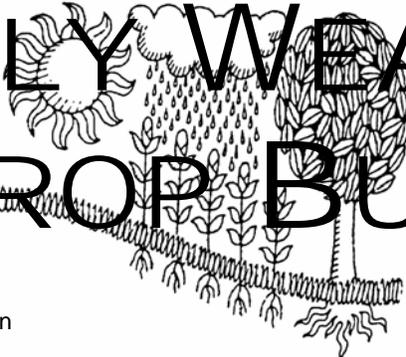
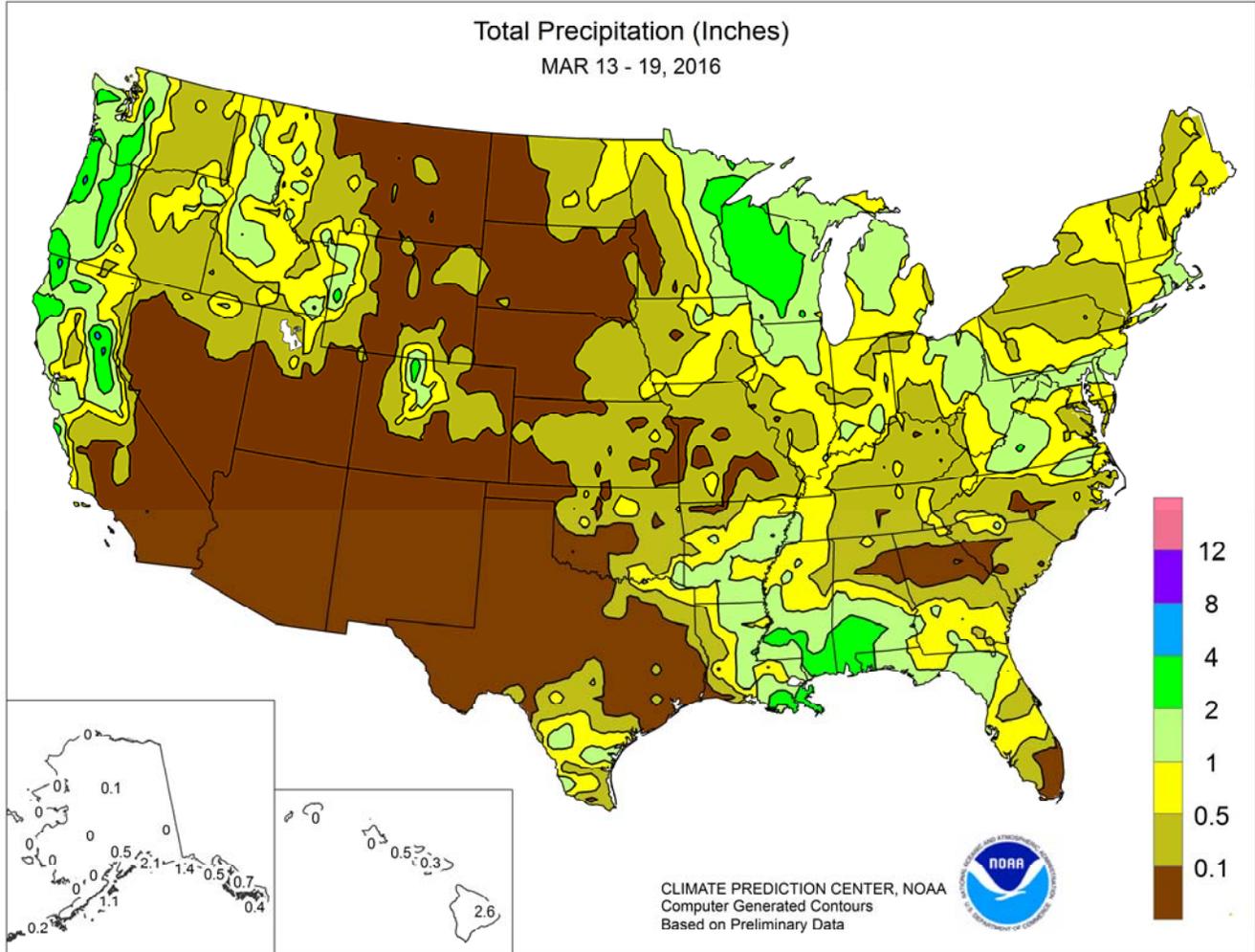


WEEKLY WEATHER AND CROP BULLETIN



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

March 13 – 19, 2016

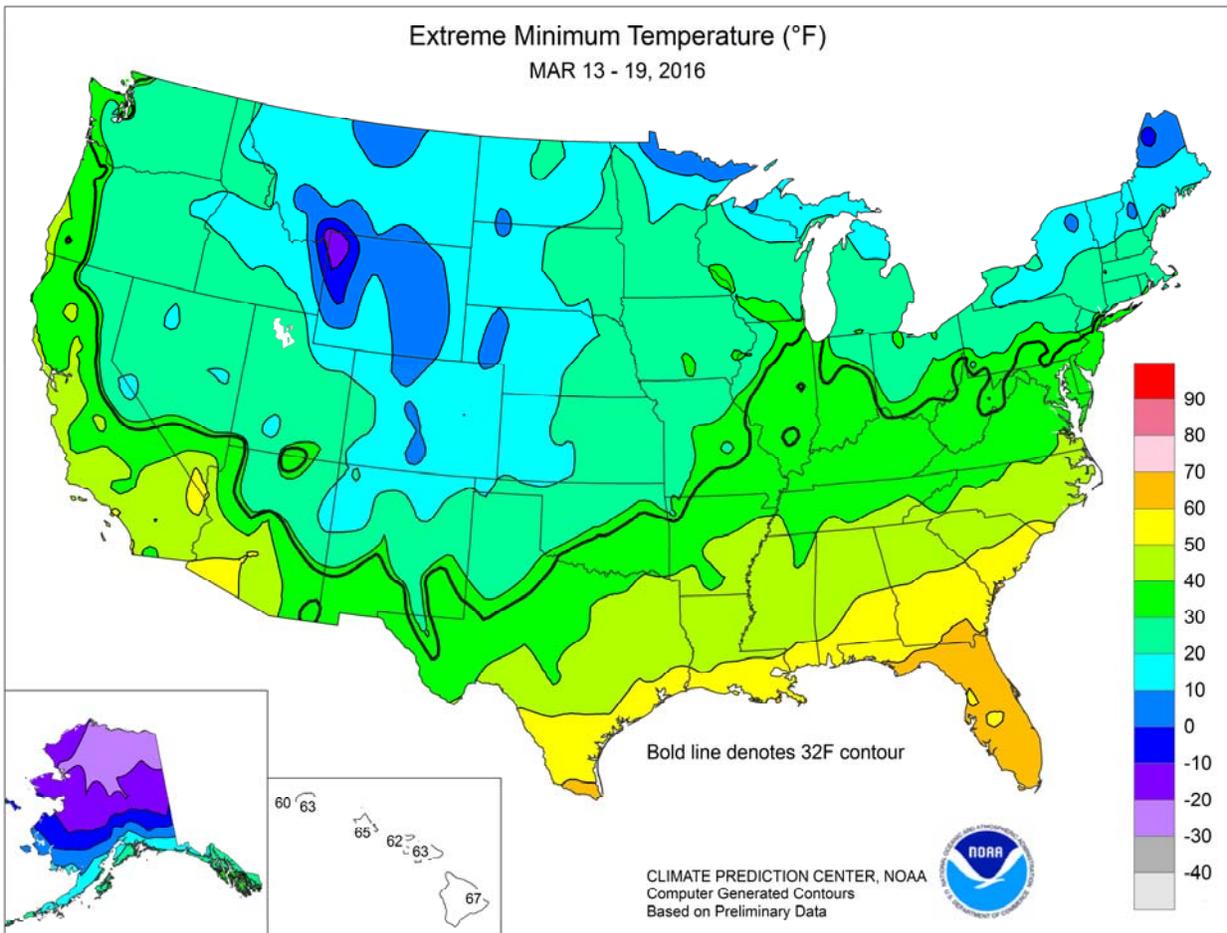
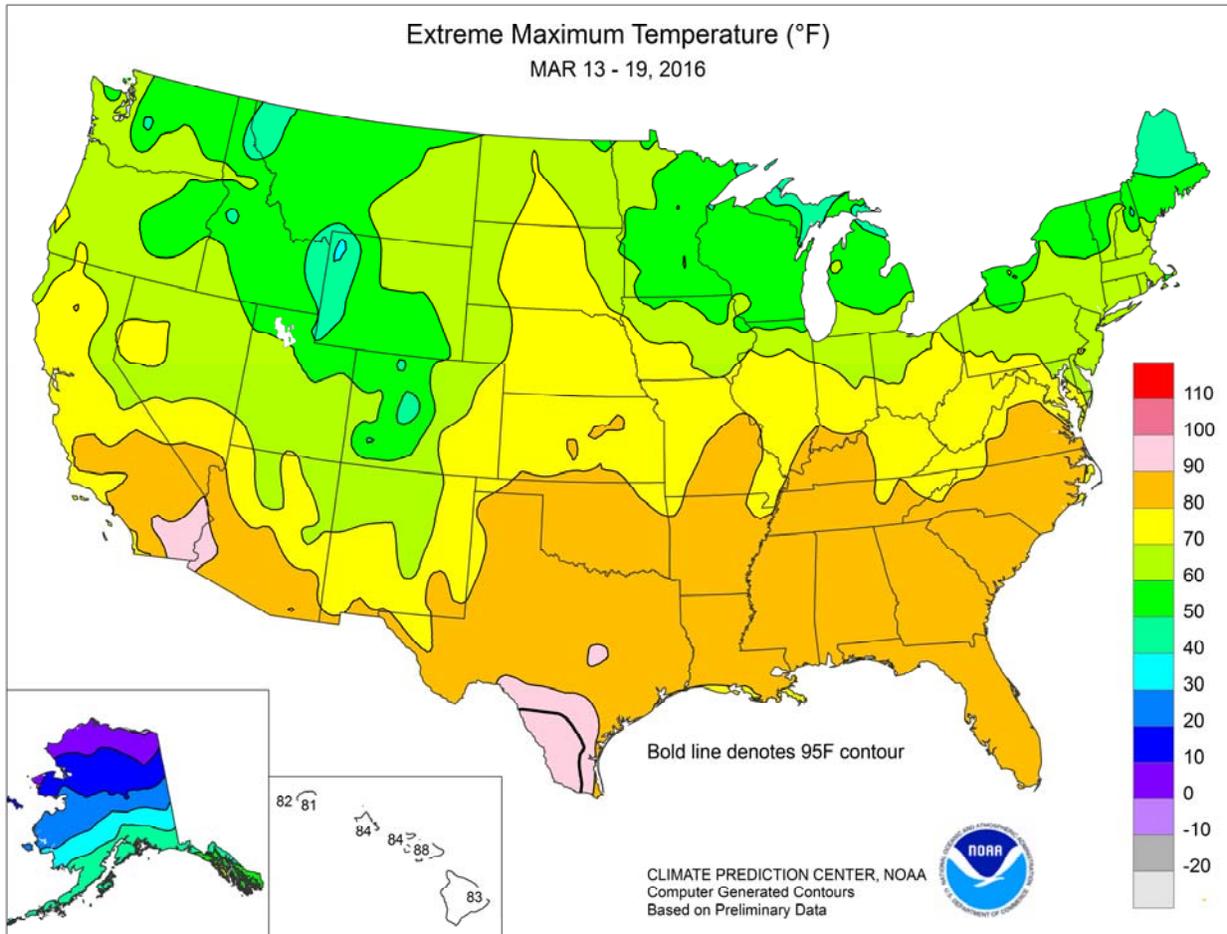
Highlights provided by USDA/WAOB

The storm responsible for last week’s torrential rainfall and flooding in the **South** weakened and moved into the **Midwestern and Eastern States**. Lingering rainfall totaled an inch or more in portions of the **Gulf Coast region**. Despite the return of drier weather, significant flooding persisted from **easternmost Texas to the Mississippi Delta**, as water drained from creeks and bayous into larger rivers. Later, the focus for heavy precipitation shifted into the **upper Midwest**, where totals in excess of 2 inches caused local flooding, especially in

Contents

Extreme Maximum & Minimum Temperature Maps.....	2
Temperature Departure Map	3
March 15 Drought Monitor & U.S. Seasonal Drought Outlook	4
National Weather Data for Selected Cities	5
Winter Weather Review	8
Winter Precipitation & Temperature Maps	10
Winter Weather Data for Selected Cities	13
National Agricultural Summary	14
International Weather and Crop Summary	15
Bulletin Information & Soil Temperature Map	26

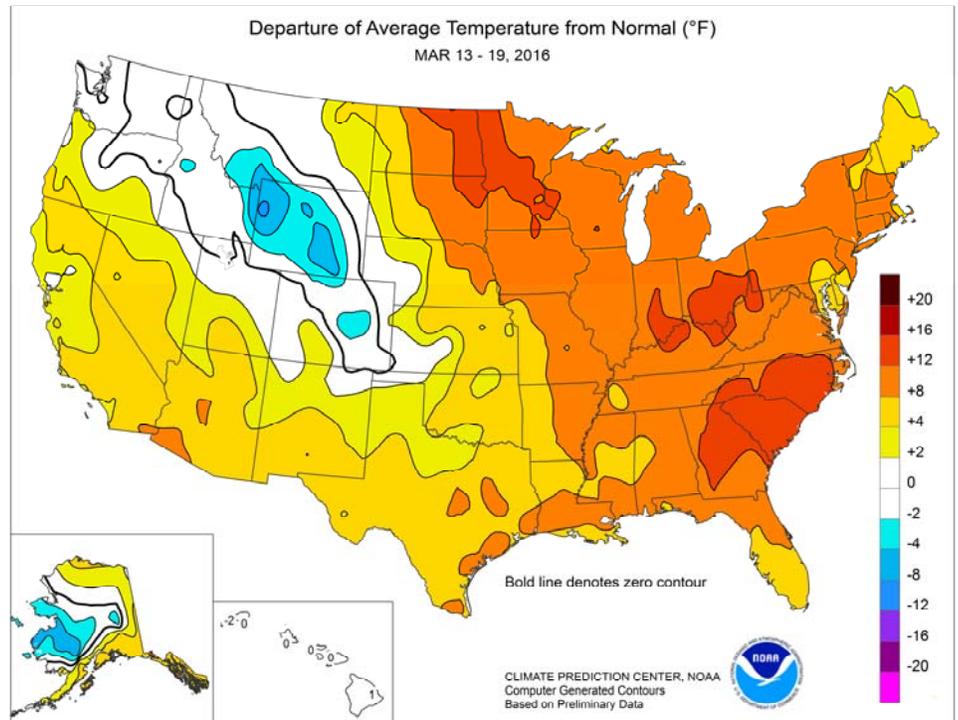
(Continued on page 3)



(Continued from front cover)

Wisconsin. In addition, wet, wind-driven snow blanketed portions of the **upper Great Lakes region**. Despite the stormy weather, weekly temperatures averaged more than 10°F above normal in parts of the **upper Midwest**. Similar temperatures, at least 10 to 15°F above normal, were noted in the **Ohio Valley** and parts of the **southern Atlantic States**. Farther west, portions of the **Plains** received some light precipitation, including late-week snow. However, short-term drought continued to expand across the **southern High Plains**, reducing topsoil moisture for pastures and winter grains. In addition, sharply colder weather arrived across the **Plains** at week's end, following a period of warmth. The late-week cold snap raised concerns about possible freeze injury to jointing winter wheat in **southwestern Kansas**, **southeastern Colorado**, **western Oklahoma**, and **northernmost Texas**. On Sunday, March 20, low temperatures ranged from 5 to 20°F in **western Oklahoma** and parts of neighboring states. Two hours below 24°F is often cited as a damage threshold for jointing wheat. However, wheat that is just starting to joint can withstand lower readings, often below 20°F. Producers will be monitoring wheat stalks for freeze-injury symptoms, including death of the growing point; splitting or bending of the lower stem; and leaf yellowing or burning. Depending on severity, wheat injured at this stage of development can sometimes recover if future weather conditions are not unfavorably hot or dry. Elsewhere, dry weather in the **Southwest** contrasted with light to moderately heavy precipitation in **northern California** and the **Northwest**. Much of the precipitation occurred early in the week, and was followed by a period of dry weather.

Early in the week, a few more river crest records were established across the **South**. For example, the **Sabine River near Deweyville, TX**, crested 9.24 feet above flood stage on March 15, toppling a May 1884 high-water mark by 1.04 feet. Meanwhile, the **Coldwater River near Marks, MS**, crested on March 16, edging a December 1991 standard by 0.19 foot. Elsewhere, record-setting warmth lingered across the **Deep South** and returned to the **nation's mid-section**. In **North Dakota**, daily-record highs for March 13 included 72°F in **Bismarck** and 68°F in **Jamestown**. **Bismarck** also set a record the following day, with a high of 73°F, while **Mobridge, SD**, climbed to 75°F. Farther south, March 14-15 featured consecutive daily-record highs of 87°F in **Shreveport, LA**. Other daily-record highs for March 15 included 92°F in **Austin, TX**, and 89°F in **Montgomery, AL**; **Tupelo, MS**; and **Daytona Beach, FL**. The parade of **Southeastern** records continued on March 16 with highs of 90°F in **New Bern, NC**, and 88°F in **Danville, VA**, and **Charleston, SC**. **New Bern** also tied a monthly record, previously attained on March 8, 1974, and March 30, 1985. In **Georgia**, **Savannah** posted consecutive daily-record highs of 87°F on March 15-16. Late in the week, however, dramatic change arrived across the **northern Intermountain West** and the **Plains**. **Big Piney, WY**, collected a daily-record low of -2°F on March 19. On March 20 in **Kansas**, **Garden City's** low daily-record low of 11°F marked a steep decline from a high of 79°F on the 14th.



Precipitation gradually ended across **northern California** and the **Northwest**, although daily-record totals for March 13 included 2.40 inches in **Redding, CA**, and 0.97 inch in **Salem, OR**. The **Northwestern** precipitation was accompanied by strong winds, which on March 13 in **Washington** gusted to 64 mph in **Bellingham** and 63 mph in **Hoquiam**. In **Yuba County, CA**, **Strawberry Valley** reported 10.44 inches of rain in a 72-hour period from March 11-14—just a week after receiving 11.04 inches in a 72-hour period from March 4-7. Farther east, rain spread northward across the **eastern half of the U.S.**, resulting in a daily-record total (1.15 inches on March 13) in **Topeka, KS**. Later, **Northwestern** storminess took aim on the **upper Midwest**. Record-setting amounts for March 14 reached 0.54 inch in **Pocatello, ID**, and 0.33 inch in **Wisdom, MT**. In **Wisconsin**, March 15-16 precipitation totals climbed to 3.35 inches in **Wisconsin Rapids** and 2.67 inches in **Wausau**. Daily-record snowfall totals included 6.8 inches (on March 16) in **International Falls, MN**, and 8.2 inches (on March 17) in **Marquette, MI**. Elsewhere, a few late-week showers and thunderstorms dotted the **Gulf Coast region**, where **New Orleans, LA**, netted a daily-record sum (1.98 inches) for March 18.

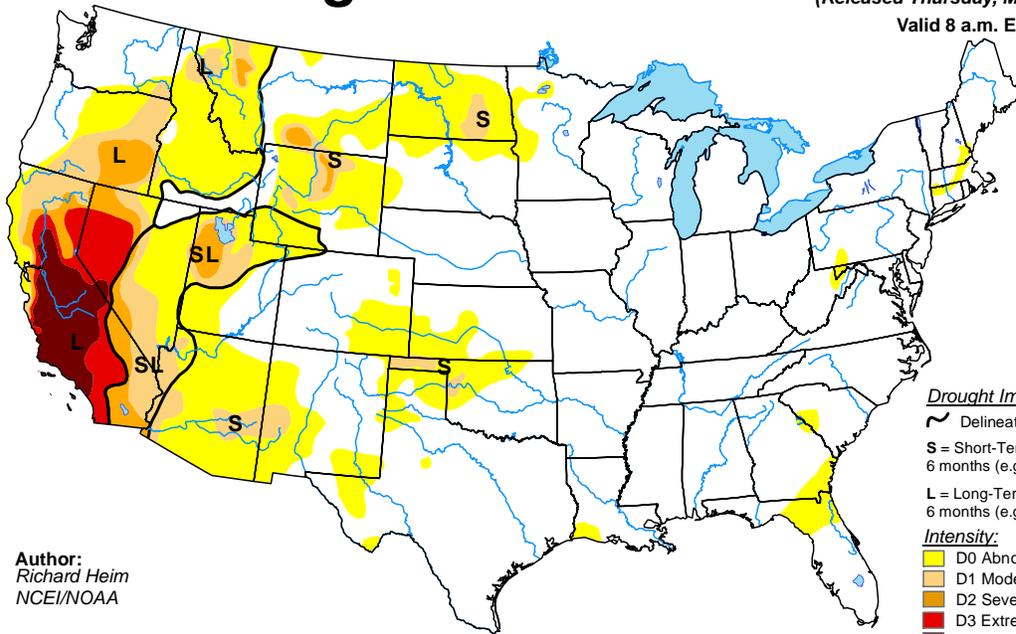
Parts of **west-central and southwestern Alaska** finally experienced cold weather, but mild conditions prevailed farther east. Lingering, early-week warmth led to daily-record highs for March 13 in **Alaska** locations such as **Juneau** and **King Salmon**—both 49°F. Later, significant snow developed in parts of **southern Alaska**, where Anchorage received 6.4 inches on March 19. Farther south, spotty showers dotted **Hawaii's** windward locations, although below-normal totals were noted in many places. On the **Big Island**, **Hilo's** month-to-date rainfall totaled 4.23 inches (53 percent of normal), more than half (2.30 inches) of which fell on March 12-13. On **Kauai's** famously wet **Mt. Waialeale**, 5.68 inches of rain fell in a 24-hour period on March 13-14. Elsewhere on **Kauai**, **Lihue's** March 1-19 rainfall totaled just 0.20 inch (7 percent of normal).

U.S. Drought Monitor

March 15, 2016

(Released Thursday, Mar. 17, 2016)

Valid 8 a.m. EDT



Author:
Richard Heim
NCEI/NOAA

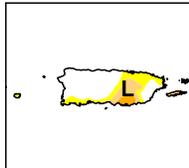
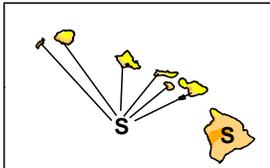
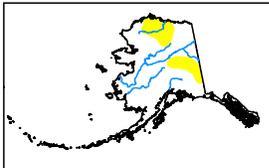
Drought Impact Types:

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

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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



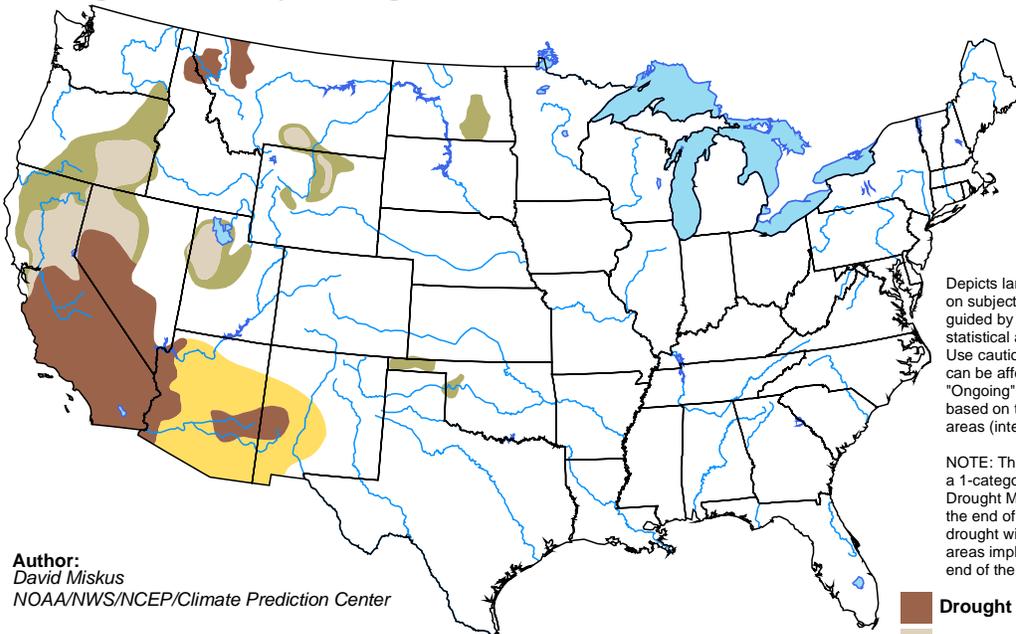
<http://droughtmonitor.unl.edu/>

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for March 17 - June 30, 2016

Released March 17, 2016

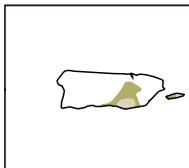
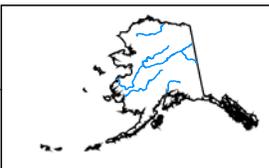


Author:
David Miskus
NOAA/NWS/NCEP/Climate Prediction Center

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/3eZ73>

National Weather Data for Selected Cities

Weather Data for the Week Ending March 19, 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP	
																90 AND ABOVE	32 AND BELOW	.01 INCH OF MORE	.50 INCH OF MORE
AL BIRMINGHAM	76	53	88	43	64	10	0.07	-1.36	0.04	3.15	86	13.89	104	90	32	0	0	3	0
HUNTSVILLE	75	50	85	42	62	10	0.63	-0.94	0.60	2.50	60	12.45	85	72	41	0	0	2	1
MOBILE	78	60	83	53	69	9	0.64	-1.06	0.54	5.18	117	14.63	96	99	74	0	0	2	1
AK MONTGOMERY	81	58	89	53	70	12	0.96	-0.52	0.72	2.82	69	13.48	93	87	43	0	0	2	1
ANCHORAGE	36	23	44	16	30	4	0.58	0.44	0.32	0.62	151	1.20	66	76	58	0	7	3	0
BARROW	-4	-14	0	-20	-9	5	0.00	0.00	0.00	0.00	0	1.16	483	86	74	0	7	0	0
FAIRBANKS	19	-1	22	-20	9	-1	0.00	-0.06	0.00	0.00	0	0.06	6	83	68	0	7	0	0
JUNEAU	45	32	49	25	39	6	0.50	-0.28	0.40	0.97	42	10.76	97	89	79	0	2	3	0
KODIAK	43	34	45	31	38	6	1.10	-0.06	0.50	3.73	117	27.02	158	96	86	0	2	6	1
NOME	14	-3	15	-9	5	-4	0.00	-0.11	0.00	0.02	6	1.04	52	69	61	0	7	0	0
AZ FLAGSTAFF	59	24	64	20	42	6	0.00	-0.61	0.00	0.22	13	4.00	62	74	18	0	7	0	0
PHOENIX	85	56	90	52	71	9	0.00	-0.25	0.00	0.00	0	1.31	57	35	20	1	0	0	0
PRESCOTT	69	35	74	31	52	8	0.00	-0.44	0.00	0.16	12	1.64	34	59	14	0	2	0	0
TUCSON	83	50	86	44	66	7	0.00	-0.18	0.00	0.12	21	1.83	75	33	15	0	0	0	0
AR FORT SMITH	71	46	83	35	58	6	0.49	-0.42	0.27	4.16	176	6.31	86	78	33	0	0	2	0
LITTLE ROCK	72	51	87	44	62	9	1.36	0.27	1.36	8.08	294	13.77	142	81	37	0	0	1	1
CA BAKERSFIELD	74	49	83	45	62	5	0.00	-0.33	0.00	0.45	51	2.58	79	78	56	0	0	0	0
FRESNO	71	48	79	44	60	5	0.18	-0.33	0.18	2.93	203	7.68	134	87	67	0	0	1	0
LOS ANGELES	68	56	74	50	62	4	0.00	-0.56	0.00	1.40	82	5.07	65	86	64	0	0	0	0
REDDING	71	48	82	42	60	8	2.46	1.26	2.46	8.06	238	21.65	141	75	52	0	0	1	1
SACRAMENTO	68	46	77	42	57	3	0.57	-0.08	0.42	4.97	260	11.23	121	91	48	0	0	2	0
SAN DIEGO	70	58	74	56	64	4	0.00	-0.53	0.00	0.45	31	3.71	64	81	66	0	0	0	0
SAN FRANCISCO	66	52	76	47	59	5	0.92	0.17	0.91	5.04	229	11.47	108	92	79	0	0	2	1
STOCKTON	69	45	76	41	57	2	0.72	0.20	0.66	3.52	236	8.91	134	91	65	0	0	2	1
CO ALAMOSA	57	16	61	8	37	4	0.00	-0.08	0.00	0.00	0	0.98	144	69	23	0	7	0	0
CO SPRINGS	50	28	66	16	39	2	0.17	-0.05	0.17	0.17	33	1.71	149	70	23	0	6	1	0
DENVER INTL	47	29	65	20	38	0	0.28	0.07	0.20	0.29	53	1.27	126	67	30	0	5	2	0
GRAND JUNCTION	57	30	62	25	44	1	0.14	-0.08	0.09	0.41	73	1.78	107	71	31	0	5	3	0
PUEBLO	59	28	74	14	44	3	0.10	-0.11	0.10	0.10	21	0.97	92	57	31	0	6	1	0
CT BRIDGEPORT	55	40	63	32	48	9	0.99	0.05	0.90	1.38	58	8.54	94	75	47	0	1	3	1
HARTFORD	56	37	65	25	46	8	0.80	-0.07	0.48	1.39	62	8.22	91	77	55	0	2	4	0
DC WASHINGTON	64	47	74	38	55	9	0.63	-0.21	0.26	0.80	36	7.27	90	85	53	0	0	5	0
DE WILMINGTON	58	42	67	36	50	8	0.92	0.01	0.71	1.20	50	7.92	92	89	53	0	0	3	1
FL DAYTONA BEACH	84	66	89	63	75	10	0.11	-0.77	0.08	0.12	5	10.83	133	97	49	0	0	3	0
JACKSONVILLE	83	63	88	61	73	12	0.41	-0.48	0.20	0.57	25	8.22	90	99	54	0	0	4	0
KEY WEST	82	74	82	71	78	4	0.00	-0.40	0.00	0.11	11	7.19	151	96	72	0	0	0	0
MIAMI	87	71	89	69	79	7	0.01	-0.52	0.01	0.02	1	10.44	197	90	52	0	0	1	0
ORLANDO	86	66	90	62	76	9	0.11	-0.71	0.11	0.19	9	7.53	109	93	50	1	0	1	0
PENSACOLA	74	65	79	60	69	8	0.00	-1.51	0.00	0.00	0	8.65	62	91	70	0	0	0	0
TALLAHASSEE	82	64	89	61	73	12	1.35	-0.19	0.87	1.95	48	10.64	76	91	56	0	0	5	1
TAMPA	80	70	82	66	75	8	0.57	-0.08	0.33	0.57	31	9.28	137	93	68	0	0	3	0
WEST PALM BEACH	86	70	89	67	78	8	0.13	-0.70	0.13	0.14	7	12.69	153	88	52	0	0	1	0
GA ATHENS	81	53	86	47	67	14	0.12	-1.03	0.12	1.26	40	9.42	77	85	39	0	0	1	0
ATLANTA	78	56	85	51	67	13	0.01	-1.25	0.01	1.65	48	14.18	108	75	38	0	0	1	0
AUGUSTA	82	55	86	50	68	12	0.30	-0.76	0.25	1.48	52	6.90	60	92	41	0	0	2	0
COLUMBUS	80	58	87	54	69	12	0.36	-0.98	0.16	1.55	43	8.98	70	92	34	0	0	3	0
MACON	81	56	87	52	69	13	0.37	-0.75	0.29	1.69	55	7.42	59	92	41	0	0	4	0
SAVANNAH	82	63	87	60	72	13	0.21	-0.60	0.11	0.88	43	7.29	82	90	57	0	0	4	0
HI HILO	80	67	83	67	74	2	2.64	-0.65	1.20	4.15	51	8.73	33	88	76	0	0	6	2
HONOLULU	81	68	84	65	75	1	0.00	-0.42	0.00	0.02	2	0.46	7	72	65	0	0	0	0
KAHULUI	80	65	88	63	73	0	0.31	-0.21	0.28	0.53	38	2.08	28	84	71	0	0	3	0
LIHUE	78	67	81	63	73	0	0.02	-0.79	0.01	0.20	9	1.37	14	78	68	0	0	2	0
ID BOISE	52	35	63	28	44	0	0.41	0.11	0.18	0.81	100	2.31	69	83	56	0	1	4	0
LEWISTON	55	34	63	27	44	-1	0.11	-0.13	0.06	0.73	118	2.31	85	81	53	0	1	2	0
POCATELLO	46	29	53	19	37	-1	0.94	0.64	0.55	1.97	243	3.25	110	87	67	0	6	3	1
IL CHICAGO/O'HARE	53	41	58	32	47	10	0.85	0.29	0.66	1.30	97	3.37	71	85	66	0	1	4	1
MOLINE	57	40	72	31	49	11	0.57	-0.06	0.30	0.98	64	2.31	50	80	59	0	1	4	0
PEORIA	59	43	74	33	51	12	0.92	0.30	0.53	1.42	90	2.80	59	81	49	0	0	2	1
ROCKFORD	53	40	60	30	46	10	1.62	1.12	1.13	2.03	172	3.56	91	83	64	0	1	4	1
SPRINGFIELD	62	45	77	36	53	12	1.11	0.40	0.70	1.86	103	4.19	80	85	47	0	0	3	1
IN EVANSVILLE	66	46	82	35	56	10	0.86	-0.10	0.60	3.93	156	10.27	120	83	56	0	0	3	1
FORT WAYNE	55	40	62	27	48	10	0.72	0.10	0.72	1.71	110	4.76	86	88	60	0	1	1	1
INDIANAPOLIS	63	46	73	36	54	13	0.49	-0.28	0.41	1.90	95	5.61	81	79	49	0	0	2	0
SOUTH BEND	53	35	61	26	44	7	0.99	0.37	0.81	1.86	121	5.64	97	91	65	0	2	3	1
IA BURLINGTON	57	41	74	26	49	9	1.30	0.64	0.74	1.79	109	3.17	71	91	56	0	2	3	2
CEDAR RAPIDS	55	38	63	25	46	10	0.82	0.34	0.46	1.17	104	2.70	83	96	61	0	3	4	0
DES MOINES	57	41	74	31	49	11	1.17	0.71	0.94	1.43	131	3.20	97	79	55	0	1	3	1
DUBUQUE	50	36	55	24	43	9	0.83	0.27	0.39	1.35	100	2.43	60	93	69	0	3	4	0
SIoux CITY	56	37	73	23	47	11	0.41	-0.03	0.23	0.48	48	2.32	105	80	61	0	3	3	0
WATERLOO	51	38	60	26	45	10	1.12	0.67	0.74	1.43	135	3.15	107	87	71	0	3	5	1
KS CONCORDIA	59	36	77	23	47	5	0.05	-0.50	0.05	0.12	9	1.67	61	78	57	0	4	1	0
DODGE CITY	59	30	77	18	44	0	0.03	-0.38	0.03	0.04	4	0.63	28	69	34	0	5	1	0
GOODLAND	56	27	77	15	42	3	0.08	-0.20	0.08	0.09	13	0.95	61	66	32	0	5	1	0
TOPEKA	61	38	76	29	50	6	1.20	0.63	1.15	1.86	132	3.13	88	81	48	0	3	3	1

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending March 19, 2016

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN. SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL IN. SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
KY WICHITA	63	37	80	27	50	5	0.80	0.17	0.80	0.91	59	1.65	48	77	46	0	2	1	1	
KY JACKSON	69	49	80	36	59	12	0.26	-0.74	0.19	1.16	42	10.72	107	75	34	0	0	2	0	
KY LEXINGTON	67	47	78	34	57	12	0.60	-0.42	0.53	1.58	58	7.92	85	82	51	0	0	2	1	
KY LOUISVILLE	70	51	82	41	60	13	0.72	-0.30	0.48	2.92	108	8.74	95	78	40	0	0	4	0	
LA PADUCAH	68	45	82	36	57	10	1.04	0.10	0.86	5.38	210	10.84	109	86	43	0	0	3	1	
LA BATON ROUGE	78	60	84	52	69	9	0.42	-0.69	0.22	8.70	291	18.01	126	93	56	0	0	2	0	
LA LAKE CHARLES	78	62	81	51	70	9	0.07	-0.73	0.06	1.21	58	7.38	68	94	64	0	0	2	0	
LA NEW ORLEANS	80	63	85	55	72	10	2.29	1.14	1.98	3.00	96	11.13	77	89	67	0	0	3	1	
LA SHREVEPORT	76	55	87	50	66	8	0.05	-0.87	0.05	12.19	478	17.21	151	84	43	0	0	1	0	
ME CARIBOU	35	19	47	7	27	3	0.77	0.20	0.44	2.14	144	7.61	117	79	53	0	7	4	0	
ME PORTLAND	49	33	60	23	41	8	1.10	0.17	0.82	2.92	123	10.46	109	78	47	0	3	5	1	
MD BALTIMORE	60	42	69	35	51	8	1.34	0.43	0.75	1.79	73	10.99	123	88	64	0	0	4	1	
MA BOSTON	52	39	64	29	45	7	1.48	0.62	1.08	2.39	106	9.83	104	81	50	0	1	5	1	
MA WORCESTER	50	35	61	24	43	9	1.27	0.31	0.57	2.21	89	9.59	99	84	44	0	2	4	1	
MI ALPENA	43	30	50	16	36	8	1.26	0.78	0.83	2.08	175	6.61	154	91	60	0	3	4	1	
MI GRAND RAPIDS	50	36	58	27	43	9	1.23	0.67	0.76	2.19	167	7.12	146	88	59	0	2	4	1	
MI HOUGHTON LAKE	46	31	56	20	39	10	1.14	0.69	0.80	1.83	168	4.95	125	90	62	0	3	4	1	
MI LANSING	50	37	57	25	44	10	1.16	0.67	1.00	2.19	189	5.35	127	88	67	0	3	4	1	
MI MUSKOGON	50	36	59	30	43	9	0.72	0.21	0.29	1.35	109	5.56	110	82	61	0	3	4	0	
MI TRAVERSE CITY	47	34	59	23	41	11	0.77	0.36	0.46	1.14	116	4.92	86	88	53	0	2	4	0	
MN DULUTH	38	29	51	20	33	8	2.56	2.19	1.53	2.89	348	4.77	172	91	80	0	4	5	2	
MN INT'L FALLS	43	22	60	2	32	9	2.25	2.05	1.12	2.45	533	3.81	196	95	68	0	6	4	2	
MN MINNEAPOLIS	48	38	58	27	43	11	1.02	0.61	0.84	1.07	115	2.47	89	82	67	0	3	5	1	
MN ROCHESTER	47	37	57	27	42	12	1.24	0.85	1.05	1.53	176	2.93	114	93	81	0	3	5	1	
MN ST. CLOUD	45	36	56	24	40	12	0.44	0.13	0.30	0.54	81	1.50	74	94	69	0	3	4	0	
MS JACKSON	77	55	87	43	66	9	1.69	0.41	1.17	10.11	306	21.70	161	89	43	0	0	3	1	
MS MERIDIAN	75	52	85	43	64	7	1.62	0.02	1.47	8.24	196	15.73	102	96	60	0	0	3	1	
MS TUPELO	75	50	89	39	63	10	0.86	-0.60	0.70	3.97	102	11.14	81	80	41	0	0	2	1	
MO COLUMBIA	62	43	80	31	52	8	0.07	-0.63	0.06	1.20	66	2.85	50	87	47	0	1	2	0	
MO KANSAS CITY	60	38	74	26	49	5	0.08	-0.47	0.04	1.16	83	2.32	60	84	45	0	3	3	0	
MO SAINT LOUIS	65	48	82	38	57	12	0.36	-0.45	0.14	0.82	39	2.42	37	79	53	0	0	3	0	
MO SPRINGFIELD	64	43	80	30	53	7	0.45	-0.40	0.45	1.88	90	3.16	49	79	43	0	1	1	0	
MT BILLINGS	49	26	64	12	38	1	0.05	-0.19	0.03	0.05	9	0.58	30	70	29	0	5	2	0	
MT BUTTE	38	17	50	0	28	-2	0.18	0.00	0.08	0.40	91	0.87	60	87	38	0	7	4	0	
MT CUT BANK	45	21	56	11	33	2	0.00	-0.11	0.00	0.00	0	0.48	52	84	27	0	7	0	0	
MT GLASGOW	45	25	61	17	35	5	0.00	-0.08	0.00	0.44	200	1.11	134	76	47	0	6	0	0	
MT GREAT FALLS	48	21	57	10	34	1	0.09	-0.13	0.08	0.13	25	0.78	45	79	26	0	6	2	0	
MT HAVRE	48	24	59	8	36	4	0.03	-0.12	0.02	0.22	59	0.68	57	82	42	0	5	2	0	
MT MISSOULA	46	27	55	19	37	0	0.59	0.38	0.24	0.69	128	1.80	76	86	61	0	5	5	0	
NE GRAND ISLAND	57	32	77	23	44	6	0.17	-0.29	0.15	0.19	18	2.37	103	80	46	0	4	3	0	
NE LINCOLN	59	36	78	28	48	9	0.52	0.02	0.51	0.58	50	2.17	87	81	56	0	3	2	1	
NE NORFOLK	56	34	76	20	45	8	0.20	-0.24	0.20	0.25	24	2.40	102	81	50	0	4	1	0	
NE NORTH PLATTE	55	21	74	13	38	0	0.07	-0.20	0.03	0.07	11	1.33	86	85	29	0	6	3	0	
NE OMAHA	59	39	78	28	49	10	0.29	-0.19	0.20	0.39	35	2.11	78	80	55	0	2	3	0	
NE SCOTTSBLUFF	52	25	68	15	39	2	0.00	-0.24	0.00	0.20	34	0.97	57	74	26	0	6	0	0	
NE VALENTINE	53	23	73	10	38	3	0.00	-0.24	0.00	0.02	4	0.70	52	83	50	0	6	0	0	
NV ELY	56	23	64	19	39	3	0.00	-0.24	0.00	0.28	44	3.31	156	75	36	0	6	0	0	
NV LAS VEGAS	77	54	84	51	66	8	0.00	-0.13	0.00	0.00	0	0.55	33	34	18	0	0	0	0	
NV RENO	64	35	75	29	50	7	0.00	-0.19	0.00	0.28	48	2.40	89	64	38	0	2	0	0	
NV WINNEMUCCA	59	29	70	19	44	3	0.00	-0.19	0.00	0.46	96	2.57	133	78	47	0	5	0	0	
NH CONCORD	53	33	64	23	43	10	0.43	-0.25	0.19	1.74	99	7.52	106	77	44	0	2	4	0	
NJ NEWARK	59	43	66	35	51	9	0.55	-0.42	0.52	0.82	33	8.87	94	76	41	0	0	2	1	
NM ALBUQUERQUE	67	36	71	30	52	4	0.00	-0.14	0.00	0.00	0	0.42	33	36	15	0	1	0	0	
NY ALBANY	55	36	64	23	46	12	0.48	-0.21	0.25	0.77	44	6.08	95	77	36	0	2	4	0	
NY BINGHAMTON	49	34	62	19	42	10	0.38	-0.26	0.31	0.95	56	6.66	99	87	61	0	2	3	0	
NY BUFFALO	49	35	58	22	42	8	0.39	-0.27	0.15	1.53	89	6.81	93	84	61	0	2	5	0	
NY ROCHESTER	50	37	61	22	43	10	0.53	-0.03	0.38	0.90	62	6.20	106	84	62	0	2	6	0	
NY SYRACUSE	50	34	63	20	42	9	0.94	0.27	0.39	1.87	112	8.59	134	92	55	0	2	5	0	
NC ASHEVILLE	73	46	80	37	59	13	0.65	-0.40	0.59	0.89	32	9.87	92	76	44	0	0	2	1	
NC CHARLOTTE	78	52	86	43	65	12	0.23	-0.79	0.12	0.29	11	7.07	69	77	33	0	0	3	0	
NC GREENSBORO	74	52	86	40	63	14	0.22	-0.66	0.08	0.47	20	6.61	74	79	37	0	0	3	0	
NC HATTERAS	70	56	73	50	63	11	0.54	-0.62	0.34	3.36	112	16.47	129	95	64	0	0	3	0	
NC RALEIGH	76	52	86	43	64	14	2.79	1.85	1.60	3.04	118	9.44	94	79	45	0	0	3	2	
NC WILMINGTON	80	57	88	49	69	14	0.14	-0.84	0.13	1.30	49	13.36	123	88	38	0	0	2	0	
ND BISMARCK	50	28	73	19	39	10	0.11	-0.06	0.07	0.20	49	0.84	61	84	52	0	5	3	0	
ND DICKINSON	45	22	64	12	34	4	0.00	-0.11	0.00	0.10	45	0.52	51	85	35	0	6	0	0	
ND FARGO	47	34	63	23	41	14	0.13	-0.13	0.07	0.23	38	1.22	62	90	65	0	3	2	0	
ND GRAND FORKS	47	31	64	22	39	14	0.50	0.31	0.44	0.53	115	1.11	65	91	59	0	4	3	0	
ND JAMESTOWN	48	27	68	14	37	10	0.32	0.13	0.30	0.32	73	0.51	32	91	48	0	6	3	0	
ND WILLISTON	46	24	65	15	35	7	0.02	-0.14	0.02	0.08	22	1.21	93	78	49	0	7	1	0	
OH AKRON-CANTON	57	41	72	28	49	12	1.11	0.41	0.62	2.58	140	7.17	108	83	50	0	1	3	1	
OH CINCINNATI	64	46	74	32	55	11	0.81	-0.06	0.65	2.53	112	9.16	116	87	54	0	1	3	1	
OH CLEVELAND	55	42	70	30	49	12	1.27	0.63	0.65	2.76	167	7.35	114	85	53	0	2	3	2	
OH COLUMBUS	60	45	71	29	53	11	1.16	0.52	0.72	2.67	160	7.08	111	79	53	0	1	3	1	
OH DAYTON	60	44	70	27	52	12	1.13	0.41	0.54	3.25	180	8.07	120	84	53	0	1	3	2	
OH MANSFIELD	56	42	70	29	49	13	0.66	-0.08	0.32	2.36	130	7.26	110	90	49	0	2	3	0	

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending March 19, 2016

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL IN., SINCE JAN 01	PCT. NORMAL SINCE JAN 01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP	
																		01 INCH OR MORE	50 INCH OR MORE	01 INCH OR MORE	50 INCH OR MORE
OK TOLEDO	54	39	64	30	47	10	0.65	0.09	0.63	1.64	116	4.86	93	82	54	0	1	3	1		
OK YOUNGSTOWN	56	40	65	26	48	12	0.96	0.28	0.66	2.42	142	7.61	125	82	51	0	2	4	1		
OK OKLAHOMA CITY	68	42	83	30	55	4	0.02	-0.64	0.02	0.89	51	2.35	51	81	32	0	1	1	0		
OR TULSA	69	43	81	31	56	5	0.09	-0.73	0.09	2.04	97	3.23	57	77	45	0	1	1	0		
OR ASTORIA	56	41	67	32	48	2	2.14	0.47	1.26	9.78	209	32.06	145	85	67	0	1	3	2		
OR BURNS	50	30	55	25	40	3	0.10	-0.18	0.09	1.07	135	2.79	91	82	54	0	6	2	0		
OR EUGENE	57	41	64	36	49	3	1.53	0.21	0.76	3.93	105	13.77	78	88	73	0	0	5	2		
OR MEDFORD	64	41	73	38	52	5	0.25	-0.16	0.17	1.64	138	6.88	119	86	49	0	0	2	0		
OR PENDLETON	54	33	62	25	43	-2	0.10	-0.18	0.08	0.90	120	3.27	96	81	56	0	3	3	0		
OR PORTLAND	57	42	67	33	50	3	1.25	0.42	0.59	4.13	174	15.46	133	79	64	0	0	4	1		
OR SALEM	57	40	67	31	49	2	1.74	0.80	0.89	4.89	178	15.62	114	84	67	0	1	4	1		
PA ALLENTOWN	57	38	68	30	47	9	0.36	-0.45	0.34	0.48	23	9.51	114	84	57	0	1	3	0		
PA ERIE	53	39	64	26	46	10	0.13	-0.55	0.06	1.38	79	7.59	116	73	60	0	2	3	0		
PA MIDDLETOWN	57	40	68	33	49	8	0.71	-0.03	0.39	0.75	37	10.67	137	85	50	0	0	2	0		
PA PHILADELPHIA	58	44	71	38	51	8	1.14	0.27	1.01	1.46	65	8.45	99	80	56	0	0	6	1		
PA PITTSBURGH	60	44	73	32	52	13	0.97	0.25	0.73	1.79	96	6.72	97	83	42	0	1	3	1		
PA WILKES-BARRE	55	39	67	28	47	9	0.79	0.20	0.46	1.36	91	7.16	119	84	48	0	1	3	0		
PA WILLIAMSPORT	56	38	63	31	47	10	0.31	-0.39	0.19	0.61	33	7.03	96	83	51	0	2	3	0		
RI PROVIDENCE	55	39	65	29	47	9	1.71	0.72	1.08	2.09	82	10.46	101	77	50	0	1	5	2		
SC BEAUFORT	81	63	87	60	72	15	0.35	-0.47	0.17	1.10	52	7.08	76	91	46	0	0	4	0		
SC CHARLESTON	82	62	88	59	72	14	0.04	-0.89	0.02	0.80	34	9.09	95	86	41	0	0	2	0		
SC COLUMBIA	83	56	87	49	69	14	0.32	-0.73	0.24	0.99	35	7.62	67	77	34	0	0	2	0		
SC GREENVILLE	77	53	86	46	65	14	1.06	-0.19	0.66	1.25	37	9.50	79	77	35	0	0	2	1		
SD ABERDEEN	53	32	70	26	42	12	0.12	-0.17	0.07	0.24	37	0.93	58	86	59	0	4	3	0		
SD HURON	53	31	70	21	42	10	0.12	-0.24	0.08	0.13	16	1.00	53	90	48	0	4	2	0		
SD RAPID CITY	50	23	69	11	37	3	0.00	-0.21	0.00	0.04	8	0.90	68	70	31	0	6	0	0		
SD SIOUX FALLS	52	34	65	22	43	11	0.10	-0.29	0.05	0.13	15	1.81	96	86	63	0	4	3	0		
TN BRISTOL	70	44	77	34	57	11	0.36	-0.54	0.28	0.75	30	8.15	87	92	35	0	0	3	0		
TN CHATTANOOGA	75	49	85	44	62	11	0.81	-0.64	0.56	1.53	40	12.27	87	84	47	0	0	2	1		
TN KNOXVILLE	72	49	81	41	60	11	1.13	-0.07	1.13	1.52	47	11.41	97	79	37	0	0	1	1		
TN MEMPHIS	72	53	82	45	62	9	1.08	-0.17	0.97	11.77	358	19.62	166	74	39	0	0	3	1		
TN NASHVILLE	73	48	87	39	60	10	0.37	-0.76	0.36	2.73	90	9.36	88	78	35	0	0	2	0		
TX ABILENE	72	47	83	35	60	4	0.00	-0.30	0.00	2.31	282	3.03	104	69	49	0	0	0	0		
TX AMARILLO	66	34	82	26	50	2	0.00	-0.24	0.00	0.02	3	0.71	40	72	27	0	3	0	0		
TX AUSTIN	80	54	88	43	67	6	0.07	-0.41	0.06	3.26	235	5.44	103	83	53	0	0	2	0		
TX BEAUMONT	80	62	83	53	71	9	0.01	-0.83	0.01	4.12	190	10.08	90	98	60	0	0	1	0		
TX BROWNSVILLE	83	68	88	61	76	7	0.42	0.25	0.41	2.64	614	4.52	152	96	69	0	0	2	0		
TX CORPUS CHRISTI	81	67	89	56	74	8	0.91	0.54	0.88	6.16	576	8.45	187	92	74	0	0	3	1		
TX DEL RIO	83	54	92	46	69	5	0.00	-0.19	0.00	2.08	385	2.83	137	82	49	2	0	0	0		
TX EL PASO	77	49	81	40	63	6	0.00	-0.04	0.00	0.01	6	0.54	54	32	12	0	0	0	0		
TX FORT WORTH	75	52	89	42	63	6	0.00	-0.69	0.00	2.10	107	5.34	86	75	28	0	0	0	0		
TX GALVESTON	75	66	77	58	70	6	0.01	-0.61	0.01	1.25	77	5.21	63	100	78	0	0	1	0		
TX HOUSTON	80	59	87	50	70	8	0.00	-0.74	0.00	2.70	137	6.81	79	94	63	0	0	0	0		
TX LUBBOCK	72	39	83	27	56	5	0.00	-0.14	0.00	0.20	51	0.59	37	57	28	0	1	0	0		
TX MIDLAND	75	45	86	32	60	4	0.00	-0.08	0.00	0.34	121	0.82	59	54	31	0	1	0	0		
TX SAN ANGELO	78	47	87	40	63	6	0.00	-0.20	0.00	3.35	540	4.15	159	75	46	0	0	0	0		
TX SAN ANTONIO	81	58	90	48	69	7	0.08	-0.33	0.08	3.09	271	6.02	132	89	43	1	0	1	0		
TX VICTORIA	81	62	89	50	71	7	1.28	0.78	1.24	4.22	313	9.16	157	96	72	0	0	2	1		
TX WACO	77	51	89	42	64	6	0.00	-0.54	0.00	4.58	284	7.03	118	88	56	0	0	0	0		
TX WICHITA FALLS	70	44	86	32	57	3	0.03	-0.47	0.03	0.82	62	2.52	63	74	41	0	1	1	0		
UT SALT LAKE CITY	53	34	60	31	44	1	0.24	-0.18	0.24	0.89	80	3.35	88	79	39	0	3	1	0		
VT BURLINGTON	49	31	60	21	40	10	0.56	0.05	0.34	1.30	103	5.63	109	76	42	0	4	4	0		
VA LYNCHBURG	67	44	84	36	56	10	1.74	0.86	0.81	2.40	103	9.69	108	86	49	0	0	3	2		
VA NORFOLK	71	49	86	43	60	11	1.01	0.07	0.67	1.71	69	12.58	129	89	52	0	0	3	1		
VA RICHMOND	69	46	84	38	57	10	0.45	-0.50	0.19	0.70	28	8.35	92	91	62	0	0	4	0		
VA ROANOKE	67	48	83	39	58	11	1.48	0.60	1.03	1.86	80	10.09	117	84	51	0	0	3	1		
VA WASH/DULLES	62	42	75	35	52	9	0.91	0.11	0.56	1.03	48	9.28	117	87	60	0	0	3	1		
WA OLYMPIA	54	34	64	27	44	1	1.22	0.03	0.81	7.24	214	22.38	131	87	73	0	2	4	1		
WA QUILLAYUTE	54	35	63	30	45	1	1.27	-1.23	0.48	9.49	132	40.96	123	94	79	0	2	4	0		
WA SEATTLE-TACOMA	55	41	63	34	48	2	0.87	0.03	0.55	4.51	190	17.93	154	74	61	0	0	2	1		
WA SPOKANE	49	31	57	28	40	1	0.15	-0.18	0.15	2.03	214	5.49	128	81	45	0	5	1	0		
WA YAKIMA	57	31	63	26	44	2	0.31	0.17	0.31	1.82	455	4.54	192	71	47	0	5	1	0		
WV BECKLEY	65	45	75	34	55	13	0.85	0.02	0.62	1.56	70	7.85	93	75	41	0	0	4	1		
WV CHARLESTON	67	47	77	34	57	12	0.74	-0.16	0.41	2.06	84	9.23	104	84	38	0	0	4	0		
WV ELKINS	62	39	75	29	51	11	1.15	0.26	0.50	1.70	71	7.37	82	89	37	0	2	4	1		
WV HUNTINGTON	68	49	77	34	58	12	0.29	-0.59	0.21	1.92	81	9.38	108	78	43	0	0	3	0		
WI EAU CLAIRE	48	37	58	29	42	12	2.05	1.66	1.55	2.11	245	3.49	129	91	59	0	2	4	1		
WI GREEN BAY	46	34	51	26	40	9	1.50	1.06	0.73	1.79	174	4.27	131	91	69	0	2	4	1		
WI LA CROSSE	50	40	58	31	45	11	1.59	1.18	1.19	1.87	208	4.04	131	92	59	0	2	5	1		
WI MADISON	50	38	57	31	44	11	0.96	0.48	0.52	1.46	132	3.69	101	85	67	0	1	3	1		
WI MILWAUKEE	48	37	55	30	43	9	1.02	0.48	0.43	1.36	107	3.67	77	89	67	0	1	5	0		
WY CASPER	45	16	59	3	30	-5	0.00	-0.19	0.00	0.33	63	1.79	103	72	29	0	7	0	0		
WY CHEYENNE	41	25	58	15	33	-1	0.20	-0.02	0.15	0.51	93	1.71	119	65	36	0	6	2	0		
WY LANDER	44	23	57	15	33	-2	0.11	-0.15	0.07	0.61	100	1.53	92	73	25	0	7	2	0		
WY SHERIDAN	48	19	65	6	34	-1	0.02	-0.18	0.02	0.02	4	1.47	81	66	34	0	6	1	0		

Based on 1971-2000 normals

*** Not Available

Winter Weather Review

Weather summary provided by USDA/WAOB

Highlights: A top-three “warm episode” (El Niño) brought some widely expected winter weather impacts to the U.S., but also provided some surprises. For example, atmospheric warmth in part supplied by the balmy central and eastern equatorial Pacific Ocean contributed to the nation’s warmest December-February period on record. Similarly, the contiguous U.S. experienced its wettest winter since the record-setting El Niño of 1997-98. However, El Niño’s impacts on the Western winter wet season were somewhat reversed, with wetter conditions in the Pacific Northwest and drier weather in the Southwest. In addition, uncharacteristically wet conditions affected much of the Midwest, especially in December. And, the cool conditions that often cover the South during El Niño were present only periodically, mainly in January and February.

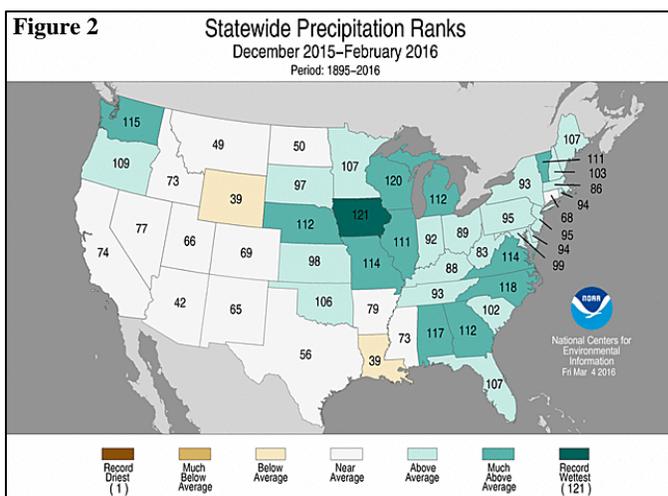
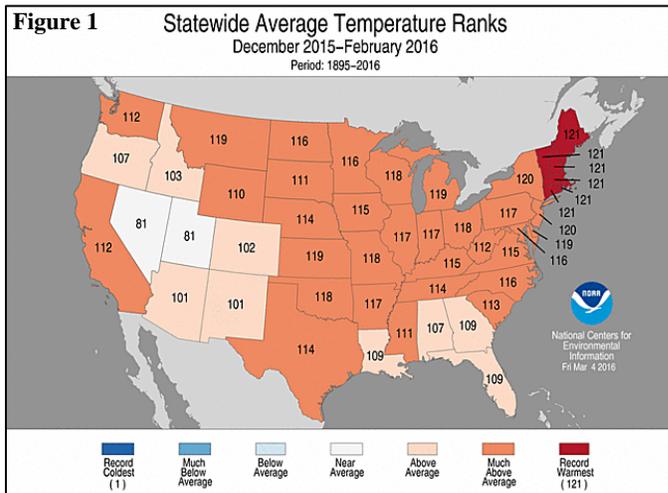
In fact, December seemed like anything but a winter month, ranking first all-time for both U.S. warmth and wetness. The wet conditions peaked in late December, culminating in record flooding in parts of the middle Mississippi Valley. Despite the overall December warmth, a late-month blizzard on the southern High Plains proved devastating for livestock. Elsewhere, storms during December and January provided Western drought relief. Although many of January’s storms were focused across the West, several had impacts farther east. For example, a blizzard struck the Mid-Atlantic States on January 22-23, with significant snow extending as far west as the interior Southeast. Warmth returned to nearly all of the U.S. during February, while storminess largely vacated the West. Despite the lack of late-winter storms in the West, overall U.S. drought coverage plunged from more than one-third (34.8%) of the Lower 48 States on October 20, 2015, to approximately one-seventh (14.3%) of the country on March 1, 2016.

Historical Perspective: Given the warming influence of El Niño and the lack of sustained cold waves, it was not surprisingly the warmest U.S. winter during the period of record that began in 1895-96. According to preliminary information provided by the National Centers for Environmental Information (NCEI), the nation’s winter average temperature of 36.8°F was 4.6°F above the 1901-2000 mean, edging the 1999-2000 standard of 36.5°F. It was the warmest winter on record in all six New England states, and among the ten warmest in 28 other states (figure 1). All 48 states were in the “warm” half of the historical distribution; Nevada and Utah were the “coolest” states, each reporting its 41st-warmest winter.

Meanwhile, the nation experienced its 12th-wettest winter—and wettest December-February period since the record-wet El Niño winter of 1997-98. December-February precipitation averaged 8.05 inches across the Lower 48 States, 119% of normal. It was the 39th-driest winter in Louisiana and Wyoming, but among the ten wettest winters in Washington, Nebraska, three Midwestern States, and four Southeastern States (figure 2).

December: Record-setting December warmth covered much of the Midwest and East, while heavy to record-setting precipitation fell across the Northwest, mid-South, and upper Midwest. Relentless precipitation further eased or eradicated Northwestern drought, but southern California and the Desert Southwest received little December moisture. Farther east, an already wet pattern in the nation’s mid-section culminated in a late-month deluge that drove the Mississippi River to record-high levels from Cape Girardeau, MO, to Thebes, IL. Record-breaking crests were also noted along several Mississippi River tributaries, especially in Missouri.

The wetness across the mid-South and lower Midwest increased concerns about soft red winter wheat due to standing water and low-



land flooding. During December, the portion of Illinois’ winter wheat rated in good to excellent condition fell from 67 to 58%. Excessively wet conditions also plagued parts of the Southeast, hampering final harvest and winter wheat planting efforts. In North Carolina, only 42% of the winter wheat was rated in good to excellent condition at the end of December, down from 69% on November 29.

Unusual warmth accompanied the general wetness across the eastern half of the country. In the Southeast, warm conditions allowed winter grains and cool-season pastures to continue to develop. Farther north, periods of snow blanketed the upper Midwest, despite above-normal temperatures. Occasional snow also fell across the Plains, providing winter wheat with some moisture and insulation. On the southern High Plains, however, a late-month blizzard caused significant livestock losses due to bitter cold and wind-driven snow.

According to NCEI, the contiguous U.S. experienced unprecedented December warmth and wetness. The nation’s monthly average temperature of 38.6°F was 6.0°F above the 1901-2000 mean and easily topped the December 1939 standard of 37.7°F. It was the warmest December on record in Iowa, Minnesota, and Missouri, along with every state east of the Mississippi River. Meanwhile, December precipitation averaged 3.93 inches, 167% of normal. Another El Niño-influenced December, 1982, slipped to second place on the all-time list with 3.76 inches. Two states, Iowa and Wisconsin,

weathered their wettest December, and it was among the ten wettest in eighteen other states stretching from Washington and Oregon to the Carolinas and Georgia.

January: Frequent storms, in part fueled by a strong El Niño, further dented Western drought and maintained generally adequate to locally excessive soil moisture across the central and eastern U.S.

In early January and again at month's end, a southward shift in the storm track brought significant precipitation to southern California and the Southwest. For the remainder of January, storms primarily crossed the Northwest, with meaningful precipitation often falling as far south as northern and central California. By the end of January, the average water content of the high-elevation Sierra Nevada snowpack stood at 20 inches, about 115% of average for the date.

Meanwhile, wet weather in southern Florida resulted in numerous January rainfall records and adversely affected winter vegetables and other crops. At times, high winds accompanied southern Florida's heavy rain. Farther north, a major winter storm on January 22-23 produced freezing rain in parts of the Carolinas and heavy snow from the interior Southeast to the northern Mid-Atlantic States.

Some of the coldest air of the season trailed the storm into the Southeast from January 23-25, although Florida's citrus belt escaped without a significant freeze. Elsewhere, near- to above-normal temperatures dominated the country during January, with colder-than-normal conditions mostly limited to the Southeast and areas blanketed by the January 22-23 snowfall.

Amid the overall stormy January pattern, a few areas began to turn dry. However, drier-than-normal January conditions across the southern Plains, mid-south, and parts of the Southeast were mostly favorable, following the excessive rainfall and flooding of October-December 2015. At the end of January, USDA categorized more than two-thirds of the winter wheat in good to excellent condition in several major production states, including Oklahoma (74% good to excellent); Ohio (74%); Michigan (73%); Montana (72%); Indiana (71%); and South Dakota (67%). In contrast, North Carolina's wheat continued to struggle from the effects of autumn wetness and delayed planting; only 36% of the state's crop was rated good to excellent on January 31.

By February 2, the U.S. drought coverage of 15.5% represented the smallest areal drought extent since October 26, 2010. As recently as October 20, 2015, contiguous U.S. drought coverage stood at 34.8%. In January, most of the remaining Western drought was only apparent when looking at long-term indicators such as below-average reservoir storage, groundwater shortages, and tree mortality.

According to NCEI, the contiguous U.S. experienced its 34th-warmest, 36th-driest January during the 122-year period of record. The nation's monthly average temperature of 32.2°F was 2.1°F above the 1901-2000 mean. State temperature rankings ranged from the 33rd-coolest January in West Virginia to the 11th-warmest January in Maine. Meanwhile, January precipitation averaged 2.03 inches, 88% of normal. However, Florida's precipitation averaged 5.96 inches, 201% of normal. It was the fourth-wettest January in Florida, behind 1991, 1979, and 1993. California (6.16 inches, 145% of normal) experienced its wettest January since 2010. It was also California's wettest October-January period (13.62 inches; 117% of normal) since 2009-10. In contrast, Ohio noted its ninth-driest January.

February: For the second time in 3 months, warmth stretched nearly coast to coast, with only small sections of the southern Atlantic States experiencing cooler-than-normal weather. Unlike December, when unprecedented warmth covered areas from the Mississippi Valley to

the East Coast, February's record-setting high temperatures were focused across the Plains.

As a result, winter wheat prematurely broke dormancy across the central and southern Plains, leaving the crop vulnerable to potential spring freezes. On the northern Plains, where February temperatures averaged more than 10°F above normal in some locations, wheat lost some winter hardiness and was often buffeted by breezy conditions. The Plains' most impressive warm spells peaked on February 18 and 27, with numerous monthly record highs established on both dates. During February, the portion of the winter wheat crop rated in good to excellent condition declined in Texas, from 49 to 40%, in part due to short-term dryness. Pockets of dryness also developed elsewhere across the southern half of the Plains. In contrast, early-month snowfall provided wheat with beneficial moisture across much of Nebraska, eastern Colorado, and northwestern Kansas.

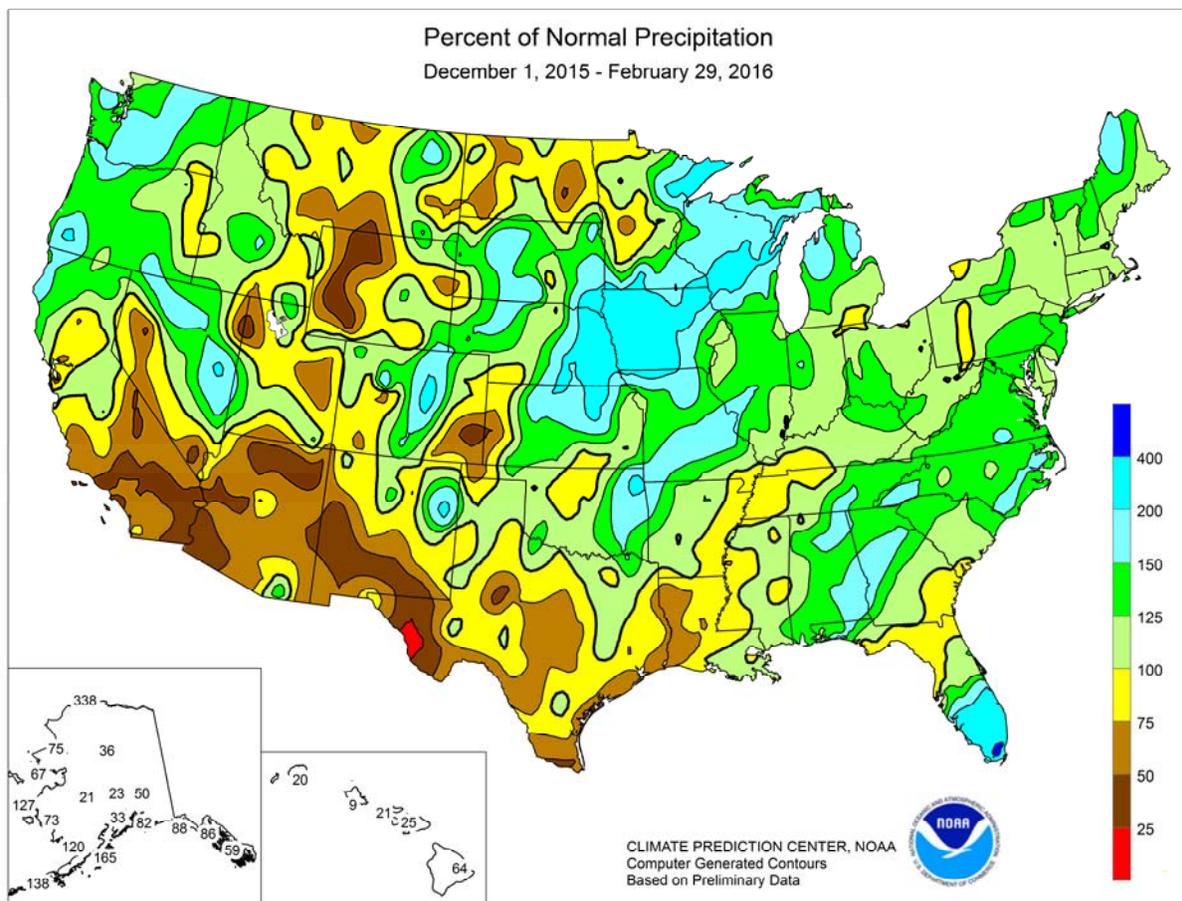
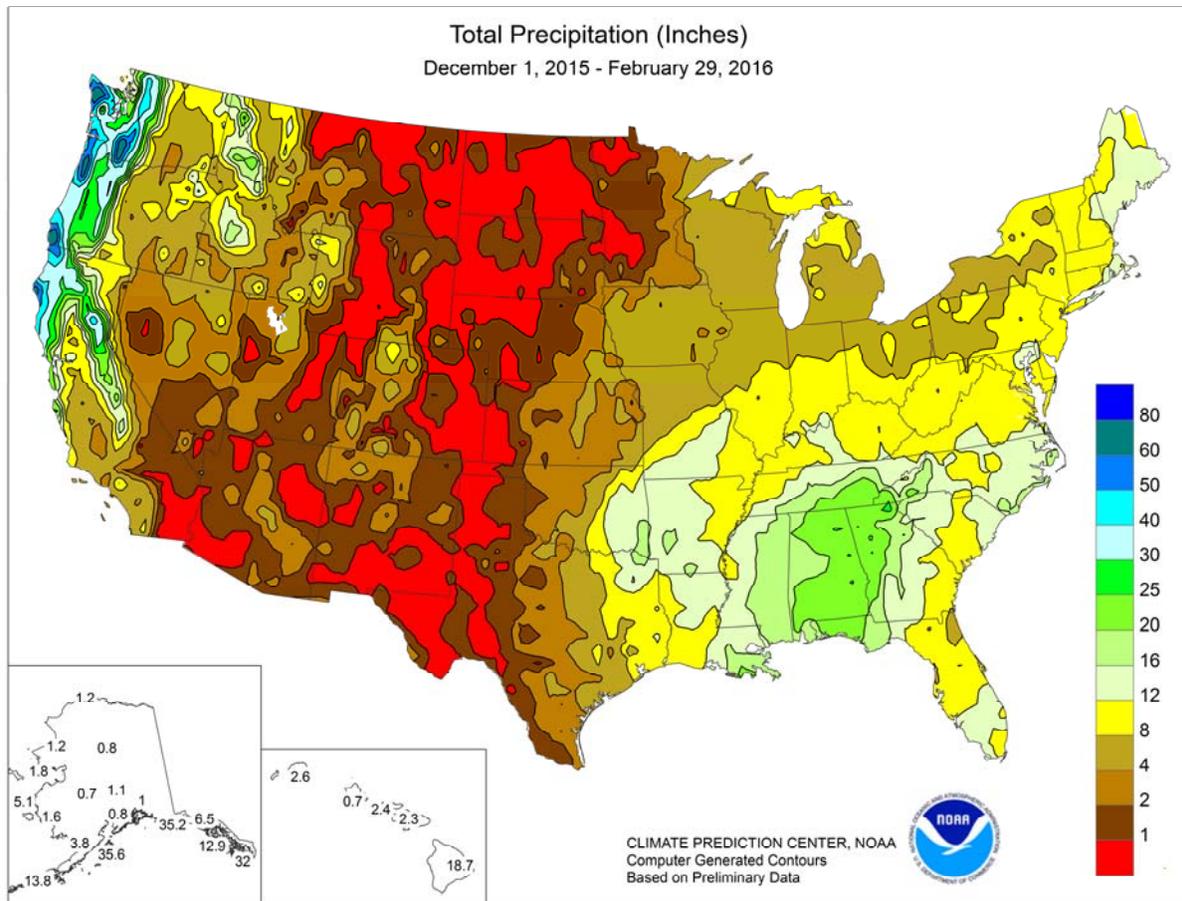
Uncharacteristic of a strong, mature El Niño, February was unusually dry across much of the West. During February, the average water content of the high-elevation Sierra Nevada snowpack was nearly steady at 20 to 22 inches, with only minor storms affecting key watersheds. Since February is typically an important month for Sierra Nevada snowpack accumulation, the percent of historic average dropped from about 115% of average on February 1 to just 85% by month's end. Farther north, occasional precipitation benefited Northwestern winter grains.

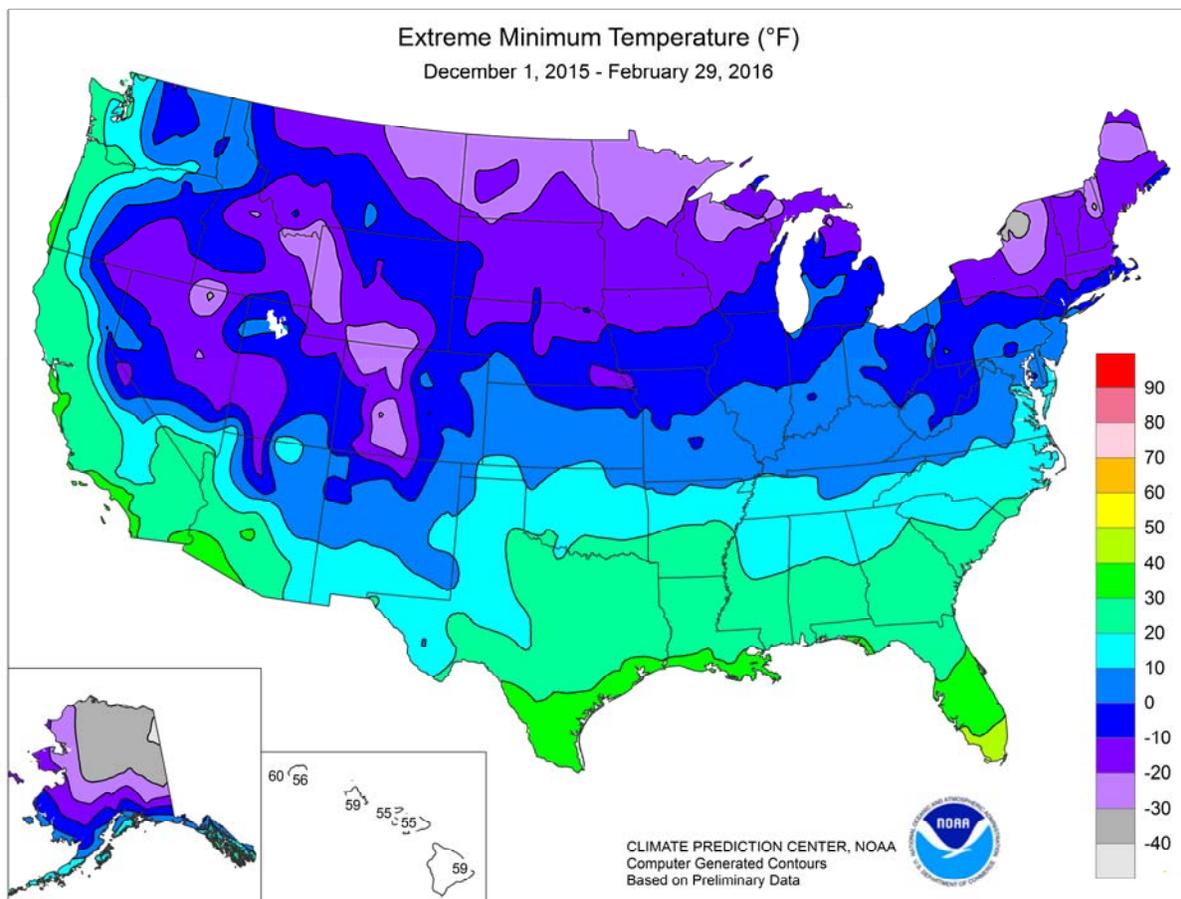
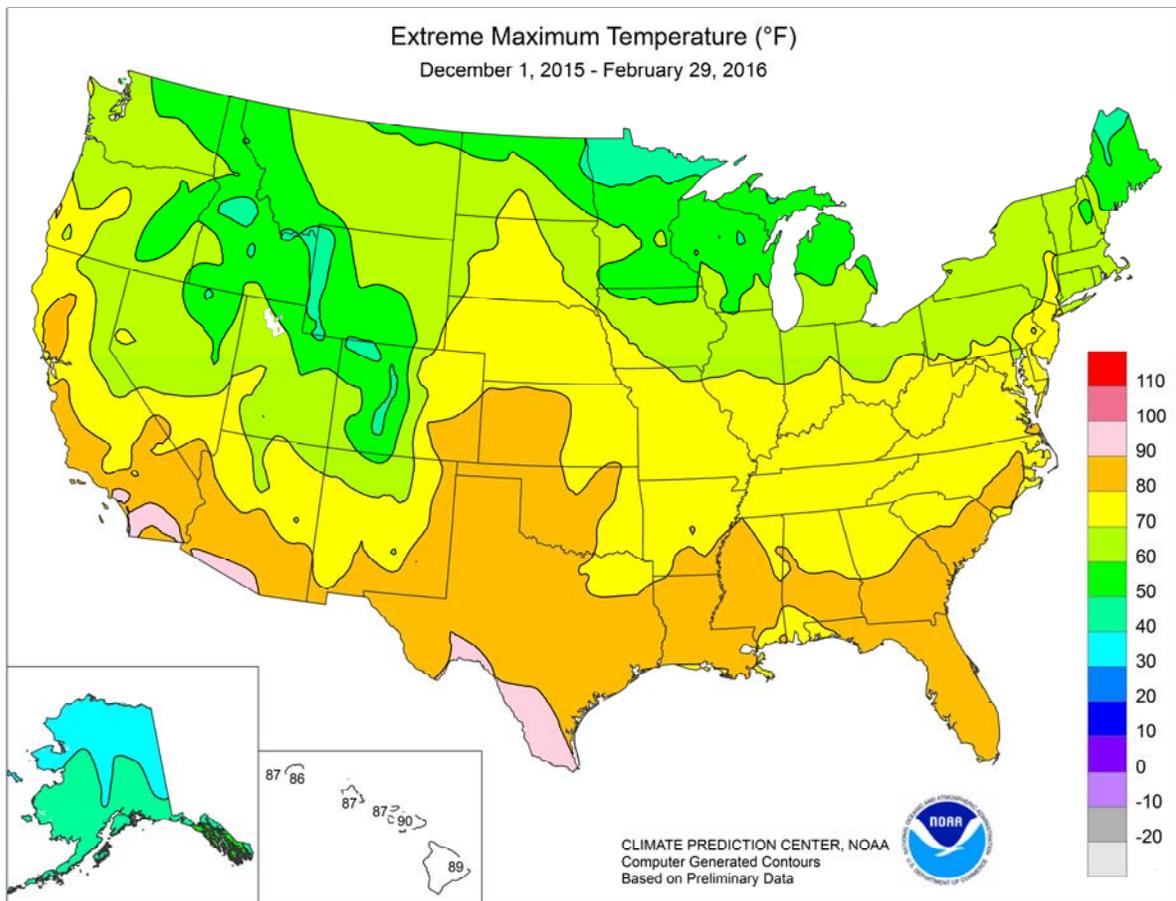
Meanwhile, mild, occasionally stormy conditions prevailed across the Midwest, although a mid-month cold snap briefly resulted in some of the coldest weather of the season. Overwintering conditions remained mostly favorable for Midwestern wheat, with more than two-thirds of the crop rated in good to excellent condition at the end of February in Ohio (72%) and Indiana (67%).

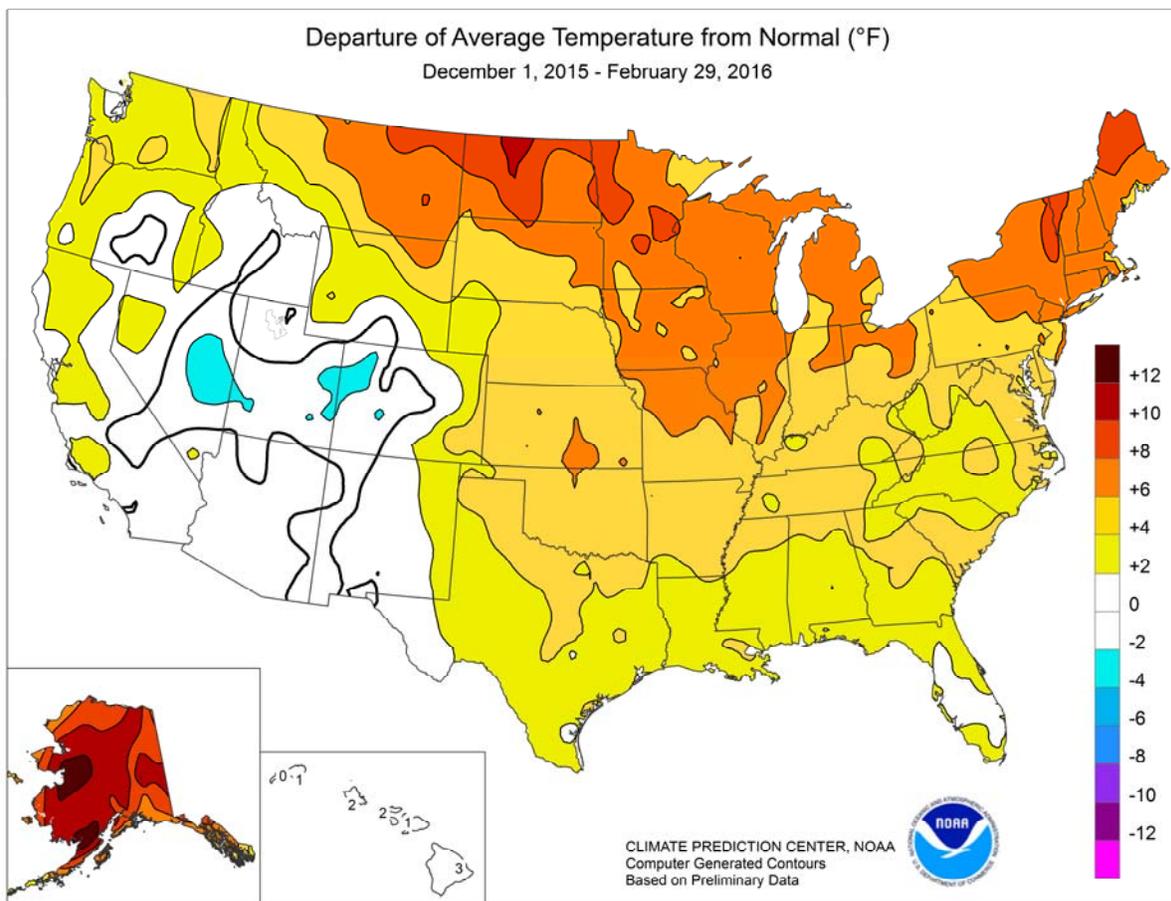
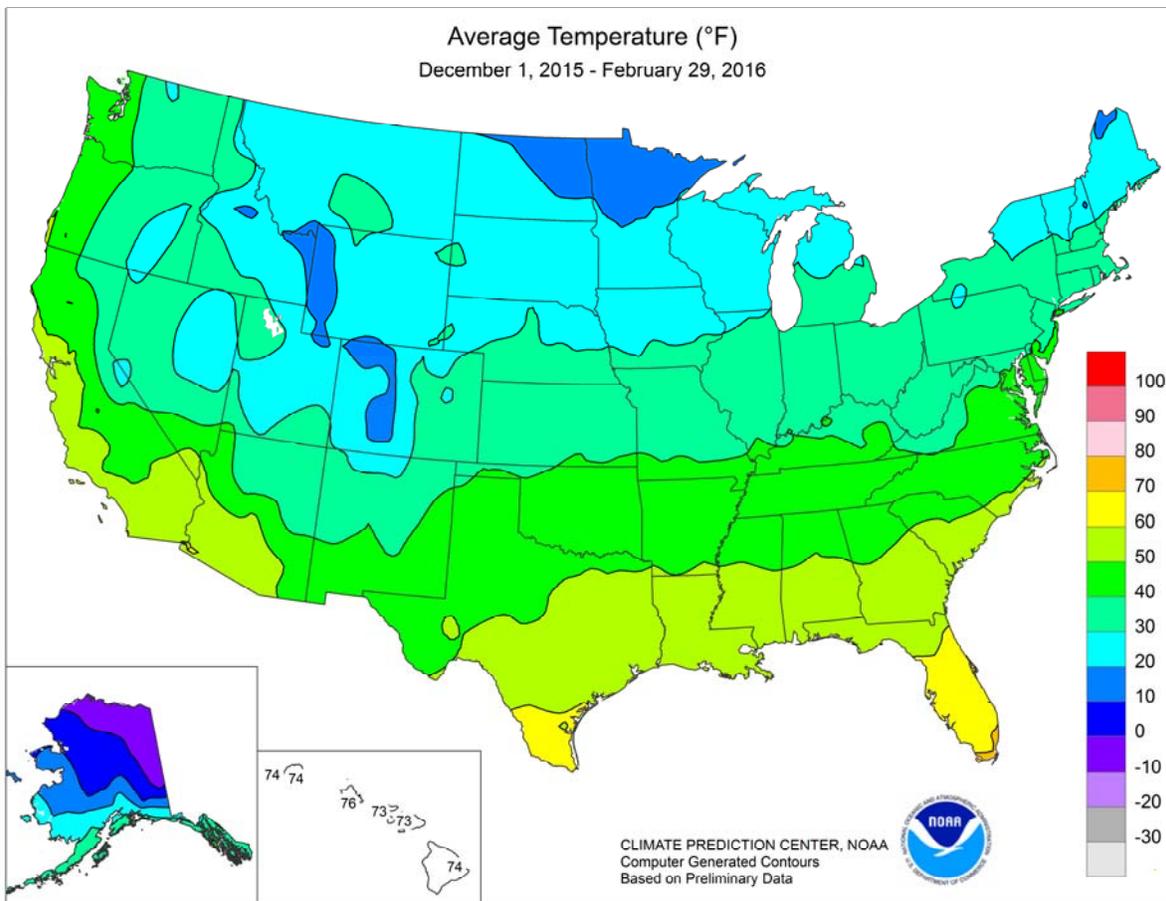
Similarly, the mid-month cold spell interrupted an otherwise mild regime in the Northeast, while cool conditions were a little more persistent in the Southeast. An abundance of precipitation fell during February across most of the eastern one-third of the country, with some of the heaviest rain occurring in the coastal Carolinas. Severe weather outbreaks were noted across portions of the South and East on February 2-3, 15-16, and 23-24. From the Ohio Valley into the Northeastern and Mid-Atlantic States, some of the precipitation—especially around mid-month—fell as snow, sleet, or freezing rain.

By February 29, only one-eighth (12.5%) of the country was covered by snow, compared to 60.2% at the end of February 2015. At the same time, just 14.3% of the nation was experiencing drought on March 1, according to the U.S. Drought Monitor, versus 34.8% on October 20, 2015. Drought coverage across the contiguous U.S. has not been lower in more than 5 years, since October 2010.

According to NCEI, the contiguous U.S. experienced its seventh-warmest, 46th-driest February during the 122-year period of record. The nation's monthly average temperature of 39.5°F was 5.7°F above the 1901-2000 mean, while the average precipitation of 1.93 inches was 91% of normal. Overall, it was the nation's warmest February since 2000. All states reported a February average temperature in the upper (warm) half of the historical distribution. For a dozen states across the western and central U.S., as well as three states in New England, temperatures were among the ten highest respective February values on record. In Montana, where the monthly average temperature of 33.6°F was 12.3°F above the 20th century mean, it was the second-warmest February behind 1991. Meanwhile, state precipitation rankings ranged from the 14th-driest February in California to top-ten values for February wetness in New Hampshire, New York, Maine, and Vermont. California's monthly precipitation averaged 1.14 inches, just 30% of normal.







National Weather Data for Selected Cities

Winter 2015-16

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMP. °F		PRECIP.		STATES AND STATIONS	TEMP. °F		PRECIP.		STATES AND STATIONS	TEMP. °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	50	5	21.27	7.14	LEXINGTON	39	4	13.55	2.91	COLUMBUS	36	5	9.29	1.63
AL HUNTSVILLE	47	5	20.63	4.57	LONDON-CORBIN	40	3	13.53	1.49	DAYTON	35	6	9.21	1.24
AL MOBILE	55	3	21.83	6.32	LOUISVILLE	42	6	12.40	2.18	MANSFIELD	33	6	9.06	1.00
AL MONTGOMERY	53	4	24.79	9.33	PADUCAH	42	6	12.88	1.10	TOLEDO	33	6	6.20	-0.25
AK ANCHORAGE	26	9	0.81	-1.66	LA BATON ROUGE	56	4	15.64	-0.91	YOUNGSTOWN	33	5	9.38	2.05
AK BARROW	-5	8	1.20	0.85	LAKE CHARLES	56	3	9.41	-3.99	OK OKLAHOMA CITY	44	5	4.53	-0.20
AK COLD BAY	33	4	13.75	3.75	NEW ORLEANS	59	5	14.59	-1.82	TULSA	44	5	9.79	3.81
AK FAIRBANKS	3	10	0.13	-1.53	SHREVEPORT	53	4	7.91	-5.45	OR ASTORIA	47	4	42.81	14.92
AK JUNEAU	35	7	12.21	-2.03	ME BANGOR	27	6	11.03	1.82	BURNS	26	0	5.10	1.51
AK KING SALMON	30	14	3.78	0.64	MA BOSTON	22	9	10.35	2.13	EUGENE	45	4	23.45	1.16
AK KODIAK	36	6	35.57	14.04	PORTLAND	31	6	12.88	1.41	MEDFORD	44	4	12.97	5.50
AK NOME	16	9	1.80	-0.88	MD BALTIMORE	39	4	15.05	5.21	PENDLETON	38	3	4.65	0.50
AZ FLAGSTAFF	31	0	4.81	-1.76	MA BOSTON	37	5	11.72	0.77	PORTLAND	45	4	26.57	11.61
AZ PHOENIX	58	2	1.52	-1.00	WORCESTER	33	7	12.03	1.06	SALEM	45	4	25.97	8.58
AZ TUCSON	55	2	2.18	-0.72	MI ALPENA	27	7	8.32	3.38	PA ALLENTOWN	36	6	13.22	3.58
AR FORT SMITH	46	5	12.96	4.61	MI DETROIT	33	6	6.37	0.07	ERIE	35	6	10.10	1.56
AR LITTLE ROCK	48	5	14.07	2.42	FLINT	33	9	5.75	0.65	MIDDLETOWN	36	5	14.21	5.20
CA BAKERSFIELD	52	3	2.71	-0.44	GRAND RAPIDS	32	7	8.26	2.00	PHILADELPHIA	41	6	12.13	2.56
CA EUREKA	50	2	29.70	11.87	Houghton Lake	27	7	6.69	2.08	PITTSBURGH	35	5	7.97	0.04
CA FRESNO	50	3	7.72	2.10	LANSING	31	7	5.88	0.65	WILKES-BARRE	35	6	8.35	1.26
CA LOS ANGELES	59	2	4.75	-3.13	MUSKEGON	32	6	9.11	2.67	WILLIAMSPORT	***	***	9.78	1.38
CA REDDING	50	3	21.80	5.14	TRAVERSE CITY	30	7	8.87	1.44	PR SAN JUAN	79	2	8.98	-0.91
CA SACRAMENTO	51	3	8.01	-1.82	MN DULUTH	19	7	5.58	2.69	RI PROVIDENCE	37	6	13.17	1.21
CA SAN DIEGO	60	2	4.14	-1.49	INT'L FALLS	15	8	2.43	0.25	SC CHARLESTON	54	4	11.43	1.03
CA SAN FRANCISCO	53	3	9.80	-1.55	MINNEAPOLIS	24	7	3.72	0.89	COLUMBIA	51	5	13.08	1.20
CA STOCKTON	50	3	7.85	0.86	ROCHESTER	22	6	4.61	1.90	FLORENCE	50	3	14.55	3.97
CO ALAMOSA	21	3	1.23	0.44	ST. CLOUD	21	8	1.98	-0.06	GREENVILLE	47	4	18.33	5.82
CO CO SPRINGS	34	5	1.79	0.74	MS JACKSON	52	5	17.46	1.95	MYRTLE BEACH	52	4	14.10	3.49
CO DENVER	33	3	1.69	0.92	MERIDIAN	51	3	13.57	-3.01	SD ABERDEEN	23	8	1.33	-0.01
CO GRAND JUNCTION	27	-2	2.06	0.44	TUPELO	47	4	14.53	-1.41	HURON	23	5	2.15	0.71
CO PUEBLO	36	5	1.27	0.29	MO COLUMBIA	37	6	8.69	2.29	RAPID CITY	29	4	1.49	0.26
CT BRIDGEPORT	38	6	12.10	1.98	JOPLIN	41	5	10.44	3.39	SIoux FALLS	24	6	2.99	1.45
CT HARTFORD	35	7	11.08	0.68	KANSAS CITY	36	6	4.40	0.30	TN BRISTOL	41	5	12.67	2.36
DC WASHINGTON	42	4	11.31	2.42	SPRINGFIELD	40	5	12.71	5.15	CHATTANOOGA	46	4	21.15	6.09
DE WILMINGTON	39	5	11.93	2.29	ST JOSEPH	34	4	4.15	0.70	JACKSON	44	3	10.77	-3.17
FL DAYTONA BEACH	62	2	11.28	2.70	ST LOUIS	40	7	13.34	6.06	KNOXVILLE	43	3	17.73	4.66
FL FT LAUDERDALE	71	3	17.07	8.78	MT BILLINGS	33	6	1.10	-0.95	MEMPHIS	48	5	12.62	-1.61
FL FT MYERS	67	1	18.71	12.80	BUTTE	21	2	1.14	-0.39	NASHVILLE	45	5	11.55	-0.65
FL JACKSONVILLE	58	3	8.21	-1.27	GLASGOW	23	8	1.38	0.40	TX ABILENE	49	3	2.92	-0.45
FL KEY WEST	72	1	11.66	5.79	GREAT FALLS	31	7	1.72	-0.14	AMARILLO	42	4	1.97	0.18
FL MELBOURNE	65	3	13.55	6.27	HELENA	29	6	1.21	-0.15	AUSTIN	53	1	4.47	-1.85
FL MIAMI	71	2	20.24	14.11	KALISPELL	29	5	4.73	0.46	BEAUMONT	57	3	10.10	-4.19
FL ORLANDO	64	2	8.06	0.97	MILES CITY	29	8	0.83	-0.46	BROWNSVILLE	64	3	2.04	-1.61
FL PENSACOLA	57	3	16.98	2.99	MISSOULA	28	3	2.49	-0.49	COLLEGE STATION	55	3	10.70	1.77
FL ST PETERSBURG	65	2	6.60	-1.63	NE GRAND ISLAND	31	6	4.06	2.18	CORPUS CHRISTI	60	2	3.18	-2.03
FL TALLAHASSEE	57	4	13.46	-0.63	HASTINGS	32	5	4.10	2.15	DALLAS/FT WORTH	52	5	7.07	0.23
FL TAMPA	65	3	9.20	1.96	LINCOLN	32	6	6.01	3.82	DEL RIO	56	3	1.09	-1.19
FL WEST PALM BEACH	69	2	19.89	10.45	MCCOOK	34	5	1.27	-0.40	EL PASO	48	1	1.61	0.00
GA ATHENS	49	5	20.53	7.74	NORFOLK	29	6	4.42	2.44	GALVESTON	58	1	7.45	-2.77
GA ATLANTA	49	4	25.04	11.52	NORTH PLATTE	31	5	1.54	0.24	HOUSTON	57	3	9.32	-1.03
GA AUGUSTA	51	4	12.34	0.59	OMAHA/EPPLEY	31	6	6.98	4.49	LUBBOCK	44	4	1.96	0.08
GA COLUMBUS	52	3	24.80	11.14	SCOTTSBLUFF	30	3	1.48	-0.20	MIDLAND	49	4	1.72	-0.04
GA MACON	51	4	18.35	4.87	VALENTINE	28	4	1.72	0.61	SAN ANGELO	50	3	3.06	0.13
GA SAVANNAH	56	5	9.76	0.08	NV ELKO	26	-2	4.55	1.60	SAN ANTONIO	56	4	4.41	-0.96
HI HILO	74	2	18.67	-10.43	ELY	24	-3	4.41	2.42	VICTORIA	57	2	6.54	-0.41
HI HONOLULU	76	2	0.72	-7.21	LAS VEGAS	51	2	0.56	-1.12	WACO	51	3	6.07	-1.02
HI KAHULUI	73	1	2.30	-6.88	RENO	39	4	2.87	-0.13	WICHITA FALLS	47	4	4.32	-0.05
HI LIHUE	74	2	2.58	-10.05	WINNEMUCCA	34	2	3.94	1.68	UT SALT LAKE CITY	33	2	4.69	0.76
ID BOISE	35	3	3.21	-0.70	NH CONCORD	31	8	10.56	2.27	VT BURLINGTON	30	9	8.77	2.66
ID LEWISTON	40	5	3.17	0.03	NJ ATLANTIC CITY	41	7	12.79	3.19	VA LYNCHBURG	40	3	12.25	2.38
ID POCATELLO	28	1	2.52	-0.73	NEWARK	40	6	12.45	1.94	NORFOLK	48	6	14.24	3.94
IL CHICAGO/O'HARE	31	6	6.94	1.13	NM ALBUQUERQUE	40	2	1.40	-0.02	RICHMOND	43	4	13.59	3.94
IL MOLINE	32	7	5.52	0.23	NY ALBANY	33	8	8.98	1.65	ROANOKE	40	2	12.78	3.61
IL PEORIA	34	8	7.69	2.12	BINGHAMTON	31	7	9.32	1.25	WASH/DULLES	39	5	12.01	3.12
IL ROCKFORD	30	7	6.18	1.37	BUFFALO	33	6	8.18	-1.20	WA OLYMPIA	42	3	29.64	8.04
IL SPRINGFIELD	35	6	8.89	2.93	ROCHESTER	33	7	8.03	0.92	QUILLAYUTE	45	4	50.71	10.21
IN EVANSVILLE	40	6	11.54	1.99	SYRACUSE	31	6	11.55	3.72	SEATTLE-TACOMA	45	3	24.63	9.70
IN FORT WAYNE	33	6	7.20	0.44	NC ASHEVILLE	42	4	17.74	6.46	SPOKANE	33	4	7.90	2.32
IN INDIANAPOLIS	35	5	9.30	1.38	CHARLOTTE	46	2	15.48	4.75	YAKIMA	36	5	6.19	2.84
IN SOUTH BEND	31	5	7.90	0.56	GREENSBORO	44	4	12.79	3.09	WV BECKLEY	37	4	9.84	0.56
IA BURLINGTON	32	6	5.89	0.94	HATTERAS	53	5	18.07	3.73	CHARLESTON	39	3	12.76	3.00
IA CEDAR RAPIDS	29	7	5.60	1.97	RALEIGH	46	4	12.47	1.94	ELKINS	34	3	10.36	0.29
IA DES MOINES	31	7	7.21	3.66	WILMINGTON	51	3	17.56	5.60	HUNTINGTON	39	3	13.87	4.20
IA DUBUQUE	27	6	5.27	0.88	ND BISMARCK	24	10	1.55	0.15	WI EAU CLAIRE	23	7	5.22	2.35
IA SIOUX CITY	28	6	4.70	2.83	DICKINSON	24	6	0.70	-0.44	GREEN BAY	26	7	8.19	4.56
IA WATERLOO	27	7	7.64	4.64	FARGO	20	9	1.64	-0.28	LA CROSSE	26	6	7.09	3.68
KS CONCORDIA	35	5	4.19	1.94	GRAND FORKS	18	8	1.63	-0.18	MADISON	28	7	5.56	1.37
KS DODGE CITY	37	4	3.02	0.97	JAMESTOWN	20	7	0.63	-0.95	MILWAUKEE	30	6	6.13	0.41
KS GOODLAND	34	4	1.02	-0.25	MINOT	24	10	0.99	-0.82	WAUSAU	24	7	6.54	3.22
KS HILL CITY	36	6	2.75	1.21	WILLISTON	23	10	1.69	0.19	WY CASPER	28	4	2.51	0.67
KS TOPEKA	37	6	3.98	0.43	OH AKRON-CANTON	34	6	8.29	0.54	CHEYENNE	31	4	2.05	0.70
KS WICHITA	40	7	2.96	-0.25	CINCINNATI	38	5	12.72	3.77	LANDER	25	3	1.40	-0.27
KY JACKSON	41	4	14.20	2.69	CLEVELAND	35	7	7.55	-0.36	SHERIDAN	30	6	1.79	-0.23

National Agricultural Summary

March 14 – 20, 2016

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Below-normal temperatures stretched from Washington to the Oklahoma Panhandle. The rest of the nation experienced above-average temperatures. Most of the southern Atlantic States, upper Midwest, and Ohio Valley recorded temperatures at least 9°F above normal. Conditions were generally dry across

the U.S., with no measurable precipitation in the Southwest and parts of the northern Great Plains. The major exception occurred in northern Minnesota and Wisconsin, where some areas received weekly precipitation totals in excess of 800 percent of normal.

California: Warmer weather was a sign of seasonal change. It was relatively dry for most of the state, as a mid-level ridge developed. The mountain snowpack continued to diminish but was still in healthy shape. Recent rains continued to benefit winter forage crops, reducing the need for irrigation. Fields were prepped for planting as weather permitted. In San Joaquin County, wheat and other mixed forage were growing, while asparagus was harvested and brought to processing facilities for packing. Orchard maintenance continued but was hampered by the weather. Application of bloom sprays continued in anticipation of more rain. Kiwifruit and Navel oranges continued to be packed for shipment. Recent rains have slowed the citrus harvest and increased fungicide applications to protect the fruit. Seedless tangerines continued to be netted in preparation for the coming citrus bloom period. In Madera County, the almond bloom was complete. Pistachios, pecans, and walnuts continued to be exported. In Fresno County, tomatoes and carrots were planted. In Tulare County, broccoli, cabbage, cauliflower, carrots, and Brussels sprouts were harvested and sold at farmer's markets. Pastures continued to improve and cattle were gaining weight. In San Joaquin and Sutter Counties, beehives remained in orchards to ensure that proper pollination takes place.

Colorado: Unseasonably mild conditions with limited, localized precipitation pushed spring tillage activities. Lack of precipitation has remained a concern in most localities. Sub-freezing temperatures were reported in eastern districts, with isolated instances of resulting damage to wheat noted by reporters. Stored feed supplies were rated 8 percent short, 73 percent adequate, and 19 percent surplus. Sheep death loss was 55 percent average and 45 percent light. Cattle death loss was 77 percent average and 23 percent light.

Florida: There was an average of 6.3 days suitable for fieldwork, compared with 6.5 days last week. Sugarcane harvest progressed normally, with one mill finished for this harvest season. Madison County corn fields were planted. Onions, strawberries, and winter vegetable crops were harvested in Bradford County. Levy County watermelon fields were estimated to be 70 percent planted. The mostly warm, dry week favored vegetable crop growth in South Florida. South Florida vegetable crops harvested included beets, bitter melon, boniato, cabbage, collards, cucumber, eggplant, herbs, kale, malanga, peppers, squash, Swiss chard, tomatoes, and specialty items. Temperatures were above average in all citrus-producing counties. Dry conditions affected only the northernmost portion of the citrus-producing region. All processing plants were running Valencia oranges at full capacity, while some continued to accept remaining grapefruit left for the processed market. Packinghouse activities focused on Valencia oranges, Honey tangerines, and red grapefruit. Irrigation was widespread across all areas, as was herbicide and fertilizer application activities. Other grove activities included hedging and topping, mowing, and general

maintenance. Dry weather conditions were reported in Brevard and Indian River Counties. Pastures were bare, with ranchers provided hay to livestock. South Florida pasture quality remained mostly good due to warmer weather and adequate soil moisture.

Kansas: Temperatures averaged 2 to 4°F above normal in the east and near normal in western counties. Up to one-half inch of moisture fell in west-central areas and portions of the extreme northeast, while much of the state remained dry. There were 5.8 days suitable for fieldwork. Winter wheat condition was rated 1 percent very poor, 6 percent poor, 36 percent fair, 51 percent good and 6 percent excellent. Twenty percent of the winter wheat acreage was jointed, 17 percentage points ahead last year and 13 percentage points ahead of the 5-year average. Calving progress was 67 percent complete. Cattle and calves death loss was rated 1 percent heavy, 58 percent average, and 41 percent light. Sheep and lamb condition was 28 percent fair, 68 percent good, and 4 percent excellent. Hay and roughage supplies were rated 4 percent short, 86 percent adequate, and 10 percent surplus.

Oklahoma: The week started warm and dry but ended cold and wet for much of the southern and eastern regions of Oklahoma. According to the Oklahoma Mesonet, it has been more than 90 days since parts of the northwest have seen at least a quarter-inch precipitation event in a single day. There were 5.6 days suitable for fieldwork. Winter wheat jointing reached 38 percent, up 5 percentage points from the previous year but unchanged from normal. Canola blooming reached 20 percent. Rye jointing reached 34 percent, up 25 percentage points from the previous year but unchanged from normal. Oats jointing reached 17 percent, up 10 percentage points from the previous week. Rangeland and pastures were rated at 82 percent good to fair. Livestock condition was rated at 88 percent good to fair.

Texas: Most precipitation during the week was concentrated in the southern portion of the state. Increased moisture from recent rainfall benefited winter wheat development in parts of the Cross Timbers, the Edwards Plateau, and South Texas. However, winter wheat in parts of the Southern High Plains and the Coastal Bend showed signs of rust. In portions of South Texas, oats also benefited from recent moisture, while the lack of rainfall on the Southern High Plains caused some producers to begin irrigation of oats and other small grains. Cotton planting was active in parts of the Upper Coast and the Coastal Bend, while some cotton producers in the northern part of the state continued field preparations. Corn producers in parts of the Southern Low Plains commenced planting, while corn and sorghum were emerging in portions of the Blacklands and South East Texas. Livestock progressed, as supplemental feeding continued across the state. Warmer weather and recent rainfall helped pasture conditions improve and tank levels to stabilize in parts of the Blacklands and North East Texas.

International Weather and Crop Summary

March 13-19, 2016

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

HIGHLIGHTS

EUROPE: Mostly dry, cool weather sustained favorable winter crop prospects over much of the continent.

WESTERN FSU: Chilly conditions replaced recent abnormal warmth, slowing the rapid winter wheat development pace over Ukraine and southern Russia.

MIDDLE EAST: Warmer-than-normal weather coupled with early-week rain promoted winter grain development, though cooler conditions settled over the region toward week's end.

NORTHWESTERN AFRICA: Dry weather prevailed in Morocco's drought-afflicted wheat areas, while showers maintained or improved favorable crop prospects in Algeria and Tunisia.

EASTERN ASIA: Dry weather increased water requirements for wheat on the North China Plain, while showers aided rice in southeastern China.

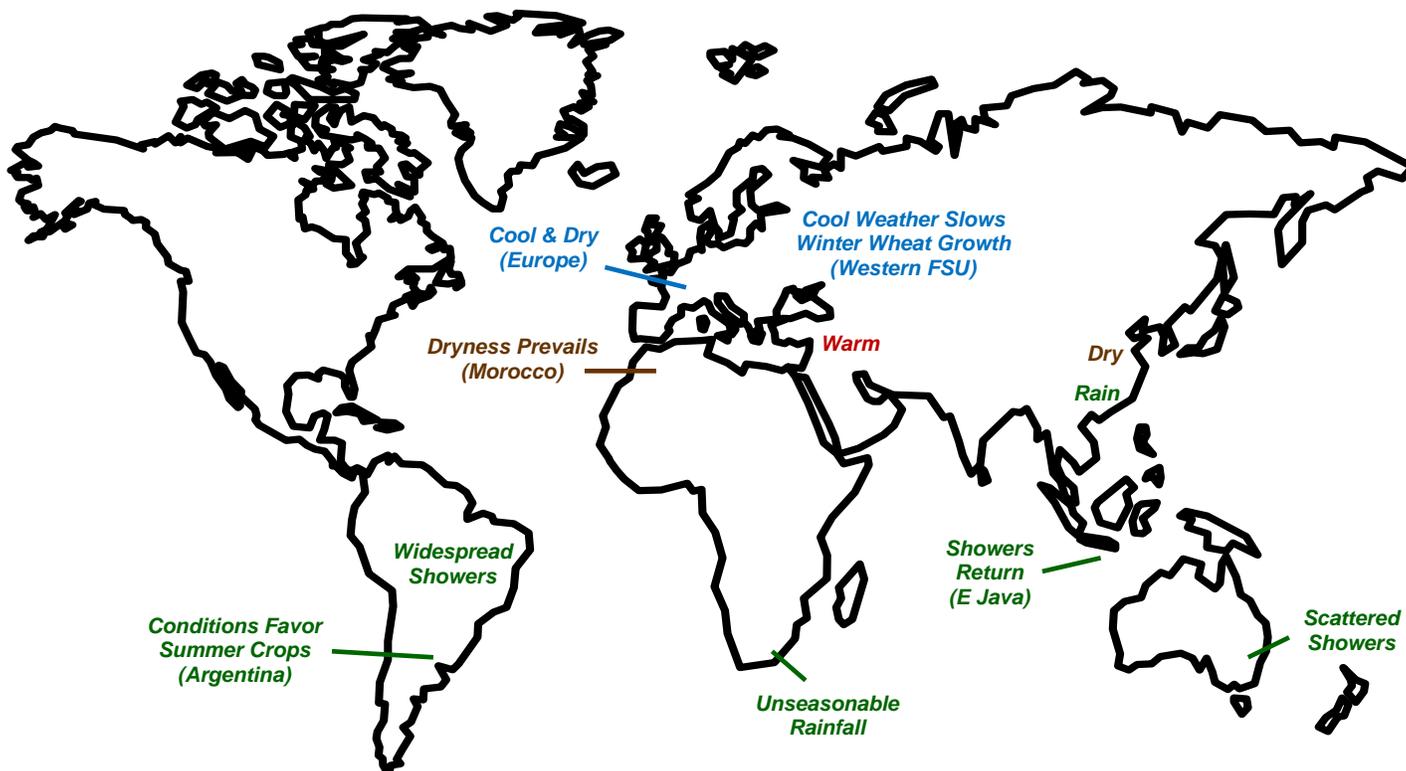
SOUTHEAST ASIA: Showers returned to eastern Java, Indonesia, but drier-than-normal conditions further reduced soil moisture for rice in central growing areas.

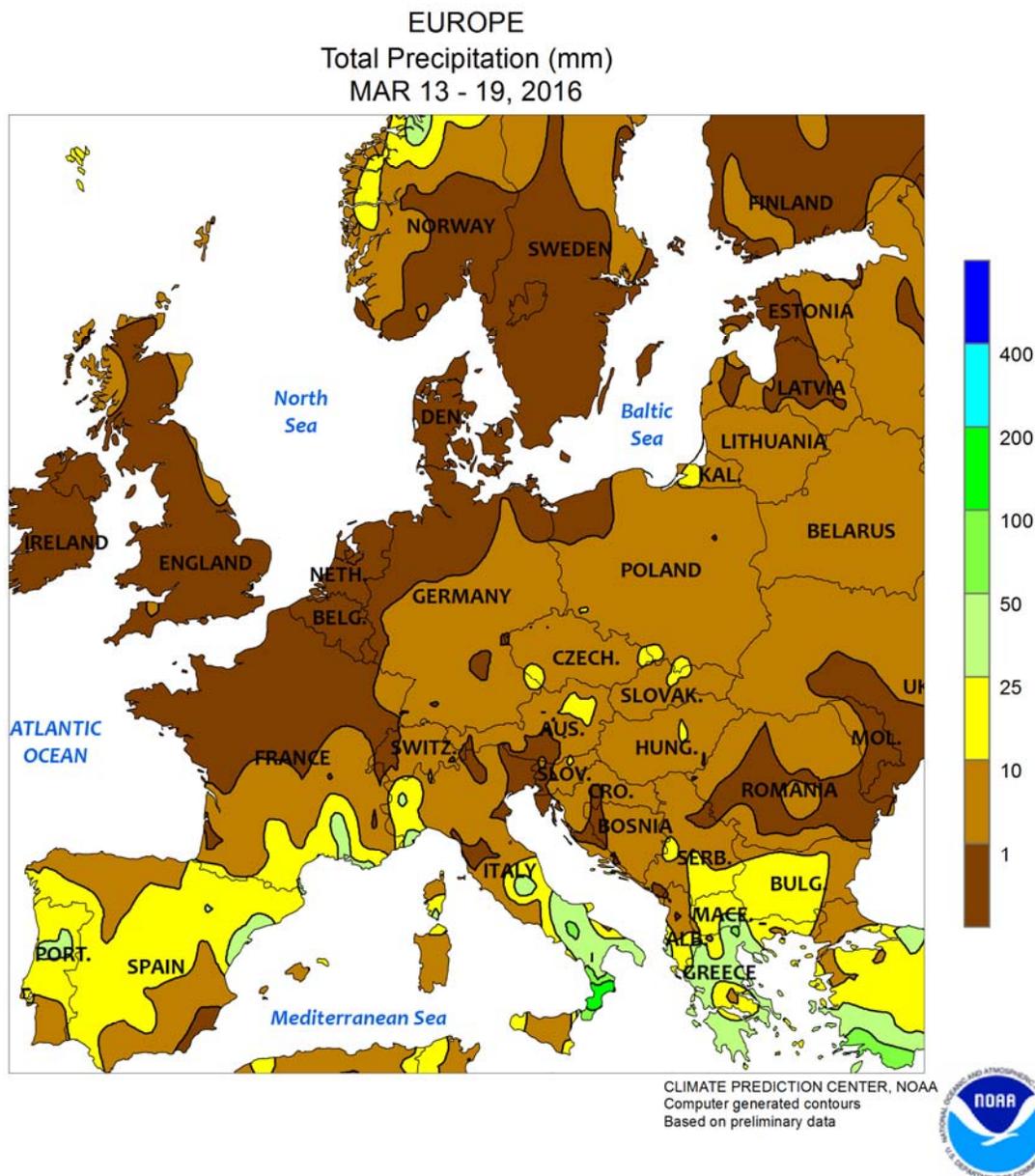
AUSTRALIA: Scattered showers helped stabilize local moisture supplies for later-sown summer crops but likely had little if any negative impact on maturing crops.

SOUTH AFRICA: Unseasonable rainfall gave a late-season boost to immature summer crops.

ARGENTINA: Warmth and dryness prompted rapid development of corn, soybeans, and other summer crops before the return of widespread showers at week's end.

BRAZIL: Seasonal rain provided additional moisture for second-crop corn in central Brazil.



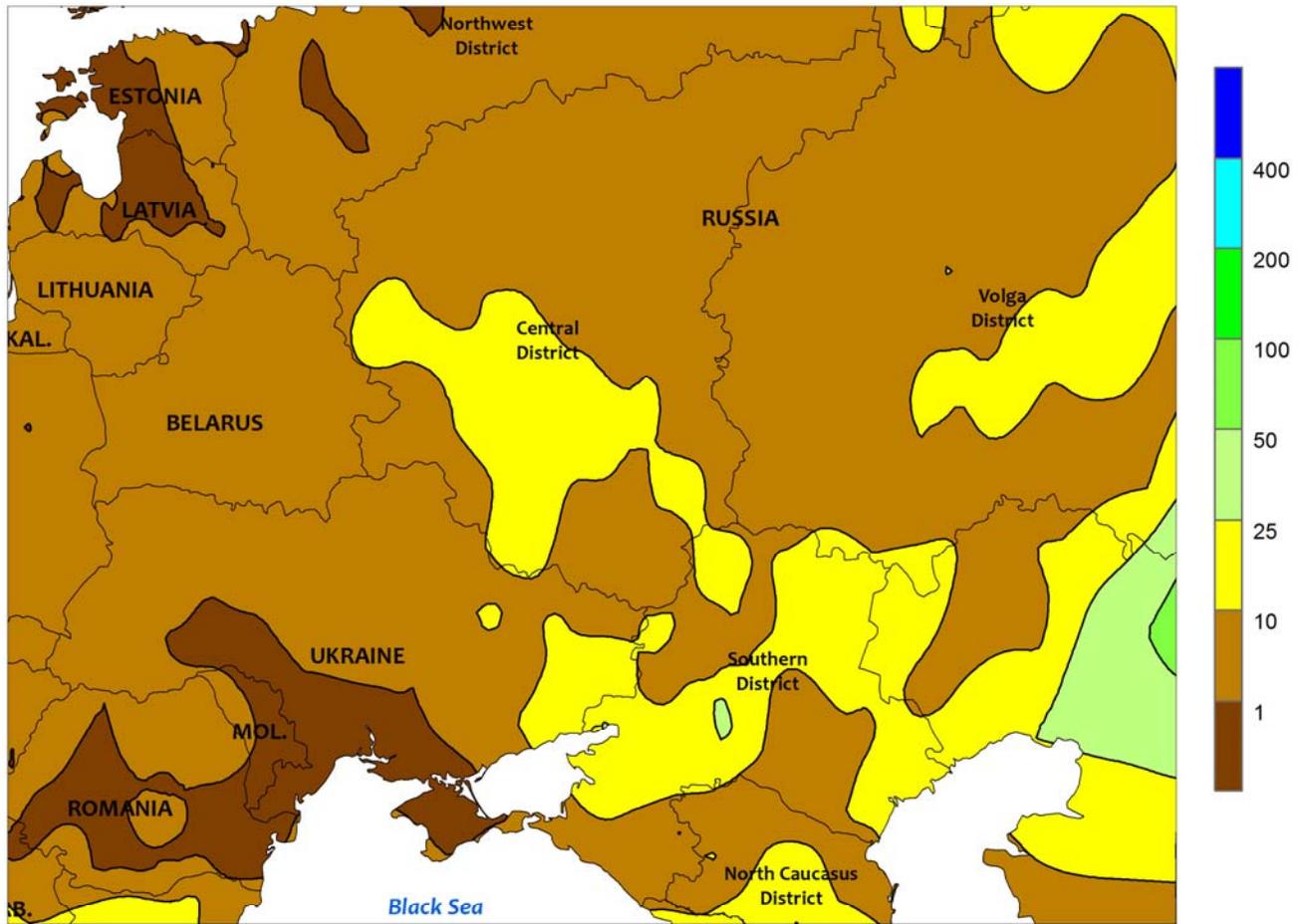


EUROPE

Chilly albeit dry weather settled over much of the continent, though rain lingered in southern- and eastern-most growing areas. Sunny skies and below-normal temperatures (1-3°C below normal) prevailed from France and southeastern England into Poland, keeping winter crops dormant in northeastern Europe while maintaining a slow pace of crop growth in western growing areas. Early winter wheat and rapeseed prospects remained favorable over northern and central Europe following a generally mild, wet winter. In Spain, mostly sunny skies for much of the week promoted fieldwork and wheat development, with nighttime freezes (-4 to -2°C) posing little — if any — threat to vegetative

winter wheat. By week’s end, however, moderate to heavy showers (5-25 mm) over much of the Iberian Peninsula further improved soil moisture for vegetative to reproductive winter grains. In southeastern Europe, notably cooler conditions replaced the recent prolonged spell of abnormal warmth, slowing the unusually rapid winter crop growth rates; nevertheless, winter wheat was not yet far enough advanced to be adversely impacted by this week’s nighttime freezes (-5 to -1°C). In addition to the cooler conditions, widespread light rain (2-15 mm) maintained sufficient moisture supplies for spring growth from Poland and the Baltic States into the Balkans.

WESTERN FSU
Total Precipitation (mm)
MAR 13 - 19, 2016



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

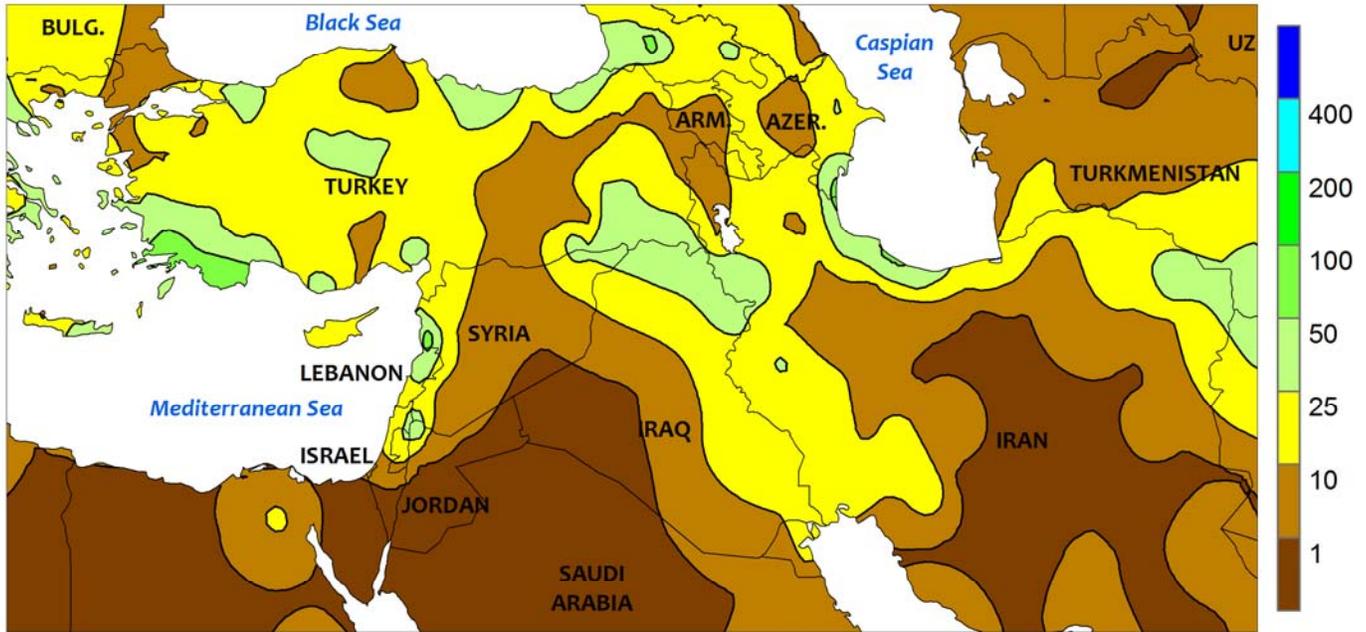


WESTERN FSU

Colder conditions returned, though lingering early-week warmth promoted winter wheat growth in the south and kept most crop areas uncharacteristically devoid of snow cover. During the first half of the week, sunny skies coupled with above-normal temperatures (2-4°C above normal) accelerated winter wheat development in southernmost portions of Ukraine and Russia. In addition, producers were able to proceed with spring grain planting

and other seasonal fieldwork in areas devoid of snow cover. Despite the recent unseasonable warmth, a moderate to deep snowpack (6-50 cm) remained in place from northern Belarus eastward into the Volga District. Toward week's end, colder, unsettled conditions (3-20 mm) returned over primary winter crop areas of Ukraine and southwestern Russia, though nighttime freezes (-7 to -3°C) did not pose a risk to unprotected wheat.

MIDDLE EAST
Total Precipitation (mm)
MAR 13 - 19, 2016



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

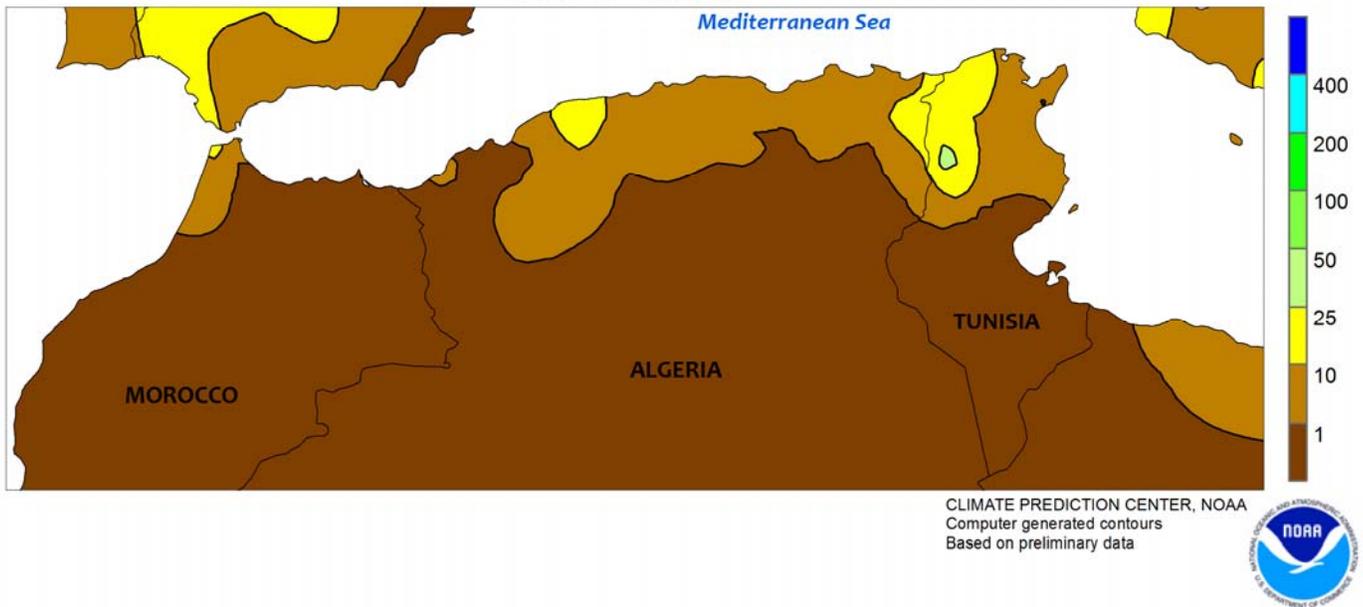


MIDDLE EAST

Colder weather gradually settled over the region, but lingering warmth facilitated unseasonably early winter crop development during the first half of the week. Near-normal temperatures returned to Turkey and northern Iran, though weekly average temperatures above 5°C continued to encourage some crop growth. Growing degree day data indicated wheat on Turkey’s Anatolian Plateau has advanced into the tillering stage of development, lowering the crop’s freeze tolerance to approximately -10°C. The coldest readings during the past week in east-central

Turkey were as low as -9°C, suggesting there may have been some localized burnback but no widespread freeze damage. This region will need to be closely monitored over the upcoming weeks as the advanced crop stage (developing up to a month ahead of normal) has left winter grains more vulnerable to any late-season cold snaps. Meanwhile, widespread rain (10-35 mm, locally more) sustained good to excellent prospects for vegetative to heading winter wheat and barley from the eastern Mediterranean Coast into Iraq and much of Iran.

NORTHWESTERN AFRICA
 Total Precipitation (mm)
 MAR 13 - 19, 2016

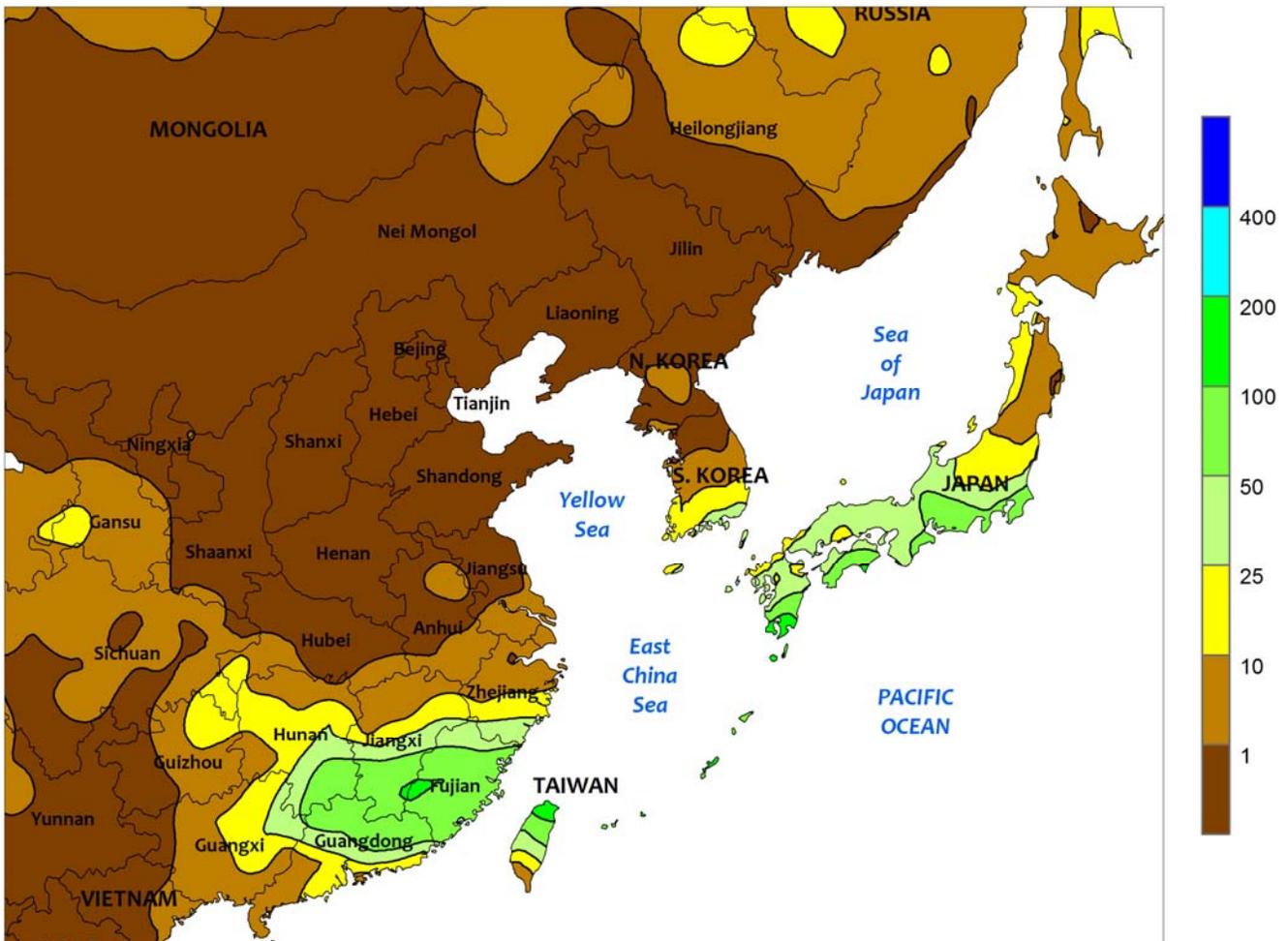


NORTHWESTERN AFRICA

Drought-afflicted winter wheat in Morocco contrasted with additional rain and good to excellent crop prospects in Algeria and Tunisia. As the growing campaign begins to draw to a close in Morocco, the widespread negative impacts of this season’s severe drought on winter grains have become increasingly apparent. Morocco’s season-to-date (since November 1) rainfall has averaged a meager 35 percent of normal in the south and 45 percent of normal in northern

growing regions, well short of the moisture necessary for rain-fed wheat and barley to develop properly. In addition, the satellite-derived Vegetation Health Index (VHI) continued to depict widespread stress despite February’s rain and cooler weather, indicating significant impacts on wheat yields and production in Morocco. Conversely, widespread showers (3-35 mm) boosted yield prospects for winter grains in Algeria and sustained good to excellent crop conditions in Tunisia.

EASTERN ASIA
Total Precipitation (mm)
MAR 13 - 19, 2016



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

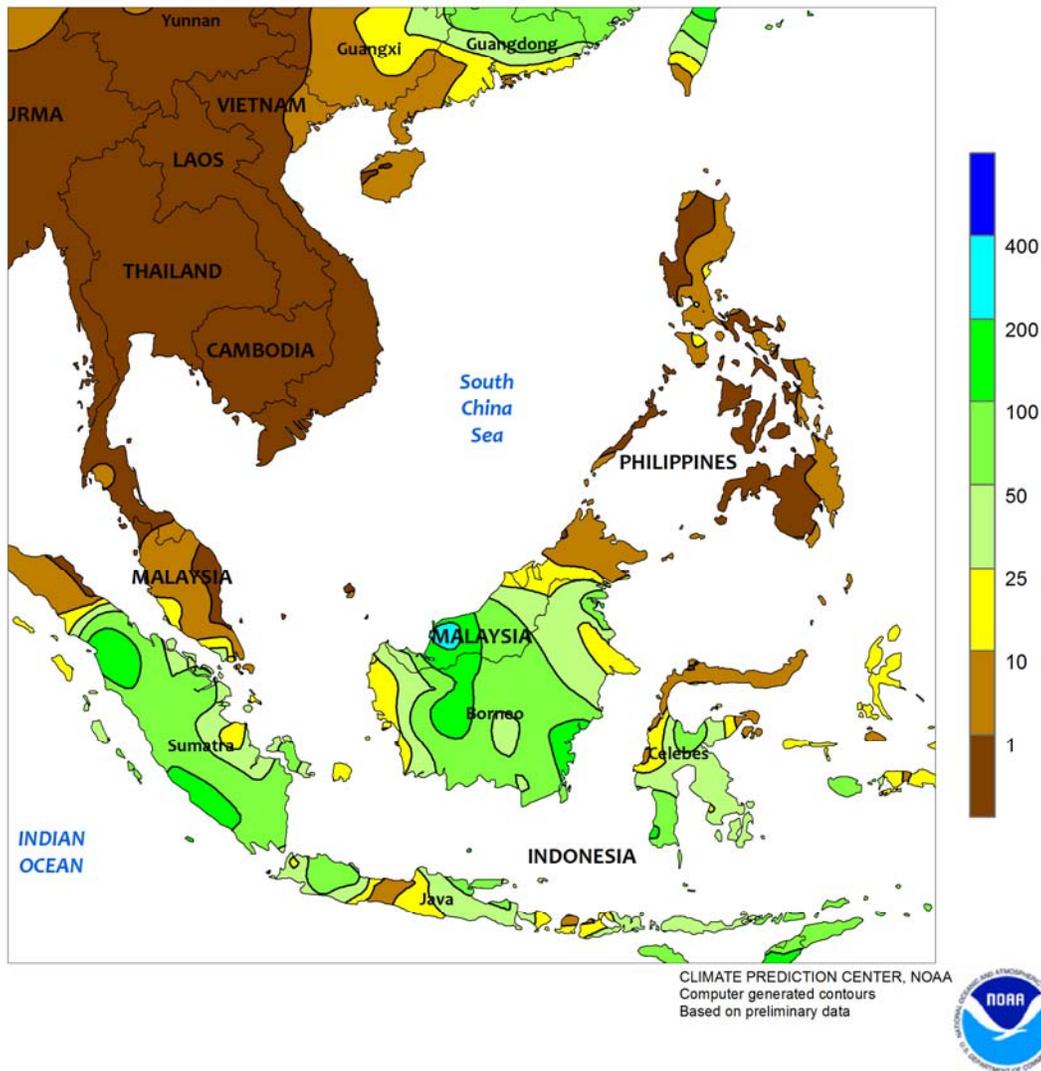


EASTERN ASIA

Showers were confined to southeastern China for the week, with over 50 mm of rain reported in key early-crop rice areas. Early spring moisture conditions remained favorable for the first rice crop of the year. In other parts of China, drier weather occurred across much of the Yangtze Valley, following the heavy rainfall of last week. As with the south,

moisture conditions continued to be favorable for vegetative rapeseed and recently-planted spring crops. Dryness was most pronounced on the North China Plain, although periods between rainfall can be lengthy at this time of year; however, temperatures averaging over 2°C above normal for the week increased water requirements for wheat.

SOUTHEAST ASIA
Total Precipitation (mm)
MAR 13 - 19, 2016

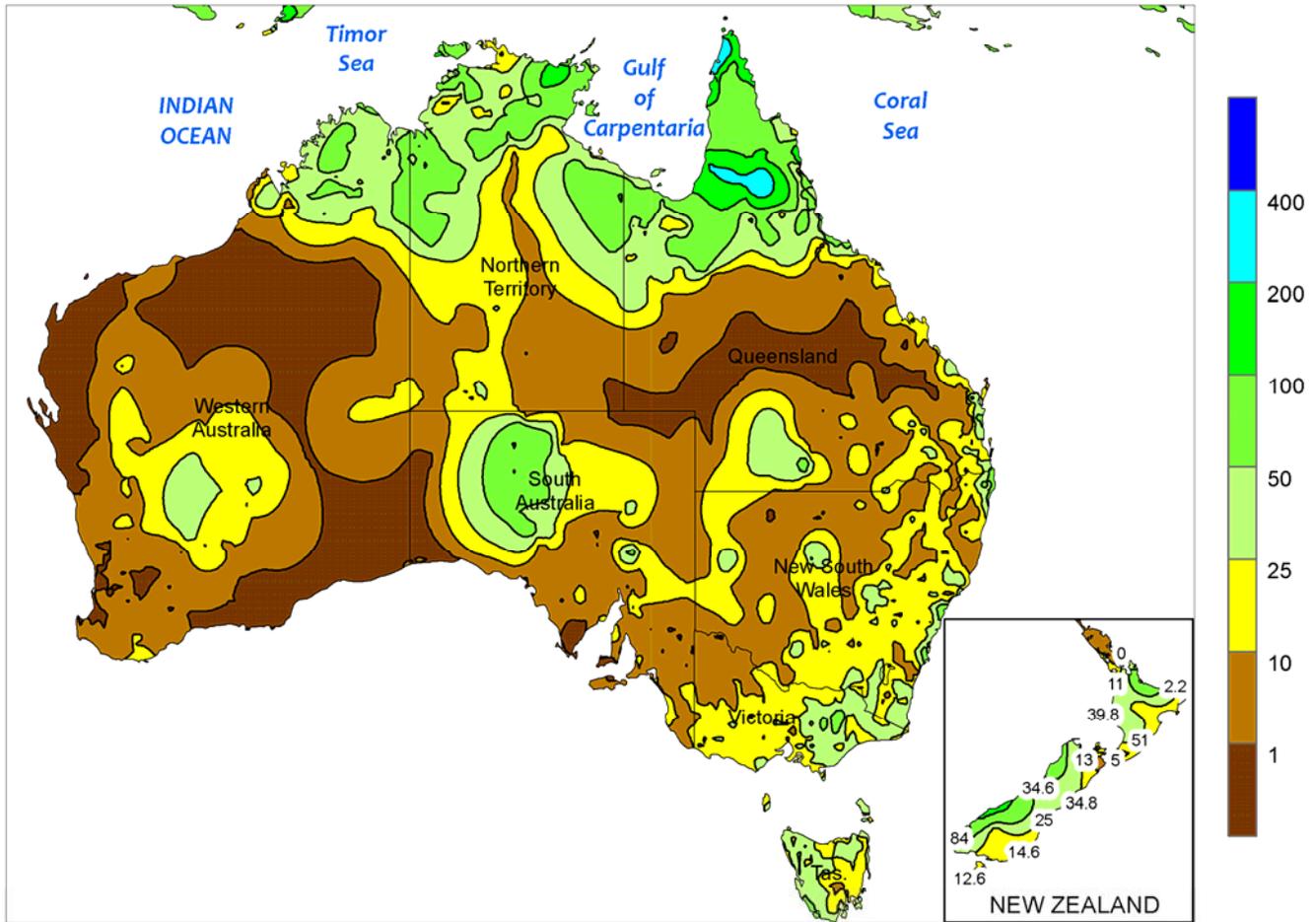


SOUTHEAST ASIA

Dry weather in the north contrasted with widespread showers in southern crop areas. Rainfall returned to eastern Java, Indonesia, following unseasonable dryness the previous week. However, amounts (25-75 mm) were mostly below the normal for the time of year, increasing seasonal (since November 1) rainfall deficits for rice. At the same time, unseasonable dryness persisted in central Java, increasing the seasonal deficit to nearly 200 mm. In contrast, moderate to heavy showers (10-75 mm, locally more) in western Java kept rice adequately watered. For much of Java, rain would be welcomed for the delayed rice plantings due to the rainy season's slow start. Elsewhere in Indonesia, heavy showers

(over 50 mm) maintained favorable soil moisture for oil palm, particularly in Kalimantan, where rainfall has been most consistent over the last several months. Rain has been limited in neighboring Malaysia, however, resulting in reduced crop prospects. In the Philippines, seasonably dry weather prevailed, aiding winter corn and rice harvesting but keeping water supplies low in the southern half of the country. In Vietnam, seasonably warm, dry conditions allowed spring rice cultivation to near completion in the north and the rice harvest to commence in the south. In Thailand, insufficient irrigation water supplies have limited spring rice cultivation.

AUSTRALIA
Total Precipitation (mm)
MAR 13 - 19, 2016



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

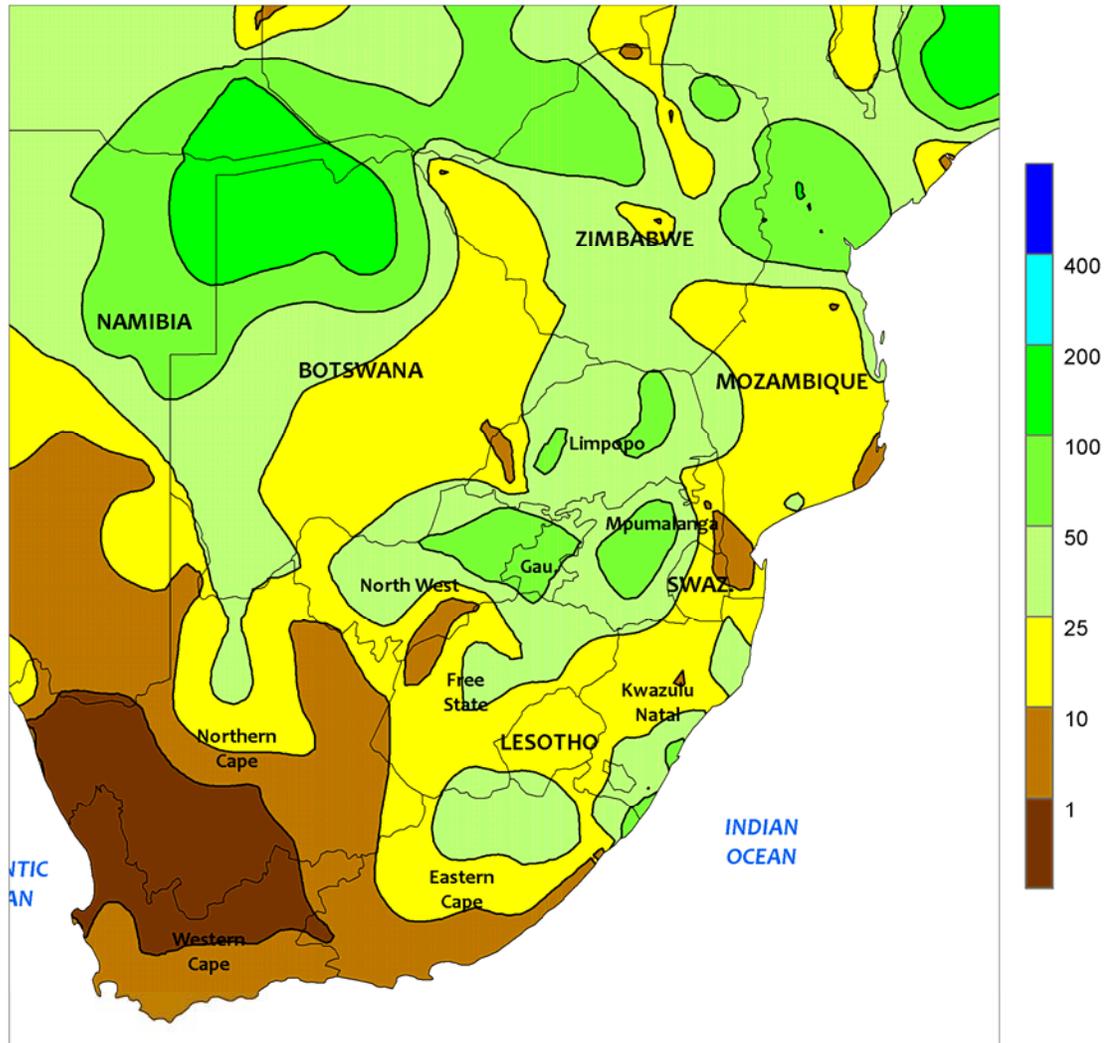


AUSTRALIA

Scattered showers (5-25 mm) overspread eastern Australia, providing some relief from recent heat and dryness. The rain helped stabilize local moisture supplies for later-sown summer crops, but because of the scattered and intermittent nature of this week's showers, the wet weather likely had little if any negative impact on

maturing crops. Indeed, pockets of mostly dry weather favored cotton and sorghum drydown and harvesting throughout the week. Temperatures in eastern Australia continued to average above normal (2-3°C above normal), with maximum temperatures generally in the 30s degrees C during most of the week.

SOUTH AFRICA
 Total Precipitation (mm)
 MAR 13 - 19, 2016



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

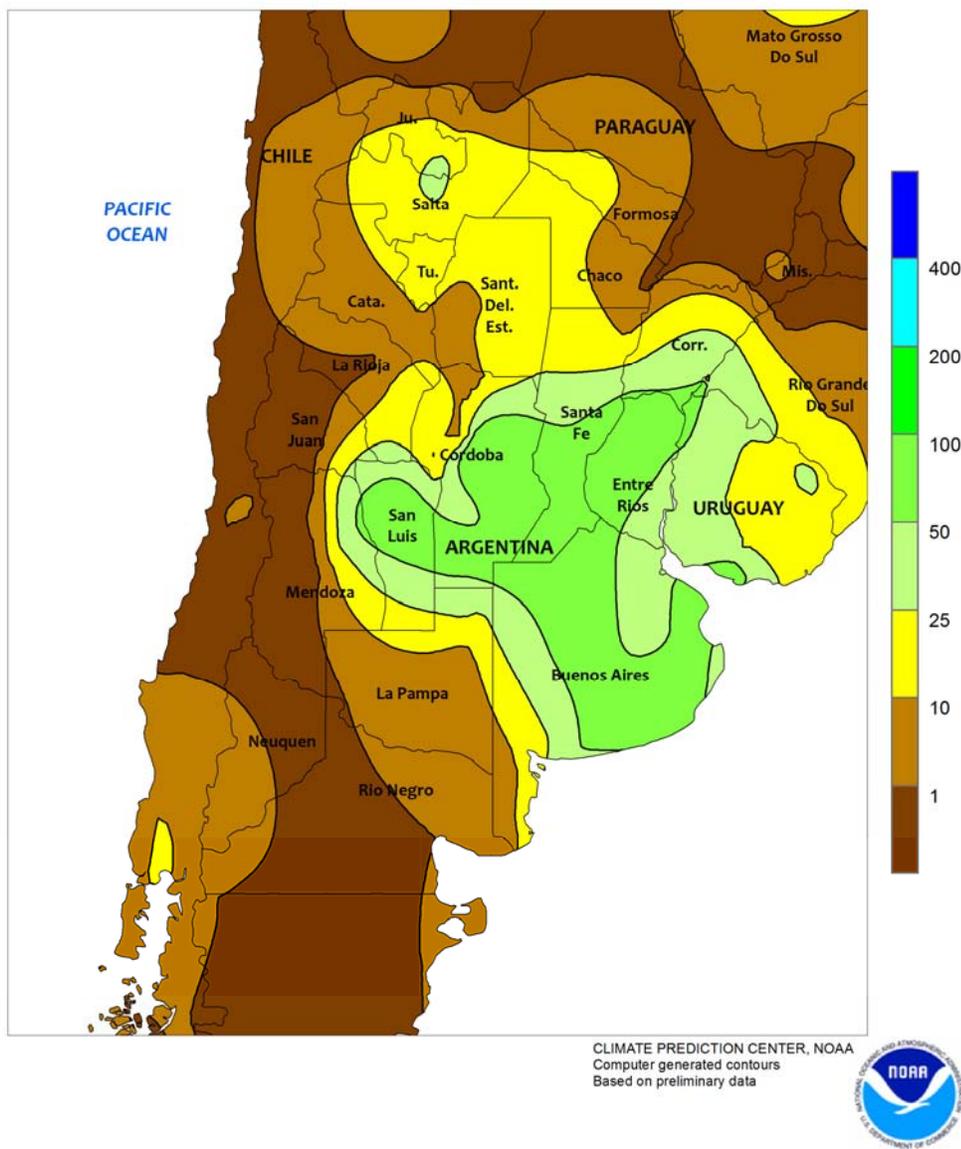


SOUTH AFRICA

Unseasonably heavy rainfall provided much-needed moisture for late-planted summer crops across the corn belt. The heaviest rainfall (greater than 50 mm) was concentrated over Gauteng and neighboring sections of North West, with many other locations recording more than 25 mm. Weekly temperatures averaging 1 to 2°C above normal — with daytime highs reaching the lower 30s (degrees C) — maintained high moisture demands of reproductive to filling crops in some of the warmest western production areas. Similarly, warm, showery weather gave a late-season boost

in moisture to rain-fed sugarcane in southern production areas of KwaZulu-Natal; warmer conditions (daytime highs reaching the middle and upper 30s) and generally lighter rain (locally below 10 mm) were recorded in irrigated production areas in northern KwaZulu-Natal and eastern Mpumalanga. Late-season showers (locally greater than 10 mm) also lingered over the Orange River Valley, improving irrigation reserves for cotton and corn, as mostly dry, seasonably mild weather supported late harvesting of tree and vine crops in Western Cape.

ARGENTINA
Total Precipitation (mm)
MAR 13 - 19, 2016

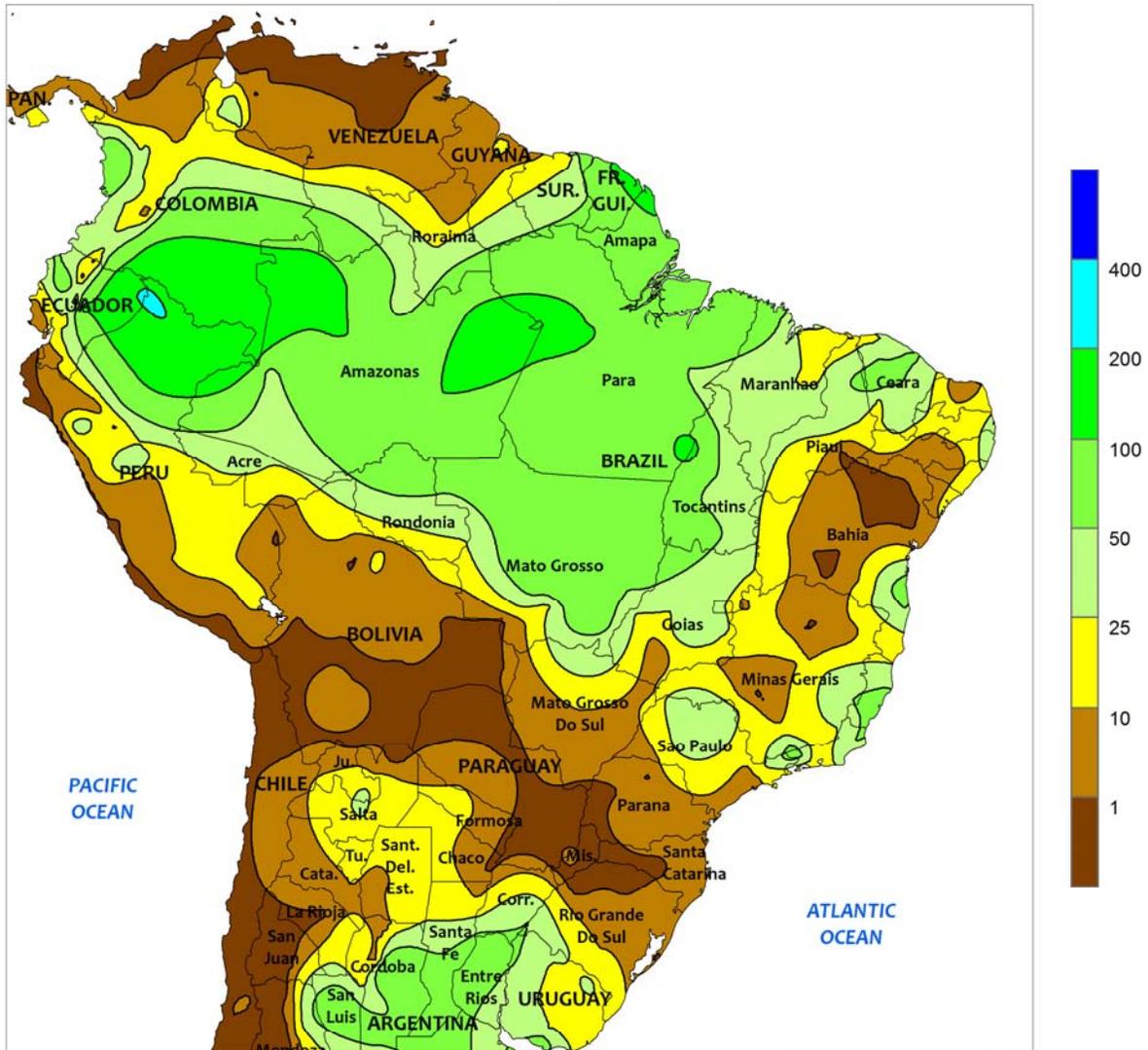


ARGENTINA

Dry, unseasonably warm weather dominated the region for much of the week, promoting rapid development of corn, soybeans, and other crops enjoying generally favorable levels of moisture. Above-normal temperatures accompanied the dryness, with daytime highs reaching the lower and middle 30s (degrees C) in major farming areas of central Argentina after a generally mild start to the week. Similarly, warm conditions (daytime highs reaching the middle and upper 30s) spurred rapid development of

summer grains, oilseeds, and cotton across northern Argentina. At week's end, showers (10-50 mm, locally higher) returned to much of the region, providing welcome moisture after the period of dryness that lasted several weeks in spots. According to Argentina's Ministry of Agriculture, sunflowers were 63 percent harvested as of March 17, slightly behind last year's pace. Harvesting was 39 percent complete in Buenos Aires — the country's largest producer — versus 47 percent last year.

BRAZIL
Total Precipitation (mm)
MAR 13 - 19, 2016



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



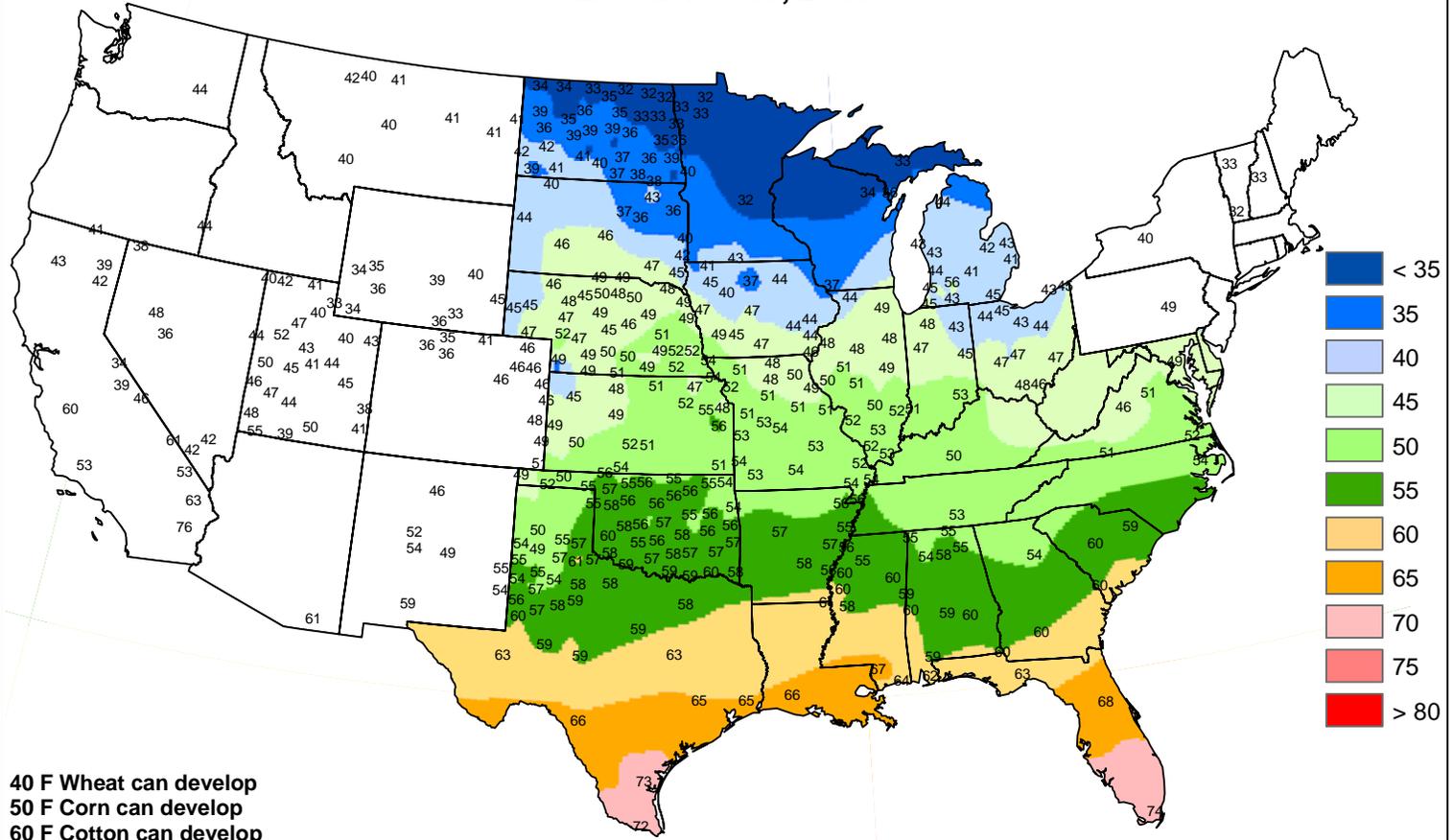
BRAZIL

Seasonal rainfall maintained overall favorable early prospects for second-crop corn in key production areas of central Brazil. Rainfall totaled more than 50 mm over most of Mato Grosso — Brazil’s main corn producer — with amounts greater than 25 mm over much of the remainder of the Center West and northeastern interior region. The beneficial rain extended south and eastward into the main sugarcane areas of Sao Paulo, as well as coffee regions extending across southern Minas Gerais and Espirito Santo. Weekly average temperatures were up to 3°C above normal throughout the aforementioned regions, maintaining high moisture demands of secondary summer crops but fostering rapid maturation of soybeans and other main-season summer row crops. In contrast to the

continuation of rainy weather in the more northerly agricultural areas, unseasonable warmth and dryness dominated much of southern Brazil, aiding drydown and harvesting of soybeans while spurring germination of second-crop corn. Little to no rain fell from southern Mato Grosso do Sul southward through northern Rio Grande do Sul; near- to above-average weekly temperatures (daytime highs reaching the lower 30s degrees C for much of the week) aided in the drydown of summer crops. According to the government of Parana, harvesting of soybeans and main-season corn was 74 and 62 percent complete, respectively, as of March 14. Meanwhile, second-crop corn was 92 percent planted, with the earliest-planted acreage in or approaching reproduction.

Average Soil Temperature (Deg. F, 4" Bare)

March 13 - 17, 2016



Based on preliminary data.

Supplemental data provided by Alabama A&M University, Bureau of Reclamation - Pacific Northwest Region AgriMet Program, High Plains Regional Climate Center, Illinois State Water Survey, Iowa State University, Louisiana Agrilimatic Information System, Mississippi State University, Oklahoma Mesonet, Purdue University, University of Missouri and USDA/NRCS Soil Climate Analysis Network.



The *Weekly Weather and Crop Bulletin* (ISSN 0043-1974) is jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the *Weekly Weather Chronicle*. It is issued under general authority of the Act of January 12, 1895 (44-USC 213), 53rd Congress, 3rd Session. The contents may be redistributed freely with proper credit.

Correspondence to the meteorologists should be directed to:
Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 4443B, Washington, DC 20250.

Internet URL: <http://www.usda.gov/oce/weather>
E-mail address: brippy@oce.usda.gov

The *Weekly Weather and Crop Bulletin* and archives are maintained on the following USDA Internet URL:
<http://www.usda.gov/oce/weather/pubs/Weekly/Wwcb/index.htm>

U.S. DEPARTMENT OF AGRICULTURE World Agricultural Outlook Board

Managing Editor.....**Brad Rippey** (202) 720-2397
Production Editor.....**Brian Morris** (202) 720-3062
International Editor.....**Mark Brusberg** (202) 720-2012
Editorial Advisor.....**Charles Wilbur**
Agricultural Weather Analysts..... **Harlan Shannon
and Eric Luebehusen**

National Agricultural Statistics Service

Agricultural Statistician and State Summaries Editor.....
Scott Matthews (202) 720-7621

U.S. DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
National Weather Service/Climate Prediction Center
Meteorologists.....**David Miskus, Brad Pugh, Adam Allgood,
and Randy Schechter**

USDA is an equal opportunity provider and employer. To file a complaint of discrimination, write: USDA, Office of the Assistant Secretary for Civil Rights, Office of Adjudication, 1400 Independence Ave., SW, Washington, DC 20250-9410 or call (866) 632-9992 (Toll-Free Customer Service), (800) 877-8339 (Local or Federal relay), (866) 377-8642 (Relay voice users).