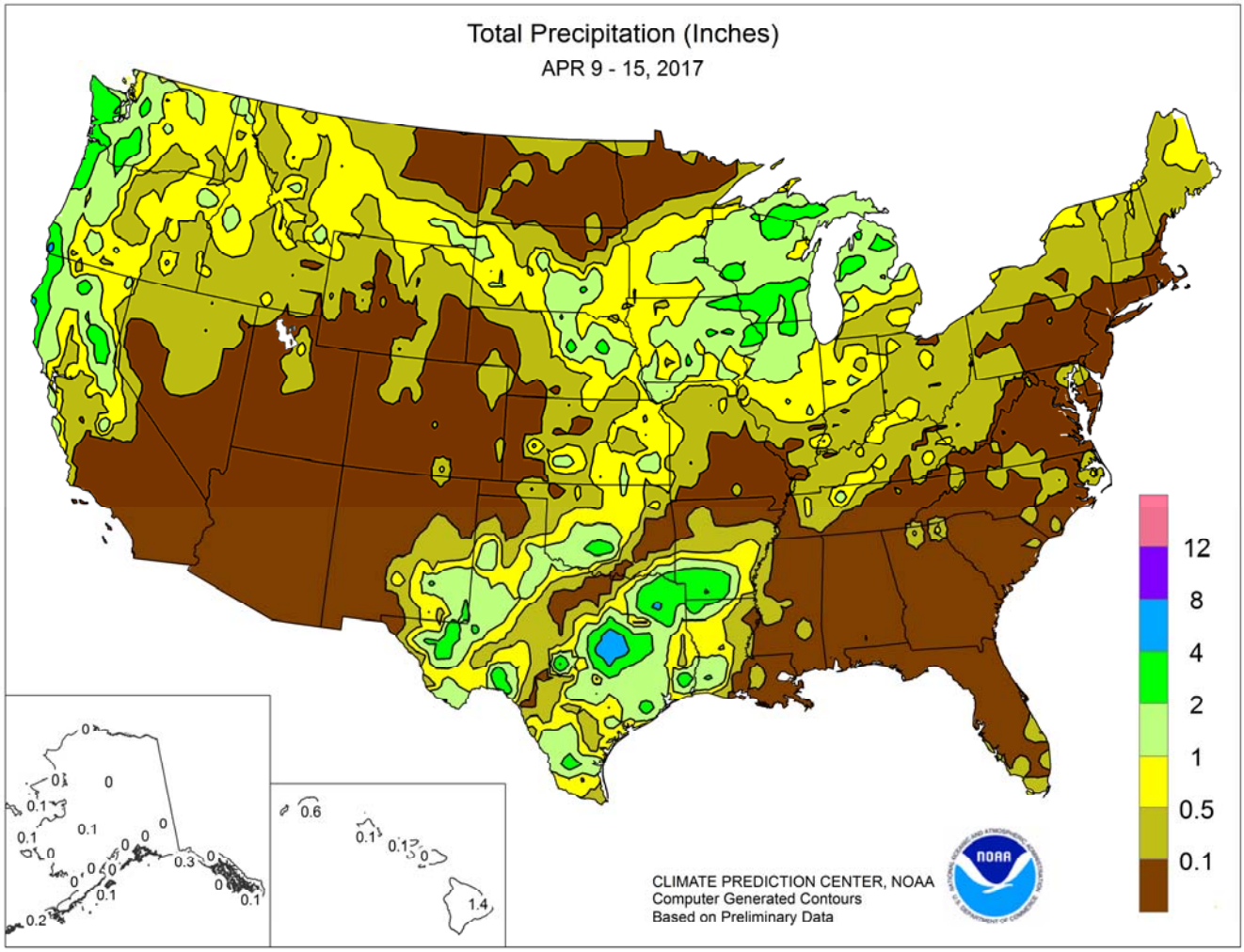
Volume 104, No. 16 http://www.usda.gov/oce/weather April 18, 2017

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

April 9 – 15, 2017

Highlights provided by USDA/WAOB

Periods of rain maintained a slow fieldwork pace in the **Midwest**, hampering early-season corn planting efforts. Nevertheless, there was a general northward shift in where the heaviest rain fell, with only light precipitation falling in much of the **southern Corn Belt**. Significant rain also fell across parts of the **nation's mid-section**, especially from **South Dakota to Texas**. In general, showers continued to benefit the **Plains'** rangeland, pastures, and winter grains, as well as reduce the areal coverage of lingering drought. In contrast, warm, mostly dry weather covered the

(Continued on page 5)

Contents

Water Supply Forecast for the Western United States

Highlights

Stormy weather retreated into the Northwest for much of March, while warm, dry weather prevailed from southern California into the Southwest. As a result, some Northwestern river basins came close to matching the impressive snow accumulations that had already occurred across the middle one-third of the West, stretching from the Sierra Nevada to the Wasatch Range. In contrast, snow melted early in the Southwest, reducing runoff prospects in parts of Arizona and New Mexico.

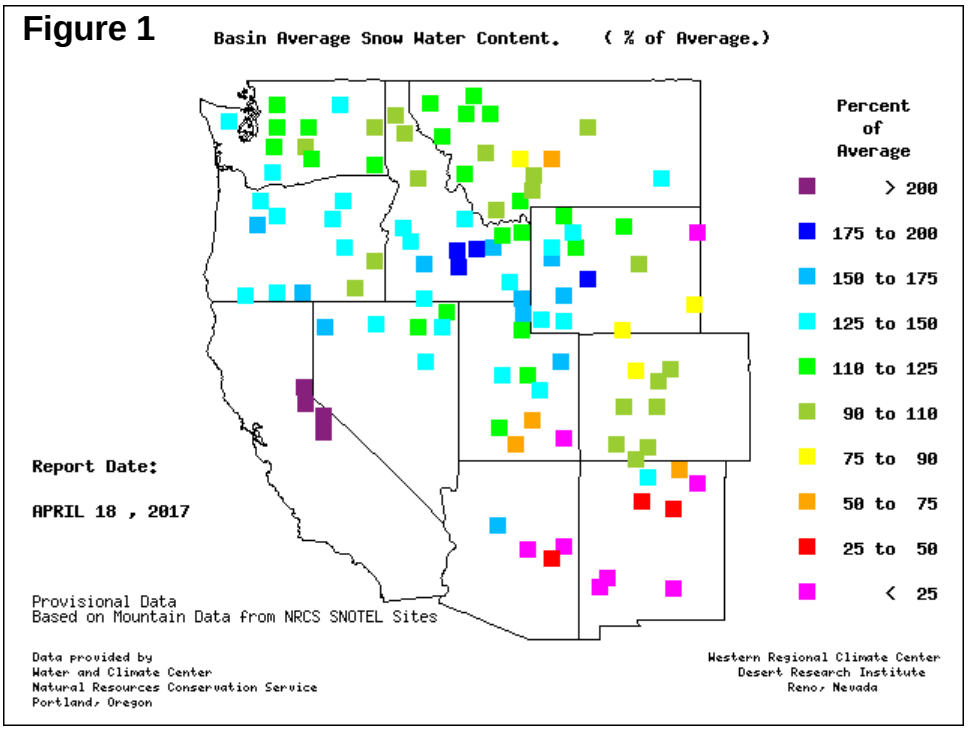
In late March and the first half of April, showery weather continued in the Northwest but returned to northern California. Cool weather accompanied the late-season storminess, allowing snowpack to further build across the Sierra Nevada and higher elevations of the Northwest. By April 18, the Sierra Nevada snowpack contained an average of 48 inches of water.

Snowpack and Precipitation

By April 18, 2017, most basins in the middle one-third of the West—from the Sierra Nevada into western Wyoming—were reporting much-above-normal snowpack for this time of year (figure 1). In contrast, many Southwestern basins had already lost most or all of their snow due to recent and ongoing warmth. Meanwhile, many Northwestern basins experienced late-season improvements in snowpack, with water content topping 150 percent of average in parts of Oregon.

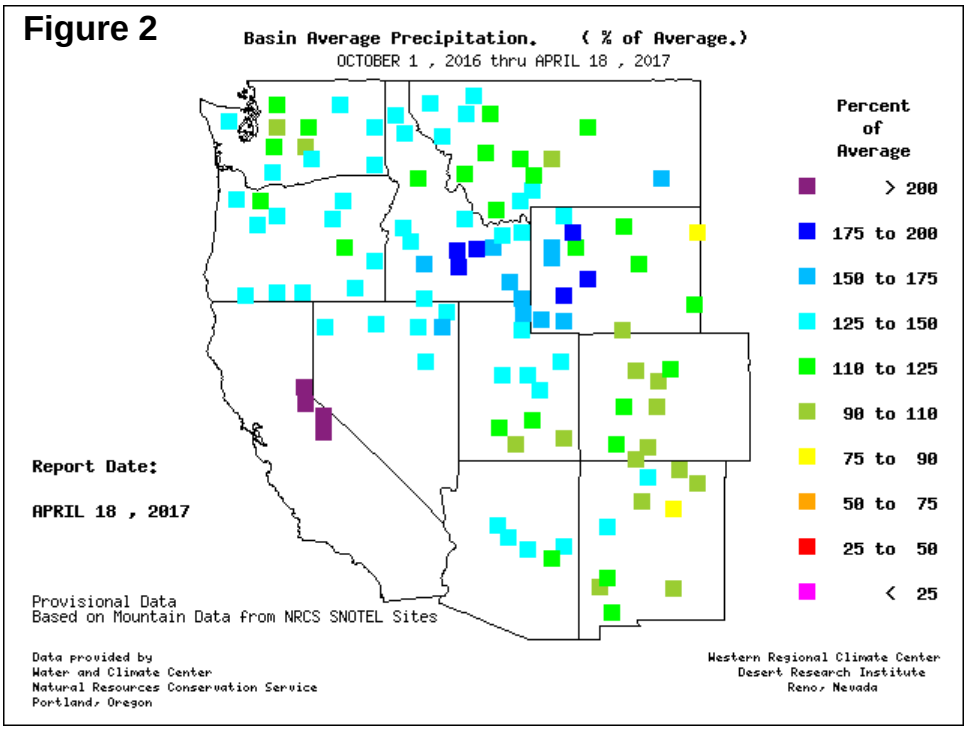
SNOTEL – River Basin Snow Water Content

Figure 1



SNOTEL – River Basin Precipitation

Figure 2



Season-to-date precipitation (October 1, 2016 – April 18, 2017) was near or above normal throughout the West. Amid an overall impressive Western winter wet season, precipitation totals have been truly exceptional—at least 200 percent of normal—in the Sierra Nevada (figure 2).

Spring and Summer Streamflow Forecasts

By April 1, 2017, projections for spring and summer streamflow were indicating the likelihood of near- or above-normal runoff in most Western watersheds. In particular, runoff in excess of 180 percent of average can be expected in many basins across the northern Intermountain West and from the Sierra Nevada to the Wasatch Range (figure 3). In contrast, runoff volumes of less than 90 percent of average should occur in scattered watersheds in southwestern Montana and the central and southern Rockies.

Reservoir Storage

On April 1, 2017, reservoir storage as a percent of average for the date was near or above average in all Western States except New Mexico and Washington (figure 4). New Mexico's low storage was a combination of several factors, including the lingering effects of a multi-decadal drought and overtaxed water supplies. Hydrologically, Washington has few concerns, and in fact continued to prepare for robust spring and summer runoff by keeping some reservoirs low. Meanwhile, California's April 1 statewide storage stood at 113 percent of average, down from 122 percent a month earlier, as reservoir managers released water to prepare for the tremendous inflow that will accompany snow-melt runoff during the next several months.

For More Information

The National Water and Climate Center homepage provides the latest available snowpack and water supply information. Please visit: http://www.wcc.nrcs.usda.gov

Figure 3

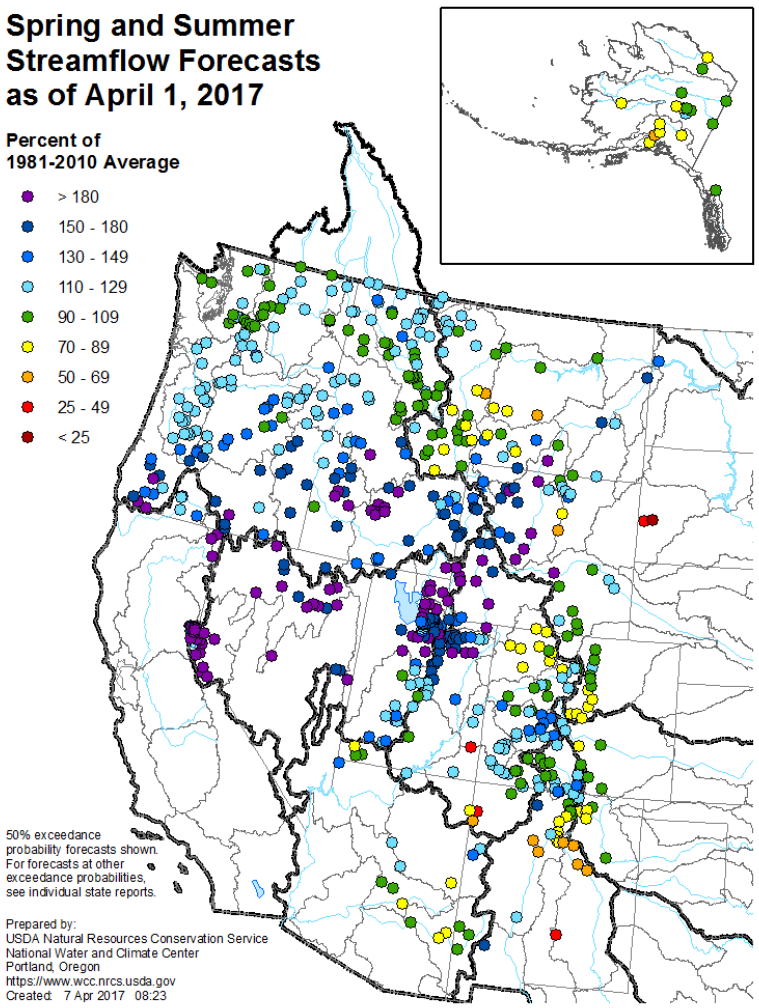
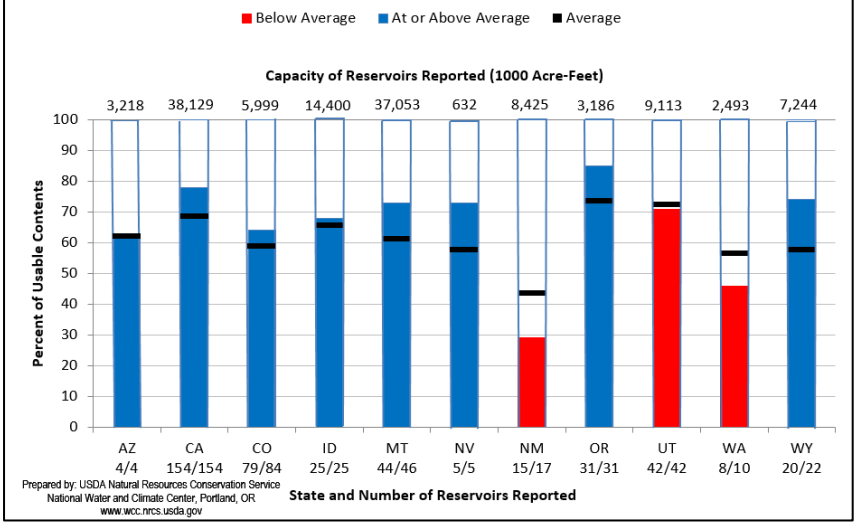
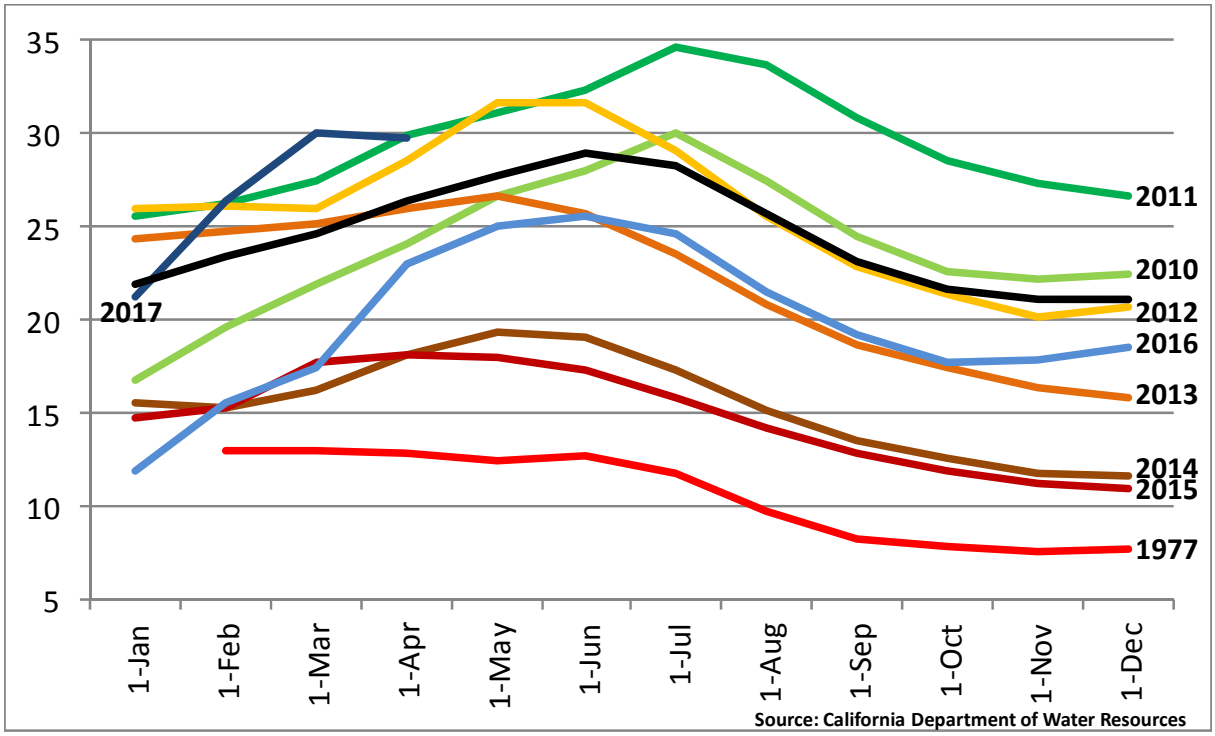


Figure 4 Reservoir Storage as of April 1, 2017



California Reservoir Storage, Million Acre-Feet, 1977 and 2010-17



Note: One acre-foot is equal to 325,851 gallons, or the amount of water it takes to cover one acre to a depth of one foot.

During the month ending April 1, statewide storage dropped from 30.1 to 29.8 million acre feet, while percent of average storage dipped from 122 to 113% of the historic average, as reservoir managers prepared for massive snow-melt runoff.

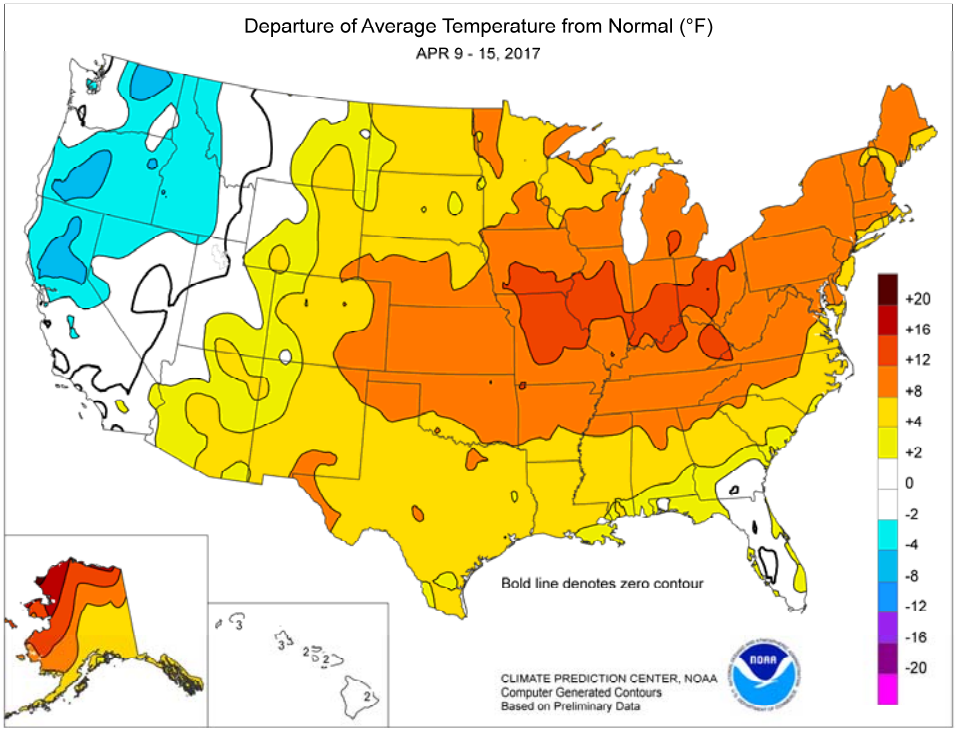
California Reservoirs, Recharge and Withdrawal
Million Acre-Feet and Percent of Average

	Recharge		Withdrawal
2010-11	12.47 (158%)	**2011**	8.78 (111%)
2011-12	5.79 (73%)	**2012**	11.54 (146%)
2012-13	6.52 (83%)	**2013**	11.49 (145%)
2013-14	4.17 (53%)	**2014**	7.75 (98%)
2014-15	6.46 (82%)	**2015**	7.12 (90%)
2015-16	14.67 (186%)	**2016**	7.87 (100%)
2016-17	12.34	**2017**	N/A
Avg.	**7.90**	**Avg.**	**7.90**

Notes: Recharge and withdrawal values are based on end-of-month statistics, not daily readings. Recharge data for 2016-17 is valid through March 31.

(Continued from front cover)

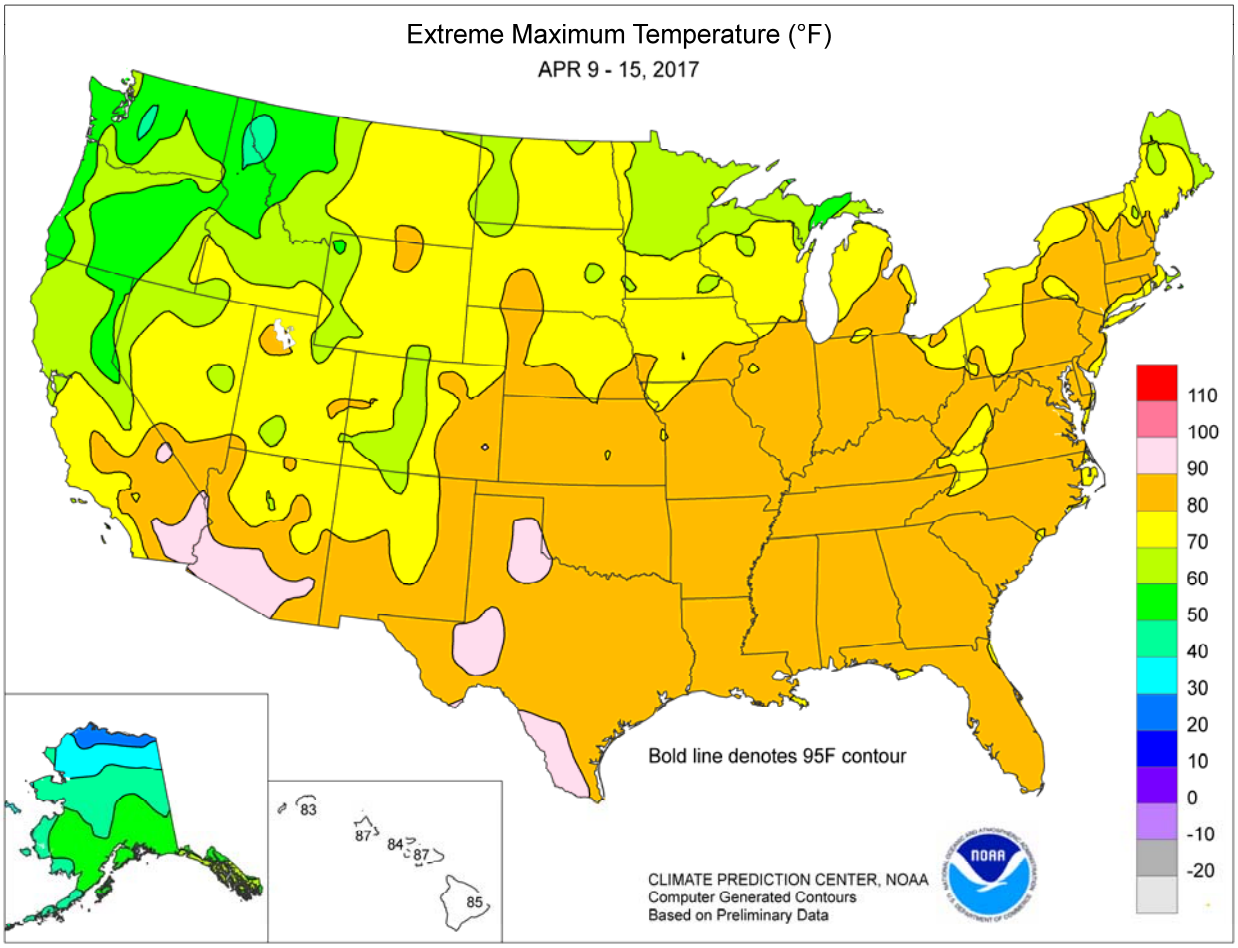
Southwest and **Southeast**, promoting fieldwork and a rapid crop development pace. In areas experiencing drought, including **Florida's peninsula**, warm, dry conditions maintained heavy irrigation demands and resulted in an increase in wildfire activity. Elsewhere, cool, showery weather limited fieldwork and slowed crop growth in **northern California** and the **Northwest**, where weekly temperatures averaged as much as 5°F below normal. In contrast, temperatures averaged at least 10°F above normal in the **central and eastern Corn Belt**, as well as portions of neighboring regions. Despite the overall warm regime, a push of cool air across the **Plains** on April 10-11 resulted in widespread freezes as far south as **eastern Colorado** and **northern Kansas**.

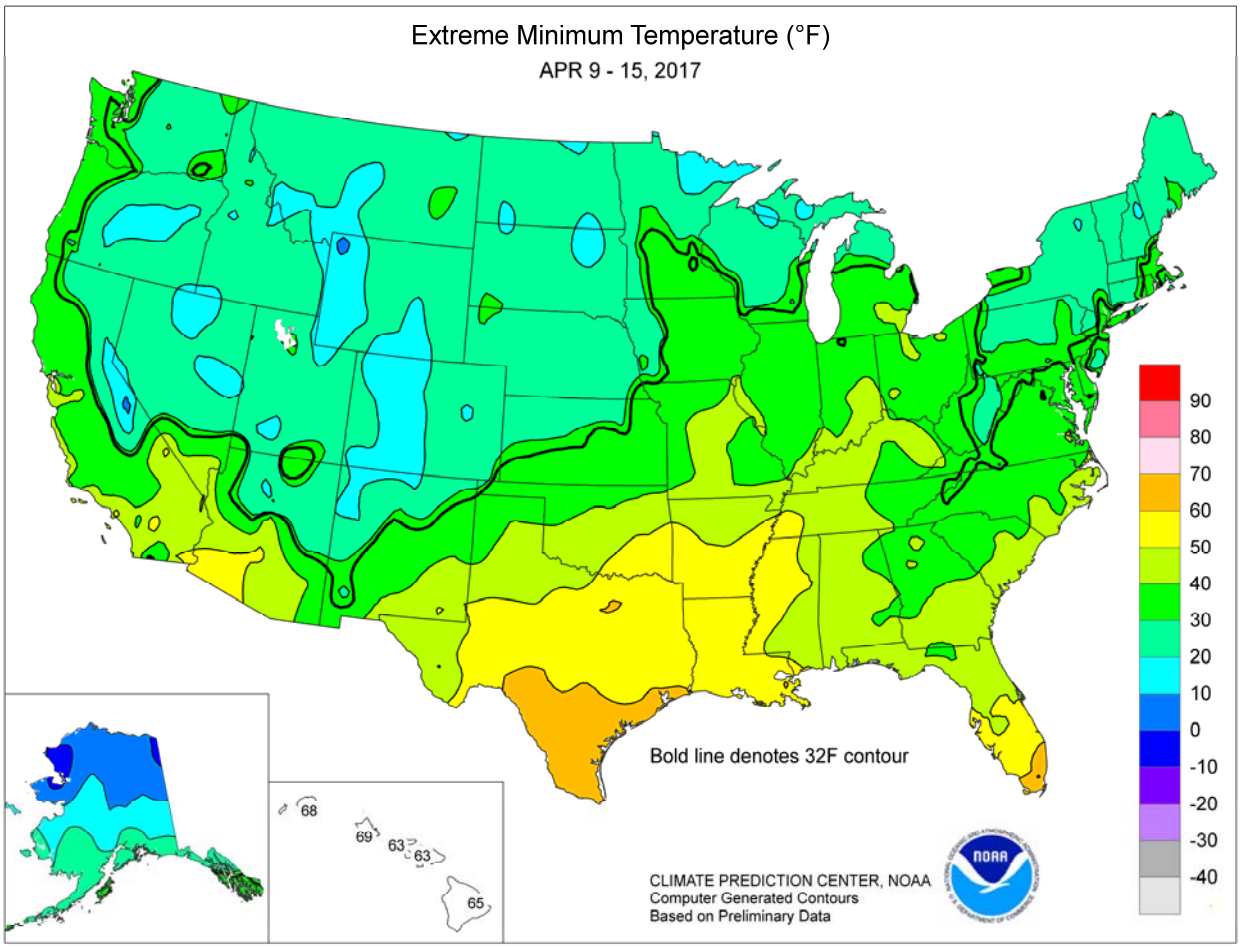


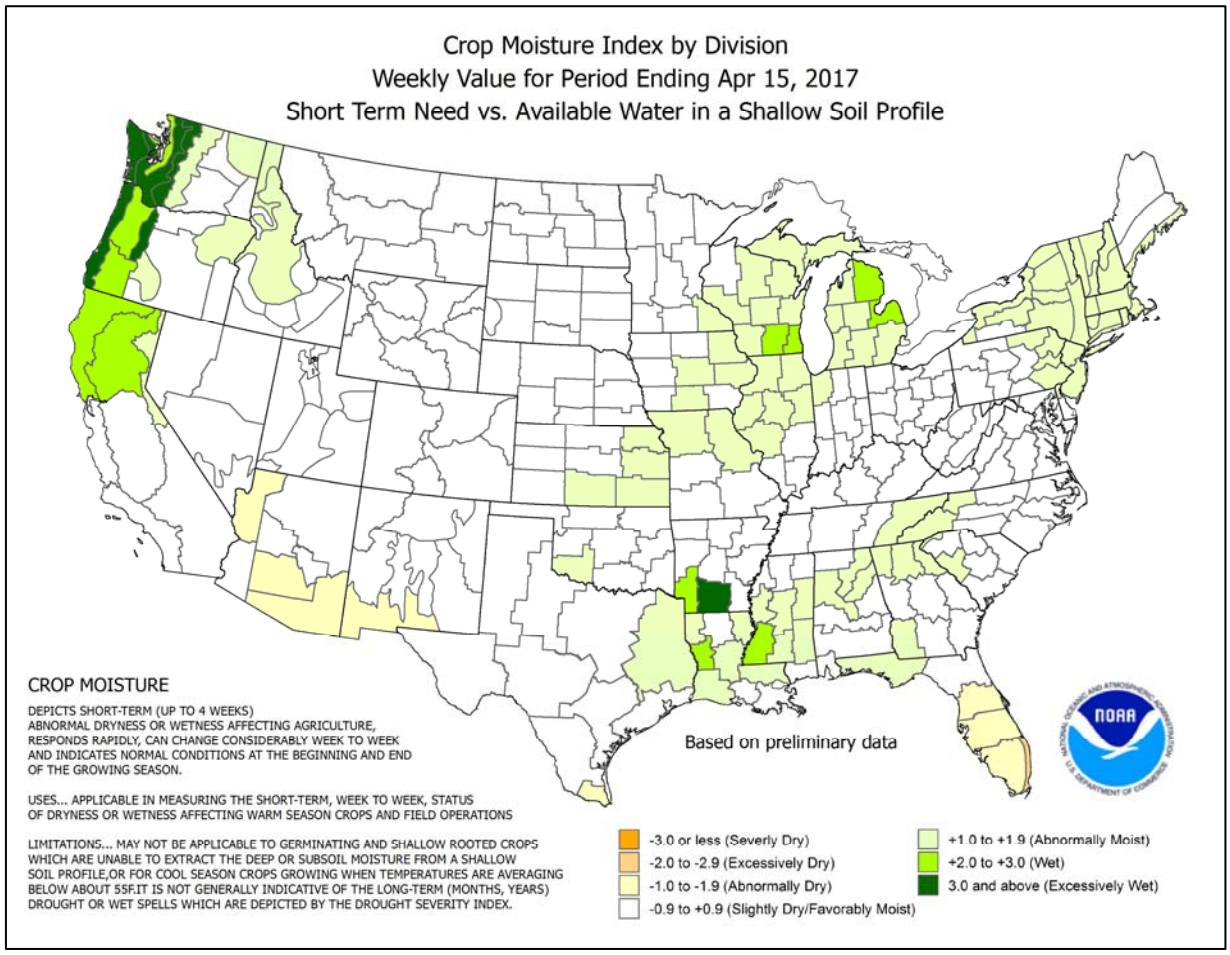
Early in the week, warmth in advance of a cold front spread from the **Midwest into the Northeast**. In **Michigan**, daily-record highs for April 9 rose to 77°F in **Alpena** and **Traverse City**. On April 10, record-setting **Northeastern** highs climbed to 82°F in **Newark, NJ**, and **Scranton, PA**. During a final day of **Eastern** warmth, on April 11, temperatures rose impressively to daily-record levels in locations such as **Albany, NY**; **Concord, NH**; and **Baltimore, MD**—all of which attained 87°F. **Hartford, CT** (88°F on April 11), experienced its fourth-warmest day on record during the first half of April—tied with a few other dates—behind 93°F on April 7, 2010; 90°F on April 7, 1991; and 89°F on April 8, 1991. Later, another surge of warmth pushed eastward. On April 13, daily-record highs included 88°F in **Birmingham, AL**, and 81°F in **Sheridan, WY**. April 14 featured **Southeastern** daily-record highs of 89°F in **Nashville, TN**, and **Huntsville, AL**. Meanwhile on the **High Plains**, record-setting highs for April 14 included 88°F in **Goodland, KS**, and 87°F in **Pueblo, CO**.

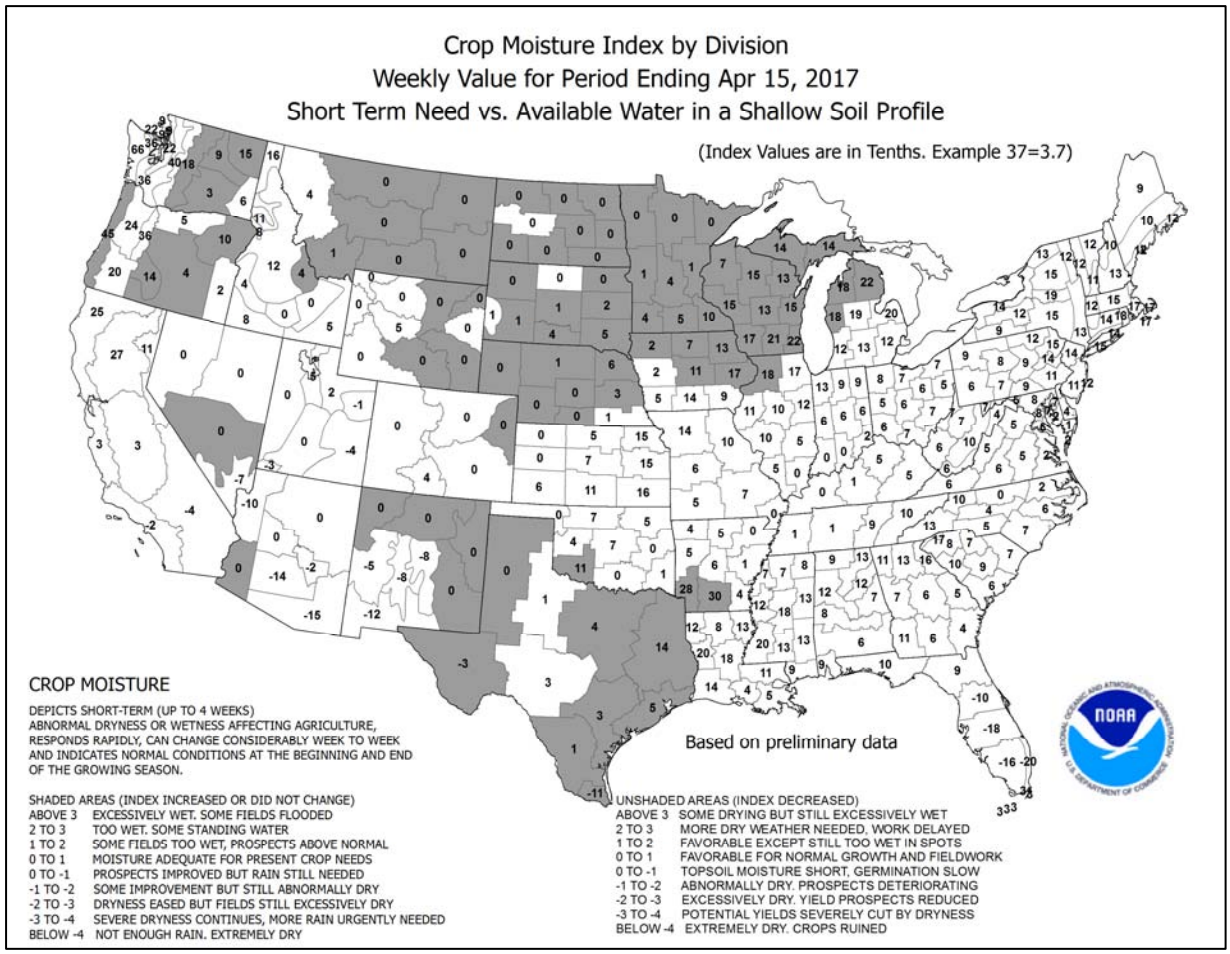
Across the **lower Southeast**, two wildfires topped the 20,000-acre mark by mid-April. Near the **Florida-Georgia line** on the southern end of the **Okefenokee National Wildlife Refuge**, the West Mims fire—started by lightning on April 6—had charred more than 21,000 acres of timber, brush, and grass. And, in **Florida's Big Cypress National Preserve**, the Cowbell fire—which started on March 30—had consumed nearly 22,000 acres. In contrast, heavy precipitation soaked parts of the **Northwest** and **upper Midwest**. Record-setting rainfall totals for April 9 included 1.84 inches in **Rhinelander, WI**, and 1.26 inches in **Billings, MT**. Significant, early-week rain also drenched the **western Gulf Coast region** and environs, with daily-record totals reported on April 10 in **Longview, TX** (3.42 inches), and **El Dorado, AR** (2.32 inches). Later, another wave of **Western** precipitation led to record-setting totals for April 12 in **Mount Shasta City** (1.73 inches) and **Wenatchee, WA** (0.59 inch). Month-to-date rainfall through April 15 climbed to 6.98 inches (434 percent of normal) in **Mount Shasta City** and 1.66 inches (692 percent) in **Wenatchee**. The 13th was the wettest April day on record in **Fresno, CA**, where 2.04 inches fell. Previously, **Fresno's** wettest April day had occurred on April 8, 1926, with a 1.81-inch total. During the mid- to late-week period, showers and thunderstorms dotted the **Plains** and **Midwest**. In **Texas**, daily-record amounts for April 12 included 1.47 inches in **Midland** and 0.79 inches in **Lubbock**. Later, record-setting **Midwestern** rainfall amounts for April 15 totaled 2.25 inches in **Dubuque, IA**, and 1.57 inches in **Oshkosh, WI**.

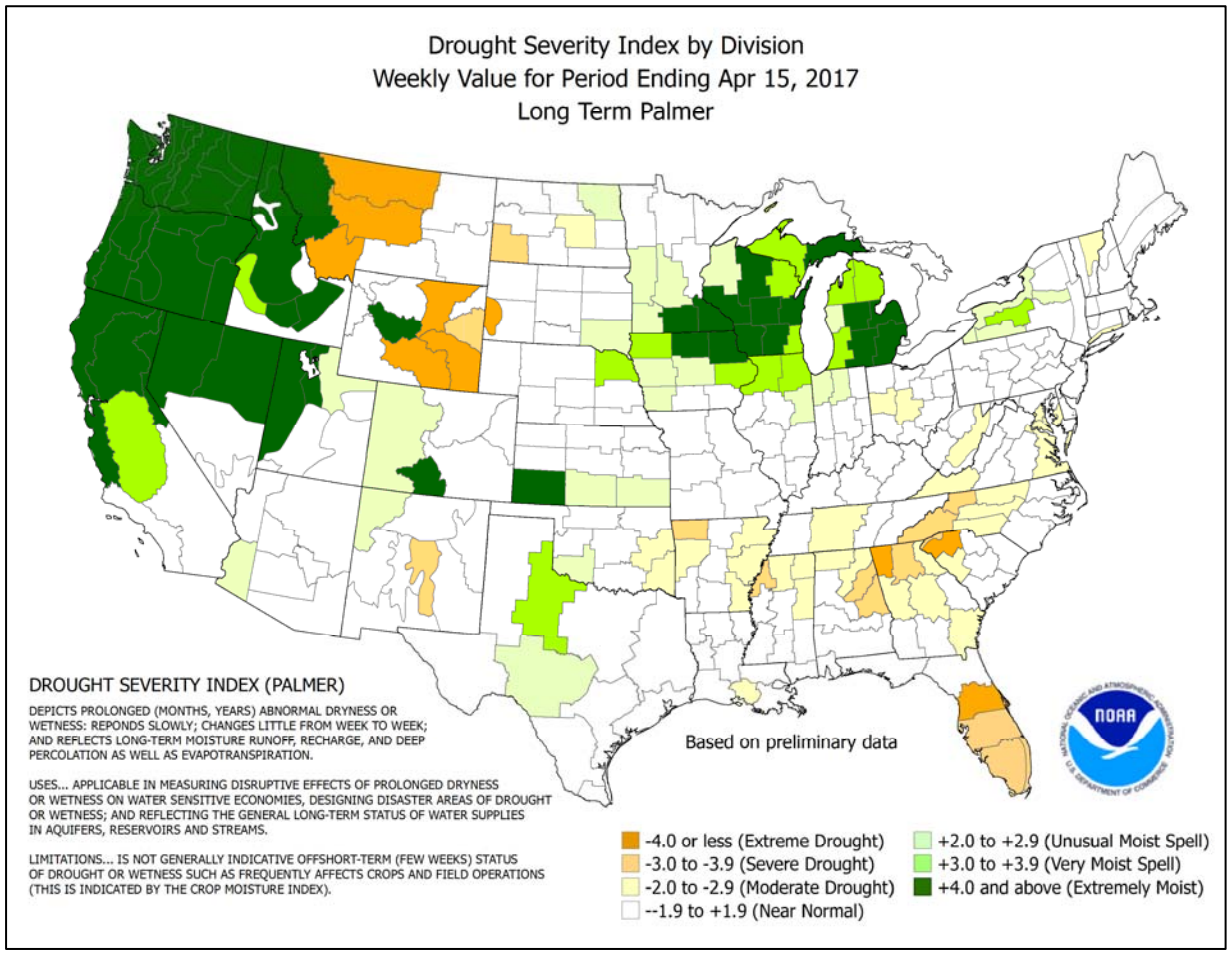
Mild, mostly dry weather covered **Alaska**. Weekly temperatures ranged from less than 5°F above normal in parts of **southern Alaska** to more than 20°F above normal across the northwestern corner of the state. From April 12-14, **Yakutat** noted a trio of daily-record highs (63, 60, and 61°F). Similarly, **Annette Island** posted consecutive daily-record highs (64 and 63°F, respectively) on April 12-13. On April 12, **Juneau** attained the 60-degree mark for the first time since September 29, 2016. Farther south, **Hawaii** continued to experience warm weather and limited rainfall. **Lihue, Kauai**, achieved a high of 83°F on 5 consecutive days from April 11-15, tying daily records on the 12th, 13th, and 14th. **Lihue** also received some rain—a weekly total of 0.64 inch—while the month's first measurable precipitation fell on April 13 in **Kahului, Maui** (0.02 inch), and on April 14 in **Honolulu, Oahu** (0.05 inch).

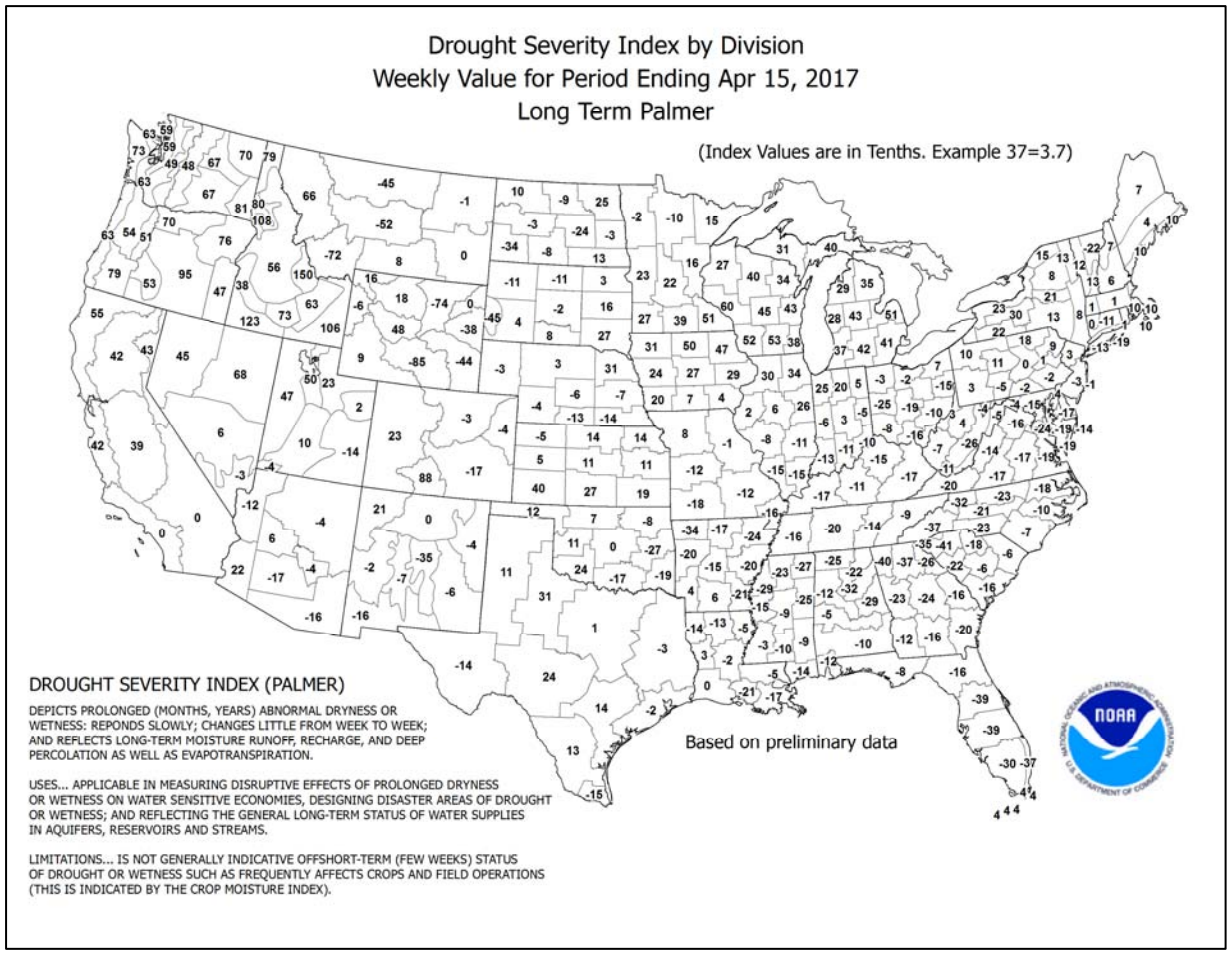

Extreme Maximum Temperature (°F)
APR 9 - 15, 2017
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95F contour
83
87
84
87
85
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data
NOAA

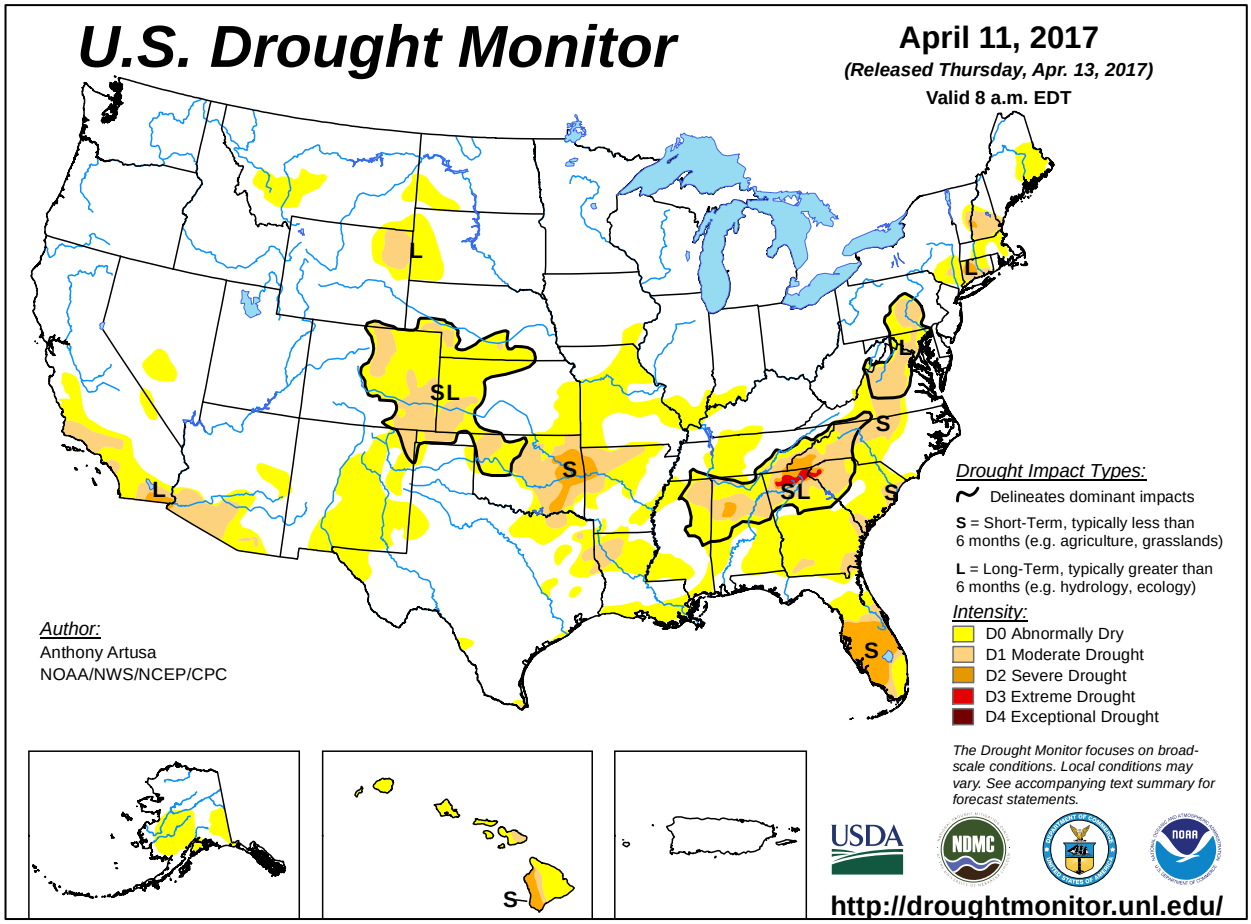

Extreme Minimum Temperature (°F)
APR 9 - 15, 2017
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32F contour
68
69
63
63
65
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data
NOAA

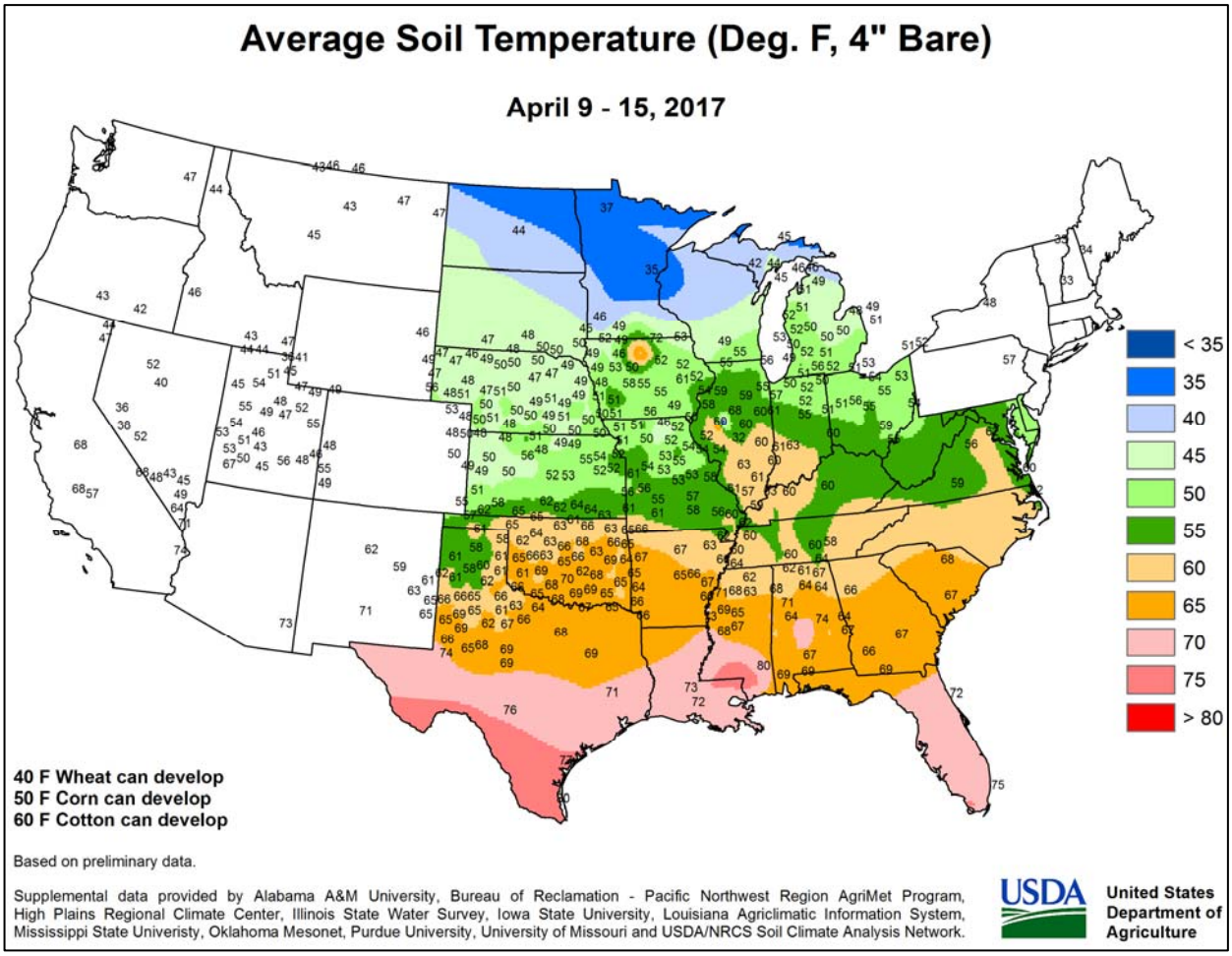

Crop Moisture Index by Division
Weekly Value for Period Ending Apr 15, 2017
Short Term Need vs. Available Water in a Shallow Soil Profile
CROP MOISTURE
DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.
USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS
LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE,OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55F.IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.
Based on preliminary data
-3.0 or less (Severly Dry)
-2.0 to -2.9 (Excessively Dry)
-1.0 to -1.9 (Abnormally Dry)
-0.9 to +0.9 (Slightly Dry/Favorably Moist)
+1.0 to +1.9 (Abnormally Moist)
+2.0 to +3.0 (Wet)
3.0 and above (Excessively Wet)


Crop Moisture Index by Division
Weekly Value for Period Ending Apr 15, 2017
Short Term Need vs. Available Water in a Shallow Soil Profile
(Index Values are in Tenths. Example 37=3.7)
CROP MOISTURE
DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.
SHADED AREAS (INDEX INCREASED OR DID NOT CHANGE)
ABOVE 3 EXCESSIVELY WET. SOME FIELDS FLOODED
2 TO 3 TOO WET. SOME STANDING WATER
1 TO 2 SOME FIELDS TOO WET, PROSPECTS ABOVE NORMAL
0 TO 1 MOISTURE ADEQUATE FOR PRESENT CROP NEEDS
0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2 SOME IMPROVEMENT BUT STILL ABNORMALLY DRY
-2 TO -3 DRYNESS EASED BUT FIELDS STILL EXCESSIVELY DRY
-3 TO -4 SEVERE DRYNESS CONTINUES, MORE RAIN URGENTLY NEEDED
BELOW -4 NOT ENOUGH RAIN. EXTREMELY DRY
UNSHADED AREAS (INDEX DECREASED)
ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
2 TO 3 MORE DRY WEATHER NEEDED. WORK DELAYED
1 TO 2 FAVORABLE EXCEPT STILL TOO WET IN SPOTS
0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1 TO -2 ABNORMALLY DRY. PROSPECTS DETERIORATING
-2 TO -3 EXCESSIVELY DRY. YIELD PROSPECTS REDUCED
-3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DRYNESS
BELOW -4 EXTREMELY DRY. CROPS RUINED
Based on preliminary data


Drought Severity Index by Division
Weekly Value for Period Ending Apr 15, 2017
Long Term Palmer
DROUGHT SEVERITY INDEX (PALMER)
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS: REPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.
LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
Based on preliminary data
-4.0 or less (Extreme Drought)
-3.0 to -3.9 (Severe Drought)
-2.0 to -2.9 (Moderate Drought)
--1.9 to +1.9 (Near Normal)
+2.0 to +2.9 (Unusual Moist Spell)
+3.0 to +3.9 (Very Moist Spell)
+4.0 and above (Extremely Moist)


Drought Severity Index by Division
Weekly Value for Period Ending Apr 15, 2017
Long Term Palmer
(Index Values are in Tenths. Example 37=3.7)
DROUGHT SEVERITY INDEX (PALMER)
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS: REPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.
LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
Based on preliminary data


U.S. Drought Monitor
April 11, 2017
(Released Thursday, Apr. 13, 2017)
Valid 8 a.m. EDT
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.
Author:
Anthony Artusa
NOAA/NWS/NCEP/CPC
USDA
NDMC
NOAA
http://droughtmonitor.unl.edu/


Average Soil Temperature (Deg. F, 4" Bare)
April 9 - 15, 2017
< 35
35
40
45
50
55
60
65
70
75
> 80
40 F Wheat can develop
50 F Corn can develop
60 F Cotton can develop
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 Agriclimatic Information System, Mississippi State Univeristy, Oklahoma Mesonet, Purdue University, University of Missouri and USDA/NRCS Soil Climate Analysis Network.
USDA
United States Department of Agriculture

National Weather Data for Selected Cities

Weather Data for the Week Ending April 15, 2017

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 MAR 1	PCT. NORMAL SINCE MAR 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	83	56	88	45	70	10	0.00	-1.09	0.00	9.66	112	19.32	106	85	30	0	0	0	0
	HUNTSVILLE	84	54	89	45	69	10	0.00	-1.05	0.00	5.87	64	14.75	75	84	45	0	0	0	0
	MOBILE	81	56	84	48	68	3	0.19	-0.98	0.19	6.08	61	18.29	88	94	57	0	0	1	0
	MONTGOMERY	84	54	86	42	69	6	0.00	-1.04	0.00	5.16	59	19.86	103	83	33	0	0	0	0
AK	ANCHORAGE	49	28	52	27	39	5	0.00	-0.11	0.00	0.69	78	3.39	147	75	59	0	7	0	0
	BARROW	17	7	21	4	12	16	0.00	0.00	0.00	1.55	1722	2.39	724	85	74	0	7	0	0
	FAIRBANKS	48	22	52	17	35	7	0.00	-0.03	0.00	0.26	76	2.46	195	73	53	0	7	0	0
	JUNEAU	56	31	60	27	44	5	0.08	-0.57	0.08	4.96	101	15.54	113	89	59	0	5	1	0
	KODIAK	48	36	54	32	42	6	0.06	-1.16	0.06	5.62	72	11.17	52	72	59	0	1	1	0
	NOME	33	21	41	5	27	11	0.10	-0.04	0.10	0.13	14	1.58	61	87	76	0	7	1	0
AZ	FLAGSTAFF	62	26	67	19	44	2	0.00	-0.31	0.00	1.96	58	8.85	109	68	14	0	7	0	0
	PHOENIX	88	61	94	56	74	5	0.00	-0.06	0.00	0.06	5	2.40	84	28	15	3	0	0	0
	PRESCOTT	71	37	76	31	54	5	0.00	-0.16	0.00	0.79	34	4.25	74	58	13	0	1	0	0
	TUCSON	88	54	93	49	71	6	0.00	-0.05	0.00	0.21	22	1.58	56	24	12	4	0	0	0
AR	FORT SMITH	80	59	85	57	70	10	0.00	-0.84	0.00	4.51	78	9.32	87	85	42	0	0	0	0
	LITTLE ROCK	78	57	83	51	68	8	0.39	-0.88	0.39	5.78	76	10.78	74	96	54	0	0	1	0
CA	BAKERSFIELD	74	47	83	40	60	-1	0.00	-0.12	0.00	0.18	10	4.40	106	65	48	0	0	0	0
	FRESNO	71	46	79	39	59	-1	2.04	1.83	2.04	4.16	150	12.18	173	81	58	0	0	1	1
	LOS ANGELES	69	52	71	50	61	1	0.00	-0.17	0.00	0.47	16	11.95	133	82	48	0	0	0	0
	REDDING	62	43	70	33	52	-4	0.73	0.10	0.32	7.67	114	26.70	143	90	65	0	0	3	0
	SACRAMENTO	65	44	69	37	55	-3	0.33	0.06	0.29	4.73	135	22.91	211	98	45	0	0	2	0
	SAN DIEGO	71	56	74	54	64	2	0.00	-0.22	0.00	0.08	3	6.80	95	72	52	0	0	0	0
	SAN FRANCISCO	63	49	67	45	56	0	0.26	-0.07	0.17	4.84	118	21.60	172	81	62	0	0	3	0
	STOCKTON	70	44	74	38	57	-2	0.21	-0.04	0.19	3.31	113	14.79	183	94	64	0	0	3	0
CO	ALAMOSA	66	27	72	16	46	7	0.00	-0.11	0.00	1.08	154	2.73	235	64	17	0	6	0	0
	CO SPRINGS	70	39	80	28	54	10	0.00	-0.34	0.00	1.39	79	1.78	75	63	10	0	2	0	0
	DENVER INTL	70	35	79	24	52	8	0.00	-0.15	0.00	1.23	103	2.00	121	63	17	0	2	0	0
	GRAND JUNCTION	70	37	81	26	54	5	0.00	-0.18	0.00	0.54	39	2.09	84	41	17	0	2	0	0
	PUEBLO	76	38	87	28	57	9	0.00	-0.28	0.00	2.65	172	3.57	168	63	24	0	2	0	0
CT	BRIDGEPORT	65	43	70	35	54	7	0.08	-0.85	0.08	7.44	120	12.63	98	75	44	0	0	1	0
	HARTFORD	71	40	88	30	56	9	0.10	-0.78	0.09	6.16	106	12.14	96	66	37	0	1	2	0
DC	WASHINGTON	77	54	84	42	65	11	0.00	-0.60	0.00	3.52	71	6.95	64	68	34	0	0	0	0
DE	WILMINGTON	73	46	82	33	59	9	0.00	-0.75	0.00	6.10	108	10.12	85	86	34	0	0	0	0
FL	DAYTONA BEACH	78	62	81	46	70	2	0.08	-0.57	0.08	2.27	42	6.28	56	81	48	0	0	1	0
	JACKSONVILLE	79	51	81	42	65	0	0.00	-0.76	0.00	1.81	32	7.21	58	99	44	0	0	0	0
	KEY WEST	81	71	83	64	76	0	1.88	1.41	1.86	2.81	98	5.86	89	82	60	0	0	2	1
	MIAMI	82	70	84	65	76	1	0.06	-0.71	0.06	3.98	95	8.69	107	72	49	0	0	1	0
	ORLANDO	84	60	85	51	72	2	0.00	-0.60	0.00	0.14	3	3.07	32	81	36	0	0	0	0
	PENSACOLA	77	62	82	54	70	4	0.00	-0.96	0.00	2.63	30	17.98	96	86	53	0	0	0	0
	TALLAHASSEE	84	52	85	40	68	3	0.00	-0.88	0.00	4.32	50	14.25	76	92	35	0	0	0	0
	TAMPA	86	63	90	56	75	5	0.00	-0.43	0.00	1.58	41	4.50	51	74	33	1	0	0	0
	WEST PALM BEACH	81	70	82	62	75	2	0.01	-0.82	0.01	1.53	28	5.07	43	62	47	0	0	1	0
GA	ATHENS	82	51	84	37	67	8	0.00	-0.78	0.00	8.54	126	16.24	102	93	40	0	0	0	0
	ATLANTA	80	57	82	45	68	8	0.00	-0.83	0.00	7.48	102	17.53	103	76	37	0	0	0	0
	AUGUSTA	83	49	85	38	66	5	0.00	-0.74	0.00	3.10	49	15.33	103	94	41	0	0	0	0
	COLUMBUS	83	54	85	43	69	6	0.00	-0.92	0.00	2.81	36	17.07	100	81	29	0	0	0	0
	MACON	82	49	85	37	66	5	0.00	-0.77	0.00	2.94	44	16.14	100	94	36	0	0	0	0
	SAVANNAH	81	53	84	45	67	3	0.00	-0.82	0.00	3.34	61	12.17	99	91	41	0	0	0	0
HI	HILO	82	66	85	65	74	2	1.38	-1.78	0.53	5.37	25	23.88	60	89	75	0	0	4	1
	HONOLULU	86	71	87	69	78	3	0.05	-0.21	0.05	2.80	113	10.12	134	75	65	0	0	1	0
	KAHULUI	86	65	87	63	76	2	0.02	-0.43	0.02	4.16	123	6.64	70	83	69	0	0	1	0
	LIHUE	83	70	83	68	76	2	0.59	-0.10	0.52	4.76	93	11.24	87	84	73	0	0	5	1
ID	BOISE	57	37	72	29	47	-2	0.32	0.04	0.22	3.27	161	7.45	163	76	51	0	2	3	0
	LEWISTON	57	38	63	32	47	-3	0.28	0.00	0.21	3.94	232	6.72	177	79	61	0	1	3	0
	POCATELLO	56	31	69	26	44	0	0.04	-0.21	0.04	2.28	118	8.23	201	84	47	0	5	1	0
IL	CHICAGO/O'HARE	68	47	82	36	57	11	0.61	-0.26	0.32	6.67	150	11.06	141	72	52	0	0	4	0
	MOLINE	73	49	81	34	61	13	1.14	0.26	0.75	6.01	126	8.42	107	82	57	0	0	4	1
	PEORIA	73	51	81	39	62	13	1.43	0.65	1.22	6.90	155	9.56	126	84	51	0	0	2	1
	ROCKFORD	69	46	82	34	57	11	2.30	1.47	1.52	6.48	158	10.51	154	81	54	0	0	4	1
	SPRINGFIELD	77	52	85	39	65	14	0.17	-0.57	0.09	6.22	131	7.89	97	79	42	0	0	2	0
IN	EVANSVILLE	80	53	85	45	67	13	0.03	-0.97	0.03	4.15	65	7.42	60	72	39	0	0	1	0
	FORT WAYNE	69	46	82	36	57	10	0.28	-0.53	0.19	5.92	130	12.39	145	81	48	0	0	2	0
	INDIANAPOLIS	75	51	81	42	63	13	0.54	-0.26	0.46	5.90	115	11.35	113	74	42	0	0	2	0
	SOUTH BEND	66	43	80	30	55	9	0.35	-0.50	0.12	5.60	120	12.59	141	77	55	0	1	4	0
IA	BURLINGTON	74	52	81	40	63	13	0.41	-0.39	0.18	4.35	94	6.21	83	84	48	0	0	3	0
	CEDAR RAPIDS	70	47	80	35	59	12	1.38	0.65	0.58	4.25	114	6.42	109	95	53	0	0	4	1
	DES MOINES	74	51	81	39	62	14	0.70	-0.10	0.49	5.39	141	7.90	131	79	53	0	0	4	0
	DUBUQUE	66	46	78	36	56	11	2.91	2.13	2.25	5.78	138	9.59	139	82	63	0	0	5	1
	SIOUX CITY	66	41	77	23	54	7	0.42	-0.17	0.29	2.43	75	5.02	113	94	71	0	2	3	0
	WATERLOO	68	46	79	33	57	12	0.82	0.10	0.44	3.97	110	7.90	144	84	65	0	0	4	0
KS	CONCORDIA	71	48	80	27	60	9	1.13	0.63	0.98	5.13	150	6.98	145	90	60	0	1	2	1
	DODGE CITY	77	49	84	34	63	11	0.06	-0.44	0.06	7.61	264	10.18	245	82	39	0	0	1	0
	GOODLAND	74	40	88	27	57	10	0.00	-0.26	0.00	2.00	115	2.93	112	82	33	0	2	0	0
	TOPEKA	77	52	82	38	64	11	1.66	0.99	1.46	7.91	200	9.30	153	90	56	0	0	2	1

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

Weather Data for the Week Ending April 15, 2017

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 MAR 1	PCT. NORMAL SINCE MAR 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	75	53	80	38	64	10	0.03	-0.52	0.03	5.24	133	8.86	153	86	59	0	0	1	0
KY	JACKSON	81	56	85	47	69	14	0.07	-0.76	0.07	5.53	89	13.10	98	60	21	0	0	1	0
	LEXINGTON	78	53	83	46	66	13	0.27	-0.54	0.27	4.08	66	12.18	95	62	33	0	0	1	0
	LOUISVILLE	81	56	87	48	69	14	0.50	-0.35	0.50	4.60	73	10.87	85	63	27	0	0	1	1
	PADUCAH	79	54	85	42	67	12	0.00	-1.11	0.00	4.64	71	9.47	68	74	36	0	0	0	0
LA	BATON ROUGE	83	59	85	53	71	6	0.15	-1.14	0.13	7.66	99	19.09	100	94	43	0	0	2	0
	LAKE CHARLES	80	61	82	56	70	4	1.35	0.58	1.35	6.04	116	12.99	93	96	57	0	0	1	1
	NEW ORLEANS	80	61	83	52	71	4	0.00	-1.23	0.00	4.74	60	12.38	64	89	52	0	0	0	0
	SHREVEPORT	82	60	85	56	71	7	0.79	-0.19	0.76	4.63	74	8.77	58	93	53	0	0	2	1
ME	CARIBOU	53	36	65	31	44	8	0.59	0.01	0.47	4.31	113	9.93	112	79	50	0	1	2	0
	PORTLAND	64	35	76	29	49	7	0.20	-0.80	0.20	6.93	110	15.13	112	85	35	0	3	1	0
MD	BALTIMORE	76	48	87	34	62	11	0.36	-0.31	0.36	5.76	106	9.91	83	70	34	0	0	1	0
MA	BOSTON	68	44	84	37	56	10	0.02	-0.84	0.02	7.69	134	15.16	117	70	32	0	0	1	0
	WORCESTER	67	42	83	32	54	11	0.07	-0.83	0.06	7.07	114	13.42	100	69	23	0	1	2	0
MI	ALPENA	60	34	77	26	47	9	1.10	0.58	0.76	5.48	169	11.33	178	96	51	0	3	4	1
	GRAND RAPIDS	66	45	80	39	56	12	1.29	0.48	1.04	6.56	153	12.12	155	89	49	0	0	3	1
	HOUGHTON LAKE	61	39	75	31	50	11	1.28	0.75	0.76	5.85	183	11.33	187	82	55	0	1	3	2
	LANSING	66	46	83	40	56	13	0.30	-0.44	0.18	6.28	161	12.56	180	74	52	0	0	3	0
	MUSKEGON	62	46	76	39	54	11	0.42	-0.24	0.31	4.53	120	10.23	135	72	60	0	0	4	0
	TRAVERSE CITY	63	41	78	30	52	12	0.78	0.12	0.52	3.01	90	9.17	113	86	44	0	1	3	1
MN	DULUTH	57	34	70	28	46	10	0.33	-0.14	0.31	1.48	55	4.44	96	85	57	0	4	3	0
	INT'L FALLS	59	27	67	18	43	7	0.28	-0.02	0.28	0.96	61	3.71	122	86	33	0	5	1	0
	MINNEAPOLIS	61	43	72	32	52	8	1.66	1.14	1.00	2.46	83	4.08	85	82	62	0	1	5	1
	ROCHESTER	59	42	68	32	51	9	1.31	0.64	0.56	4.85	149	8.62	174	93	80	0	1	6	1
	ST. CLOUD	57	40	65	30	49	8	0.57	0.07	0.31	1.24	48	2.76	71	95	57	0	2	5	0
MS	JACKSON	82	55	85	51	69	7	0.13	-1.28	0.13	11.82	135	22.03	116	93	43	0	0	1	0
	MERIDIAN	83	54	87	46	69	7	0.04	-1.29	0.04	10.67	108	20.24	96	94	46	0	0	1	0
	TUPELO	81	55	86	48	68	9	0.00	-1.13	0.00	4.93	56	13.40	72	83	44	0	0	0	0
MO	COLUMBIA	78	54	84	44	67	14	0.00	-0.91	0.00	4.64	92	6.16	69	78	42	0	0	0	0
	KANSAS CITY	76	52	81	37	64	12	0.51	-0.15	0.34	6.52	173	7.97	128	87	47	0	0	2	0
	SAINT LOUIS	79	57	86	45	68	13	0.07	-0.76	0.04	6.71	125	9.00	92	64	45	0	0	2	0
	SPRINGFIELD	77	54	82	40	65	11	0.00	-1.01	0.00	5.82	98	10.28	99	79	54	0	0	0	0
MT	BILLINGS	58	36	80	30	47	3	1.26	0.91	1.26	3.92	214	5.68	177	79	41	0	2	1	1
	BUTTE	49	25	66	19	37	0	0.65	0.46	0.31	1.80	145	2.59	116	86	31	0	6	3	0
	CUT BANK	50	31	55	21	40	1	0.98	0.82	0.50	1.44	166	2.71	176	84	44	0	4	3	1
	GLASGOW	58	34	76	30	46	4	0.00	-0.13	0.00	0.67	92	1.69	126	74	41	0	3	0	0
	GREAT FALLS	53	31	66	24	42	1	1.91	1.63	1.30	2.63	168	4.05	147	85	42	0	4	3	1
	HAVRE	58	36	74	29	47	5	0.23	0.07	0.16	0.45	45	1.83	99	84	43	0	2	4	0
	MISSOULA	51	32	56	23	42	-2	0.31	0.10	0.24	2.69	194	5.99	186	92	60	0	4	4	0
NE	GRAND ISLAND	70	41	79	22	55	7	0.11	-0.44	0.11	0.94	29	2.26	51	98	67	0	2	1	0
	LINCOLN	73	46	81	26	59	10	0.44	-0.17	0.39	2.20	63	3.85	80	88	62	0	1	3	0
	NORFOLK	66	41	77	24	53	6	0.82	0.27	0.50	2.35	75	4.59	103	88	66	0	2	3	1
	NORTH PLATTE	73	41	79	26	57	11	0.25	-0.13	0.20	2.13	107	4.12	142	88	37	0	2	3	0
	OMAHA	72	48	82	30	60	11	0.40	-0.20	0.32	2.89	86	4.99	101	81	64	0	1	4	0
	SCOTTSBLUFF	69	36	79	29	53	9	0.03	-0.34	0.02	1.85	98	4.07	135	82	35	0	2	2	0
	VALENTINE	69	37	82	25	53	9	0.52	0.14	0.39	1.60	86	4.01	152	81	56	0	2	2	0
NV	ELY	58	24	67	16	41	0	0.00	-0.18	0.00	2.18	150	5.43	185	72	34	0	6	0	0
	LAS VEGAS	79	56	87	51	68	4	0.00	-0.02	0.00	0.05	8	1.51	78	26	15	0	0	0	0
	RENO	60	36	65	28	48	1	0.04	-0.02	0.04	1.47	143	10.46	332	60	36	0	3	1	0
	WINNEMUCCA	58	27	71	20	43	-2	0.26	0.09	0.26	1.91	153	4.50	167	84	46	0	6	1	0
NH	CONCORD	71	33	87	26	52	10	0.12	-0.57	0.11	6.43	142	11.66	118	83	27	0	5	2	0
NJ	NEWARK	73	48	84	40	61	11	0.03	-0.84	0.03	7.14	117	13.87	106	57	37	0	0	1	0
NM	ALBUQUERQUE	75	47	80	42	61	7	0.00	-0.11	0.00	0.41	48	1.80	101	38	11	0	0	0	0
NY	ALBANY	71	41	87	27	56	12	0.15	-0.62	0.13	5.88	124	11.86	126	68	26	0	1	2	0
	BINGHAMTON	65	41	78	32	53	11	0.06	-0.74	0.03	8.09	174	14.35	148	66	36	0	1	3	0
	BUFFALO	64	42	75	33	53	10	0.14	-0.58	0.07	6.90	152	12.08	119	73	41	0	0	3	0
	ROCHESTER	66	42	80	34	54	11	0.18	-0.47	0.10	7.37	186	12.45	149	65	46	0	0	2	0
	SYRACUSE	67	39	81	29	53	10	0.24	-0.53	0.15	6.89	148	13.47	143	83	35	0	2	2	0
NC	ASHEVILLE	77	47	81	32	62	9	0.00	-0.81	0.00	4.76	74	9.18	64	80	27	0	1	0	0
	CHARLOTTE	80	51	83	34	66	7	0.00	-0.69	0.00	4.57	76	11.48	85	80	33	0	0	0	0
	GREENSBORO	78	53	82	38	66	10	0.01	-0.76	0.01	3.45	63	9.06	75	80	37	0	0	1	0
	HATTERAS	75	61	78	52	68	10	0.02	-0.77	0.02	9.53	140	15.84	95	83	51	0	0	1	0
	RALEIGH	81	52	85	38	67	9	0.00	-0.62	0.00	3.94	72	8.37	65	81	36	0	0	0	0
	WILMINGTON	78	51	82	42	64	3	0.00	-0.65	0.00	5.54	97	11.08	80	99	42	0	0	0	0
ND	BISMARCK	63	32	76	23	48	7	0.01	-0.29	0.01	1.25	87	3.05	127	81	41	0	4	1	0
	DICKINSON	57	29	65	20	43	3	0.06	-0.33	0.06	0.83	57	1.61	72	85	31	0	5	1	0
	FARGO	62	35	76	23	49	8	0.01	-0.27	0.01	0.52	30	2.29	74	85	37	0	3	1	0
	GRAND FORKS	61	33	75	25	47	8	0.00	-0.25	0.00	0.90	64	2.15	81	89	39	0	5	0	0
	JAMESTOWN	61	32	75	22	46	6	0.00	-0.28	0.00	0.66	45	1.77	68	93	35	0	5	0	0
	WILLISTON	58	32	71	27	45	5	0.01	-0.19	0.01	1.16	100	2.30	110	76	49	0	5	1	0
OH	AKRON-CANTON	70	47	78	38	59	13	0.48	-0.26	0.48	6.93	147	15.43	163	65	40	0	0	1	0
	CINCINNATI	76	52	81	42	64	12	0.55	-0.36	0.48	5.80	99	13.02	113	70	42	0	0	2	0
	CLEVELAND	70	49	83	42	59	13	0.11	-0.66	0.09	5.62	123	14.48	155	63	40	0	0	2	0
	COLUMBUS	73	50	81	40	62	12	0.46	-0.26	0.45	6.78	154	13.24	145	66	44	0	0	2	0
	DAYTON	74	50	82	39	62	13	0.13	-0.80	0.12	6.65	127	11.99	118	71	37	0	0	2	0
	MANSFIELD	70	47	80	40	58	13	0.64	-0.32	0.45	5.93	110	13.79	135	72	39	0	0	2	0

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

Weather Data for the Week Ending April 15, 2017

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 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	68	45	82	36	57	11	0.13	-0.64	0.10	4.69	111	10.46	130	83	51	0	0	2	0
	YOUNGSTOWN	69	44	78	33	57	11	0.30	-0.47	0.30	6.39	136	14.27	158	64	44	0	0	1	0
OK	OKLAHOMA CITY	77	56	84	47	67	9	1.20	0.61	1.20	4.63	111	9.32	133	88	44	0	0	1	1
	TULSA	79	56	83	43	68	9	0.21	-0.60	0.20	3.02	57	7.61	86	84	56	0	0	2	0
OR	ASTORIA	54	41	57	35	47	-1	1.93	0.68	0.78	19.13	187	37.01	134	87	68	0	0	7	1
	BURNS	50	28	56	20	39	-2	0.36	0.18	0.18	2.36	143	7.36	187	87	55	0	5	5	0
	EUGENE	55	35	60	12	45	-4	0.54	-0.37	0.26	6.74	85	20.12	92	94	81	0	1	6	0
	MEDFORD	60	37	67	31	49	-1	0.15	-0.15	0.04	2.41	96	11.42	161	91	46	0	1	4	0
	PENDLETON	57	37	60	29	47	-3	0.67	0.42	0.36	3.06	171	6.98	157	86	55	0	2	3	0
	PORTLAND	57	41	60	35	49	-1	1.00	0.38	0.55	9.02	177	23.51	164	88	69	0	0	6	1
	SALEM	57	40	62	34	48	-1	0.81	0.14	0.28	9.14	161	27.95	168	87	64	0	0	6	0
PA	ALLENTOWN	73	41	85	29	57	10	0.06	-0.71	0.06	6.95	133	12.04	105	68	32	0	1	1	0
	ERIE	66	43	79	35	54	9	0.17	-0.64	0.11	5.55	114	12.97	134	68	50	0	0	2	0
	MIDDLETOWN	74	44	86	33	59	9	0.03	-0.67	0.03	6.59	138	10.97	104	83	30	0	0	1	0
	PHILADELPHIA	73	48	82	37	60	9	0.00	-0.78	0.00	6.19	112	10.40	88	67	35	0	0	0	0
	PITTSBURGH	71	47	82	33	59	11	0.05	-0.63	0.05	5.64	121	11.94	123	70	29	0	0	1	0
	WILKES-BARRE	71	42	85	31	57	10	0.05	-0.69	0.05	7.00	165	13.23	151	71	27	0	1	1	0
	WILLIAMSPORT	74	40	86	30	57	10	0.07	-0.73	0.06	5.16	105	10.46	101	72	30	0	1	2	0
RI	PROVIDENCE	67	41	80	37	54	7	0.01	-1.00	0.01	7.58	114	14.76	102	73	39	0	0	1	0
SC	BEAUFORT	80	54	82	46	67	4	0.00	-0.78	0.00	4.80	88	10.71	85	100	44	0	0	0	0
	CHARLESTON	80	53	82	42	66	3	0.00	-0.69	0.00	4.11	73	8.29	65	94	42	0	0	0	0
	COLUMBIA	83	53	84	39	68	6	0.00	-0.76	0.00	5.98	94	14.62	98	83	38	0	0	0	0
	GREENVILLE	80	53	82	40	67	10	0.11	-0.69	0.11	9.39	131	15.11	96	80	32	0	0	1	0
SD	ABERDEEN	62	31	74	15	47	4	0.08	-0.33	0.08	0.86	39	2.04	65	84	56	0	5	1	0
	HURON	59	33	68	21	46	2	0.63	0.13	0.52	1.53	58	2.94	79	99	63	0	3	2	1
	RAPID CITY	61	34	76	28	48	5	0.97	0.60	0.83	2.10	119	3.21	123	87	48	0	3	2	1
	SIOUX FALLS	62	41	72	26	51	8	0.56	-0.03	0.35	1.53	50	3.38	83	95	70	0	2	5	0
TN	BRISTOL	80	44	83	31	62	9	0.02	-0.67	0.01	5.82	107	10.91	88	88	27	0	1	2	0
	CHATTANOOGA	82	51	87	41	67	9	0.00	-1.01	0.00	6.47	76	14.89	79	81	33	0	0	0	0
	KNOXVILLE	81	52	84	37	67	11	0.11	-0.79	0.11	8.02	112	14.56	92	73	27	0	0	1	0
	MEMPHIS	81	59	87	55	70	10	0.05	-1.30	0.05	4.46	53	10.12	60	80	46	0	0	1	0
	NASHVILLE	83	54	89	45	69	12	0.20	-0.67	0.20	4.46	65	9.36	65	80	28	0	0	1	0
TX	ABILENE	77	60	85	55	68	5	0.09	-0.26	0.09	1.72	81	5.10	121	95	63	0	0	1	0
	AMARILLO	77	50	88	40	63	8	0.00	-0.28	0.00	2.27	132	5.95	205	81	32	0	0	0	0
	AUSTIN	81	63	85	58	72	5	0.19	-0.27	0.12	4.29	139	11.60	167	92	71	0	0	2	0
	BEAUMONT	83	64	85	60	73	6	1.11	0.26	1.11	9.53	171	11.58	79	90	50	0	0	1	1
	BROWNSVILLE	86	71	88	68	79	6	0.11	-0.31	0.08	1.95	112	3.49	82	87	66	0	0	3	0
	CORPUS CHRISTI	82	68	87	64	75	5	1.65	1.23	1.60	6.63	258	9.47	157	95	70	0	0	2	1
	DEL RIO	83	67	87	62	75	6	0.13	-0.21	0.08	6.13	381	7.10	226	89	73	0	0	3	0
	EL PASO	86	59	90	49	72	9	0.00	-0.03	0.00	0.00	0	1.20	103	43	11	1	0	0	0
	FORT WORTH	81	65	84	61	73	9	0.73	0.10	0.53	3.92	90	10.64	123	89	55	0	0	2	1
	GALVESTON	81	70	82	65	75	6	0.63	0.07	0.63	1.91	48	6.18	58	88	67	0	0	1	1
	HOUSTON	81	64	84	60	72	5	1.06	0.26	0.73	6.79	134	15.30	131	92	62	0	0	3	1
	LUBBOCK	77	54	89	46	66	8	0.81	0.55	0.79	1.48	117	4.40	178	76	48	0	0	2	1
	MIDLAND	80	59	92	56	70	8	1.50	1.41	1.46	2.96	510	4.80	284	83	46	1	0	2	1
	SAN ANGELO	80	62	88	59	71	8	0.25	-0.04	0.24	1.61	105	4.32	123	78	57	0	0	2	0
	SAN ANTONIO	81	65	84	61	73	6	0.91	0.39	0.79	3.22	110	9.55	151	90	62	0	0	3	1
	VICTORIA	82	64	85	61	73	5	1.07	0.47	1.07	6.08	176	14.68	185	93	64	0	0	1	1
	WACO	78	62	82	58	70	6	4.54	3.95	2.32	9.16	251	15.32	192	96	74	0	0	3	2
	WICHITA FALLS	79	55	87	42	67	6	0.42	-0.14	0.42	1.46	42	5.42	88	88	55	0	0	1	0
UT	SALT LAKE CITY	62	39	80	33	51	2	0.22	-0.22	0.22	4.74	167	8.40	152	71	29	0	0	1	0
VT	BURLINGTON	67	38	80	27	53	12	0.60	-0.04	0.44	5.84	159	10.51	139	81	28	0	3	3	0
VA	LYNCHBURG	78	49	83	35	64	10	0.08	-0.69	0.08	3.49	63	7.87	65	70	32	0	0	1	0
	NORFOLK	75	53	84	42	64	8	0.01	-0.77	0.01	5.30	91	10.37	79	78	38	0	0	1	0
	RICHMOND	79	50	85	37	64	9	0.05	-0.66	0.05	4.29	75	9.29	76	78	36	0	0	1	0
	ROANOKE	79	51	86	35	65	10	0.76	-0.04	0.76	4.12	74	8.76	74	68	35	0	0	1	1
	WASH/DULLES	76	46	86	32	61	10	0.01	-0.71	0.01	4.30	84	7.74	71	69	33	0	1	1	0
WA	OLYMPIA	55	37	60	29	46	0	1.54	0.64	0.86	14.55	198	27.55	131	99	76	0	2	6	1
	QUILLAYUTE	52	39	54	33	46	0	3.31	1.48	0.91	30.65	203	50.70	123	98	83	0	0	7	3
	SEATTLE-TACOMA	55	42	59	38	49	0	1.34	0.69	0.72	9.71	186	22.77	157	86	65	0	0	4	1
	SPOKANE	51	35	56	29	43	-2	0.48	0.20	0.21	4.90	230	11.14	204	90	45	0	3	3	0
	YAKIMA	59	34	62	26	47	0	0.63	0.51	0.48	1.93	197	6.49	220	83	51	0	4	3	0
WV	BECKLEY	76	49	79	33	62	12	0.15	-0.58	0.08	5.48	105	11.85	104	66	29	0	0	2	0
	CHARLESTON	81	47	84	33	64	11	0.57	-0.15	0.55	5.51	101	13.81	116	84	24	0	0	2	1
	ELKINS	75	37	80	27	56	9	0.31	-0.46	0.25	6.36	114	13.61	111	88	24	0	1	3	0
	HUNTINGTON	80	51	85	36	65	11	0.33	-0.39	0.33	5.16	95	12.96	111	73	25	0	0	1	0
WI	EAU CLAIRE	59	39	71	26	49	7	1.81	1.16	1.23	3.40	106	7.47	148	98	63	0	3	7	1
	GREEN BAY	61	40	74	32	51	9	1.47	0.86	1.15	4.22	126	7.57	136	95	62	0	1	5	1
	LA CROSSE	66	46	76	34	56	10	1.43	0.65	0.58	4.63	129	8.48	147	90	58	0	0	6	1
	MADISON	64	42	76	30	53	9	1.64	0.85	0.84	5.34	137	10.04	156	86	61	0	1	6	1
	MILWAUKEE	63	43	82	36	53	10	1.39	0.49	0.66	6.53	147	10.54	133	80	60	0	0	5	1
WY	CASPER	61	30	79	19	46	5	0.05	-0.23	0.05	2.34	164	3.89	147	72	31	0	5	1	0
	CHEYENNE	64	34	73	27	49	9	0.00	-0.30	0.00	0.84	51	2.28	89	58	24	0	2	0	0
	LANDER	60	30	75	22	45	3	0.01	-0.42	0.01	5.57	267	8.05	256	71	21	0	4	1	0
	SHERIDAN	60	35	81	27	48	6	0.23	-0.14	0.20	3.82	221	6.12	199	79	51	0	4	2	0

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

National Agricultural Summary

April 10 – 16, 2017

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Temperatures were above normal across most of the nation, promoting fieldwork where soil moisture conditions allowed. The only exception was the Northwest, where temperatures were generally below normal. Average temperatures were well above normal from the central Great Plains to the Northeast, including most of the Corn Belt, which averaged more than 9°F above normal. Areas of significant precipitation were noted in the Northwest, upper Midwest, and the south-central U.S. Conditions were generally dry across the remainder of the nation.

Corn: By week's end, 6 percent of the nation's corn crop was planted, 6 percentage points behind last year and 3 points behind the 5-year average. Planting progress remained at or behind the 5-year average in all estimating states except Texas.

Winter Wheat: Nationally, 19 percent of the winter wheat crop was headed by week's end, 8 percentage points ahead of last year and 6 points ahead of the 5-year average. Favorable conditions promoted a rapid crop development pace in many states, with double-digit heading progress reported in Arkansas, California, Missouri, North Carolina, Oklahoma, and Texas. Overall, 54 percent of the winter wheat crop was reported in good to excellent condition, up slightly from last week but 3 percentage points lower than the same time last year.

Cotton: Producers had planted 8 percent of this year's cotton crop by April 16, slightly ahead of last year but slightly behind the 5-year average. Planting progress moved ahead at a rapid pace in California, advancing 24 percentage points during the week due to improved planting conditions. By week's end, 26 percent of the state's intended acreage had been planted.

Sorghum: By April 16, twenty-one percent of this year's sorghum crop was planted, 5 percentage points ahead of last year and slightly ahead of the 5-year average. Planting remained largely limited to the Delta and the southern Great Plains. Planting was most active in Arkansas and Louisiana, where progress advanced 24 and 20 percentage points, respectively, during the week.

Rice: By week's end, producers had seeded 55 percent of the 2017 rice crop, 9 percentage points ahead of last year and 18 points ahead of the 5-year average. Rice planting advanced 39 percentage points in Arkansas during the week, with 67 percent planted by April 16. Nationwide, 25 percent of the rice crop was emerged by April 16, seven percentage points ahead of last year and 8 points ahead of the 5-year average. Emergence remained at or ahead of normal in all states except Missouri.

Small Grains: Nationally, 45 percent of the oat crop was seeded by April 16, eight percentage points behind last year and 7 points behind the 5-year average. Emergence advanced to 29 percent complete by week's end, equal to last year but 6 percentage points behind the 5-year average.

By week's end, 13 percent of this year's barley crop was seeded, 18 percentage points behind last year and 15 points behind the 5-year average. Seeding continued to progress slowly in the barley-producing states, including Montana at 9 percent planted, 20 percentage points behind the 5-year average, and Washington at 6 percent planted, 31 percentage points behind average.

Thirteen percent of the spring wheat crop was seeded by week's end, 12 percentage points behind last year and 8 points behind the 5-year average. Planting proceeded rapidly in South Dakota, with progress advancing 29 percentage points during the week. All other estimating states remained behind their respective 5-year averages.

Other Crops: Sugarbeet producers had planted 19 percent of this year's crop by week's end, 16 percentage points behind last year and 9 points behind the 5-year average. Weather conditions promoted double-digit planting progress in three of the four estimating states during the week, but all states remained behind their respective 5-year averages.

Crop Progress and Condition

Week Ending April 16, 2017

Weekly U.S. Progress and Condition Data provided by USDA/NASS

Corn Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
CO	0	0	1	1
IL	11	1	6	13
IN	1	0	4	6
IA	11	0	2	4
KS	32	4	9	18
KY	21	4	19	20
MI	0	0	0	1
MN	11	0	1	5
MO	53	5	17	25
NE	6	0	3	3
NC	42	10	32	40
ND	1	0	0	1
OH	0	0	0	3
PA	4	1	2	2
SD	1	0	0	2
TN	32	7	24	30
TX	49	59	60	54
WI	1	0	0	1
18 Sts	12	3	6	9

These 18 States planted 92% of last year's corn acreage.

Winter Wheat Percent Headed

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
AR	26	65	89	29
CA	67	24	59	66
CO	0	0	0	0
ID	1	0	0	0
IL	1	2	3	9
IN	0	0	3	2
KS	3	1	9	6
MI	0	0	0	0
MO	0	0	23	11
MT	0	0	0	0
NE	0	0	0	0
NC	19	8	21	22
OH	0	0	0	0
OK	21	8	40	25
OR	0	0	0	0
SD	0	0	0	0
TX	33	40	51	35
WA	1	0	0	0
18 Sts	11	9	19	13

These 18 States planted 90% of last year's winter wheat acreage.

Winter Wheat Condition by Percent

	VP	P	F	G	EX
AR	1	3	21	63	12
CA	0	0	0	55	45
CO	6	17	36	33	8
ID	0	2	29	57	12
IL	2	4	20	60	14
IN	1	3	25	57	14
KS	4	12	33	45	6
MI	2	10	24	51	13
MO	0	2	32	58	8
MT	1	5	27	55	12
NE	1	8	38	46	7
NC	1	9	25	59	6
OH	0	2	18	61	19
OK	5	12	40	40	3
OR	2	4	13	63	18
SD	0	6	41	52	1
TX	2	13	43	35	7
WA	1	2	12	68	17
18 Sts	3	10	33	46	8
Prev Wk	3	10	34	46	7
Prev Yr	2	7	34	48	9

Cotton Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
AL	0	0	0	3
AZ	44	30	40	43
AR	0	1	3	2
CA	36	2	26	41
GA	0	0	2	2
KS	0	0	0	0
LA	0	1	18	4
MS	3	1	6	2
MO	2	1	5	1
NC	0	0	0	2
OK	1	0	0	1
SC	2	0	0	3
TN	0	0	0	0
TX	10	10	11	11
VA	0	0	0	1
15 Sts	7	6	8	9

These 15 States planted 98% of last year's cotton acreage.

Sorghum Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
AR	17	6	30	27
CO	0	0	0	0
IL	0	0	0	1
KS	0	0	0	0
LA	50	30	50	55
MO	1	0	8	1
NE	0	0	0	0
NM	2	0	0	1
OK	6	7	9	5
SD	0	0	0	0
TX	42	53	58	51
11 Sts	16	18	21	20

These 11 States planted 99% of last year's sorghum acreage.

Sugarbeets Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
ID	50	25	46	61
MI	1	0	1	24
MN	46	1	18	23
ND	21	0	12	15
4 Sts	35	5	19	28

These 4 States planted 84% of last year's sugarbeet acreage.

VP - Very Poor; P - Poor; F - Fair; G - Good; EX - Excellent

NA - Not Available; *Revised

Crop Progress and Condition

Week Ending April 16, 2017

Weekly U.S. Progress and Condition Data provided by USDA/NASS

Oats Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
IA	71	17	42	56
MN	41	7	17	32
NE	68	37	70	66
ND	13	0	2	10
OH	19	10	21	27
PA	49	1	29	36
SD	52	17	48	46
TX	100	100	100	100
WI	14	4	12	16
9 Sts	53	33	45	52

These 9 States planted 66% of last year's oat acreage.

Oats Percent Emerged

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
IA	13	4	10	16
MN	2	0	0	5
NE	20	6	26	22
ND	0	0	0	1
OH	6	5	11	8
PA	18	0	2	14
SD	12	2	10	13
TX	100	100	100	100
WI	1	0	2	3
9 Sts	29	26	29	35

These 9 States planted 66% of last year's oat acreage.

Spring Wheat Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
ID	44	19	28	55
MN	20	2	9	25
MT	32	2	8	17
ND	13	2	6	11
SD	56	23	52	44
WA	60	11	20	57
6 Sts	25	5	13	21

These 6 States planted 99% of last year's spring wheat acreage.

Barley Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
ID	51	36	40	55
MN	12	2	4	16
MT	39	1	9	29
ND	9	0	2	7
WA	37	3	6	37
5 Sts	31	9	13	28

These 5 States planted 83% of last year's barley acreage.

Rice Percent Planted

	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
AR	52	28	67	38
CA	1	0	0	3
LA	74	76	81	75
MS	37	23	49	30
MO	44	16	36	29
TX	74	53	65	70
6 Sts	46	31	55	37

These 6 States planted 100% of last year's rice acreage.

Rice Percent Emerged

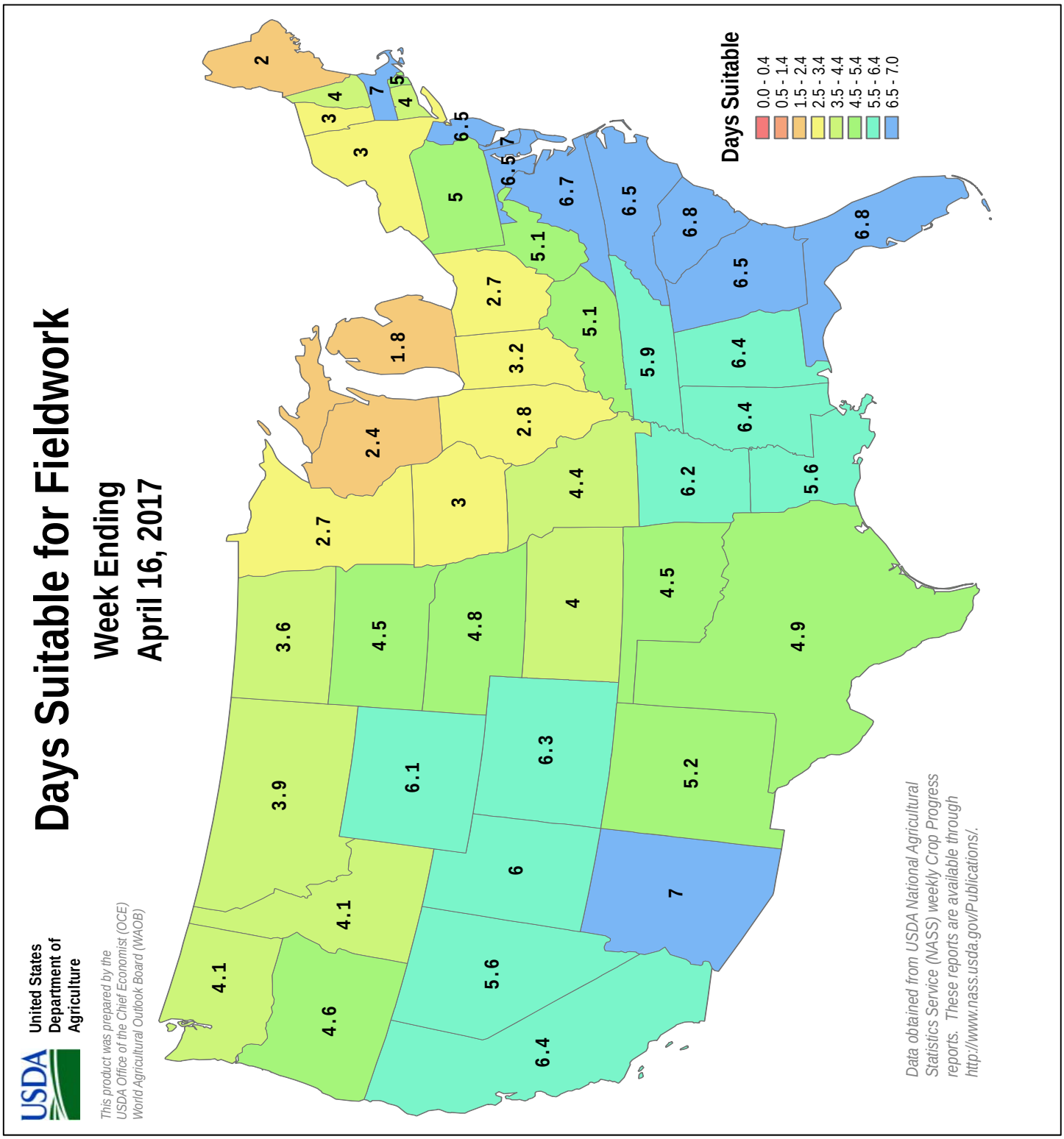
	Prev Year	Prev Week	Apr 16 2017	5-Yr Avg
AR	10	6	23	12
CA	0	0	0	0
LA	55	54	67	52
MS	12	5	19	14
MO	3	0	0	8
TX	57	34	48	46
6 Sts	18	13	25	17

These 6 States planted 100% of last year's rice acreage.

Crop Progress and Condition

Week Ending April 16, 2017

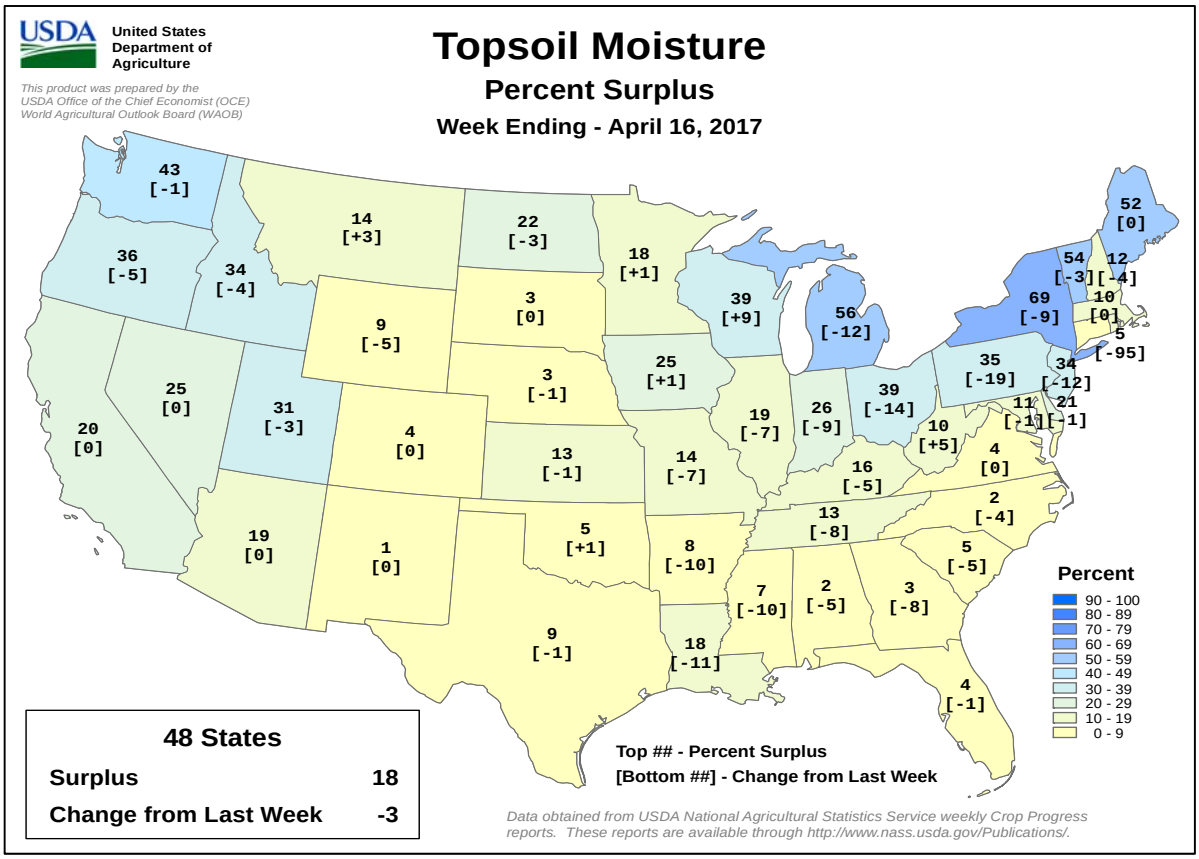
Weekly U.S. Progress and Condition Data provided by USDA/NASS

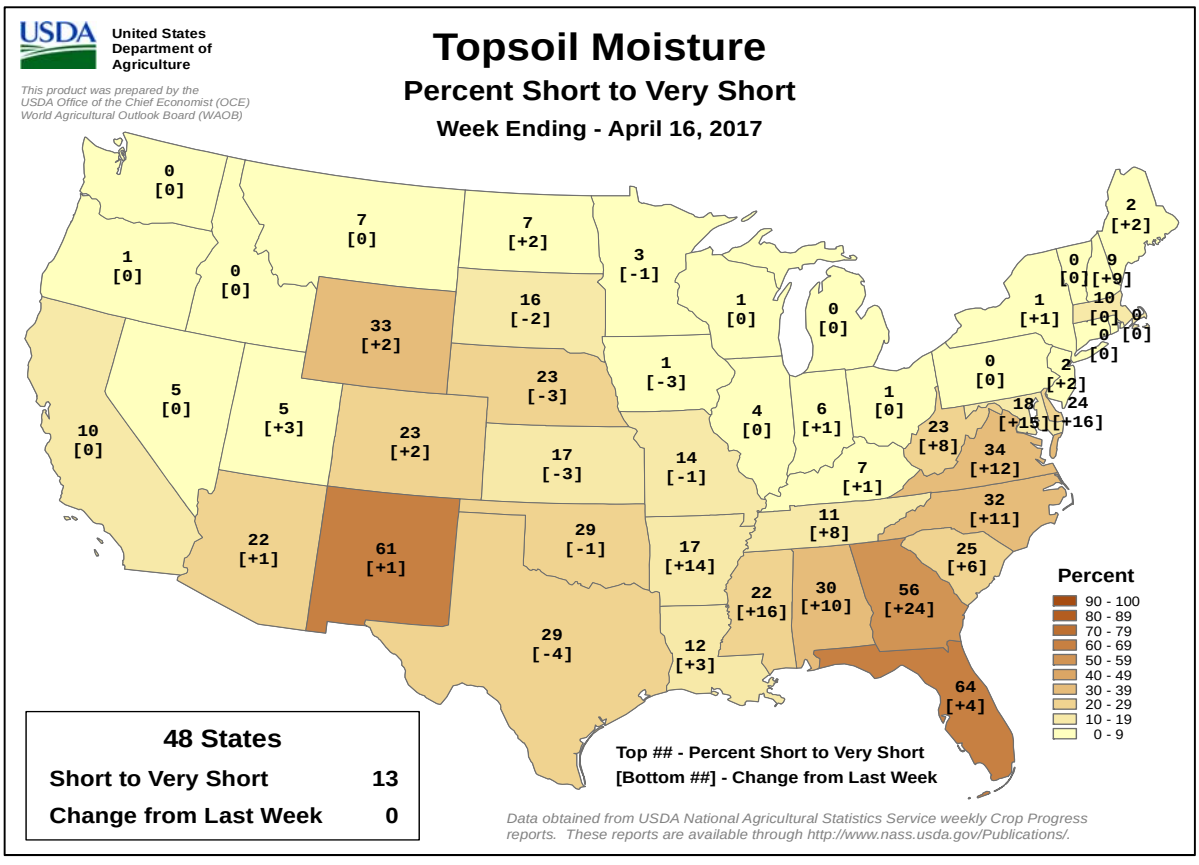


Crop Progress and Condition

Week Ending April 16, 2017

Weekly U.S. Progress and Condition Data provided by USDA/NASS

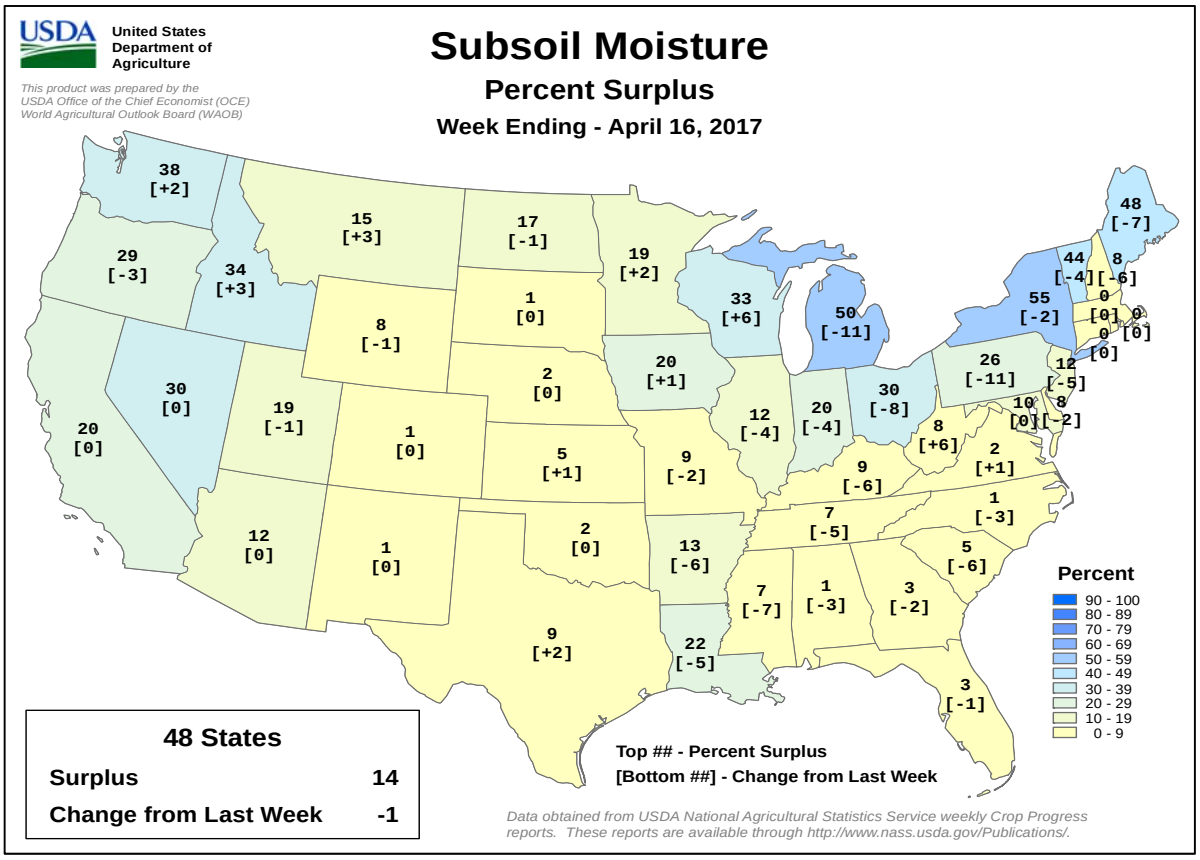


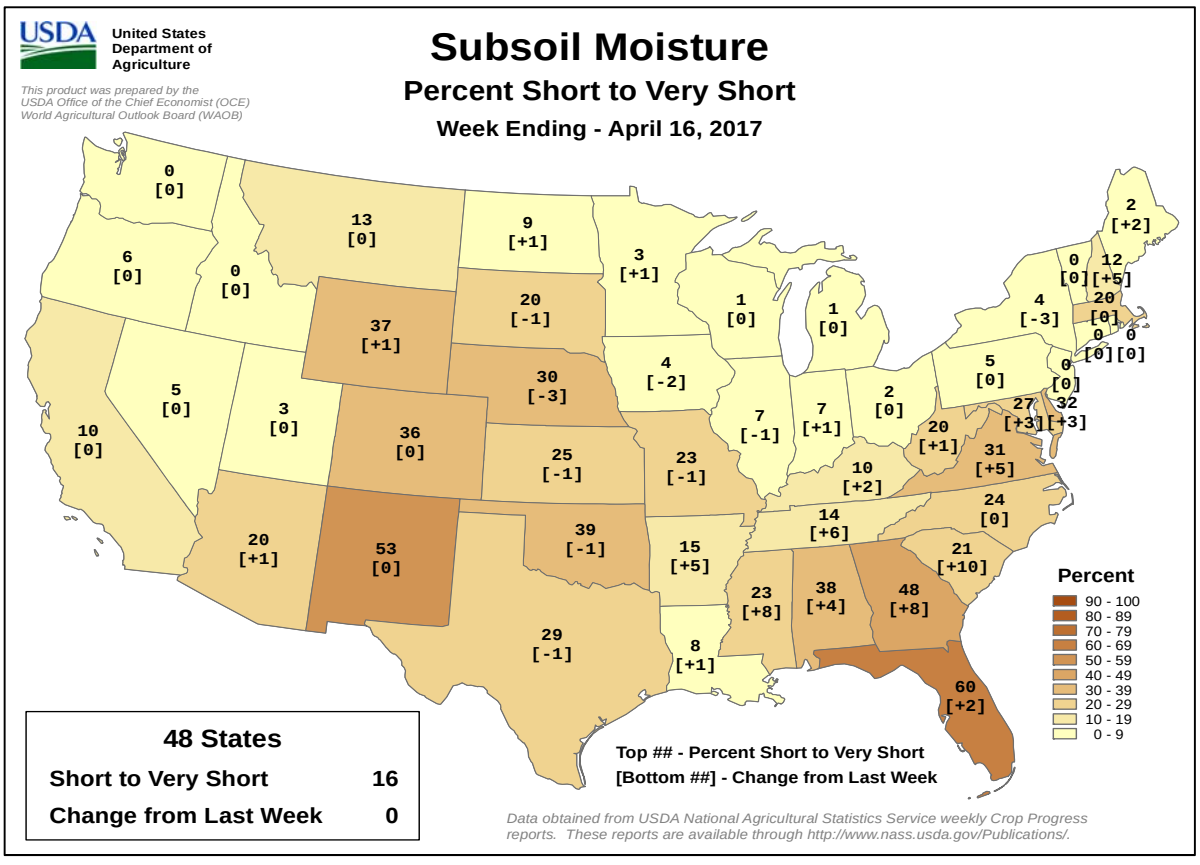


Crop Progress and Condition

Week Ending April 16, 2017

Weekly U.S. Progress and Condition Data provided by USDA/NASS





April 13 ENSO Update

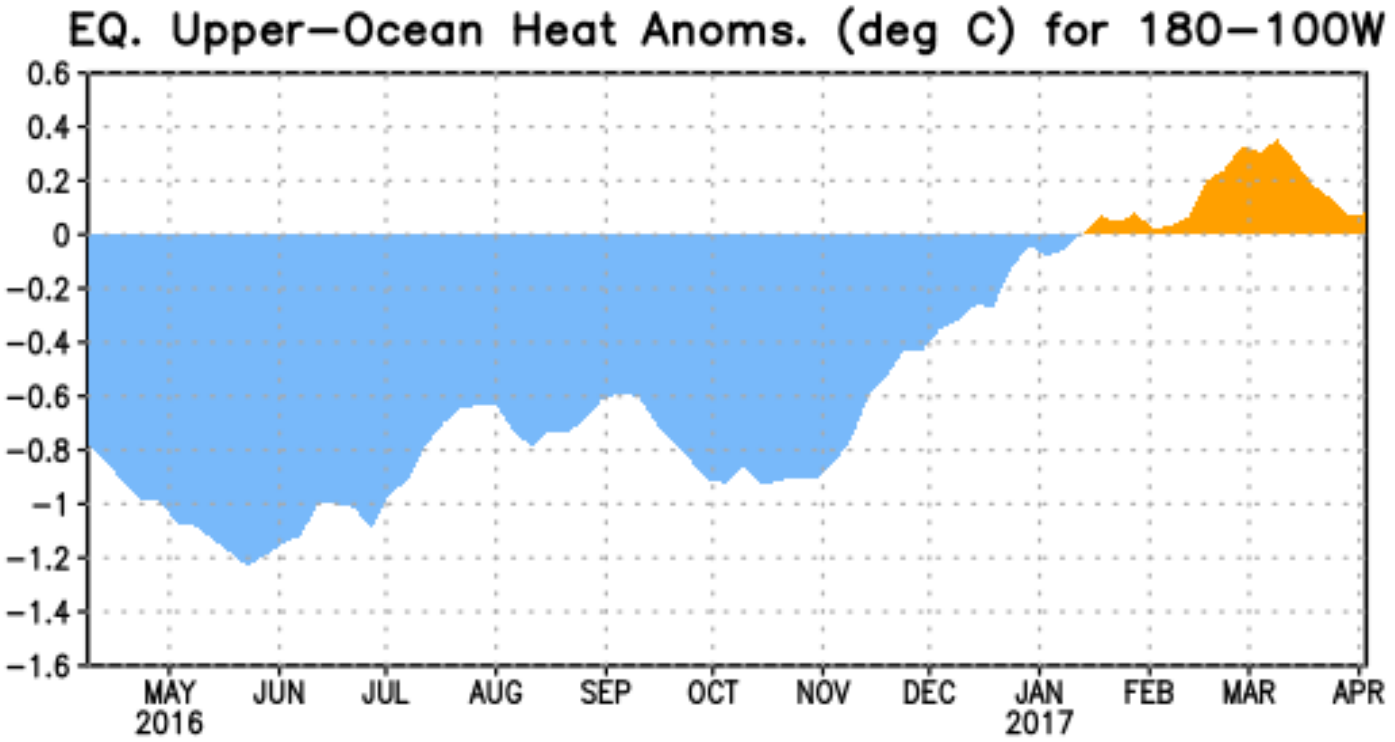


Figure 1: Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180º-100ºW). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

ENSO Alert System Status: Not Active

Synopsis: ENSO-neutral conditions are favored to continue through at least the Northern Hemisphere spring 2017, with increasing chances for El Niño development by late summer and fall.

ENSO-neutral conditions continued during March, with near-average sea surface temperatures (SSTs) across the central equatorial Pacific and above-average SSTs in the eastern Pacific. The latest weekly Niño index values were near zero in the Niño-4 and Niño-3.4 regions, and +0.8 and +0.9°C farther east in the Niño-3 and Niño-1+2 regions, respectively. The upper-ocean heat content anomaly, averaged across the central and eastern Pacific (Fig. 1), decreased to near zero during March, a reflection of above-average temperatures at depth in the east offset by below-average temperatures in the central Pacific. Atmospheric convection remained suppressed over the central tropical Pacific and enhanced over the Maritime Continent. The low-level easterly winds were enhanced over the central and western tropical Pacific, and weaker than average over the eastern Pacific. Also, upper-level westerly winds were anomalously easterly over the western and far eastern Pacific, while the Southern Oscillation Index was near average. Overall, the ocean and atmosphere system is consistent with ENSO-neutral conditions.

Most models predict the continuation of ENSO-neutral (3-month average Niño-3.4 index between -0.5°C and 0.5°C) through the late Northern Hemisphere spring (April-June). However, at least one-half of the dynamical model forecasts, including the NCEP CFSv2, anticipate an onset of El Niño as soon as the April-June season. Because of typically lower skill in forecasts made at this time of the year, and the lingering La Niña-like tropical convection and wind patterns over the western half of the Pacific basin, the forecaster consensus favors ENSO-neutral during April-June with a 60-65% chance. Thereafter, there are increasing odds for El Niño toward the second half of 2017 (~50% chance from approximately August-December). In summary, ENSO-neutral conditions are favored to continue through at least the late Northern Hemisphere spring 2017, with increasing chances for El Niño development by late summer and fall (click CPC/IRI consensus forecast for the chance of each outcome for each 3-month period).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Forecasts are also updated monthly in the Forecast Forum of CPC's Climate Diagnostics Bulletin. Additional perspectives and analysis are also available in an ENSO blog. The next ENSO Diagnostics Discussion is scheduled for **11 May 2017**. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

International Weather and Crop Summary

April 9-15, 2017

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

HIGHLIGHTS

EUROPE: Warmer-than-normal weather accelerated winter crop development, with beneficial showers in northeastern Europe contrasting with increasing short-term dryness in western growing areas.

WESTERN FSU: Additional rain conditions for Ukraine winter grains and maintained favorable prospects for Russian winter wheat.

MIDDLE EAST: Late-week rain improved maintained or improved yield prospects for vegetative to reproductive winter grains in Turkey, Iraq, and northwestern Iran.

NORTHWESTERN AFRICA: Warm, dry weather accelerated wheat and barley into or through the reproductive and filling stages of development but trimmed yield expectations in the west.

EAST ASIA: Showers maintained good soil moisture for rapeseed and rice in southeastern China.

SOUTHEAST ASIA: Tropical showers stalled in southern sections of the region, as growers in the north began fieldwork preparations prior to the onset of summer rainfall.

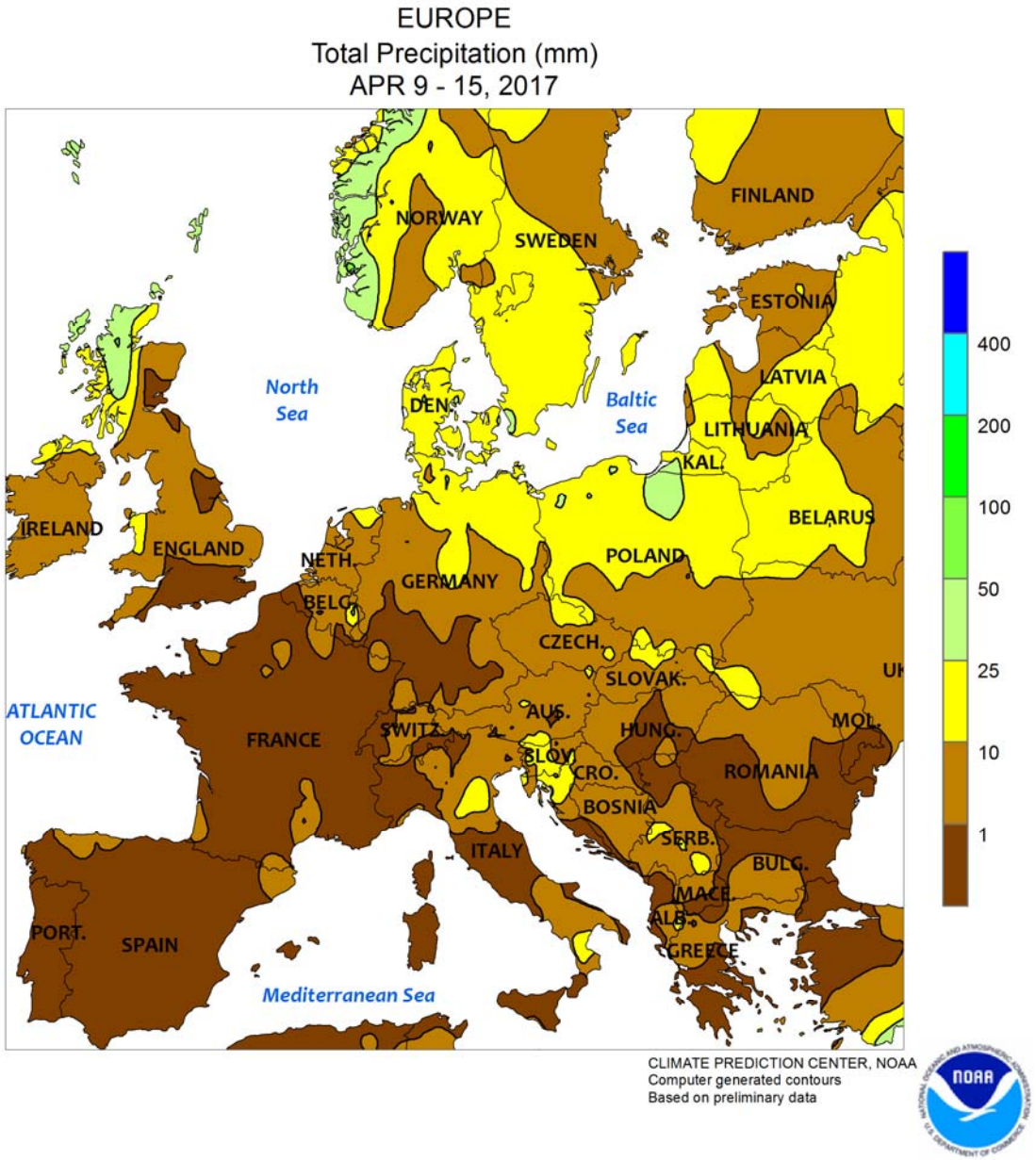
AUSTRALIA: Warm, dry weather in southern Queensland and northern New South Wales favored cotton and sorghum harvesting.

SOUTH AFRICA: Rain slowed drydown of maturing corn but helped condition topsoils in advance of upcoming winter wheat planting.

ARGENTINA: Beneficially dry conditions eased wetness in southwestern farming areas.

BRAZIL: Heavy rainfall caused localized flooding in the south, while drier conditions prevailed in corn and cotton areas of central Brazil.

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



EUROPE

Warmer-than-normal weather prevailed, with beneficial showers in northeastern Europe contrasting with increasing dryness in western growing areas. High pressure maintained dry, warm weather (2-8°C above normal) over the western half of the continent. While the sunny skies promoted spring grain planting as well as winter crop development, short-term dryness (25-50 percent of normal precipitation over the past 30 days) has continued to reduce soil moisture over Spain, France, southeastern England, and western Germany. The lack of rain is particularly untimely in Spain, where winter grains are approaching or progressing through the reproductive stages of development. Meanwhile, a series of disturbances produced widespread showers (5-25 mm, locally more) in eastern Germany, Poland, Lithuania, and the northern Balkans, sustaining favorable moisture for vegetative wheat and rapeseed. Dry weather from Italy into southeastern Europe promoted seasonal fieldwork, including early planting of corn, soybeans, and cotton.

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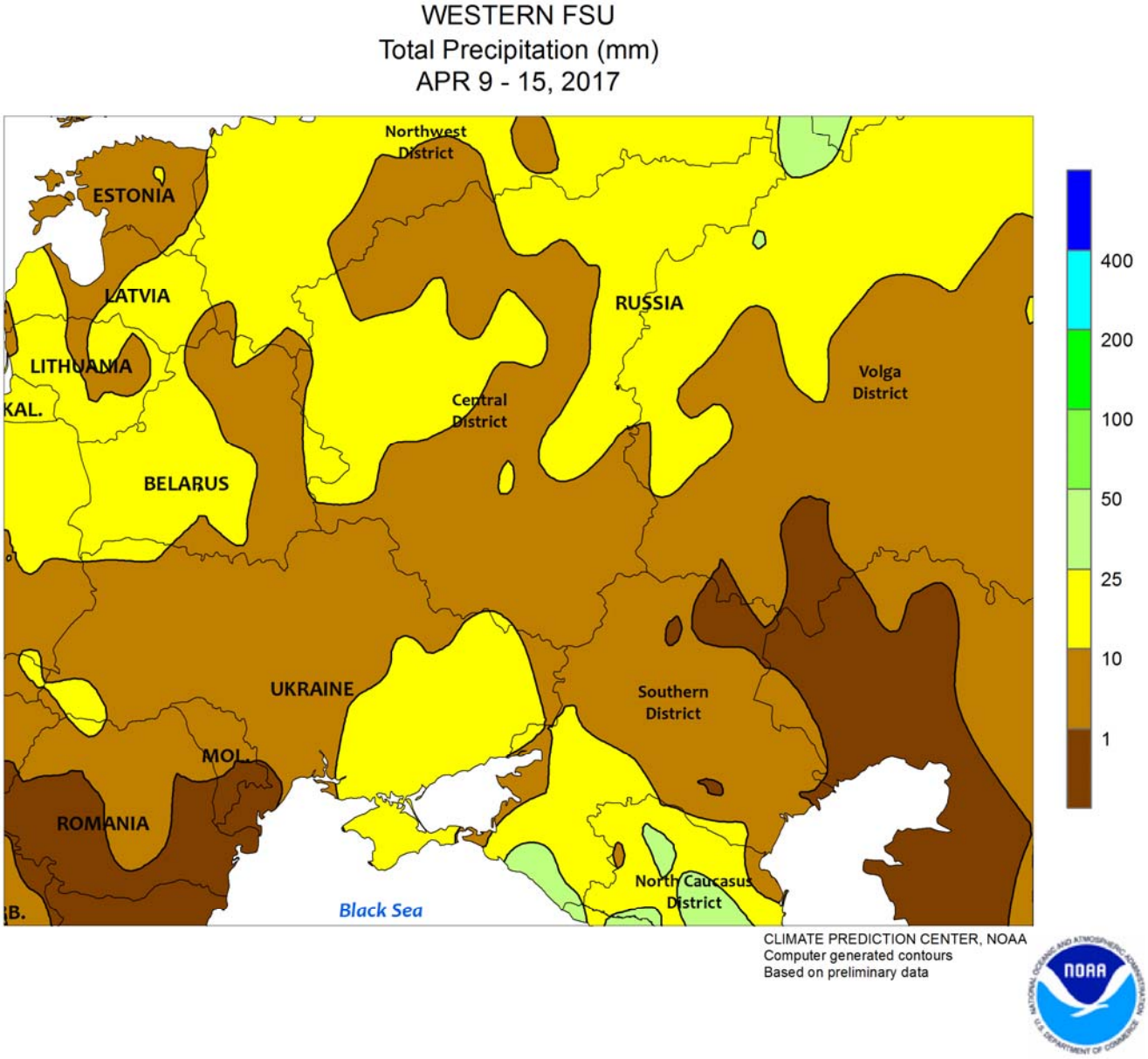

WESTERN FSU

Widespread showers maintained or improved prospects for winter wheat. In the primary winter wheat areas of central and southern Ukraine, a second consecutive week of rain (5-25 mm) further improved soil moisture for vegetative winter wheat following a protracted dry spell during late winter and early spring. In southern Russia, moderate to heavy showers (10-30 mm) maintained good to excellent conditions for vegetative winter wheat and kept soils moist for corn and sunflower planting (sown in late April and early May, respectively). Farther west, 5 to 20 mm of rain maintained good early-season soil moisture for spring grains and summer crops in Moldova, Belarus, and western Ukraine.

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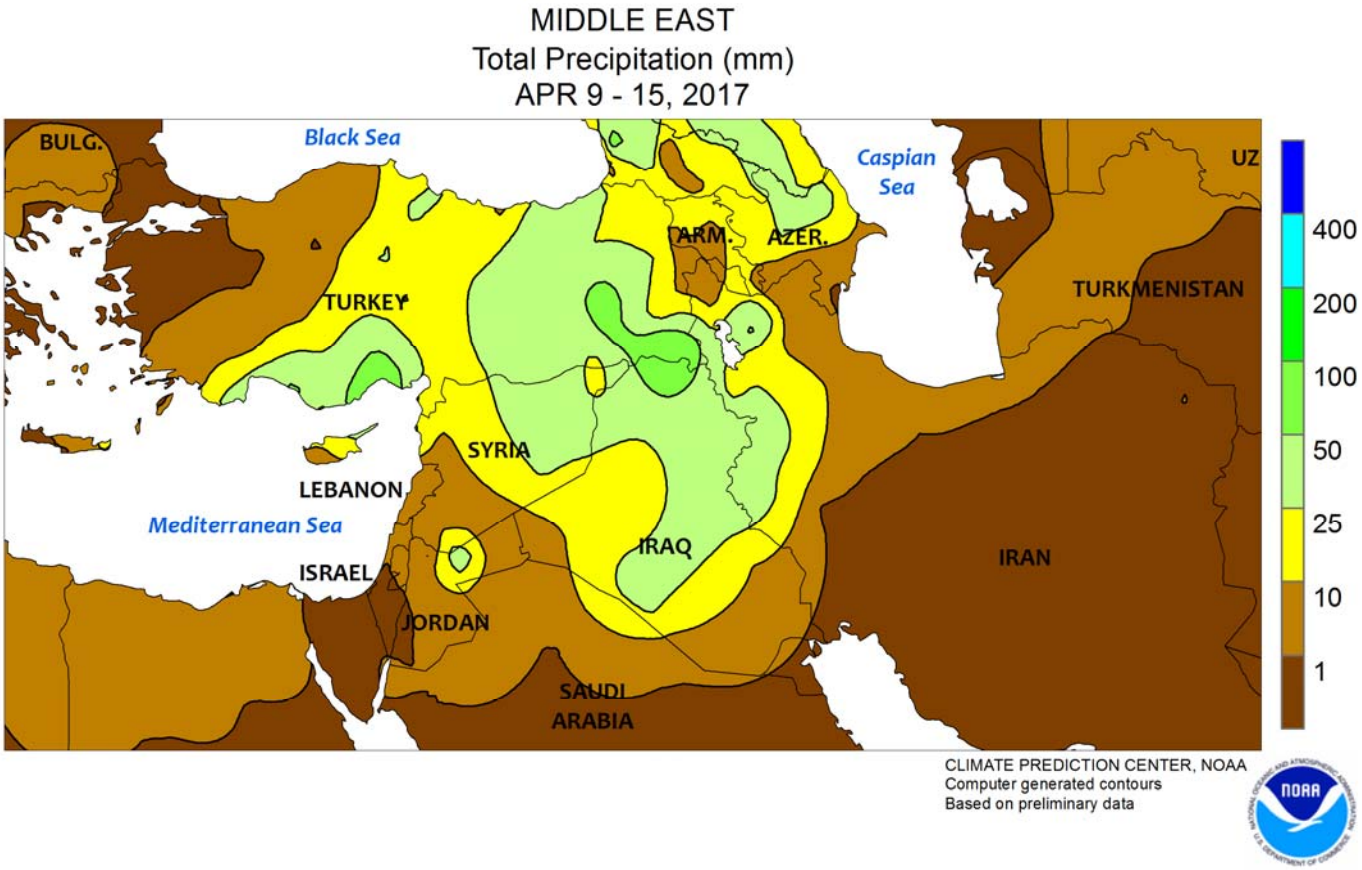

MIDDLE EAST

Wet weather continued over western and northern portions of the region, providing timely moisture for winter grains. A late-week storm produced 10 to 50 mm of rain (locally more) from central Turkey into northern Iraq and northwestern Iran, boosting soil moisture supplies for vegetative (north) to reproductive (south) winter wheat and barley. However, crops on central Turkey's Anatolian Plateau continued to exhibit varying levels of stress in satellite-derived vegetation health data, likely due to a dry autumn and resultant poor crop establishment. Scattered, variable showers (1-10 mm) fell along the southeastern Mediterranean Coast and environs, providing some supplemental moisture for winter crops.

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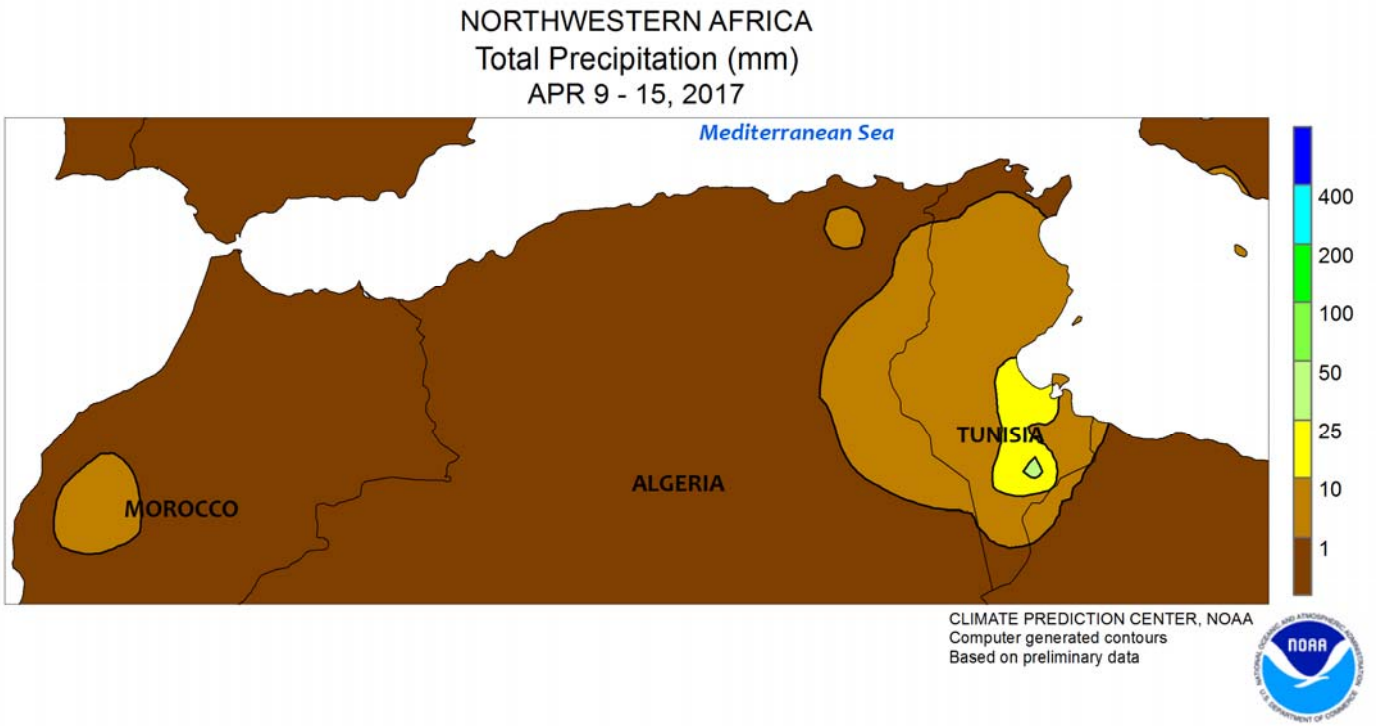
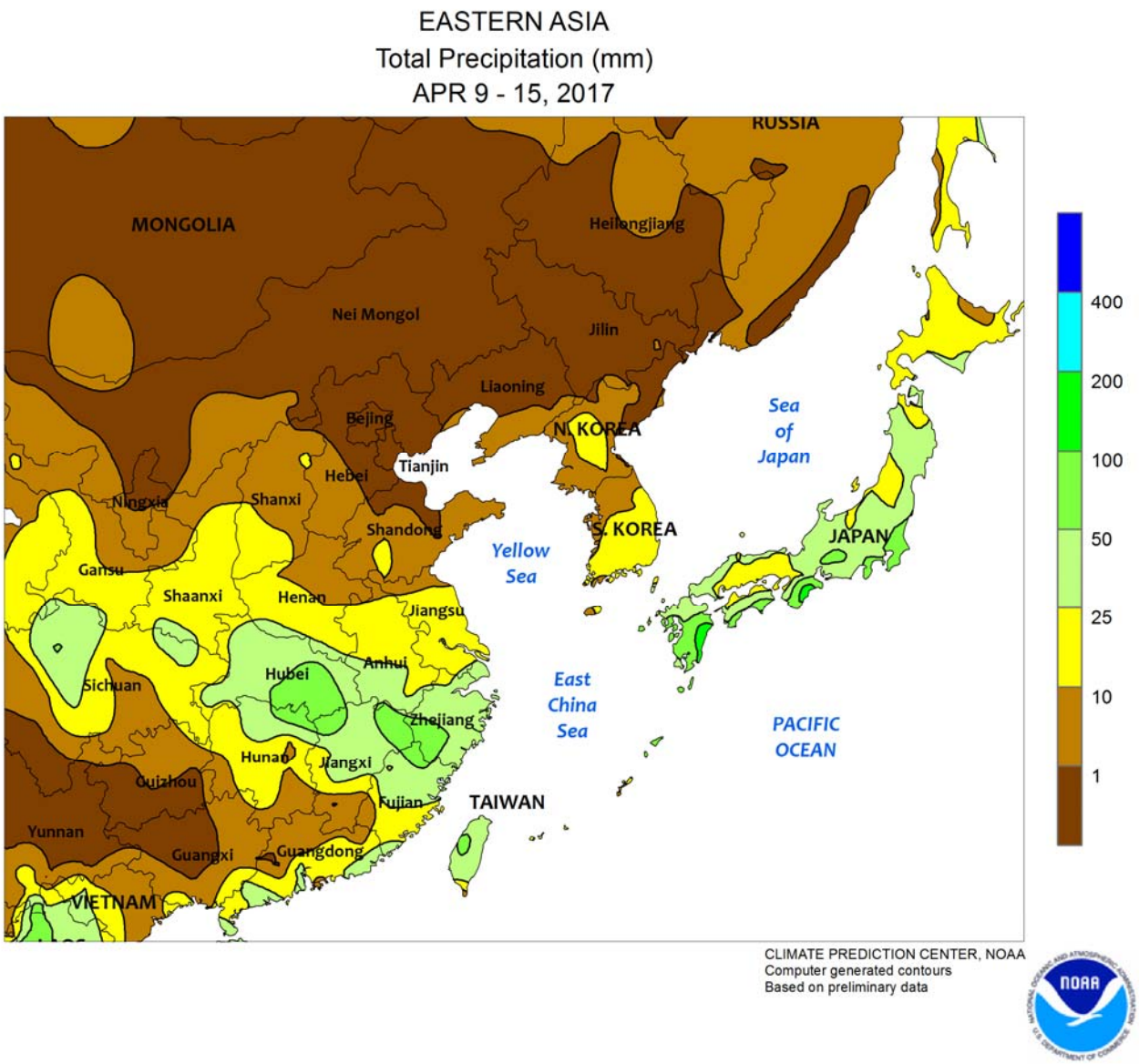


NORTHWESTERN AFRICA

Dry, warm weather prevailed across the region, accelerating crop development but trimming winter grain yield prospects. In Morocco, sunny skies and above-normal temperatures (2-5°C above normal) promoted the development of flowering to filling winter wheat and barley. Recent warmth and dryness have trimmed yield expectations in Morocco, although wheat prospects are much better than last year's drought-afflicted crop. In Algeria, dry weather returned following last week's timely soaking rain in the country's northeastern growing areas; Algeria's crop prospects remained mixed due to recent dryness in the west as well as dry autumn weather for planting and establishment in the northeast. In northern Tunisia, dry weather accelerated winter grains toward or into the reproductive stages of development, with prospects still overall favorable due to timely, consistent winter and spring rainfall.



EASTERN ASIA

Showers continued across much of the Yangtze Valley in China, bringing over 25 mm to central and eastern sections and 10 to 25 mm to western areas. The moisture benefited reproductive to ripening rapeseed as well as vegetative early-crop rice. Rainfall (10-25 mm) moved into southern sections of the North China Plain, aiding reproductive wheat, while northern portions received little rain. Spring moisture conditions have been favorable for wheat in eastern China, although eastern Shandong has received half the normal rainfall, increasing irrigation demands. Meanwhile, temperatures remained near to above normal, promoting crop development but raising no concerns regarding stress.

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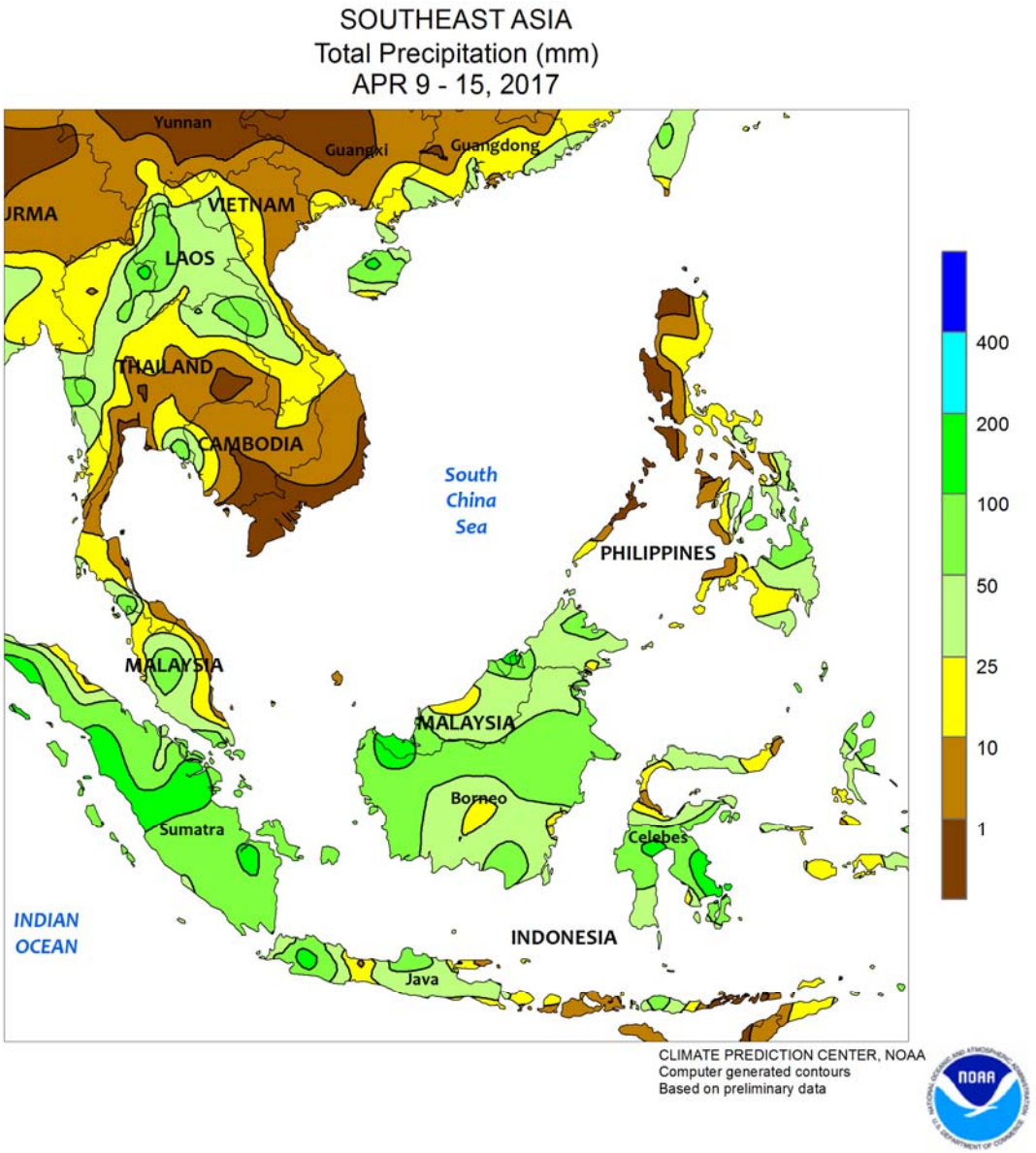

SOUTHEAST ASIA

The northward migration of tropical showers slowed, with heavy showers remaining in southern sections of the region. Heavy rainfall returned to Indonesia, where 25 to locally over 100 mm maintained favorable soil moisture for oil palm and rice. Malaysia also received 25 to 50 mm or more of rain, benefiting oil palm. Farther north, showers (25-50 mm or more) were confined to the southeastern Philippines as growers await the onset of seasonal showers in western areas before sowing summer rice and corn. Meanwhile, unseasonably heavy showers (10-25 mm, locally over 50 mm) occurred in northern Thailand and into neighboring portions of Laos, boosting irrigation reserves and providing beneficial early-season soil moisture prior to summer rice sowing. The remainder of Indochina was seasonably dry. The wet season typically begins during the first half of May, although occasional spring rain is common prior to the onset of more consistent summer rainfall.

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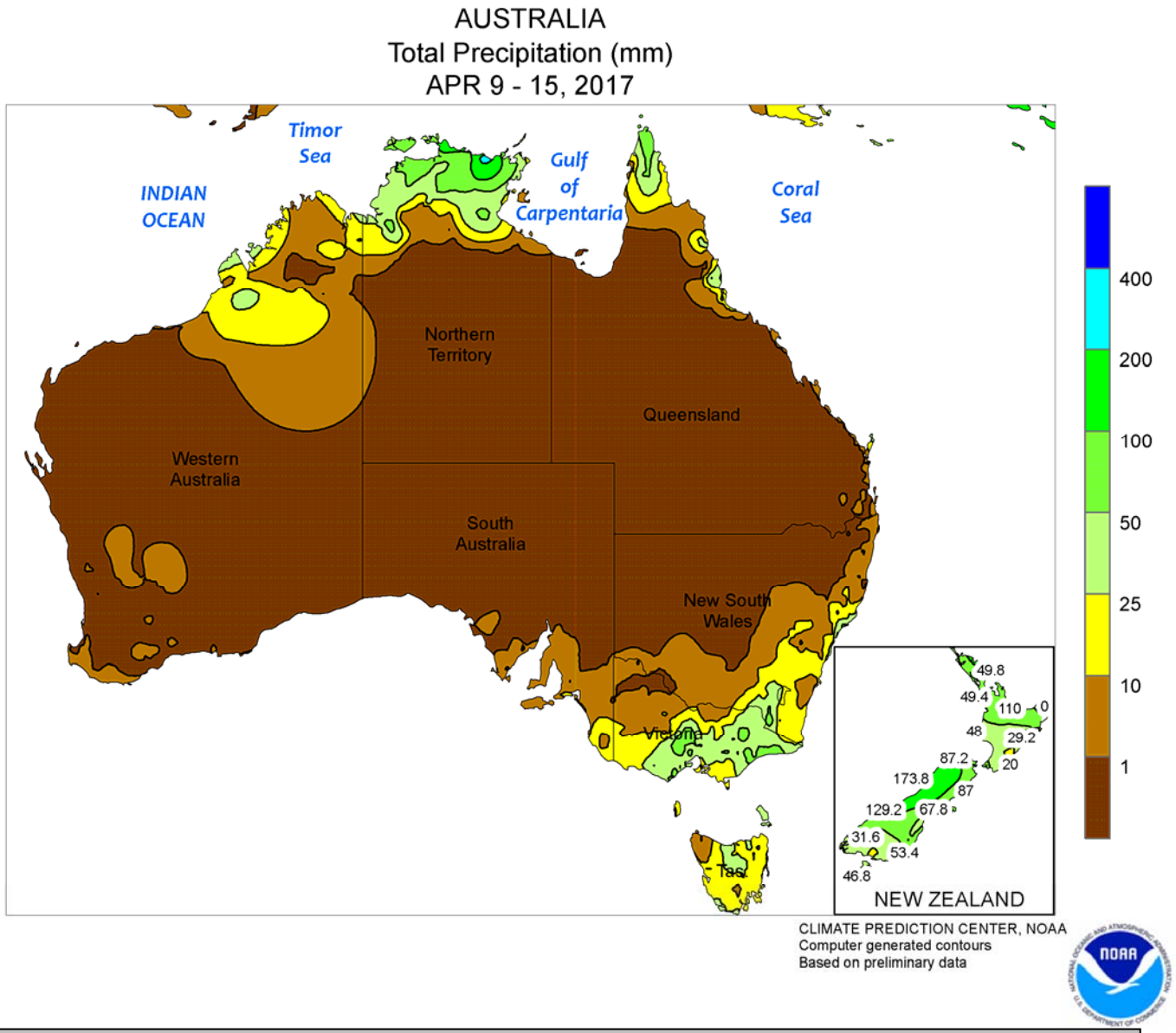

AUSTRALIA

Warm, dry weather in southern Queensland and northern New South Wales favored cotton, sorghum, and other summer crop harvesting. Along the coast, the warm, sunny weather aided tropical cyclone recovery efforts as well, and likely helped some of the sugarcane recently lodged by Debbie to begin to stand back up. Farther south, widespread showers (5-25 mm, locally more) fell on the southern and eastern half of the wheat belt in central and southern New South Wales and Victoria. The rain increased topsoil moisture in advance of winter grain and oilseed sowing, much of which typically occurs during May and June each year. Elsewhere in southeastern and western Australia, mostly dry weather (generally less than 5 mm) enabled pre-planting field work to proceed with little delay. Temperatures in the wheat belt, including major summer crop producing areas in the east, averaged near to slightly below normal (up to 1ºC below normal).

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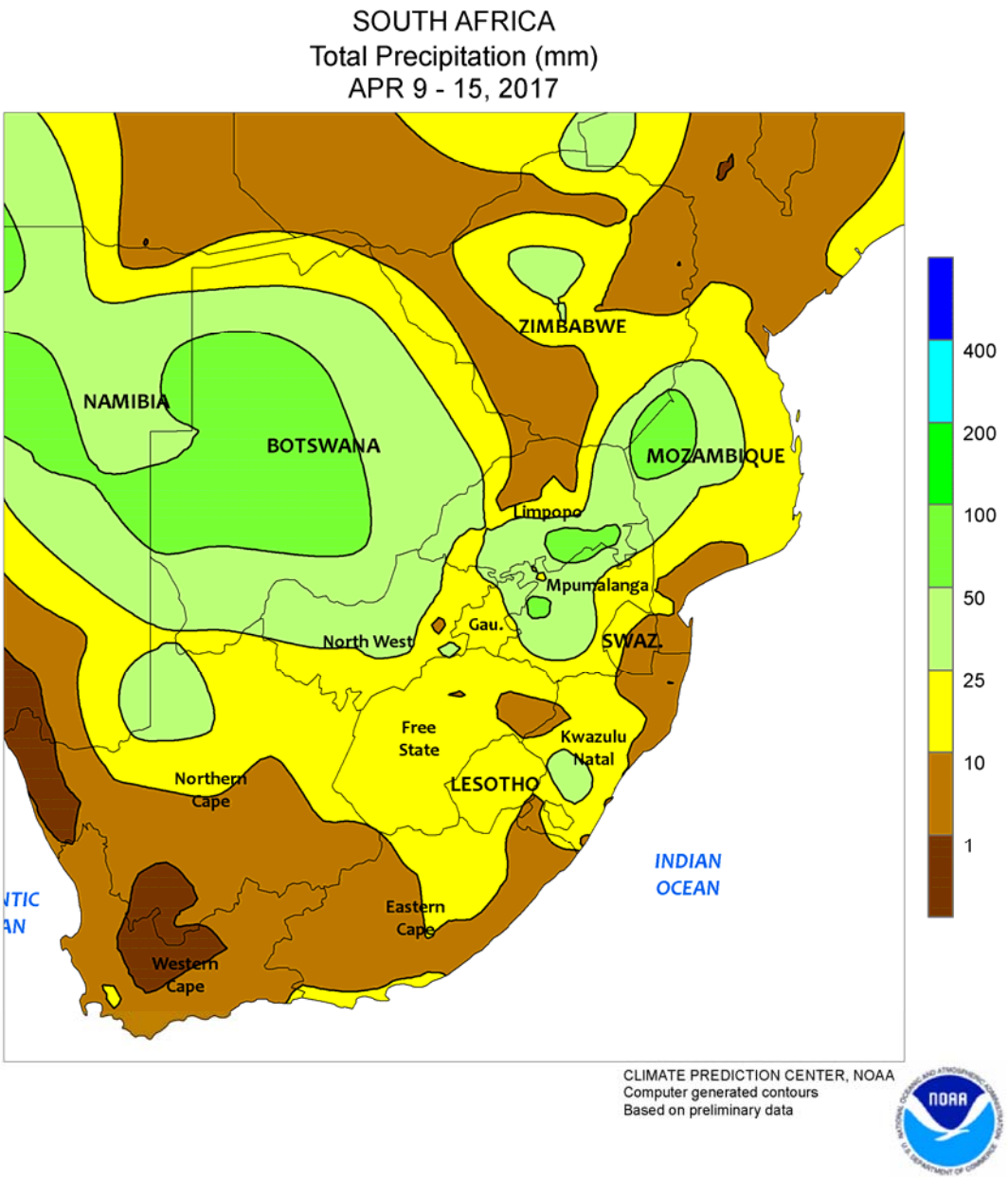

SOUTH AFRICA

For the second consecutive week, widespread showers (10-25 mm, locally more) stretched across the corn belt, increasing soil moisture from North West and Free State eastward to Mpumalanga. The rain slowed drydown of maturing corn and other summer crops but helped condition topsoils in advance of upcoming winter wheat planting. In contrast, much lighter showers (generally less than 5 mm) fell across Western Cape, providing little additional topsoil moisture at the beginning of the winter wheat planting window. Wheat is typically sown from mid-April to mid-July in South Africa. Farther east, scattered showers (10-20 mm, locally near 30 mm) in southern Kwazulu Natal and eastern Mpumalanga supplied additional moisture for late-season sugarcane development. Temperatures in major sugarcane producing areas and the eastern corn belt averaged about 1 to 2°C above normal, helping to accelerate crop development. Elsewhere in the corn belt, temperatures averaged near normal.

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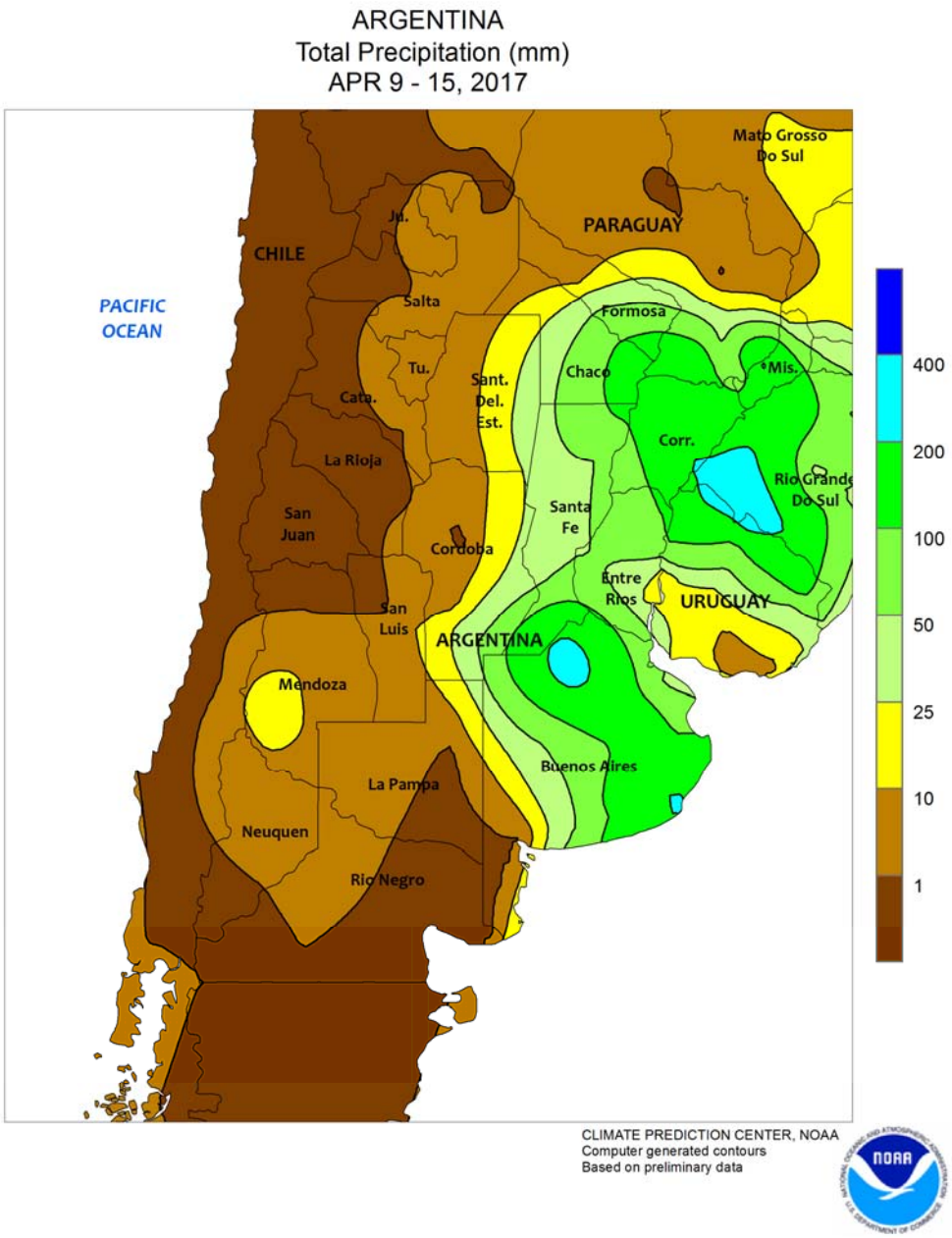

ARGENTINA

Dry weather prevailed in La Pampa, easing wetness from previous weeks of flooding rainfall and allowing summer grains and oilseeds harvesting to resume. The heavy rainfall shifted to the northeast, bringing 50 to over 100 mm of rain from Buenos Aires to Missiones. For much of the northeast, the rainfall remained untimely for corn and soybean harvesting, but sustained abundant soil moisture for winter grains planted later. Meanwhile, mostly dry weather continued in northwestern (Salta and Santiago del Estero), benefiting summer crop harvesting. Temperatures were near normal in most states (slightly below normal in northern states), with freezing temperatures reported in far southern areas (south of La Pampa).

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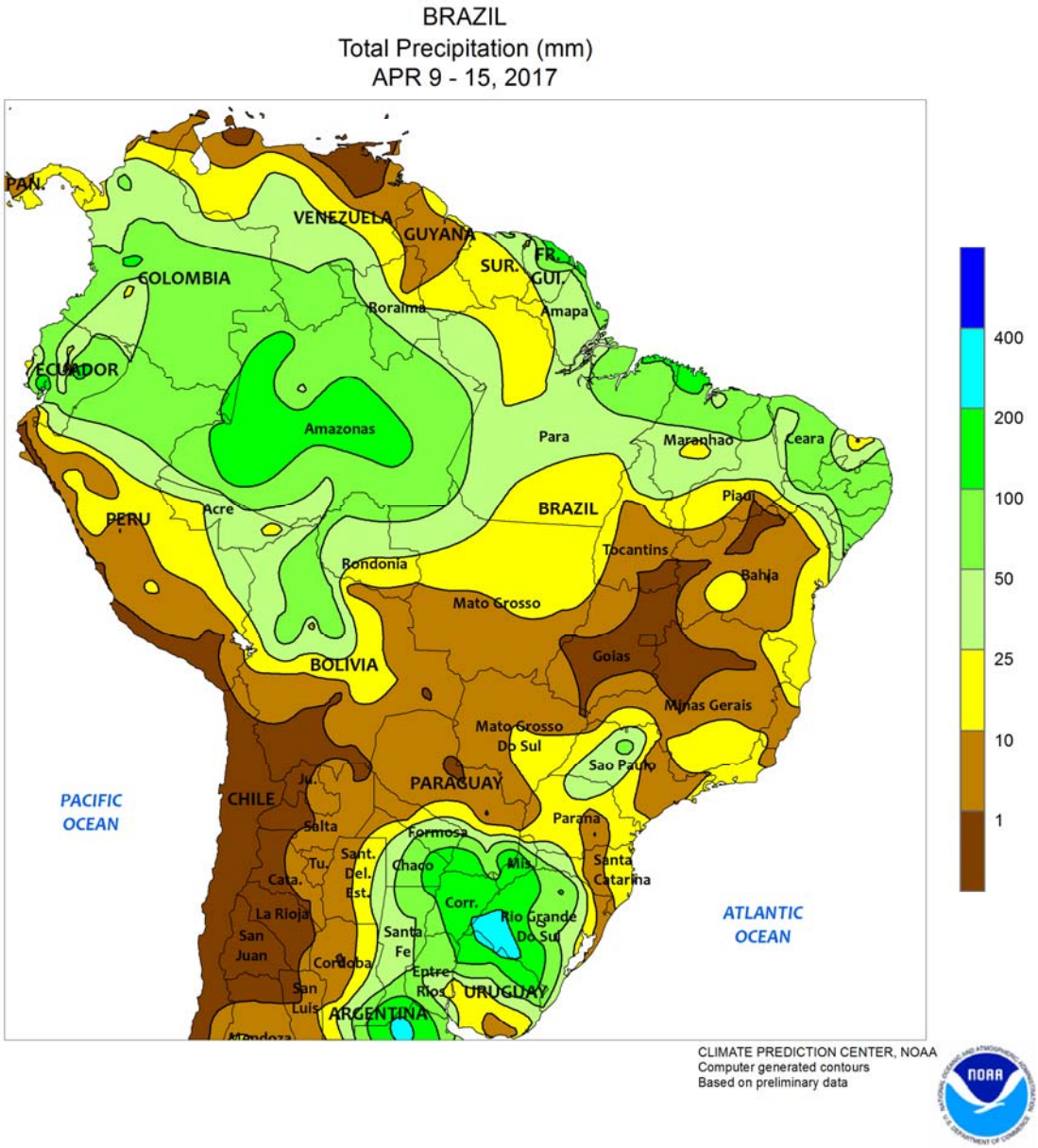
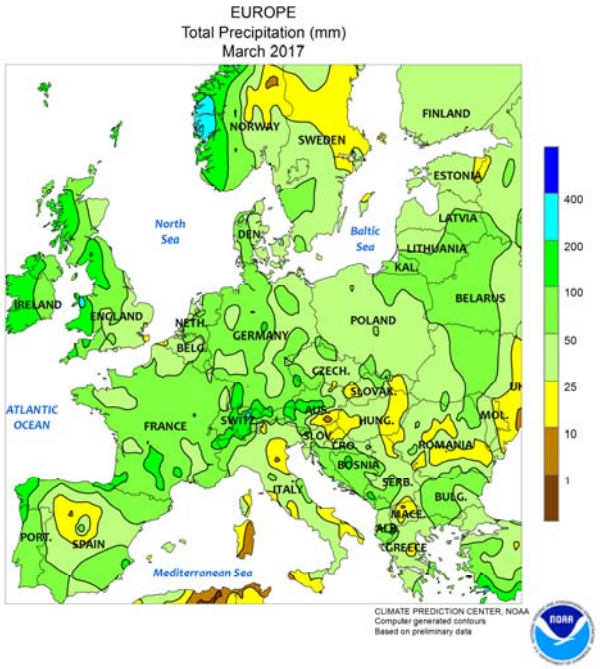


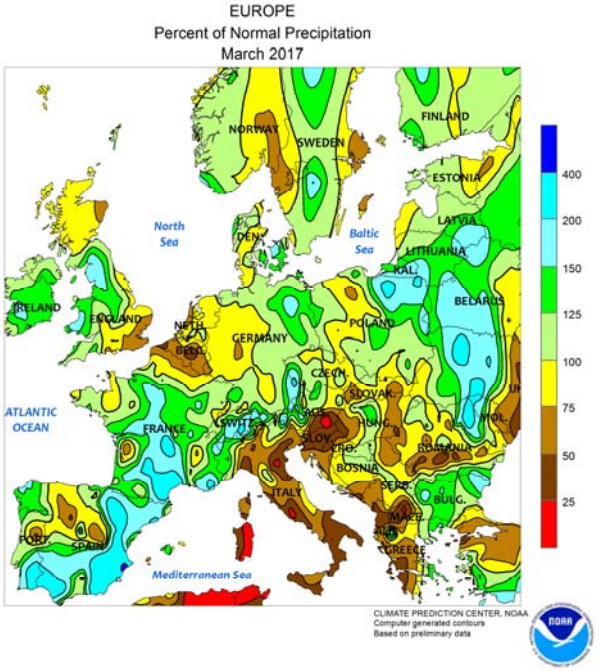
BRAZIL

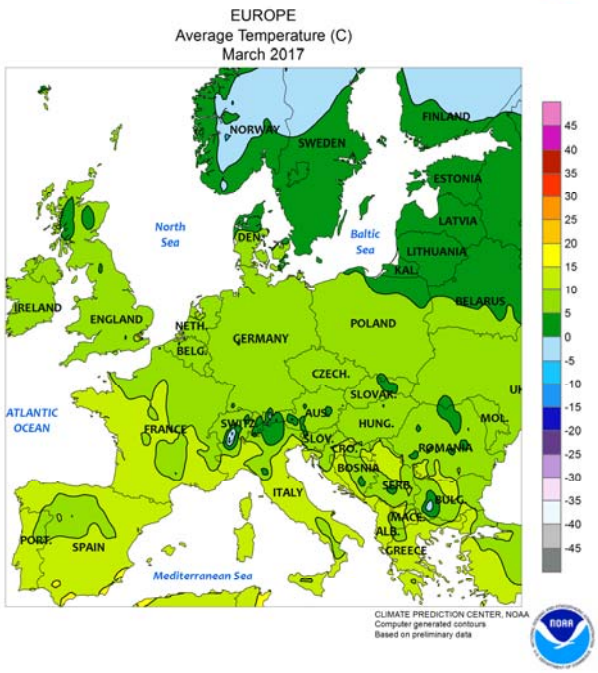
Heavy showers (over 100 mm) caused localized flooding in Rio Grande do Sul and slowed maturation of corn and soybeans. Outside of southern Brazil, showers were lighter, with 10 to 25 mm in Parana and less than 10 mm in central and northeastern production areas. Higher rainfall totals (over 25 mm) were reported in northern Mato Grasso and nearer to the northeast coast. The rain benefited some of the late-developing second-crop corn and other crops, while more rain would be welcomed for crops in the drier central locations. In addition, temperatures remained 1 to 3°C above normal, with maximum temperatures in the interior climbing into the upper 30s degrees C. The hot weather promoted crop development but also maintained high moisture demands.

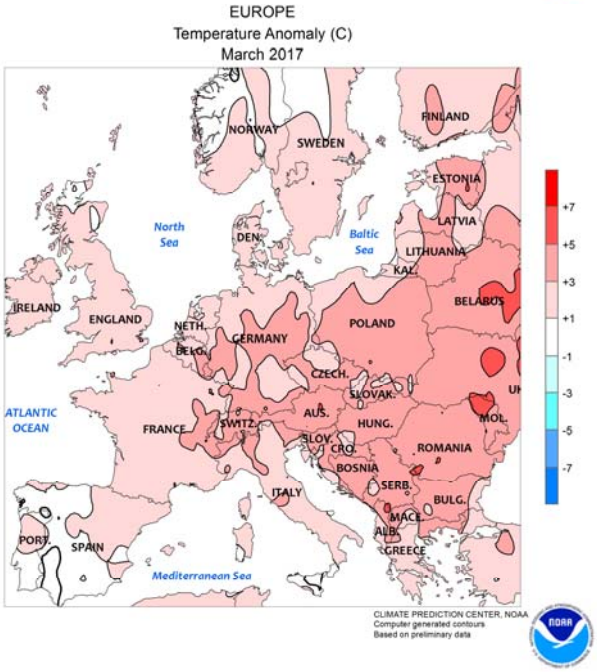
For additional information contact: mbrusberg@oce.usda.gov

March International Temperature and Precipitation Maps









EUROPE

Near- to above-normal temperatures and precipitation during March sustained good to excellent prospects for winter crops. The warmth (2-5°C above normal) accelerated winter crops out of dormancy several weeks ahead of normal across northeastern Europe and maintained faster-than-normal development elsewhere. Widespread showers improved soil moisture for wheat and rapeseed from France and southern Germany into the Balkans following a drier-than-normal winter. In Spain, dry weather in the north (25-50 percent of normal) contrasted with beneficial rain in the south (locally more than 200 percent of normal), resulting in mixed yield prospects for winter wheat and barley.

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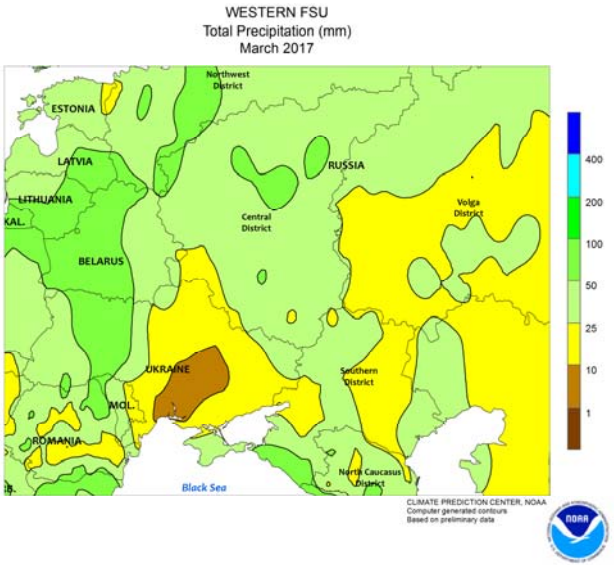
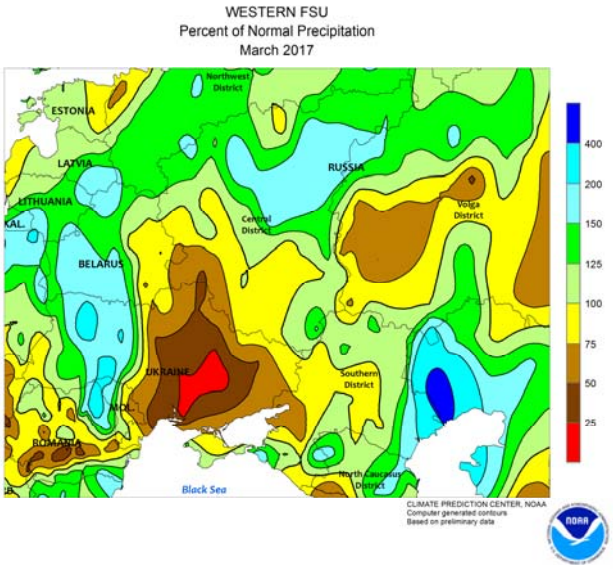
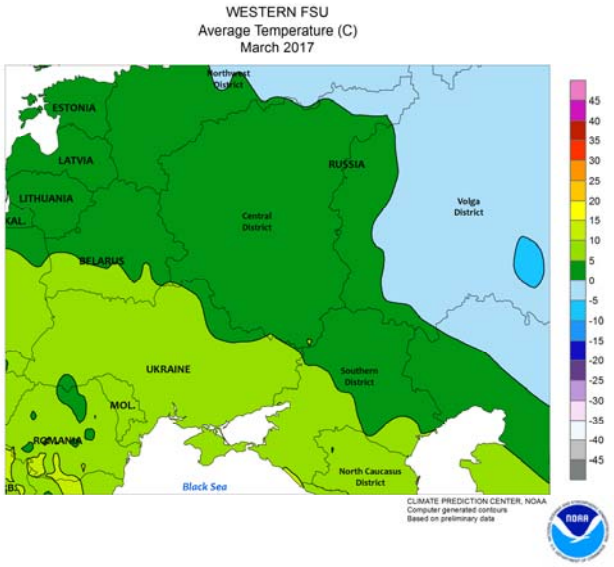
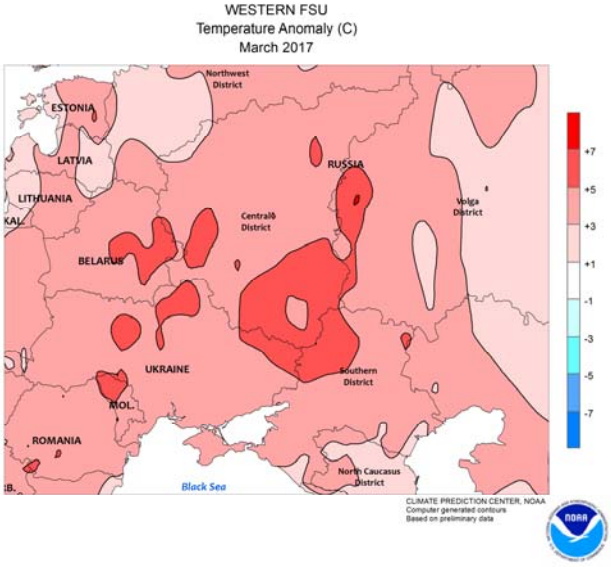


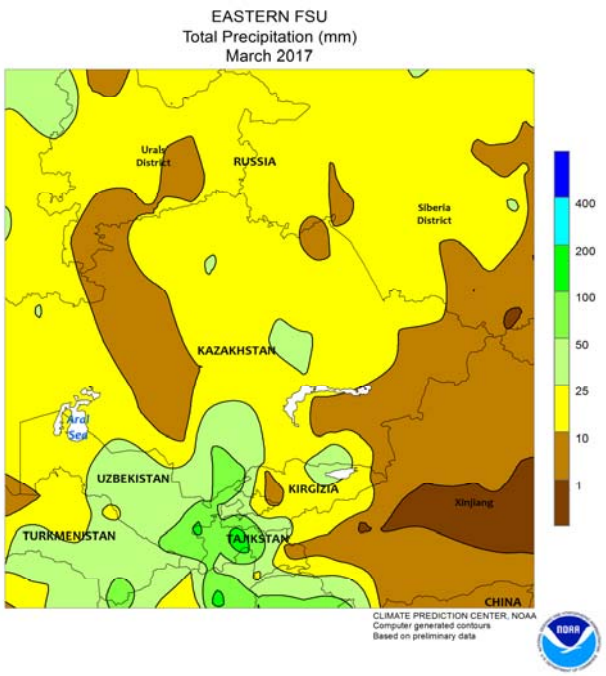


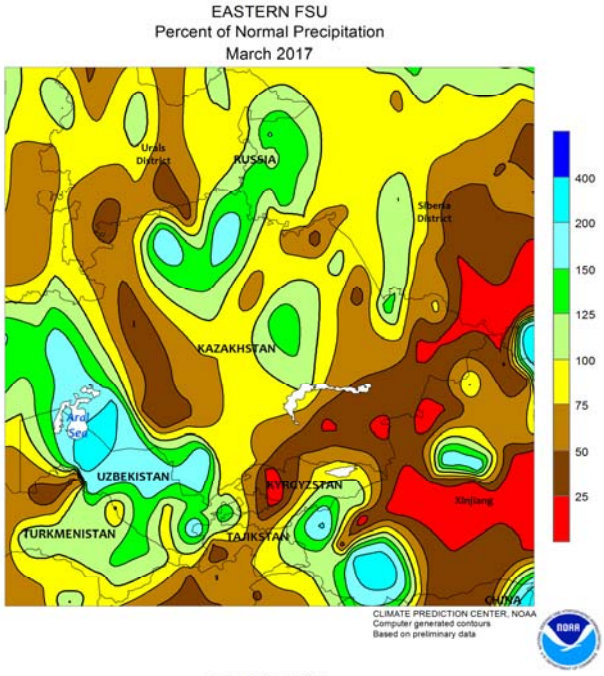


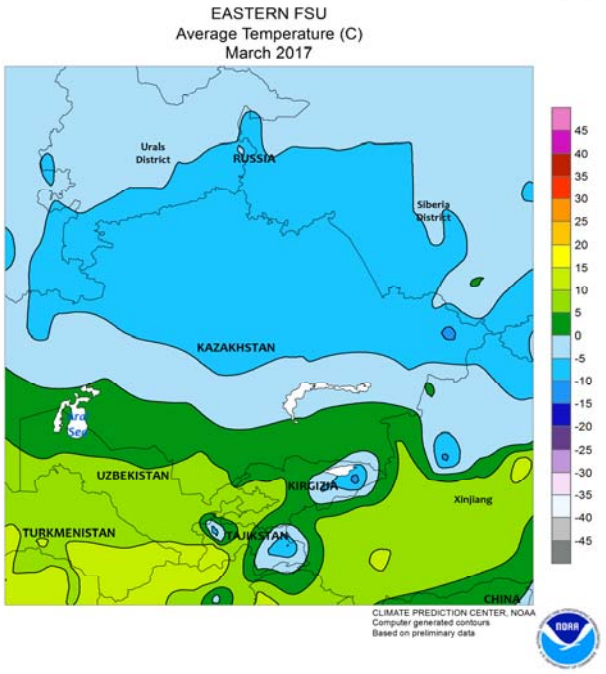


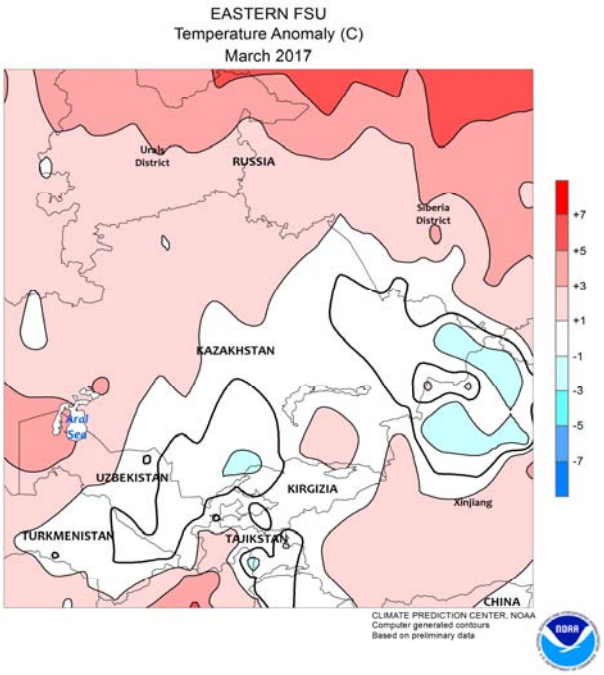
WESTERN FSU

During march, conditions were favorable for winter wheat in Russia, while short-term drought developed in central Ukraine. Mild, wet March weather eased crops out of dormancy in central Russia and promoted earlier-than-normal wheat development in southern portions of the country. In contrast, pronounced dryness (10-25 percent of normal) further reduced soil moisture for vegetative winter wheat in central and southern Ukraine. However, the dry weather allowed sowing of spring grains and summer crops to get off to an early start. Meanwhile, locally more than twice the normal monthly rainfall in western Ukraine and Belarus boosted moisture reserves for spring grains and summer crops.



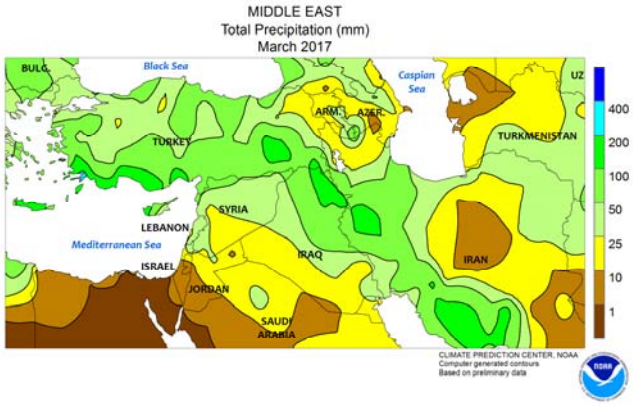


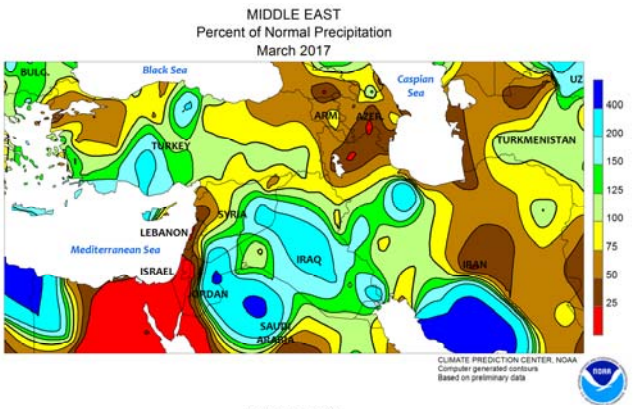


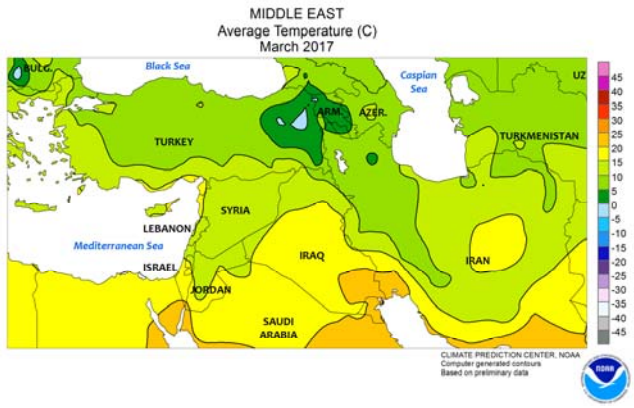


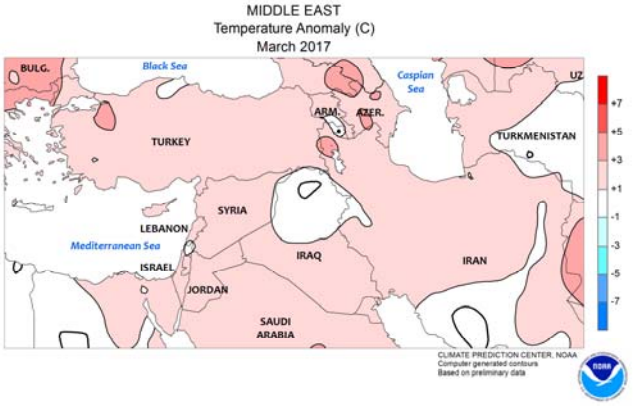
EASTERN FSU

During March, seasonably cold, snowy conditions prevailed in the north while rain and snow boosted moisture supplies for dormant winter wheat in the south. Central Russia and neighboring portions of northern Kazakhstan remained covered by a deep snowpack for much of the month as seasonal cold (readings occasionally below -20°C) prevailed over the region. Farther south, rain and snow (100-200 percent of normal) maintained adequate to abundant moisture reserves for dormant to early vegetative winter wheat in Uzbekistan.









MIDDLE EAST

In March, widespread, locally heavy rain and near- to above-normal temperatures sustained favorable prospects for vegetative to heading winter wheat and barley over much of the region. Wet March weather (100-275 percent of normal) benefited Turkish winter grains, although autumn drought impacted crop establishment on the Anatolian Plateau. In Iraq, 50 to 100 mm of rain boosted moisture reserves as crops approached or entered reproduction. In Iran, widespread rain was beneficial for wheat and barley, with unusually high totals (100-150 mm) reported in the typically arid southwestern corner of the country. Dryness was mostly confined to the southeastern Mediterranean Coast, increasing irrigation requirements as crops entered reproduction.

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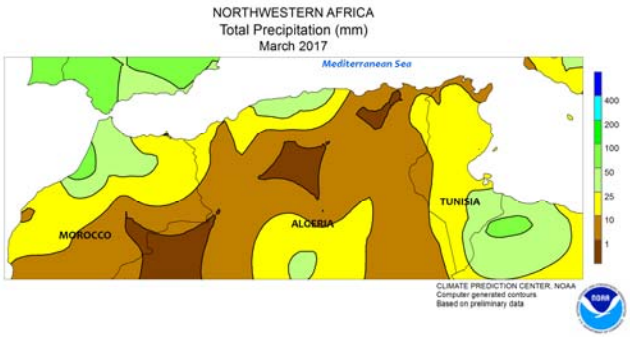
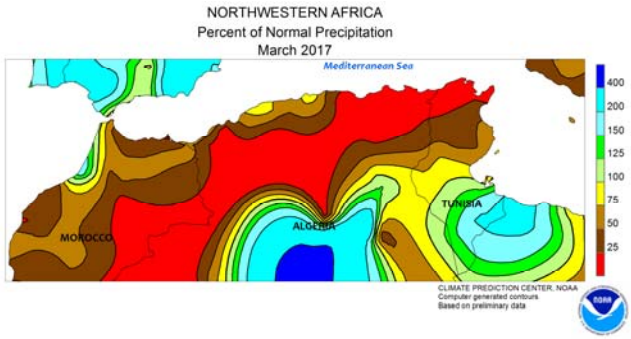
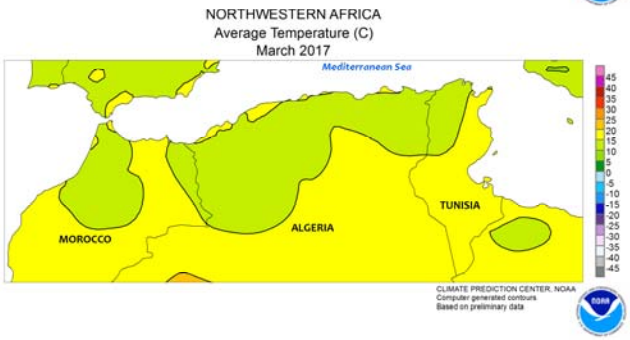
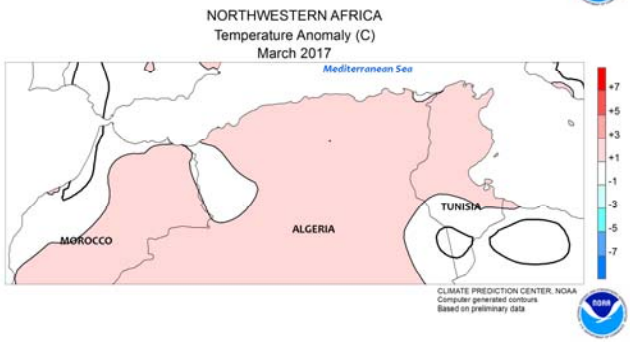


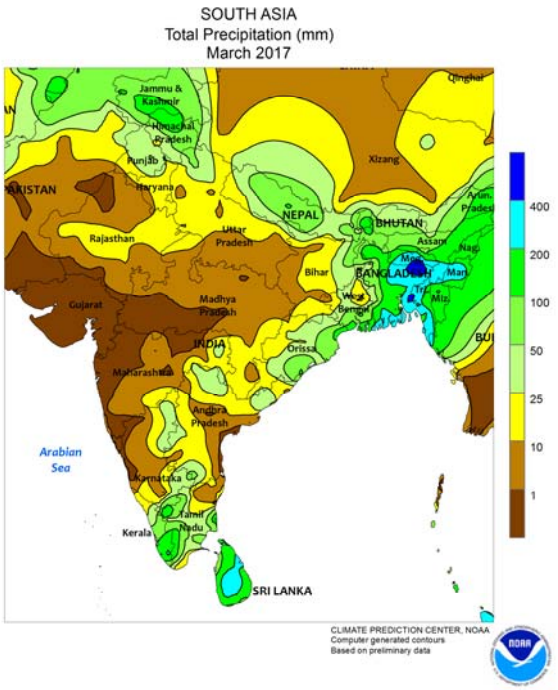


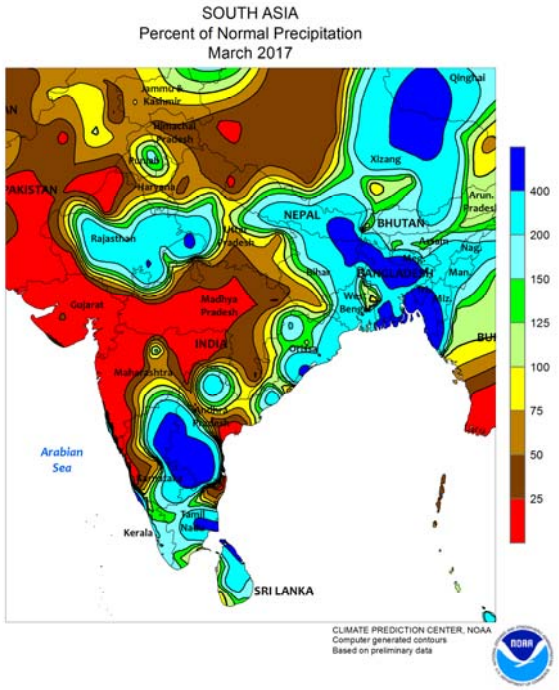


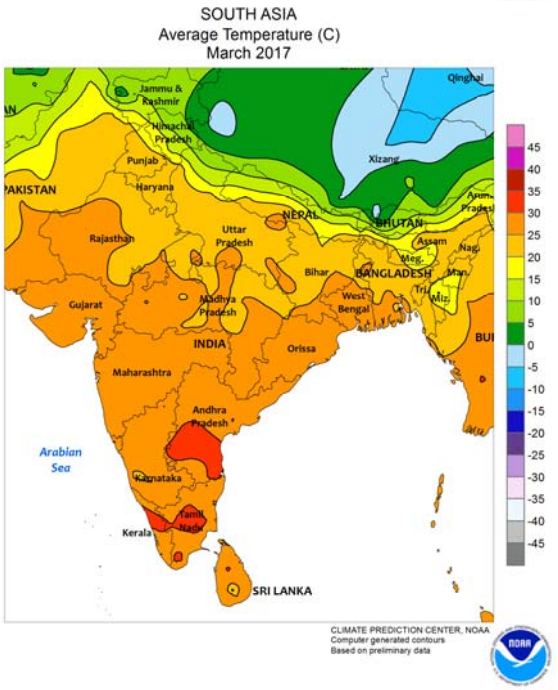


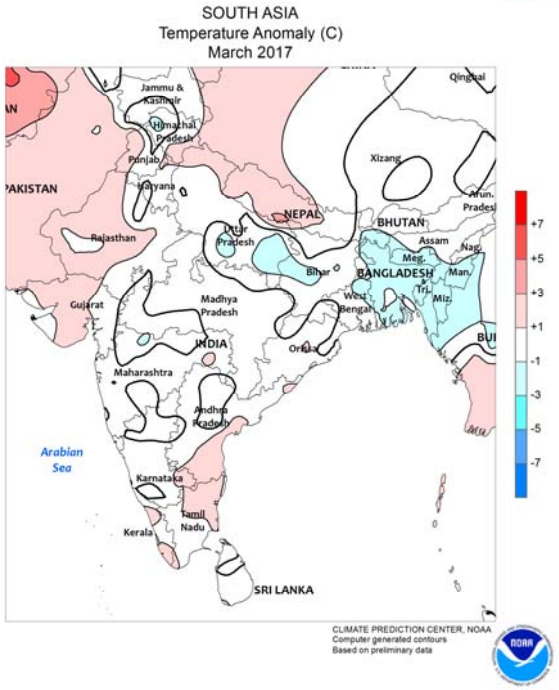
NORTHWESTERN AFRICA

Drier-than-normal weather returned in March, though a wet winter and a lack of early-spring heat maintained good to excellent yield prospects for jointing to reproductive winter grains. Dryness was most pronounced (less than 25 percent of normal) in northeastern Algeria and northern Tunisia, though many of these same locales received well-timed rainfall in early April. Farther west, key Moroccan wheat and barley areas reported less than 50 percent of normal rainfall, though conditions are vastly improved over last year's drought-afflicted wheat and barley.





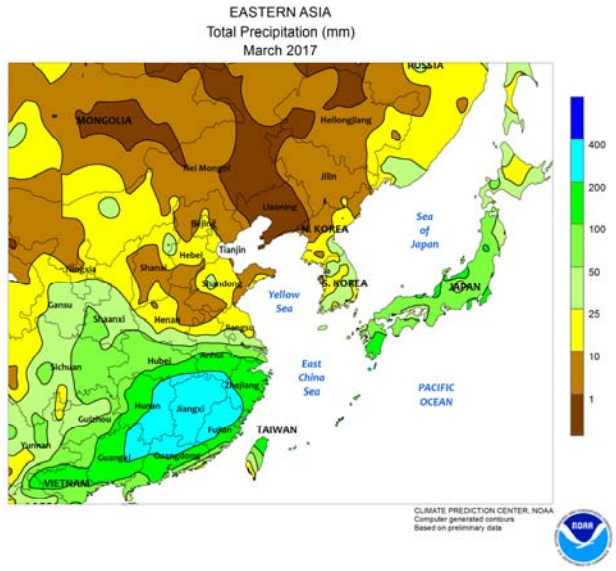


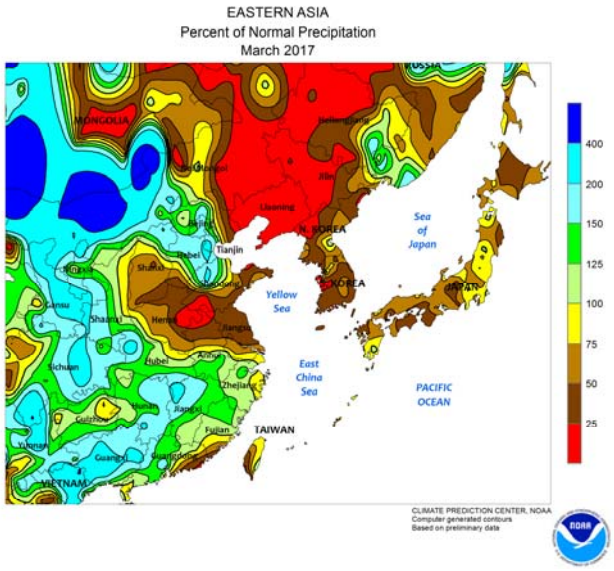


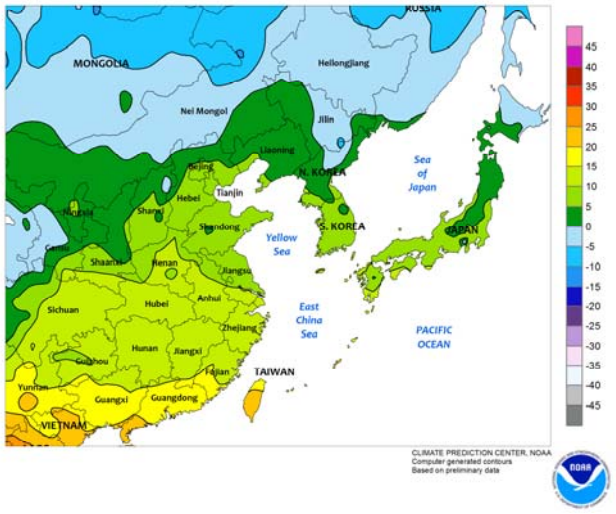
SOUTH ASIA

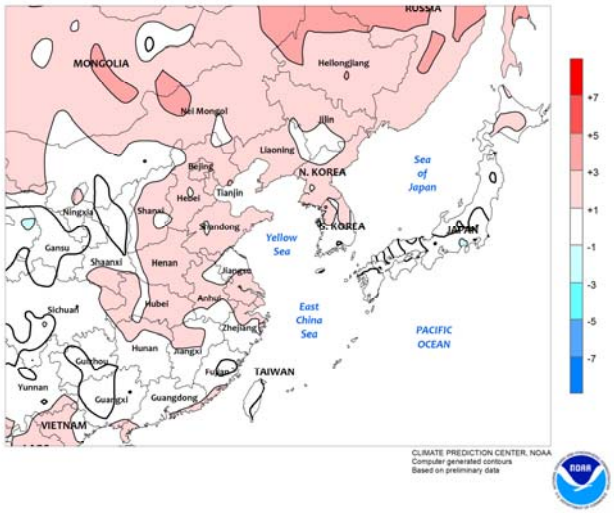
Rainfall was seasonably light throughout India during March. Most areas received less than 25 mm of rain for the month, with no rainfall recorded in the center west (Gujarat, Maharashtra, and Madhya Pradesh). Showers were heavier along the southern and eastern periphery as well as the far north, where 50 mm or more occurred. In addition, heat began to build in the interior earlier than usual as temperatures climbed above 40°C by month's end. Rabi (winter) crop harvesting was underway, and in particular, rapeseed and wheat in the north. Spring-sown crops (locally known as summer crops) benefited from the periodic rainfall, but the heat increased irrigation demands. In other parts of the region, rainfall was seasonably sparse in wheat areas of Pakistan, allowing for uninterrupted harvesting. Meanwhile, unusual March wetness (over 100 mm of rain) in Bangladesh provided a welcome boost to soil moisture and water supplies for winter-sown (boro) rice. Similarly wet weather in Sri Lanka slowed winter (maha) rice harvesting but increased water supplies for spring-sown (yala) rice.

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









EASTERN ASIA

Above-normal rainfall prevailed across much of southern China during March, where monthly totals exceeded 200 mm in many areas. The moisture benefited establishment of newly sown early-crop rice and erased lingering winter drought in southeastern provinces. The wet weather extended into the Yangtze Valley, boosting soil moisture for reproductive rapeseed. Meanwhile on the North China Plain, showers were unseasonably light (less than 25 mm for the entire month) for wheat that had broken dormancy 2 to 3 weeks earlier than usual, but soil moisture remained adequate from above-normal winter rainfall. Temperatures across parts of the Yangtze Valley and most of the North China Plain averaged more than 2°C above normal, promoting development.

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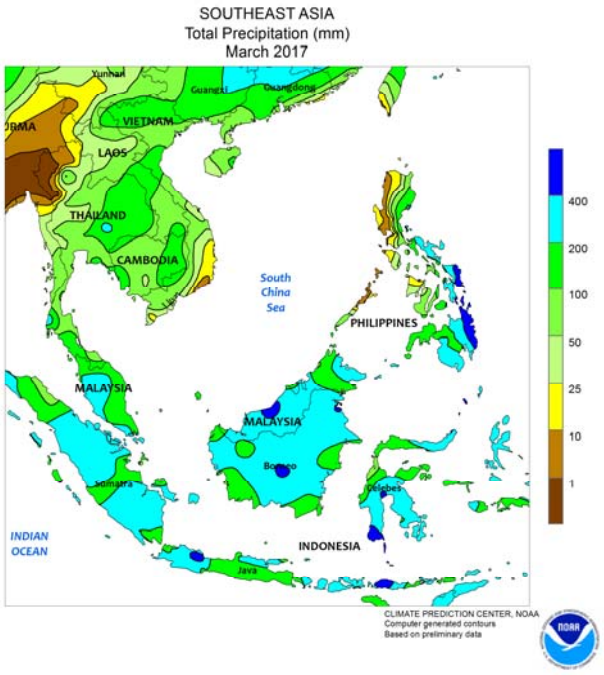
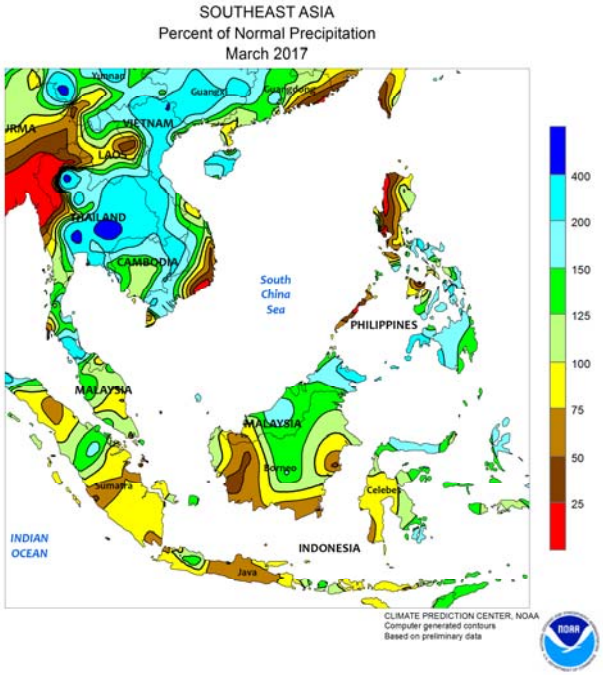
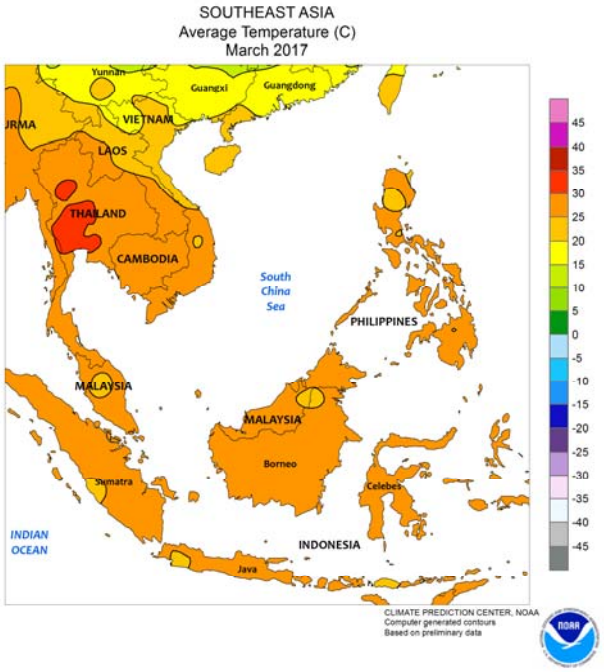
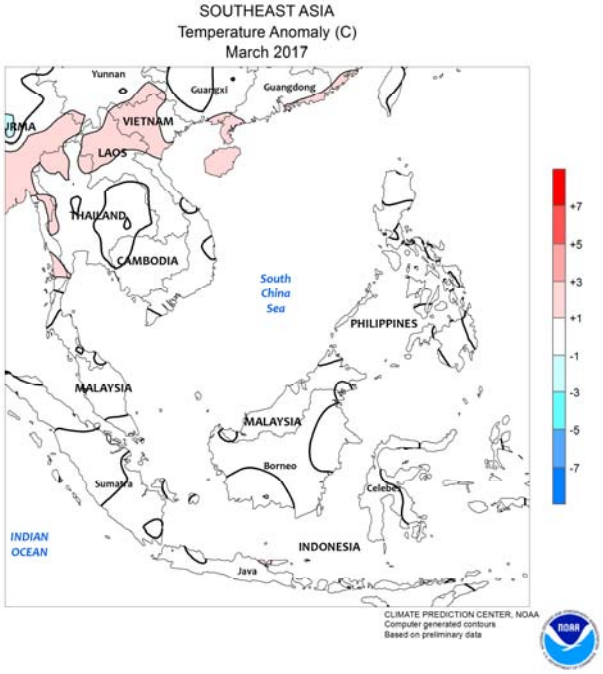


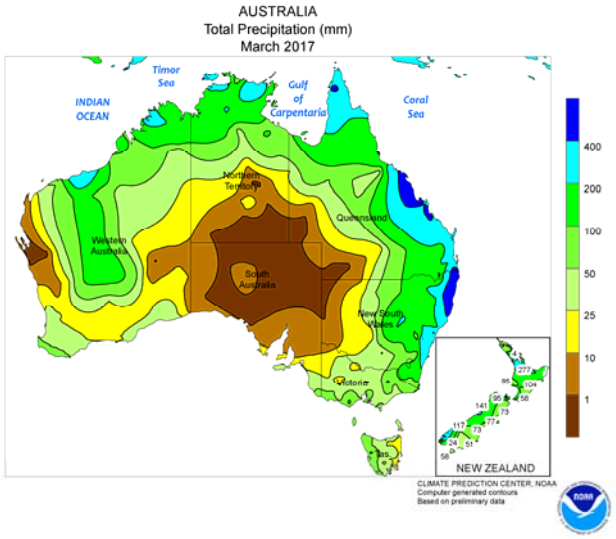


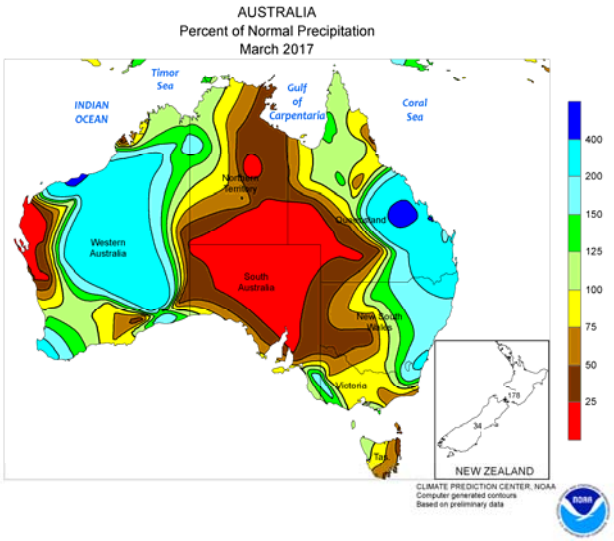


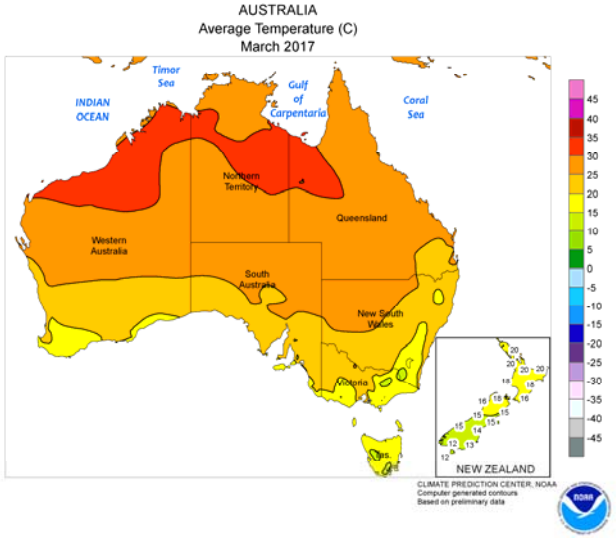


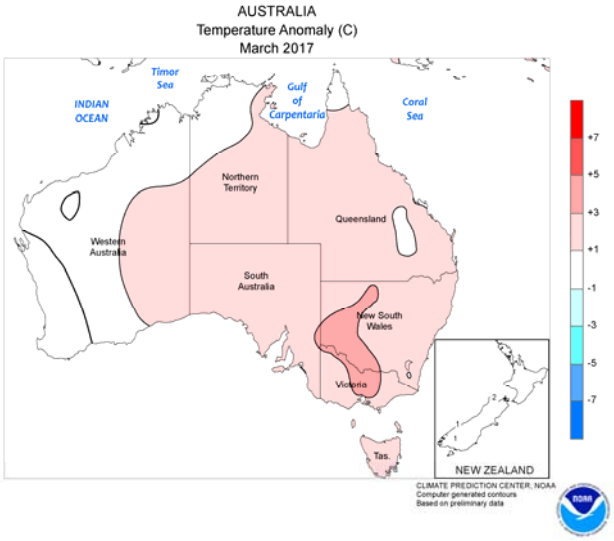
SOUTHEAST ASIA

In March, above-normal rainfall occurred in Thailand and environs as late-month showers produced over 50 mm. The unseasonably wet weather slowed winter (dry-season) rice harvesting but boosted soil moisture for spring-sown varieties as well as increasing irrigation reserves. In the Philippines, much of the southern and eastern regions received over 100 mm of rain for the month (100-200 percent of normal) which kept a slow pace for winter rice harvesting but maintained good moisture conditions for spring rice. Farther south, rainfall was near to above normal in Malaysia, maintaining oil palm yield prospects that are improved over last year's drought affected crop. Meanwhile, showers in Indonesia were lighter than usual in many locales, but long-term (3 months or more) moisture conditions remained excellent for oil palm and rice.



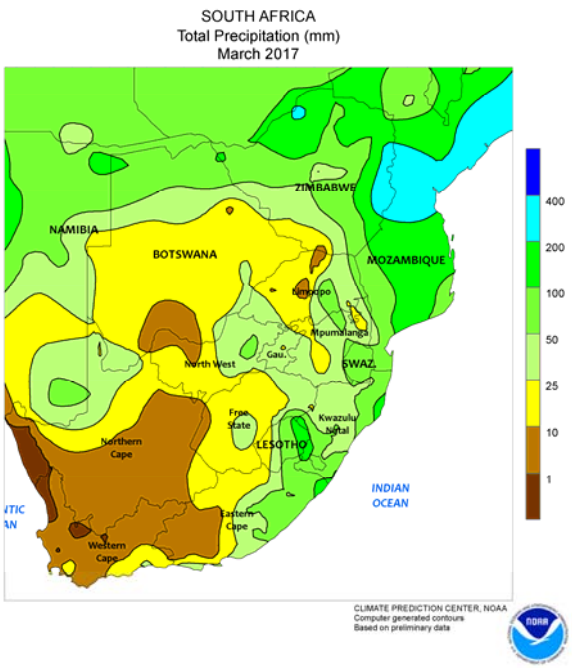


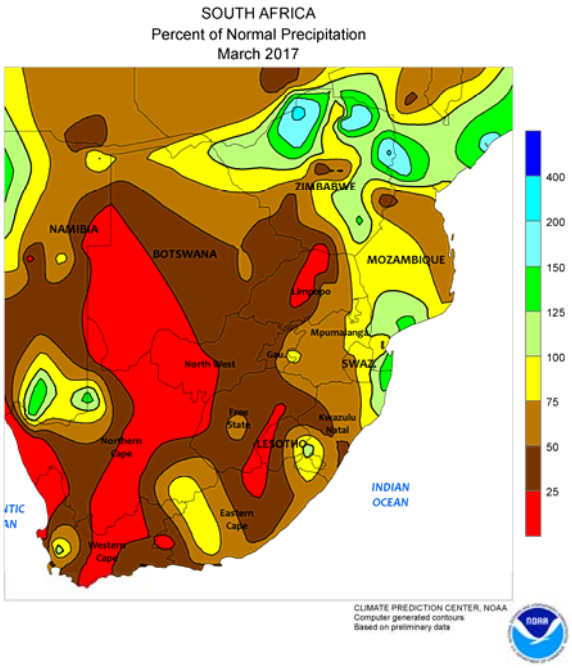


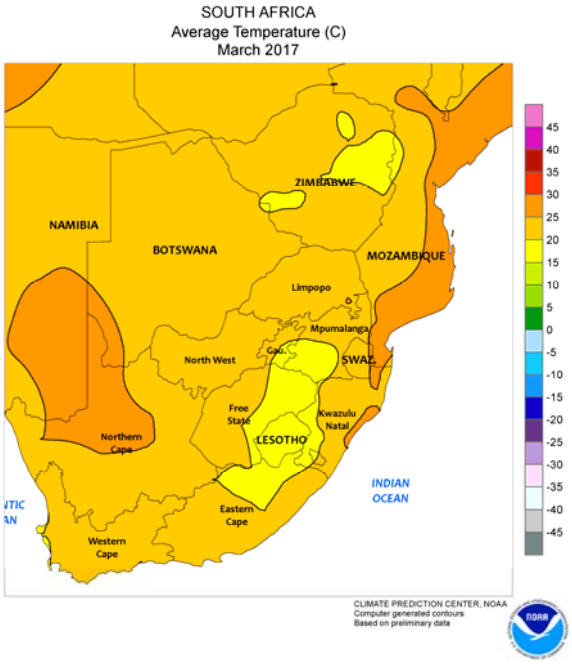


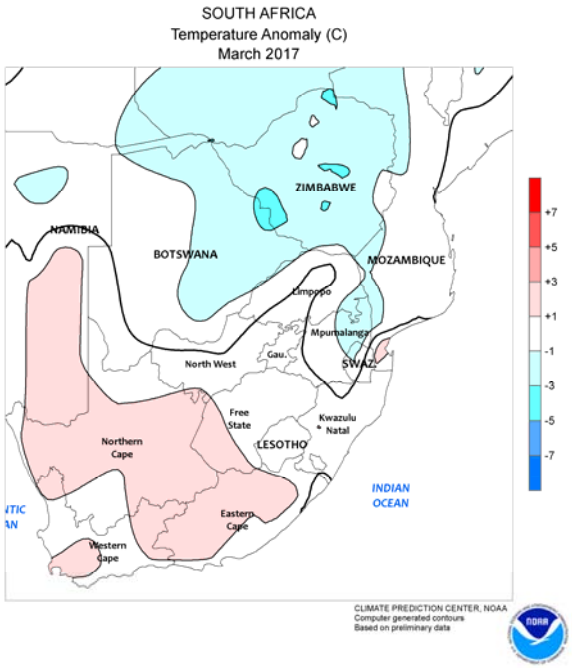
AUSTRALIA

During March, above-normal rainfall in southern Queensland and northern New South Wales slowed summer crop drydown and harvesting. The heaviest rain fell at the end of the month, when Tropical Cyclone Debbie soaked maturing cotton and sorghum and damaged some sugarcane. The wet weather may have reduced the quality of some summer crops, but the rain helped fill the soil moisture profile in advance of upcoming winter wheat planting.



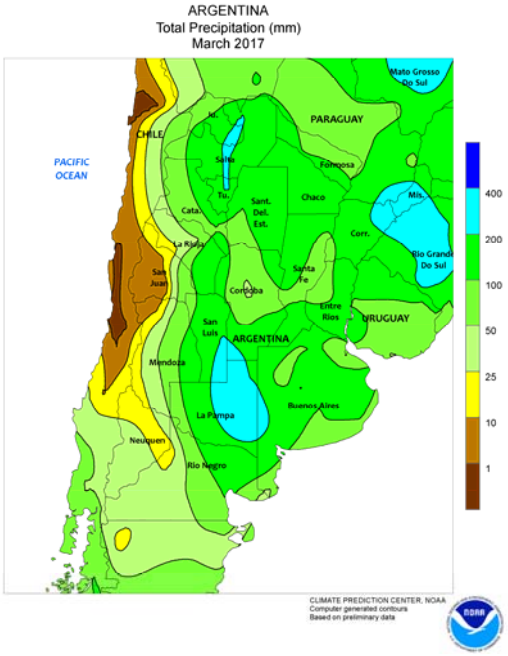


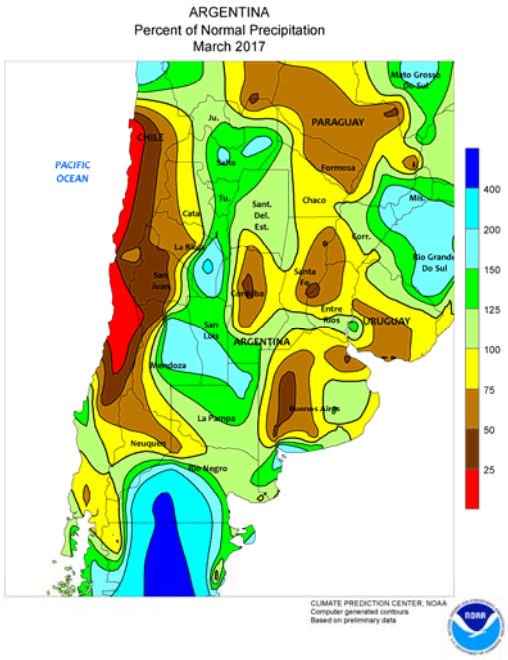


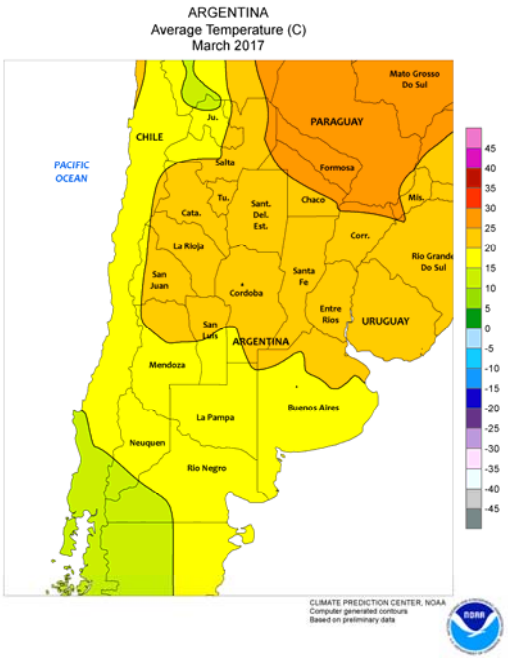


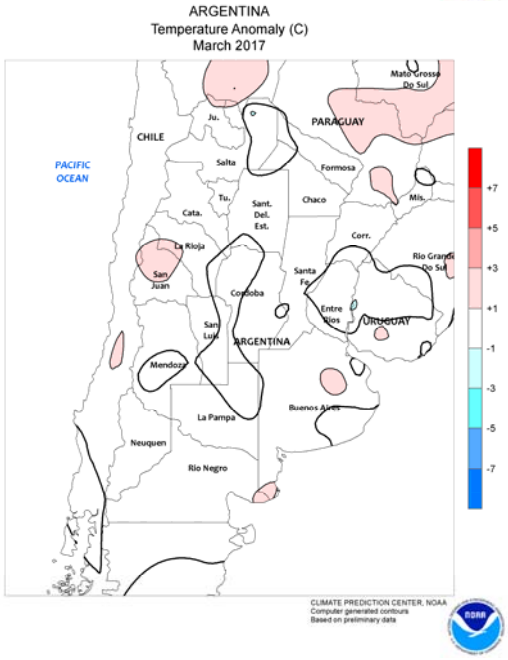
SOUTH AFRICA

Drier weather developed during March, favoring maturing corn but reducing moisture for immature summer crops. Although the corn belt (North West and Free State to Mpumalanga) received beneficial rain during the early part of the month, activity quickly diminished, with only sporadic shower activity for the final 3 weeks of March. March temperatures were variable across the corn belt, with warm days (highs frequently reaching the lower and middle 30s degrees C) and cool nights (lows often falling below 10°C) owing to the dryness. Elsewhere, moisture remained limited for rain-fed sugarcane in southern KwaZulu-Natal as rainfall continued to be below normal and sporadic in nature, but the general pattern of warmth and abundant sunshine favored development of irrigated crops in northern KwaZulu-Natal and eastern Mpumalanga. Warm, mostly dry weather also dominated western farming areas of the Cape Provinces, spurring development of irrigated summer row crops as well as harvesting of tree and vine crops in Western Cape.



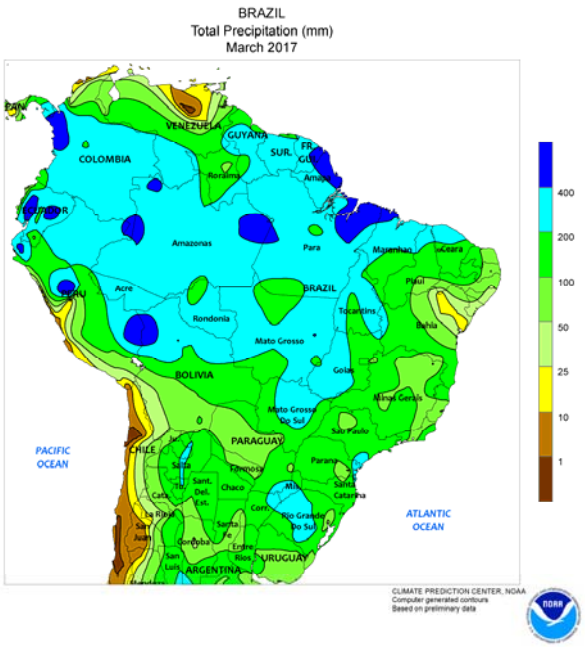


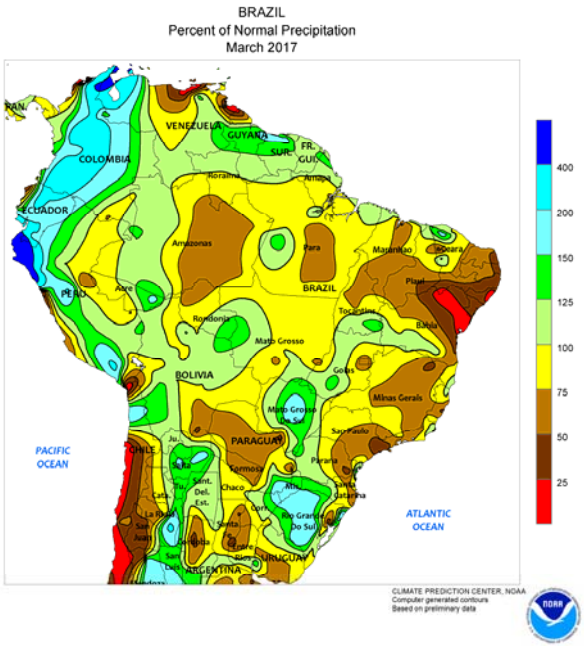


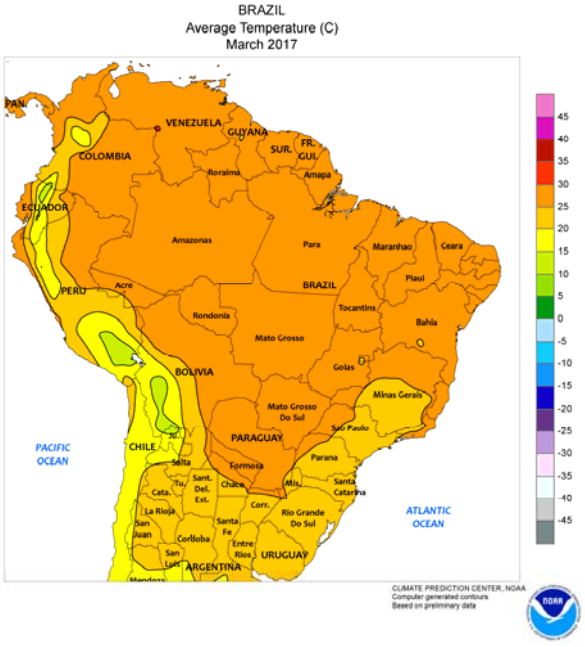


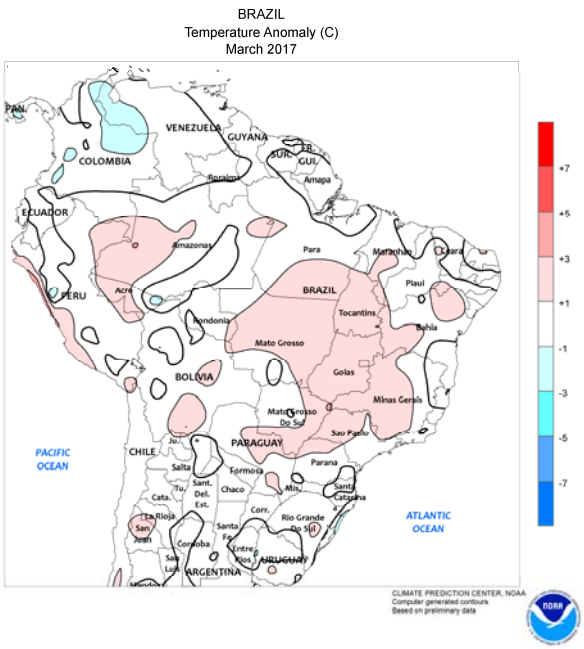
ARGENTINA

During March, periods of mild, showery weather maintained adequate to abundant levels of moisture for immature summer grains, oilseeds, and cotton. Most of the region recorded its heaviest rainfall during the first half of the month, but a new wave of heavy rain returned to western farming areas toward month's end after a brief respite. The highest late-month rainfall (weekly totals in excess of 100 mm) was concentrated over La Pampa, likely flooding some low-lying farmlands. While timely for immature corn and soybeans, the rain in northern farming areas slowed harvesting of sunflowers and kept maturing cotton unfavorably wet. Monthly average temperatures were near to slightly above normal but as a result of the rain and numerous frontal passages, temperatures were highly variable during the month, with daytime highs often changing from the lower 20s to lower 30s (degrees C) over a period of several days. Somewhat warmer conditions (highs reaching the middle and upper 30s) were observed in traditionally warmer northern farming areas (notably Santiago del Estero, Chaco, and Formosa), fostering rapid development of generally well-watered crops.



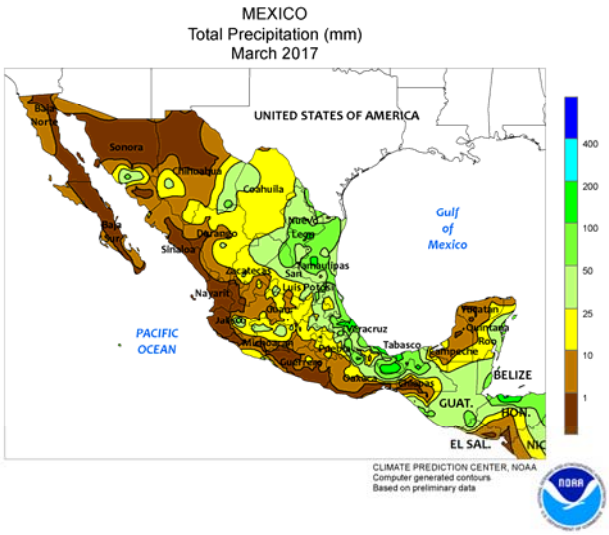


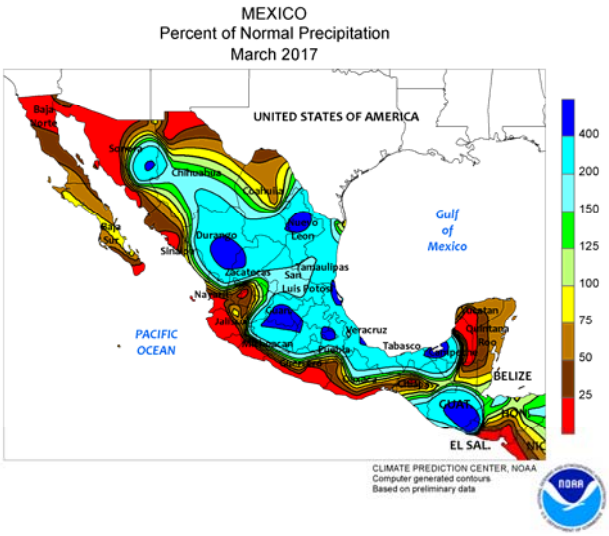


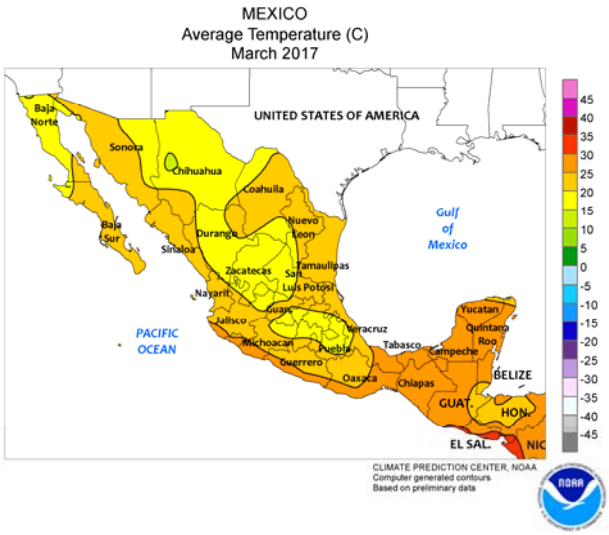


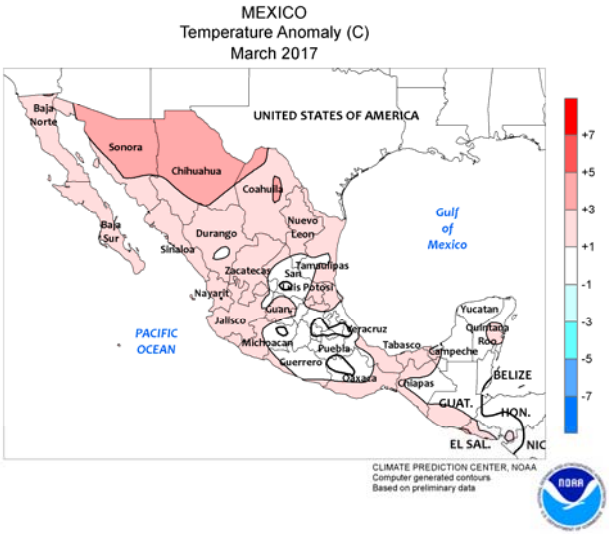
BRAZIL

In March, conditions remained overall favorable for corn and cotton in major production areas of central and northeastern Brazil. Monthly rainfall totaled more than 200 mm over large sections of the Center-West Region (Mato Grosso and neighboring locations in Mato Grosso do Sul and Goias), as well as in Tocantins and other locations in the northeastern interior. Most other northern farming areas recorded at least 100 mm. Above-normal March temperatures (daytime highs occasionally reaching the middle 30s degrees C) in the aforementioned areas sustained rapid growth rates of crops growing with overall favorable levels of moisture. Elsewhere, a drying trend developed over Sao Paulo during the latter half of the month, reducing moisture for sugarcane and other regionally important crops; rain fell more frequently in nearby coffee areas of southern Minas Gerais. In southern Brazil, frequent showers early in the month rain were followed by periods of warm, sunny weather, favoring harvesting of soybeans and first-crop corn while fostering rapid development of the second corn crop.



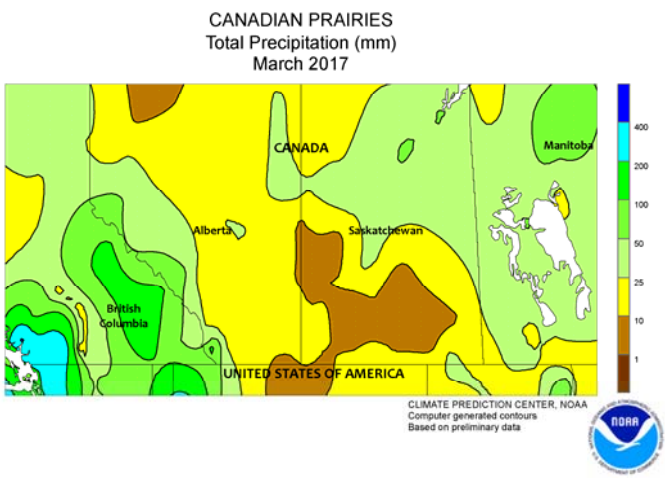


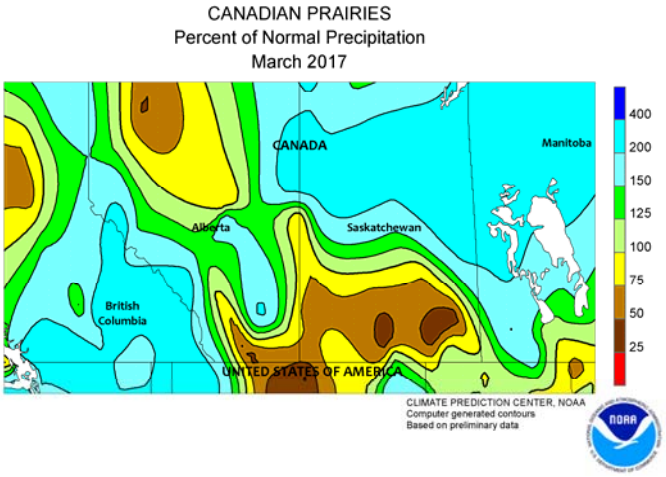


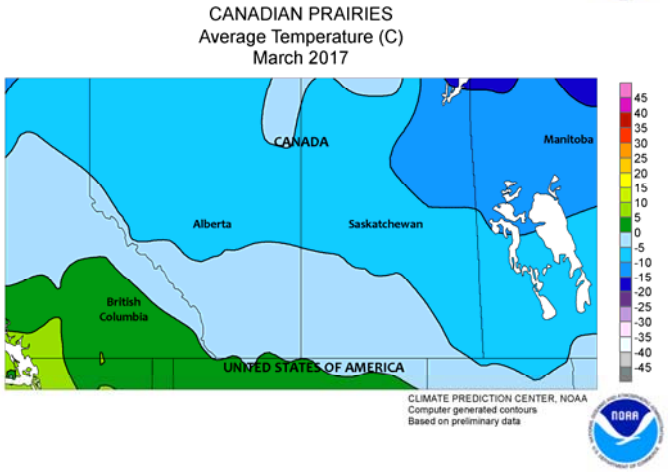


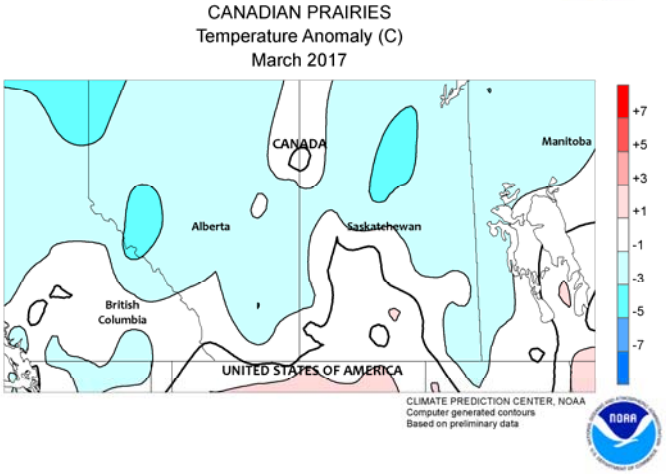
MEXICO

Abundant rainfall during the first half of March increased moisture reserves for winter-grown crops in eastern sections of the country. In the northeast, unseasonably heavy rain (accumulations exceeding 50 mm) provided timely moisture for rain-fed winter sorghum grown predominantly in and around Tamaulipas. Similar amounts increased reservoir levels farther south (Veracruz to Tabasco), providing a boost in irrigation for vegetables and fruit but slowing sugarcane harvesting. According to the government of Mexico, national reservoir levels were at 63.8 percent capacity as of March 30, compared with 65.6 percent last year and 69.9 percent in 2015. Similarly, northwestern reservoirs (notably those in Sinaloa and Sonora) were at 58.2 percent capacity, slightly behind both last year (60.3 percent) and 2015 (59.7 percent).



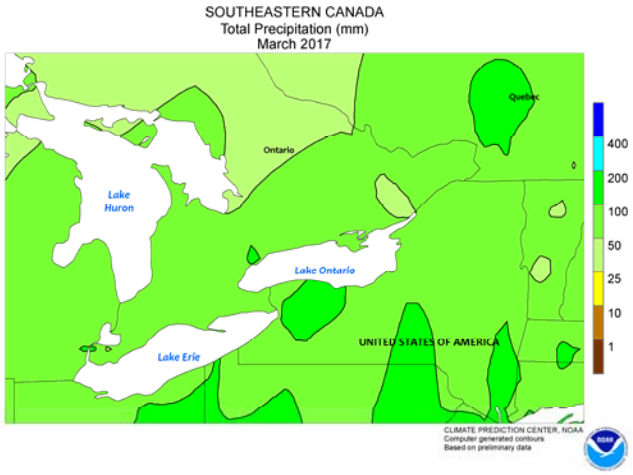


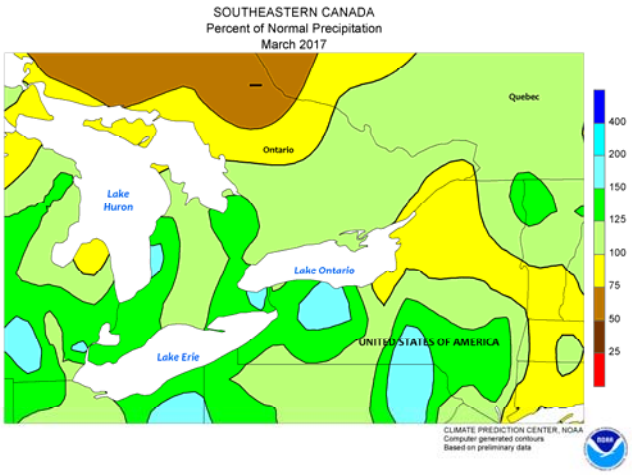


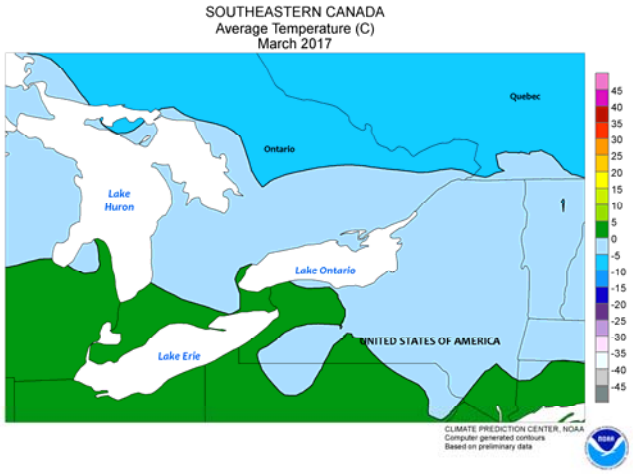


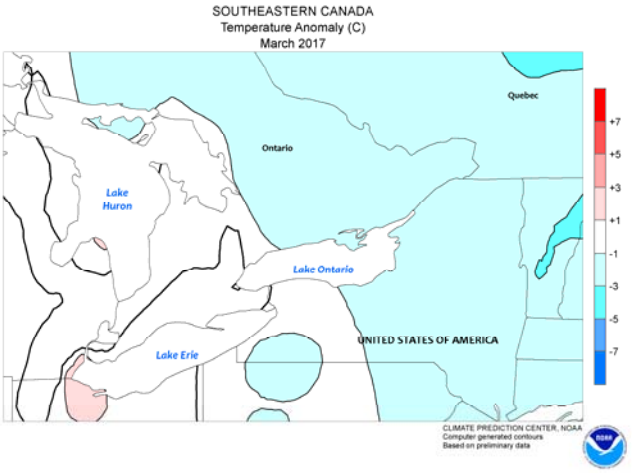
CANADIAN PRAIRIES

In March, an early-month outbreak of exceptionally cold weather gave way to rapid warming, gradually eroding much of the deep snow cover that had existed in flood-prone areas of Manitoba. Nighttime lows fell below -20°C during separate cold outbreaks; in between the events, a brief warming trend melted much of the protective snow cover in the southwest (southern Alberta and southwestern Saskatchewan) but snow returned to the region ahead of the next wave, offering some protection to overwintering wheat and pastures. Northern and eastern agricultural districts (notably Manitoba and Alberta's Peace River Valley) recorded a significant snow cover for most of the month, aided by above-normal monthly precipitation (accumulations totaling 15 to 50 mm). However, the Prairie-wide warming trend melted most of the snow in all but the northern-most areas and southwestern Manitoba.



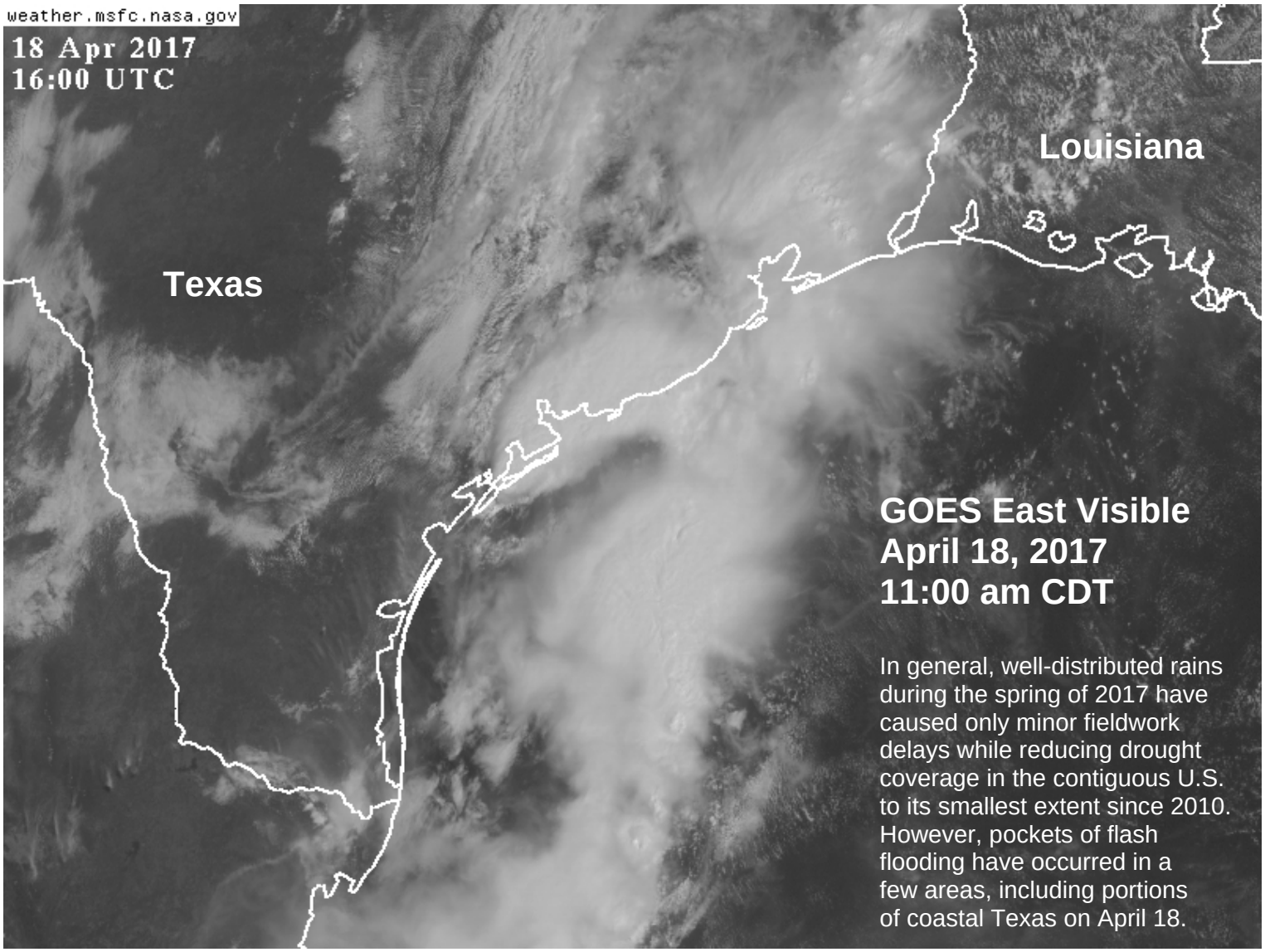






SOUTHEASTERN CANADA

Several waves of unseasonably cold weather affected the region in the early and middle parts of March, though the risk of damage to overwintering wheat and pastures was likely low. Ontario's southern-most farming areas recorded temperatures above the threshold for damage to overwintering grains and pastures (-17°C). Outlying production areas to the north and east experienced somewhat lower temperatures and an absence of snow cover, raising concern for potential damage to crops and pastures. In contrast, agricultural districts in southern Quebec north of the St. Lawrence River experienced a deep snow cover for most of the month; however, some of the more southerly farming areas were void of a protective layer of snow during several cold events. Seasonal warming advanced during the month but farmlands in Quebec, and Ontario's northern crop areas, still retained a moderate to deep layer of snow (greater than 4 cm, locally as high as 50 cm).



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