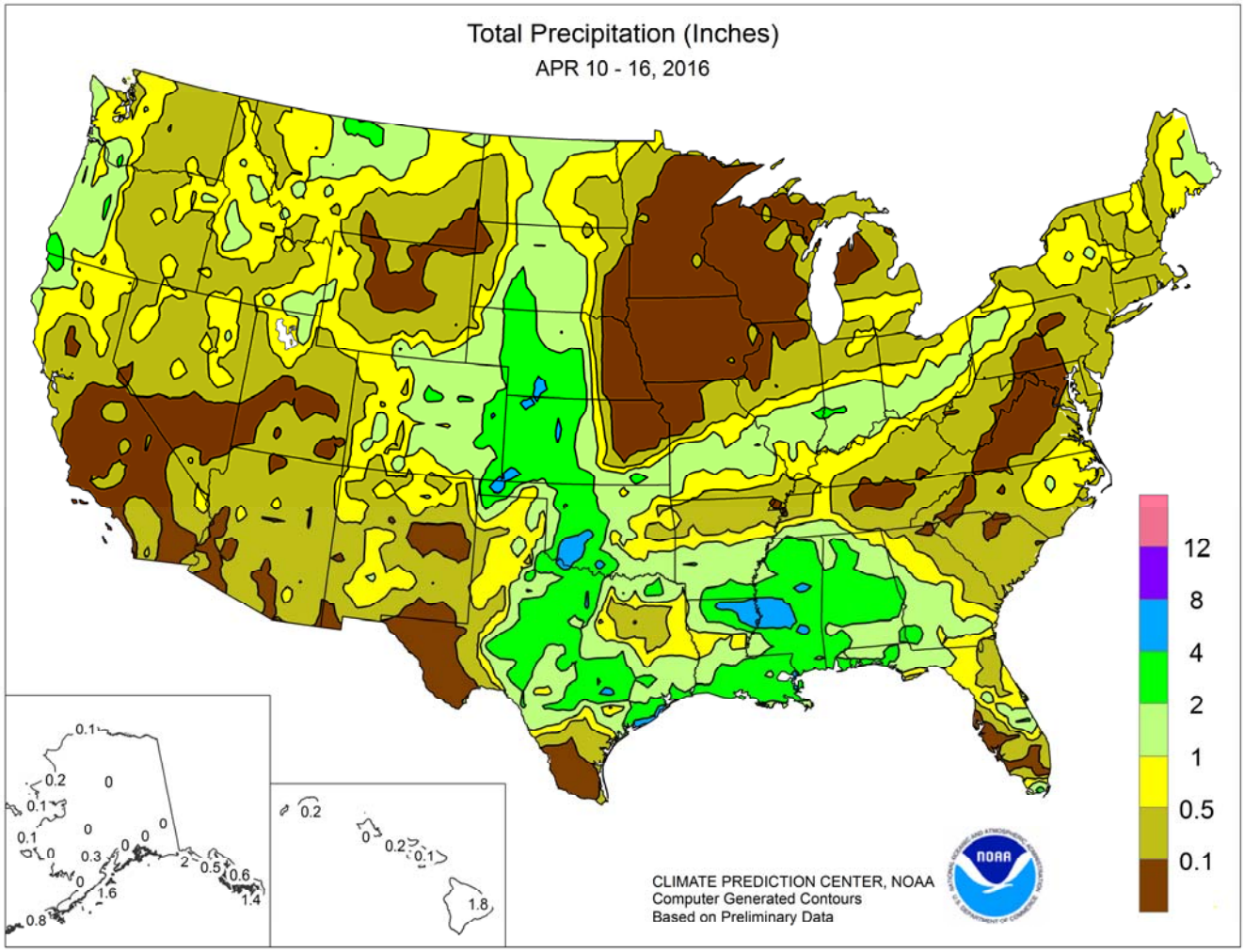
Volume 103, No. 16 http://www.usda.gov/oce/weather April 19, 2016

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 10 – 16, 2016

Highlights provided by USDA/WAOB

A slow-moving storm system arrived in the **Northwest** on April 14 and reached the **nation's mid-section** by the end of the week. The storm provided another round of rain and snow showers across the **northern half of the western U.S.**, maintaining mostly favorable soil moisture levels for winter grains and spring-sown crops. In addition, heavy, late-week snow fell in the **central Rockies**, improving water-supply prospects. Toward week's end, heavy showers and locally severe thunderstorms erupted across parts of the **Plains**, totaling 2 to 4 inches or more in a few

(Continued on page 5)

Contents

Water Supply Forecast for the Western United States

Highlights

Warm, dry conditions intensified during March across the Southwest, contributing to a rash of wildfires where snow melted early or never became well-established. In contrast, Northwestern wetness led to further reservoir and groundwater recharge, along with corresponding reductions in drought coverage and intensity, as far south as northern California. Storminess across northern California was particularly impressive from March 4-7 and 11-14. Evidence of northern California's hydrological improvement included substantial gains in reservoir storage and abundant streamflow, along with a near-normal snowpack in the northern Sierra Nevada.

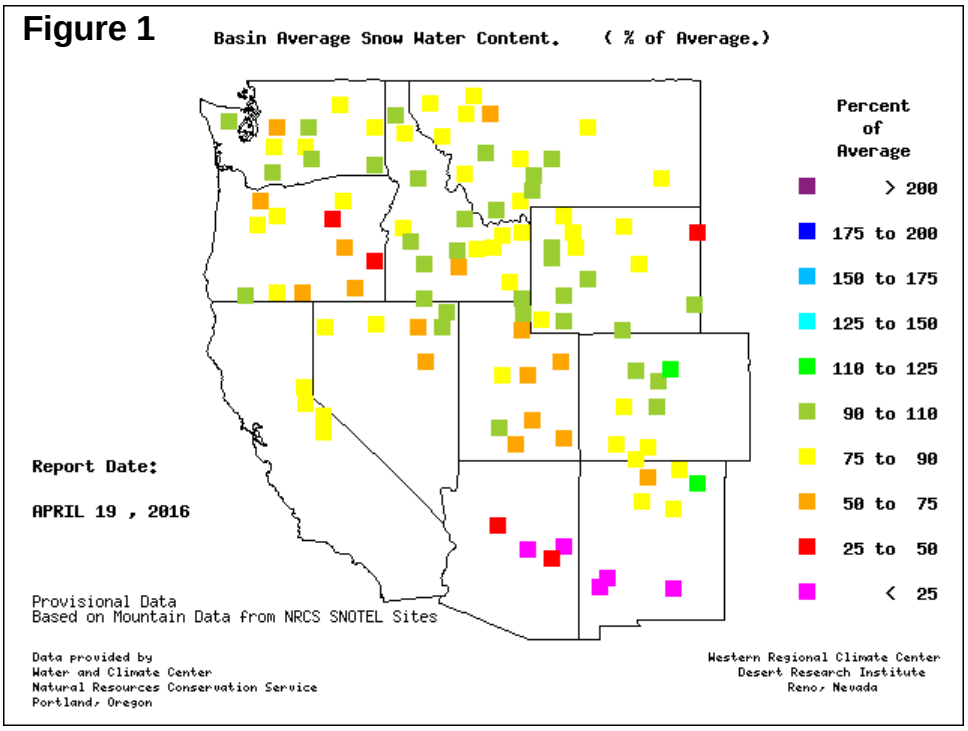
Snowpack and Precipitation

By April 19, 2016, snow had begun to melt in many lower-elevation basins throughout the West, leaving a patchwork pattern of near- and below-average water equivalencies (figure 1). In higher-elevation basins from the Cascades to the northern and central Rockies, near-normal snowpack was still a common theme. In Southwestern basins where the melt season had begun in February, there was little, if any, snow remaining.

At this point in the year, season-to-date precipitation (October 1, 2015 – April 19, 2016) was more useful in showing the overall favorable Western winter wet season (figure 2). Most Western basins were nearing the

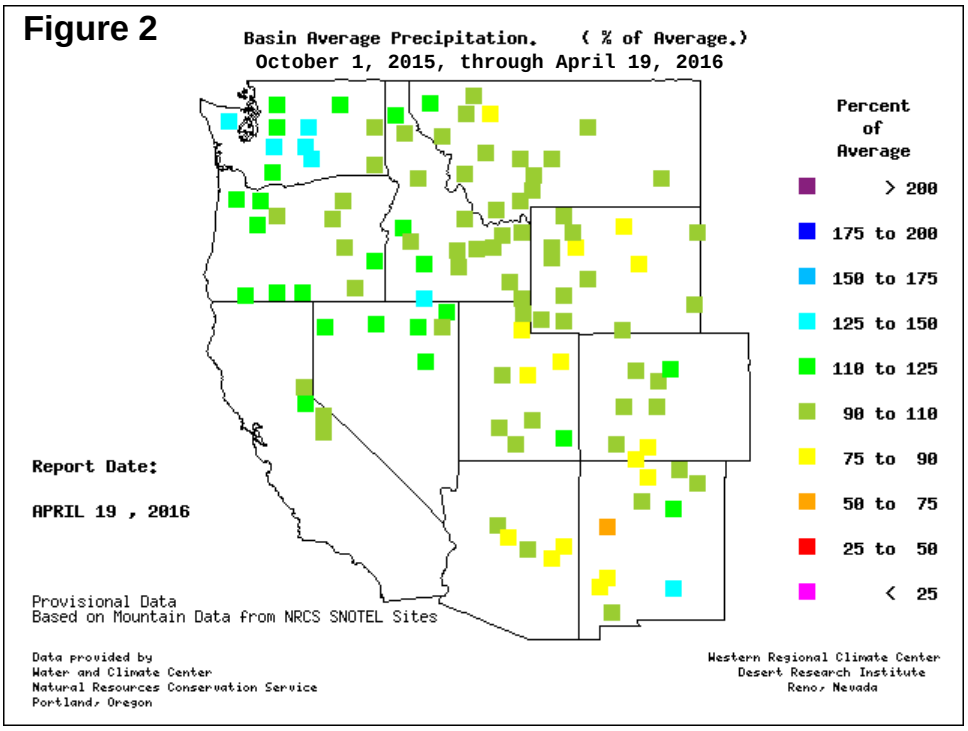
SNOTEL – River Basin Snow Water Content

Figure 1



SNOTEL – River Basin Precipitation

Figure 2



end of the season with near- or above-average precipitation, except for a few drier-than-average basins in the Southwest and scattered throughout the Rockies.

Spring and Summer Streamflow Forecasts

By April 1, 2016, projections for spring and summer streamflow were indicating the likelihood of above-normal runoff in numerous Northwestern river basins (figure 3). Mostly near-normal runoff can be expected in other several other areas, including the Sierra Nevada and the northern Rockies. However, below-normal runoff is a concern in northern Montana, along the eastern slopes of the northern Rockies. And, spring and summer runoff prospects have deteriorated in the Southwest, especially in basins across Arizona and New Mexico where snow prematurely melted.

Reservoir Storage

On April 1, 2016, reservoir storage as a percent of average for the date was significantly below average in several Western States. Specifically, statewide storage was less than one-half of the historical average for this time of year in Nevada and remained less than 75 percent of average in Arizona and New Mexico (figure 4). Meanwhile, California added a 5.55 million acre-feet of storage during March. Adding January's increase of 3.54 million acre-feet, along with small gains in December and February, California has gained 12.01 million acre-feet of reservoir storage so far this season—146 percent of the long-term annual average. This marks California's best recharge season since 2010-11, when full-season recharge totaled 12.47 million acre-feet.

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

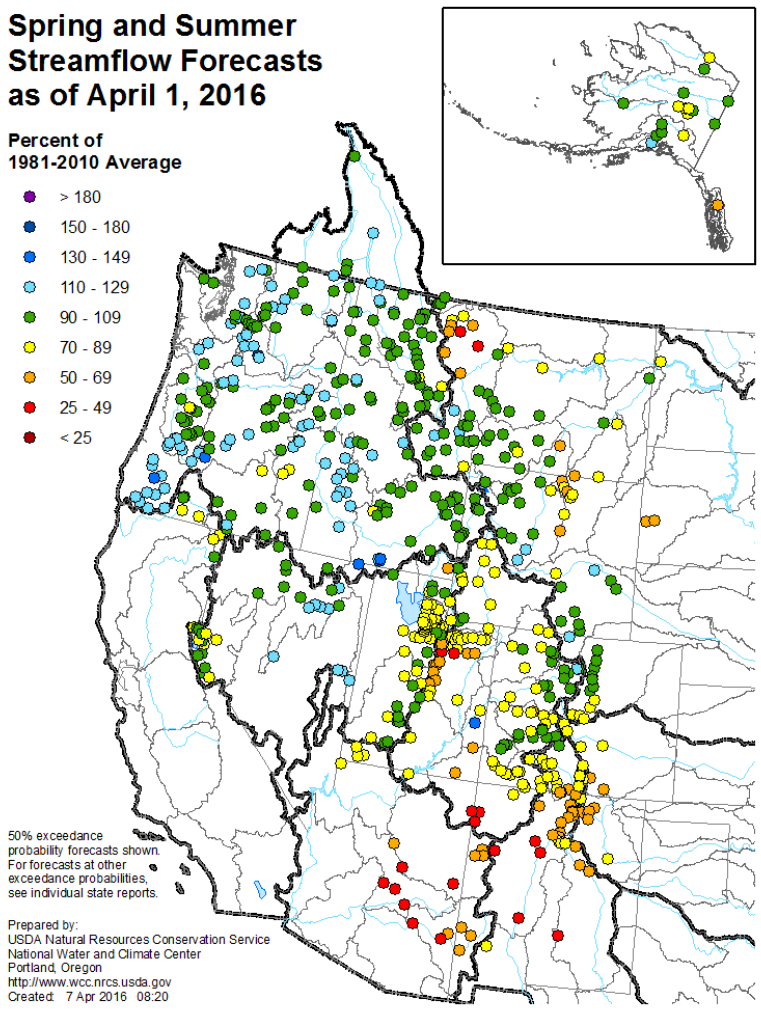
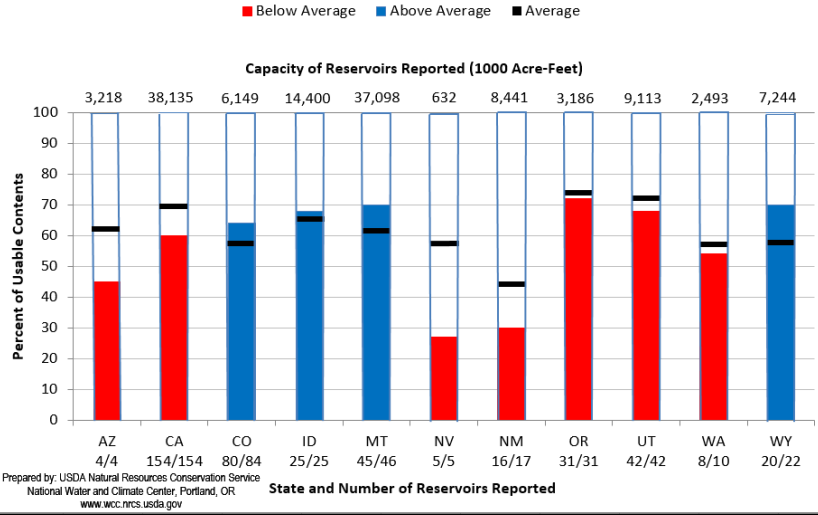
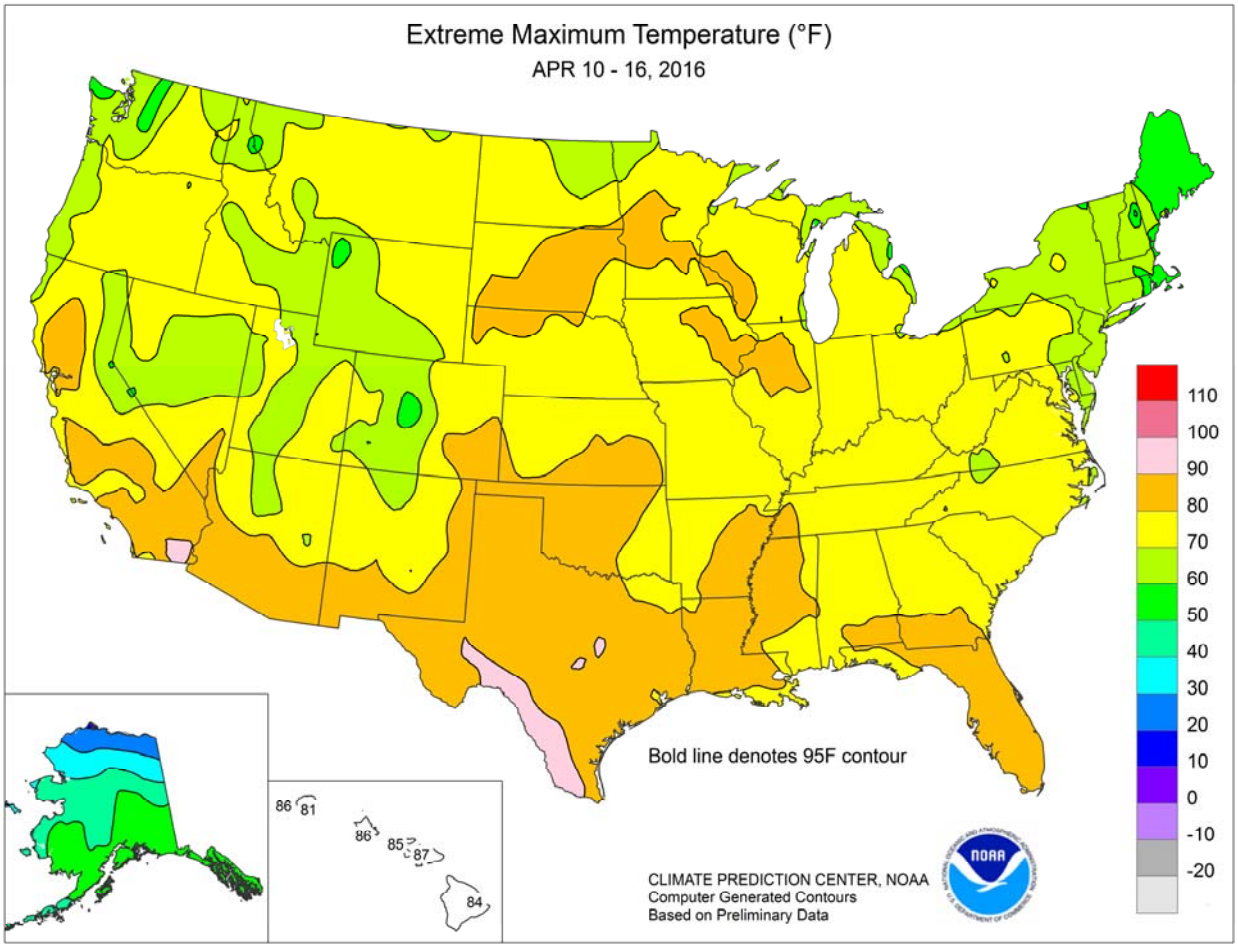
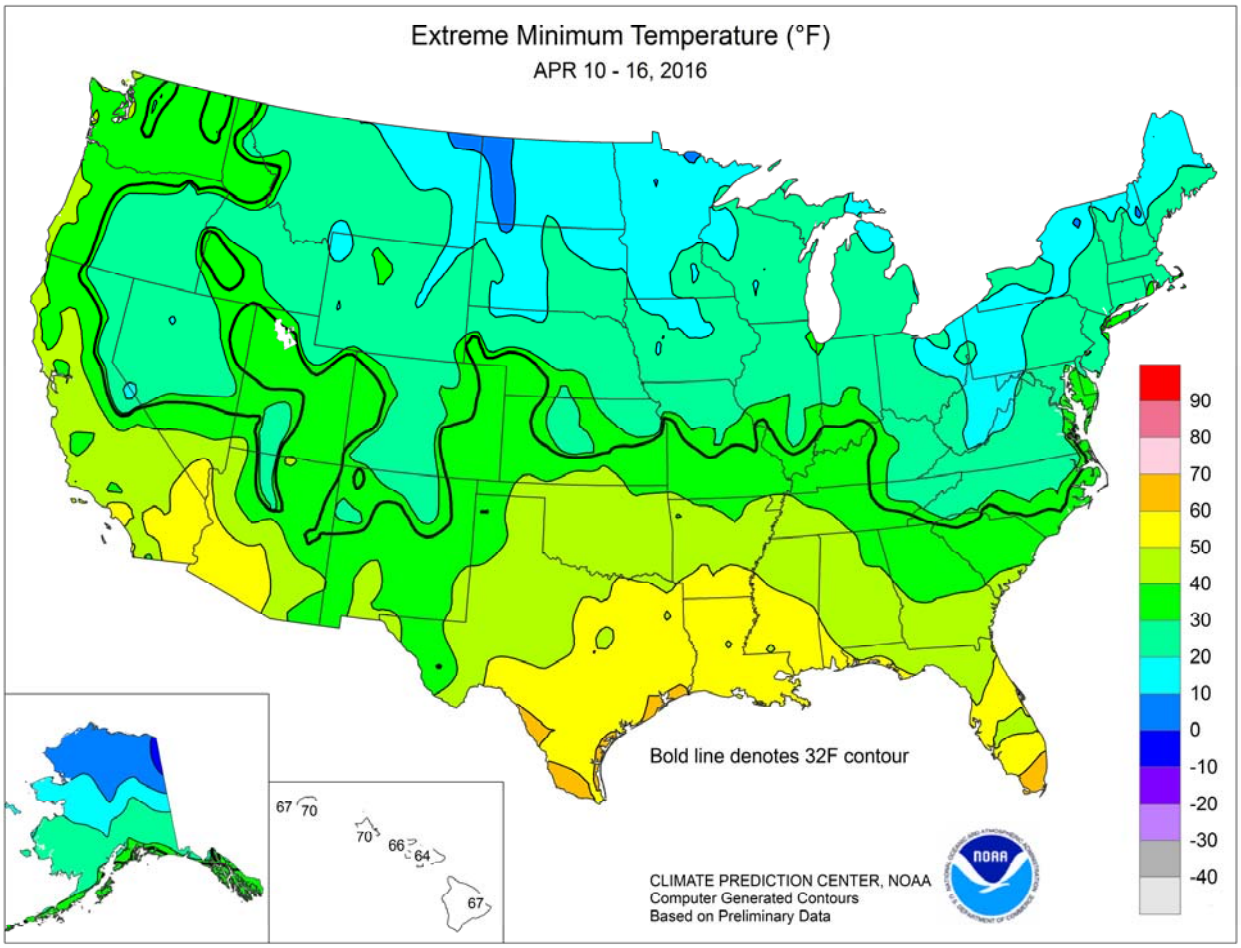


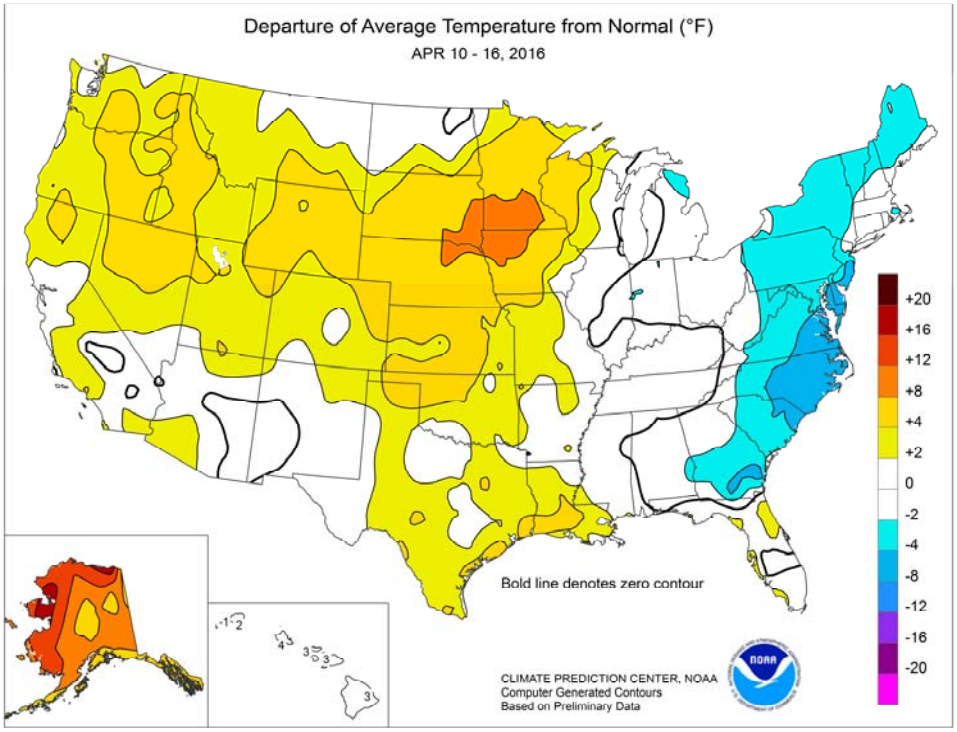
Figure 4 Reservoir Storage as of April 1, 2016




Extreme Maximum Temperature (°F)
APR 10 - 16, 2016
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95F contour
86
81
86
85
87
84
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data
NOAA


Extreme Minimum Temperature (°F)
APR 10 - 16, 2016
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32F contour
67
70
70
66
64
67
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data
NOAA

(Continued from front cover)

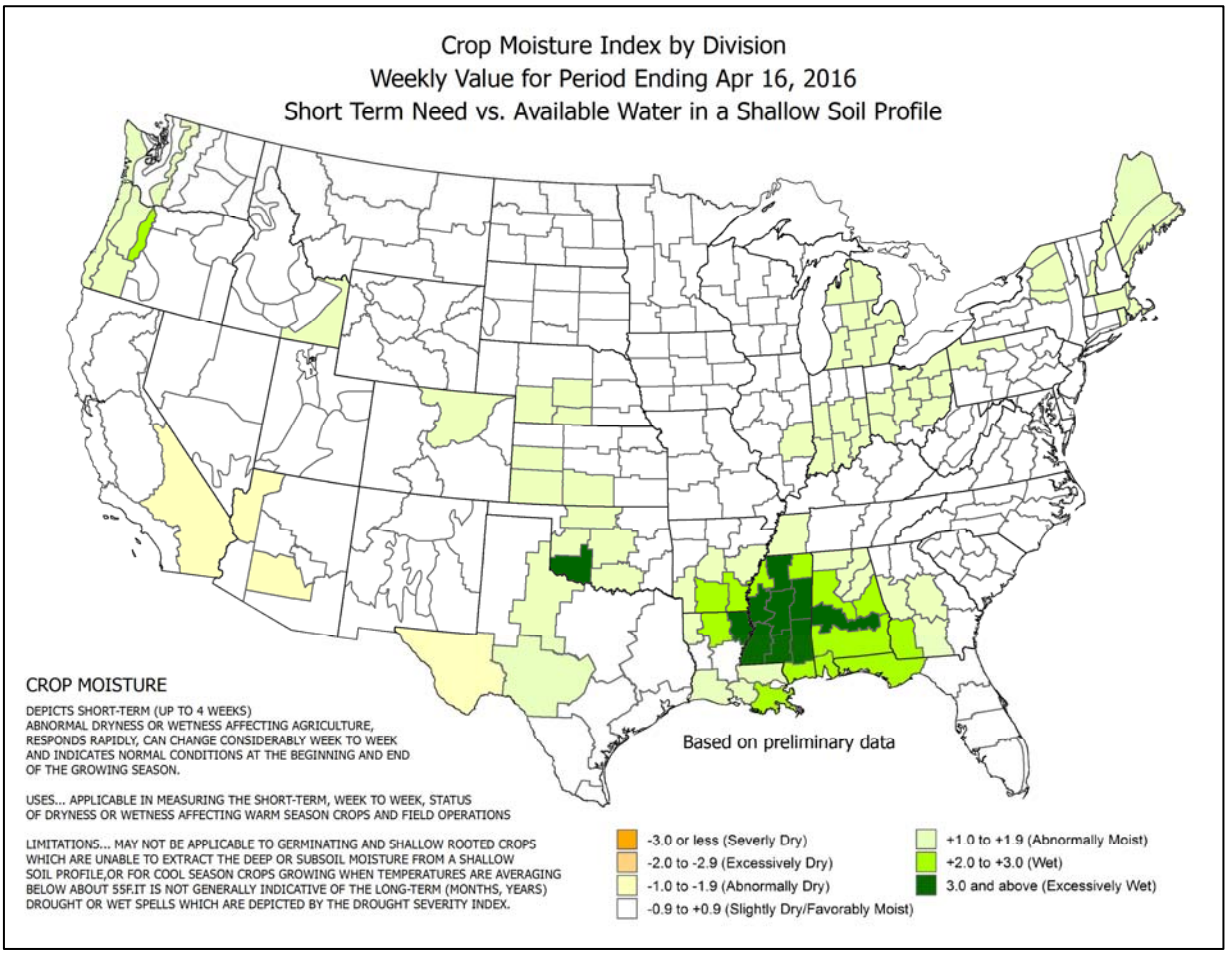


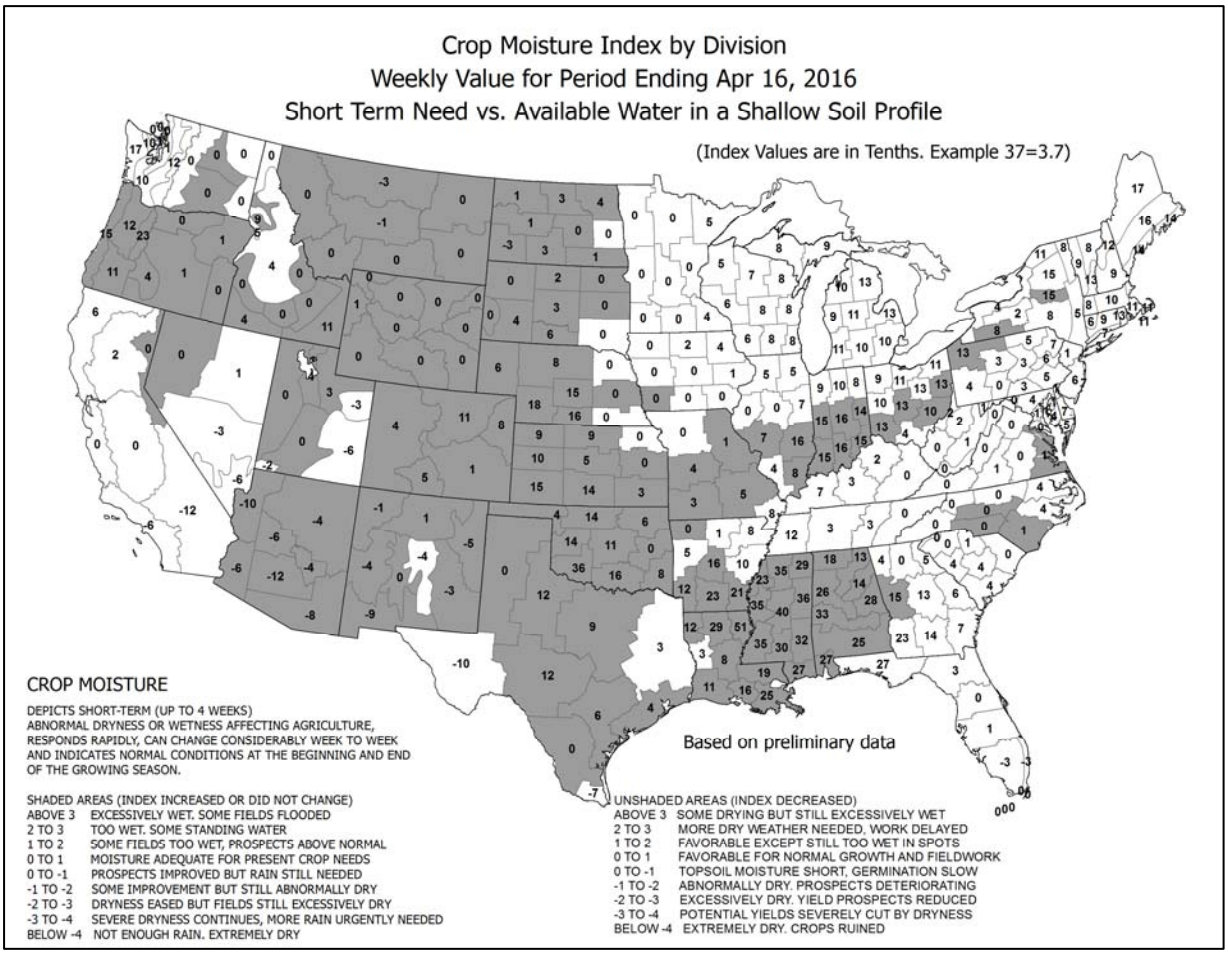
locations. Where rain fell, improved topsoil moisture stabilized winter wheat conditions and reduced the threat of wildfires. However, rain mostly bypassed a few areas, including the **High Plains of Texas**. Farther east, rain ended early in the week across the **Ohio Valley**, followed by a long stretch of dry **Midwestern** weather. The dry weather, accompanied by a warming trend, favored an acceleration of **Midwestern** fieldwork, including early-season corn planting. Elsewhere, short-term dryness was an increasing concern in parts of the **East**, but locally heavy showers dotted the **South** for much of the week. Some of the heaviest rain, locally 4 inches or more, fell in the **lower Mississippi Valley**. Cool weather accompanied the **Eastern** dry spell, with weekly temperatures averaging more than 5°F below normal along and near the **Mid-Atlantic coast**. In fact, another hard freeze struck the **Mid-Atlantic region** on April 10, compounding the harm done to fruit, vegetable, ornamental, and nursery crops by the April 5-6 cold snap. Although assessments were still in progress, some **Mid-Atlantic** growers as far south as **North Carolina** and **Virginia** reportedly suffered significant losses. In contrast, readings generally ranged from 5 to 10°F above normal across the **upper Midwest**, with temperatures climbing to 80°F or higher in advance of the late-week storm.

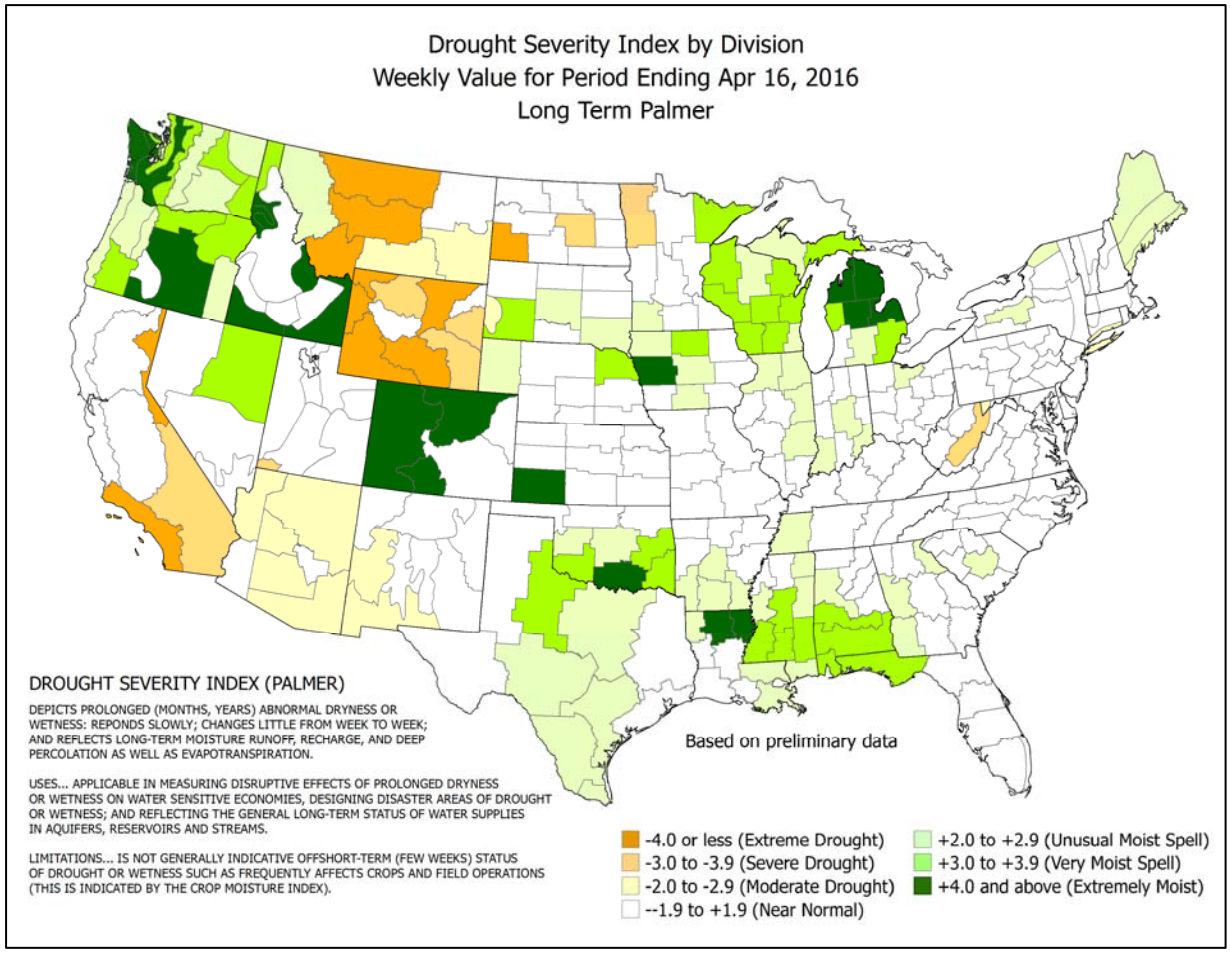
April 10 featured another hard freeze in the **Mid-Atlantic region**, where daily-record lows plunged to 12°F in **Watertown, NY**, and 24°F in **Danville, VA**. Very cold weather extended westward into **Ohio**, where record-setting low temperatures for April 10 included 15°F in **Youngstown** and 16°F in **Mansfield**. Later, warmth intensified across the **north-central and northwestern U.S. Livingston, MT**, registered a daily-record high (74°F) for April 12. In **Sisseton, SD**, a daily-record low of 14°F on April 12 was followed by a daily-record high of 84°F on April 14. Elsewhere in **South Dakota**, **Aberdeen** logged a daily-record high of 86°F on the 14th. Toward week's end, windy conditions developed in parts of **California** and the **Southwest** in conjunction with a storm system. In **California**, peak gusts on April 14-15 were clocked to 69 mph in **Mojave (Kern County)** and 68 mph on **Whitaker Peak (Los Angeles County)**.

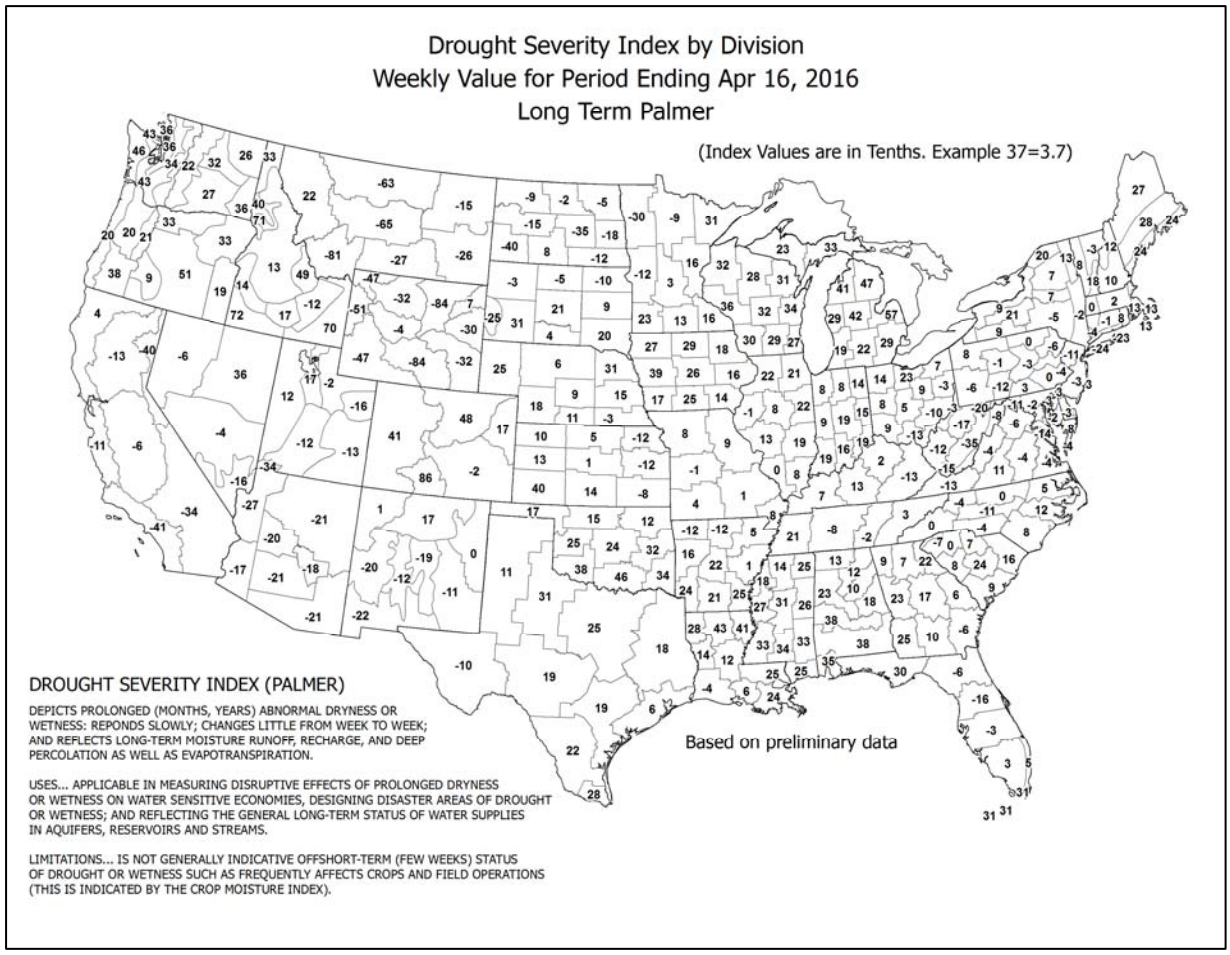
The week opened with some lingering but locally heavy showers in the **Southwest**. Record-setting totals for April 10 reached 0.59 inch in **Needles, CA**, and 0.45 inch in **Tucson, AZ**. Meanwhile, late-season snow continued to blanket portions of the **Great Lakes region**. **Flint, MI**, received a daily-record snowfall (3.1 inches) for April 10. Elsewhere in **Michigan**, **Marquette** received measurable snow on each of the first 13 days of April, totaling 40.8 inches. **Marquette's** snow depth peaked at 20 inches on April 9 and 10, but was reduced to a trace by the morning of April 17—following a high of 76°F on April 16. Farther south, heavy showers and thunderstorms peppered the **central Gulf Coast States**. In **Mississippi**, record-setting rainfall totals for April 11 included 5.37 inches in **Vicksburg** and 4.82 inches in **Jackson**. **Vicksburg** tallied another daily-record sum (2.69 inches) on April 15, boosting its weekly rainfall to 9.10 inches. During the second half of the week, widespread precipitation arrived across the **Plains** and the **Northwest**. In **Oregon**, daily-record rainfall amounts for April 14 totaled 1.23 inches in **Eugene** and 0.91 inch in **Roseburg**. From April 13-15, **Great Falls, MT**, received 1.65 inches—ending as a 6.9-inch snowfall on the 15th. Similarly, **Havre, MT**, netted 2.24 inches of rain during the 3-day period, including 2.04 inches in 24 hours on April 14-15. This became **Havre's** wettest 24-hour period on record in April, edging 2.02 inches on April 26, 1882. Heavy rain also soaked portions of the **central and southern Plains**. In **Nebraska**, for example, April 16-17 rainfall totaled 3.14 inches in **Hastings** and 2.65 inches in **Grand Island**. For **Hastings**, it became the second-wettest 2-day period in April, behind only 4.82 inches on April 12-13, 1896. During the 73 days preceding the storm, from February 3 – April 15, precipitation had totaled just 0.56 inch in **Hastings** and 0.66 inch in **Grand Island**. **Garden City, KS**, absorbed 2.29 inches of rain from April 15-17, more than four times the January 1 – April 14 total of 0.51 inch. Meanwhile, April 15-17 snowfall totaled 1 to 4 feet or more in portions of the **Colorado Rockies** and adjacent **High Plains**. **Denver, CO**, noted 12.1 inches, most (11.8 inches) of which fell on April 16.

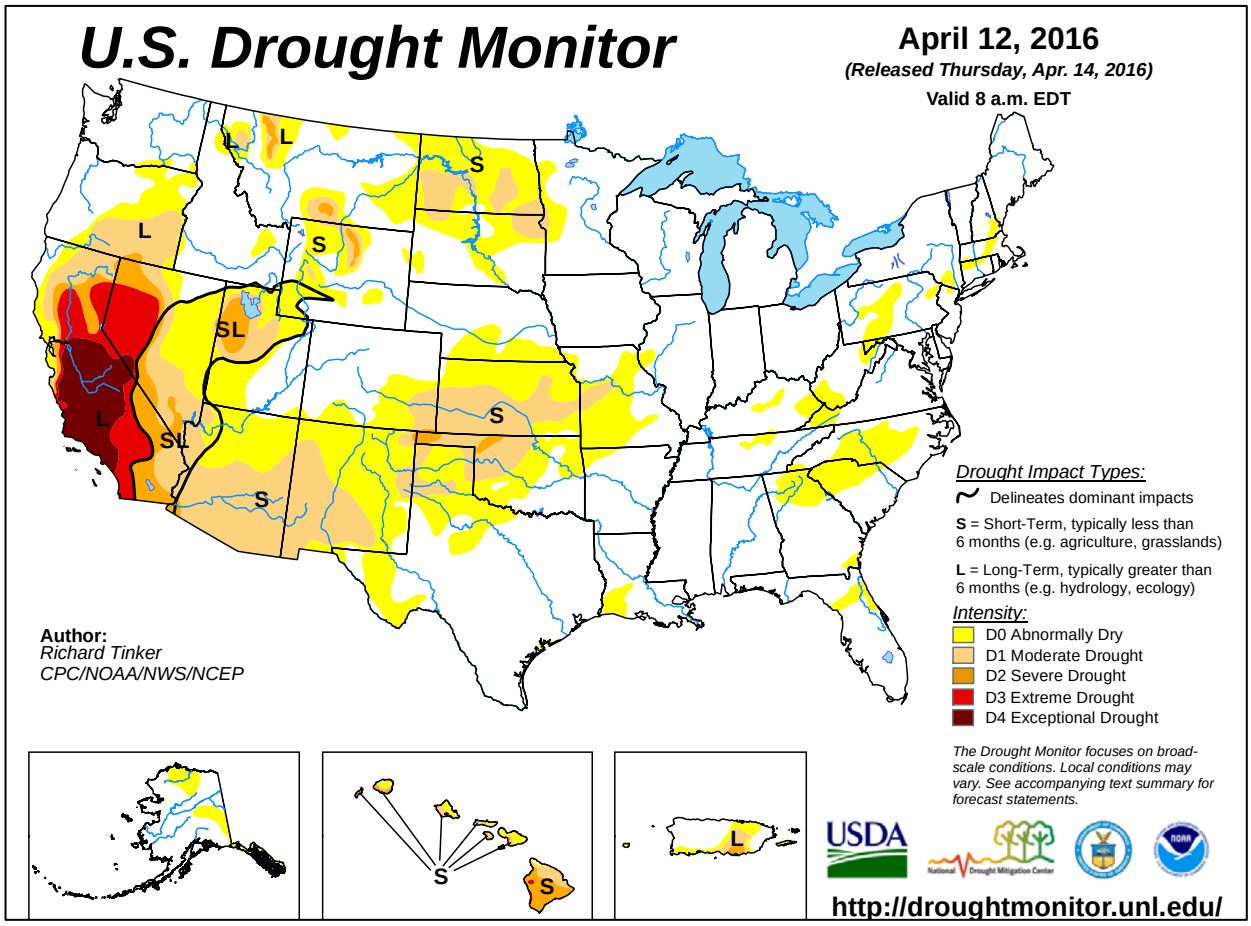
Mild, mostly dry weather covered the **Alaskan mainland**, while some precipitation fell across the state's southern tier. Weekly temperatures across the mainland generally ranged from 5 to 20°F above normal. From April 12-14, **Anchorage** (55, 53, and 54°F) and **Bethel** (52, 54, and 55°F) posted a trio of daily-record highs. Similarly, **King Salmon** notched a daily-record high of 59°F on April 13, followed by three consecutive daily-record highs (58, 57, and 55°F) from April 15-17. Meanwhile, **Alaskan** weekly rainfall totals included 2.01 inches in **Yakutat** and 1.57 inches in **Kodiak**. Farther south, **Hawaiian** showers in windward locations became heavier—especially on **Kauai**—at week's end. In a 24-hour period on April 16-17, totals of 2 to 6 inches were common in some of **Kauai's** wettest locations. However, much of the rain bypassed leeward sites, leaving January 1 – April 16 totals at 4.15 inches (32 percent of normal) in **Lihue, Kauai**, and 0.69 inch (10 percent) in **Honolulu, Oahu**.

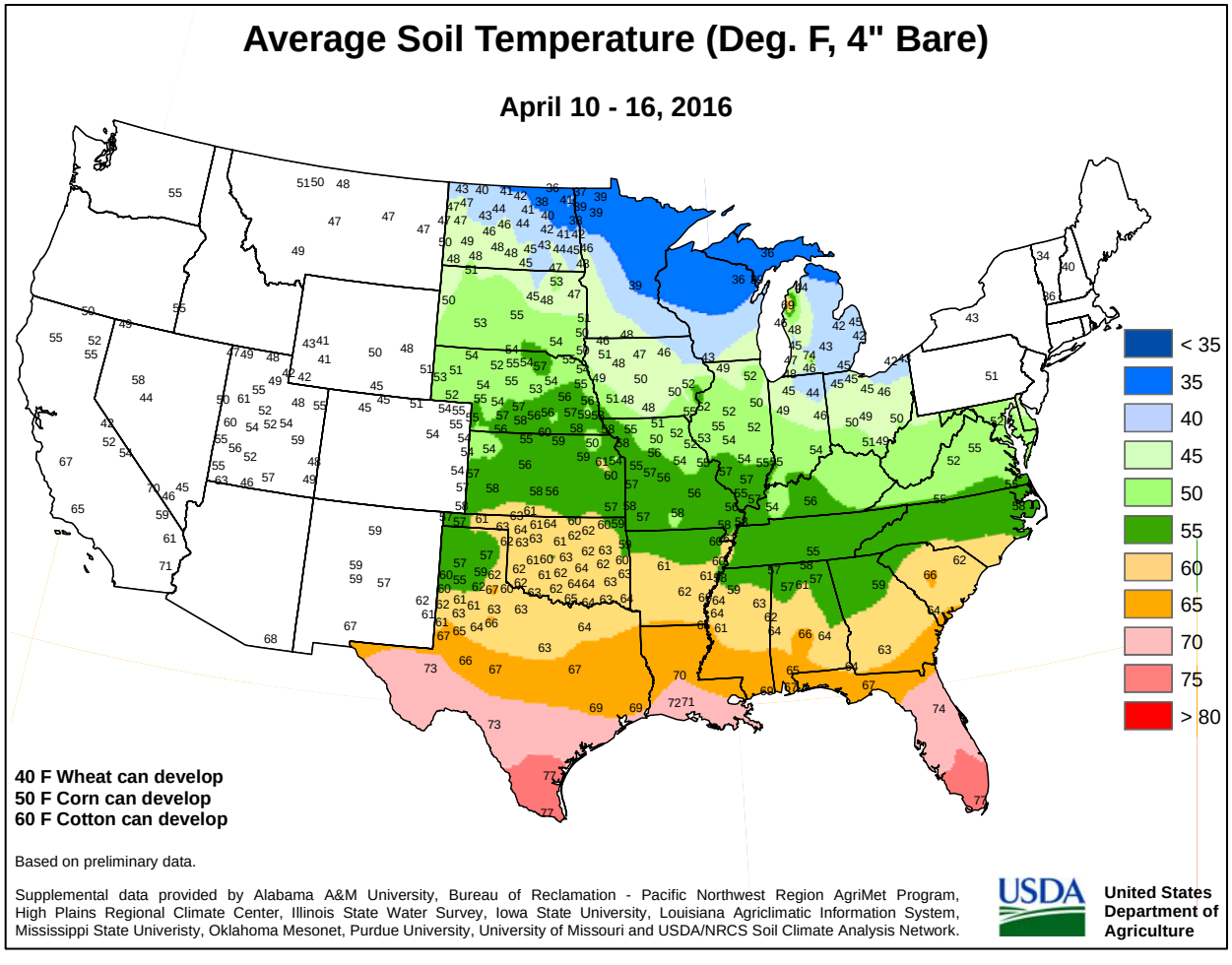

Crop Moisture Index by Division
Weekly Value for Period Ending Apr 16, 2016
Short Term Need vs. Available Water in a Shallow Soil Profile
CROP MOISTURE
DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES 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 16, 2016
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 16, 2016
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 16, 2016
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 12, 2016
(Released Thursday, Apr. 14, 2016)
Valid 8 a.m. EDT
Author:
Richard Tinker
CPC/NOAA/NWS/NCEP
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
http://droughtmonitor.unl.edu/


Average Soil Temperature (Deg. F, 4" Bare)
April 10 - 16, 2016
< 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.
United States Department of Agriculture

National Weather Data for Selected Cities

Weather Data for the Week Ending April 16, 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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	69	53	74	46	61	1	1.94	0.88	1.81	8.29	95	19.03	104	86	51	0	0	4	1
	HUNTSVILLE	71	50	76	42	61	2	1.39	0.37	1.10	6.02	65	15.97	81	73	49	0	0	4	1
	MOBILE	72	60	77	55	66	1	1.39	0.26	0.66	13.97	140	23.42	112	97	76	0	0	4	1
	MONTGOMERY	73	55	78	45	64	1	3.65	2.64	2.19	9.08	102	19.74	102	85	53	0	0	4	2
AK	ANCHORAGE	52	34	55	30	43	8	0.02	-0.09	0.02	1.25	139	1.83	79	77	58	0	2	1	0
	BARROW	15	7	18	2	11	14	0.06	0.05	0.03	0.12	120	1.28	376	88	78	0	7	3	0
	FAIRBANKS	50	29	55	23	40	10	0.00	-0.03	0.00	0.59	174	0.65	52	62	48	0	6	0	0
	JUNEAU	50	38	52	31	44	4	0.53	-0.13	0.22	3.87	78	13.66	99	91	82	0	1	7	0
	KODIAK	47	39	50	36	43	7	1.57	0.33	0.56	11.36	142	34.65	158	94	81	0	0	6	1
	NOME	38	28	46	20	33	16	0.06	-0.08	0.04	0.80	88	1.82	71	83	71	0	6	2	0
AZ	FLAGSTAFF	54	30	62	28	42	0	0.31	0.02	0.13	1.16	34	4.94	61	97	40	0	6	4	0
	PHOENIX	82	60	89	55	71	2	0.26	0.22	0.26	0.51	41	1.82	64	55	31	0	0	1	0
	PRESCOTT	64	41	70	38	52	3	0.42	0.27	0.35	1.15	49	2.63	46	80	31	0	0	2	0
	TUCSON	79	54	89	49	66	1	0.46	0.42	0.45	0.83	88	2.54	90	58	29	0	0	2	0
AR	FORT SMITH	71	53	75	48	62	2	0.22	-0.63	0.19	5.64	96	7.79	72	79	49	0	0	2	0
	LITTLE ROCK	69	54	82	49	62	2	1.13	-0.14	0.94	13.52	174	19.21	131	88	56	0	0	5	1
CA	BAKERSFIELD	75	54	81	51	65	3	0.08	-0.02	0.08	1.21	70	3.34	81	74	55	0	0	1	0
	FRESNO	73	51	79	46	62	2	0.00	-0.19	0.00	3.88	141	8.63	123	82	55	0	0	0	0
	LOS ANGELES	71	58	79	55	64	4	0.00	-0.15	0.00	1.77	61	5.44	61	69	51	0	0	0	0
	REDDING	72	50	86	40	61	4	0.22	-0.37	0.14	10.78	160	24.37	130	81	57	0	0	3	0
	SACRAMENTO	72	50	84	46	61	3	0.22	-0.02	0.19	5.48	157	11.74	108	85	43	0	0	2	0
	SAN DIEGO	72	59	81	57	65	3	0.17	-0.02	0.17	1.31	46	4.57	64	74	57	0	0	1	0
	SAN FRANCISCO	65	52	79	49	59	3	0.14	-0.15	0.11	5.78	141	12.21	97	86	65	0	0	2	0
	STOCKTON	72	50	81	42	61	2	0.52	0.30	0.44	5.41	185	10.80	133	88	57	0	0	2	0
CO	ALAMOSA	60	29	68	23	44	4	0.67	0.56	0.65	1.19	168	2.17	185	85	39	0	5	2	1
	CO SPRINGS	60	37	75	31	48	4	0.80	0.45	0.32	2.54	140	4.08	167	82	36	0	1	5	0
	DENVER INTL	63	38	77	31	51	7	1.46	1.30	1.23	3.36	275	4.34	258	81	39	0	1	5	1
	GRAND JUNCTION	63	42	71	38	52	2	0.29	0.12	0.24	1.63	115	3.00	119	75	44	0	0	2	0
	PUEBLO	68	42	83	35	55	6	1.48	1.20	0.74	2.06	130	2.93	134	70	46	0	0	4	1
CT	BRIDGEPORT	57	37	67	31	47	-1	0.29	-0.63	0.27	4.17	66	11.33	87	74	46	0	2	2	0
	HARTFORD	59	33	65	28	46	-2	0.30	-0.58	0.26	3.80	64	10.63	84	67	32	0	4	2	0
DC	WASHINGTON	65	42	73	31	53	-2	0.06	-0.53	0.05	2.33	46	8.80	81	69	30	0	1	2	0
DE	WILMINGTON	61	35	67	25	48	-3	0.28	-0.46	0.28	3.44	60	10.16	85	82	30	0	1	1	0
FL	DAYTONA BEACH	80	62	85	50	71	3	1.15	0.54	0.70	2.65	49	13.36	118	92	53	0	0	3	1
	JACKSONVILLE	75	58	83	42	67	1	0.68	-0.06	0.63	3.90	68	11.55	92	96	63	0	0	2	1
	KEY WEST	82	73	83	71	77	0	0.01	-0.46	0.01	0.56	19	7.64	115	84	63	0	0	1	0
	MIAMI	84	69	87	65	76	1	0.90	0.13	0.90	1.66	39	12.08	147	76	51	0	0	1	1
	ORLANDO	82	62	86	55	72	1	0.13	-0.44	0.12	5.95	119	13.29	136	87	52	0	0	2	0
	PENSACOLA	71	62	76	58	67	1	0.00	-0.91	0.00	7.65	87	16.30	87	87	69	0	0	0	0
	TALLAHASSEE	77	56	84	45	67	2	2.05	1.22	1.86	12.44	143	21.13	113	83	56	0	0	4	1
	TAMPA	82	65	84	58	74	3	0.06	-0.35	0.06	3.21	83	11.92	135	82	50	0	0	1	0
	WEST PALM BEACH	82	67	86	58	75	2	0.56	-0.26	0.55	2.99	53	15.54	130	76	50	0	0	2	1
GA	ATHENS	70	47	77	34	59	-1	0.25	-0.51	0.21	3.79	55	11.95	75	85	46	0	0	2	0
	ATLANTA	68	51	72	40	60	-1	0.68	-0.13	0.63	4.22	57	16.75	98	76	51	0	0	3	1
	AUGUSTA	71	49	78	35	60	-1	0.23	-0.47	0.22	7.56	118	12.98	86	87	55	0	0	2	0
	COLUMBUS	70	51	77	42	61	-2	1.65	0.76	0.92	8.01	101	15.44	90	91	53	0	0	5	1
	MACON	70	48	76	35	59	-3	1.18	0.44	0.59	9.44	140	15.17	93	94	56	0	0	5	1
	SAVANNAH	71	53	76	43	62	-2	0.09	-0.71	0.07	6.55	118	12.96	104	84	58	0	0	3	0
HI	HILO	82	69	84	67	75	3	1.77	-1.31	0.60	9.47	44	14.05	35	88	74	0	0	7	2
	HONOLULU	85	72	86	70	79	4	0.02	-0.23	0.01	0.26	10	0.70	9	73	63	0	0	2	0
	KAHULUI	85	68	87	64	77	3	0.09	-0.34	0.04	2.73	80	4.28	45	85	74	0	0	3	0
	LIHUE	80	71	81	70	76	2	0.24	-0.45	0.14	2.90	56	4.06	31	83	75	0	0	5	0
ID	BOISE	66	44	75	34	55	5	0.17	-0.11	0.14	1.63	79	3.13	68	72	46	0	0	2	0
	LEWISTON	65	45	75	37	55	5	0.55	0.27	0.34	2.77	158	4.35	113	78	62	0	0	3	0
	POCATELLO	61	39	69	27	50	5	0.48	0.23	0.36	3.52	180	4.80	117	83	55	0	1	4	0
IL	CHICAGO/O'HARE	58	36	76	30	47	0	0.11	-0.77	0.11	4.04	88	6.11	77	72	41	0	1	1	0
	MOLINE	66	35	83	26	51	2	0.04	-0.84	0.04	3.24	66	4.57	57	70	34	0	2	1	0
	PEORIA	65	40	81	31	52	2	0.17	-0.62	0.17	2.81	62	4.19	54	72	32	0	1	1	0
	ROCKFORD	62	37	80	27	49	3	0.17	-0.67	0.17	5.68	134	7.21	103	69	38	0	1	1	0
	SPRINGFIELD	66	41	80	33	53	1	0.50	-0.25	0.50	6.68	138	9.01	109	81	34	0	0	1	1
IN	EVANSVILLE	70	42	77	34	56	2	1.14	0.13	1.12	7.25	110	13.59	108	73	47	0	0	2	1
	FORT WAYNE	60	33	76	29	47	-1	0.32	-0.50	0.23	5.46	116	8.51	98	85	43	0	4	2	0
	INDIANAPOLIS	64	38	77	30	51	0	1.60	0.80	1.06	6.10	116	9.81	97	74	36	0	2	2	2
	SOUTH BEND	59	32	78	24	46	-1	0.40	-0.45	0.40	6.38	133	10.16	112	74	44	0	4	1	0
IA	BURLINGTON	64	41	80	29	53	2	0.06	-0.75	0.06	3.82	80	5.20	68	75	33	0	1	1	0
	CEDAR RAPIDS	65	36	81	22	51	3	0.18	-0.56	0.18	4.16	108	5.69	95	82	34	0	2	1	0
	DES MOINES	69	44	80	30	57	8	0.02	-0.79	0.02	2.72	69	4.49	73	60	37	0	1	1	0
	DUBUQUE	61	37	79	22	49	3	0.13	-0.66	0.13	4.41	102	5.49	78	72	42	0	2	1	0
	SIOUX CITY	71	41	80	25	56	8	0.00	-0.60	0.00	3.09	93	4.93	109	69	36	0	2	0	0
	WATERLOO	66	37	80	19	52	6	0.03	-0.70	0.03	3.48	94	5.20	93	65	33	0	2	1	0
KS	CONCORDIA	71	45	77	30	58	6	0.00	-0.50	0.00	0.48	14	2.03	42	69	43	0	1	0	0
	DODGE CITY	67	45	75	36	56	3	4.83	4.33	4.34	4.87	165	5.46	129	91	46	0	0	2	1
	GOODLAND	65	40	77	33	53	5	2.57	2.30	1.61	3.15	176	4.01	151	92	59	0	0	3	2
	TOPEKA	72	43	77	30	57	4	0.01	-0.67	0.01	2.46	60	3.73	60	74	38	0	1	1	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending April 16, 2016

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE 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	72	49	85	41	60	6	0.14	-0.41	0.10	1.67	42	2.41	41	78	47	0	0	2	0
KY	JACKSON	71	45	78	29	58	3	0.16	-0.67	0.08	3.12	50	12.68	94	62	23	0	1	2	0
	LEXINGTON	68	41	78	31	54	0	0.67	-0.13	0.62	3.82	61	10.16	79	68	42	0	1	2	1
	LOUISVILLE	70	44	79	36	57	2	0.82	-0.03	0.82	6.44	101	12.26	95	63	30	0	0	1	1
	PADUCAH	73	45	79	37	59	3	0.55	-0.58	0.45	9.93	147	15.39	109	83	36	0	0	2	0
LA	BATON ROUGE	78	62	83	52	70	4	1.80	0.50	1.54	12.09	152	21.40	111	92	59	0	0	4	1
	LAKE CHARLES	79	64	80	53	71	5	1.76	0.99	1.58	5.38	101	11.55	82	94	67	0	0	4	1
	NEW ORLEANS	76	66	82	58	71	4	2.75	1.54	1.59	13.11	163	21.24	110	87	70	0	0	4	2
	SHREVEPORT	76	59	81	56	67	3	1.83	0.84	1.82	14.75	231	19.77	130	87	61	0	0	2	1
ME	CARIBOU	45	25	55	17	35	-1	1.01	0.43	0.75	7.49	193	12.96	145	74	38	0	6	2	1
	PORTLAND	54	32	60	27	43	1	0.26	-0.74	0.24	5.34	83	12.88	94	71	36	0	4	2	0
MD	BALTIMORE	63	37	74	26	50	-2	0.05	-0.61	0.05	3.07	56	12.27	102	73	33	0	1	1	0
MA	BOSTON	54	39	60	31	46	-1	0.23	-0.62	0.22	5.53	95	12.97	99	66	35	0	1	2	0
	WORCESTER	53	33	57	26	43	0	0.28	-0.61	0.23	5.66	89	13.04	97	66	25	0	3	2	0
MI	ALPENA	47	24	65	12	36	-3	0.23	-0.29	0.23	6.34	190	10.87	169	91	47	0	7	1	0
	GRAND RAPIDS	58	34	79	29	46	1	0.75	-0.06	0.74	7.09	161	12.02	151	80	40	0	3	2	1
	HOUGHTON LAKE	51	28	74	22	39	-1	0.05	-0.47	0.05	6.04	185	9.16	149	91	50	0	6	1	0
	LANSING	57	32	76	27	45	1	0.65	-0.09	0.63	5.56	139	8.72	123	78	43	0	4	2	1
	MUSKEGON	56	35	77	29	46	2	0.31	-0.35	0.31	6.11	158	10.32	135	70	43	0	2	1	0
	TRAVERSE CITY	53	33	74	26	43	2	0.08	-0.58	0.08	5.26	152	9.04	110	81	36	0	4	1	0
MN	DULUTH	53	34	71	17	43	6	0.04	-0.43	0.02	4.69	170	6.57	139	71	53	0	4	3	0
	INT'L FALLS	56	30	77	9	43	5	0.04	-0.26	0.01	3.21	198	4.57	147	85	38	0	5	4	0
	MINNEAPOLIS	65	41	80	27	53	8	0.00	-0.52	0.00	2.41	79	3.81	78	56	36	0	2	0	0
	ROCHESTER	64	38	80	21	51	8	0.00	-0.68	0.00	4.15	124	5.55	110	65	36	0	2	0	0
	ST. CLOUD	63	36	80	18	50	8	0.03	-0.47	0.03	1.68	64	2.64	66	68	29	0	3	1	0
MS	JACKSON	71	58	82	55	65	3	6.39	4.98	4.82	18.71	209	30.30	158	91	71	0	0	5	2
	MERIDIAN	71	55	80	51	63	0	2.71	1.40	2.33	15.09	150	22.58	106	92	72	0	0	3	1
	TUPELO	69	53	80	44	61	1	3.02	1.91	2.19	11.18	125	18.35	98	79	62	0	0	4	2
MO	COLUMBIA	68	45	78	34	56	3	0.44	-0.49	0.29	2.47	47	4.13	45	79	36	0	0	2	0
	KANSAS CITY	70	44	76	33	57	4	0.03	-0.66	0.03	3.06	78	4.22	66	72	37	0	0	1	0
	SAINT LOUIS	68	45	78	37	56	1	1.17	0.34	0.99	3.86	70	5.46	55	73	40	0	0	2	1
	SPRINGFIELD	68	47	71	36	57	3	0.69	-0.31	0.63	3.75	61	5.03	48	78	51	0	0	2	1
MT	BILLINGS	61	38	78	29	50	5	0.39	0.02	0.38	1.94	102	2.47	75	75	39	0	1	2	0
	BUTTE	53	28	66	20	40	2	0.87	0.67	0.42	1.37	108	1.84	81	88	39	0	7	4	0
	CUT BANK	56	29	70	24	43	3	0.48	0.31	0.29	0.69	77	1.17	75	83	38	0	5	2	0
	GLASGOW	58	32	72	19	45	2	0.53	0.39	0.40	1.33	177	2.00	147	75	48	0	3	3	0
	GREAT FALLS	55	31	73	24	43	1	1.66	1.38	0.84	2.27	140	2.92	104	89	42	0	3	4	2
	HAVRE	59	31	74	22	45	2	2.24	2.07	1.52	3.02	290	3.48	186	82	55	0	4	3	2
	MISSOULA	60	37	71	32	48	4	0.30	0.08	0.14	1.16	81	2.27	70	78	55	0	1	3	0
NE	GRAND ISLAND	69	42	78	29	56	7	0.93	0.37	0.93	1.54	47	3.72	83	78	41	0	1	1	1
	LINCOLN	72	41	80	23	57	7	0.00	-0.62	0.00	0.97	27	2.56	52	73	35	0	2	0	0
	NORFOLK	68	41	79	23	55	7	0.01	-0.55	0.01	2.45	76	4.60	101	71	38	0	2	1	0
	NORTH PLATTE	66	40	79	32	53	6	3.04	2.65	1.50	3.70	179	4.96	167	90	45	0	1	3	2
	OMAHA	71	43	78	26	57	7	0.00	-0.62	0.00	1.06	30	2.78	55	67	35	0	2	0	0
	SCOTTSBLUFF	66	37	81	34	52	7	1.49	1.12	0.80	4.09	209	4.86	158	87	49	0	0	4	2
	VALENTINE	66	37	81	17	52	7	0.95	0.55	0.65	2.49	130	3.17	117	78	50	0	2	2	1
NV	ELY	56	33	65	28	45	4	0.31	0.13	0.14	1.92	130	4.95	167	83	57	0	5	4	0
	LAS VEGAS	75	58	82	52	66	1	0.22	0.21	0.22	1.03	158	1.58	82	52	34	0	0	1	0
	RENO	63	42	69	35	52	4	0.24	0.18	0.23	1.65	160	3.77	120	68	40	0	0	2	0
	WINNEMUCCA	62	37	69	19	50	4	0.15	-0.02	0.12	1.19	94	3.30	121	83	49	0	2	3	0
NH	CONCORD	57	27	65	24	42	-1	0.30	-0.39	0.18	3.93	85	9.71	97	81	25	0	6	2	0
NJ	NEWARK	62	40	68	31	51	0	0.14	-0.73	0.13	2.33	37	10.38	79	70	32	0	1	2	0
NM	ALBUQUERQUE	66	44	77	40	55	0	0.09	-0.02	0.04	0.44	51	0.86	48	65	30	0	0	3	0
NY	ALBANY	56	32	66	23	44	-1	0.15	-0.62	0.08	2.47	51	7.78	82	70	28	0	4	2	0
	BINGHAMTON	52	30	67	19	41	-1	0.48	-0.32	0.28	6.64	139	12.35	126	71	40	0	5	2	0
	BUFFALO	53	32	72	22	43	-1	0.63	-0.08	0.36	4.20	91	9.48	93	71	41	0	4	2	0
	ROCHESTER	52	28	66	21	40	-4	0.23	-0.41	0.12	2.67	66	7.97	95	80	44	0	5	3	0
	SYRACUSE	54	29	69	22	42	-2	0.56	-0.21	0.48	3.94	82	10.66	112	86	37	0	5	3	0
NC	ASHEVILLE	64	39	69	27	52	-1	0.00	-0.79	0.00	2.48	38	11.46	80	76	39	0	1	0	0
	CHARLOTTE	68	44	74	34	56	-4	0.30	-0.36	0.30	1.76	29	8.54	63	70	32	0	0	1	0
	GREENSBORO	67	41	73	29	54	-3	0.12	-0.65	0.12	2.53	45	8.67	71	70	36	0	1	1	0
	HATTERAS	61	49	68	41	55	-4	0.16	-0.60	0.16	7.51	109	20.62	124	84	58	0	0	1	0
	RALEIGH	67	41	76	29	54	-4	0.85	0.25	0.85	5.24	95	11.64	90	74	39	0	1	1	1
	WILMINGTON	68	46	73	35	57	-5	0.14	-0.49	0.13	3.85	67	15.91	114	82	41	0	0	2	0
ND	BISMARCK	58	31	74	19	45	3	0.79	0.48	0.64	1.39	93	2.03	83	80	54	0	4	4	1
	DICKINSON	57	26	75	7	42	1	0.35	-0.05	0.20	0.65	43	1.07	46	85	38	0	5	4	0
	FARGO	60	34	74	20	47	5	0.15	-0.13	0.15	1.31	72	2.30	73	78	35	0	4	1	0
	GRAND FORKS	54	29	69	16	41	1	0.58	0.33	0.51	1.72	119	2.30	85	84	43	0	4	3	1
	JAMESTOWN	55	29	70	18	42	1	0.44	0.15	0.40	0.90	60	1.09	41	84	40	0	4	2	0
	WILLISTON	55	27	77	9	41	0	0.45	0.24	0.19	0.84	70	1.97	92	80	57	0	4	3	0
OH	AKRON-CANTON	58	33	73	20	46	-1	0.79	0.04	0.77	6.61	137	11.20	117	70	42	0	4	2	1
	CINCINNATI	65	39	78	29	52	-1	1.35	0.44	1.13	6.95	116	13.58	117	69	44	0	1	2	1
	CLEVELAND	56	35	73	23	45	-1	0.47	-0.30	0.39	6.77	144	11.36	120	74	48	0	2	2	0
	COLUMBUS	62	37	75	25	50	-1	1.13	0.41	1.05	6.26	139	10.67	115	64	38	0	2	2	1
	DAYTON	62	35	76	26	48	-1	0.81	-0.13	0.66	6.67	124	11.49	112	79	39	0	3	2	1
	MANSFIELD	58	32	73	16	45	-1	0.68	-0.28	0.58	6.07	110	10.97	106	77	42	0	4	2	1

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

Weather Data for the Week Ending April 16, 2016

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	57	32	72	21	44	-3	0.31	-0.46	0.21	6.84	157	10.06	123	81	44	0	4	2	0
	YOUNGSTOWN	58	30	74	15	44	-2	0.92	0.15	0.88	6.34	132	11.53	126	73	41	0	4	2	1
OK	OKLAHOMA CITY	72	51	86	45	62	3	1.63	1.02	1.30	2.65	62	4.11	58	94	55	0	0	3	1
	TULSA	72	52	83	43	62	2	1.23	0.40	0.87	4.09	75	5.28	59	88	61	0	0	3	1
OR	ASTORIA	58	44	66	38	51	3	0.85	-0.35	0.38	13.22	128	35.50	128	90	71	0	0	3	0
	BURNS	61	33	75	20	47	5	0.11	-0.06	0.09	1.44	86	3.16	80	77	43	0	4	2	0
	EUGENE	62	43	66	38	53	4	1.42	0.54	1.23	7.37	92	17.21	78	87	70	0	0	3	1
	MEDFORD	67	43	76	39	55	4	0.58	0.28	0.21	3.03	119	8.27	116	83	44	0	0	3	0
	PENDLETON	66	41	74	34	53	3	0.13	-0.12	0.07	1.83	100	4.20	93	81	45	0	0	3	0
	PORTLAND	61	46	71	40	54	3	1.03	0.42	0.66	5.87	113	17.20	119	83	66	0	0	3	1
	SALEM	62	45	69	39	53	4	1.00	0.35	0.72	7.37	128	18.10	109	84	65	0	0	3	1
PA	ALLENTOWN	61	33	70	26	47	-1	0.30	-0.47	0.28	2.42	45	11.45	99	69	35	0	2	2	0
	ERIE	53	32	67	20	42	-3	0.46	-0.34	0.35	4.32	87	10.53	108	79	51	0	4	2	0
	MIDDLETOWN	62	37	70	29	49	-1	0.07	-0.63	0.05	2.93	60	12.85	121	78	30	0	1	2	0
	PHILADELPHIA	62	40	69	31	51	-1	0.31	-0.46	0.31	3.37	60	10.36	87	66	34	0	1	1	0
	PITTSBURGH	62	36	74	19	49	0	0.73	0.06	0.72	4.22	89	9.15	93	66	28	0	2	2	1
	WILKES-BARRE	59	34	72	23	47	0	0.31	-0.43	0.27	3.93	91	9.73	110	60	31	0	3	2	0
	WILLIAMSPORT	60	32	76	22	46	-2	0.11	-0.69	0.06	2.00	40	8.42	80	74	34	0	3	2	0
RI	PROVIDENCE	56	36	60	31	46	-1	0.26	-0.73	0.25	6.24	92	14.61	100	65	32	0	1	2	0
SC	BEAUFORT	69	53	75	42	61	-3	0.16	-0.58	0.08	4.94	89	10.92	86	92	54	0	0	2	0
	CHARLESTON	69	51	76	41	60	-3	0.26	-0.40	0.22	4.17	74	12.46	97	85	49	0	0	3	0
	COLUMBIA	72	51	78	38	61	-1	0.15	-0.57	0.15	4.02	63	10.65	71	67	47	0	0	1	0
	GREENVILLE	68	46	75	31	57	-1	0.08	-0.69	0.07	2.77	38	11.02	69	76	36	0	1	2	0
SD	ABERDEEN	64	33	86	17	49	5	0.64	0.23	0.41	1.19	53	1.88	59	69	47	0	4	2	0
	HURON	68	35	81	21	51	7	0.49	-0.02	0.35	1.61	58	2.48	64	85	36	0	4	3	0
	RAPID CITY	64	35	80	20	49	5	0.33	-0.06	0.14	1.42	77	2.28	85	77	38	0	3	4	0
	SIOUX FALLS	67	41	76	21	54	10	0.00	-0.59	0.00	2.17	69	3.85	93	63	42	0	2	0	0
TN	BRISTOL	70	38	75	24	54	0	0.37	-0.32	0.37	3.20	58	10.60	85	80	28	0	2	1	0
	CHATTANOOGA	71	47	78	36	59	0	0.39	-0.58	0.17	4.71	55	15.45	82	84	48	0	0	4	0
	KNOXVILLE	71	45	76	30	58	1	0.26	-0.63	0.25	3.91	54	13.80	87	81	33	0	1	2	0
	MEMPHIS	71	54	81	49	62	1	1.71	0.36	1.18	18.27	211	26.12	152	77	51	0	0	4	2
	NASHVILLE	73	48	79	37	60	3	0.07	-0.79	0.04	4.63	67	11.26	77	75	35	0	0	4	0
TX	ABILENE	75	55	83	45	65	1	1.93	1.57	0.88	4.57	209	5.29	123	96	73	0	0	4	2
	AMARILLO	71	44	85	38	58	3	0.42	0.14	0.40	0.69	39	1.38	47	91	46	0	0	2	0
	AUSTIN	77	59	86	50	68	0	2.28	1.79	1.68	6.47	204	8.65	123	94	74	0	0	3	1
	BEAUMONT	81	65	83	61	73	6	0.15	-0.70	0.08	5.14	90	11.10	75	95	66	0	0	4	0
	BROWNSVILLE	83	68	85	59	75	2	0.19	-0.25	0.10	2.86	156	4.74	108	97	70	0	0	2	0
	CORPUS CHRISTI	83	67	86	60	75	4	0.36	-0.07	0.24	6.99	264	9.28	152	92	69	0	0	3	0
	DEL RIO	84	63	92	60	74	4	1.11	0.75	0.95	3.31	197	4.06	126	92	70	1	0	2	1
	EL PASO	78	53	87	42	65	1	0.00	-0.03	0.00	0.05	16	0.58	50	48	18	0	0	0	0
	FORT WORTH	76	59	89	54	67	3	0.07	-0.58	0.04	2.78	62	6.02	69	87	57	0	0	3	0
	GALVESTON	77	67	80	64	72	3	2.61	2.05	2.60	5.78	142	9.74	91	99	76	0	0	2	1
	HOUSTON	77	62	80	58	70	2	0.68	-0.12	0.63	3.98	77	8.09	68	97	71	0	0	5	1
	LUBBOCK	74	50	83	43	62	3	0.37	0.11	0.31	0.77	59	1.16	46	92	59	0	0	3	0
	MIDLAND	78	55	87	50	67	4	0.14	0.03	0.14	1.57	257	2.05	119	85	50	0	0	1	0
	SAN ANGELO	79	56	87	46	67	3	2.67	2.36	1.39	6.04	378	6.84	191	91	69	0	0	4	2
	SAN ANTONIO	79	62	85	56	70	2	2.37	1.83	1.65	5.95	197	8.88	138	93	65	0	0	4	2
	VICTORIA	79	63	83	56	71	2	1.61	0.99	1.41	5.98	168	10.92	136	94	76	0	0	4	1
	WACO	75	57	90	47	66	1	0.48	-0.13	0.42	6.11	163	8.56	106	90	72	1	0	3	0
	WICHITA FALLS	72	51	88	46	61	0	3.16	2.59	1.35	4.54	129	6.24	100	94	76	0	0	5	2
UT	SALT LAKE CITY	64	44	74	34	54	5	0.89	0.45	0.65	3.11	108	5.57	100	73	42	0	0	3	1
VT	BURLINGTON	52	30	61	23	41	-1	0.22	-0.43	0.21	3.33	88	7.66	100	74	32	0	6	2	0
VA	LYNCHBURG	65	36	72	22	51	-3	0.01	-0.76	0.01	4.65	83	11.94	97	73	29	0	1	1	0
	NORFOLK	59	45	75	37	52	-4	0.42	-0.34	0.42	4.77	81	15.64	119	72	47	0	0	1	0
	RICHMOND	64	38	74	27	51	-5	0.19	-0.51	0.19	1.99	34	9.64	78	79	37	0	1	1	0
	ROANOKE	66	39	73	25	52	-3	0.00	-0.80	0.00	2.48	44	10.71	89	61	32	0	1	0	0
	WASH/DULLES	65	36	74	25	50	-2	0.03	-0.69	0.02	2.64	51	10.89	99	71	32	0	2	2	0
WA	OLYMPIA	59	40	70	35	49	2	0.95	0.08	0.51	9.77	131	24.91	118	90	67	0	0	3	1
	QUILLAYUTE	56	42	60	36	49	3	1.13	-0.65	1.05	17.50	114	48.97	119	96	77	0	0	4	1
	SEATTLE-TACOMA	59	45	67	44	52	3	0.57	-0.06	0.32	6.28	119	19.70	135	85	64	0	0	4	0
	SPOKANE	60	41	70	33	51	5	0.05	-0.23	0.05	3.48	161	6.94	126	80	44	0	0	1	0
	YAKIMA	69	41	79	34	55	7	0.28	0.17	0.28	2.10	212	4.82	163	68	39	0	0	1	0
WV	BECKLEY	65	36	72	17	50	0	0.15	-0.59	0.14	3.11	58	9.40	82	65	39	0	2	2	0
	CHARLESTON	71	40	78	23	55	2	0.21	-0.51	0.15	3.50	63	10.67	89	76	20	0	2	3	0
	ELKINS	66	28	74	12	47	-1	0.22	-0.55	0.18	4.15	73	9.82	80	85	22	0	6	3	0
	HUNTINGTON	70	41	77	25	55	1	0.25	-0.47	0.22	3.67	67	11.13	94	70	24	0	1	3	0
WI	EAU CLAIRE	63	36	81	19	50	7	0.01	-0.65	0.01	5.21	157	6.59	128	63	27	0	2	1	0
	GREEN BAY	54	33	74	29	44	1	0.22	-0.38	0.22	4.87	142	7.35	130	84	51	0	3	1	0
	LA CROSSE	65	40	82	25	53	6	0.03	-0.76	0.03	4.80	129	6.97	118	57	27	0	2	1	0
	MADISON	59	33	78	26	46	2	0.03	-0.77	0.03	6.79	168	9.02	138	69	41	0	4	1	0
	MILWAUKEE	51	35	63	30	43	-1	0.07	-0.84	0.07	5.35	117	7.66	95	75	55	0	1	1	0
WY	CASPER	60	33	73	19	46	4	0.03	-0.27	0.02	1.41	95	2.86	106	77	41	0	4	2	0
	CHEYENNE	56	35	70	29	45	5	0.45	0.14	0.30	2.95	172	4.15	159	83	54	0	1	3	0
	LANDER	60	35	69	28	48	5	0.03	-0.41	0.03	4.62	213	5.54	172	71	28	0	3	1	0
	SHERIDAN	62	33	75	24	48	5	0.00	-0.38	0.00	1.59	88	3.04	97	78	44	0	2	0	0

Based on 1971-2000 normals

***** Not Available**

National Agricultural Summary

April 11 – 17, 2016

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Temperatures were above normal across most of the western and central U.S., promoting fieldwork where soil moisture conditions allowed. Average temperatures were mainly 4°F above normal from the Northwest to the upper Mississippi Valley. Areas of heavy precipitation were noted across the central and southern Great Plains and the Delta region, with some locations recording more than 3 inches of rain for the week.

Corn: By April 17, producers had planted 13 percent of the nation's corn crop, 6 percentage points ahead of last year and 5 points ahead of the 5-year average. Favorable planting conditions in the western Corn Belt has allowed progress to advance ahead of the 5-year average in Iowa, Kansas, Minnesota, Missouri, and Nebraska. Double-digit planting progress was noted last week in eight of 18 estimating states.

Winter Wheat: Heading of the winter wheat crop advanced to 12 percent complete by April 17, slightly behind last year and 3 percentage points behind the 5-year average. Wheat development remained at or behind the 5-year average in all states except for California, Idaho, and Washington. The portion of the crop headed or beyond advanced 25 and 15 percentage points, respectively, in Oklahoma and Texas. Overall, 57 percent of the winter wheat crop was reported in good to excellent condition, slightly higher than the previous week and 15 percentage points above the same time last year.

Cotton: Producers had planted 7 percent of this year's cotton by April 17, equal to last year but 3 percentage points behind the 5-year average. Planting was most active in Arizona and California, where progress advanced 10 and 30 percentage points, respectively. Planting progress was at or behind the 5-year average in all estimating states except Arizona and Missouri**.**

Sorghum: By week's end, 16 percent of the sorghum crop was planted, 2 percentage points behind last year and 5 points behind the 5-year average. Despite continued wet conditions in Louisiana, planting progress advanced 24 percentage points to 53 percent complete by week's end.

Rice: By April 17, producers had seeded 48 percent of this year's rice crop, 18 percentage points ahead of last year and 12 points ahead of the 5-year average. In Arkansas, where ideal weather conditions aided fieldwork, seeding was 19 percentage points ahead of normal. By week's end, 19 percent of the nation's rice crop was emerged, 5 percentage points ahead of last year but equal to the 5-year average.

Small Grains: Nationally, 56 percent of the oat crop was seeded by April 17, two percentage points ahead of last year and 6 points ahead of the 5-year average. Emergence advanced to 30 percent complete by week's end, slightly behind last year and 5 percentage points behind the 5-year average.

Fieldwork across most of the major barley-producing region continued at a steady pace, as favorable weather conditions promoted planting progress. By week's end, barley producers had seeded 33 percent of the nation's crop, 5 percentage points behind last year but 7 points ahead of the 5-year average.

By week's end, 27 percent of the spring wheat crop was seeded, 4 percentage points behind last year but 8 percentage points ahead of the 5-year average. Planting advanced rapidly in the northern Great Plains, with progress at least 20 percentage points ahead of the 5-year average in Montana and South Dakota.

Other Crops: By week's end, 40 percent of this year's sugarbeet crop was planted, 5 percentage points behind last year but 16 points ahead of the 5-year average. In Minnesota, planting progress advanced to 54 percent complete, 38 percentage points ahead of the 5-year average.

Crop Progress and Condition

Week Ending April 17, 2016

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

Corn Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
CO	1	0	0	2
IL	11	2	12	14
IN	1	0	1	7
IA	5	0	13	3
KS	20	17	35	16
KY	2	6	23	19
MI	1	0	0	1
MN	9	0	13	3
MO	7	24	58	21
NE	3	0	7	3
NC	36	21	46	41
ND	0	0	1	1
OH	1	0	0	4
PA	0	2	4	2
SD	4	0	1	2
TN	6	17	35	28
TX	50	46	49	56
WI	1	0	1	1
18 Sts	7	4	13	8

These 18 States planted 93% of last year's corn acreage.

Cotton Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
AL	1	0	0	3
AZ	54	35	45	42
AR	2	0	0	3
CA	33	10	40	43
GA	1	0	0	3
KS	0	0	0	0
LA	0	0	0	9
MS	2	1	3	3
MO	0	0	2	1
NC	0	0	0	2
OK	2	0	1	1
SC	1	0	2	3
TN	0	0	0	0
TX	6	8	10	12
VA	0	0	0	2
15 Sts	7	5	7	10

These 15 States planted 99% of last year's cotton acreage.

Oats Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
IA	65	30	78	56
MN	43	8	46	25
NE	80	50	71	66
ND	11	4	15	8
OH	12	8	21	27
PA	14	27	53	28
SD	58	31	55	39
TX	100	100	100	100
WI	20	3	16	17
9 Sts	54	38	56	50

These 9 States planted 68% of last year's oat acreage.

Rice Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
AR	26	33	55	36
CA	2	0	1	3
LA	78	67	75	78
MS	35	26	39	30
MO	1	11	50	23
TX	59	65	75	74
6 Sts	30	32	48	36

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

Sorghum Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
AR	23	8	19	34
CO	0	0	0	0
IL	0	0	0	1
KS	0	0	0	0
LA	42	29	53	65
MO	0	0	1	1
NE	0	0	0	0
NM	1	1	2	1
OK	14	4	6	4
SD	0	0	0	0
TX	44	40	42	54
11 Sts	18	15	16	21

These 11 States planted 98% of last year's sorghum acreage.

Oats Percent Emerged

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
IA	16	3	15	16
MN	4	0	2	6
NE	36	2	23	21
ND	0	0	0	1
OH	1	3	6	8
PA	2	10	19	11
SD	6	3	14	11
TX	100	100	100	100
WI	1	0	1	3
9 Sts	31	26	30	35

These 9 States planted 68% of last year's oat acreage.

Rice Percent Emerged

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
AR	8	3	11	13
CA	0	0	0	0
LA	52	47	56	55
MS	15	3	14	15
MO	0	0	3	8
TX	26	44	59	51
6 Sts	14	12	19	19

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

Spring Wheat Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
ID	66	30	46	55
MN	51	5	23	23
MT	18	17	34	12
ND	17	5	14	10
SD	65	29	61	35
WA	83	42	63	55
6 Sts	31	13	27	19

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

Crop Progress and Condition

Week Ending April 17, 2016

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

Winter Wheat Percent Headed

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
AR	12	5	29	34
CA	69	50	70	68
CO	0	0	0	0
ID	1	0	1	0
IL	1	1	1	9
IN	1	0	0	3
KS	3	0	3	6
MI	0	0	0	0
MO	0	0	0	12
MT	0	0	0	0
NE	0	0	0	0
NC	7	4	22	24
OH	0	0	0	0
OK	27	0	25	31
OR	0	0	0	0
SD	0	0	0	0
TX	42	20	35	37
WA	0	0	1	0
18 Sts	13	4	12	15

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

Winter Wheat Condition by Percent

	VP	P	F	G	EX
AR	3	5	32	49	11
CA	0	0	15	35	50
CO	3	13	26	48	10
ID	0	1	9	70	20
IL	1	5	28	51	15
IN	1	3	19	59	18
KS	2	10	39	44	5
MI	1	7	23	54	15
MO	1	4	29	53	13
MT	1	4	37	52	6
NE	0	3	40	48	9
NC	5	13	31	43	8
OH	0	1	21	52	26
OK	1	6	37	48	8
OR	0	0	34	58	8
SD	0	10	25	60	5
TX	2	9	44	39	6
WA	1	3	16	70	10
18 Sts	2	7	34	48	9
Prev Wk	2	7	35	48	8
Prev Yr	5	14	39	35	7

Barley Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
ID	71	35	54	54
MN	34	2	14	15
MT	39	25	41	24
ND	10	2	10	6
WA	63	30	38	36
5 Sts	38	19	33	26

These 5 States planted 82% of last year's barley acreage.

Sugarbeets Percent Planted

	Prev Year	Prev Week	Apr 17 2016	5-Yr Avg
ID	60	23	55	57
MI	20	0	1	27
MN	49	0	54	16
ND	41	0	25	12
4 Sts	45	4	40	24

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

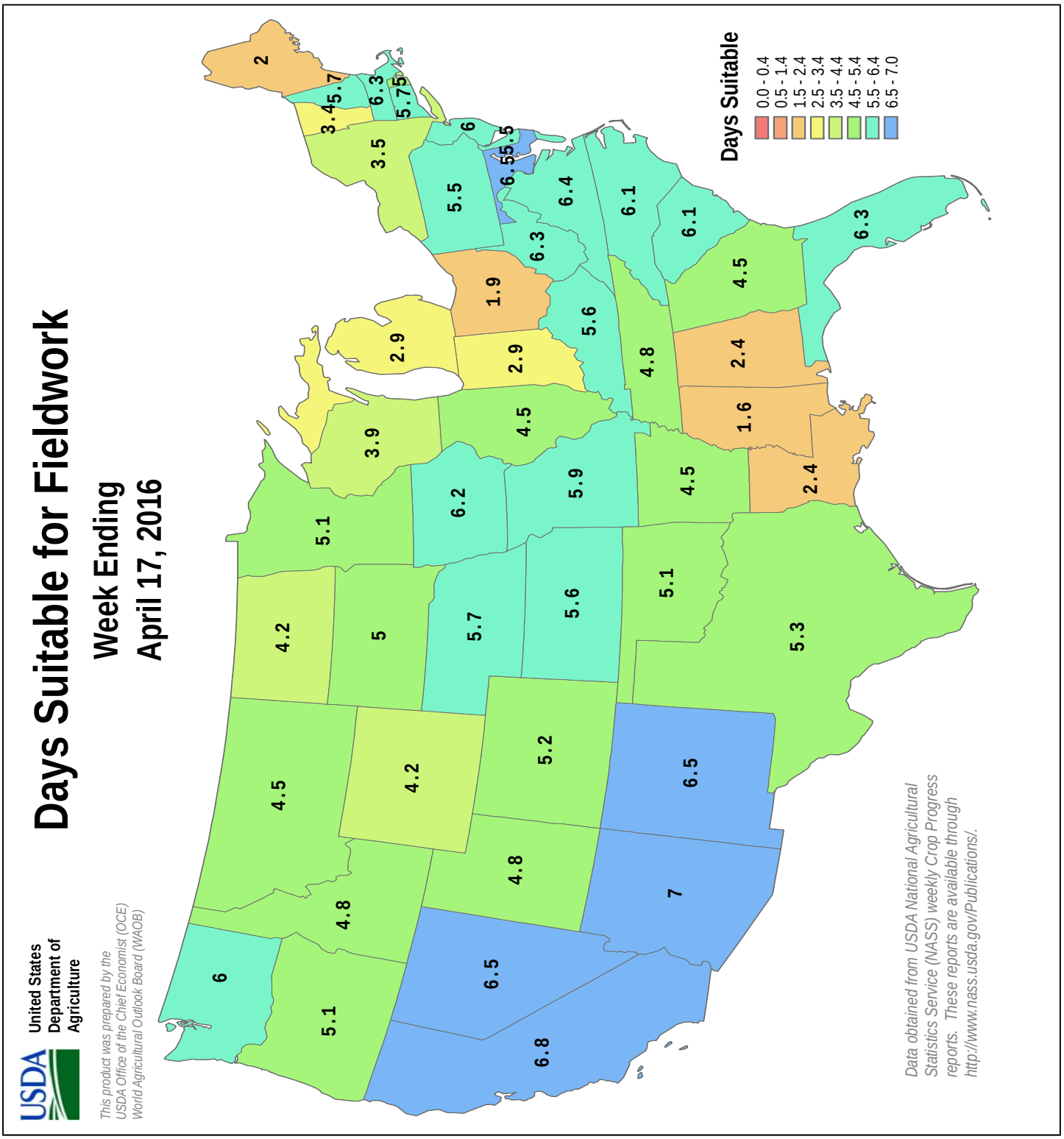
VP - Very Poor; P - Poor; F - Fair; G - Good; EX - Excellent

NA - Not Available; *Revised

Crop Progress and Condition

Week Ending April 17, 2016

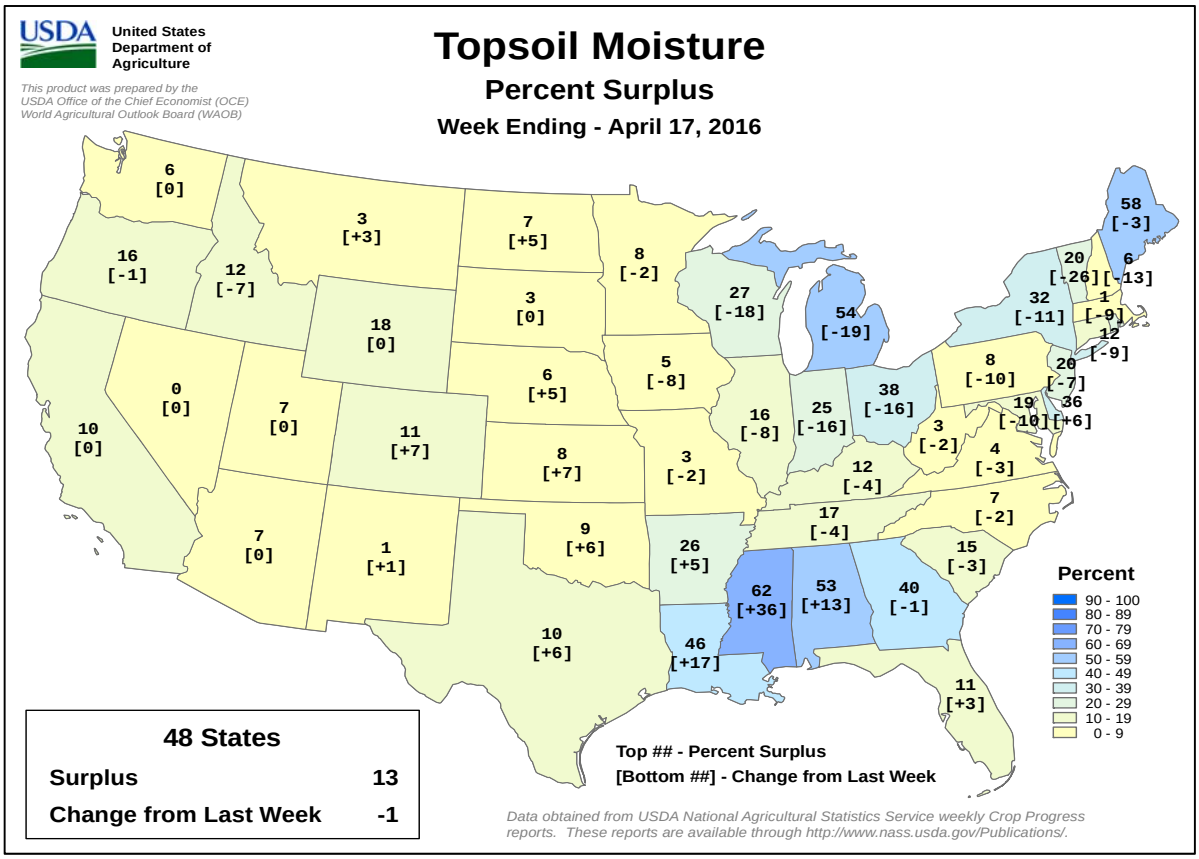
Weekly U.S. Progress and Condition Data provided by USDA/NASS

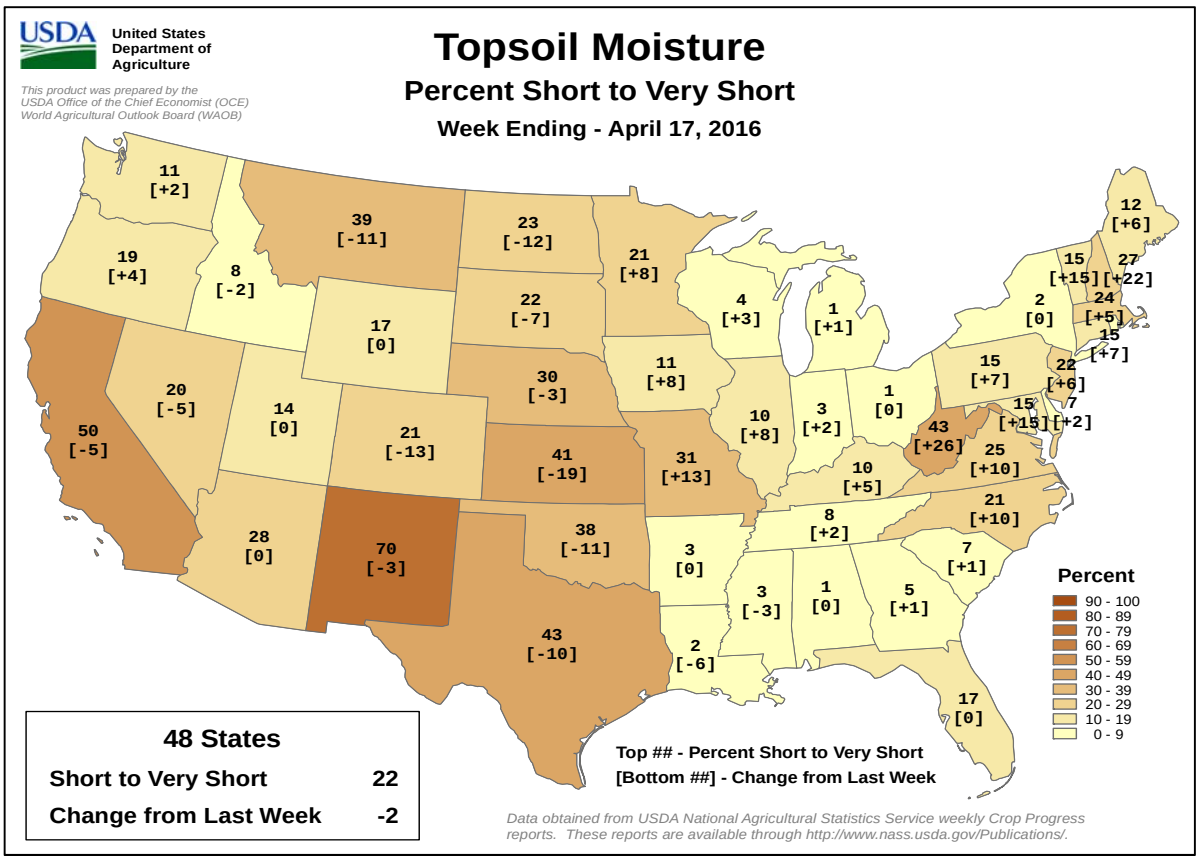


Crop Progress and Condition

Week Ending April 17, 2016

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

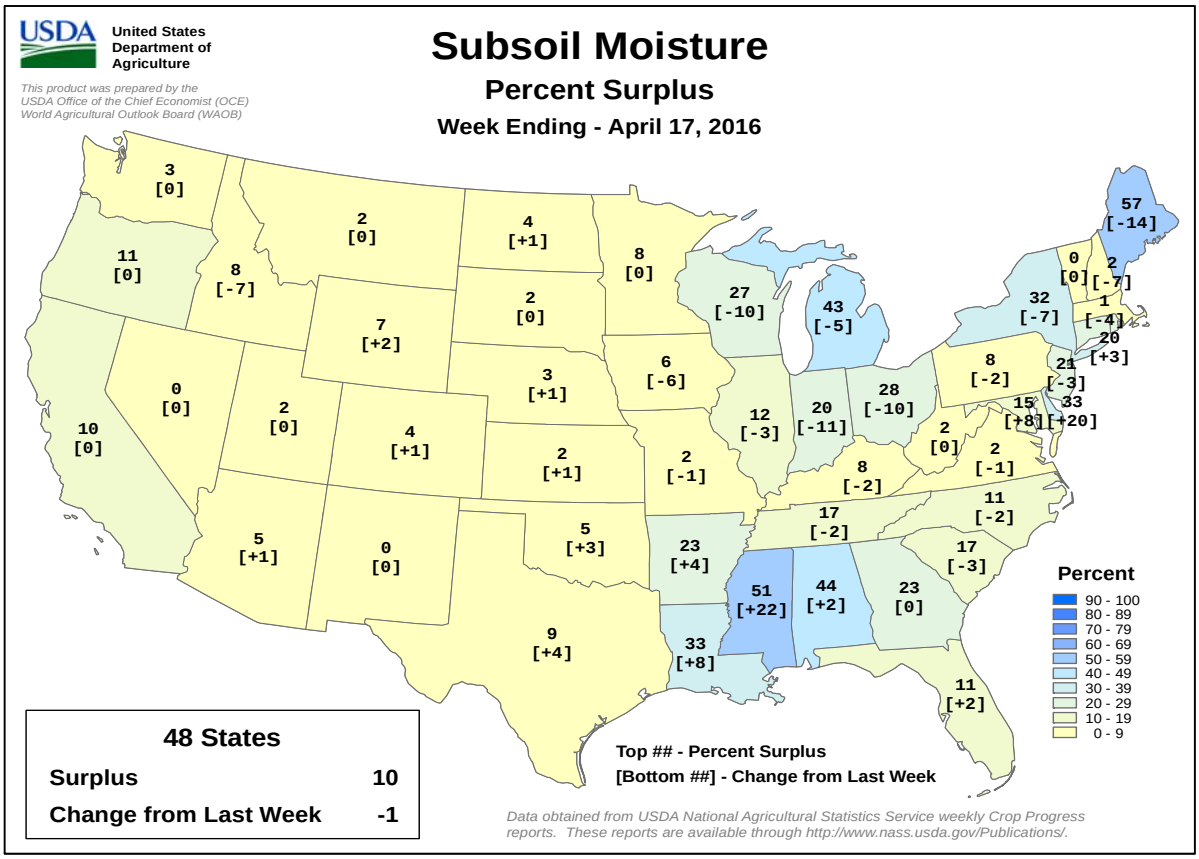


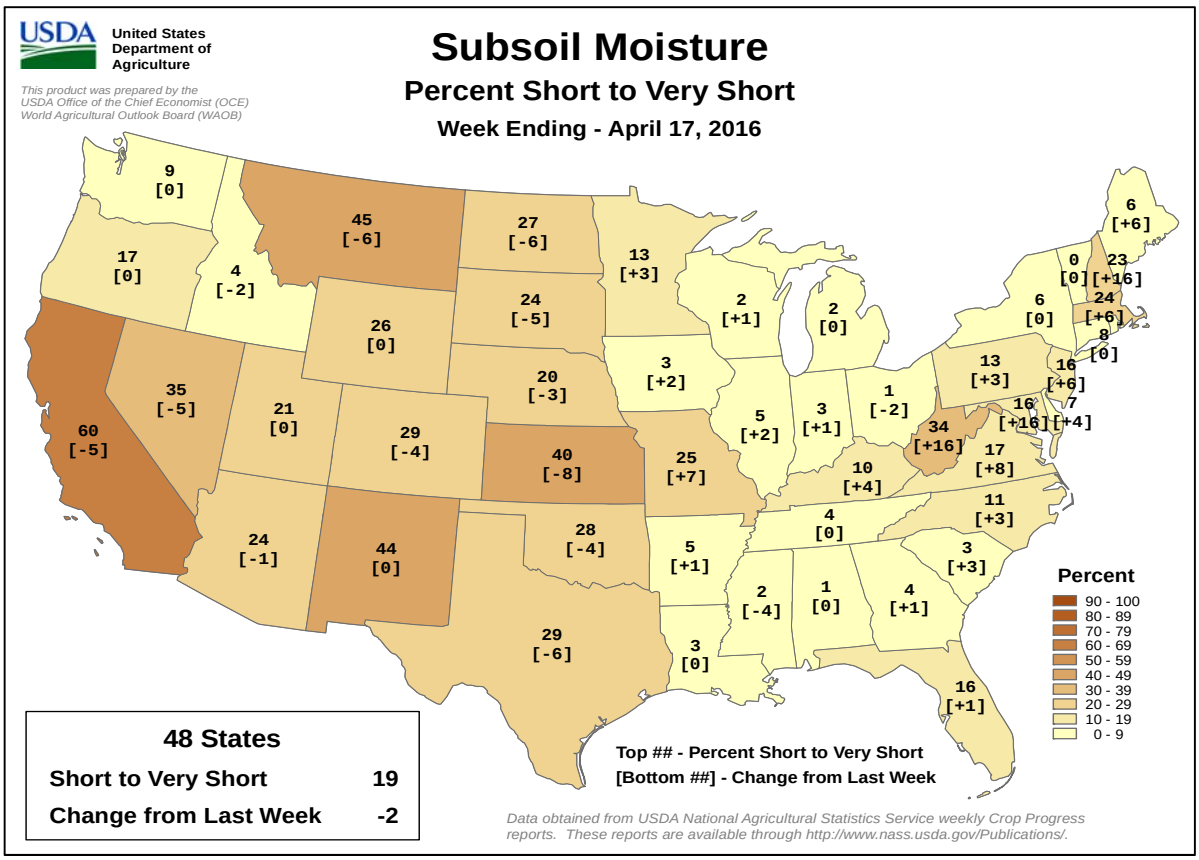


Crop Progress and Condition

Week Ending April 17, 2016

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





April 14 ENSO Update

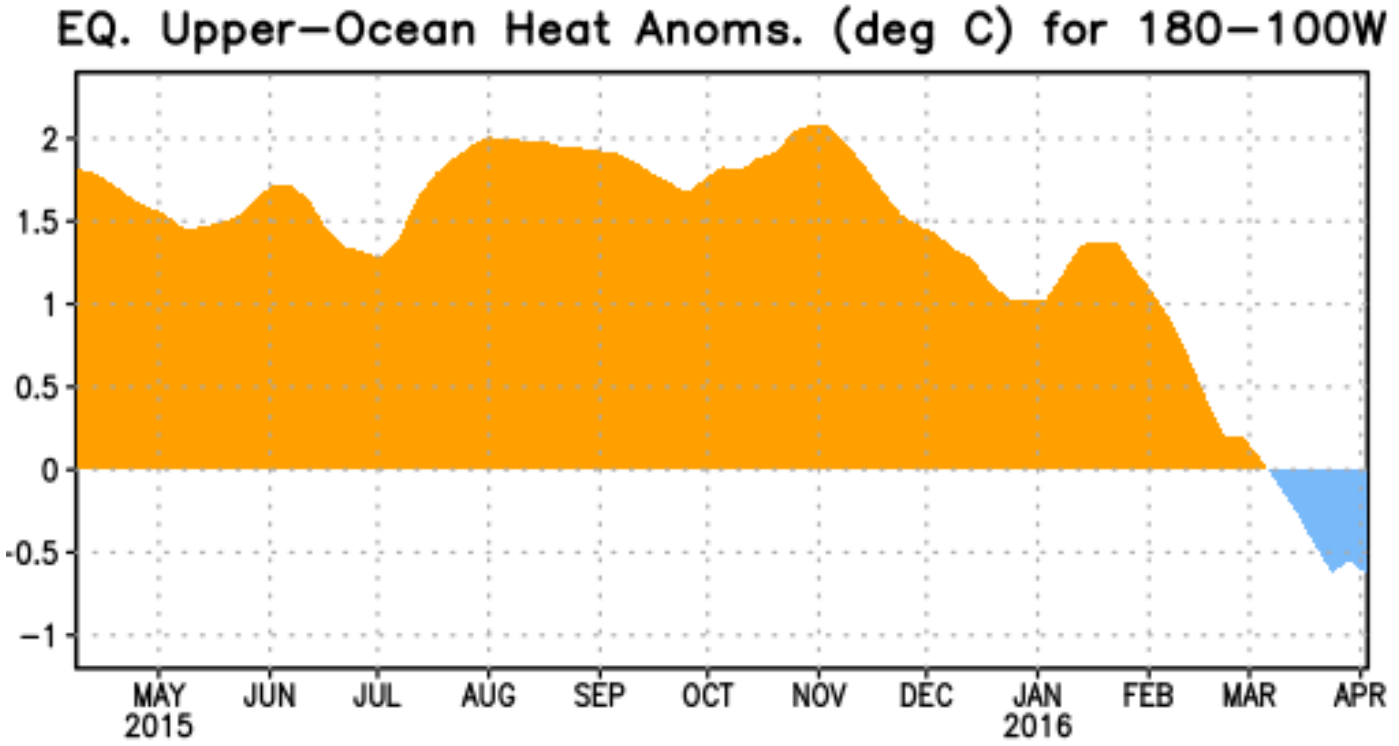


Figure 1: Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180º-100ºW). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

ENSO Alert System Status: El Niño Advisory/ La Niña Watch

Synopsis: A transition to ENSO-neutral is likely during late Northern Hemisphere spring or early summer 2016, with an increasing chance of La Niña during the second half of the year.

Sea surface temperature (SST) anomalies were between 1.0° and 1.5°C across most of the central and eastern equatorial Pacific Ocean during early April, having weakened appreciably over the last month. The latest weekly values for all of the Niño indices dropped to below 1.5°C. The subsurface temperature anomaly in the central and eastern Pacific decreased to negative values (Fig. 1) in association with a significant expansion of below-average temperatures at depth. Low-level westerly wind anomalies and upper-level easterly wind anomalies weakened compared to February. The equatorial Southern Oscillation Index (SOI) remained negative but weakened, while the traditional SOI was near zero. Enhanced convection continued over the central tropical Pacific but weakened east of the Date Line, and was suppressed over northern Indonesia and the Philippines. Collectively, these anomalies reflect a weakening El Niño.

Nearly all models predict further weakening of El Niño, with a transition to ENSO-neutral likely during late spring or early summer 2016. Then, the chance of La Niña increases during the late summer or early fall. The official forecast is consistent with the model forecasts, also supported by a historical tendency for La Niña to follow strong El Niño events. A transition to ENSO-neutral is likely during late Northern Hemisphere spring or early summer 2016, with an increasing chance of La Niña during the second half of the year (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 **12 May 2016**. 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 10-16, 2016

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

HIGHLIGHTS

EUROPE: Warm, wet weather slowed fieldwork but maintained excellent winter crop prospects over most of the continent.

WESTERN FSU: Warm, dry weather accelerated winter wheat development and encouraged summer crop sowing prior to the return of beneficial showers.

MIDDLE EAST: Moderate to heavy rain sustained abundant moisture supplies for reproductive winter grains in central growing areas but likely caused localized flooding.

NORTHWESTERN AFRICA: Sunny skies and near- to above–normal temperatures accelerated winter grain development.

EASTERN ASIA: Widespread rainfall brought welcomed moisture to reproductive wheat on the North China Plain.

SOUTHEAST ASIA: The axis of heaviest rainfall for the region shifted northward, causing isolated flooding in northern portions of Indonesia and increasing soil moisture for oil palm in Malaysia.

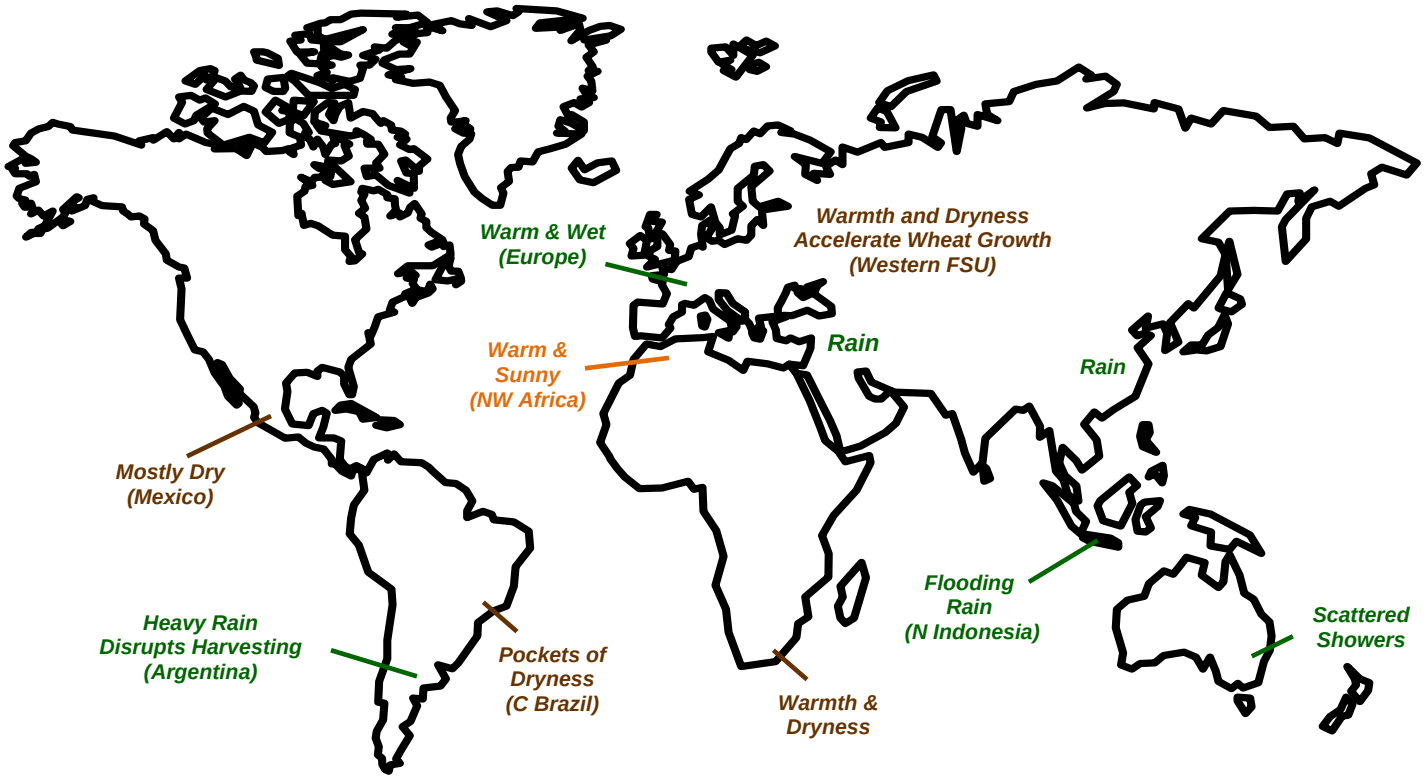
AUSTRALIA: Scattered showers caused only temporary delays in cotton and sorghum harvesting.

SOUTH AFRICA: Warmth and dryness hastened development of maturing corn.

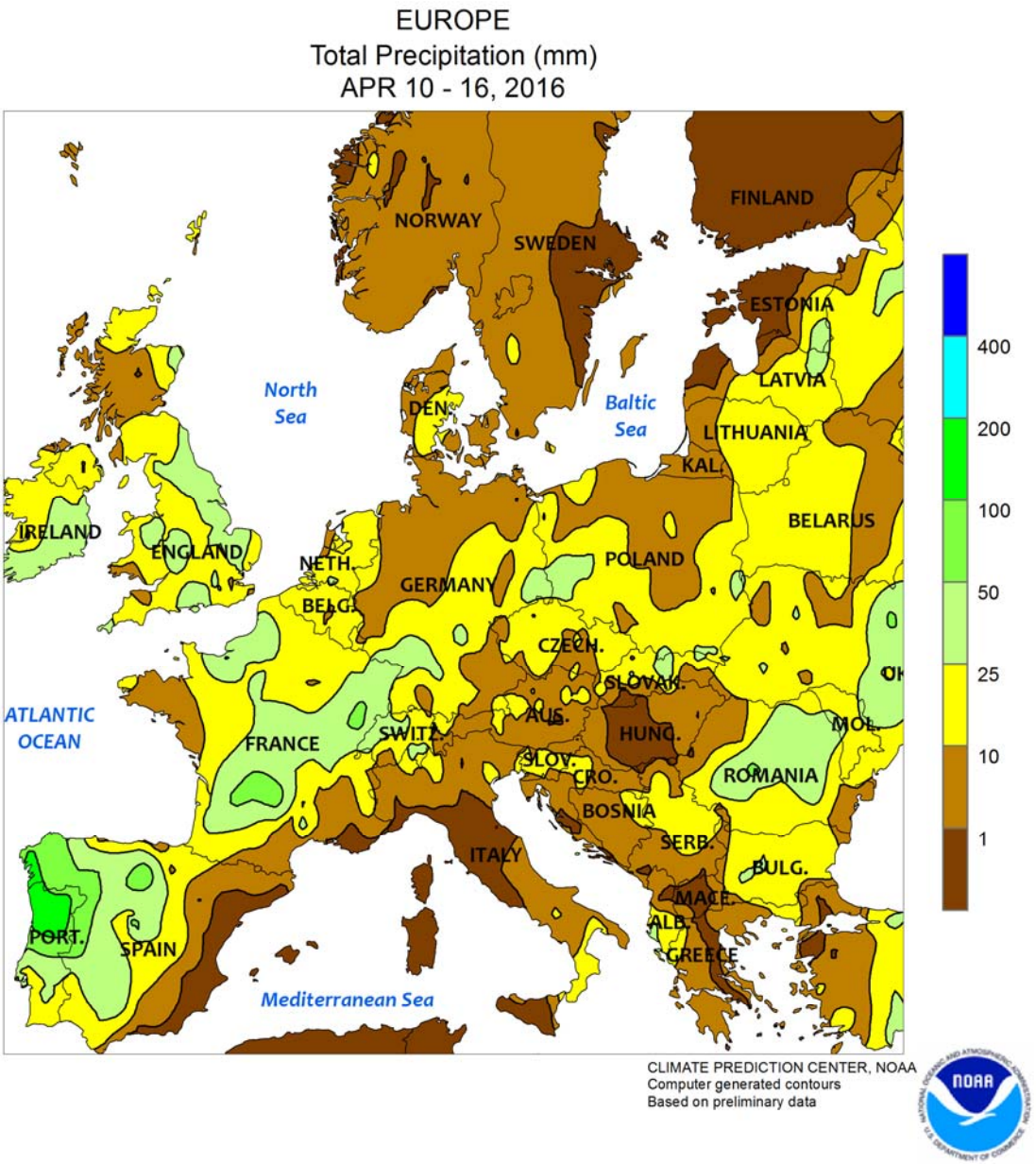
ARGENTINA: Showers maintained adequate to locally excessive levels of moisture for immature summer crops.

BRAZIL: Beneficial rain covered much of Mato Grosso, but other parts of central Brazil remained unseasonably dry.

MEXICO: Farmers awaited the onset of seasonal rain to plant corn and other rain-fed summer crops.



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

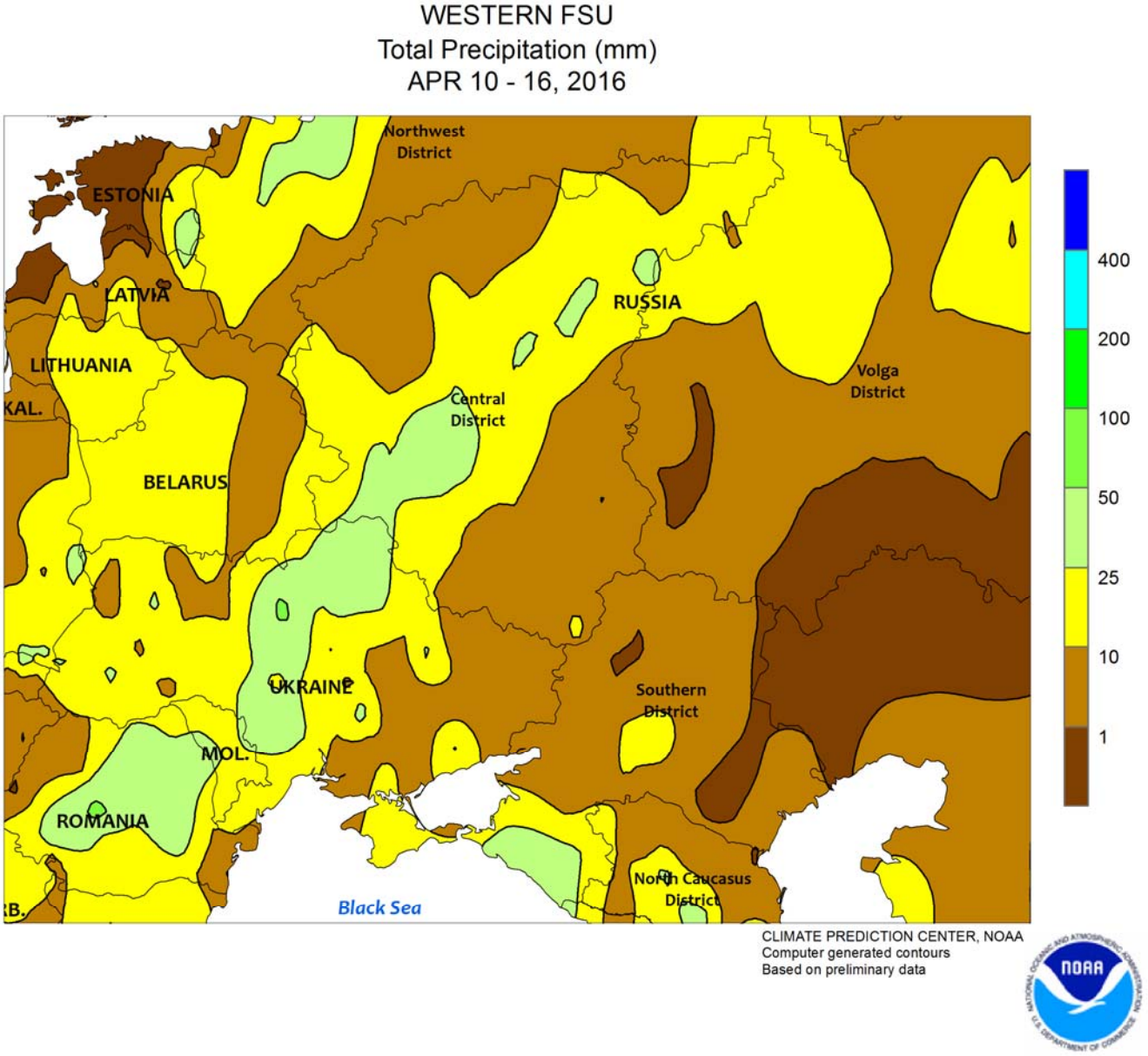


EUROPE

Warm, wet weather slowed fieldwork activities but maintained good to excellent prospects for winter crops over much of the continent. Across France and the United Kingdom, above-normal temperatures (1-3°C above normal) coupled with moderate to heavy rain (15-60 mm) maintained good conditions for vegetative winter wheat and rapeseed. However, the rain slowed corn planting in southwestern France (locally more than 70 mm) and other seasonal fieldwork over western Europe. Light to moderate showers (5-30 mm, locally more) in Germany, Poland, and the Baltic States sustained favorable prospects for vegetative winter grains and oilseeds.

In the Balkans, warm weather (3-6°C above normal) accelerated winter wheat toward or into the heading stage of development, approximately two weeks ahead of average. Although soil moisture remained adequate to abundant for spring growth in southeastern Europe, short-term dryness has developed over Hungary. On the Iberian Peninsula, another week with heavy rainfall (25-125 mm) maintained excellent winter grain prospects and boosted reservoir levels for warm-season irrigation. Farther east, dry weather promoted corn planting in northern Italy as well as winter grain development in central and southern portions of the country.

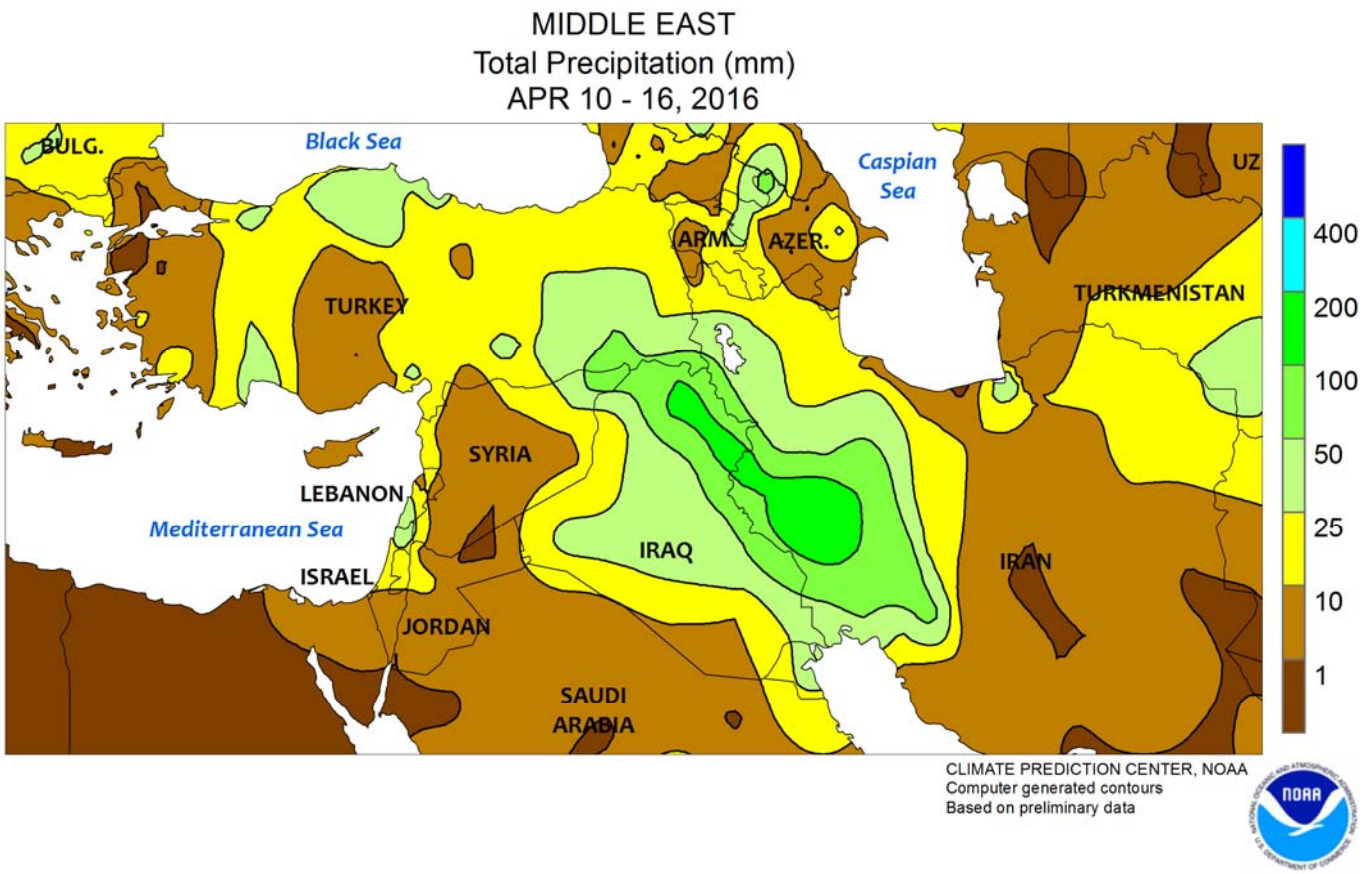
For additional information contact: mbrusberg@oce.usda.gov



WESTERN FSU

Warm, dry weather early in the period gave way to beneficial rain by week's end. A broad area of high pressure centered east of the Caspian Sea maintained a warm southerly flow for much of the week. Temperatures averaged 5 to 10°C above normal in Belarus, Ukraine, and central Russia, facilitating rapid winter crop development. Warmer-than-normal conditions (3-6°C above normal) also prevailed across southern Russia, maintaining a faster-than-normal pace of winter wheat growth in the Southern District. Sunny, warm conditions (22-25°C) early in the week over Ukraine and neighboring portions of Russia facilitated a rapid pace of corn, sunflower, and sugarbeet planting. However, a slow-moving disturbance approached the region from the west by mid-week, triggering increasingly heavy showers and thunderstorms over most major winter wheat and summer crop areas; rainfall tallied 10 to 60 mm from Belarus and central Ukraine into northern Russia, while somewhat lighter rain (5-30 mm) was reported from eastern Ukraine into central and southern portions of Russia. Locally heavy showers were continuing to fall in these more easterly areas at the end of the monitoring period.

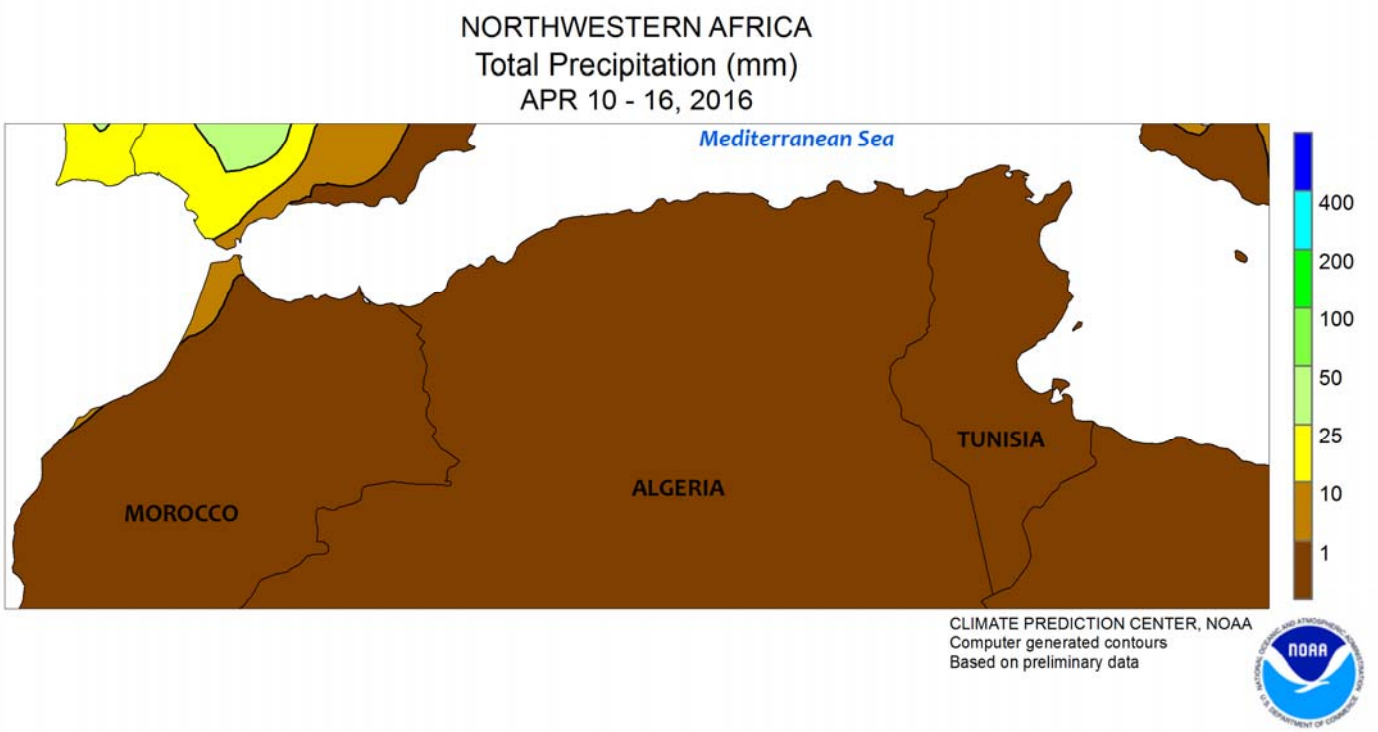
For additional information contact: mbrusberg@oce.usda.gov



MIDDLE EAST

A slow-moving disturbance generated moderate to heavy rainfall across much of the region. Prior to the rain's arrival, temperatures topped 30°C (locally greater than 35°C) from the southern Mediterranean Coast into Iraq and southern Iran. The hot weather may have trimmed the yield potential of heading to flowering winter grains from Jordan into southern Iraq and southwestern Iran, though moisture supplies in these areas were likely sufficient to enable crops to withstand the heat without significant detrimental impacts. The aforementioned storm system arrived from the west, generating widespread albeit highly variable showers (1-50 mm) over Turkey and the eastern Mediterranean Coast. Consequently, soil moisture improved for vegetative to reproductive winter grains, though the impacts of autumn drought remained apparent in satellite-derived vegetation health data. Rain intensified as the disturbance drifted east, with heavy downpours (25-200 mm, with locally higher amounts) sustaining abundant moisture supplies for reproductive winter wheat and barley but likely causing flooding and localized lodging. Showers (10-22 mm) overspread northeastern Iran at the end of the period, maintaining favorable winter crop prospects.

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

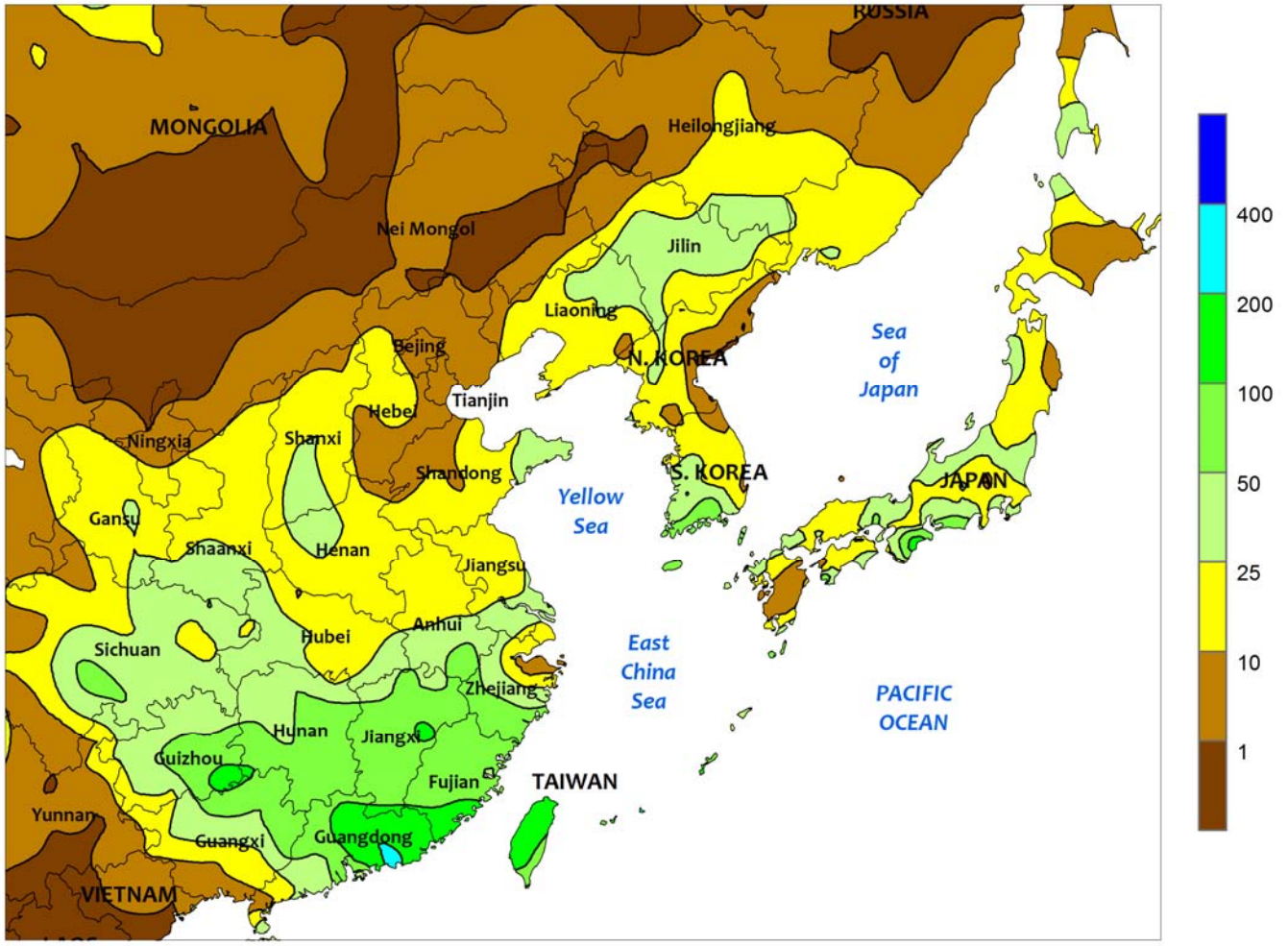


NORTHWESTERN AFRICA

Sunny, warm weather returned after last week's rain. In Morocco, the resumption of dry, warm weather promoted winter wheat maturation and harvesting. In Algeria and Tunisia, sunny skies and temperatures up to 5°C above normal accelerated winter grains through the reproductive stages of development. Winter crop prospects remained good to excellent in central and eastern portions of northern Africa's wheat belt, with last week's timely rain likely enhancing crop yield potential.

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

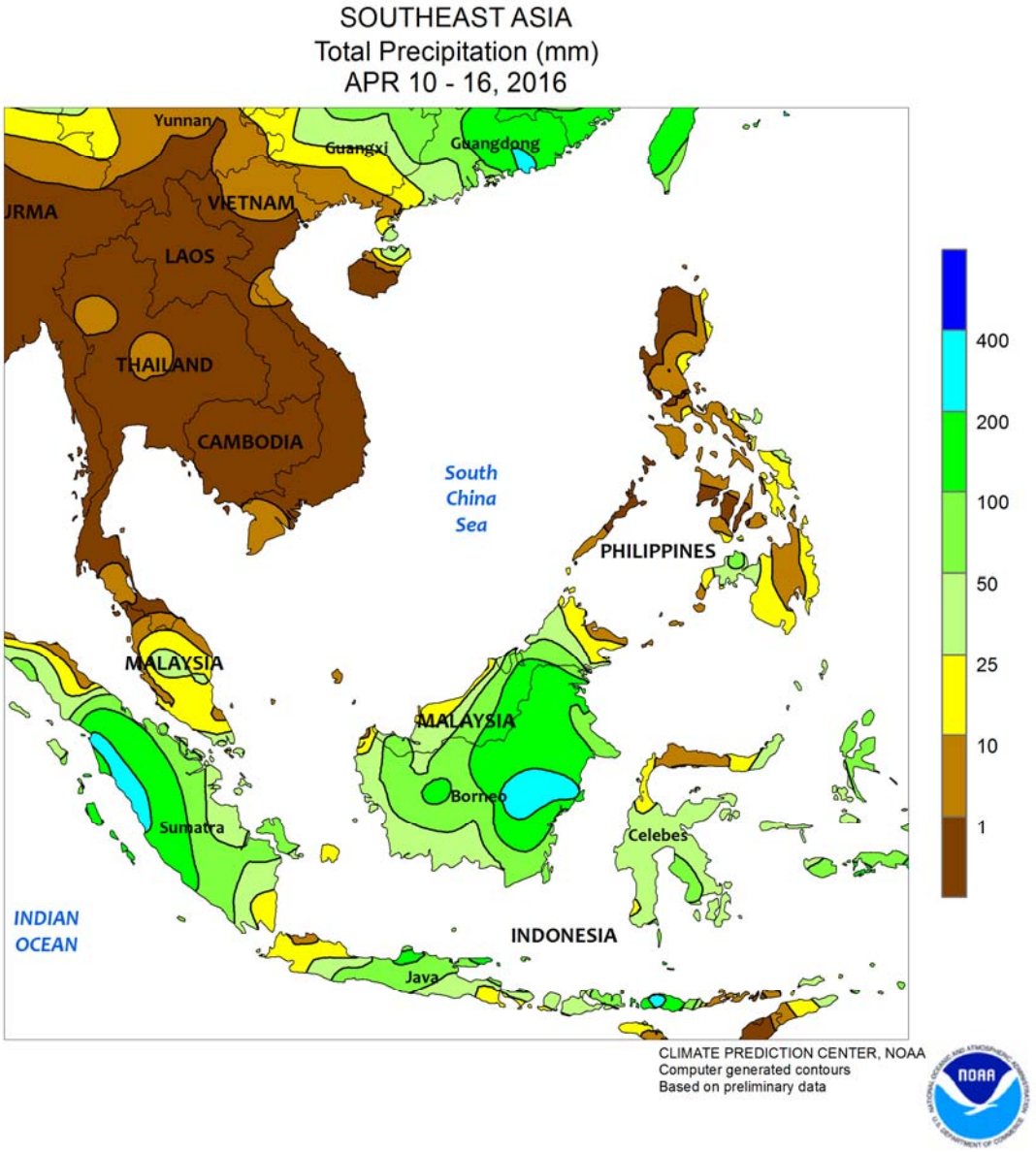
EASTERN ASIA
Total Precipitation (mm)
APR 10 - 16, 2016



EASTERN ASIA

Late-week showers brought welcomed moisture to reproductive wheat on the North China Plain. Rainfall totals approached 25 mm throughout Henan, southern Shandong, and northern Anhui and Jiangsu, with lesser amounts (less than 10 mm) in northern Shandong and southern Hebei. For Shandong, this was the first rainfall since March 4 and the first appreciable rainfall since February 12. Unfavorably dry spring conditions reduced prospects as compared to last year's bumper crop, but the recent moisture has helped stabilize crop conditions and prospects. Meanwhile in the Yangtze Valley, heavy showers (over 25 mm) maintained favorable soil moisture for reproductive rapeseed and vegetative spring-sown crops, while wet weather throughout the week in southern China kept early-crop rice well watered with 50 to over 100 mm of rain. Temperatures across eastern growing areas of China continued to be up to 6°C above normal, promoting crop development and increasing water requirements but lacking stressful heat.

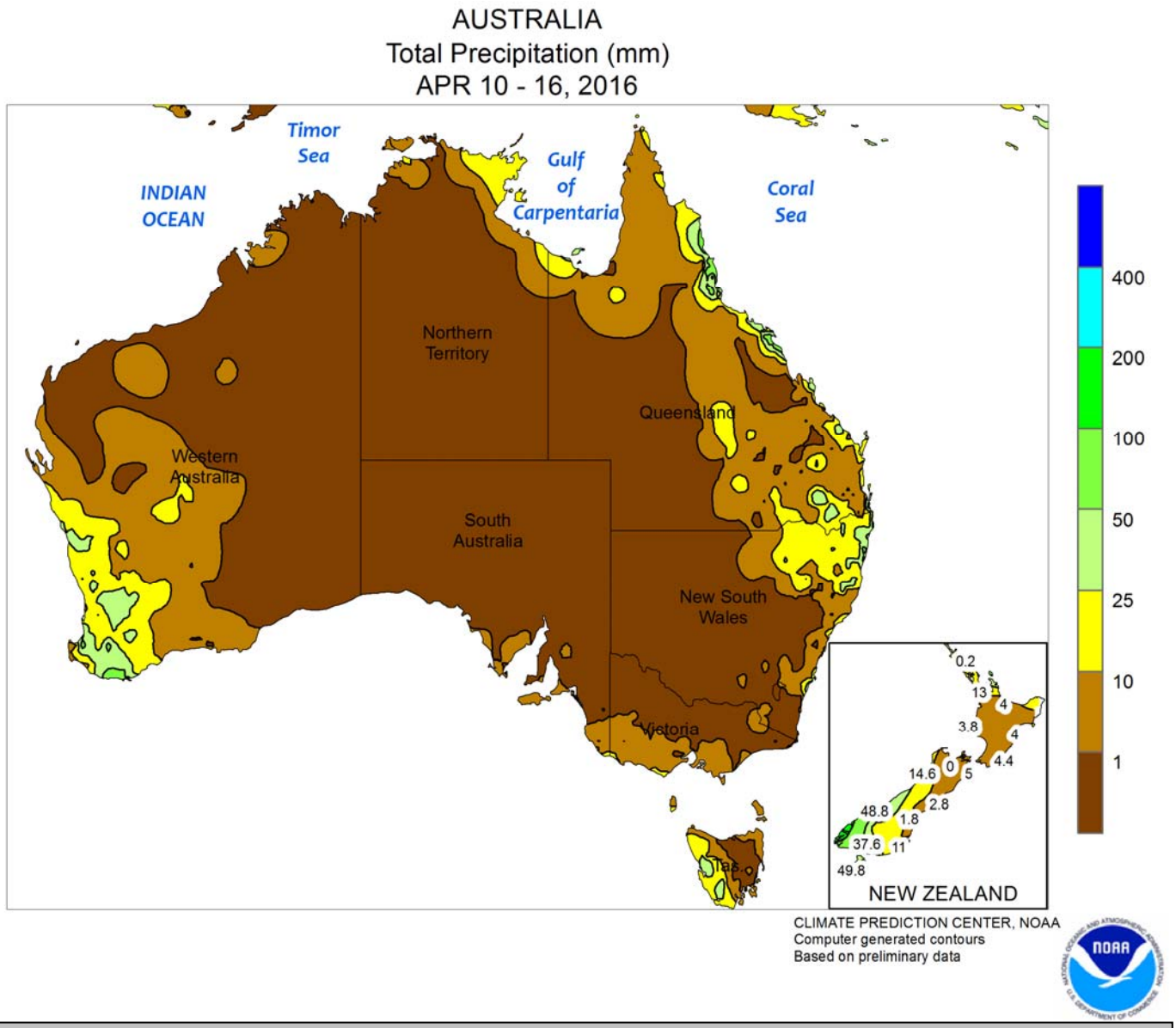
For additional information contact: mbrusberg@oce.usda.gov



SOUTHEAST ASIA

Showers overspread much of Indonesia, extending into northern reaches of the archipelago. Most areas reported over 50 mm of rain, with sections of western Sumatra receiving over 200 mm and a localized report of over 300 mm in Kalimantan. The downpours maintained favorable soil moisture for oil palm and boosted water supplies for rice in central and eastern Java. Meanwhile in the Philippines, rainfall was becoming more intermittent in the east, with reports of increasing showers (over 70 mm) in western Mindanao. The tropical showers of the region typically begin migrating northward at this time of year, bringing increased rainfall to Malaysia, southern Thailand and the southwest Philippines.

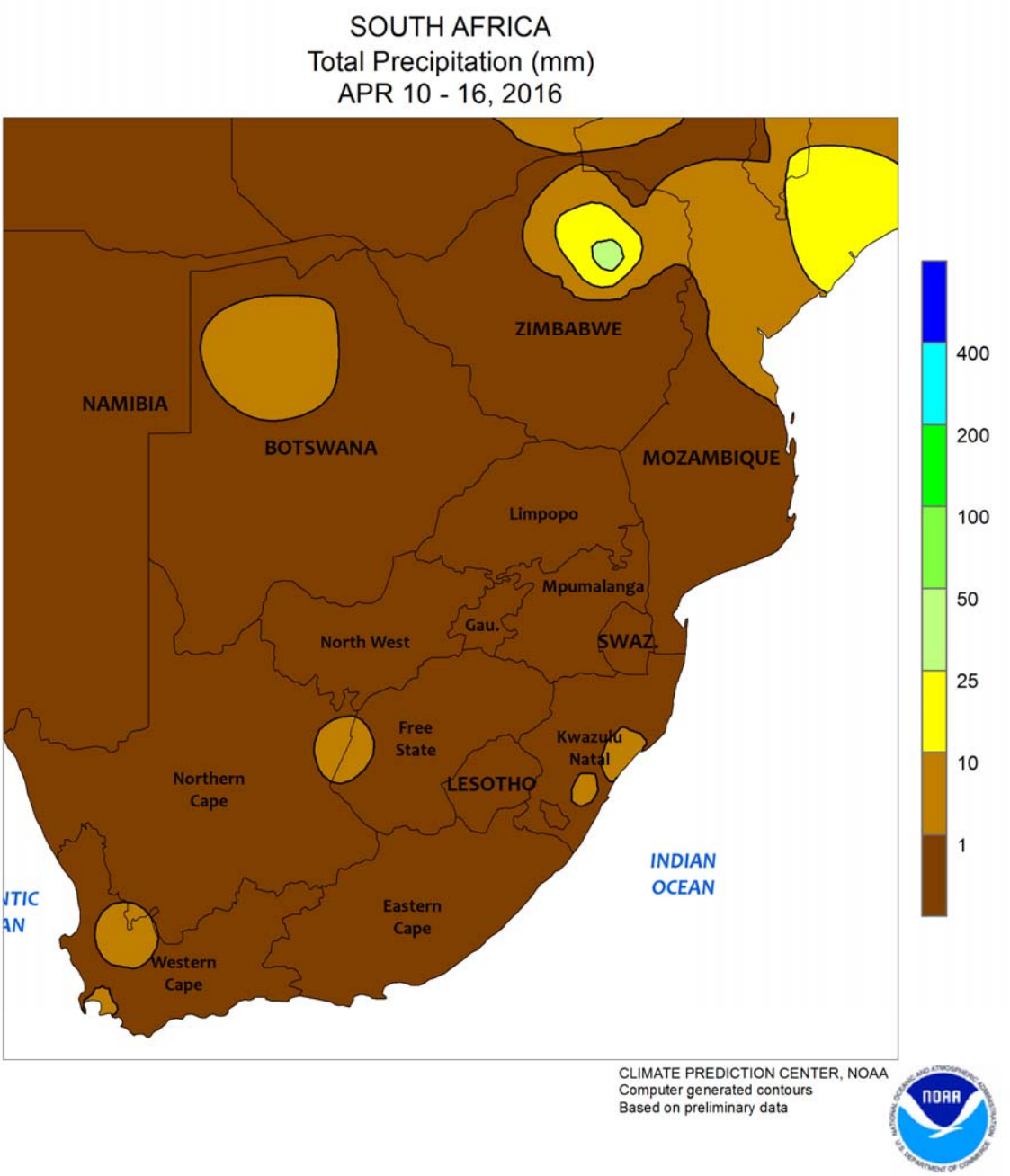
For additional information contact: mbrusberg@oce.usda.gov



AUSTRALIA

In southern Queensland and northern New South Wales, scattered showers (5-10 mm, locally near 25 mm) at the beginning of the week may have temporarily interrupted cotton and sorghum harvesting. During the remainder of the week, however, dry, very warm weather dominated, allowing harvesting to regain momentum. Despite the potential disruptions to fieldwork, the rain was somewhat beneficial, helping to moisten topsoils in advance of upcoming winter wheat planting. Planting typically begins in mid-April in central Queensland, while in southern Queensland and northern New South Wales most of the sowing is typically completed in May and June. Elsewhere in the wheat belt, mostly dry weather covered southeastern Australia. In contrast, widespread rain in Western Australia provided a welcome boost in topsoil moisture prior to wheat, barley, and canola planting. Temperatures throughout most of the wheat belt averaged 1 to 2°C above normal. The exceptions were South Australia and western Victoria, where temperatures averaged near normal.

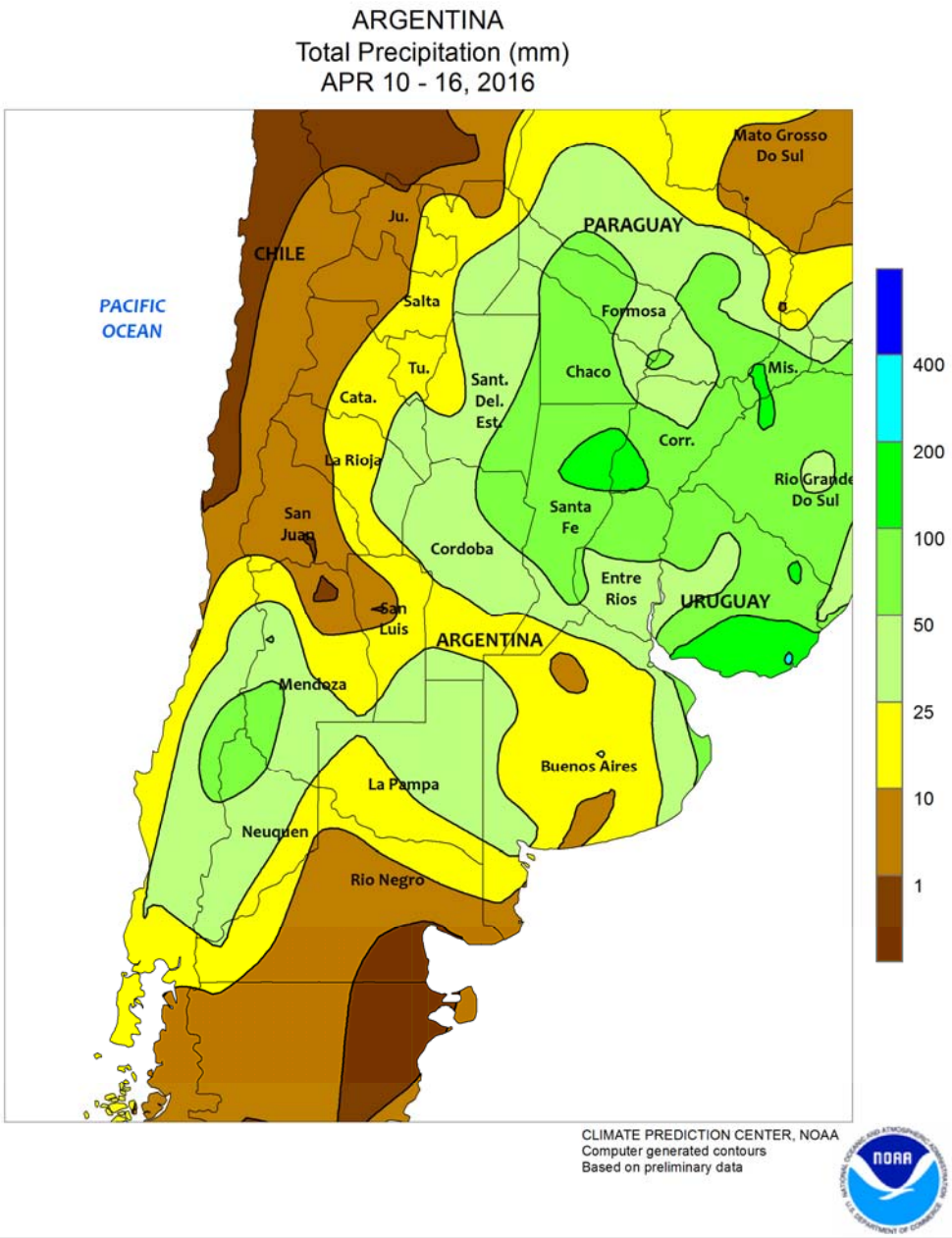
For additional information contact: mbrusberg@oce.usda.gov



SOUTH AFRICA

Dry, warmer-than-normal weather dominated the region, hastening development of corn and other maturing summer crops. Virtually no rain fell across the country, aside from a few isolated showers totaling more than 10 mm along the coast of KwaZulu-Natal. Above-normal temperatures accompanied the dryness, with weekly temperatures averaging more than 1°C above normal across the corn belt (North West and Free State northeastward through southern Limpopo and northern Mpumalanga) and in key sugarcane areas of KwaZulu-Natal. Warmer conditions (weekly temperatures averaging up to 5°C above normal, with daytime highs in excess of 35°C) dominated the Cape Provinces, hastening maturation and drydown of irrigated corn and cotton in the Orange River Valley but keeping topsoils unfavorably dry in Western Cape for winter wheat planting preparations.

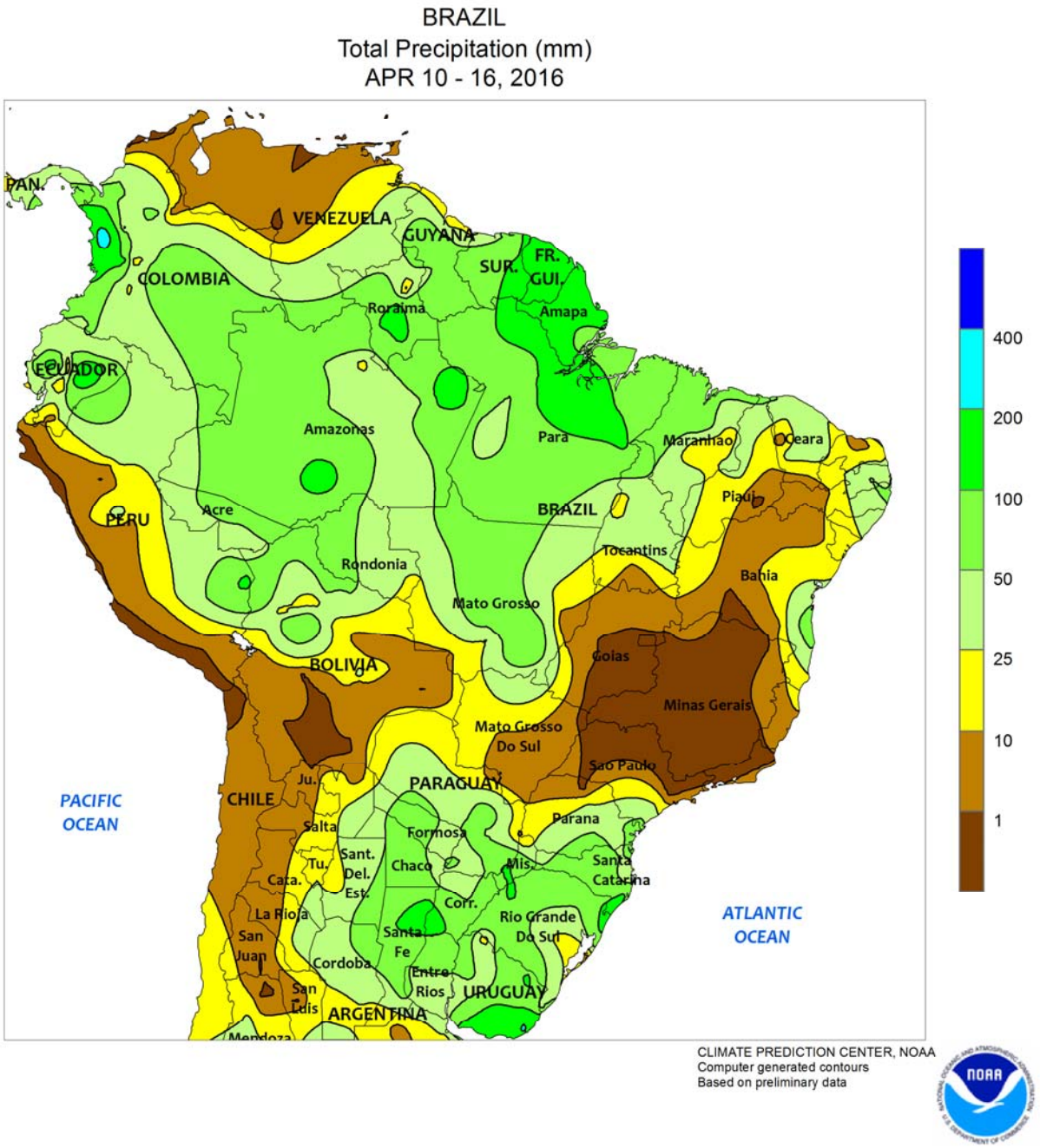
For additional information contact: mbrusberg@oce.usda.gov



ARGENTINA

Showers maintained adequate to locally excessive levels of moisture for immature summer crops. The heaviest rain (greater than 100 mm) was again concentrated over southern Corrientes and nearby locations in Entre Rios and Santa Fe, with more than 50 mm scattered throughout the remainder of northeastern Argentina; lighter amounts (greater than 25 mm) extended southward into the lower Parana River Valley (in and around northern Buenos Aires). In addition to worsening localized flooding, the moisture slowed corn and soybean harvesting and kept maturing cotton unfavorably wet. Less rain (5-25 mm, locally higher) fell in the far northwest (Tucuman and Salta) and in the southwest (La Pampa, Buenos Aires, and southern Cordoba). Weekly average temperatures ranged from near to slightly below normal in western farming areas to more than 3°C above normal in the northeast, with daytime highs reaching the middle 30s (degrees C) north of Buenos Aires and La Pampa. Meanwhile, nighttime lows stayed above freezing in southern production areas. According to Argentina's Ministry of Agriculture, corn and soybeans were 15 and 14 percent harvested, respectively, as of April 14, similar to last year's pace. Sunflower harvesting was nearly complete (99 percent).

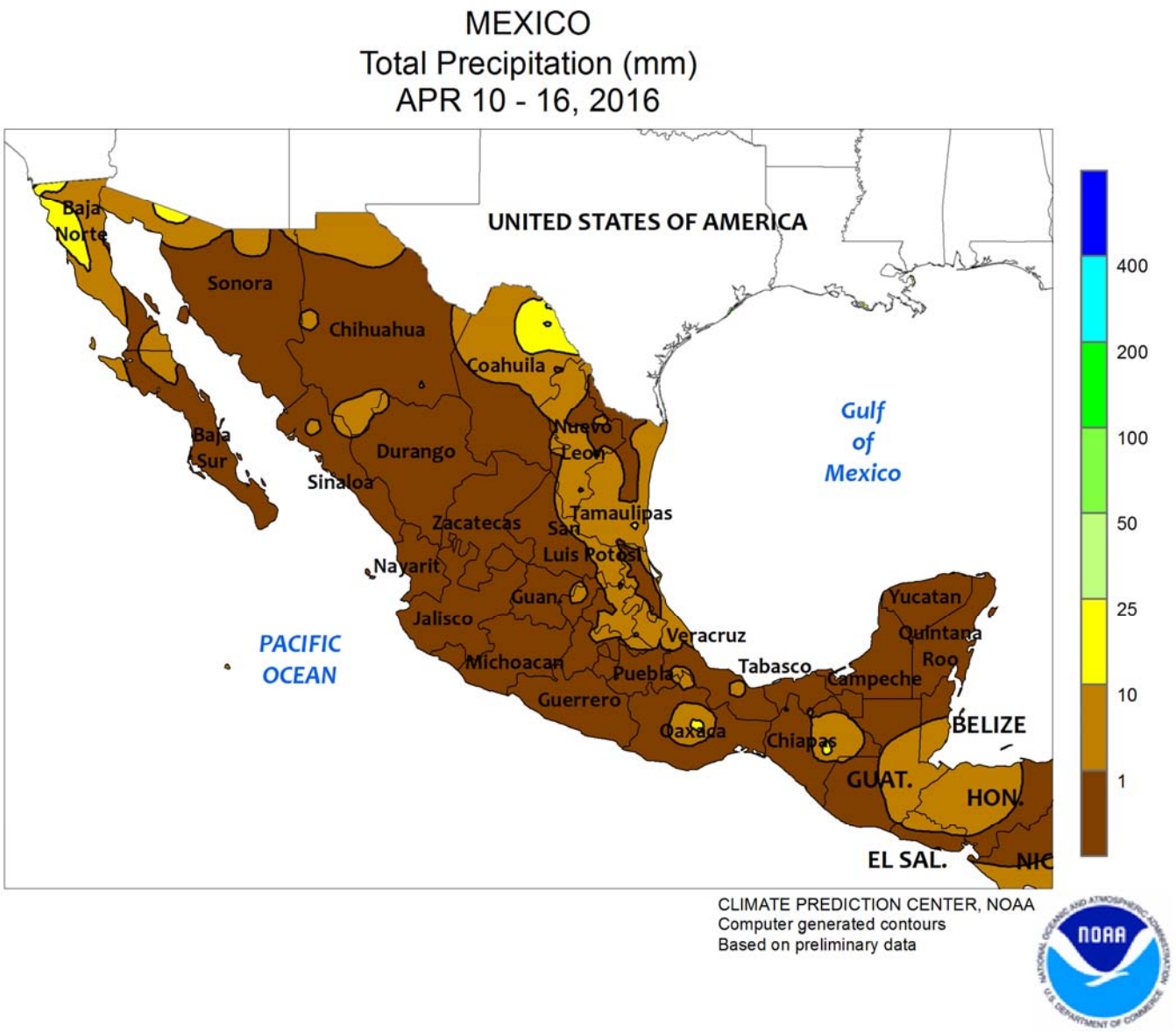
For additional information contact: mbrusberg@oce.usda.gov



BRAZIL

Rain returned to portions of central Brazil, though pockets of dryness remained a concern for many locations. Rainfall totaled 10 to more than 50 mm over Mato Grosso and northern Tocantins, benefiting growth of second-crop corn. In contrast, other locations in central Brazil remained mostly dry, including much of Bahia and Goias; additional rain would be welcomed in these areas for secondary crops, notably corn and cotton, before the dry season begins. Dry weather also continued in northern Parana, which has been trending dry for several weeks. However, beneficial rain (25-50 mm, locally higher) fell from southern Parana through Rio Grande do Sul, boosting moisture for late-season crops. In addition, showers (10-50 mm) fell along the northeastern coast. Weekly average temperatures were above normal throughout most agricultural areas, with the highest departures relative to normal (5°C or higher, with daytime highs reaching the middle 30s degrees C) concentrated over Parana and eastern Mato Grosso do Sul. Highs also reached the middle and upper 30s from Mato Grosso to northwestern Bahia and Piaui, maintaining high moisture requirements for second-season corn and cotton.

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

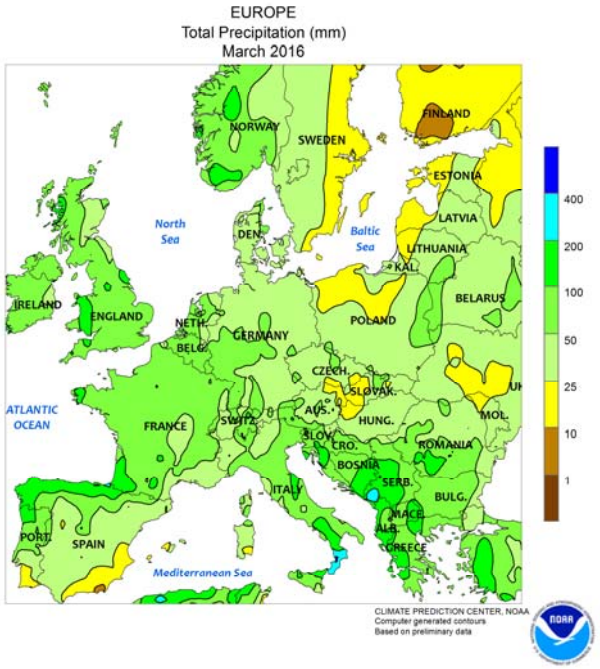


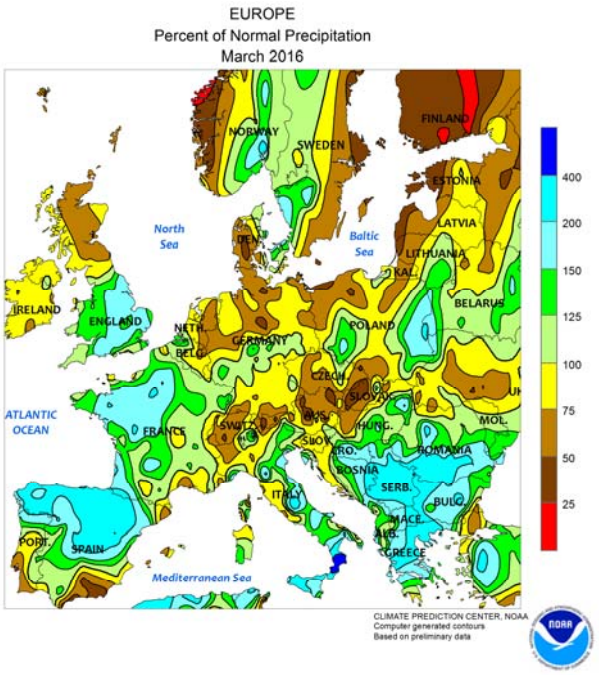
MEXICO

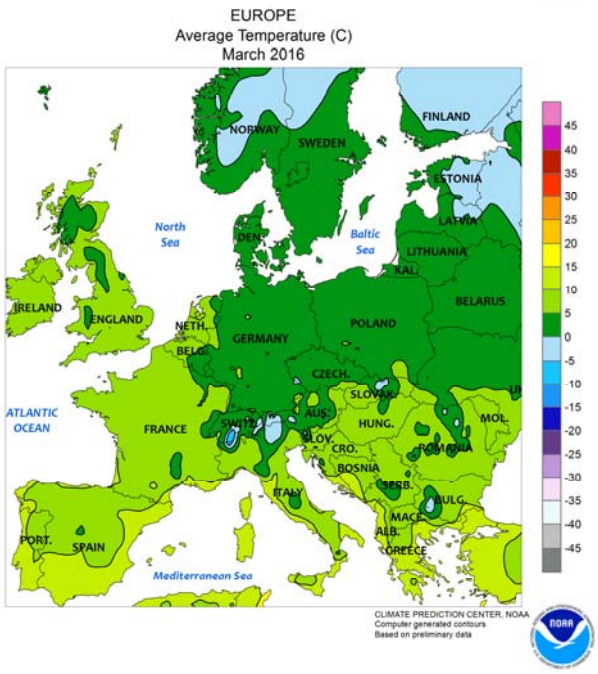
Mostly dry weather prevailed, as farmers awaited the start of the rainy season to plant corn and other rain-fed summer crops. Virtually no rain fell across the southern plateau (Jalisco to Puebla), along the southern Pacific Coast, and in the southeast. Seasonal rain typically arrives in eastern sections of the southern plateau in April, allowing farmers to begin planting corn, and in western farming areas during May. Dryness was also untimely elsewhere in the east, in particular sugarcane areas in and around Veracruz and in rain-fed sorghum areas of Tamaulipas. Isolated, mostly light showers (locally exceeding 10 mm) were scattered across the north, but the rain missed the winter wheat and corn areas of the northwest, where harvesting was underway.

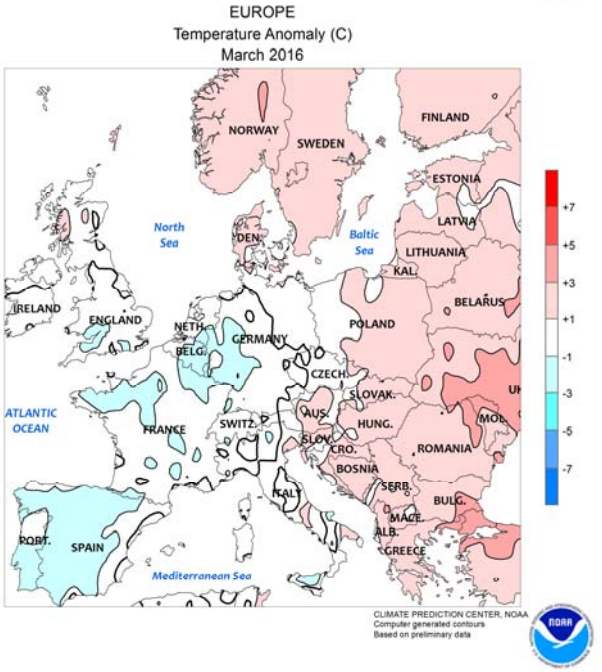
For additional information contact: mbrusberg@oce.usda.gov

March International Temperature and Precipitation Maps





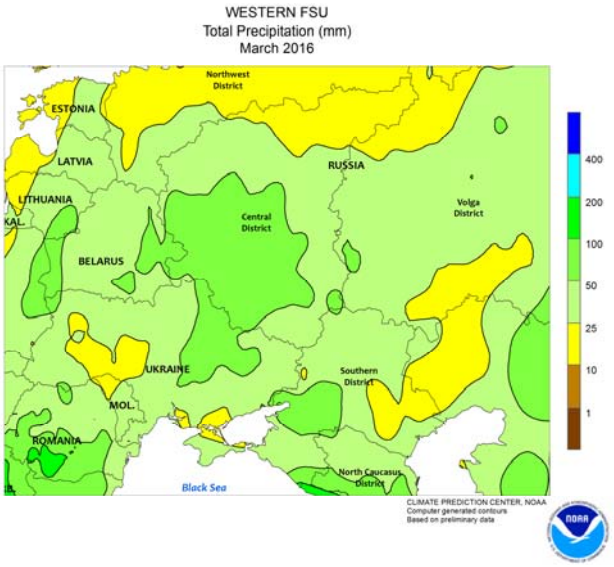


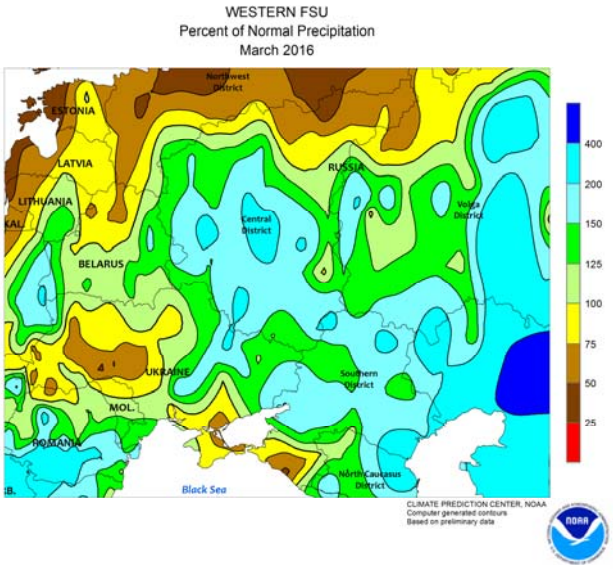


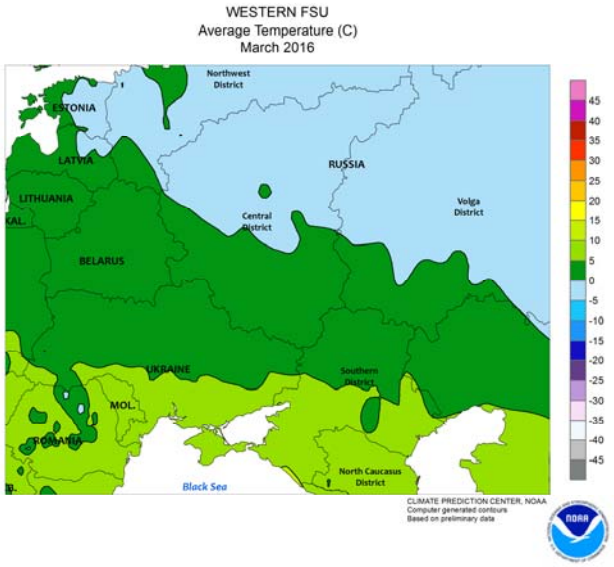
EUROPE

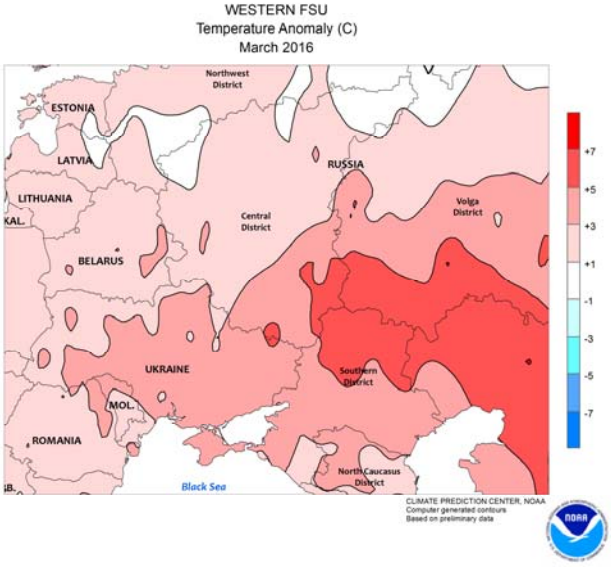
Near- to above-normal temperatures and precipitation during March sustained good to excellent prospects for winter crops over much of the continent. Average temperatures up to 3°C above normal accelerated winter crops out of dormancy across northeastern Europe and maintained faster-than-normal development in the Balkans. Meanwhile, wet weather (100-300 percent of normal rainfall) across much of Spain, Italy, and the southern Balkans maintained favorable conditions for reproductive winter grains and increased irrigation reserves for warm-season crops. Above-normal rainfall (locally in excess of 200 percent of normal) over France and southeastern England sustained abundant moisture supplies for winter crop development, but the wet weather hampered summer crop and small grain planting. Precipitation was generally favorable for the development of wheat and rapeseed in Germany and Poland, though drier conditions (locally less than 50 percent of normal) were noted in northern-most growing areas.

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





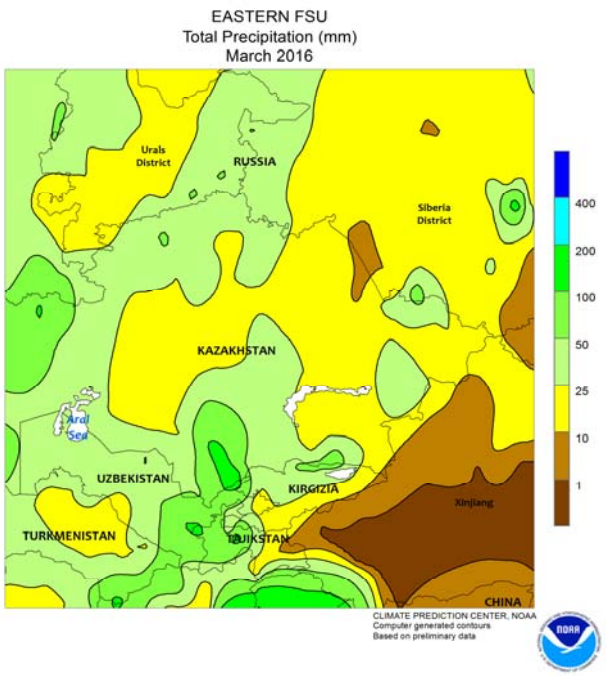


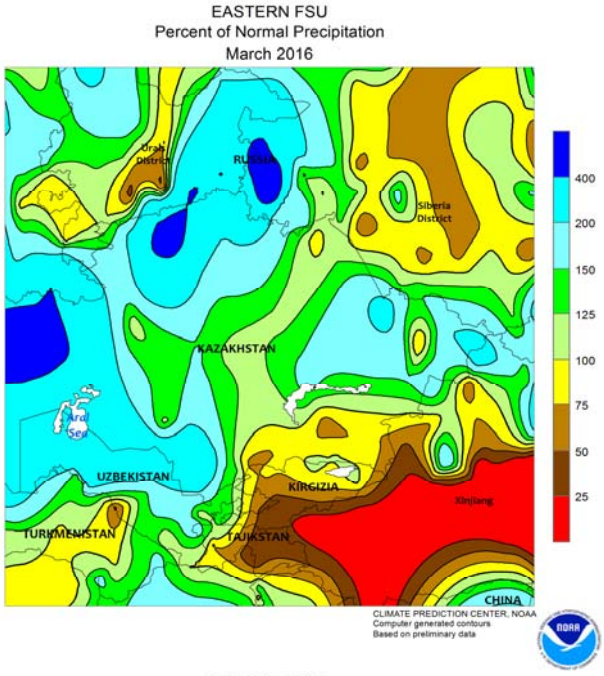


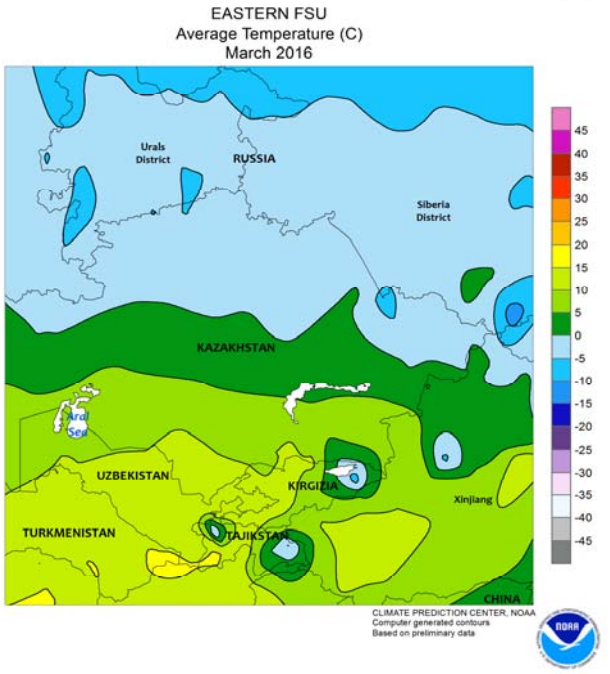
WESTERN FSU

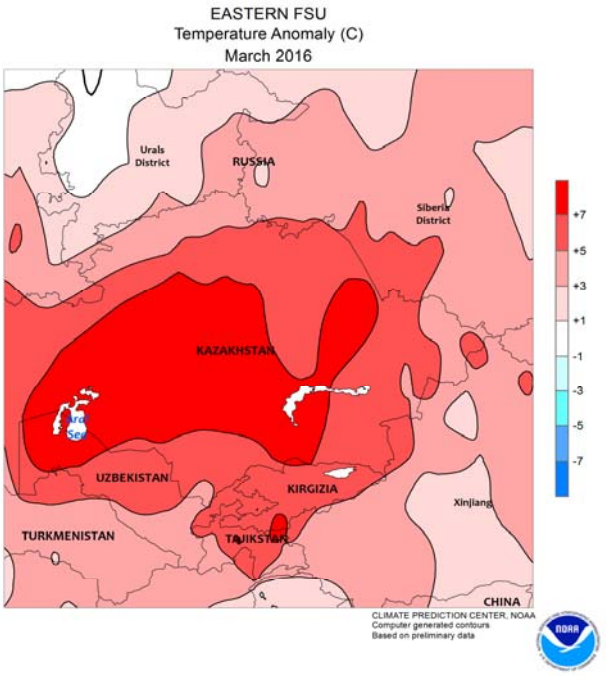
Mild, wet March weather eased crops out of dormancy in central Russia and promoted earlier-than-normal wheat development farther south. With another month of near- to above-normal precipitation, soil moisture remained adequate to abundant for spring growth in Ukraine and Russia. However, the impacts of autumn drought on winter wheat establishment were still evident in satellite-derived vegetation health data over central and southern Ukraine. Temperatures averaged 3 to 6°C above normal over most growing areas, facilitating much earlier-than-normal crop greenup and development in southern portions of Ukraine and Russia. In addition, the warm weather coupled with breaks in the rain allowed sowing of spring grains and summer crops to get off to an early start.

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



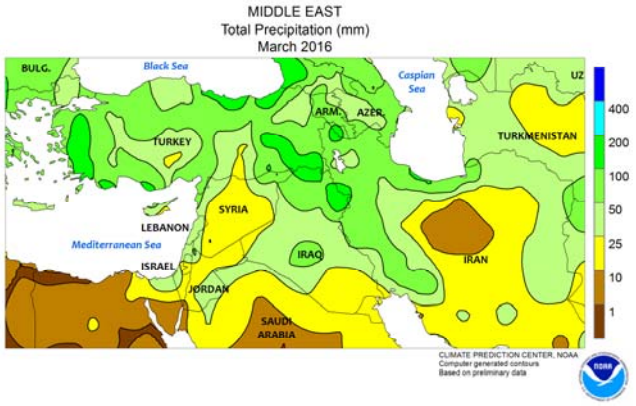


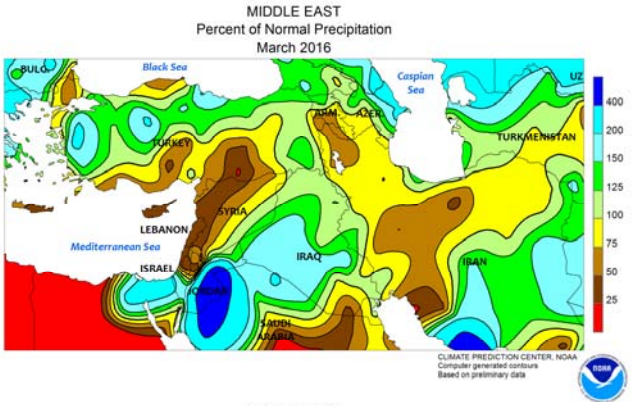


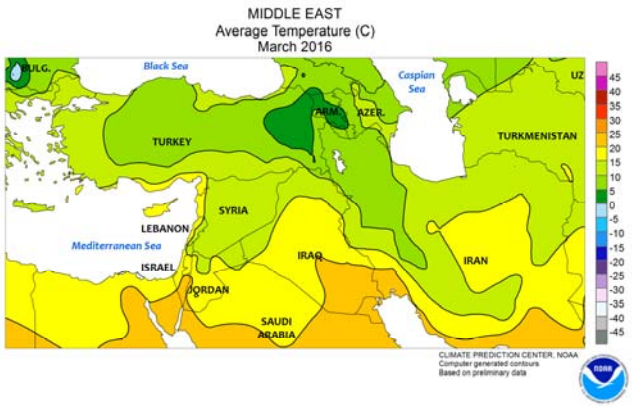


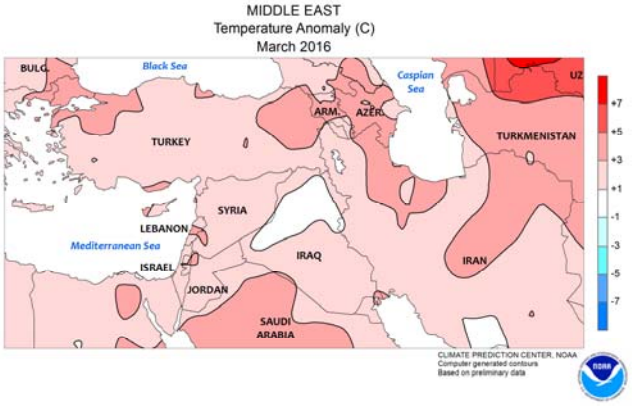
EASTERN FSU

Unusually mild conditions prevailed during March, with late-season snow in the north contrasting with moderate to heavy rain in southern growing areas. Despite temperatures averaging 2 to 6°C above normal, the region's snow cover lingered or increased in the northern spring wheat belt. Consequently, agricultural activity across northern Kazakhstan and central Russia remained minimal. Farther south, periodic showers (30-100 mm, locally more) helped offset moisture demands brought on by unusual warmth (up to 8°C above normal) across Uzbekistan's irrigated winter wheat areas. Despite the warm weather, daytime highs remained well below the threshold for adverse impacts to wheat nearing or approaching reproduction in southern crop areas.



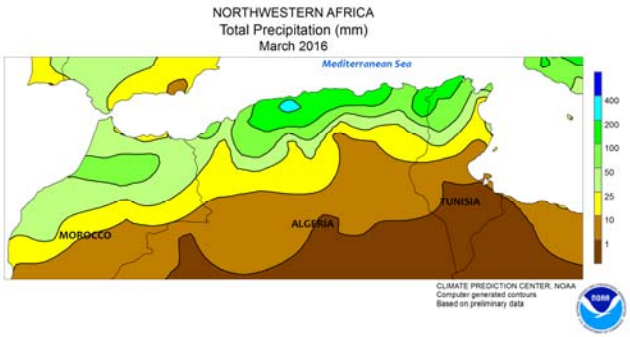


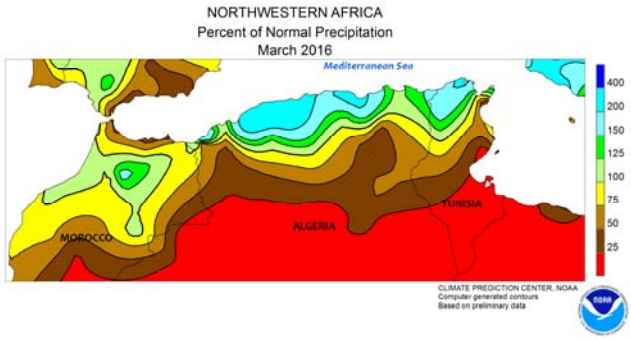


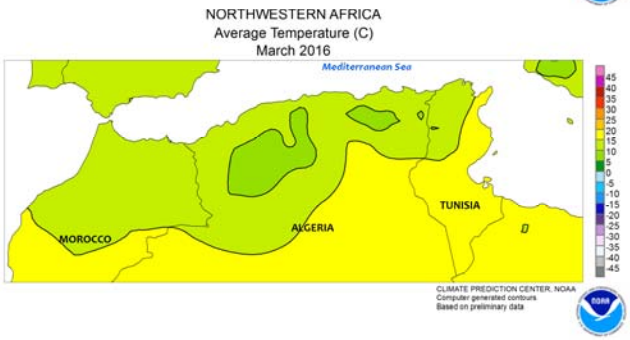


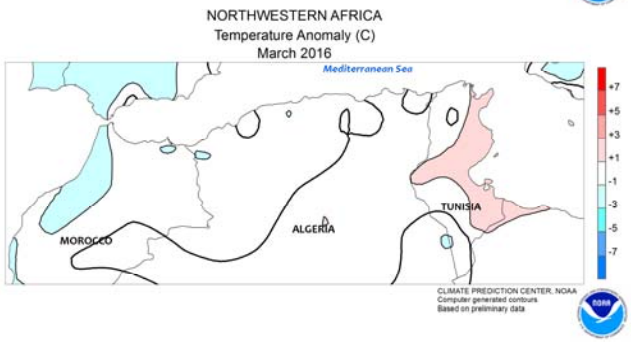
MIDDLE EAST

In March, widespread, locally heavy rain and near- to above-normal temperatures sustained excellent prospects for vegetative to heading winter wheat and barley over Iraq and Iran. Temperatures for the month averaged 2 to 5°C above normal, accelerating winter grain development in Turkey and western Iran, where crops broke dormancy in February more than a month ahead of average. Moderate to heavy rainfall (50-150 mm, locally more) was reported from southeastern Turkey into Iraq and much of western and northern Iran, sustaining abundant moisture supplies for crop development. Wet March weather (35-75 mm) also benefited Turkish winter grains, but autumn drought impacted crop establishment on the Anatolian Plateau; as a result, the satellite-derived vegetation health data over central Turkey continued to indicate varying degrees of crop stress.



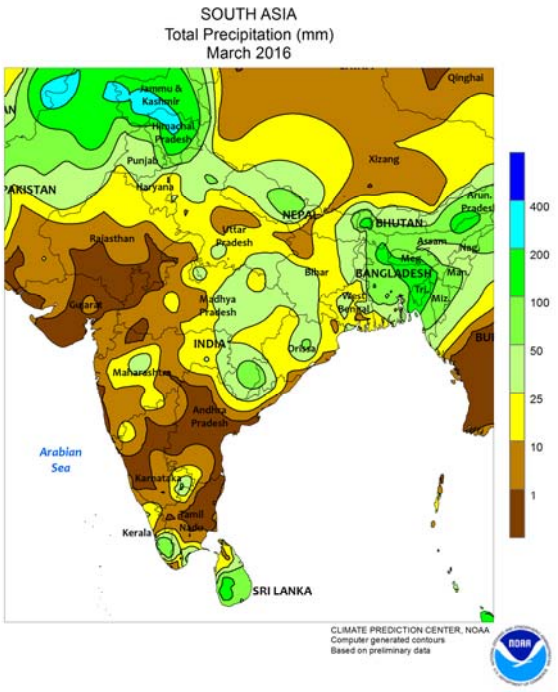


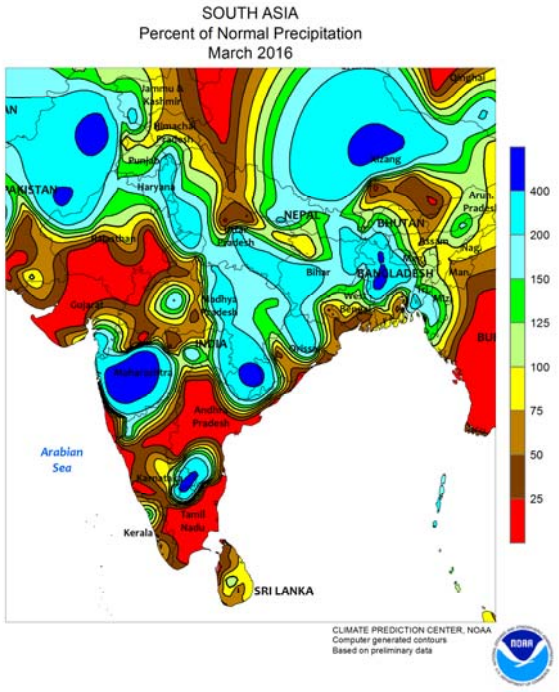


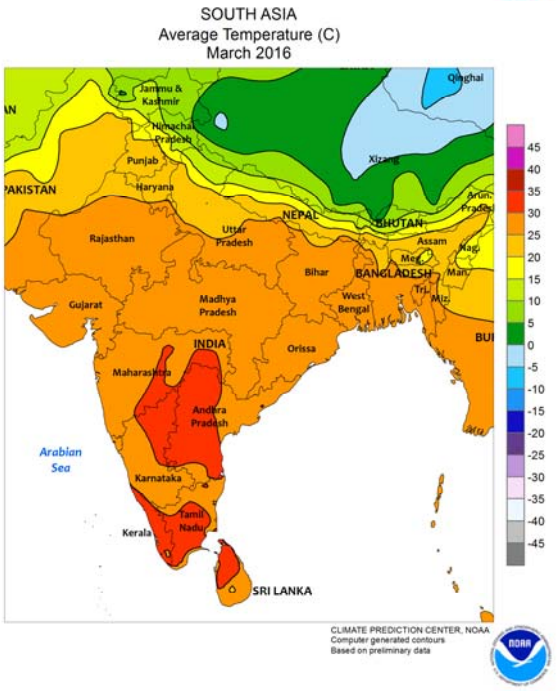


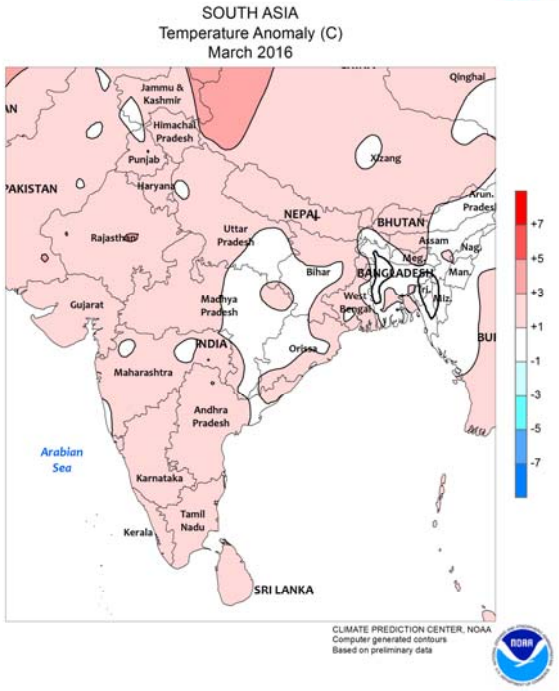
NORTHWESTERN AFRICA

Widespread rain and near-normal temperatures prevailed over the region during March. Moderate to heavy rainfall (100-250 mm) maintained good to excellent yield prospects for jointing to reproductive winter grains across Algeria and Tunisia. In contrast, despite additional late-season rain during March (30-80 mm), the adverse impacts of autumn drought on winter wheat and barley persisted in Morocco. Temperatures spiked into the lower to middle 30s (degrees C) at month's end over central and eastern growing areas, but crops were able to withstand the brief heat due to the abundant moisture supplies.



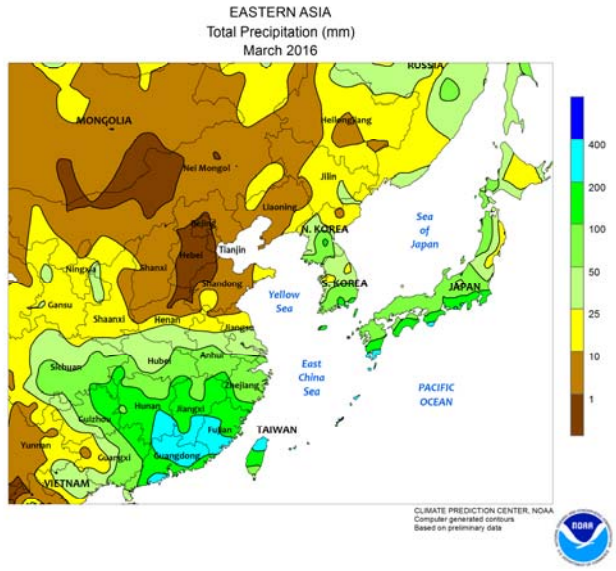


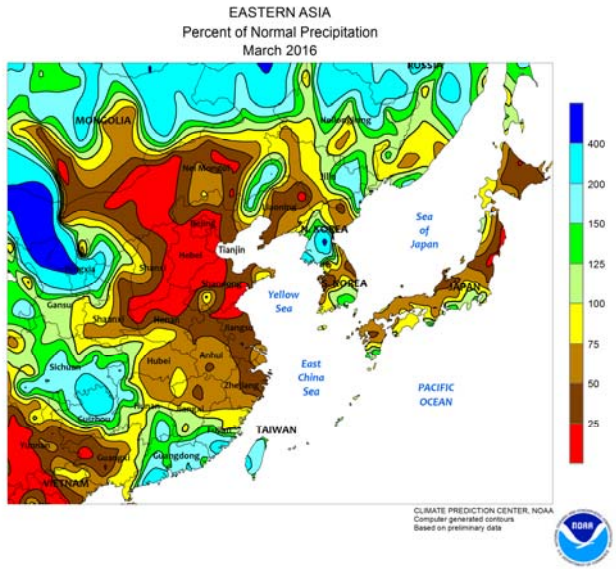


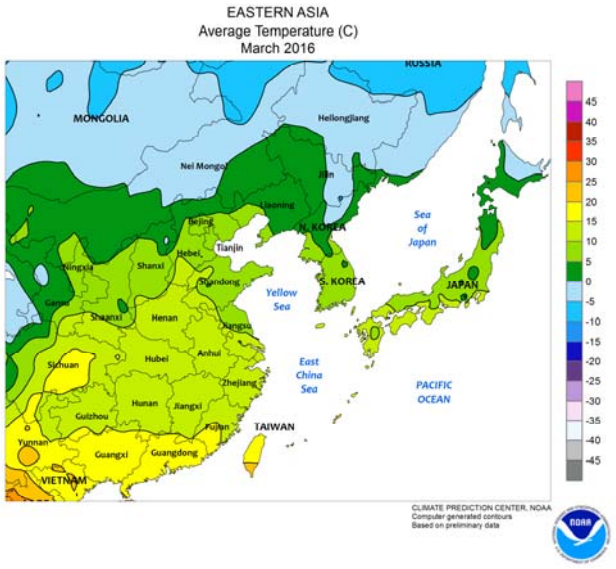


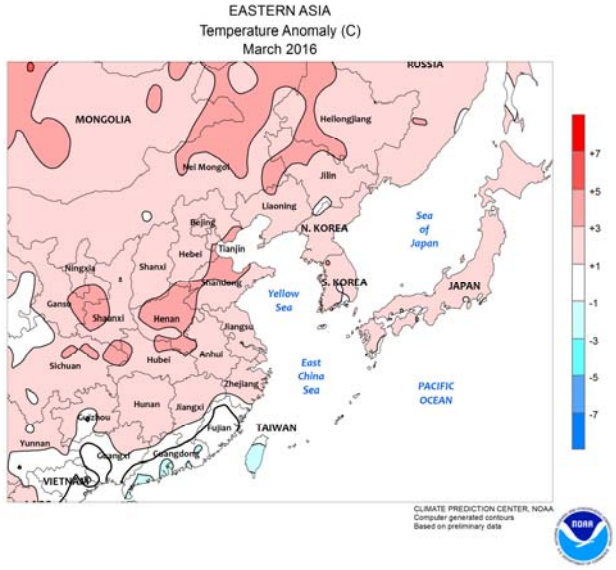
SOUTH ASIA

In March, periods of rainfall brought beneficial moisture to immature winter-grown (rabi) crops in eastern and northern India. However, portions of the north experienced strong thunderstorms with hail that caused damage to wheat but left rapeseed largely untouched. Meanwhile, heat was building earlier than usual, as temperatures routinely surpassed 40°C during the latter half of the month. In other parts of the region, heavy showers provided good moisture for immature wheat in Pakistan, although as with India, severe weather in far northern sections caused some damage.





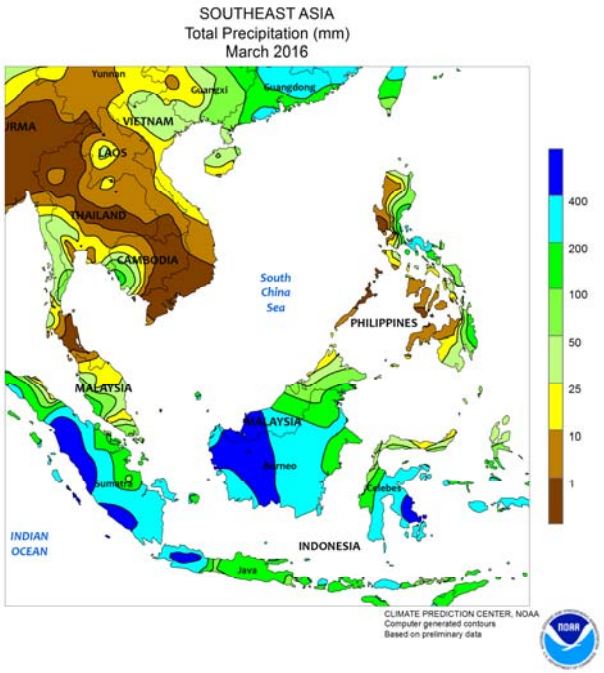


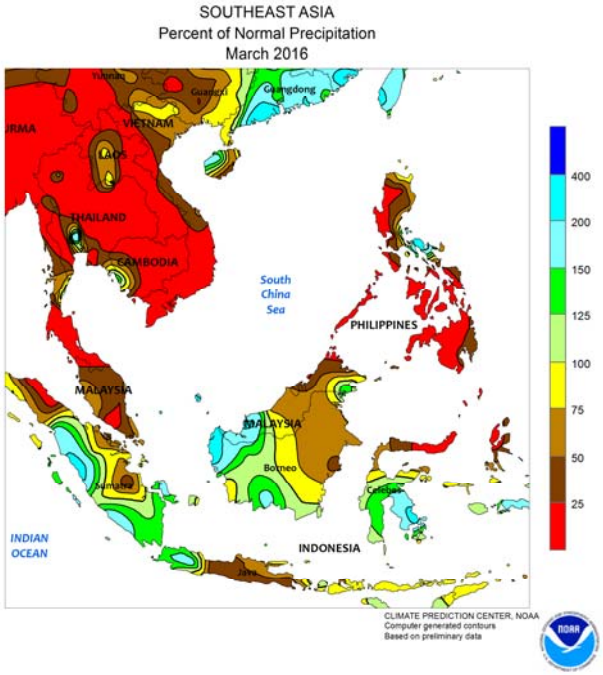


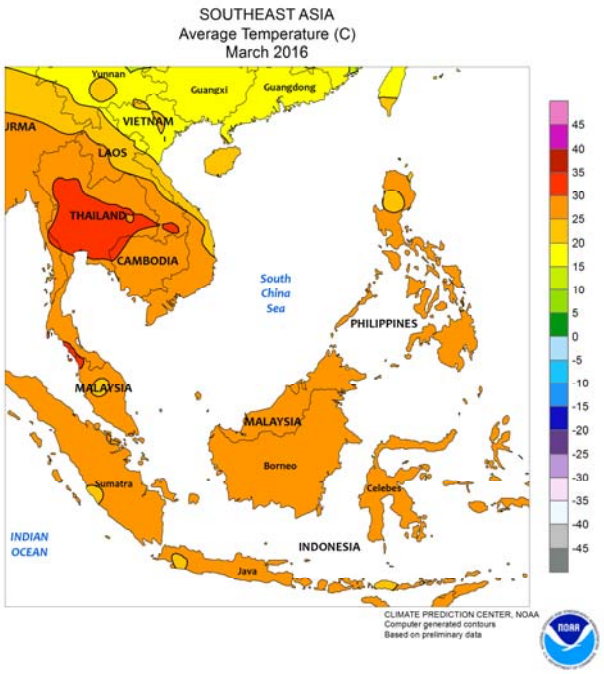
EASTERN ASIA

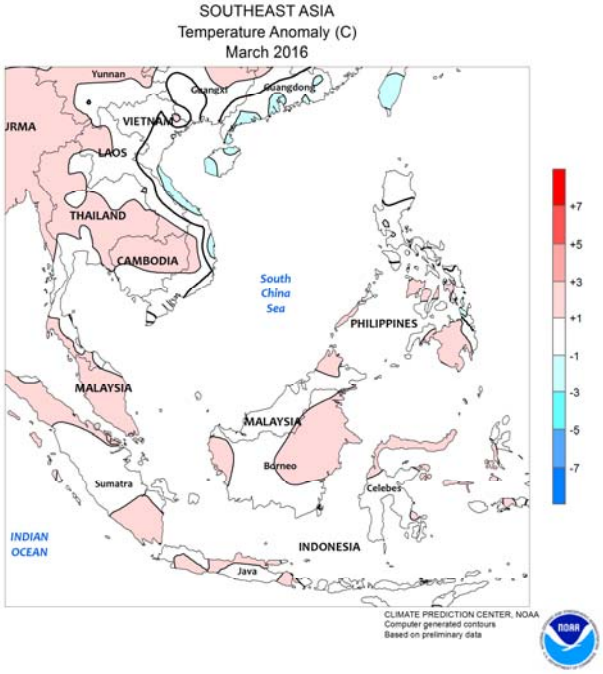
March dryness welcomed wheat breaking dormancy on the North China Plain. Temperatures consistently above-normal allowed wheat to break dormancy early in the month and about one week earlier than normal. In addition, limited rainfall in Shandong and Hebei necessitated supplemental irrigation to maintain fair to good crop conditions. In the Yangtze Valley, despite periodic rainfall, amounts were below normal for vegetative rapeseed and newly-sown spring crops. Consistent rainfall in southern China benefited cultivation of early-crop rice.

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





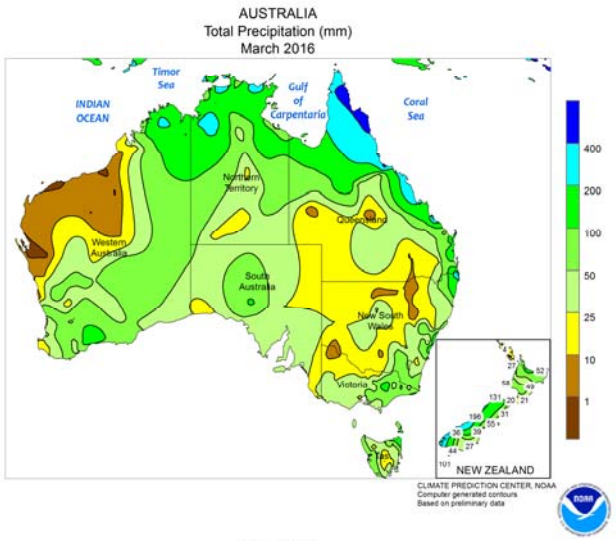


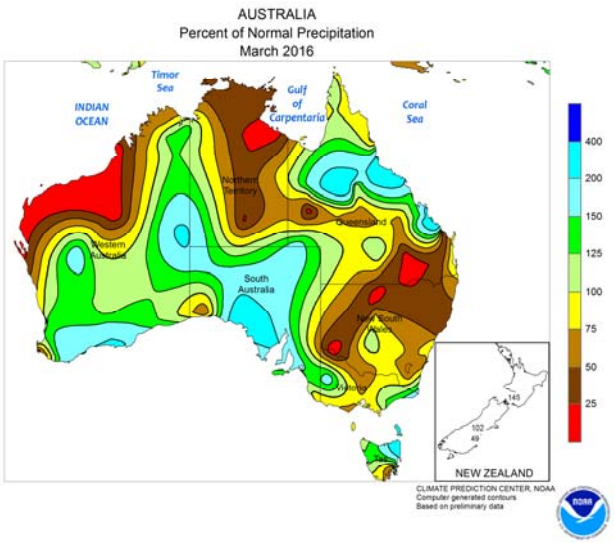


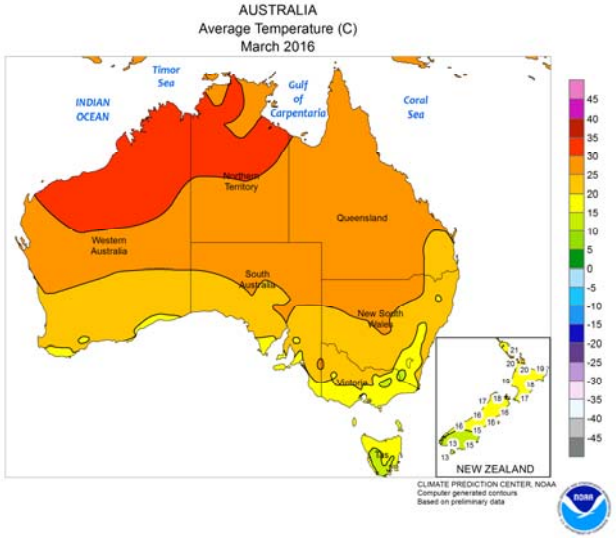
SOUTHEAST ASIA

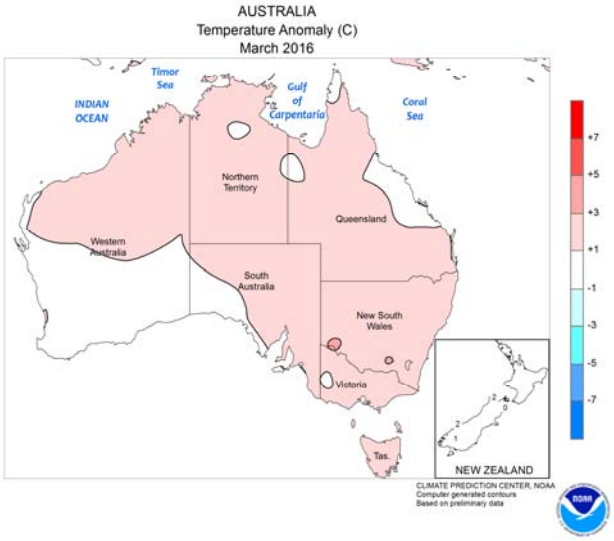
The weather pattern remained largely unchanged month to month in the region, with below-normal rainfall continuing across most of the Philippines and into rice areas of Indonesia during March. While the relatively dry conditions aided winter-grown rice harvesting, the dryness limited the amount of water available for spring-sown varieties. In contrast, western Java continued to receive abundant rainfall (over 150 mm for the month), keeping immature rice well watered. Similar amounts of rain also occurred in oil palm areas farther north, slowing harvesting but maintaining favorable soil moisture. In Malaysia, oil palm continued to experience unseasonable dryness that kept prospects below last year. Farther north, seasonably dry weather aided winter-grown rice harvesting in Thailand and southern Vietnam, as preparations were also underway for cultivation of summer varieties.

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



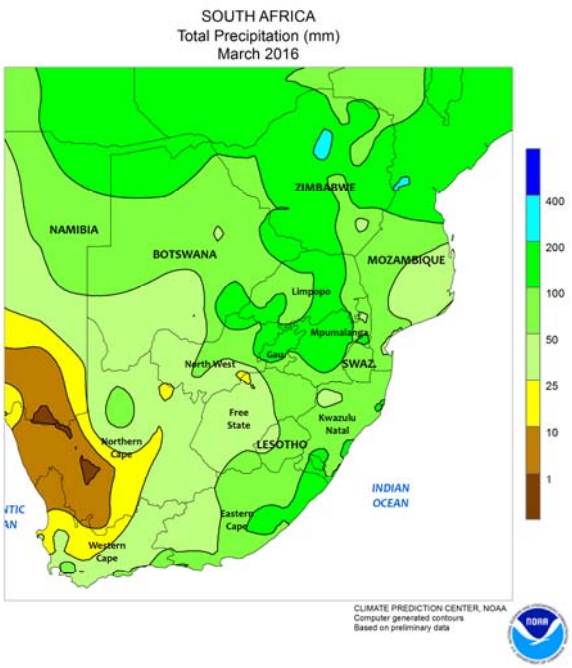


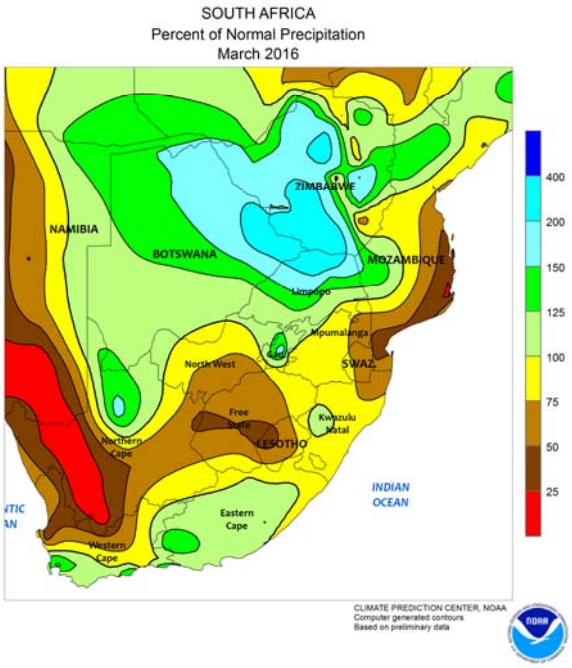


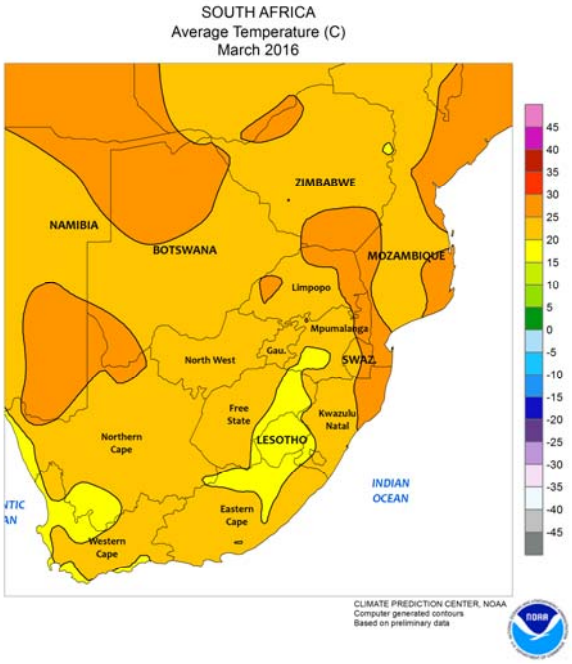


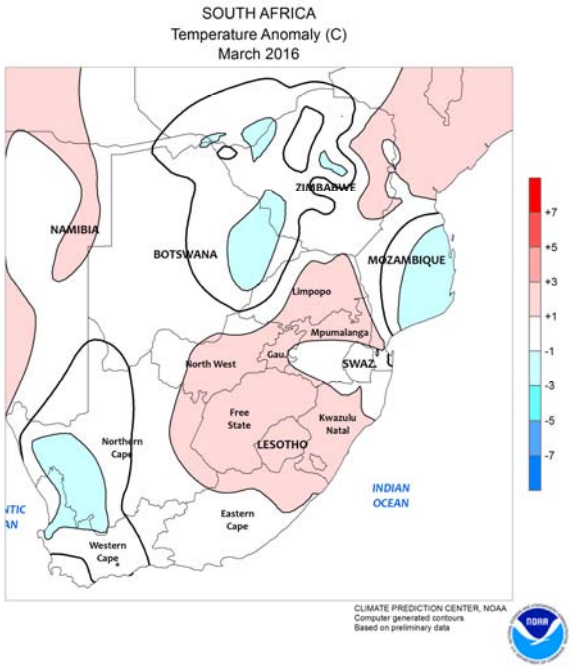
AUSTRALIA

In March, warmer- and drier-than-normal weather overspread southern Queensland and northern New South Wales. In general, the heat and dryness favored maturation and harvesting of summer crops that were planted early in the growing season. However, the hot, dry weather may have stressed some summer crops, especially immature crops which were sown later in the planting window.



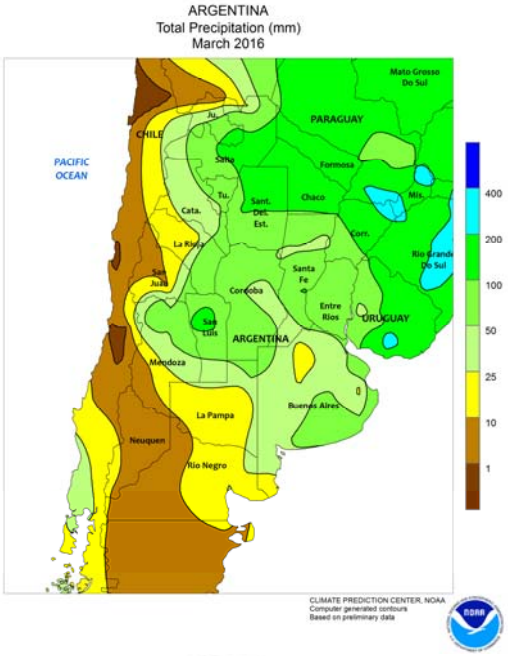


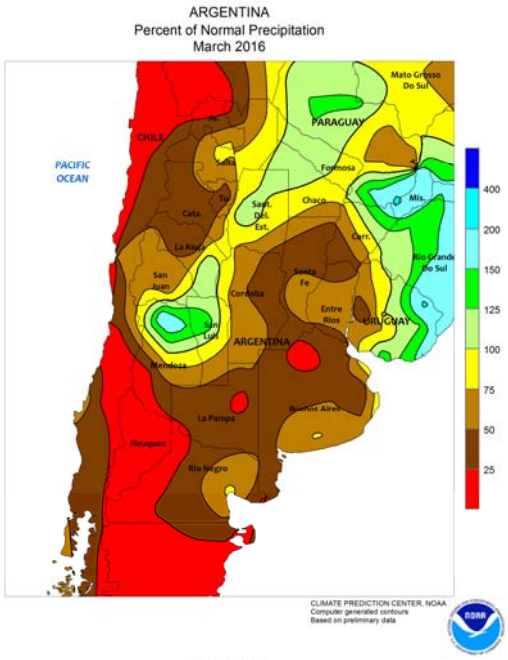


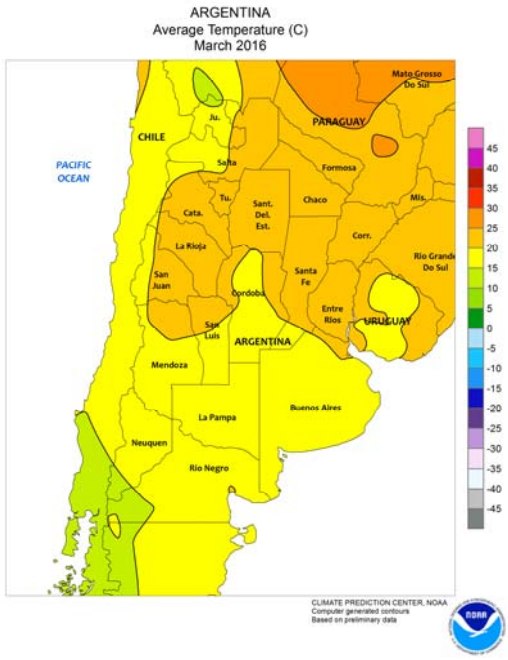


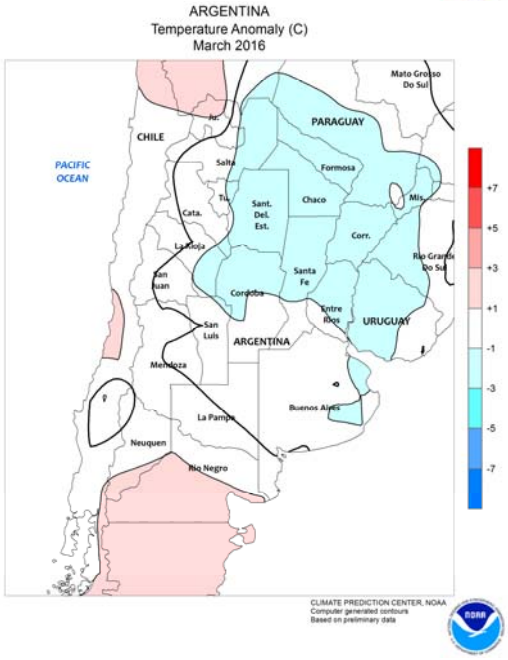
SOUTH AFRICA

During the first half of March, showers benefited late-planted summer crops in western sections of the corn belt. However, rainfall amounts were insufficient to significantly improve prospects of drought-affected crops; in fact, drier conditions returned at month's end, resulting in below-normal March rainfall in primary corn producing areas of North West, Free State, and Mpumalanga. Similarly, unseasonable showers gave a late boost to sugarcane in rain-fed production areas in southern KwaZulu-Natal. Somewhat drier and warmer conditions prevailed in irrigated sugarcane areas of northern KwaZulu-Natal and eastern Mpumalanga, spurring early harvesting. Elsewhere, scattered showers boosted late-season irrigation reserves for summer row crops in Northern and Eastern Cape, while dryness and summer warmth in Western Cape favored the latter stages of tree and vine crop harvesting until the development of showers at month's end.





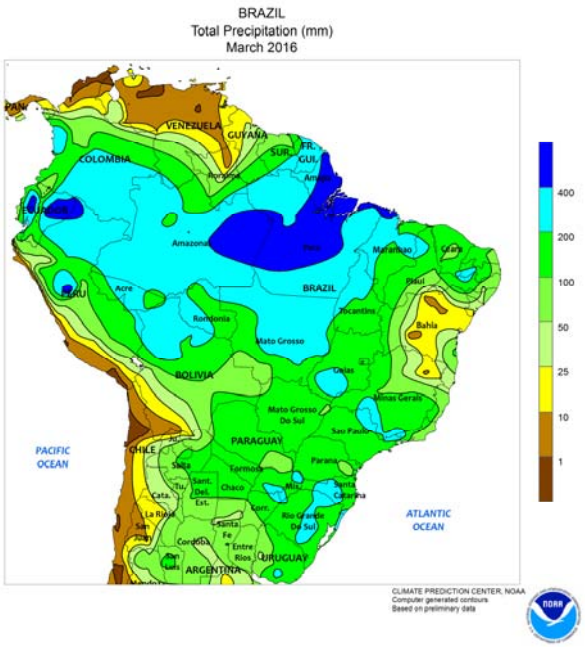


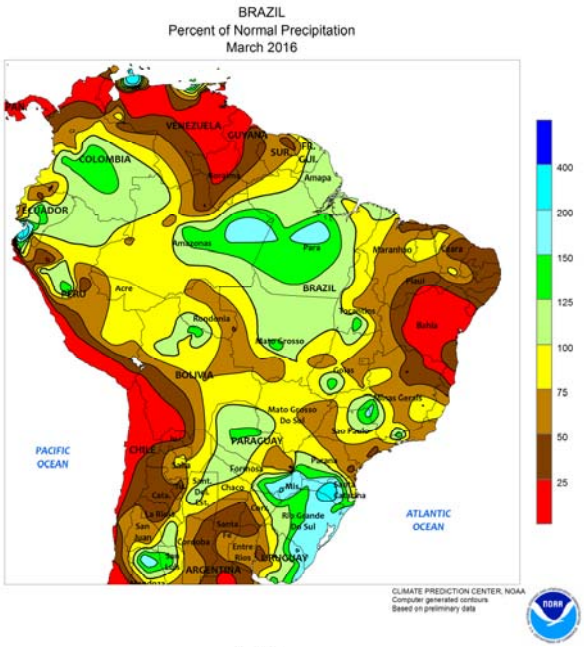


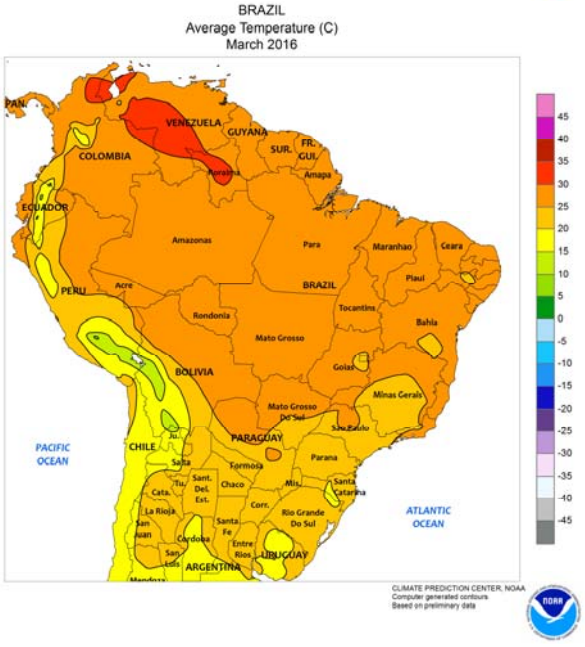
ARGENTINA

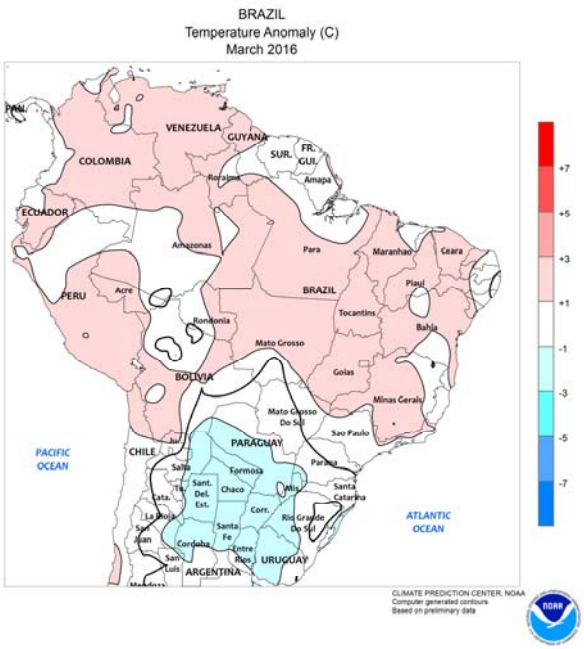
Following a wet February, drier conditions prevailed for most of March, spurring growth of generally well-watered summer grains, oilseeds, and cotton. The driest locations relative to normal included La Pampa and Buenos Aires, where monthly amounts totaled only 10 to 50 mm (less than 50 percent of normal). Another drier-than-normal location was in the vicinity of northern Santa Fe, although monthly rainfall totaled more than 50 mm. Most other northern farming areas recorded more than 100 mm for the month, maintaining adequate to abundant levels of moisture for summer grains, oilseeds, and cotton. Monthly temperatures averaged near to slightly below normal, fostering summer crop development in the absence of stressful heat. Nighttime lows occasionally fell into the lower single digits (degrees C) but no freeze was reported. Despite the general cooling trend, daytime highs reached the middle 30s on several days.

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





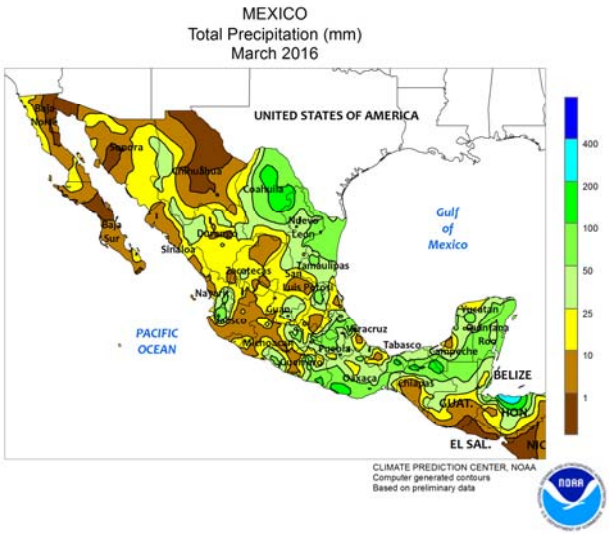


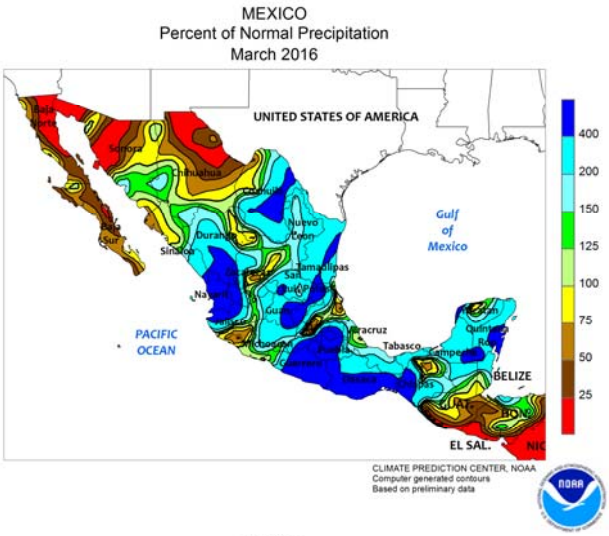


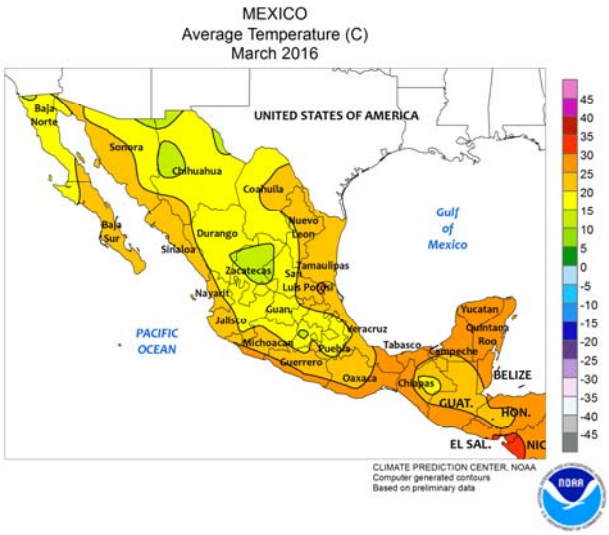
BRAZIL

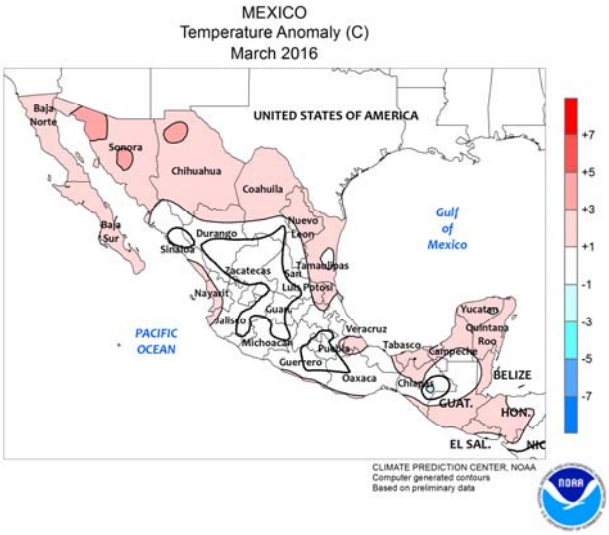
During the first half of March, beneficial rain fell throughout key farming areas of central and northeastern Brazil. In the northeastern interior (in and around western Bahia), the rain ended a drying trend that began in early February. The dryness in the northeastern interior reduced moisture for late-planted cotton, while supporting drydown and harvesting of soybeans. Drier conditions also prevailed in Mato Grosso, an important producer of second-crop corn, during the latter half of the month. The dryness in and around Mato Grosso raised concern for a potential premature end to the rainy season. Above-normal temperatures maintained high evapotranspiration rates of immature summer crops in the aforementioned areas, with daytime highs frequently reaching the middle 30s (degrees C). Meanwhile, near- to above-normal rainfall maintained overall favorable conditions for second-crop corn in southern production areas (Mato Grosso do Sul southward).

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



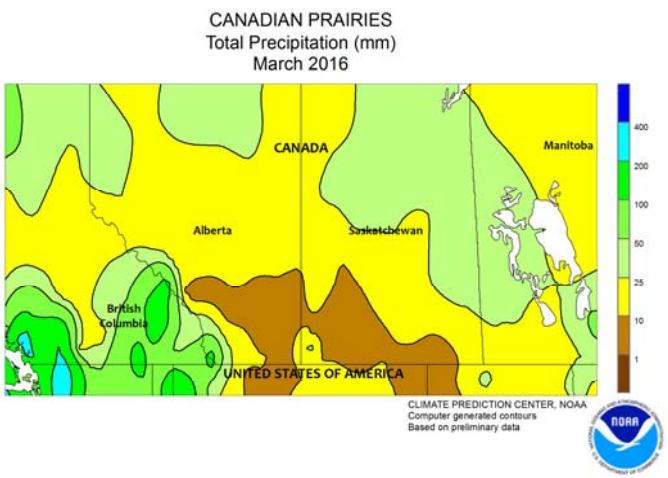


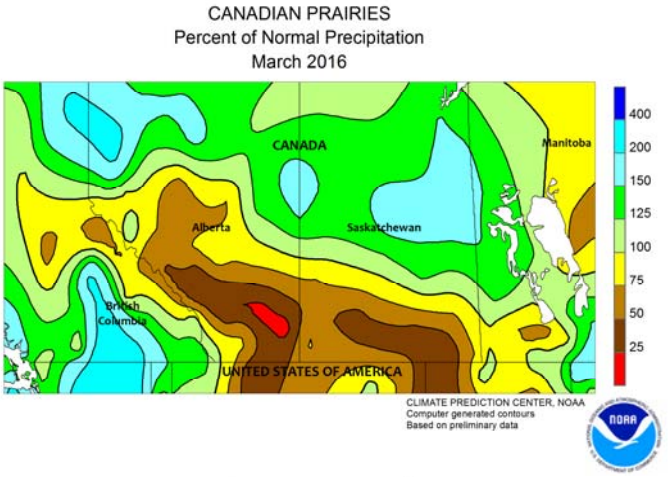


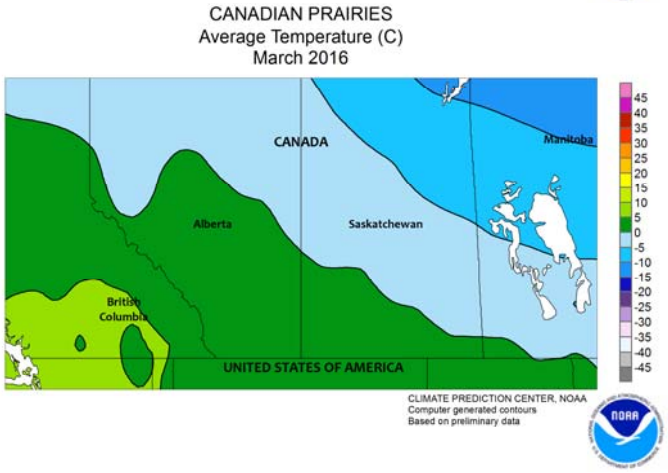


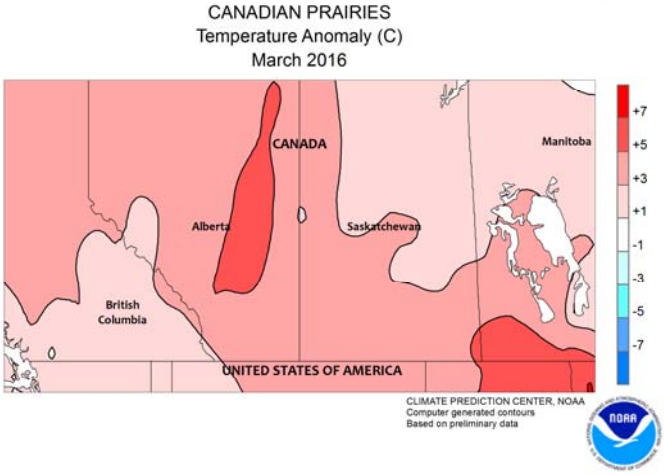
MEXICO

In early March, an unusual surge of moisture generated unseasonably heavy rain across much of the country. In northeastern Mexico, the rainfall was timely for rain-fed winter sorghum, which had experienced mostly dry weather since January. Meanwhile, rain in eastern sections of the southern plateau corn belt (notably Puebla and environs) helped to condition fields for upcoming planting operations, though the moisture likely came too early to encourage significant levels of early planting. Similarly, scattered showers were recorded along the southern Pacific Coast, the Yucatan Peninsula, and in central sections of Mexico, boosting local moisture reserves. Somewhat lighter rain (monthly totals in excess of 10 mm) fell in northwestern Mexico, followed by mostly dry, warmer-than-normal weather for the remainder of March; periods of warmth and sunshine spurred development of filling to maturing wheat and corn.



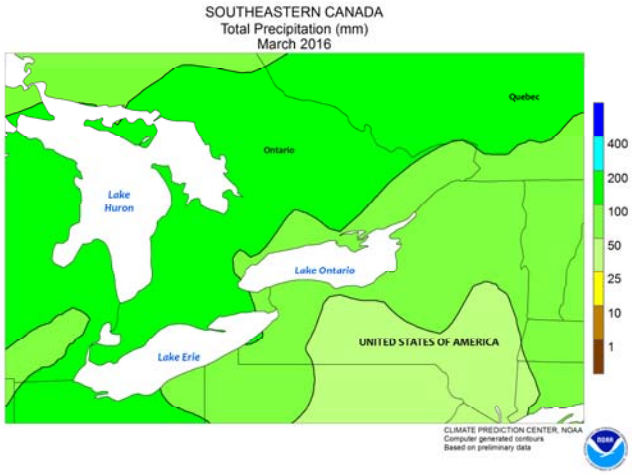


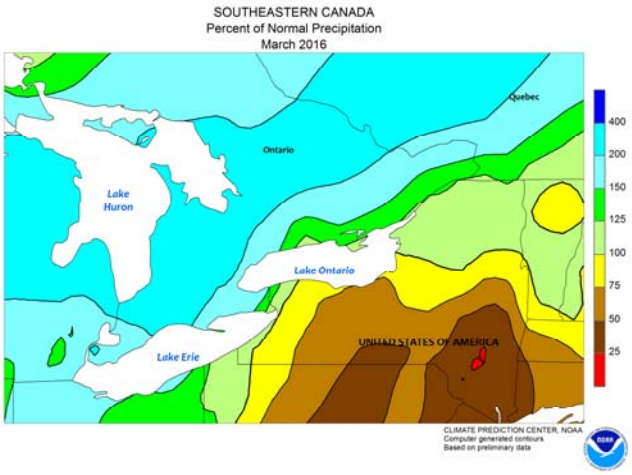


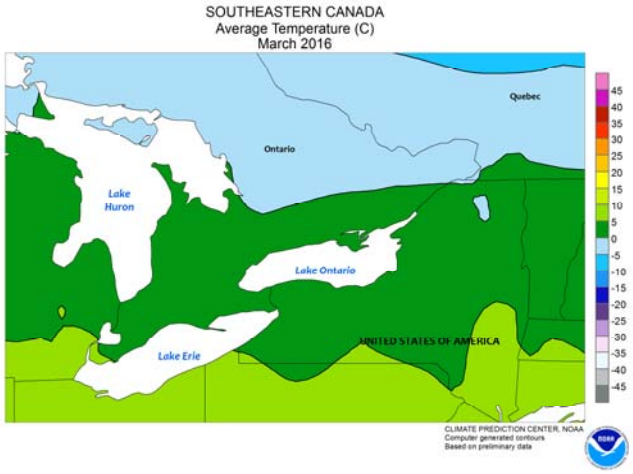


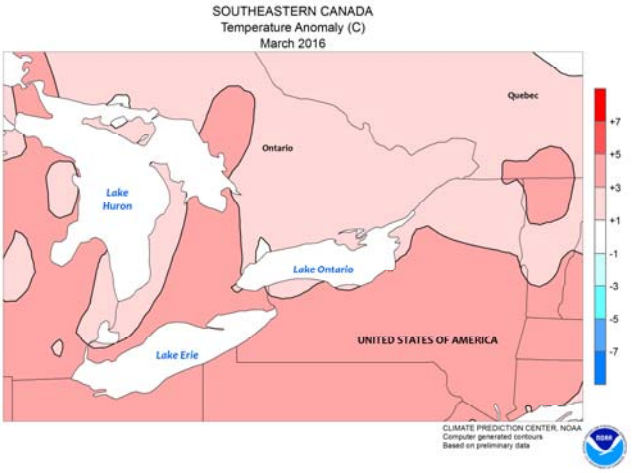
CANADIAN PRAIRIES

The trend of warmer-than-normal winter conditions continued for much of the month of March, favoring overwintering wheat and pastures. Following a cold start to the month (nighttime lows falling below -20°C in snow-covered farmlands of Manitoba and northeastern Saskatchewan), a warming trend pushed daytime highs into the middle 10s (degrees C), keeping most southern agricultural districts free from snow through the middle part of March. Colder conditions returned at mid-month, but temperatures did not fall low enough to cause damage to overwintering crops. Despite the occasional cold outbreaks, monthly temperatures averaged up to 5°C above normal in spots. March precipitation was near to below normal over much of Alberta and the southeast, and near to above normal elsewhere, with the highest amounts (monthly accumulations greater than 25 mm) in Alberta's Peace River Valley, northeastern Saskatchewan, and Manitoba's Interlake region.









SOUTHEASTERN CANADA

Warmer- and wetter-than-normal weather prevailed during March, favoring overwintering wheat and boosting moisture reserves for the upcoming planting of summer crops. Some of the heaviest precipitation (weekly accumulations exceeding 25 mm) came during the latter half of the month in the form of rain. Snow fell at other times during the month, although recurring warmth quickly melted the snow cover over Ontario; key southwestern farming areas spent much of the month without a protective snow cover, though temperatures generally stayed well above the threshold for potential damage to overwintering crops. Nighttime lows briefly fell below -20°C in Quebec and Ontario's more northerly farming areas but snow was present in the coldest locations, offering some protection from the cold. Monthly average temperatures were 1 to 3°C above normal but not high enough to induce crops into active vegetative growth.

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

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

	Recharge		Withdrawal
2010-11	12.47 (151%)	**2011**	8.78 (107%)
2011-12	5.79 (70%)	**2012**	11.54 (140%)
2012-13	6.52 (79%)	**2013**	11.49 (139%)
2013-14	4.17 (51%)	**2014**	7.75 (94%)
2014-15	6.46 (78%)	**2015**	7.13 (87%)
2015-16	12.01 (146%)		
Avg.	**8.24**	**Avg.**	**8.24**

Notes: Recharge and withdrawal values are based on end-of-month statistics, not daily readings. The recharge for 2015-16 is updated through March 31.

Source: California Department of Water Resources

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

Correspondence to the meteorologists should be directed to:
***Weekly Weather and Crop Bulletin*, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 4443B, Washington, DC 20250.**
Internet URL: **http://www.usda.gov/oce/weather**
E-mail address: ***brippey@oce.usda.gov***

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