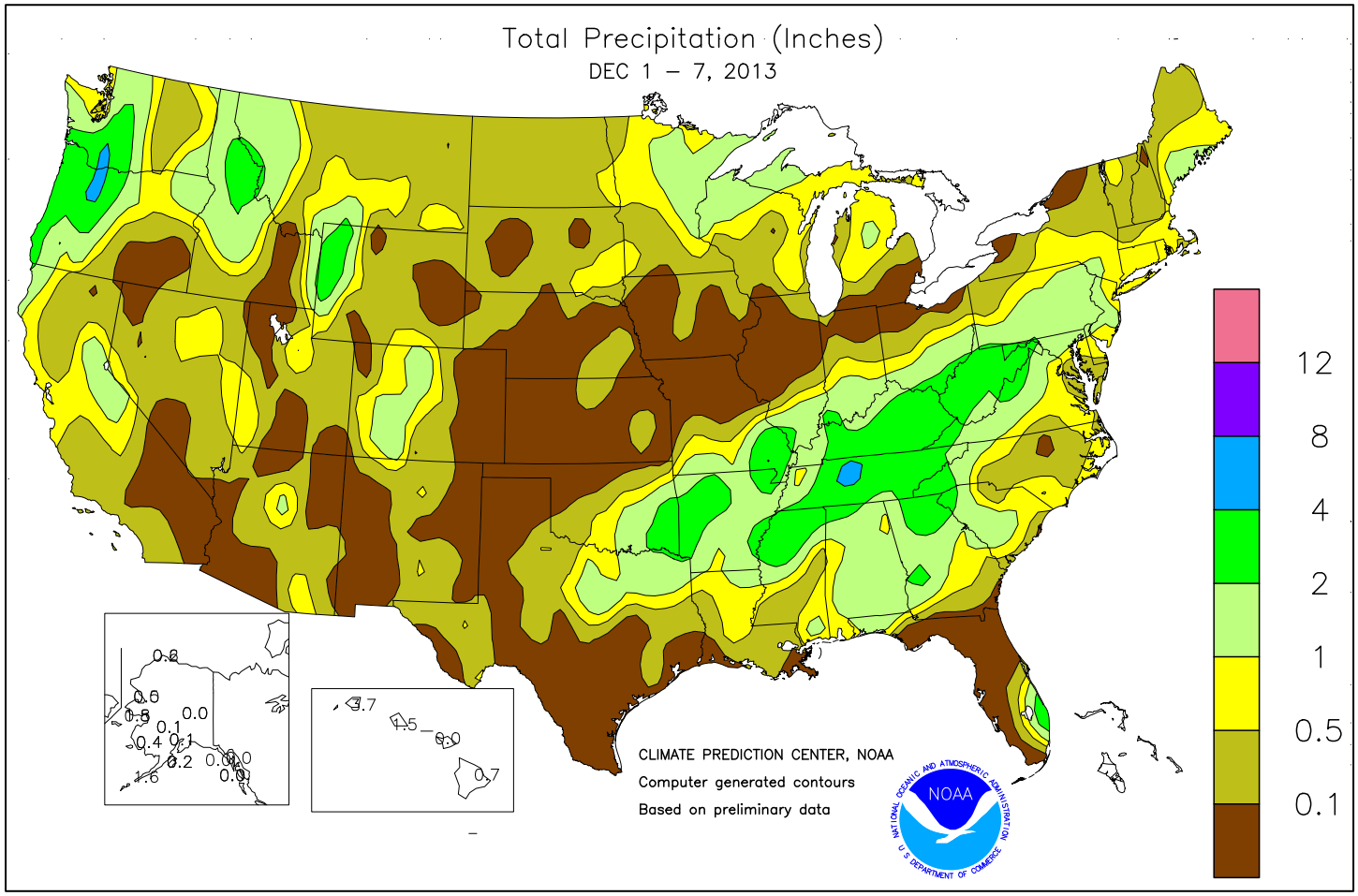
Volume 100, No. 50 http://www.usda.gov/oce/weather December 11, 2013

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

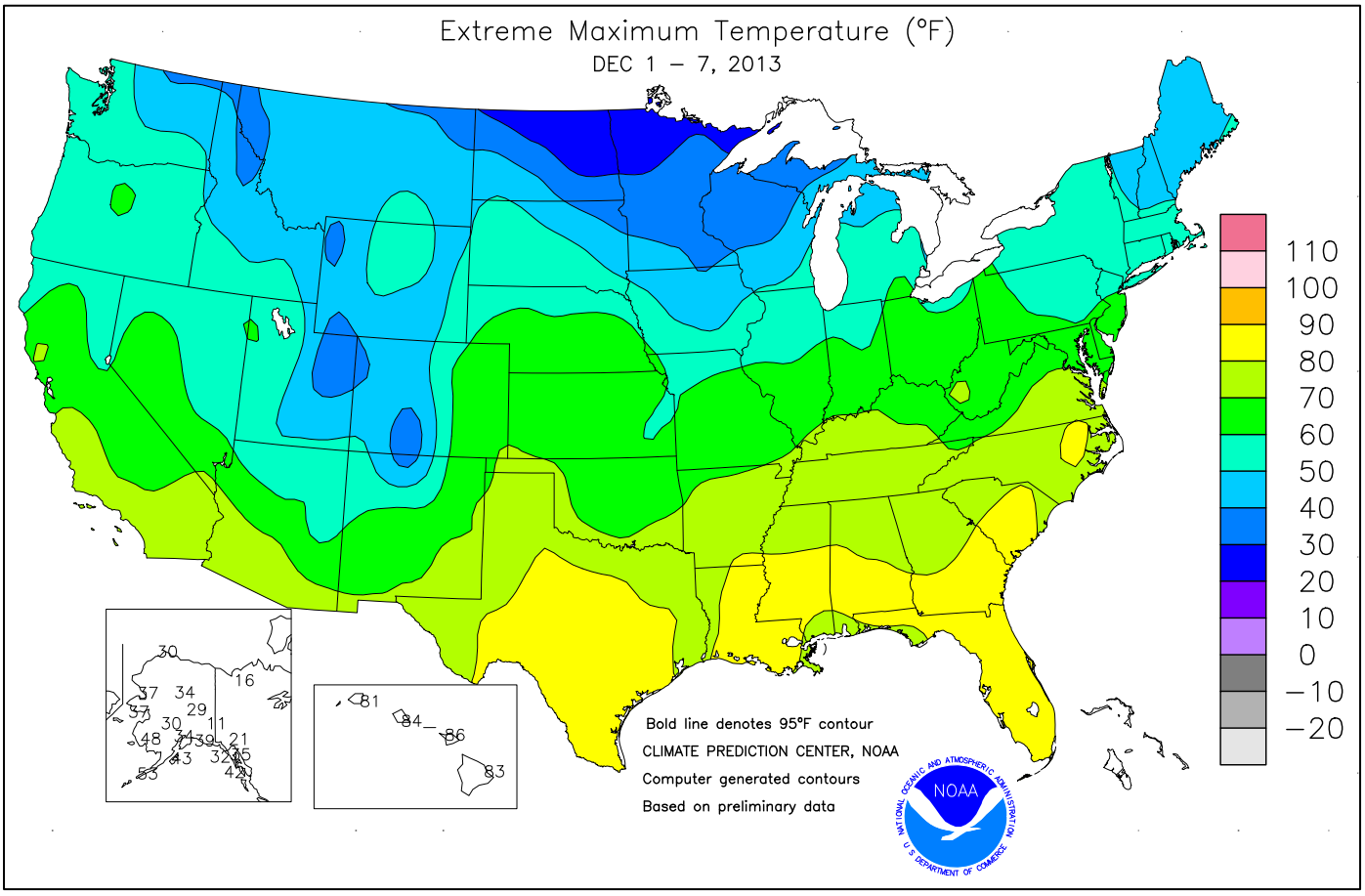
December 1 – 7, 2013

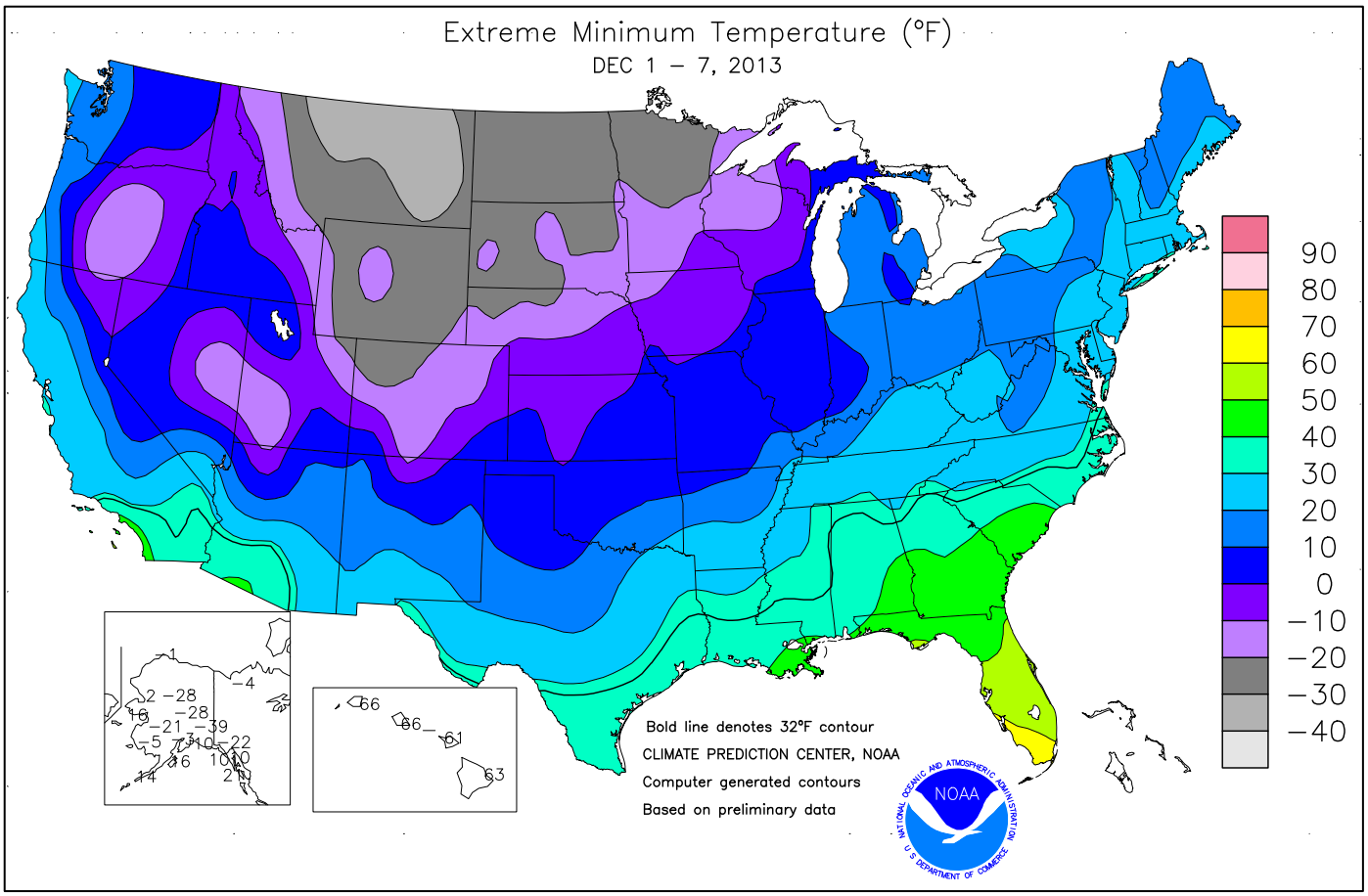
Highlights provided by USDA/WAOB

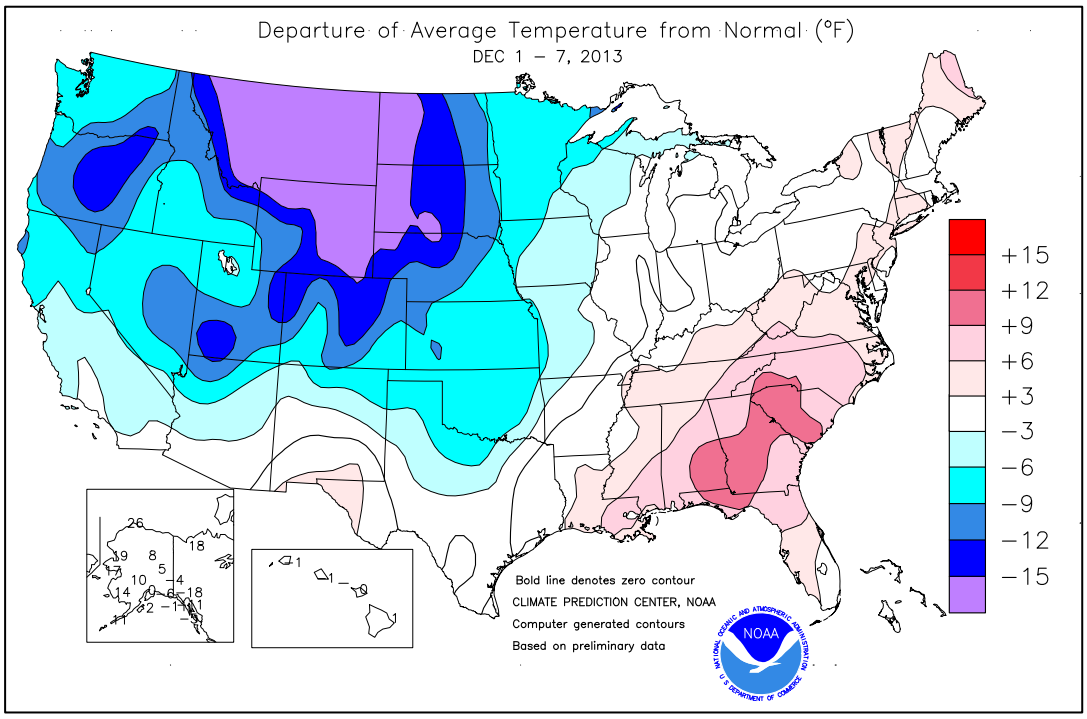
An early-season cold wave invaded the **Plains** and **West**, threatening some of **California's** citrus and a small portion of the **Plains'** winter wheat. Weekly temperatures averaged more than 20°F below normal in much of **Montana**, where freshly fallen snow provided wheat with insulation from temperatures that plunged to -30°F or below. Farther south, however, wheat in parts of **eastern Colorado**, **northwestern Kansas**, and **southern Nebraska** was subjected to sub-zero readings without the benefit of a protective snow cover. Farther west, citrus

(Continued on page 3)

Contents


Extreme Maximum Temperature (°F)
DEC 1 – 7, 2013
110
100
90
80
70
60
50
40
30
20
10
0
–10
–20
Bold line denotes 95°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data
NOAA


Extreme Minimum Temperature (°F)
DEC 1 – 7, 2013
90
80
70
60
50
40
30
20
10
0
–10
–20
–30
–40
Bold line denotes 32°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data
NOAA

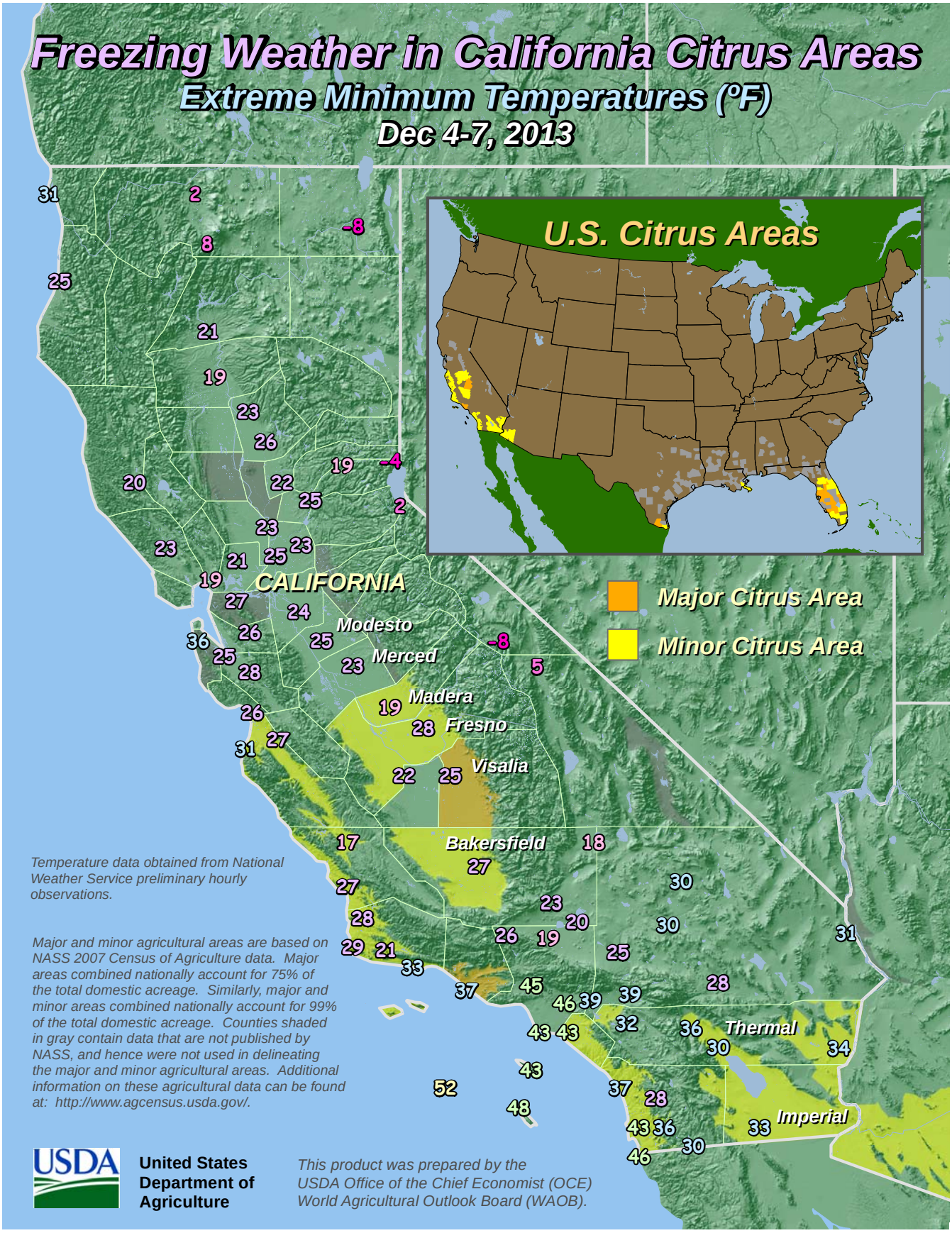


(Continued from front cover) growers in **California's San Joaquin Valley** endured multiple freezes, starting December 4. Occasional storminess accompanied the cold snap. **Western** precipitation was heaviest from the **Pacific Northwest to the northern Rockies**, but most areas received some rain or snow. Snow helped to insulate some **Northwestern** winter wheat, although coverage was patchy—especially in **eastern Washington**. Farther east, snow spread from the **northern Plains into the Great Lakes region** in advance of the cold spell, while wintry precipitation blanketed the **southeastern Plains**. However, precipitation largely bypassed the **central High Plains**, as well as the drought-affected **southern High Plains**. Elsewhere, significant precipitation fell along and southeast of a line from **northeastern Texas to southern New England**. Weekly totals topped 2 inches in the **central and southern Appalachians** and adjacent western foothills. Precipitation fell in various forms, with snow, sleet, and freezing rain causing a variety of travel and electrical disruptions from December 5-8 from the **southern Plains to the Mid-Atlantic States**.

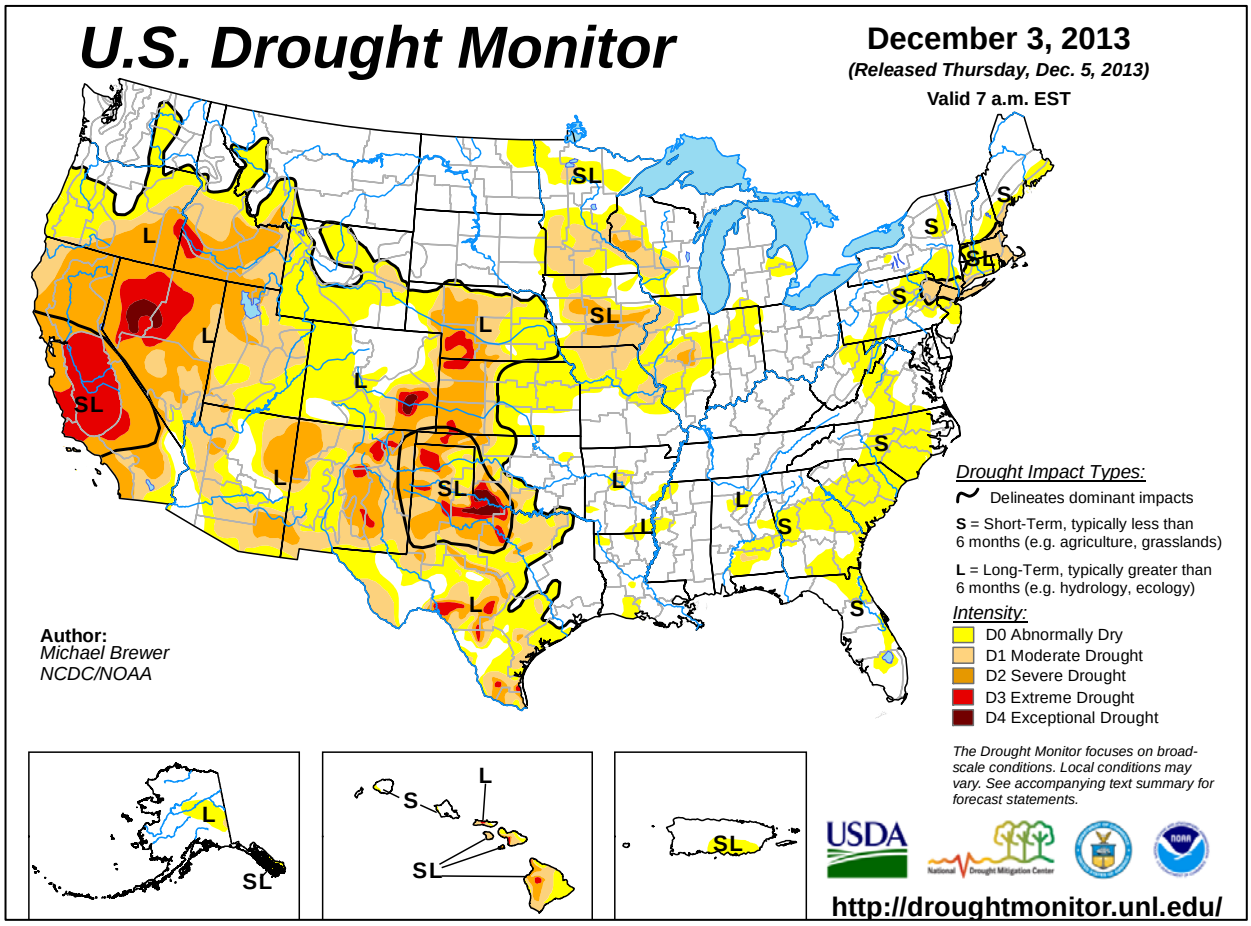
December opened with some heavy showers along **Florida's east coast** and precipitation moving into the **Northwest**. Daily-record precipitation totals for December 1 included 2.70 inches in **West Palm Beach, FL**, and 1.08 inches in **Troutdale, OR**. The following day, heavy snow developed across the **north-central U.S.** Record-setting snowfall totals for December 2 reached 7.5 inches in **Duluth, MN**, and 6.2 inches in **Billings, MT**. **Duluth's** snow lasted for several days, totaling 23.3 inches from December 2-4. During the same period, 11.2 inches blanketed **Billings**. By December 3, snow expanded its coverage to include parts of the **central Plains** and the **Intermountain West**. Daily-record totals for December 3 included 8.0 inches in **Valentine, NE**; 6.7 inches in **Ely, NV**; and 6.0 inches in **Salt Lake City, UT**. Snow also fell across portions of the **interior Northwest**, where **Pendleton, OR**, received a record-setting amount (2.4 inches) for December 3. The widespread snowfall persisted through December 4, when daily-record totals reached 8.5 inches in **International Falls, MN**; 7.3 inches in **Grand Forks, ND**; and 5.9 inches in **Grand Junction, CO**. Snow lingered across the **southern Rockies** through December 5, when **Albuquerque, NM**, collected a daily-record snowfall of 3.7 inches. **Dallas-Ft. Worth, TX**, received snow and sleet totaling 0.5 inch on December 5-6, just after posting a high of 79°F on December 4. Farther east, heavy precipitation erupted on December 5 in the **Appalachians** and neighboring areas. **Nashville, TN**, measured a daily-record total of 2.91 inches of rain on December 5, part of a 4-day storm that featured a precipitation total of 4.99 inches. **Jackson, KY**, netted a daily-record total of 2.15 inches on December 6. Meanwhile, snow blanketed areas from the **Ozark Plateau to the Ohio Valley** on December 6, resulting in daily-record amounts in locations such as **Dayton, OH** (6.1 inches); **Paducah, KY** (4.8 inches); and **Springfield, MO** (3.2 inches). **Springfield's** December 5-7 snowfall total reached 7.3 inches. At week's end, snow accompanied another strong surge of bitterly cold air into the **West**. Record-setting totals for December 7 included 6.6 inches in **Winnemucca, NV**, and 5.6 inches in **Pocatello, ID**.

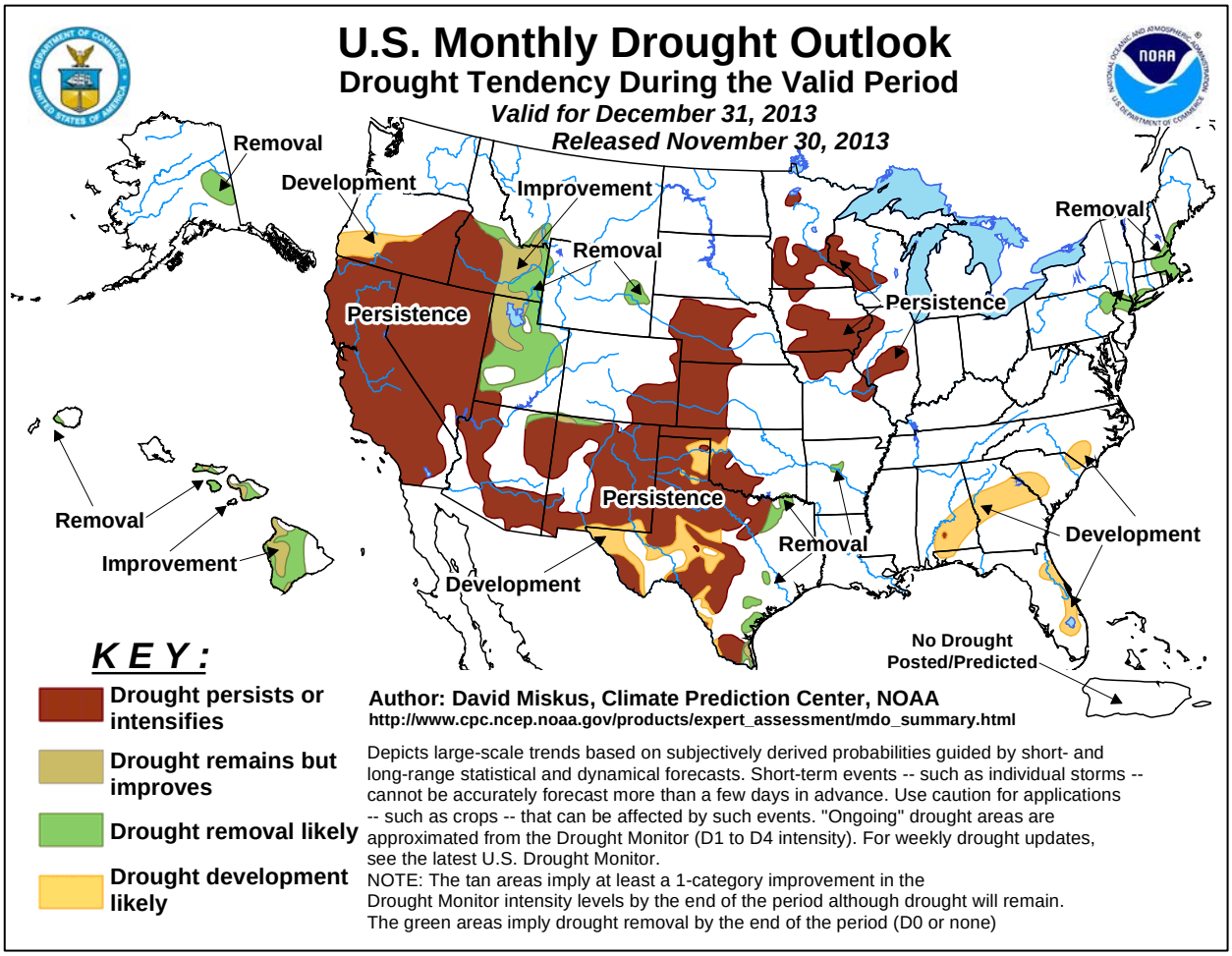
Briefly mild conditions prevailed in the **West** early in the week, where **Troutdale, OR**, notched a daily-record high of 58°F on December 1 and **Sandberg, CA**, posted a record-setting high of 73°F for December 2. By December 3, warmth shifted to the **central and southern Plains**, resulting in daily-record highs in locations such as **San Antonio, TX** (86°F), and **Salina, KS** (70°F). In **Oregon**, however, **Portland** collected daily-record lows on December 3-5 (27, 22, and 19°F) and 7 (15°F). Meanwhile in **Montana**, **Great Falls** endured four consecutive daily-record lows (-23, -26, -28, and 33°F) from December 4-7. Daily-record lows also plunged below -30°F in **Montana** locations such as **Havre** (-39°F on December 7); **Simpson** (-37°F on December 5); **Miles City** (-36°F on December 7); and **Cut Bank** (-35°F on December 7). In stark contrast, temperatures topped 80°F in the **lower Southeast**. On December 5, **Alma, GA**, tied a monthly record (83°F) most recently achieved on December 4, 1978. Daily-record highs for December 5 included 84°F in **Baton Rouge, LA**, and 83°F in **Montgomery, AL**. Two days later, warmth lingered in **Florida**, where **Tallahassee** tied a monthly record with a high of 84°F on December 7. On the same date, the national temperature range was 128°F, from a low of -42°F in **Chinook and Jordan, MT**, to a high of 86°F in **Fort Myers** and several other locations in **Florida**. In **California's San Joaquin Valley**, **Hanford** reported three consecutive hard freezes (25, 21, and 21°F) from December 4-6, followed by another string of hard freezes beginning on December 8. Farther north, **Eugene, OR**, reported its second-lowest temperature on record, tied with December 10, 1972, with a low of -7°F on December 7. **Eugene** later posted a low of -10°F on December 8, second only to all-time-record low of -12°F on December 8, 1972.

Highly variable conditions existed across **Alaska** in early December. Very cold, dry conditions persisted in **southeastern Alaska**, while weekly temperatures averaged at least 10 to 20°F above normal across the **western half of the state**. In fact, **Cold Bay** posted a remarkable string of at least seven consecutive daily-record highs, starting on December 3. **Cold Bay's** highest temperature during the warm spell, 53°F, occurred on December 5 and 6. Similarly, **Bethel** notched three consecutive daily-record highs from December 4-6, including a high of 48°F on the final day. **Bethel's** weekly precipitation of 0.40 inch did not include any measurable snow. Meanwhile, **King Salmon** collected its latest-ever 50-degree reading, and highest December temperature on record, with a high of 54°F on December 6. Elsewhere on December 6, **Kotzebue** noted a daily-record high of 37°F and a daily-record precipitation total—all rain—of 0.29 inch. Farther south, a cold front produced locally heavy showers early in the week across **Hawaii's western islands**. On December 1, rainfall included 3.45 inches in **Lihue, Kauai**, and 1.45 inches—a daily-record total—in **Honolulu, Oahu**. However, generally tranquil weather returned to **Hawaii** for the remainder of the week, following the front's passage.



A multi-day freeze in California's San Joaquin Valley began on the morning of December 4 and lasted for more than a week. The map, above, depicts the lowest temperatures observed during the first 4 days of the cold snap, through December 7. A more complete assessment of the entire event will appear next week.


U.S. Drought Monitor
December 3, 2013
(Released Thursday, Dec. 5, 2013)
Valid 7 a.m. EST
Author:
Michael Brewer
NCDC/NOAA
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:
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
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. Monthly Drought Outlook
Drought Tendency During the Valid Period
Valid for December 31, 2013
Released November 30, 2013
Removal
Development
Improvement
Removal
Persistence
Removal
Persistence
Persistence
Removal
Development
Removal
Improvement
Development
No Drought Posted/Predicted
KEY:
Drought persists or intensifies
Drought remains but improves
Drought removal likely
Drought development likely
Author: David Miskus, Climate Prediction Center, NOAA
http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.html
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The green areas imply drought removal by the end of the period (D0 or none)

National Weather Data for Selected Cities

Weather Data for the Week Ending December 7, 2013

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	63	49	77	35	56	7	0.53	-0.51	0.30	***	***	61.35	121	93	68	0	0	3	0
	HUNTSVILLE	59	43	78	33	51	4	1.46	0.15	1.05	***	***	53.18	100	90	77	0	0	4	1
	MOBILE	72	52	80	35	62	7	0.91	-0.29	0.53	***	***	62.82	100	97	69	0	0	4	1
	MONTGOMERY	71	52	83	40	62	10	0.79	-0.44	0.25	***	***	48.06	94	90	62	0	0	6	0
AK	ANCHORAGE	23	15	34	-3	19	0	0.09	-0.13	0.05	***	***	24.30	160	89	86	0	7	3	0
	BARROW	24	12	30	-1	18	25	0.58	0.58	0.28	***	***	8.14	202	92	81	0	7	6	0
	FAIRBANKS	10	-6	29	-28	2	6	0.00	-0.14	0.00	***	***	8.12	83	77	71	0	7	0	0
	JUNEAU	27	13	35	10	20	-11	0.00	-1.17	0.00	***	***	65.29	121	87	73	0	7	0	0
	KODIAK	39	29	43	16	34	2	0.24	-1.32	0.09	***	***	61.23	88	92	82	0	3	4	0
	NOME	32	25	37	16	29	17	1.45	1.20	0.37	***	***	21.73	138	97	87	0	7	7	0
AZ	FLAGSTAFF	37	15	60	3	26	-6	0.52	0.11	0.31	***	***	23.97	112	87	47	0	7	2	0
	PHOENIX	64	45	74	36	55	-1	0.00	-0.17	0.00	***	***	8.03	106	63	40	0	0	0	0
	PRESCOTT	49	25	66	13	37	-2	0.13	-0.15	0.13	***	***	13.18	72	83	36	0	6	1	0
	TUCSON	64	42	75	33	53	-1	0.43	0.26	0.43	***	***	8.14	72	81	45	0	0	1	0
AR	FORT SMITH	51	34	67	15	43	-2	1.61	0.62	1.04	***	***	44.55	107	92	67	0	3	2	2
	LITTLE ROCK	55	39	77	20	47	1	1.58	0.30	1.27	***	***	47.42	100	94	66	0	2	3	1
CA	BAKERSFIELD	58	37	68	27	47	-2	0.10	-0.04	0.10	***	***	3.43	59	74	46	0	2	1	0
	FRESNO	56	36	69	29	46	-1	0.15	-0.10	0.15	***	***	3.01	30	78	62	0	3	1	0
	LOS ANGELES	65	50	78	44	57	-2	0.26	-0.06	0.26	***	***	3.64	31	66	45	0	0	1	0
	REDDING	51	32	67	20	41	-6	0.38	-0.56	0.38	***	***	12.80	43	72	53	0	3	1	0
	SACRAMENTO	55	33	68	25	44	-4	0.43	-0.08	0.33	***	***	5.80	36	85	35	0	4	2	0
	SAN DIEGO	65	53	76	50	59	0	0.12	-0.10	0.10	***	***	5.24	54	59	46	0	0	3	0
	SAN FRANCISCO	56	42	67	35	49	-2	0.36	-0.22	0.28	***	***	3.39	19	71	52	0	0	2	0
	STOCKTON	55	32	67	23	44	-4	0.35	-0.04	0.34	***	***	4.66	38	81	56	0	3	2	0
CO	ALAMOSA	26	-5	38	-13	10	-11	0.01	-0.07	0.01	***	***	10.03	143	83	69	0	7	1	0
	CO SPRINGS	31	10	60	-8	20	-11	0.07	0.01	0.06	***	***	19.24	113	72	46	0	6	2	0
	DENVER INTL	30	3	62	-15	17	-14	0.12	0.05	0.12	***	***	17.49	131	74	49	0	6	1	0
	GRAND JUNCTION	27	10	38	-11	18	-14	0.89	0.78	0.58	***	***	12.36	144	92	77	0	7	3	1
	PUEBLO	37	15	65	-3	26	-7	0.02	-0.06	0.02	***	***	9.66	80	66	47	0	6	1	0
CT	BRIDGEPORT	49	35	55	31	42	3	0.80	0.02	0.72	***	***	33.10	80	92	74	0	3	4	1
	HARTFORD	46	29	53	25	38	3	0.67	-0.17	0.62	***	***	48.45	112	92	68	0	5	3	1
DC	WASHINGTON	56	39	69	30	47	3	0.80	0.13	0.68	***	***	39.58	107	84	61	0	1	2	1
DE	WILMINGTON	53	36	63	28	44	4	0.89	0.12	0.78	***	***	44.03	110	91	61	0	2	2	1
FL	DAYTONA BEACH	79	59	84	51	69	6	0.00	-0.59	0.00	***	***	46.37	98	98	55	0	0	0	0
	JACKSONVILLE	78	53	83	46	66	8	0.00	-0.55	0.00	***	***	44.37	88	99	58	0	0	0	0
	KEY WEST	80	71	83	65	76	2	0.09	-0.36	0.09	***	***	44.84	120	87	68	0	0	1	0
	MIAMI	81	67	83	61	74	2	0.34	-0.22	0.21	***	***	66.09	116	89	61	0	0	2	0
	ORLANDO	80	60	86	53	70	5	0.00	-0.55	0.00	***	***	42.46	91	96	59	0	0	0	0
	PENSACOLA	73	57	80	46	65	8	0.95	0.05	0.89	***	***	71.81	117	90	73	0	0	3	1
	TALLAHASSEE	78	56	84	46	67	11	0.16	-0.69	0.16	***	***	62.05	103	90	58	0	0	1	0
	TAMPA	79	63	84	58	71	5	0.00	-0.51	0.00	***	***	51.62	120	96	57	0	0	0	0
	WEST PALM BEACH	80	63	83	58	72	2	4.03	3.06	2.95	***	***	64.67	109	89	64	0	0	4	2
GA	ATHENS	64	51	75	38	58	10	1.17	0.37	0.58	***	***	53.43	119	94	76	0	0	6	1
	ATLANTA	65	51	75	40	58	9	1.14	0.23	0.54	***	***	59.36	126	91	77	0	0	6	1
	AUGUSTA	68	48	82	42	59	9	1.23	0.66	0.80	***	***	49.84	119	97	77	0	0	4	1
	COLUMBUS	69	54	80	45	62	10	1.15	0.14	0.40	***	***	54.93	122	93	66	0	0	6	0
	MACON	69	50	77	38	59	8	0.66	-0.17	0.31	***	***	64.55	154	98	73	0	0	4	0
	SAVANNAH	75	53	83	46	64	10	0.47	-0.03	0.47	***	***	52.16	110	92	57	0	0	1	0
HI	HILO	81	66	83	63	74	1	0.71	-2.43	0.34	***	***	82.60	69	94	82	0	0	5	0
	HONOLULU	81	68	84	66	75	-1	1.45	0.88	1.02	***	***	13.96	87	85	75	0	0	2	1
	KAHULUI	85	64	86	61	74	0	0.00	-0.58	0.00	***	***	13.62	84	87	75	0	0	0	0
	LIHUE	80	68	81	66	74	0	3.65	2.59	3.52	***	***	34.52	96	92	84	0	0	3	1
ID	BOISE	34	19	56	5	27	-6	0.39	0.06	0.19	***	***	9.13	82	80	69	0	6	3	0
	LEWISTON	32	17	56	3	24	-12	0.34	0.09	0.29	***	***	9.12	77	76	58	0	6	4	0
	POCATELLO	28	11	50	0	20	-8	0.31	0.06	0.24	***	***	6.06	52	76	63	0	6	4	0
IL	CHICAGO/O'HARE	39	25	56	8	32	0	0.11	-0.53	0.07	***	***	40.25	117	85	69	0	5	3	0
	MOLINE	37	20	53	2	29	-3	0.04	-0.52	0.02	***	***	38.06	105	83	70	0	7	3	0
	PEORIA	40	24	55	6	32	-1	0.01	-0.66	0.01	***	***	42.07	123	84	61	0	4	1	0
	ROCKFORD	36	21	52	5	29	-1	0.15	-0.41	0.06	***	***	39.04	111	86	69	0	5	3	0
	SPRINGFIELD	43	25	60	7	34	-1	0.00	-0.65	0.00	***	***	36.65	109	88	60	0	5	0	0
IN	EVANSVILLE	51	31	70	11	41	1	3.90	2.94	3.16	***	***	50.18	120	88	68	0	4	3	2
	FORT WAYNE	45	28	59	15	36	2	0.06	-0.63	0.03	***	***	39.40	114	88	69	0	5	3	0
	INDIANAPOLIS	46	28	61	10	37	1	0.40	-0.39	0.34	***	***	41.51	107	89	72	0	4	3	0
	SOUTH BEND	43	28	59	13	35	2	0.12	-0.66	0.06	***	***	38.30	102	83	69	0	5	3	0
IA	BURLINGTON	38	22	55	2	30	-3	0.00	-0.57	0.00	***	***	31.95	88	88	59	0	5	0	0
	CEDAR RAPIDS	33	18	49	-3	25	-4	0.06	-0.37	0.04	***	***	36.97	114	88	65	0	6	2	0
	DES MOINES	33	18	54	-2	25	-5	0.01	-0.35	0.01	***	***	31.18	92	77	67	0	5	1	0
	DUBUQUE	31	18	48	-2	25	-3	0.11	-0.37	0.04	***	***	36.86	107	89	78	0	6	3	0
	SIOUX CITY	28	10	55	-9	19	-8	0.00	-0.19	0.00	***	***	26.55	104	85	65	0	7	0	0
	WATERLOO	30	14	45	-5	22	-5	0.03	-0.31	0.03	***	***	39.96	123	88	75	0	7	1	0
KS	CONCORDIA	36	16	62	-4	26	-8	0.04	-0.19	0.04	***	***	26.69	96	80	54	0	6	1	0
	DODGE CITY	38	15	66	-5	27	-9	0.05	-0.12	0.05	***	***	20.29	93	81	45	0	7	1	0
	GOODLAND	35	11	68	-3	23	-9	0.01	-0.08	0.01	***	***	16.70	86	71	46	0	6	1	0
	TOPEKA	40	20	61	2	30	-6	0.04	-0.37	0.03	***	***	33.50	97	79	56	0	6	2	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending December 7, 2013

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		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	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	42	20	61	6	31	-6	0.00	-0.33	0.00	***	***	40.20	137	82	67	0	7	0	0
KY	JACKSON	53	39	70	27	46	4	3.45	2.40	2.01	***	***	53.08	115	84	66	0	2	2	2
	LEXINGTON	52	36	68	24	44	4	2.08	1.17	1.12	***	***	55.97	131	85	73	0	2	3	2
	LOUISVILLE	54	36	71	19	45	3	1.38	0.48	0.82	***	***	49.56	119	88	66	0	2	2	2
	PADUCAH	55	34	74	13	44	3	1.54	0.39	1.32	***	***	53.73	117	89	62	0	3	2	1
LA	BATON ROUGE	72	52	84	34	62	7	0.30	-0.86	0.30	***	***	65.44	111	96	64	0	0	1	0
	LAKE CHARLES	67	51	79	35	59	3	0.03	-1.02	0.02	***	***	55.43	103	98	73	0	0	2	0
	NEW ORLEANS	73	55	82	41	64	7	0.38	-0.89	0.24	***	***	63.57	105	97	75	0	0	4	0
	SHREVEPORT	63	45	79	30	54	3	0.26	-0.79	0.20	***	***	48.73	102	92	63	0	1	2	0
ME	CARIBOU	34	25	42	16	30	8	0.48	-0.23	0.14	***	***	48.78	140	90	72	0	6	6	0
	PORTLAND	40	27	46	22	34	2	0.73	-0.27	0.40	***	***	40.13	94	97	71	0	6	4	0
MD	BALTIMORE	54	36	66	24	45	5	1.07	0.33	0.98	***	***	38.74	98	88	62	0	2	2	1
MA	BOSTON	48	35	57	31	42	3	0.67	-0.19	0.35	***	***	36.41	92	89	62	0	1	4	0
	WORCESTER	43	29	53	23	36	3	0.67	-0.20	0.52	***	***	41.93	91	98	68	0	6	4	1
MI	ALPENA	34	19	49	8	27	-2	0.59	0.18	0.41	***	***	30.07	111	90	67	0	7	3	0
	GRAND RAPIDS	41	27	59	13	34	2	0.67	-0.08	0.43	***	***	42.85	122	83	61	0	5	3	0
	HOUGHTON LAKE	34	21	49	10	28	-1	0.76	0.33	0.41	***	***	29.15	107	86	75	0	7	2	0
	LANSING	41	25	59	9	33	1	0.09	-0.50	0.06	***	***	39.64	132	84	66	0	6	2	0
	MUSKEGON	40	27	58	13	34	1	0.47	-0.21	0.40	***	***	41.53	134	79	67	0	5	2	0
	TRAVERSE CITY	36	25	51	14	31	0	0.31	-0.27	0.24	***	***	40.81	130	86	65	0	7	2	0
MN	DULUTH	21	9	32	-18	15	-5	2.09	1.77	0.91	***	***	29.70	98	80	75	0	7	3	3
	INT'L FALLS	14	0	26	-25	7	-8	0.94	0.74	0.46	***	***	31.34	134	84	72	0	7	5	0
	MINNEAPOLIS	23	11	38	-11	17	-7	0.72	0.44	0.52	***	***	32.05	112	88	76	0	7	3	1
	ROCHESTER	26	12	39	-6	19	-4	0.34	0.02	0.16	***	***	40.43	132	84	74	0	7	3	0
	ST. CLOUD	19	6	35	-17	13	-7	0.85	0.66	0.53	***	***	27.93	105	90	72	0	7	3	1
MS	JACKSON	66	45	82	31	55	4	0.20	-1.02	0.20	***	***	60.08	116	94	65	0	1	1	0
	MERIDIAN	68	48	82	31	58	6	0.65	-0.58	0.65	***	***	60.62	111	95	67	0	2	1	1
	TUPELO	57	42	77	30	50	3	2.44	1.07	2.11	***	***	49.92	98	90	79	0	2	7	1
MO	COLUMBIA	44	24	64	7	34	-2	0.00	-0.72	0.00	***	***	39.83	103	83	57	0	5	0	0
	KANSAS CITY	39	21	60	0	30	-5	0.09	-0.37	0.07	***	***	33.76	92	81	50	0	5	2	0
	SAINT LOUIS	48	29	69	11	39	1	0.11	-0.70	0.11	***	***	40.81	111	80	62	0	3	1	0
	SPRINGFIELD	45	26	62	5	35	-5	0.35	-0.63	0.21	***	***	49.63	116	87	71	0	4	3	0
MT	BILLINGS	14	2	48	-21	8	-21	1.33	1.20	0.94	***	***	16.04	113	82	67	0	6	3	1
	BUTTE	13	-6	42	-23	3	-17	0.10	-0.01	0.08	***	***	11.19	91	81	58	0	7	2	0
	CUT BANK	9	-9	44	-32	0	-24	0.02	-0.04	0.02	***	***	13.08	107	83	66	0	7	1	0
	GLASGOW	9	-7	40	-34	1	-19	0.26	0.20	0.19	***	***	15.35	141	86	81	0	7	3	0
	GREAT FALLS	10	-10	48	-33	0	-27	0.54	0.43	0.36	***	***	11.37	79	91	64	0	7	4	0
	HAVRE	8	-10	49	-39	-1	-24	0.48	0.40	0.24	***	***	18.38	167	81	75	0	7	3	0
	MISSOULA	19	5	42	-13	12	-14	0.32	0.08	0.14	***	***	8.63	67	79	66	0	7	3	0
NE	GRAND ISLAND	32	12	65	-5	22	-7	0.03	-0.18	0.03	***	***	26.84	106	77	59	0	7	1	0
	LINCOLN	34	12	65	-5	23	-8	0.01	-0.25	0.01	***	***	26.47	95	80	58	0	7	1	0
	NORFOLK	28	10	60	-9	19	-9	0.01	-0.20	0.01	***	***	24.81	95	77	58	0	7	1	0
	NORTH PLATTE	29	7	61	-7	18	-11	0.06	-0.03	0.06	***	***	21.67	112	82	48	0	7	1	0
	OMAHA	32	15	56	-4	23	-7	0.01	-0.29	0.01	***	***	28.81	97	81	62	0	7	1	0
	SCOTTSBLUFF	29	4	60	-17	17	-11	0.55	0.41	0.42	***	***	13.72	86	76	62	0	6	4	0
	VALENTINE	24	-1	57	-26	11	-16	0.65	0.55	0.48	***	***	23.59	122	81	67	0	7	3	0
NV	ELY	33	1	53	-23	17	-11	0.32	0.24	0.30	***	***	7.60	80	83	68	0	7	2	0
	LAS VEGAS	55	36	69	28	46	-3	0.05	-0.01	0.05	***	***	2.96	71	61	37	0	3	1	0
	RENO	40	18	63	9	29	-7	0.39	0.20	0.29	***	***	3.99	59	80	59	0	7	2	0
	WINNEMUCCA	36	14	59	4	25	-7	0.55	0.38	0.38	***	***	5.22	68	86	66	0	6	3	0
NH	CONCORD	40	25	49	15	32	1	0.26	-0.46	0.16	***	***	37.66	107	98	65	0	6	4	0
NJ	NEWARK	53	36	62	30	45	4	0.96	0.11	0.91	***	***	39.29	90	89	64	0	2	3	1
NM	ALBUQUERQUE	48	26	64	11	37	-2	0.25	0.17	0.25	***	***	9.17	101	77	45	0	5	1	0
NY	ALBANY	44	26	53	21	35	2	0.39	-0.27	0.36	***	***	40.85	113	87	64	0	7	2	0
	BINGHAMTON	40	29	52	17	35	3	0.57	-0.20	0.40	***	***	40.00	110	96	80	0	6	4	0
	BUFFALO	43	29	61	20	36	2	0.12	-0.81	0.05	***	***	41.16	109	84	62	0	5	3	0
	ROCHESTER	44	31	62	24	37	3	0.29	-0.37	0.13	***	***	33.90	106	85	65	0	5	3	0
	SYRACUSE	43	31	59	25	37	4	0.44	-0.40	0.36	***	***	37.96	101	92	67	0	4	4	0
NC	ASHEVILLE	61	41	70	24	51	9	0.96	0.16	0.56	***	***	68.53	154	94	67	0	2	2	1
	CHARLOTTE	65	46	77	26	56	8	0.45	-0.23	0.38	***	***	42.94	105	95	64	0	2	4	0
	GREENSBORO	63	43	76	24	53	9	0.72	0.04	0.37	***	***	45.96	113	91	63	0	2	5	0
	HATTERAS	63	50	70	44	56	3	0.51	-0.43	0.27	***	***	49.94	92	99	78	0	0	4	0
	RALEIGH	65	44	79	27	55	9	0.14	-0.51	0.11	***	***	44.94	111	90	60	0	1	2	0
	WILMINGTON	69	48	79	36	59	7	0.51	-0.32	0.36	***	***	50.20	93	91	61	0	0	2	0
ND	BISMARCK	14	1	44	-24	8	-12	0.53	0.43	0.22	***	***	26.02	158	81	70	0	7	4	0
	DICKINSON	13	-2	50	-26	5	-17	0.17	0.09	0.08	***	***	21.15	131	83	67	0	7	3	0
	FARGO	16	6	31	-17	11	-7	0.57	0.46	0.28	***	***	31.42	152	83	72	0	7	5	0
	GRAND FORKS	12	2	27	-24	7	-10	0.34	0.22	0.13	***	***	19.18	100	86	72	0	7	4	0
	JAMESTOWN	12	2	27	-23	7	-12	0.16	0.08	0.13	***	***	16.05	89	88	77	0	7	3	0
	WILLISTON	11	-2	39	-25	5	-12	0.51	0.38	0.35	***	***	20.73	151	81	72	0	7	4	0
OH	AKRON-CANTON	45	30	60	14	38	3	0.36	-0.38	0.25	***	***	38.86	107	88	73	0	4	3	0
	CINCINNATI	49	34	66	19	42	3	1.60	0.83	0.82	***	***	45.79	114	89	74	0	3	2	2
	CLEVELAND	47	32	63	21	40	4	0.21	-0.60	0.15	***	***	37.84	104	79	61	0	2	2	0
	COLUMBUS	48	32	65	18	40	2	0.84	0.09	0.52	***	***	37.99	105	80	66	0	3	3	1
	DAYTON	48	30	62	13	39	3	0.65	-0.10	0.49	***	***	32.60	88	92	72	0	3	3	0
	MANSFIELD	45	29	62	13	37	3	0.33	-0.52	0.25	***	***	39.07	96	95	66	0	5	4	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending December 7, 2013

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		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	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	44	27	61	13	36	2	0.00	-0.66	0.00	***	***	33.76	108	85	66	0	6	0	0
	YOUNGSTOWN	43	29	62	15	36	1	0.46	-0.30	0.37	***	***	36.08	101	82	71	0	5	2	0
OK	OKLAHOMA CITY	45	28	65	10	37	-6	0.22	-0.20	0.15	***	***	51.72	150	84	51	0	4	2	0
	TULSA	43	27	61	7	35	-8	0.26	-0.43	0.18	***	***	31.58	78	84	72	0	4	2	0
OR	ASTORIA	40	28	53	17	34	-10	1.96	-0.60	1.72	***	***	56.10	95	88	69	0	5	3	1
	BURNS	29	6	54	-12	18	-9	0.17	-0.11	0.14	***	***	6.87	72	83	65	0	7	3	0
	EUGENE	38	23	56	-2	31	-10	1.23	-0.86	0.64	***	***	20.99	47	89	75	0	5	5	2
	MEDFORD	41	24	55	13	33	-7	0.34	-0.39	0.17	***	***	8.98	55	89	59	0	5	3	0
	PENDLETON	32	14	61	-5	23	-13	0.44	0.08	0.16	***	***	8.90	76	82	67	0	5	5	0
	PORTLAND	40	28	57	18	34	-8	1.03	-0.37	0.91	***	***	26.01	79	80	60	0	4	4	1
	SALEM	41	27	56	17	34	-8	0.87	-0.74	0.60	***	***	23.22	66	84	69	0	5	3	1
PA	ALLENTOWN	49	31	55	21	40	4	0.88	0.07	0.86	***	***	42.81	101	86	66	0	5	2	1
	ERIE	44	30	64	24	37	0	0.26	-0.68	0.14	***	***	48.62	122	75	65	0	4	2	0
	MIDDLETOWN	47	31	58	22	39	1	1.13	0.30	1.11	***	***	39.64	104	93	64	0	5	3	1
	PHILADELPHIA	53	38	63	32	46	4	0.84	0.09	0.77	***	***	51.51	130	81	63	0	1	2	1
	PITTSBURGH	47	32	61	19	40	3	0.92	0.21	0.51	***	***	34.13	96	87	65	0	3	3	1
	WILKES-BARRE	47	32	55	22	39	3	1.20	0.53	0.98	***	***	25.34	71	92	64	0	4	3	1
	WILLIAMSPORT	45	29	56	20	37	2	1.11	0.32	0.65	***	***	30.01	76	91	69	0	6	3	1
RI	PROVIDENCE	49	33	57	29	41	3	1.28	0.32	0.69	***	***	41.93	97	95	70	0	3	3	2
SC	BEAUFORT	72	52	80	43	62	8	0.19	-0.39	0.18	***	***	45.90	97	94	59	0	0	2	0
	CHARLESTON	75	52	82	45	64	10	0.33	-0.30	0.33	***	***	56.35	115	91	55	0	0	1	0
	COLUMBIA	68	51	82	44	60	10	1.38	0.75	0.63	***	***	50.86	112	91	67	0	0	4	2
	GREENVILLE	64	48	76	31	56	9	0.60	-0.23	0.18	***	***	63.48	134	97	69	0	1	5	0
SD	ABERDEEN	17	0	41	-27	8	-13	0.32	0.26	0.25	***	***	21.32	107	85	72	0	7	3	0
	HURON	21	5	50	-20	13	-10	0.32	0.23	0.24	***	***	24.48	119	82	64	0	7	2	0
	RAPID CITY	22	4	55	-14	13	-14	0.10	0.04	0.08	***	***	21.24	130	81	59	0	7	3	0
	SIOUX FALLS	21	6	48	-19	14	-9	0.61	0.44	0.53	***	***	25.28	104	82	72	0	7	3	1
TN	BRISTOL	59	38	72	22	49	8	1.23	0.44	1.17	***	***	52.56	136	89	56	0	1	3	1
	CHATTANOOGA	61	45	75	28	53	7	1.60	0.44	1.49	***	***	62.34	123	91	78	0	1	3	1
	KNOXVILLE	61	44	76	28	53	9	2.02	1.00	1.95	***	***	63.15	141	88	68	0	1	3	1
	MEMPHIS	56	40	76	22	48	1	1.19	-0.29	0.68	***	***	55.81	111	86	70	0	2	3	1
	NASHVILLE	55	41	76	27	48	4	4.41	3.30	2.91	***	***	51.31	115	88	70	0	2	3	2
TX	ABILENE	54	34	83	14	44	-4	0.21	-0.02	0.11	***	***	21.21	93	69	47	0	3	2	0
	AMARILLO	44	22	72	3	33	-6	0.02	-0.06	0.02	***	***	15.96	83	79	37	0	5	1	0
	AUSTIN	65	41	86	27	53	-2	0.08	-0.44	0.07	***	***	36.43	115	84	58	0	2	2	0
	BEAUMONT	68	51	80	37	59	2	0.00	-1.13	0.00	***	***	54.82	98	97	71	0	0	0	0
	BROWNSVILLE	74	57	84	38	66	3	0.01	-0.28	0.01	***	***	24.44	91	92	66	0	0	1	0
	CORPUS CHRISTI	70	50	83	36	60	-1	0.00	-0.35	0.00	***	***	23.15	75	88	71	0	0	0	0
	DEL RIO	65	44	82	31	54	-1	0.00	-0.17	0.00	***	***	15.03	85	86	61	0	1	0	0
	EL PASO	60	42	72	32	51	4	0.20	0.05	0.20	***	***	9.45	107	73	37	0	2	1	0
	FORT WORTH	57	36	79	21	47	-3	1.26	0.74	0.87	***	***	27.93	85	87	52	0	3	2	1
	GALVESTON	65	53	76	39	59	-2	0.07	-0.76	0.04	***	***	38.67	94	100	83	0	0	4	0
	HOUSTON	66	50	81	34	58	2	0.01	-0.85	0.01	***	***	37.22	83	95	75	0	0	1	0
	LUBBOCK	52	27	77	10	40	-2	0.07	-0.07	0.07	***	***	12.08	67	71	41	0	4	1	0
	MIDLAND	56	33	79	16	45	-2	0.31	0.18	0.29	***	***	7.39	52	79	52	0	3	2	0
	SAN ANGELO	60	35	84	19	48	-1	0.64	0.45	0.46	***	***	19.33	96	81	48	0	3	2	0
	SAN ANTONIO	67	45	86	29	56	1	0.01	-0.43	0.01	***	***	31.51	100	86	52	0	2	1	0
	VICTORIA	69	48	86	33	58	0	0.00	-0.55	0.00	***	***	29.98	79	93	70	0	0	0	0
	WACO	60	37	81	23	48	-3	0.24	-0.38	0.22	***	***	36.80	118	93	62	0	3	2	0
	WICHITA FALLS	48	28	75	12	38	-8	0.20	-0.15	0.15	***	***	20.29	74	81	56	0	3	3	0
UT	SALT LAKE CITY	38	21	60	7	29	-4	0.45	0.17	0.40	***	***	10.49	67	71	46	0	5	2	0
VT	BURLINGTON	43	28	54	25	36	6	0.47	-0.12	0.41	***	***	42.91	125	87	65	0	6	3	0
VA	LYNCHBURG	59	36	73	19	47	5	0.91	0.19	0.75	***	***	40.80	100	93	68	0	3	3	1
	NORFOLK	61	41	80	32	51	3	0.51	-0.11	0.46	***	***	41.40	96	95	62	0	1	2	0
	RICHMOND	59	38	71	27	49	5	0.47	-0.18	0.32	***	***	48.08	116	89	62	0	3	4	0
	ROANOKE	59	37	71	21	48	6	1.01	0.32	0.97	***	***	49.73	123	87	68	0	2	3	1
	WASH/DULLES	55	35	69	19	45	5	1.16	0.45	1.13	***	***	40.94	104	86	62	0	4	2	1
WA	OLYMPIA	40	25	53	14	32	-7	1.08	-0.87	1.00	***	***	40.37	90	89	71	0	6	3	1
	QUILLAYUTE	41	28	54	16	35	-7	1.24	-2.26	0.93	***	***	83.54	92	76	60	0	6	3	1
	SEATTLE-TACOMA	41	30	56	19	36	-6	0.33	-1.08	0.15	***	***	31.21	95	66	50	0	4	3	0
	SPOKANE	27	15	44	1	21	-8	0.22	-0.34	0.22	***	***	10.91	73	78	49	0	6	1	0
	YAKIMA	35	16	52	2	25	-6	0.32	0.03	0.32	***	***	5.51	77	73	56	0	7	1	0
WV	BECKLEY	53	37	68	26	45	6	1.51	0.82	1.40	***	***	37.99	97	81	67	0	3	3	1
	CHARLESTON	55	34	74	26	45	4	2.87	2.03	1.98	***	***	43.76	105	97	63	0	2	2	2
	ELKINS	54	27	71	19	41	5	2.50	1.69	2.22	***	***	42.24	97	94	59	0	7	3	1
	HUNTINGTON	53	35	71	26	44	3	2.54	1.77	1.31	***	***	41.89	105	88	63	0	2	3	2
WI	EAU CLAIRE	25	11	38	-10	18	-5	0.48	0.17	0.21	***	***	34.68	110	91	70	0	7	3	0
	GREEN BAY	32	19	45	-1	26	0	0.57	0.16	0.40	***	***	33.74	120	86	68	0	7	2	0
	LA CROSSE	30	16	42	-2	23	-4	0.50	0.13	0.20	***	***	34.81	111	84	60	0	6	3	0
	MADISON	34	19	50	1	27	-1	0.29	-0.17	0.14	***	***	44.06	139	87	70	0	5	3	0
	MILWAUKEE	35	23	53	4	29	-2	0.31	-0.27	0.17	***	***	38.55	116	83	67	0	5	3	0
WY	CASPER	19	-2	52	-22	9	-17	0.39	0.25	0.29	***	***	14.33	114	74	66	0	6	3	0
	CHEYENNE	22	4	51	-19	13	-16	0.20	0.09	0.10	***	***	17.99	119	72	60	0	5	3	0
	LANDER	22	0	52	-19	11	-13	0.24	0.08	0.22	***	***	15.09	116	83	57	0	7	2	0
	SHERIDAN	16	-4	53	-28	6	-19	0.56	0.42	0.47	***	***	17.49	123	82	71	0	7	3	0

Based on 1971-2000 normals ***** Not Available**

November Weather and Crop Summary

Weather

Weather summary provided by USDA/WAOB

Highlights: Mild, late-autumn weather across Florida's peninsula and much of the West contrasted with persistently chilly conditions across the majority of the Midwest, South, and East. The Western warmth, accompanied by a dearth of storminess, led to a sluggish start to the snow-accumulation season in high-elevation areas from the Cascades and the Sierra Nevada to the Intermountain West. However, mid-month storminess in the Southwest produced heavy mountain snowfall and provided some relief from long-term drought.

Meanwhile, abundant precipitation allowed the northern Plains' winter wheat to slip into dormancy under favorable conditions. On the southern High Plains, however, drought led to deteriorating conditions for winter wheat, with more than one-quarter (28 percent) of the crop in Texas rated in very poor to poor condition by November 24.

Farther east, there was enough dry weather during the first half of November to allow Midwestern corn and soybean harvesting to near completion. However, some corn was still drying down when mid- to late-month storminess slowed or halted fieldwork. By November 24, only Wisconsin (82 percent harvested), Michigan (84 percent), and North Dakota (86 percent) had more than one-tenth of their corn left in the field.

Elsewhere, cool, dry weather for much of the month favored late-season fieldwork—including winter wheat planting and cotton and soybean harvesting—in the Southeast. However, a pre-Thanksgiving storm slowed or halted fieldwork in the East, but provided relief from short-term dryness. The same pre-holiday storm also caused a variety of travel disruptions, particularly due to ice and snow in the south-central U.S.

Historical Perspective: According to preliminary information provided by the National Climatic Data Center, both temperatures and precipitation were near the middle of the historical distribution. The nation's November average temperature of 41.6°F was 0.3°F below the 1901-2000 mean, while the average precipitation of 2.01 inches was 95 percent of normal.

Generally cool weather in the Midwest, South, and East contrasted with warmth in parts of the West. State temperature rankings ranged from the 15th-coldest November in Tennessee to the 30th-warmest November in California (figure 1). Meanwhile, state precipitation rankings ranged from the 11th-driest November in Wyoming to the seventh-wettest November in Michigan (figure 2).

Summary: A strong cold front moved through the East early in the month. Daily-record totals for November 2 reached 1.61 inches in St. Simons Island, GA, and 1.26 inches in Gainesville, FL. Damaging winds and a few tornadoes accompanied the push of cooler air and showers, with November 1 peak gusts reaching 63 mph in Massena, NY, and 66 mph at the Blue Hill Observatory near Milton, MA. In advance of the front, warmth had prevailed in the East. Daytona Beach, FL, tied a monthly record high with a reading of 89°F on November 1 (previously, 89°F on November 28, 1948). Elsewhere in Florida, record-setting highs for November 1 included 91°F in Vero Beach and 90°F in Melbourne. Farther north, Burlington, VT, logged a daily-record high of 71°F on November 1.

Figure 1

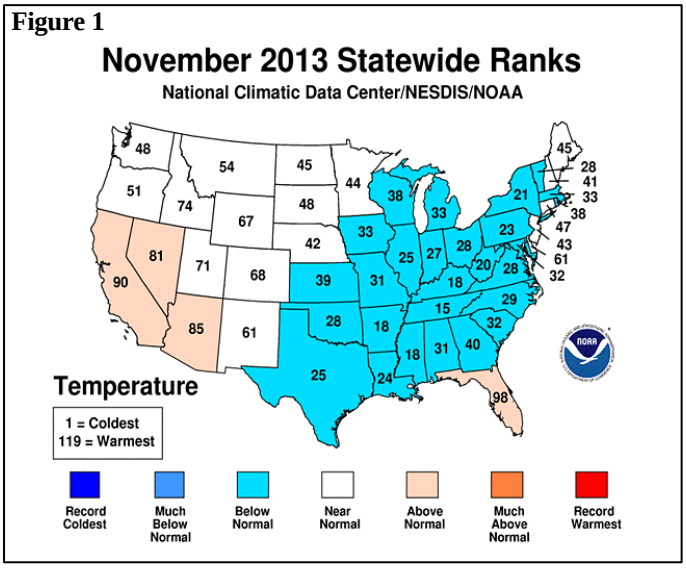
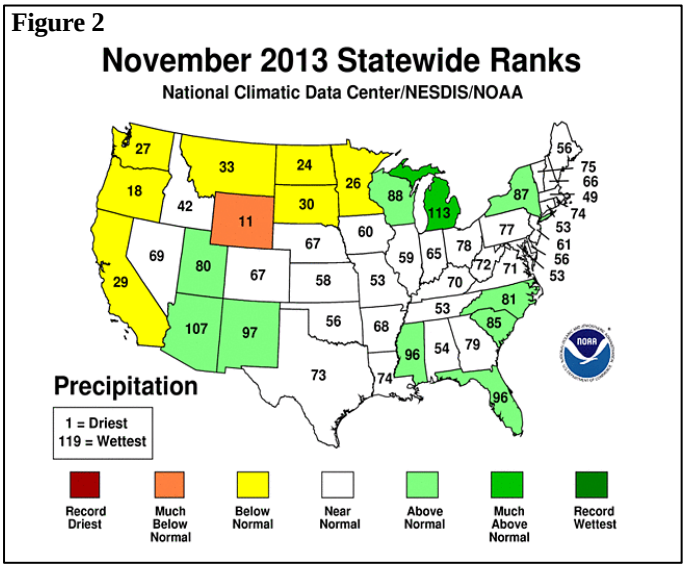


Figure 2



A few days later, significant precipitation developed across the nation's mid-section on November 5-6. Prior to that, however, early-November totaled 10 inches or more at a few locations across the Rockies and Intermountain West, while Salt Lake City, UT, received 3.5 inches from November 3-5. Meanwhile, light snow in the Northwest led to daily-record totals for November 5 in Washington locations such as Spokane (1.9 inches) and Colville (1.5 inches). Elsewhere, record-setting snowfall totals for November 5 reached 5.7 inches in Sioux Falls, SD, and 3.0 inches in Valentine, NE. East Rapid City, SD, netted 3.4 inches on the 5th, boosting its season-to-date

snowfall to 28.9 inches. Farther south, daily-record rainfall amounts for November 5 included 1.20 inches in Lincoln, NE; 1.09 inches in Concordia, KS; and 0.92 inch in Sioux City, IA. The following day, record-setting rainfall amounts for November 6 reached 1.68 inches in Russellville, AR, and 0.64 inch in McAllen, TX.

During the first full week of November, chilly conditions were limited to the West and Northeast. On November 4, daily-record lows dipped to 14°F in both Montpelier, VT, and Klamath Falls, OR. The following day, record-setting lows for November 5 dipped to 12°F in Cedar City, UT; 15°F in Houlton, ME; and 31°F in Paso Robles, CA. Gusty winds accompanied the cool weather in southern California, where a northeasterly gust to 73 mph was clocked on November 5 on Laguna Peak. Farther east, daily-record lows on November 6 in Arizona included 4°F at Sunset Crater Volcano National Monument and 28°F in Kingman. Warmer weather later returned to both the East and West, resulting in daily-record highs in locations such as Miami, FL (88°F on November 7), and South Lake Tahoe, CA (63°F on November 9).

Around mid-month, a sharp cold outbreak affected the Midwest, South, and East. By November 12, cold air dominated the nation's mid-section, where Aberdeen, SD, noted -1°F and Wichita Falls, TX, posted a daily-record low of 24°F. The following day, record-setting lows for November 13 included 11°F in Pellston, MI; 13°F in Lawton, OK; 15°F in Vichy-Rolla, MO; 17°F in Rochester, NY; and 20°F in San Angelo, TX. Consecutive daily-record lows were established on November 13-14 in locations such as Greenwood, MS (24 and 25°F); Florence, SC (25 and 22°F); Augusta, GA (25 and 21°F); and Charlotte, NC (21°F both days). In contrast, late-season warmth built across the West. Daily-record highs for November 11 reached 72°F in Alturas, CA, and 70°F in Eureka, NV. The following day, Yuma, AZ, notched a daily-record high (92°F) for November 12. In California, consecutive daily-record highs were set on November 13-14 in Burbank (95 and 92°F) and Sandberg (76 and 77°F). Warmth later returned to the Great Plains, resulting in record-tying highs for November 16 included 84°F in Wichita Falls, TX, and 77°F in Wichita, KS.

Mid-November snow spread from the northern Plains into the Midwest. On November 10, Havre, MT, received a daily-record snowfall of 4.0 inches. The following day, a record-setting total (0.7 inch) occurred in Springfield, IL. Daily-record snowfall amounts for November 12 included 3.3 inches in Pittsburgh, PA; 0.7 inch in Cincinnati, OH; and 0.4 inch in Louisville, KY. A few days later, precipitation arrived in the Northwest, where Bellingham, WA, registered a daily-record total (0.87 inch) for November 15. Meanwhile, snow spread from the Cascades to the northern and central Rockies, with many high-elevation sites receiving at least 1 to 2 feet. November 16-17 snowfall included 15 inches in Alta, UT, and 11 inches in Gothic, CO.

Farther east, a rare, late-season outbreak of Midwestern tornadoes tore through Illinois and surrounding states on November 17. Preliminary reports indicated that there were six tornado-related fatalities—all in Illinois. Strong straight-line winds affected a broader area of the central and eastern Corn Belt, although agricultural impacts were limited by the fact that nearly all of the soybeans and most of the corn had been harvested by the time the severe weather struck. The severe weather represented the nation's deadliest tornado outbreak in more than 5 months—since May 31 in Oklahoma—and the deadliest in November since 2006, when there were ten fatalities in Louisiana and North Carolina on November 15-16. Perhaps the most impressive tornado cut a 46.2-mile path across several counties in central Illinois, with EF-4 damage (winds estimated near 190 mph) reported in Washington. Previously, the strongest November tornado in Illinois had been an EF-3, east of St. Louis, MO, on November 15, 1988. In addition to the tornadoes, which numbered more than 100 according to preliminary information, there were hundreds of reports of straight-line wind damage. November 17 gusts were clocked to 84 near Peru, IN; 79 mph in Rock Falls, IL; and 66 mph in Newark, OH. Substantial rainfall accompanied the outbreak, with Sault Sainte Marie, MI, experiencing its wettest November day on record. Sault Sainte Marie's November 17 total of 2.54 inches exceeded the record of 2.33 inches established on November 5, 1988. Daily-record totals for November 17 included 2.48 inches in Indianapolis, IN—where a gust to 67 mph was reported—and 1.55 inches in Paducah, KY. Peoria, IL, netted a daily-record total of 1.64 inches on November 17, along with a peak gust to 70 mph.

Unusual warmth preceded the Midwestern tornado outbreak, with temperatures soaring to daily-record levels across the South. Record-setting highs for November 17 reached 91°F in McAllen, TX, and 85°F in Texarkana, AR. The following day, on November 18, daily-record highs climbed to 86°F in Augusta, GA, and 85°F in Columbia, SC. For Augusta, it was the latest reading above 85°F on record (previously, 86°F on November 17, 1958 and 1964). In contrast, frigid air arrived across the northern Plains and the Northwest. In Montana, record-setting lows for November 21 plunged to -17°F in Valentine and -12°F in Livingston. On the same date in Oregon, daily-record lows included 0°F in Redmond and 3°F in Meacham. Valentine, MT, posted another daily-record low on November 22, falling to -19°F. Elsewhere on the 22nd, daily-record lows dipped to -16°F in Worland, WY, and 19°F in Eugene, OR. Across the northern Plains, a second surge of cold air on November 23 resulted in a daily-record low of -17°F in Minot, ND.

While cold air surged into the northwestern and north-central U.S., heavy precipitation affected parts of Florida and overspread the West. Daily-record totals in Florida included 3.05 inches (on November 20) in Melbourne and 5.02 inches (on November 21) in Ft. Lauderdale. Meanwhile in the West, record-setting totals for November 21 reached 1.30 inches in Lancaster, CA, and 0.76 inch in Ely, NV. Ely also reported a daily-record snowfall, with 9.9 inches falling on November 21. Barstow-Daggett, CA, achieved its second-wettest November on record, behind only 2.04 inches in 1944, courtesy of a 1.76-inch deluge from November 21-23. In Arizona, more than 30 percent of the year-to-date rainfall occurred from November 21-24 in locations such as Phoenix (2.43 of 8.03 inches) and Yuma (1.00 of 3.31 inches). Elsewhere in Arizona, Flagstaff received 2.16 inches of precipitation from November 20-24, along with 11.4 inches of snow. High-elevation snowfall totals of 1 to 3 feet, with locally higher amounts, were common in the Four Corners States. Farther east, daily-record precipitation totals included 4.75 inches (on November 22) in Harlingen, TX; 3.15 inches (on

November 22) in El Dorado, AR; and 3.01 inches (on November 21) in West Plains, MO. Meanwhile, snow squalls developed downwind of the Great Lakes, where Syracuse, NY, netted a daily-record total (4.5 inches) for November 23. Frozen precipitation also developed on the southern High Plains, where Amarillo, TX, collected a daily-record snowfall (1.1 inches) on November 23.

During the last week of November, a winter storm affected much of the nation. Record-setting snowfall totals for November 24 included 5.5 inches in Alamosa, CO, and 2.2 inches in Lubbock, TX. Alamosa's 4-day snowfall, from November 22-25, reached 18.1 inches. By November 25, heavy rain erupted across the western and central Gulf Coast States, where daily-record totals topped 3 inches in locations such as Jackson, MS (3.87 inches), and Alexandria, LA (3.45 inches). The following day, record-setting Southeastern totals for November 26 included 3.56 inches in Tallahassee, FL; 3.00 inches in Greenville-Spartanburg, SC; 2.67 inches in Chattanooga, TN; 2.60 inches in Alma, GA; 2.59 inches in Asheville, NC; and 2.50 inches in Lynchburg, VA. Asheville also achieved an annual precipitation record, with a total of 67.55 inches (161 percent of normal) through November. Previously, Asheville's wettest year had been 1973, when 64.91 inches fell. By November 27, the day before Thanksgiving, wet weather shifted into the Northeast. Daily-record amounts for the 27th totaled 3.12 inches in Providence, RI; 2.57 inches in Worcester, MA; and 2.48 inches in Portland, ME. Meanwhile, precipitation changed to snow in the Appalachians and downwind of the Great Lakes. Daily-record snowfall totals for November 27 included 6.1 inches in South Bend, IN, and 1.4 inches in Jackson, KY. Muskegon, MI, received a daily-record snowfall of 6.5 inches on November 28, Thanksgiving Day.

In late November, chilly conditions gripped the southern Plains, where Oklahoma City, OK, posted a November 24 high of 30°F. The following day in Arkansas, highs of 27°F in Lead Hill and 30°F in Mena tied November records for the stations' respective lowest maximum temperatures. Farther east, Northeastern daily-record lows for November 25 dipped to 7°F in Watertown, NY, and 15°F in Danville, VA. In contrast, warmth arrived in the Pacific Coast States, resulting in daily-record highs in locations such as Seattle, WA (58°F on November 27), and Sacramento, CA (70°F on November 28). Meanwhile, cold air trailed heavy precipitation across the South and East. On November 27-28, consecutive daily-record lows were established in locations such as Jackson, TN (15 and 14°F), and Greenwood, MS (22 and 19°F). Similarly, Gaylord, MI, posted consecutive daily-record lows (-2 and -8°F) on November 28-29, while Massena, NY, achieved the same feat (-1 and -2°F) on November 29-30. In the Southeast, the cold snap's most impressive day was Thanksgiving Day, November 28, when lows fell to daily-record levels in locations such as Tupelo, MS (17°F); Birmingham, AL (18°F); and Augusta, GA (21°F). Augusta narrowly missed its coldest Thanksgiving on record, which remains 20°F on November 26, 1970.

Alaska's weather turned from mild to frigid during November. Early in the month, Cold Bay reported daily-record highs on November 3, 6, and 9, with its highest temperature (55°F) occurring on the 9th. Daily-record highs were also set in locations such as Valdez (46°F on November 5) and Kotzebue (38°F on November 9). Occasionally stormy weather accompanied the mild conditions, especially across parts of southern and western Alaska. Juneau collected a daily-record precipitation total (0.84 inch) on November 5. Meanwhile, Fairbanks noted its first one-inch snow accumulation of the season on November 5, when 1.2 inches fell. On November 10-11, snowfall reached 29.0 inches in Valdez and 7.3 inches in Anchorage. With a 1.27-inch precipitation total on November 10, Anchorage also experienced its wettest November day on record (previously, 1.16 inches on November 18, 1964). Later, additional daily-record highs were set in several locations, including Kodiak (59°F on November 14) and Fairbanks (45°F on November 14). In fact, Kodiak collected three consecutive daily-record highs (54, 59, and 50°F) from November 13-15. Significant snow and freezing rain accompanied the mild weather across portions of interior Alaska. For example, November 10-16 precipitation totaled 1.15 inches in Fairbanks, including 9.0 inches of snow. Fairbanks also experienced a disruptive freezing rain event on November 13. During the second half of the month, suddenly cold conditions engulfed Alaska. On November 21, temperatures plunged to -50°F in Tok and Chicken, while Eielson Air Force Base, near Fairbanks, posted a daily-record low of -42°F. Other record-setting lows included -38°F (on November 20) in Delta Junction and 4°F (on November 21) in Valdez. From November 21-24, Valdez received 5.22 inches of precipitation and 45.5 inches of snow. In addition, Valdez secured its wettest year on record, with the 94.78-inch total (through November) surpassing the 1981 standard of 93.30 inches.

Hawaii experienced mostly tranquil weather in November, interrupted by a few periods of heavy rain. During a 24-hour period ending early on November 10, rainfall on Kauai reached 10.66 inches on Mt. Waialeale and 8.94 inches at Kilohana. During the same 24-hour period, rainfall totaled 10.95 inches at the Oahu Forest National Wildlife Refuge. Kahului, Maui, received a daily-record rainfall (3.55 inches) on November 10. On the Big Island, Hilo netted 3.25 inches of rain on November 10-11. Drier weather trailed the downpours, resulting in daily-record lows in Kahului (58°F on November 12) and Honolulu, Oahu (64°F on November 13). Lihue, Kauai, notched consecutive daily-record lows (62 and 61°F, respectively) on November 12-13. Quiet weather returned again until month's end, when torrential rainfall erupted across Kauai. During a 24-hour period ending on the morning of December 1, rainfall totals on Kauai reached 12.08 inches on Mt. Waialeale and 7.26 inches in both Mana and Kilohana. Prior to the deluge, warm, dry weather prevailed, especially on the Big Island, where Hilo posted consecutive a daily-record high (88°F) on November 27.

Fieldwork

Fieldwork summary provided by USDA/NASS

November temperatures were below normal in the eastern U.S. but above normal in the western part of the nation and in

Florida. Areas in the Ohio and Tennessee Valleys, the Delta, and eastern Texas saw average temperatures 4°F or more below normal. Most of the country recorded less than 4 inches of precipitation for the month; however, almost the entire nation was within 2 inches of normal November precipitation. Midwestern tornadoes and accompanying strong straight-line winds on November 17 that hit an area centered on Illinois had little agricultural impact because most harvest activities were complete at that time.

Corn producers had harvested 73 percent of this year's crop by November 3. This was 22 percentage points behind last year's historically early harvest but 2 points ahead of the 5-year average. Precipitation in the Corn Belt during the first full week of the month did not significantly slow corn harvest, with 84 percent of the crop cut by November 10. This was 13 percentage points behind last year but 5 points ahead of the 5-year average. Dry weather for the remainder of the month allowed for the completion of the corn harvest in all but a few states in the northern Corn Belt. Nationally, 95 percent of the crop was harvested by November 24.

By November 3, eighty-six percent of the soybean crop was harvested, 6 percentage points behind the previous year but slightly ahead of the 5-year average. Precipitation early in the month did not significantly slow harvest, which advanced to 91 percent complete by November 10—slightly behind the 5-year average. Dry weather across the soybean producing areas of the country allowed producers to harvest 95 percent of the crop by November 17.

The nation's sorghum crop was 75 percent harvested by November 3, two percentage points behind the previous year but 6 points ahead of the 5-year average. Nationally, harvest advanced 10 percentage points to 85 percent complete by November 10. This was aided by an 11-point increase in harvest progress in Kansas and a 10-point increase in Texas during that week. Harvest advanced to 91 percent complete by November 17, five percentage points ahead of the 5-year average, and to 97 percent complete on November 24, six points ahead of average.

Producers had sown 91 percent of the intended 2014 winter wheat acreage by November 3, slightly ahead of the 5-year average. By November 10, emergence had advanced to 84 percent complete, 6 percentage points ahead of last year and 4 points ahead of the 5-year average. By November 24, ninety-three percent of the nation's winter wheat had emerged. This was 5 percentage points ahead of the previous year and 4 points ahead of the 5-year average. Soil moisture was adequate for winter wheat development on the central High Plains but areas of drought on the southern High Plains were placing stress on the emerging crop. However, winter wheat conditions remained significantly improved over last year, with 62 percent of the crop reported in good to excellent condition on November 24—compared with 33 percent at the same time last year.

Cotton producers had harvested 43 percent of this year's crop by November 3, eighteen percentage points behind last year and 11 points behind the 5-year average. Mostly dry weather in western Texas and the Southeast allowed harvest progress, 78 percent complete by November 24, to move closer to the 5-year average.

By November 3, rice producers had harvested 98 percent of the nation's crop, 3 percentage points ahead of the previous year and the 5-year average. Heavy precipitation early in the month in the Mississippi Delta did not have an impact on the largely completed rice harvest but should improve soil moisture deficits in the area for next year's crops.

Producers had harvested 84 percent of the nation's peanut crop by November 3, two percentage points behind last year but 6 points ahead of the 5-year average. Dry weather early in the month allowed Georgia producers to harvest 91 percent of the crop by November 10. Harvest was largely complete across the nation by the middle of the month, with 97 percent complete by November 17—five percentage points ahead of the 5-year average.

Sunflower producers had harvested 32 percent of this year's crop by November 3, fifty-seven percentage points behind last year and 29 points behind the 5-year average. Dry weather in the northern Great Plains facilitated rapid completion of the late sunflower crop harvest which advanced to 65 percent complete by November 17. Eighty percent of the crop was harvested by November 24, thirteen percentage points behind the 5-year average.

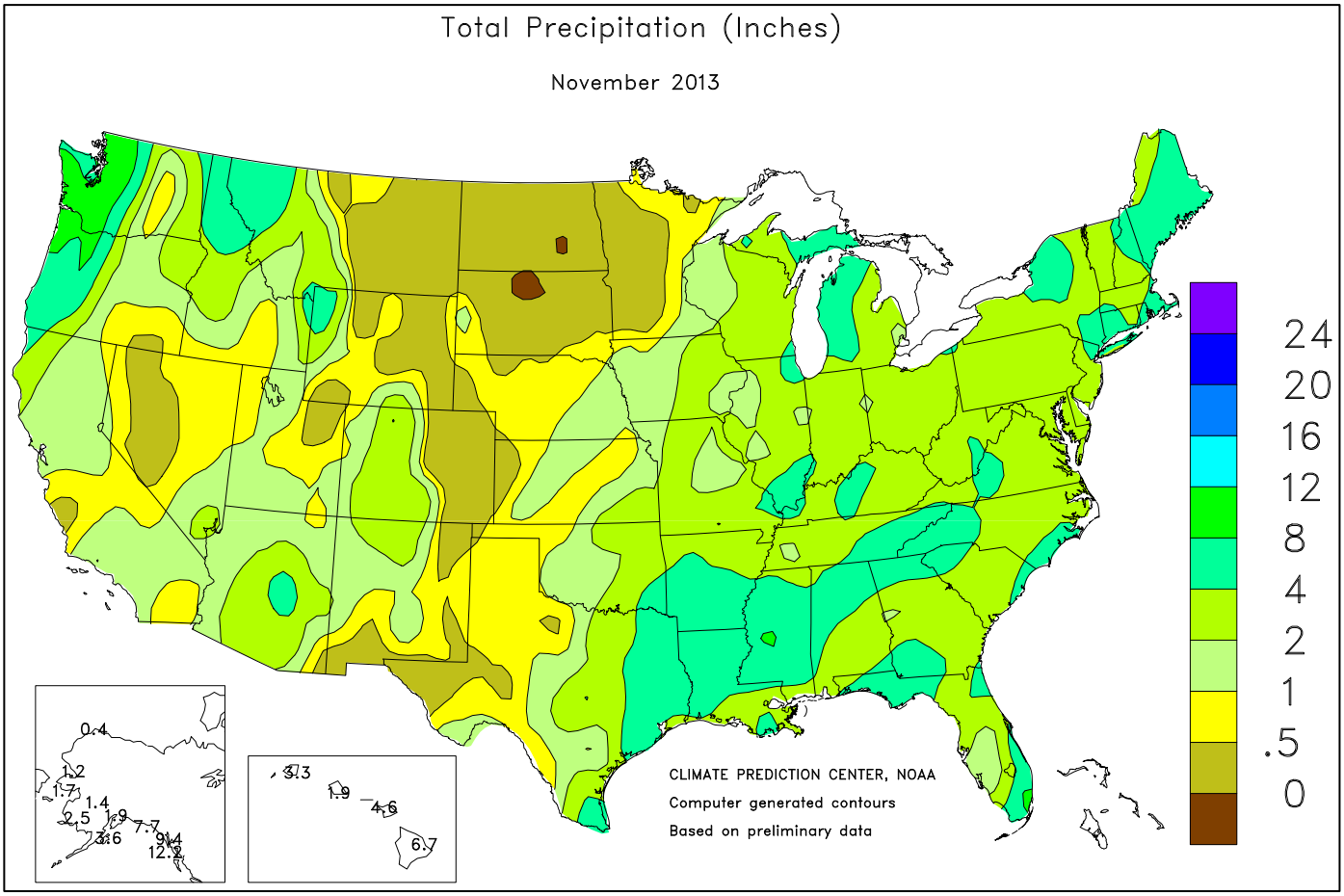
Ninety-three percent of this year's sugarbeet crop had been harvested by November 3, four percentage points ahead of last year and 3 percentage points ahead of the 5-year average. During the week ending November 10, producers in Michigan harvested 18 percent of the state's crop. Nationally, 97 percent of the sugarbeet crop was harvested by November 10, slightly behind last year but slightly ahead of the 5-year average.

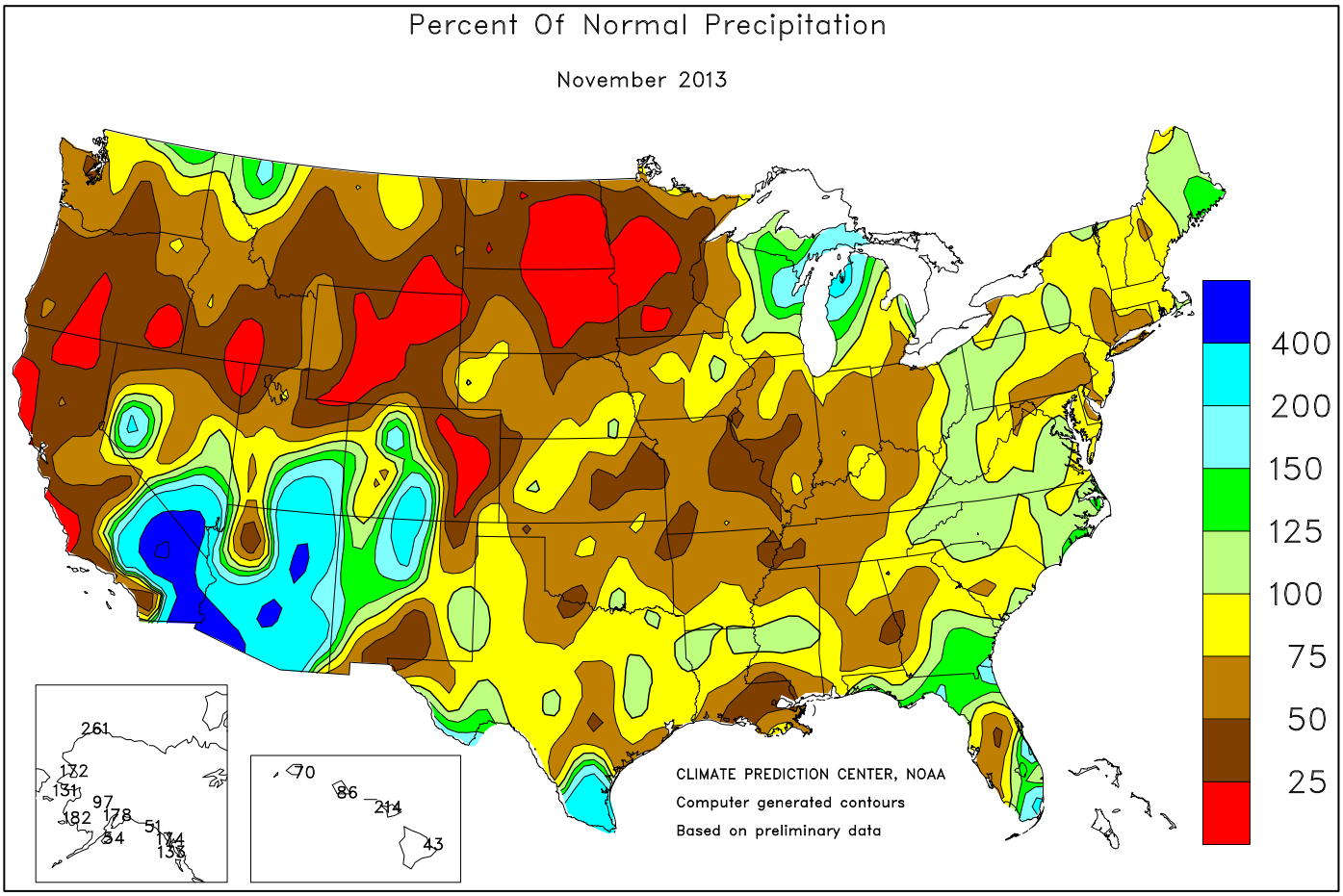
U.S. Crop Production Highlights

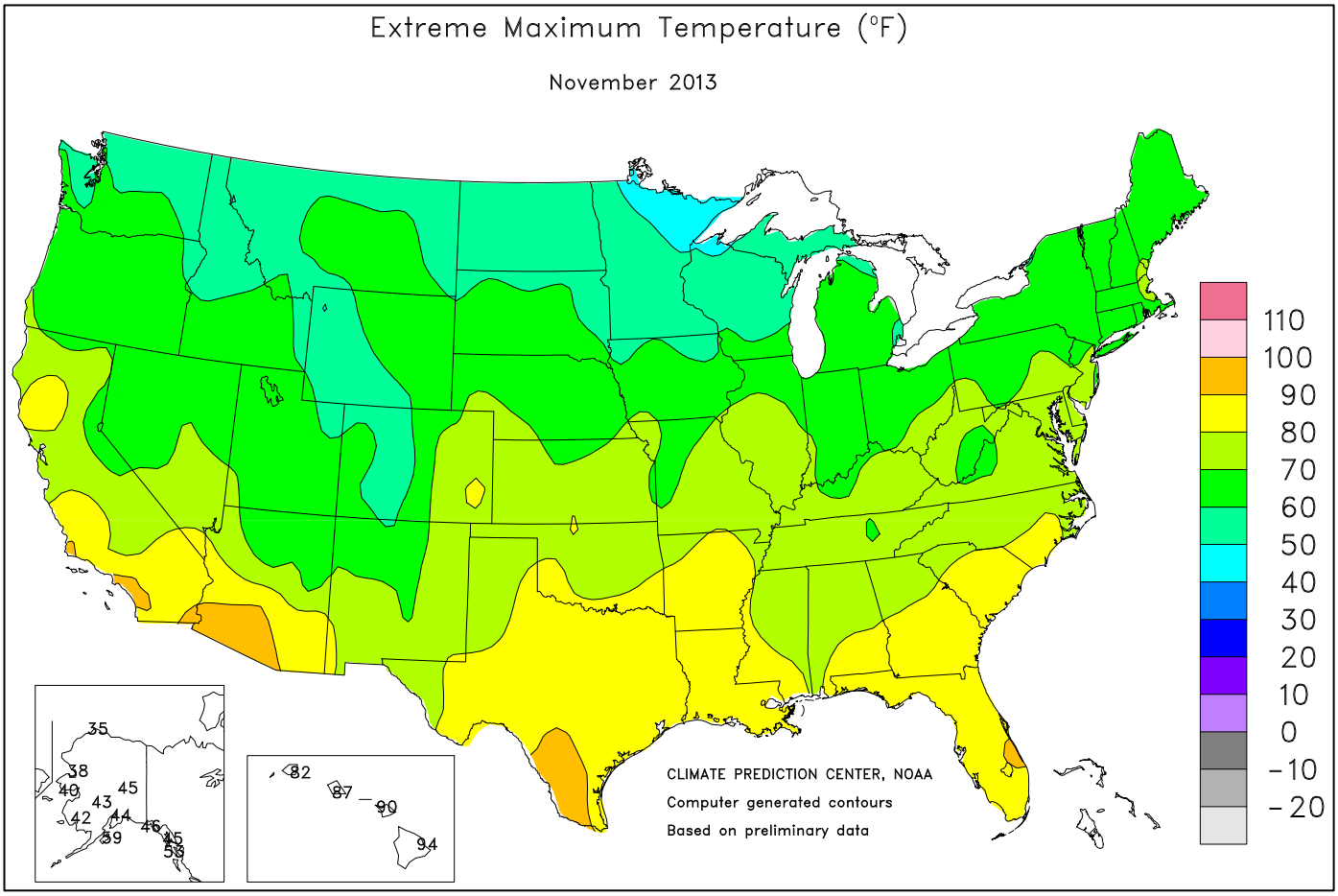
The following information was released by USDA's Agricultural Statistics Board on December 10, 2013. Forecasts refer to December 1.

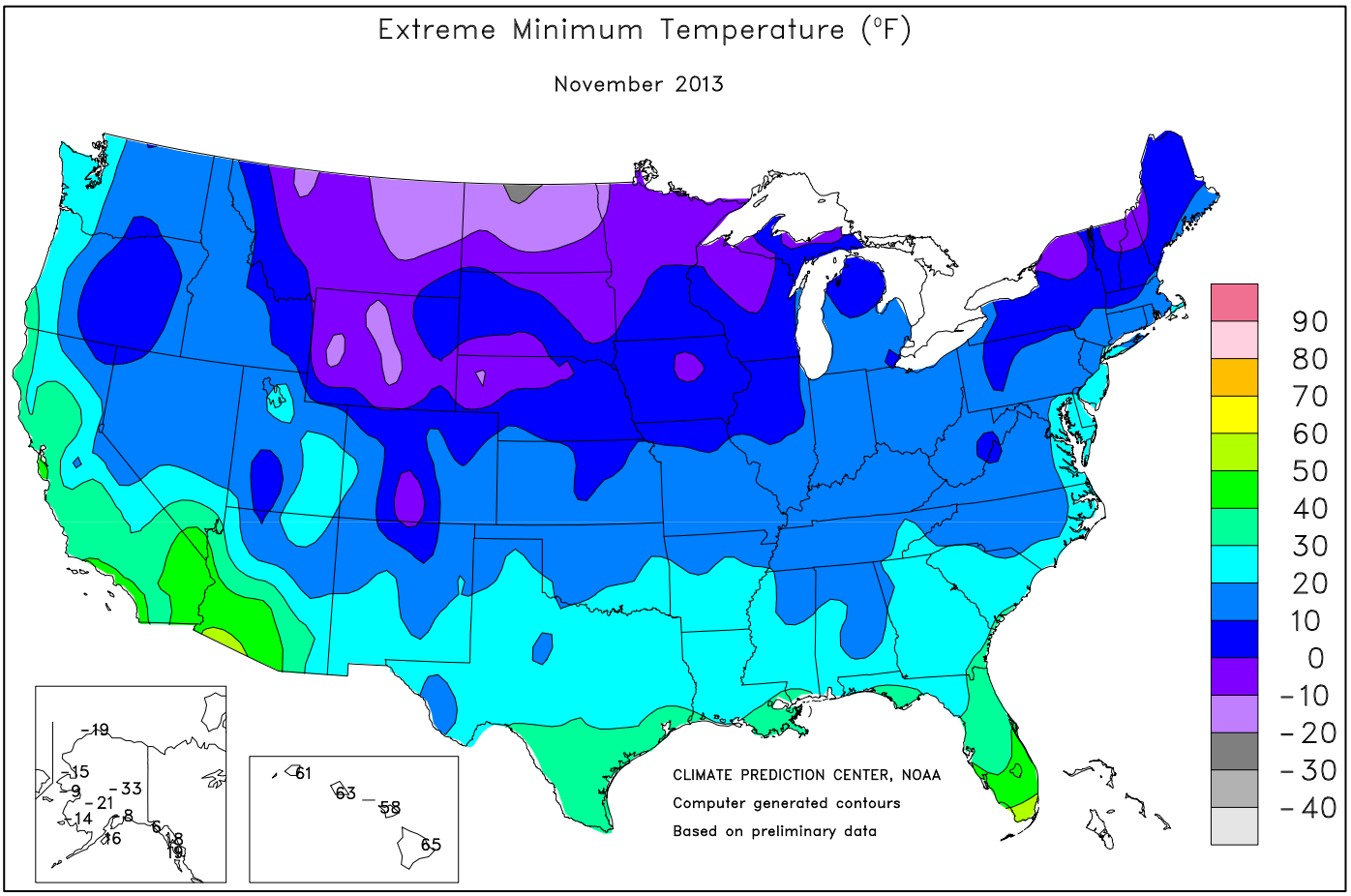
All cotton production is forecast at 13.1 million 480-pound bales, down slightly from last month and down 25 percent from last year. Yield is expected to average 806 pounds per acre, down 81 pounds from last year. Upland cotton production is forecast at 12.4 million 480-pound bales, down 25 percent from 2012. Pima cotton production, forecast at 625,500 bales, was carried forward from last month.

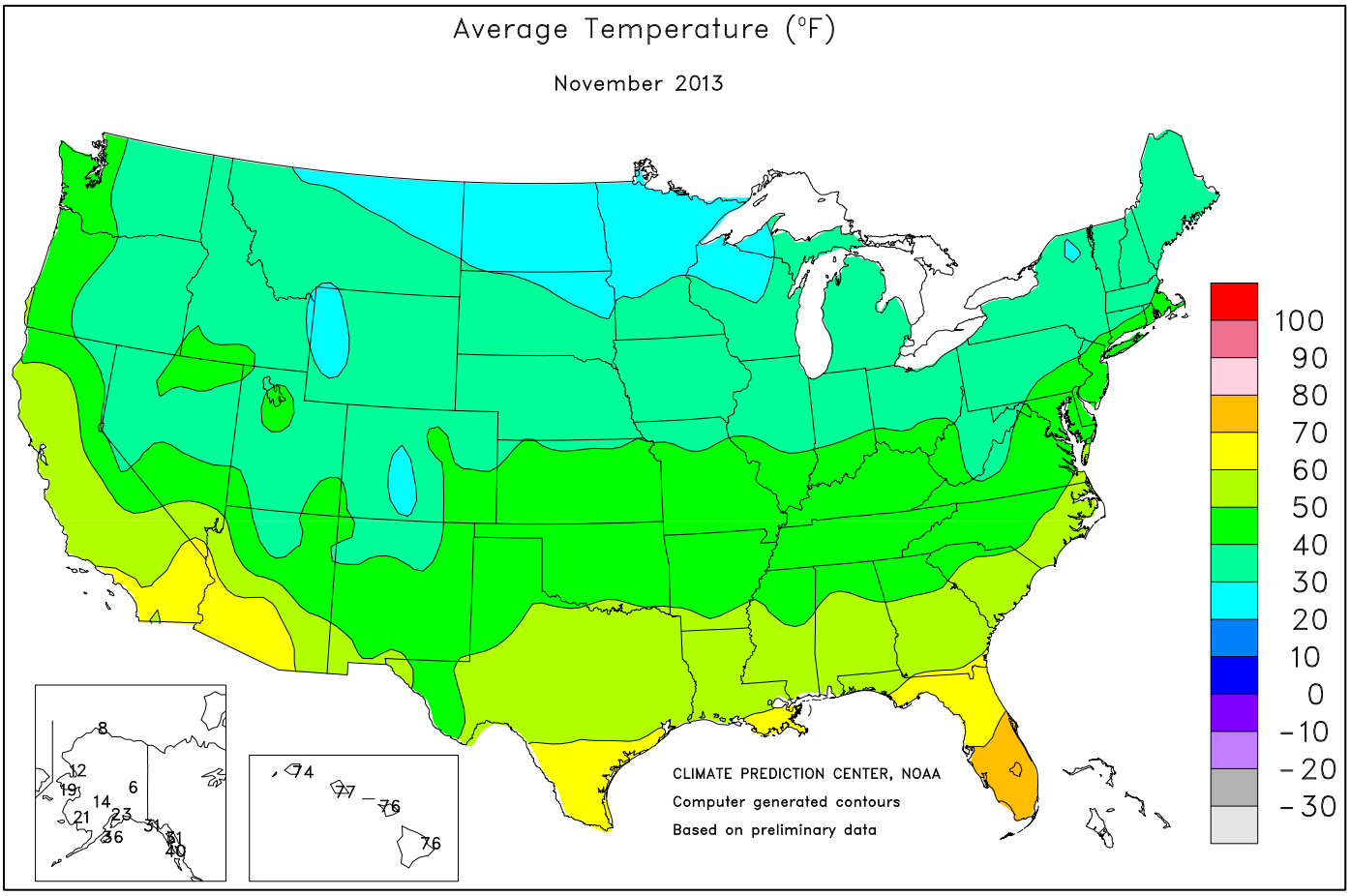
The U.S. **all orange** forecast for the 2013-2014 season is 7.78 million tons, down 2 percent from the previous forecast and down 7 percent from the 2012-2013 final utilization. The Florida all orange forecast, at 121 million boxes (5.45 million tons), is down 3 percent from the previous forecast and down 9 percent from last season's final utilization. Early, midseason, and Navel varieties in Florida are forecast at 56.0 million boxes (2.52 million tons), down 3 percent from the previous forecast and down 17 percent from last season. Current droppage is projected to be the highest since the 1960-1961 season. The Florida Valencia orange forecast, at 65.0 million boxes (2.93 million tons), is down 3 percent from the previous forecast and down 2 percent from last season's final utilization. California and Texas orange production forecasts are carried forward from November.

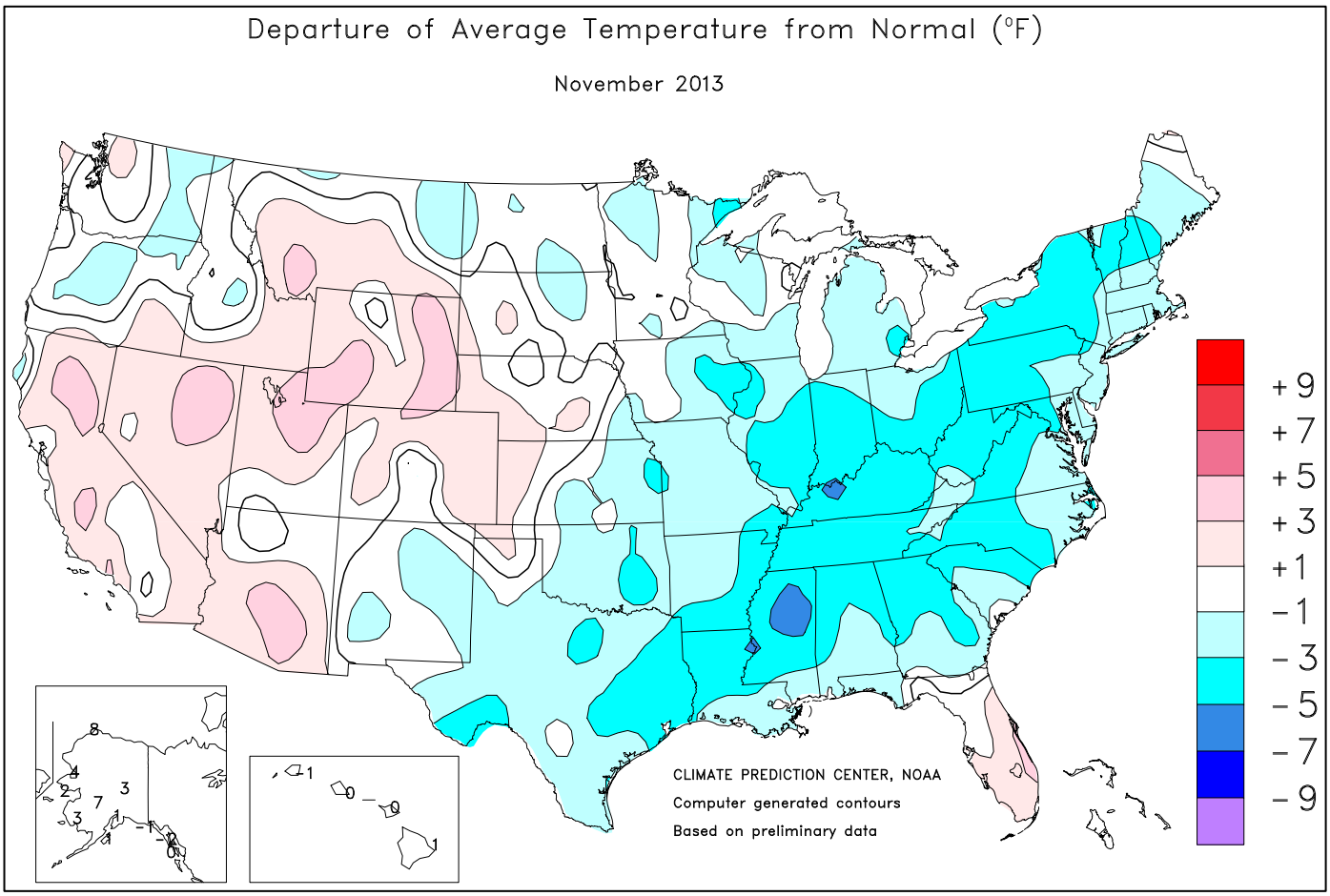

Total Precipitation (Inches)
November 2013
24
20
16
12
8
4
2
1
.5
0
0.4
1.2
1.7
1.4
2.5
1.9
7.3
7.7
9.4
12.2
3.3
1.9
4.6
6.7
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Percent Of Normal Precipitation
November 2013
400
200
150
125
100
75
50
25
261
132
131
97
182
178
54
51
74
135
70
86
214
43
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Extreme Maximum Temperature (°F)
November 2013
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
35
38
40
45
43
42
44
46
39
82
87
90
94
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Extreme Minimum Temperature (°F)
November 2013
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-19
15
-9
-33
-21
14
8
16
6
61
63
58
65
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Average Temperature (°F)
November 2013
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Departure of Average Temperature from Normal (°F)
November 2013
+9
+7
+5
+3
+1
-1
-3
-5
-7
-9
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

National Weather Data for Selected Cities

November 2013

Data Provided by Climate Prediction Center

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	51	-2	4.12	-0.51	LEXINGTON	43	-3	2.45	-0.99	COLUMBUS	41	-3	2.18	-1.01
HUNTSVILLE	48	-3	3.08	-2.14	LONDON-CORBIN	44	-3	2.78	-1.12	DAYTON	40	-2	1.60	-1.70
MOBILE	57	-2	3.43	-1.98	LOUISVILLE	45	-3	3.72	-0.08	MANSFIELD	37	-3	2.24	-1.52
MONTGOMERY	54	-2	2.32	-2.21	PADUCAH	45	-2	2.27	-2.26	TOLEDO	38	-2	1.36	-1.42
AK ANCHORAGE	23	1	1.94	0.85	LA BATON ROUGE	57	-2	1.71	-3.05	YOUNGSTOWN	37	-4	3.08	0.01
BARROW	8	9	0.42	0.26	LAKE CHARLES	58	-2	3.18	-1.43	OK OKLAHOMA CITY	48	-1	0.96	-1.15
COLD BAY	38	3	4.50	-0.29	NEW ORLEANS	60	-1	1.89	-3.20	TULSA	47	-3	1.91	-1.56
FAIRBANKS	6	4	1.74	1.06	SHREVEPORT	53	-3	5.18	0.50	OR ASTORIA	47	0	5.11	-5.39
JUNEAU	31	-2	9.44	4.01	ME BANGOR	35	-2	3.76	0.07	BURNS	35	2	0.46	-0.65
KING SALMON	25	2	2.61	1.07	CARIBOU	31	0	4.01	0.89	EUGENE	44	-1	2.14	-6.30
KODIAK	36	2	3.60	-3.03	PORTLAND	37	-1	3.41	-1.31	MEDFORD	45	1	1.12	-1.81
NOME	19	2	1.68	0.40	MD BALTIMORE	43	-3	2.82	-0.30	PENDLETON	39	-2	0.67	-0.96
AZ FLAGSTAFF	37	0	2.22	0.36	MA BOSTON	43	-2	2.72	-1.26	PORTLAND	46	0	3.05	-2.56
PHOENIX	67	5	2.43	1.70	WORCESTER	37	-3	3.62	-0.72	SALEM	46	1	2.68	-3.71
TUCSON	64	5	2.22	1.55	MI ALPENA	33	-2	2.02	-0.06	PA ALLENTOWN	40	-2	2.58	-1.12
AR FORT SMITH	50	-1	2.40	-2.40	DETROIT	37	-4	1.82	-0.84	ERIE	40	-3	4.44	0.48
LITTLE ROCK	49	-3	4.71	-1.02	FLINT	37	-1	1.67	-0.98	MIDDLETOWN	41	-3	2.42	-1.10
CA BAKERSFIELD	58	3	0.94	0.35	GRAND RAPIDS	38	0	3.75	0.40	PHILADELPHIA	45	-2	2.73	-0.43
EUREKA	49	-2	1.29	-4.49	HOUGHTON LAKE	33	-2	3.16	1.02	PITTSBURGH	39	-3	2.97	-0.05
FRESNO	58	5	0.54	-0.56	LANSING	37	-1	2.13	-0.53	WILKES-BARRE	38	-4	2.74	-0.38
LOS ANGELES	64	2	0.69	-0.44	MUSKEGON	39	0	3.39	0.16	WILLIAMSPORT	38	-3	2.84	-0.78
REDDING	54	3	1.72	-2.31	TRAVERSE CITY	36	-1	5.71	3.04	PR SAN JUAN	80	0	9.02	2.85
SACRAMENTO	56	3	0.88	-1.31	MN DULUTH	28	0	0.82	-1.30	RI PROVIDENCE	42	-2	4.63	0.23
SAN DIEGO	64	2	1.48	0.41	INT'L FALLS	25	1	1.21	-0.15	SC CHARLESTON	57	-1	3.52	0.86
SAN FRANCISCO	57	2	0.91	-1.58	MINNEAPOLIS	33	0	0.52	-1.42	COLUMBIA	52	-3	2.06	-0.82
STOCKTON	55	2	1.09	-0.68	ROCHESTER	31	0	1.76	-0.25	FLORENCE	52	-3	2.17	-0.42
CO ALAMOSA	28	0	1.63	1.15	ST. CLOUD	29	0	0.52	-1.02	GREENVILLE	49	-2	4.13	0.34
CO SPRINGS	39	3	0.27	-0.25	MS JACKSON	53	-2	6.63	1.59	MYRTLE BEACH	53	-4	1.43	-1.54
DENVER	41	4	0.27	-0.33	MERIDIAN	51	-5	4.77	-0.18	SD ABERDEEN	27	-2	0.10	-0.65
GRAND JUNCTION	39	1	1.04	0.33	TUPELO	48	-3	4.33	-0.68	HURON	31	0	0.17	-0.72
PUEBLO	41	3	0.34	-0.24	MO COLUMBIA	42	-1	1.47	-2.00	RAPID CITY	34	1	0.38	-0.23
CT BRIDGEPORT	44	-1	2.51	-1.14	JOPLIN	44	-3	2.42	-1.64	SIOUX FALLS	32	1	0.46	-0.90
HARTFORD	40	-2	4.02	-0.04	KANSAS CITY	41	-2	1.43	-0.87	TN BRISTOL	43	-3	3.94	0.86
DC WASHINGTON	46	-3	2.92	-0.11	SPRINGFIELD	44	-2	2.02	-2.44	CHATTANOOGA	48	-2	4.17	-0.71
DE WILMINGTON	44	-2	2.91	-0.28	ST JOSEPH	39	-3	1.93	-0.23	JACKSON	45	-5	1.83	-3.24
FL DAYTONA BEACH	70	3	3.11	0.08	ST LOUIS	44	-1	1.02	-2.69	KNOXVILLE	47	-2	4.41	0.43
FT LAUDERDALE	75	1	10.92	6.35	MT BILLINGS	37	3	0.34	-0.41	MEMPHIS	49	-3	2.67	-3.09
FT MYERS	73	1	1.43	-0.28	BUTTE	31	4	0.20	-0.40	NASHVILLE	46	-3	2.53	-1.92
JACKSONVILLE	62	0	2.84	0.50	GLASGOW	28	0	0.35	-0.04	TX ABILENE	52	-2	1.16	-0.14
KEY WEST	77	1	4.25	1.61	GREAT FALLS	34	2	0.18	-0.41	AMARILLO	45	0	0.52	-0.16
MELBOURNE	73	4	4.69	1.57	HELENA	34	3	0.15	-0.33	AUSTIN	56	-4	2.16	-0.52
MIAMI	77	3	5.73	2.30	KALISPELL	31	0	2.54	1.09	BEAUMONT	59	-2	3.70	-1.05
ORLANDO	71	2	0.92	-1.40	MILES CITY	32	0	0.10	-0.42	BROWNSVILLE	67	-1	1.93	0.18
PENSACOLA	59	-2	5.30	0.84	MISSOULA	33	1	0.54	-0.42	COLLEGE STATION	56	-4	4.57	1.39
ST PETERSBURG	71	1	1.42	-0.62	NE GRAND ISLAND	38	2	0.97	-0.44	CORPUS CHRISTI	64	-1	3.39	1.65
TALLAHASSEE	62	2	4.39	0.53	HASTINGS	38	1	1.00	-0.46	DALLAS/FT WORTH	53	-2	2.11	-0.46
TAMPA	70	1	0.96	-0.66	LINCOLN	37	-1	1.22	-0.36	DEL RIO	59	-1	0.66	-0.30
WEST PALM BEACH	76	3	2.78	-2.77	MCCOOK	39	1	0.48	-0.61	EL PASO	54	1	0.10	-0.32
GA ATHENS	50	-3	2.42	-1.29	NORFOLK	36	1	0.83	-0.61	GALVESTON	61	-4	2.45	-1.19
ATLANTA	50	-3	1.87	-2.23	NORTH PLATTE	36	1	0.51	-0.25	HOUSTON	58	-3	3.81	-0.38
AUGUSTA	52	-2	1.82	-0.86	OMAHA/EPPLEY	37	-1	1.05	-0.77	LUBBOCK	49	1	0.54	-0.17
COLUMBUS	55	-2	1.79	-2.18	SCOTTSBLUFF	37	3	0.85	0.05	MIDLAND	51	-1	0.57	-0.08
MACON	52	-3	3.37	0.15	VALENTINE	35	2	0.52	-0.20	SAN ANGELO	52	-2	0.81	-0.29
SAVANNAH	58	-1	2.51	0.11	NV ELKO	39	4	0.69	-0.36	SAN ANTONIO	60	0	1.50	-1.08
HI HILO	76	2	6.66	-8.92	ELY	36	3	0.87	0.24	VICTORIA	61	-2	1.79	-0.85
HONOLULU	77	-1	1.95	-0.31	LAS VEGAS	58	3	1.37	1.06	WACO	53	-4	2.39	-0.22
KAHULUI	76	0	4.64	2.47	RENO	44	3	0.49	-0.31	WICHITA FALLS	50	-2	0.64	-1.04
LIHUE	74	-2	3.31	-1.39	WINNEMUCCA	39	2	0.57	-0.23	UT SALT LAKE CITY	45	5	0.62	-0.78
ID BOISE	40	0	1.49	0.11	NH CONCORD	35	-3	3.02	-0.55	VT BURLINGTON	35	-2	2.43	-0.63
LEWISTON	39	-1	0.71	-0.50	NJ ATLANTIC CITY	43	-3	2.55	-0.71	VA LYNCHBURG	43	-4	3.35	0.17
POCATELLO	37	2	0.45	-0.68	NEWARK	44	-2	2.97	-0.91	NORFOLK	51	-1	2.57	-0.41
IL CHICAGO/O'HARE	38	-1	2.08	-0.93	NM ALBUQUERQUE	45	1	0.90	0.28	RICHMOND	48	-1	3.06	0.00
MOLINE	37	-2	1.22	-1.51	NY ALBANY	37	-2	1.84	-1.44	ROANOKE	44	-3	2.74	-0.47
PEORIA	38	-2	3.26	0.27	BINGHAMTON	34	-4	3.50	0.18	WASH/DULLES	43	-2	2.79	-0.52
ROCKFORD	35	-2	2.08	-0.55	BUFFALO	38	-2	2.93	-0.99	WA OLYMPIA	42	0	4.69	-3.44
SPRINGFIELD	39	-3	1.23	-1.64	ROCHESTER	37	-3	2.81	-0.03	QUILLAYUTE	48	4	7.92	-6.90
IN EVANSVILLE	43	-3	2.04	-2.14	SYRACUSE	37	-3	3.84	0.07	SEATTLE-TACOMA	48	3	3.79	-2.11
FORT WAYNE	38	-3	1.46	-1.52	NC ASHEVILLE	44	-2	3.55	-0.27	SPOKANE	35	0	1.56	-0.68
INDIANAPOLIS	39	-4	3.23	-0.38	CHARLOTTE	47	-5	3.63	0.27	YAKIMA	38	1	0.38	-0.67
SOUTH BEND	38	-2	2.70	-0.69	GREENSBORO	46	-3	3.61	0.65	WV BECKLEY	40	-3	3.28	0.40
IA BURLINGTON	38	-3	1.14	-1.58	HATTERAS	57	-1	3.94	-0.99	CHARLESTON	43	-3	3.17	-0.49
CEDAR RAPIDS	34	-3	2.58	0.34	RALEIGH	48	-3	2.99	0.02	ELKINS	38	-3	3.15	-0.27
DES MOINES	38	0	1.35	-0.75	WILMINGTON	54	-2	3.67	0.41	HUNTINGTON	43	-3	3.12	-0.20
DUBUQUE	33	-3	1.93	-0.56	ND BISMARCK	28	0	0.09	-0.61	WI EAU CLAIRE	31	-1	1.32	-0.60
SIOUX CITY	35	0	1.09	-0.31	DICKINSON	29	0	0.06	-0.53	GREEN BAY	34	0	3.44	1.17
WATERLOO	31	-4	2.06	-0.04	FARGO	28	1	0.40	-0.66	LA CROSSE	35	0	1.77	-0.33
KS CONCORDIA	40	-1	1.15	-0.30	GRAND FORKS	24	-2	0.15	-0.84	MADISON	35	0	2.20	-0.11
DODGE CITY	42	0	0.80	-0.21	JAMESTOWN	27	0	0.01	-0.70	MILWAUKEE	37	-1	2.97	0.27
GOODLAND	40	3	0.17	-0.65	MINOT	26	-1	0.15	-0.71	WAUSAU	31	-1	2.26	0.06
HILL CITY	40	0	0.69	-0.05	WILLISTON	26	0	0.35	-0.30	WY CASPER	33	1	0.24	-0.58
TOPEKA	42	-1	0.88	-1.43	OH AKRON-CANTON	38	-3	3.14	0.10	CHEYENNE	37	4	0.16	-0.48
WICHITA	44	0	0.60	-1.22	CINCINNATI	41	-4	2.19	-1.27	LANDER	33	3	0.13	-0.86
KY JACKSON	44	-4	3.01	-1.19	CLEVELAND	40	-2	2.88	-0.50	SHERIDAN	33	2	0.17	-0.63

Based on 1971-2000 normals

***** Not Available**

National Agricultural Summary

December 2 – 8, 2013

Weekly National Agricultural Summary provided by USDA/NASS

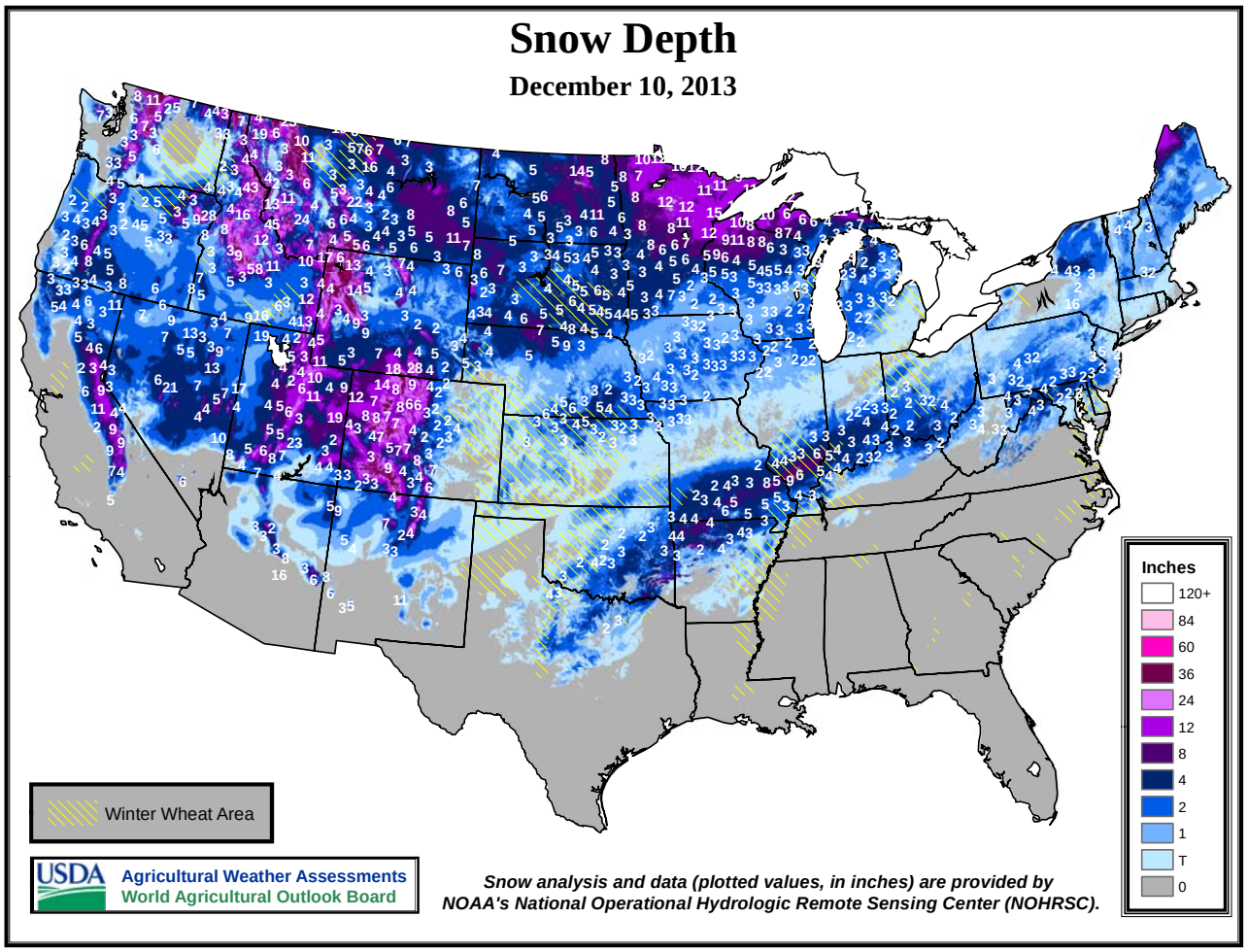
Below-average temperatures were recorded in nearly all areas west of the Mississippi River, with generally above-average temperatures covering the eastern United States. Montana recorded average temperatures over 15°F below normal, while the Southeast saw averages over 5°F above normal. Precipitation was limited or absent across the entire Nation except for a narrow area stretching from Arkansas to Pennsylvania which received over one inch of precipitation. A small band in Kentucky and Tennessee recorded over 3 inches of rainfall for the week.

Fairly mild weather early in the week in California turned bitterly cold by the weekend. Growers were concerned about frost damage on newly emerged winter wheat, but three-quarters of the winter wheat crop was still rated in good to excellent condition. Some producers in the Southern Valley were able to harvest one more cutting of alfalfa before it went dormant. Producers were plowing down cotton where harvest was completed to comply with the Cotton Plowdown Regulations. Citrus growers worked to protect groves from this week's frost by setting up wind machines, irrigation and other measures to minimize damage to trees and fruit. Orchards and vineyards were irrigated and pruned. For nut producers, tree removals were ongoing and land was prepared for tree planting. Range and non-irrigated pasture conditions improved slightly due to recent rains. Dairy cattle were moved off irrigated pasture to reduce soil compaction. Sheep and cattle grazed on idle fields, dry land grain and alfalfa fields. Livestock supplemental feeding of hay and grain continued. Calving season continued and lambing was underway across the State. Beekeepers prepared for dormancy.

In Arizona, cotton harvest was 83 percent complete, advancing 18 percentage points from last week. Alfalfa condition was rated in fair to excellent condition, depending on location, with harvesting occurring on three-quarters of alfalfa acreage across the State. Rain brought needed moisture for the State's range and pastures along with cold weather. Range and pastures were rated in very poor to good condition, depending on location.

Cotton and soybean harvest was finishing up in the northern part of Florida. Hay was still being harvested in Pasco County. Cover crops were being planted in Dixie County. Sugarcane harvest was proceeding as scheduled in Hendry and Glades counties. With vegetable harvesting ongoing, diseases in vegetables were noted due to scattered showers and foggy conditions. Cabbage planting will continue through December in Flagler and Putnam counties. Citrus growers and caretakers continued to irrigate due to dry conditions. Field workers were reporting small sizes on early and midseason oranges and Sunburst tangerines. Grove activity included resetting of new trees, pushing of dead groves and replanting new citrus, mowing, fertilizing and psyllid control. Calving was active in the southwestern part of the State. Cattlemen were feeding hay, as winter forage was not yet ready in most regions.

In North Carolina, continued rainfall slowed harvest in most areas with cotton and soybeans making less than a 7 percentage point increase in harvest completion. Hay cutting was affected the most with no gains realized for most of the State. Hay supply is rated mostly adequate at this time.



December 5 ENSO Update

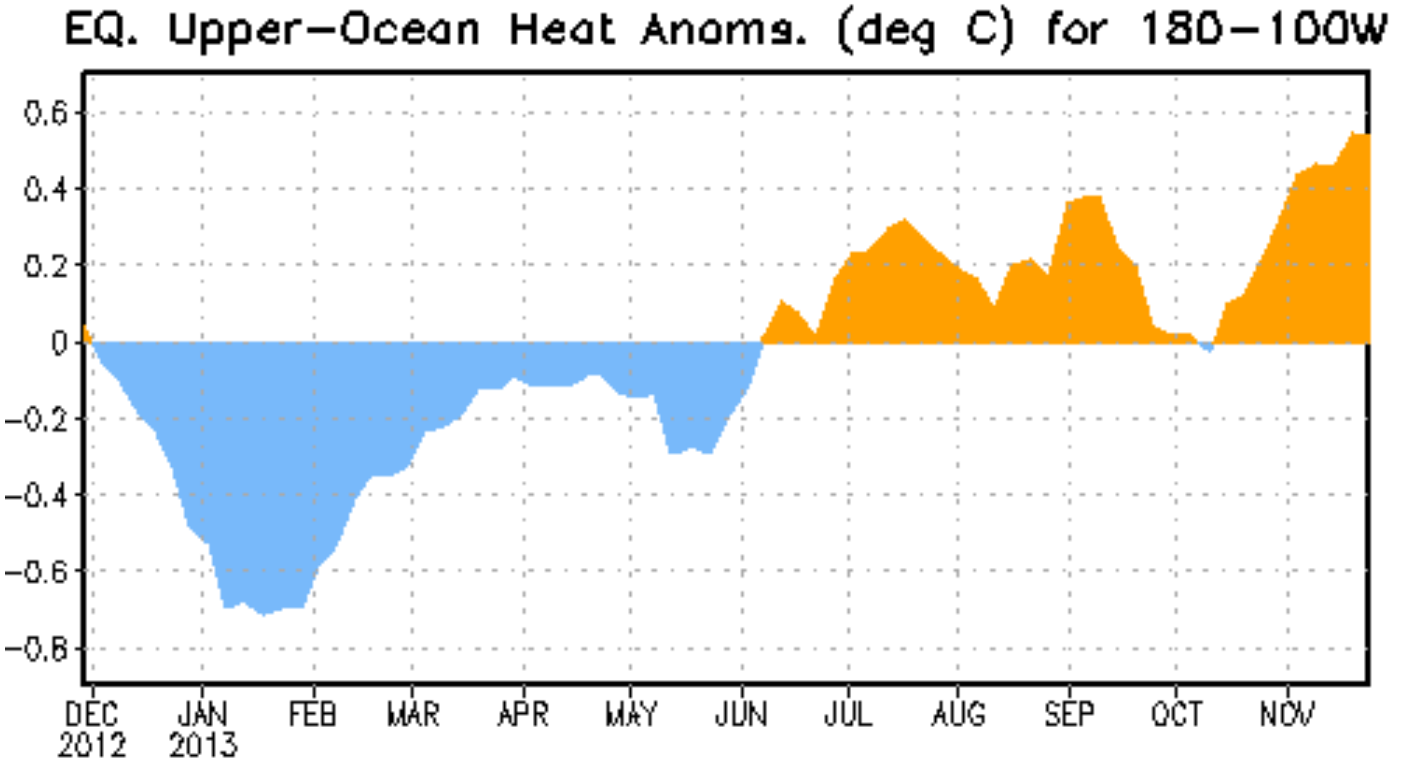


Figure 1: Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180º-100ºW). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

Synopsis: ENSO-neutral is expected to continue into the Northern Hemisphere summer 2014.

During November, ENSO-neutral persisted, as reflected by near-average sea surface temperatures (SST) across much of the equatorial Pacific Ocean. SST anomalies in all of the Niño regions were small, but showed increases in the Niño-3.4 and Niño-4 regions. The oceanic heat content (average temperature in the upper 300m of the ocean) increased (Fig. 1) due to the eastward propagation of a downwelling oceanic Kelvin wave. This increased heat content reflects above-average subsurface temperatures across the Pacific. The wind anomalies remained small at lower and upper levels during the month. Equatorial convection was suppressed in the central equatorial Pacific and enhanced over Indonesia. Collectively, these atmospheric and oceanic conditions reflect ENSO-neutral.

The majority of model forecasts indicate that ENSO-neutral (Niño-3.4 index between -0.5°C and 0.5°C) will persist into the Northern Hemisphere summer 2014. While current forecast probabilities are still greatest for ENSO-neutral by mid-summer, there is an increasing chance for the development of El Niño. The consensus forecast is for ENSO-neutral to continue into the Northern Hemisphere summer 2014 (see CPC/IRI consensus forecast).

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 9 January 2014. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

International Weather and Crop Summary

December 1-7, 2013

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

HIGHLIGHTS

EUROPE: Seasonably cooler weather eased winter wheat and rapeseed into dormancy, while developing dryness in Spain reduced soil moisture for wheat and barley.

WESTERN FSU: Colder weather ushered winter crops into dormancy, with light to moderate snow providing some insulation for wheat.

MIDDLE EAST: Widespread rain boosted soil moisture for wheat and barley establishment across most of the region.

NORTHWEST AFRICA: Additional showers maintained adequate to abundant soil moisture for winter wheat establishment in Algeria and Tunisia.

EASTERN ASIA: Dry, mild weather necessitated increased irrigation for vegetative winter crops.

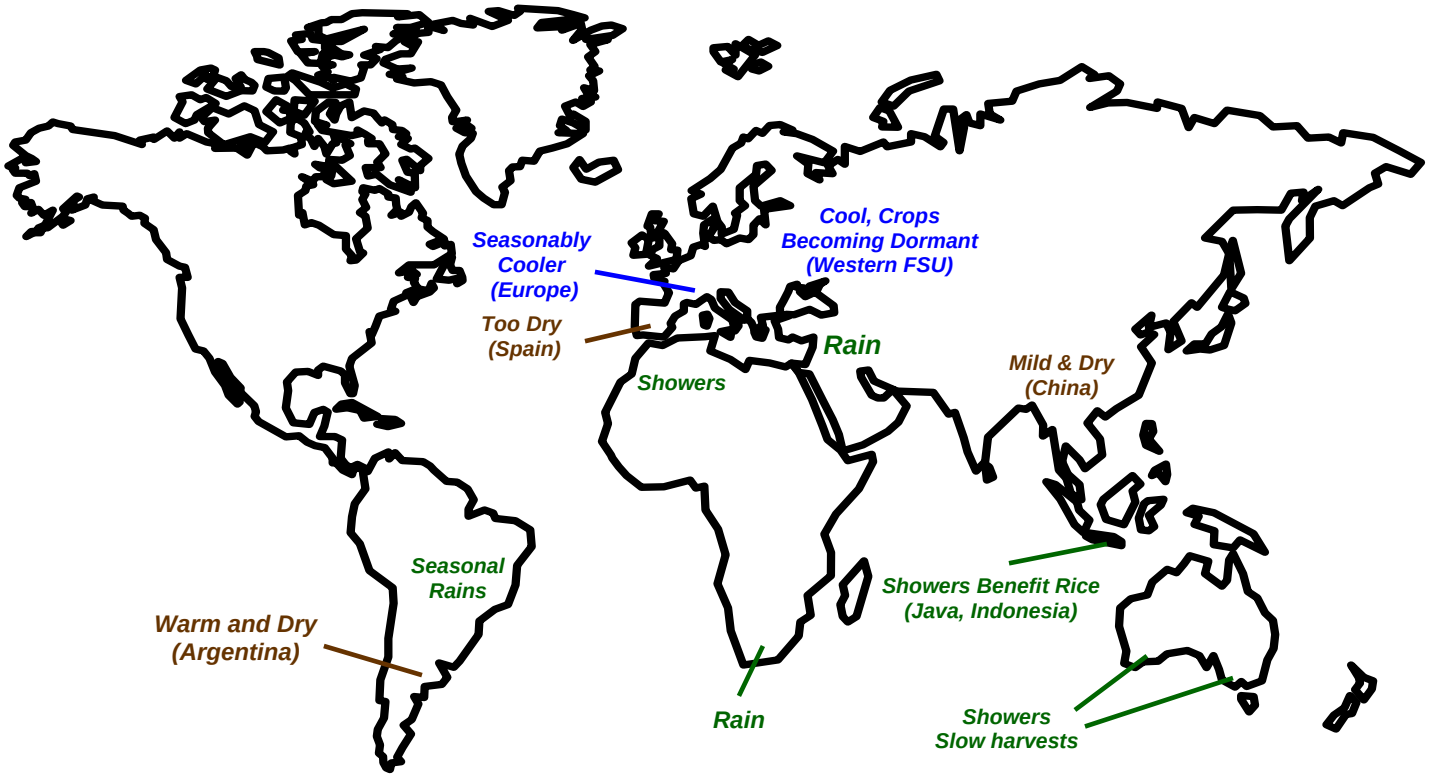
SOUTHEAST ASIA: Widespread showers maintained favorable moisture supplies for rice in Java, Indonesia.

AUSTRALIA: Showers slowed winter crop harvesting in the west and southeast.

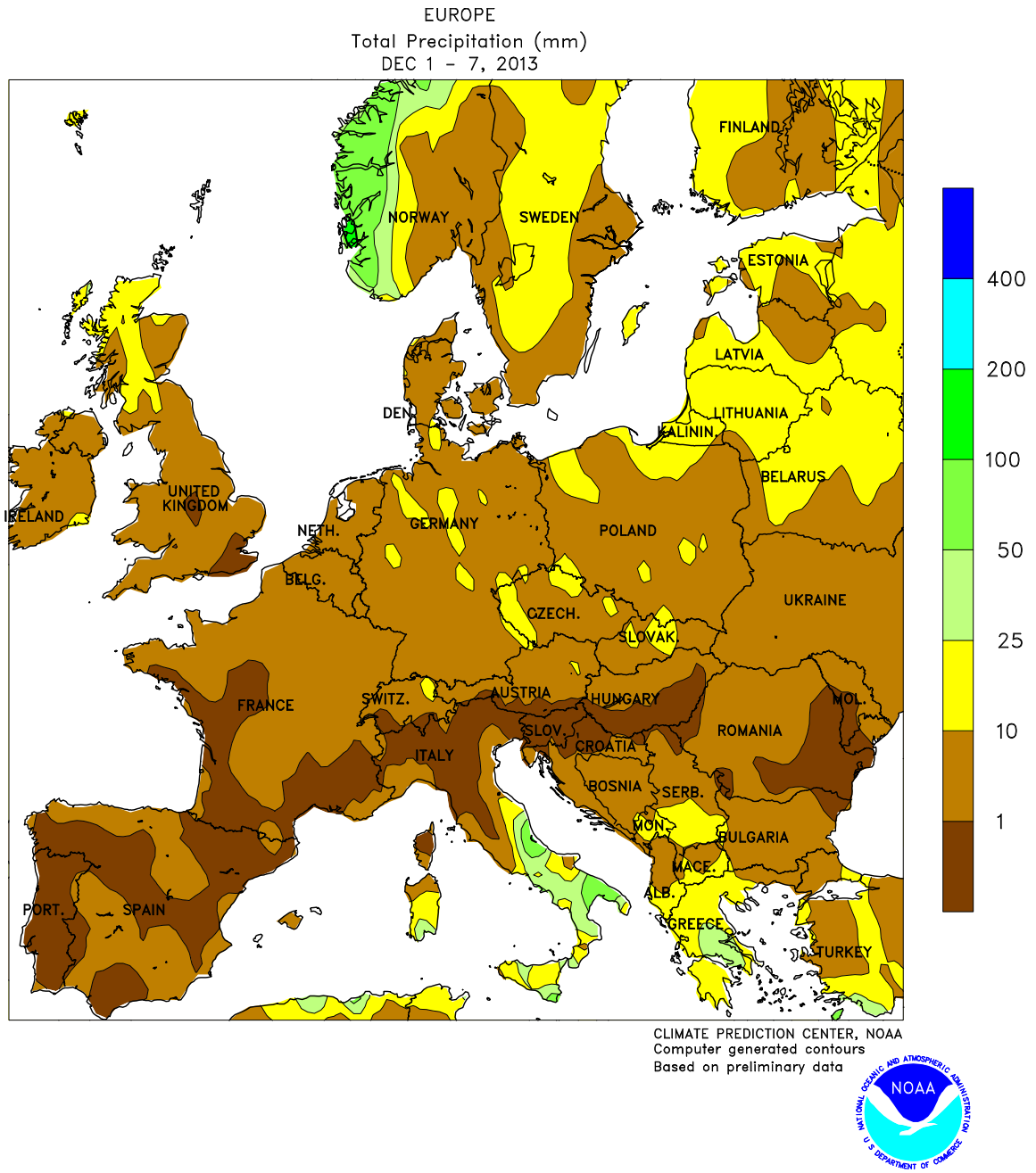
SOUTH AFRICA: Conditions remained overall favorable for corn and other rain-fed summer crops.

ARGENTINA: Warmth and dryness promoted summer grain and oilseed planting, while reducing topsoil moisture in some major farming areas.

BRAZIL: Widespread showers maintained mostly favorable conditions for soybeans and other summer crops.



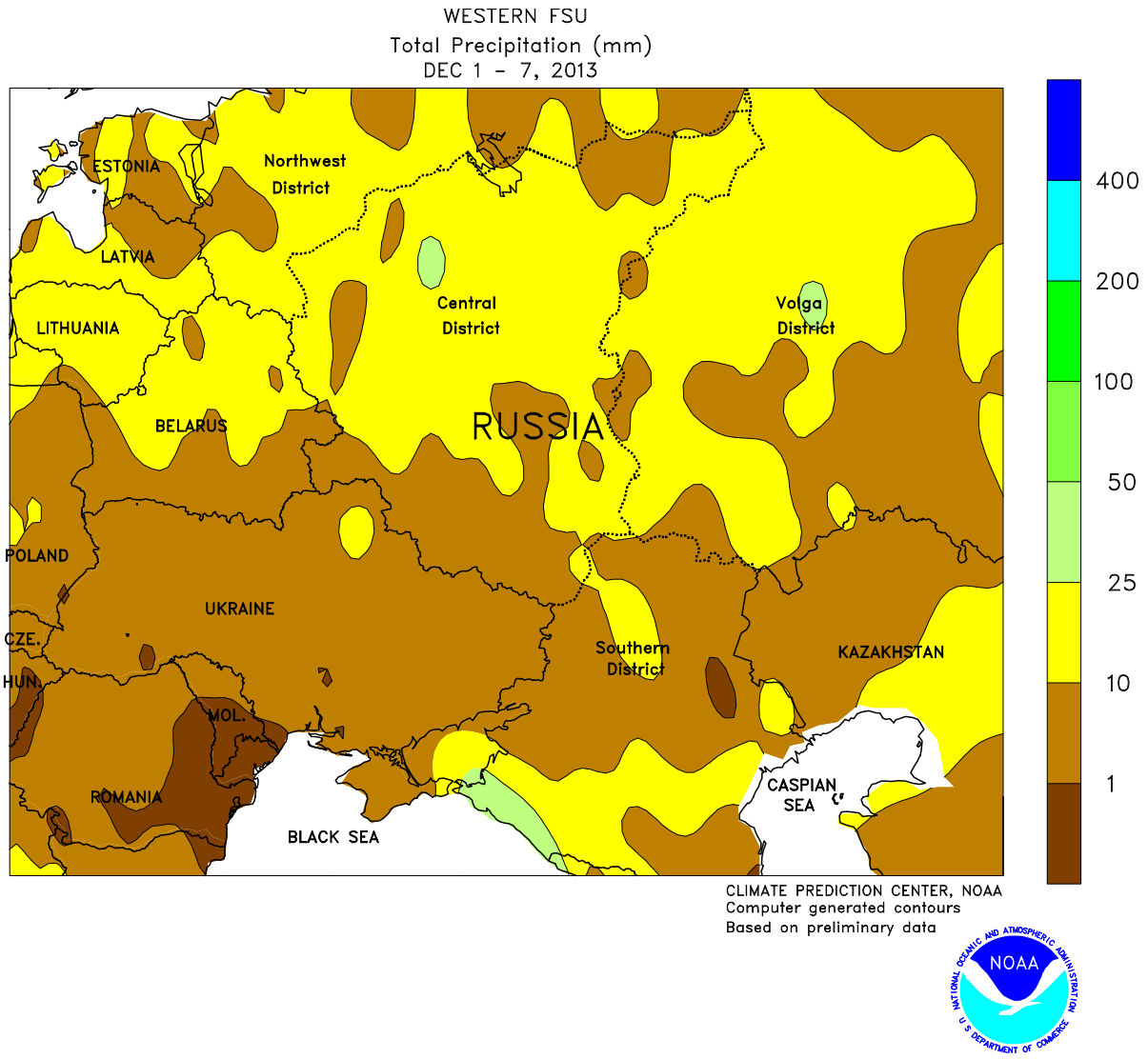
For additional information contact: mbrusberg@oce.usda.gov



EUROPE

Seasonably cooler weather eased winter wheat and rapeseed into dormancy, while developing dryness in Spain reduced soil moisture for wheat and barley. A strong storm and its associated cold front generated rain and snow (3-20 mm liquid equivalent) from northern France and the Low Countries into Germany, Poland, and Slovakia. The storm, which had a measured minimal central pressure of 960 mb, also produced gale-force winds; according to the European Severe Storm Laboratory, wind gusts topped 100 mph, with widespread reports of damage to trees and infrastructure across northern and northeastern Europe. However, impacts to regional agriculture were generally minimal. Behind the cold front, wind-swept snow fell, providing winter crops with patchy, highly variable amounts of insulation from the elements. The cold weather in the front's wake also eased winter crops into dormancy from France into Poland, while crops in southern portions of the United Kingdom continued to add vegetative growth. Meanwhile, short-term dryness in Spain reduced soil moisture for wheat and barley establishment. In contrast, a slow-moving Mediterranean storm produced up to 100 mm of rain in southern Italy, providing moisture for winter crops but causing summer crop harvesting delays.

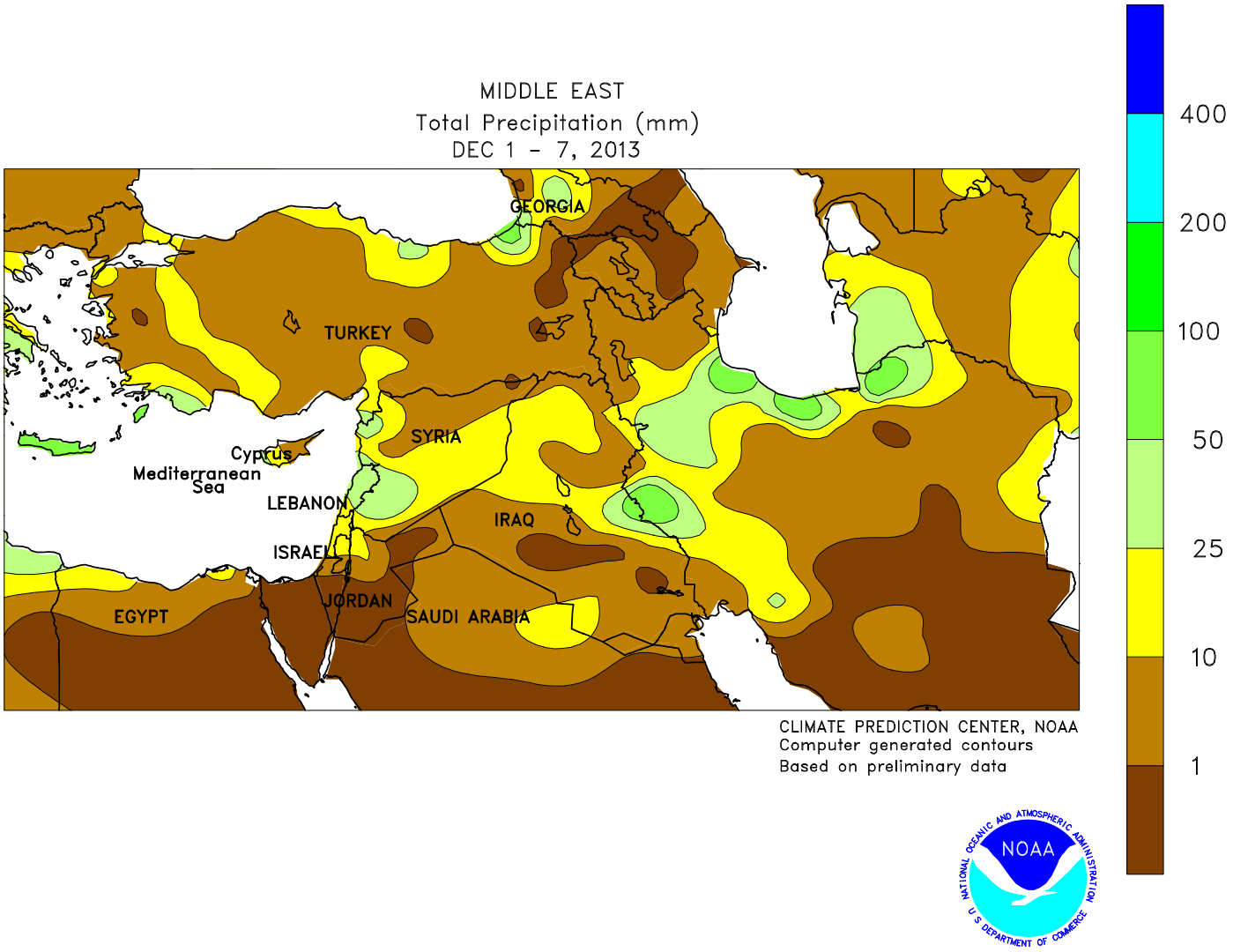
For additional information contact: mbrusberg@oce.usda.gov



WESTERN FSU

Seasonably colder weather arrived, ushering winter crops into dormancy. After an unusually warm November extended the growing season by 2 to 4 weeks, crops finally entered dormancy from Ukraine into western and southern Russia. In addition, the season's first snow (2-10 cm) fell across portions of eastern Ukraine and western Russia, although more snow will be needed to fully protect winter crops from the region's harsh winter weather. However, generally warmer-than-normal conditions (up to 4°C above normal) nullified the threat of any freeze damage or winterkill over the past week.

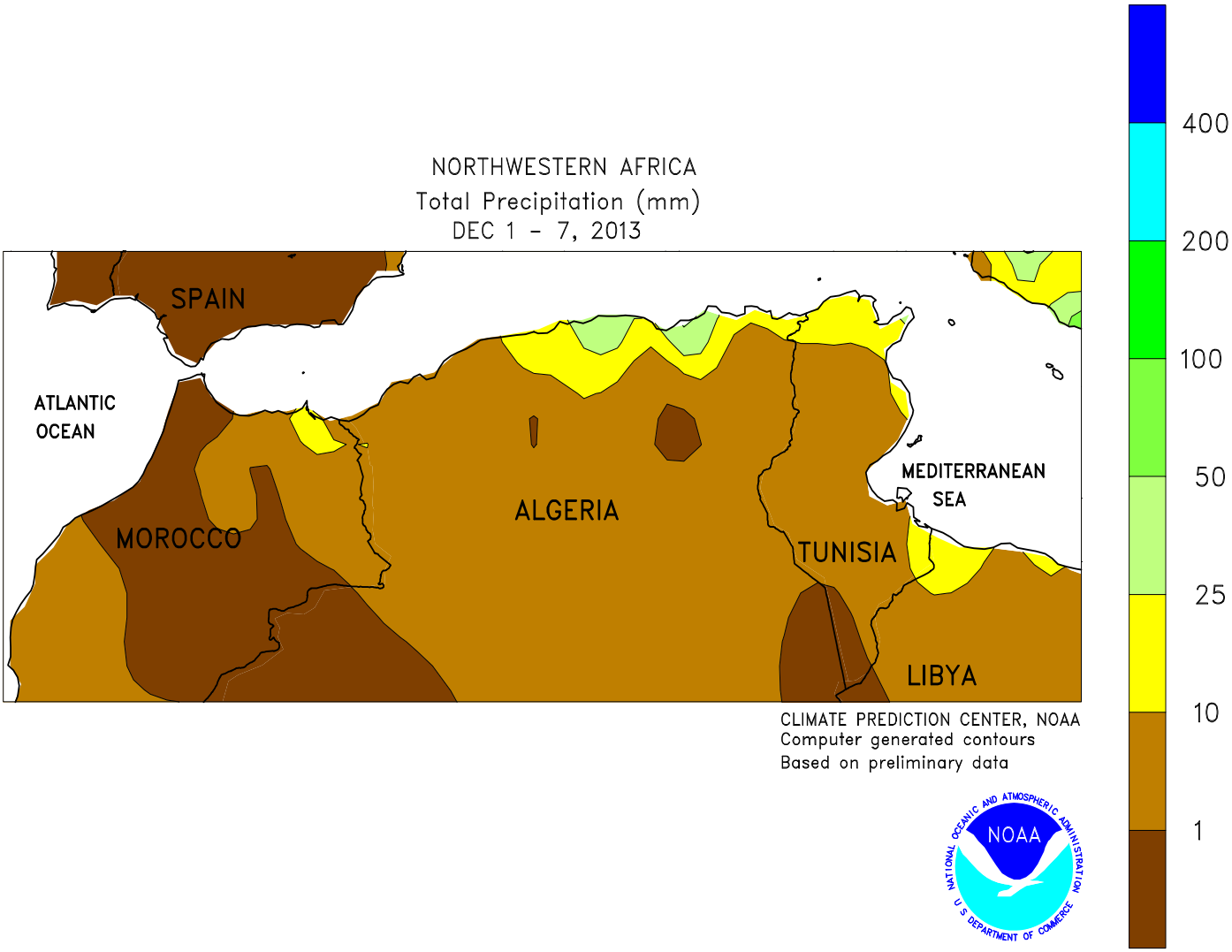
For additional information contact: mbrusberg@oce.usda.gov



MIDDLE EAST

Wet weather persisted across the region, improving soil moisture in the north and maintaining abundant moisture reserves in the central and southern crop districts. A cold front generated rain and snow (3-20 mm liquid equivalent) in Turkey, providing much-needed moisture for winter grain establishment for a second consecutive week. Meanwhile, an unusually active weather pattern maintained widespread showers and thunderstorms (10-50 mm) from the eastern Mediterranean Coast into Iraq and western and northern Iran. The growing season has gotten off to an excellent start in these typically drier southern and eastern locales, and soil moisture remained abundant for winter crop establishment. However, the wet weather has hampered sowing efforts, and producers would likely welcome a window of drier weather to complete planting operations.

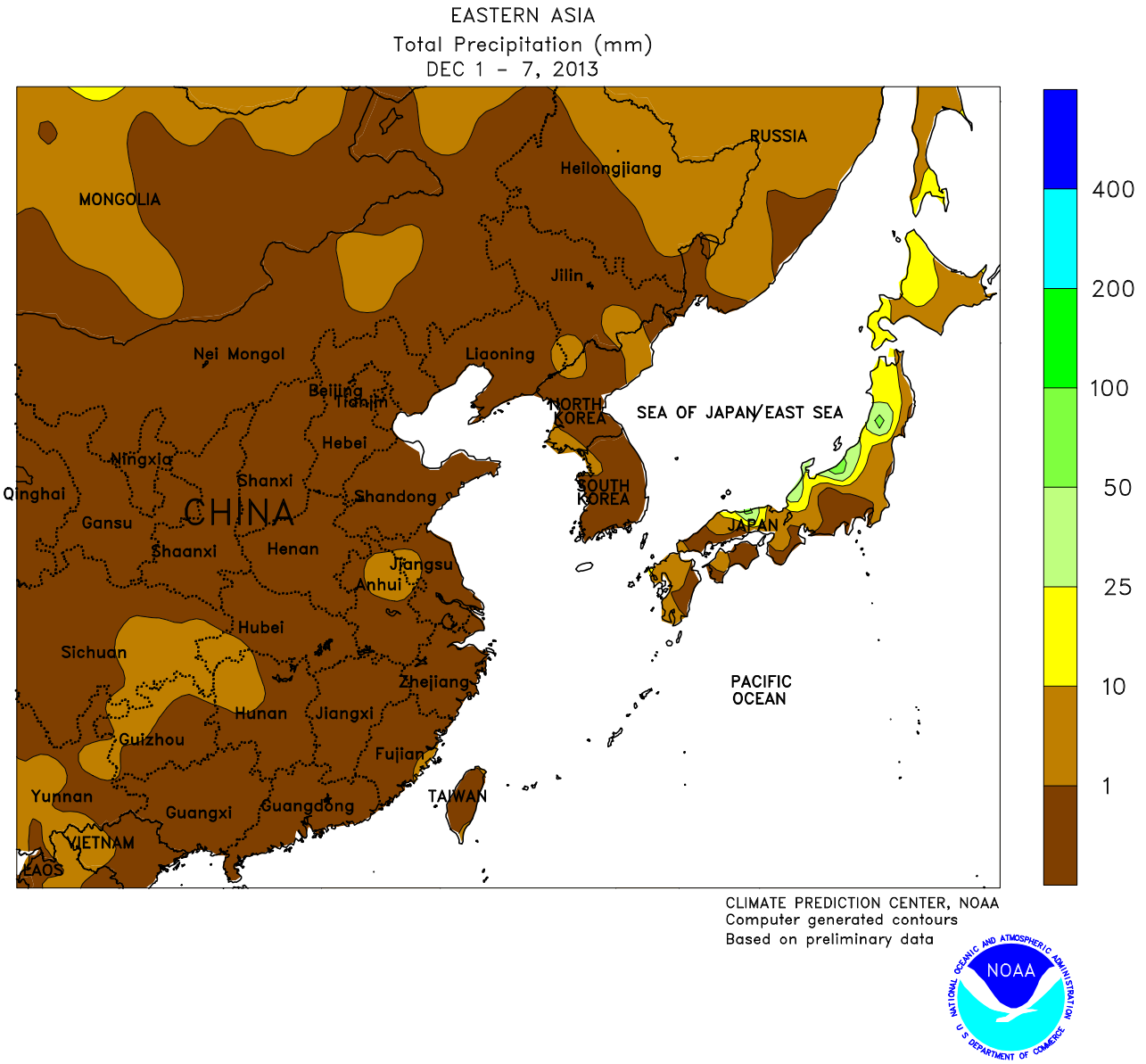
For additional information contact: mbrusberg@oce.usda.gov



NORTHWESTERN AFRICA

Rain persisted across eastern portions of the region, while dry weather returned to western crop districts. A dissipating Mediterranean storm generated widespread showers (10-50 mm) in Algeria and Tunisia, maintaining abundant soil moisture for winter grain establishment. However, the soggy soils likely hampered sowing operations, and a period of drier weather would be welcomed. Meanwhile, drier weather returned to Morocco, accelerating winter grain planting and establishment. Temperatures averaged 1 to 3°C below normal, although there were no untimely hard freezes in the region's wheat belt.

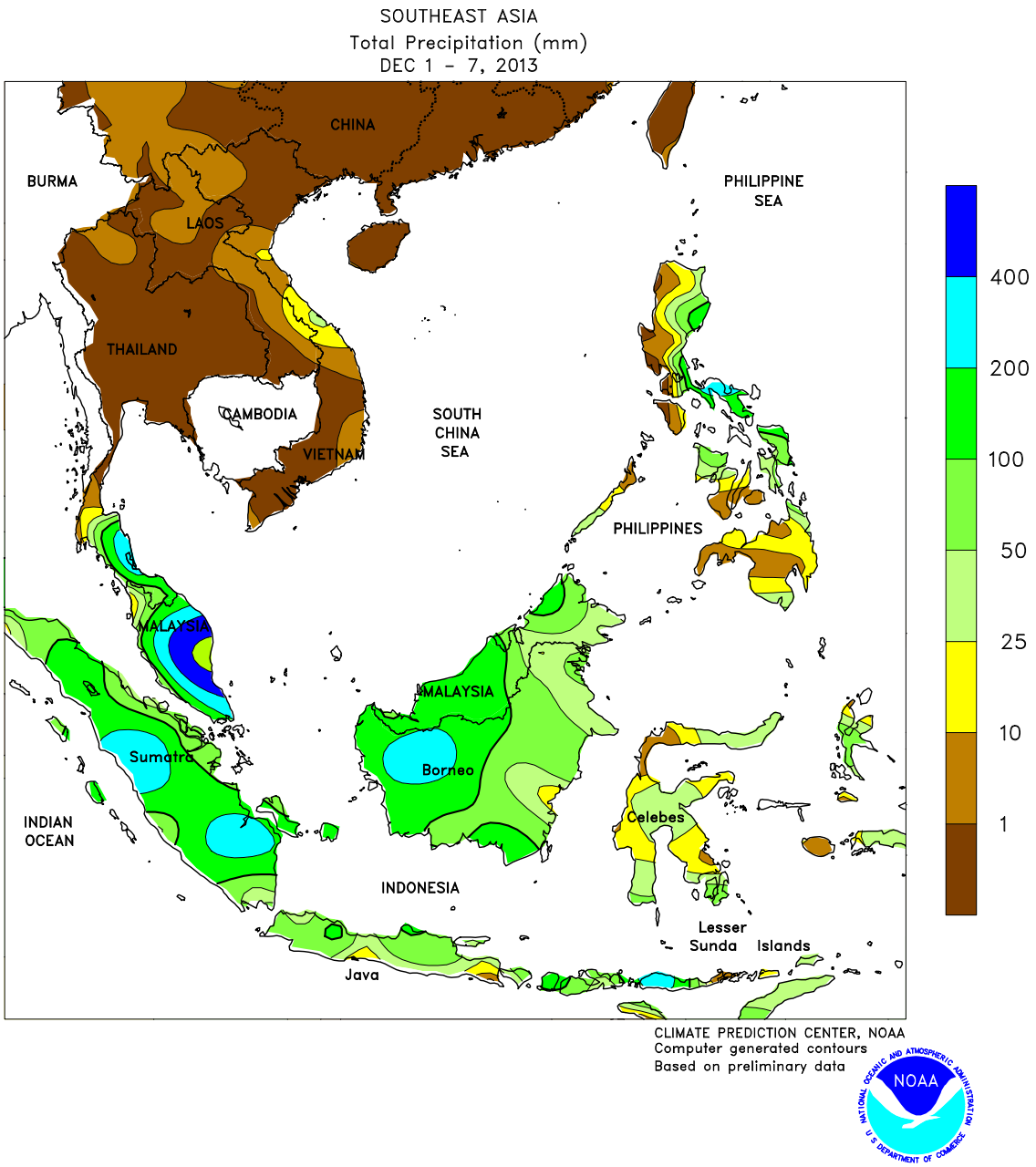
For additional information contact: mbrusberg@oce.usda.gov



EASTERN ASIA

Seasonably dry weather prevailed across the North China Plain, where winter wheat was easing into dormancy in northern growing areas, but mild weather (weekly temperatures above 5°C) promoted development of vegetative winter wheat elsewhere. Seasonal (since October 1) moisture deficits continued on the North China Plain but were generally negligible, averaging about 25 mm below normal, while more pronounced deficits were occurring in Anhui and Jiangsu (around 60 mm below normal). Similarly, dry, mild conditions continued in the Yangtze Valley, where rapeseed remained vegetative and seasonal moisture deficits averaged 50 mm. The dryness necessitated more frequent applications of irrigation than usual to aid crop development prior to dormancy.

For additional information contact: mbrusberg@oce.usda.gov



SOUTHEAST ASIA

Widespread seasonal rainfall (25-150 mm) benefited rice in Java, Indonesia, with the rainy season beginning in the east (about 3 days later than normal). Overall moisture conditions were favorable across Java and rice prospects remained good. Elsewhere in Indonesia and into Malaysia, flooding rainfall continued to hamper harvesting and transportation with reports of over 200 mm of rain common and one report of nearly 900 mm on the Malaysian peninsula. Meanwhile, a strong northeast monsoon brought more heavy showers (100-225 mm) to the eastern Philippines (primarily Luzon), maintaining abundant to excessive moisture supplies for rice and corn. In Vietnam, spring rice benefited from sunny, warm conditions.

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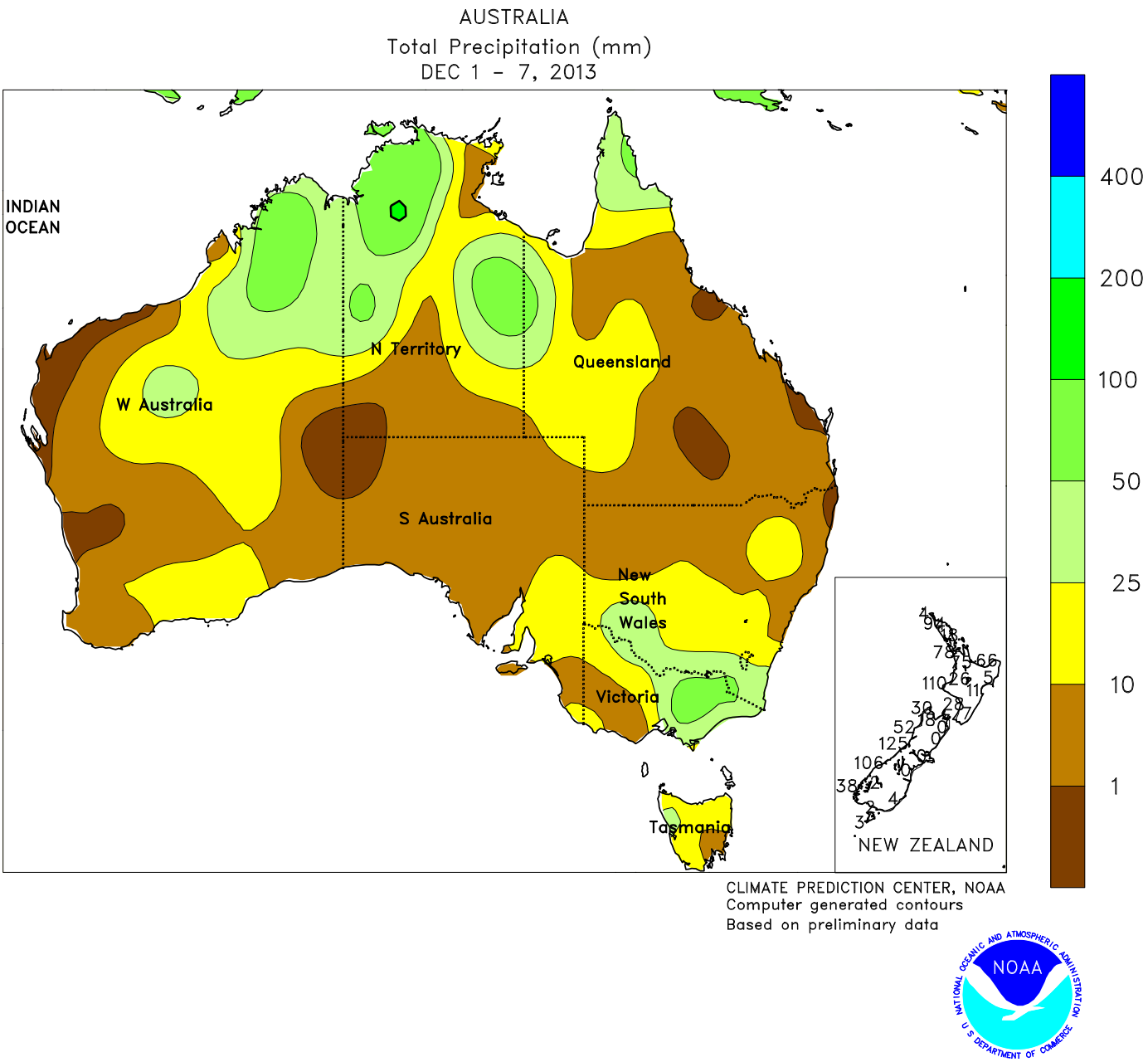

AUSTRALIA

In western and southeastern Australia, widespread showers (5-25 mm, locally more) slowed wheat, barley, and canola harvesting and may have increased local concerns about crop quality. Although the rain likely caused some fieldwork delays, harvesting has reportedly progressed well in recent weeks. In most years, harvesting typically finishes near the end of December. Elsewhere in the wheat belt, scattered showers (5-25 mm) in New South Wales increased topsoil moisture for vegetative summer crops. Drier weather overspread Queensland, however, increasing local irrigation requirements for cotton and other irrigated summer crops. Temperatures in major summer crop areas averaged 1 to 2°C below normal, with maximum temperatures generally in the lower to middle 30s degrees C. In western and southeastern Australia, temperatures were generally seasonable.

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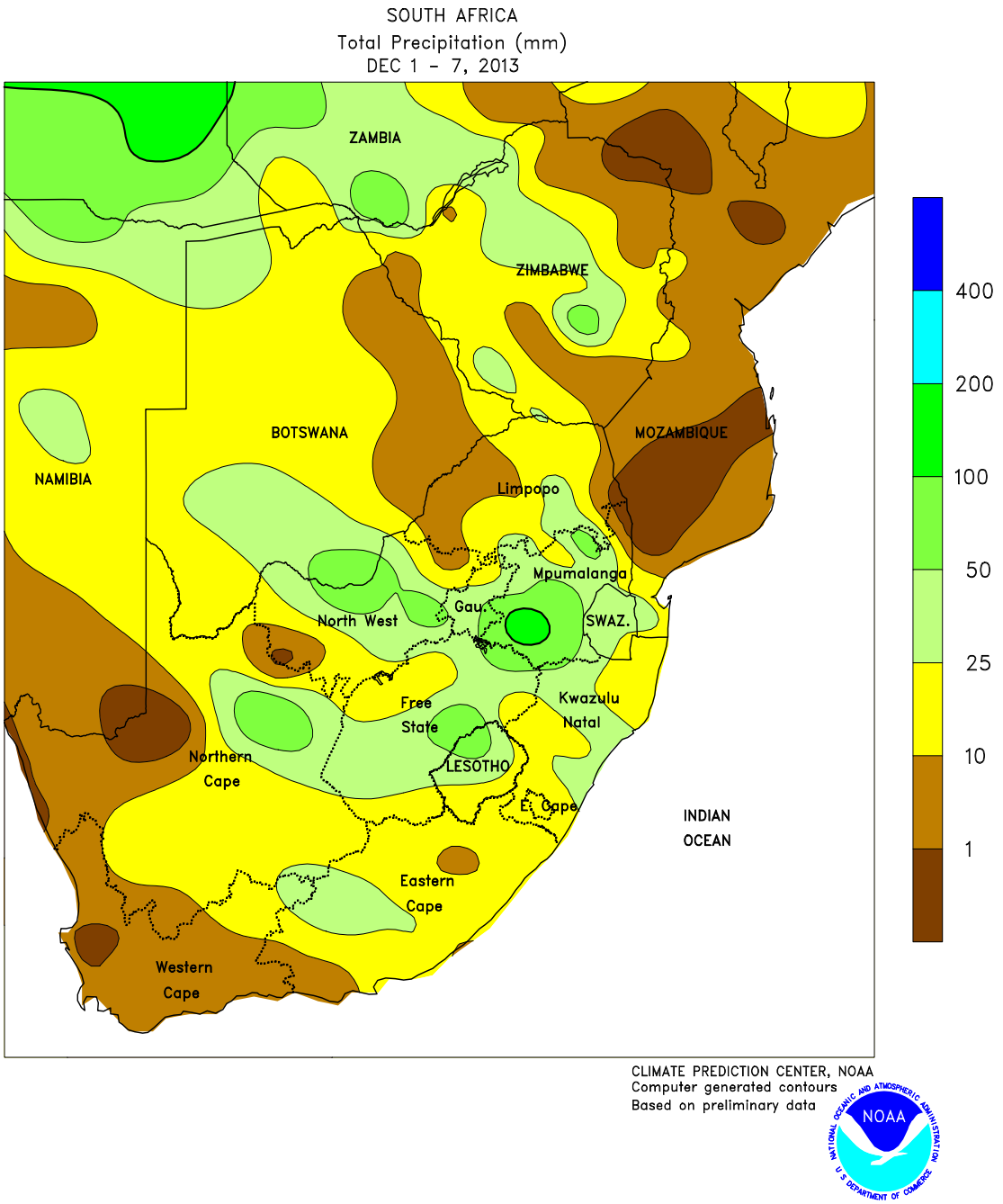

SOUTH AFRICA

Mild, showery weather maintained generally favorable prospects for corn and other rain-fed summer crops. Rainfall totaled 25 to 50 mm throughout much of the eastern corn belt (southern Limpopo to northern KwaZulu-Natal), sustaining moisture for emerging and early-vegetative corn. The rain extended westward into North West, with lighter amounts (less than 25 mm) in white corn areas of northwestern Free State, increasing moisture for germination of corn in later-planting western sections of the corn belt. Weekly temperatures averaged near to slightly below normal across the corn belt, with daytime highs reaching the middle 20s (degrees C) in the east and the lower 30s in the west. Meanwhile, cooler-than-normal weather (weekly temperatures averaging 1-3°C below normal, with daytime highs mostly in the middle and upper 20s) accompanied beneficial rain (10-40 mm) across Eastern Cape and KwaZulu-Natal, favoring sugarcane and other crops. Above-normal rainfall (10-50 mm) also covered a large section of Northern Cape, boosting irrigation reserves for cotton, corn, and other irrigated row crops. In contrast, warm, mostly dry weather prevailed in Western Cape, fostering rapid development of tree and vine crops.

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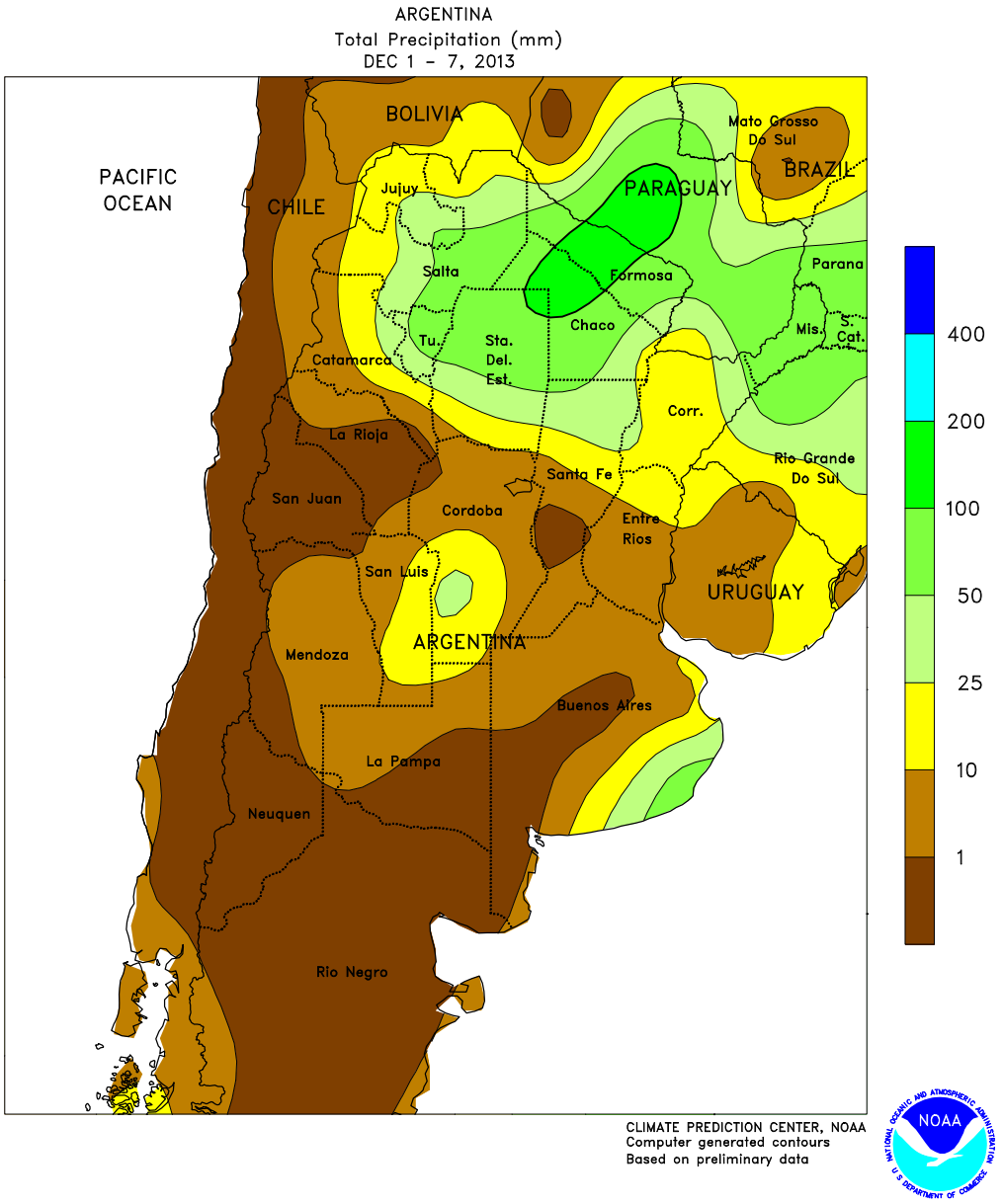

ARGENTINA

Warm, mostly dry weather prevailed across central Argentina, spurring summer grain and oilseed planting but reducing topsoil moisture for germination and establishment. Following last week's heavy rain, most areas recorded less than 10 mm, the exceptions being southeastern Buenos Aires and isolated locations in Cordoba, where more than 25 mm fell locally. Weekly average temperatures were near to slightly above normal, with daytime highs occasionally reaching the middle 30s (degrees C) in western sections of the region; the unseasonable warmth enhanced evaporative losses and spurred rapid development of newly-planted soybeans and corn. Farther north, late-week showers (10-50 mm) ended a spell of unseasonable warmth (daytime highs reaching 40°C from northern Cordoba to eastern Salta) and provided timely moisture for soybeans and other summer crops yet to be planted in the previously dry northwest. Weekly temperatures averaged 2 to 4°C above normal across the north for the week, spurring rapid development of summer grains, oilseeds, and cotton. According to Argentina's Ministry of Agriculture, soybeans were 66 percent planted as of December 5, slightly ahead of last season. In contrast, corn was 52 percent planted, 14 points behind last year.

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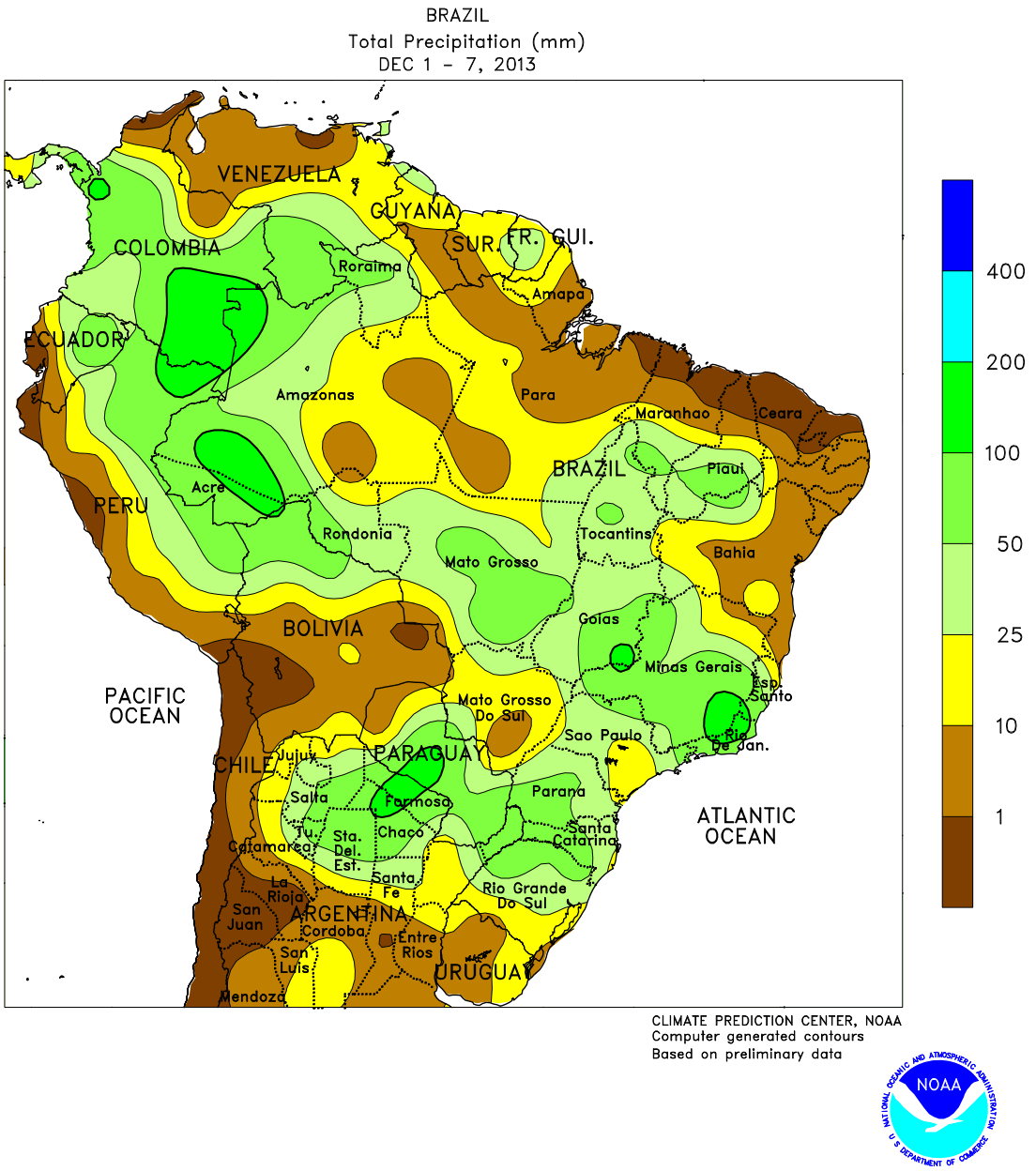

BRAZIL

Widespread, locally heavy rain maintained mostly favorable conditions for soybeans and other summer crops in key production areas of central and southern Brazil. Most locations recorded rainfall totaling 25 to 100 mm; exceptions included southern Mato Grosso do Sul — which was mostly dry for a second consecutive week — and western Bahia, which was also mostly dry but recorded soaking rain last week. Rainfall increased from the previous week in western Sao Paulo and northern Parana, boosting moisture for corn and soybeans but hampering any remaining sugarcane harvesting. In contrast, rainfall declined along the northeastern coast, with seasonably drier conditions returning to Bahia's southern coast after last week's unseasonable wetness. However, wetter-than-normal conditions (rainfall totaling 50-150 mm) continued in coffee areas spanning southern Minas Gerais, Rio de Janeiro, and southern Espirito Santo. Weekly temperatures averaged 2 to 4°C above normal throughout the region, with the highest departures in the south. Daytime highs ranged from the lower and middle 30s (degrees C) in southern Brazil to the middle and upper 30s from Mato Grosso to western Bahia; however, temperatures on some of the rainy days were substantially lower, with daytime highs staying in the 20s.

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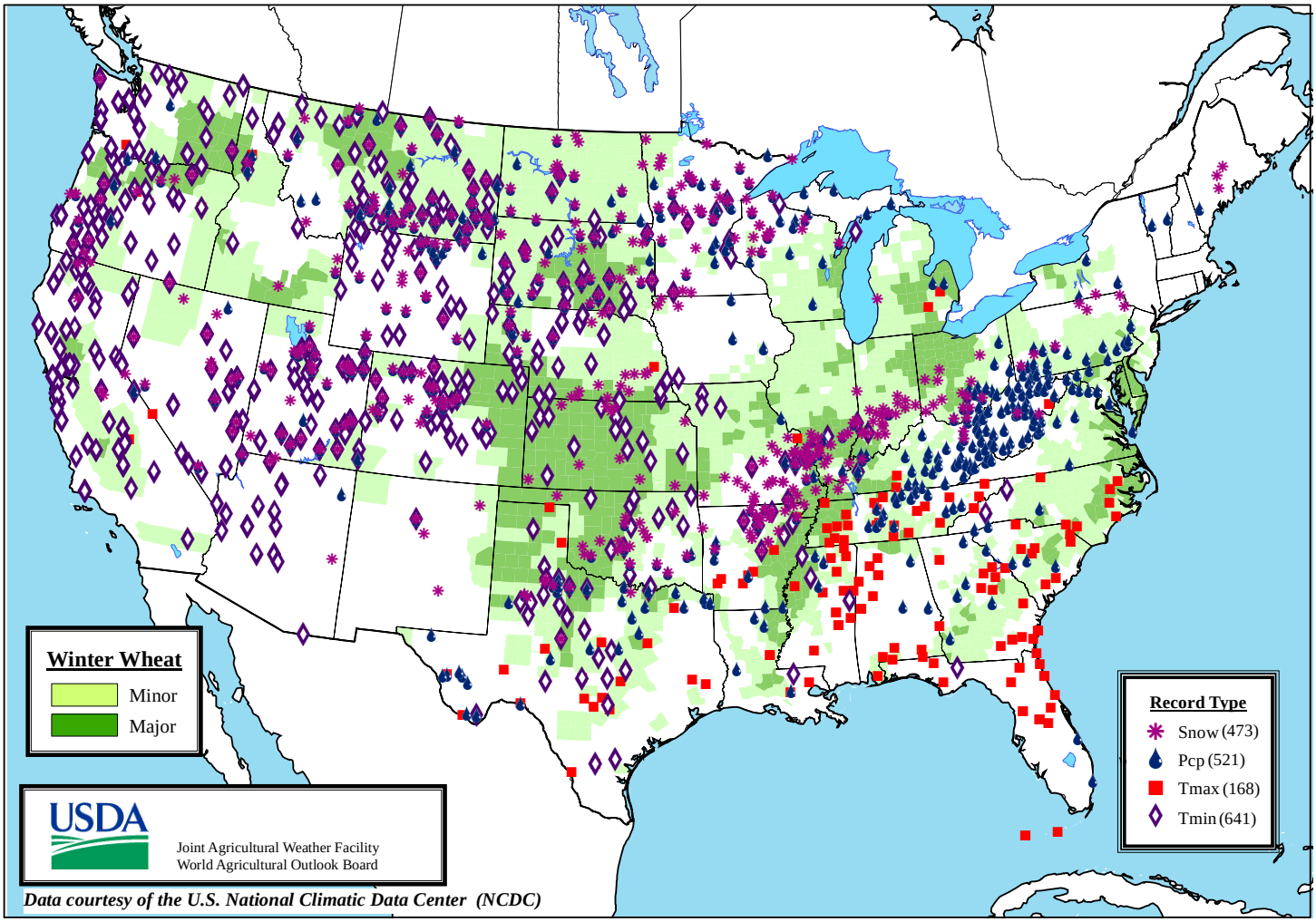
Daily Weather Records (ASOS & COOP)

December 1-7, 2013



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