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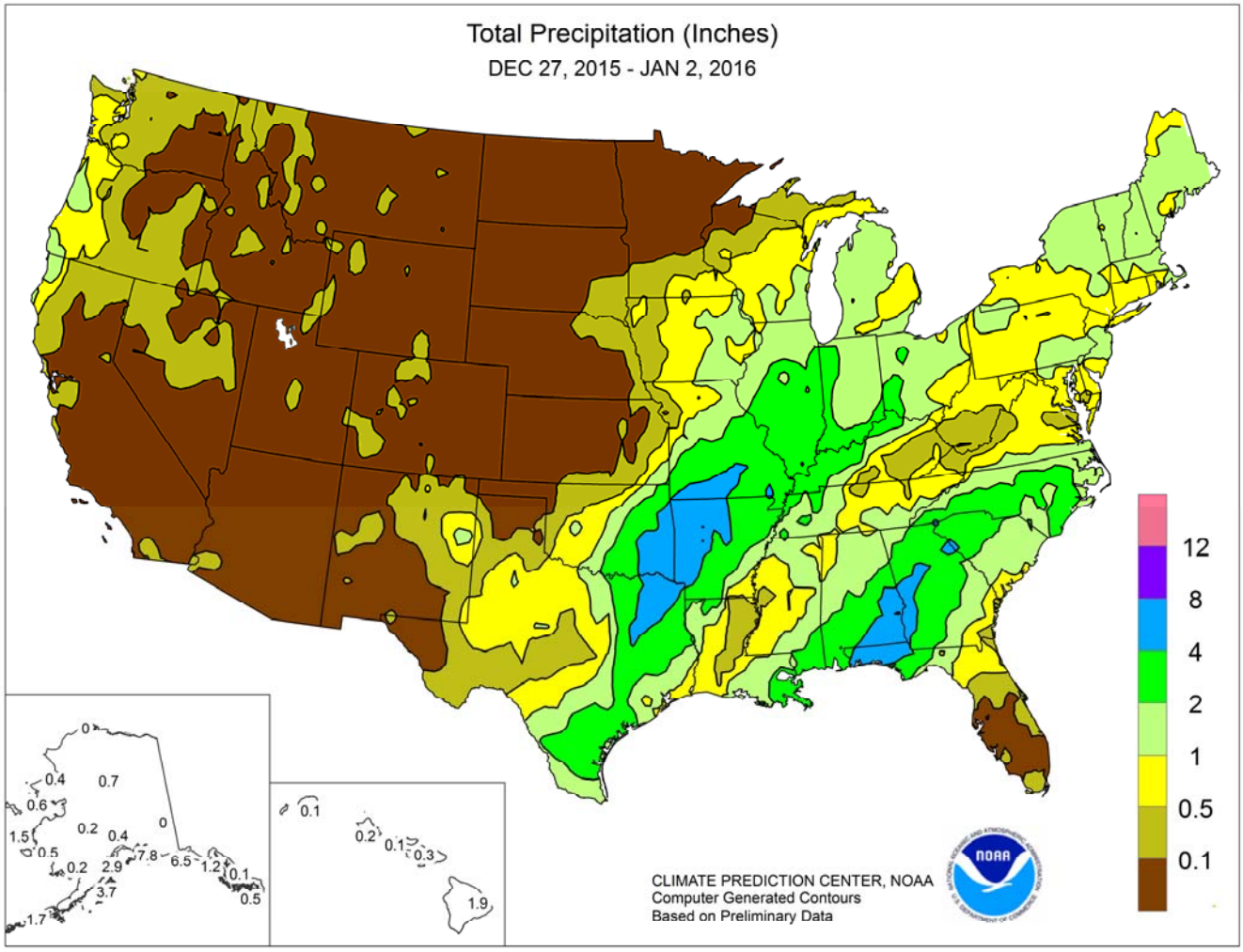
WEEKLY WEATHER AND CROP BULLETIN

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 27, 2015 – January 2, 2016

Highlights provided by USDA/WAOB

Torrential rainfall continued early in the week from **northeastern Texas into the lower Midwest**, culminating in some of the most significant flooding on record in the **middle Mississippi Valley**. Downpours also persisted in the **Southeast**, leading to varying degrees of flooding from **western Florida and southern Alabama into parts of the Carolinas**. Record-setting warmth preceded and accompanied the wet weather, boosting temperatures 10 to 20°F above normal across the **Southeastern and Mid-Atlantic States**. The mild spell capped the warmest

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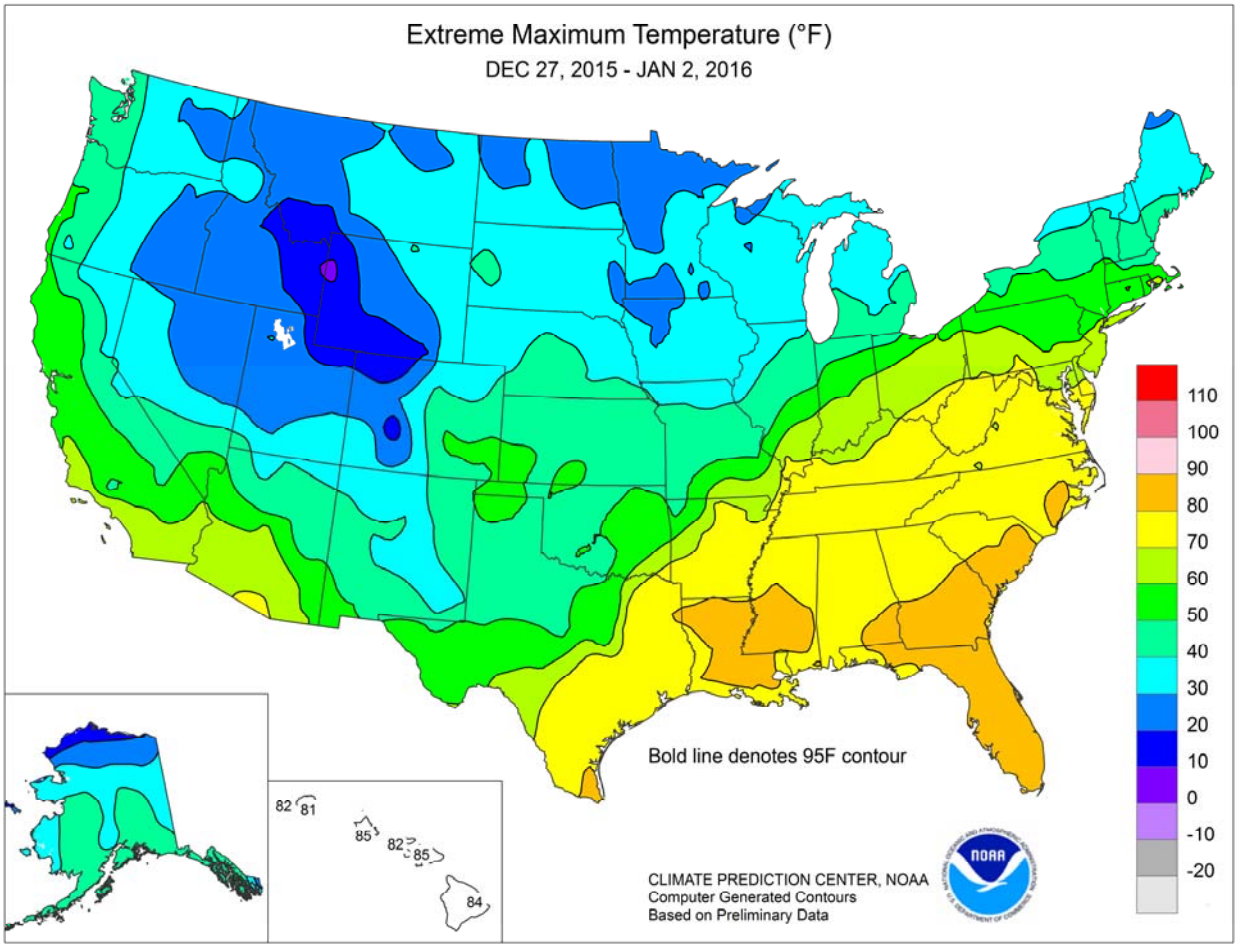
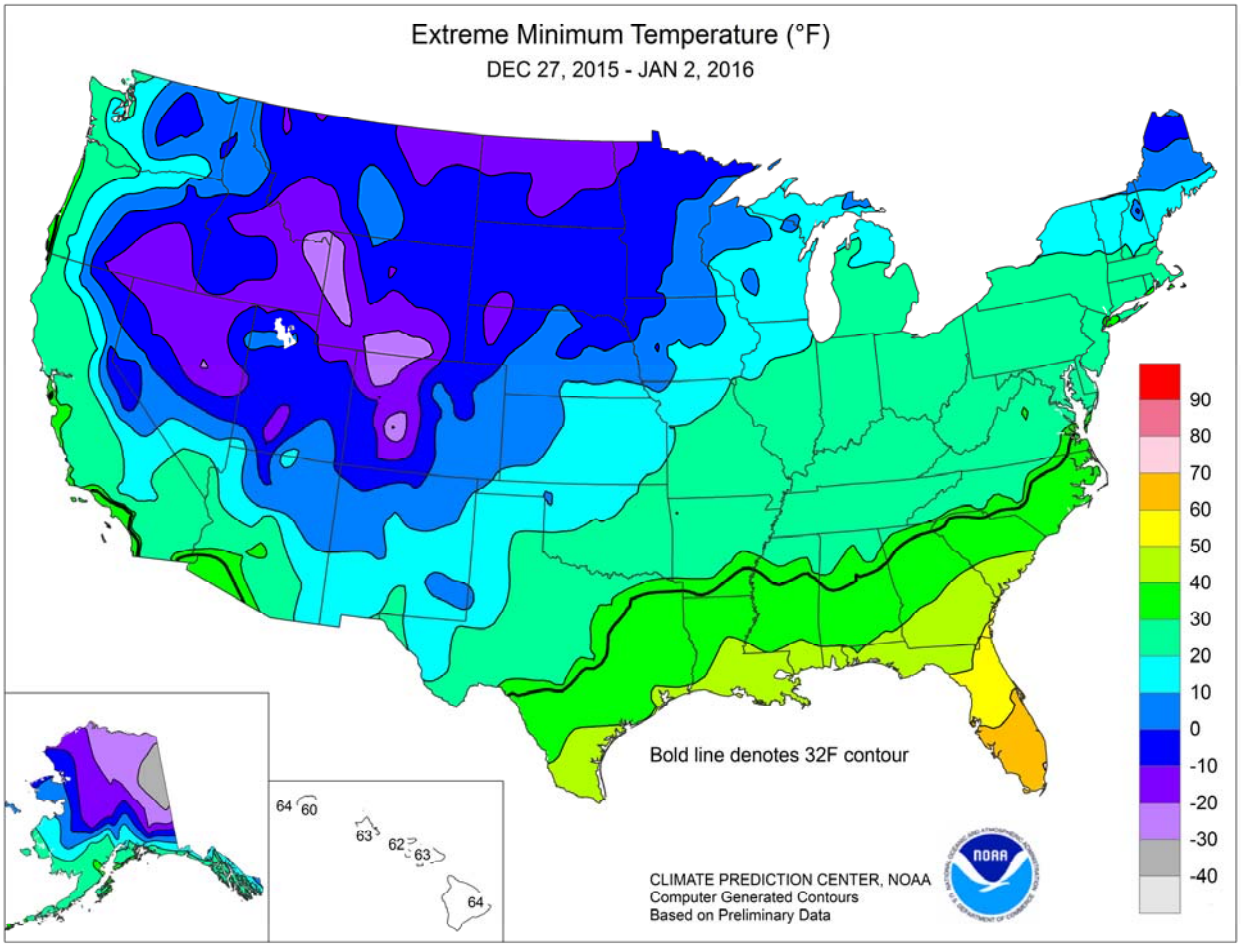
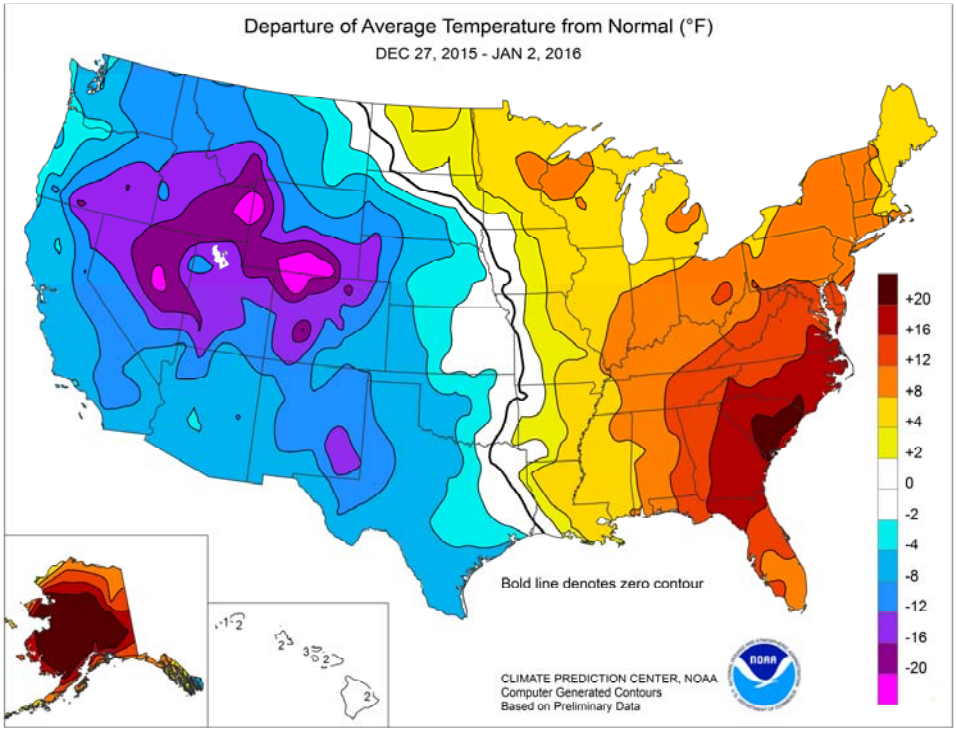

Extreme Maximum Temperature (°F)
DEC 27, 2015 - JAN 2, 2016
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95F contour
82
81
85
82
85
84
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data


Extreme Minimum Temperature (°F)
DEC 27, 2015 - JAN 2, 2016
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32F contour
64
60
63
62
63
64
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data

(Continued from front cover)

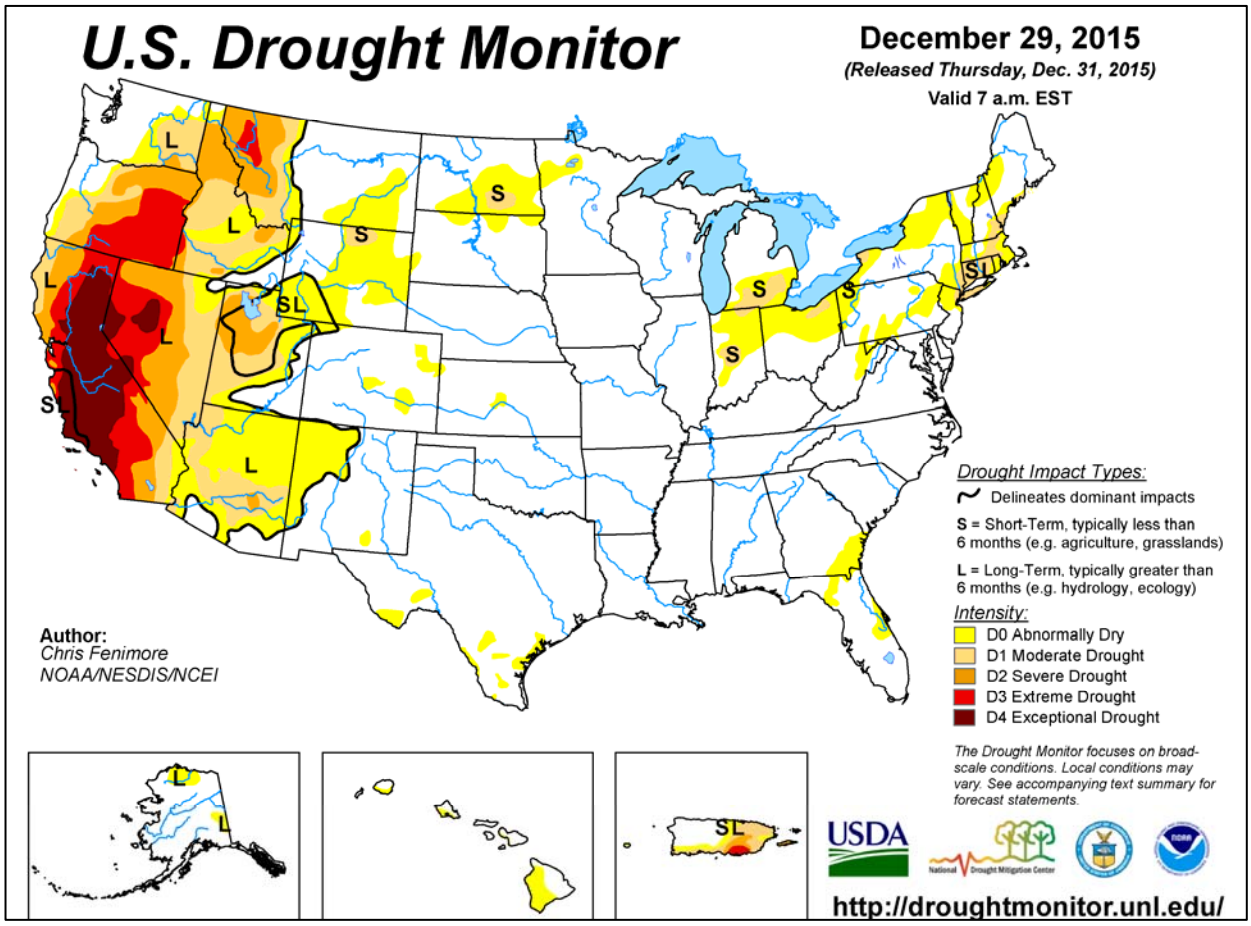
December on record for a multitude of communities in the **Great Lakes and Eastern States**. In contrast, frigid air engulfed the **western half of the U.S.** In fact, weekly temperatures averaged more than 20°F below normal at several locations across the **Intermountain West**. Across the **southern High Plains**, heavy snow and high winds resulted in blizzard conditions in advance of the cold outbreak. The snowy, windy, cold weather caused significant livestock mortality and caused major travel disruptions. The remainder of the **nation's mid-section** experienced mostly dry weather, although much of the region—excluding the **central High Plains**—retained a protective snow cover for winter wheat. Farther east, however, heavy snow blanketed portions of the **northern and western Corn Belt**, mainly on December 28. Elsewhere, only light precipitation fell across the **West** in conjunction with the cold outbreak. Much of the precipitation that occurred fell in the form of snow, with the most substantial accumulations affecting the **Northwest**. In particular, the snow helped to provide moisture and insulation for **Northwestern** winter grains.

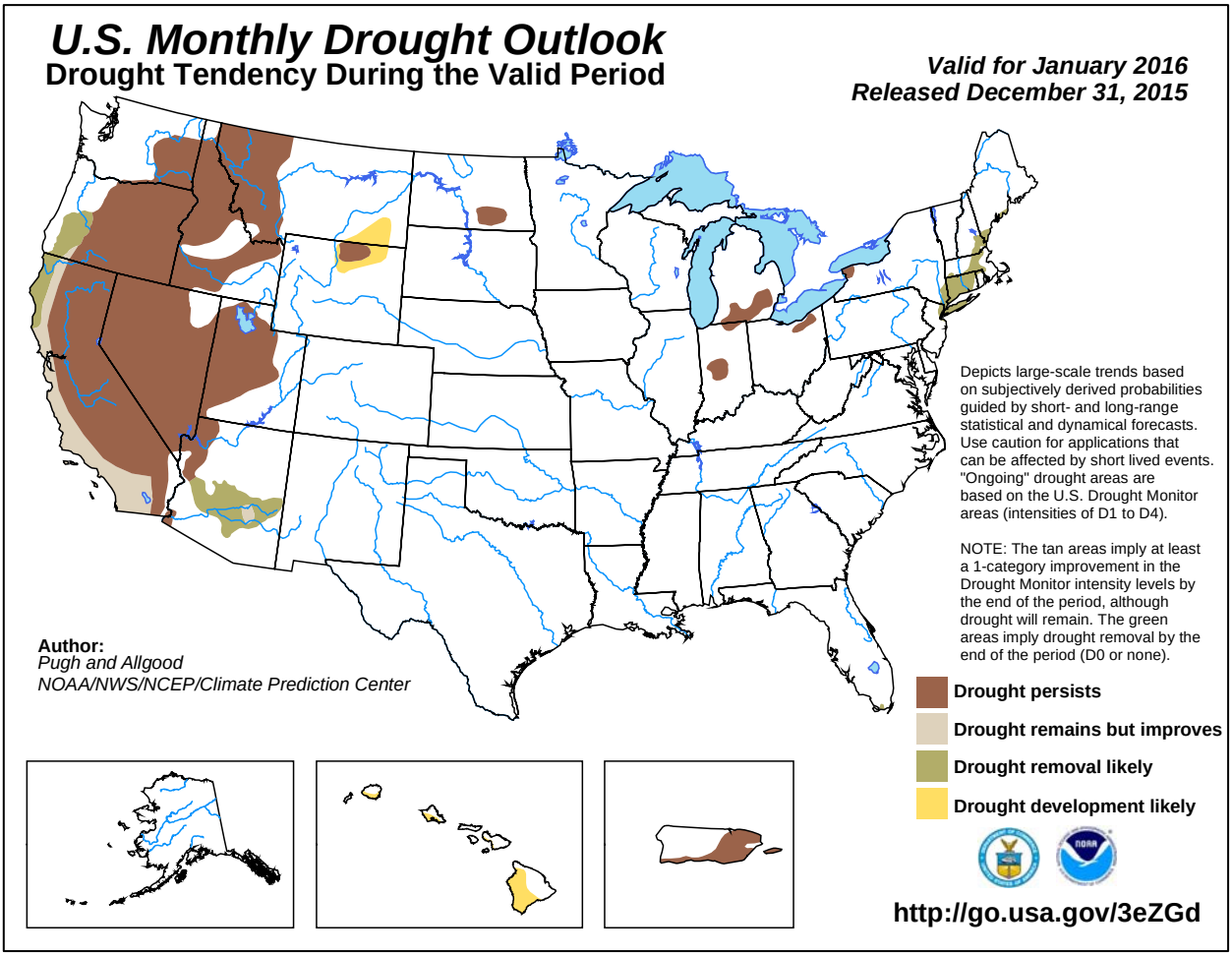


The week began with a blizzard in progress across the **southern High Plains**. **Lubbock, TX**, received 11.2 inches of snow on December 26-27, all but 0.2 inch of which fell on the latter date. On the 27th, a northerly wind gust to 61 mph accompanied **Lubbock's** snow. It was **Lubbock's** greatest storm-total snowfall since January 20-21, 1983, when 16.9 inches fell. Elsewhere in **Texas**, December 27 snowfall (and peak wind gusts) reached 7.6 inches (and 44 mph) in **Midland**; 4.8 inches (and 55 mph) in **Childress**; 3.8 inches (and 58 mph) in **Amarillo**; and 3.1 inches (and 43 mph) in **San Angelo**. December 26-27 snowfall reached 15.6 inches in **Roswell, NM**, and 8.1 inches in **El Paso, TX**. **Roswell** also endured its snowiest calendar day on record, with 12.4 inches on December 27 (previously, 11.5 inches on February 5, 1988). Meanwhile, a major winter flood event unfolded across the **middle Mississippi Valley** and environs. From December 26-28, rainfall in **St. Louis, MO**, totaled 9.18 inches. December precipitation records were broken in **Missouri** locations such as **Springfield** (11.43 inches), **St. Louis** (11.74 inches), **Vichy-Rolla** (10.32 inches), and **Joplin** (9.77 inches). Several **Midwestern** communities, including **Waterloo, IA** (5.92 inches); **Omaha, NE** (5.26 inches); and **La Crosse, WI** (4.93 inches), also set December precipitation records. December 27 featured impressive daily-record rainfall amounts in **Fayetteville, AR** (6.49 inches); **Ft. Smith, AR** (5.63 inches); **Tyler, TX** (5.09 inches); and **McAlester, OK** (4.68 inches). Daily-record totals for December 28 included 1.96 inches in **Lincoln, IL**; 1.53 inches in **Paducah, KY**; 1.45 inches in **South Bend, IN**; and 1.25 inches in **Muskegon, MI**. Farther northwest, record-setting snowfall amounts for December 28 reached 10.1 inches in **Waterloo, IA**, and 9.0 inches in **Milwaukee, WI**. Heavy **Southeastern** rainfall lingered through December 30, when daily-record totals included 2.89 inches in **Pensacola, FL**, and 2.66 inches in **Athens, GA**. Toward week's end, a chilly rain event across **southern Texas** led to January 1-2 totals of 1.87 inches in **Laredo** and 1.76 inches in **Corpus Christi**. Even after **Midwestern** rain ended, flooding persisted for days. Along the **Meramec River**, all-time crest records from December 1982 were broken on December 30 or 31 by at least 2 to 4 feet in **Missouri** locations such as **Eureka**, **Valley Park**, and **Arnold**. In **St. Louis**, the **Mississippi River** crested 12.58 feet above flood stage on December 31—the third-highest level in that location behind the high-water marks of August 1993 and April 1973. However, all-time **Mississippi River** crest records were set on January 1 in **Cape Girardeau, MO** (16.86 feet above flood stage, surpassing August 1993 by 0.37 foot), and on January 2 in **Thebes, IL** (14.74 feet above flood stage, surpassing May 1995 by 1.83 feet). Meanwhile in **Texas**, the **Trinity River near Oakwood** experienced its third top-fifteen flood of the year on December 31, cresting 12.08 feet above flood stage; higher crests had occurred on May 30 and October 27. And, the **Flint River in Newton, GA**, achieved its highest crest (8.35 feet above flood stage) since March 1998.

Stunning winter warmth continued early in the week across the **eastern U.S.** and lingered for several days across the **lower Southeast**. In **Georgia**, **Alma** tied a monthly record high with readings of 83°F on December 24, 27, 28, and 30. **Muscle Shoals, AL**, also tied a monthly record high on December 27 with a reading of 78°F. On December 28, **Jacksonville, FL**, set a monthly record with a high of 85°F. With highs ranging from 83 to 86°F, **Tampa, FL**, set or tied daily-record highs on 8 consecutive days from December 24-31. Elsewhere in **Florida**, **Key West's** temperature stayed above 75°F on 11 days in a row from December 22 – January 1, including monthly record-high minima of 79°F on December 25 and 27-31. In stark contrast, frigid conditions engulfed snow-covered sections of the **Intermountain West**. **Randolph, UT**, notched a daily-record low of -26°F on December 27, followed by consecutive records (-31 and 28°F, respectively) on January 1-2. Consecutive daily-record lows were reported on December 27-28 in **Wyoming** locations such as **Laramie** (-24 and -23°F) and **Rawlins** (-21°F on both days). In **Nevada**, **Eureka** logged consecutive daily-record lows (-18 and -21°F, respectively) on December 31 and January 1. In **California**, daily-record lows for December 27 included 30°F in **Oakland** and 36°F in downtown **Los Angeles**. The following day in **southern California**, record-setting lows for December 28 dipped to 19°F in **Barstow-Daggett** and 21°F in **Thermal**. Windy weather, with local gusts above 70 mph, accompanied the cool surge into **southern California**. In **Ventura County, CA**, a 1,300-acre fire helped to push the nation's preliminary annual wildfire total to 10.13 million acres, surpassing the 2006 standard of 9.87 million acres.

Across a large section of **interior Alaska**, weekly temperatures averaged 10 to 30°F above normal. **Anchorage** noted consecutive daily-record highs (46 and 45°F, respectively) on December 29-30. Other record-setting highs for December 30 included 47°F in **McGrath**; 45°F in **Fairbanks**; and 38°F in **Nome**. Meanwhile, occasional precipitation accompanied the mild weather. In the **Aleutians**, **Cold Bay** received 7.1 inches of snow on December 29-30. Weekly snowfall totaled 4.4 inches in **Bethel** and **Nome**. In **Yakutat**, the weekly precipitation total of 6.57 inches was aided by a daily-record sum (2.10 inches) on December 30. Farther south, the month and year ended quietly in **Hawaii**. On the **Big Island**, most (12.41 of 14.10 inches) of **Hilo's** monthly rain fell in a 15-day period from December 14-28. At the state's other major airport observation sites, December rainfall ranged from 0.27 inch (8 percent of normal) in **Honolulu, Oahu**, to 1.42 inches (27 percent) in **Lihue, Kauai**.


U.S. Drought Monitor
December 29, 2015
(Released Thursday, Dec. 31, 2015)
Valid 7 a.m. EST
Author:
Chris Fenimore
NOAA/NESDIS/NCEI
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.
USDA
http://droughtmonitor.unl.edu/


U.S. Monthly Drought Outlook
Drought Tendency During the Valid Period
Valid for January 2016
Released December 31, 2015
Author:
Pugh and Allgood
NOAA/NWS/NCEP/Climate Prediction Center
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).
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).
Drought persists
Drought remains but improves
Drought removal likely
Drought development likely
http://go.usa.gov/3eZGd

National Weather Data for Selected Cities

Weather Data for the Week Ending January 2, 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. °F		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	59	47	77	32	53	10	1.54	0.44	1.33	10.61	221	0.00	0	93	64	0	1	2	1
	HUNTSVILLE	58	46	77	30	52	12	0.95	-0.29	0.90	10.68	180	0.00	0	81	67	0	1	2	1
	MOBILE	63	52	78	41	58	8	2.85	1.78	1.84	12.56	252	0.16	50	94	79	0	0	5	2
	MONTGOMERY	64	52	79	37	58	11	4.02	3.00	1.98	12.48	237	0.00	0	86	64	0	0	3	2
AK	ANCHORAGE	39	28	46	17	34	17	0.09	-0.10	0.05	0.25	23	0.01	20	84	72	0	5	4	0
	BARROW	1	-11	12	-22	-5	8	0.00	0.00	0.00	0.02	17	0.00	0	87	75	0	7	0	0
	FAIRBANKS	27	1	45	-19	14	22	0.00	-0.15	0.00	0.00	0	0.00	0	87	74	0	7	0	0
	JUNEAU	38	31	43	21	34	7	1.17	-0.03	0.54	3.10	54	0.69	203	93	80	0	4	5	1
	KODIAK	43	36	45	30	39	9	3.71	1.85	1.02	13.00	159	0.77	143	96	79	0	1	7	3
	NOME	31	22	38	6	27	21	0.55	0.36	0.24	0.81	76	0.01	17	92	74	0	7	5	0
AZ	FLAGSTAFF	34	10	40	3	22	-7	0.00	-0.41	0.00	0.90	46	0.00	0	89	46	0	7	0	0
	PHOENIX	62	39	70	35	50	-3	0.00	-0.22	0.00	0.21	21	0.00	0	52	35	0	0	0	0
	TUCSON	60	33	70	27	47	-4	0.00	-0.25	0.00	0.47	43	0.00	0	64	41	0	5	0	0
	YUMA	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	0	0	0	0
AR	FORT SMITH	48	32	57	25	40	2	6.22	5.66	5.62	10.81	305	0.00	0	85	57	0	4	2	2
	LITTLE ROCK	52	36	70	29	44	3	4.24	3.38	2.48	8.36	169	0.00	0	88	56	0	2	2	2
CA	BAKERSFIELD	53	31	57	27	42	-4	0.00	-0.20	0.00	0.58	71	0.00	0	82	68	0	5	0	0
	FRESNO	51	32	54	29	41	-3	0.00	-0.38	0.00	2.98	206	0.00	0	90	77	0	5	0	0
	LOS ANGELES	62	42	67	39	52	-5	0.00	-0.50	0.00	1.08	56	0.00	0	44	31	0	0	0	0
	REDDING	51	35	56	31	43	-2	0.05	-1.19	0.03	8.22	163	0.00	0	63	50	0	2	3	0
	SACRAMENTO	50	30	53	27	40	-5	0.01	-0.64	0.01	1.76	66	0.00	0	89	50	0	5	1	0
	SAN DIEGO	62	44	65	41	53	-4	0.20	-0.19	0.20	0.94	66	0.00	0	67	37	0	0	1	0
	SAN FRANCISCO	50	39	54	34	44	-4	0.13	-0.65	0.12	3.39	109	0.00	0	78	62	0	0	2	0
	STOCKTON	49	31	53	27	40	-4	0.11	-0.36	0.05	2.51	128	0.01	7	91	81	0	5	4	0
CO	ALAMOSA	31	-4	32	-7	14	0	0.00	-0.06	0.00	0.25	71	0.00	0	80	50	0	7	0	0
	CO SPRINGS	34	7	50	2	21	-7	0.00	-0.08	0.00	0.25	57	0.00	0	75	31	0	7	0	0
	DENVER INTL	28	5	41	0	17	-11	0.00	-0.06	0.00	0.72	218	0.00	0	76	47	0	7	0	0
	GRAND JUNCTION	23	4	28	-5	14	-12	0.03	-0.10	0.02	0.72	129	0.00	0	85	72	0	7	2	0
	PUEBLO	36	7	52	2	22	-7	0.00	-0.08	0.00	0.40	98	0.00	0	69	46	0	7	0	0
CT	BRIDGEPORT	46	35	60	30	40	8	0.34	-0.47	0.30	10.25	276	0.00	0	84	63	0	3	2	0
	HARTFORD	41	30	59	26	36	9	1.25	0.43	0.87	4.26	111	0.00	0	83	64	0	6	5	1
DC	WASHINGTON	56	42	70	32	49	13	0.90	0.18	0.38	4.83	148	0.00	0	89	66	0	1	4	0
DE	WILMINGTON	51	38	65	25	45	12	1.01	0.24	0.71	5.20	144	0.00	0	91	65	0	2	4	1
FL	DAYTONA BEACH	81	66	85	57	73	14	0.06	-0.59	0.03	0.63	22	0.06	32	99	66	0	0	2	0
	JACKSONVILLE	78	62	85	51	70	17	0.29	-0.39	0.24	0.85	30	0.29	145	99	70	0	0	2	0
	KEY WEST	84	78	84	75	81	10	0.01	-0.49	0.01	2.80	122	0.01	7	91	76	0	0	1	0
	MIAMI	84	75	84	71	79	10	0.16	-0.25	0.07	9.94	434	0.08	73	87	70	0	0	4	0
	ORLANDO	83	66	87	58	74	13	0.00	-0.50	0.00	0.73	30	0.00	0	97	64	0	0	0	0
	PENSACOLA	65	57	76	44	61	9	0.00	-1.01	0.00	0.00	0	0.00	0	89	78	0	0	0	0
	TALLAHASSEE	74	62	81	48	69	17	2.26	1.18	1.06	5.26	119	0.45	141	94	75	0	0	5	2
	TAMPA	82	70	85	59	76	14	0.00	-0.47	0.00	0.48	20	0.00	0	94	63	0	0	0	0
	WEST PALM BEACH	83	74	84	68	79	12	0.13	-0.51	0.06	7.35	221	0.00	0	85	68	0	0	3	0
GA	ATHENS	65	53	74	36	59	17	4.62	3.70	2.67	12.15	305	0.00	0	95	79	0	0	5	2
	ATLANTA	63	52	75	35	57	14	3.21	2.29	1.54	11.88	290	0.00	0	86	69	0	0	4	2
	AUGUSTA	71	57	81	39	64	19	1.95	1.08	0.75	6.96	205	0.00	0	97	78	0	0	4	3
	COLUMBUS	67	55	79	38	61	14	5.55	4.54	2.29	17.08	364	0.00	0	92	62	0	0	5	3
	MACON	69	57	79	38	63	17	3.35	2.37	1.20	12.34	292	0.01	3	93	67	0	0	6	3
	SAVANNAH	76	63	83	49	69	20	0.48	-0.31	0.41	3.76	124	0.41	178	93	72	0	0	4	0
HI	HILO	82	66	84	64	74	2	1.87	-0.09	1.30	14.02	127	0.11	19	88	75	0	0	5	1
	HONOLULU	83	69	85	63	76	2	0.20	-0.45	0.20	0.30	10	0.00	0	82	71	0	0	1	0
	KAHULUI	82	66	85	63	74	2	0.33	-0.47	0.21	0.81	24	0.04	17	88	78	0	0	4	0
	LIHUE	80	68	81	60	74	2	0.05	-1.03	0.05	1.46	29	0.00	0	77	71	0	0	1	0
ID	BOISE	21	10	26	4	16	-13	0.01	-0.27	0.01	2.16	147	0.00	0	84	74	0	7	1	0
	LEWISTON	29	22	35	11	26	-7	0.04	-0.18	0.02	1.60	144	0.00	0	84	75	0	7	2	0
	POCATELLO	15	-6	19	-14	4	-20	0.10	-0.15	0.05	0.76	65	0.00	0	88	76	0	7	2	0
IL	CHICAGO/O'HARE	34	26	40	19	30	7	1.57	1.14	1.25	4.69	184	0.06	50	86	75	0	6	4	1
	MOLINE	33	25	39	16	29	7	1.26	0.85	1.21	4.23	183	0.00	0	82	74	0	6	4	1
	PEORIA	35	28	42	23	32	8	1.54	1.15	1.04	5.49	219	0.00	0	84	70	0	5	3	1
	ROCKFORD	32	24	38	18	28	8	1.27	0.93	1.25	4.67	217	0.00	0	84	72	0	7	3	1
	SPRINGFIELD	38	30	44	23	34	7	2.55	2.10	1.94	6.61	248	0.00	0	89	69	0	5	2	2
IN	EVANSVILLE	49	35	70	26	42	10	2.68	2.03	1.36	5.20	140	0.00	0	80	66	0	2	3	2
	FORT WAYNE	38	29	53	24	34	9	1.62	1.10	1.12	4.17	143	0.00	0	88	73	0	6	3	1
	INDIANAPOLIS	41	30	59	23	36	8	2.66	2.08	1.73	5.50	172	0.00	0	86	71	0	4	3	2
	SOUTH BEND	34	26	44	19	30	5	1.92	1.35	1.45	4.18	129	0.00	0	90	77	0	6	4	1
IA	BURLINGTON	33	25	38	20	29	5	1.47	1.12	1.43	4.61	211	0.00	0	93	72	0	6	3	1
	CEDAR RAPIDS	29	20	35	12	24	5	0.29	0.06	0.27	3.36	218	0.00	0	97	77	0	7	2	0
	DES MOINES	31	18	36	12	24	3	0.57	0.35	0.50	5.46	393	0.00	0	81	70	0	7	3	1
	DUBUQUE	28	19	36	11	24	6	0.69	0.41	0.62	3.83	216	0.00	0	90	77	0	7	3	1
	SIOUX CITY	27	9	35	-3	18	-1	0.33	0.21	0.25	2.67	381	0.00	0	81	63	0	7	3	0
	WATERLOO	27	18	33	7	23	6	0.76	0.59	0.71	5.93	511	0.00	0	85	77	0	7	3	1
KS	CONCORDIA	34	18	46	15	26	-1	0.00	-0.17	0.00	2.64	290	0.00	0	80	60	0	7	0	0
	DODGE CITY	35	16	49	11	26	-5	0.02	-0.15	0.02	2.43	296	0.00	0	79	47	0	7	1	0
	GOODLAND	36	10	47	6	23	-5	0.00	-0.09	0.00	0.17	40	0.00	0	80	48	0	7	0	0
	TOPEKA	37	23	46	19	30	2	0.24	0.00	0.17	2.74	185	0.00	0	81	67	0	7	3	0

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending January 2, 2016

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. °F		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	37	22	47	19	29	-2	0.14	-0.11	0.10	2.22	156	0.00	0	93	80	0	7	3	0
KY	JACKSON	57	37	77	25	47	12	0.15	-0.69	0.13	4.34	96	0.00	0	88	59	0	3	3	0
	LEXINGTON	53	35	70	25	44	11	1.12	0.28	0.61	7.13	167	0.00	0	83	70	0	3	3	2
	LOUISVILLE	52	37	70	30	45	11	2.88	2.13	2.21	6.42	165	0.00	0	81	63	0	2	2	2
	PADUCAH	51	35	71	24	43	9	3.75	2.97	2.11	7.50	163	0.00	0	86	62	0	3	2	2
LA	BATON ROUGE	62	50	82	42	56	6	2.10	0.86	1.03	6.43	114	0.09	25	86	59	0	0	4	2
	LAKE CHARLES	57	46	80	40	52	1	0.69	-0.44	0.54	3.01	61	0.07	21	86	62	0	0	5	1
	NEW ORLEANS	65	55	82	46	60	7	3.10	2.02	1.45	7.09	132	0.59	190	77	63	0	0	4	3
	SHREVEPORT	58	43	82	38	50	4	0.93	-0.06	0.85	2.90	60	0.00	0	85	58	0	0	2	1
ME	CARIBOU	24	12	32	0	18	6	1.01	0.29	0.47	4.91	145	0.00	0	85	67	0	7	4	0
	PORTLAND	36	25	44	17	31	7	1.79	0.85	1.12	5.30	118	0.01	4	85	64	0	7	5	1
MD	BALTIMORE	54	39	69	26	47	14	0.88	0.10	0.50	5.83	163	0.00	0	91	64	0	2	4	1
MA	BOSTON	42	30	50	24	36	5	1.39	0.56	1.02	4.28	108	0.00	0	84	62	0	4	4	1
	WORCESTER	37	26	54	21	32	7	1.36	0.47	1.00	4.65	115	0.00	0	87	63	0	7	4	1
MI	ALPENA	32	24	36	20	28	8	1.16	0.75	0.75	3.32	170	0.00	0	88	71	0	7	5	1
	GRAND RAPIDS	35	28	41	24	32	8	0.69	0.22	0.58	2.93	104	0.00	0	87	71	0	7	4	1
	HOUGHTON LAKE	31	23	35	19	27	7	0.63	0.27	0.51	3.32	179	0.00	0	88	75	0	7	3	1
	LANSING	34	28	40	24	31	8	3.42	3.05	3.03	4.86	214	0.02	20	83	71	0	7	5	1
	MUSKEGON	36	29	42	25	33	8	1.05	0.53	0.72	4.40	158	0.01	7	77	64	0	7	4	1
	TRAVERSE CITY	32	25	37	21	29	6	0.82	0.19	0.76	2.37	83	0.00	0	84	64	0	7	2	1
MN	DULUTH	24	12	30	4	18	8	0.00	-0.16	0.00	3.72	376	0.00	0	83	72	0	7	0	0
	INT'L FALLS	18	5	26	-7	11	7	0.01	-0.13	0.01	1.09	147	0.00	0	85	69	0	7	1	0
	MINNEAPOLIS	26	14	31	7	20	6	0.38	0.19	0.21	2.24	211	0.00	0	85	71	0	7	3	0
	ROCHESTER	24	13	29	7	19	6	0.64	0.47	0.48	3.15	294	0.00	0	88	80	0	7	2	0
	ST. CLOUD	24	9	30	0	16	6	0.00	-0.14	0.00	0.91	125	0.00	0	90	66	0	7	0	0
MS	JACKSON	60	47	81	38	54	9	1.23	0.01	1.20	5.87	103	0.00	0	80	56	0	0	2	1
	MERIDIAN	60	46	80	35	53	7	1.89	0.67	1.07	6.11	108	0.01	3	89	66	0	0	5	2
	TUPELO	57	44	77	30	50	9	1.88	0.58	1.27	7.38	114	0.00	0	83	63	0	1	2	2
MO	COLUMBIA	38	27	45	23	33	4	2.31	1.92	1.18	7.04	273	0.00	0	87	67	0	6	2	2
	KANSAS CITY	35	21	43	15	28	0	0.45	0.17	0.40	1.61	94	0.00	0	87	65	0	7	3	0
	SAINT LOUIS	42	32	48	27	37	7	4.40	3.91	2.64	11.74	391	0.00	0	78	66	0	5	2	2
	SPRINGFIELD	40	27	50	24	34	2	3.86	3.39	3.26	11.54	350	0.00	0	84	69	0	6	2	2
MT	BILLINGS	27	14	32	9	21	-3	0.17	0.00	0.14	0.57	79	0.00	0	75	57	0	7	2	0
	BUTTE	14	-8	20	-19	3	-14	0.06	-0.05	0.04	0.73	130	0.00	0	89	72	0	7	2	0
	GLASGOW	16	0	27	-10	8	-4	0.01	-0.07	0.01	0.82	210	0.00	0	82	74	0	7	1	0
	GREAT FALLS	24	9	29	-3	16	-6	0.12	-0.05	0.07	0.74	103	0.00	0	83	62	0	7	3	0
	HAVRE	18	0	27	-10	9	-7	0.00	-0.11	0.00	0.43	80	0.00	0	84	76	0	7	0	0
	KALISPELL	21	7	26	-12	14	-7	0.12	-0.21	0.11	2.47	142	0.00	0	93	77	0	7	2	0
	MISSOULA	19	7	23	-3	13	-9	0.13	-0.12	0.06	1.41	116	0.00	0	93	83	0	7	3	0
NE	GRAND ISLAND	29	11	41	8	20	-3	0.08	-0.03	0.06	1.89	274	0.00	0	81	65	0	7	2	0
	LINCOLN	30	15	39	7	23	0	0.06	-0.09	0.03	4.39	482	0.00	0	83	67	0	7	2	0
	NORFOLK	26	8	37	-3	17	-4	0.20	0.10	0.16	2.35	346	0.00	0	81	66	0	7	2	0
	NORTH PLATTE	34	7	47	5	21	-2	0.00	-0.08	0.00	0.28	67	0.00	0	84	37	0	7	0	0
	OMAHA	29	13	38	6	21	-1	0.35	0.21	0.32	5.33	555	0.00	0	86	70	0	7	2	0
	SCOTTSBLUFF	23	-1	34	-6	11	-13	0.00	-0.11	0.00	0.72	122	0.00	0	83	68	0	7	0	0
	VALENTINE	27	2	36	-3	15	-6	0.01	-0.05	0.01	0.76	217	0.00	0	82	67	0	7	1	0
NV	ELY	19	-8	26	-19	5	-20	0.09	-0.05	0.06	1.12	207	0.00	0	85	75	0	7	2	0
	LAS VEGAS	49	31	53	27	40	-6	0.00	-0.09	0.00	0.01	2	0.00	0	39	29	0	5	0	0
	RENO	30	18	37	9	24	-8	0.03	-0.16	0.03	0.75	80	0.00	0	73	62	0	7	1	0
	WINNEMUCCA	23	1	30	-13	12	-16	0.07	-0.11	0.06	1.81	208	0.00	0	87	74	0	7	2	0
NH	CONCORD	36	26	44	19	31	9	1.84	1.20	1.11	4.45	141	0.00	0	84	60	0	7	5	2
NJ	NEWARK	48	36	62	30	42	9	0.94	0.11	0.59	4.41	116	0.00	0	85	63	0	1	4	1
NM	ALBUQUERQUE	35	21	42	18	28	-7	0.07	-0.04	0.07	0.98	188	0.00	0	91	61	0	7	1	0
NY	ALBANY	40	30	51	22	35	11	1.46	0.91	0.86	3.69	130	0.01	6	83	63	0	4	5	1
	BINGHAMTON	38	26	51	20	32	8	1.08	0.51	0.58	2.94	92	0.01	6	92	79	0	6	6	1
	BUFFALO	38	29	48	23	33	7	1.86	1.10	0.69	3.04	76	0.13	62	86	68	0	6	6	2
	ROCHESTER	39	29	50	23	34	8	1.23	0.69	0.59	2.79	97	0.04	27	84	70	0	5	6	1
	SYRACUSE	39	28	50	22	33	8	1.49	0.91	0.54	4.70	143	0.08	47	94	73	0	4	6	1
NC	ASHEVILLE	60	46	71	29	53	17	2.27	1.48	1.68	8.75	242	0.00	0	87	66	0	1	4	1
	CHARLOTTE	66	51	76	30	58	16	3.69	2.89	2.03	8.72	255	0.00	0	89	68	0	1	5	2
	GREENSBORO	61	45	74	29	53	15	1.96	1.23	1.04	6.61	202	0.00	0	93	76	0	1	5	2
	HATTERAS	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	0	0	0	0
	RALEIGH	65	51	76	32	58	18	2.52	1.74	1.80	6.05	185	0.00	0	89	75	0	1	4	1
	WILMINGTON	72	58	81	37	65	19	2.41	1.50	1.15	5.92	146	0.31	115	96	68	0	0	5	1
ND	BISMARCK	21	8	33	-14	14	3	0.00	-0.08	0.00	0.94	204	0.00	0	82	69	0	7	0	0
	DICKINSON	21	5	31	-4	13	-2	0.02	-0.04	0.02	0.28	78	0.00	0	85	68	0	7	1	0
	FARGO	20	6	30	-5	13	5	0.03	-0.11	0.03	0.51	84	0.00	0	82	69	0	7	1	0
	GRAND FORKS	19	3	29	-12	11	4	0.00	-0.13	0.00	1.07	181	0.00	0	83	68	0	7	0	0
	JAMESTOWN	17	6	29	-7	12	2	0.00	-0.11	0.00	0.15	32	0.00	0	86	73	0	7	0	0
	WILLISTON	19	3	27	-15	11	2	0.05	-0.04	0.05	0.56	95	0.00	0	79	75	0	6	1	0
OH	AKRON-CANTON	44	32	64	24	38	11	1.38	0.79	0.88	3.70	117	0.00	0	83	69	0	3	3	1
	CINCINNATI	48	34	68	27	41	10	2.99	2.30	2.22	6.09	175	0.00	0	85	72	0	3	2	2
	CLEVELAND	42	31	59	25	37	9	1.45	0.87	1.04	2.97	90	0.00	0	85	69	0	4	3	1
	COLUMBUS	48	32	66	24	40	10	1.76	1.18	1.19	4.87	157	0.00	0	86	74	0	3	3	1
	DAYTON	45	31	66	23	38	10	2.15	1.54	1.28	4.34	134	0.00	0	93	76	0	4	2	2
	MANSFIELD	43	29	64	23	36	10	1.86	1.24	1.23	4.11	120	0.00	0	93	76	0	5	4	1

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

Weather Data for the Week Ending January 2, 2016

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. °F		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	37	29	46	24	33	7	1.26	0.78	1.03	2.98	108	0.00	0	84	72	0	5	2	1
	YOUNGSTOWN	42	31	61	24	36	9	1.89	1.33	1.52	4.19	134	0.00	0	84	72	0	3	4	1
OK	OKLAHOMA CITY	39	26	50	22	33	-4	0.75	0.37	0.72	3.09	155	0.00	0	96	74	0	7	2	1
	TULSA	42	29	53	23	35	-2	3.70	3.30	2.79	8.60	339	0.00	0	87	68	0	6	2	2
OR	ASTORIA	45	34	47	30	39	-3	1.00	-1.17	0.69	20.65	188	0.00	0	79	65	0	4	3	1
	BURNS	19	-4	25	-18	8	-16	0.10	-0.18	0.06	3.41	247	0.00	0	84	77	0	7	3	0
	EUGENE	42	29	48	21	36	-3	1.45	-0.24	0.66	13.51	154	0.00	0	89	80	0	4	3	2
	MEDFORD	43	29	46	19	36	-1	0.36	-0.20	0.17	7.74	253	0.00	0	87	58	0	4	4	0
	PENDLETON	28	22	32	17	25	-8	0.02	-0.28	0.02	2.30	146	0.00	0	90	86	0	7	1	0
	PORTLAND	39	32	44	28	36	-3	0.54	-0.62	0.26	15.28	253	0.00	0	79	67	0	3	3	0
	SALEM	43	31	46	24	37	-2	0.49	-0.81	0.36	15.08	221	0.00	0	84	73	0	4	3	0
PA	ALLENTOWN	45	34	57	24	40	11	0.86	0.11	0.63	4.20	116	0.00	0	83	66	0	2	4	1
	ERIE	41	32	59	26	36	7	1.93	1.25	0.90	4.25	108	0.44	232	78	72	0	4	6	1
	MIDDLETOWN	47	37	59	27	42	12	1.24	0.62	0.60	4.27	125	0.00	0	89	64	0	1	4	1
	PHILADELPHIA	51	40	65	31	45	11	1.10	0.34	0.82	5.14	146	0.00	0	80	61	0	1	4	1
	PITTSBURGH	46	34	66	26	40	11	0.84	0.26	0.61	3.01	99	0.00	0	82	65	0	3	3	1
	WILKES-BARRE	42	33	53	29	37	9	0.67	0.17	0.35	2.35	87	0.00	0	84	64	0	4	4	0
	WILLIAMSPORT	43	34	53	25	38	11	0.83	0.25	0.49	3.34	107	0.00	0	81	66	0	2	3	0
RI	PROVIDENCE	45	31	61	27	38	8	1.12	0.18	0.70	4.69	106	0.00	0	84	60	0	5	4	1
SC	BEAUFORT	75	62	82	47	68	19	0.18	-0.65	0.08	1.94	58	0.04	17	95	72	0	0	5	0
	CHARLESTON	75	61	82	42	68	20	0.91	0.06	0.56	3.72	107	0.56	224	93	70	0	0	3	1
	COLUMBIA	72	60	80	38	66	21	1.32	0.40	0.92	6.54	179	0.00	0	86	70	0	0	4	1
	GREENVILLE	65	53	74	33	59	18	3.54	2.61	2.07	10.06	244	0.00	0	92	65	0	0	5	2
SD	ABERDEEN	23	5	34	-8	14	2	0.00	-0.09	0.00	0.65	159	0.00	0	79	70	0	7	0	0
	HURON	22	3	31	-10	13	-2	0.00	-0.08	0.00	1.85	451	0.00	0	86	72	0	7	0	0
	RAPID CITY	25	3	43	-5	14	-9	0.00	-0.08	0.00	0.56	133	0.00	0	81	58	0	7	0	0
	SIOUX FALLS	23	4	29	-4	14	-1	0.42	0.34	0.19	1.33	246	0.00	0	86	72	0	7	3	0
TN	BRISTOL	59	42	77	23	51	16	0.58	-0.16	0.48	5.12	142	0.00	0	95	61	0	2	2	0
	CHATTANOOGA	60	46	76	29	53	13	1.09	0.00	1.04	10.43	203	0.00	0	87	65	0	1	2	1
	KNOXVILLE	60	43	77	25	52	14	0.79	-0.22	0.72	6.98	146	0.00	0	92	63	0	2	2	1
	MEMPHIS	56	39	77	27	47	7	1.18	0.15	0.88	4.78	80	0.00	0	83	56	0	2	2	1
	NASHVILLE	56	41	76	24	49	11	0.68	-0.25	0.68	4.93	103	0.00	0	82	54	0	2	1	1
TX	ABILENE	42	30	46	24	36	-7	1.89	1.62	1.65	2.20	164	0.00	0	93	74	0	5	2	1
	AMARILLO	37	21	48	18	29	-6	0.09	-0.08	0.08	0.80	121	0.00	0	88	59	0	7	2	0
	AUSTIN	55	38	75	35	47	-3	1.28	0.77	0.98	2.53	98	0.23	164	86	65	0	0	4	1
	BEAUMONT	57	46	80	40	52	0	0.34	-0.93	0.25	4.15	74	0.01	3	86	61	0	0	5	0
	BROWNSVILLE	63	46	84	42	55	-5	1.53	1.31	1.13	1.64	140	1.48	2467	92	78	0	0	4	1
	CORPUS CHRISTI	58	46	78	42	52	-4	1.79	1.42	1.24	2.66	144	1.76	1760	83	67	0	0	3	2
	DEL RIO	56	38	63	33	47	-4	0.63	0.52	0.57	0.92	118	0.57	1900	85	60	0	0	2	1
	EL PASO	44	30	50	23	37	-7	0.38	0.24	0.37	1.09	135	0.00	0	86	59	0	4	2	0
	FORT WORTH	49	36	53	31	43	-1	2.33	1.78	1.78	3.85	142	0.00	0	79	56	0	1	2	2
	GALVESTON	56	46	74	41	51	-5	0.35	-0.48	0.20	3.65	97	0.14	58	86	69	0	0	4	0
	HOUSTON	56	45	78	40	51	-1	1.35	0.54	1.33	3.92	100	0.00	0	80	66	0	0	3	1
	LUBBOCK	35	23	44	17	29	-9	0.67	0.56	0.67	0.91	130	0.00	0	94	76	0	7	1	1
	MIDLAND	41	26	50	19	34	-9	0.81	0.68	0.77	1.29	190	0.04	133	90	76	0	6	2	1
	SAN ANGELO	47	32	58	26	39	-6	1.64	1.46	1.64	2.26	228	0.00	0	87	70	0	4	1	1
	SAN ANTONIO	56	40	75	37	48	-2	1.72	1.32	0.82	2.47	119	0.98	891	84	60	0	0	4	2
	VICTORIA	56	42	76	38	49	-4	1.68	1.13	1.07	2.77	105	1.17	731	95	76	0	0	4	1
	WACO	48	36	52	32	42	-4	2.30	1.78	2.23	3.62	125	0.00	0	86	70	0	1	2	1
	WICHITA FALLS	43	31	47	24	37	-4	1.31	0.98	1.01	2.62	148	0.00	0	89	70	0	5	2	1
UT	SALT LAKE CITY	23	9	28	-1	16	-13	0.04	-0.24	0.02	2.19	167	0.00	0	86	66	0	7	2	0
VT	BURLINGTON	36	26	43	16	31	11	1.44	0.99	0.94	4.54	193	0.01	8	82	65	0	6	6	1
VA	LYNCHBURG	57	38	73	26	48	13	0.78	0.03	0.41	4.96	144	0.00	0	91	68	0	2	3	0
	NORFOLK	66	51	79	35	58	17	1.27	0.49	0.74	3.38	104	0.00	0	87	64	0	0	4	1
	RICHMOND	58	43	75	28	51	14	0.49	-0.29	0.23	5.94	177	0.00	0	94	79	0	1	3	0
	ROANOKE	59	41	76	32	50	14	0.64	0.00	0.39	4.46	146	0.00	0	87	71	0	1	3	0
	WASH/DULLES	54	39	69	26	47	14	0.81	0.14	0.36	3.78	116	0.00	0	89	65	0	2	4	0
WA	OLYMPIA	40	24	42	15	32	-5	0.52	-1.12	0.45	14.50	174	0.00	0	94	91	0	5	2	0
	QUILLAYUTE	46	28	47	21	37	-3	0.34	-2.71	0.33	18.87	123	0.00	0	92	83	0	5	2	0
	SEATTLE-TACOMA	43	31	46	25	37	-3	0.40	-0.74	0.34	11.20	189	0.00	0	83	62	0	4	2	0
	SPOKANE	23	12	28	1	18	-8	0.13	-0.30	0.07	4.47	189	0.00	0	95	84	0	7	2	0
	YAKIMA	31	13	38	0	22	-6	0.24	-0.05	0.21	3.52	241	0.00	0	79	70	0	7	2	0
WV	BECKLEY	54	37	74	24	46	14	0.11	-0.58	0.07	3.53	107	0.00	0	88	61	0	3	4	0
	CHARLESTON	55	38	77	29	47	13	0.16	-0.53	0.13	5.48	156	0.00	0	87	60	0	2	2	0
	ELKINS	52	37	73	25	44	14	0.51	-0.23	0.46	4.70	129	0.00	0	87	60	0	3	3	0
	HUNTINGTON	53	35	74	26	44	10	0.25	-0.47	0.15	6.22	174	0.00	0	93	64	0	3	3	0
WI	EAU CLAIRE	26	16	31	11	21	8	0.29	0.10	0.22	2.40	220	0.00	0	87	66	0	7	2	0
	GREEN BAY	29	19	33	14	24	7	0.45	0.20	0.40	5.13	347	0.00	0	88	67	0	7	3	0
	LA CROSSE	30	19	35	11	24	7	0.73	0.53	0.62	4.22	327	0.00	0	85	61	0	7	3	1
	MADISON	30	22	36	17	26	7	0.62	0.34	0.59	3.33	191	0.00	0	85	74	0	7	2	1
	MILWAUKEE	33	25	38	19	29	7	0.95	0.54	0.90	3.84	165	0.00	0	84	70	0	6	3	1
WY	CASPER	20	3	28	-8	11	-11	0.00	-0.11	0.00	0.63	97	0.00	0	67	56	0	7	0	0
	CHEYENNE	27	1	41	-7	14	-12	0.00	-0.08	0.00	0.34	71	0.00	0	70	47	0	7	0	0
	LANDER	19	-1	23	-8	9	-11	0.00	-0.11	0.00	0.48	75	0.00	0	79	53	0	7	0	0
	SHERIDAN	28	5	41	-6	17	-4	0.02	-0.15	0.01	0.28	38	0.00	0	75	58	0	7	2	0

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

National Agricultural Summary

December 28, 2015 – January 3, 2016

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Temperatures were above normal for the week in areas east of the Mississippi River ,with most of Florida recording average temperatures above 70°F—more than 10°F above normal. The western U.S. saw below average temperatures. Some areas in the Rocky Mountains recorded temperatures more than 10°F below normal. Weekly precipitation was generally close to normal levels across the nation. Exceptions included significant precipitation from the southern Plains to the middle Mississippi Valley and the Southeast.

Arizona: Alfalfa continued to be rated mostly good to excellent, depending on location. Harvesting occurred on 75 percent of the alfalfa acreage across the state. Cotton harvest was virtually complete. Rangeland conditions varied widely, depending on location, but were rated mostly good to fair. Central Arizona shipped broccoli, cabbage (green and red), cilantro, kale greens, and parsley. Western Arizona growers shipped anise, arugula, Bok Choy, broccoli, cabbage (green and red), cauliflower, celery, Chinese cabbage, cilantro, endive, escarole, kale greens, varieties of lettuce (Boston, Iceberg, green leaf, red leaf, processed, other and romaine), oranges, parsley, radicchio, and spinach. The week was relatively dry, with only eight of the 50 weather stations reporting some precipitation. All weather stations reported below-normal temperatures. The highest temperature was 74°F at Sahuarita and Robson Ranch. The lowest temperature was 0°F at the Grand Canyon.

California: A dry air mass moved over the state from the east, allowing for some of the coldest weather of the season. Snowpack was in good shape across the northern mountains and the Sierras, with little to no snowmelt and up to 2 to 4 inches of new snowfall in various locations. In Fresno County, alfalfa went dormant due to frost. In Tulare County, winter crops such as wheat were thriving with a good mixture of rain and sunshine. Post-harvest pruning and orchard removal continued in all 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. Natural condition prunes and pomegranates continued to be packed and shipped. Kiwifruit were packed for the domestic market. Exports of citrus fruit have slowed after Christmas and with the New Year holiday. Navel oranges continued to be exported. Blood oranges were starting to enter the markets. Mandarin oranges, Cara Cara oranges, lemons, Gold and Oro Blanco hybrid grapefruit, and pomelos continued to be picked and packed. Frost protection measures continued due to the cold weather. Some immature orange trees remained covered to protect them from sub-freezing temperatures. Almonds, pistachios, shelled and in-shell walnuts, and shelled pecans continued to be packed and shipped. Nut orchards continued to be pruned, irrigated, and treated in preparation for their dormant season. Orchard replanting continued. In Fresno County, winter carrot harvest finished on Thursday. Processing tomato fields were about 90 percent ready. Dehydrator onions planting finished and other onions will be planted soon. Early seed was up to a good stand and herbicide was applied. Organic kale for seed stand was a little spotty. Conventional kale, arugula, and mazuna for seed looked good. Ditches and preparations were underway for rain the next 10 days or so. In Madera County, some onions for seed were planted. In Tulare County, strawberry fields looked to be in good shape for spring harvest. Blueberries were still being planted. Some winter vegetables were well established. Fall vegetable harvest was ending and fields were prepared for late winter and spring plantings. In Sutter County, recent rains continued to benefit lower-elevation pasture growth. Sheep and goats continued to graze in fallow fields and on stubble alfalfa. In San Luis Obispo County, cattle were still being supplemented. In Fresno County, conditions in permanent pastures have improved but rains have caused problems for dairies by hindering the clean-up of corrals.

Florida: According to Florida's Automated Weather Network (FAWN), precipitation ranged from no measurable rainfall to 4.89 inches in Jay (Santa Rosa County). Average rainfall statewide was 1.08 inches. Temperatures ranged from 20 (in Citra, Marion County) to 90°F (in Lake Alfred, Polk County). There was an average of 6.0 days suitable for fieldwork, down slightly from the previous week. Some cotton has not been picked, with 80 percent of the Walton County fields harvested. Some peanut and soybeans fields could not be harvested due to wet conditions. Sugarcane harvest activities benefited from cooler weather, as sucrose levels rose. Bradford County strawberries were harvested during the week. Potato fields were planted in Flagler and Putnam Counties, along with cabbage and leafy greens being planted and harvested. Vegetable growers in South Florida planted spring crops and harvested a wide variety of vegetables, including cabbage, collards, cucumbers, green beans, herbs, kale, peppers, squash, Swiss chard, tomatoes, watermelons, and a variety of specialty items. Above-average temperatures early in the week fell sharply over the weekend. Rainfall amounts were higher than they have been over the last few weeks. Of the 17 monitored Citrus Belt stations, all but three had more than one-half inch of rain. The highest total was in Okahumpka (Lake County) at 1.93 inches, followed by Vero Beach (Indian River County) at 1.08 inches. The U.S. Drought Monitor, last updated December 29, 2015, changed very little over the past month. It showed the eastern edges of Orange and Volusia counties, most of Osceola County, and all Brevard County as abnormally dry. Harvesting took place in all citrus counties on early variety oranges and white and red grapefruit. Fruit was primarily going to the processed markets. Navels and early tangerine fresh shipments were nearly complete for the season. Honey tangerines were still not ready for harvest. Other grove activity was relatively slow this time of year. Growers irrigated groves as needed, and sprayed for psyllids. Mowing activities were reduced to an as-needed basis, mostly before harvest. Standing water was observed in some Washington County pastures. Soaking rains totaled 1.02 inches between December 31 and January 3 in Marion County, benefiting cool-season pastures. The New Year's weekend cold front dropped temperatures to more seasonal levels, following a mostly hot week.

State Agricultural Summaries

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

ALABAMA: December was generally warm and wet, providing adequate conditions for pastures and grazing in most of the state. Heavy rainfall was reported throughout the entire State in December, with flooding occurring late in the month in several counties. There were some reports of flood damage in terms of soil erosion and fences destroyed by high waters. The majority of spring and summer crops were harvested prior to the rainfall, so there was minimal impact on what little harvesting was left of the cotton, peanut, and soybean crops. Fortunately, the wet conditions do not appear to have damaged much of the winter wheat, with most reports showing wheat to be in fair to good condition. Livestock and pastures have been reported as being in fair to good condition. Precipitation estimates for the month ranged from 5.64 inches in Gainesville to 19.02 inches in Opelika. Average mean temperatures for the month ranged from 51.9°F in Moulton to 60.2°F in Mobile.

ALASKA: DATA NOT AVAILABLE

ARIZONA: Temperatures across the State were mostly below normal for the month of December with the only exception being the second week of the month where only three of the 50 weather stations were below normal. The temperature extremes for December were a high of 85 degrees in Sahuarita and a low of -15 degrees at the Grand Canyon. Twenty-three of the 50 reporting stations finished the year with above normal precipitation. Desert Ridge finished the lowest at 57 percent of normal precipitation and Pipe Springs finished the highest with 160 percent of normal precipitation. Cotton harvesting was virtually complete by the end of the month. Alfalfa harvesting had occurred on at least two-thirds of the planted acres. Barley planted was 30 percent complete and Durum wheat planted was 15 percent complete at the end of December. Vegetable and citrus harvesting activities continued throughout the month.

ARKANSAS: Throughout December temperatures were above the normal range and participation was also well above normal for the month. The farmers finished planting all winter wheat and are currently finishing up field preparations for next year. Cattle producers are continuing hay feeding.

CALIFORNIA: A dry air mass moved over the State from the east, allowing for some of the coldest temperatures yet this season. Snowpacks were in good shape across the northern mountains and the Sierras, with little to no snowmelt and up to 2 to 4 inches of new snowfall in various locations. Field cultivation continued. Small grain forage were developing. In Fresno County, alfalfa went dormant due to frost. In Tulare County, winter crops such as wheat were thriving with a good mixture of rain and sunshine. Post-harvest pruning and orchard removal continued in all 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. Natural condition prunes and pomegranates continued to be packed and shipped. Kiwifruit were packed for the domestic market. Exports of citrus fruit have slowed after Christmas and with the New Year holiday. Navel oranges continued to be exported. Blood oranges were starting to enter the markets. Mandarin oranges, Cara Cara oranges, lemons, Gold and Oro Blanco hybrid grapefruit, and pomelos continued to be picked and packed. Frost protection measures continued due to the cold weather. Some immature orange trees remained covered to protect them from freezing temperatures. Almonds, pistachios, shelled and in-shell walnuts, and shelled pecans continued to be packed and shipped. Nut orchards continued to be pruned, irrigated, and treated in preparation for their dormant season. Orchard replanting continued. In Fresno County, winter carrot harvest finished last Thursday. Processing tomato fields were about 90 percent ready. Dehydrator onions planting finished and other onions will be planted soon. Early seed was up to a good stand and herbicide was applied. Organic kale for seed stand was a little spotty. Conventional kale, arugula, and mazuna for seed looked good. Ditches and preparations were underway for rain the next 10 days or so. In Madera County, some onions for seed were planted. In Tulare County, strawberry fields looked to be in good shape for spring harvest. Blueberries were still being planted. Some winter vegetables were well established. Fall vegetable harvest was ending and fields were prepared for late winter and spring plantings. In Sutter County, recent rains continued to benefit lower elevation pasture growth. Sheep and goats continued to graze in fallow fields and on stubble alfalfa. In San Luis Obispo County, cattle were still being supplemented. In Fresno County, conditions in permanent pastures have improved but rains have caused problems for dairies in their corrals hindering the clean-up of corrals.

COLORADO: Topsoil moisture 1% very short, 23% short, 74% adequate, 2% surplus. Subsoil moisture 2% very short, 26% short, 72% adequate. Pasture and range condition 2% very poor, 8% poor, 28% fair, 56% good, 6% excellent. Livestock condition 1% poor, 12% fair, 80% good, 7% excellent. Winter wheat condition 4% poor, 42% fair, 43% good, 11% excellent. Moisture events varied as snow cover was abundant in some localities yet limited in others. Several instances of concern were expressed regarding inadequate snow cover protection for winter wheat. As of December 22, snowpack was at 106 percent measured as percent of median snowfall.

DELAWARE: For the month of December maximum registered temperatures in some part of the region were in the high 75 degrees Fahrenheit with daily average of 58 degrees Fahrenheit and minimum 21 degrees Fahrenheit with daily average of 40 degrees Fahrenheit. There were 14 instances of precipitation with near maximum of 4.49 inches of rain and one day of very light snow. The weather conditions contributed to pasture and cover crop growth and soybean growers were able to complete the soybean harvest by mid-December. Pastures have been soft and animals were damaging the forage present. Many producers were feeding hay to prevent further damage even with the available forages. No freeze kill has occurred to the tillage radishes that were planted yet to date. December goes in the books as one of the warmest, foggy and cloudy December's on record. One caution is the tall barley that may suffer if it continues to grow and gets a heavy smothering snow late in the winter. Dairy cows are enjoying these temperatures and additional feed is not needed to help keep animals warm. Other farming activities for the month included taking soil samples, repairing

and cleaning up equipment, purchasing supplies, tax planning, pricing inputs for 2016, and attending workshops as usual for the month.

FLORIDA: December started warm, dry. Mid-month brought welcomed moisture with heavier amounts in northern portions of State while a cold front arrived the end of the month bringing cooler yet more seasonable weather conditions. Average days suitable per week was 6.1. Cotton, soybean harvest ongoing at beginning of month. Panhandle, northern part of State planted oats, wheat for grain, winter forage. By end of month, fields in Panhandle too wet to work. Sugarcane harvest continued in Glades, Hendry counties. Unseasonably warm weather promoted sugarcane growth. Harvest season expected to be ten days longer than normal. Flagler, Putnam counties began harvesting cabbage, potatoes. Farmers in southwest harvested green beans, beets, collards, cucumbers, eggplant, herbs, kale, peppers, squash, Swiss chard, tomatoes, watermelon. Palm Beach County farms used ditches, canals, other equipment to irrigate. Miami-Dade County harvested green beans, pole beans, tomatoes, peppers, eggplant, yellow squash, sweet potatoes, sweet corn, zucchini, boniato, bitter melon, malanga, and avocado. Low precipitation, warmer temperatures improved pastures which reduced livestock stress. Southern areas reported standing water in low lying areas. Cattle condition good across State. Pasture condition fair to good. Mid-month cattlemen provided supplemental feed to compensate for declining available pasture. By end of month, calving underway in Marion, Okeechobee Counties. Cattle across State being fed hay and supplements. Pastures in Panhandle and Charlotte, Collier, Glades, Hendry, Lee counties had standing water. Pasture quality and quantity declining seasonally. Early orange harvest activities increased beginning of month. White grapefruit harvested for processing, red grapefruit harvested for fresh market. Sunburst tangerines reaching full maturity harvested. Fruit quality good, but on small side. By end of month, most processing plants open. Navel oranges, white, red grapefruit harvest schedule slightly lagging behind last season. Sunburst tangerines, Orlando tangelo, and Honey Bell harvest almost complete. Honey tangerine harvest started. Grove work includes irrigating, mowing, spraying, fertilizing; new groves, resets being planted. Old non-productive groves being pushed, cleared.

GEORGIA: The beginning of December saw normal conditions. During the last two weeks of the month, most of the State experienced heavy rains and flooding, except for the SE corner. For the month of December, the NW corner of the state received the most rain at 12.7 inches, and the SE corner received the least with 0.82 inches. Rains led to delayed harvests, reduced yields, crop loss and decreased quality of soybeans, cotton, and peanuts in many areas. By month's end, many producers were still attempting to get into fields to harvest crops and assess damage. Winter crops were recovering from excess rain while producers were concerned about soil erosion and deposits. Despite heavy rain, temperatures were unseasonably warm with highs in the upper 70s and lower 80s, which led to fruit crops budding prematurely. The combination of warm, very wet weather created a wide range of hay and grain conditions, from excellent to completely flooded. Some small grains remain unplanted due to saturated soil. All sweet onion planting has been completed. Livestock condition for the state is good to fair.

HAWAII: DATA NOT AVAILABLE

IDAHO: December brought lower than average temperatures throughout most of the state. Snow has been plentiful in most regions providing a great snow pack over crop fields. Respondents reported that much needed moisture from precipitation will help recharge soil moisture levels. Hay stocks were high. Very wet conditions in Boundary, Washington and Ada Counties resulted in some flooding early in the month causing difficulty keeping livestock bedded and fed. Some areas reported ranchers feeding the cattle more than normal and starting earlier due to the bitter cold. Cassia County reported having difficulty with calving. Other counties reported minor difficulties, but despite the extreme cold and snow, most livestock were doing well.

ILLINOIS: Topsoil moisture 43 percent adequate, 57 percent surplus. Subsoil moisture 1 percent short, 59 percent adequate, 40 percent surplus. Winter wheat condition 3 percent very poor, 12 percent poor, 27 percent fair, 48 percent good, 10 percent excellent. Statewide, precipitation averaged 6.7 inches for the month, 4.01 inches below normal. The average temperature in December was 40.6 degrees, 10.8 degrees above normal.

INDIANA: Topsoil moisture 4% short, 62% adequate, 34% surplus. Subsoil moisture 1% very short, 5% short, 71% adequate, 23% surplus. Winter wheat condition, 1% very poor, 4% poor, 22% fair, 57% good, 16% excellent. Temperatures for the month averaged 31.1 degrees, 11.1 degrees above normal. Statewide average precipitation was 5.53 inches. A surge of rainfall arriving late in the month brought floods to some areas. Unseasonably warm temperatures and excessive precipitation has kept farmers unusually busy laying and replacing tile in the fields. Winter wheat is faring well with the mild winter, but some farmers are concerned that the lack of snow cover leaves it susceptible to damage once colder temperatures arrive. Mild conditions helped some fields planted under less than ideal conditions become established. However, much of the crop hasn't entered dormancy, and the additional growth has increased freeze damage susceptibility. Some of the crop is under water from excess rainfall throughout the month. Livestock is reported to be in good condition with some still able to graze in still-green pastures. Other activities included hauling grain, applying lime, purchasing seed, cleaning and repairing equipment, cleaning ditches, and enrolling in 2016 FSA programs.

IOWA: Topsoil moisture 0% very short, 1% short, 68% adequate, and 31% surplus. Iowa experienced above normal temperatures throughout December, however operations struggled to catch up on fieldwork activities as the month of December also saw much higher than normal precipitation totals. Grain movement reported this December was slightly down compared to the previous year. Hay and roughage supplies are comparable to last year at this time. Average snow depth for December was 5 inches.

KANSAS: Topsoil moisture supplies rated 5% very short, 14% short, 71% adequate, and 10% surplus. Subsoil moisture supplies rated 6% very short, 19% short, 71% adequate, and 4% surplus. Winter wheat condition rated 1% very poor, 7% poor, 38% fair, 46% good and 8% excellent; Hay and Roughage supplies were rated 0% very short, 3% short, 85% adequate, 12% surplus. Stock water supplies were rated 4% very short, 10% short, 84% adequate, and 2% surplus. Cattle and Calves condition rated 0% very poor, 1% poor, 30% fair, 63% good and 6% excellent. Sheep and Lambs condition rated 0% very poor, 0% poor, 23% fair, 75% good and 2% excellent. Temperatures averaged six to eight degrees above normal in eastern half of the State and near normal in the west. All of Kansas received some precipitation, with heaviest amounts in the east. Livestock were mostly grazing on crop residue, with some supplemental feeding reported.

KENTUCKY: The State experienced well above normal temperatures and rainfall for the month of December. By the end of the month, the US Drought Monitor showed no signs of drought conditions across the entire state. Precipitation for the month totaled 6.74 inches, 2.46 inches above normal. Precipitation totals by climate division, West 7.19 inches, Central 7.68 inches, Bluegrass 6.93 inches and East 5.60 inches, which was 2.62, 2.85, 2.95 and 1.73 inches above normal respectively. Temperatures averaged 49 degrees for the month, 11 degrees above normal. Temperatures averaged from 48 in the West to 49 in the East. Departure from normal temperatures ranged from 11 degrees warmer than normal in the West to 12 degrees warmer than normal in the East. Harvest of corn and soybeans is mostly complete, but some are waiting for a freeze to allow them to get back in the fields to finish up. Tobacco producers continued to strip their tobacco when conditions allowed. The amount of tobacco stripped was 87 percent, compared to 66 percent last year. Winter wheat condition 0% very poor, 1% poor, 6% fair, 74% good, 19% excellent. Most producers feel hay supplies are adequate, however quality may be an issue in some areas due to weather conditions experienced throughout the year. Hay and roughage supplies 1% very short, 9% short, 83% adequate, 7% surplus. Livestock are in good condition due to a relatively mild December and good pasture conditions. Livestock condition 0% very poor, 2% poor, 12% fair, 74% good, 12% excellent.

LOUISIANA: Average rainfall total for the month of December is inconclusive due to the holidays. Temperatures dropped down into the low 40's. Wet and muddy conditions have delayed some fieldwork. Farmers are still harvesting sugarcane as well as strawberries. Citrus producers were spraying to control diseases. Livestock producers were fertilizing winter pastures and feeding hay. Crawfish producers were putting out traps. With major activities slowing down, farmers are mostly preparing for the upcoming crop year. Other activities included repairing and cleaning equipment.

MARYLAND: For the month of December maximum registered temperatures in some part of the region were in the high 75 degrees Fahrenheit with daily average of 58 degrees Fahrenheit and minimum 21 degrees Fahrenheit with daily average of 40 degrees Fahrenheit. There were 14 instances of precipitation with near maximum of 4.49 inches of rain and one day of very light snow. The weather conditions contributed to pasture and cover crop growth and soybean growers were able to complete the soybean harvest by mid-December. Pastures have been soft and animals were damaging the forage present. Many producers were feeding hay to prevent further damage even with the available forages. No freeze kill has occurred to the tillage radishes that were planted yet to date. December goes in the books as one of the warmest, foggy and cloudy December's on record. One caution is the tall barley that may suffer if it continues to grow and gets a heavy smothering snow late in the winter. Dairy cows are enjoying these temperatures and additional feed is not needed to help keep animals warm. Other farming activities for the month included taking soil samples, repairing and cleaning up equipment, purchasing supplies, tax planning, pricing inputs for 2016, and attending workshops as usual for the month.

MICHIGAN: Topsoil moisture 2% short, 71% adequate, and 27% surplus. Subsoil moisture 8% short, 83% adequate, and 9% surplus. Winter wheat condition rated 1% very poor, 2% poor, 19% fair, 57% good, and 21% excellent. After one of the warmest Novembers on record, above average temperatures continued into December, and many areas of the State reported record mild winter conditions this month. Temperatures across the State averaged more than 10°F above normal throughout the month of December. During an incredibly warm three-day period from December 12-14, daily maximum temperatures felt more like October than December, and average temperatures were nearly 20°F above normal across much of the lower peninsula. Precipitation levels were also well above normal in most parts of the State. The Upper Peninsula and northwest Lower Peninsula received more than four inches of precipitation in December, more than 2 inches above normal. By month's end, all areas of the U.P. were no longer in moderate drought status or even abnormally dry; however, many counties in the southern Lower Peninsula remained either abnormally dry or in moderate drought status. Counties along the Lake Michigan coast reported having some snow cover, which was welcomed by fruit growers to help insulate trees and vines. In other areas of the State, the lack of snow cover hasn't hurt the winter wheat crop, as average nighttime temperatures have remained warm. Warmer December temperatures have caused concern for the possibility of spoilage in sugarbeet piles, while maple producers were concerned that the lack of cold temperatures this winter could hinder sap flow in the spring. Additionally, alfalfa growers in areas with high moisture with no snow cover were concerned for their fields. Some producers took advantage of the warmer temperatures to do some field work, including planting additional cover crops, fall tillage, spreading lime and manure, and repairing and installing drainage tile. Other activities throughout the month included holiday festivities, finishing year-end book work, farm shop work, and attending winter meetings.

MINNESOTA: Temperatures were mostly mild in the first part of December. Numerous high temperatures were set for daily maximum and minimum temperatures during the first half of the month. Marshall recorded the highest temperature for the month at 53 degrees Fahrenheit. Average daily cloud cover of over 80 percent and high water vapor air content accompanied the warm temperatures. Average temperatures were cooler at the end of the month. The preliminary statewide average temperature for the month was 10 degrees above average, making it the warmest December on record. Some lakes and rivers were not completely frozen over. December started off wet with record rainfall and snowfall amounts in several cities. Lake Wilson recorded 12.0 inches of rain on December 1. Storms on December 13-14 brought record rainfall amounts in some areas. A snowstorm across most of the southern half of the State passed through on December 28-29. Snow cover was very light in northern parts of the state at the end of the month, raising concerns about possible winterkill in alfalfa and fall seeded crops. The preliminary statewide average precipitation was 1.58 inches above average for December. Livestock conditions have been good with the milder temperatures and limited snowfall during the month.

MISSISSIPPI: The month began with rainfall throughout the state and temperatures right around their averages. As the weeks progressed, rain halted and temperatures began to rise statewide. For the week ending December 27th, the state experienced unusually warm weather with the average for the state over 17 degrees higher than the norm.

MISSOURI: Topsoil moisture 42% adequate, 58% surplus. Subsoil moisture 1% very short, 3% short, 65% adequate, 31% surplus. Hay and roughage supplies 13% short, 79% adequate, 8% surplus. Stock water supplies 67% adequate, 33% surplus. Pasture and range condition 3% very poor, 19% poor, 60% fair, 18% good. Winter Wheat condition 2% very poor, 10% poor, 38% fair, 46% good, 4% excellent.

MONTANA: Topsoil moisture 4% very short, 3% last year; 16% short, 13% last year; 76% adequate, 76% last year; 4% surplus, 8% last year. Subsoil moisture 7% very short, 5% last year; 26% short, 13% last year; 63% adequate, 71% last year; 4% surplus, 11% last year. Winter wheat – wind damage 91%

none, 86% last year; 8% light, 9% last year; 1% moderate, 3% last year; 0% heavy, 2% last year. Winter wheat – freeze and drought damage 88% none, 85% last year; 10% light, 13% last year; 2% moderate, 2% last year; 0% heavy, 0% last year. Winter wheat – protectiveness of snow cover 6% very poor, 5% last year; 13% poor, 11% last year; 28% fair, 21% last year; 35% good, 47% last year; 18% excellent, 16% last year. Livestock grazing accessibility – 24% open, 36% last year; 38% difficult, 36% last year; 38% closed, 28% last year. Livestock receiving supplemental feed – cattle and calves 97% fed, 90% last year. Livestock receiving supplemental feed – sheep and lambs 98% fed, 94% last year. The month of December was mostly cold with periods of snow for the State, though there were above average temperatures toward the beginning of the month. Low temperatures ranged from -20 degrees to the lower teens. Precipitation in the form of snowfall was present across the State but in variable amounts, with the highest recorded this month in Heron with 4.20 inches of moisture. So far winter damage to winter wheat is fairly minimal and snow coverage for the state is rated 53 percent good to excellent compared with 63 percent at this time last year. Cold weather and snow have more producers providing supplemental feed at higher rates than the previous year with 97 percent of cattle and 98 percent of sheep being fed, compared with 90 percent and 94 percent, respectively, last year. Reporters are noting that even in areas where pastures aren't under snow cover that livestock producers are having to feed due to a lack of grass leftover from summer.

NEBRASKA: Topsoil moisture 2% very short, 13% short, 80% adequate, and 5% surplus. Subsoil moisture 3% very short, 18% short, 77% adequate, and 2% surplus. Winter wheat condition 0% very poor, 3% poor, 38% fair, 51% good, 8% excellent. Stock water supplies 2% very short, 7% short, 89% adequate, and 2% surplus. Hay and roughage supplies 1% very short, 3% short, 92% adequate, 4% surplus. Cattle and calf conditions 0% very poor, 0% poor, 13% fair, 75% good, 12% excellent. Sheep and lamb conditions rated 0% very poor, 1% poor, 20% fair, 76% good, 3% excellent. Temperatures averaged four to six degrees above normal across the eastern half of the State and near normal elsewhere. At mid-month, rainfall accumulations totaled three or more inches across the eastern third of the State. As the month closed, snow cover was present in many areas, limiting fieldwork activities and livestock grazing. The combination of snow and rain left many feedlots muddy until cold temperatures late in the month caused soils to freeze.

NEVADA: Temperatures throughout the State were below average for late December. A weak low moved through the north/central portions of the State, dropping a small amount of snow. Temperatures turned lower following the front's departure. Central areas received several winter storm warnings during December with some moisture falling from those storms. Temperatures in the southern region were in the high 40s and low 50s during the day with cooler temperatures occurring during the evenings. Cloudy with scattered rain showers occurred the last week of December in the south region of the State. Cattle were reported to be seen foraging in Lincoln and Winnemucca counties during the month.

NEW ENGLAND: Average temperatures throughout most of New England broke record highs and ranged from 0 to 20 degrees above normal during the month of December. All states within the New England region reported unusually warm weather. Additionally, producers reported their concern that little to no snow cover or moisture during December may cause some winter kill on perennial forage in areas throughout the region. Connecticut has delayed covering plants until cold temperatures remain near freezing. In most of Maine, snow accumulation has been minimal so far and caused issues for berry crops over the last two months. Most of Massachusetts set record temperatures with only a reported 550 chilling hours for Cranberries. In New Hampshire, orchardists were concerned about the warm weather effects on the 2016 crop and delayed pruning. Rhode Island's climate was described as being abnormally dry with a minimal snow covering at the end of the month. Vermont received the mildest month on record for December. Farm activities varied in December and included combining corn and spreading manure (CT), shipping potato crops (ME), planning for the 2016 season (NH) harvesting some cold crops and seeding winter rye (RI), and some maple syrup production (VT). In Vermont, the winter manure spreading ban has gone into effect so field activity came to a halt.

NEW JERSEY: Temperatures have been above normal for the month of December. Record high temps of 75 F.in central east NJ. Lots of rain/cloudy/fog Perennials that have a short chilling requirement are showing bud swell and with a few flowering. With the warmer conditions up until January 1, 2016 pastures and forages have had some growth, but producers should be advised that most of the growth has very little forage/feed value and as such producers should not skimp on supplemental and normal winter feedings although energy needs for the animals may be less due to the warmer weather conditions. It is too early to determine if this will have any adverse effect. Some vegetables are still being harvested such as leeks, kale, broccoli and cauliflower. Growers have started greenhouse for early plant production. Fruit trees and flowers are budding/blooming crabapple/cherry/misc and daffodils/forsythia - like spring. This could bode badly if tender buds break dormancy and then are frozen off in mid-Jan. as spring bloom could suffer. Crops have been all harvested and cover crops emerged well. Deer population is high.

NEW MEXICO: Winter storm Goliath dumped tremendous amounts of snow on parts of New Mexico toward month's end, leaving cattle, goat, and sheep ranchers struggling to not only find animals, but also to assess what the total death loss may be. Producers have been unable to deliver supplemental feed and water to their surviving livestock, while blowing winds left some dairy producers digging through snow drifts searching for their cattle. Preliminary estimates from those within the NMSU Extension system suggest milking cow losses at 5 percent, and young or replacement stock at possibly 10 percent. In addition to death losses, many dairies were forced to dump 1 to 2 days' worth of milk because snow-covered roads prohibited truck access to the farms. Row crop harvesting that was not complete at the end of November was reported as complete by the end of December. Winter wheat condition were reported as 21 percent fair, 59 percent good, and 20 percent excellent. Statewide, monthly temperatures hovered near-normal. Daytime highs ranged from 52 degrees at Chama and Red River to 82 degrees in Carlsbad. Overnight lows fell well below 0 degrees at several weather stations. Most notably, Chama, Eagle Nest, and Moriarty all recorded a low of -9 degrees at some point during December. Monthly precipitation totals varied drastically, and ranged from 0.09 inch in Carlsbad to 1.42 inches at Red River. Across the State, only four weather stations – Alamogordo, Artesia, Santa Fe, and Truth or Consequences – had year-to-date moisture totals that fell below normal. Conversely, Clayton and Clovis ended the year with a precipitation surplus of 16.82 and 10.43 inches, respectively. Stock water supplies were reported as 2 percent very short, 9 percent short, and 89 percent adequate. Feed and concentrate supplies were reported as 3 percent very short, 14 percent short, 55 percent adequate, and 28 percent surplus.

NEW YORK: Temperatures were mild with a record warm dropping at end of month to a hard frost Dec 27th. There has been no to little snow with an increase in rain. The harvest season ended well and the unusual conditions have been good to cover crops. However concerns have been voiced over the impact the conditions will have on garlic, fruit trees, hay, winter wheat, and weed growth. Pastures have had a little growth and some browning. In some locations animals still on pasture. Others are on stored forage. Field activities for the month include fall tillage, applying manure, tending livestock, trees, and vines, and fixing and maintaining machinery and structures.

NORTH CAROLINA: Days suitable for field work 1.3. Topsoil moisture 45% adequate and 55% surplus. Subsoil moisture 55% adequate and 45% surplus. North Carolina experienced above normal temperature and precipitation during the month of December. Winter wheat condition 7% very poor, 15% poor, 36% fair, 35% good, 7% excellent. Oats condition 5% very poor, 11% poor, 46% fair, 35% good, 3% excellent. Barley condition 6% very poor, 10% poor, 46% fair, 36% good, 2% excellent. Although the increase in rainfall resulted in some flooding, overall pasture conditions have improved. Pasture conditions 8% very poor, 16% poor, 48% fair, 26% good, 2% excellent. Hay and roughage supplies 13% very short, 38% short, 47% adequate, 2% surplus.

NORTH DAKOTA: Topsoil moisture 6% very short, 27% short, 64% adequate, and 3% surplus. Subsoil moisture 9% very short, 28% short, 60% adequate, and 3% surplus. Winter wheat condition 2% very poor, 5% poor, 22% fair, 70% good, and 1% excellent. Cattle and calves condition 0% very poor, 1% poor, 11% fair, 76% good, and 12% excellent. Sheep and lambs condition 0% very poor, 1% poor, 11% fair, 77% good, and 11% excellent. Hay and roughage supplies 0% very short, 2% short, 81% adequate, and 17% surplus. Stock water supplies 2% very short, 14% short, 83% adequate, and 1% surplus. Temperatures averaged above normal with precipitation limited statewide. Winter wheat had only light snow cover to protect against subzero temperatures. Livestock stress was minimal due to the mild winter.

OHIO: Topsoil moisture was reported as 28% surplus, 67% was reported as adequate and 5% was reported as short. 12% of subsoil had surplus moisture, 78% adequate, 8% short and 2% was very short. The December 2015 statewide average temperature as of the 31st of the month was 43.4 degrees, 11.7 degrees above normal. Rainfall averaged 4.26 inches statewide, which was 46 percent more than the average for the month of December. Wheat condition was 2% poor, 23% fair, 62% good, and 13% was excellent. Livestock operations reported the mild winter thus far has caused a lot of muddy conditions, as well as respiratory issues. Wheat is still quite green, and is in generally good condition.

OKLAHOMA: The State experienced some of the worst weather of the year in December. The heaviest rain was in the East Central and Southeast districts. According to the Mesonet, flooding was the main concern across east and freezing rain left more than 200,000 without power. Numerous tornado warnings were issued in the central and eastern areas and large hail was also reported. Record rainfall in December has left the state drought free, compared with last year when 62 percent of the state was in the moderate drought category or worse. Precipitation averaged 6.05 inches across the state, ranging from 1.60 of an inch in the Panhandle district to 13.16 inches in the Southeast district. Statewide temperatures averaged in the mid 40's, with the lowest recording of 0 degrees at Kenton on Thursday, December 17th and the highest recording of 80 degrees at Waurika on Friday, December 11th. Topsoil and subsoil moisture conditions were rated mostly adequate to short. Conditions of pasture and range were rated at 84 percent good to fair. Livestock condition was rated at 91 percent good to fair.

OREGON: There were heavy rains early in December with continued rains throughout the month. The abundant precipitation helped to recharge groundwater aquifers. The rain also put a halt to all winter spraying and pruning field work for orchards, vineyards, and berry crops. More eastern regions received snow providing decent crop cover. Temperatures were about average for the season. Flooding in the northwest was higher than normal, but negative effects on crops were typical with normal replanting of fall-seeded fields as needed. Growers had concerns about late planted crop seed being pounded out of the ground under the heaviest downpours, but no unusual damage yet reported. Snowpack on mountains and at Crater Lake was above normal which was good for irrigators. Water levels in creeks remained high, but typical for the season. Cattle were moved off the bottomlands due to soft and muddy conditions. Livestock issues were minimal with some mud issues reported.

PENNSYLVANIA: Weather continued to be unseasonably warm through the month of December resulting in mix of delight and concern from operators, depending on their flavor of business. Cattle are still able to roam pastures and milk production continues unimpeded by the usual winter weather. Field activities such as manure hauling and fall plowing have been able to continue thanks to the unexpected warm weather. In contrast, excessive cover crop growth looks likely to result in smothering once snow finally appears. Fruit growers share concern that a sudden frost would be devastating to their trees which, in some cases, have begun to flower rather than harden as they normally would during a normal winter transition. Combined with the lingering warmth, high moisture has allowed for the development of shed mold on some tobacco leaves according to growers in Lancaster.

SOUTH CAROLINA: December was generally warm and wet throughout the State which has wheat and other small grains progressing normally in those areas where farmers were able to plant. Above average rainfall has most of the state showing soil moisture to be adequate or surplus. Continual flooding and wet conditions have prevented farmers in some areas from accessing fields to plant winter grains for 2016. For the most part, any cotton, peanut, and soybean crops which had not been harvested prior to December are likely to be left in the fields and destroyed as a result of October's historic flood and still soggy field conditions. Livestock has been reported in fair to good condition. Average mean temperatures for the month ranged from 51.3°F in Slater-Marietta to 62.5°F in Charleston. Precipitation estimates for the month ranged from 3.39 inches in Charleston to 12.07 inches in Slater-Marietta. It is of note that the rainfall received this year is currently 12.49 inches above the 30 year average in Orangeburg, 14.12 inches above the 30 average in Florence, and 24.52 inches above the 30 year average in Charleston.

SOUTH DAKOTA: Topsoil moisture 4% very short, 22% short, 72% adequate, 2% surplus. Subsoil moisture 6% very short, 20% short, 72% adequate, 2% surplus. Winter wheat condition 0% very poor, 1% poor, 28% fair, 66% good, and 5% excellent. Stock water supplies 3% very short, 11% short, 85% adequate, 1% surplus. Hay and roughage supplies 0% very poor, 1% poor, 92% adequate, and 7% excellent. Cattle and calf conditions 0% very poor, 1% poor, 15% fair, 75% good, 9% excellent. Sheep and lamb condition 1% very poor, 1% poor, 34% fair, 52% good, 12% excellent. For the month of December 2015, temperatures averaged above normal statewide except for portions of the southwest, according to the USDA's National

Agricultural Statistics Service. Precipitation was also above normal across most of the State.

TENNESSEE: Days suitable 2.3. Topsoil moisture 1% short, 53% adequate, 46% surplus. Subsoil moisture 1% short, 67% adequate, 32% surplus. Winter wheat condition 2% poor, 17% fair, 57% good, 24% excellent. Pasture and Range condition 5% very poor, 9% poor, 41% fair, 42% good, 3% excellent. Cattle condition 2% poor, 19% fair, 69% good, 10% excellent. Hay supplies 5% short, 81%adequate, 14%surplus. Extremely muddy conditions prevented cattle grazing. Producers fed hay. At least 2 days of rainfall across all areas of the state and temperatures 5 to 17 degrees above normal.

TEXAS: Precipitation across the State during December was above normal in many areas. Areas of the Blacklands and Northeast received ten or more inches of rainfall. The Upper Coast, and Southeast received upwards of eight inches of precipitation in some areas. Parts stretching from the Cross Timbers to The Lower Valley received up to two inches of moisture, while the rest of the state received an inch or more. Throughout the month, snow storms affected many areas of the state. Across the State, cotton harvest and planting of winter wheat and oats were mostly complete. Producers continued preparing cropland for spring planting.

UTAH: Topsoil moisture 2% very short, 0% last year; 8% short, 10% last year; 85% adequate, 90% last year; 5% surplus, 0% last year. Subsoil moisture 9% very short, 0% last year; 33% short, 29% last year; 58% adequate, 71% last year; 0% surplus, 0% last year. Pasture and range condition 2% very poor, 0% last year; 11% poor, 0% last year; 34% fair, 34% last year; 52% good, 66% last year; 1% excellent, 0% last year. Winter wheat condition 0% very poor, 0% last year; 2% poor, 5% last year; 29% fair, 11% last year; 55% good, 84% last year; 14% excellent, 0% last year. Hay and roughage supplies 0% very short, 0% short, 63% adequate, 37% surplus year. Stock water supplies 8% very short, 0% last year; 15% short, 18% last year; 77% adequate, 82% last year; 0% surplus, 0% last year. Cattle and calves condition 0% very poor, 0% last year; 0% poor, 0% last year; 18% fair, 7% last year; 71% fair, 79% last year; 11% excellent, 14% last year. Sheep and lambs condition 0% very poor, 0% last year; 0% poor, 0% last year; 20% fair, 4% last year; 66% good, 85% last year; 14% excellent, 11% last year. Livestock receiving supplemental feed for cattle 59%, and livestock receiving supplemental feed for sheep 38%. Cold temperatures have stopped all field and crop work. There have been several good snow storms that have improved soil moisture.

VIRGINIA: Barley conditions were 1% poor, 15% fair, 71% good, and 13% excellent. Oats conditions were 27% fair and 73% good. Winter wheat conditions were 3% poor, 21% fair, 62% good, and 14% excellent. Livestock conditions were 7% poor, 21% fair, 66% good, and 6% excellent. Pasture and range conditions were 3% very poor, 19% poor, 28% fair, 43% good, and 7% excellent. Percent of feed obtained from pastures 35%. This December has been abnormally warm, with some areas reaching multiple record high temperatures for this time of year. In addition, this month has also been very wet and rainy, leaving the pastures noticeably greener than the norm for December. These combined warm and wet conditions have enabled farmers to graze their livestock for a longer period than usual and save the hay they would normally use to feed. The weather has also had a positive influence on the growth of wheat. Farming activities for the month included feeding hay, spraying chemicals, and deciding what to plant next.

WASHINGTON: Respondents reported below average temperatures and above average precipitation for the month of December. The western part of the State reported excessive rain in December resulted in some flooding of crops near rivers and streams. Livestock were eating stored feed and moved to high ground to avoid saturated soil. Rain and significant snowfall in higher elevations during the month have significantly helped the drought conditions. The eastern portion reported winter wheat condition showed improvement because of increased precipitation throughout the month. Snow cover was adequate and helped protect winter wheat from severe cold conditions. Much needed precipitation benefited cattlemen with native pastures. Livestock were on fall pastures during the early days of December due to mild weather conditions. Field workers made progress on orchard pruning. Single digit temperatures were reported across the east in late December. No reports of crop damage or livestock loss due to weather conditions were reported.

WEST VIRGINIA: Topsoil moisture was 6% short, 87% adequate, and 7% surplus, compared to 2% short, 91% adequate, and 7% surplus last year. Subsoil moisture was 1% very short, 8% short, 90% adequate, and 1% surplus, compared to 3% short, 93% adequate, and 4% surplus last year. Hay and roughage supplies were 4% short, 93% adequate, and 3% surplus compared to 8% short, 86% adequate, and 6% surplus last year. Feed grain supplies were 2% short, 96% adequate, and 2% surplus compared to 4% short, 92% adequate, and 4% surplus last year. Winter wheat conditions were 5% very poor, 18% poor, 32% fair, 41% good, and 4% excellent. Cattle and calves were 2% poor, 18% fair, 72% good, and 8% excellent. Sheep and lambs were 16% fair, 78% good, and 6% excellent. This month has been unseasonably warm with rains that have caused flooding and muddy conditions. The warmer weather has allowed some grazing, reducing the amount of hay being fed, the blooming of a few plants, and lambing. Farming activities for the month included cleaning up after the heavy rains and preparing for winter weather.

WISCONSIN: Temperatures were significantly warmer than average for the month of December, ranging from 11.2 to 13.0 degrees above normal at the five major weather stations. Average highs ranged from 36.2 in Eau Claire to 42.7 in Milwaukee, while average lows ranged from 25.3 to 32.7 in those same cities. This was the warmest December ever recorded in Milwaukee (breaking the previous record of 37.6 in 1877) and several other cities also saw daily high temperature records broken. Total precipitation was above average at all stations, while snowfall totals ranged from slightly above average to moderately below average. Precipitation ranged from 3.33 inches in Madison to 5.71 inches in Green Bay. Green Bay received the most snowfall out of the major cities with 13.7 inches. Madison received the least, with 7.4 inches of snow for the month. The majority of this snowfall occurred during a major winter storm on December 28th. Farmers attempted to harvest the last of the corn crop but wet conditions made fields soggy and difficult to access. There was little to no snow cover most of the month, causing some operators to be concerned about freeze damage to winter wheat and hay stands. Reporters noted above adequate forage supplies for the winter feeding season due to excellent yields on crops. However, muddy fields and rainy, damp conditions caused stress on cattle.

WYOMING: Topsoil moisture 7% very short, 37% short, 56% adequate. Subsoil moisture 8% very short, 38% short, 54% adequate. Winter wheat condition 25% fair, 74% good, 1% excellent. Livestock condition 1% poor, 11% fair, 76% good, 12% excellent. Stock water supplies 1% very short, 21% short, 78% adequate. Pasture and range condition 1% very poor, 10% poor, 33% fair, 56% good.

International Weather and Crop Summary

December 27, 2015 - January 2, 2016

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

EUROPE: Warm weather lingered over central and western crop areas, while welcomed rain in Spain contrasted with persistent short-term dryness in Italy and the Balkans.

FSU-WESTERN: Timely snowfall protected dormant winter grains from late-week bitter cold.

MIDDLE EAST: The coldest weather of the season arrived in Turkey and Iran, while rain sustained abundant moisture supplies for winter grains in central and southern growing areas.

NORTHWEST AFRICA: Intensifying short-term drought continued to hinder winter wheat and barley establishment from Morocco into central Algeria.

SOUTHEAST ASIA: Showers benefited rice in western Java but more rain is needed in other parts of Java to prevent reductions in rice prospects.

AUSTRALIA: Scattered showers maintained good to excellent yield prospects for summer crops.

SOUTH AFRICA: Drought intensified, maintaining poor prospects of corn and other rain-fed summer crops.

ARGENTINA: Above-normal temperatures increased moisture demands of summer grains, oilseeds, and cotton.

BRAZIL: Patchy rain and periods of heat renewed concern for soybeans, cotton, and other summer crops in Brazil's northeastern interior.

December 2015

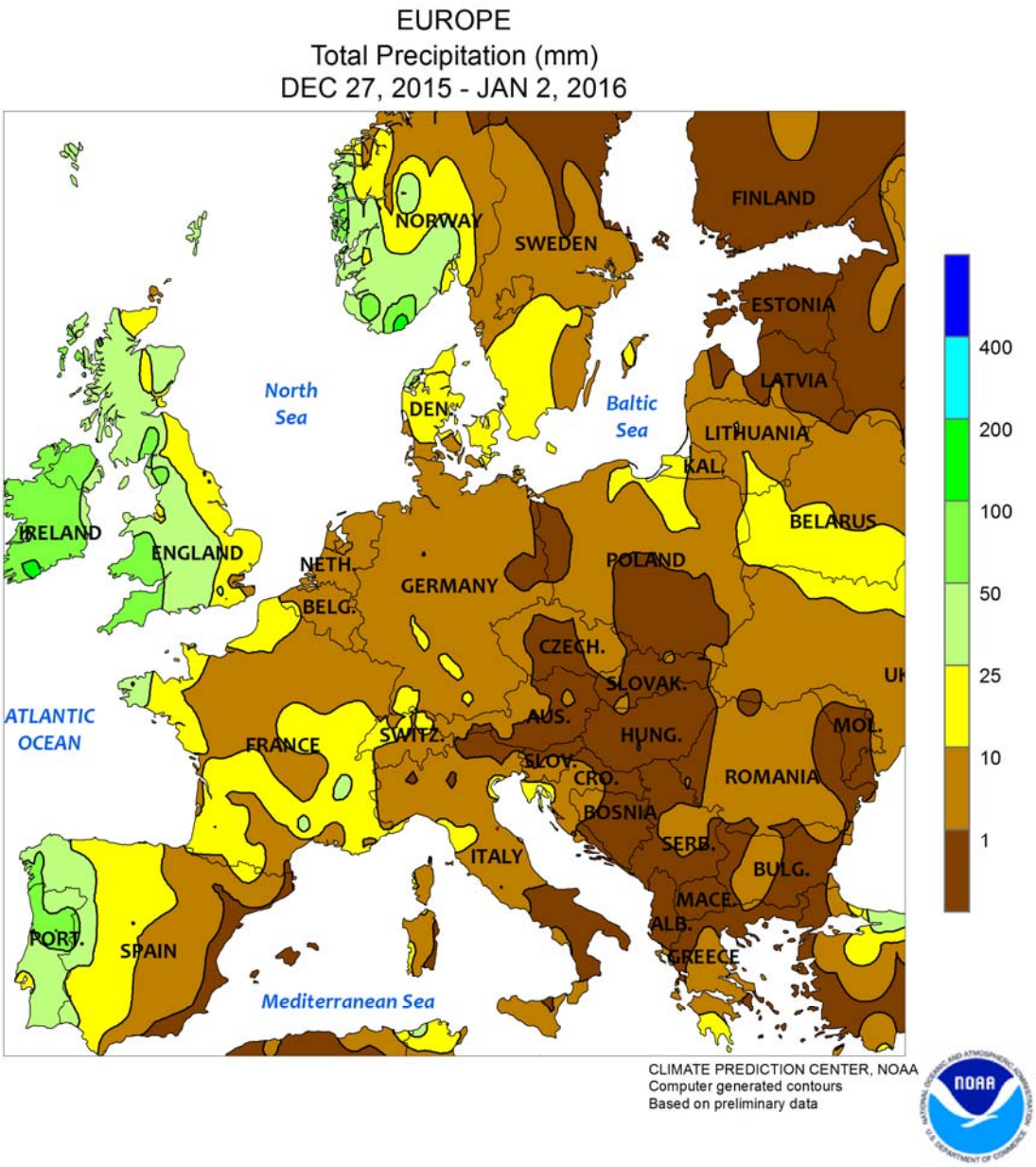
COUNTRY	CITY	TEMPERATURE (C)						PRECIP. (MM)	
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DEP NRM	TOT	DEP NRM
ALGERI	ALGER	21	5	25	2	13	1	0	-90
	BATNA	16	-1	21	-5	7	0.7	0	-31
ARGENT	IGUAZU	30	21	34	16	25	-0.3	413	228
	FORMOSA	32	23	37	19	27	0.8	425	268
	CERES	31	20	36	13	25	0.8	129	-22
	CORDOBA	30	16	37	11	23	0.1	117	-46
	RIO CUARTO	30	17	38	11	24	1.2	106	-49
	ROSARIO	30	19	34	11	25	1.4	78	-30
	BUENOS AIRES	30	17	35	7	23	1.1	34	-52
	SANTA ROSA	31	15	39	9	23	0.6	142	40
	TRES ARROYOS	29	15	38	5	22	1.8	63	-29
AUSTRA	DARWIN	32	26	35	24	29	-0.3	356	80
	BRISBANE	27	20	29	17	24	-0.5	79	-38
	PERTH	30	16	42	8	23	0.9	17	10
	CEDUNA	31	16	44	6	23	2.4	0	-18
	ADELAIDE	30	18	41	7	24	3.3	6	-19
	MELBOURNE	28	14	44	5	21	3	29	-17
	WAGGA	31	16	41	8	23	1.8	37	-13
	CANBERRA	29	11	37	4	20	1.5	35	-11
AUSTRI	VIENNA	6	1	13	-5	4	2.9	26	-14
	INNSBRUCK	8	-3	12	-8	2	2.4	18	-37
BAHAMA	NASSAU	29	22	31	20	26	3.2	82	25
BELARU	MINSK	3	0	11	-12	2	4.9	42	-9
BERMUD	ST GEORGES	23	19	25	16	21	1.5	111	2
BOLIVI	LA PAZ	16	3	20	0	10	0.2	69	-81
BRAZIL	FORTALEZA	31	26	32	23	28	0	29	-7
	RECIFE	30	26	32	22	28	-1.1	49	8
	CAMPO GRANDE	30	22	34	19	26	0.4	191	-19
	FRANCA	***	***	31	18	***	*****	*****	******
	RIO DE JANEIRO	32	24	38	20	28	2.1	89	-49
	LONDRINA	30	21	34	17	25	1.7	340	93
	SANTA MARIA	29	20	35	11	24	-0.1	339	221
	TORRES	27	21	32	14	24	-1	166	74
BULGAR	SOFIA	6	-1	12	-11	2	1.6	1	-40
BURKIN	OUAGADOUGOU	32	17	37	14	24	-0.8	0	-1
CANADA	TORONTO	7	1	15	-7	4	6.8	46	-15
	MONTREAL	5	-1	17	-12	2	7.8	129	51
	WINNIPEG	-5	-11	5	-28	-8	6.3	0	-17
	REGINA	-3	-12	9	-28	-7	6	0	-16
	SASKATOON	-6	-13	7	-27	-9	5	0	-16
	LETHBRIDGE	***	***	***	***	***	*****	*****	******
	CALGARY	0	-11	10	-23	-6	1.4	30	19
	VANCOUVER	8	3	14	-5	5	1.6	235	61
CANARY	LAS PALMAS	24	18	27	15	21	2	4	-25
CHILE	SANTIAGO	30	13	35	9	21	1.6	0	-3
CHINA	HARBIN	-9	-18	-1	-30	-14	0.5	18	12
	HAMI	0	-11	7	-17	-6	1.6	0	-1
	LANCHOW	***	***	***	***	***	*****	*****	******
	BEIJING	4	-3	10	-8	1	1.4	2	-1
	TIENTSIN	5	-3	10	-7	1	1.2	0	-4
	LHASA	10	-5	15	-10	2	2.9	0	******
	KUNMING	14	5	22	-2	10	0.9	33	19
	CHENGCHOW	9	0	17	-5	5	2.7	0	-10
	YEHCHANG	9	4	16	-2	7	-0.6	27	10
	HANKOW	10	3	15	-5	7	-0.3	13	-11
	CHUNGKING	12	9	17	4	11	1.1	32	9
	CHIHKIANG	10	6	15	-1	8	0	80	51
	WU HU	10	4	18	-5	7	1.1	44	8
	SHANGHAI	11	5	18	-2	8	0.1	82	43
	NANCHANG	11	7	17	1	9	0.8	118	77
	TAIPEI	21	17	30	12	19	1.2	89	18
	CANTON	19	13	26	5	16	0.1	106	75
	NANNING	17	12	27	5	15	-1	133	109
COLOMB	BOGOTA	20	8	26	3	14	1	9	-37
COTE D	ABIDJAN	32	24	34	21	28	0.9	12	-64
CUBA	HAVANA	29	21	31	17	25	2.3	0	-51
CYPRUS	LARNACA	19	10	22	5	14	1	117	45
CZECHR	PRAGUE	8	3	13	-7	5	5.1	11	-15
DENMAR	COPENHAGEN	8	5	11	-3	7	4.6	89	44
EGYPT	CAIRO	20	12	23	7	16	0.4	8	3

Based on Preliminary Reports

December 2015

COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DEP NRM	PRECIP. (MM) TOT	DEP NRM
	ASWAN	23	11	27	7	17	-0.4	0	0
ESTONI	TALLINN	5	2	12	-8	3	5.3	75	14
ETHIOP	ADDIS ABABA	23	11	25	8	17	1.9	1	-17
F GUIA	CAYENNE	30	24	32	22	27	1.2	303	-31
FIJI	NAUSORI	29	23	32	20	26	0.5	399	139
FINLAN	HELSINKI	4	0	10	-11	2	5.4	42	-15
FRANCE	PARIS/ORLY	12	7	16	1	9	4.3	27	-32
	STRASBOURG	11	4	15	-3	7	4.7	13	-33
	BOURGES	12	4	16	-2	8	3.1	24	-40
	BORDEAUX	15	7	18	0	11	3.7	12	-94
	TOULOUSE	15	6	17	0	11	4.1	3	-47
	MARSEILLE	16	9	18	0	12	4.4	6	-45
GABON	LIBREVILLE	30	25	31	23	27	0.8	451	116
GERMAN	HAMBURG	10	6	14	-2	8	5.3	43	-35
	BERLIN	9	6	15	-3	8	5.5	34	-21
	DUSSELDORF	12	8	16	3	10	5.6	60	-17
	LEIPZIG	10	5	15	-5	7	5.6	17	-23
	DRESDEN	10	4	15	-2	7	5.3	34	-10
	STUTTGART	11	2	15	-4	7	4.8	31	-23
	NURNBERG	9	3	14	-4	6	4.6	28	-25
	AUGSBURG	9	0	14	-6	5	3.8	25	-28
GREECE	THESSALONIKA	13	3	18	-1	8	1.4	0	-48
	LARISSA	12	0	17	-3	6	0.0	6	-41
	ATHENS	15	8	19	3	12	0.0	0	-57
GUADEL	RAIZET	30	23	31	19	26	1.3	62	-76
HONGKO	HONG KONG INT	22	17	29	10	19	0.9	58	32
HUNGAR	BUDAPEST	5	1	12	-6	3	2.0	8	-30
ICELAN	REYKJAVIK	***	***	4	-3	***	*****	*****	******
INDIA	AMRITSAR	22	5	26	0	13	0.4	1	-11
	NEW DELHI	23	9	28	5	16	0.4	0	-9
	AHMEDABAD	30	13	36	8	21	0.1	0	-2
	INDORE	27	11	33	7	19	0.0	0	-5
	CALCUTTA	26	17	32	11	22	1.1	22	10
	VERAVAL	32	17	35	14	24	0.8	0	******
	BOMBAY	33	17	37	11	25	-0.4	0	******
	POONA	31	13	34	1	22	2.0	0	-7
	BEGAMPET	32	18	35	13	25	3.7	0	-5
	VISHAKHAPATNAM	30	22	31	18	26	1.6	17	9
	MADRAS	30	22	33	20	26	1.0	479	297
	MANGALORE	34	23	36	20	28	1.1	1	-14
INDONE	SERANG	32	24	35	23	28	1.1	144	-52
IRELAN	DUBLIN	11	7	15	-1	9	2.7	193	117
ITALY	MILAN	8	3	15	-1	6	2.3	1	-53
	VENICE	8	2	12	-3	5	0.8	2	-46
	GENOA	15	12	18	6	14	3.6	37	-47
	ROME	15	4	18	0	10	0.2	10	-73
	NAPLES	16	6	19	2	11	1.1	0	-109
JAMAIC	KINGSTON	32	25	33	24	28	1.8	38	2
JAPAN	SAPPORO	4	-2	11	-8	1	1.9	130	24
	NAGOYA	14	6	23	1	10	3.2	85	47
	TOKYO	13	6	24	2	10	1.3	85	45
	YOKOHAMA	14	7	24	3	11	1.9	111	63
	KYOTO	13	6	19	1	10	2.1	104	57
	OSAKA	14	7	18	2	11	2.1	94	56
KAZAKH	KUSTANAY	-5	-9	2	-27	-7	5.0	59	35
	TSELINOGRAD	-3	-7	2	-22	-5	6.7	40	18
	KARAGANDA	-4	-8	4	-23	-6	5.1	80	57
KENYA	NAIROBI	26	16	29	13	21	1.4	226	154
LITHUA	KAUNAS	4	1	11	-15	3	4.2	55	7
LUXEMB	LUXEMBOURG	9	5	14	0	7	5.3	29	-57
MALAYS	KUALA LUMPUR	33	24	34	23	28	2.0	428	182
MALI	BAMAKO	***	***	36	10	***	*****	0	-1
MARSHA	MAJURO	30	27	31	25	29	1.5	173	-109
MARTIN	LAMENTIN	30	24	32	21	27	1.9	104	-65
MAURIT	NOUAKCHOTT	33	18	36	14	25	3.2	0	-3
MEXICO	GUADALAJARA	***	***	26	7	***	*****	*****	******
	TLAXCALA	***	***	27	6	***	*****	*****	******
	ORIZABA	***	***	31	12	***	*****	*****	******
MOROCC	CASABLANCA	22	11	27	8	17	3.0	0	-78
	MARRAKECH	23	8	27	6	16	2.9	0	-22
MOZAMB	MAPUTO	32	24	42	20	28	2.2	17	-75
N KORE	PYONGYANG	4	-4	11	-14	0	2	11	-7
NIGER	NIAMEY	30	17	35	14	24	-1.1	0	0
NORWAY	OSLO	2	-1	9	-11	1	5.1	66	3
NZEALA	AUCKLAND	22	15	27	11	18	*****	38	******
	WELLINGTON	19	13	23	8	16	*****	15	******
P RICO	SAN JUAN	30	24	31	22	27	1.3	87	-29
PAKIST	KARACHI	29	13	32	9	21	0.7	0	-4
PERU	LIMA	25	20	28	18	22	1.2	0	0
PHILIP	MANILA	31	24	34	22	28	0.9	292	229
PNEWGU	PORT MORESBY	32	26	35	24	29	1.8	120	-2
POLAND	WARSAW	7	3	14	-8	5	5.1	21	-15
	LODZ	7	3	13	-7	5	5.4	25	-19
	KATOWICE	7	2	13	-10	5	4.7	20	-28
PORTUG	LISBON	16	11	21	7	14	1.9	53	-46
ROMANI	BUCHAREST	8	-1	14	-7	4	3.4	2	-37
RUSSIA	ST.PETERSBURG	3	1	9	-9	2	5.9	55	7
	KAZAN	-2	-5	5	-16	-3	4.8	47	9
	MOSCOW	1	-1	9	-10	0	5.5	70	21
	YEKATERINBURG	-6	-9	1	-22	-7	3.2	40	15
	OMSK	-6	-10	2	-31	-8	5.7	46	16
	BARNAUL	-3	-8	2	-26	-5	7.3	53	24
	KHABAROVSK	-13	-20	-7	-29	-17	0.8	47	30
	VLADIVOSTOK	-3	-9	5	-19	-6	2.7	27	13
	VOLGOGRAD	2	-2	9	-13	0	4.7	54	16
	ASTRAKHAN	4	0	11	-7	2	4.1	41	27
	ORENBURG	-2	-6	3	-21	-4	5.1	58	25
S AFRI	JOHANNESBURG	29	17	33	12	23	4.1	336	221
	BETHAL	***	***	35	12	***	*****	*****	******
	DURBAN	28	22	34	18	25	1.6	98	-17
	CAPE TOWN	27	17	39	13	22	2.0	17	-4
S KORE	SEOUL	6	-2	12	-10	2	1.5	30	7
SAMOA	PAGO PAGO	30	26	32	23	28	0.3	587	247
SENEGA	DAKAR	29	22	34	21	26	3.0	0	-5
SPAIN	VALLADOLID	11	3	17	-4	7	1.6	17	-36
	MADRID	15	3	19	-3	9	2.1	5	-43
	SEVILLE	20	9	23	5	14	2.2	15	-85
SWITZE	ZURICH	8	2	13	-2	5	3.4	9	-71
	GENEVA	8	1	13	-4	4	1.6	13	-73
SYRIA	DAMASCUS	15	0	18	-9	8	0.3	1	-43
TAHITI	PAPEETE	31	25	33	24	28	1.4	202	-135
TANZAN	DAR ES SALAAM	33	26	35	23	30	2.1	66	-36
THAILA	PHITSANULOK	32	21	36	18	27	2.3	8	2
	BANGKOK	33	25	36	21	29	3.0	43	37
TOGO	LOME	32	23	33	20	28	0.6	0	-9
TRINID	PORT OF SPAIN	31	23	33	22	27	1.4	197	61
TUNISI	TUNIS	19	8	22	5	14	0.8	26	-36
TURKEY	ISTANBUL	12	6	14	-2	9	0.7	9	-82
	ANKARA	4	-5	12	-13	-1	-1.8	2	-44
TURKME	ASHKHABAD	12	3	21	-5	7	2.4	14	-8
UKINGD	ABERDEEN	9	5	14	-2	7	2.7	104	27
	LONDON	13	10	16	4	12	5.6	38	-17
UKRAIN	KIEV	4	0	10	-11	2	3.8	27	-14
	LVOV	6	0	13	-12	3	4.4	30	-20
	KIROVOGRAD	4	-1	12	-10	2	4.0	13	-20
	ODESSA	7	1	17	-8	4	2.5	2	-36
	KHARKOV	2	-1	10	-11	0	3.6	58	20
UZBEKI	TASHKENT	10	2	22	-6	6	2.1	35	-18
VENEZU	CARACAS	***	***	35	24	***	*****	*****	******
YUGOSL	BELGRADE	7	2	16	-5	5	1.9	4	-48
ZAMBIA	LUSAKA	29	22	34	19	***	*****	43	-107
ZIMBAB	KADOMA	31	18	37	11	25	0.6	206	31

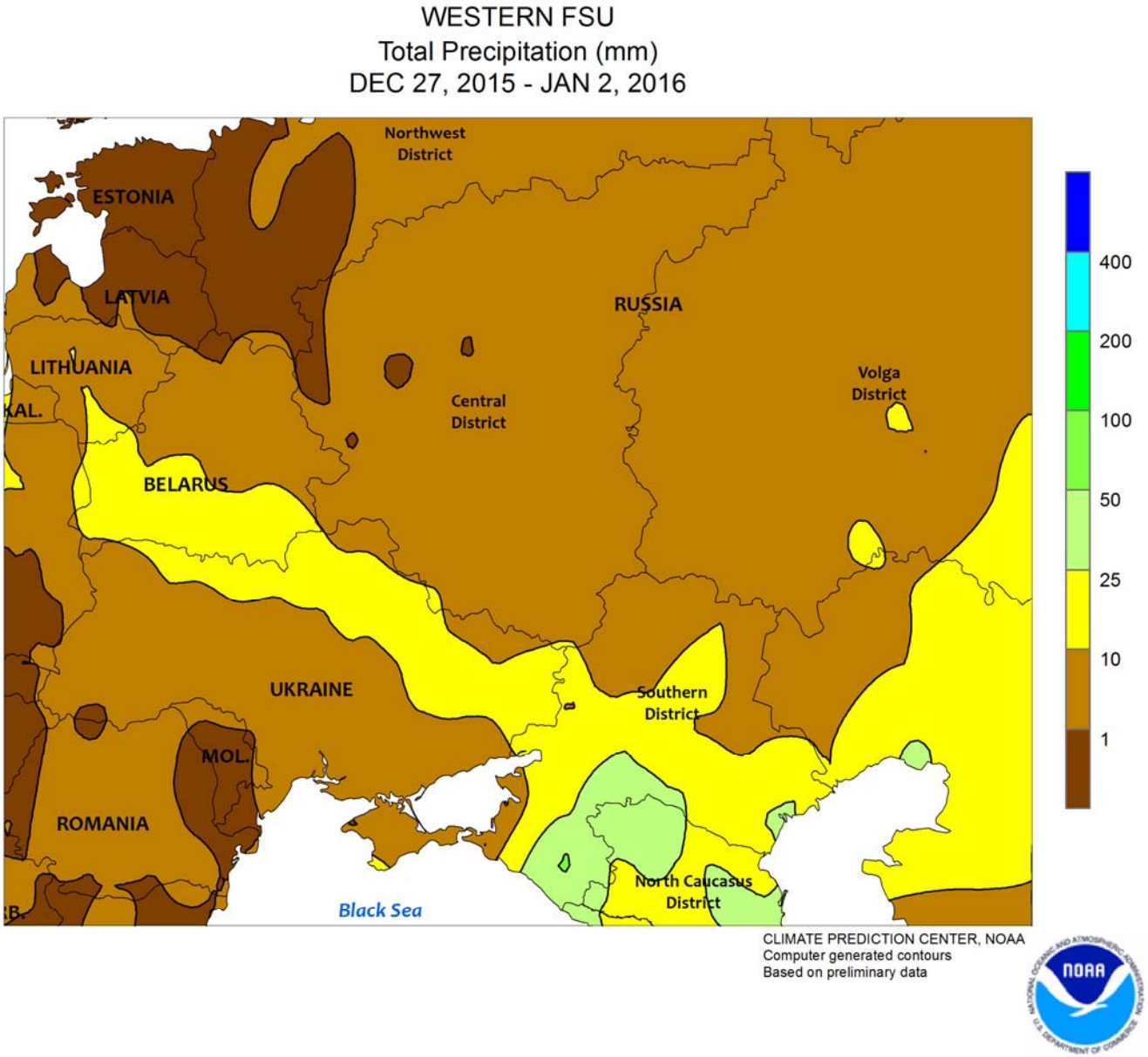
Based on Preliminary Reports



EUROPE

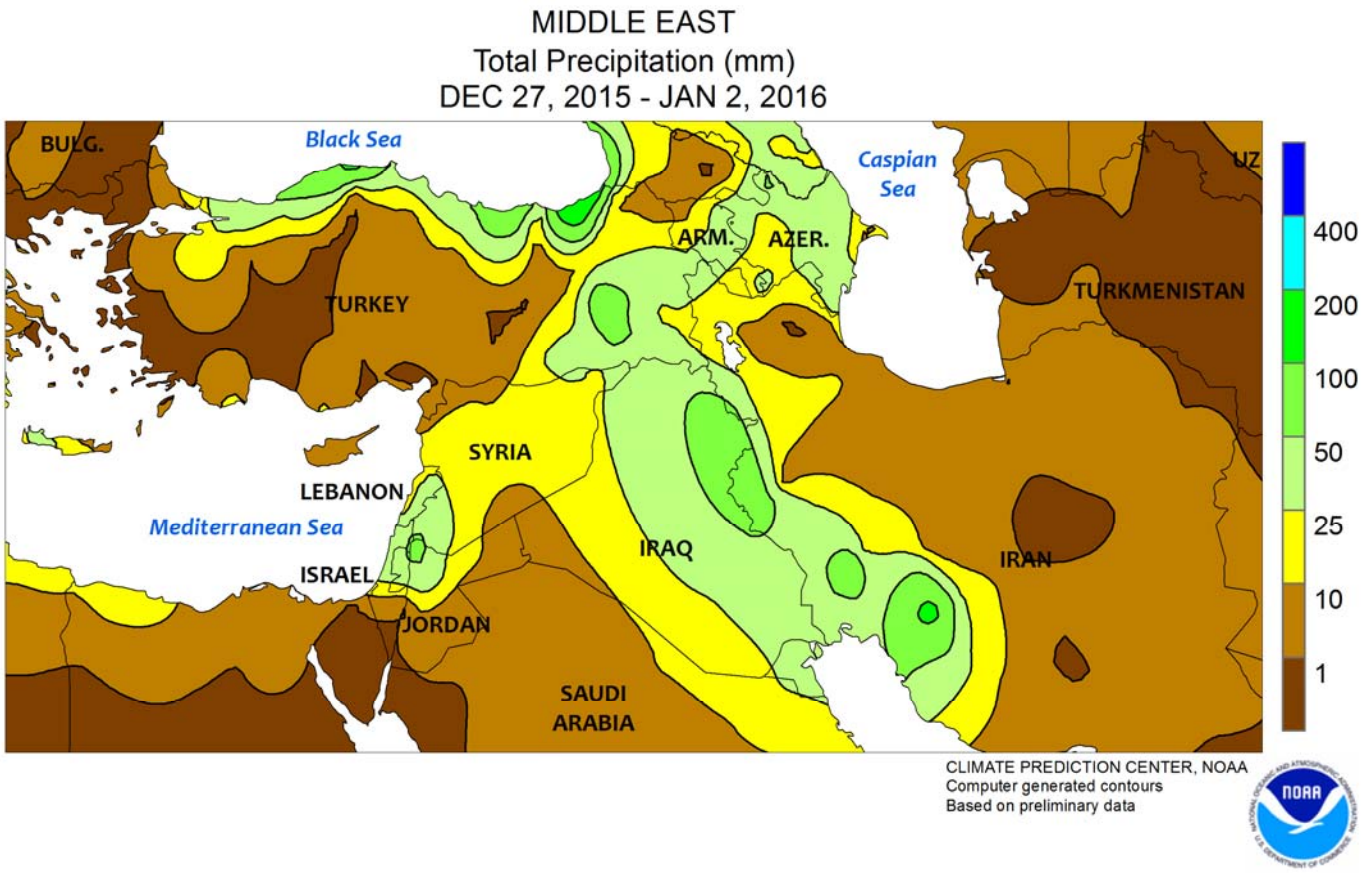
Warm weather lingered across central and western growing areas, while much-needed rain in Spain contrasted with persistent short-term dryness in Italy and the Balkans. The recent month-long stagnant weather pattern began to break, with moderate to heavy rainfall (10-65 mm, locally more) returning to the Iberian Peninsula. The moisture eased concerns over developing drought in Spain and Portugal and provided welcomed soil moisture for winter wheat and barley establishment. Farther east, pronounced short-term dryness persisted from northern Italy into the Balkans, though precipitation was overspreading many of these locales at the end of the period. Heavy rain (30-90 mm) continued to cause flooding and damage to infrastructure over Ireland and the western United Kingdom, but major winter crop areas (located farther east) reported generally favorable rainfall (15-30 mm). Mostly dry weather prevailed across the remainder of the continent's primary winter crop areas. Temperatures for the week averaged 2 to 5°C above normal over all of western and central Europe, though somewhat cooler conditions (nighttime lows near or below freezing) returned as the week progressed. Farther east, colder-than-normal weather (1-2°C below normal) was reported from Poland into the Balkans, while arctic air (-19 to -16°C) grazed the Baltic States.

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



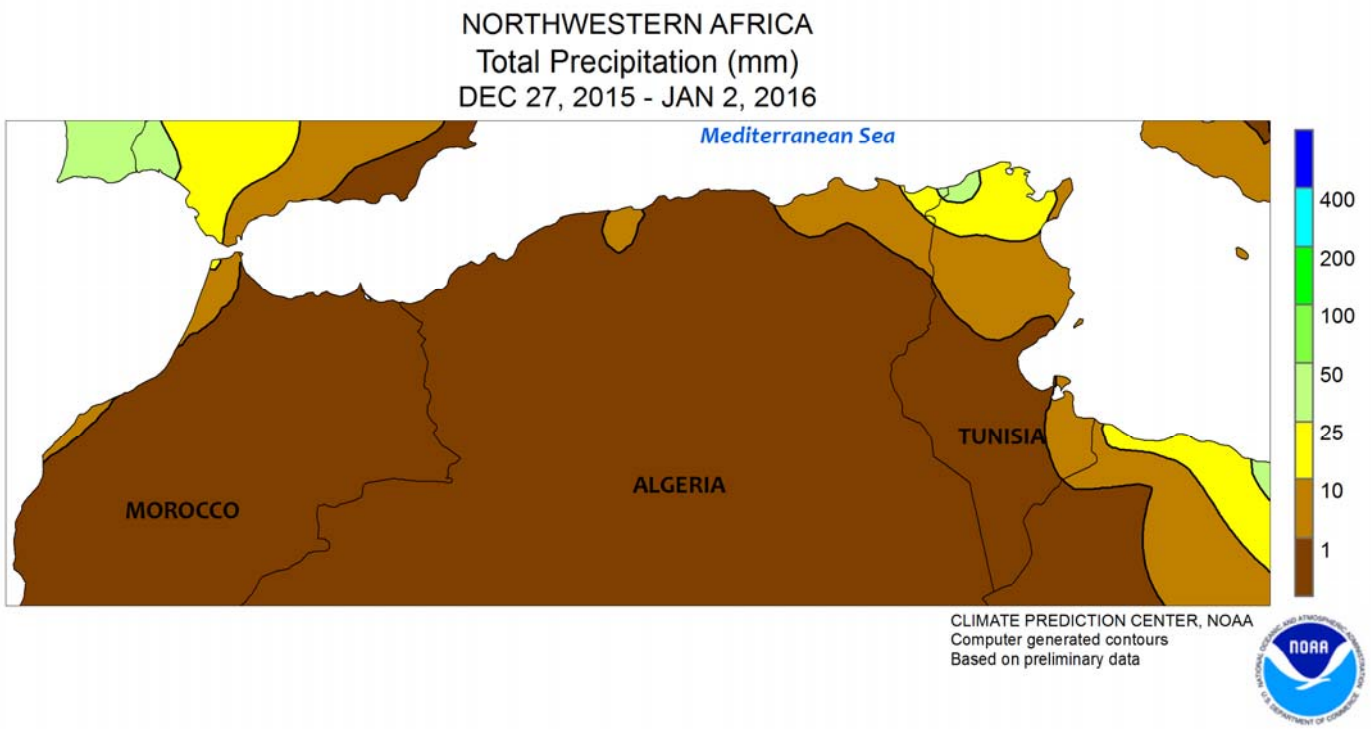
WESTERN FSU

After nearly two months of anomalous warmth kept the region uncharacteristically devoid of snow cover, timely snowfall accompanied the arrival of late-week bitter cold. In Ukraine, the snow was sufficient (2-10 cm) to prevent widespread winterkill, as nighttime lows plunged as low as -26°C at week's end; however, there may have been some localized burnback where snow cover was shallow (less than 2 cm). Heavier snow (10-25 cm, locally more) in southern Russia afforded dormant winter grains abundant insulation from readings as low as -22°C. Despite the ongoing arctic blast, the overall impacts — if any — of the severe cold will remain minor as long as the snowpack remains intact.



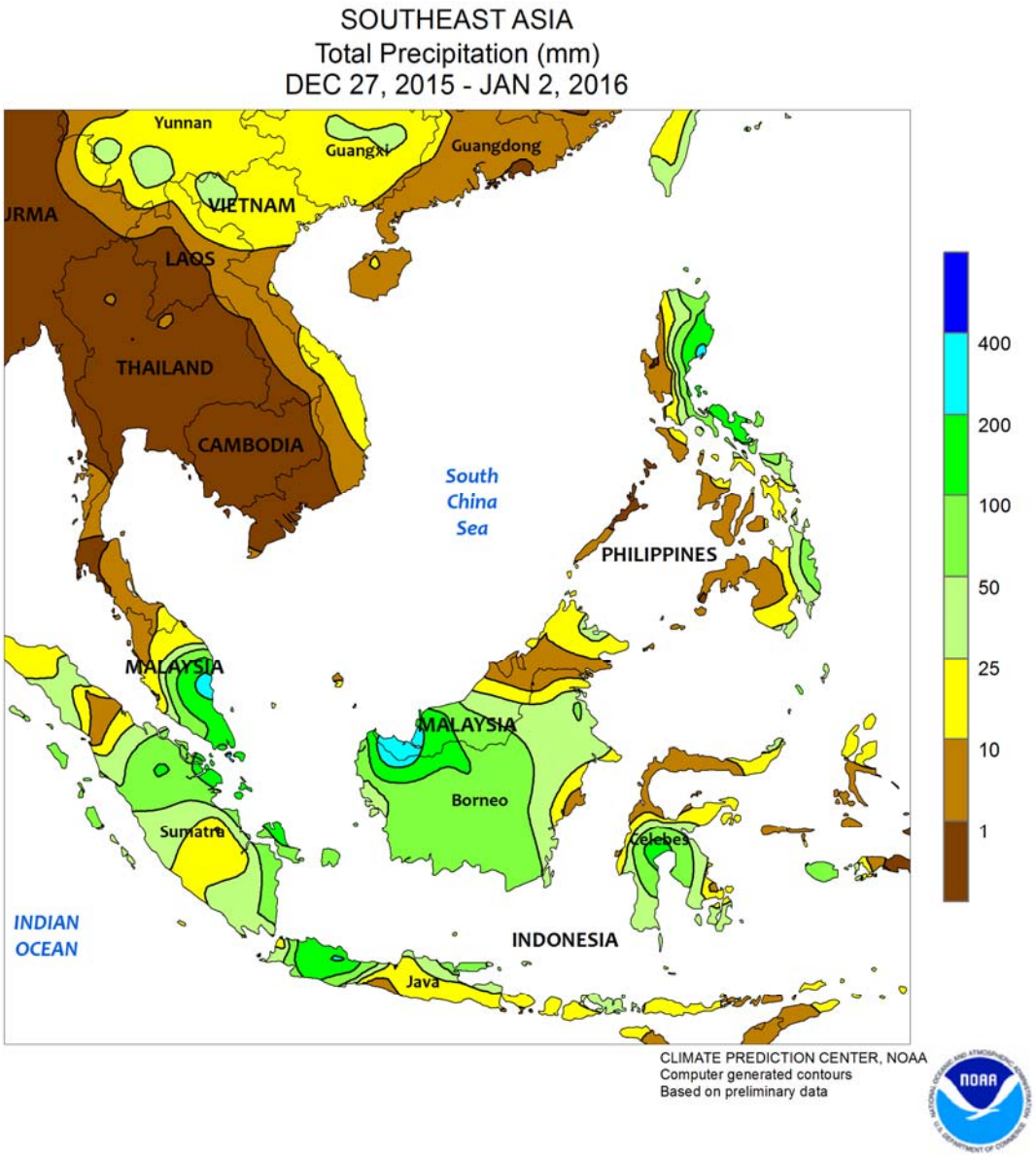
MIDDLE EAST

Cold weather settled over northern and western portions of the region, while moderate to heavy rain and high-elevation snow expanded across central and southern crop areas. An arctic air mass (-22 to -15°C) surged southward into Turkey and northwestern Iran late in the period, though a shallow to moderate snow cover (2-10 cm, locally more) afforded dormant winter crops adequate protection from winterkill. Nevertheless, central and western portions of Turkey's Anatolian Plateau remained devoid of a snowpack, but minimum temperatures in these areas were somewhat higher (-16 to -6°C) and generally above the threshold for significant freeze damage. Meanwhile, an upper-air disturbance generated unseasonable moderate to heavy rain and mountain snow (20-100 mm liquid equivalent, locally more) from the eastern Mediterranean Coast into Iraq and western and southern Iran, boosting soil moisture and irrigation reserves for winter grains.



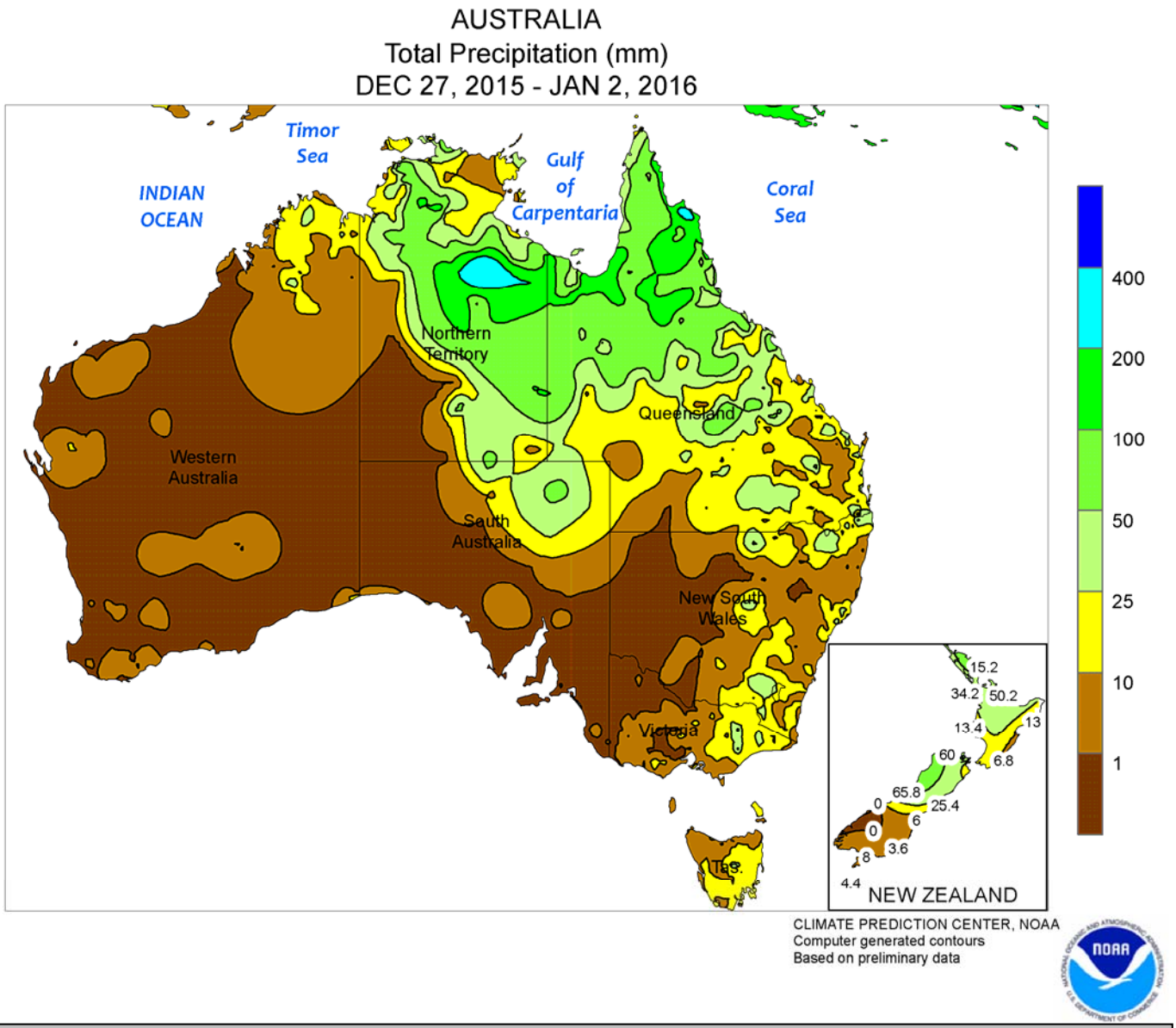
NORTHWESTERN AFRICA

Drought intensified in the west, while showers eased concerns over short-term dryness in eastern growing areas. In Morocco, intensifying drought continued to deplete soils of what little moisture was available for winter wheat and barley development. Rainfall over the country's crop areas has averaged a meager 7 to 13 percent of normal since November 1, coinciding with winter grain sowing and emergence. The drought also tightened its grip over western and central Algeria, where another week without rain put precipitation below 30 percent of normal over the same period. Furthermore, temperatures up to 4°C above normal increased evapotranspiration rates and crop-water demands in these already-parched areas. Satellite-derived vegetation health data confirmed rapidly deteriorating conditions from Morocco into central Algeria. In contrast, light to moderate showers (3-30 mm) eased concerns over recent short-term dryness across eastern Algeria and northern Tunisia. In addition, these eastern locales are still able to draw on soil moisture reserves from locally heavy late-November rainfall, and crop prospects are markedly better than drought-afflicted areas to the west.



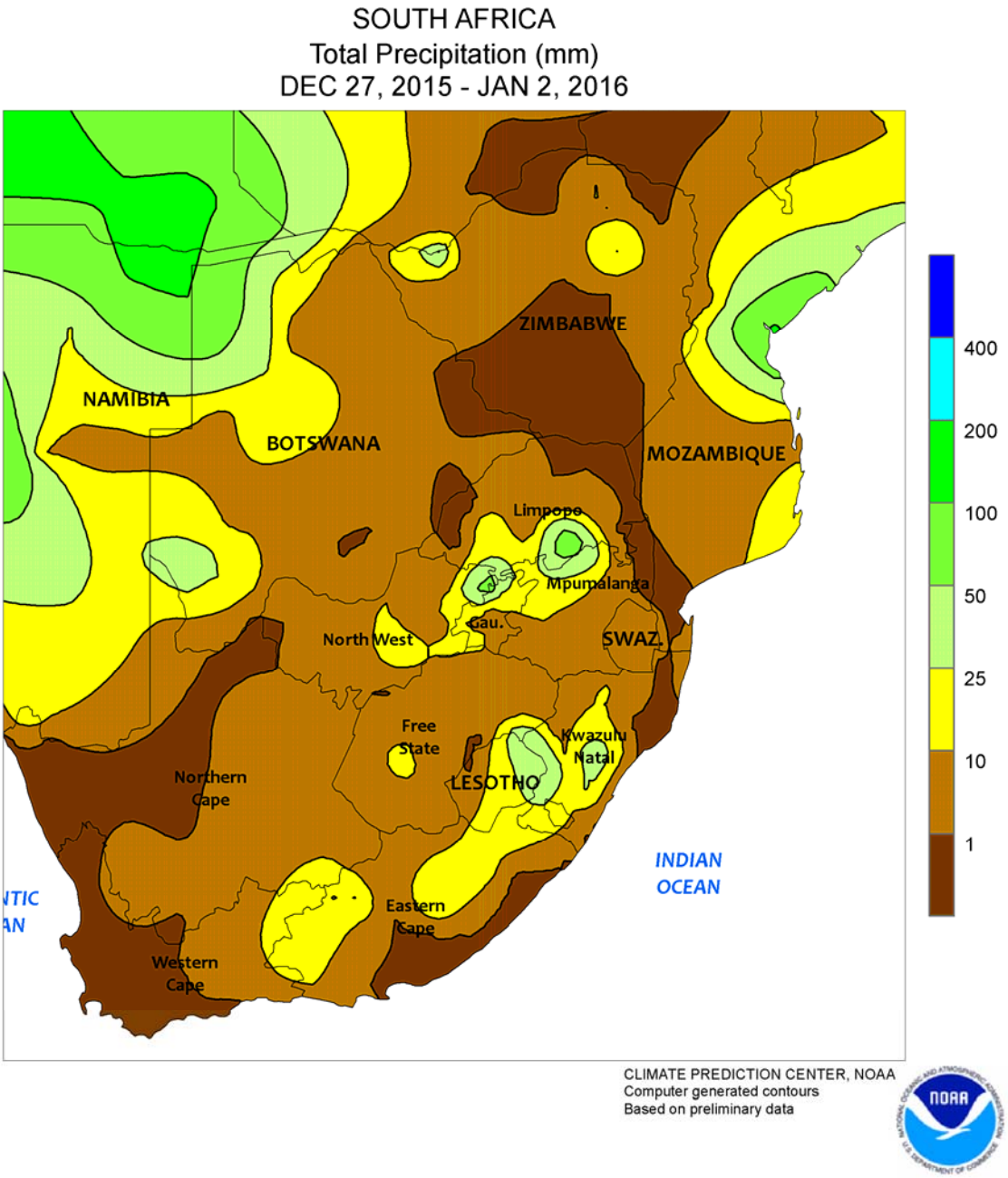
SOUTHEAST ASIA

A brief period of mid-week dryness in western and central Java, Indonesia, was bookended by seasonably heavy showers in the earlier and latter part of the week. Weekly rainfall totals averaged over 125 mm in western Java and over 50 mm in central Java. Eastern Java received just over 40 mm of consistent rainfall over the week. While short-term (since November 1) rainfall deficits continued across much of Java, rainfall has been near normal in western Java. Irrigation supplies remained adequate for the current rice crop, but the lack of seasonable rainfall in much of Java threatened rain-fed rice prospects as well as water storage recharge for the dry season crop and next year's wet season crop. In oil palm areas of Indonesia and Malaysia, seasonably heavy showers (over 50 mm) maintained favorable soil moisture for trees in most areas, with pockets of dry weather occurring in southern Sumatra (Indonesia) and Sabah (Malaysia). An unusually active winter monsoon brought widespread showers (over 50 mm) to corn and rice in the eastern Philippines and renewed flooding in parts of eastern Luzon, where over 250 mm of rain was reported. Meanwhile in Vietnam, winter-spring rice cultivation continued under sunny, unseasonably hot weather. In Thailand, temperatures continually averaging nearly 5°C above normal increased irrigation demands for rice and further threatened to reduce rice prospects.



AUSTRALIA

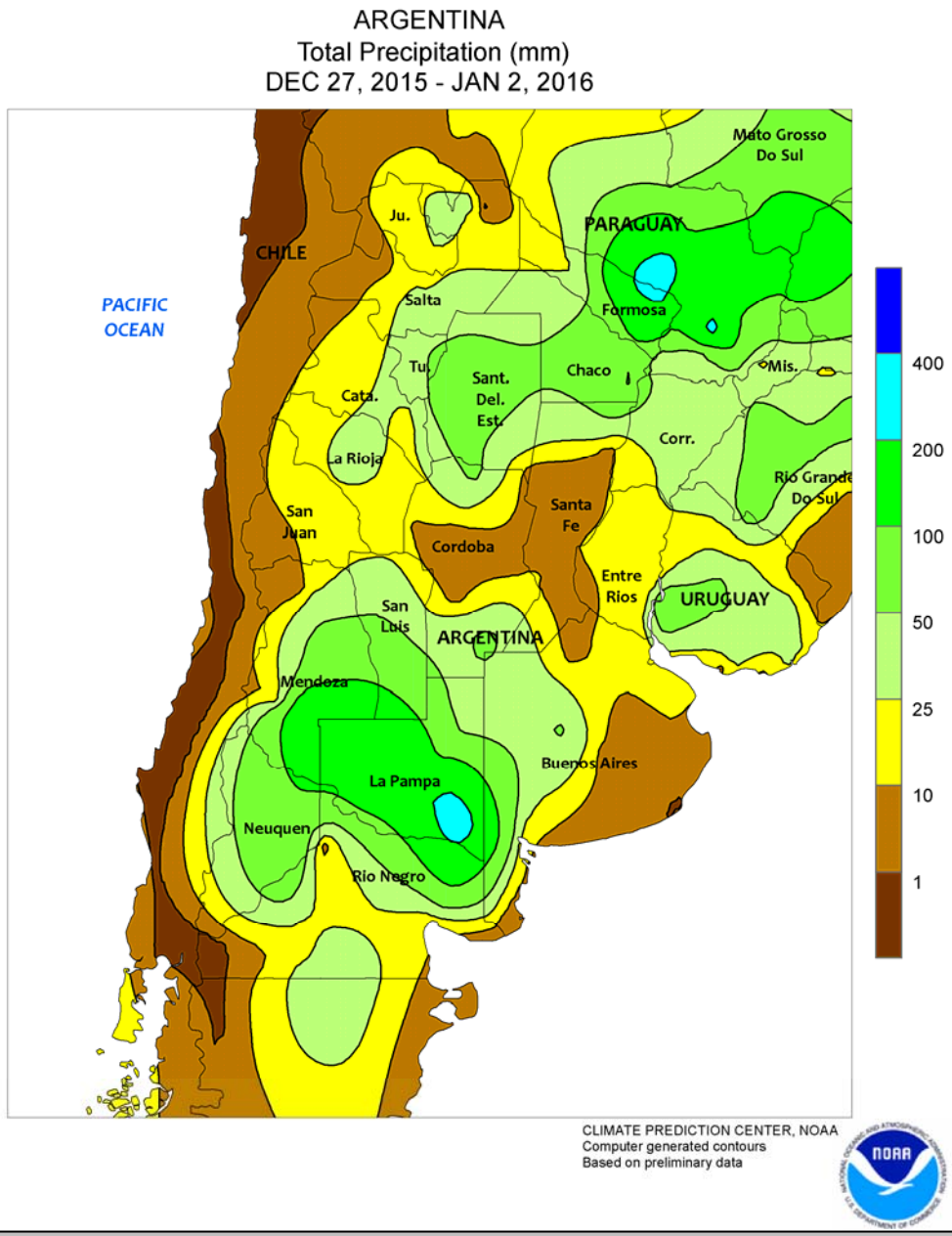
Scattered showers (5-25 mm, locally more) in Queensland and extreme northern New South Wales maintained good to excellent yield prospects for summer crops. Specifically, the rain sustained adequate to abundant topsoil moisture for dryland crops, such as sorghum, while easing irrigation requirements for other summer crops, such as cotton. Temperatures averaged 1 to 2°C below normal in eastern Australia. Maximum temperatures were generally in the upper 20s to lower 30s degrees C, favoring summer crop development. Elsewhere in the wheat belt, hot, mostly dry weather in southern and western Australia favored winter grain harvesting, which was reportedly nearing completion in most areas.



SOUTH AFRICA

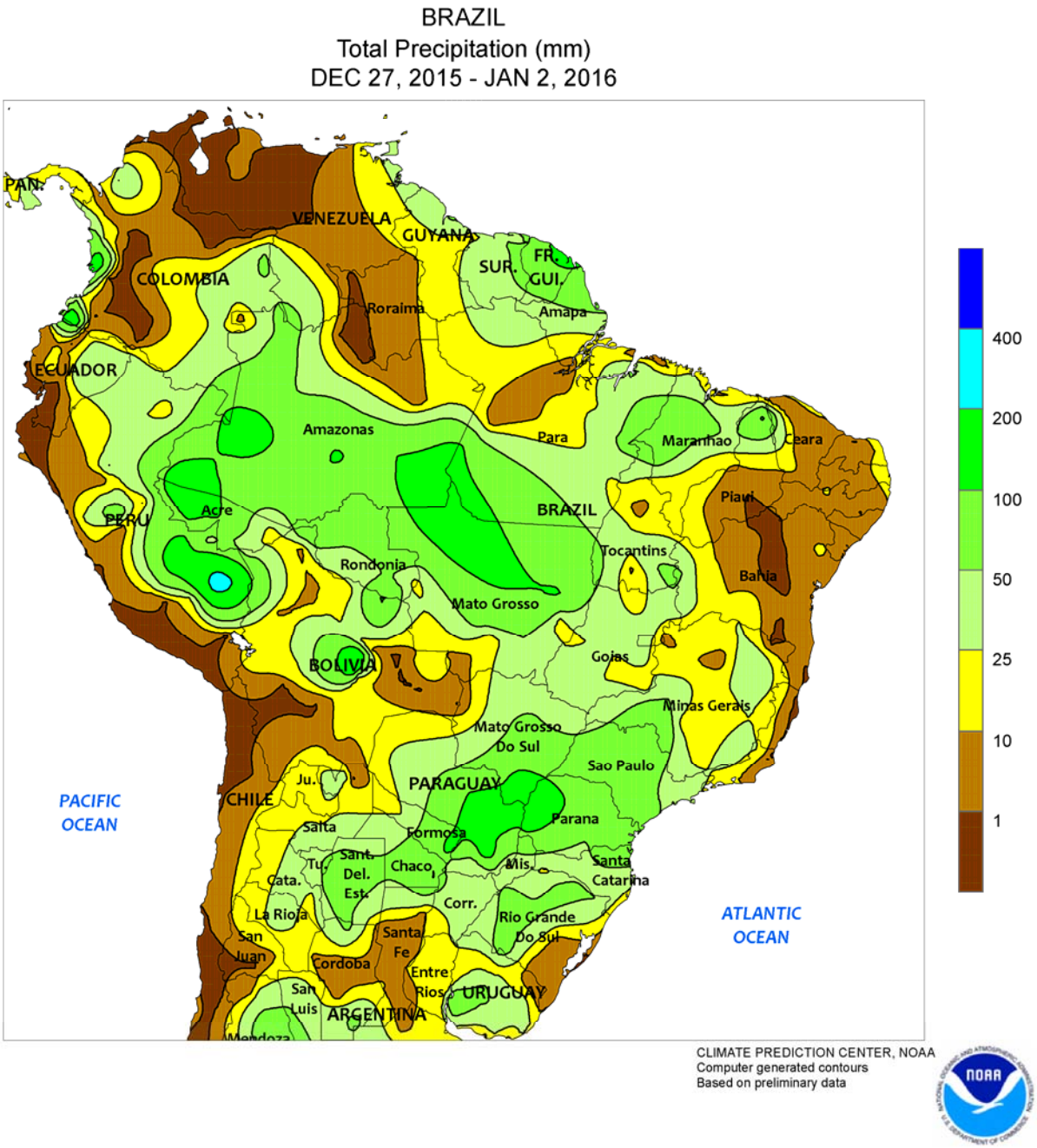
Intensifying drought worsened summer crop prospects throughout the main commercial production areas. Weekly temperatures averaged 2 to 4°C above normal across the corn belt (North West and Free State to Mpumalanga), which experienced one of the driest weeks thus far in the summer growing season; most areas received below 10 mm, including many eastern locations that had recorded stabilizing rains in recent weeks. Planting should be complete by now even in traditionally drier western production areas — including white corn areas of North West and Free State — but rainfall has been insufficient in most areas for germination. Earlier-planted eastern crops typically enter reproduction in January, and rain is needed immediately to prevent further declines in production potential. Daytime highs reached the lower 30s (degrees C) on several days in eastern farming areas (in and around Mpumalanga), and the middle and upper 30s on most days in the west. Similar conditions prevailed in rain-fed sugarcane areas of southern KwaZulu-Natal. Meanwhile, virtually no rain fell in irrigated sugarcane areas of northern KwaZulu-Natal and eastern Mpumalanga, where temperatures reaching the upper 30s maintained high crop moisture requirements. Hot, mostly dry weather also maintained high irrigation requirements in the Cape Provinces. Daytime highs reached 40°C on several days in the tree and vine crop areas of Western Cape, as well as in parts of the Orange River Valley.

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



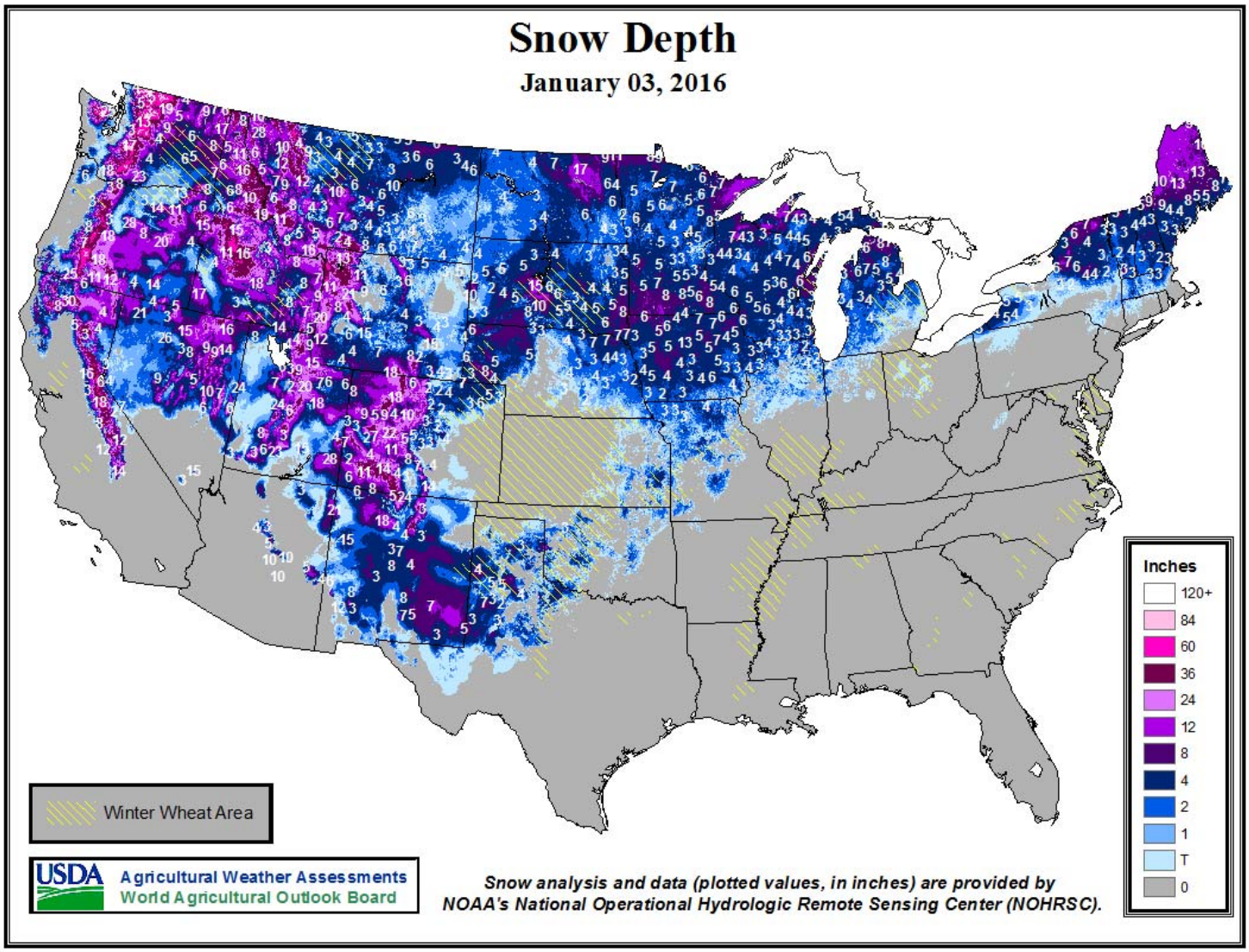
ARGENTINA

Unseasonable warmth increased moisture demands of crops in key summer grain and oilseed areas of southern and northwestern Argentina. The warmest weather (daytime highs reaching the middle and upper 30s degrees C) occurred during the first half of the week, as the heat wave that developed at the end of last week continued. However, rain (10-50 mm, locally higher) returned to most areas by mid-week, lowering temperatures to more seasonable levels and helping to recharge topsoil moisture for germination of late-planted corn and soybeans. An exception was central Cordoba and Santa Fe, which recorded below-normal rainfall for a second consecutive week. Drier conditions also continued in winter grain areas of southern Buenos Aires, favoring harvesting of wheat and barley. In northern Argentina, the heaviest rain (greater than 50 mm) shifted westward into Santiago del Estero, providing timely moisture for summer crop planting. According to the government of Argentina, soybeans and corn were 87 and 78 percent planted, respectively, as of December 30, similar to last year. In addition, wheat was 75 percent harvested (versus 88 percent last year), with more than 50 percent of the acreage remaining in Buenos Aires and La Pampa.



BRAZIL

The pattern of sporadic rain and unseasonable warmth that has plagued Brazil's northeastern interior for most of the season continued, renewing concern for soybeans, cotton, and other summer row crops. Rainfall totaled 5 to 25 mm over most of the region extending from northeastern Mato Grosso eastward, though pockets of heavier rain (locally approaching 50 mm) were concentrated over the vicinity of western Bahia. Weekly temperatures averaging 1 to 3°C above normal, with highs reaching the middle 30s (degrees C) on several days, maintained high evaporative losses and posed varying degrees of stress on emerged summer crops. Similar conditions extended eastward from northern and southeastern Minas Gerais to the Atlantic Coast, reducing moisture for coffee and other crops. However, rainfall was closer to normal (25-100 mm) from central and southeastern Mato Grosso southward to Rio Grande do Sul, including sugarcane areas of Sao Paulo. The heaviest rain (greater than 100 mm) was concentrated over western Parana, southern Mato Grosso do Sul, and eastern Paraguay, causing some flooding of low-lying fields while maintaining abundant levels of moisture for soybeans and corn. The ample rainfall sustained generally seasonable temperatures in the southern production areas, with daytime highs mostly in the upper 20s and lower 30s.



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