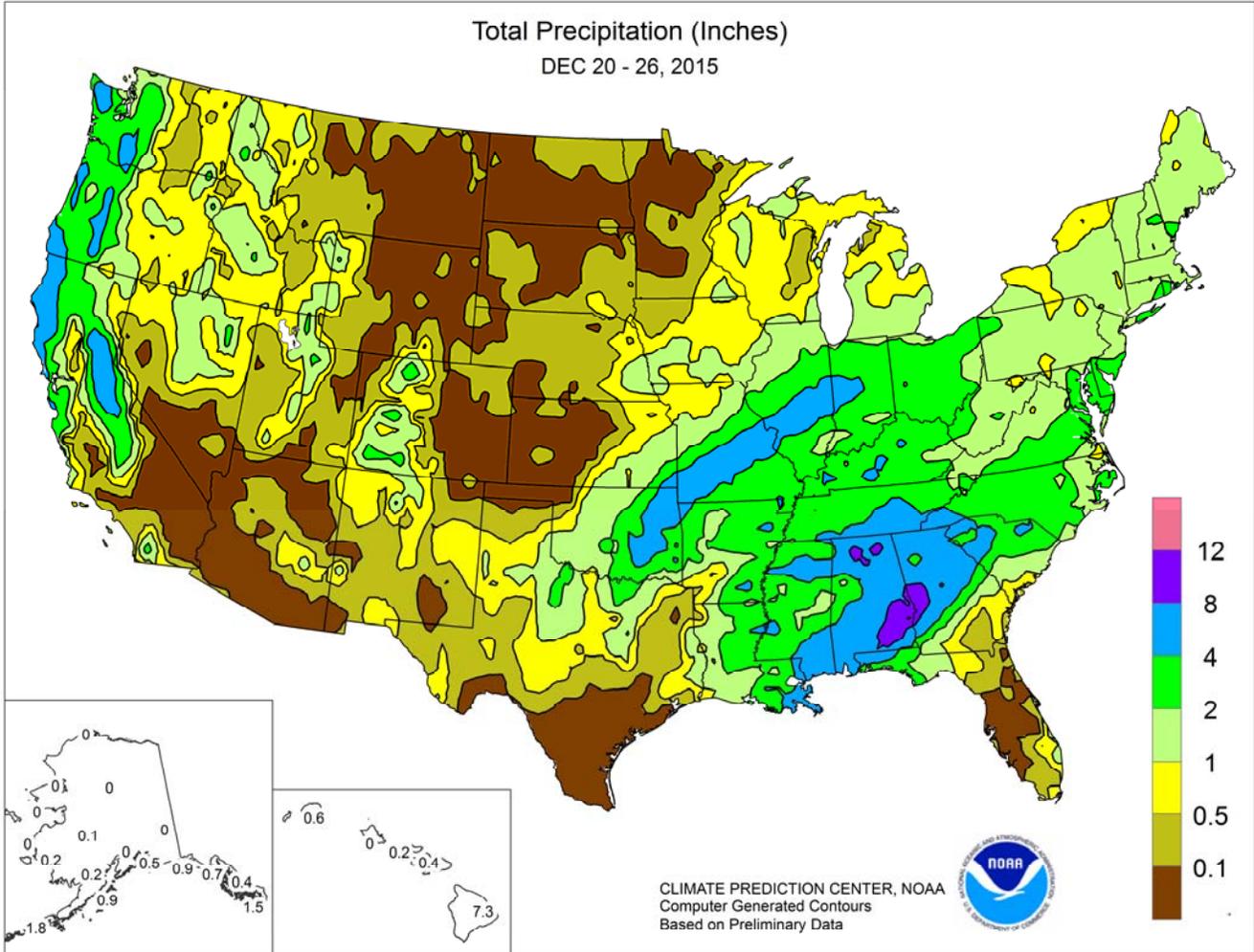


WEEKLY WEATHER AND CROP BULLETIN



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 20-26, 2015

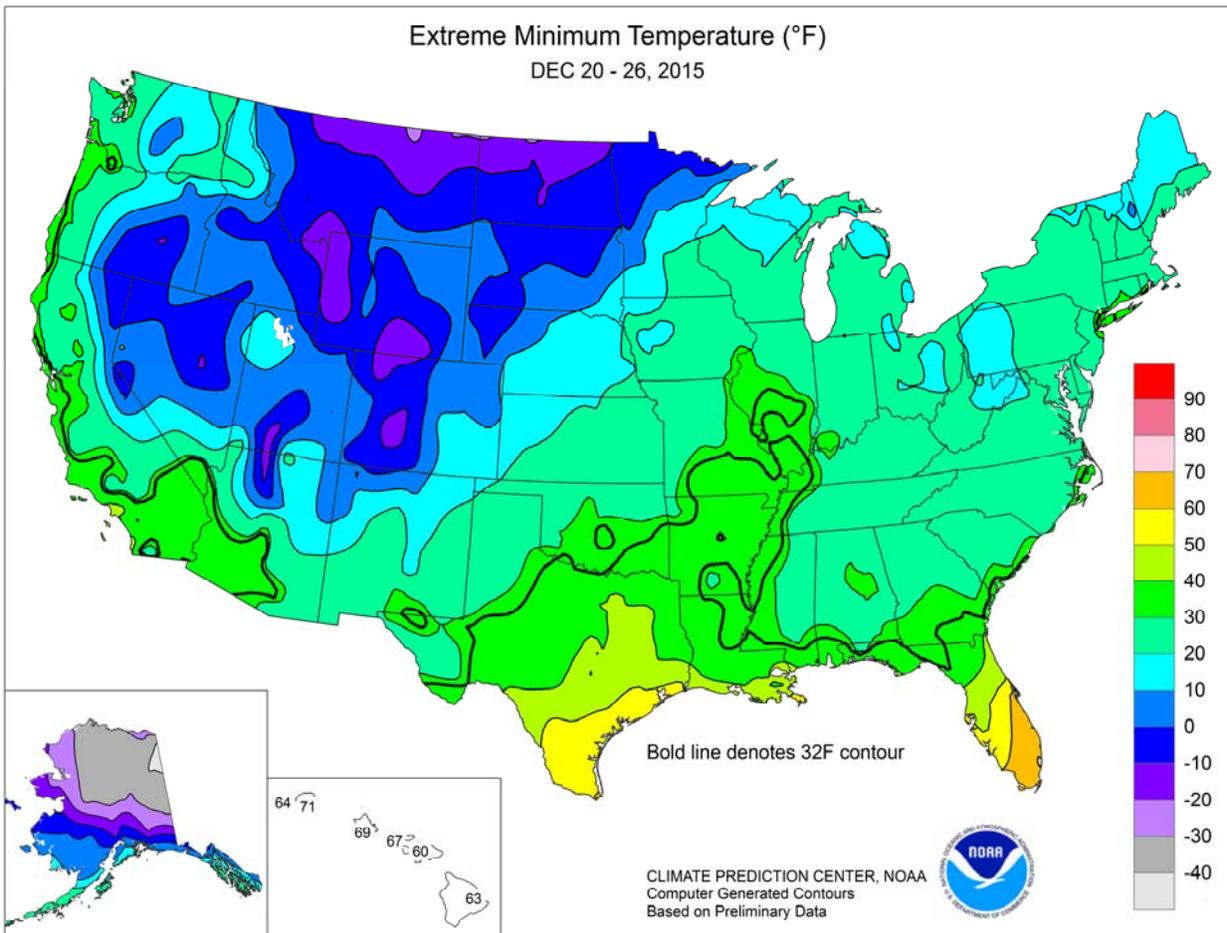
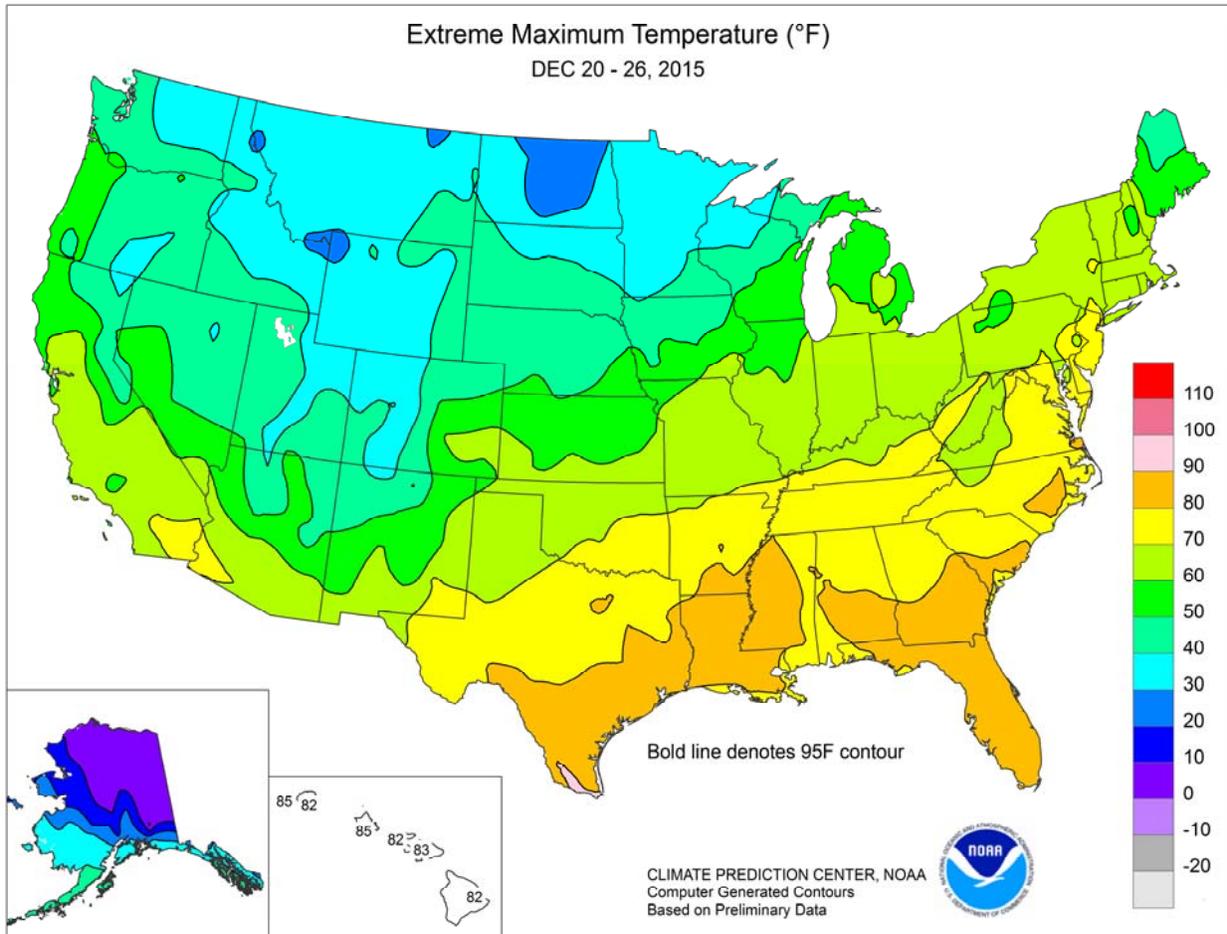
Highlights provided by USDA/WAOB

The focus for extreme weather shifted eastward, although stormy conditions lingered early in the week across the **Northwest**. The **Northwestern** precipitation continued to ease or eradicate drought, while colder weather led to improvements in high-elevation snowpack. Meaningful precipitation continued to fall as far south as the **Sierra Nevada**, where the average water equivalency of the mountain snowpack reached the 10-inch mark—higher than at any point during the winters of 2013-14 and 2014-15. Meanwhile, cold weather in the **West** contrasted

(Continued on page 3)

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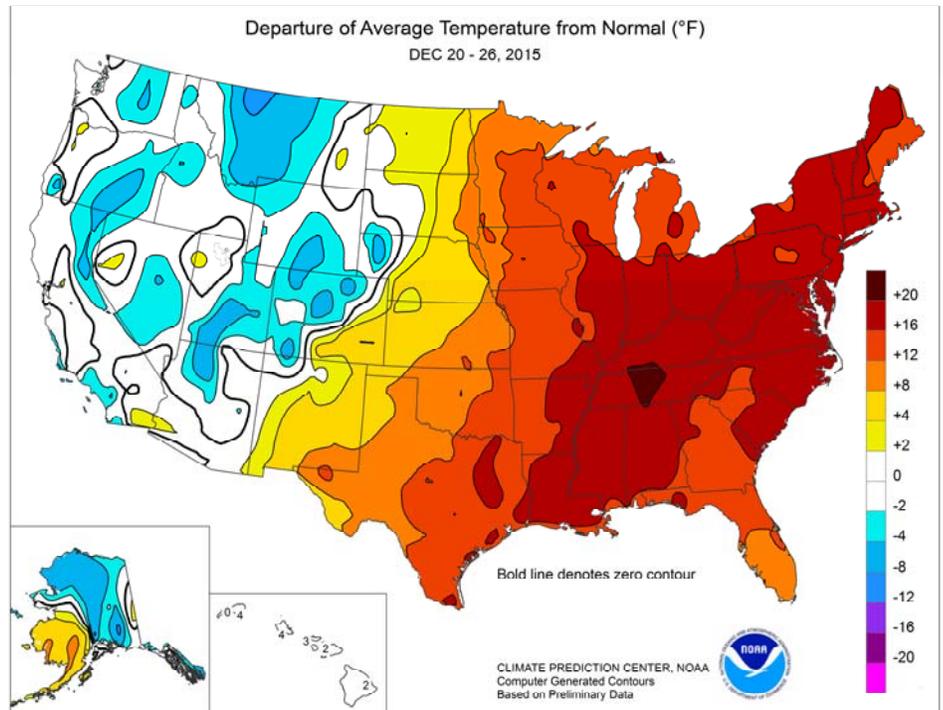
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(Continued from front cover)

with record-setting warmth across the **eastern half of the U.S.** Weekly temperatures averaged at least 20°F above normal in several locations from the **Tennessee Valley into the Mid-Atlantic States**, and mid- to late-week temperatures soared to 80°F or higher throughout the **Deep South**. However, the **Southeast** also experienced several rounds of heavy rain, totaling 4 inches or more in a broad area. In parts of the **Southeast**, flash flooding submerged fields and caused property damage. Rain mostly bypassed **Florida's peninsula**, but other parts of the **eastern U.S.** also received significant precipitation. Varying amounts of precipitation also affected the **Plains** and **Midwest**, with significant snow blanketing portions of the **northern Plains**, **upper Midwest**, and **northern New England**. Toward week's end, a sprawling winter storm unfolded across the **nation's mid-section**. Ultimately, the storm was responsible for extreme weather ranging from wind-driven wildfires in **southern California** to blizzard conditions on the **southern High Plains**. In addition, excessive rainfall triggered deadly flooding from the **southeastern Plains into the middle Mississippi Valley**, while severe thunderstorms and isolated tornadoes ravaged parts of the **South**. Storm-related agricultural concerns included increased livestock stress across the **Plains** and **Midwest** and flooded winter grain fields in the **mid-South** and **lower Midwest**.

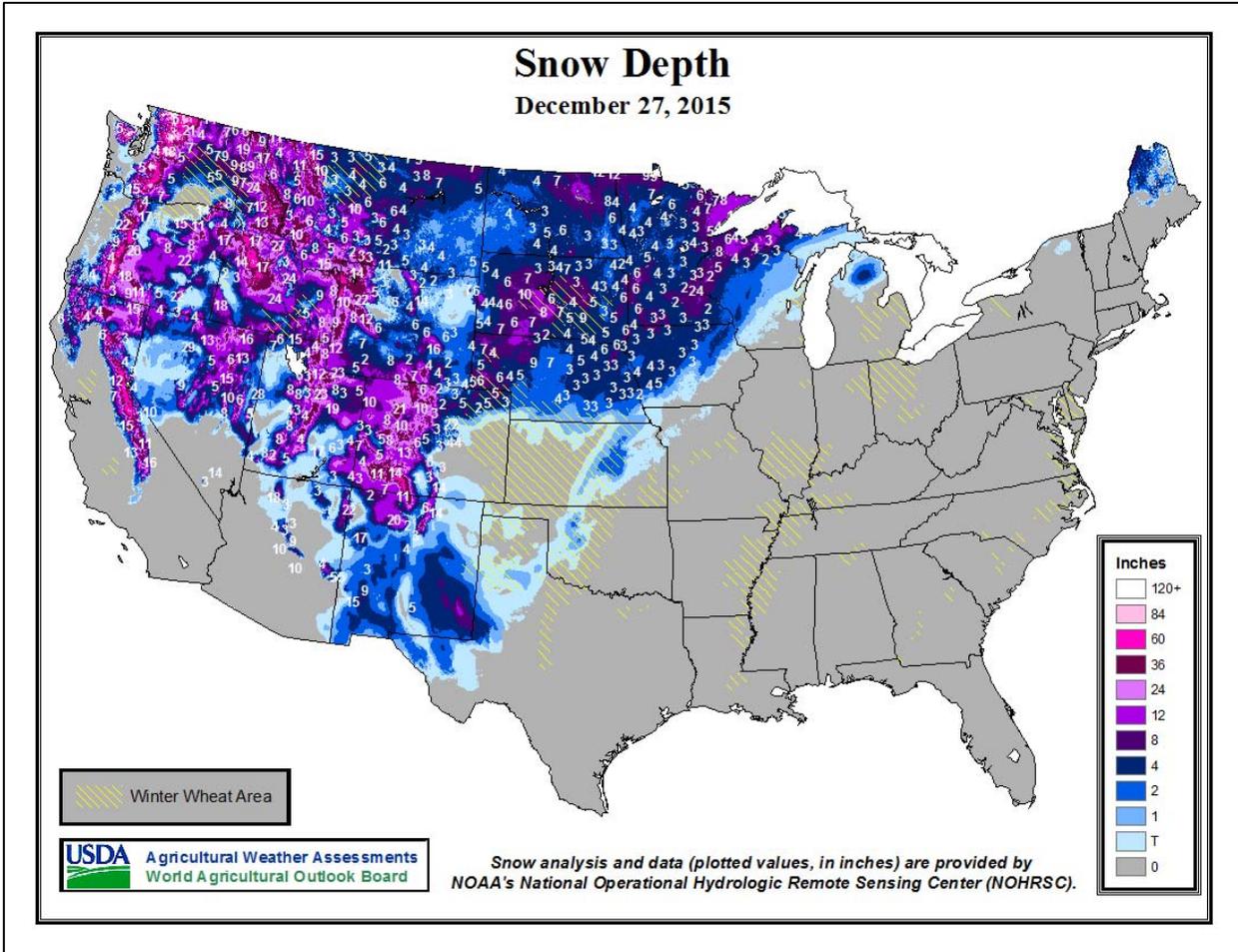
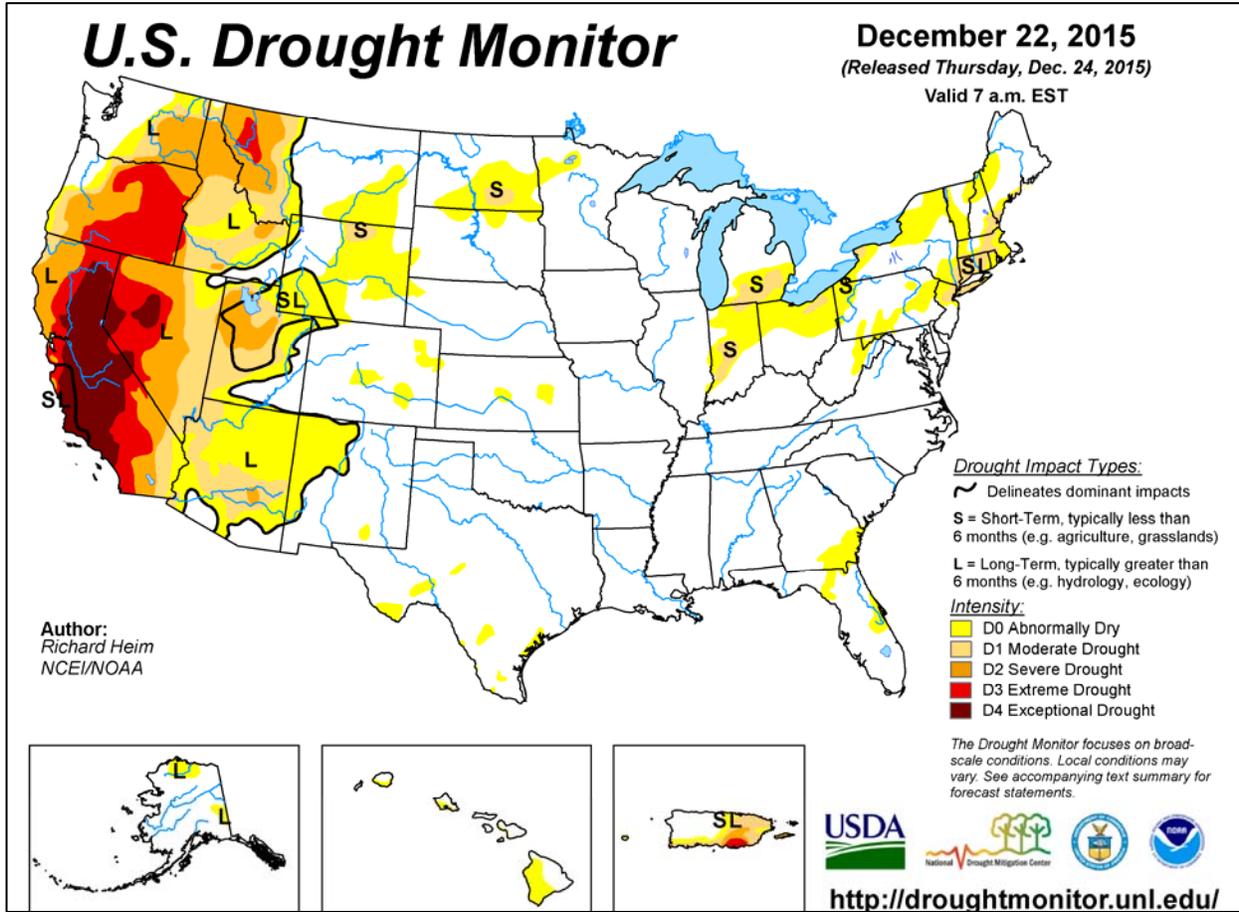
Precipitation gradually shifted inland from **northern California** and the **Pacific Northwest**. **Redding, CA**, netted 2.97 inches of rain from December 20-22, aided by a daily-record sum (1.13 inches) on the 20th. In **Seattle, WA**, the month-to-date rainfall rose to 10.81 inches (238 percent of normal), including a daily-record total of 1.08 inches on December 21. High winds accompanied the **Northwestern** storminess, with peak gusts on December 21 in **Oregon** clocked to 69 mph in **Pendleton** and 64 mph in **Redmond**. Snow lingered for several days in the **West**, where nearly half of the weekly total (6.9 of 15.3 inches) in **Elko, NV**, occurred on December 22. From December 21-23, snowfall totals of 1 to 3 feet were common across the **Intermountain West**, with 42 inches reported in **Alta, UT**. Meanwhile, the first of several rounds of precipitation developed across the **eastern half of the U.S.** On December 21, daily-record totals included 2.37 inches in **Jackson, TN**, and 1.02 inches in **Muskegon, MI**. The following day, record-setting rainfall totals for December 22 reached 2.74 inches in **Columbia, SC**, and 2.25 inches in **Apalachicola, FL**. December 23 featured daily-record amounts in dozens of **Midwestern** and **Eastern** locations, including **Mobile, AL** (4.03 inches); **Fayetteville, NC** (2.10 inches); **Baltimore, MD** (2.01 inches); and **Rhineland, WI** (1.01 inches). On the 23rd, **Green Bay, WI**, reported its lowest barometric pressure (28.91 inches) in December since December 14, 1920. Meanwhile, a rash of tornadoes struck the **mid-South** and **lower Midwest** on December 23. Early reports indicated that there were three deadly tornadoes resulting in a dozen total fatalities (10 in **Mississippi** and two in **Tennessee**)—the nation's deadliest outbreak since late-April 2014. The longest-lasting tornado, an EF-4 with maximum winds estimated at 170 mph, cut a 75-mile swath in a 75-minute period across **northern Mississippi** (nine deaths in three counties) and **southwestern Tennessee**. Deadly storms erupted again on December 26, when 11 deaths in **northeastern Texas** were blamed on tornadoes. There were also three deadly tornadoes in the latter outbreak, including an EF-4 (winds up to 180 mph) in **Garland, TX**, that resulted in eight fatalities. Prior to the December 23 and 26 severe weather events, there had been only 10 tornado-related U.S. deaths in 2015—below the modern-day record low of 15 deaths in 1986 and the all-time low of 12 deaths in 1910. In addition, inundating rains developed on December 26. In **Missouri, Springfield** (6.03 inches on the 26th) experienced its second-wettest day behind 6.27 inches on November 24, 1987, while **St. Louis** (4.87 inches) noted its third-wettest day behind 6.85 inches on August 20, 1915, and 5.59 inches on May 16, 1995. Rising waters in parts of **Missouri** and **Illinois**



resulted in more than a dozen flash flood-related deaths. More details on the flooding will appear next week. Elsewhere, another round of heavy rain struck the **Southeast** on Christmas Eve, while snow fell across portions of the **northern Plains** and **upper Midwest**. Record-setting rainfall totals for December 24 reached 4.46 inches in **Montgomery, AL**, and 3.31 inches in **Columbus, GA**. **Omaha, NE**, received 7.0 inches of snow on the 24th, a record for the date. The **Southeastern** downpours persisted through December 25, when daily-record amounts climbed to 5.34 inches in **Huntsville, AL**, and 4.14 inches in **Chattanooga, TN**.

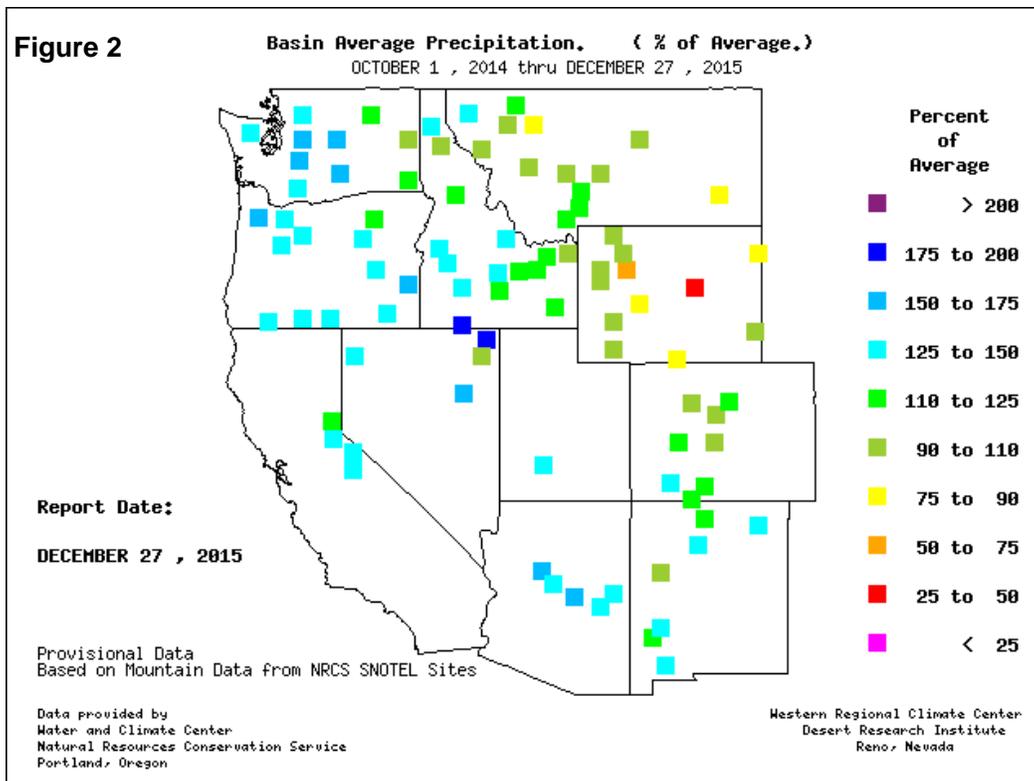
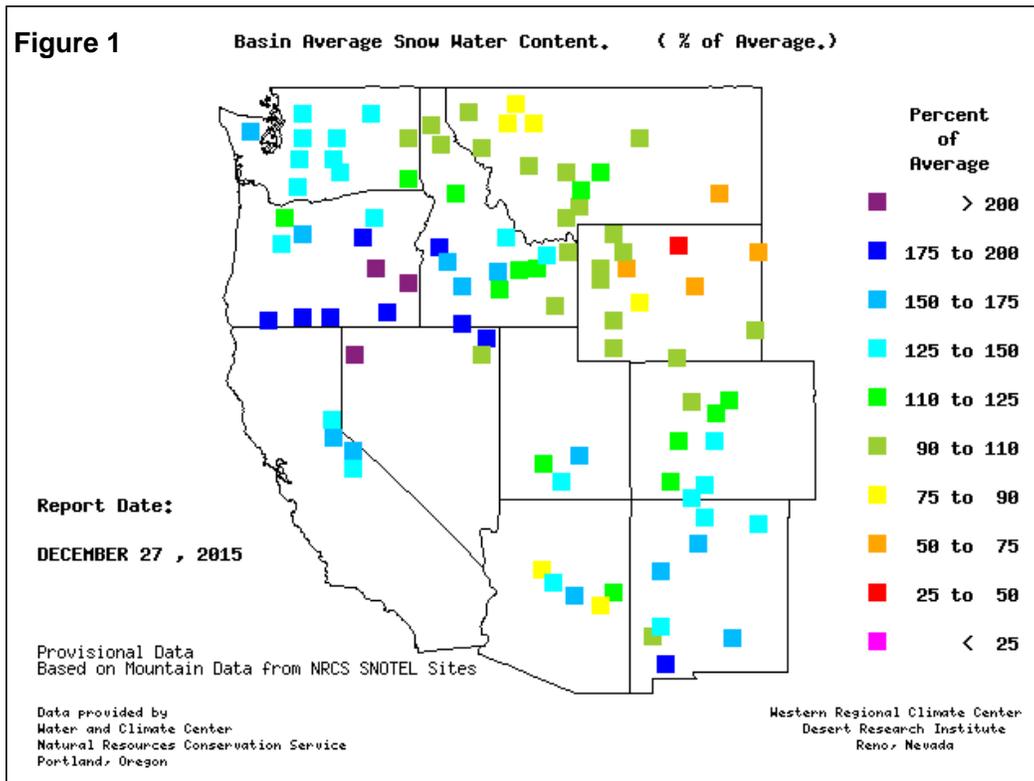
Record-setting warmth first appeared on December 21, when daily-record highs rose to 87°F in **Naples, FL**, and 67°F in **St. Louis, MO**. The following day, **Nashville, TN**, posted a daily-record high (70°F) for December 22. During the mid- to late-week period, hundreds of daily-record highs were established across the **eastern half of the U.S.** On December 24, all-time monthly records were broken in locations such as **Norfolk, VA** (82°F); **Albany, NY** (72°F); and **Burlington, VT** (68°F). Farther south, **Alma, GA**, tied a monthly record with a Christmas Eve high of 83°F. The parade of records continued on Christmas Day, with **Naples, FL** (89°F), tying a December record most recently achieved on December 1, 1995. It was the warmest Christmas Day on record in dozens of communities, including **Houston, TX** (83°F); **New Orleans, LA** (82°F); **Augusta, GA** (81°F); **Tuscaloosa, AL** (80°F); **New York City** (66°F); and **Portland, ME** (62°F). Additional monthly records were established on December 26, with **Little Rock, AR** (81°F), breaking by 1°F a record that had last been achieved on December 3, 2005. In **Florida, Tampa** tied its monthly record high of 86°F on December 25 and 26.

Seasonably dry weather covered much of the **Alaskan mainland**, although mild conditions in the southwestern part of the state contrasted with below-normal temperatures in other areas. **King Salmon** reported a Christmas Day high of 41°F, along with a peak wind gust to 62 mph. Meanwhile, locally heavy precipitation fell across **Alaska's southern tier**. In the **Aleutians, Cold Bay's** weekly precipitation total of 1.78 inches included 3.9 inches of snow. On December 26, snow spread into parts of **southeastern Alaska**, where **Juneau** reported a daily-record sum of 6.6 inches. Farther south, significant **Hawaiian** rainfall was mostly confined to windward locations. On the **Big Island, Hilo** received 5.12 inches of rain from December 20-22. Through December 26, **Hilo's** month-to-date rainfall totaled 12.38 inches (124 percent of normal). At the state's other major airport observation sites, December 1-26 rainfall ranged from 0.27 inch (10 percent of normal) in **Honolulu, Oahu**, to 1.37 inches (31 percent) in **Lihue, Kauai**.



Early Look at Western Snowpack and Precipitation

Charts created by the Western Regional Climate Center from information provided by USDA/NRCS



Though the majority of the West's winter wet season lies ahead, early snowpack and precipitation reports show an encouraging trend toward easing or eradicating drought. Through December 27, snowpack water equivalency was close to twice normal values in several basins across Oregon, northern Nevada, and southwestern Idaho (figure 1). Corresponding season-to-date precipitation totals (figure 2) were not quite as impressive, but were nonetheless above average for late December in many Western river basins.

National Weather Data for Selected Cities

Weather Data for the Week Ending December 26, 2015

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	69	57	77	31	63	19	5.83	4.86	4.40	9.06	248	59.45	112	97	69	0	1	5	2
HUNTSVILLE	68	56	76	30	62	20	7.28	6.07	5.34	9.73	208	63.61	112	85	71	0	1	5	3
MOBILE	73	61	79	36	67	16	7.40	6.43	4.04	9.71	248	78.70	120	96	90	0	0	6	4
AK MONTGOMERY	73	58	82	28	66	18	6.62	5.56	4.49	8.45	199	50.99	94	92	67	0	1	5	3
ANCHORAGE	20	10	28	6	15	-2	0.00	-0.22	0.00	0.15	18	18.83	119	90	82	0	7	0	0
BARROW	-10	-22	6	-36	-16	-4	0.00	0.00	0.00	0.02	200	5.71	142	86	75	0	7	0	0
FAIRBANKS	2	-12	7	-29	-5	2	0.00	-0.17	0.00	0.00	0	14.31	141	85	81	0	7	0	0
JUNEAU	33	26	38	12	29	1	0.65	-0.59	0.41	1.92	43	84.46	147	92	84	0	6	4	0
KODIAK	38	28	42	22	33	3	0.88	-0.89	0.67	9.30	150	79.73	108	88	72	0	5	3	1
NOME	17	2	28	-17	9	2	0.00	-0.20	0.00	0.24	29	16.38	100	69	57	0	7	0	0
AZ FLAGSTAFF	34	20	40	2	27	-3	0.18	-0.21	0.10	0.89	61	27.10	120	97	60	0	7	5	0
PHOENIX	62	45	67	37	54	0	0.00	-0.20	0.00	0.21	30	7.14	89	70	51	0	0	0	0
PRESCOTT	45	28	50	18	36	-1	0.10	-0.18	0.08	0.30	29	18.03	95	92	41	0	6	2	0
TUCSON	62	43	67	34	52	1	0.00	-0.25	0.00	0.47	60	13.41	113	71	48	0	0	0	0
AR FORT SMITH	69	41	75	34	55	15	1.02	0.37	0.81	4.59	151	67.72	156	85	47	0	0	2	1
LITTLE ROCK	68	49	81	37	58	16	2.52	1.56	1.07	4.12	100	57.96	115	91	53	0	0	4	2
CA BAKERSFIELD	57	41	66	34	49	3	0.15	-0.02	0.10	0.58	105	3.99	64	85	71	0	0	2	0
FRESNO	52	39	60	29	46	2	1.61	1.30	1.17	2.97	297	8.98	82	92	78	0	2	3	1
LOS ANGELES	62	49	67	44	55	-2	0.55	0.14	0.51	1.08	81	5.97	47	73	46	0	0	2	1
REDDING	51	37	55	32	44	-1	3.00	1.93	1.45	8.16	222	17.18	53	84	72	0	1	4	2
SACRAMENTO	55	39	63	31	47	2	0.34	-0.20	0.20	1.74	91	8.52	49	93	54	0	1	4	0
SAN DIEGO	64	53	65	46	58	1	0.23	-0.07	0.20	0.74	79	9.74	94	68	51	0	0	3	0
SAN FRANCISCO	55	45	59	40	50	1	1.42	0.76	0.84	3.26	146	8.33	43	83	70	0	0	4	1
STOCKTON	54	39	64	30	47	3	0.87	0.47	0.33	2.38	168	7.41	55	92	73	0	2	3	0
CO ALAMOSA	36	6	43	-4	21	5	0.02	-0.04	0.02	0.25	109	9.44	132	86	52	0	7	1	0
CO SPRINGS	44	22	57	15	33	5	0.00	-0.08	0.00	0.25	93	25.26	147	76	23	0	7	0	0
DENVER INTL	37	19	48	3	28	-1	0.13	0.07	0.12	0.71	323	18.30	135	79	42	0	7	2	0
GRAND JUNCTION	33	18	37	10	25	-2	0.35	0.24	0.28	0.68	184	13.21	150	91	79	0	7	4	0
PUEBLO	49	22	61	13	36	6	0.09	0.01	0.09	0.40	143	16.67	136	70	37	0	7	1	0
CT BRIDGEPORT	57	45	64	33	51	18	5.28	4.51	2.65	9.91	351	40.01	92	88	67	0	0	3	3
HARTFORD	55	38	69	28	47	18	1.58	0.80	1.40	3.01	102	37.97	83	84	64	0	2	3	1
DC WASHINGTON	62	49	71	32	55	17	2.34	1.66	1.67	3.93	158	44.12	114	92	72	0	1	5	1
DE WILMINGTON	61	48	71	28	54	19	1.90	1.16	1.16	4.19	150	47.71	113	93	70	0	1	4	2
FL DAYTONA BEACH	81	64	83	47	73	13	0.00	-0.60	0.00	0.57	26	43.92	90	97	65	0	0	0	0
JACKSONVILLE	80	59	83	37	69	15	0.01	-0.58	0.01	0.56	27	44.53	86	99	66	0	0	1	0
KEY WEST	82	76	83	71	79	8	0.10	-0.38	0.10	2.78	163	34.43	89	94	81	0	0	1	0
MIAMI	82	74	84	70	78	9	0.41	-0.04	0.19	9.77	522	62.01	107	88	70	0	0	4	0
ORLANDO	82	64	86	50	73	11	0.22	-0.28	0.21	0.73	38	54.09	113	95	64	0	0	2	0
PENSACOLA	71	64	77	43	68	15	0.00	-0.87	0.00	0.00	0	67.33	106	93	83	0	0	0	0
TALLAHASSEE	76	59	83	31	68	15	1.49	0.56	1.29	2.99	93	52.14	84	94	72	0	1	4	1
TAMPA	83	67	86	51	75	13	0.00	-0.50	0.00	0.48	25	63.47	143	92	63	0	0	0	0
WEST PALM BEACH	82	74	84	71	78	10	1.48	0.90	0.91	7.21	260	50.48	83	81	68	0	0	4	1
GA ATHENS	66	52	77	30	59	15	5.29	4.46	2.02	7.52	252	60.32	128	93	81	0	1	6	4
ATLANTA	67	54	77	34	61	17	6.72	5.91	3.91	8.67	276	64.54	130	84	74	0	0	5	3
AUGUSTA	71	53	81	25	62	16	3.25	2.50	1.56	5.01	209	45.45	104	99	77	0	1	4	2
COLUMBUS	69	56	78	30	63	15	9.06	8.10	4.01	11.52	316	57.32	120	99	72	0	1	6	4
MACON	70	54	78	28	62	15	6.64	5.75	2.58	8.99	297	46.57	106	97	74	0	1	4	4
SAVANNAH	77	60	83	32	68	18	1.52	0.85	1.39	3.28	154	47.52	97	92	68	0	1	2	1
HI HILO	81	66	82	63	74	2	7.29	5.25	2.44	12.14	129	140.78	112	90	79	0	0	7	6
HONOLULU	83	72	85	69	78	4	0.01	-0.65	0.01	0.09	4	20.93	118	79	67	0	0	1	0
KAHULUI	82	68	83	60	75	2	0.35	-0.37	0.30	0.47	20	28.90	160	84	71	0	0	3	0
LIHUE	81	72	82	71	77	4	0.60	-0.47	0.21	1.39	35	29.68	77	81	70	0	0	6	0
ID BOISE	35	23	45	10	29	-1	0.46	0.18	0.16	2.14	189	11.39	95	91	78	0	6	5	0
LEWISTON	40	31	45	27	35	2	0.16	-0.06	0.14	1.55	182	10.01	80	88	68	0	5	2	0
POCATELLO	30	20	39	-1	25	1	0.19	-0.03	0.12	0.66	78	11.03	89	87	79	0	7	5	0
IL CHICAGO/O'HARE	47	35	59	23	41	15	1.39	0.89	0.68	3.13	148	38.11	106	92	73	0	2	5	1
MOLINE	47	34	60	31	40	15	1.47	1.01	0.67	2.96	157	43.31	115	88	73	0	4	4	2
PEORIA	52	36	61	32	44	18	1.83	1.36	0.61	3.94	185	47.61	133	89	71	0	1	4	3
ROCKFORD	45	34	59	28	40	17	1.37	0.96	0.70	3.38	187	38.78	107	90	77	0	2	4	2
SPRINGFIELD	54	38	64	33	46	17	2.79	2.26	1.82	4.05	184	41.61	118	90	64	0	0	4	2
IN EVANSVILLE	61	46	68	32	53	19	2.05	1.33	1.17	2.52	81	49.24	112	82	67	0	1	4	2
FORT WAYNE	54	35	64	22	44	17	2.17	1.59	0.96	2.53	107	44.77	124	89	65	0	1	4	2
INDIANAPOLIS	55	40	64	25	47	17	2.30	1.68	0.98	2.84	108	45.39	112	85	58	0	1	4	2
SOUTH BEND	51	34	62	22	43	16	1.48	0.83	0.70	2.25	84	34.44	88	89	71	0	2	4	1
IA BURLINGTON	48	34	61	31	41	15	1.46	1.05	0.65	3.13	169	40.86	108	98	78	0	3	4	1
CEDAR RAPIDS	43	30	55	25	37	15	0.65	0.37	0.43	3.07	234	41.16	124	100	87	0	5	3	0
DES MOINES	42	30	54	25	36	13	1.06	0.80	0.84	4.90	426	44.08	128	90	78	0	5	5	1
DUBUQUE	41	30	55	26	35	14	0.57	0.25	0.35	3.13	211	38.14	108	96	84	0	5	4	0
SIoux CITY	37	27	47	21	32	11	0.65	0.54	0.23	2.34	442	34.62	134	86	77	0	7	4	0
KS WATERLOO	39	29	48	23	34	14	1.05	0.85	0.82	5.17	528	38.22	116	94	80	0	7	4	1
CONCORDIA	44	26	56	20	35	6	0.13	-0.04	0.09	2.64	377	29.32	104	88	77	0	6	3	0
DODGE CITY	50	29	58	23	39	7	0.05	-0.12	0.05	2.41	395	28.30	128	85	47	0	5	1	0
GOODLAND	46	20	57	14	33	4	0.10	0.02	0.09	0.16	57	20.52	104	88	55	0	7	2	0
TOPEKA	53	31	57	24	42	12	0.83	0.56	0.69	2.50	202	49.18							

Weather Data for the Week Ending December 26, 2015

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	56	33	60	27	44	12	0.99	0.71	0.99	2.08	184	41.77	138	84	65	0	5	1	1
KY JACKSON	63	51	72	29	57	20	1.79	0.88	0.91	4.18	115	56.84	117	89	60	0	1	6	1
LEXINGTON	61	47	66	25	54	19	4.63	3.74	2.47	6.00	179	58.67	130	88	73	0	1	5	4
LOUISVILLE	63	48	70	29	55	19	2.79	2.01	1.31	3.54	113	59.46	135	87	57	0	1	5	2
PADUCAH	62	47	70	37	55	20	3.03	2.12	1.51	3.74	97	55.48	114	88	61	0	0	4	2
LA BATON ROUGE	77	63	84	34	70	19	2.24	1.07	0.89	4.33	100	75.59	122	95	72	0	0	4	2
LAKE CHARLES	76	62	81	39	69	17	1.07	0.06	0.67	2.31	62	63.90	113	98	83	0	0	4	1
NEW ORLEANS	78	66	83	41	72	18	2.90	1.84	1.86	3.98	92	68.88	109	88	77	0	0	5	2
SHREVEPORT	74	52	82	34	63	16	0.35	-0.64	0.13	1.97	52	64.32	127	93	63	0	0	6	0
ME CARIBOU	35	26	47	14	31	17	0.89	0.17	0.36	3.89	148	35.19	95	85	63	0	6	3	0
ME PORTLAND	49	32	62	26	41	15	1.75	0.83	0.81	3.50	99	41.98	93	89	59	0	5	3	2
MD BALTIMORE	62	46	71	21	54	19	3.31	2.57	2.01	4.95	182	50.26	122	92	70	0	2	5	2
MA BOSTON	57	42	69	31	49	16	1.23	0.40	0.88	2.89	93	33.42	80	87	62	0	2	3	1
MA WORCESTER	53	40	65	26	46	19	1.55	0.71	1.05	3.28	105	38.97	81	85	55	0	2	3	1
MI ALPENA	46	28	59	19	37	14	0.45	0.06	0.19	2.14	146	22.42	80	90	70	0	4	3	0
MI GRAND RAPIDS	49	33	60	21	41	15	1.21	0.68	0.80	2.24	94	32.02	87	89	69	0	3	4	1
MI HOUGHTON LAKE	45	29	57	20	37	15	1.13	0.77	0.48	2.68	185	27.25	97	93	79	0	4	4	0
MI LANSING	50	32	60	22	41	16	0.99	0.56	0.44	1.42	74	33.23	106	87	70	0	3	5	0
MI MUSKOGON	48	34	62	26	41	14	1.20	0.66	1.02	3.33	147	34.81	107	82	69	0	3	4	1
MI TRAVERSE CITY	47	32	60	23	40	15	0.23	-0.36	0.11	1.53	71	28.25	86	88	62	0	4	4	0
MN DULUTH	29	20	34	14	25	13	0.52	0.38	0.31	3.72	454	32.33	105	86	82	0	7	3	0
MN INT'L FALLS	26	11	34	-3	18	12	0.10	-0.01	0.07	1.06	186	24.92	105	91	81	0	7	3	0
MN MINNEAPOLIS	33	27	41	23	30	13	0.40	0.21	0.38	1.86	221	35.68	122	86	78	0	7	2	0
MN ROCHESTER	33	26	43	21	30	15	0.71	0.54	0.68	2.50	281	34.91	112	93	84	0	7	3	1
MN ST. CLOUD	31	22	35	15	27	15	0.26	0.12	0.26	0.90	158	33.00	122	93	78	0	7	1	0
MS JACKSON	75	59	84	30	67	20	2.91	1.73	2.37	4.64	105	58.03	105	92	69	0	1	4	1
MS MERIDIAN	72	58	79	28	65	17	1.16	0.00	0.44	4.22	96	57.35	99	95	76	0	1	6	0
MS TUPELO	69	55	78	27	62	20	3.51	2.14	2.16	5.49	107	68.88	126	93	72	0	1	5	2
MO COLUMBIA	54	38	67	30	46	15	2.44	1.96	2.18	4.73	214	47.83	120	95	69	0	1	5	1
MO KANSAS CITY	52	32	61	26	42	12	1.01	0.70	0.82	1.15	80	44.50	118	93	60	0	5	4	1
MO SAINT LOUIS	57	41	67	35	49	17	6.07	5.51	4.78	7.33	291	56.86	148	84	65	0	0	4	2
MO SPRINGFIELD	60	38	68	33	49	15	6.57	5.98	6.02	7.68	264	56.01	125	82	56	0	0	4	2
MT BILLINGS	29	15	36	2	22	-3	0.05	-0.09	0.04	0.40	83	12.78	88	80	63	0	7	2	0
MT BUTTE	24	1	32	-11	12	-5	0.07	-0.04	0.06	0.66	161	11.89	94	87	58	0	7	2	0
MT CUT BANK	20	0	32	-14	10	-11	0.09	0.03	0.09	0.20	95	9.01	73	94	73	0	7	1	0
MT GLASGOW	21	5	30	-12	13	-1	0.23	0.15	0.13	0.81	338	13.15	118	87	80	0	7	3	0
MT GREAT FALLS	26	9	33	-5	17	-7	0.00	-0.15	0.00	0.61	127	15.24	104	89	63	0	7	0	0
MT HAVRE	23	2	38	-16	12	-6	0.18	0.07	0.12	0.42	114	12.07	107	89	79	0	7	4	0
MT MISSOULA	29	14	34	5	22	-1	0.11	-0.14	0.04	1.27	140	9.95	73	94	83	0	7	4	0
NE GRAND ISLAND	38	21	44	13	30	6	0.32	0.21	0.17	1.80	316	25.91	100	91	79	0	7	4	0
NE LINCOLN	39	22	54	15	31	6	1.26	1.11	0.97	4.33	601	41.08	146	91	80	0	7	4	1
NE NORFOLK	36	21	45	13	29	6	0.72	0.61	0.35	2.15	377	27.72	104	92	84	0	7	4	0
NE NORTH PLATTE	41	18	48	13	30	5	0.02	-0.06	0.02	0.28	90	20.84	106	89	48	0	7	1	0
NE OMAHA	39	28	52	24	33	9	1.25	1.10	0.72	4.97	614	44.41	147	94	80	0	7	3	1
NE SCOTTSBLUFF	36	14	45	4	25	0	0.10	-0.01	0.09	0.71	158	23.64	146	84	61	0	7	2	0
NE VALENTINE	35	14	44	3	24	1	0.14	0.08	0.09	0.74	285	26.80	138	89	73	0	7	2	0
NV ELY	31	13	40	-3	22	-3	0.71	0.60	0.33	1.03	312	9.67	99	86	75	0	7	5	0
NV LAS VEGAS	56	41	63	37	48	2	0.00	-0.08	0.00	0.01	4	4.49	103	63	41	0	0	0	0
NV RENO	43	27	56	12	35	2	0.22	0.03	0.21	0.72	100	8.47	116	71	54	0	4	2	0
NV WINNEMUCCA	37	20	47	-2	29	0	0.95	0.78	0.52	1.74	285	10.67	131	90	75	0	7	6	1
NH CONCORD	49	29	62	23	39	15	1.43	0.80	0.57	2.60	105	36.14	97	89	60	0	6	4	2
NJ NEWARK	61	47	71	33	54	19	1.63	0.86	1.44	3.46	117	38.12	84	85	64	0	0	5	1
NM ALBUQUERQUE	47	31	57	27	39	4	0.04	-0.07	0.04	0.91	268	11.41	122	77	40	0	6	1	0
NY ALBANY	54	36	72	26	45	18	0.83	0.27	0.41	2.22	99	37.20	99	81	52	0	1	3	0
NY BINGHAMTON	50	37	63	25	43	17	0.18	-0.45	0.07	1.86	71	40.96	107	81	71	0	2	3	0
NY BUFFALO	54	37	66	25	45	17	0.70	-0.11	0.19	1.17	36	35.32	88	87	55	0	2	5	0
NY ROCHESTER	54	35	68	25	45	17	0.70	0.13	0.51	1.54	67	35.50	106	77	61	0	3	4	1
NY SYRACUSE	53	34	68	27	44	17	1.17	0.54	0.90	3.20	118	40.43	102	88	55	0	3	3	1
NC ASHEVILLE	62	49	75	25	55	17	4.18	3.45	2.14	6.48	233	52.06	112	90	68	0	1	6	3
NC CHARLOTTE	66	51	74	23	58	15	3.53	2.81	1.60	5.03	198	46.32	108	90	69	0	1	4	2
NC GREENSBORO	65	50	75	26	58	18	2.81	2.14	1.61	4.64	187	46.47	109	95	71	0	1	3	3
NC HATTERAS	72	62	75	43	67	18	2.08	1.03	1.64	4.03	112	68.61	121	92	73	0	0	4	1
NC RALEIGH	68	53	77	27	60	18	2.40	1.72	1.68	3.53	146	54.57	129	89	74	0	1	4	2
NC WILMINGTON	74	57	80	28	66	18	1.86	1.02	1.18	3.51	115	70.36	125	96	70	0	1	2	2
ND BISMARCK	22	10	25	-11	16	2	0.08	0.00	0.07	0.94	294	17.77	106	90	83	0	7	2	0
ND DICKINSON	25	9	37	-1	17	0	0.02	-0.04	0.02	0.24	96	11.71	72	93	75	0	7	1	0
ND FARGO	26	15	36	-2	20	9	0.02	-0.09	0.02	0.47	112	21.16	101	84	74	0	7	1	0
ND GRAND FORKS	24	9	40	-8	16	7	0.32	0.21	0.32	1.07	255	21.31	109	88	72	0	7	1	0
ND JAMESTOWN	21	10	28	-5	16	4	0.02	-0.06	0.02	0.14	45	22.38	122	90	77	0	7	1	0
ND WILLISTON	24	3	37	-16	14	3	0.20	0.09	0.11	0.50	116	12.00	86	85	77	0	7	2	0
OH AKRON-CANTON	56	39	64	20	47	18	1.95	1.32	0.99	2.32	91	39.83	105	82	64	0	1	4	2
OH CINCINNATI	59	44	66	24	52	19	2.27	1.55	1.22	3.09	112	45.91	109	86	69	0	1	5	1
OH CLEVELAND	55	38	65	21	47	17	1.18	0.54	0.46	1.51	56	39.33	103	86	54	0	1	5	0
OH COLUMBUS	56	41	65	21	48	16	2.72	2.11	0.91	3.13	125	43.23	114	91	65	0	1	4	3
OH DAYTON	56	40	64	22	48	18	1.90	1.25	1.05	2.19	84	38.91	99	94	62	0	1	4	1
OH MANSFIELD	55	37	63	20	46	18	1.98	1.31	0.73	2.24	79	39.59	93	94	58	0	1	4	2

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Weather Data for the Week Ending December 26, 2015

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	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP	
																		01 INCH OR MORE	50 INCH OR MORE		
OK TOLEDO	52	34	63	18	43	16	1.39	0.84	0.63	1.72	76	35.26	107	91	70	0	1	4	1		
OK YOUNGSTOWN	55	36	63	20	46	17	1.76	1.15	0.90	2.30	90	42.56	113	84	65	0	1	4	2		
OK OKLAHOMA CITY	61	37	69	29	49	11	1.60	1.19	1.60	2.34	152	54.30	153	90	49	0	2	1	1		
OR TULSA	63	37	69	29	50	12	2.89	2.42	2.89	4.90	228	58.29	138	82	59	0	2	1	1		
OR ASTORIA	48	37	53	32	43	1	2.61	0.37	0.86	19.64	221	72.89	111	90	78	0	1	7	2		
OR BURNS	28	9	39	-12	19	-5	0.71	0.43	0.31	3.29	323	10.14	98	87	77	0	7	4	0		
OR EUGENE	46	36	54	25	41	2	1.69	-0.07	0.49	12.04	169	30.69	62	90	83	0	2	6	0		
OR MEDFORD	45	35	53	30	40	2	1.10	0.49	0.42	7.38	298	17.12	95	93	72	0	2	5	0		
OR PENDLETON	42	29	52	24	35	2	0.41	0.11	0.14	2.26	185	10.06	80	86	64	0	6	4	0		
OR PORTLAND	45	38	52	34	41	1	2.02	0.80	0.93	14.73	302	39.86	110	95	82	0	0	6	2		
OR SALEM	45	37	53	28	41	1	2.01	0.63	0.76	14.57	262	39.98	102	89	83	0	1	6	2		
PA ALLENTOWN	57	41	71	23	49	18	1.22	0.50	0.71	3.33	119	39.62	89	87	69	0	2	5	1		
PA ERIE	55	37	65	24	46	15	1.03	0.24	0.38	2.31	71	35.78	85	79	59	0	1	5	0		
PA MIDDLETOWN	57	41	70	27	49	17	1.36	0.69	0.97	3.02	108	40.77	102	91	63	0	2	4	1		
PA PHILADELPHIA	62	50	71	30	56	20	2.08	1.36	1.56	4.03	149	45.90	111	84	67	0	1	4	1		
PA PITTSBURGH	57	40	64	19	48	17	1.12	0.52	0.37	2.16	89	39.71	106	90	53	0	1	5	0		
PA WILKES-BARRE	54	41	68	28	48	18	0.59	0.07	0.30	1.68	77	30.33	82	84	57	0	1	3	0		
PA WILLIAMSPORT	52	39	65	28	46	17	0.80	0.21	0.34	2.50	98	39.67	96	84	65	0	2	4	0		
RI PROVIDENCE	58	42	69	28	50	18	1.97	1.06	1.69	3.56	103	39.56	86	87	65	0	2	3	1		
SC BEAUFORT	74	60	79	33	67	17	0.42	-0.31	0.27	1.75	73	50.49	103	98	74	0	0	2	0		
SC CHARLESTON	75	60	81	30	68	19	1.14	0.39	1.02	2.80	111	74.55	147	93	68	0	1	2	1		
SC COLUMBIA	70	54	78	27	62	16	4.32	3.53	2.74	5.22	200	62.35	131	87	72	0	1	3	2		
SC GREENVILLE	64	50	76	29	57	15	3.76	2.89	2.25	6.51	209	59.23	120	96	74	0	1	5	2		
SD ABERDEEN	28	12	38	-4	20	6	0.10	0.02	0.10	0.64	267	21.20	106	85	75	0	7	1	0		
SD HURON	32	15	40	-2	24	7	1.36	1.30	1.16	1.84	681	26.16	126	95	80	0	7	2	1		
SD RAPID CITY	35	15	45	-1	25	1	0.25	0.17	0.19	0.56	215	25.17	153	88	60	0	7	2	0		
SD SIOUX FALLS	33	22	42	18	27	10	0.52	0.44	0.28	0.92	214	32.58	132	89	82	0	7	2	0		
TN BRISTOL	63	44	73	21	54	18	2.28	1.54	1.36	4.54	160	43.85	108	98	70	0	1	5	2		
TN CHATTANOOGA	64	53	73	28	59	18	5.46	4.43	4.19	9.33	233	65.70	122	92	75	0	1	6	2		
TN KNOXVILLE	64	48	74	26	56	17	3.13	2.14	1.60	6.19	166	50.01	105	97	72	0	1	6	2		
TN MEMPHIS	69	52	80	36	61	19	2.42	1.24	1.61	3.60	72	51.48	95	86	61	0	0	4	1		
TN NASHVILLE	68	52	75	28	60	21	2.99	2.02	1.17	4.24	110	50.12	106	89	59	0	1	5	3		
TX ABILENE	70	43	76	34	56	12	0.06	-0.24	0.06	0.31	31	38.50	164	75	50	0	0	1	0		
TX AMARILLO	55	31	65	22	43	7	0.02	-0.12	0.02	0.70	171	34.55	177	74	36	0	5	1	0		
TX AUSTIN	75	50	82	39	62	11	0.03	-0.52	0.03	1.24	62	59.98	181	88	66	0	0	1	0		
TX BEAUMONT	78	63	82	51	70	17	0.64	-0.55	0.48	3.81	89	73.78	125	98	78	0	0	3	0		
TX BROWNSVILLE	84	68	91	61	76	16	0.00	-0.22	0.00	0.11	12	47.22	173	96	68	1	0	0	0		
TX CORPUS CHRISTI	82	63	86	56	72	15	0.00	-0.39	0.00	0.87	63	45.00	141	93	70	0	0	0	0		
TX DEL RIO	76	49	83	42	63	12	0.02	-0.13	0.02	0.30	51	27.78	154	91	58	0	0	1	0		
TX EL PASO	64	41	68	30	52	8	0.59	0.42	0.58	0.70	119	11.72	127	63	27	0	1	2	1		
TX FORT WORTH	74	48	82	44	61	15	0.79	0.20	0.79	1.52	73	60.27	176	83	45	0	0	1	1		
TX GALVESTON	74	64	78	58	69	12	0.03	-0.73	0.01	3.29	113	61.34	142	99	88	0	0	3	0		
TX HOUSTON	77	60	83	46	69	16	0.38	-0.42	0.30	2.56	84	67.39	143	96	80	0	0	4	0		
TX LUBBOCK	62	34	66	27	48	9	0.00	-0.14	0.00	0.24	47	28.13	152	73	40	0	4	0	0		
TX MIDLAND	68	38	72	33	53	9	0.31	0.17	0.31	0.47	94	21.88	149	72	49	0	0	1	0		
TX SAN ANGELO	75	40	78	33	58	12	0.09	-0.11	0.09	0.62	83	25.16	121	81	46	0	0	1	0		
TX SAN ANTONIO	76	55	83	48	66	15	0.00	-0.43	0.00	0.75	46	43.47	133	91	58	0	0	0	0		
TX VICTORIA	79	60	84	51	69	15	0.01	-0.54	0.01	1.09	53	53.18	134	99	76	0	0	1	0		
TX WACO	73	46	78	38	60	13	0.28	-0.33	0.28	1.32	57	51.44	156	89	61	0	0	1	0		
TX WICHITA FALLS	68	40	76	32	54	12	0.42	0.04	0.42	1.32	96	46.07	162	81	53	0	1	1	0		
UT SALT LAKE CITY	36	26	43	12	31	2	0.86	0.61	0.58	2.14	223	16.05	99	88	62	0	5	4	1		
VT BURLINGTON	50	35	68	24	43	20	0.98	0.54	0.72	3.09	163	37.10	104	82	50	0	2	4	1		
VA LYNCHBURG	60	46	68	22	53	16	1.71	0.99	0.57	4.18	159	44.51	104	94	79	0	2	5	2		
VA NORFOLK	70	53	82	30	61	18	0.52	-0.17	0.34	2.10	88	48.37	107	91	70	0	1	3	0		
VA RICHMOND	65	50	75	25	58	19	3.89	3.19	1.49	5.44	219	48.72	113	97	76	0	1	5	3		
VA ROANOKE	58	46	69	27	52	14	1.53	0.92	0.62	3.82	161	53.80	128	92	82	0	2	6	2		
VA WASH/DULLES	61	48	71	24	55	21	1.46	0.80	0.67	2.96	117	38.59	93	87	72	0	1	5	2		
WA OLYMPIA	42	33	44	27	37	0	3.19	1.50	1.06	13.98	207	57.00	115	93	89	0	2	6	3		
WA QUILLAYUTE	44	34	47	28	39	-1	4.57	1.41	1.68	18.52	150	96.11	97	92	83	0	3	5	4		
WA SEATTLE-TACOMA	43	36	46	32	40	0	1.99	0.80	1.16	10.80	224	44.42	123	89	77	0	1	6	1		
WA SPOKANE	31	26	34	22	29	3	0.98	0.51	0.55	4.32	226	13.97	86	97	87	0	7	5	1		
WA YAKIMA	35	14	42	2	25	-3	0.48	0.18	0.43	3.27	295	8.76	110	84	78	0	7	3	0		
WV BECKLEY	59	47	67	21	53	20	1.11	0.43	0.49	3.41	134	47.99	117	84	65	0	1	5	0		
WV CHARLESTON	63	45	73	22	54	18	2.66	1.97	1.99	5.32	189	48.27	111	94	62	0	1	6	1		
WV ELKINS	60	37	67	17	49	17	2.23	1.49	1.37	4.19	145	47.65	105	93	59	0	2	6	1		
WV HUNTINGTON	61	45	69	21	53	17	2.88	2.14	1.62	5.96	212	48.86	117	98	65	0	1	5	1		
WI EAU CLAIRE	35	27	43	23	31	15	0.69	0.50	0.68	2.10	236	40.69	127	87	73	0	7	2	1		
WI GREEN BAY	40	28	53	21	34	15	0.52	0.26	0.35	4.68	384	31.87	110	94	81	0	6	6	0		
WI LA CROSSE	38	30	46	26	34	14	0.67	0.45	0.64	3.49	323	33.05	103	94	72	0	6	3	1		
WI MADISON	41	30	55	24	36	15	0.60	0.28	0.37	2.70	186	39.16	120	94	80	0	5	5	0		
WI MILWAUKEE	45	34	58	24	39	15	1.07	0.62	0.53	2.88	150	31.91	92	89	74	0	2	3	1		
WY CASPER	28	11	37	-1	19	-4	0.17	0.06	0.11	0.62	132	12.85	100	73	58	0	7	3	0		
WY CHEYENNE	34	16	47	5	25	-2	0.10	0.02	0.05	0.33	94	17.30	113	73	44	0	7	2	0		
WY LANDER	31	11	40	6	21	0	0.01	-0.10	0.01	0.48	98	15.15	114	76	42	0	7	1	0		
WY SHERIDAN	33	10	42	3	21	-1	0.01	-0.13	0.01	0.25	49	15.92	109	80	61	0	7	1	0		

Based on 1971-2000 normals

National Agricultural Summary

December 21 – 27, 2015

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Temperatures across the eastern half of the U.S. were above normal, with many locations averaging more than 15°F above normal. Conversely, the western part of the nation recorded below-normal temperatures. Precipitation was near normal in many

locations, but excessive rain fell in parts of the Southeast and along the Gulf Coast. Weekly rainfall was at least 6 inches above normal at some locations in Alabama and Georgia. Torrential late-week rain also developed in the mid-South and lower Midwest.

Arizona: Alfalfa conditions were mostly good to excellent, depending on location. Harvesting occurred on two-thirds of the state's alfalfa acreage. Cotton harvest was virtually complete, ahead of last year's 94 percent and the five-year average of 93 percent. Rangeland conditions varied widely, depending on location, but were mostly good to fair. Central Arizona growers shipped broccoli, cabbage (green and red), cilantro, kale greens, lemons, and parsley. Western Arizona growers shipped anise, arugula, Bok Choy, broccoli, cabbage (green and red), cauliflower, celery, Chinese cabbage, cilantro, endive, escarole, frisee, kale greens, varieties of lettuce (Boston, Iceberg, green leaf, red leaf, processed, other and romaine), parsley, radicchio, and spinach. Twenty-seven of the 50 weather stations reported some precipitation. Roosevelt reported the highest total with 1.32 inches. The highest temperature was 76°F at Southern Yuma. The lowest temperature was -12°F at the Grand Canyon.

California: It was another week with sub-freezing temperatures in the agricultural valleys, where temperatures in the upper 20s were common. Minimums varied from below 0°F in the northeast, to the middle and upper 30s in the south and southeast. Temperatures averaged 1 to 3°F below normal for most coastal areas and 1 to 3°F above normal elsewhere. High temperatures were mostly in the 50s and 60s, but varied from the 40s in the north to 70s in the south and southeast. Much of the northern two-thirds of the state received precipitation. Some mountain areas reported more than 8 inches of precipitation. The southern areas received lighter precipitation, with scattered totals of 0.25 to 0.50 inch. All cotton fields were in compliance with the cotton plowdown regulations by week's end. Harvested fields were undergoing preparations for winter grain and forage crops. In Tulare County, farmers received more than enough rainfall for winter crops and looked forward to high-quality growth with minimal or no irrigation necessary. In some locations, fieldwork was halted due to high moisture levels. Winter fieldwork and spraying were delayed until the ground dries. Post-harvest cultural maintenance continued in deciduous tree fruit orchards and vineyards. Pushed-out orchards and vineyards continued to be cleaned up with burning, ripping, and fumigation in preparation for spring planting. Most of the remaining kiwifruit, grapes, and pomegranates have been picked and were awaiting shipment to cold storage. With the wet weather and the holidays, citrus harvest slowed, and packing houses were packing their remaining stock on hand. Navel oranges, Mandarin oranges, Cara Cara oranges, and lemons were picked and packed. Some immature orange trees remain covered to protect them from freezes. Olive pruning and orchard cleaning continued. Almonds, pistachios, shelled and in-shell walnuts, and shelled pecans continued to be packed and shipped worldwide. Nut orchards continued to be

pruned, irrigated, and treated in preparation for their dormant season. Orchard replanting continued. In Colusa and San Joaquin Counties, fieldwork was halted due to wet conditions. In Fresno County, the carrot harvest continued. Dehydrator onions were up to stand and fresh onions were planted. Arugula, kale and Mazuna seed plants were weeded. Tomato beds and drip tape were put up for next year. In Tulare County, fall vegetable harvest was ending, and fields were prepared for winter and spring planting. Winter vegetables planted earlier were well established. Recent rains have continued to benefit the lower elevation pasture growth, reducing the need for supplemental feeding. Sheep continued to graze on stubble alfalfa.

Florida: According to Florida's Automated Weather Network (FAWN), rainfall ranged from no measurable amount to 3.86 inches in Jay (Santa Rosa County), as scattered showers were common. Average rainfall statewide was 0.51 inch of rain. Temperatures ranged from 47 to 88°F. There was an average of 6.3 days suitable for fieldwork, up slightly from the previous week. Many Washington County fields were still too wet for fieldwork. Stressed plants were generally limited to low spots in South Florida fields. Rains received on sugarcane fields were being managed with lateral canals and raised beds. Sugarcane harvest activities continued with no noted delays. Irish potatoes were observed being planted in Flagler and Putnam Counties. Leafy greens and cabbage were planted and harvested in Putnam County. Warm conditions accelerated maturity in vegetable crops, but also negatively affected yields and quality. Vegetables received for market included cabbage, cantaloupe, collards, cucumbers, eggplants, herbs, kale, lettuce, peppers, squash, Swiss chard, tomatoes, watermelons, and specialty items. Temperatures in the citrus-growing region were unseasonably warm for this time of the year, while rainfall for the most part was very light. Harvest was in full swing on early-variety oranges and grapefruit. Growers were conducting their own maturity test on Hamlins and other early-variety oranges, so they can get them off the trees as quickly as possible and to the processing plants. Navels and early tangerine fresh shipments were winding down with the ending of fundraising programs. Honey tangerines were still several weeks away. Grapefruit harvest was still going strong, being distributed about equally between fresh and processed markets. Growers were irrigating as needed and spraying for psyllids. Mowing was being reduced to an as-needed basis, mostly before harvest. Warm, wet weather helped winter grazing recover in Jefferson County, but plant diseases were more prevalent than usual for this time of the year. Recent rains kept pastures green and growing. Newborn calves were spotted in Okeechobee and St. Lucie Counties. Pastures appeared green with abundant new forage growth. Cattle and pasture conditions ratings continued to be mostly good to excellent due to mild weather.

International Weather and Crop Summary

December 20-26, 2015

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

HIGHLIGHTS

EUROPE: A developing short-term drought in southern growing areas further reducing soil moisture and irrigation reserves for winter crop establishment.

WESTERN FSU: Persistent warmth kept the region devoid of a protective snow cover and reduced winter grain cold hardiness.

MIDDLE EAST: Short-term dryness intensified across Turkey and the eastern Mediterranean, while late-week rain developed over typically drier southern locales.

NORTHWESTERN AFRICA: Intensifying short-term drought continued to impede winter grain establishment from Morocco into central Algeria.

SOUTHEAST ASIA: Favorable rainfall boosted soil moisture for rice in Java, Indonesia.

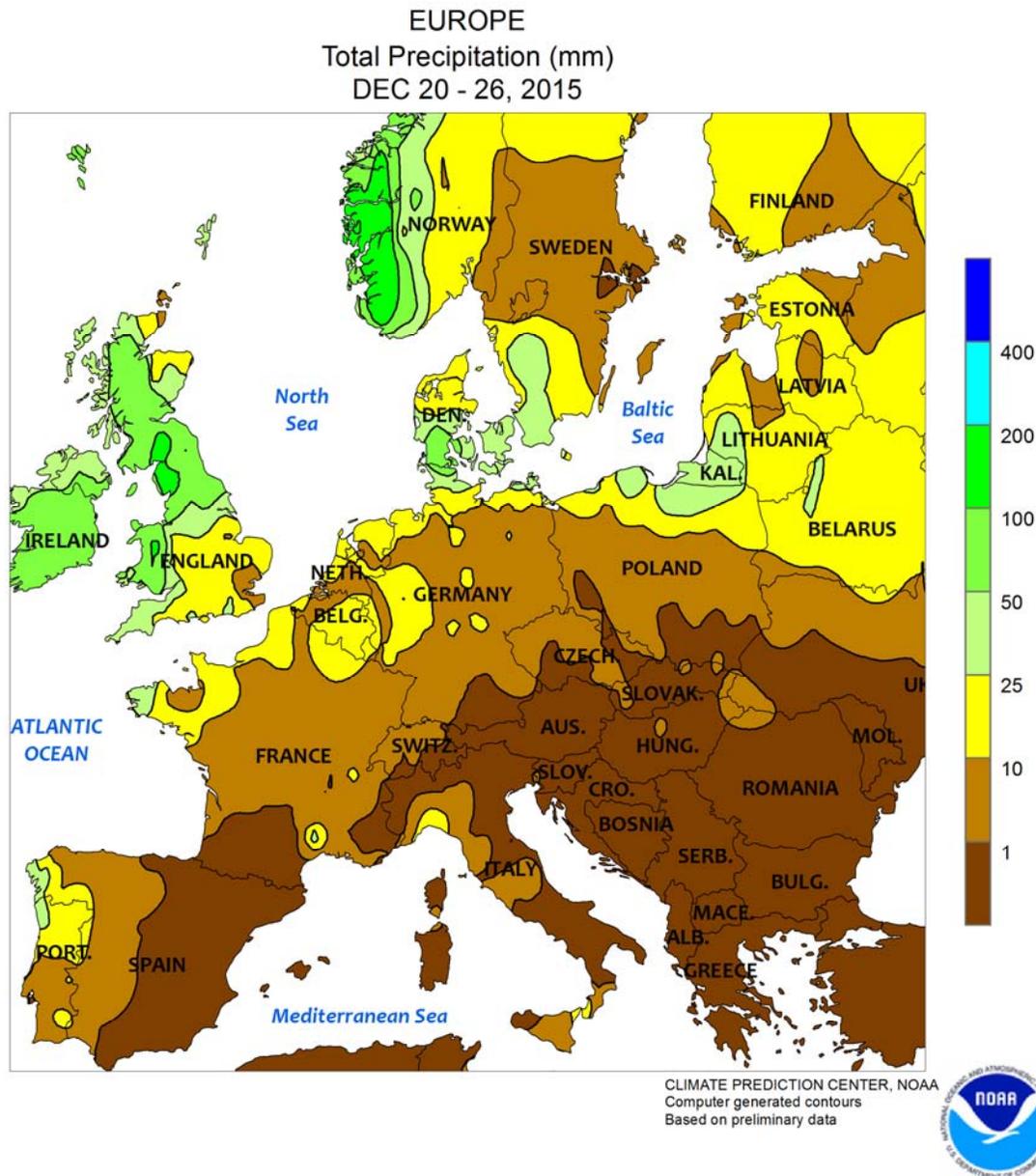
AUSTRALIA: Widespread showers continued to benefit vegetative summer crops in eastern Australia.

SOUTH AFRICA: Heat and dryness persisted in western sections of the corn belt, causing further delays in planting summer crops.

ARGENTINA: Warm, showery weather maintained overall favorable conditions for corn, soybeans, and cotton.

BRAZIL: Much-needed rain returned to key soybean and cotton areas of central Brazil.



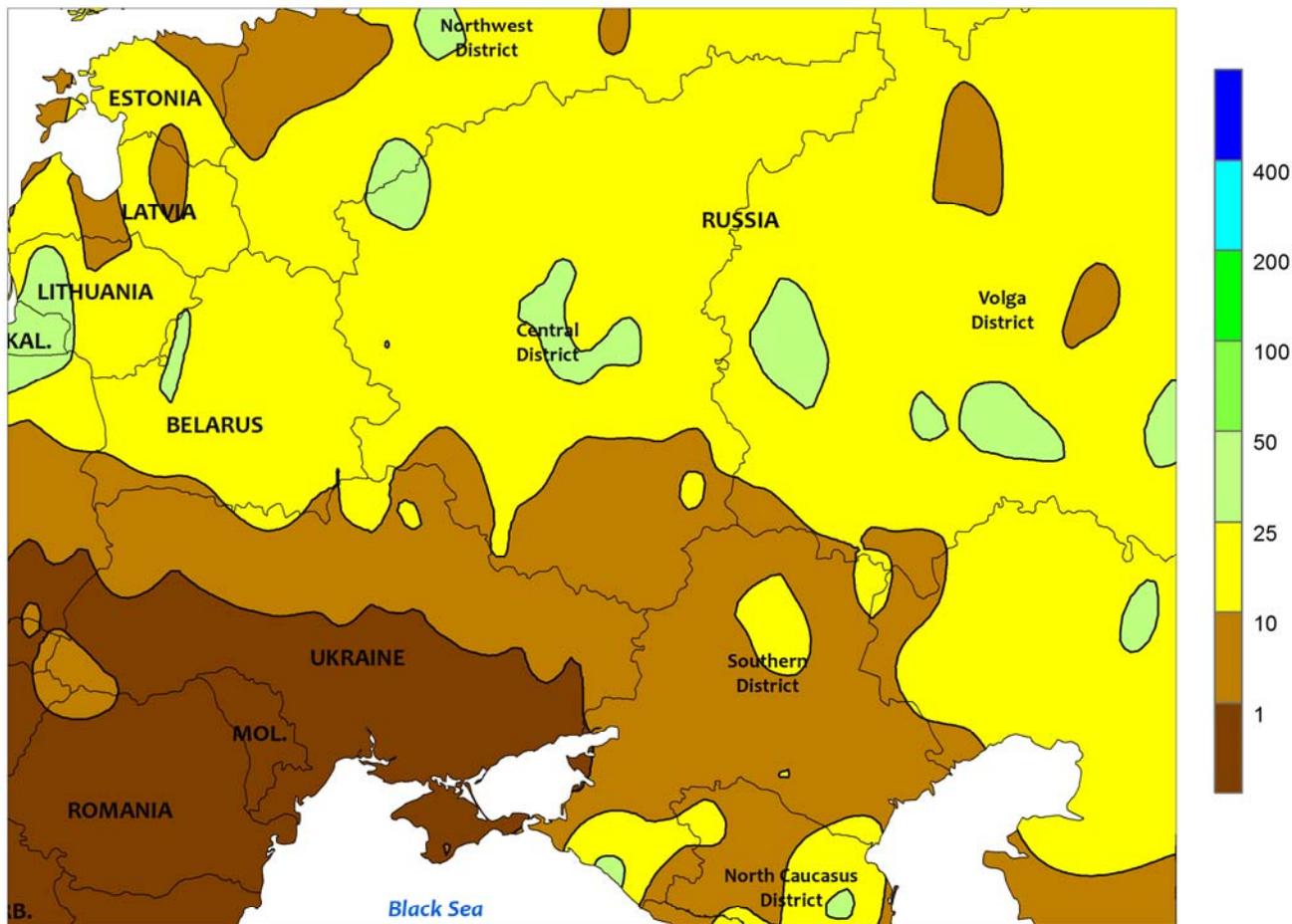


EUROPE

Warm weather persisted, with developing short-term drought across the Mediterranean contrasting with additional showers in the north. A stagnant weather pattern featuring fast-moving Atlantic disturbances resulted in additional widespread showers (5-40 mm) from France and the United Kingdom into Poland and the Baltic States, sustaining favorable soil moisture for vegetative (west) to dormant (northeast) winter crops. Meanwhile, sunny skies promoted a rapid pace of late winter grain planting across Spain and Italy. However, increasingly dry conditions have rapidly reduced soil moisture for crop establishment from southern France and the Iberian Peninsula into Italy and the northern Balkans. Over the past 60 days, precipitation has

averaged 25 to 50 percent of normal, with some locations reporting locally less than 10 percent of normal. Rain will be needed soon across crop areas of southern Europe to ensure adequate soil moisture for proper winter grain establishment. Farther north, a persistent fetch of mild maritime air from the northern Atlantic resulted in abnormally warm conditions (4-8°C above normal) over central and northern Europe’s primary winter crop areas. The persistent warmth minimized the risk for winterkill but kept these areas devoid of a protective snow cover and allowed winter grains and oilseeds to add vegetative growth across Germany and western Poland, locales where winter crops are typically dormant by the end of November.

WESTERN FSU
Total Precipitation (mm)
DEC 20 - 26, 2015



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

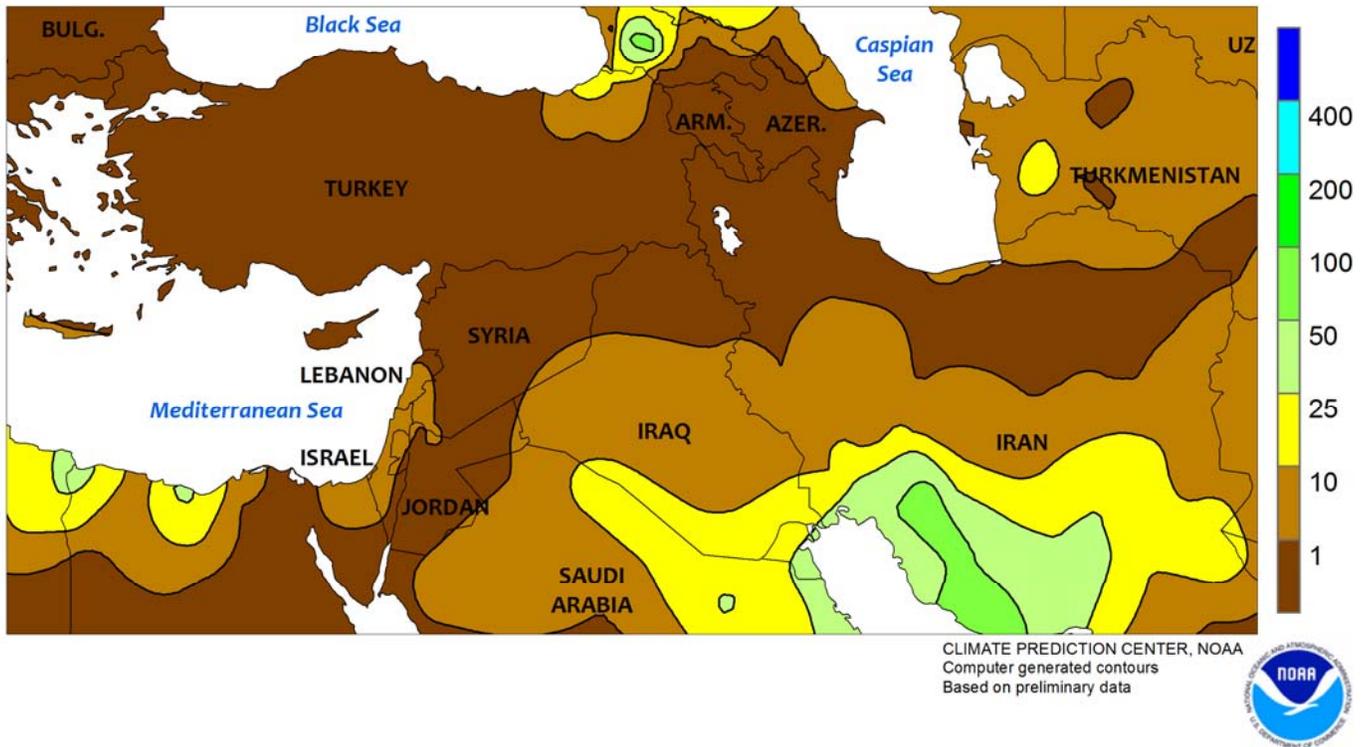


WESTERN FSU

Above-normal temperatures kept the region uncharacteristically devoid of snow cover and reduced winter crop cold hardiness. Widespread showers (generally 5-25 mm) sustained or improved soil moisture reserves from Belarus and northern Ukraine into central and southern Russia. However, temperatures for the week averaged 7 to 11°C above normal,

which kept most primary winter wheat areas lacking a protective snow cover. The widespread abnormal warmth reduced winter crop cold hardiness and likely encouraged some additional vegetative growth in the warmest locales of Ukraine and southern Russia, though winter wheat was still dormant in the colder central and northern growing areas.

MIDDLE EAST
Total Precipitation (mm)
DEC 20 - 26, 2015

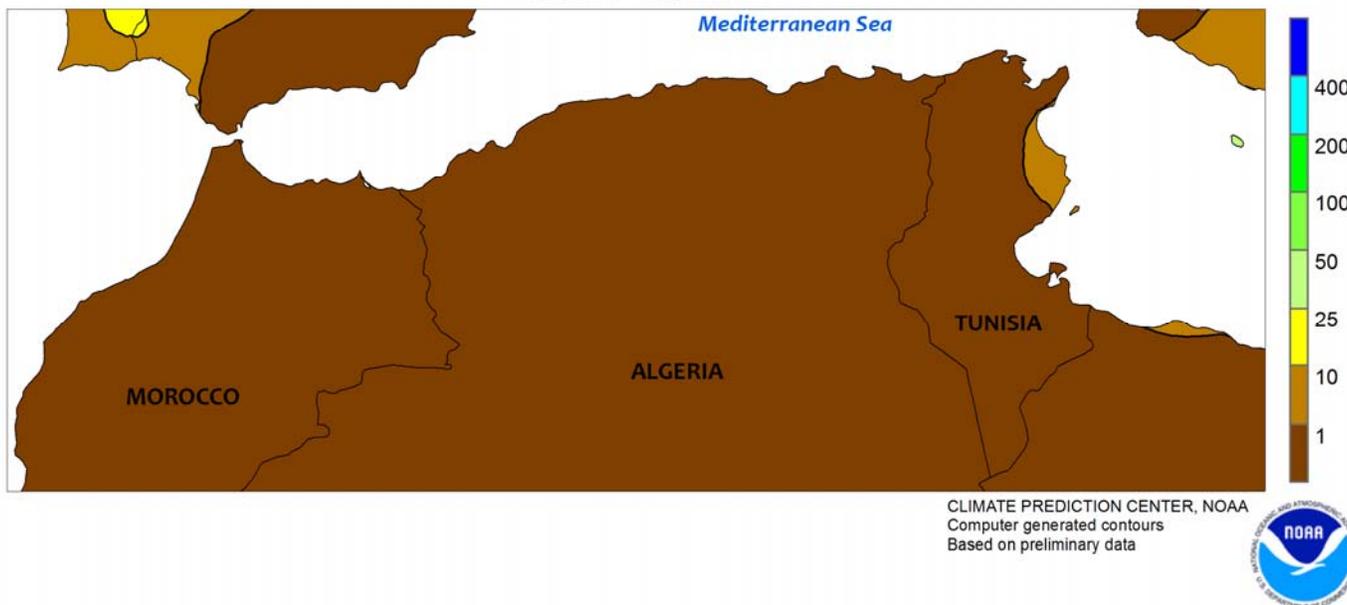


MIDDLE EAST

Seasonably cool weather lingered over much of the region, with developing short-term drought in the west contrasting with additional precipitation in southern crop areas. Another week of near- to below-normal temperatures kept winter wheat and barley dormant across central Turkey and much of western and northern Iran. However, increasingly dry autumn weather in Turkey likely limited winter grain establishment; precipitation on the Anatolian Plateau has averaged 10 to 30

percent of normal over the past 60 days, with rapidly mounting deficits. Meanwhile, unseasonable moderate to heavy rain (10-50 mm, locally more) developed over southern Iran late in the period, providing supplemental moisture for irrigated winter grains. Elsewhere, dry, mild conditions promoted winter wheat development from the eastern Mediterranean into Iraq as well as northeastern Iran, though localized moisture shortages were noted along the eastern Mediterranean Coast.

NORTHWESTERN AFRICA
Total Precipitation (mm)
DEC 20 - 26, 2015

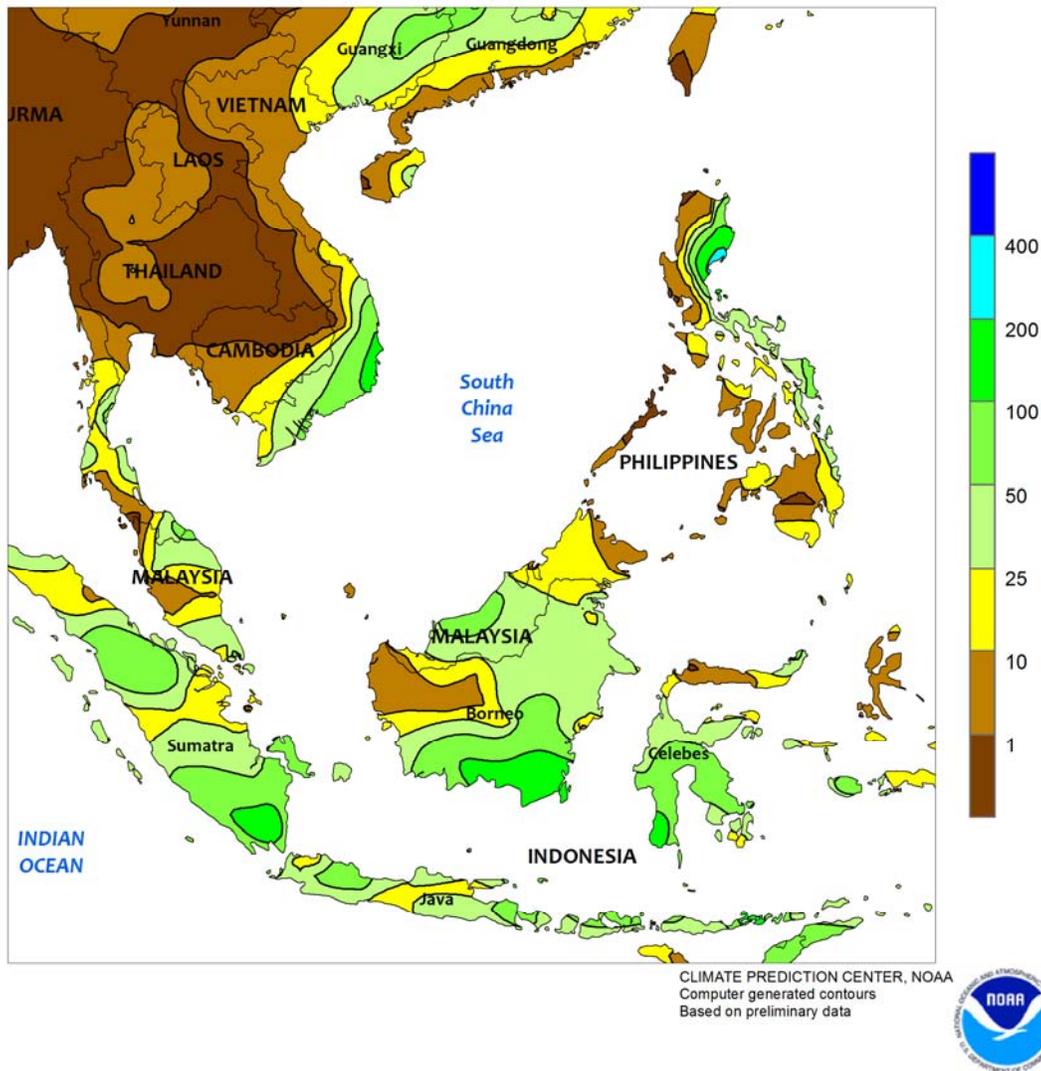


NORTHWESTERN AFRICA

Drought intensified and expanded eastward, with rapidly declining conditions for winter grain establishment noted across the western half of the region. In Morocco, intensifying drought resulted in parched soils unable to sustain winter wheat and barley development. Most of the country’s crop areas have averaged a paltry 10 to 25 percent of normal rainfall over the past 60 days, coinciding with winter grain sowing and emergence. The drought continued to expand into central Algeria, where another week without rain (25-50 percent of normal over the past 60 days) has left soils too dry for proper crop establishment. In addition, temperatures up to 4°C above

normal increased evapotranspiration rates and crop-water demands. Satellite-derived vegetation health data confirmed rapidly deteriorating conditions from Morocco into central Algeria. Dry weather also prevailed across eastern Algeria and northern Tunisia, though these eastern crop districts are still able to draw on soil moisture reserves from locally heavy late-November rainfall. Consequently, favorable prospects for winter grain establishment in eastern Algeria and Tunisia were in sharp contrast to drought-afflicted areas to the west, though these eastern locales will need rain soon to maintain soil moisture for crop development.

SOUTHEAST ASIA
Total Precipitation (mm)
DEC 20 - 26, 2015

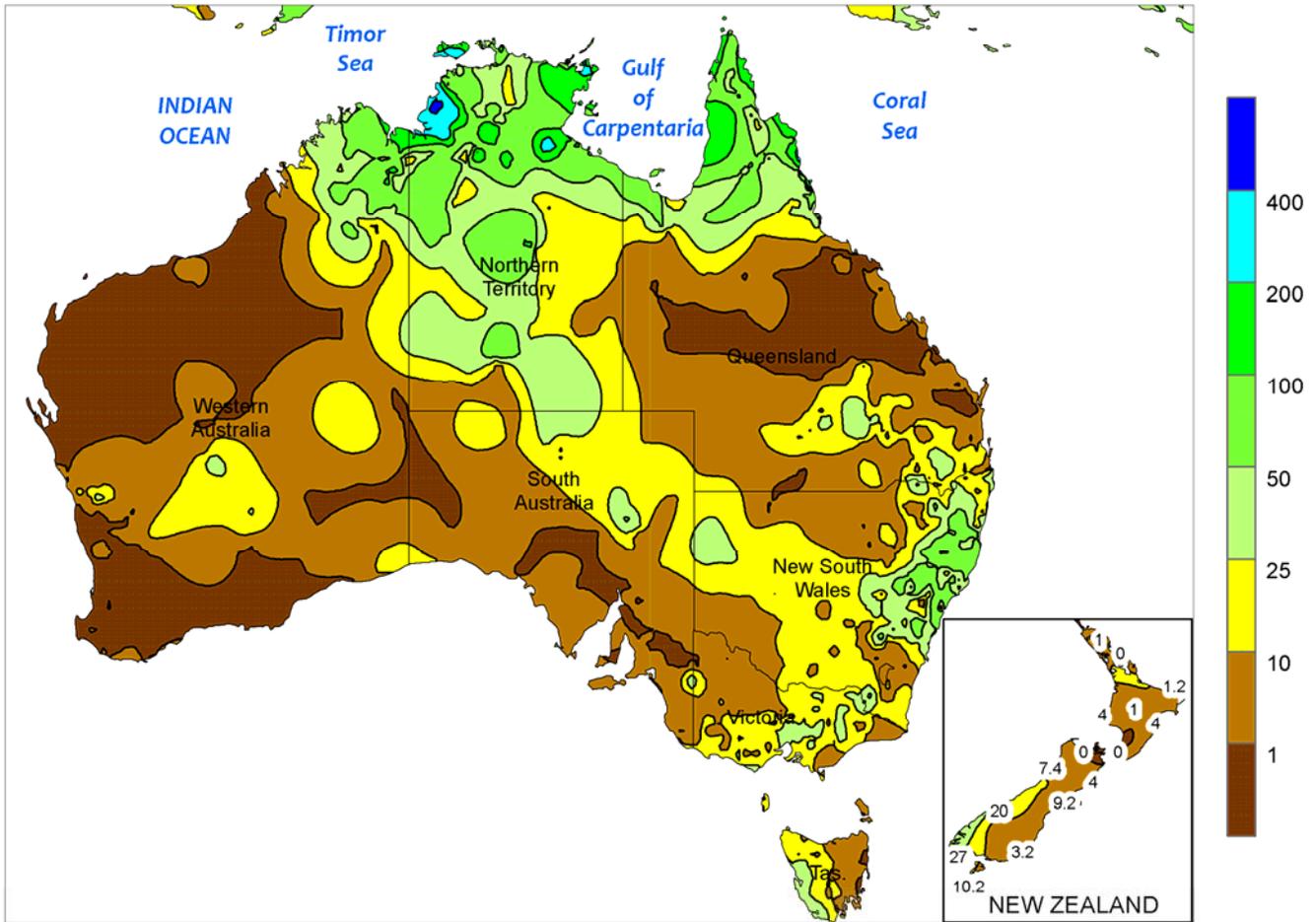


SOUTHEAST ASIA

Showers (25-50 mm or more) overspread much of Java, Indonesia, boosting soil moisture and water reserves for rice. The rainfall was particularly beneficial in eastern Java, where seasonal rainfall has been trending well below the long-term average. In oil palm areas of Indonesia and Malaysia, widespread showers (50-75 mm or more) continued to improve soil moisture for trees, although pockets of lesser amounts existed. Meanwhile in the Philippines, unusually heavy showers

(over 200 mm) in the northeast exacerbated wetness in areas flooded by Typhoon Melor, while also slowing recovery efforts. Showers were also unusually heavy in the southern half of Vietnam, where amounts exceeded 100 mm. The rainfall boosted soil moisture and irrigation supplies for winter-spring rice grown in the Mekong Delta. In Thailand, temperatures remained upwards of 4° C above normal, increasing irrigation demands for rice from already limited water supplies.

AUSTRALIA
Total Precipitation (mm)
DEC 20 - 26, 2015



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

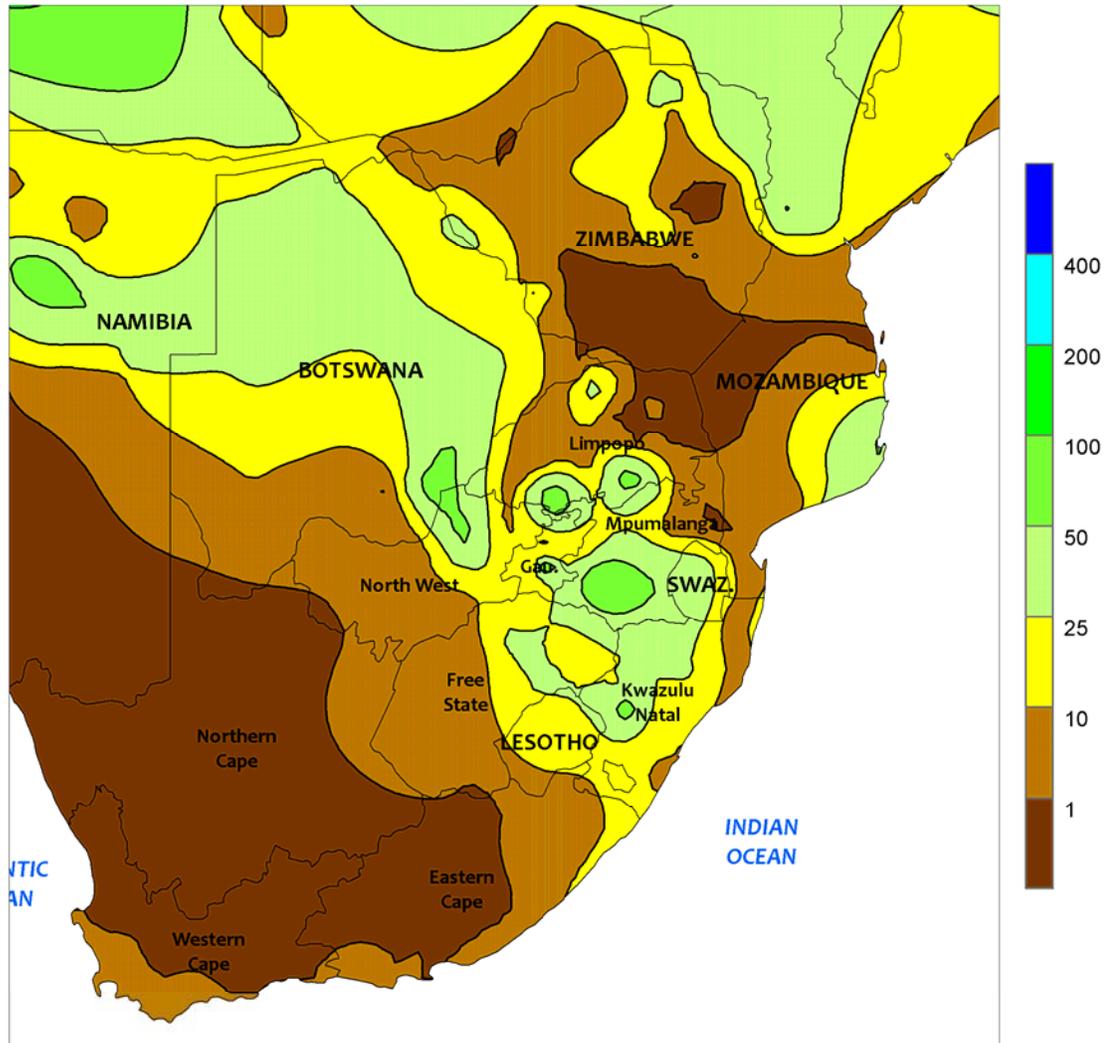


AUSTRALIA

Widespread showers (10-50 mm) in eastern Australia continued to favor cotton and sorghum development, further increasing moisture supplies while simultaneously reducing irrigation demands. Seasonably warm weather benefited summer crops too, helping minimize stress on crops which are mostly in the vegetative stages of development. The rain likely slowed late winter grain harvesting in southern New

South Wales and eastern Victoria, but the harvest is reportedly well advanced in these areas, limiting the overall negative impacts on crop quality and production. Elsewhere in the wheat belt, hot, dry weather in South Australia and Western Australia allowed winter grain harvesting to proceed without delay. Wheat and barley harvesting is rapidly approaching completion in these latter states as well.

SOUTH AFRICA
Total Precipitation (mm)
DEC 20 - 26, 2015



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

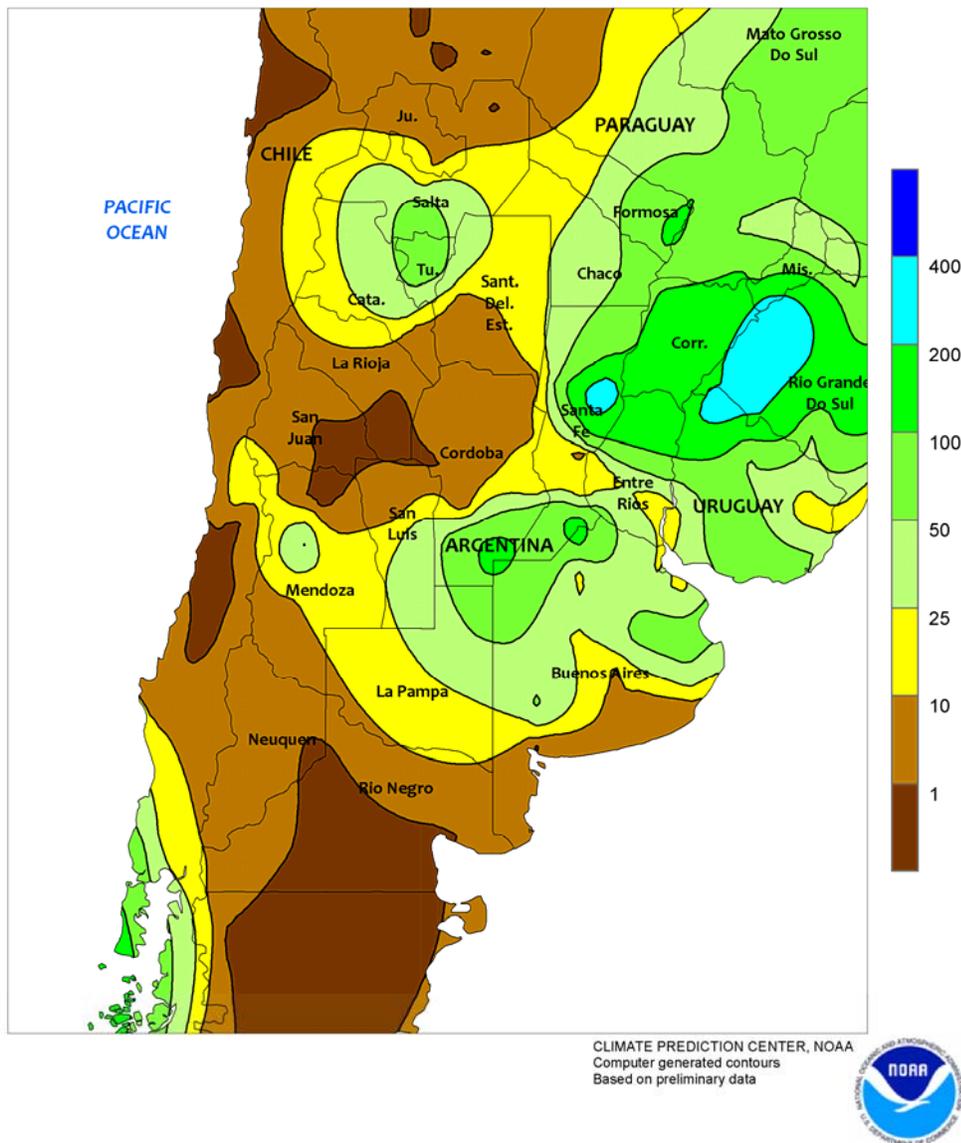


SOUTH AFRICA

Above-normal temperatures persisted across the corn belt, exacerbating the effects of dryness on summer crop planting. The hardest hit region continued to be western production areas (North West and central Free State), where weekly temperatures averaged 5 to 6°C above normal (daytime highs reaching the upper 30s degrees C) and most areas recorded less than 10mm of rainfall. Planting should be underway in these areas but farmers are still awaiting rain before fieldwork can become widespread. More rain (10-25 mm, locally higher) fell in eastern sections of the corn belt (Mpumalanga, eastern Free State, and neighboring locations in Gauteng, Limpopo, and northern KwaZulu-Natal), although above-normal

temperatures (3-5°C above normal, with daytime highs briefly reaching the lower and middle 30s) maintained high crop moisture requirements and evaporative losses. Elsewhere, warmer- and drier-than-normal weather continued in rain-fed sugarcane areas of KwaZulu-Natal, with daytime highs reaching 40°C in some interior farming areas. Dry, seasonably hot weather also dominated the Cape Provinces, maintaining high irrigation requirements. In Western Cape, temperatures reaching the middle 30s sustained growth of irrigated tree and vine crops. In contrast, temperatures topped 40°C in parts of the Orange River Valley, posing varying degrees of stress on cotton and corn.

ARGENTINA
Total Precipitation (mm)
DEC 20 - 26, 2015

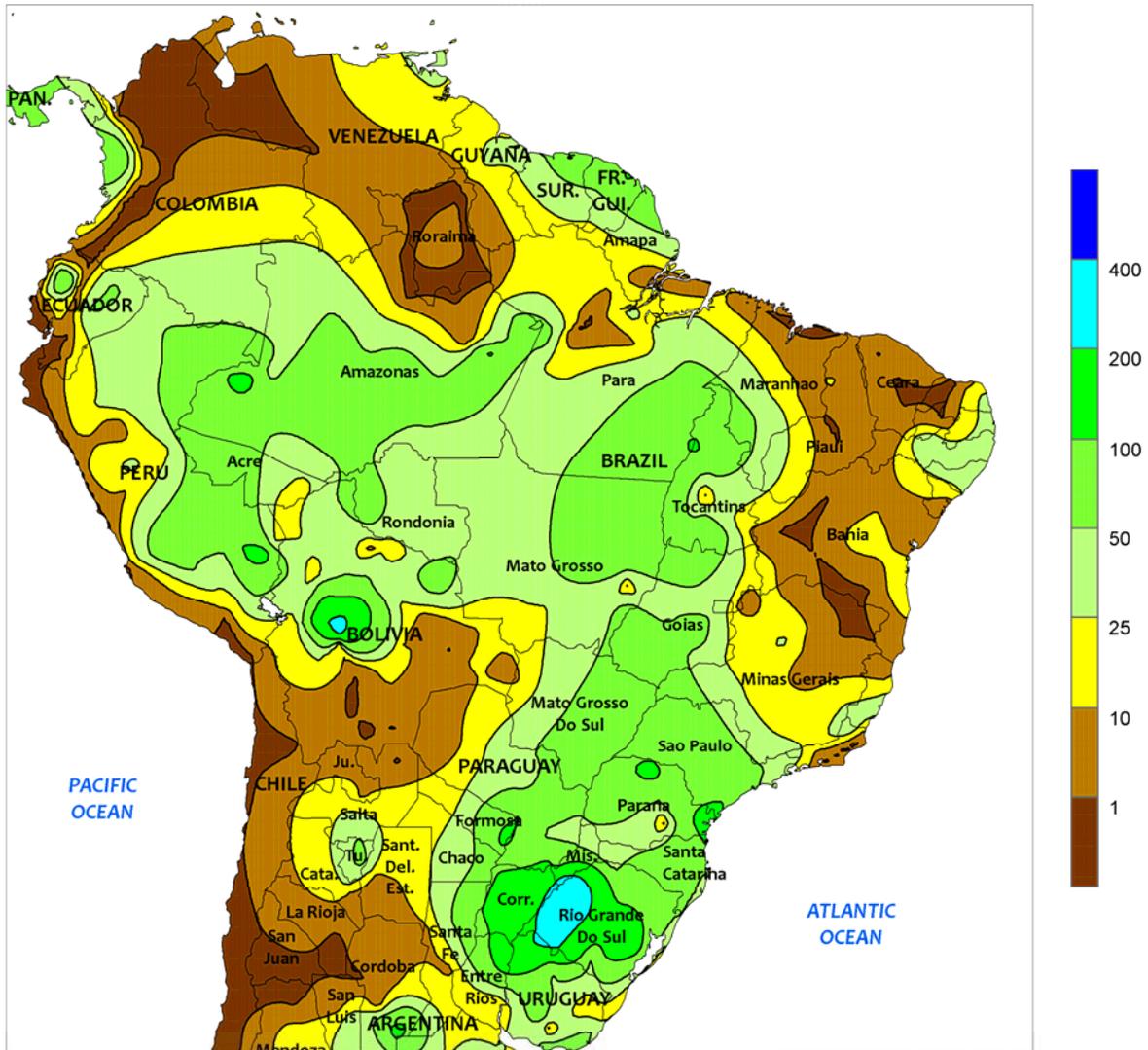


ARGENTINA

Warm, showery weather maintained overall favorable conditions for summer grains, oilseeds, and cotton. Rainfall totaled 10 to 50 mm across much of central Argentina (La Pampa, Buenos Aires, and southern sections of Cordoba, Santa Fe, and Entre Rios). However, drier conditions (less than 10 mm) prevailed across the southern winter grain belt, favoring drydown and harvesting of wheat and barley. Weekly temperatures averaged near to slightly above normal in the aforementioned areas, with daytime highs reaching the middle and upper 30s (degrees C) in western farming areas at week's end; though above normal, hot

weather is common this time of year in and around La Pampa. Elsewhere, near- to above-normal rainfall (50-100 mm) continued in the northeast (notably northern Santa Fe and eastern sections of Chaco and Formosa), maintaining adequate to abundant levels of moisture for cotton, corn, and other summer row crops. Drier conditions (3-25 mm, most areas) prevailed in the northwest, aiding harvesting of remaining winter grains. As in central Argentina, weekly temperatures averaged near to above normal across the north, with daytime highs reaching the upper 30s on several days in the traditionally warmer western farming areas.

BRAZIL
Total Precipitation (mm)
DEC 20 - 26, 2015



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



BRAZIL

Much-needed rain returned to key soybean and cotton areas of central Brazil, ending a spell of unfavorable warmth and dryness. Most Center-West farming areas (Mato Grosso, Goias, and Mato Grosso do Sul) recorded 25 to 100 mm; while still below normal in many areas, the rainfall helped to bring temperatures down to more seasonable levels, though highs still periodically reached the upper 30s (degrees C) in sections of Mato Grosso. Showers also intensified over the northeastern interior (Tocantins and agricultural areas of Maranhao and Piaui), though mostly dry weather persisted at the eastern edge of the growing areas (notably western Bahia and neighboring locations in Goias and Minas Gerais). The impacts of the northeastern dryness were compounded by the continuation of

unseasonable warmth (weekly temperatures averaging 3-6°C above normal, with daytime highs reaching the upper 30s on several days). Similar departures from normal temperatures were recorded in sugarcane and coffee areas of Sao Paulo and southern Minas Gerais, although daytime highs were generally limited to the lower 30s. Mostly dry weather accompanied the warmth in southern Minas Gerais — limiting moisture for coffee development — but amounts increased toward the south, with most areas from Sao Paulo to Rio Grande do Sul receiving at least 50 mm, maintaining abundant levels of moisture for soybeans, corn, and other summer crops. In western Rio Grande do Sul, however, heavy rain (amounts in excess of 200 mm) caused flooding of low-lying farmlands.

2015 Bulletin Index Volume 102

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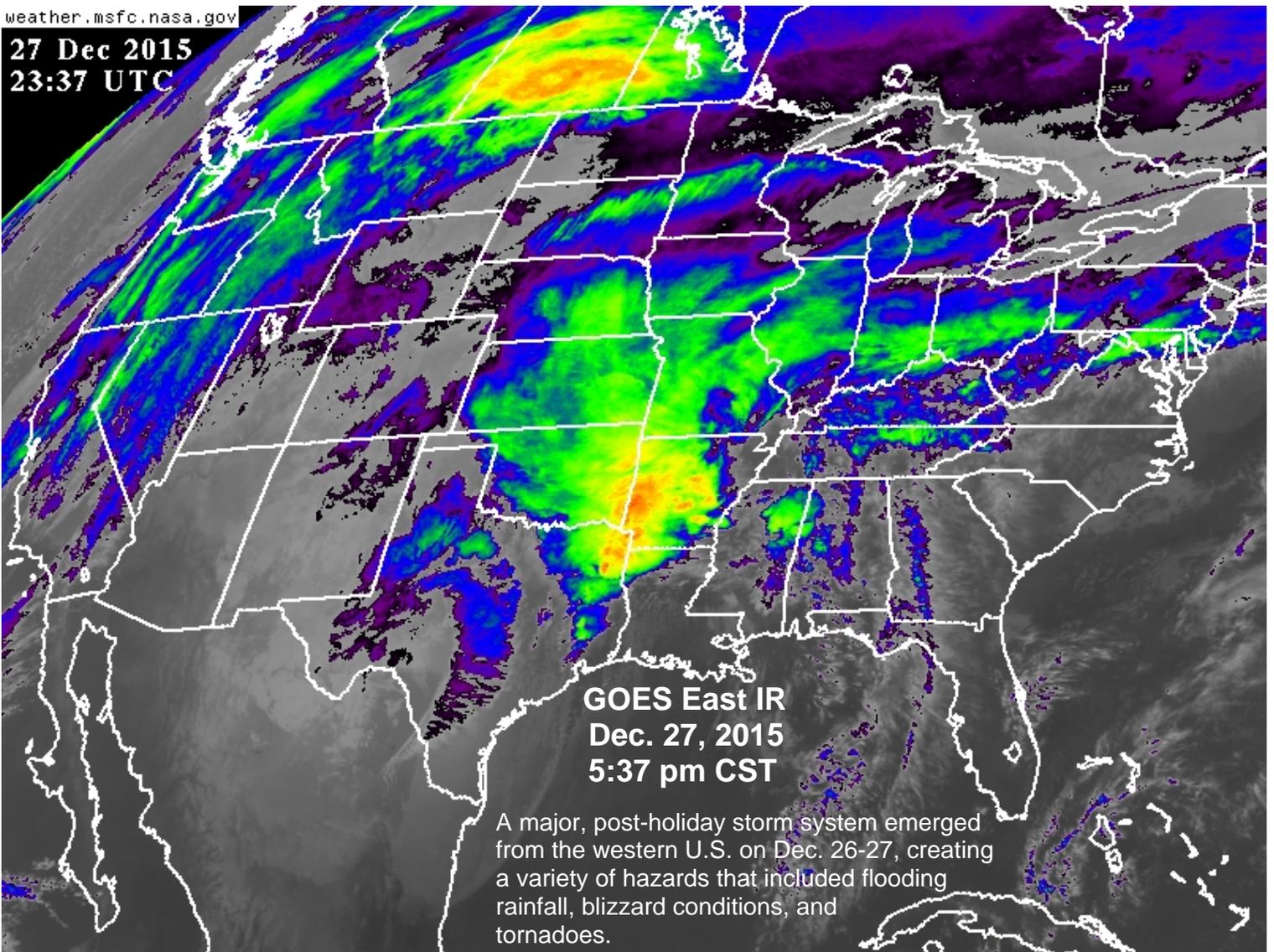
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27 Dec 2015
23:37 UTC



GOES East IR
Dec. 27, 2015
5:37 pm CST

A major, post-holiday storm system emerged from the western U.S. on Dec. 26-27, creating a variety of hazards that included flooding rainfall, blizzard conditions, and tornadoes.

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