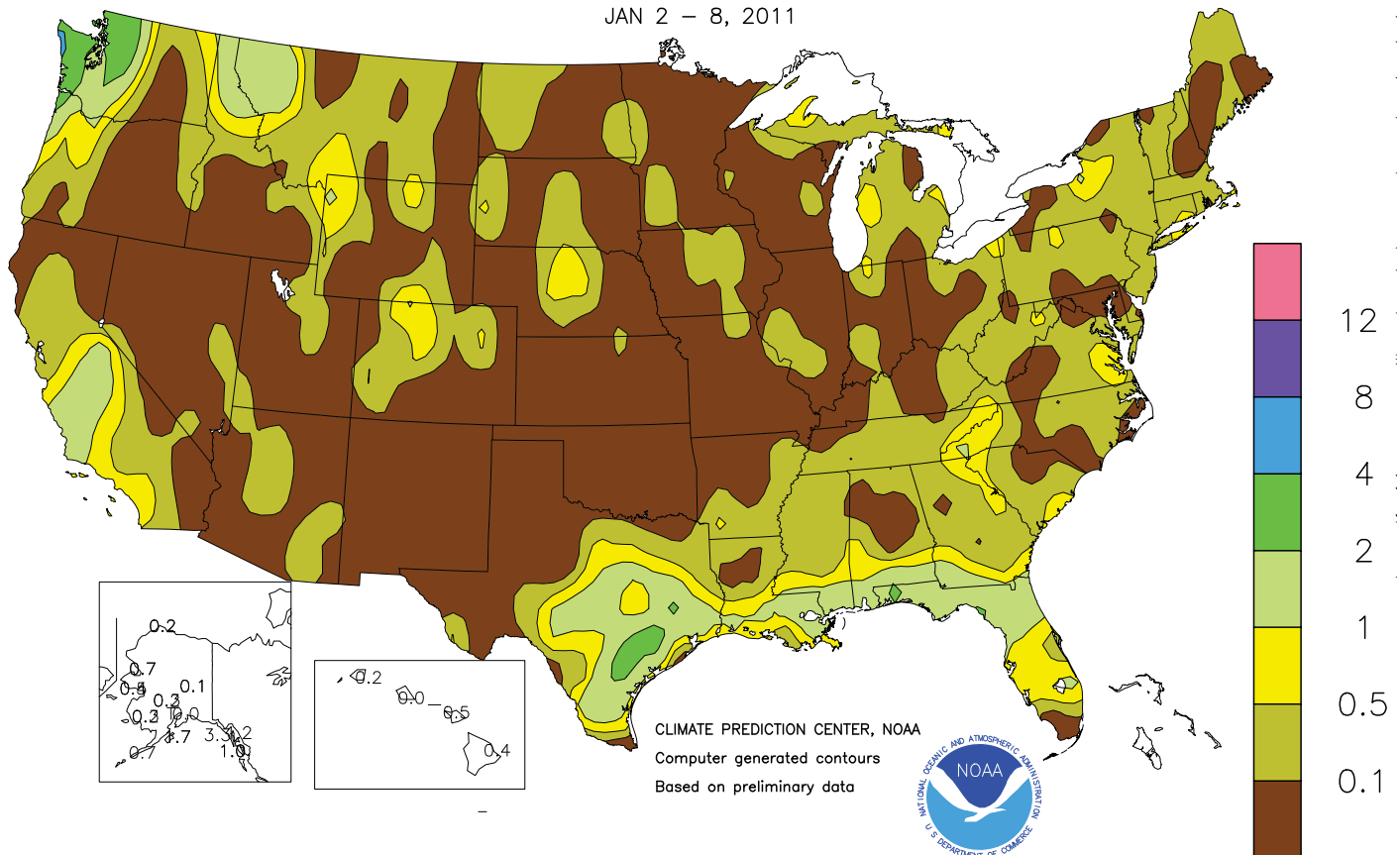


# WEEKLY WEATHER AND CROP BULLETIN

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)  
JAN 2 - 8, 2011



## HIGHLIGHTS January 2 - 8, 2011

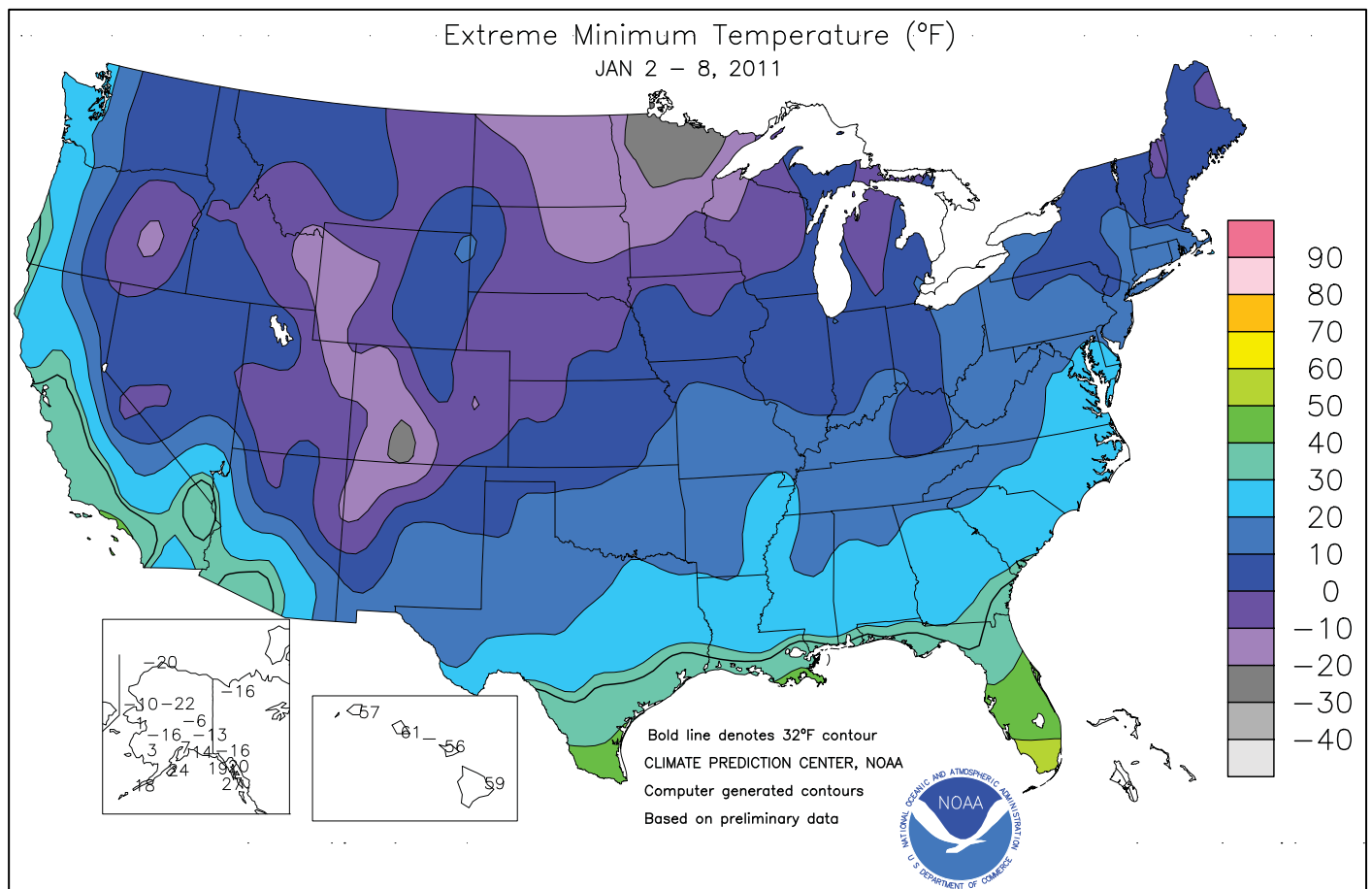
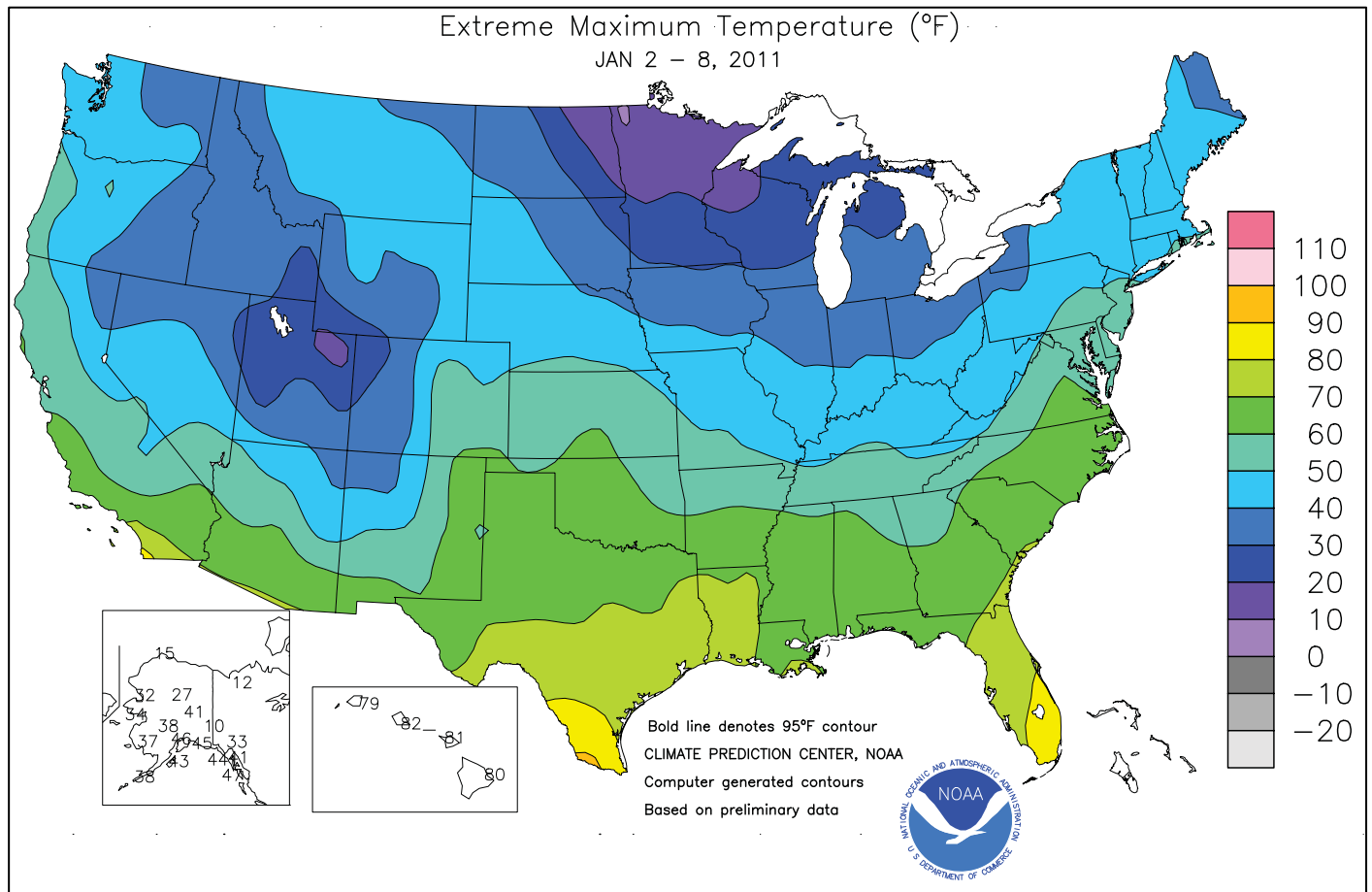
Highlights provided by USDA/WAOB

Unlike previous weeks, relatively quiet weather prevailed during the first few days of 2011. Cold weather persisted however, in the **West**, along with some rain and snow showers in **California** and from the **Pacific Northwest to the northern and central Rockies**. Farther east, unfavorably dry conditions persisted on the **central and southern Plains**, where winter wheat remained exposed to weather extremes. On the **northern Plains**, new snow fell atop an already substantial snow cover. Meanwhile, cool,

(Continued on page 3)

## Contents

Extreme Maximum & Minimum Temperature Maps.....	2
Temperature Departure Map .....	3
January 4 Drought Monitor & <b>U.S. Seasonal Drought Outlook</b> .....	4
Agricultural Weather Data Compiled by USDA's Stoneville Field Office .....	5
National Weather Data for Selected Cities .....	6
<b>December Weather and Crop Summary</b> .....	9
<b>December Precipitation &amp; Temperature Maps</b> .....	12
<b>December Weather Data for Selected Cities</b> .....	15
National Agricultural Summary & Snow Cover Map .....	16
<b>January 6 ENSO Update</b> .....	17
International Weather and Crop Summary .....	18
Bulletin Information & Record Reports Map .....	30

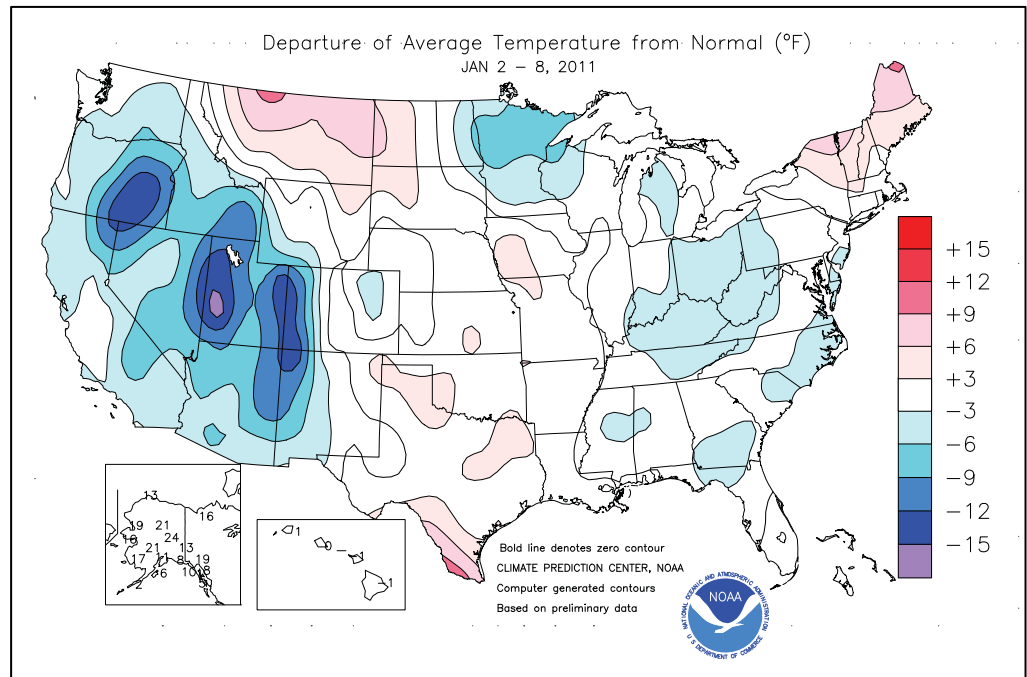


(Continued from front cover)

generally dry weather covered the **Midwest**, although snow showers affected areas downwind of the **Great Lakes**. **Upper Midwestern** livestock continued to endure deep snow and below-normal temperatures. Elsewhere, significant precipitation was mostly confined to the **Deep South**, where mid-week rainfall totaled an inch or more from **southeastern Texas to southern Georgia and northern Florida**. At week's end, a pair storms began to affect the **nation's mid-section**. One system produced snow on the **northern and central Plains** in advance of an Arctic front, while the other storm triggered heavy showers and locally severe thunderstorms in **southern and eastern Texas**. By January 9, a major winter storm began to unfold from the **southeastern Plains into the Southeast**; more information on this system will appear next week.

Cold conditions only gradually subsided in the **West**. From December 31 - January 4, **Burns, OR**, posted five consecutive daily-record lows (-25, -23, -10, -13, and -16°F). Other impressive daily-record lows during the **Western** cold snap included -31°F (on January 2) in **Roosevelt, UT**; -27°F (on January 2) in **Valentine, MT**; -14°F (on January 3) in **Idaho Falls, ID**; and -10°F (on January 4) in **Riverton, WY**. **Tonopah, NV** (-4°F on January 5), posted its lowest reading since December 20, 2006, when it was -5°F. **Kitt Peak, AZ** (-3°F on January 2), registered a sub-zero reading for the first time on record; the previous all-time-record low was 2°F on January 31, 1979. Unsettled weather occasionally accompanied the **Western** chill, with **Las Vegas, NV**, noting snow on back-to-back days for the first time since January 17-18, 1990. **Las Vegas** recorded a trace of snow on both January 2 and 3. Farther north, locally heavy precipitation returned to the **Pacific Northwest** on January 5, when **Quillayute, WA**, netted a daily-record sum of 3.05 inches.

Farther east, generally tranquil weather covered the winter-weary **upper Midwest**. Nevertheless, **Minneapolis-St. Paul, MN**, received at least a trace of snow on 32 of 42 days, totaling 36.0 inches, from November 29 - January 9.



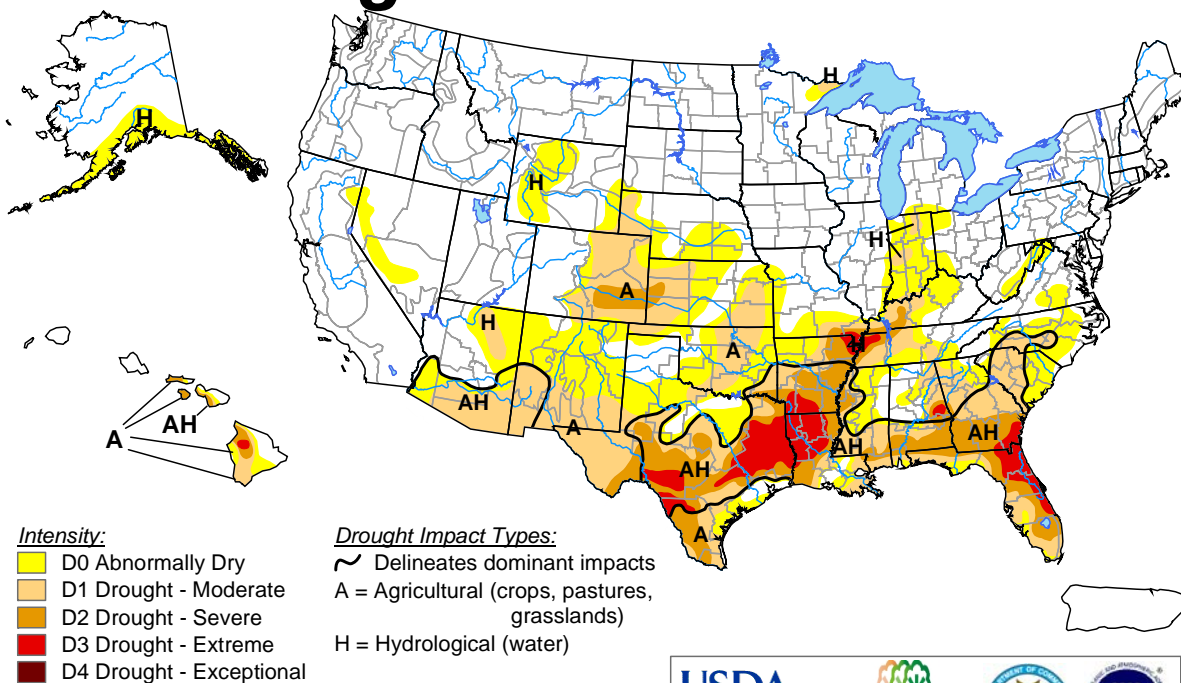
Through January 8, **Minneapolis-St. Paul's** snowfall of 45.3 inches was its third-highest season-to-date value on record, behind 62.0 inches in 1991-92 and 51.4 inches in 1983-84. Meanwhile, abnormally mild conditions persisted in **northern New England**, where **Caribou, ME**, set a record for its latest first sub-zero reading. **Caribou's** previous latest initial reading below 0°F occurred on January 4, 2002 (-3°F); the lowest reading to date during the winter of 2010-11 was 1°F on December 18. Toward week's end, however, cold air began to advance across most areas **east of the Rockies**. In addition, snow developed in the **Northeast** and downwind of the **Great Lakes**. Daily-record snowfall totals for January 8 included 8.0 inches in **Marquette, MI**, and 7.7 inches in **Atlantic City, NJ**. Snow squalls in **South Bend, IN**, resulted in 26.0 inches on January 8 and 36.6 inches on January 7-8. **South Bend's** previous 1- and 2-day snowfall records were 20.0 inches on January 30, 1909, and 29.0 inches on January 30-31, 1909.

Mild weather in **Alaska** locally boosted weekly temperatures more than 20°F above normal and resulted in numerous daily-record highs. During the first 5 days of the month, **Delta Junction** posted four daily-record highs, including a reading of 52°F on January 2. Farther south, only light showers dotted **Hawaii**, following December's widespread drought relief. Despite the December rainfall, **Hilo** (on the **Big Island**) completed its driest year on record, with a total of 63.29 inches, or 50.1% of normal (previously, 68.09 inches in 1983).

# U.S. Drought Monitor

January 4, 2011

Valid 8 a.m. EDT

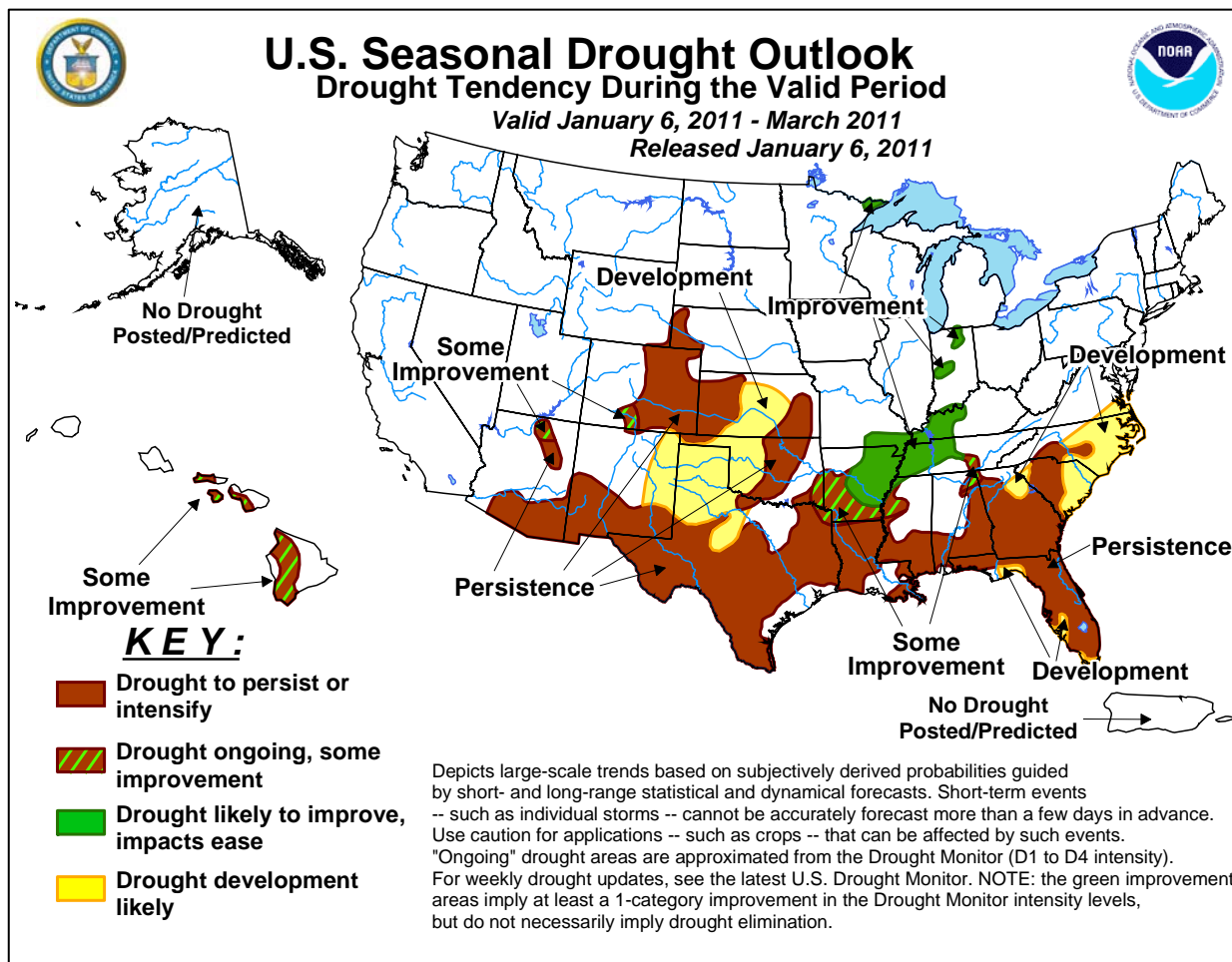


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, January 6, 2011  
Author: Anthony Artusa, NOAA/NWS/NCEP/CPC





# Agricultural Weather Data Compiled by USDA's Stoneville Field Office

Weather Data for the Week Ending January 8, 2011

Data Provided by the Mississippi State Delta Research and Extension Center (DREC)  
and the University of Missouri Commercial Agriculture Program.

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 DEC01	PCT. NORMAL SINCE DEC01	TOTAL IN, SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90° AND ABOVE	32° AND BELOW	0.1 INCH OR MORE	0.50 INCH OR MORE
MISSISSIPPI																			
ND TUNICA 1W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LYON	51	30	62	23	40	-	0.16	-	0.16	1.50	-	0.20	-	47	43	0	5	1	0
VANCE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERTHSHIRE	51	31	63	20	41	-	0.09	-	0.09	0.61	-	0.09	-	47	40	0	3	1	0
SCOTT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SANDY RIDGE	52	32	63	21	42	-	0.30	-	0.29	1.33	-	0.31	-	50	45	0	3	2	0
NE VERONA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD STONEVILLE x	54	30	67	22	42	1	0.14	-1.12	0.12	1.43	18	0.57	40	51	42	0	4	2	0
INDIANOLA 1S*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INVERNESS 5E	52	32	64	24	42	-	0.06	-	0.06	1.79	-	0.24	-	50	46	0	5	1	0
SIDON	54	34	64	27	44	-	0.04	-	0.04	2.45	-	1.01	-	-	-	0	5	1	0
NORTH ISSAQUENA	54	35	66	27	44	-	0.03	-	0.03	1.95	-	0.04	-	51	47	0	3	1	0
SILVER CITY	53	33	65	26	43	-	0.03	-	0.03	4.23	-	0.03	-	49	45	0	3	1	0
ONWARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAYDAY	54	34	66	25	44	-	0.08	-	0.07	3.11	-	0.21	-	51	-	0	3	2	0
MISSOURI																			
NW CORNING	40	15	48	9	27	2	0.00	-0.23	0.00	0.05	3	0.01	4	-	-	0	7	0	0
ALBANY	37	15	45	9	26	1	0.01	-0.17	0.01	0.25	16	0.01	5	32	31	0	7	1	0
ST. JOSEPH	38	19	46	11	29	2	0.07	-0.11	0.07	0.28	17	0.07	35	-	-	0	7	1	0
NC LINNEUS	36	17	43	9	26	-1	0.00	-0.22	0.00	0.55	30	0.00	0	31	31	0	7	0	0
BRUNSWICK	38	19	45	12	28	0	0.00	-0.28	0.00	0.73	35	0.00	0	33	33	0	7	0	0
NE NOVELTY	34	17	44	7	26	-2	0.00	-0.27	0.00	1.00	43	0.00	0	31	29	0	7	0	0
MONROE CITY	35	18	45	8	26	-3	0.00	-0.32	0.00	1.10	41	0.00	0	32	32	0	7	0	0
WC GREEN RIDGE	40	20	49	13	30	1	0.00	-0.43	0.00	0.85	31	0.00	0	32	32	0	7	0	0
C AUXVASSE	37	19	46	10	27	-2	0.00	-0.47	0.00	2.02	66	0.00	0	33	33	0	7	0	0
COL-SANBORN FLD	39	22	47	13	30	-1	0.00	-0.48	0.00	2.04	73	0.00	0	34	33	0	7	0	0
WILLIAMSBURG	38	20	49	11	28	-2	0.00	-0.60	0.00	2.39	74	0.00	0	34	33	0	7	0	0
COL-JEFFERS F&G	39	20	49	12	29	-1	0.00	-0.46	0.00	2.08	75	0.00	0	34	33	0	7	0	0
COL SOUTH FARMS	38	19	47	12	28	-2	0.00	-0.46	0.00	2.42	86	0.00	0	-	-	0	7	0	0
COL-BF	38	18	49	11	28	-2	0.00	-0.46	0.00	1.54	54	0.00	0	33	32	0	7	0	0
VERSAILLES	42	21	51	14	31	-1	0.00	-0.57	0.00	1.69	56	0.00	0	34	33	0	7	0	0
EC VANDALIA	35	20	45	9	27	-2	0.01	-0.56	0.01	1.83	60	0.01	2	31	30	0	7	1	0
SW LAMAR	44	24	53	15	33	0	0.00	-0.39	0.00	0.74	24	0.00	0	37	34	0	6	0	0
SC COOK STATION	43	18	50	11	29	-5	0.00	-0.70	0.00	1.24	31	0.00	0	36	34	0	7	0	0
MOUNTAIN GROVE	42	23	48	13	32	0	0.00	-0.69	0.00	0.57	13	0.00	0	36	33	0	7	0	0
SE DELTA	42	25	47	17	32	-3	0.00	-0.77	0.00	1.35	27	0.01	1	38	34	0	7	0	0
CHARLESTON	42	25	48	16	33	-3	0.00	-0.97	0.00	2.67	53	0.10	10	38	33	0	6	0	0
GLENNONVILLE	44	29	53	22	35	-2	0.00	-0.96	0.00	1.90	38	0.01	1	42	37	0	6	0	0
CLARKTON	44	26	51	20	34	-3	0.00	-0.95	0.00	2.00	39	0.00	0	40	34	0	6	0	0
PORTAGEVILLE DC	44	28	53	20	35	-2	0.00	-0.96	0.00	2.88	53	0.05	5	43	35	0	6	0	0
PORTAGEVILLE LF	44	28	50	20	35	-3	0.00	-0.94	0.00	2.92	54	0.04	4	42	35	0	6	0	0
STEELE	45	29	54	21	36	-2	0.00	-0.77	0.00	2.51	45	0.02	2	43	36	0	5	0	0
CARDWELL	46	28	54	21	36	-1	0.00	-0.88	0.00	2.28	41	0.01	1	44	37	0	6	0	0

Compiled by USDA/OCE/WAOB's Stoneville Field Office. \* Beasley Lake. X Based on 1971-2000 normals. - Sufficient data not available.

Data are preliminary and subject to revision.

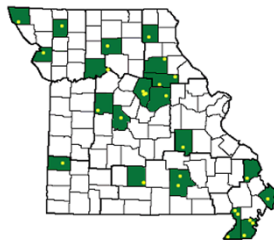
Mississippi: ND = Northern Delta; NE = Northeastern Mississippi; EC = East Central Mississippi; SD = Southern Delta.

Missouri: NW = Northwest; NC = North Central; NE = Northeast; WC = West Central; C = Central; EC = East Central; SW = Southwest; SE = Southeast;

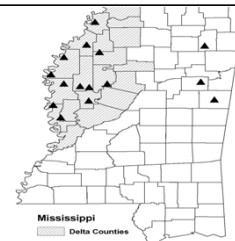
SC = South Central. (Col=Columbia, Col-Jeffers F&G=Columbia Jefferson Farm and Gardens, Col-BF=Bradford Farm)

**Weather and Crop Summary for the Mississippi Delta:** A cool, damp period was interwoven with a brief warm spell. High temperatures climbed above 60 degrees F, but lows dipped below 32 degrees F on multiple days. Drought conditions worsened.

Missouri Weather Stations



Mississippi Weather Stations



Note: For information on the weather stations in Missouri, please visit:  
<http://agebb.missouri.edu/weather/stations/index.htm>

Note: For information on the weather stations in Mississippi, please visit:  
[http://www.deltaweather.msstate.edu/maps/weather\\_station\\_map.htm](http://www.deltaweather.msstate.edu/maps/weather_station_map.htm)

## National Weather Data for Selected Cities

Weather Data for the Week Ending January 8, 2011

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	TEMP. °F		PRECIP		
																	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
AL	BIRMINGHAM	52	30	62	20	41	0	0.02	-0.98	0.02	3.19	58	1.82	178	82	33	0	4	1	0	
	HUNTSVILLE	47	28	56	20	38	-1	0.41	-0.67	0.41	6.32	95	4.09	375	83	57	0	5	1	0	
	MOBILE	62	38	68	31	50	2	1.07	0.07	1.07	2.79	49	1.40	139	82	44	0	1	1	1	
	MONTGOMERY	57	33	66	22	45	1	0.10	-0.79	0.10	2.19	37	1.16	127	79	37	0	2	1	0	
AK	ANCHORAGE	32	22	46	7	27	9	0.01	-0.14	0.01	0.74	61	0.01	6	89	82	0	5	1	0	
	BARROW	9	-8	15	-20	0	7	0.19	0.19	0.13	0.33	254	0.19	1900	91	78	0	7	3	0	
	FAIRBANKS	25	5	41	-6	15	18	0.11	-0.01	0.07	0.38	44	0.11	85	91	83	0	7	2	0	
	JUNEAU	38	31	41	20	34	7	1.23	0.23	0.59	3.19	50	1.34	133	97	92	0	3	5	1	
	KODIAK	39	32	43	24	36	6	1.73	0.12	0.78	5.72	62	2.59	159	84	74	0	3	4	2	
	NOME	29	14	34	1	22	12	0.47	0.30	0.20	2.29	192	0.83	461	93	83	0	7	6	0	
AZ	FLAGSTAFF	42	2	58	-5	22	-8	0.00	-0.31	0.00	3.40	158	0.00	0	85	26	0	6	0	0	
	PHOENIX	61	39	67	32	50	0	0.01	-0.16	0.01	1.08	97	0.01	5	68	41	0	1	1	0	
	PRESCOTT	45	18	52	9	31	-5	0.00	-0.26	0.00	3.01	194	0.00	0	84	38	0	7	0	0	
	TUCSON	62	32	68	26	47	-1	0.20	-0.01	0.20	0.66	53	0.20	91	67	44	0	4	1	0	
AR	FORT SMITH	54	29	58	20	42	5	0.00	-0.46	0.00	2.14	55	0.00	0	71	29	0	4	0	0	
	LITTLE ROCK	53	30	62	20	42	3	0.00	-0.71	0.00	2.08	38	0.00	0	78	32	0	4	0	0	
CA	BAKERSFIELD	49	39	56	34	44	0	0.12	-0.07	0.12	5.98	623	0.16	80	83	72	0	0	1	0	
	FRESNO	47	38	56	33	43	0	1.33	0.98	1.29	7.43	435	1.51	408	95	83	0	0	2	1	
	LOS ANGELES	62	48	69	45	55	2	0.65	0.18	0.59	9.48	418	0.65	135	70	50	0	0	2	1	
	REDDING	50	30	57	26	40	-3	0.02	-1.12	0.02	8.86	152	0.18	16	95	89	0	4	1	0	
	SACRAMENTO	48	37	54	33	43	0	0.60	-0.01	0.60	6.41	208	0.86	137	98	73	0	0	1	1	
	SAN DIEGO	63	50	69	45	57	3	0.28	-0.09	0.24	5.28	311	0.28	72	78	52	0	0	2	0	
	SAN FRANCISCO	51	41	55	37	46	0	0.39	-0.33	0.39	6.47	178	0.47	64	88	80	0	0	1	0	
	STOCKTON	45	38	52	33	41	-2	0.28	-0.16	0.28	4.63	204	0.40	89	100	92	0	0	1	0	
CO	ALAMOSA	36	-4	46	-16	16	-1	0.00	-0.05	0.00	0.38	97	0.00	0	82	50	0	7	0	0	
	CO SPRINGS	47	13	57	-5	30	2	0.00	-0.07	0.00	0.07	14	0.00	0	79	27	0	7	0	0	
	DENVER INTL	42	16	54	7	29	0	0.00	-0.07	0.00	0.22	56	0.00	0	72	39	0	7	0	0	
	GRAND JUNCTION	23	1	30	-9	12	-14	0.03	-0.09	0.03	0.67	103	0.03	23	86	74	0	7	1	0	
	PUEBLO	43	5	53	-15	24	-5	0.00	-0.07	0.00	0.44	94	0.00	0	89	58	0	7	0	0	
CT	BRIDGEPORT	37	24	48	18	31	0	0.40	-0.32	0.37	4.49	107	0.40	55	78	62	0	7	3	0	
	HARTFORD	36	21	48	14	29	2	0.32	-0.40	0.18	6.47	149	0.32	43	79	55	0	7	3	0	
DC	WASHINGTON	42	29	59	24	36	1	0.08	-0.55	0.06	1.87	51	0.09	14	74	36	0	6	2	0	
DE	WILMINGTON	39	23	58	20	31	-1	0.29	-0.39	0.14	2.70	66	0.29	42	86	46	0	7	3	0	
FL	DAYTONA BEACH	70	46	81	38	58	3	1.30	0.72	1.05	1.68	51	1.30	220	97	43	0	0	2	1	
	JACKSONVILLE	63	38	74	32	51	1	1.32	0.69	0.82	1.70	52	1.36	213	96	50	0	1	3	1	
	KEY WEST	74	64	76	60	69	4	0.25	-0.20	0.25	0.83	32	0.25	54	91	73	0	0	1	0	
	MIAMI	77	62	81	54	70	7	0.02	-0.31	0.02	1.23	49	0.02	6	89	55	0	0	1	0	
	ORLANDO	73	51	79	42	62	5	0.31	-0.13	0.28	1.09	39	0.31	69	92	55	0	0	3	0	
	PENSACOLA	61	42	64	35	52	3	1.58	0.64	1.58	4.00	81	2.52	265	78	40	0	0	1	1	
	TALLAHASSEE	61	35	66	29	48	-1	1.20	0.21	1.04	4.11	81	2.63	263	89	56	0	2	2	1	
	TAMPA	69	54	73	45	61	4	1.23	0.83	1.23	1.78	66	1.23	300	88	59	0	0	1	1	
	WEST PALM BEACH	77	59	82	49	68	6	0.39	-0.22	0.39	1.69	45	0.39	63	92	58	0	0	1	0	
GA	ATHENS	53	29	59	24	41	0	0.39	-0.44	0.32	3.18	70	1.26	150	75	42	0	6	3	0	
	ATLANTA	53	32	59	24	42	1	0.17	-0.68	0.17	2.72	58	1.10	128	74	43	0	3	1	0	
	AUGUSTA	56	29	66	23	43	0	0.31	-0.49	0.30	1.71	43	0.55	68	87	56	0	4	2	0	
	COLUMBUS	57	35	63	30	46	1	0.15	-0.74	0.14	3.08	58	1.52	169	85	31	0	1	2	0	
	MACON	56	31	62	24	44	0	0.33	-0.55	0.30	2.01	42	0.93	104	87	38	0	3	2	0	
	SAVANNAH	57	35	69	29	46	-1	0.31	-0.41	0.31	2.07	58	0.44	60	85	55	0	2	1	0	
HI	HILO	78	63	80	59	71	5	0.44	-1.29	0.14	7.57	62	0.44	25	88	74	0	0	5	0	
	HONOLULU	79	67	82	61	73	5	0.00	-0.54	0.00	11.73	344	0.00	0	80	68	0	0	0	0	
	KAHULUI	79	63	81	56	71	5	0.54	-0.18	0.54	4.15	109	0.54	74	82	66	0	0	1	1	
	LIHUE	78	67	79	57	73	7	0.21	-0.73	0.16	10.22	178	0.21	22	81	70	0	0	4	0	
ID	BOISE	31	16	36	11	23	-6	0.00	-0.26	0.00	3.25	197	0.00	0	80	67	0	7	0	0	
	LEWISTON	37	27	44	16	32	-1	0.03	-0.16	0.02	1.73	138	0.03	15	73	60	0	5	2	0	
	POCATELLO	24	2	34	-8	13	-12	0.00	-0.21	0.00	1.97	149	0.00	0	85	74	0	7	0	0	
IL	CHICAGO/O'HARE	28	13	36	8	21	-3	0.02	-0.33	0.02	2.36	85	0.02	6	77	57	0	7	1	0	
	MOLINE	30	15	38	9	22	-1	0.00	-0.33	0.00	1.68	66	0.00	0	74	57	0	7	0	0	
	PEORIA	31	15	38	9	23	-1	0.01	-0.30	0.01	3.78	139	0.01	3	76	53	0	7	1	0	
	ROCKFORD	29	13	36	8	21	0	0.00	-0.28	0.00	1.73	74	0.00	0	69	53	0	7	0	0	
	SPRINGFIELD	32	18	42	5	25	-2	0.08	-0.28	0.08	1.75	60	0.08	22	84	54	0	7	1	0	
IN	EVANSVILLE	37	19	43	11	28	-4	0.09	-0.45	0.09	2.55	62	0.75	134	79	53	0	7	1	0	
	FORT WAYNE	28	13	36	6	21	-5	0.05	-0.37	0.03	1.56	49	0.48	112	84	61	0	7	3	0	
	INDIANAPOLIS	31	16	41	8	24	-4	0.07	-0.41	0.05	2.49	71	0.63	129	79	53	0	7	3	0	
	SOUTH BEND	28	15	37	3	22	-3	1.16	0.70	0.66	2.81	79	1.18	246	85	64	0	7	4	1	
IA	BURLINGTON	32	15	42	5	23	-1	0.00	-0.27	0.00	0.82	34	0.00	0	85	56	0	7	0	0	

## Weather Data for the Week Ending January 8, 2011

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 JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	PRECIP		
																			.01 INCH OR MORE	.50 INCH OR MORE	
KY	WICHITA	47	19	59	8	33	3	0.00	-0.20	0.00	0.12	8	0.00	0	74	38	0	7	0	0	
	JACKSON	39	21	49	8	30	-4	0.18	-0.52	0.10	3.79	76	0.82	115	78	43	0	7	2	0	
	LEXINGTON	36	19	45	6	28	-4	0.10	-0.60	0.06	2.97	63	0.48	68	73	50	0	7	2	0	
	LOUISVILLE	38	22	47	12	30	-3	0.03	-0.61	0.02	2.19	50	0.53	82	74	45	0	7	2	0	
LA	PADUCAH	41	21	47	15	31	-2	0.00	-0.64	0.00	2.57	51	0.35	54	81	40	0	7	0	0	
	BATON ROUGE	63	39	71	28	51	3	1.18	0.08	1.18	6.00	94	1.41	127	87	35	0	1	1	1	
	LAKE CHARLES	65	40	74	30	53	5	1.85	0.82	1.85	5.13	91	1.85	178	83	37	0	1	1	1	
	NEW ORLEANS	64	46	71	39	55	5	0.92	-0.04	0.90	3.29	54	1.12	115	73	46	0	0	2	1	
ME	SHREVEPORT	60	37	72	23	49	5	0.04	-0.81	0.02	0.45	8	0.04	5	76	29	0	2	2	0	
	CARIBOU	27	14	38	2	20	6	0.33	-0.28	0.14	5.53	145	0.33	52	87	65	0	7	4	0	
MD	PORTLAND	35	19	44	10	27	3	0.08	-0.72	0.04	4.11	81	0.08	10	85	56	0	6	3	0	
	BALTIMORE	41	24	60	20	33	0	0.06	-0.62	0.05	2.02	50	0.06	9	79	45	0	7	2	0	
MA	BOSTON	38	27	51	22	33	2	0.27	-0.46	0.15	3.88	87	0.27	36	71	48	0	6	3	0	
	WORCESTER	33	19	47	15	26	0	0.21	-0.58	0.17	5.29	115	0.21	26	85	51	0	7	3	0	
MI	ALPENA	24	12	27	4	18	-3	0.15	-0.20	0.08	1.69	77	0.36	97	86	65	0	7	4	0	
	GRAND RAPIDS	27	17	33	2	22	-3	0.23	-0.16	0.08	2.05	66	0.27	68	86	65	0	7	5	0	
	HOUGHTON LAKE	22	7	27	-7	15	-6	0.13	-0.18	0.06	1.30	63	0.18	56	89	75	0	7	4	0	
	LANSING	26	13	33	0	20	-4	0.12	-0.18	0.04	1.88	76	0.23	74	85	74	0	7	6	0	
MN	MUSKEGON	29	18	35	3	24	-2	0.55	0.11	0.14	2.43	79	0.56	124	82	64	0	7	6	0	
	TRAVERSE CITY	24	11	29	-4	18	-6	0.08	-0.48	0.03	2.30	71	0.08	14	90	63	0	7	4	0	
	DULUTH	10	-5	14	-14	2	-10	0.00	-0.16	0.00	2.10	189	0.02	12	78	69	0	7	0	0	
	INT'L FALLS	7	-18	12	-32	-6	-13	0.07	-0.05	0.05	1.80	217	0.23	177	83	69	0	7	2	0	
MS	MINNEAPOLIS	17	3	25	-5	10	-6	0.08	-0.10	0.04	2.87	241	0.08	42	80	68	0	7	3	0	
	ROCHESTER	19	2	28	-5	10	-5	0.11	-0.04	0.06	3.79	318	0.11	65	81	73	0	7	3	0	
	ST. CLOUD	13	-3	22	-12	5	-7	0.07	-0.05	0.03	2.52	307	0.07	54	90	68	0	7	3	0	
	JACKSON	58	32	68	23	45	2	0.36	-0.71	0.36	4.46	69	0.58	54	84	36	0	3	1	0	
MO	MERIDIAN	56	29	66	20	43	-1	0.31	-0.77	0.31	2.68	42	1.57	144	94	45	0	6	1	0	
	TUPELO	50	29	61	19	40	1	0.18	-0.90	0.18	2.97	41	0.74	68	81	47	0	5	1	0	
	COLUMBIA	38	20	47	12	29	0	0.00	-0.31	0.00	2.28	81	0.00	0	77	45	0	7	0	0	
	KANSAS CITY	39	17	48	8	28	0	0.00	-0.23	0.00	0.52	28	0.00	0	78	41	0	7	0	0	
MT	SAINT LOUIS	37	23	48	14	30	0	0.03	-0.38	0.03	1.33	41	0.03	7	69	53	0	7	1	0	
	SPRINGFIELD	44	23	51	11	33	1	0.00	-0.38	0.00	0.74	21	0.00	0	78	45	0	7	0	0	
	BILLINGS	35	23	45	14	29	4	0.05	-0.09	0.04	1.00	122	0.05	33	78	60	0	7	2	0	
	BUTTE	31	10	45	-8	21	2	0.00	-0.09	0.00	0.64	100	0.00	0	85	58	0	7	0	0	
NE	CUT BANK	35	20	43	8	27	6	0.00	-0.07	0.00	0.01	2	0.00	0	76	58	0	7	0	0	
	GLASGOW	27	6	41	-9	17	3	0.46	0.39	0.23	1.92	427	0.46	575	91	81	0	7	4	0	
	GREAT FALLS	36	20	44	10	28	5	0.03	-0.11	0.02	1.59	194	0.03	20	82	58	0	6	2	0	
	HAVRE	30	18	39	5	24	7	0.05	-0.04	0.02	1.09	176	0.06	55	84	78	0	7	3	0	
NV	MISSOULA	29	19	37	1	24	0	0.35	0.14	0.23	1.63	119	0.35	159	91	84	0	6	4	0	
	GRAND ISLAND	37	12	49	5	25	1	0.05	-0.04	0.04	0.29	38	0.05	45	78	59	0	7	2	0	
	LINCOLN	38	12	47	4	25	1	0.00	-0.14	0.00	0.24	24	0.00	0	79	53	0	7	0	0	
	NORFOLK	33	9	42	-4	21	-1	0.00	-0.09	0.00	0.42	55	0.00	0	80	62	0	7	0	0	
NY	NORTH PLATTE	35	2	44	-13	19	-5	0.06	-0.01	0.06	0.50	104	0.06	75	92	60	0	7	1	0	
	OMAHA	36	15	43	8	25	2	0.00	-0.14	0.00	0.54	50	0.00	0	80	59	0	7	0	0	
	SCOTTSBLUFF	36	10	44	-7	23	-2	0.00	-0.09	0.00	0.93	139	0.00	0	77	61	0	7	0	0	
	VALENTINE	33	9	43	-5	21	-1	0.06	0.01	0.06	0.93	238	0.07	117	78	68	0	7	1	0	
OH	ELY	28	3	40	-2	15	-11	0.00	-0.12	0.00	3.34	530	0.00	0	82	74	0	7	0	0	
	LAS VEGAS	51	34	57	31	42	-2	0.01	-0.08	0.01	1.78	349	0.01	9	70	47	0	3	1	0	
	RENO	38	21	47	17	29	-3	0.00	-0.17	0.00	1.46	138	0.07	39	88	79	0	7	0	0	
	WINNEMUCCA	36	14	40	9	25	-4	0.01	-0.16	0.01	1.61	163	0.02	11	90	76	0	7	1	0	
NH	CONCORD	33	14	43	5	24	1	0.05	-0.51	0.04	3.63	103	0.05	9	86	49	0	6	2	0	
	NEWARK	39	26	52	19	32	0	0.14	-0.60	0.13	4.02	93	0.14	18	71	54	0	6	2	0	
NM	ALBUQUERQUE	43	21	49	10	32	-2	0.00	-0.09	0.00	1.07	178	0.00	0	68	33	0	7	0	0	
	ALBANY	33	19	46	16	26	1	0.37	-0.10	0.26	3.33	106	0.38	79	89	56	0	7	3	0	
NC	BINGHAMTON	30	15	47	10	22	-2	0.42	-0.06	0.20	2.46	70	0.42	86	80	68	0	7	5	0	
	BUFFALO	30	19	37	13	24	-3	0.35	-0.29	0.19	3.57	80	0.85	131	86	60	0	7	4	0	
	ROCHESTER	32	19	42	13	25	-1	0.17	-0.28	0.06	2.97	93	0.33	72	81	59	0	7	5	0	
	SYRACUSE	32	19	45	11	26	1	0.23	-0.27	0.13	2.69	74	0.27	53	86	55	0	7	5	0	
ND	ASHEVILLE	43	25	53	13	34	-1	0.17	-0.54	0.07	1.90	46	0.64	89	84	55	0	7	4	0	
	CHARLOTTE	51	26	67	20	38	-2	0.16	-0.57	0.10	2.17	55	0.43	58	86	39	0	7	3	0	
	GREENSBORO	46	26	58	19	36	-1	0.16	-0.49	0.09	2.55	69	0.35	53	84	38	0	7	4	0	
	HATTERAS	49	31	61	23	40	-5	0.01	-1.10	0.01	3.48	61	0.01	1	90	55	0	5	1	0	
OH	RALEIGH	49	28	62	23	39	0	0.33	-0.38	0.17	3.00	80	0.61	85	83	47	0	6	2	0	
	WILMINGTON	53	30	69	23	42	-2	0.03	-0.80	0.02	3.67	79	0.04	5	96	43	0	6	2	0	
	BISMARCK	23	1	34	-13	12	-2	0.13	0.06	0.09	1.53	294	0.13	163	88	79	0	7	4	0	
	DICKINSON	27	11	39	-5	19	2	0.02	-0.03	0.02	0.24	60	0.02	33	91	72	0	7	1	0	
OH	FARGO	8	-7	15	-16	1	-10	0.66	0.52	0.46	2.48	344	0.73	487	84	74	0	7	6	0	
	GRAND FORKS	7	-13	13	-21	-3	-13	0.05	-0.07	0.04	0.84	124	0.12	92	93	76	0	7	2	0	
	JAMESTOWN	17	-2	29	-15	8	-4	0.13	0.												

## Weather Data for the Week Ending January 8, 2011

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 JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.		
																	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
OK	TOLEDO	28	17	36	11	22	-4	0.09	-0.30	0.04	2.36	78	0.92	230	80	64	0	7	3	0	
	YOUNGSTOWN	29	17	38	13	23	-4	0.35	-0.11	0.19	4.68	136	0.87	185	84	60	0	7	5	0	
	OKLAHOMA CITY	53	26	61	11	40	4	0.00	-0.30	0.00	0.13	6	0.00	0	66	27	0	6	0	0	
OR	TULSA	52	25	58	15	38	2	0.00	-0.33	0.00	0.55	20	0.00	0	70	38	0	7	0	0	
	ASTORIA	45	33	49	25	39	-2	2.47	0.63	0.96	13.84	113	2.47	134	92	88	0	3	5	2	
	BURNS	22	-6	31	-16	8	-17	0.00	-0.24	0.00	3.64	235	0.00	0	87	77	0	7	0	0	
	EUGENE	43	27	51	23	35	-3	0.08	-1.36	0.07	6.87	71	0.09	6	93	88	0	6	2	0	
	MEDFORD	37	28	45	23	32	-5	0.03	-0.44	0.03	4.36	129	0.05	10	99	87	0	7	1	0	
	PENDLETON	33	18	48	3	26	-7	0.04	-0.22	0.02	3.17	181	0.04	15	83	78	0	6	2	0	
	PORTLAND	41	29	47	23	35	-3	0.48	-0.50	0.37	8.84	132	0.49	49	88	78	0	5	3	0	
	SALEM	43	28	51	21	36	-2	0.18	-0.92	0.08	10.13	134	0.18	16	93	82	0	5	3	0	
	ALLENTOWN	36	17	49	9	27	-2	0.24	-0.42	0.14	3.17	78	0.25	37	83	49	0	7	3	0	
	ERIE	30	20	35	12	25	-4	0.37	-0.17	0.17	3.08	72	0.84	153	78	60	0	7	4	0	
	MIDDLETOWN	38	21	54	17	29	-1	0.12	-0.40	0.07	2.09	55	0.12	23	81	41	0	7	3	0	
	PHILADELPHIA	39	26	54	23	32	-1	0.30	-0.37	0.11	3.54	89	0.30	43	73	47	0	6	3	0	
	PITTSBURGH	31	19	42	15	25	-4	0.06	-0.44	0.02	2.40	71	0.84	165	75	50	0	7	3	0	
	WILKES-BARRE	33	19	50	13	26	-2	0.22	-0.22	0.10	2.67	89	0.22	49	82	53	0	7	4	0	
	WILLIAMSPORT	34	18	45	12	26	-1	0.12	-0.38	0.08	4.16	121	0.13	25	83	52	0	7	4	0	
RI	PROVIDENCE	38	24	50	17	31	1	0.29	-0.53	0.15	4.33	87	0.29	35	76	54	0	6	2	0	
	BEAUFORT	57	37	70	31	47	1	0.23	-0.52	0.22	1.33	34	0.33	43	86	43	0	2	2	0	
	CHARLESTON	56	36	68	29	46	0	0.36	-0.40	0.36	3.00	75	0.52	68	95	50	0	2	1	0	
	COLUMBIA	55	31	69	25	43	0	0.14	-0.70	0.14	1.80	43	0.40	47	82	53	0	4	1	0	
	GREENVILLE	52	29	67	20	41	1	0.19	-0.64	0.15	1.94	41	0.78	93	86	37	0	4	3	0	
	ABERDEEN	20	-3	34	-21	9	-5	0.11	0.02	0.03	1.91	390	0.14	127	86	77	0	7	5	0	
	HURON	25	4	33	-10	15	-2	0.01	-0.06	0.01	1.43	304	0.05	63	87	73	0	7	1	0	
	RAPID CITY	35	9	49	-2	22	-2	0.14	0.07	0.12	0.75	156	0.14	175	90	61	0	7	2	0	
	SIOUX FALLS	25	6	34	-4	16	-1	0.01	-0.07	0.01	1.55	254	0.01	11	81	73	0	7	1	0	
TN	BRISTOL	40	22	49	14	31	-3	0.41	-0.24	0.24	3.15	78	0.59	89	87	47	0	7	5	0	
	CHATTANOOGA	47	28	54	20	37	-1	0.25	-0.73	0.25	4.07	70	2.64	267	81	46	0	6	1	0	
	KNOXVILLE	43	26	50	17	34	-3	0.25	-0.63	0.17	4.36	81	2.16	243	86	51	0	6	5	0	
	MEMPHIS	49	31	59	22	40	1	0.06	-0.78	0.06	2.89	44	0.37	44	70	35	0	4	1	0	
	NASHVILLE	44	24	54	16	34	-2	0.10	-0.68	0.09	2.76	52	0.89	113	82	40	0	7	2	0	
	ABILENE	59	29	66	20	44	2	0.00	-0.22	0.00	1.20	80	0.00	0	71	38	0	4	0	0	
	AMARILLO	54	20	63	8	37	2	0.00	-0.14	0.00	0.22	29	0.00	0	79	22	0	7	0	0	
	AUSTIN	65	31	76	25	48	1	0.21	-0.20	0.15	1.01	35	0.21	49	71	39	0	4	2	0	
	BEAUMONT	65	41	73	33	53	4	0.07	-1.05	0.04	5.08	80	0.07	6	89	38	0	0	2	0	
	BROWNSVILLE	78	57	83	50	67	12	0.01	-0.19	0.01	0.02	2	0.01	5	86	54	0	0	1	0	
	CORPUS CHRISTI	71	48	80	38	59	6	0.00	-0.31	0.00	0.62	30	0.00	0	86	58	0	0	0	0	
	DEL RIO	68	41	76	33	55	7	0.08	-0.01	0.08	0.10	12	0.08	80	74	32	0	0	1	0	
	EL PASO	55	26	62	20	40	-2	0.00	-0.10	0.00	0.16	18	0.00	0	60	20	0	7	0	0	
	FORT WORTH	58	34	67	25	46	4	0.00	-0.44	0.00	2.05	68	0.00	0	72	33	0	2	0	0	
	GALVESTON	62	48	73	41	55	3	0.12	-0.62	0.12	2.25	52	0.12	16	89	52	0	0	1	0	
	HOUSTON	66	42	72	34	54	5	1.34	0.63	1.26	4.38	99	1.34	186	76	47	0	0	2	1	
	LUBBOCK	59	21	64	11	40	3	0.00	-0.09	0.00	0.00	0	0.00	0	57	26	0	7	0	0	
	MIDLAND	60	23	67	14	42	1	0.00	-0.09	0.00	0.02	3	0.00	0	61	26	0	7	0	0	
	SAN ANGELO	62	29	69	19	46	3	0.00	-0.14	0.00	0.99	91	0.00	0	71	41	0	5	0	0	
	SAN ANTONIO	65	40	73	33	53	5	0.24	-0.09	0.16	0.87	38	0.24	71	82	38	0	0	2	0	
	VICTORIA	68	42	76	34	55	5	0.15	-0.32	0.12	1.34	45	0.15	31	93	52	0	0	3	0	
	WACO	63	34	71	22	49	5	0.00	-0.41	0.00	0.77	24	0.00	0	70	34	0	3	0	0	
	WICHITA FALLS	57	26	65	14	42	3	0.01	-0.24	0.01	0.14	7	0.01	4	69	41	0	6	1	0	
	SALT LAKE CITY	26	14	30	7	20	-9	0.01	-0.23	0.01	3.05	206	0.01	4	90	71	0	7	1	0	
VT	BURLINGTON	31	21	49	13	26	5	0.39	-0.01	0.16	4.00	152	0.40	98	88	60	0	7	5	0	
VA	LYNCHBURG	43	22	57	19	32	-2	0.25	-0.41	0.19	2.55	65	0.39	58	81	39	0	7	2	0	
	NORFOLK	44	27	61	23	36	-3	0.24	-0.47	0.23	3.15	84	0.27	38	87	48	0	6	2	0	
	RICHMOND	44	26	59	24	35	-1	0.47	-0.22	0.37	3.78	99	0.52	74	85	51	0	6	2	0	
	ROANOKE	43	25	55	19	34	-1	0.04	-0.53	0.02	2.09	61	0.10	17	73	43	0	7	2	0	
	WASH/DULLES	41	23	58	17	32	0	0.02	-0.57	0.01	1.51	41	0.04	7	70	42	0	7	2	0	
	OLYMPIA	42	29	46	17	36	-1	1.16	-0.25	0.44	10.51	113	1.16	82	95	89	0	3	3	0	
	QUILLAYUTE	45	32	49	22	38	-1	5.22	2.62	2.86	24.24	142	5.22	200	99	97	0	4	5	2	
	SEATTLE-TACOMA	43	33	49	25	38	-1	0.72	-0.25	0.44	9.40	142	0.72	73	88	82	0	3	5	0	
	SPOKANE	30	18	38	1	24	-3	0.33	-0.02	0.19	3.52	134	0.33	89	95	84	0	6	3	0	
	YAKIMA	33	16	45	5	25	-3	0.04	-0.20	0.04	2.42	148	0.04	16	84	73	0	7	1	0	
	BECKLEY	35	18	44	8	26	-5	0.32	-0.29	0.15	2.84	77	0.56	90	78	54	0	7	4	0	
	CHARLESTON	38	21	47	17	30	-4	0.26	-0.33	0.11	3.47	89	1.04	173	83	43	0	7	4	0	
	ELKINS	33	16	42	12	24	-6	0.15	-0.49	0.06	2.05	50	0.20	31	90	52	0	7	4	0	
	HUNTINGTON	37	20	47	12	29	-4	0.16	-0.45	0.13	2.16	54	0.63	100	79	46	0	7	2	0	
	EAU CLAIRE	15	-2	20	-11	7	-8	0.00	-0.17	0.00	1.83	151	0.00	0	87	63	0	7	0	0	
	GREEN BAY	21	7	26	0	14	-5	0.09	-0.12	0.04	2.00	123	0.09	41	83	62	0	7	4	0	
	LA CROSSE	21																			



## December Weather and Crop Summary

### Weather

*Weather summary provided by USDA/WAOB*

**Highlights:** During December, two large-scale atmospheric phenomena strongly influenced weather patterns across the United States: La Niña and a blocking high-pressure system over the northern Atlantic Ocean. The result was stormy weather in the western and north-central U.S., along with drier-than-normal conditions from the central and southern Plains into the Southeast. In addition, the North Atlantic block displaced cold air southward, locking frigid air into place across the Southeast. In contrast, mild weather accompanied the Western storminess.

Western storms were most intense from central and southern California to the western slopes of the central Rockies. In those areas, heavy precipitation bolstered high-elevation snow packs and improved water-supply prospects, but also caused flash flooding and mudslides.

Meanwhile, little precipitation fell from southern sections of Arizona and New Mexico to the central and southern Plains. Between November 28 and January 2, the portion of the winter wheat crop rated in very poor to poor condition climbed from 25 to 33% in Kansas and 8 to 19% in Oklahoma. On the northern Plains, however, a well-established snow cover helped to protect winter wheat from periodic weather extremes.

Farther east, record-setting snowfall accumulated in the upper Midwest, while cold but relatively benign weather covered the central and eastern Corn Belt. The upper Midwestern snow and cold maintained stress on livestock and hampered rural travel. The Northeast also experienced several episodes of bad weather, with a post-holiday storm causing major travel disruptions.

Elsewhere, multiple freezes struck Florida's winter agricultural region, causing extensive damage to vegetables and requiring growers to employ a variety of measures in an effort to protect citrus, sugarcane, strawberries, ornamentals, and nursery crops. December temperatures were the lowest on record in dozens of communities in Florida and elsewhere in the Southeast, eclipsing standards that had been mostly set in 1935, 1963, or 1989.

**Summary:** An Eastern precipitation event that was already well underway as the month began wound down on December 1. Daily-record amounts for December 1 included 2.91 inches in Williamsport, PA, and 1.43 inches in Rochester, NY. Precipitation ended as snow from the Great Lakes region into the Northeast, with December 1 snowfall reaching 3.4 inches in Rochester and 5.0 inches in Grand Rapids, MI. A few favored locations in Erie County, New York, downwind of Lake Erie, received more than 3 feet of lake-effect snow in a 48-hour period from December 1-3. Snow squalls persisted for several days downwind of the Great Lakes, with totals in excess of 4 feet noted near Lakes Erie and Ontario. Syracuse, NY, received 45.1 inches of snow from December 5-9, including daily-record

amounts on December 6, 7, and 8 (12.2, 9.3, and 14.9 inches, respectively). Farther west, a fast-moving storm deposited a stripe of snow from the northern Plains into the Ohio Valley. Record-setting snowfall totals in North Dakota for December 3 included 5.6 inches in Bismarck and 4.0 inches in Williston. The following day, snowfall records for December 4 reached 5.1 inches in Chicago, IL, and 3.2 inches in Cincinnati, OH.

Very cold air first settled across the Southeast on December 6, when Greenwood, MS (20°F), posted a daily-record low. The following day in Florida, daily-record lows for December 7 included 31°F in Vero Beach and 36°F in West Palm Beach. In the northern Everglades, Belle Glade, Florida (30°F on December 7), tied a record for its earliest sub-freezing temperature on record (previously, 31°F on December 7, 1937). The record-setting chill persisted in Florida through December 8, when lows dipped to 21°F in Tallahassee and 31°F in Orlando and Melbourne. Farther north, Southeastern daily-record lows for the 8<sup>th</sup> dipped to 9°F in Lynchburg, VA; 13°F in Florence, SC; and 16°F in Athens, GA. In a final flurry of records on December 9, lows included 5°F in Beckley, WV; 16°F in Anniston, AL; and 19°F in Hattiesburg, MS. In contrast, consistent warmth prevailed in the Southwest, where Douglas, AZ, notched a daily-record high of 80°F on December 6. Later in Texas, daily-record highs reached 73°F (on December 10) in El Paso and 90°F (on December 11) in McAllen.

Farther north, heavy precipitation arrived in the Northwest, while a major winter storm unfolded across the upper Midwest. During the 10-day period from December 6-15, Quillayute, WA, received 11.05 inches of rain. Meanwhile, Williston, ND (14.3 inches), reported a daily-record snowfall for December 10. The following day, Rochester, MN (15.0 inches), experienced its snowiest December day on record. Rochester's previous mark of 10.3 inches was established on December 25, 1955. Daily-record snowfall amounts for December 11 included 16.3 inches in Minneapolis-St. Paul, MN; 13.9 inches in La Crosse, WI; and 7.6 inches in Sioux Falls, SD. On December 10-11, Minneapolis-St. Paul set a 2-day snowfall record for December with 17.1 inches (previously, 16.5 inches on December 27-28, 1982). With 16.0 inches on December 10-11, Rochester, MN, experienced its snowiest 2-day period since March 18-19, 2005, when 20.1 inches fell. Blizzard conditions accompanied the storm in the western Corn Belt, where Sioux Falls clocked a northerly wind gust to 53 mph. Elsewhere in the Midwest, daily-record snowfall totals for December 12 included 12.3 inches in Marquette, MI; 4.4 inches in St. Louis, MO; and 4.1 inches in Indianapolis, IN. Snow squalls continued for days downwind of the Great Lakes, with Syracuse, NY (11.9 inches), netting a daily-record total for December 15. Syracuse received 70.9 inches of snow during the first 17 days of the month (and a monthly sum of 72.8 inches), edging its December 2000 standard of 70.3 inches. Farther west, the snow depth in Rochester, MN, peaked at 29 inches on December 21, 25, and 26. The only other 29-inch depth in Rochester's history occurred on January 25, 1982.

Another cold snap struck Florida on December 14-15, causing additional harm to tender vegetables and requiring producers to use wind and water techniques to help protect crops such as oranges, strawberries, and sugarcane. At the same time, record-setting warmth covered parts of the West while Florida froze. On December 12, daily-record highs in California included 89°F in San Gabriel and 88°F in Camarillo. A day later, Indio, CA (89°F); Tucson, AZ (84°F); and Pueblo, CO (73°F), were among dozens of locations to post daily-record highs, while International Falls, MN (-33°F), notched a daily-record low for December 13. By December 14, daily-record lows in Florida included 20°F in Jacksonville, 24°F in Vero Beach, and 32°F in West Palm Beach. Farther north, lows fell to daily-record levels in locations such as Merrill, WI (-24°F); Lincoln, IL (-4°F); and Paducah, KY (4°F). Interestingly, Caribou, ME (57°F), notched a daily-record high for December 14, while highs in Florida peaked at 45°F in Jacksonville, 48°F in Daytona Beach, and 53°F in Miami. On December 14-15, Miami Beach, FL (36°F both days), collected consecutive daily-record lows. Additional Southeastern records for December 15 included 10°F in Greenville-Spartanburg, SC, and 31°F in Sarasota-Bradenton, FL. Meanwhile, warmth spread into the south-central U.S., where records in Texas for December 15 reached 86°F in San Angelo and 84°F in Wichita Falls.

In the Northwest, early-month storminess was a sign of more bad weather to come. By December 11-12, 21.0 inches of snow blanketed Mazama, WA, in a 24-hour period. It was Mazama's third-snowiest 24-hour period on record in December, behind 28.5 inches on December 8-9, 1987, and 21.5 inches on December 28-29, 1996. Elsewhere in Washington, daily-record rainfall totals for December 12 included 3.10 inches in Shelton and 2.19 inches in Seattle. The Snoqualmie River near Carnation, WA, crested 4.61 feet above flood stage on December 13, representing the highest water level in that location since January 2009. Starting around December 17, exceptionally stormy weather engulfed the remainder of the West. On that date in California's Central Valley, rainfall records for the 17<sup>th</sup> included 1.12 inches in Fresno and 0.85 inch in Hanford. Reno, NV (5.3 inches on December 17), collected a daily-record snowfall. On December 18, daily-record amounts in California reached 3.14 inches in Santa Maria and 1.37 inches in Bakersfield. For Bakersfield, it was the wettest December day in more than 120 years of record-keeping, supplanting 1.02 inches on December 27, 1936. Amazingly, the record was broken again on December 19, when 1.53 inches pelted Bakersfield. The 19<sup>th</sup> was also the wettest December day on record in Bishop, California (3.32 inches; previously, 2.67 inches on December 22, 1982). Daily-record amounts in California for December 19 included 2.96 inches in San Gabriel, 2.80 inches in downtown Los Angeles, and 2.79 inches in Santa Barbara. The following day, Long Beach, CA (2.03 inches), netted a daily-record amount for December 20. Other California daily records in excess of 2 inches were 2.01 inches (on December 21) in San Diego, 2.24 inches (on December 22) in Palm Springs, and 3.40 inches (on December 22) in Ramona. In fact, Ramona's December 20-22 sum of 7.20 inches exceeded its December 1984 record of 5.31 inches. Farther inland, Ely, NV, noted its 11<sup>th</sup>-snowiest, 13<sup>th</sup>-wettest day on record on December

20, with 11.4 and 1.29 inches, respectively. Southern California's Mt. Palomar received 18.23 inches of rain from December 16-22. During the same period, snowfall totaled 5 to 7 feet at several locations in the mountains of Utah and Colorado. For example, Brighton Crest, UT, noted 84 inches, while Gothic, CO, tallied 82 inches. Snowfall amounts of 100 to 200 inches were common in the Sierra Nevada. In addition, winds in excess of 150 mph were noted on the Sierra Nevada crest, with a gust to 164 mph clocked on December 19 on Mammoth Mountain, CA.

When storminess finally subsided after about a week, records for December wetness had been established in southern California locations such as Santa Barbara and Long Beach. Santa Barbara ended the month with 10.36 inches (previously, 6.78 inches in 1945), while Long Beach reached 10.41 inches (previously, 5.29 inches in 1971). Bakersfield (5.82 inches) registered its wettest month on record, surpassing 5.36 inches in February 1998. Similarly, Mt. Charleston (Kyle Canyon), NV, received December precipitation totaling 19.00 inches, demolishing the monthly mark of 6.65 inches in December 1992 and the all-time record of 15.55 inches in July 1984. Elsewhere in Nevada, Las Vegas' December rainfall of 1.77 inches exceeded its 2009 annual precipitation total of 1.59 inches. The Pacific storm barrage caused flooding and mudslides from southern California into the southern Great Basin but greatly improved Western water-supply prospects. During December, the average water content of the Sierra Nevada snow pack climbed from six to 22 inches. The 16-inch monthly total represented more than one-half year's worth of Sierra Nevada snow accumulation, which on average peaks in early April just shy of 30 inches.

Some of the Western storminess eventually found its way into the upper Midwest, contributing to record-high December snowfall totals. Minneapolis-St. Paul, MN, received 4.6 inches of snow on both December 20 and 23-24, contributing to a December-record total of 33.6 inches (previously, 33.2 inches in 1969). Elsewhere in Minnesota, Rochester (41.3 inches) easily broke its December snowfall record, set with a 35.3-inch total in 2000. In North Dakota, daily-record snowfall amounts for December 20 reached 10.2 inches in Williston and 5.5 inches in Fargo. Williston also set a December snowfall record with 35.3 inches, edging its 2008 standard of 32.0 inches. On December 21, daily-record snowfall totals reached 7.3 inches in Rhinelander, WI, and 5.8 inches in Duluth, MN. Later, snow spread across the remainder of the Midwest and into the Southeast. Daily-record snowfall totals for December 24, reached 9.5 inches in Waterloo, IA; 6.6 inches in Peoria, IL; and 3.2 inches in Paducah, KY. December 25 featured the first Christmas Day accumulations on record in locations such as Anniston, AL (1.0 inch); Tupelo, MS (1.4 inches); and Macon, GA (0.1 inch). It was the snowiest Christmas Day on record in several other cities, including Asheville, NC (6.5 inches); Huntsville, AL (4.5 inches); and Greensboro, NC (4.2 inches).

For several days in late December, unusual warmth covered the south-central U.S. On December 20-21, consecutive daily-record highs were established in Texas locations such as San Angelo (85 and 86°F), Abilene (84 and 85°F), and College

Station (81 and 84°F). Waco, TX (86°F on December 21), experienced its third-warmest December day on record, behind 91°F on December 24, 1955, and 87°F on December 3, 2005. Despite some late-month showers, unfavorable dryness persisted in much of the south-central and southeastern U.S. For example, Shreveport, LA, set a record for its driest December on record, with 0.41 inch. Shreveport's driest December had occurred in 1981, when 0.51 inch fell. In Kansas, Wichita finally received precipitation (totaling a mere 0.06 inch) on December 23-24, ending a 35-day spell (November 17 - December 22) without a measurable amount. In contrast, a major, post-holiday snow storm unfolded along the middle and northern Atlantic Coast. December 26-27 snowfall reached 24.2 inches in Newark, NJ; 20.0 inches in New York's Central Park; and 18.2 inches in Boston, MA. Norfolk, VA (14.2 inches on December 25-26), experienced its third-highest storm-total snowfall, behind 18.6 inches on December 27-28, 1892, and 15.4 inches on February 17-19, 1989. Atlantic City, NJ (20.1 inches from December 25-27), measured its greatest storm total on record, surpassing 20.0 inches on February 16-17, 2003. Winds in excess of 60 mph accompanied the snow storm. In Islip, NY, where 14.2 inches of snow fell on December 26-27, a gust to 64 mph was clocked on the evening of the 26<sup>th</sup>. Snow also blanketed the southern Mid-Atlantic region, where December 25-26 storm totals reached 7.0 inches in Asheville, NC, and 7.1 inches in Raleigh-Durham, NC. Southeastern daily-record snowfall totals for December 26 included 1.3 inches in Athens, GA, and 1.0 inch in Muscle Shoals, AL.

By December 27-28, a blast of cold air in the storm's wake resulted in consecutive daily-record lows in Vicksburg, MS (13 and 19°F). In Florida, consecutive daily-record lows were established on December 28-29 in locations such as Orlando (26 and 24°F), Daytona Beach (24 and 26°F), and Sarasota-Bradenton (27 and 31°F). Incredibly, Jacksonville, FL, registered 19 calendar-day freezes during the month, demolishing its December record of 12 days set in 2000. Jacksonville also set an annual record with 44 freezes in 2010 (previously, 38 days in 1977). Annual records for days of 32°F or below were also set in Florida locations such as Melbourne (15 freezes) and Orlando (13 freezes). For the month as a whole, temperatures averaged at least 10°F below normal and were the lowest on record for December in Florida locations such as Daytona Beach, Tampa, and Lakeland. In all of those locations, the previous coldest December had occurred in 1935. In contrast, the year ended with another round of record-setting warmth in the south-central U.S. On December 31 in southern Texas, highs soared to 89°F in McAllen, Harlingen, and Brownsville. Farther north, Topeka, KS (71°F), collected a daily-record high for December 30. Warmth also briefly reached the Midwest, where Muskegon, MI (58 and 57°F), tallied consecutive daily-record highs on December 31 and January 1. Farther west, heavy snow developed across the northern Plains on December 29. In Montana, daily-record amounts for the 29<sup>th</sup> reached 11.1 inches in Great Falls and 8.0 inches in Havre. Billings, MT, noted consecutive daily snowfall records on December 29-30, totaling 8.8 inches. Pierre, SD, also experienced consecutive snowfall records (on December 30-31), totaling 13.0 inches. At the same time, daily-record rainfall totals for December 31 reached 2.09 inches in Vicksburg, MS,

and 1.89 inches in Peoria, IL. More than four dozen tornadoes accompanied the late-year rainfall, with streaks of damage stretching across Mississippi and from northwestern Arkansas into central Illinois. On December 31, eight deaths in Arkansas and Missouri were the nation's first tornado-related fatalities since September 16. Meanwhile, extremely cold air poured across the West, resulting in the coldest December 31 readings on record in locations such as Burns, OR (-25°F), and Ely, NV (-20°F).

Near- to below-normal temperatures prevailed in Alaska during December, with the coldest conditions (locally more than 10°F below normal) across interior parts of the state. Wetness was mostly confined to western Alaska. On December 15-16, readings dipped below -50°F at a few interior locations, including Fort Yukon. Meanwhile, a high-wind event on December 15 in south-central Alaska resulted in a gust to 81 mph at the Palmer Airport. Toward month's end, bitterly cold air remained entrenched across interior Alaska, although Fairbanks finally topped 0°F on December 30. Fairbanks' 25-day spell with readings of 0°F or below marked its longest such streak since November 23 - December 19, 1977. Meanwhile in western Alaska, Nome's snowfall reached 6.3 inches on December 19 and 5.7 inches from December 22-24. During the last 7 days of the year in southern Alaska, Yakutat received precipitation totaling 4.31 inches (20.2 inches of snow).

December rain provided additional drought relief in Hawaii. On Oahu, more than two-thirds (11.73 inches, or 67 percent) of Honolulu's annual rainfall total of 17.42 inches occurred during December. On the Big Island, however, Hilo completed its driest year on record. Only 63.29 inches (50 percent of normal) fell in 2010, compared to the former mark of 68.09 inches in 1983.

## Fieldwork

*Fieldwork summary provided by USDA/NASS*

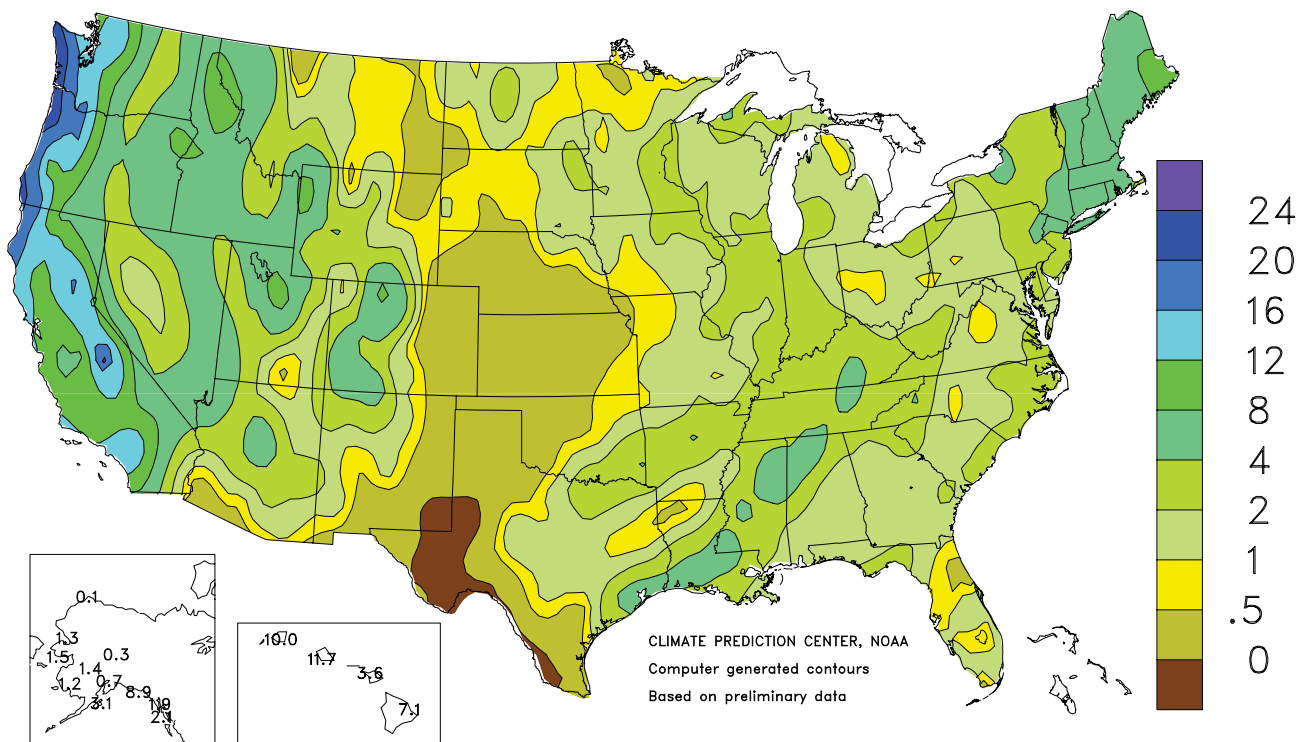
With the exception of parts of New England and the Great Lakes region, temperatures east of the Great Plains were below normal during December. Most notably, temperatures averaged more than 10°F below normal in parts of Florida, where hard freezes and frosts throughout the month damaged unharvested sugarcane and winter vegetables, and left producers scrambling to rapidly harvest remaining crops.

Elsewhere, unseasonably dry conditions on the central and southern Great Plains limited the amount of snow cover and available soil moisture in many winter wheat fields, leaving producers concerned about the crop's vulnerability to wind and freeze damage. Similarly, dry conditions in portions of the Southeast hampered the establishment of small grains.

Areas west of the Rocky Mountains received above-average precipitation during the month. In California, a steady series of strong winter storms inundated the state with rain and snow totaling more than 800 percent of normal in some areas, triggering widespread flooding and mudslides, but boosting high-elevation snow packs.

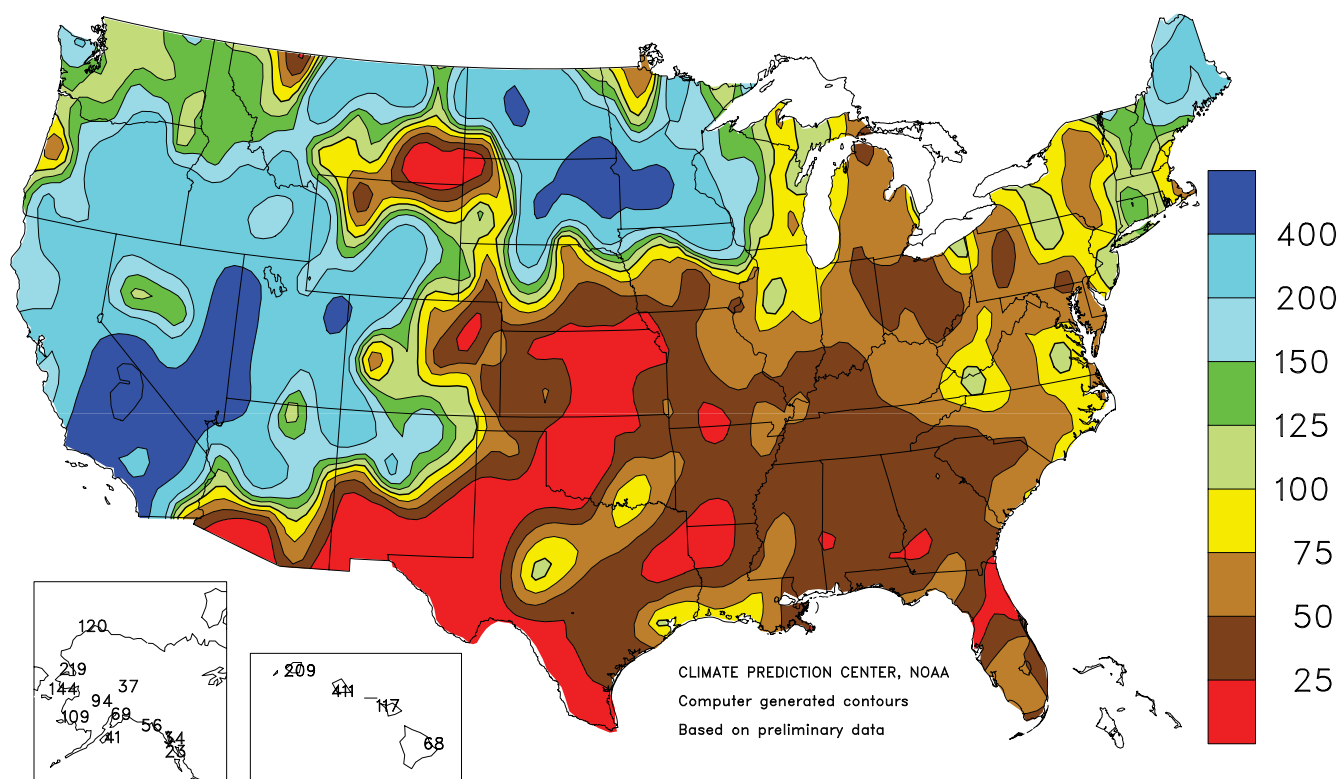
## Total Precipitation (Inches)

December 2010



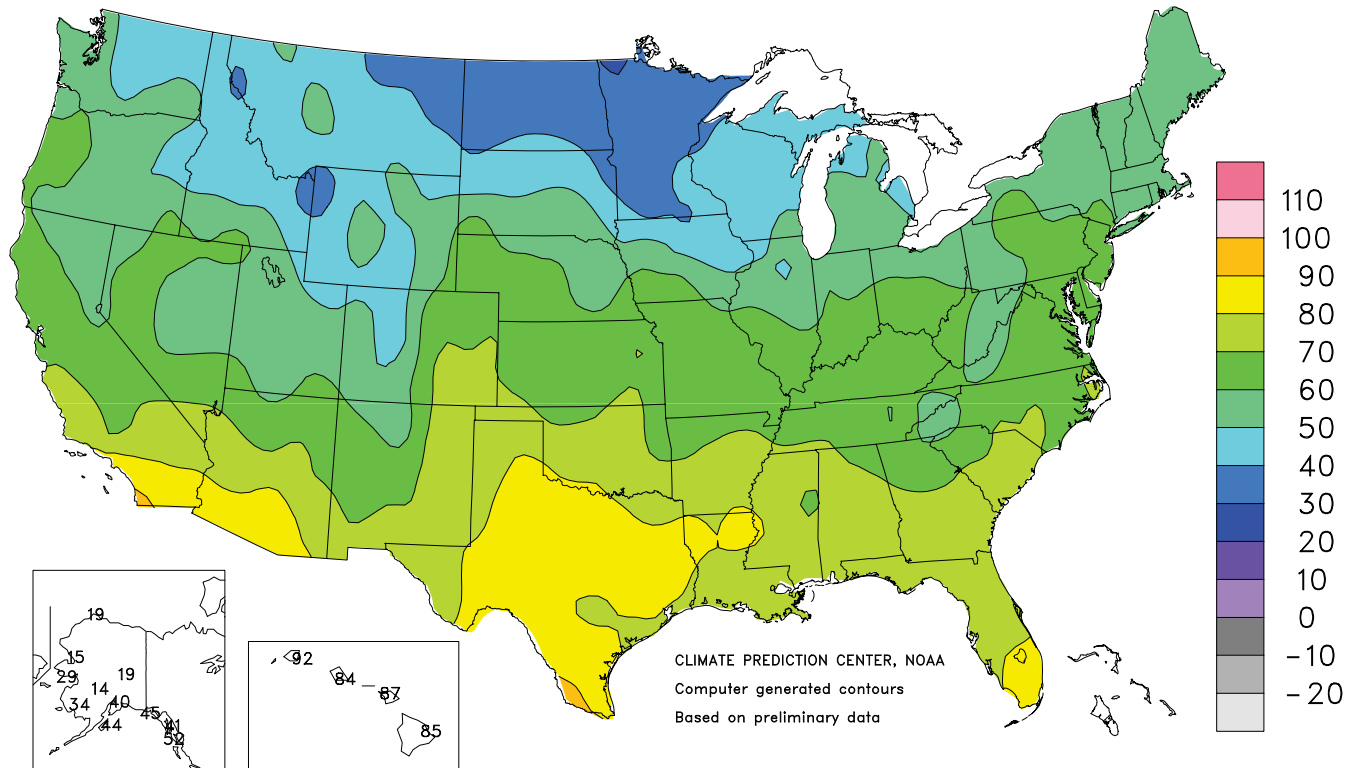
## Percent Of Normal Precipitation

December 2010



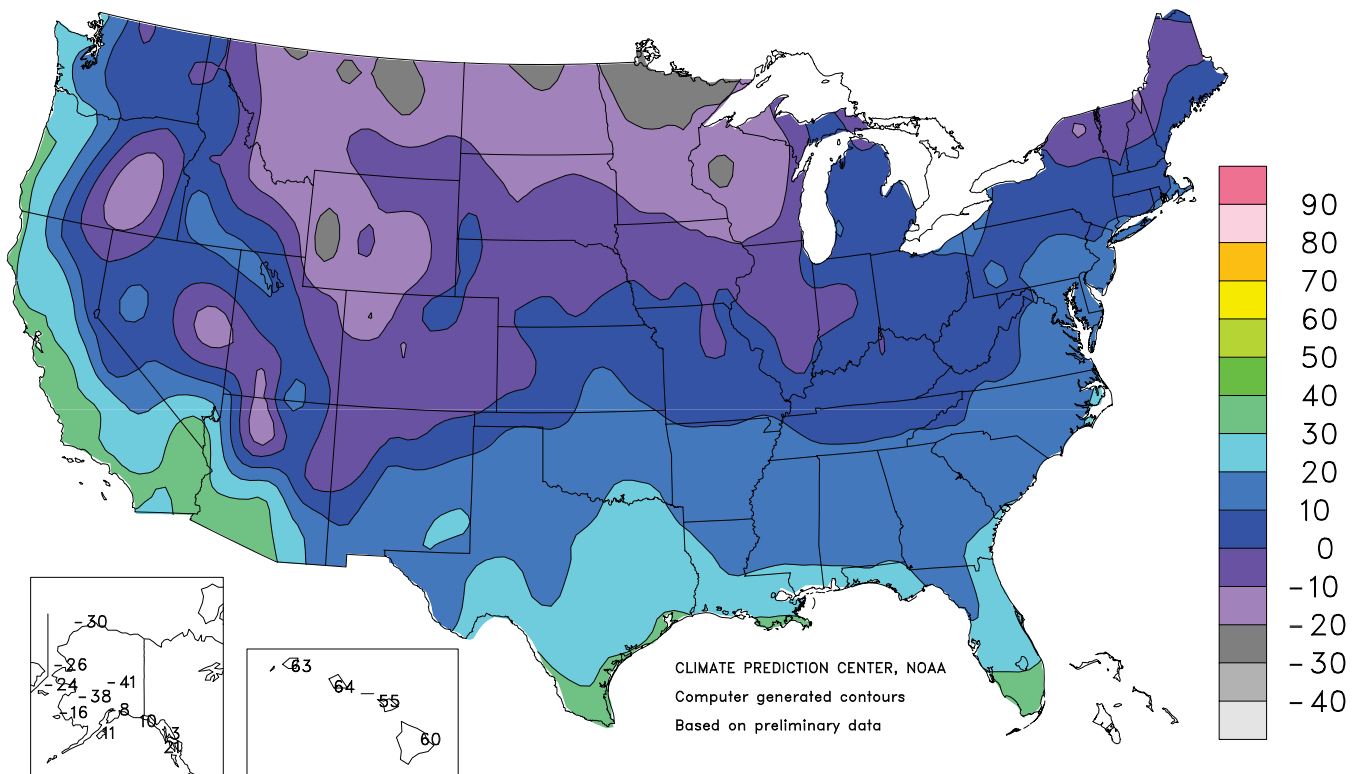
## Extreme Maximum Temperature (°F)

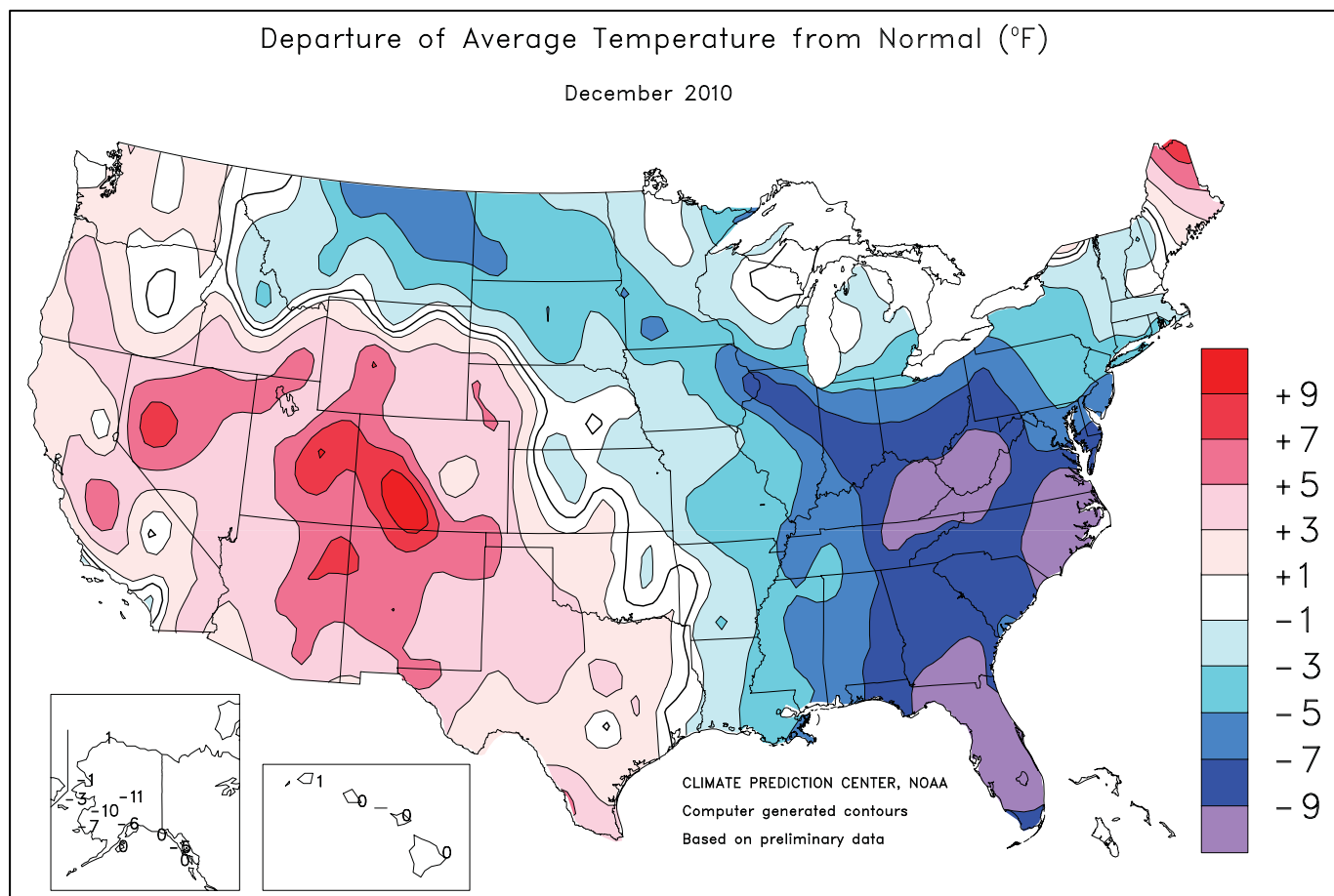
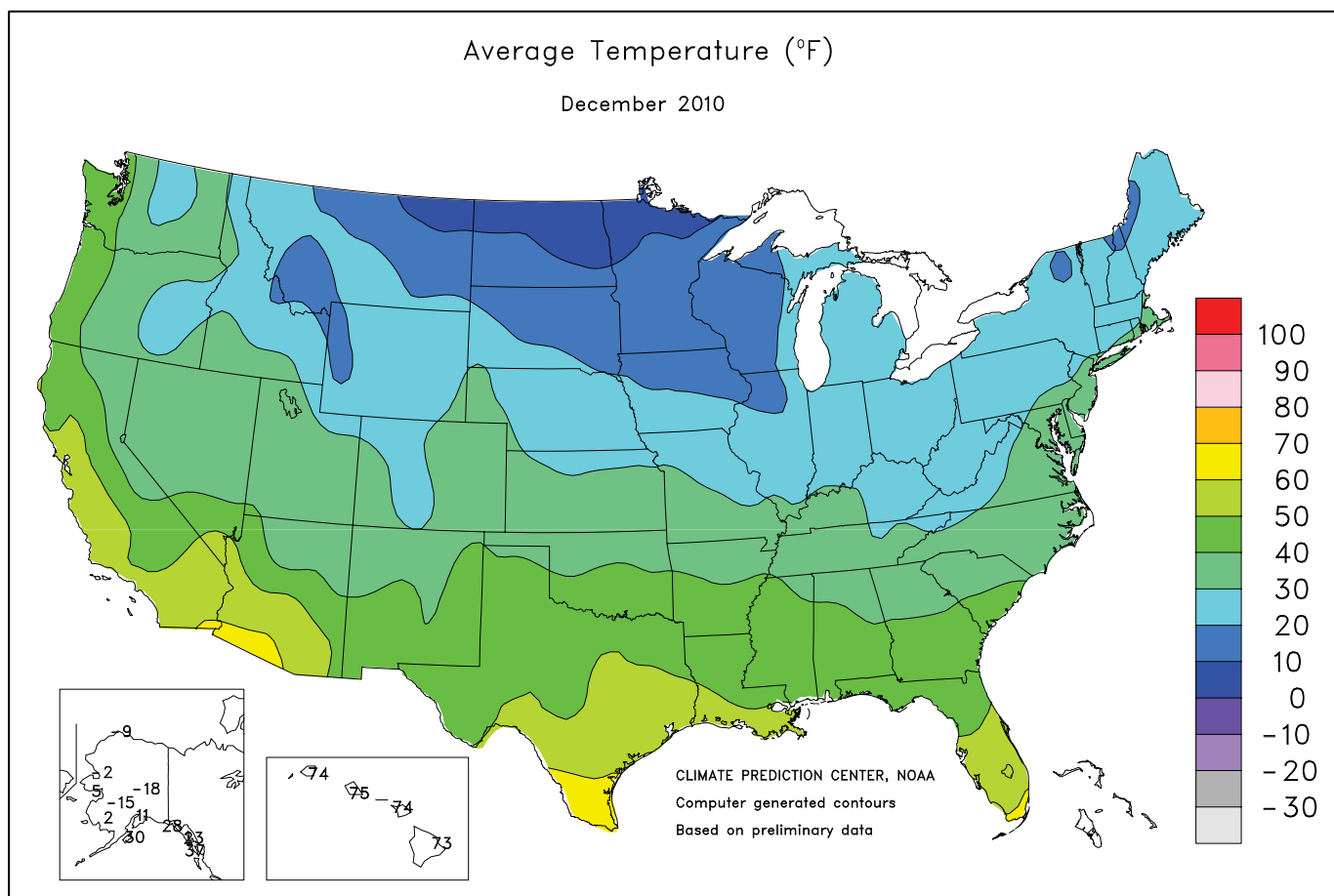
December 2010



## Extreme Minimum Temperature (°F)

December 2010







## National Weather Data for Selected Cities

December 2010

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

STATES AND STATIONS		TEMP, °F		PRECIP.		STATES AND STATIONS		TEMP, °F		PRECIP.		STATES AND STATIONS		TEMP, °F		PRECIP.	
		AVERAGE	DEPARTURE	TOTAL	DEPARTURE			AVERAGE	DEPARTURE	TOTAL	DEPARTURE			AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL	BIRMINGHAM	40	-6	1.37	-3.10	LEXINGTON		28	-8	2.49	-1.54	COLUMBUS		27	-6	1.26	-1.67
	HUNTSVILLE	38	-5	2.23	-3.36	LONDON-CORBIN		29	-9	2.85	-1.46	DAYTON		25	-6	1.45	-1.63
	MOBILE	47	-5	1.39	-3.27	LOUISVILLE		31	-7	1.66	-2.03	MANSFIELD		23	-7	1.03	-2.23
	MONTGOMERY	43	-6	1.03	-3.94	PADUCAH		32	-5	2.22	-2.16	TOLEDO		25	-4	1.44	-1.20
AK	ANCHORAGE	11	-6	0.73	-0.32	LA	BATON ROUGE	49	-3	4.59	-0.67	YOUNGSTOWN		24	-6	3.81	0.85
	BARROW	-9	2	0.14	0.02		LAKE CHARLES	53	0	3.28	-1.32	OK	OKLAHOMA CITY	41	1	0.13	-1.76
	COLD BAY	28	-3	2.75	-1.58		NEW ORLEANS	52	-3	2.17	-2.90		TULSA	39	-1	0.55	-1.88
	FAIRBANKS	-18	-12	0.27	-0.47		SHREVEPORT	48	0	0.41	-4.14	OR	ASTORIA	45	2	11.37	0.97
	JUNEAU	23	-6	1.85	-3.56	ME	BANGOR	26	2	5.47	2.14		BURNS	24	-1	3.64	2.34
	KING SALMON	7	-10	1.11	-0.28		CARIBOU	25	9	5.20	2.01		EUGENE	43	3	6.78	-1.51
	KODIAK	30	-1	3.13	-4.51		PORTLAND	29	1	4.03	-0.21		MEDFORD	43	5	4.31	1.41
	NOME	5	-3	1.46	0.45	MD	BALTIMORE	32	-5	1.96	-1.39		PENDLETON	35	1	3.13	1.65
AZ	FLAGSTAFF	35	5	3.40	1.57	MA	BOSTON	33	-2	3.61	-0.12		PORTLAND	42	2	8.35	2.64
	PHOENIX	60	6	1.07	0.15		WORCESTER	27	-2	5.08	1.28		SALEM	44	4	9.95	3.49
	TUCSON	57	5	0.46	-0.57	MI	ALPENA	24	0	1.33	-0.50	PA	ALLENTOWN	29	-3	2.92	-0.47
AR	FORT SMITH	41	0	2.14	-1.25		DETROIT	26	-4	1.28	-1.23		ERIE	28	-5	2.24	-1.49
	LITTLE ROCK	41	-2	2.08	-2.63		FLINT	24	-3	1.47	-0.71		MIDDLETOWN	31	-3	1.97	-1.27
CA	BAKERSFIELD	53	6	5.82	5.06		GRAND RAPIDS	27	-1	1.78	-0.92		PHILADELPHIA	33	-4	3.24	-0.07
	EUREKA	49	1	10.08	3.73		HOUGHTON LAKE	22	-2	1.12	-0.63		PITTSBURGH	26	-7	1.56	-1.30
	FRESNO	51	6	5.92	4.58		LANSING	24	-3	1.65	-0.52		WILKES-BARRE	26	-5	2.45	-0.10
	LOS ANGELES	58	0	8.83	7.04		MUSKEGON	29	0	1.87	-0.77		WILLIAMSPORT	28	-3	4.03	1.09
	REDDING	47	2	8.68	4.01		TRAVERSE CITY	26	0	2.22	-0.44	PR	SAN JUAN	77	-1	7.47	2.90
	SACRAMENTO	50	4	5.55	3.10	MN	DULUTH	13	-1	2.08	1.14	RI	PROVIDENCE	31	-3	4.04	-0.10
	SAN DIEGO	59	1	5.00	3.69		INT'L FALLS	8	0	1.57	0.87	SC	CHARLESTON	43	-8	2.48	-0.76
	SAN FRANCISCO	52	3	6.00	3.11		MINNEAPOLIS	16	-3	2.79	1.79		COLUMBIA	39	-8	1.40	-1.98
	STOCKTON	50	5	4.23	2.41		ROCHESTER	15	-2	3.68	2.66		FLORENCE	38	-9	1.72	-1.75
CO	ALAMOSA	28	11	0.38	0.05		ST. CLOUD	13	-1	2.45	1.76		GREENVILLE	36	-8	1.16	-2.70
	CO SPRINGS	35	6	0.07	-0.35	MS	JACKSON	45	-3	3.88	-1.46		MYRTLE BEACH	39	-10	2.33	-1.12
	DENVER	35	6	0.22	-0.09		MERIDIAN	43	-6	1.11	-4.20	SD	ABERDEEN	13	-3	1.77	1.39
	GRAND JUNCTION	36	8	0.64	0.12		TUPELO	40	-3	2.23	-3.89		HURON	16	-3	1.38	0.99
	PUEBLO	33	3	0.44	0.05	MO	COLUMBIA	28	-4	2.28	-0.19		RAPID CITY	25	0	0.61	0.21
CT	BRIDGEPORT	31	-4	4.09	0.62		JOPLIN	36	-1	1.52	-1.44		SIOUX FALLS	16	-2	1.54	1.02
	HARTFORD	28	-3	6.15	2.55		KANSAS CITY	29	-2	0.52	-1.12	TN	BRISTOL	30	-7	2.56	-0.83
DC	WASHINGTON	35	-5	1.78	-1.27		SPRINGFIELD	33	-3	0.74	-2.43		CHATTANOOGA	36	-6	1.43	-3.38
DE	WILMINGTON	32	-4	2.41	-0.99		ST JOSEPH	28	-3	0.33	-1.11		JACKSON	37	-5	2.10	-3.26
FL	DAYTONA BEACH	50	-11	0.38	-2.33		ST LOUIS	30	-4	1.30	-1.56		KNOXVILLE	33	-8	2.20	-2.29
	FT LAUDERDALE	50	-9	1.04	-1.61	MT	BILLINGS	25	-1	0.95	0.28		MEMPHIS	40	-3	2.52	-3.16
	FT MYERS	66	-10	1.34	-0.24		BUTTE	18	0	0.64	0.11		NASHVILLE	35	-5	1.87	-2.67
	JACKSONVILLE	46	-9	0.34	-2.30		GLASGOW	10	-6	1.46	1.09	TX	ABILENE	49	4	1.20	-0.07
	KEY WEST	63	-9	0.58	-1.56		GREAT FALLS	23	-1	1.56	0.89		AMARILLO	41	4	0.22	-0.39
	MELBOURNE	54	-9	1.95	-0.36		HELENA	18	-3	0.76	0.30		AUSTIN	51	-1	0.80	-1.64
	MIAMI	61	-9	1.21	-0.97		KALISPELL	23	0	2.22	0.57		BEAUMONT	54	0	5.01	-0.24
	ORLANDO	52	-11	0.78	-1.53		MILES CITY	16	-5	0.07	-0.38		BROWNSVILLE	65	4	0.01	-1.10
	PENSACOLA	47	-7	1.48	-2.49		MISSOULA	21	-2	1.28	0.13		COLLEGE STATION	55	3	0.81	-2.42
	ST PETERSBURG	53	-11	0.41	-2.19	NE	GRAND ISLAND	26	0	0.24	-0.42		CORPUS CHRISTI	60	2	0.62	-1.13
	TALLAHASSEE	44	-10	1.48	-2.62		HASTINGS	26	-1	0.28	-0.45		DALLAS/FT WORTH	49	2	2.05	-0.52
	TAMPA	53	-10	0.55	-1.75		LINCOLN	25	-1	0.24	-0.62		DEL RIO	53	1	0.02	-0.73
	WEST PALM BEACH	59	-9	1.30	-1.84		MCCOOK	29	0	0.14	-0.39		EL PASO	51	6	0.16	-0.61
GA	ATHENS	37	-8	1.92	-1.79		NORFOLK	23	-1	0.42	-0.23		GALVESTON	57	-1	2.13	-1.40
	ATLANTA	38	-7	1.62	-2.20		NORTH PLATTE	27	1	0.44	0.04		HOUSTON	56	2	3.04	-0.65
	AUGUSTA	39	-8	1.16	-1.98		OMAHA/EPPLLEY	25	-1	0.54	-0.38		LUBBOCK	46	6	0.00	-0.67
	COLUMBUS	43	-6	1.56	-2.84		SCOTTSBLUFF	31	5	0.93	0.37		MIDLAND	47	2	0.02	-0.63
	MACON	41	-7	1.08	-2.85		VALENTINE	23	-1	0.86	0.53		SAN ANGELO	50	4	0.99	0.05
	SAVANNAH	44	-7	1.63	-1.18	NV	ELKO	31	5	2.08	1.15		SAN ANTONIO	54	2	0.63	-1.33
HI	HILO	73	1	7.13	-3.37		ELY	29	3	3.34	2.84		VICTORIA	56	1	1.19	-1.28
	HONOLULU	75	0	11.73	8.88		LAS VEGAS	51	4	1.77	1.37		WACO	51	3	0.77	-1.99
	KAHULUI	74	1	3.61	0.53		RENO	39	5	1.39	0.51		WICHITA FALLS	45	2	0.13	-1.55
	LIHUE	74	1	10.01	5.23		WINNEMUCCA	35	5	1.59	0.78	UT	SALT LAKE CITY	34	4	3.04	1.81
ID	BOISE	35	4	3.25	1.87	NH	CONCORD	26	0	3.58	0.62	VT	BURLINGTON	23	-2	3.60	1.38
	LEWISTON	36	2	1.70	0.65	NJ	ATLANTIC CITY	32	-5	3.69	0.54	VA	LYNCHBURG	30	-8	2.16	-1.07
	POCATELLO	30	5	1.97	0.87		NEWARK	33	-3	3.88	0.31		NORFOLK	35	-9	2.88	-0.15
IL	CHICAGO/O'HARE	23	-4	2.34	-0.09	NM	ALBUQUERQUE	42	6	1.07	0.58		RICHMOND	33	-7	3.26	0.14
	MOLINE	21	-5	1.68	-0.52	NY	ALBANY	26	-2	2.95	0.28		ROANOKE	31	-8	1.99	-0.87
	PEORIA	23	-5	3.77	1.37		BINGHAMTON	23	-4	2.04	-0.99		WASH/DULLES	31	-5	1.47	-1.60
	ROCKFORD	21	-3	1.73	-0.33		BUFFALO	26	-4	2.72	-1.08	WA	OLYMPIA	41	3	9.35	1.46
	SPRINGFIELD	27	-3	1.67	-0.87		ROCHESTER	26	-3	2.64	-0.09		QUILLAYUTE	***	***	19.02	4.52
IN	EVANSVILLE	30	-6	1.80	-1.74		SYRACUSE	25	-4	2.42	-0.70		SEATTLE-TACOMA	43	2	8.68	3.06
	FORT WAYNE	24	-5	1.08	-1.69	NC	ASHEVILLE	30	-9	1.26	-2.13		SPOKANE	29	2	3.19	0.94
	INDIANAPOLIS	25	-7	1.86	-1.17		CHARLOTTE	35	-9	1.74	-1.44		YAKIMA	32	3	2.38	1.00
	SOUTH BEND	25	-4	1.63	-1.46		GREENSBORO	33	-8	2.20	-0.86	WV	BECKLEY	24	-11	2.28	-0.81
IA	BURLINGTON	24	-4	0.82	-1.28		HATTERAS	40	-10	3.47	-1.09		CHARLESTON	29	-9	2.43	-0.89
	CEDAR RAPIDS	18	-6	0.96	-0.52		RALEIGH	35	-8	2.39	-0.65		ELKINS	23	-10	1.85	-1.59
	DES MOINES	24	-1	0.77	-0.56		WILMINGTON	38	-11	3.63	-0.15		HUNTINGTON	29	-8	1.53	-1.84
	DUBUQUE	16	-6	3.08	1.39	ND	BISMARCK	12	-3	1.40	0.96	WI	EAU CLAIRE	15	-3	1.83	0.80
	SIOUX CITY	20	-2	0.95	0.29		DICKINSON	13	-5	0.22	-0.12		GREEN BAY	20	-1	1.91	0.50
	WATERLOO	17	-5	2.06	0.95		FARGO	10	-3	1.75	1.18		LA CROSSE	17	-5	2.40	1.17
KS	CONCORDIA	29	-1	0.14	-0.72		GRAND FORKS	8	-3	0.72	0.17		MADISON	20	-3	1.49	-0.17
	DODGE CITY	34	1	0.41	-0.36		JAMESTOWN	10	-4	0.70	0.26		MILWAUKEE	25	-1	1.57	-0.65
	GOODLAND	32	2	0.15	-0.25		MINOT	11	-4	0.73	0.10		WAUSAU	18	-1	2.09	0.76
	HILL CITY	29	-2	0.07	-0.40		WILLISTON	9	-4	1.95	1.38	WY	CASPER	27	3	1.36	0.74
	TOPEKA	32	1	0.19	-1.23	OH	AKRON-CANTON	24	-7	1.95	-1.03		CHEYENNE	31	4	0.42	-0.04
	WICHITA	34	0	0.12	-1.23		CINCINNATI	26	-9	1.77	-1.51		LANDER	27	6	0.78	0.17
KY	JACKSON	28	-10	2.97	-1.30		CLEVELAND	26	-5	1.34	-1.80		SHERIDAN	22	0	0.20	-0.48

Based on 1971-2000 normals

\*\*\* Not Available

# National Agricultural Summary

January 3 – 9, 2011

Weekly National Agricultural Summary provided by USDA/NASS

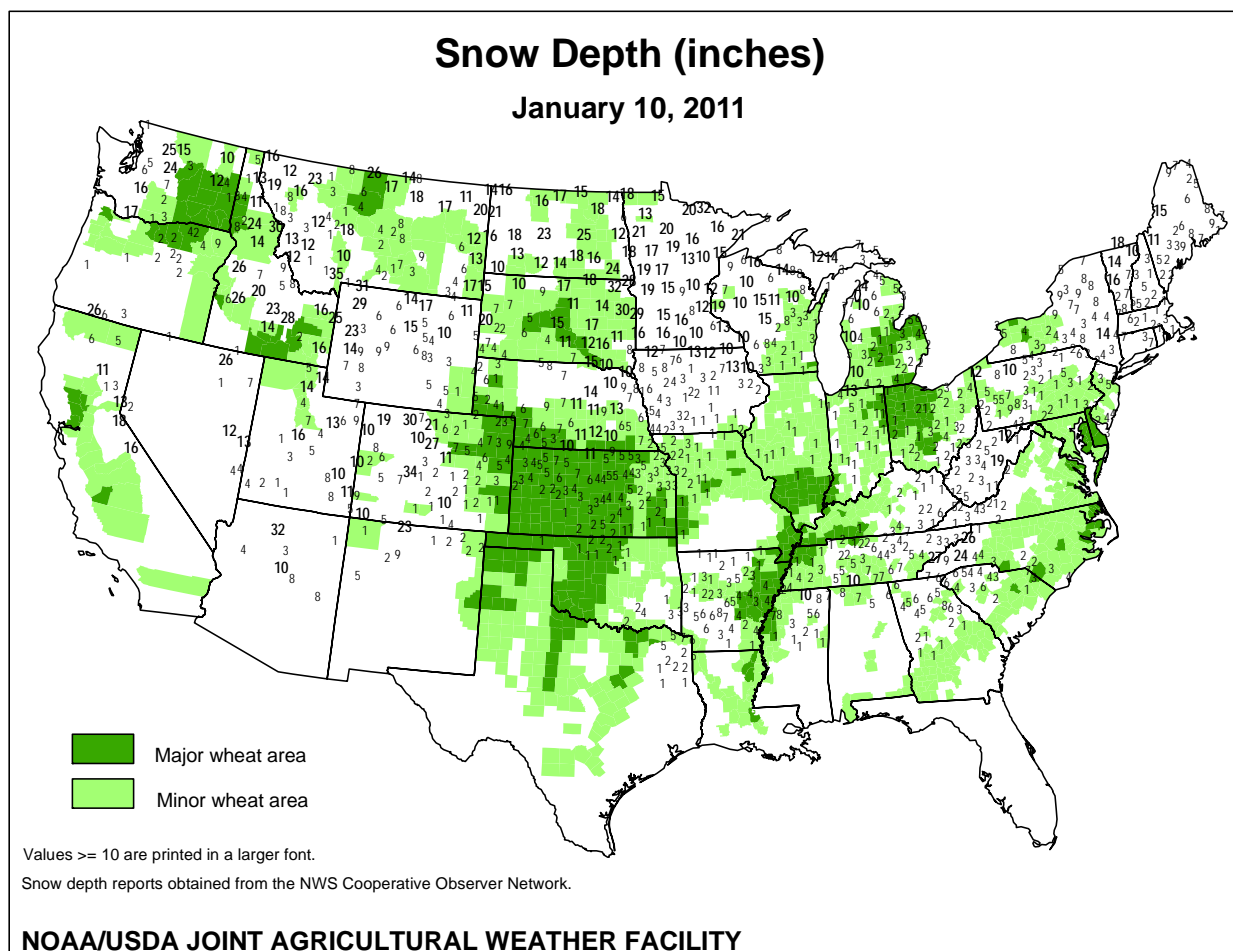
Temperatures in the central United States were above average, while most areas west of the Rocky Mountains and east of the Mississippi River experienced colder-than-normal weather. Most notably, portions of the Intermountain West recorded temperatures more than 15 degrees F below normal. Much of the country was relatively dry during the week. Rainfall totaled as much as 1 to 2 inches in eastern Texas and along the Gulf Coast, helping to alleviate soil moisture shortages.

Warmer weather moved into Florida during the week, with average temperatures ranging from slightly below normal to a few degrees above normal. Soil moisture levels in some northern portions of the state allowed for minimal land preparation for spring row crops. In the Everglades region, sugarcane producers remained busy harvesting their remaining crop, while at the same time planting seed cane before supplies deteriorated. In the Hastings area, efforts to fumigate and irrigate potato fields were hampered due to extremely dry field conditions. Varying degrees of damage from earlier freezes became evident in vegetable fields across the state. Cabbage fields in central Florida were mostly unharmed, while some fields in the Hastings area

were replanted. Sweet corn supplies were too low to establish a market due to freezes.

In Texas, non-irrigated winter wheat in the Plains was negatively impacted by unusually dry conditions, while winter wheat and oats in parts of the Blacklands and Cross Timbers improved due to recent rainfall. Emergence of winter wheat in the Northern High Plains was delayed by cold weather and hard freezes. Cotton producers in the Plains and Trans-Pecos regions were busy preparing fields as conditions allowed. In South Texas, vegetable growers irrigated cabbage, onions, and spinach.

Small grain crops in California continued to emerge; however, recent rainfall left some fields saturated, causing yellowing and water stress. Abnormally cool weather in southern California led to slow growth in some hay fields. In the San Joaquin Valley, orchard growers harvested a variety of citrus crops at a slower-than-normal pace due to wet conditions. Similarly, cool, overcast weather has limited herbicide and insecticide applications. Vegetable producers were busy cultivating beds, fumigating, and applying pre-emergent herbicides as weather conditions permitted.



## January 6 ENSO Update

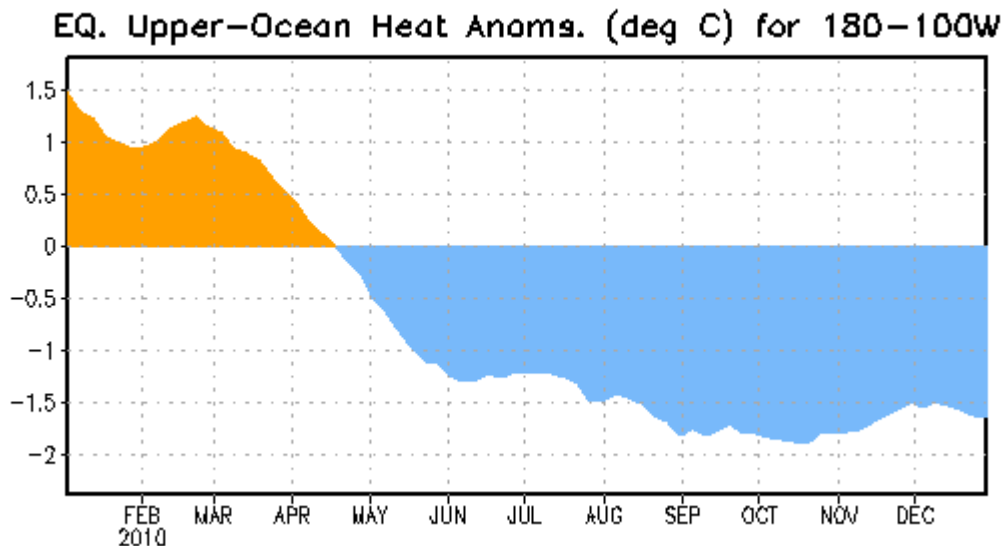


Figure 1: Area-averaged upper-ocean heat content anomalies (°C) in the equatorial Pacific (5°N-5°S, 180°-100°W). Heat content anomalies are computed as departures from the 1982-2004 base period weekly means.

### **Synopsis: La Niña is expected to continue well into the Northern Hemisphere spring 2011.**

A moderate-to-strong La Niña continued during December 2010 as reflected by well below-average sea surface temperatures (SSTs) across the equatorial Pacific Ocean. All of the Niño indices were  $-1.5^{\circ}\text{C}$  at the end of December, except for the easternmost Niño-1+2 region. The subsurface oceanic heat content (average temperatures in the upper 300m of the ocean) continued to reflect a large reservoir of below-average temperatures at depth in the central and eastern equatorial Pacific (Fig. 1). Convection remained enhanced over Indonesia and suppressed over the western and central equatorial Pacific. Also, enhanced low-level easterly trade winds and anomalous upper-level westerly winds continued over the equatorial Pacific. Collectively, these oceanic and atmospheric anomalies reflect the ongoing La Niña.

The current ENSO model forecasts have not changed significantly compared to last month. La Niña is currently near its peak and is expected to persist into the Northern Hemisphere spring 2011 at a lesser intensity. Thereafter, there remains considerable uncertainty as to whether La Niña will last into the Northern Hemisphere summer (as suggested by the NCEP CFS and a few other models), or whether there will be a transition to ENSO-neutral conditions (as suggested by the CPC CON and a majority of the other models).

Likely La Niña impacts during January-March 2011 include suppressed convection over the west-central tropical Pacific Ocean, and enhanced convection over Indonesia. Impacts in

the United States include an enhanced chance of above-average precipitation in the Pacific Northwest, Northern Rockies (along with a concomitant increase in snowfall), Great Lakes, and Ohio Valley. Below-average precipitation is favored across the southwestern and southeastern states. An increased chance of below-average temperatures is predicted for much of the West Coast and northern tier of states (excluding New England), and a higher possibility of above-average temperatures is forecast for much of the southern and central U.S. (see [3-month seasonal outlook](#) released on December 16<sup>th</sup>, 2010). While seasonal temperature and precipitation patterns in the U.S. are strongly influenced by La Niña, these signals can be modified by other factors, such as the Arctic Oscillation (AO)/ North Atlantic Oscillation (NAO).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site ([El Niño/La Niña Current Conditions and Expert Discussions](#)). Forecasts for the evolution of El Niño/La Niña are updated monthly in the [Forecast Forum](#) section of CPC's Climate Diagnostics Bulletin. The next ENSO Diagnostics Discussion is scheduled for 10 February 2011. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: [ncep.list.ens-update@noaa.gov](mailto:ncep.list.ens-update@noaa.gov).

## International Weather and Crop Summary

January 1-8, 2011

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

### HIGHLIGHTS

**EUROPE:** Rain melted some of the region's protective snow cover but boosted winter wheat prospects on the Iberian Peninsula.

**WESTERN FSU:** Additional snowfall maintained sufficient insulation for dormant winter crops in central and northern growing areas.

**MIDDLE EAST:** Rain and snow further eased drought and provided additional, much-needed soil moisture from southeastern Turkey into western Iran.

**NORTHWEST AFRICA:** Scattered showers maintained favorable soil moisture for winter grain establishment in Algeria and Tunisia.

**SOUTH ASIA:** Cold weather overspread the region, slowing crop development for wheat and rapeseed.

**EAST ASIA:** Colder- and drier-than-usual weather continued for overwintering crops.

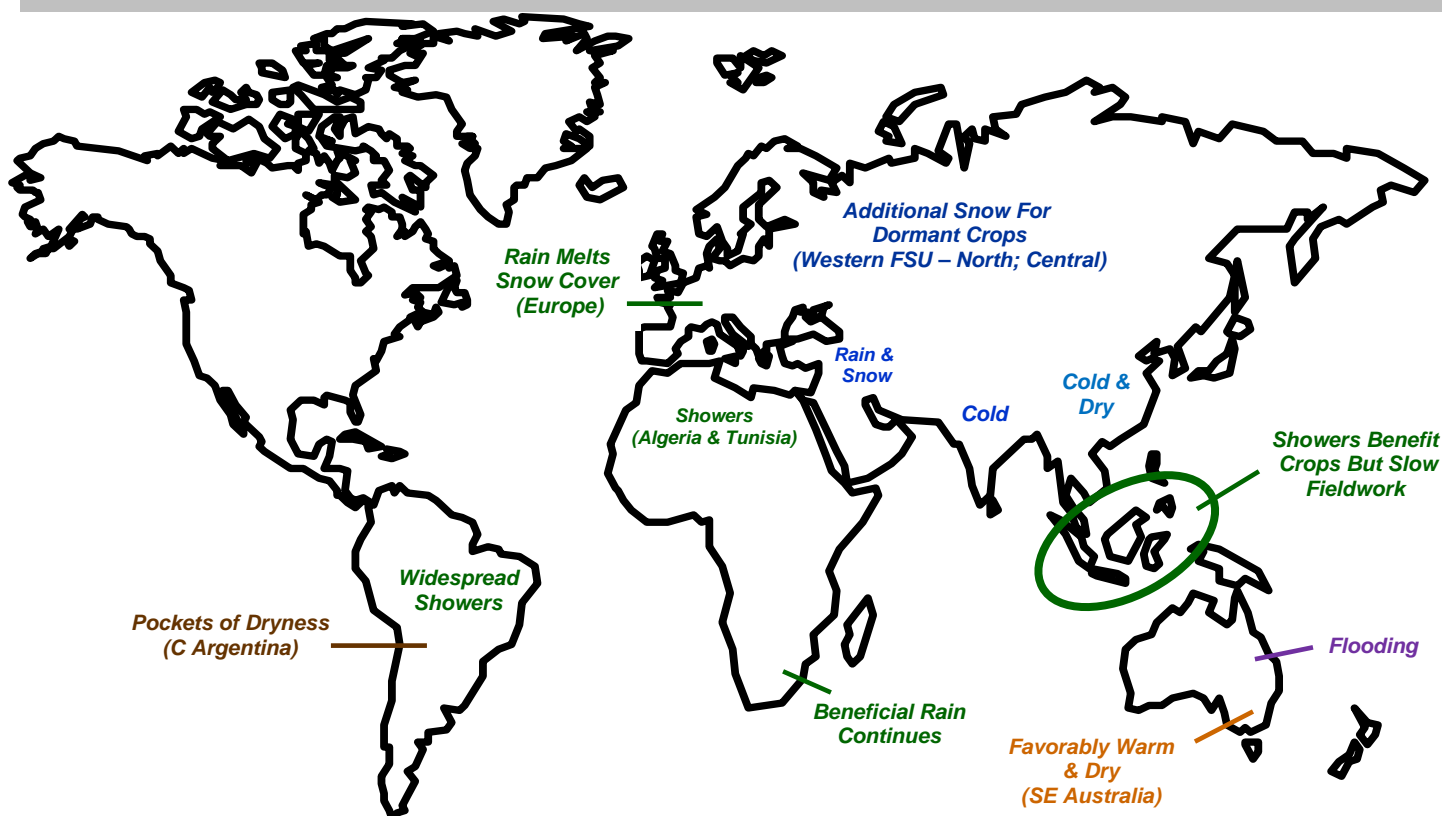
**SOUTHEAST ASIA:** Near- to above-normal rainfall continued across the region, benefiting crops but causing localized fieldwork delays.

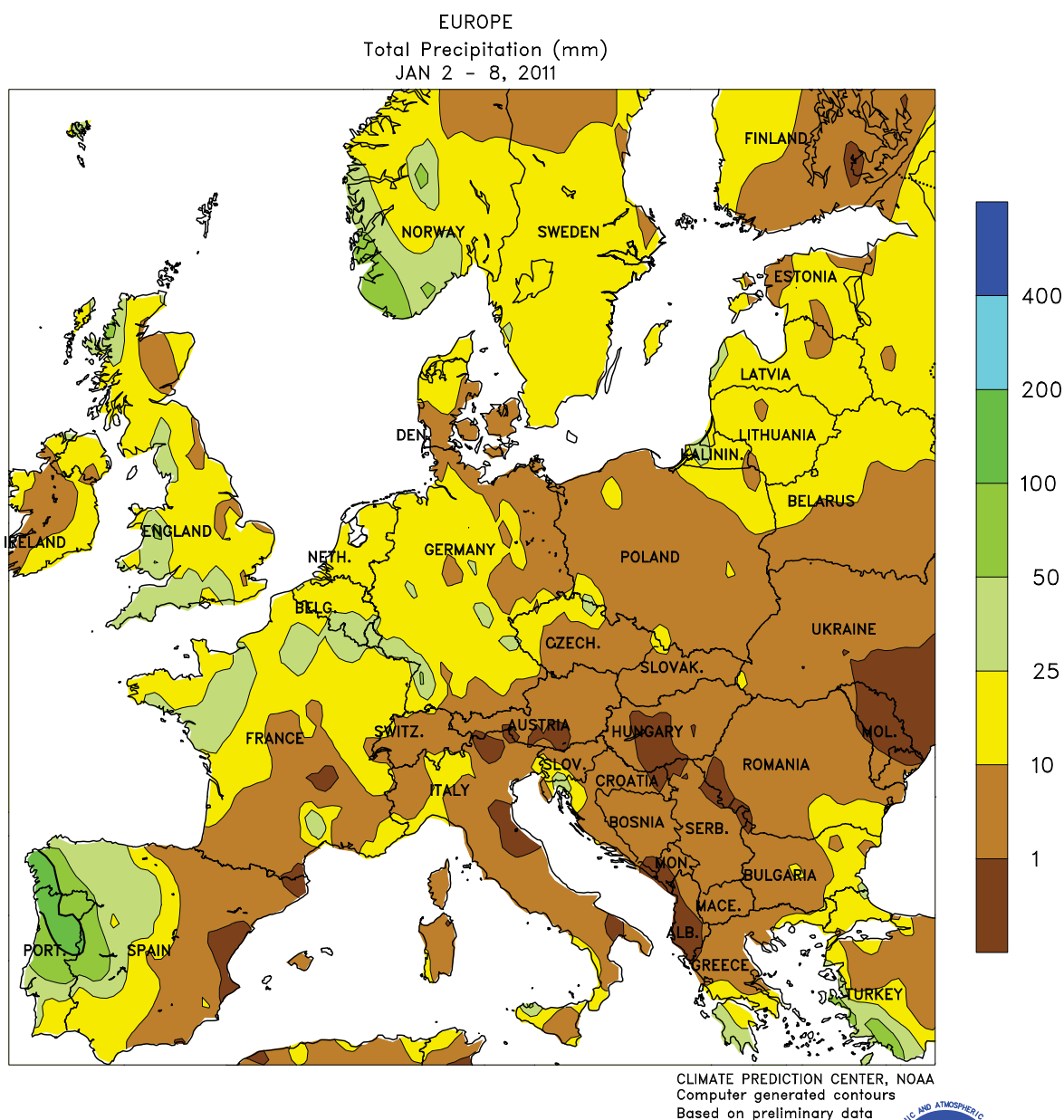
**AUSTRALIA:** Warm, dry weather favored rapid winter grain harvesting in southeastern Australia, while flooding rains continued to hamper fieldwork and crop development in Queensland.

**SOUTH AFRICA:** Beneficial rain continued throughout the region, favoring corn and other vegetative to reproductive summer crops.

**ARGENTINA:** Rain brought local relief from dryness, but dry pockets persisted in some traditionally high-yielding corn and soybean areas.

**BRAZIL:** Widespread, locally heavy showers maintained overall favorable conditions for soybeans, coffee, and other crops.

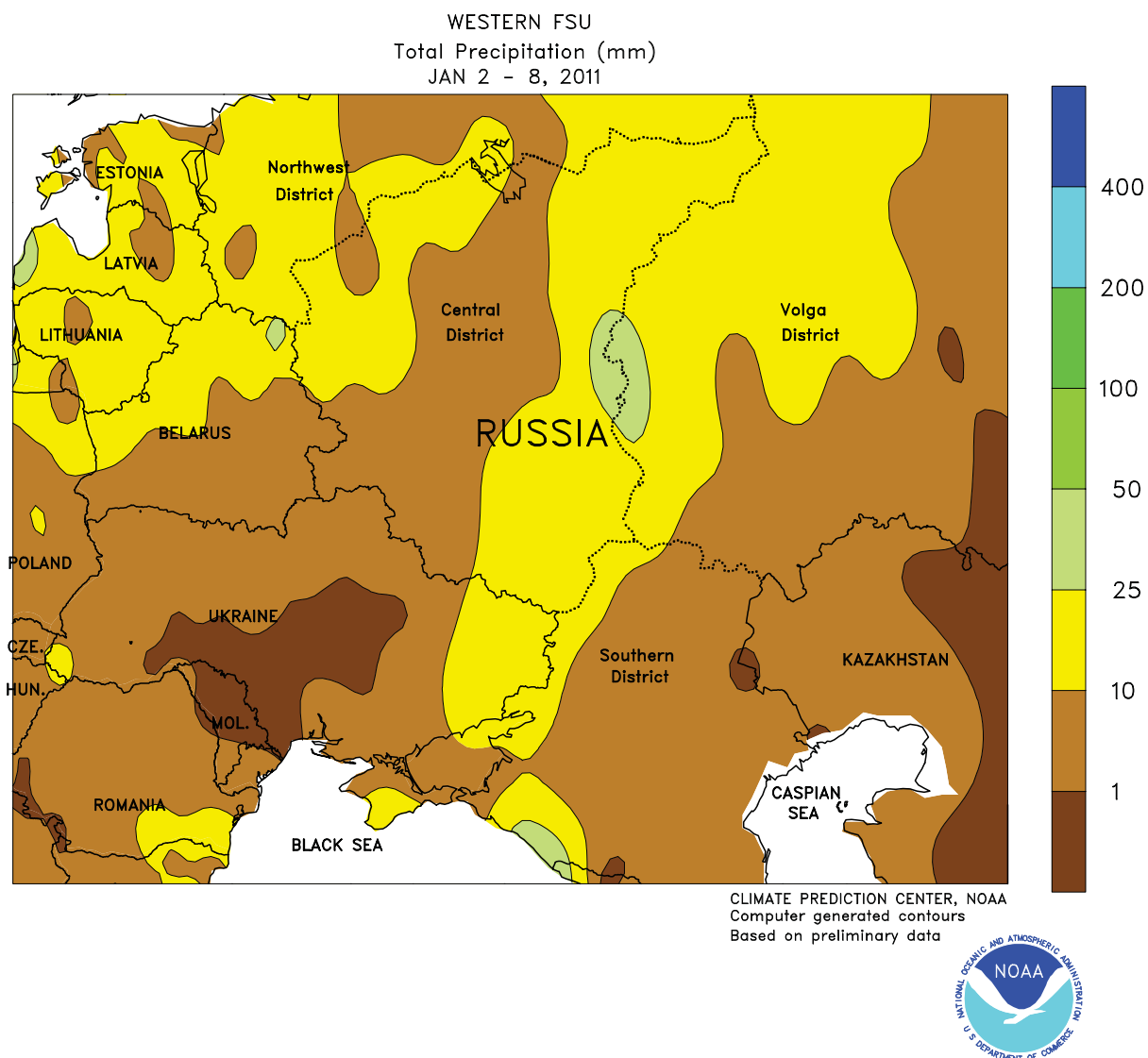




### EUROPE

Wet weather in central and western portions of the continent contrasted with seasonably cold, dry conditions across the east. A slow-moving cold front triggered widespread, locally heavy rain (10-115 mm) over much of the Iberian Peninsula, boosting irrigation reserves and soil moisture for vegetative winter wheat. Showers tallied 10 to 35 mm in England, northern France, and Germany, melting much of the region's protective snow cover. In Poland and the Baltic States, the precipitation

(2-10 mm) fell mostly as snow, although rain was reported by week's end as warmer air arrived from the south. Across the Balkans, dry, seasonably cold weather prevailed, maintaining favorable overwintering conditions for dormant grains and oilseeds. Meanwhile, mostly sunny skies in Italy promoted winter wheat development. Temperatures averaged up to 5 degrees C above normal in Spain, but were generally 1 to 2 degrees C below seasonal norms elsewhere in Europe.

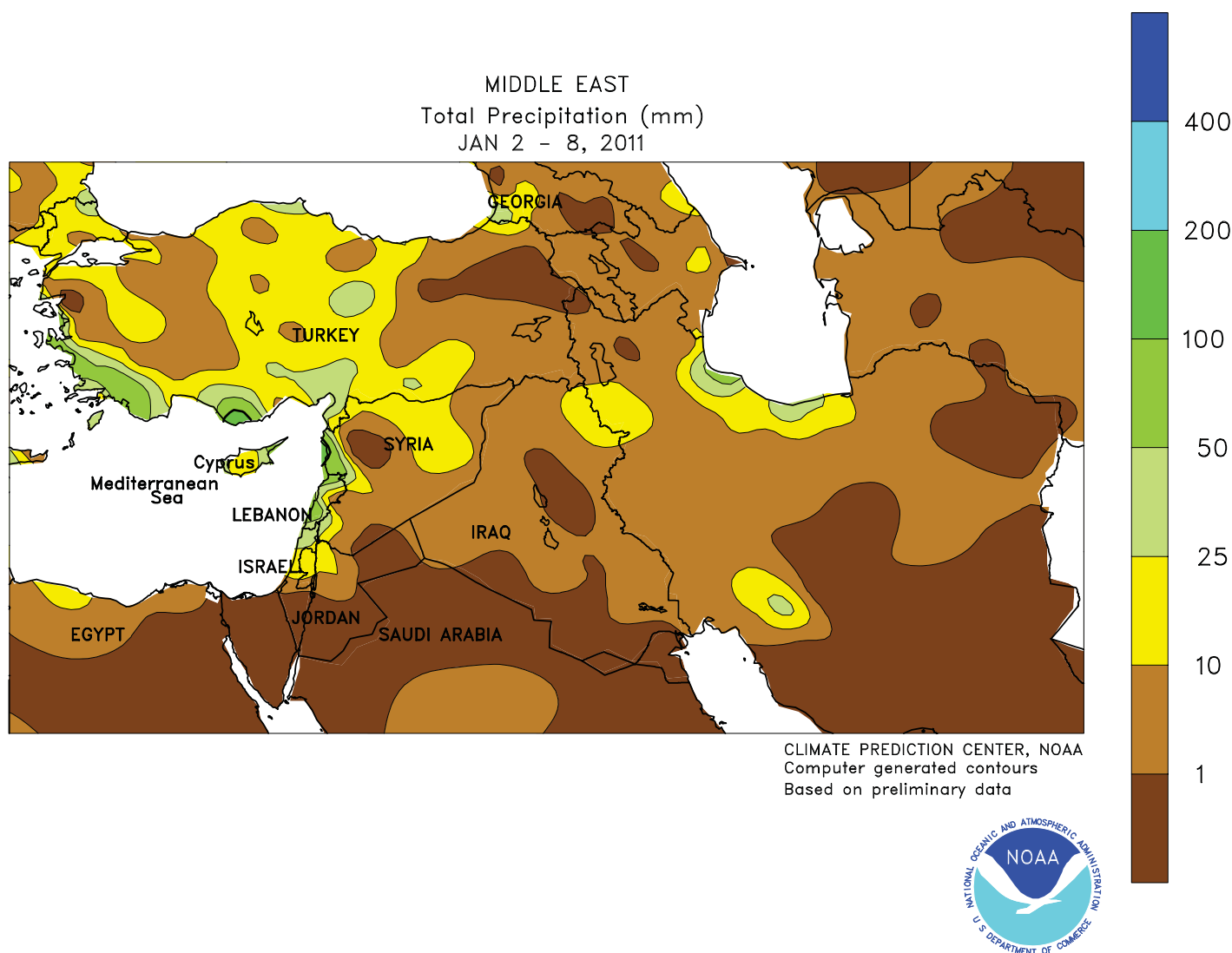


### WESTERN FSU

Unsettled, seasonably cold weather persisted over much of the region, although dry conditions lingered in the south. An area of low pressure and its attendant cold front produced widespread moderate to heavy snow (5-30 mm liquid equivalent) from Belarus into Russia's Volga District as well as eastern Ukraine and western- and northern-most portions of the Southern District. By week's end, snow depths exceeded

10 cm (locally more than 25 cm) across northern winter crop areas, while snow cover was shallower (2-10 cm) from central Ukraine into the northern Southern District. Temperatures averaged 2 to 4 degrees C below normal over western and northern crop districts, while warmer-than-normal conditions (2-4 degrees C above normal) prevailed in Russia's Southern District.

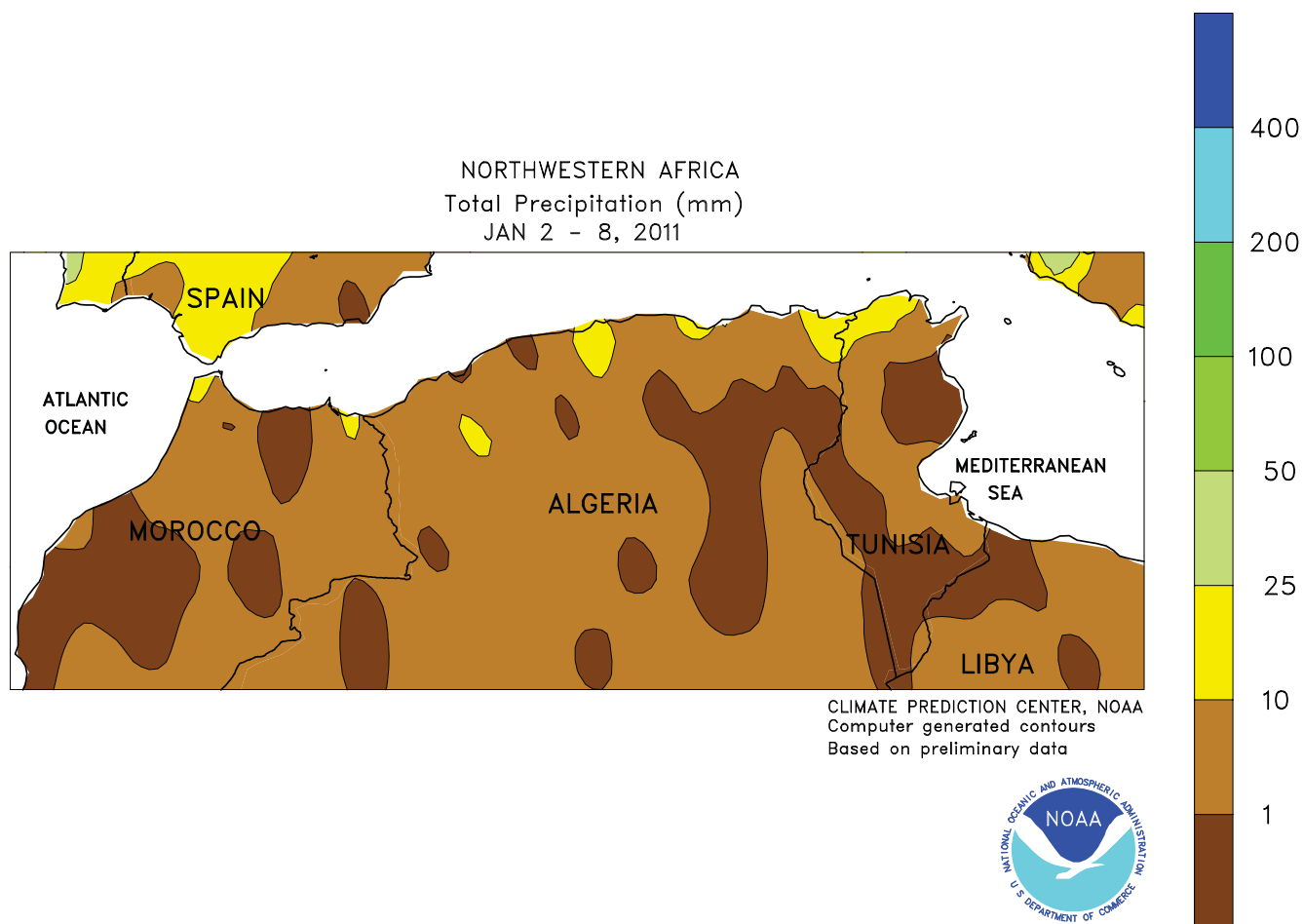




#### MIDDLE EAST

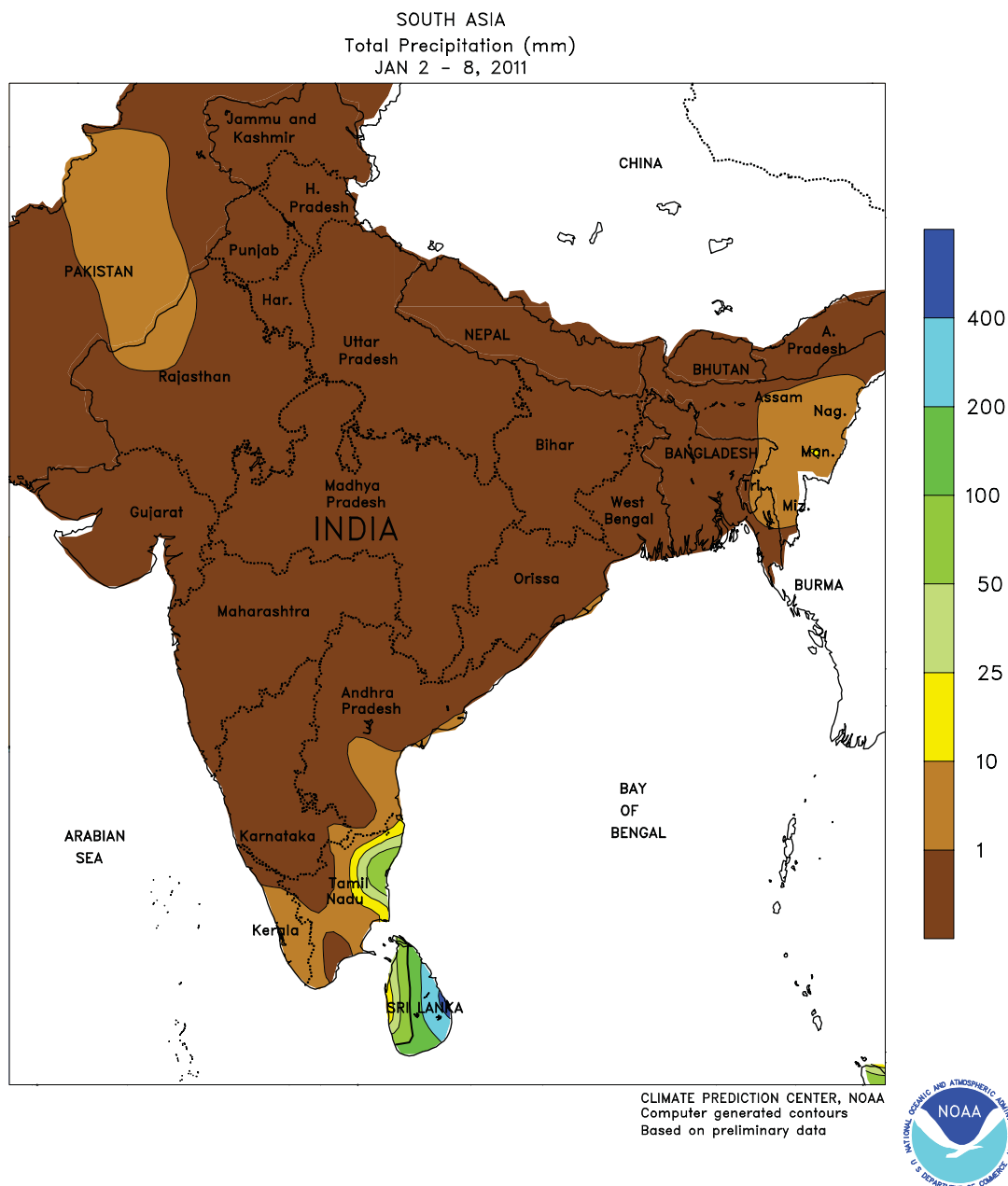
A slow-moving storm system provided additional relief from autumn drought, although unfavorable dryness lingered in eastern and northern portions of Iran. Precipitation, which fell as rain and mountain snow, totaled 10 to more than 40 mm across Turkey and the eastern Mediterranean region, easing the impacts of a drier-than-normal fall. Precipitation was lighter (2-15 mm liquid equivalent) from eastern Syria into western and north-

central Iran, but nevertheless provided additional, much-needed soil moisture for late winter crop establishment. Drought persisted, however, in northwestern and eastern Iran, limiting soil moisture for winter crop establishment. Temperatures up to 5 degrees C above normal fostered additional crop growth in central and western Iran, while colder-than-normal conditions (1-2 degrees C below normal) were confined to western Turkey.

**NORTHWESTERN AFRICA**

Drier conditions in western portions of the region contrasted with unsettled weather elsewhere. In Morocco, sunny skies promoted winter grain development after several weeks of rainy weather. Scattered, mostly light showers (2-10 mm)

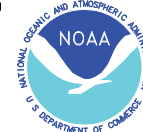
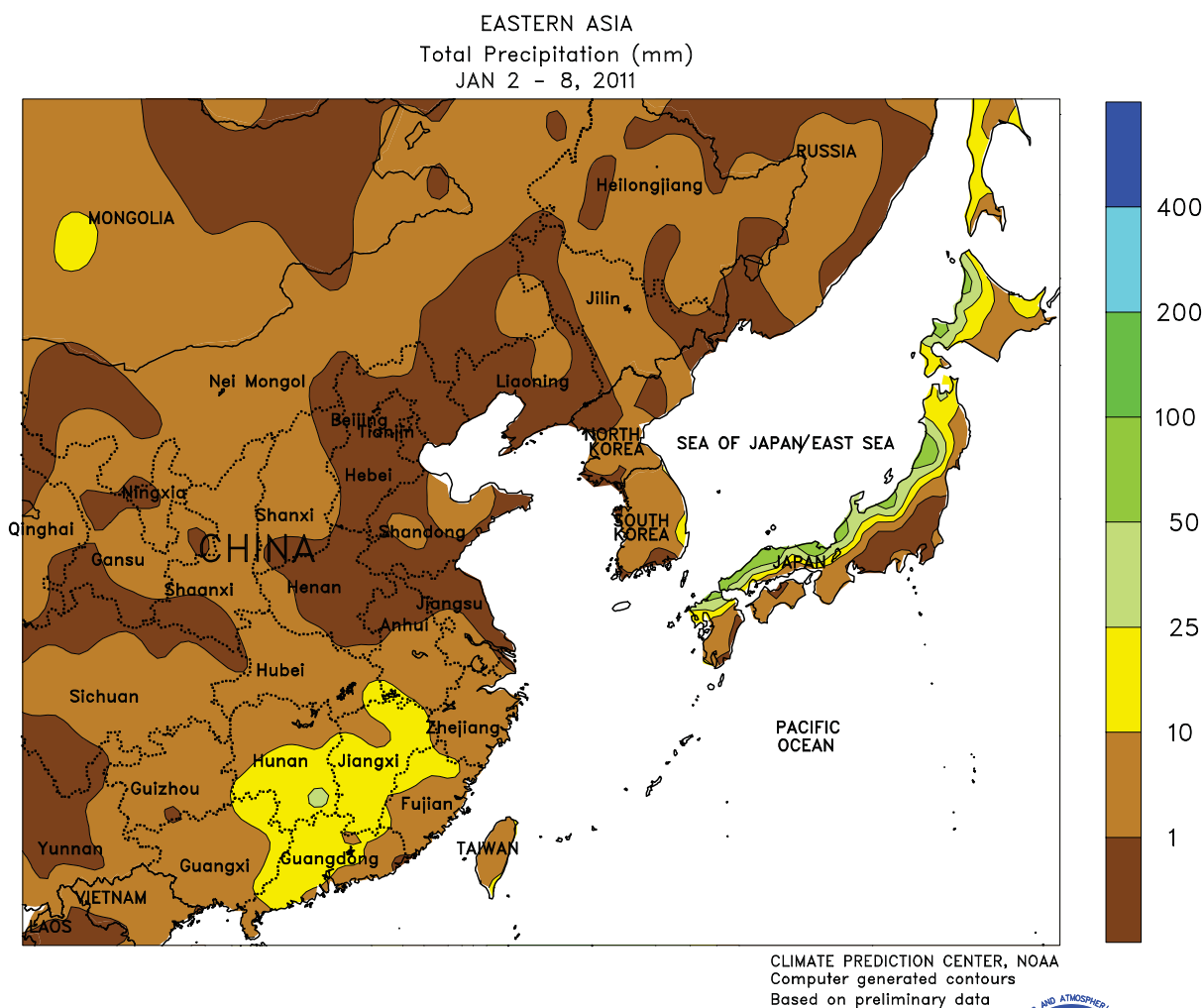
maintained adequate to abundant soil moisture for winter crops in Algeria and Tunisia. Temperatures averaged 2 to 4 degrees C above normal, with no hard freezes or untimely heat reported.



### SOUTH ASIA

Dry weather prevailed for most winter crops in Pakistan and India. Despite the lack of rainfall, moisture reserves and irrigation supplies were adequate to ensure normal crop development. In addition, colder weather overspread the

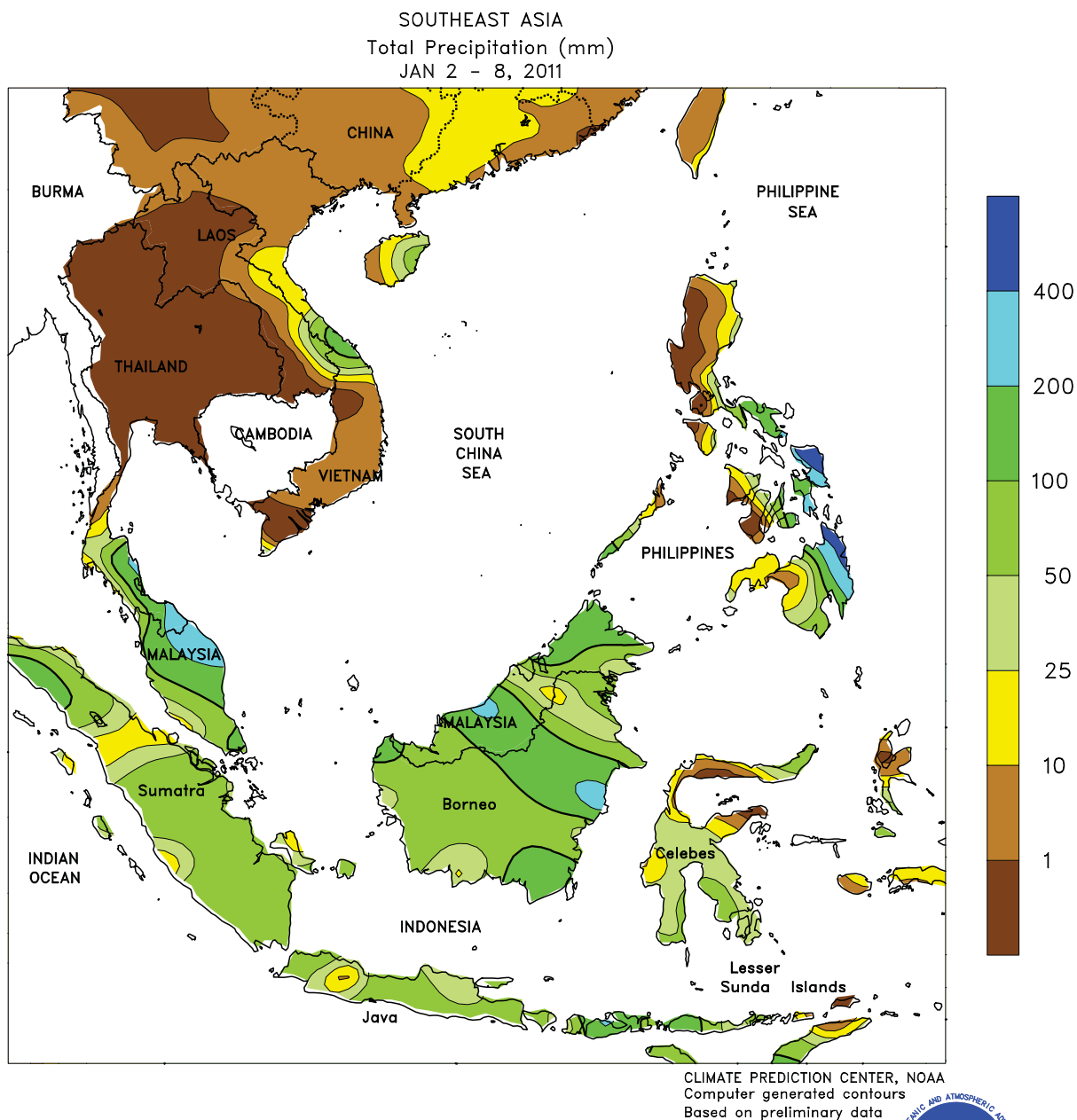
region, dropping average temperatures to the single digits (3-5 degrees C below normal) in wheat and rapeseed areas. The lower temperatures slowed vegetative growth but did not induce dormancy in the crops.



### EASTERN ASIA

Mostly dry conditions prevailed across winter wheat and winter rapeseed areas of China. Light rain and some occasional snow (less than 10 mm liquid equivalent) fell in the southern Yangtze Valley, while higher amounts of rainfall (10-25 mm) in southeastern China added to moisture reserves for

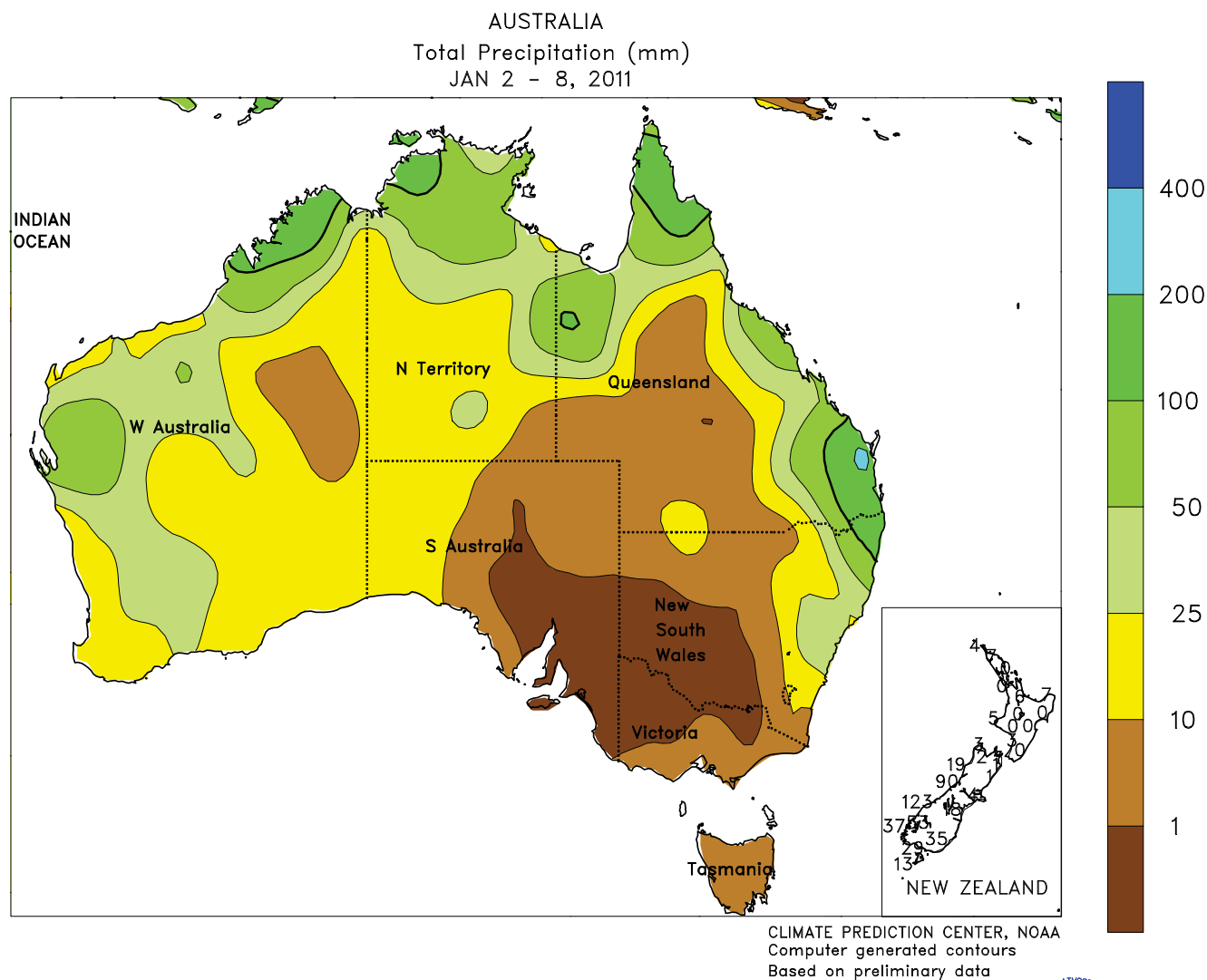
winter crops. Meanwhile, colder-than-usual weather slowed sugarcane development in the south as minimum temperatures approached freezing. Farther north, frigid weather had little impact on dormant wheat and rapeseed despite minimum temperatures locally approaching -15 degrees C.



### SOUTHEAST ASIA

In Vietnam, seasonably light showers (less than 10 mm) continued to supplement moisture supplies for spring rice. The moisture was especially beneficial in the Red River Delta where spring rice transplanting accelerated. Above-normal rainfall prevailed throughout much of the eastern and southern Philippines, benefiting rice and corn. Rainfall was light (less than 25 mm), however, in most of Luzon but irrigation

supplies remained favorable. In Malaysia, persistent, heavy showers (over 100 mm) slowed oil palm harvesting and raised concerns over reduced production. More seasonable rainfall (50-100 mm) occurred in Indonesia, maintaining good soil moisture for oil palm and limiting harvest delays. Similar rainfall amounts in Java, Indonesia, kept soil moisture adequate to abundant for rice.



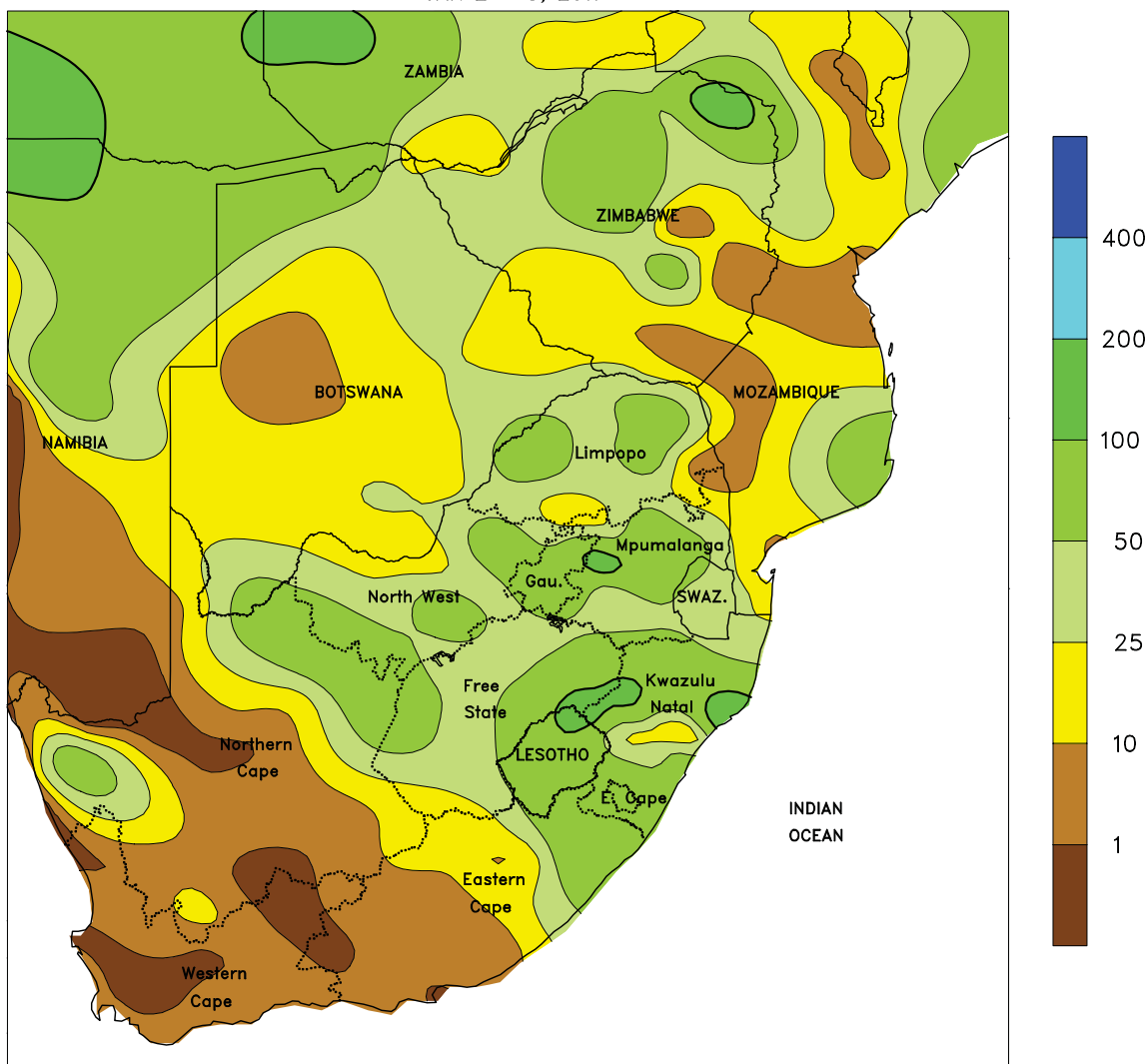
### AUSTRALIA

Persistent rains (20-100 mm or more) exacerbated flooding in central and southern Queensland, allowing swollen rivers to slowly recede and causing locally severe flooding. The recent rains have submerged some summer crops and prevented most fieldwork, including final winter wheat harvesting. Nevertheless, the rain maintained abundant soil moisture for dryland summer crops nearing reproduction. In northern New South Wales, soaking rains (10-75 mm) favored cotton and sorghum development but delayed fieldwork. Most of northern New South Wales has escaped

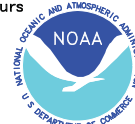
the recent flooding, with the exception of a few rivers that originate in southern Queensland. Farther south, warm, dry weather continued to favor rapid winter grain harvesting in southeastern Australia. Elsewhere, scattered showers (10-30 mm) overspread Western Australia, but most winter grains and oilseeds have been harvested in this area. Temperatures in western and southern Australia averaged about 1 to 2 degrees C above normal, while in eastern Australia temperatures averaged about 1 to 3 degrees C below normal.



SOUTH AFRICA  
Total Precipitation (mm)  
JAN 2 - 8, 2011



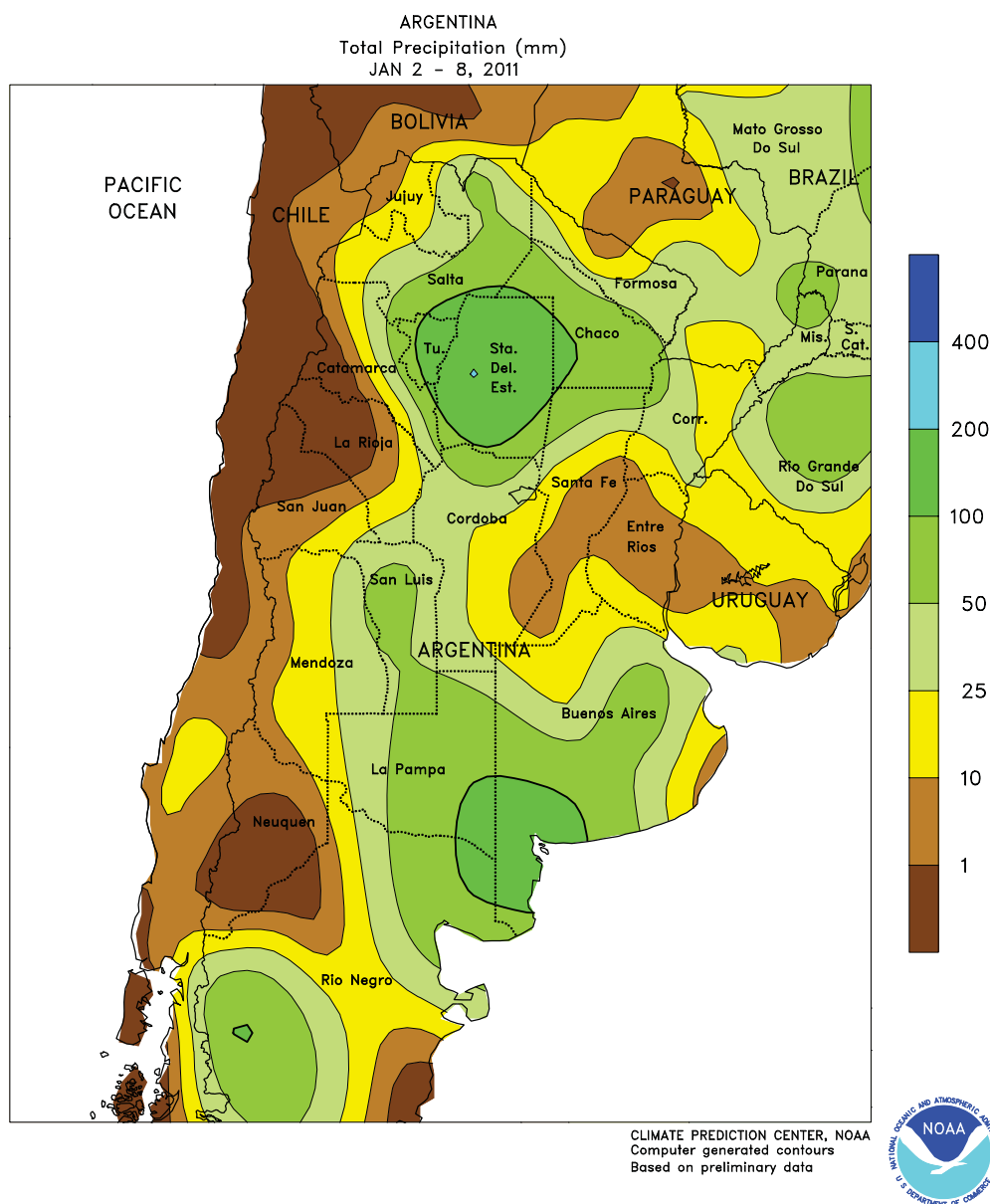
CLIMATE PREDICTION CENTER, NOAA  
Computer generated contours  
Based on preliminary data



### SOUTH AFRICA

Mild, showery weather maintained mostly favorable conditions for corn and other summer crops throughout the country's main commercial production areas. Rainfall was near to above normal across the corn belt, with much of the east (Mpumalanga, Gauteng, eastern Free State, and northwestern KwaZulu-Natal) receiving more than 50 mm. Summer crops in these areas are likely in or nearing reproduction, making the continuation of beneficial rainfall particularly favorable. Lower amounts (10-25 mm or more) were recorded farther west (central Free State and Northwest), benefiting traditionally later-planted crops currently in vegetative stages of development. Meanwhile, average temperatures were near

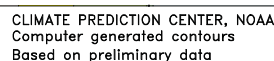
to below normal, with highs only briefly reaching the upper 20s degrees C. Elsewhere, beneficial rain (25-50 mm or more) and seasonable warmth (highs in the middle and upper 20s degrees C on most days) further improved prospects of sugarcane and other crops in KwaZulu-Natal and nearby locations of Eastern Cape. Unseasonable rain (locally exceeding 50 mm) also continued in eastern sections of Northern Cape, boosting irrigation for cotton and corn, although the area of coverage was smaller than last week. In Western Cape, temperatures exceeded 40 degrees C during a large part of the week, likely stressing some livestock and irrigated tree and vine crops.



### ARGENTINA

Wetter, seasonably milder weather brought some relief to summer grains and oilseeds throughout much of central Argentina. The heaviest rain (50-100 mm or more) was recorded in La Pampa and southwestern Buenos Aires, providing timely moisture for planting second-crop soybeans, although disruptions in the wheat harvest were likely. Scattered showers (5-25 mm or more) were recorded farther north, but rainfall continued to be patchy in southern Santa Fe and other locations. Consequently, although temperatures fell to more seasonable levels with the region-wide rains, daytime highs tended to be several degrees higher (middle 30s degrees C) at

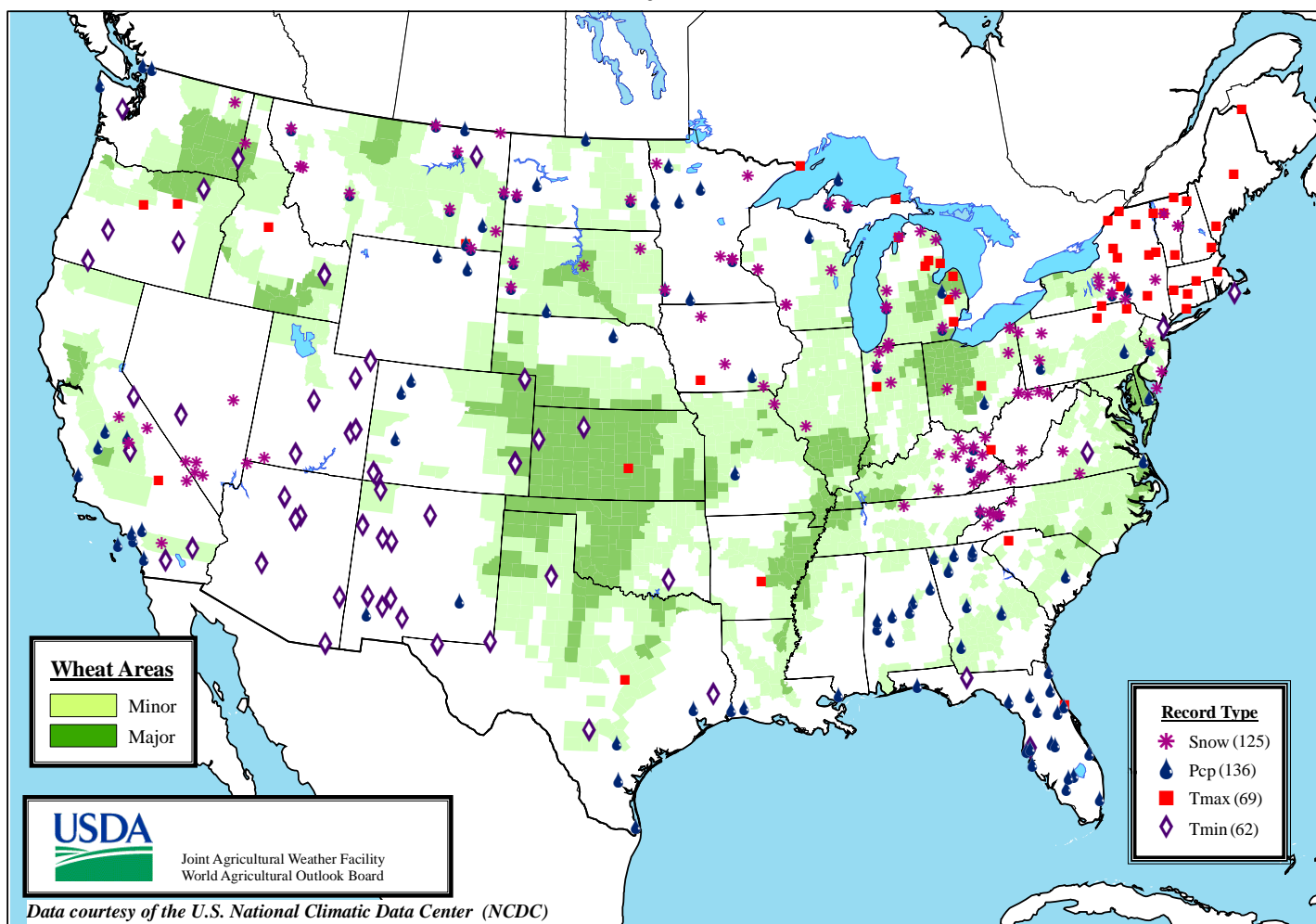
week's end in the drier areas. A return to more seasonable rainfall and temperatures is needed to prevent potentially significant declines in yields as corn and other crops advance through reproduction. Farther north, unseasonably heavy rain (50-100 mm, locally exceeding 200 mm) provided abundant rainfall for pastures and summer crops, including cotton, but some local flooding was possible. The rain will also help northern farmers to finish planting summer grains and oilseeds after earlier delays were reported from dryness. As in central Argentina, the rain brought cooler weather, with highs only briefly reaching the upper 30s degrees C.



impeding seasonal fieldwork, including preventative treatments of pests and diseases. In contrast, the rain in southern Brazil (Parana, Santa Catarina, and Rio Grande do Sul) was closer to normal levels and timely following a brief dry spell. Meanwhile, seasonal dryness along the northeastern coast supported sugarcane harvesting and other fieldwork. Temperatures throughout the region were generally seasonable, with highs in the lower and middle 30s degrees C, even in traditionally warmer locations in Brazil's central and northeastern interior.

# Daily Weather Records (ASOS & COOP)

## January 2-8, 2011



The *Weekly Weather and Crop Bulletin* (ISSN 0043-1974) is 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. The contents may be redistributed freely with proper credit.

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The *Weekly Weather and Crop Bulletin* and archives are maintained on the following USDA Internet URL:

<http://www.usda.gov/oce/weather/pubs/Weekly/Wwcb/index.htm>

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