3	24.35	89	90	63	0	5	0	0
MI GRAND RAPIDS	38	22	43	5	30	1	0.00	-0.55	0.00	0.03	2	27.53	77	91	70	0	6	0	0
MI HOUGHTON LAKE	36	20	45	7	28	3	0.00	-0.33	0.00	0.06	8	21.67	79	91	72	0	6	0	0
MI LANSING	37	20	44	2	29	1	0.00	-0.44	0.00	0.07	6	21.27	70	88	67	0	6	0	0
MI MUSKEGON	40	25	44	9	32	2	0.00	-0.52	0.00	0.02	2	25.44	81	87	70	0	4	0	0
MI TRAVERSE CITY	39	25	46	9	32	4	0.00	-0.50	0.00	0.18	16	27.98	88	91	62	0	4	0	0
MN DULUTH	37	22	45	7	29	13	0.00	-0.18	0.00	0.00	0	30.43	100	94	77	0	6	0	0
MN INT'L FALLS	39	21	43	6	30	20	0.00	-0.13	0.00	0.00	0	23.00	98	94	67	0	6	0	0
MN MINNEAPOLIS	42	22	48	10	32	12	0.00	-0.18	0.00	0.02	4	38.32	133	86	66	0	6	0	0
MN ROCHESTER	41	18	49	2	29	10	0.02	-0.18	0.01	0.03	6	32.21	104	85	70	0	6	2	0
MS ST. CLOUD	42	16	51	5	29	13	0.00	-0.12	0.00	0.00	0	33.12	124	92	62	0	6	0	0
MS JACKSON	50	36	58	32	43	-5	0.88	-0.14	0.32	2.04	85	64.21	121	97	68	0	2	4	0
MS MERIDIAN	49	37	55	30	43	-7	2.11	1.11	1.18	3.67	154	54.64	98	98	76	0	2	5	2
MS TUPELO	48	38	55	32	43	-1	0.93	-0.27	0.46	3.38	122	62.42	119	96	75	0	1	4	0
MO COLUMBIA	46	28	53	19	37	4	0.00	-0.51	0.00	0.03	2	40.61	104	86	55	0	5	0	0
MO KANSAS CITY	48	30	57	20	39	7	0.00	-0.33	0.00	0.00	0	24.79	67	91	61	0	4	0	0
MO SAINT LOUIS	45	28	51	21	37	2	0.03	-0.55	0.03	0.20	14	39.15	105	81	57	0	5	1	0
MO SPRINGFIELD	45	27	56	22	36	-1	0.36	-0.31	0.32	1.12	65	35.30	81	94	69	0	5	2	0
MT BILLINGS	45	28	51	21	36	9	0.00	-0.11	0.00	0.26	108	9.30	65	65	42	0	5	0	0
MT BUTTE	39	16	45	5	28	10	0.00	-0.09	0.00	0.00	0	10.73	86	88	49	0	5	0	0
MT GLASGOW	46	20	51	15	33	16	0.00	-0.05	0.00	0.01	9	12.26	112	85	65	0	6	0	0
MT GREAT FALLS	48	33	55	27	41	16	0.00	-0.11	0.00	0.22	92	14.98	104	63	40	0	3	0	0
MT HAVRE	52	25	61	19	39	19	0.00	-0.09	0.00	0.00	0	13.68	123	80	53	0	6	0	0
MT KALISPELL	38	31	44	28	34	10	0.20	-0.11	0.16	0.26	35	11.47	70	93	82	0	5	3	0
MT MISSOULA	35	24	42	21	29	5	0.09	-0.12	0.06	0.09	18	9.73	74	93	91	0	6	3	0
NE GRAND ISLAND	51	21	61	17	36	9	0.00	-0.13	0.00	0.01	3	17.10	67	85	62	0	6	0	0
NE LINCOLN	48	20	58	12	34	6	0.00	-0.16	0.00	0.01	2	26.32	94	91	65	0	6	0	0
NE NORFOLK	50	19	60	15	35	10	0.00	-0.12	0.00	0.01	3	19.44	74	90	55	0	6	0	0
NE NORTH PLATTE	53	14	60	9	33	6	0.00	-0.07	0.00	0.00	0	11.09	57	91	33	0	6	0	0
NE OMAHA	46	24	54	17	35	8	0.00	-0.18	0.00	0.00	0	26.01	87	88	70	0	6	0	0
NE SCOTTSBLUFF	54	17	60	12	36	10	0.00	-0.09	0.00	0.00	0	7.17	45	76	40	0	6	0	0
NE VALENTINE	52	18	58	12	35	11	0.00	-0.05	0.00	0.04	27	11.15	58	91	49	0	6	0	0
NV ELY	48	18	50	11	33	7	0.00	-0.07	0.00	0.00	0	4.40	46	72	41	0	6	0	0
NV LAS VEGAS	59	40	62	35	49	2	0.00	-0.07	0.00	0.00	0	1.37	32	50	41	0	0	0	0
NV RENO	54	31	63	23	43	9	0.35	0.18	0.34	0.35	90	5.25	75	71	52	0	4	2	0
NH WINNEMUCCA	52	26	62	15	39	9	0.03	-0.11	0.02	0.03	9	5.59	71	75	56	0	4	2	0
NH CONCORD	35	14	44	-2	25	-2	1.39	0.83	0.76	1.56	116	37.73	105	94	60	0	5	4	2
NJ NEWARK	41	29	49	18	35	-2	1.90	1.23	1.26	2.30	143	41.95	95	78	58	0	3	3	1
NM ALBUQUERQUE	49	27	53	25	38	2	0.00	-0.07	0.00	0.36	212	6.39	70	73	39	0	6	0	0
NY ALBANY	33	17	41	4	25	-5	1.20	0.69	0.51	1.30	105	37.95	104	91	70	0	5	4	1
NY BINGHAMTON	30	21	35	3	26	-2	1.23	0.63	0.75	1.47	100	40.80	110	90	76	0	6	4	1
NY BUFFALO	35	24	38	6	30	-1	0.76	0.01	0.30	2.56	143	37.91	98	91	68	0	4	3	0
NY ROCHESTER	36	22	40	2	29	-2	0.76	0.22	0.46	1.56	122	32.04	99	87	67	0	5	3	0
NY SYRACUSE	36	20	40	2	28	-2	1.38	0.75	0.70	1.72	110	39.09	102	90	67	0	5	4	1
NC ASHEVILLE	45	34	50	29	39	-1	1.79	1.16	0.94	3.04	201	39.77	88	93	80	0	3	3	2
NC CHARLOTTE	46	35	51	29	40	-5	1.57	1.00	1.00	1.87	141	37.30	90	93	70	0	1	3	1
NC GREENSBORO	44	33	53	30	38	-4	1.25	0.68	0.88	2.67	201	37.57	91	93	71	0	3	3	1
NC HATTERAS	55	45	65	43	50	-1	0.86	0.06	0.69	2.12	115	54.38	99	93	79	0	0	4	1
NC RALEIGH	46	34	55	30	40	-4	1.44	0.90	0.97	3.32	261	44.96	109	85	66	0	2	3	1
NC WILMINGTON	54	42	66	37	48	-2	1.28	0.59	0.69	1.39	85	45.18	82	94	70	0	0	2	2
ND BISMARCK	51	14	53	9	32	15	0.00	-0.07	0.00	0.00	0	10.85	65	83	56	0	6	0	0
ND DICKINSON	50	23	56	20	37	18	0.00	-0.06	0.00	0.00	0	11.22	69	77	30	0	6	0	0
ND FARGO	45	18	48	14	31	17	0.00	-0.09	0.00	0.00	0	23.07	111	90	52	0	6	0	0
ND GRAND FORKS	44	17	49	14	31	18	0.00	-0.09	0.00	0.00	0	19.77	103	94	54	0	6	0	0
ND JAMESTOWN	48	15	51	11	31	16	0.00	-0.07	0.00	0.00	0	13.64	75	93	46	0	6	0	0
ND WILLISTON	42	16	47	11	29	15	0.00	-0.09	0.00	0.08	33	14.27	103	93	68	0	6	0	0
OH AKRON-CANTON	33	25	37	14	29	-3	0.52	-0.07	0.19	0.78	55	38.56	104	84	69	0	6	4	0
OH CINCINNATI	36	29	37	20	33	-3	0.73	0.09	0.31	1.01	67	41.85	102	92	75	0	3	4	0
OH CLEVELAND	36	26	39	15	31	-1	0.66	0.03	0.34	1.18	76	33.85	91	89	62	0	5	4	0
OH COLUMBUS	36	27	39	17	32	-3	0.91	0.33	0.51	1.00	71	38.48	104	88	71	0	4	3	1
OH DAYTON	35	24	37	13	29	-4	0.60	0.00	0.32	0.61	42	36.56	96	91	69	0	6	2	0
OH MANSFIELD	34	24	39	8	29	-2	0.56	-0.09	0.35	0.61	38	32.80	79	95	61	0	6	3	0

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending December 14, 2002

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	5.0 INCH OR MORE	
OK	TOLEDO	36	23	39	4	29	-1	0.16	-0.37	0.11	0.26	20	26.90	84	87	69	0	5	2	0
	YOUNGSTOWN	34	24	38	11	29	-3	0.62	0.03	0.39	0.86	59	38.67	106	84	67	0	5	3	0
	OKLAHOMA CITY	49	37	62	29	43	3	0.11	-0.24	0.10	0.54	65	32.87	94	95	67	0	2	2	0
OR	TULSA	52	37	63	30	44	3	0.42	-0.08	0.22	1.85	147	30.42	74	99	79	0	1	2	0
	ASTORIA	56	45	61	42	51	8	5.27	3.21	1.63	5.49	111	48.94	79	94	78	0	0	6	5
	BURNS	42	25	55	12	34	9	0.58	0.34	0.28	0.60	109	4.58	47	94	78	0	4	4	0
	EUGENE	54	42	61	34	48	8	2.75	1.10	0.86	3.01	76	28.41	61	94	79	0	0	6	2
	MEDFORD	56	39	65	32	47	9	1.34	0.77	0.57	1.36	98	12.19	72	98	64	0	1	6	1
	PENDLETON	53	41	64	32	47	13	0.64	0.36	0.33	0.66	97	8.25	69	80	63	0	2	4	0
	PORTLAND	54	43	60	34	48	7	2.59	1.46	0.60	2.65	98	25.88	76	96	84	0	0	6	3
	SALEM	54	43	60	30	48	8	3.11	1.82	0.87	3.39	109	30.26	83	94	81	0	1	6	3
PA	ALLENTOWN	36	20	42	5	28	-5	1.78	1.14	1.29	2.09	135	38.72	89	91	65	0	4	4	1
	ERIE	36	27	39	15	31	-3	0.62	-0.14	0.31	0.70	38	44.59	109	84	68	0	3	4	0
	MIDDLETOWN	39	23	53	13	31	-4	2.30	1.66	1.63	2.94	187	39.14	101	92	65	0	5	3	2
	PHILADELPHIA	41	29	48	21	35	-3	1.90	1.29	1.26	2.34	160	37.60	94	80	59	0	4	3	2
	PITTSBURGH	35	24	38	9	30	-4	1.03	0.47	0.38	1.32	98	31.10	86	96	66	0	6	3	0
	WILKES-BARRE	34	22	41	5	28	-5	1.73	1.23	1.35	2.00	161	38.79	107	90	68	0	4	4	1
	WILLIAMSPORT	33	20	41	3	27	-5	1.81	1.23	0.83	2.22	153	41.85	104	93	79	0	5	3	2
RI	PROVIDENCE	41	25	48	14	33	-2	2.20	1.42	1.17	2.49	134	39.94	90	86	62	0	4	4	2
SC	BEAUFORT	55	42	69	38	48	-3	1.38	0.84	0.65	1.38	114	51.79	108	95	70	0	0	5	1
	CHARLESTON	54	42	67	39	48	-3	1.95	1.38	0.92	2.02	155	56.52	114	92	73	0	0	5	2
	COLUMBIA	50	38	55	34	44	-4	1.67	1.08	1.22	2.10	159	45.10	98	85	72	0	0	3	1
	GREENVILLE	46	37	52	34	42	-2	1.91	1.20	0.98	3.62	219	44.99	94	94	77	0	0	3	2
SD	ABERDEEN	49	13	54	8	31	14	0.00	-0.05	0.00	0.01	9	15.04	75	89	63	0	6	0	0
	HURON	49	18	57	17	34	14	0.00	-0.06	0.00	0.08	53	14.25	69	92	43	0	6	0	0
	RAPID CITY	53	23	60	19	38	13	0.00	-0.06	0.00	0.03	23	10.45	64	71	30	0	6	0	0
	SIoux FALLS	47	17	54	12	32	12	0.00	-0.09	0.00	0.04	15	23.94	98	91	62	0	6	0	0
TN	BRISTOL	47	32	52	23	40	2	1.11	0.46	0.55	2.31	150	38.25	97	98	67	0	2	4	2
	CHATTANOOGA	45	37	48	30	41	-2	2.11	1.20	1.18	3.46	157	47.50	92	92	77	0	1	3	2
	KNOXVILLE	44	36	47	31	40	-2	1.53	0.68	0.79	3.10	154	55.93	122	96	79	0	1	3	2
	MEMPHIS	47	36	51	33	41	-3	1.00	-0.17	0.83	2.43	86	67.60	131	92	69	0	0	2	1
	NASHVILLE	44	33	51	27	39	-2	1.64	0.75	0.99	2.11	98	52.98	116	97	79	0	2	3	2
TX	ABILENE	53	37	63	36	45	-1	0.16	-0.08	0.16	1.24	243	27.89	121	86	66	0	0	1	0
	AMARILLO	53	25	62	21	39	1	0.00	-0.09	0.00	0.29	153	17.45	90	92	41	0	6	0	0
	AUSTIN	58	38	66	28	48	-5	2.14	1.67	1.61	3.41	319	37.29	116	90	68	0	3	2	2
	BEAUMONT	57	42	62	36	49	-6	1.55	0.58	1.45	6.78	300	62.35	110	10	63	0	0	2	1
	BROWNSVILLE	69	48	75	47	59	-3	0.73	0.52	0.61	1.07	206	28.21	105	97	66	0	0	3	1
	CORPUS CHRISTI	63	46	68	42	54	-5	2.02	1.69	1.10	2.56	346	30.75	98	94	70	0	0	2	2
	DEL RIO	63	37	69	32	50	-3	0.10	-0.04	0.09	0.27	82	17.73	100	90	56	0	1	2	0
	EL PASO	56	33	60	31	44	-2	0.00	-0.14	0.00	0.91	284	6.73	75	88	43	0	4	0	0
	FORT WORTH	54	39	66	32	46	-1	0.94	0.45	0.93	1.98	180	42.28	127	94	70	0	1	2	1
	GALVESTON	60	48	63	45	54	-5	1.82	1.17	1.75	2.59	165	63.17	151	97	69	0	0	2	1
	HOUSTON	57	43	64	36	50	-4	3.32	2.62	2.57	4.29	257	58.41	127	97	70	0	0	2	2
	LUBBOCK	55	29	64	26	42	2	0.00	-0.12	0.00	1.39	496	19.11	104	91	62	0	6	0	0
	MIDLAND	55	32	64	29	43	-2	0.02	-0.10	0.02	1.05	389	9.34	65	92	62	0	4	1	0
	SAN ANGELO	56	34	65	29	45	-2	0.02	-0.16	0.01	0.87	218	13.89	68	92	62	0	3	2	0
	SAN ANTONIO	61	40	68	33	50	-3	1.11	0.73	0.80	1.98	225	45.74	144	94	56	0	0	2	1
	VICTORIA	60	41	67	38	51	-5	0.46	-0.01	0.45	0.56	51	37.20	96	98	69	0	0	2	0
	WACO	54	39	63	32	46	-3	1.22	0.68	1.08	3.83	304	33.13	104	95	78	0	1	3	1
	WICHITA FALLS	53	36	67	33	45	1	0.53	0.20	0.52	1.24	168	27.99	100	92	69	0	0	2	1
UT	SALT LAKE CITY	46	30	55	24	38	7	0.00	-0.21	0.00	0.00	0	9.75	62	85	54	0	4	0	0
VT	BURLINGTON	32	20	39	-4	26	0	0.54	0.11	0.26	0.61	57	36.35	104	89	68	0	5	3	0
VA	LYNCHBURG	42	28	50	24	35	-4	1.17	0.58	0.63	2.30	163	35.33	85	86	67	0	6	3	2
	NORFOLK	48	36	59	34	42	-3	1.03	0.49	0.49	2.78	226	49.51	113	95	76	0	0	3	0
	RICHMOND	43	31	52	26	37	-4	1.25	0.68	0.72	2.10	162	36.45	87	89	76	0	4	2	2
	ROANOKE	42	30	46	25	36	-4	0.67	0.13	0.64	1.11	85	31.44	77	83	68	0	5	3	1
WA	WASH/DULLES	38	26	45	14	32	-5	0.91	0.32	0.61	1.48	106	36.01	90	87	67	0	4	3	1
	OLYMPIA	51	40	58	29	46	8	3.48	1.93	1.05	3.79	101	38.17	82	98	86	0	1	6	3
	QUILLAYUTE	53	42	55	37	47	6	5.42	2.56	1.56	5.79	85	81.90	87	96	84	0	0	6	4
	SEATTLE-TACOMA	52	42	59	35	47	6	3.07	1.96	1.24	3.20	119	29.29	86	94	77	0	0	6	3
	SPOKANE	43	34	55	25	38	10	1.11	0.67	0.65	1.11	104	11.68	75	96	79	0	3	5	1
	YAKIMA	42	33	48	25	37	8	1.24	0.98	0.77	1.47	245	5.82	78	95	91	0	3	4	1
WV	BECKLEY	37	27	44	12	32	-4	0.89	0.30	0.51	1.66	120	39.77	100	97	85	0	6	4	1
	CHARLESTON	41	30	47	19	36	-3	1.40	0.75	0.77	1.95	123	43.76	103	99	77	0	2	5	1
	ELKINS	41	23	44	7	32	-2	0.73	0.07	0.25	1.14	72	49.86	113	96	64	0	6	4	0
	HUNTINGTON	40	30	42	20	35	-3	1.25	0.61	0.76	1.73	114	44.96	111	92	69	0	3	3	1
WI	EAU CLAIRE	41	17	46	2	29	10	0.00	-0.20	0.00	0.00	0	38.93	123	93	58	0	6	0	0
	GREEN BAY	40	22	47	2	31	8	0.00	-0.27	0.00	0.00	0	27.23	96	83	57	0	6	0	0
	LA CROSSE	41	23	46	5	32	9	0.00	-0.24	0.00	0.03	5	30.31	95	93	62	0	6	0	0
	MADISON	40	22	46	2	31	7	0.00	-0.33	0.00	0.03	4	25.55	80	81	62	0	5	0	0
	MILWAUKEE	40	25	45	11	32	4	0.00	-0.44	0.00	0.06	6	26.00	77	79	62	0	6	0	0
WY	CASPER	45	23	51	14	34	10	0.00	-0.12	0.00	0.00	0	6.78	53	69	41	0	6	0	0
	CHEYENNE	48	26	55	16	37	9	0.00	-0.07	0.00	0.01	5	9.77	64	52	27	0	5	0	0
	LANDER	36	14	47	3	25	3	0.00	-0.11	0.00	0.00	0	7.89	60	81	70	0	6	0	0
	SHERIDAN	43	18	48	12	30	7	0.00	-0.12	0.00	0.18	64	11.59	81	73	61				

National Agricultural Summary

December 9 - 15, 2002

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

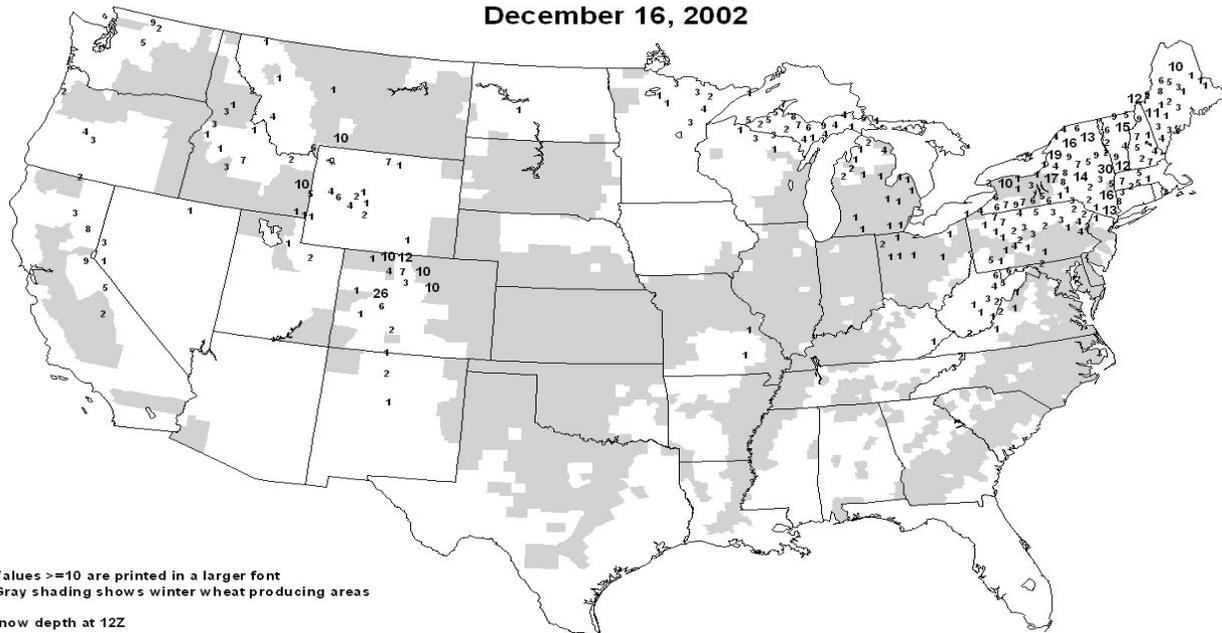
Above-normal temperatures supported winter wheat development across most of the Great Plains and Pacific Northwest, while below-normal temperatures virtually halted development in the eastern Corn Belt. Vegetative growth was minimal on the central and northern High Plains, but root development remained active in many fields. In the southern Great Plains, below-normal temperatures limited winter wheat growth early in the week, but favorably warm weather stimulated growth after midweek. Light precipitation provided beneficial moisture in parts of the southern and central Great Plains, but heavy rain produced flooding and excessive soil moisture along the western Gulf Coast and adjacent interior parts of eastern Texas. In the Pacific Northwest, a large, slow-moving, low-pressure system produced heavy

coastal rain and mountain snowfall that boosted next summers' irrigation water reserves. The storm also produced much-needed precipitation for winter grains in the interior Pacific Northwest, although subsoils remained very dry. In the lower Mississippi Valley and Southeast, wet weather continued to hamper harvest and fall tillage. In Florida, heavy rain interrupted vegetable planting and harvesting and reduced the quality of some crops. Also, citrus producers with bedded trees pumped excessive water from their groves. In California, dry weather supported field and orchard work in the southern half of the State. Meanwhile, forages and emerged small grains produced vigorous growth, and recently planted crops quickly emerged.

Snow Depth

(Inches)

December 16, 2002



Values >=10 are printed in a larger font
 Gray shading shows winter wheat producing areas

Snow depth at 12Z

The NWS cooperative network is the principal
 source of the snow depth reports

NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

International Weather and Crop Summary

December 8 - 14, 2002

International Weather and Crop Highlights and Summaries provided by USDA/WAOB

HIGHLIGHTS

FSU-WESTERN: Bitterly cold weather accompanied by light snow persisted over the region late in the week.

EUROPE: Unseasonably cold weather prompted winter grains and oilseeds to enter dormancy in central and southeastern Europe and possibly caused winterkill in some areas.

EASTERN ASIA: Dry, seasonably cool weather kept winter wheat dormant on the North China Plain.

SOUTHEAST ASIA: Showers boosted moisture supplies for vegetative main-season rice in Java, Indonesia.

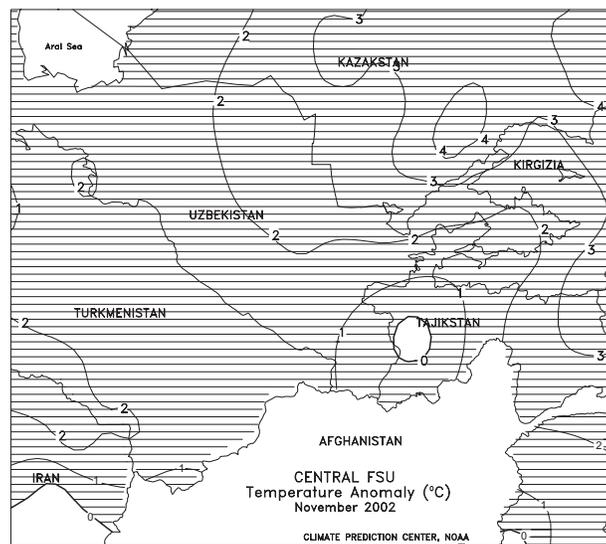
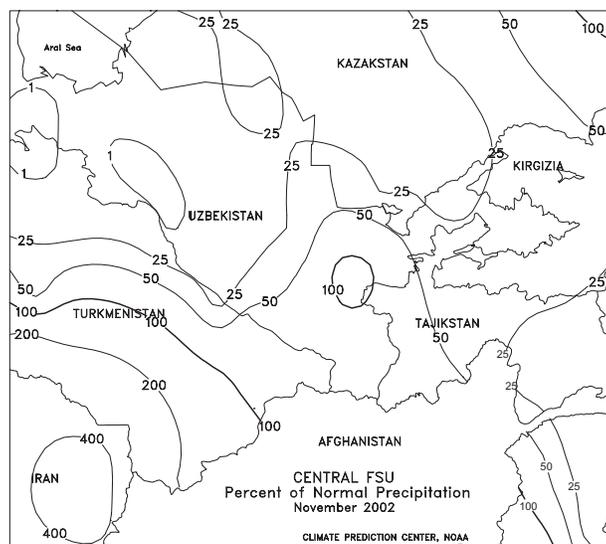
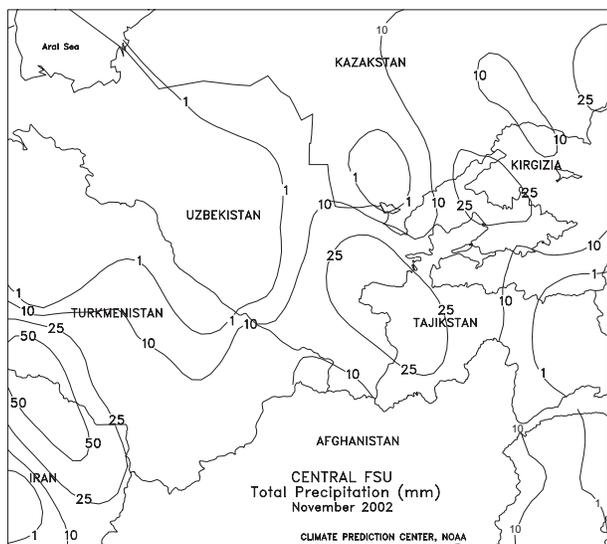
AUSTRALIA: Much-needed rainfall in eastern Australia boosted topsoil moisture for dryland cotton and sorghum and stabilized reservoir levels for irrigated summer crops.

NORTHWESTERN AFRICA: In Algeria and Tunisia, drier weather allowed winter grain planting to resume after last week's heavy rain, while rain maintained favorable topsoil moisture in Morocco.

SOUTH AFRICA: For the second consecutive week, beneficial rain fell in the corn belt, increasing topsoil moisture for emerging summer crops.

MIDDLE EAST: Across most of Turkey, the Middle East, and Iran, widespread rain provided needed moisture for winter grain development.

SOUTH AMERICA: Moderate to heavy rain brought relief to heat-stressed summer crops in Brazil's northern producing areas.

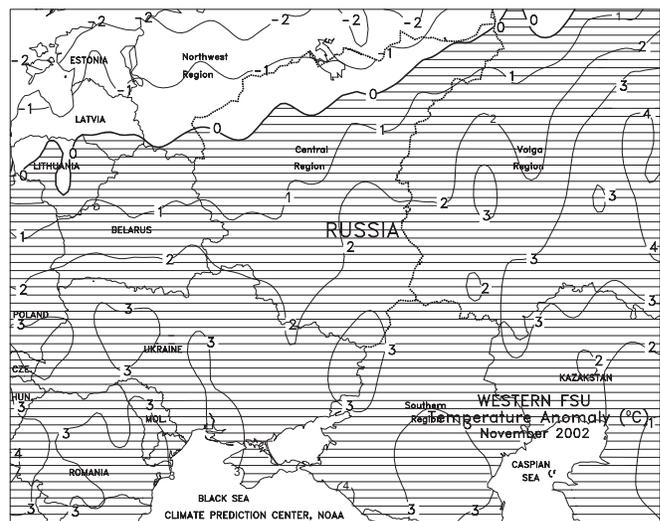
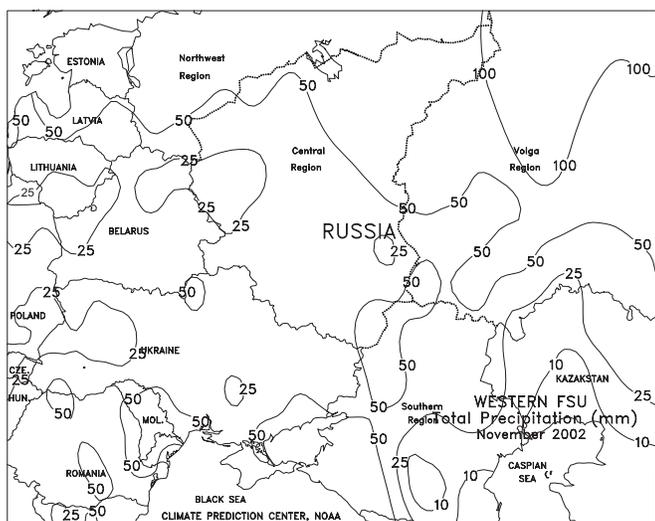


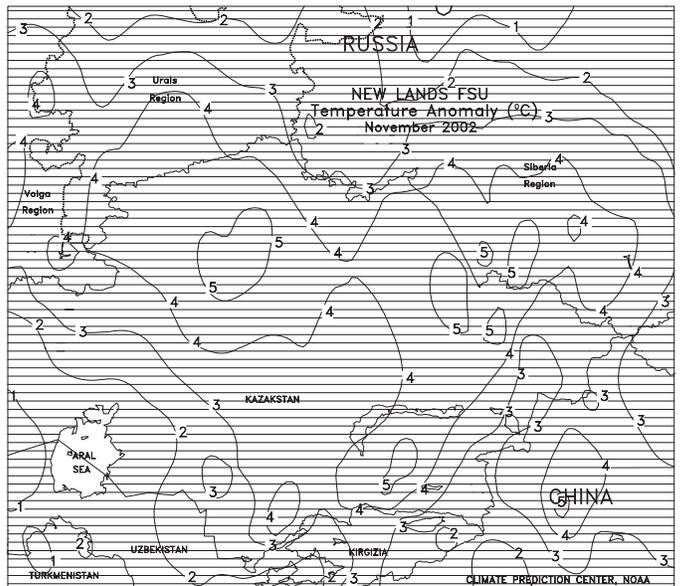
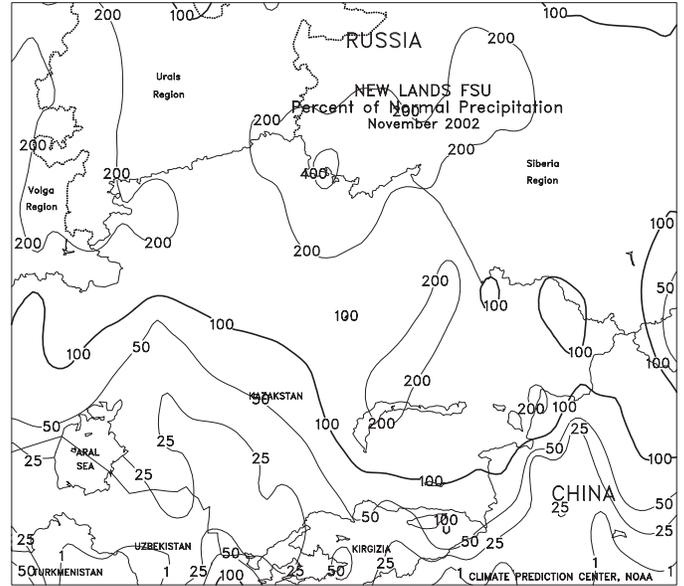
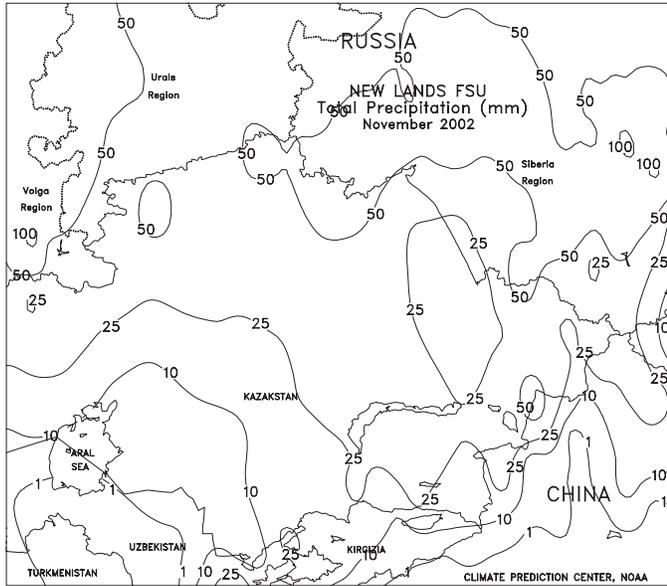


FSU-WESTERN

Another surge of bitterly cold air pushed southward across most winter grain areas early in the week. The lowest temperatures were observed on December 9, when minimum temperatures dropped at or below -20 degrees C as far south as major winter wheat-producing areas in eastern Ukraine and the northern tip of the Russian Southern Region. Although these areas were mostly snow-free, extreme cold lasted for only a day or so, minimizing the potential for widespread crop damage. Elsewhere, minimum temperatures in the Central and Volga Regions in Russia ranged from -31 to -22 degrees C, at or below the threshold for potential winterkill in areas without snow cover. Snow cover was thin or patchy in these areas, creating the potential for some freeze damage to winter grains. Although temperatures moderated during the middle of the week in this region, an arctic front ushered in another round of bitterly cold weather by week's end. However, this front produced light snow across most areas, providing a shallow but fresh protective snow cover. Weekly temperatures averaged 7 to 10 degrees C below normal in Russia and Ukraine and 3 to 7 degrees C below normal in Belarus and the Baltics. In November, stormy weather brought widespread rain and snow along with unseasonable cold to most areas. From November 5-6, an early season snow storm tracked across southern Ukraine into parts of southern Russia, halting late-season harvest activities. The cold, wet weather

provided abundant moisture for winter grains but slowed the establishment of late-planted crops. During the second half of November, warmer, drier weather allowed further winter grain establishment in Ukraine and southern Russia and aided summer crop harvesting. Temperatures in northern Russia remained low enough to keep winter grains dormant. Overall, monthly temperatures averaged 1 to 3 degrees C above normal in major crop-producing areas of Russia, Ukraine, and Belarus, while near-normal temperatures were observed in the Baltics. At month's end, colder weather overspread winter grain areas in Ukraine and southern Russia, easing crops into dormancy.



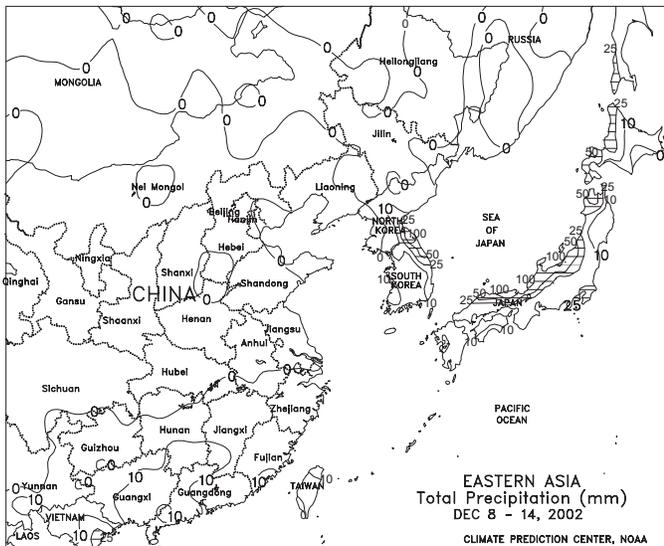
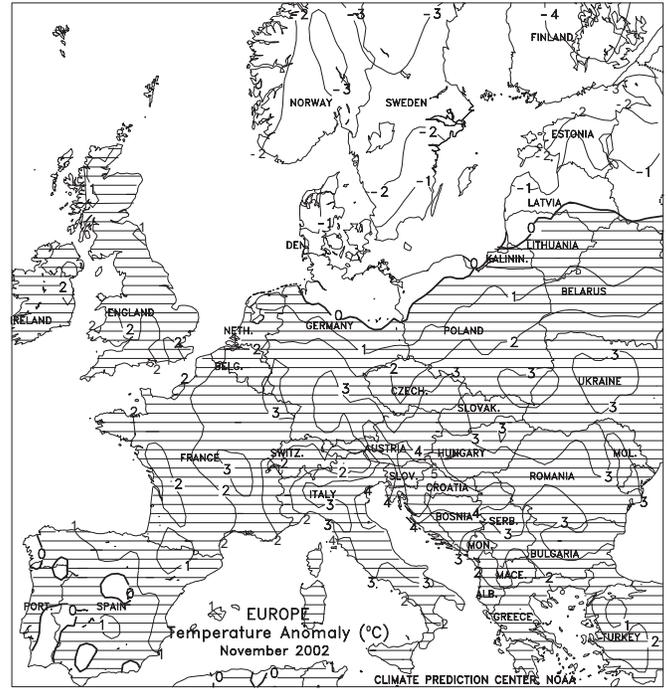




EUROPE

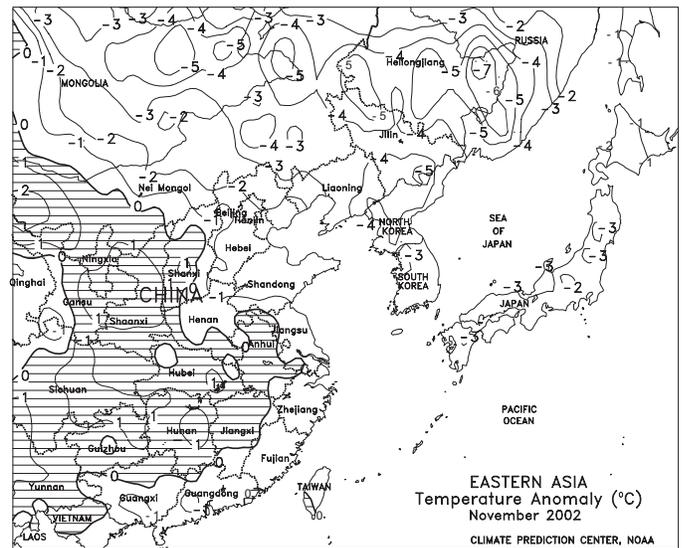
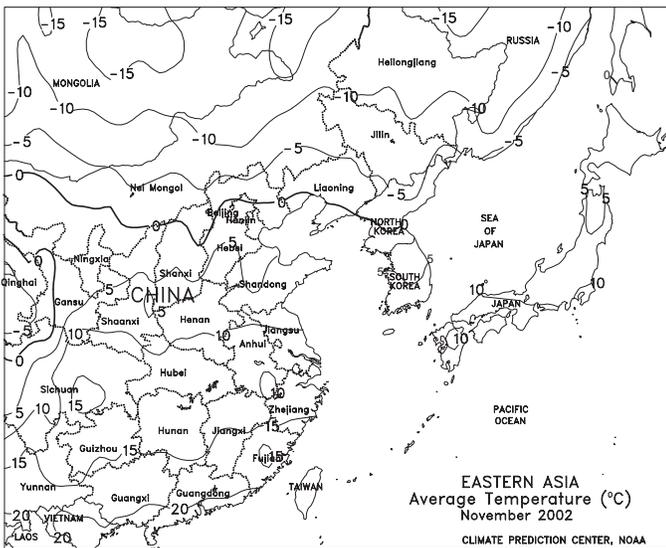
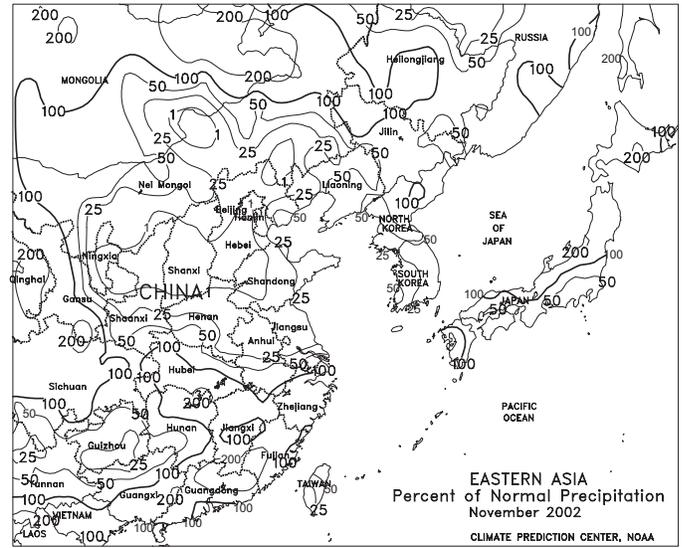
Unseasonably cold weather prompted winter grains and oilseeds to enter dormancy from the Low Countries and Germany southeastward into the Balkans. Across this area, temperatures averaged 5 to 10 degrees C below normal. The weather was bitterly cold, with minimum temperatures as low as -21 to -15 degrees C in Poland, eastern Czech Republic, Slovakia, Romania, and Bulgaria. A shallow snow cover protected most winter crops in Poland, Romania, and Bulgaria, but some isolated winterkill was possible in some areas of the Czech Republic and Slovakia. Across northern and central Europe, mostly dry weather helped to alleviate excessive wetness, especially in southern Germany. Light snow (less than 2 mm, liquid equivalent) fell across eastern Poland. An active southern jet stream continued to produce wet weather and boost moisture supplies across the western and southern Iberian peninsula (25-70 mm), central and southern Italy (10-50 mm), and Greece (25-60 mm). In northern Italy, mostly dry weather (less than 10 mm) eased excessive wetness. However, cool weather in the Po Valley slowed replanting. Temperatures averaged 1 to 4 degrees C below normal in England and northern France and near normal to slightly above normal across the Iberian Peninsula and southern France. During November, excessive rainfall in northern Italy caused flooding, halted fieldwork, and washed out winter grain fields. Across the rest of Europe, near- to above-normal rainfall prevailed but persistent rain in Germany increased disease potentials. In southeastern Europe, despite early-November rainfall, dry weather by the end the month reduced topsoil moisture for winter grain germination. Across the Iberian peninsula, near- to slightly above-normal rainfall maintained favorable moisture supplies. Mild weather favored winter crop establishment.

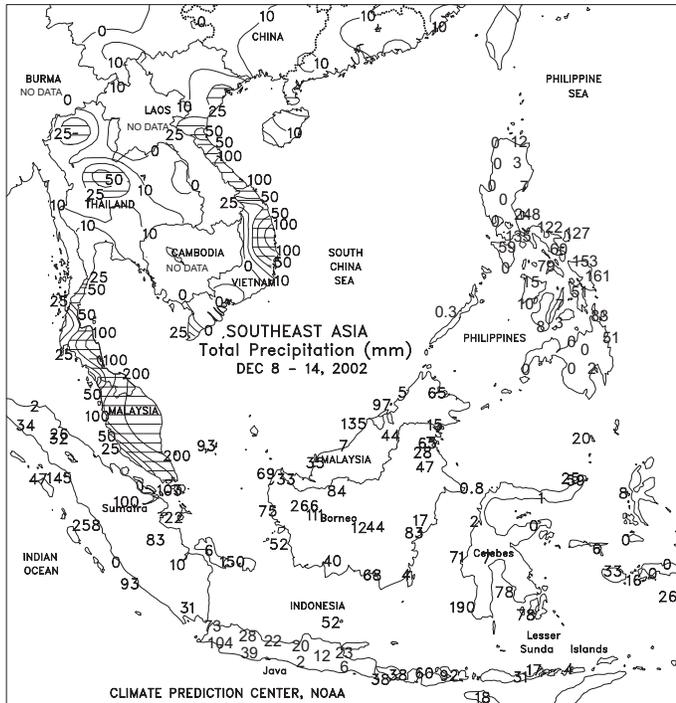




EASTERN ASIA

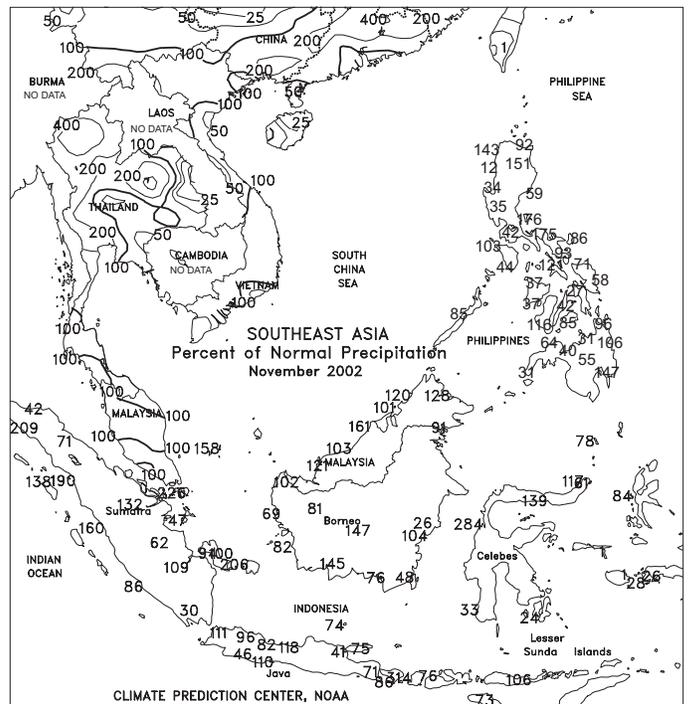
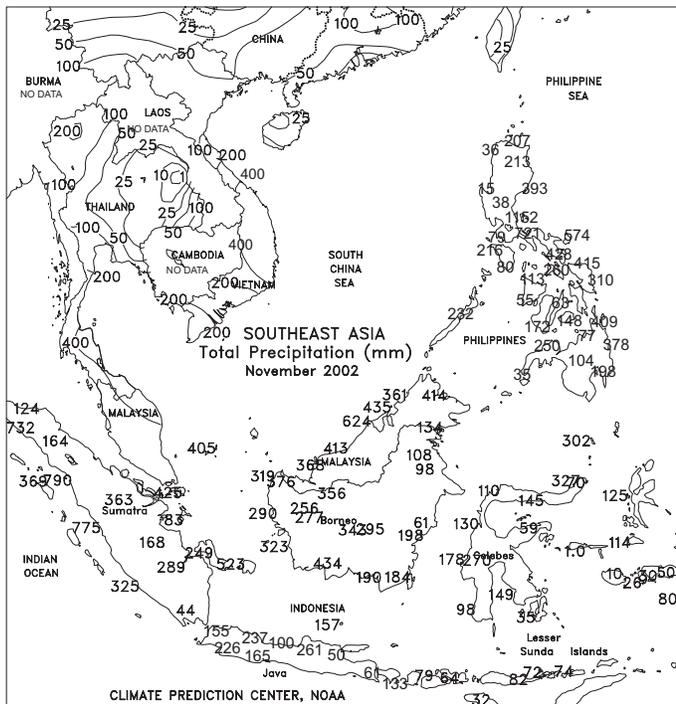
Showers (2-15 mm) lingered over the North China Plain, keeping topsoils moist as winter wheat continued to enter dormancy. Temperatures averaging 1 to 2 degrees C below normal helped to increase the cold hardiness of crops, especially in the more northerly crop areas. In fact, temperatures averaged below 5 degrees C (the threshold for crops entering dormancy) over southern wheat areas for the first time this season. Elsewhere, continuing moderate to heavy rain (25-50 mm or more) increased moisture reserves in lower sections of the Yangtze Valley, but light rainfall (less than 10 mm) elsewhere allowed some late-season fieldwork. Locally heavy rain (25-50 mm or more) increased moisture reserves in southern Japan and coastal areas of the Korean Peninsula. In November, cool, dry weather eased winter wheat into dormancy on the North China Plain. In southern China, scattered showers lasting into November likely caused some delays in final harvests of rice and other crops. Unseasonable showers persisted in Japan's northern producing areas throughout the month, hindering late vegetable and rice harvests.

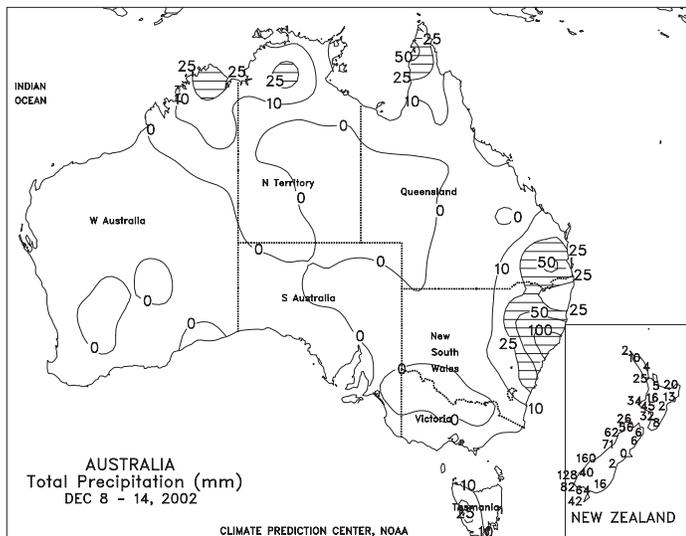
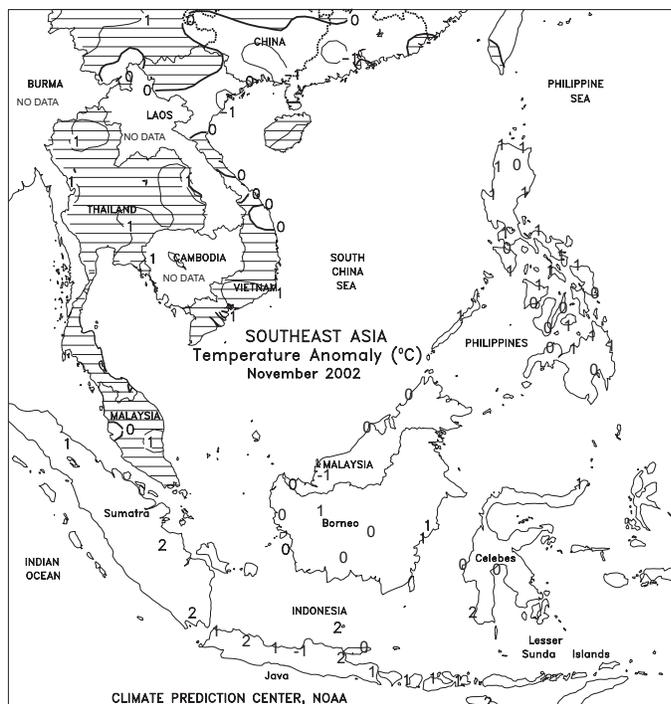
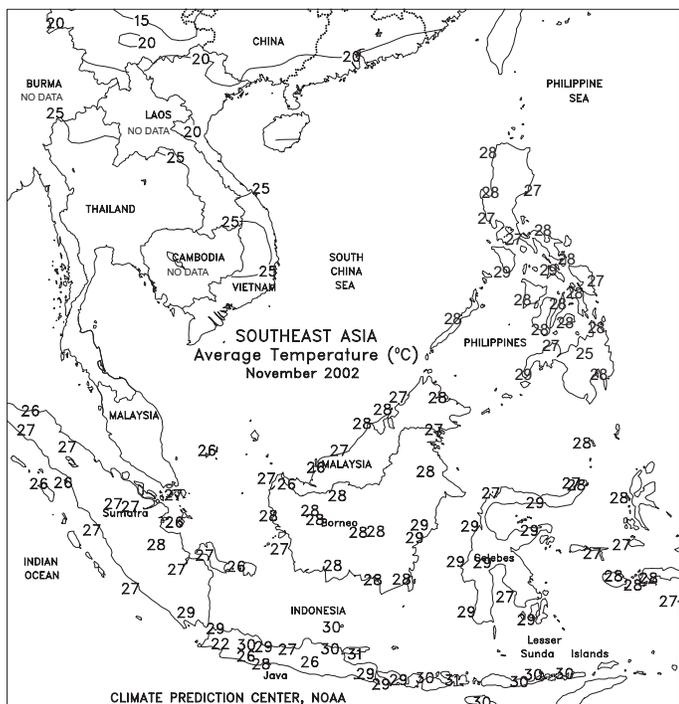




SOUTHEAST ASIA

Showers (25-50 mm or more) boosted moisture supplies for vegetative main-season rice in Java, Indonesia. In the Philippines, seasonably dry weather prevailed throughout the western areas, while heavy showers (25-100 mm) fell in southern Luzon, likely causing some flooding. Showers (25-50 mm) fell mostly along central Vietnam, while dry weather favored maturing 10th month rice in the south. Light showers (10-25 mm) fell throughout central Thailand. In peninsular Malaysia and Sumatra, heavy showers (50-200 mm) boosted moisture supplies for oil palm. In November, rainfall began to increase in Java, Indonesia, after a prolonged dry season delayed rice planting. Above-normal rainfall in Thailand continued to slow main-season rice harvesting. In northern Vietnam, showers slowed rice harvesting, while in the south, above-normal rainfall benefited vegetative 10th month rice. The rainy season continued across the western Philippines, bringing beneficial moisture to vegetative second-season rice. Moisture levels remained high for oil palm in peninsular Malaysia and Sumatra.



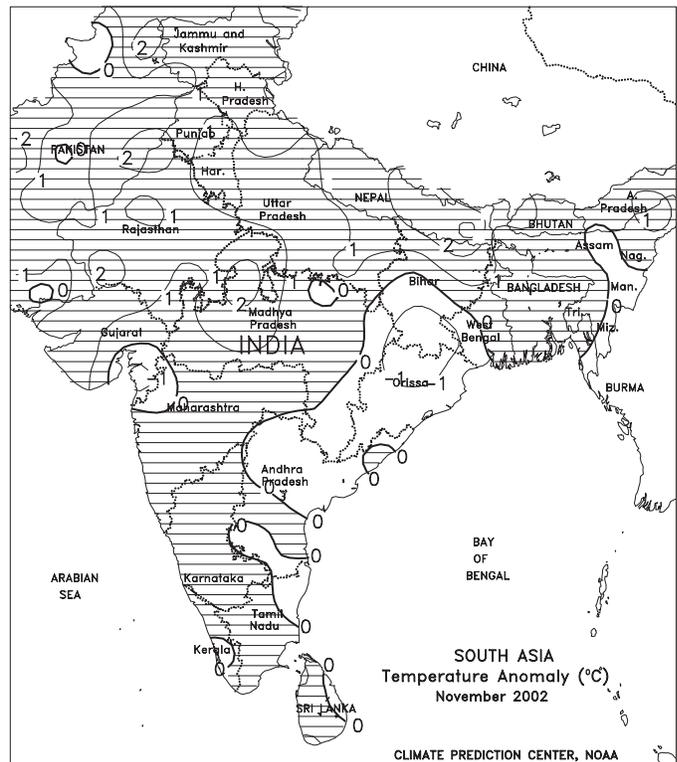
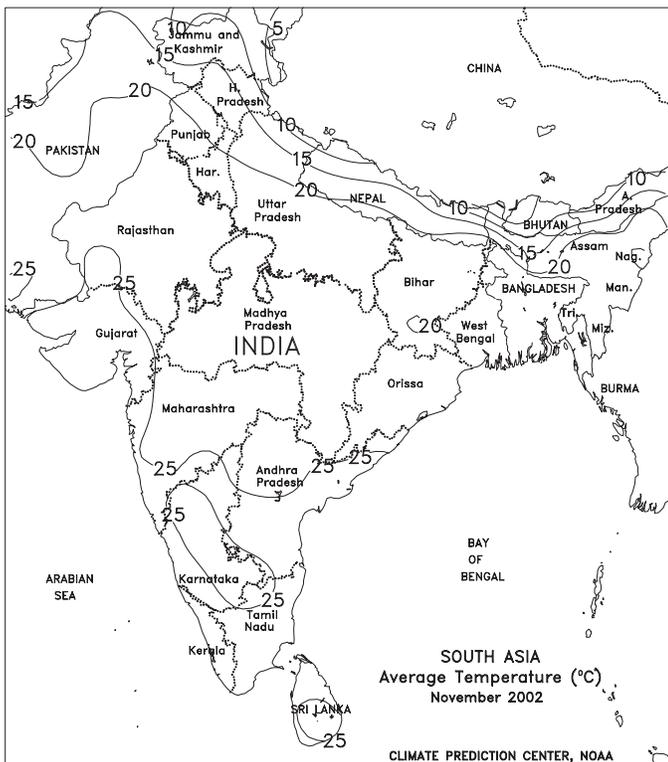
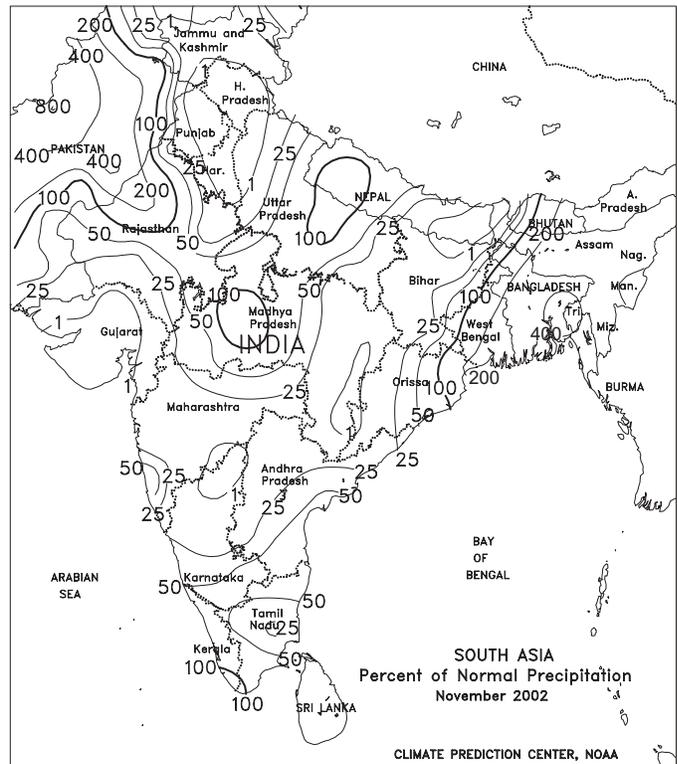
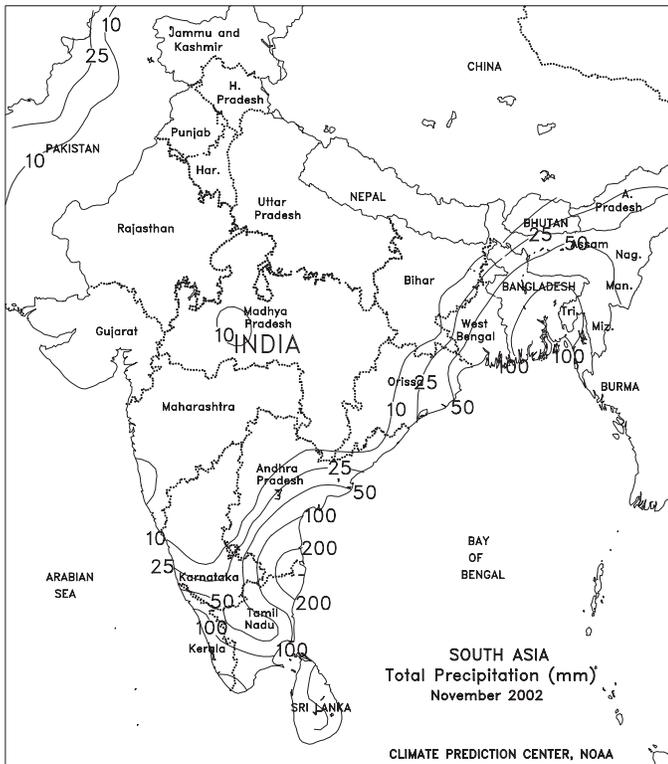


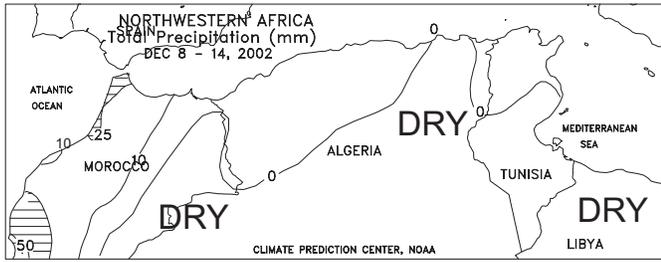
AUSTRALIA

In eastern Australia, showers (5-40 mm or more) early in the week brought temporary relief from the heat and dryness plaguing winter grain and summer crop areas. In parts of southern Queensland and northern and central New South Wales, the rainfall boosted topsoil moisture for dryland cotton and sorghum and stabilized reservoir levels for irrigated summer crops. Hot, dry weather returned later in the week, however, renewing stress on these crops. Farther south, dry weather provided no relief from the severe drought gripping southern New South Wales, northern Victoria, and South Australia. Similarly, dry weather maintained drought in Western Australia but helped winter grain harvesting advance without interruption. Temperatures averaged 1 to 2 degrees C above normal in Western Australia but averaged about 1 to 3 degrees C below normal elsewhere. In New Zealand, scattered showers (2-16 mm) maintained moisture supplies in major agricultural areas. In November, unseasonably hot, dry weather continued in Queensland and New South Wales, stressing vegetative summer crops, but spurring winter grain harvesting. Much-needed rain fell across parts of Victoria, South Australia, and Western Australia, bringing some drought relief. Yet, rainfall remained below normal in these areas, helping winter wheat and barley harvesting.

SOUTH ASIA

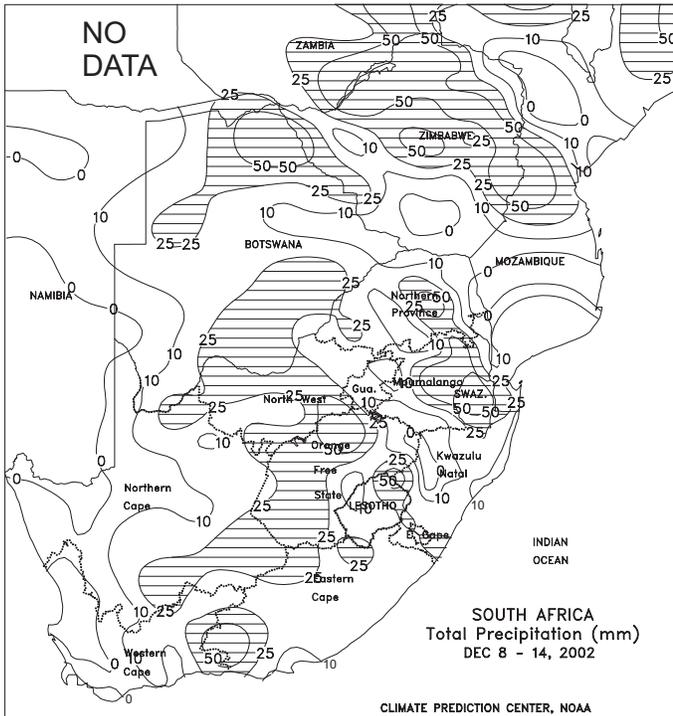
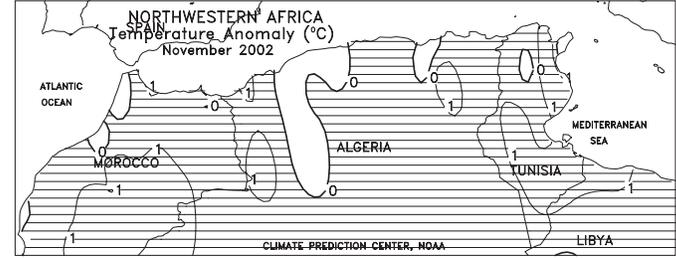
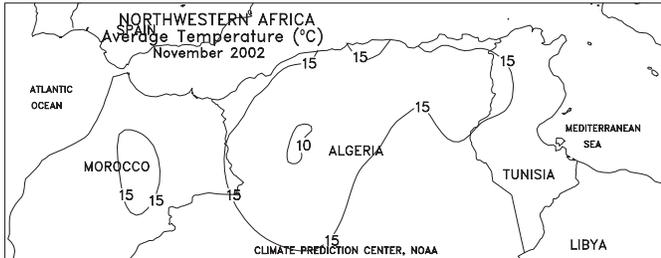
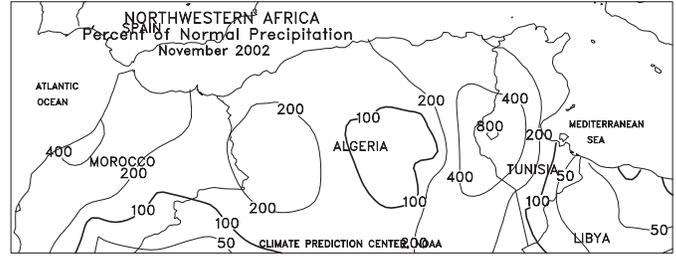
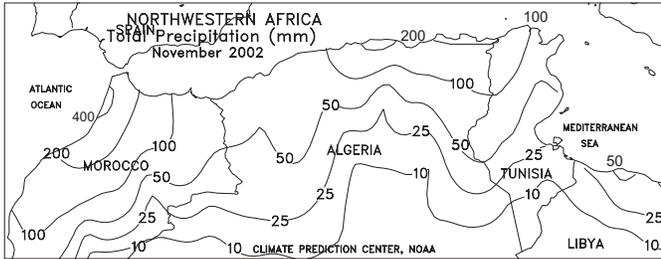
In November, showers gradually receded from central India, while southern and eastern rice areas continued to receive rain. Warm, dry weather elsewhere favored summer crop harvesting. Winter grain and oilseed planting was likely underway in Pakistan and northern India.





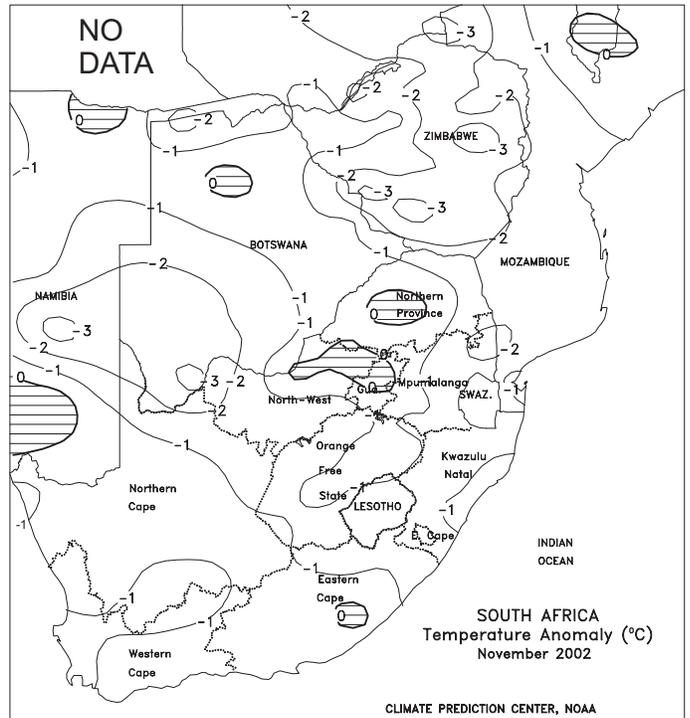
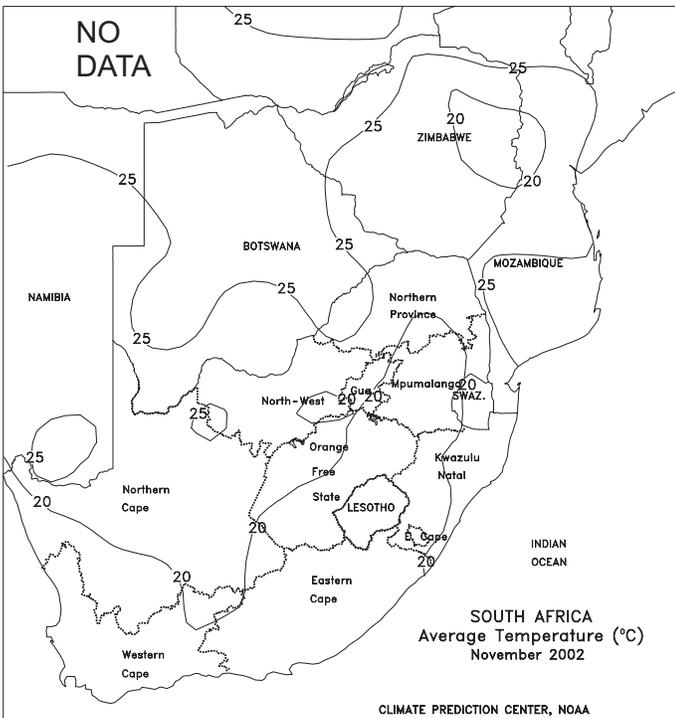
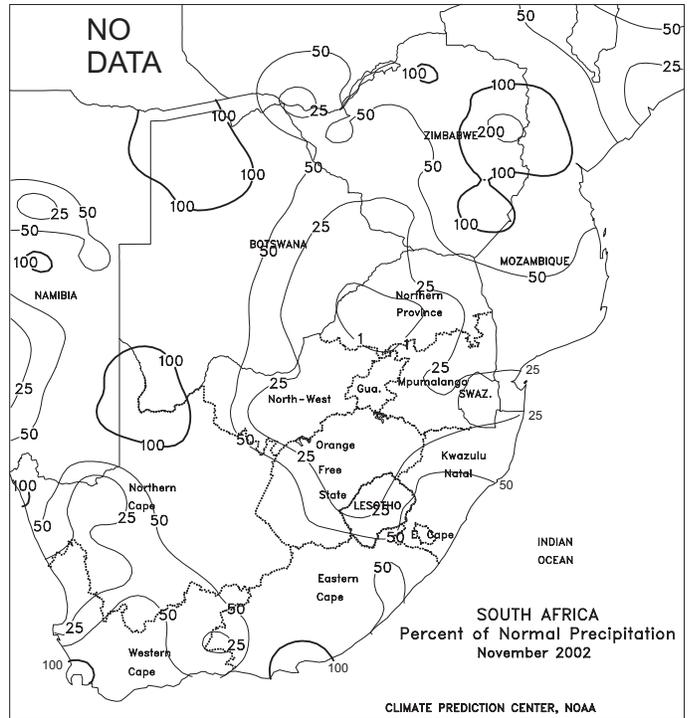
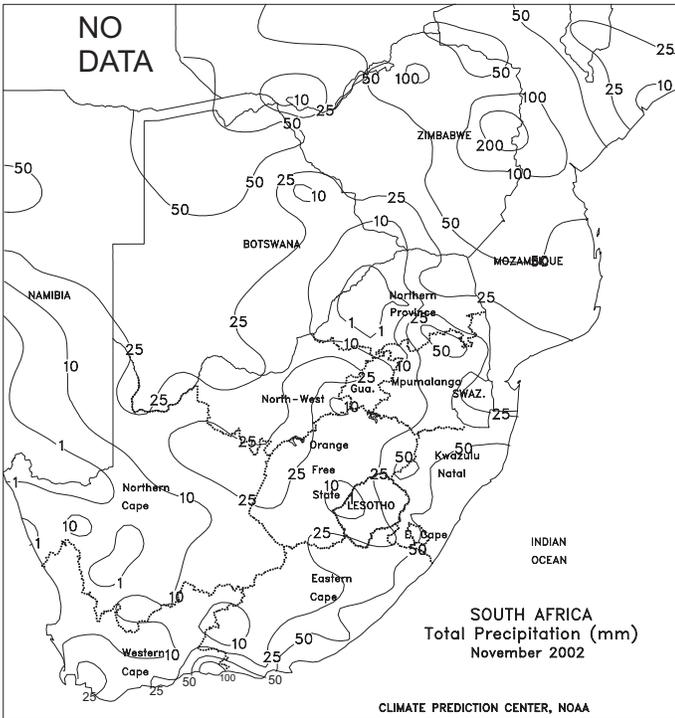
NORTHWESTERN AFRICA

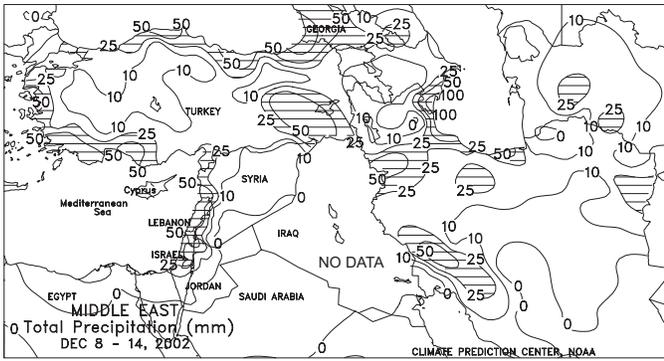
In Algeria and northern Tunisia, mostly dry weather allowed winter grain planting to resume, after last week's heavy rains. In Morocco, moderate rain (10-25 mm or more) maintained favorable topsoil moisture for planting. Temperatures averaged near normal across the region, with scattered frost in the higher elevations, causing little or no burn back to germinating grains. In November, widespread above-normal rainfall greatly boosted soil moisture reserves for winter grains but slowed planting.



SOUTH AFRICA

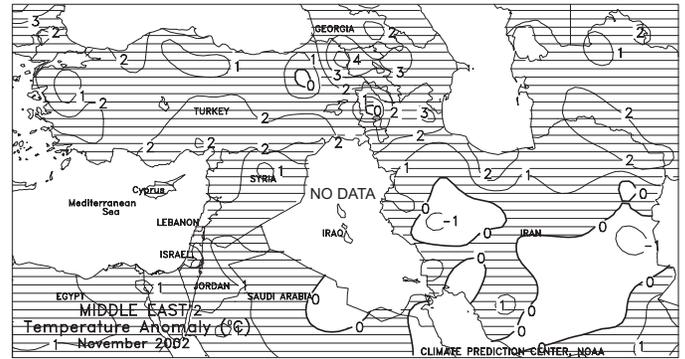
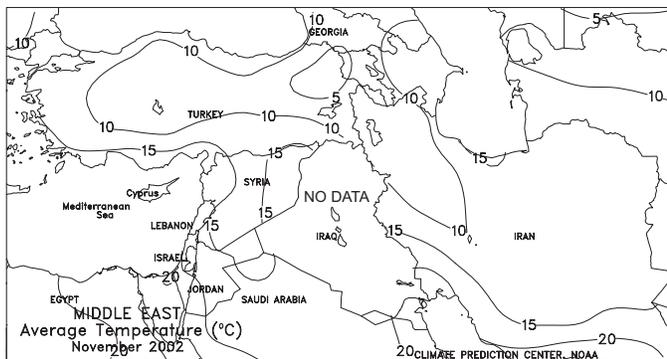
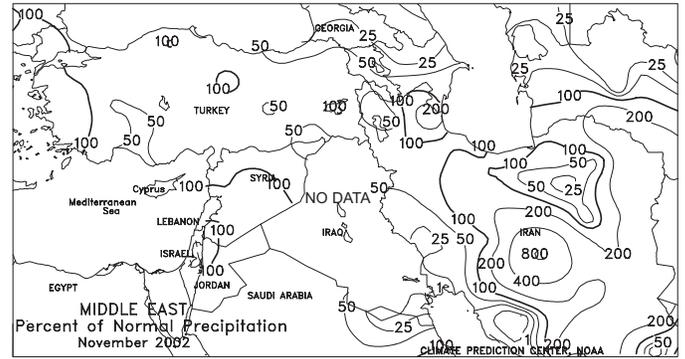
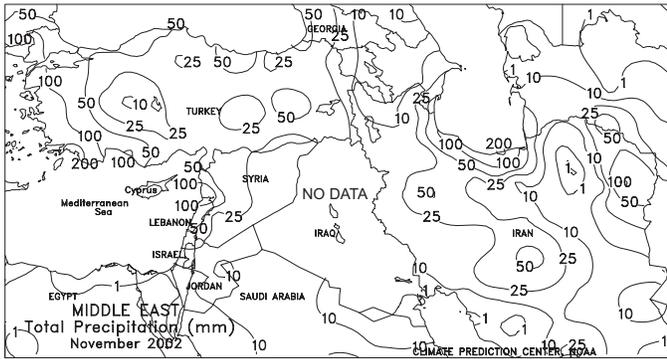
For the second consecutive week, beneficial rain (15-40 mm, locally more than 60 mm) fell in the corn belt, increasing topsoil moisture for emerging summer crops. Although fieldwork was likely limited by the wet weather, the recent showers were likely encouraging additional summer crop planting in between periods of rain. Temperatures in the corn belt averaged about 1 to 3 degrees C below normal, with maximum temperatures in the upper 20s degrees C. The cooler weather complimented the rainfall, improving conditions for early summer crop development. Farther south, dry, seasonably warm weather favored winter wheat collection. In November, much-below-normal rainfall limited topsoil moisture in the corn belt, hampering summer crop planting and early development. Near- to below-normal rainfall elsewhere aided winter wheat harvesting.





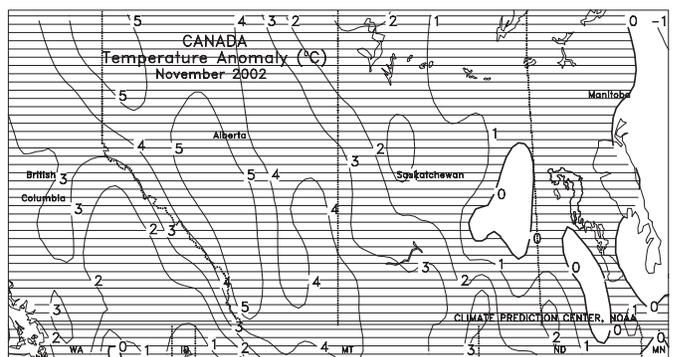
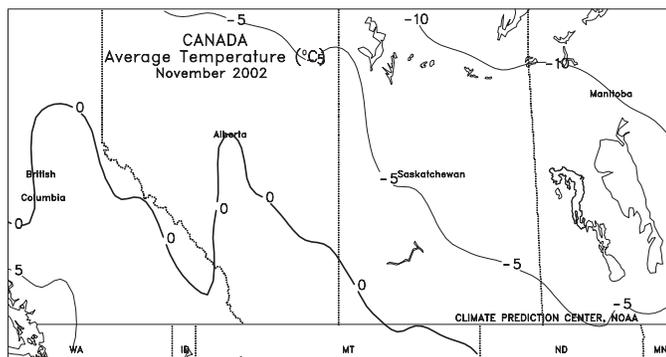
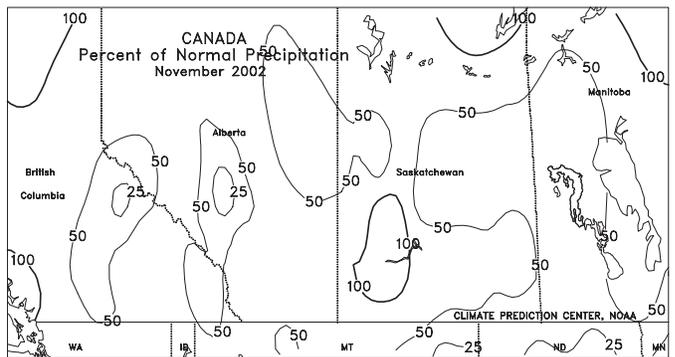
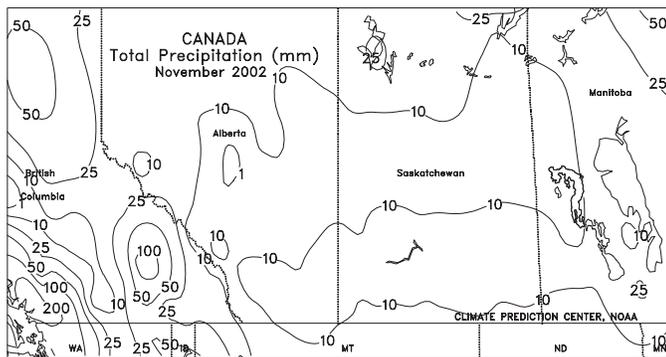
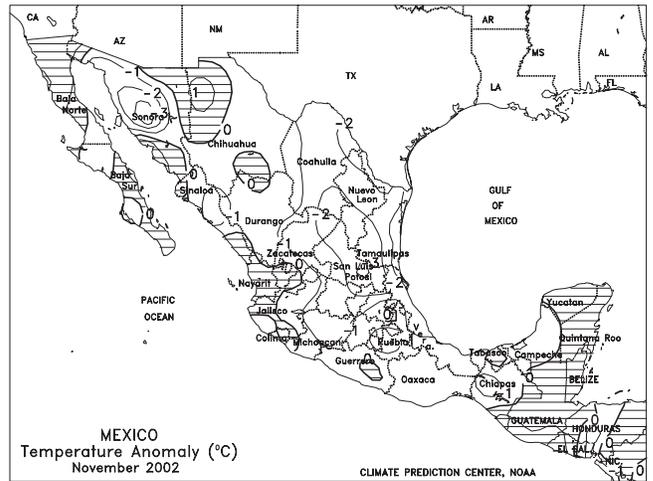
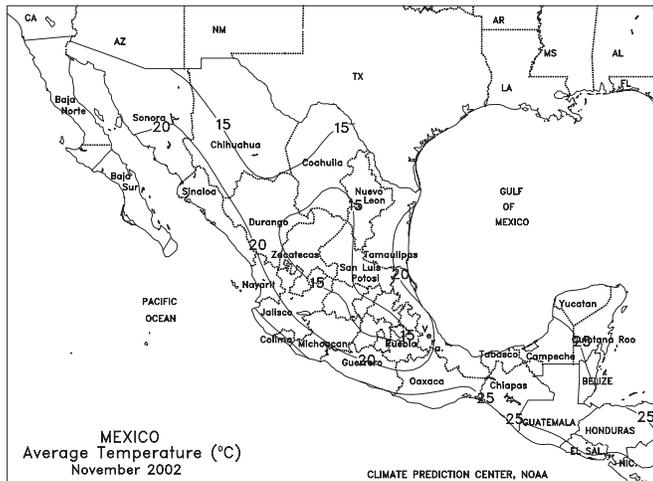
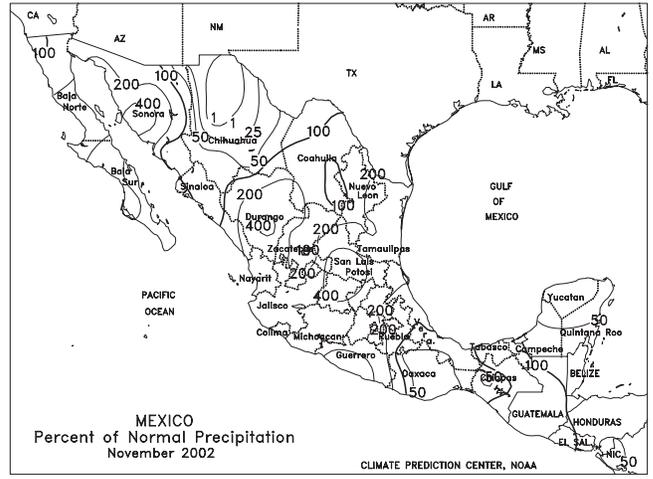
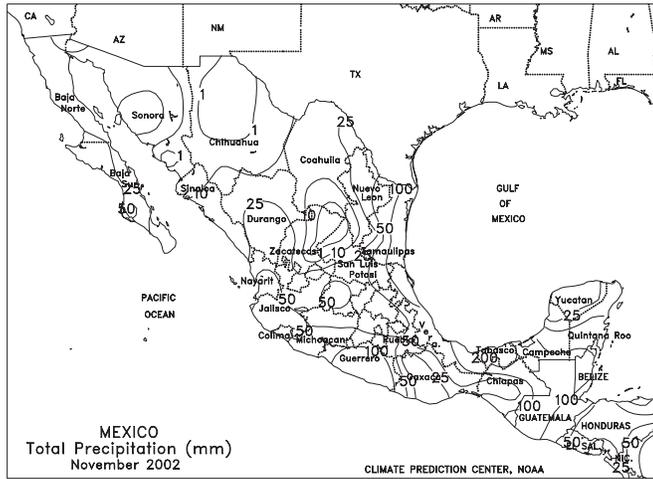
MIDDLE EAST

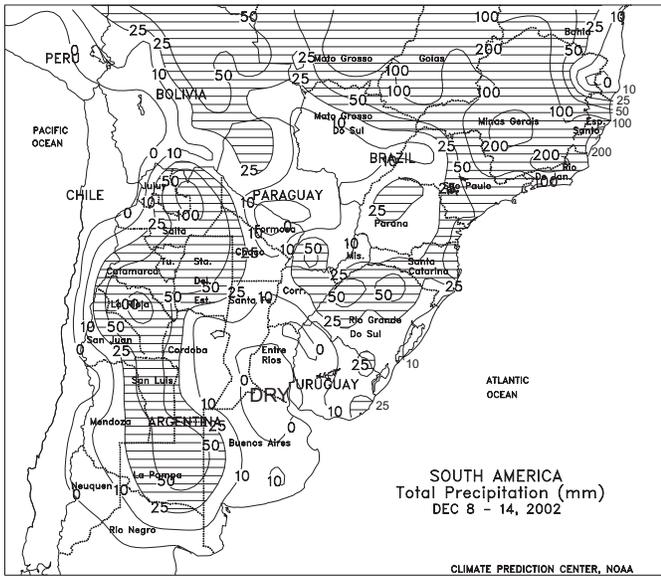
A more active weather pattern brought beneficial moisture across the region. In Turkey and northern Iran, light to moderate rain (10-50 mm, with snow in the higher elevations) boosted moisture supplies for winter grain establishment. Only portions of the western interior received less than 10 mm. Widespread rain (30-90 mm) greatly boosted moisture supplies for winter grains from coastal Syria to Israel. Based upon reports from bordering areas of Turkey and Iran, moderate rain likely fell in northern Iraq. In Turkey, cool weather (2-4 degrees C below normal) increased the winter hardiness of winter grains. On the Anatolian plateau, crops entered dormancy, while minimum temperatures reached -15 to -12 degrees C, just above the threshold for winterkill. Likewise in Iran, winter crops entered dormancy in the northwest. Elsewhere in the region, temperatures averaged near to slightly above normal. In November, drier weather in western Turkey favored cotton harvesting after unseasonably heavy rain hampered cotton maturation earlier in the month. In the rest of Turkey, below-normal November rainfall favored winter grain planting, but rain was needed for establishment. In Syria, Israel, and Jordan, near-normal rainfall increased moisture supplies for winter grains. In northern Iran, scattered rain throughout the month provided moisture for rainfed winter grains, but pockets of dryness persisted.



MEXICO

During November, widespread above-normal rainfall boosted moisture supplies for winter crops but slowed summer crop harvesting across most of Mexico. Only portions of southeastern and north-central Mexico received below-normal rainfall. Temperatures averaged 1 to 2 degrees C below normal across eastern Mexico and near normal elsewhere.

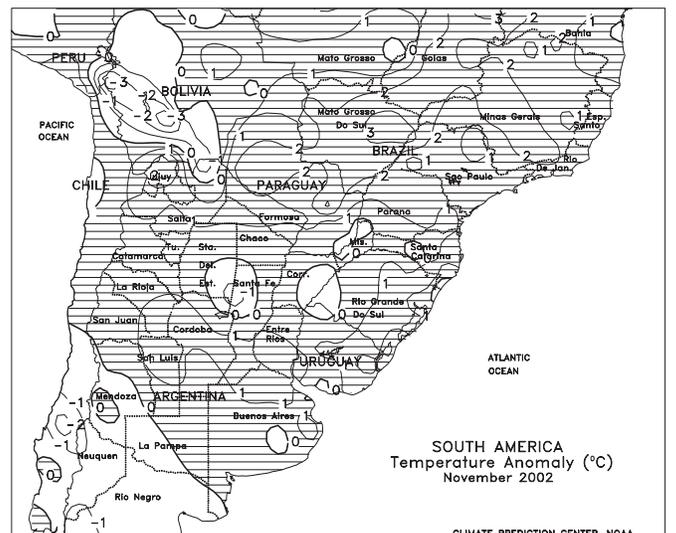
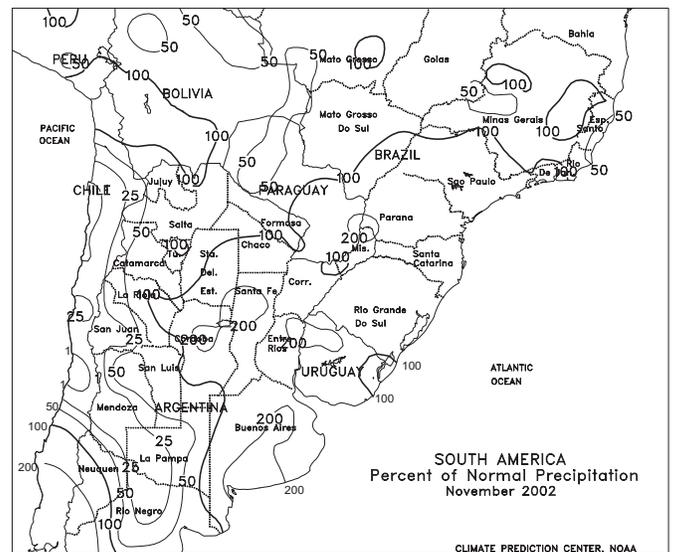
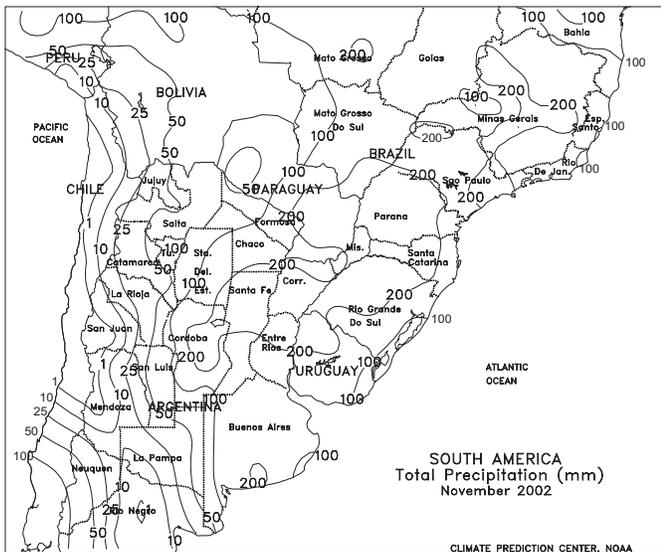




SOUTH AMERICA

In Brazil, heavy rain (50-100 mm or more) ended the heat wave in recently dry northern crop areas (Mato Grosso eastward to Bahia and Minas Gerais). The lower temperatures brought some relief from stressful heat to coffee and citrus, but temperatures still averaged slightly above normal due to a continuation of unseasonable warmth (highs in the low to middle 30s degrees C) before the rainfall, increasing moisture demands of emerging corn and soybeans. The shift in the rainfall pattern allowed somewhat drier weather to develop over southern production areas, aiding final summer crop planting efforts, although early-week scattered showers (10-25 mm, locally exceeding 50 mm) maintained locally soggy fields. In Argentina, much-needed drier weather aided summer crop development in previously wet locations from Cordoba eastward through Santa Fe and Enre Rios. Mostly dry weather also continued in Southern Buenos Aires, aiding fieldwork that included winter wheat harvesting and the northern cotton region (Chaco and Formosa). According to independent reports from within Argentina, winter wheat was 39 percent harvested as of December 14. In addition, corn, soybeans, and sunflowers were 90, 76, and 95 percent planted, respectively, as of December 14. During November, moisture reserves in Argentina ranged from adequate to excessive for summer crop establishment, although late-month drier weather in Buenos Aires improved conditions for winter wheat harvesting. In Brazil, frequent, occasionally heavy rainfall kept southern crop areas unfavorably wet for

summer crop planting and winter wheat maturation and harvesting. Across Brazil's center-west (Mato Grosso to Minas Gerais), showers since mid-November improved prospects for emerging summer crops, but recurring periods of heat and dryness continued to raise concerns for early crop development.



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