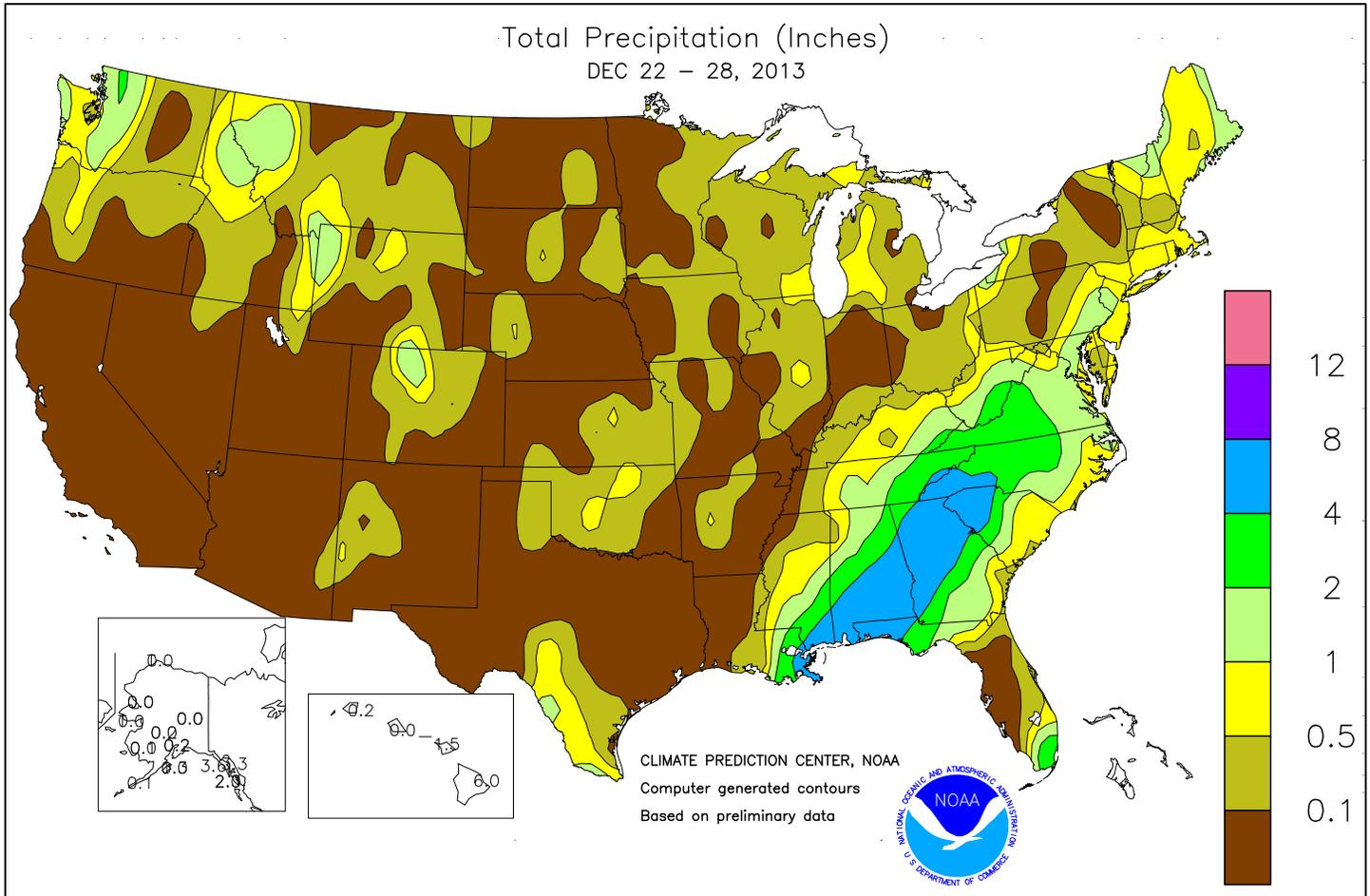


# WEEKLY WEATHER AND CROP BULLETIN



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



## HIGHLIGHTS

### December 22-28, 2013

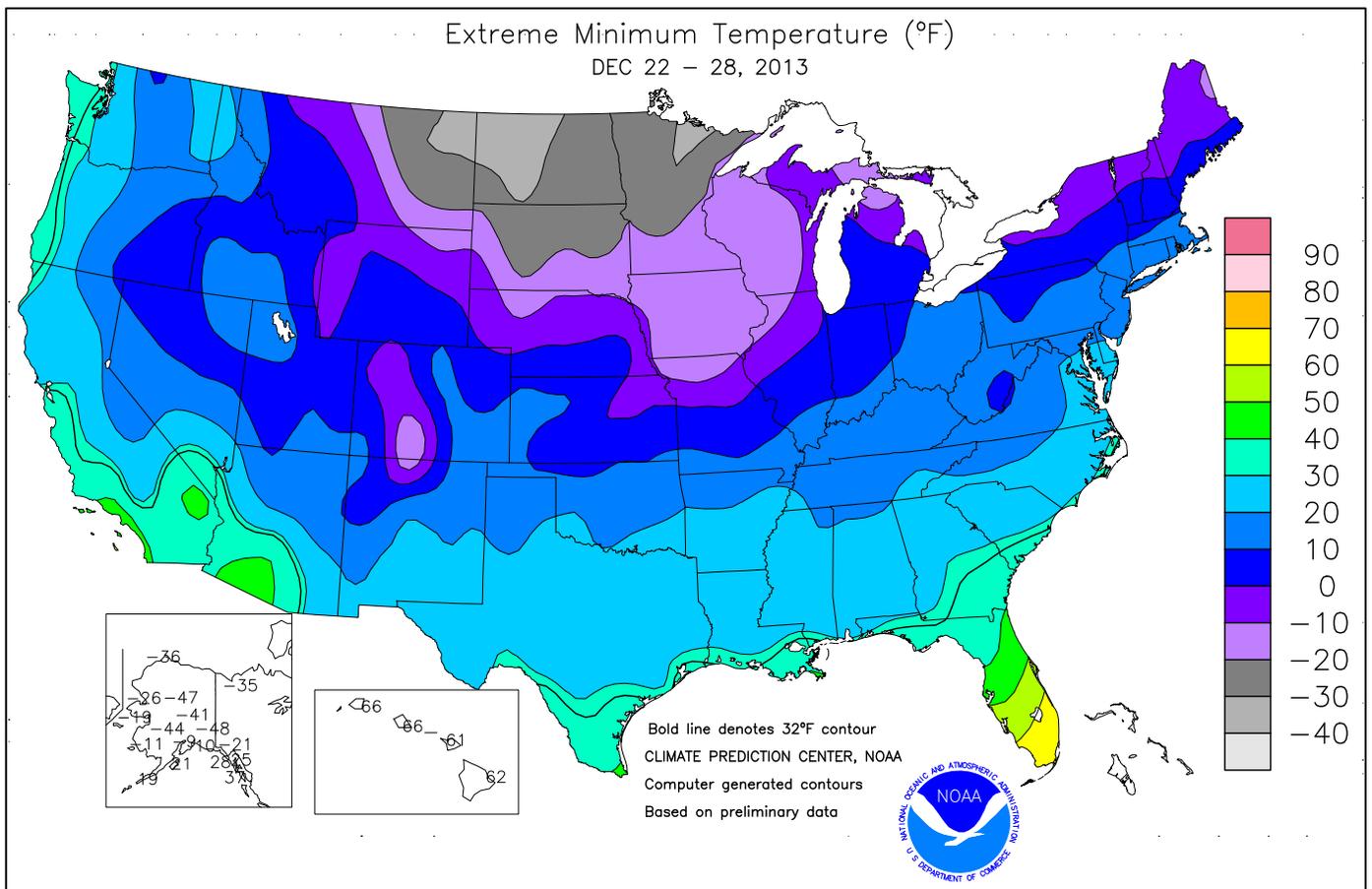
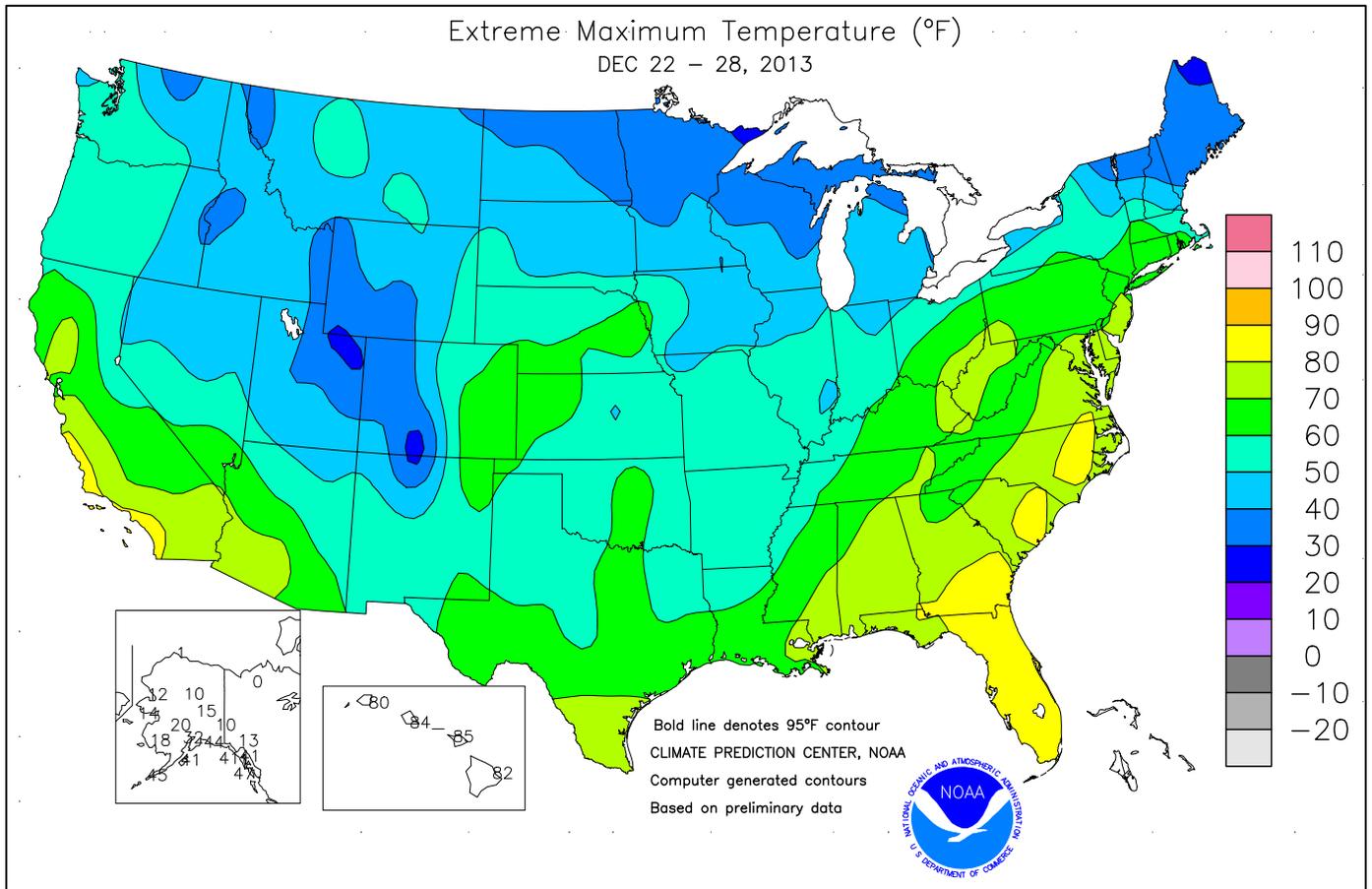
Highlights provided by USDA/WAOB

As the week began, wintry precipitation persisted from the **Great Lakes region into New England**. Ice accumulations, due to freezing rain, were particularly disruptive in parts of **Michigan** and **northern New England**. At the height of the storm, nearly a half-million customers in **Michigan** and **Maine** were left without electricity. Meanwhile in the **Southeast**, rain fell early in the week and again on December 28-29. The two-storm combination produced more than 4 inches of rain from the **Gulf Coast of Mississippi, Alabama, and western**

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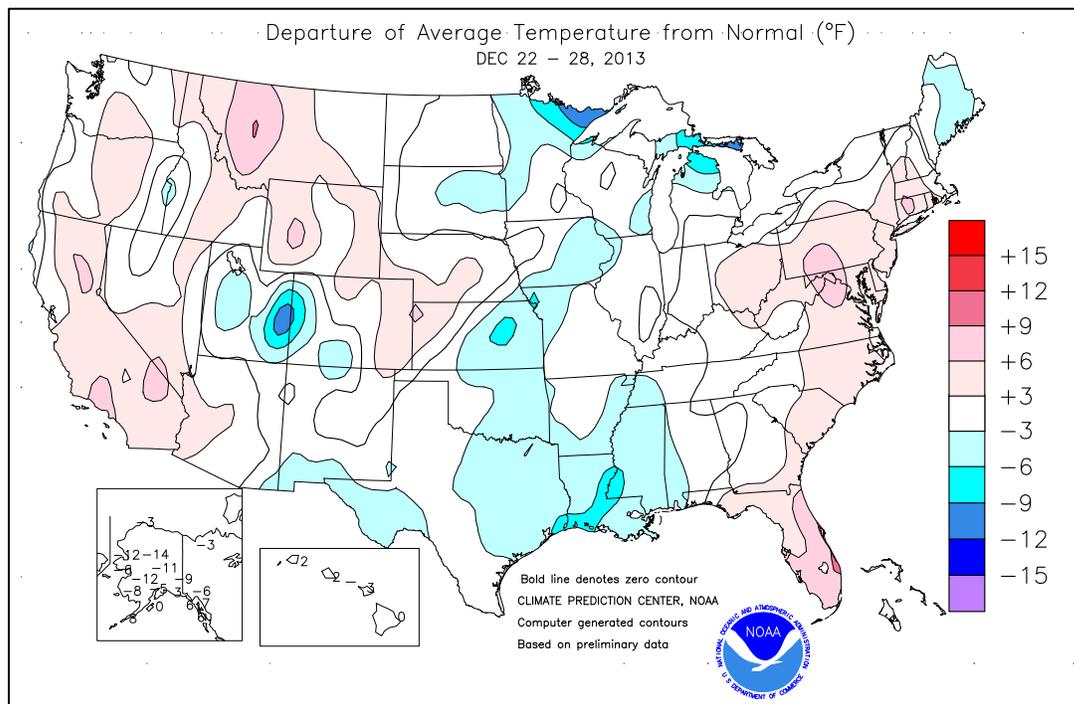
(Continued from front cover)

**Florida into the southern Appalachians.** A broader area of the eastern U.S. received at least an inch of precipitation. However, significant precipitation largely bypassed **Florida's peninsula** and the **northern Mid-Atlantic States**. Generally dry weather covered the remainder of the country, except for some pesky, late-week showers in **southern Texas** and occasional rain and snow showers from the **Pacific Northwest to the northern and central Rockies**. Still, cold-season precipitation has been a disappointment in parts of the **West**, particularly in areas—such as **California** and the **Great Basin**—moving deeper into a potential third consecutive year of drought. For example, the average water content of the

high-elevation **Sierra Nevada** snow pack—2 inches—was less than one-quarter of the late-December normal. Elsewhere, bitterly cold air lurked across the **northern Plains** and **upper Midwest**, especially on December 23-24, when temperatures locally plunged below  $-30^{\circ}\text{F}$ . On those dates, readings dipped below  $0^{\circ}\text{F}$  as far south as **northeastern Kansas** and **northern Missouri**. The nation's winter agricultural belt did not experience a freeze, although citrus producers in **California's San Joaquin Valley** continued to evaluate the effects of the early-December cold wave.

Record-setting warmth continued in the **East** through December 22. On that date, December records were tied or broken in locations such as **Jacksonville, FL** ( $84^{\circ}\text{F}$ ); **Savannah, GA** ( $83^{\circ}\text{F}$ ); **Norfolk, VA** ( $81^{\circ}\text{F}$ ); and **Salisbury, MD** ( $77^{\circ}\text{F}$ ). Meanwhile, high temperatures topped  $60^{\circ}\text{F}$  as far north as **southern New England** and exceeded  $70^{\circ}\text{F}$  in parts of the **northern Mid-Atlantic region**. Warmth lingered through December 23 along the **southern Atlantic Coast**, where daily-record highs included  $86^{\circ}\text{F}$  in **Melbourne, FL**, and  $82^{\circ}\text{F}$  in **Charleston, SC**. In stark contrast, bitterly cold air invaded the **northern Plains** and **upper Midwest**. **International Falls, MN**, posted consecutive lows of  $-34^{\circ}\text{F}$  on December 23-24. On Christmas Eve, December 24, **Midwestern** daily-record lows included  $-24^{\circ}\text{F}$  in **Pellston, MI**, and  $-19^{\circ}\text{F}$  in **Ottumwa, IA**. Within a few days, however, temperatures rebounded across the **nation's mid-section**. By December 27, daily-record highs in **Nebraska** reached  $62^{\circ}\text{F}$  in **Lincoln** and  $61^{\circ}\text{F}$  in **Omaha**. On December 28, daily-record highs surged to  $47^{\circ}\text{F}$  in **Minneapolis-St. Paul, MN**, and  $62^{\circ}\text{F}$  in **Sioux City, IA**; **Norfolk, NE**; and **Colorado Springs, CO**. Farther west, mild weather dominated the **Pacific Coast States**. **Red Bluff, CA**, notched a daily-record high ( $74^{\circ}\text{F}$ ) for December 22. The following day, **Northwestern** records for December 23 included  $57^{\circ}\text{F}$  in **The Dalles, OR**, and  $56^{\circ}\text{F}$  in **Yakima, WA**. During the mid- to late-week period, warmth intensified across much of **California**. For example, daily-record highs for December 26 soared to  $80^{\circ}\text{F}$  in **Laguna Beach** and  $80^{\circ}\text{F}$  in **Salinas**. **Long Beach, CA**, registered a trio of daily-record highs ( $83, 83,$  and  $84^{\circ}\text{F}$ ) from December 25-27.

Early in the week, snow and freezing rain spread from the **Great**

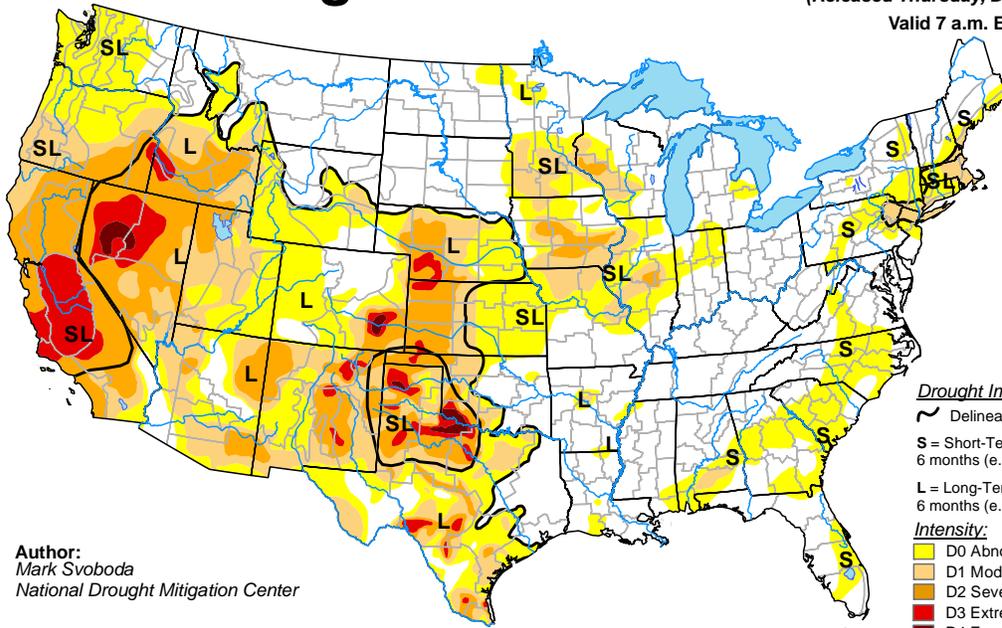


**Lakes States into northern New England.** Daily-record snowfall totals for December 22 included 8.0 inches in **Milwaukee, WI**; 6.0 inches in **Green Bay, WI**; 5.0 inches in **Rockford, IL**; and 3.5 inches in **Houghton Lake, MI**. Just to the southeast of the heaviest band of snow, freezing rain glazed areas from **Michigan to Maine**. Elsewhere, heavy rain continued to drench the **Southeast**, while snow fell in the **northern Rockies** and neighboring areas. With a 5.19-inch deluge on December 22, **Montgomery, AL**, experienced its wettest December day on record (previously, 4.78 inches on December 9, 1919). Daily-record amounts for December 22 included 3.10 inches in **Columbus, GA**, and 2.80 inches in **Asheville, NC**. Farther north, **Caribou, ME**, received 5.8 inches of snow of December 22—part of a record-setting stretch with measurable snow on 13 consecutive days (previously, 9 days in a row in February 1960 and January 1991). During the 13-day streak, from December 15-27, **Caribou's** snow depth increased from 1 to 20 inches due to 36.2 inches of fresh snow. Snow squalls lingered for several days downwind of the **Great Lakes**, with **Houghton Lake** reporting a daily-record amount (4.5 inches) for Christmas Day. During the second half of the week, lingering precipitation was confined to the **Deep South** and the **nation's northern tier**. On December 26, daily-record rainfall totals included 3.75 inches in **Miami, FL**, and 0.78 inch in **McAllen, TX**. Precipitation returned to the **Southeast** at week's end, with the bulk of the rain falling on December 29.

Cold, mostly dry weather across the **Alaskan mainland** contrasted with mild, wet conditions across the southern tier of the state. In the **Aleutians**, **Cold Bay** posted a daily-record high ( $45^{\circ}\text{F}$ )—its tenth of the month—on December 27. On the same date, the temperature in **McGrath** dipped to  $-44^{\circ}\text{F}$ . Meanwhile, weekly rainfall on **Annette Island** reached 6.38 inches, aided by a daily-record total (1.69 inches) on December 25. Similarly, 3.31 inches—including 7.9 inches of snow—fell during the week in **Juneau**, along with a daily-record total of 1.28 inches on December 22. Farther south, heavy showers dotted the **eastern half of Hawaii**, especially late in the week. On the **Big Island**, **Hilo's** weekly rainfall of 6.04 inches was boosted by a 4.71-inch total on December 27-28.

# U.S. Drought Monitor

December 17, 2013  
(Released Thursday, Dec. 19, 2013)  
Valid 7 a.m. EST

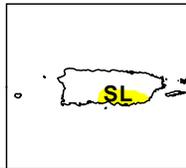
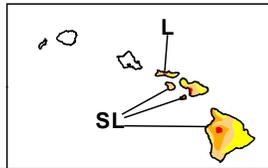
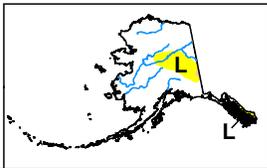


Author:  
Mark Svoboda  
National Drought Mitigation Center

**Drought Impact Types:**  
 ~ Delineates dominant impacts  
 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)  
 L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

**Intensity:**  
 Yellow: D0 Abnormally Dry  
 Light Orange: D1 Moderate Drought  
 Orange: D2 Severe Drought  
 Red: D3 Extreme Drought  
 Dark Red: D4 Exceptional Drought

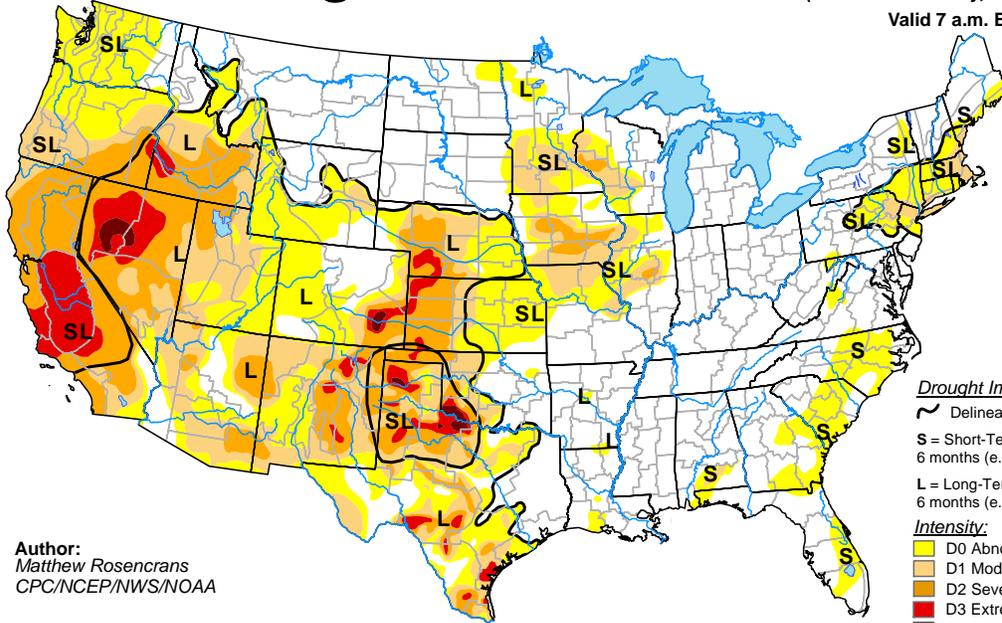
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

# U.S. Drought Monitor

December 24, 2013  
(Released Thursday, Dec. 26, 2013)  
Valid 7 a.m. EST

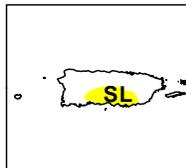
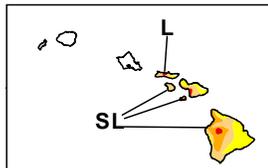
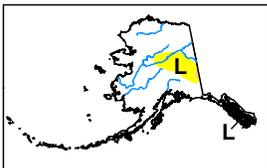


Author:  
Matthew Rosencrans  
CPC/NCEP/NWS/NOAA

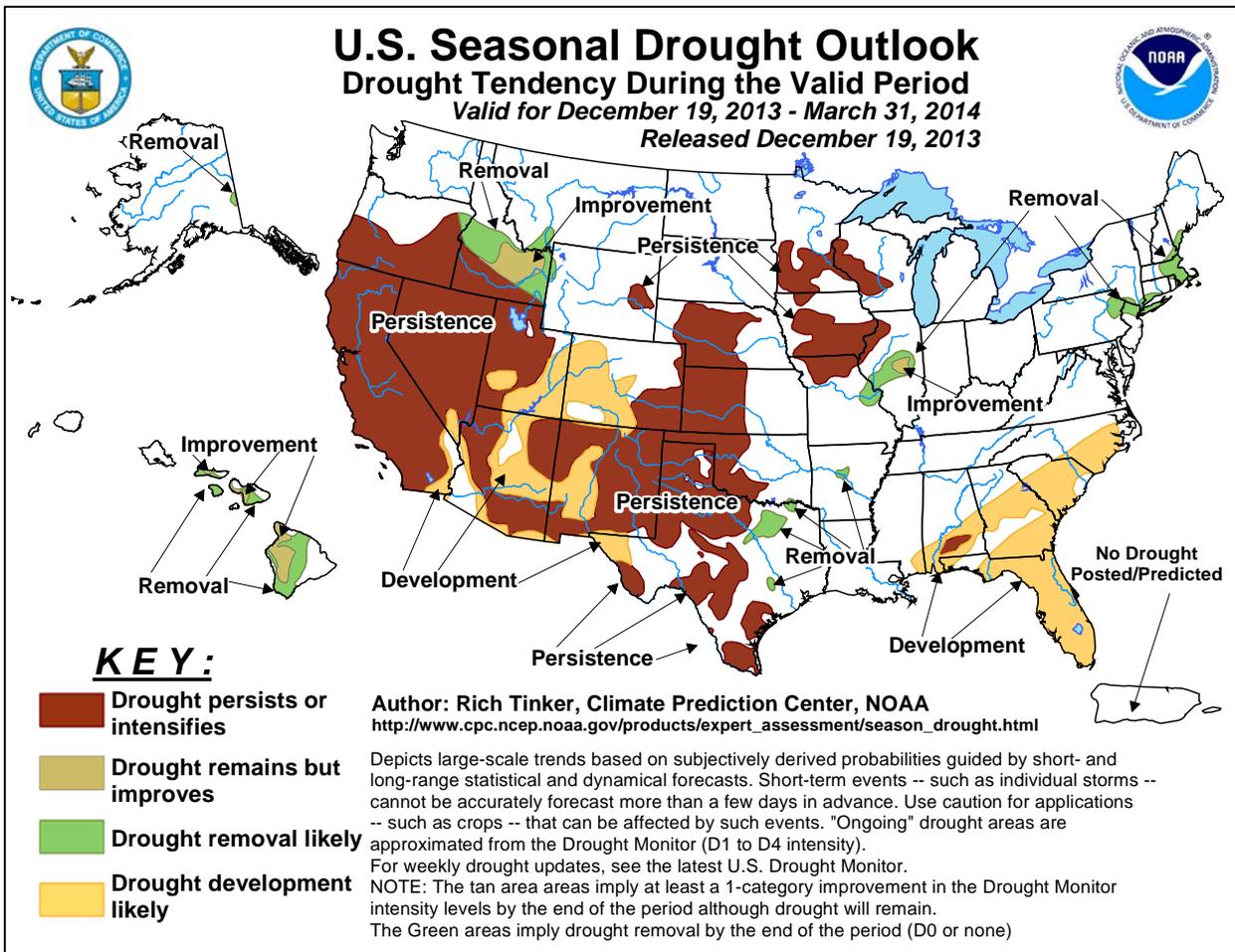
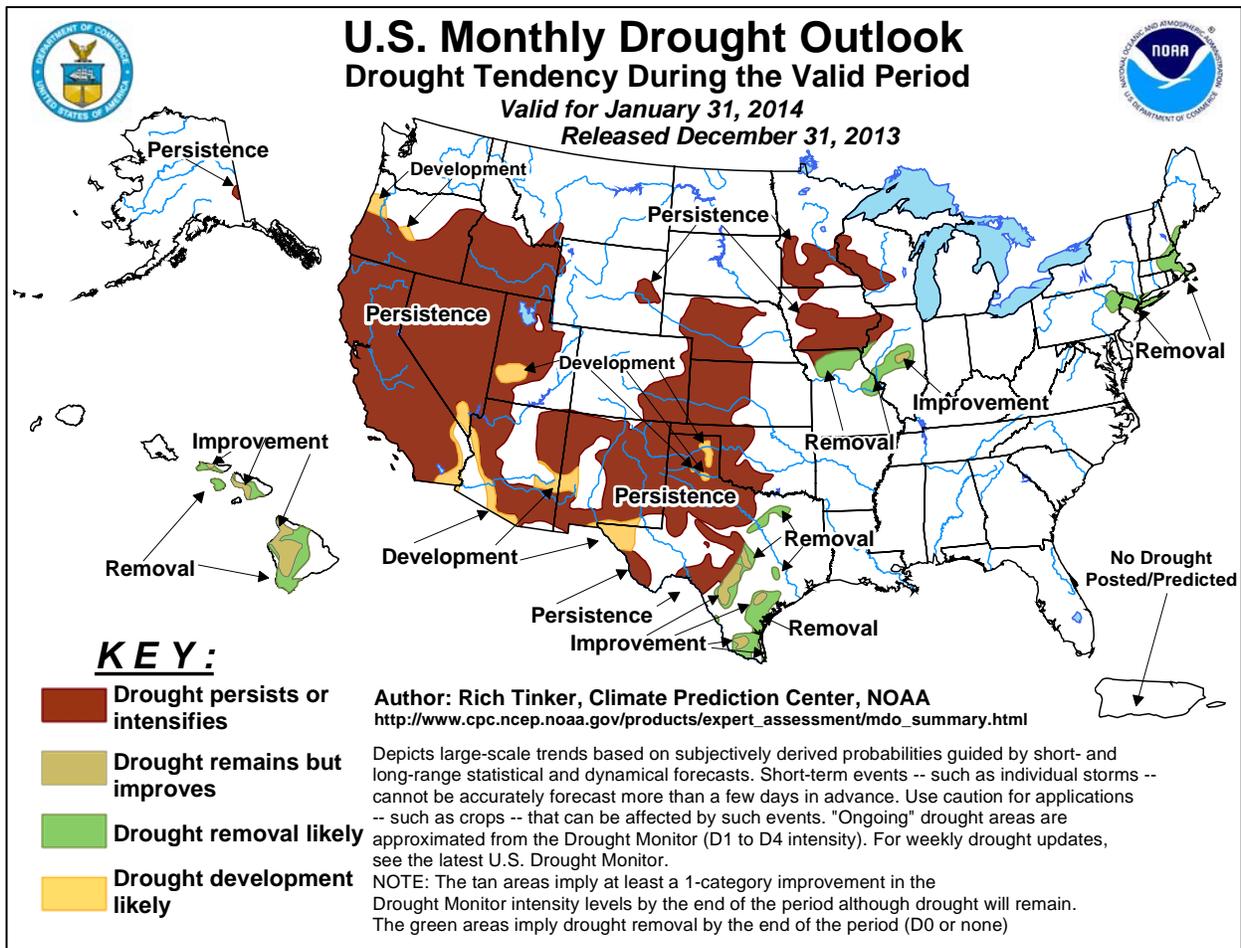
**Drought Impact Types:**  
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 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)  
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 Dark Red: D4 Exceptional Drought

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<http://droughtmonitor.unl.edu/>



National Weather Data for Selected Cities

Weather Data for the Week Ending December 28, 2013

Data Provided by Climate Prediction Center

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			
																90 AND ABOVE	82 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	53	32	73	20	43	-1	2.48	1.49	1.35	6.99	177	67.80	127	93	48	0	5	3	2
HUNTSVILLE	53	30	72	20	42	1	1.83	0.61	1.07	6.35	126	58.07	102	86	59	0	5	2	2
MOBILE	56	38	73	27	47	-4	6.21	5.23	3.45	7.36	175	69.25	105	88	68	0	2	2	2
AK MONTGOMERY	57	37	76	25	47	-1	6.95	5.91	5.19	8.99	198	56.24	104	87	48	0	2	2	2
ANCHORAGE	19	5	32	-9	12	-5	0.16	-0.06	0.16	1.44	157	25.84	162	81	69	0	7	1	0
BARROW	-8	-21	1	-36	-15	-3	0.01	0.01	0.01	1.19	9999	8.75	217	81	69	0	7	1	0
FAIRBANKS	-9	-28	15	-41	-18	-11	0.00	-0.17	0.00	0.00	0	9.86	97	***	***	0	7	0	0
JUNEAU	38	31	41	25	35	7	3.32	2.09	1.24	7.59	157	75.56	131	93	87	0	3	7	3
KODIAK	36	25	41	21	31	1	0.97	-0.83	0.62	2.92	44	63.90	86	87	70	0	7	4	1
NOME	8	-7	14	-19	1	-6	0.01	-0.18	0.01	2.00	225	22.31	136	68	59	0	7	1	0
AZ FLAGSTAFF	45	18	57	8	32	2	0.00	-0.40	0.00	1.35	85	24.80	109	70	26	0	7	0	0
PHOENIX	69	44	74	42	57	4	0.00	-0.20	0.00	0.39	52	8.42	104	59	31	0	0	0	0
PRESCOTT	55	23	60	20	39	2	0.00	-0.28	0.00	0.31	28	13.36	70	70	21	0	7	0	0
TUCSON	66	40	70	33	53	2	0.00	-0.25	0.00	0.84	99	8.54	71	60	32	0	0	0	0
AR FORT SMITH	48	27	58	21	37	-2	0.00	-0.63	0.00	4.11	128	47.05	108	88	58	0	6	0	0
LITTLE ROCK	49	29	56	24	39	-3	0.00	-0.93	0.00	6.93	158	52.76	104	89	47	0	5	0	0
CA BAKERSFIELD	65	36	71	35	51	5	0.00	-0.18	0.00	0.10	17	3.43	54	73	55	0	0	0	0
FRESNO	65	36	69	35	50	6	0.00	-0.32	0.00	0.15	14	3.01	27	79	60	0	0	0	0
LOS ANGELES	76	50	83	47	63	6	0.00	-0.43	0.00	0.30	20	3.65	28	62	33	0	0	0	0
REDDING	67	32	73	27	50	5	0.00	-1.11	0.00	0.38	10	12.80	39	83	72	0	4	0	0
SACRAMENTO	64	32	70	30	48	3	0.00	-0.56	0.00	0.43	21	5.80	33	96	35	0	4	0	0
SAN DIEGO	74	50	79	48	62	5	0.00	-0.32	0.00	0.46	44	5.57	53	59	36	0	0	0	0
SAN FRANCISCO	61	43	65	40	52	3	0.00	-0.68	0.00	0.36	15	3.39	17	76	63	0	0	0	0
STOCKTON	62	31	65	28	46	2	0.00	-0.41	0.00	0.35	23	4.63	34	97	76	0	6	0	0
CO ALAMOSA	25	-11	28	-17	7	-8	0.00	-0.06	0.00	0.04	17	10.06	141	82	69	0	7	0	0
CO SPRINGS	48	17	62	12	33	5	0.00	-0.09	0.00	0.07	23	19.23	111	75	23	0	7	0	0
DENVER INTL	51	18	60	8	34	5	0.05	-0.01	0.03	0.19	83	17.54	130	72	27	0	7	2	0
GRAND JUNCTION	29	7	32	4	18	-9	0.00	-0.11	0.00	0.96	240	12.41	140	92	75	0	7	0	0
PUEBLO	52	15	65	11	33	4	0.00	-0.08	0.00	0.02	7	9.67	79	71	38	0	7	0	0
CT BRIDGEPORT	44	31	60	19	37	4	0.66	-0.12	0.59	3.06	100	35.37	81	80	63	0	5	2	1
HARTFORD	43	25	64	13	34	5	0.74	-0.05	0.69	2.75	86	50.54	110	84	65	0	5	3	1
DC WASHINGTON	52	33	72	22	43	5	1.09	0.40	0.84	4.24	158	42.97	110	77	45	0	5	2	1
DE WILMINGTON	50	30	70	18	40	6	0.63	-0.12	0.61	3.85	128	46.98	111	85	47	0	5	2	1
FL DAYTONA BEACH	75	59	85	44	67	7	0.47	-0.14	0.30	1.44	61	47.80	98	97	60	0	0	3	0
JACKSONVILLE	67	50	84	36	59	5	0.02	-0.59	0.02	0.70	31	45.05	87	94	67	0	0	1	0
KEY WEST	80	73	82	69	76	5	0.11	-0.38	0.10	1.05	57	46.65	121	91	79	0	0	2	0
MIAMI	81	71	86	68	76	7	4.21	3.77	3.75	4.67	235	70.41	121	92	69	0	0	4	1
ORLANDO	78	59	86	48	69	7	0.02	-0.48	0.01	0.23	11	42.67	89	95	61	0	0	2	0
PENSACOLA	59	42	77	32	50	-3	2.44	1.55	1.71	3.77	109	74.60	117	79	57	0	1	3	1
TALLAHASSEE	65	48	77	30	57	4	1.17	0.21	1.01	3.57	101	65.45	105	78	63	0	1	3	1
TAMPA	77	60	82	49	69	7	0.02	-0.48	0.02	0.27	13	51.93	117	90	60	0	0	1	0
GA WEST PALM BEACH	81	72	84	65	77	10	0.14	-0.44	0.11	4.27	145	64.90	106	81	66	0	0	2	0
ATHENS	54	34	71	25	44	1	4.35	3.50	2.54	6.89	213	59.15	125	85	52	0	5	3	3
ATLANTA	53	36	71	27	44	0	4.70	3.87	3.12	7.70	228	65.91	132	75	56	0	2	3	2
AUGUSTA	60	37	80	26	49	3	1.78	1.00	0.92	4.89	186	53.49	121	89	51	0	4	3	2
COLUMBUS	55	39	74	28	47	-1	6.31	5.34	3.10	8.69	222	62.46	130	89	50	0	2	3	3
MACON	56	37	76	28	46	0	5.65	4.74	2.37	8.15	238	72.04	162	95	53	0	4	3	3
SAVANNAH	64	47	83	35	56	6	0.32	-0.38	0.23	1.58	68	53.27	108	75	58	0	0	3	0
HI HILO	79	65	82	62	72	0	6.03	4.03	3.72	9.43	94	91.23	73	95	84	0	0	6	3
HONOLULU	82	70	84	66	76	2	0.00	-0.66	0.00	3.64	146	16.18	90	75	67	0	0	0	0
KAHULUI	83	68	85	61	76	3	1.52	0.78	1.20	1.60	61	15.18	83	83	76	0	0	3	1
LIHUE	79	69	80	66	74	1	0.22	-0.85	0.12	5.35	126	36.22	93	87	80	0	0	4	0
ID BOISE	37	21	42	15	29	0	0.04	-0.24	0.04	0.67	56	9.58	80	94	83	0	6	1	0
LEWISTON	44	30	50	26	37	4	0.07	-0.15	0.06	0.73	80	9.49	75	84	71	0	4	2	0
POCATELLO	36	19	43	10	27	3	0.02	-0.21	0.02	0.43	47	6.17	50	88	75	0	6	1	0
IL CHICAGO/O'HARE	33	15	50	-2	24	-1	0.30	-0.18	0.21	1.60	71	41.74	116	79	68	0	6	3	0
MOLINE	31	11	46	-11	21	-3	0.42	-0.03	0.42	2.84	141	40.86	108	85	69	0	6	1	0
PEORIA	34	16	53	-2	25	-1	0.20	-0.25	0.20	1.49	66	43.56	121	86	65	0	7	1	0
ROCKFORD	30	10	42	-11	20	-2	0.62	0.23	0.56	1.45	76	40.33	111	87	75	0	7	3	1
SPRINGFIELD	36	18	55	2	27	-1	0.04	-0.47	0.04	1.49	64	38.24	108	84	58	0	6	1	0
IN EVANSVILLE	41	25	50	14	33	0	0.02	-0.68	0.01	9.21	278	55.47	126	78	59	0	6	2	0
FORT WAYNE	35	20	49	4	27	0	0.11	-0.46	0.10	2.81	111	42.15	116	86	66	0	6	2	0
INDIANAPOLIS	37	20	53	5	29	0	0.03	-0.58	0.03	4.46	160	45.96	113	84	62	0	7	1	0
SOUTH BEND	33	19	50	3	26	-1	0.19	-0.44	0.16	2.03	71	40.18	102	80	67	0	6	2	0
IA BURLINGTON	33	13	49	-13	23	-3	0.00	-0.40	0.00	0.11	6	32.49	86	89	65	0	6	0	0
CEDAR RAPIDS	27	6	42	-18	17	-4	0.11	-0.15	0.10	0.35	25	37.47	112	86	65	0	7	2	0
DES MOINES	32	10	51	-14	21	-2	0.43	0.18	0.41	0.73	60	31.89	92	77	60	0	7	2	0

Weather Data for the Week Ending December 28, 2013

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	
KY WICHITA	38	15	54	4	26	-6	0.01	-0.27	0.01	0.57	48	40.76	135	89	72	0	7	1	0	
KY JACKSON	49	29	69	16	39	3	1.49	0.60	1.21	6.32	162	55.95	114	82	44	0	5	4	1	
KY LEXINGTON	45	26	60	17	36	2	0.58	-0.30	0.48	5.06	140	59.01	130	75	52	0	6	2	0	
KY LOUISVILLE	46	27	63	16	36	1	0.24	-0.54	0.14	4.99	149	53.16	120	79	49	0	6	3	0	
LA PADUCAH	44	24	53	15	34	-1	0.01	-0.86	0.01	7.95	194	60.14	123	85	50	0	6	1	0	
LA BATON ROUGE	56	37	67	27	46	-5	0.57	-0.62	0.52	3.73	80	68.87	110	89	45	0	3	2	1	
LA LAKE CHARLES	56	37	65	30	47	-5	0.04	-0.99	0.04	2.06	51	57.46	101	89	48	0	2	1	0	
LA NEW ORLEANS	57	43	74	36	50	-4	2.42	1.36	1.23	3.15	68	66.31	104	80	66	0	0	3	2	
LA SHREVEPORT	55	33	60	27	44	-3	0.00	-0.99	0.00	5.01	123	53.49	105	88	46	0	3	0	0	
ME CARIBOU	20	2	30	-12	11	-3	1.19	0.47	0.68	3.23	114	51.53	139	88	75	0	7	4	1	
ME PORTLAND	31	16	37	5	23	-2	0.78	-0.14	0.31	3.56	93	42.97	95	91	75	0	7	3	0	
MD BALTIMORE	51	30	71	18	40	5	1.10	0.35	0.86	4.18	142	41.84	101	79	51	0	5	2	1	
MA BOSTON	40	27	54	15	33	0	0.74	-0.09	0.68	3.31	99	39.05	93	78	59	0	5	3	1	
MA WORCESTER	37	22	63	11	29	2	0.69	-0.16	0.64	3.26	97	44.54	92	87	59	0	6	2	1	
MI ALPENA	25	2	39	-17	14	-8	0.47	0.08	0.35	2.13	135	31.61	112	92	70	0	7	5	0	
MI GRAND RAPIDS	32	21	46	8	26	0	0.40	-0.12	0.19	2.24	89	45.03	122	87	73	0	6	5	0	
MI HOUGHTON LAKE	25	11	42	-5	18	-4	0.54	0.18	0.39	2.04	132	30.54	108	88	75	0	7	4	0	
MI LANSING	30	20	44	10	25	0	0.29	-0.12	0.06	1.78	88	41.35	132	85	76	0	7	5	0	
MI MUSKOGON	32	21	43	14	27	0	0.96	0.42	0.30	2.13	88	43.19	132	82	73	0	7	5	0	
MI TRAVERSE CITY	28	17	45	6	22	-2	0.31	-0.28	0.23	0.98	42	42.45	128	86	70	0	6	4	0	
MN DULUTH	18	-4	35	-17	7	-4	0.42	0.28	0.18	3.01	350	30.60	99	81	74	0	7	6	0	
MN INT'L FALLS	13	-16	34	-34	-2	-8	0.15	0.04	0.07	1.39	228	31.79	133	82	61	0	7	3	0	
MN MINNEAPOLIS	26	6	48	-13	16	0	0.30	0.11	0.24	1.46	162	32.77	112	88	71	0	7	4	0	
MN ROCHESTER	23	5	38	-13	14	-1	0.20	0.03	0.13	0.95	102	41.61	133	82	74	0	7	3	0	
MN ST. CLOUD	20	-2	40	-25	9	-3	0.29	0.15	0.20	1.71	280	28.77	106	91	66	0	7	5	0	
MS JACKSON	52	32	64	23	42	-4	1.04	-0.15	0.83	4.51	95	64.38	116	89	48	0	5	2	1	
MS MERIDIAN	54	33	71	21	43	-4	2.33	1.16	1.20	7.28	154	67.21	116	91	57	0	5	2	2	
MS TUPELO	49	28	62	19	39	-3	0.70	-0.65	0.62	6.30	114	53.17	96	84	57	0	5	2	1	
MO COLUMBIA	37	18	55	1	28	-2	0.03	-0.42	0.03	1.71	73	41.52	103	86	67	0	7	1	0	
MO KANSAS CITY	37	16	57	-2	27	-2	0.08	-0.23	0.08	0.80	53	34.45	91	88	56	0	6	1	0	
MO SAINT LOUIS	42	23	61	7	32	0	0.10	-0.44	0.10	1.71	64	42.41	110	73	51	0	6	1	0	
MO SPRINGFIELD	41	21	57	9	31	-3	0.01	-0.55	0.01	2.58	84	51.86	116	85	63	0	7	1	0	
MT BILLINGS	38	18	50	-4	28	3	0.34	0.19	0.23	1.89	357	16.60	114	74	54	0	6	2	0	
MT BUTTE	38	15	45	2	26	9	0.02	-0.09	0.01	0.22	50	11.31	89	85	47	0	7	2	0	
MT CUT BANK	40	19	54	0	29	9	0.00	-0.06	0.00	0.03	14	13.08	105	77	51	0	5	0	0	
MT GLASGOW	29	2	41	-27	15	1	0.11	0.03	0.10	0.75	278	15.76	142	86	75	0	7	2	0	
MT GREAT FALLS	43	20	58	2	32	9	0.04	-0.12	0.02	0.92	177	11.75	80	73	42	0	5	3	0	
MT HAVRE	34	9	45	-17	22	5	0.09	-0.02	0.05	1.06	265	18.93	167	79	67	0	6	2	0	
MT MISSOULA	39	23	43	12	31	9	0.27	0.02	0.27	1.03	105	9.37	69	88	74	0	6	1	0	
NE GRAND ISLAND	43	15	62	0	29	5	0.01	-0.10	0.01	0.11	18	26.92	104	73	47	0	7	1	0	
NE LINCOLN	41	11	62	4	26	1	0.00	-0.14	0.00	0.21	28	26.67	94	75	51	0	7	0	0	
NE NORFOLK	39	8	62	-4	24	2	0.00	-0.10	0.00	0.18	31	24.96	94	79	54	0	7	0	0	
NE NORTH PLATTE	43	8	59	-2	26	2	0.10	0.02	0.09	0.16	47	21.77	111	88	44	0	7	2	0	
NE OMAHA	38	11	61	-2	25	1	0.04	-0.11	0.04	0.18	21	28.96	96	80	52	0	7	1	0	
NE SCOTTSBLUFF	44	14	60	-6	29	4	0.08	-0.03	0.08	0.63	131	13.80	85	76	54	0	7	1	0	
NE VALENTINE	36	10	53	-11	23	1	0.02	-0.04	0.02	0.71	254	23.62	121	82	60	0	7	1	0	
NV ELY	45	12	53	7	29	4	0.00	-0.11	0.00	0.81	219	8.36	85	85	62	0	7	0	0	
NV LAS VEGAS	62	41	66	38	51	5	0.00	-0.08	0.00	0.05	17	2.96	67	44	31	0	0	0	0	
NV RENO	49	22	54	20	35	2	0.00	-0.19	0.00	0.41	53	4.01	54	89	77	0	7	0	0	
NV WINNEMUCCA	42	11	45	7	26	-3	0.00	-0.17	0.00	0.61	92	5.72	70	97	85	0	7	0	0	
NH CONCORD	33	13	43	1	23	-1	0.59	-0.04	0.38	2.35	89	39.76	107	90	66	0	7	3	0	
NJ NEWARK	49	32	71	19	40	6	0.56	-0.22	0.53	3.30	104	41.62	91	72	54	0	5	2	1	
NM ALBUQUERQUE	46	25	49	22	36	1	0.00	-0.11	0.00	0.40	108	9.32	100	64	33	0	7	0	0	
NY ALBANY	38	21	54	9	30	4	0.23	-0.32	0.23	2.47	102	42.92	114	82	57	0	7	1	0	
NY BINGHAMTON	37	21	62	4	29	4	0.56	-0.06	0.33	2.52	91	42.03	109	85	72	0	6	4	0	
NY BUFFALO	35	20	43	2	28	0	1.53	0.73	1.19	4.78	138	45.87	114	89	67	0	6	4	1	
NY ROCHESTER	36	20	46	4	28	1	0.50	-0.07	0.40	3.07	125	36.84	109	85	69	0	7	5	0	
NY SYRACUSE	35	19	45	-2	27	1	0.38	-0.23	0.12	2.42	84	39.94	100	92	70	0	6	4	0	
NC ASHEVILLE	48	27	65	18	38	1	3.30	2.56	2.84	6.95	232	74.53	160	89	56	0	5	3	1	
NC CHARLOTTE	55	33	71	20	44	1	3.38	2.64	1.94	5.32	193	47.81	111	87	43	0	5	3	2	
NC GREENSBORO	54	31	73	20	42	3	1.79	1.11	0.87	4.10	153	49.34	115	76	39	0	5	3	2	
NC HATTERAS	59	47	73	37	53	5	0.77	-0.31	0.37	3.22	82	52.65	92	91	65	0	0	4	0	
NC RALEIGH	57	34	78	23	45	4	2.26	1.56	1.95	3.97	152	48.75	114	80	49	0	5	3	1	
NC WILMINGTON	61	41	80	30	51	4	0.30	-0.55	0.15	1.51	46	51.20	90	85	50	0	3	2	0	
ND BISMARCK	26	-1	44	-31	12	-1	0.09	0.01	0.06	1.01	289	26.50	158	84	70	0	7	3	0	
ND DICKINSON	28	5	41	-29	16	0	0.04	-0.02	0.04	0.30	111	21.28	131	86	67	0	6	1	0	
ND FARGO	19	-1	40	-21	9	-1	0.11	-0.01	0.06	1.06	230	31.94	152	83	68	0	7	4	0	
ND GRAND FORKS	17	-4	38	-23	7	-2	0.15	0.04	0.09	0.81	180	19.64	101	88	66	0	7	4	0	
ND JAMESTOWN	21	0	40	-21	11	-1	0.04	-0.05	0.04	0.24	73	16.13	88	90	72	0	7	1	0	
ND WILLISTON	27	1	41	-30	14	3	0.07	-0.04	0.05	0.86	187	21.07	150	82	74	0	7	2	0	
OH AKRON-CANTON	42	26	64	11	34	5	0.75	0.13	0.68	3.19	118	41.73	109	78	63	0	5	3	1	
OH CINCINNATI	43	26	62	14	35	3	0.27	-0.44	0.26	4.44	151	49.01	116	77	56	0	5	2	0	
OH CLEVELAND	41	27	63	14	34	5	0.34	-0.29	0.24	3.74	129	41.47	108	74	57	0	5	4	0	
OH COLUMBUS	44	28	68	13	36	5	0.35	-0.24	0.31	4.04	151	41.29	108	73	54	0	6	3	0	
OH DAYTON	42	26	62	11	34	5	0.28	-0.37	0.27	4.42	158	36.36	93	79	58	0	5	2	0	
OH MANSFIELD	39	24	59	8	32	4	0.54	-0.12	0.51	3.65	122	42.54	99	87	58	0	5	3	1	

Based on 1971-2000 normals

Weather Data for the Week Ending December 28, 2013

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 01	PCT. NORMAL SINCE JAN 01	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	34	22	49	9	28	1	0.25	-0.28	0.20	2.98	123	36.73	111	83	70	0	5	3	0
OK YOUNGSTOWN	41	25	64	12	33	5	0.64	0.05	0.48	3.14	115	38.74	103	79	63	0	5	4	0
OK OKLAHOMA CITY	46	24	61	16	35	-3	0.00	-0.41	0.00	1.26	76	52.78	148	87	56	0	7	0	0
OR TULSA	45	23	60	14	34	-4	0.00	-0.45	0.00	1.78	78	33.08	78	82	66	0	6	0	0
OR ASTORIA	49	35	51	31	42	0	0.87	-1.35	0.57	4.90	51	59.11	89	92	89	0	4	4	1
OR BURNS	44	14	50	6	29	5	0.00	-0.28	0.00	0.21	19	6.90	66	94	79	0	7	0	0
OR EUGENE	43	34	56	31	39	0	0.04	-1.70	0.03	1.52	20	21.24	42	98	93	0	3	2	0
OR MEDFORD	41	31	53	28	36	-1	0.01	-0.58	0.01	0.36	14	8.99	50	96	85	0	4	1	0
OR PENDLETON	45	28	56	20	37	4	0.10	-0.20	0.08	0.79	61	9.25	74	91	82	0	5	2	0
OR PORTLAND	45	36	53	30	40	1	0.37	-0.83	0.28	1.74	33	26.84	73	96	91	0	2	2	0
OR SALEM	44	34	56	31	39	-1	0.05	-1.30	0.04	1.27	21	23.60	60	98	91	0	3	2	0
PA ALLENTOWN	44	24	65	16	34	4	0.97	0.25	0.68	3.29	109	45.21	101	81	63	0	5	4	1
PA ERIE	40	27	62	16	33	2	1.08	0.32	0.43	6.11	178	54.59	129	79	66	0	5	5	0
PA MIDDLETOWN	48	25	70	17	37	5	0.61	-0.05	0.39	2.93	99	41.82	104	87	46	0	5	3	0
PA PHILADELPHIA	50	32	68	21	41	6	0.53	-0.20	0.49	4.01	137	54.68	131	73	52	0	5	2	0
PA PITTSBURGH	45	27	72	10	36	5	0.41	-0.18	0.22	2.53	98	35.91	96	82	53	0	5	5	0
PA WILKES-BARRE	42	26	66	11	34	5	0.42	-0.09	0.31	2.46	106	26.69	71	84	59	0	6	3	0
PA WILLIAMSPORT	42	23	64	13	32	3	0.15	-0.43	0.12	2.55	94	31.59	76	85	64	0	6	3	0
RI PROVIDENCE	43	28	64	18	35	3	0.70	-0.21	0.66	3.58	97	44.22	96	80	66	0	5	2	1
SC BEAUFORT	64	46	80	34	55	5	0.55	-0.20	0.40	1.80	69	47.51	96	87	51	0	0	3	0
SC CHARLESTON	65	44	82	33	54	5	0.19	-0.58	0.08	1.58	57	57.54	113	83	50	0	0	4	0
SC COLUMBIA	60	40	80	28	50	5	1.27	0.45	0.62	4.41	155	54.00	113	83	48	0	3	3	1
SC GREENVILLE	54	35	70	24	44	2	2.73	1.85	1.54	5.70	169	68.58	138	81	45	0	5	3	2
SD ABERDEEN	24	-2	42	-23	11	-3	0.16	0.08	0.08	0.68	262	21.67	108	84	73	0	7	3	0
SD HURON	24	-2	43	-25	11	-6	0.17	0.10	0.12	0.82	273	24.97	120	87	63	0	7	2	0
SD RAPID CITY	35	9	54	-15	22	-2	0.11	0.03	0.11	0.58	207	21.71	131	84	60	0	7	1	0
SD SIOUX FALLS	26	0	44	-18	13	-3	0.20	0.12	0.19	1.02	227	25.68	104	83	63	0	7	2	0
TN BRISTOL	49	26	73	16	37	1	2.50	1.76	1.66	5.68	187	57.01	139	87	45	0	5	3	2
TN CHATTANOOGA	52	31	71	22	42	1	2.92	1.88	1.89	7.63	177	68.39	127	83	60	0	6	3	2
TN KNOXVILLE	50	30	73	20	40	1	2.67	1.68	1.82	7.33	183	68.44	143	85	50	0	5	3	2
TN MEMPHIS	48	30	57	24	39	-3	0.03	-1.11	0.03	4.78	90	59.39	109	83	46	0	5	1	0
TN NASHVILLE	47	27	62	18	37	-2	0.91	-0.04	0.50	7.62	185	54.51	114	83	43	0	6	2	1
TX ABILENE	53	28	60	24	41	-3	0.00	-0.30	0.00	1.12	103	23.19	98	85	53	0	6	0	0
TX AMARILLO	48	22	60	15	35	-1	0.00	-0.15	0.00	0.32	70	15.21	78	86	44	0	7	0	0
TX AUSTIN	57	33	61	24	45	-6	0.00	-0.54	0.00	0.86	40	37.04	111	81	50	0	3	0	0
TX BEAUMONT	58	38	64	31	48	-5	0.00	-1.20	0.00	1.29	28	56.11	95	88	44	0	1	0	0
TX BROWNSVILLE	67	52	78	43	60	0	0.64	0.42	0.38	0.76	78	26.25	96	89	68	0	0	3	0
TX CORPUS CHRISTI	64	45	75	35	55	-2	0.21	-0.18	0.10	0.24	16	23.39	73	82	53	0	0	3	0
TX DEL RIO	58	39	65	32	49	-2	0.31	0.17	0.23	0.49	78	15.48	85	85	56	0	1	2	0
TX EL PASO	55	27	58	22	41	-3	0.00	-0.17	0.00	0.26	41	9.51	102	68	31	0	6	0	0
TX FORT WORTH	53	30	60	24	42	-3	0.00	-0.59	0.00	2.77	123	29.40	85	87	45	0	5	0	0
TX GALVESTON	57	45	66	38	51	-6	0.02	-0.75	0.01	0.68	22	39.27	90	90	57	0	0	2	0
TX HOUSTON	58	39	62	31	49	-4	0.01	-0.79	0.01	1.66	50	38.84	82	90	57	0	2	1	0
TX LUBBOCK	52	24	59	19	38	0	0.00	-0.13	0.00	0.60	109	12.61	68	85	57	0	7	0	0
TX MIDLAND	53	31	59	27	42	-2	0.00	-0.14	0.00	1.44	267	8.50	58	88	60	0	6	0	0
TX SAN ANGELO	54	30	60	25	42	-3	0.00	-0.19	0.00	1.15	144	19.80	95	89	53	0	6	0	0
TX SAN ANTONIO	60	41	64	31	50	-1	0.28	-0.14	0.28	0.57	33	32.02	98	84	46	0	2	1	0
TX VICTORIA	62	41	69	30	51	-3	0.17	-0.38	0.10	0.44	20	25.54	64	91	55	0	2	2	0
TX WACO	54	29	61	25	41	-6	0.00	-0.59	0.00	1.34	54	37.88	115	92	60	0	7	0	0
TX WICHITA FALLS	51	24	58	19	38	-3	0.00	-0.37	0.00	1.30	88	21.34	75	90	61	0	7	0	0
UT SALT LAKE CITY	35	21	42	13	28	-1	0.07	-0.19	0.06	1.67	161	11.64	71	81	62	0	6	2	0
VT BURLINGTON	27	14	35	0	21	-1	0.80	0.36	0.68	2.33	116	44.77	125	89	74	0	7	3	1
VA LYNCHBURG	52	28	69	14	40	4	1.39	0.67	0.82	4.65	164	44.53	104	82	41	0	5	3	1
VA NORFOLK	56	35	81	27	46	4	1.11	0.40	0.98	3.96	153	44.85	99	86	50	0	5	4	1
VA RICHMOND	55	32	76	21	44	5	1.27	0.55	0.67	4.76	177	52.37	120	80	53	0	5	2	2
VA ROANOKE	51	28	68	15	40	3	1.22	0.61	0.56	3.48	137	52.20	124	75	51	0	5	3	2
VA WASH/DULLES	51	30	71	19	41	7	1.31	0.65	0.79	4.31	158	44.08	106	77	49	0	5	2	2
WA OLYMPIA	45	34	51	28	40	3	0.34	-1.33	0.30	2.12	29	41.55	83	98	93	0	4	2	0
WA QUILLAYUTE	50	39	52	32	45	5	2.30	-0.83	1.42	6.26	47	88.74	88	95	87	0	1	3	1
WA SEATTLE-TACOMA	48	38	53	32	43	3	0.55	-0.63	0.48	1.67	32	32.57	89	88	82	0	1	3	0
WA SPOKANE	34	24	42	21	29	3	0.11	-0.35	0.11	0.65	32	11.33	69	96	86	0	7	1	0
WA YAKIMA	44	18	56	13	31	3	0.00	-0.30	0.00	0.32	27	5.49	68	84	73	0	7	0	0
WV BECKLEY	46	24	68	9	35	2	1.25	0.56	0.74	4.93	180	41.41	100	77	57	0	6	4	1
WV CHARLESTON	49	27	74	14	38	2	1.14	0.45	0.91	5.38	178	46.36	106	94	47	0	5	4	1
WV ELKINS	47	22	71	8	34	3	0.61	-0.13	0.37	5.17	167	44.90	98	87	42	0	6	4	0
WV HUNTINGTON	48	27	71	14	38	3	0.14	-0.60	0.07	4.17	138	43.52	104	80	46	0	6	4	0
WI EAU CLAIRE	25	4	43	-12	15	0	0.10	-0.09	0.05	0.79	84	35.16	110	91	68	0	7	4	0
WI GREEN BAY	24	8	38	-14	16	-3	0.35	0.10	0.17	1.61	124	34.87	120	93	75	0	7	3	0
WI LA CROSSE	27	6	42	-12	16	-3	0.35	0.14	0.19	1.25	111	35.61	110	87	65	0	7	3	0
WI MADISON	27	7	42	-12	17	-4	0.66	0.35	0.49	1.50	97	45.26	138	86	74	0	7	4	0
WI MILWAUKEE	30	13	42	2	22	-2	0.79	0.35	0.70	1.68	82	39.91	115	87	75	0	7	3	1
WY CASPER	34	15	39	2	25	2	0.22	0.11	0.14	1.12	224	15.06	117	67	57	0	7	3	0
WY CHEYENNE	44	20	56	11	32	5	0.05	-0.03	0.03	0.26	68	18.06	118	65	39	0	7	3	0
WY LANDER	38	13	45	3	26	5	0.27	0.16	0.27	0.69	133	15.54	117	84	47	0	7	1	0
WY SHERIDAN	42	10	54	-9	26	4	0.20	0.06	0.15	0.90	161	17.79	122	76	65	0	7	2	0

Based on 1971-2000 normals

\*\*\* Not Available

# National Agricultural Summary

## December 23 – 29, 2013

Weekly National Agricultural Summary provided by USDA/NASS

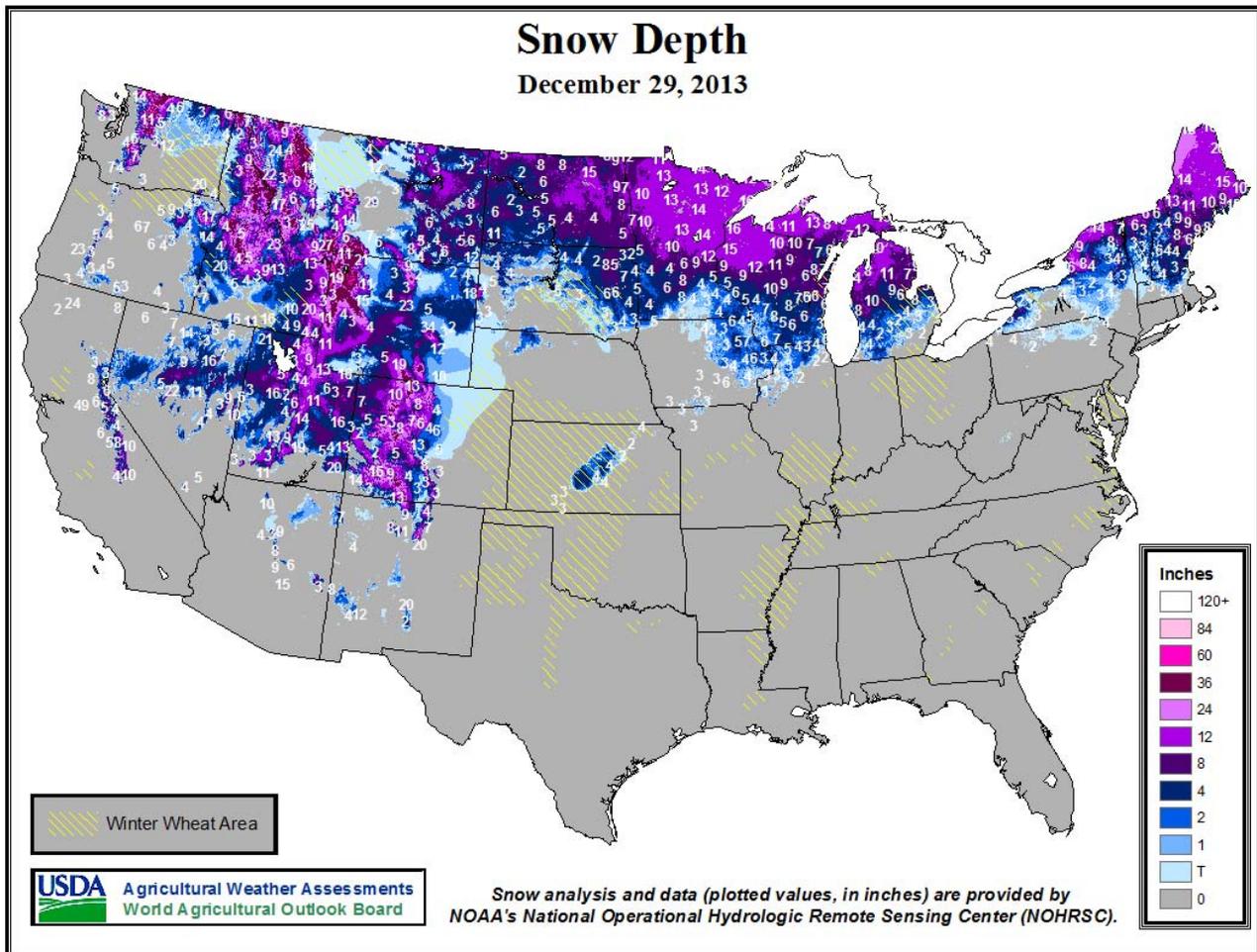
Most of the country has continued to experience dry conditions, with only parts of the Southeast recording over an inch of precipitation for the week. A small band stretching across Alabama, northern Florida, Georgia and South Carolina received more than 4 inches of rain. Temperatures were above normal in all areas excluding the Mississippi River Valley and the Southern Great Plains.

Daytime temperatures were generally above normal with no significant precipitation recorded all across California during the past week. Winter wheat conditions continued to decline due to a lack of precipitation and recent winds. Crop development was also hindered by recent cold weather in the North Central Valley. The crop is nearly completely emerged but growth has been slow because of a lack of moisture. Pruning continued in tree fruit orchards. Orchards and vineyards were irrigated due to lack of rain. Grapevines continued to lose leaves and go dormant. Disking, shredding brush and trellis work was also ongoing. Citrus harvest was slowed due to sub-freezing temperatures. Growers used wind machines and overnight irrigation to prevent and limit freeze damage. Navel oranges and mandarins sustained some freeze damage, and damaged fruit was sent to be juiced. Harvested almond, walnut and pistachio orchards were pruned and irrigated due to lack of rain. Dormant sprays were applied to nut trees. Tree removals were ongoing and land was prepared for tree planting. Vegetable growers reported harvest of lettuce and broccoli. The carrot crop was damaged by the freeze. Fertilizer and herbicides were applied to some fields. Range conditions remained poor and ranchers continued to feed hay before cattle go out on winter pasture. Supplemental feeding continued as new vegetation

germinated in lower elevation pastures. Dairy corrals were cleaned in preparation for winter. Sheep grazed on alfalfa fields.

In Arizona, cotton harvest was 95 percent complete, slightly ahead of last year and 2 percentage points ahead of the 5-year average. Arizona's alfalfa condition was rated very poor to mostly good, depending on location. Harvesting occurred on over three-quarters of the alfalfa acreage across the state. Recent storms improved moisture levels throughout the state. Warm weather will promote winter forage growth in the coming weeks. Range and pastures were rated in very poor to good condition, depending on location.

Most of Florida reported very little rain with daytime temperatures above 80°F. Farmers in the northern part of the state finished the harvest of cotton and continued to harvest soybeans. Planting of oats, wheat, rye, and winter grazing was ongoing. Sugarcane harvest proceeded as scheduled. Rain was light in the citrus-growing region. Growers and caretakers continued to irrigate due to dry conditions. Field workers reported small sizes on all varieties. Grove activity included hedging and topping after harvest, resetting of new trees, pushing of dead groves and replanting new citrus, mowing, fertilizing, and psyllid control. Cattle condition across the state was primarily good. The majority of the pasture condition ranged from poor to good. Cattlemen were feeding hay and supplements. Drought was the main contributing factor for the decline in pasture condition in the central and south part of Florida, while cold weather in the northern part of the state contributed to pasture decline.



## State Agricultural Summaries

*These summaries, issued weekly through the summer growing season, provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Crop Progress and Condition Reports published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service. The crop reports are available on the Internet through the NASS Home Page on the World Wide Web at <http://www.nass.usda.gov>.*

**ALABAMA:** The month of December brought an abundance of moisture and cool temperatures throughout the State. Many livestock producers were feeding hay and expressed concern about the unexpected hay shortage this winter. Although most row crops have been harvested, there were still a few acres of cotton remaining in the fields. The US Drought Monitor released on December 26, 2013 indicated the state of Alabama was 89.25 percent free from drought, compared to 40.07 percent at the start of the calendar year and 29.47 percent a year ago. The average mean temperature for the month ranged from 44.6 F in Haleyville to 53.3 F in Mobile; total precipitation ranged from 4.76 inches in Muscle Shoals to 9.22 inches in Anniston.

**ALASKA:** DATA NOT AVAILABLE

**ARIZONA:** Temperatures across the State started out mostly above normal for the first week and last two weeks of December. The second and third weeks were below normal for the month. The temperature extremes for December were a high of 83 degrees in Tucson and a low of -23 degrees at Grand Canyon. Precipitation was recorded until the last week of the month. Cotton harvesting was just over 95 percent complete by the end of the month. Alfalfa harvesting occurred on over three-quarters of the alfalfa acreage across the State. Vegetable and citrus harvesting activities continued throughout the month.

**ARKANSAS:** Temperatures started out warmer than usual the first part of December, but the second week in the month saw record low temperatures. Most counties experienced rainy, warm days in the first week of December, which quickly ended when a cold front moved into the state bringing freezing rain, snow, sleet, and ice to the majority of the state. For many producers, field preparation came to a halt as the ground froze over. The last two weeks of the month, had temperatures and precipitation amounts that rose slightly above the norm for this time of year. The extra rainfall and snow in the beginning and middle of the month, allowed for subsoil moisture to rise to adequate conditions for most of the state. Most farmers ended the month feeding hay to cattle, and preparing the best they could for the 2014 crop season.

**CALIFORNIA:** Cotton fields were plowed down and small grains crops were planted and continued to emerge. Wheat crop conditions declined during the course of the month due to dry winds and cold weather that stunted crop development. Alfalfa production was complete. Pruning continued in vineyards and stone fruit orchards. Disking, shredding brush and trellis work was also ongoing. Harvest finished for both wine grapes and table grapes across the State. Harvest neared completion for apples, grapefruit, kiwifruit, lemons, pears, persimmons, pomegranates, and pomelos. Citrus harvest was slowed due to freezing temperatures. Inspectors are still evaluating damage across the State. Pruning and other activities were wrapping up in almond, pistachio and walnut orchards. Nut trees were in dormancy for winter across the State. Harvest was ongoing throughout the State for bok choy,

broccoli, Brussels sprouts, carrots, daikon, green beans, lettuce, parsley, and peppers. Beds were prepared for onions and tomatoes. Range and pasture conditions improved slightly due to recent rains but remained mostly poor. Cattle were moved off irrigated pasture to reduce soil compaction and corrals were cleaned in preparation for winter. Calving season and lambing season were underway across the State. Beekeepers prepared for dormancy.

**COLORADO:** Eastern areas of the State received below normal precipitation during December. Higher elevations received significant snowfall during the month. Statewide, mountain snowpack is 110 percent of average as of December 19 with northern mountains closer to normal than southern. Temperatures averaged below normal the first half of the month and above normal the second half for most of the state. Winter wheat stands remain in mostly good to fair condition without snow cover. Soil moisture ratings continue as mostly adequate to short in most areas.

**FLORIDA:** Limited rain received for month. Temperatures warm for central, southern part of State. Cotton harvest completed. Soybean harvest almost complete by end of month. Planting oats, wheat, rye, winter grazing on-going. Sugarcane harvesting Hendry, Glades, Palm Beach counties proceeding on schedule. Above seasonal average temperatures in Charlotte, Collier, Glades, Hendry, Lee accelerated growth of vegetables. Winter greens, cabbage planted. Ground ready for potato planting. Vegetables, fruits marketed included avocados, tomatoes, peppers, herbs, cucumbers, eggplant, squash, strawberries, sweet corn, sweet potatoes, snap beans, radishes, escarole, lettuce, kale. Frost in Panhandle ended warm season perennial pastures. Pasture condition down due to cooler temperatures, lack of soil moisture. Winter grazing stressed due to drought. Cattle condition good across the State. Hay, supplements fed to cattle in northern part of State. In citrus growing area, high temperatures for December began in low 80s, upper 70s, rose to lower, mid 80s by month's end. Rainfall scattered, generally light, as dry season continued. Dry conditions observed in citrus producing regions remained fairly consistent, leaving western area completely drought free. Field workers reported small sizes on all varieties. Grove activity included resetting new trees, pushing dead groves, replanting new citrus, mowing, fertilizing, psyllid control. Thirty-nine of 43 packinghouses had opened, begun shipping small quantities of fruit. Sixteen of 19 processing plants open.

**GEORGIA:** For the month of December, high temperatures for southern Georgia averaged 70 degrees and the average low was 49. Highs for northern Georgia were in the mid 50's while lows were in the 30's. Precipitation in the state has varied widely with SE Georgia receiving anywhere from 1 to 3 inches in December and is considered to be in a short term dry spell. SW Georgia received 5 inches, while the rest of the state received anywhere from 7-9 inches for the month. Moisture conditions for the state have improved significantly compared to last year as none of the state is considered in severe drought or worse compared to 68% this time last year. Field activities

include wrapping up the harvests of pecans, sorghum, and soybeans and the planting of oats, winter wheat, and rye.

**HAWAII:** December weather conditions started out very dry with 85 percent of the state designated in some stage of drought. As the month wore on, trade winds delivered precipitation easing the drought conditions in some areas. Levels of some irrigation reservoirs operated by the Hawaii State Department of Agriculture (HDOA) declined due to dry conditions but some reservoir levels increased the final two weeks due to the received rainfall the final ten days of the month. No irrigation water restrictions were in force on the Waimea irrigation system on the Big Island of Hawaii. A 30 percent restricted use was still in effect for non-homesteaders drawing water from the Molokai Reservoir. The Waimea irrigation system 10 percent restriction remained in force the entire month. The Lower Hamakua irrigation system levels remained constant all month with no water restrictions in place. The first week of December was the third week running with 85 percent of the state in some stage of drought. Trade winds were light most of the week bringing very little precipitation. Other areas across the state experienced humid and foggy conditions due to lack of trade winds. Shortening days and cooler nights slowed the growth and progress of many crops, particularly at higher elevation sites. Pasture conditions remained very poor in most areas due to continued lack of moisture. During the second week, drought conditions continued. Trade winds picked up and were more active throughout the second week of December bringing much needed precipitation to some areas, particularly to the windward (eastern) side of the islands. Day length continues to shorten and nighttime temperatures continue to decrease as the winter solstice approaches. Some pastures received a boost from the rainfall this week, however much more is still needed to encourage re-growth of forage in areas which have been severely affected by the drought. The third week of December brought scatter showers mainly on Hawaii Island. Topsoil moisture ratings continued to be 18 percent very short, and 63 percent short statewide. Leeward areas received only isolated showers and continue to remain very dry. During the final full week of 2012, drought conditions again showed a slight improvement over those of the previous weeks. Most improvements in drought conditions occurred along the windward coast of the Island of Hawaii and the leeward coasts of Oahu and Kauai Islands. With the end of the year in sight, all yearly rainfall totals from monitored rain gauges measured below normal for the 2013 calendar year. This rainfall deficit is reflected by the current drought conditions, as 79 percent of the state remains abnormally dry or drier.

**IDAHO:** 3 days. Calving complete: 7%, 2% 2012, 1% avg. Lambing complete: 3%, 1% 2012, 1% avg. Hay and roughage supply: 0% very short, 4% short, 72% adequate, 24% surplus.

**ILLINOIS:** For the month of December, temperatures averaged 26.6 degrees, 3.4 degrees below normal. Statewide precipitation averaged 2.48 inches, 0.01 inches below normal. The dormant winter wheat crop condition ranges from fair to excellent with the majority in good condition.

**INDIANA:** The weather during December was significantly wetter than normal in Indiana, with variable temperatures throughout the month. An average rainfall of 4.34 inches was recorded for the State, over 50% higher than normal, with some locations receiving as much as 7.32 inches for the month. Much of the surplus precipitation fell in the southern districts of the

State. Temperatures ranged from -7 to 70 degrees Fahrenheit throughout December, but averaged only 1.6 degrees below historical trends for the month. Winter wheat was reported to be in mostly good to excellent condition, with snow cover protecting the crop through frigid temperatures in northern districts. Pasture condition is good but has been under snow or standing water for the majority of the month, leading many farmers to switch their livestock to hay early in the season. Other activities included purchasing inputs for 2014 crops, income tax preparations, clearing fence rows, repairing and installing drainage tile, hauling grain to market and tending livestock.

**IOWA:** Topsoil moisture 12% very short, 39% short, 48% adequate, and 1% surplus. Iowa experienced below normal temperatures throughout most of December with occasional warm spots. Snow fell in varying amounts across the State in December and has stuck around with the cold temperatures. Livestock losses have been normal. Some pork producers are concerned with PEDV and heavier than normal losses.

**KANSAS:** For the month ending of December 2013, temperatures were below normal, according to USDA's National Agricultural Statistics Service. Snow fell in the eastern part of the state with totals up to 12 inches. The western part of the state did not receive snow to protect the wheat from the cold temperatures. Topsoil moisture supplies rated 8 percent very short, 21 short, 68 adequate, and 3 surplus. Subsoil moisture supplies rated 13 percent very short, 27 short, 55 adequate, and 2 surplus. Winter wheat condition rated 1 percent very poor, 5 poor, 36 fair, 51 good, and 7 excellent. Hay and forage supplies rated 4 percent very short, 8 short, 79 adequate, and 9 surplus. Stock water supplies were rated 8 percent very short, 17 short, 74 adequate, 1 surplus. Cattle were grazing crop residue and supplemented with minerals.

**KENTUCKY:** The Bluegrass State experienced mixed weather conditions during December. The state recorded temperatures from below normal to unseasonably warm. The Commonwealth experienced some periods of cold weather where wind chill values dropped well into the single digits and the livestock cold stress index was put into the emergency category. Average precipitation for the month was above normal. December rains improved soil moisture conditions, which was beneficial for fall seeded small grain growth.

**LOUISIANA:** Louisiana averaged 4.74 inches of rain for the month of December with higher averages in the Northern part of the state. Farmers are still harvesting sugarcane as well as strawberries. Winter wheat planting was completed around the first week of December. Citrus producers were spraying to control diseases. Livestock producers were fertilizing winter pastures and feeding hay. Crawfish producers were putting out traps. With major activities slowing down, farmers are mostly preparing for the upcoming crop year.

**MARYLAND and DELAWARE:** The weather in Maryland and Delaware has been very variable throughout the entire month of December. The temperatures have fluctuated between very cold days to then warm days, which seem to occur on a weekly basis. For this time of year, both states have received typical rainfall with some areas having seen abundant, above average rainfall. The western and northern counties in Maryland saw some snow early on in the winter which was unusual for that time of year. Farmers were able to get most crops harvested throughout both states while also planting

winter wheat and barley for next year. Reports are that both winter wheat and barley are looking good for this time of year. Overall, December has been normal for Maryland and Delaware besides the fluctuating temperatures but all fall plantings seem to be doing well. Farmers are out in the fields spreading manure, fixing equipment and planning for next spring's plantings.

**MICHIGAN:** Precipitation for the past four weeks ending December 29 ranged from 2.03 inches to 2.31 inches in the Upper Peninsula and 2.22 inches to 2.61 inches in the Lower Peninsula. Winter wheat condition rated 1% very poor, 6% poor, 25% fair, 53% good, and 15% excellent. Topsoil and subsoil moistures were mostly adequate to surplus. Temperature for the month of December averaged 20.3 degrees, 4.8 degrees below normal. Heavy snow cover protected winter wheat and alfalfa from below average temperatures in all but southeastern parts of the State, where only light snow cover was reported. Scattered fields of standing corn and unharvested soybeans were reported in northern and central parts of the State. Winter Storm Gemini struck the State on December 21st and downed trees, damaged buildings and left many areas without electricity for up to a week. This has caused hardships especially for dairy, cattle feeding, and poultry feeding operations.

**MINNESOTA:** December was a cold and wet month throughout the state of Minnesota. Statewide temperatures for the week ending December 22 were 4.0 degrees below normal at 10.4 degrees, with slightly above average precipitation. The week ending December 15 had an average temperature as low as 0.5 degrees statewide. The week ending December 9 showed average temperatures as low as 8.9 degrees below the normal 11.2 degrees, with a 0.49 inch greater than normal precipitation. During this week, the North Central and Northeast districts reported as high as 1.19 and 1.03 inches of precipitation, respectively. University of Minnesota reported that many communities fell within their top ten coldest Decembers on record, with the Twin cities ranking its 17th coldest December. Most reporting stations had greater than average snowfall. Two Harbors reported its snowiest December in history with nearly 55 inches of snowfall, while Duluth recorded its third snowiest December. Other significant snowfall amounts were in Wright, totaling over 30 inches in December.

**MISSISSIPPI:** December started with an ice storm in northern Mississippi and rain in central parts of the state. Temperatures for the month ranged from highs of 82 degrees during the first week to 35 degrees during the second week. On December 21, central Mississippi experienced damaging winds, including 2 tornadoes, as well as large amounts of rainfall. Rainfall measured anywhere from 1 inch to 4 inches in western Mississippi. Total rainfall for December ranged from 3 inches on the Louisiana border up to 10 inches in some locations. Most of the state received around 6 inches. Harvest of peanuts and other crops was completed by the end of the first week in December. Winter wheat has been planted and the majority, if not all, of the wheat has emerged. Most farm and ranch work was geared towards preparing for planting in the spring and taking care of livestock.

**MISSOURI:** December was colder with some regions of the state seeing higher than normal moisture. Average temperatures were 2 to 4 degrees below normal. Precipitation averaged 2.44 inches compared to the 30 year average of 2.70 inches. The condition of dormant winter wheat crop ranges

from poor to excellent with the majority rated fair. Heavy rain and moisture in some regions has caused wheat plantings to fail pushing winter wheat progress behind normal.

**MONTANA:** Topsoil moisture 4% very short, 16% last year; 21% short, 28% last year; 74% adequate, 53% last year; 1% surplus, 3% last year. Subsoil moisture 4% very short, 27% last year; 23% short, 30% last year; 69% adequate, 43% last year; 4% surplus, 0% last year. Corn harvested for grain 88%, 93% last year. Winter wheat condition 1% very poor, 2% last year; 5% poor, 6% last year; 34% fair, 52% last year; 54% good, 38% last year; 6% excellent, 2% last year. Winter wheat – wind damage 91% none, 79% last year; 8% light, 18% last year; 1% moderate, 3% last year; 0% heavy, 0% last year. Winter wheat – freeze & drought damage 92% none, 78% last year; 6% light, 17% last year; 2% moderate, 4% last year; 0% heavy, 1% last year. Winter wheat – protectiveness of snow cover 22% very poor, 7% last year; 3% poor, 21% last year; 46% fair, 49% last year; 26% good, 19% last year; 3% excellent, 4% last year. Range and pasture feed condition 8% very poor, 42% last year; 15% poor, 28% last year; 41% fair, 23% last year; 34% good, 7% last year; 2% excellent, 0% last year. Livestock grazing 25% open, 44% last year; 44% difficult, 22% last year; 31% closed, 34% last year. Livestock moved from summer ranges – cattle & calves 95%, 100% last year. Livestock receiving supplemental feed – cattle & calves 94%, 90% last year. Livestock receiving supplemental feed – sheep & lambs 93%, 96% last year. The month ending December brought cold, windy conditions with periods of milder weather throughout much of Montana. Huntley received the highest amount of precipitation for the month with 3.46 inches of moisture. Most other stations reported receiving 0.12 to 2.82 inches of precipitation. High temperatures ranged from the mid 30s to lower 60s, with the state-wide high temperature of 61 degrees recorded at Choteau and Fort Benton. All stations reported lows below 0 degrees with the coldest being Chinook at -43 degrees, followed by Jordan with -42 degrees.

**NEBRASKA:** For the month of December 2013, temperatures averaged near normal across central and western counties, while being 4-6 degrees below normal across northern and southeastern areas. Precipitation in the form of snow occurred early in the month and again before Christmas, but most accumulations were light. This left many stalk fields open for grazing, with forage supplies adequate in most areas. Drought conditions continue across much of the western half of the state. Topsoil moisture supplies rated 8 percent very short, 25 short, 67 adequate, and 0 surplus. Subsoil moisture supplies rated 14 percent very short, 30 short, 56 adequate, and 0 surplus.

**NEVADA:** The first half of December was bitterly cold in Nevada. Daily low temperatures were well below normal; sometimes over twenty degrees below normal. Precipitation across the State was below normal as well. Precipitation totals ranged from 0.04 inch at Tonopah to 1.07 inch at Eureka. Fall-seeded crops remained in mostly good condition as low temperatures were not severe enough to damage them in most areas. Winter pastures and dormant hay fields continued to help meet livestock feed needs due to the lack of snow cover. Livestock marketing and shipping continued at a modest pace. Hay shipping remained quite active. Onion marketing was busy. Potato processing was ongoing. Main farm and ranch activities included hay shipping, potato processing and shipping, onion sorting and shipping, and livestock sorting and shipping. Equipment repair was common and industry groups were

holding meetings.

**NEW ENGLAND:** Temperatures across most of New England ranged from 5 degrees below normal to 1 degree above normal during December. Precipitation during the month generally ranged from 2 to 5 inches. A large portion of the precipitation came in the form of snow, with above average snowfall totals ranging from 10 to 30 inches. Exceptions include some coastal locations that received less than 10 inches of snow and northern Maine receiving up to 44 inches of snow. The first few days of the month were seasonably cool across New England with snow showers taking place in northern Maine. Temperatures fluctuated moderately between December 5 and 11; rain and snow showers fell during this period depending on location. Mid-December was marked by a prolonged arctic blast; temperatures were 10 to 25 degrees below normal during these days. Snowstorms were present during mid-December and were responsible for a big portion of monthly snowfall totals. These storms caused record-breaking snow in parts of New England. After December 19, most of New England experienced temperatures that were 10 to 25 degrees above normal as well as significant rainfall. In contrast, northernmost latitudes remained cool enough for heavy winter precipitation. Seasonably cold weather returned by Christmas Day and temperatures fluctuated heavily throughout the rest of December.

**NEW JERSEY:** Temperatures on average were slightly above normal in December. Precipitation was above normal throughout the state. Every county received snow accumulation during the month. Farmers finished their 2013 season harvesting of corn and soybeans. Other activities included attending meetings, equipment repair, greenhouse work, and feeding stored hay to livestock.

**NEW MEXICO:** December began with above average temperatures, but by mid-month strong arctic air from the northwest pounded the state with below freezing temperatures and snow in the central northern mountains and high winds across the eastern plains. Locations that had below zero temperatures were: Chama -1 degrees, Las Vegas -3 degrees and Moriarty -15 degrees. Late December saw average temperatures vary widely across the state, but stayed very close to normal. Precipitation was recorded at a few northern locations.

**NEW YORK:** New York for the month of December has experienced a wide variety of temperatures and weather patterns. There are reports that there is still some corn standing in fields as farmers were unable to finish harvest with wet field conditions which were then followed by snow in many parts of the state. Some winter wheat and rye was able to be planted but not as much as farmers would have liked to have planted. Before the snow arrived, winter wheat was said to have been in good condition. There is expected to be some loss of wheat and rye though, as some areas are experiencing cold temperatures with no snow to protect the cover crops from these damaging temperatures. Snow storms have hit much of New York where some areas have reported several inches of snow and other areas reporting up to almost a foot of snow from one storm. There was a warm up right before Christmas, this allowed the snow to melt in many areas which has caused some flooding in regions of the state. Overall reporters are happy with the winter weather so far this year, reporting that they expect minimal effects on agricultural products. Farmers are busy spreading manure, fixing machinery and starting to

plan for next spring's planting season. As of December 29, 2013, the Albany area received 19.5 inches of snow for the month, with the greatest snowfall on December 14th with 6.5 inches of snow. The highest temperature of 54 degrees occurred on December 22nd, while the lowest temperature of -5 degrees occurred on the 17th. The average temperature was 28.1 degrees, which is 0.6 degrees below normal. A total of 3.36 inches of rain fell, which is 0.6 inches above the average. Albany has dealt with fog or mist, ice pellets, freezing rain and snow throughout most of the month of December.

**NORTH CAROLINA:** There were 2.6 days suitable for field work for the week ending December 29th compared to 3.3 for the week ending December 15th. Statewide soil moisture levels were rated at 2% short, 59% adequate and 39% surplus. Much of the state received heavy rainfall during the week with many areas receiving over 3 inches and some areas recording over 7 inches of precipitation. Average temperatures ranged from 2 to 6 degrees above normal. This was the second week in a row for substantial rainfall which greatly limited field work and is making the last of the soybean harvest extremely slow. As winter approaches farmers will turn their attentions to preparing for next year's crops.

**NORTH DAKOTA:** Winter wheat conditions 3% very poor, 1% poor, 15% fair, 73% good, 8% excellent. Cattle/Calf conditions 0% very poor, 2% poor, 11% fair, 75% good, and 12% excellent. Sheep/Lamb conditions 0% very poor, 1% poor, 11% fair, 78% good, and 10% excellent. Stock water supplies 0% very short, 3% short, 90% adequate, and 7% surplus. Hay & forage supplies 0% very short, 2% short, 82% adequate, and 16% surplus. Colder than normal temperatures increased livestock feed usage across much of the state. A few farmers continued to harvest corn, as conditions allowed. Other activities during the month included drying grain, weaning calves, and marketing livestock.

**OHIO:** The December 2013 statewide average temperature as of the 29th of the month was 32.2 degrees, less than half a degree above normal but 5.8 degrees colder than 2012. Rainfall averaged 2.72 inches statewide, which was 49 percent more than the average for the month of December. Fifty four percent of topsoil was reported as having surplus moisture and forty five percent was reported as adequate. Some farmers have reported areas of standing water but winter wheat conditions remain high despite this. Only 3 percent of the crop was rated very poor or poor, 29 percent was fair, 55 percent was good, and 13 percent was rated as excellent. Livestock producers have reported that the pastures are generally good. Eighteen percent of the pasture was reported in poor or very poor condition, 36 was rated as fair, and 46 percent was good or excellent. Most producers have started to feed their winter rations earlier than normal.

**OKLAHOMA:** Topsoil moisture 18% very short, 25% short, 54% adequate, 3% surplus. Subsoil moisture 27% very short, 23% short, 48% adequate, 2% surplus. Wheat 1% very poor, 7% poor, 29% fair, 52% good, 11% excellent; grazed 32% this month, 22% last year, 32% average. Canola 2% very poor, 8% poor, 31% fair, 44% good, 15% excellent. Rye 2% very poor, 9% poor, 32% fair, 48% good, 9% excellent; grazed 68% this month, 30% last year, 57% average. Oats 5% very poor, 5% poor, 36% fair, 45% good, 9% excellent; grazed 28% this month, n/a last year, 15% average. Livestock 1% very poor, 4% poor, 27% fair, 62% good, 6% excellent. Pasture and Range 8% very poor, 14% poor, 45% fair, 30% good, 3% excellent.

Multiple winter storms kept temperatures below normal for the month of December and brought winter precipitation of all types. December 5-6 a storm moved through in two waves, bringing freezing rain to southern Oklahoma and sleet changing to snow as it traveled northeast, with additional snowfall falling into Friday. Temperatures remained below freezing for the next few days in most of the state. Camargo recorded a low of five degrees below zero on the 10th. The third weekend of the month another winter storm brought snow to northwestern Oklahoma, rain to southeastern Oklahoma and ice to the rest of the state, with close to an inch of ice observed in Canadian County. Damage to some winter forage was reported, but overall the storms brought slow melting moisture across the state. The East Central and Southeast districts averaged more than three inches of precipitation for the month, while the Panhandle and West Central districts averaged less than half an inch. All nine districts were still below normal precipitation for the period since September 1st. Drought conditions remained in the western half of the state, with the worst conditions in far southwestern Oklahoma. Small grain and pasture conditions were rated mostly good to fair for December. This is a big improvement over the previous year, and allowed more grazing opportunities for livestock.

**OREGON:** 5.7 days. Winter Wheat Condition: 0% Very Poor, 0% Poor, 55% Fair, 44% Good, 1% Excellent. Field Crops: In Coos and Curry Counties grass growth slowed substantially. In Douglas County all crops were in dormancy due to cold temperatures. In Washington County winter wheat was doing well. In Klamath County some fall seeded grain was not in dormancy anymore and was growing. In some areas of Umatilla County the winter wheat was brown and appeared to be affected by the negative temperatures earlier in the month. Fruits and Nuts: In Northwestern Oregon producers were cleaning filbert pruning from orchards. Nurseries and Greenhouses: In Douglas County tall trees were being balled and burlapped by producers. Livestock, Range and Pasture: In Linn County pasture ground was in short supply. Grass seed fields do not have a lot of overgrowth which made livestock producers start purchasing feed due to limited grazing availability. In Washington County livestock was in good shape and there was supplemental feeding for all animals.

**PENNSYLVANIA:** There were several days during December where snowfall had reached over an inch in some areas. Both soybean and corn harvests were in the process of being completed. Finishing up these harvests may have been delayed due to the lack of available storage space. There were also several days where temperatures reached the high 60's in some areas right before Christmas. Farmers are currently catching up on building and equipment maintenance. Orchard owners are busy pruning trees, mowing, and controlling rodents. As of December 30, 2013, the Harrisburg area received 9.2 inches of snow for the month, with the greatest snowfall on December 14th. The highest temperature of 70 degrees occurred on December 22nd, while the lowest temperature of 17 degrees occurred on the 19th and 25th. The average temperature was 34.3 degrees, which is 0.1 degrees above normal. A total of 3.74 inches of rain fell, which is 0.68 inches above the average. There was also low visibility due to thick fog during many days throughout the month. High winds were also an issue, with wind speeds approaching 43 miles per hour on the 22nd of December.

**SOUTH CAROLINA:** December began with cool temperatures and sunny skies. Highs were in the fifties for most

counties with a few southern counties in the low sixties. Seasonally cool temperatures for Saturday eased higher for Sunday, December 4th. The Charleston AP reached 74 degrees on Sunday afternoon. The warm temperatures led to showers on Tuesday night, with Jocassee Dam receiving 1.64 inches and Pickens 0.95 inches. Walterboro's Wednesday afternoon 81-degree high temperature plummeted 44 degrees to a Thursday morning low temperature of 37 degrees. High temperatures on Friday, December 9th, retreated back into the 50's and settled into that range for the weekend. Florence and the North Myrtle Beach AP reached 57 degrees on Saturday afternoon. Sunday, December 11th, started with a frosty 31 degrees at Sandhill and McCormick. The State average temperature for the period from December 5th to December 11th was three degrees above normal. The State average rainfall for the period was 0.4 inches. A cold rain fell across the southern counties on Monday morning, December 12th. Tuesday's morning low temperature fell to 27 degrees at Saluda and Cedar Creek before much warmer air began to arrive from the south. Sandy Run and Pinopolis reported a mild 72 degrees on Wednesday. The string of unseasonably high temperatures continued on Friday, December 16th, for the central and eastern parts of the State with Columbia, Dillon, Hartsville and the Georgetown AP each recording 77 degrees. Mostly sunny, cool weather was observed over the last fall weekend of the year. The State average temperature for the seven-day period was seven degrees above normal. The State average rainfall for the week was 0.1 inches. Milder air was observed on Tuesday, December 20th as Orangeburg, Pinopolis and the Beaufort Marine Corps Air Station each reached 74 degrees. Evening showers fell over parts of the Piedmont and Upstate. By Wednesday morning, Pickens had measured 0.97 inches of rain. A boundary of cooler weather eased into the State on Christmas Eve. McCormick and Saluda recorded a Saturday high temperature of just 58 degrees. Christmas Day Sunday began with partly cloudy skies, then periods of light rain for central South Carolina and eastward to the coast. The State average temperature for the seven-day period was nine degrees above normal. The State average rainfall for the period was 0.6 inches. Monday, December 26th began with mostly sunny weather and Walhalla reporting a low temperature of 27 degrees. A boundary passed through the State overnight with periods of heavy rain and a few reports of thunder. Much of Wednesday saw cooler air spreading over the State. On Thursday morning, the temperature at Anderson, Greenwood, Sandy Run and Cades fell to 25 degrees with heavy frost observed across the Midlands. A gradual warming trend started on Friday, December 30th and continued through the year-ending weekend. The State average temperature for the seven-day period was five degrees above normal. The State average rainfall for the period was 0.8 inches.

**SOUTH DAKOTA:** Winter wheat conditions 0% very poor, 2% poor, 28% fair, 63% good, 7% excellent. Cattle/Calf conditions 0% very poor, 1% poor, 14% fair, 76% good, 9% excellent. Sheep/Lamb conditions 0% very poor, 1% poor, 13% fair, 80% good, 6% excellent. Stock water supplies 1% very short, 10% short, 86% adequate, 3% surplus. Hay & forage supplies 0% very short, 2% short, 88% adequate, and 10% surplus. Below normal temperatures and average snowfall were experienced across most areas of the state. Agricultural activities included caring for livestock and marketing grain.

**TENNESSEE:** Days suitable 3.5. Topsoil moisture 3% short, 67% adequate, 30% surplus. Subsoil moisture 4% short, 76% adequate, 20% surplus. Farm activities included tobacco

stripping and feeding livestock. Pasture conditions mostly fair to good.

**TEXAS:** Precipitation across Texas during December was near normal. Some areas of the Cross Timbers, Edwards Plateau, Southern High Plains, and Trans Pecos received slightly above normal amounts of precipitation for the month, and some areas of South East Texas and the Upper Coast came in with amounts well below normal. Early in the month, ice storms affected areas of North Texas. Moisture aided the growth of cool-season grasses. More moisture was needed in many areas of the state to promote small grain crop development. Winter wheat and oat seeding, and cotton harvest, was mostly complete. Producers continued preparing cropland for spring planting.

**UTAH:** December weather was colder than usual. Farmers have been limited in field work and have spent much of their time caring for livestock and trying to keep water lines from freezing. In Box Elder County, there were some storms in the eastern half of the County but most of the county remained dry. Fall seeded crops were dormant but additional moisture will be needed. Cattlemen were feeding hay and there was some grazing on winter ranges but forage was poor due to dryness. In Millard County conditions were near normal. Snow cover is spotty allowing some cattle to graze on winter ranges. In Utah County, additional snow pack is needed in the mountains for irrigation next year. Crops are doing well. Fruit growers are preparing to prune fruit trees starting in January. Livestock there were doing well. In Iron County temperatures were below normal in December.

**VIRGINIA:** Beef cattle forage obtained from pastures 33%. Milk cow forage obtained from pastures 12%. Sheep forage obtained from pastures 41%. Small grain and winter grazing crops 4% poor, 29% fair, 60% good, 7% excellent. The month of December was wet with extreme ups and downs in the temperature. Some areas experienced near record highs, only to be followed with freezing temperatures and snow. The wet weather made pastures muddy; slightly less feed was obtained from pastures when compared to last year. Overall, the majority of livestock were in good condition. There has been limited fieldwork due to the wet weather; however, some progress was made on ditch maintenance, mowing field borders, and machinery repairs. In preparation for a fall calf crop, artificial insemination was underway. Other farming activities for the month included taking soil samples, tax planning, pricing inputs for 2014, attending pesticide recertification workshops, purchasing equipment, and hunting deer.

**WASHINGTON:** Western Washington saw unseasonably cold temperatures throughout the month. Choose and cut Christmas tree growers reported good sales. Freezing temperatures led to increased sales of haylage and conventional baled hay. In central Washington relatively mild and dry conditions have led to minimal reports of winter crop damage. Some wheat growers are concerned about dryland wheat acreage without snow cover. In eastern Washington, growers are concerned about the damage of sub-zero temperatures on crops with no snow cover, but the full extent of the effects will not be known until early spring.

**WEST VIRGINIA:** Topsoil moisture was 2% short, 83% adequate, and 15% surplus compared to 5% short, 92%

adequate, and 3% surplus last year. Hay and roughage supplies were 3% short and 97% adequate compared to 6% short, 93% adequate, and 1% surplus last year. Feed grain supplies were 100% adequate compared to 5% short and 95% adequate last year. Winter wheat conditions were 100% good. Cattle and calves were 1% poor, 7% fair, 90% good, and 2% excellent. Sheep and lambs were 4% fair, 95% good, and 1% excellent. The weather for the month of December varied between a mix of cold weather with snow and warmer weather with rain as various weather patterns have moved over the State. On Saturday, December 21st and Sunday, December 22nd, temperatures were unseasonably high and many records were broken. Farming activities included feeding hay, planning for the next crop season, and celebrating the holidays.

**WISCONSIN:** December average temperatures for the state of Wisconsin ranged from 4 to 7 degrees below normal. Average high temperatures ranged from 21 to 30 degrees. Average low temperatures ranged from 4 to 14 degrees. Full month precipitation ranged from 1.45 inches in La Crosse to 1.88 inches in Milwaukee. The entire state received snow in December. Of the reporting stations, Green Bay received the most snow, with 26.2 inches since December 1.

**WYOMING:** Topsoil moisture 2% very short, 12% short, 84% adequate, 2% surplus. Subsoil moisture 2% very short, 21% short, 77% adequate. Average snow depth cover 2.60 inches. Hay and roughage supplies 2% very short, 7% short, 90% adequate, and 1% surplus. Stock water supplies 1% very short, 25% short, 74% adequate. Cattle condition 3% poor, 41% fair, 53% good, 3% excellent. Calf losses 62% light, 38% normal. Sheep condition 1% very poor, 5% poor, 43% fair, 50% good, 1% excellent. Lamb losses 66% light, 34% normal. Winter Wheat condition 20% fair, 75% good, 5% excellent; wind damage 60% light, 40% none; freeze damage 2% light, 98% none. According to NRCS Monday morning snow report, the snow water equivalent is at 119 percent compared to 88 percent last year. December's high temperatures ranged from 35 degrees at Lake Yellowstone to 62 degrees in Torrington. Low temperatures ranged from negative 31 degrees in Shirley Basin to negative 10 degrees in Evanston. Lake Yellowstone received the most precipitation for the month at 1.57 inches followed by Casper at 1.12 inches, and Big Horn and Evanston at 1.09 inches. Lincoln County reported cold temperatures, but nothing unusual for this time of year. Uinta County reported mountain and valley snowpack is below normal for this time of year. Supplemental feeding is in full swing. Precipitation is needed county wide. Platte County reported no new crop calves or lambs being born yet. Hay production was adequate this year, but quality was spotty. Livestock producers that depend on purchased hay would have tight supplies on hand due to the high prices this year. Sheridan County reported heavy winds this past weekend and blizzard conditions. Crook County reported 1 to 1.5 feet of snow in the bear lodge hills and 2 to 2.5 feet in the Moskee area. Average temperatures ranged from 10 degrees at Lake Yellowstone and Shirley Basin to 27 degrees in Cheyenne, and Torrington. Temperatures were below normal in 30 of the 33 reporting stations. Temperatures ranged from 8 degrees below normal in Wheatland to 1 degree above normal in Torrington. All 33 reporting stations reported some precipitation, ranging from 0.05 inch in Torrington to 1.57 inches in Lake Yellowstone. Eighteen stations are reporting above normal precipitation for the year thus far.

# International Weather and Crop Summary

December 22-28, 2013

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

## HIGHLIGHTS

**EUROPE:** Rain expanded over western and central Europe, curtailing fieldwork but improving winter grain prospects on the Iberian Peninsula.

**WESTERN FSU:** Dry, unseasonably warm weather maintained favorable conditions for dormant winter wheat but slowly eroded the region's protective snow cover.

**MIDDLE EAST:** Cold, dry weather prevailed across the region, keeping northern winter grains dormant.

**NORTHWEST AFRICA:** Increasingly heavy rain alleviated concerns over short-term dryness in western growing areas and maintained abundant soil moisture in the east.

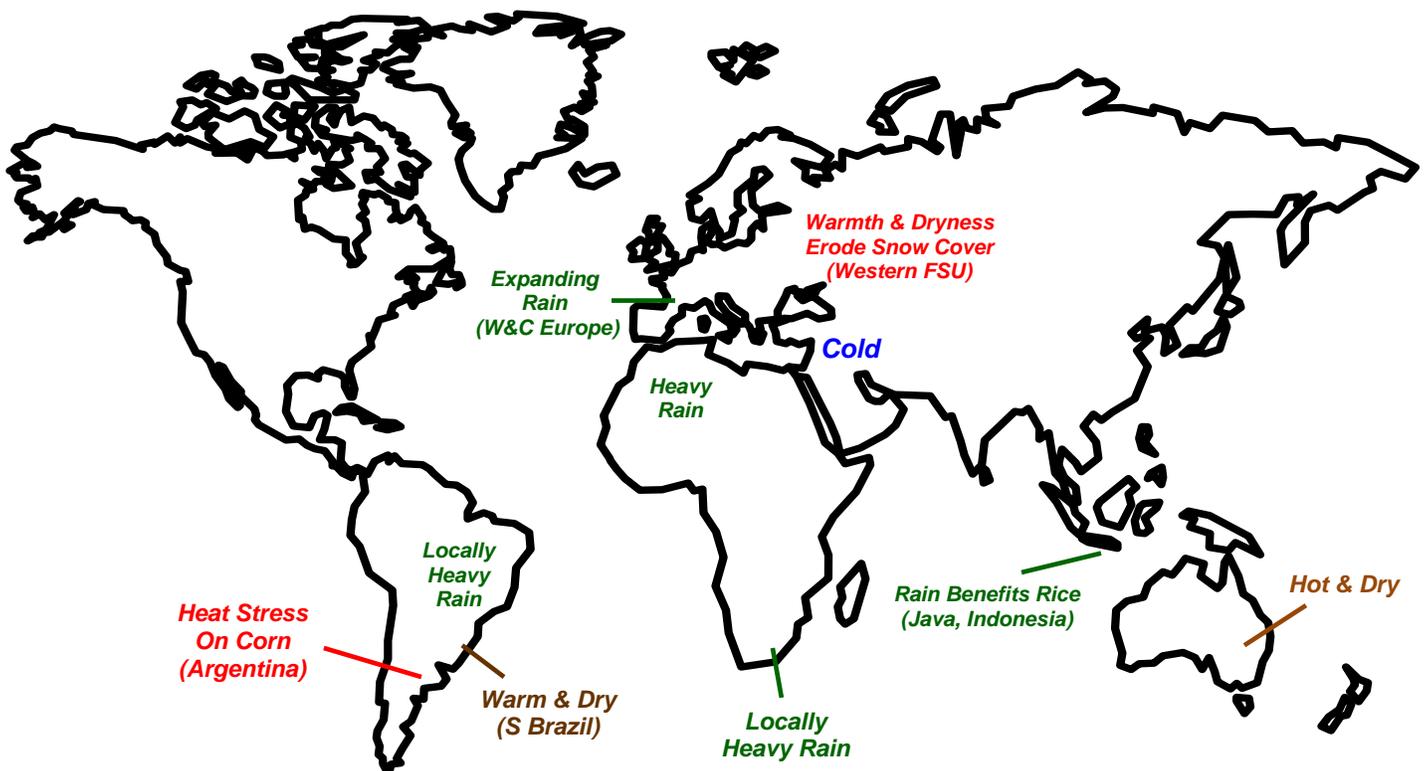
**SOUTHEAST ASIA:** Showers benefited rice in Java, Indonesia.

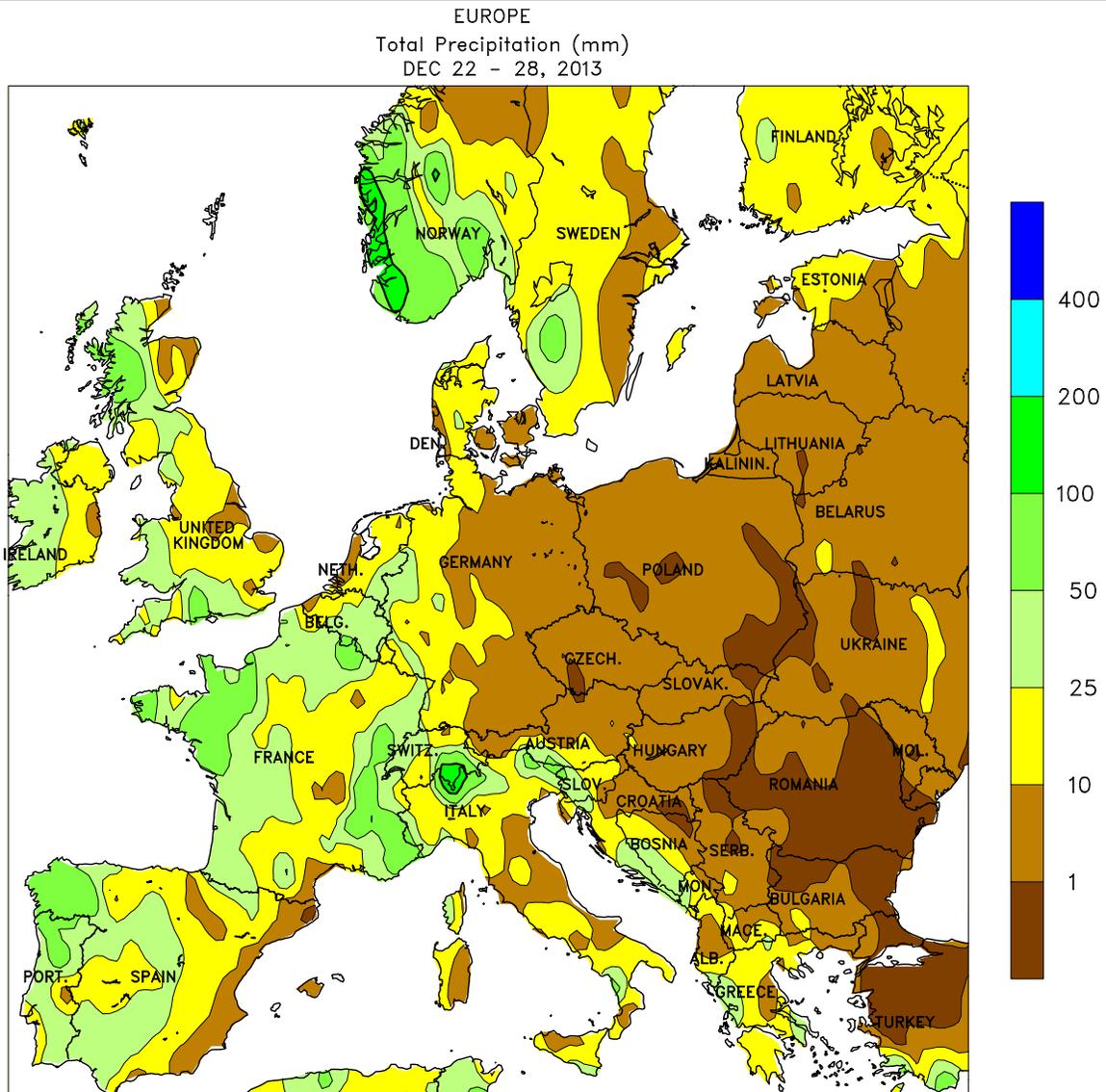
**AUSTRALIA:** Hot, mostly dry weather increased irrigation requirements for summer crops.

**SOUTH AFRICA:** Widespread, locally heavy rain maintained favorable levels of moisture for corn and other rain-fed summer crops.

**ARGENTINA:** Unseasonably hot weather stressed reproductive corn.

**BRAZIL:** Warmth and dryness prevailed in southern summer crop areas but widespread rain continued in the more northerly soybean areas.





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Computer generated contours  
Based on preliminary data

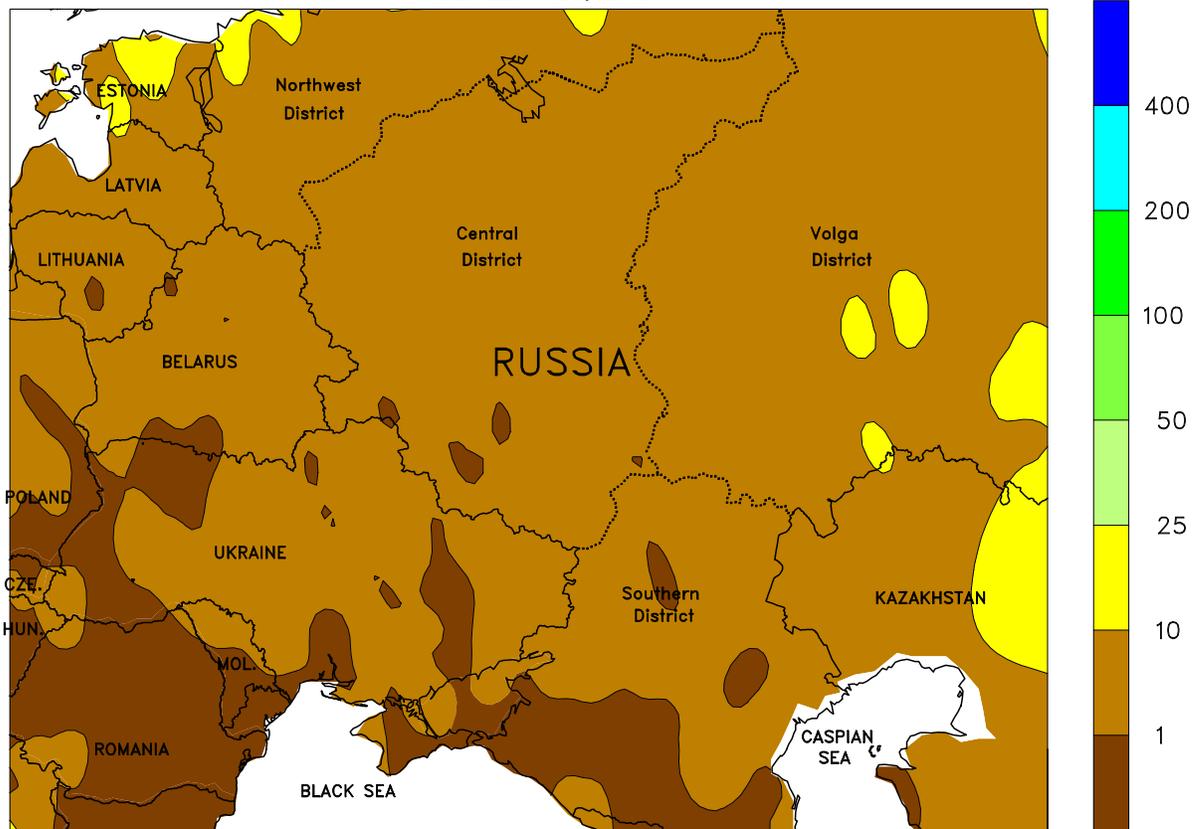


**EUROPE**

Increasingly wet weather across central and western growing areas contrasted with dry, warm conditions in eastern Europe. A slow-moving cold front generated widespread, locally heavy showers (10-60 mm) across the western half of the continent, hampering late summer crop harvesting in France but alleviating drought concerns on the Iberian Peninsula. Farther south, a developing storm system produced heavy rain and mountain snow (10-75 mm) in northern Italy, boosting soil moisture for winter wheat and improving irrigation reserves for warm-season crops. Showers also maintained abundant

soil moisture for winter wheat and rapeseed from the southern United Kingdom and northern France into northern Germany. Dry weather prevailed in eastern Europe, although a late-week storm in Greece halted seasonal fieldwork with locally more than 40 mm of rain. Temperatures ahead of the cold front topped 10°C across most of Europe’s primary winter crop areas, keeping the continent uncharacteristically devoid of snow cover. Temperatures averaged 5 to 7°C above normal in many areas, which reduced winter crop cold hardiness but eliminated the risk of freeze damage or winterkill.

WESTERN FSU  
Total Precipitation (mm)  
DEC 22 - 28, 2013



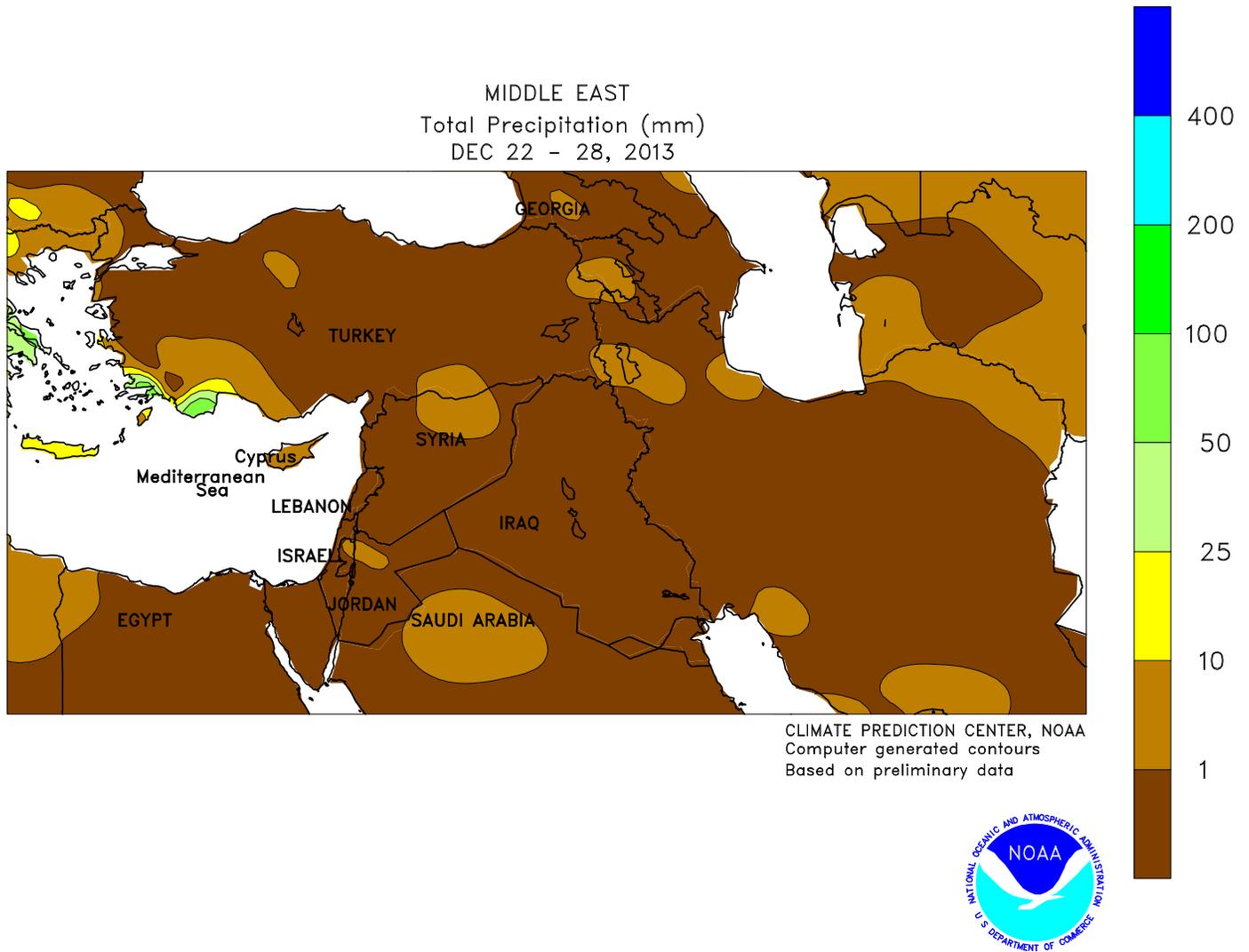
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**WESTERN FSU**

Dry, unseasonably warm weather maintained favorable overwintering conditions for wheat but left portions of the region uncharacteristically devoid of snow cover. Temperatures up to 8°C above normal in western and northern crop areas minimized the risk of winterkill but slowly eroded the region's

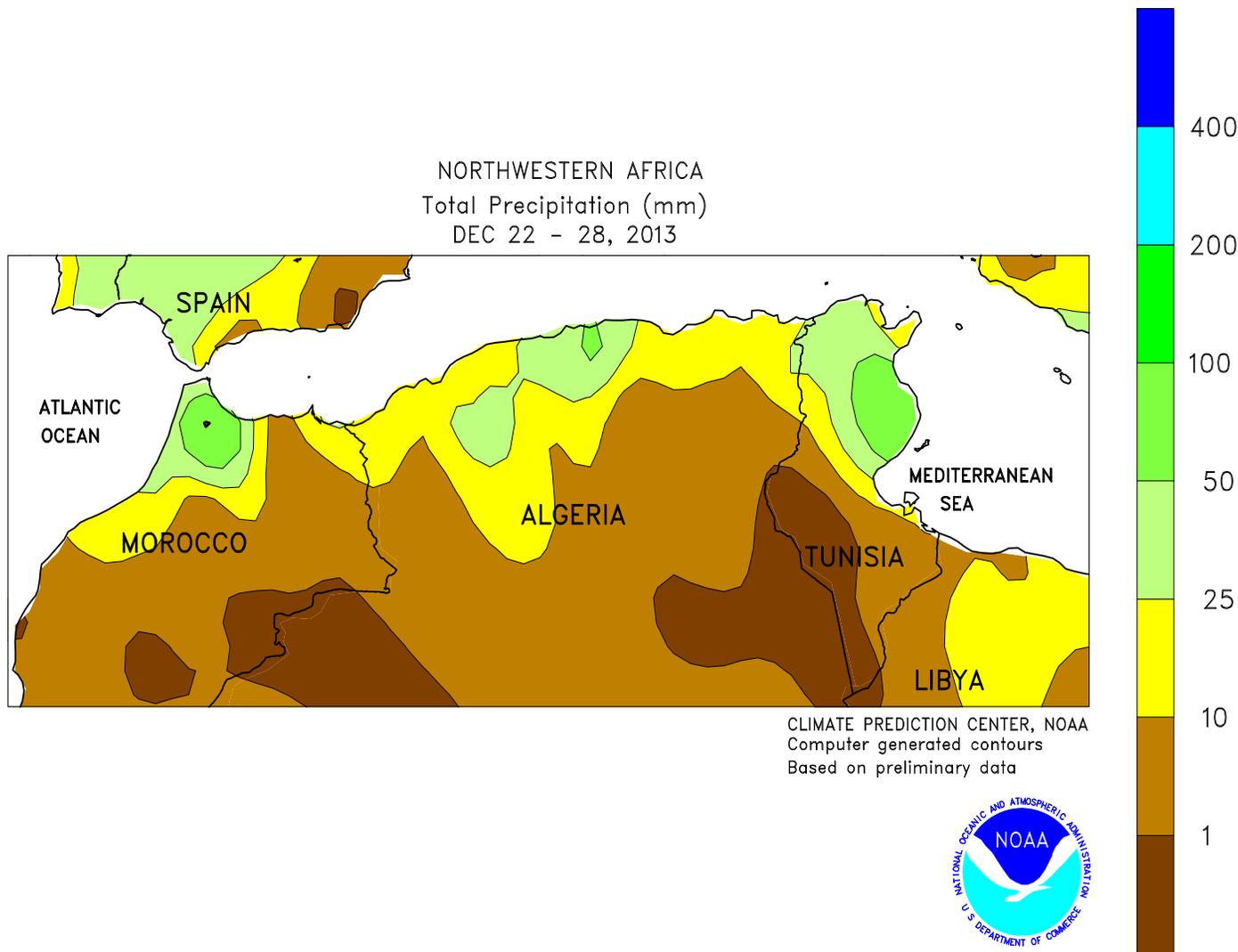
protective snowpack. In key southern winter wheat areas, sunny skies and above-normal temperatures (1-4°C above normal) melted much of the remaining shallow snow cover. At week's end, only crops in the Volga and eastern Central District were adequately protected with 5 to 20 cm of snow.



**MIDDLE EAST**

Cold albeit dry weather continued over the region, keeping winter grains dormant. Temperatures averaged 2 to 8°C below normal across key wheat and barley areas of Turkey and Iran, which coupled with a locally deep snow cover that kept winter grains dormant and well insulated. Chilly conditions also lingered from the eastern Mediterranean

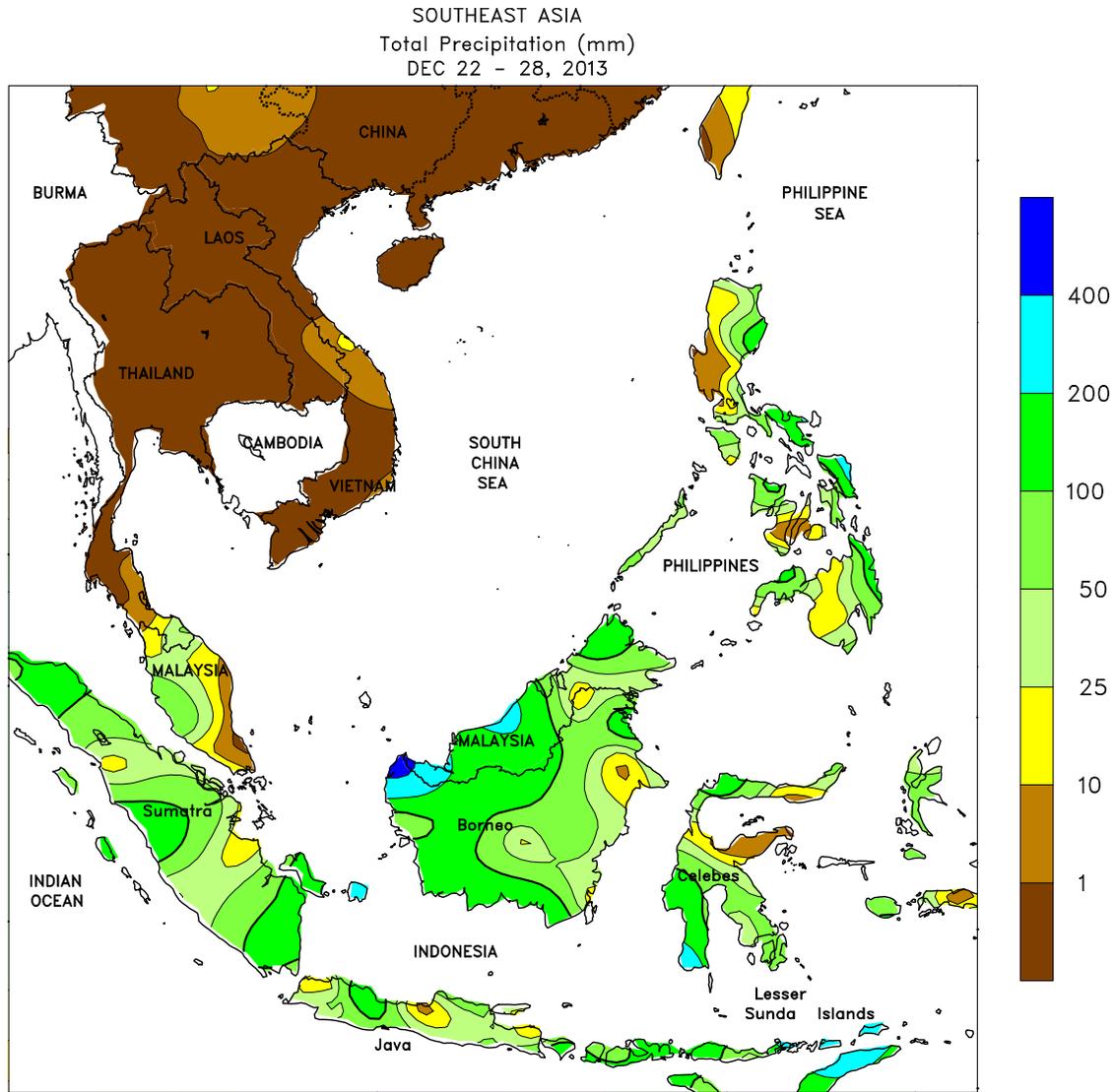
Coast into Iraq, with additional hard freezes (-5 to -2°C) as far south as Jordan and northern Saudi Arabia likely causing some damage to tender vegetation. At week's end, a slow-moving Mediterranean storm was approaching the region, ending the spell of dry weather in western portions of the region.



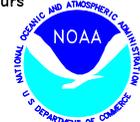
**NORTHWESTERN AFRICA**

Increasingly heavy rain alleviated dryness concerns in the west and boosted soil moisture for winter grains in eastern growing areas. A cold front swept across the region, producing much-needed showers (5-25 mm, locally more) in northern Morocco's winter wheat areas. The rain eased short-term dryness, but southern portions of Morocco remained

unfavorably dry. A developing storm system in the Mediterranean Sea produced 10 to locally more than 50 mm of rain over Algeria and Tunisia, maintaining abundant soil moisture for vegetative winter grains. Temperatures averaged 1 to 3°C above normal, with no untimely freezes or damaging heat reported.



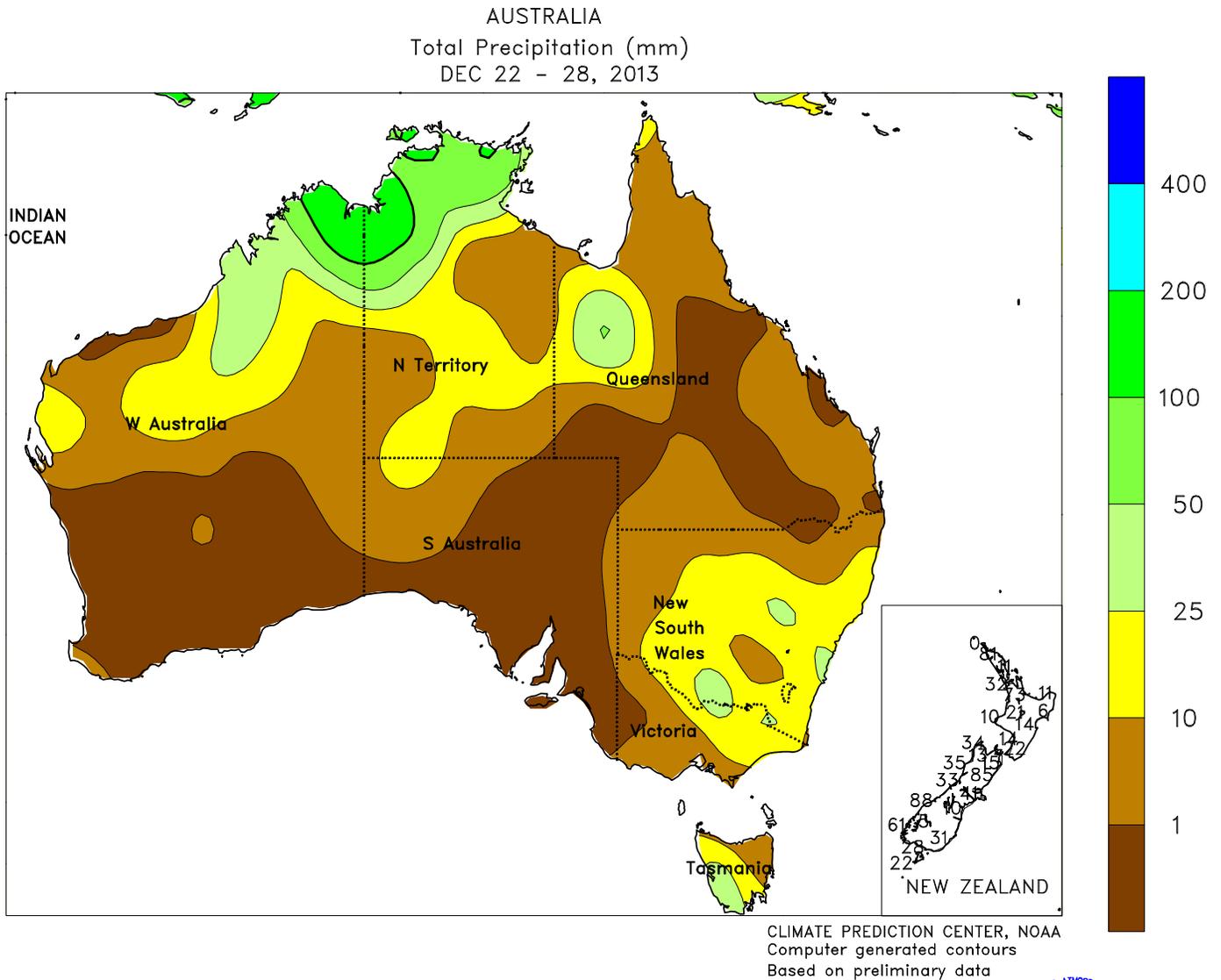
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**SOUTHEAST ASIA**

Widespread, locally heavy rain increased moisture for rice and other crops across Indonesia and Malaysia. Moderate to heavy showers (25-100 mm, locally in excess of 200 mm) fell throughout Java, Indonesia, though amounts were generally below those of last week. Similar amounts were recorded farther north, including most major oil palm areas of Malaysia and Indonesia. Heavy rain (greater than 100 mm) also

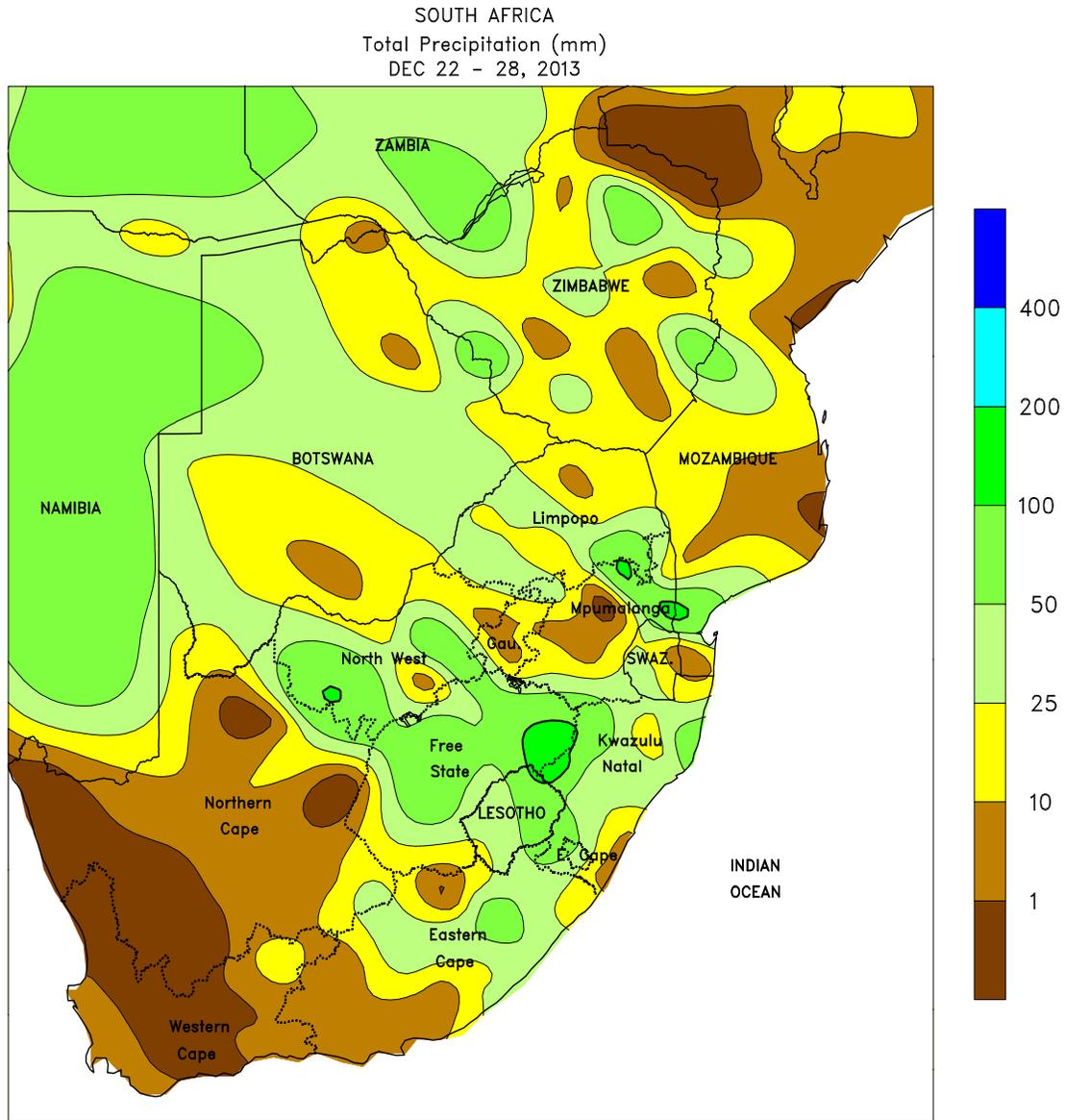
continued in the eastern Philippines, with lighter amounts (25-100 mm) in most major rice and corn areas of northern Luzon and central Mindanao. Elsewhere, mostly dry, albeit cool, weather dominated Indochina. Weekly temperatures averaged up to 4°C below normal, with daytime highs reaching the upper 20s degrees C in central and northern Thailand, lowering moisture requirements of dry-season rice and corn.



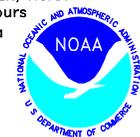
**AUSTRALIA**

In Queensland and New South Wales, hot, mostly dry weather increased irrigation requirements for cotton, while reducing soil moisture for dry land crops, such as sorghum. Temperatures in major summer crop producing areas averaged about 1 to 2°C above normal, with maximum temperatures in the middle 30s degrees C.

Farther south, widespread showers (10-25 mm, locally near 40 mm) in central and southern New South Wales benefited summer crops but hampered late winter grain harvesting. Elsewhere in southeastern and western Australia, warm, dry weather allowed winter crop harvesting to proceed without delay.



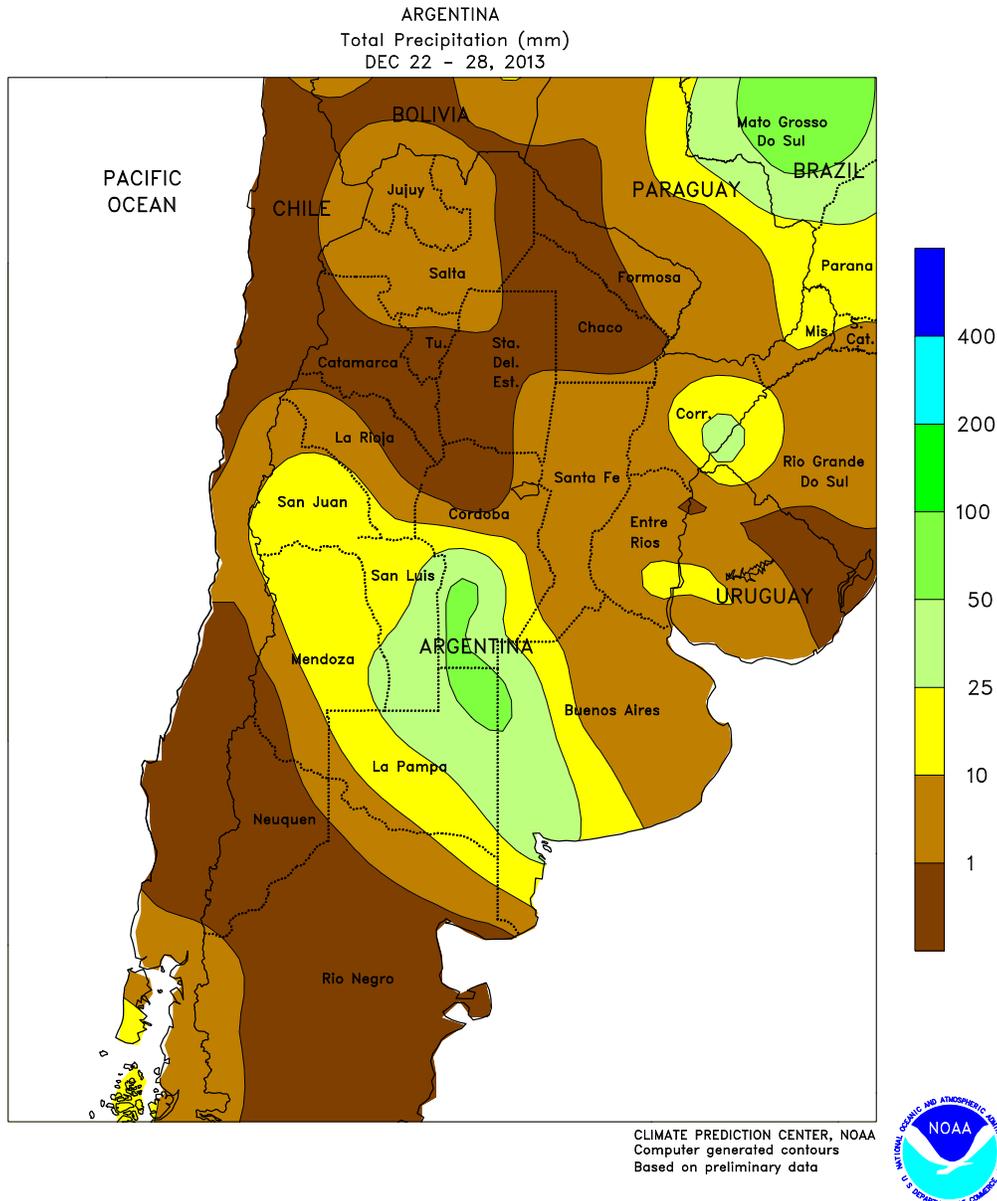
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Based on preliminary data



**SOUTH AFRICA**

Widespread, locally heavy rain maintained generally favorable conditions for corn and other rain-fed summer crops. Rainfall increased from the previous week in nearly all eastern farming areas, with amounts totaling more than 50 mm in recently dry western sections of the corn belt (North West and Free State). A few eastern sections of the corn belt were the exception, as lighter rain (less than 25 mm) fell in Gauteng and central Mpumalanga, although moisture levels should be overall favorable for vegetative corn after prior weeks of beneficial rain. Moderate to heavy

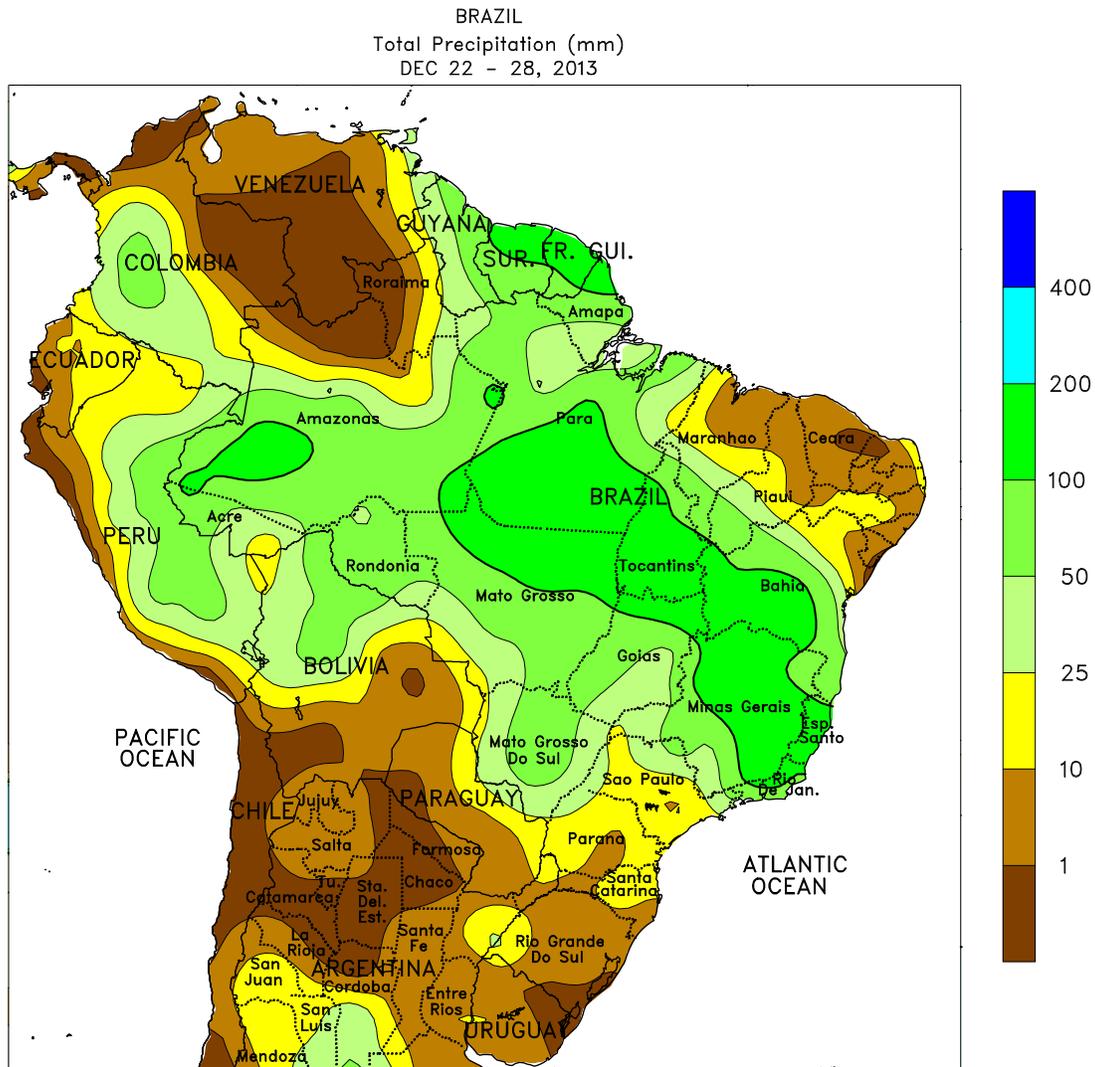
rain (10-50 mm in most areas) also fell from Eastern Cape to eastern Mpumalanga, including most rain-fed sugarcane areas of southern KwaZulu-Natal. Drier conditions prevailed in Western and Northern Cape, with daytime highs in the lower and middle 30s (degrees C) fostering rapid development of irrigated summer row crops and tree and vine crops. Farther east, weekly temperatures averaged 1 to 2°C above normal, with daytime highs briefly reaching the upper 20s in eastern sections of the corn belt (Mpumalanga) and the lower 30s elsewhere.



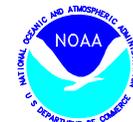
**ARGENTINA**

Unseasonably hot weather stressed reproductive corn and other heat-sensitive summer crops in major production areas of central Argentina. Weekly temperatures averaged 4 to 6°C above normal, with daytime highs reaching 40°C in La Pampa, western sections of Buenos Aires, and southern sections of Cordoba and Entre Rios. Rain and thundershowers brought some temporary relief from the heat; rainfall totaled more than 25 mm from southern Cordoba and San Luis to southwestern Buenos Aires, but amounts were below 10 mm elsewhere. Although summer grain and oilseed planting is still underway nationally, a portion of the early-planted corn was advancing through reproduction and more susceptible to damage from the

excessive heat. Hot, mostly dry weather dominated the north, with weekly temperatures averaging 4 to 6°C above normal and daytime highs reaching 40°C on numerous days. As in central Argentina, additional rainfall and cooler weather are needed to end stress on predominantly rain-fed summer grains, oilseeds, and cotton. According to Argentina’s Ministry of Agriculture, corn and soybeans were 77 and 81 percent planted, respective, as of December 26, slightly behind last year’s pace for both crops. In addition, winter wheat was 87 percent harvested (16 points ahead of last year), with most of the remaining acreage to be harvested in major production areas of southern Buenos Aires.



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Computer generated contours  
Based on preliminary data



**BRAZIL**

Unseasonable warmth and dryness prevailed over southern Brazil, reducing moisture for soybeans and corn. Little to no rain fell from Rio Grande do Sul to southern Sao Paulo, where weekly temperatures averaged 2 to 4°C above normal (daytime highs reaching the middle and upper 30s degrees C). It was the second week of unseasonable warmth and dryness for these areas, and rain will be needed soon to prevent impacts on yield potential of immature, main-season grains and oilseeds. Rainfall was also lighter-than-usual (less than 25 mm) in key sugarcane areas of Sao Paulo but heavier showers returned to Mato Grosso do Sul, with

local amounts in excess of 50 mm boosting moisture for corn and soybeans. Farther north, above-normal rainfall (50-150 mm) continued from Mato Grosso eastward through southern Bahia and Espirito Santo, maintaining overall beneficial conditions for soybeans, cotton, and other crops. Unlike last week, however, seasonably drier conditions prevailed in Brazil’s northeastern tip. Weekly average temperatures were near normal in these more northerly farming areas, with daytime highs reaching the middle and upper 30s in the traditionally warmer locations of Mato Grosso and Tocantins.

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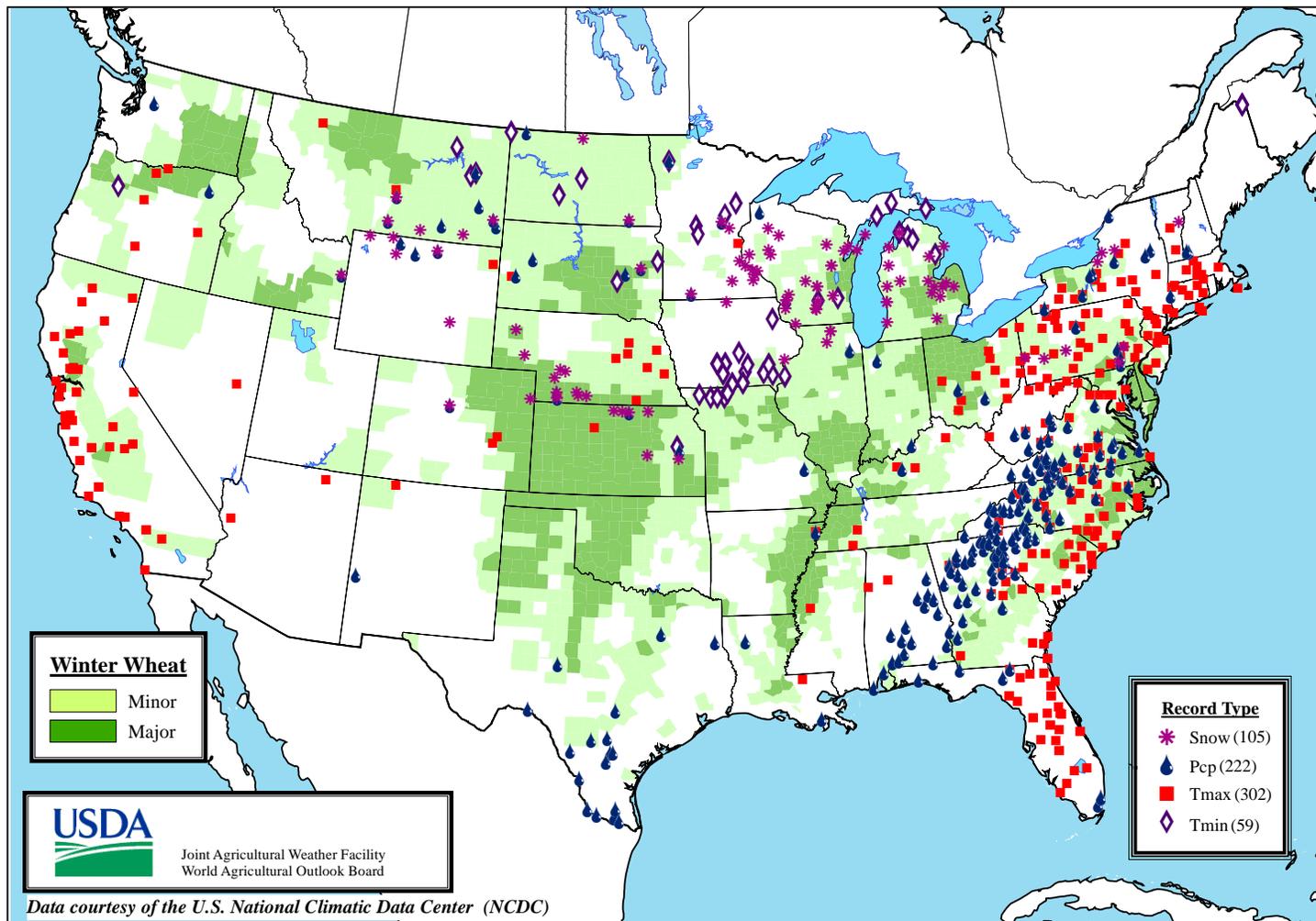
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## December 22-28, 2013



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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