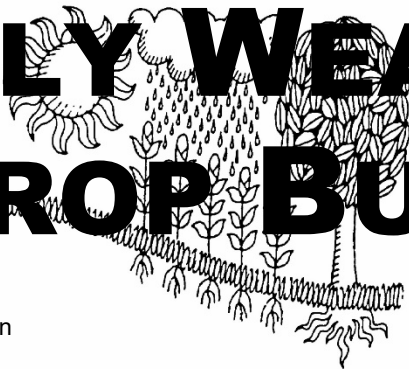
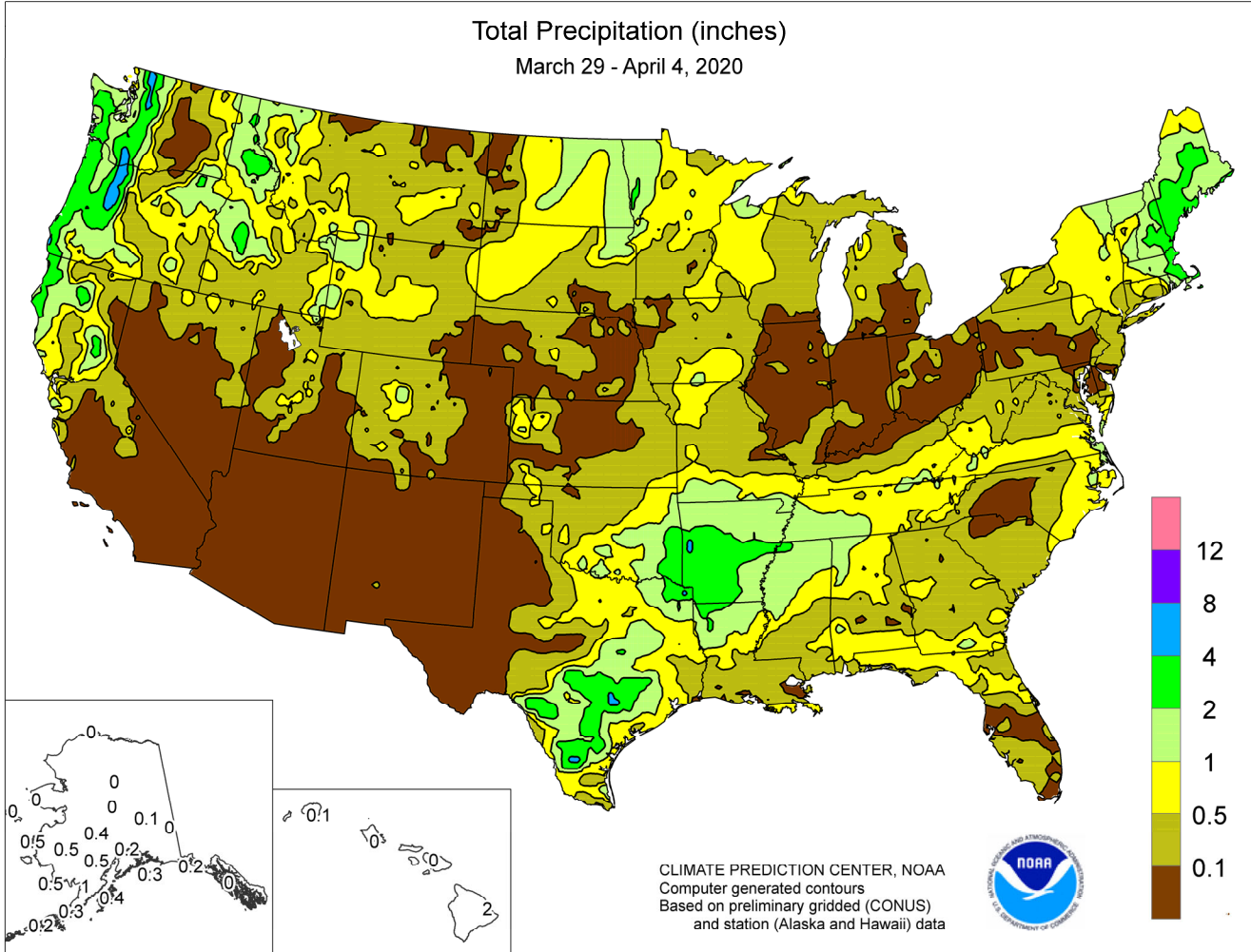


WEEKLY WEATHER AND CROP BULLETIN



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

March 29 – April 4, 2020

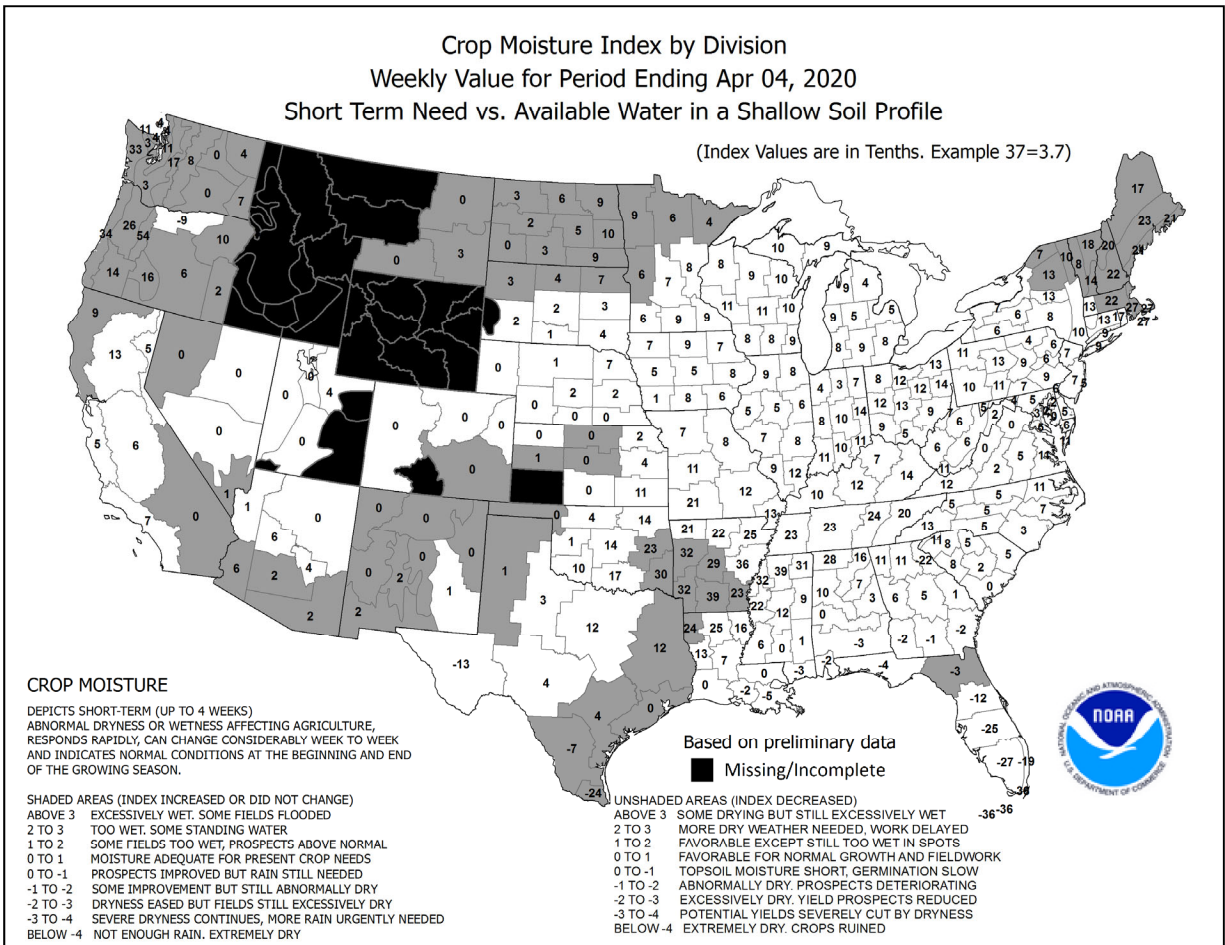
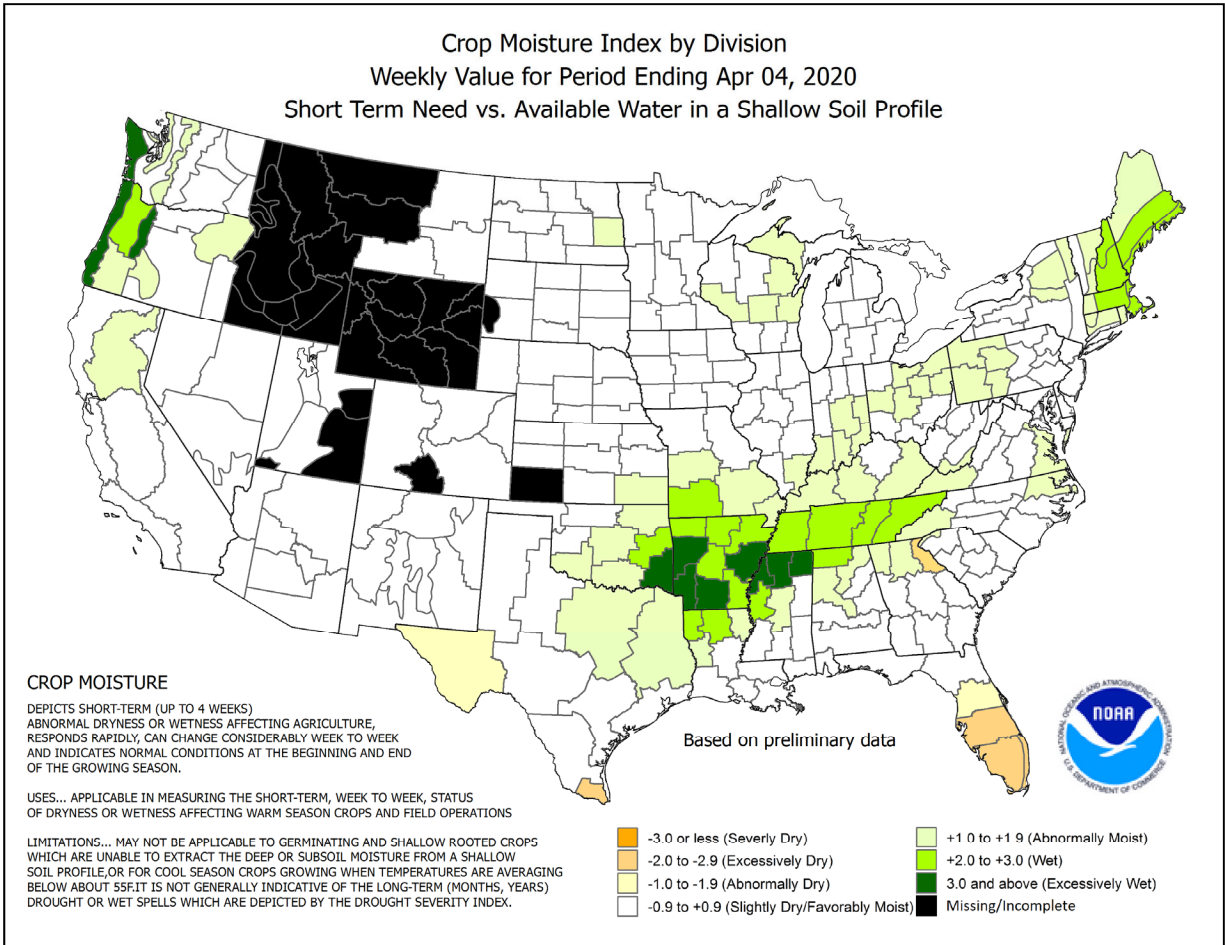
Highlights provided by USDA/WAOB

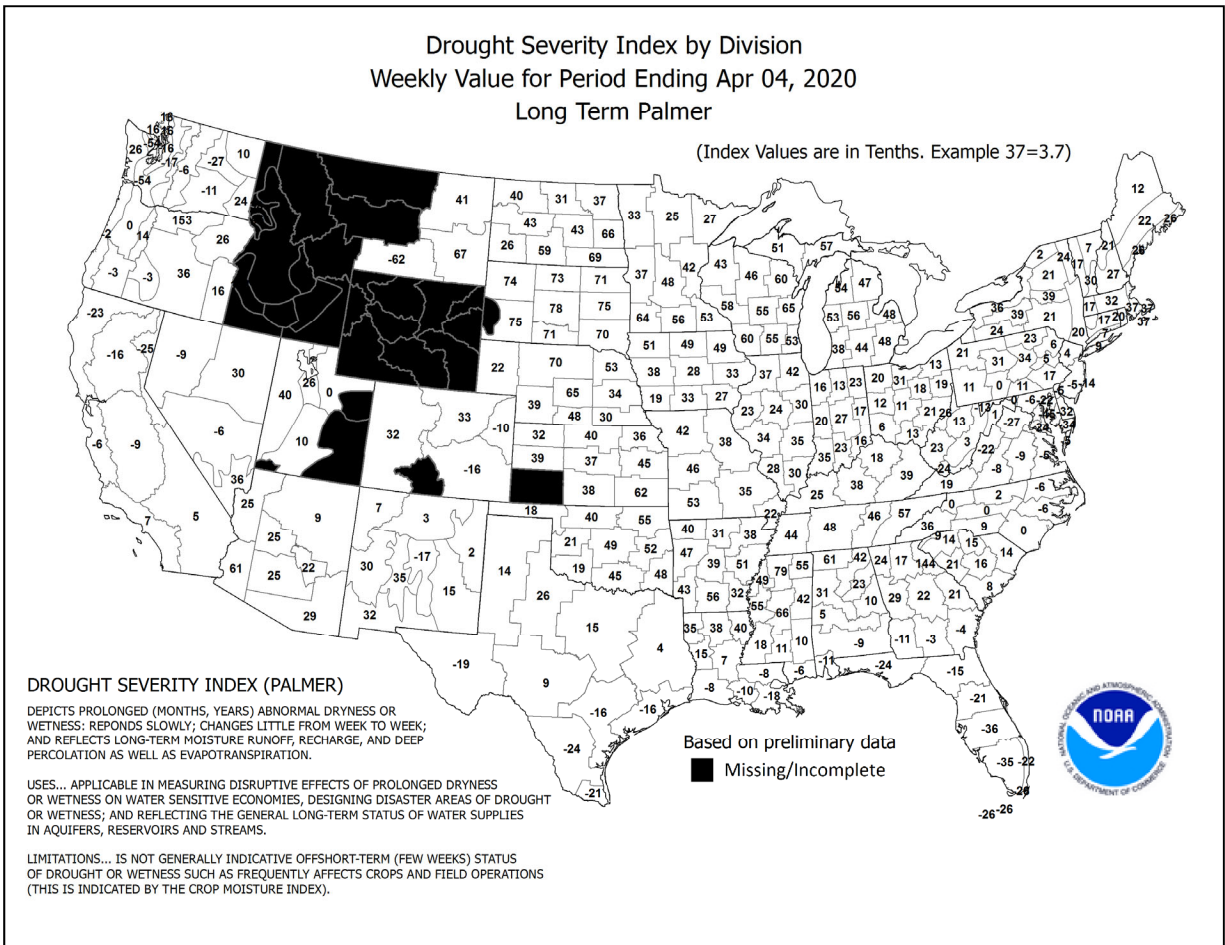
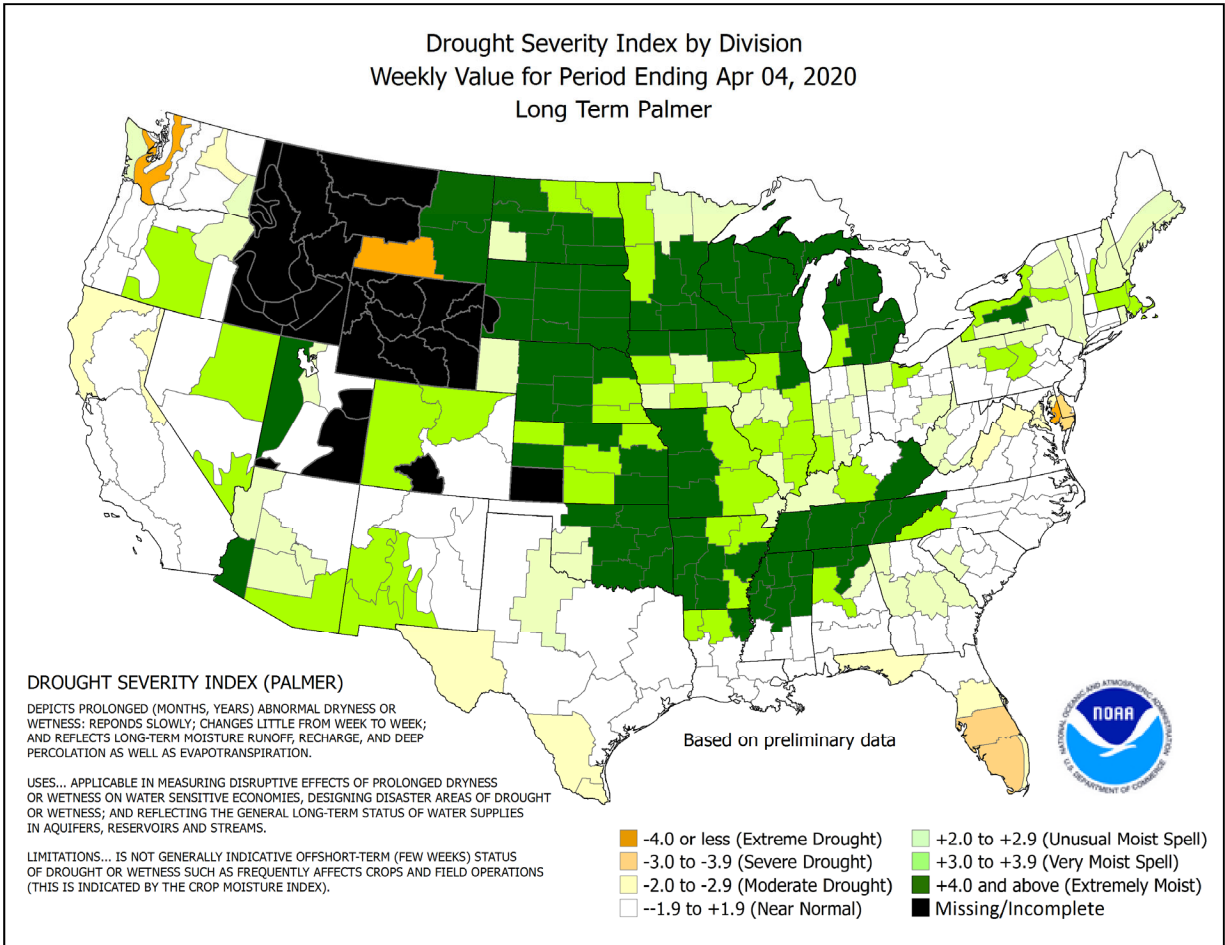
From April 1-3, a late-season storm delivered wintry precipitation across the **north-central U.S.**, increasing the likelihood of major spring flooding in parts of the **Red River Valley (of the North)** and environs. Storm-total snowfall reached 6 to 16 inches across **eastern North Dakota** and **northwestern Minnesota**. Meanwhile, separate areas of significant precipitation affected **New England**, the **Pacific Northwest**, and an area stretching from **south-central Texas** into the **mid-South**. **Northeastern** precipitation, sparked by an **Atlantic**

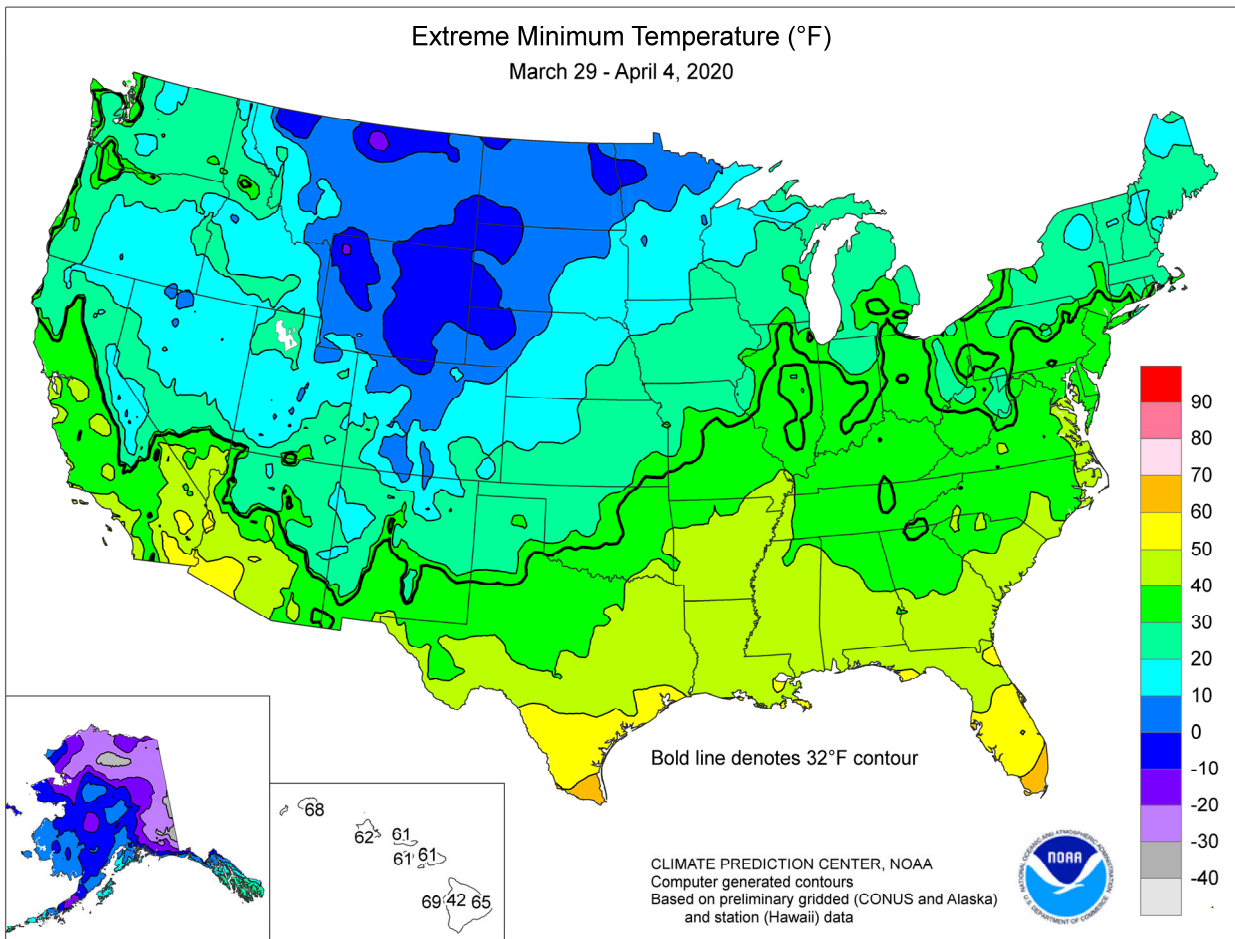
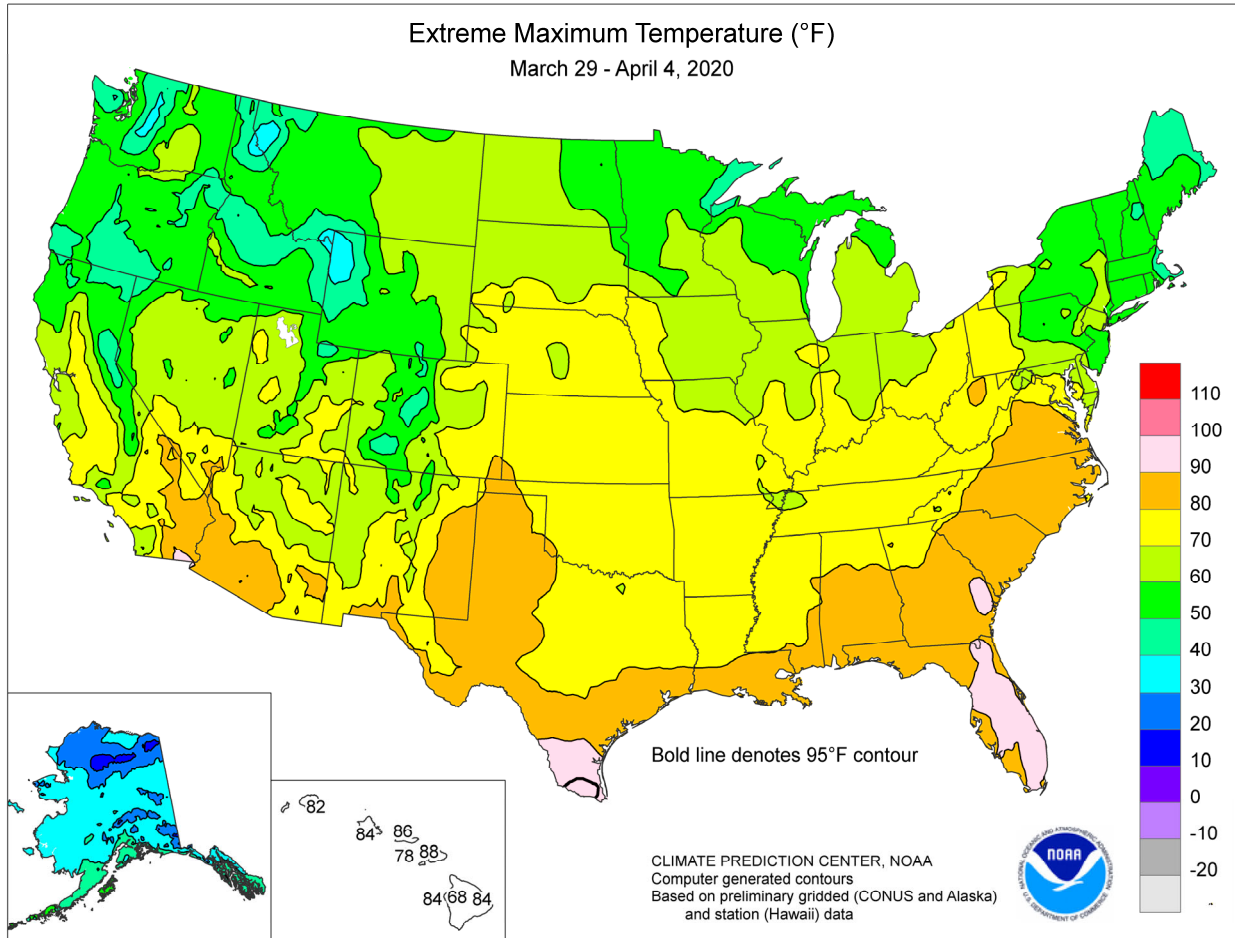
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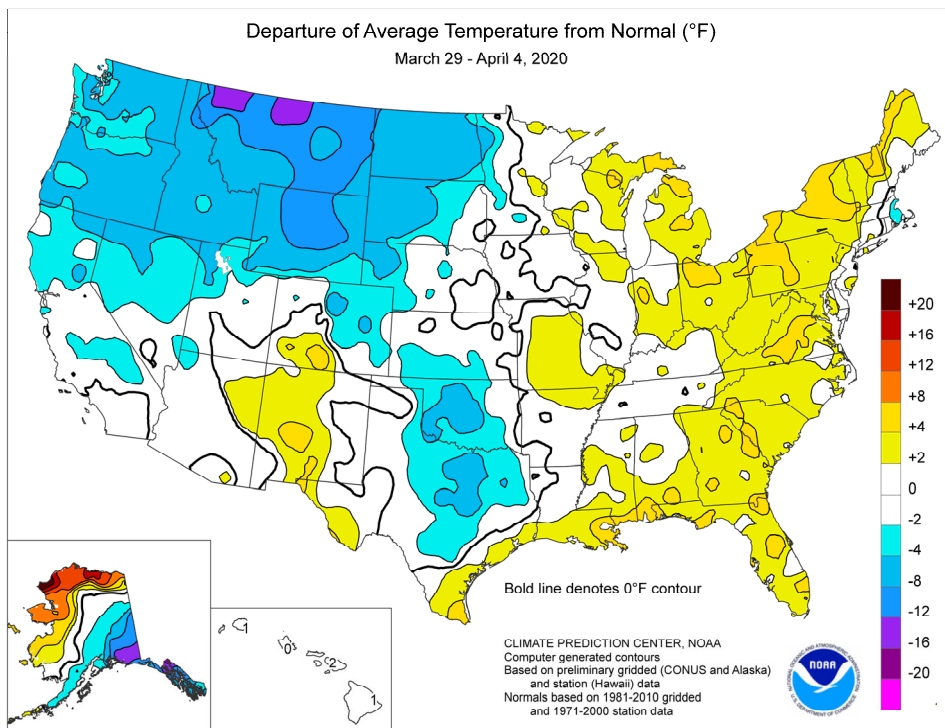


(Continued from front cover)

coastal storm, was accompanied by gusty winds, while late-week rain in **southern Texas** provided local drought relief. In contrast, generally dry weather prevailed throughout the week in **southern Florida**, the **eastern Corn Belt**, and a broad area covering **southern California**, the **Southwest**, and the **central and southern High Plains**. Developing drought in **Florida** maintained heavy irrigation demands and an elevated threat of wildfires. Elsewhere, below-normal temperatures affected the **Northwest** and large sections of the **Plains**, while warmer-than-normal conditions dominated the **East**. Weekly temperatures averaged 5 to 15°F below normal in **Montana** and portions of neighboring states, while readings were as much as 5°F above normal across the **lower Southeast**.

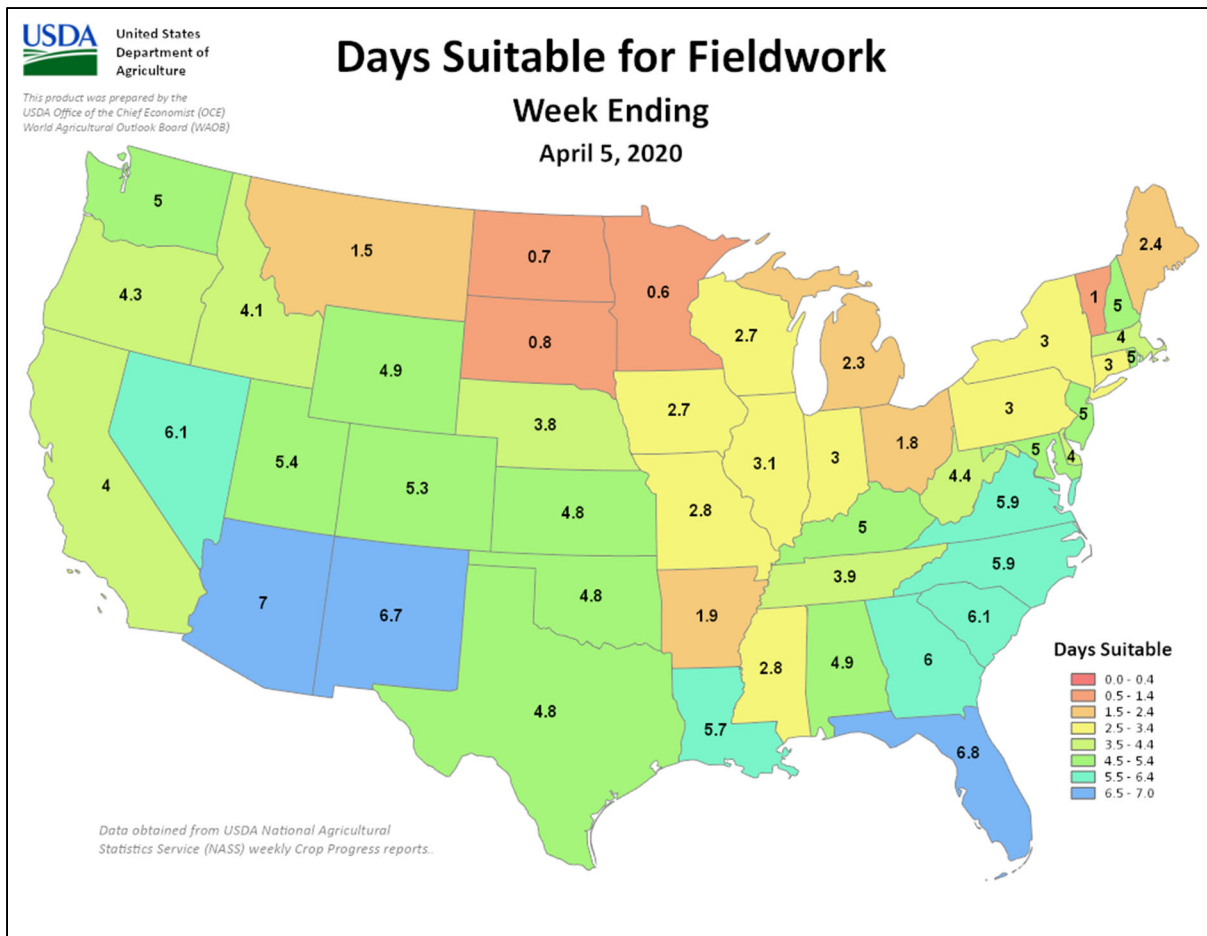
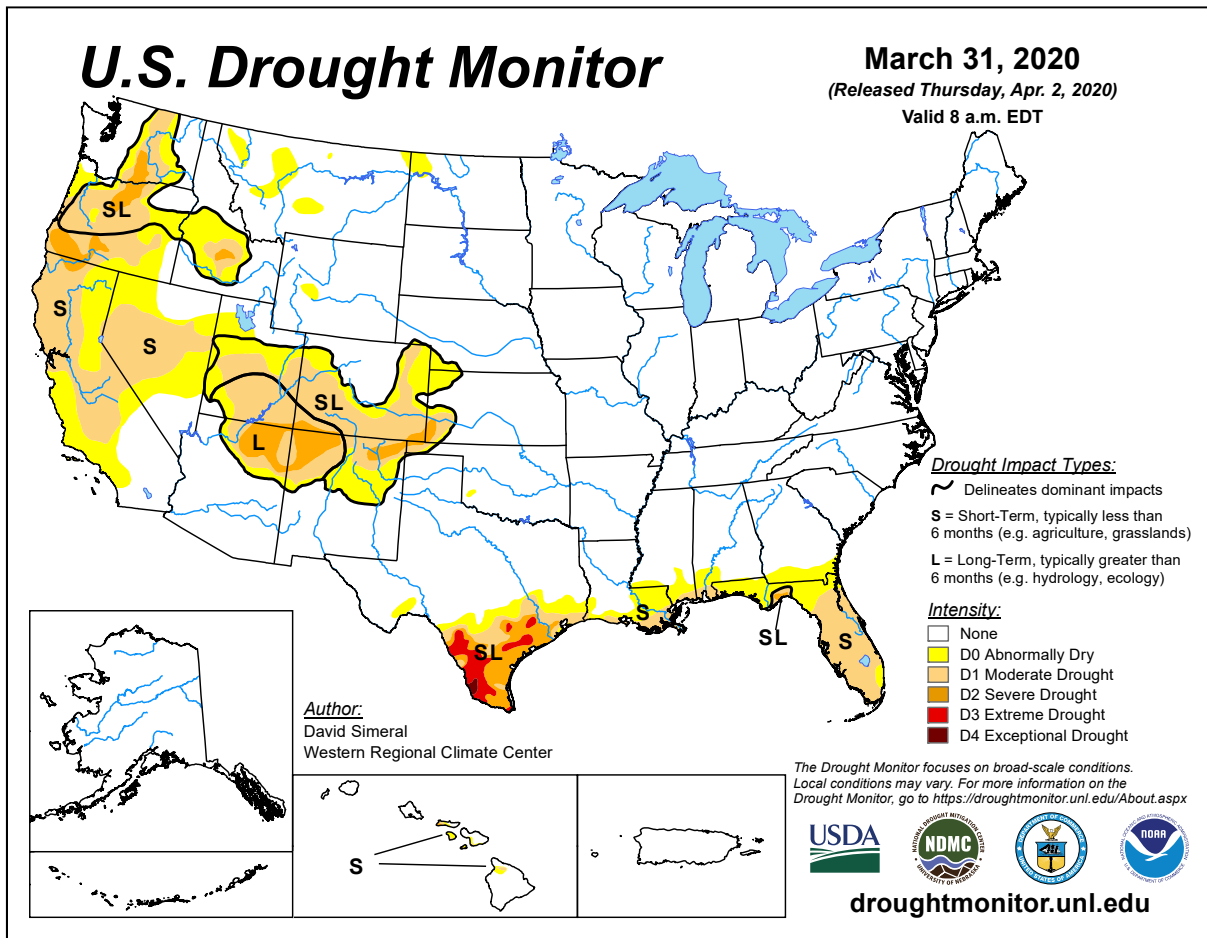
March ended amid lingering warmth in the **Southeast**. On March 29, daily-record highs soared to the 90-degree mark or higher in **Savannah, GA** (90°F); **Jacksonville, FL** (91°F); and **Fort Myers, FL** (91°F). In fact, **Fort Myers** reached or exceeded 90°F on March 14, 18-20, and 26-30, setting a March record. Previously, **Fort Myers**' record of 4 days with 90-degree heat in March had been set in 1929, 1944, and 1949. Similarly, **Jacksonville, FL**, set a March record with 5 days of 90-degree heat (previously, 4 days in 1907). On the last day of March, monthly records were tied in **Florida** locations such as **Vero Beach** and **Fort Pierce** with highs of 93°F. Cooler air arrived across the **Southeast** in early April, while winter-like weather overspread the **northern Plains** and parts of the **West**. On April 2-3, consecutive daily-record lows were set in **Miles City, MT** (6 and 2°F), and **Worland, WY** (6 and 2°F). **Miles City's** low of 2°F also broke a monthly record, previously achieved with a reading of 4°F on April 1, 2014. Elsewhere in **Montana**, **Havre** notched a daily-record low of -12°F on April 2, the day after a 3.5-inch snowfall. In **Washington**, daily-record lows for April 2 included 20°F in **Yakima** and 27°F in **Wenatchee**. On April 3, sub-zero, daily-record lows plunged to -5°F in **Casper, WY**, and -1°F in **Rapid City, SD**. With a low of -5°F on April 4, **Grand Forks, ND**, also tallied a sub-zero, daily-record low.

The **Northern** cold snap followed a late-season storm. April 1-3 snowfall reached 11.0 inches at the National Weather Service office in **Grand Forks**; 9.1 inches in **East Rapid City, SD**; 7.8 inches in **Casper, WY**; 6.2 inches in **Mobridge, SD**; and 6.1 inches in **Bismarck, ND**. **Grass Range, MT**, received 9.0 inches of snow in a 24-hour period on March 31 – April 1. Earlier in the week, precipitation had fallen in several other areas. For example, record-setting **Northeastern** totals for March 29 included 0.84 inch in **Massena, NY**, and 0.67 inch in **Saint Johnsbury, VT**. On the same date, **Marquette, MI**, collected 1.18 inches, including snowfall totaling 0.8 inch. By March 30, precipitation overspreading the **Northwest** resulted



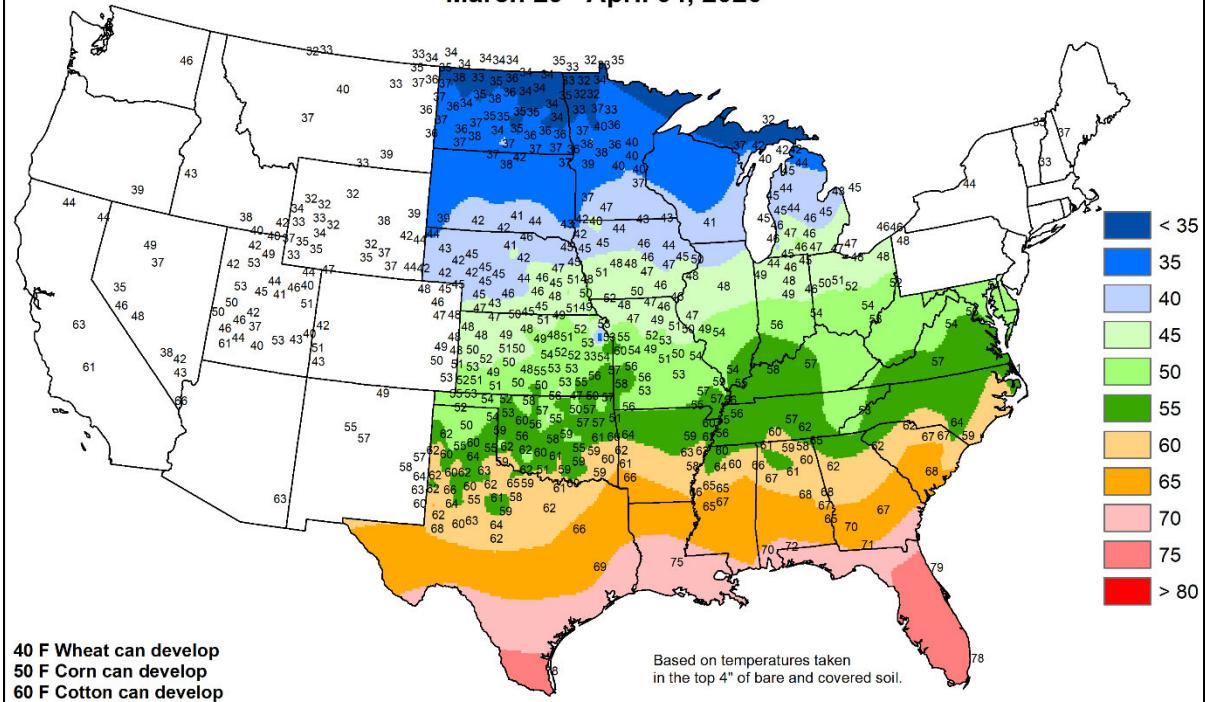
in a daily-record sum (0.89 inch) in **Olympia, WA**. Late in the week, heavy showers in **Texas** resulted in daily-record totals in **Austin (Bergstrom)**, with 2.20 inches on April 3, and **San Antonio**, with 2.06 inches on April 4. Meanwhile in **Florida**, **Lakeland** completed its driest March and first month without a drop of rain since October 2010. **Tampa, FL**, finished its first month without measurable rain since October 2010—and tied a March record (previously set in 1907 and 2006) with only a trace of rain.

Mild, mostly dry weather across **Alaska's northern tier** contrasted with unsettled conditions across the remainder of the mainland and a cold, dry regime in **southeastern Alaska**. **Fairbanks** netted a daily-record precipitation total (0.39 inch, including 2.8 inches of snow) on April 4, boosting its snow depth to 30 inches. A year ago, in the spring of 2019, **Fairbanks** lost its continuous seasonal snow cover on April 4, when the depth dropped to a trace. Similarly, **Anchorage** received 5.0 inches of snow from April 2-4 and reported a snow depth of 22 inches on the 3rd—but a year ago had lost its continuous snow cover by March 31. Meanwhile, **Nome** noted precipitation totaling 0.83 inch during the first 4 days of April. By week's end, warmth expanded across much of **Alaska**, leading to daily-record highs of 57°F on April 4 in **Cold Bay** and **Kodiak**. The only higher April temperature in **Cold Bay** had occurred on April 15, 1965, with a high of 58°F. In contrast, **Juneau** posted a daily-record low of 14°F on April 1. Farther south, much of **Hawaii** experienced a dry week, although locally heavy showers continued in some windward locations. On the **Big Island**, **Hilo's** weekly sum of 4.23 inches was aided by a 1.95-inch total on March 29. In fact, March turned out to be a very wet month across much of **Hawaii**, with totals reaching 27.95 inches (208 percent of normal) in **Hilo** and 15.62 inches (339 percent) in **Lihue, Kauai**. It was **Hilo's** wettest month since August 2018 and **Lihue's** wettest month since March 2012.



Average Soil Temperature (Deg. F)

March 29 - April 04, 2020

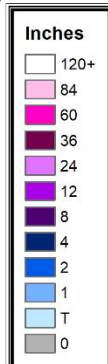
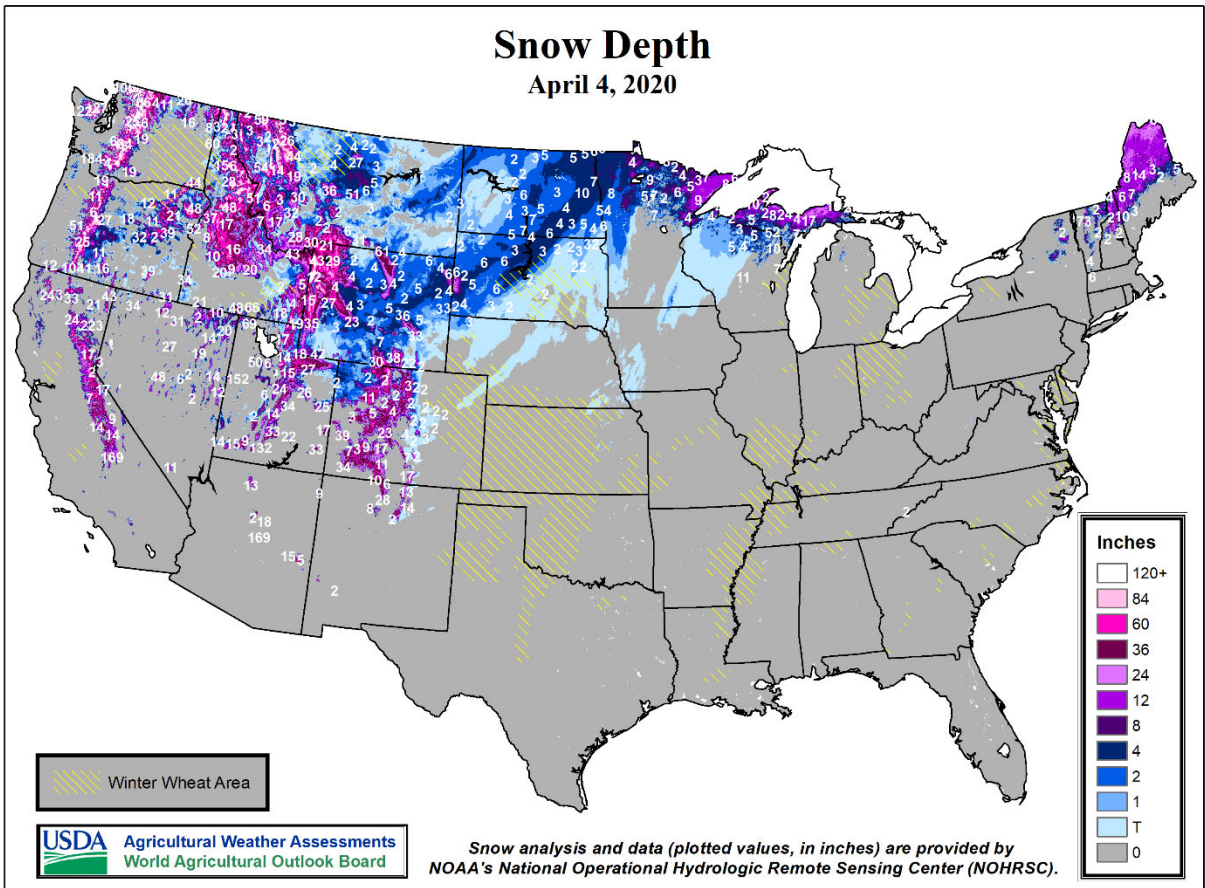


Data provided by the Climate Prediction Center, High Plains Regional Climate Center, Nebraska Mesonet at Univ of Nebraska, CoAgMet at Colorado State Univ, Kansas Mesonet at Kansas State Univ, North Dakota Agricultural Weather Network at North Dakota State Univ, Wyoming State Climate Office at the Univ of Wyoming, Illinois State Water Survey, Iowa State University, Oklahoma Mesonet, Purdue University, University of Missouri, Illinois State Water Survey, Michigan Automated Weather Network, West Texas Mesonet, South Dakota State Univ, Mesonet, Ohio Agricultural Research and Development Center, Univ. of Missouri and USDA/NRCS.



Snow Depth

April 4, 2020



National Agricultural Summary

March 30 – April 5, 2020

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

During the week ending April 5, large parts of New England, the Pacific Northwest, and the south-central United States experienced substantial precipitation. Some areas in Arkansas, Oregon, Oklahoma, and Texas received 3 or more inches. Temperatures were below normal for the

Southwest, except in New Mexico and parts of Arizona and western Texas. Meanwhile, temperatures were 9°F or more below normal in portions of Montana and Wyoming. In contrast, most of the eastern half of the country experienced warmer-than-average weather.

Winter Wheat: On April 5, sixty-two percent of the 2020 winter wheat crop was reported in good to excellent condition, 2 percentage points above last year. In Kansas, the largest winter wheat-producing state, 49 percent of the winter wheat crop was rated in good to excellent condition.

Cotton: Nationwide, 7 percent of the cotton acreage had been planted by week's end, 2 percentage points ahead of the previous year and 2 points ahead of the 5-year average. Planting was 2 percentage points behind normal in Arizona, with 25 percent of the acreage planted compared with the 5-year average of 27 percent. The only other state reporting cotton planting was Texas, with 12 percent planted, 4 percentage points ahead of last year and 5 points ahead of the state's 5-year average pace.

Sorghum: Fifteen percent of the nation's sorghum acreage was planted by April 5, one percentage point ahead of the previous year and 2 points ahead of the 5-

year average. Texas had planted 52 percent of its sorghum acreage by April 5, six percentage points ahead of last year and 11 points ahead of the 5-year average.

Rice: By April 5, producers had seeded 17 percent of the 2020 rice acreage, equal to the previous year but 2 percentage points behind the 5-year average. Louisiana and Texas had the largest portion of acreage planted—70 and 73 percent, respectively. By April 5, ten percent of the nation's rice acreage had emerged, 4 percentage points ahead of last year and 3 points ahead of the 5-year average.

Small Grains: Nationally, oat producers had seeded 26 percent of this year's acreage by April 5, equal to the previous year but 3 percentage points behind the 5-year average. Planting was complete in Texas, but had not yet begun in Minnesota, North Dakota, or South Dakota. Twenty-four percent of the nation's oat acreage was emerged by April 5, one percentage point behind both the previous year and the 5-year average.

Crop Progress and Condition

Week Ending April 5, 2020

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

Cotton Percent Planted				
	Prev Year	Prev Week	Apr 5 2020	5-Yr Avg
AL	0	NA	0	0
AZ	28	16	25	27
AR	0	NA	0	0
CA	0	NA	0	3
GA	0	NA	0	0
KS	0	NA	0	0
LA	0	NA	0	0
MS	0	NA	0	0
MO	0	NA	0	0
NC	0	NA	0	0
OK	1	NA	0	0
SC	0	NA	0	0
TN	0	NA	0	0
TX	8	5	12	7
VA	0	NA	0	0
15 Sts	5	NA	7	5
These 15 States planted 99% of last year's cotton acreage.				

Sorghum Percent Planted				
	Prev Year	Prev Week	Apr 5 2020	5-Yr Avg
CO	0	NA	0	0
KS	0	NA	0	0
NE	0	NA	0	0
OK	0	NA	0	1
SD	0	NA	0	0
TX	46	45	52	41
6 Sts	14	NA	15	13
These 6 States planted 100% of last year's sorghum acreage.				

Rice Percent Planted				
	Prev Year	Prev Week	Apr 5 2020	5-Yr Avg
AR	10	NA	1	12
CA	0	NA	0	0
LA	64	52	70	64
MS	11	1	2	11
MO	4	NA	0	3
TX	32	56	73	42
6 Sts	17	NA	17	19
These 6 States planted 100% of last year's rice acreage.				

Rice Percent Emerged				
	Prev Year	Prev Week	Apr 5 2020	5-Yr Avg
AR	0	NA	0	1
CA	0	NA	0	0
LA	33	21	45	34
MS	2	NA	0	2
MO	0	NA	0	0
TX	6	NA	47	17
6 Sts	6	NA	10	7
These 6 States planted 100% of last year's rice acreage.				

Crop Progress and Condition

Week Ending April 5, 2020

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

Oats Percent Planted				
	Prev Year	Prev Week	Apr 5 2020	5-Yr Avg
IA	1	NA	8	10
MN	0	NA	0	2
NE	6	NA	14	25
ND	0	NA	0	0
OH	7	NA	8	5
PA	10	NA	6	6
SD	0	NA	0	6
TX	100	100	100	100
WI	1	NA	2	2
9 Sts	26	NA	26	29
These 9 States planted 71% of last year's oat acreage.				

Oats Percent Emerged				
	Prev Year	Prev Week	Apr 5 2020	5-Yr Avg
IA	0	NA	0	1
MN	0	NA	0	0
NE	0	NA	2	1
ND	0	NA	0	0
OH	0	NA	0	1
PA	0	NA	1	1
SD	0	NA	0	0
TX	100	100	100	100
WI	0	NA	0	0
9 Sts	25	NA	24	25
These 9 States planted 71% of last year's oat acreage.				

Winter Wheat Condition by Percent					
	VP	P	F	G	EX
AR	0	4	48	34	14
CA	0	0	39	57	4
CO	12	15	25	45	3
ID	0	0	19	73	8
IL	4	6	28	44	18
IN	1	4	28	53	14
KS	3	10	38	41	8
MI	2	8	35	48	7
MO	2	8	49	34	7
MT	1	2	45	50	2
NE	1	5	17	67	10
NC	1	3	21	63	12
OH	1	4	20	60	15
OK	1	4	22	68	5
OR	2	3	16	28	51
SD	0	1	16	71	12
TX	1	8	29	50	12
WA	0	1	17	73	9
18 Sts	2	7	29	53	9
Prev Wk	NA	NA	NA	NA	NA
Prev Yr	2	7	31	48	12

VP - Very Poor;

P - Poor;

F - Fair;

G - Good;

EX - Excellent

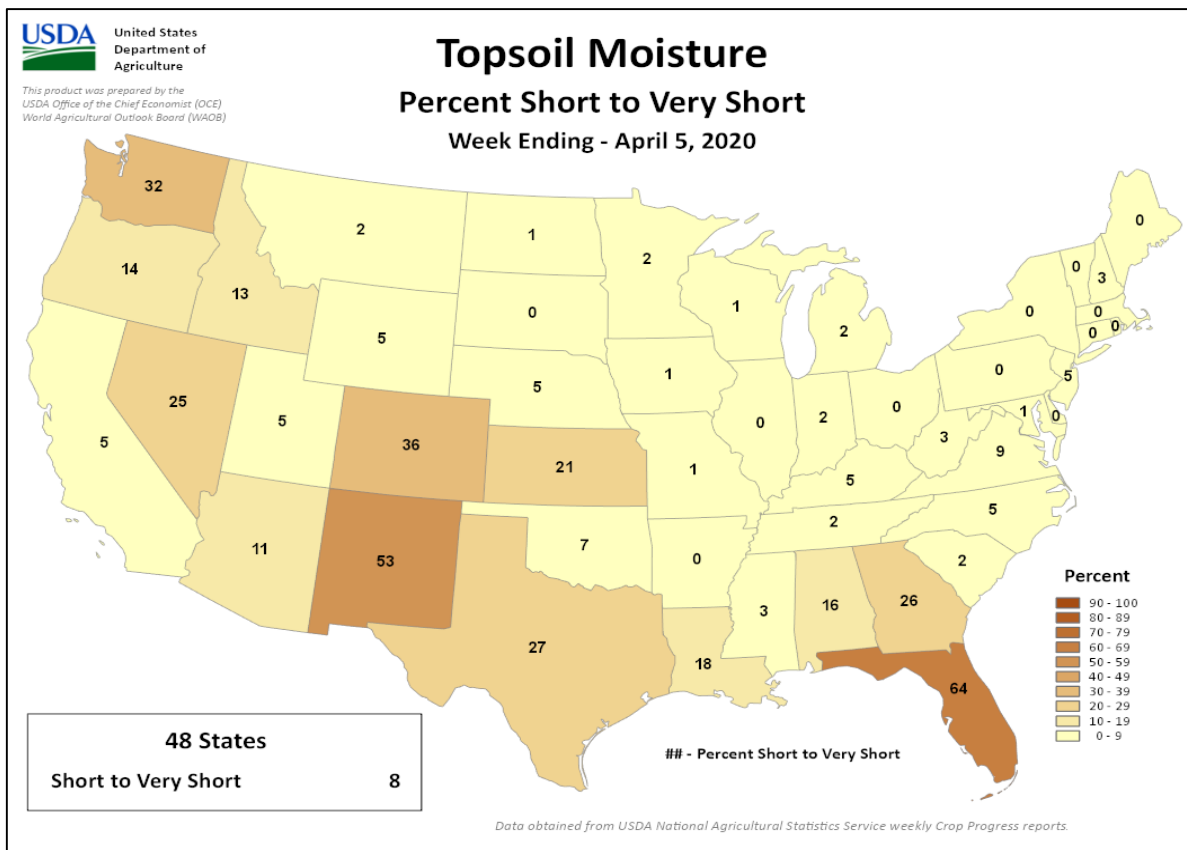
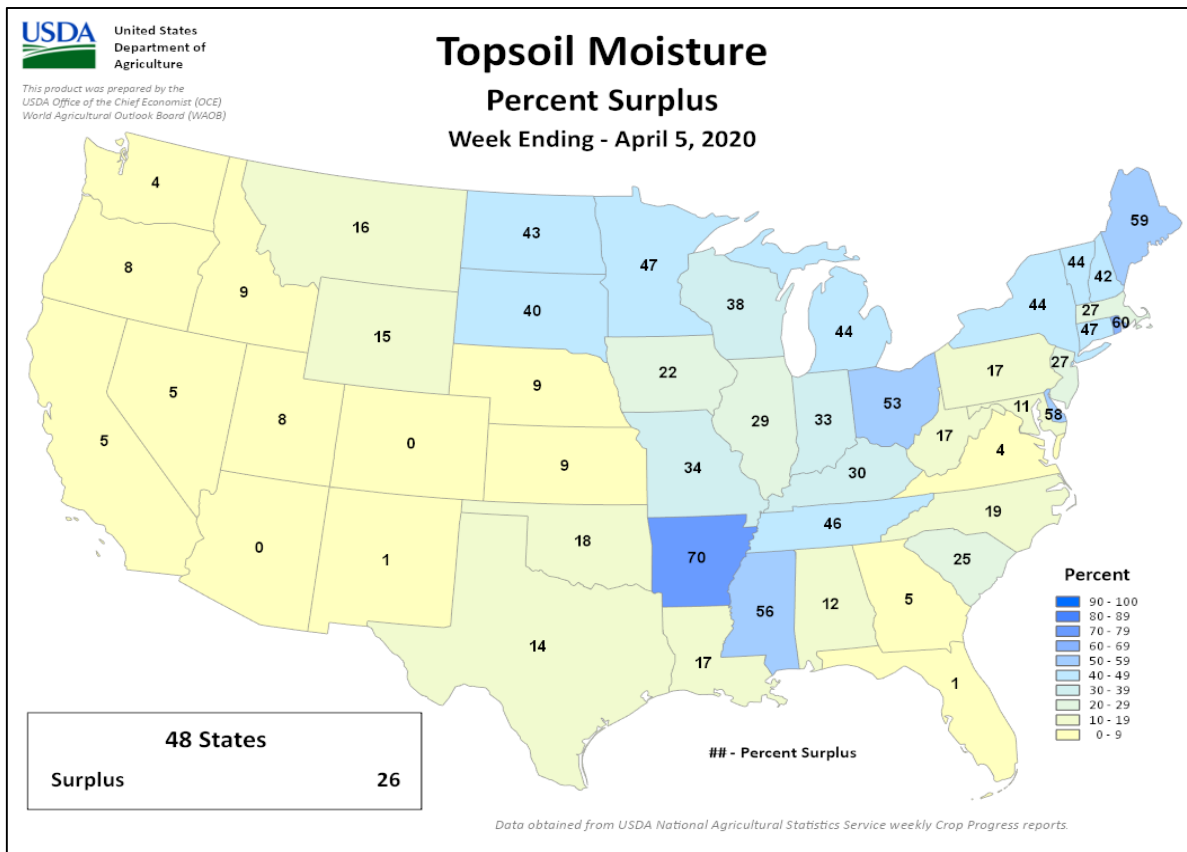
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Crop Progress and Condition

Week Ending April 5, 2020

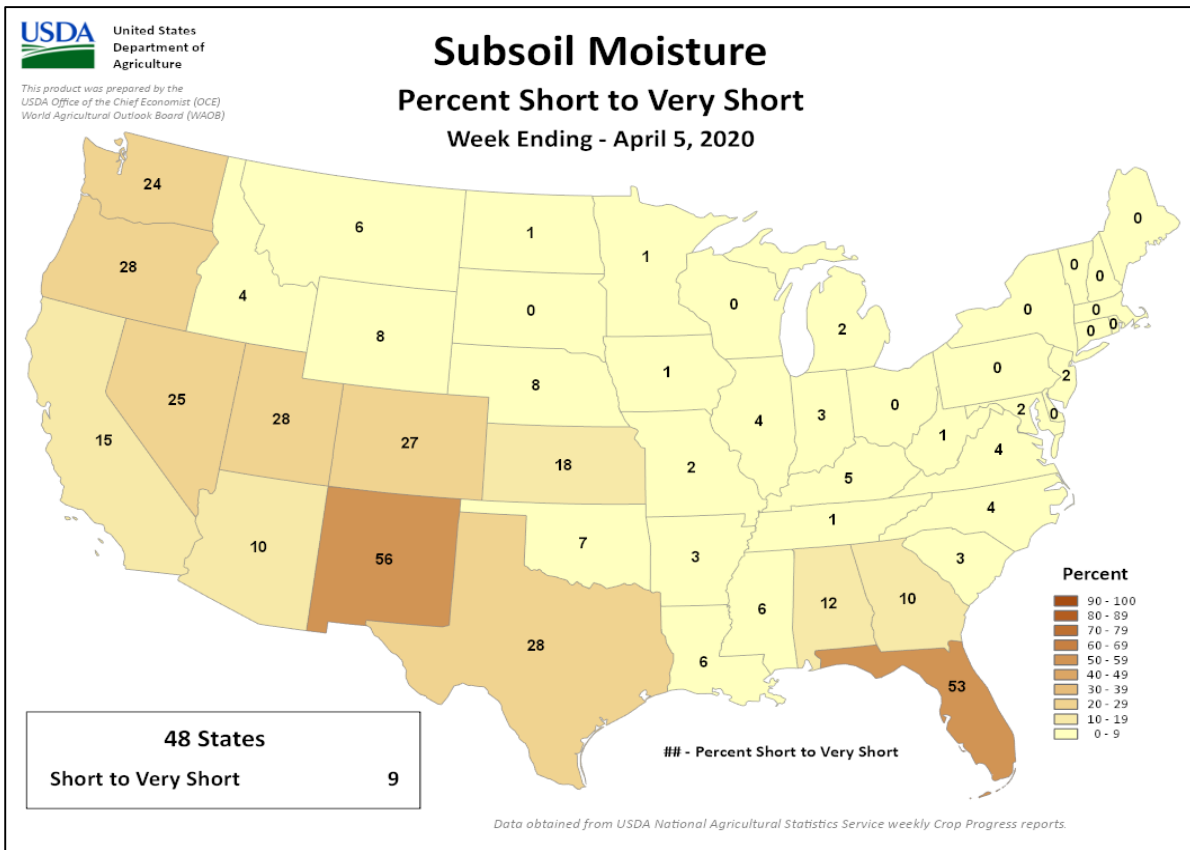
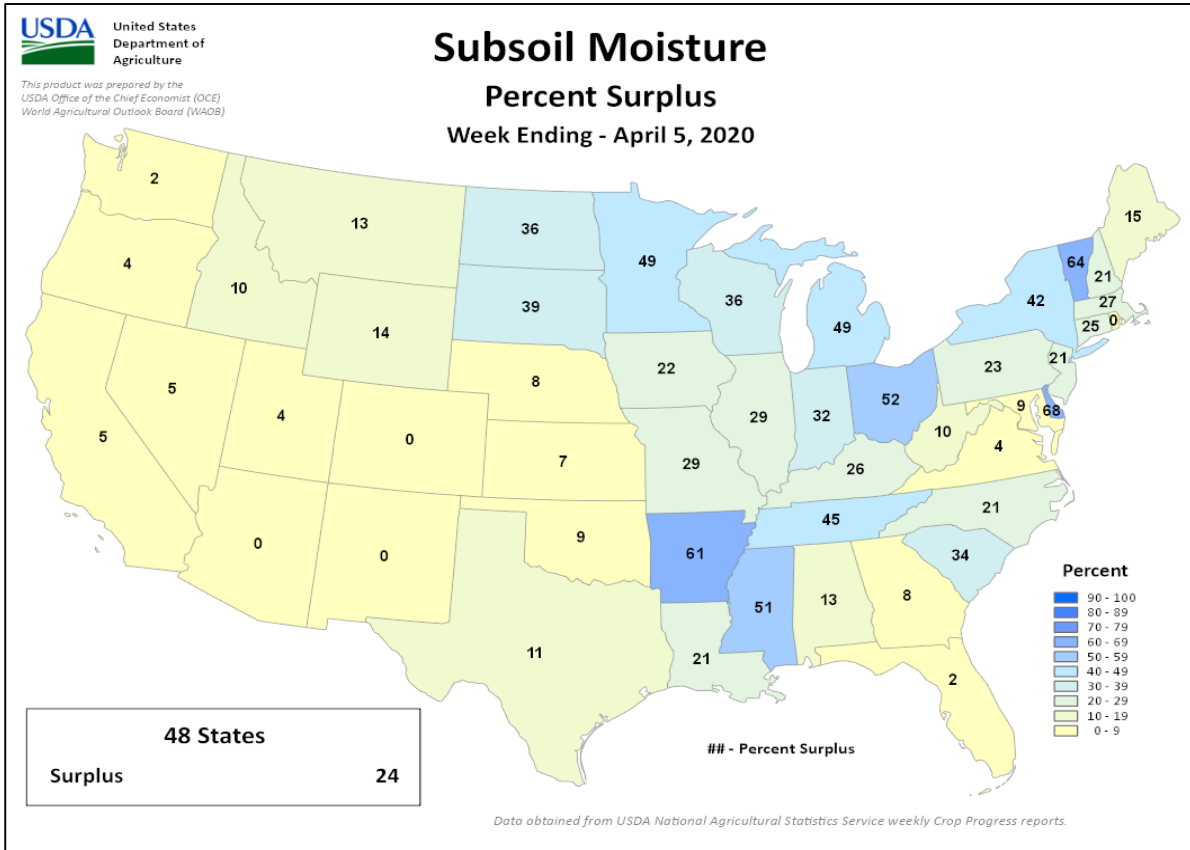
Weekly U.S. Progress and Condition Data provided by USDA/NASS



Crop Progress and Condition

Week Ending April 5, 2020

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



International Weather and Crop Summary

March 29 - April 4, 2020

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

EUROPE: Cool weather slowed winter crop development, while sunny skies across central and northern Europe favored fieldwork following a very wet winter and beginning of spring.

FSU-WESTERN: Increasing short-term dryness adjacent to the Black Sea Coast reduced topsoil moisture for vegetative winter wheat, though subsoil moisture remained adequate.

MIDDLE EAST: A pair of slow-moving storms produced additional moderate to heavy rain, maintaining adequate to abundant moisture supplies for vegetative to reproductive winter grains.

NORTHWESTERN AFRICA: Additional showers favored reproductive winter grains in the east but were mostly too late for filling wheat and barley in Morocco.

EAST ASIA: Light showers benefited wheat and rapeseed in eastern China, while heavier showers boosted moisture supplies for reproductive rice in the southeast.

SOUTHEAST ASIA: Rainfall continued across Indonesia and Malaysia, aiding rice, as pre-monsoon fieldwork was underway in Thailand and the Philippines.

AUSTRALIA: Soaking rain overspread much of the east.

SOUTH AFRICA: Showers provided a late-season boost to late-developing summer crops.

ARGENTINA: Rain continued in most major farming areas, benefiting late-developing corn and soybeans but slowing seasonal fieldwork.

BRAZIL: Rainfall was unseasonably light throughout much of Brazil, providing limited relief from southern dryness.

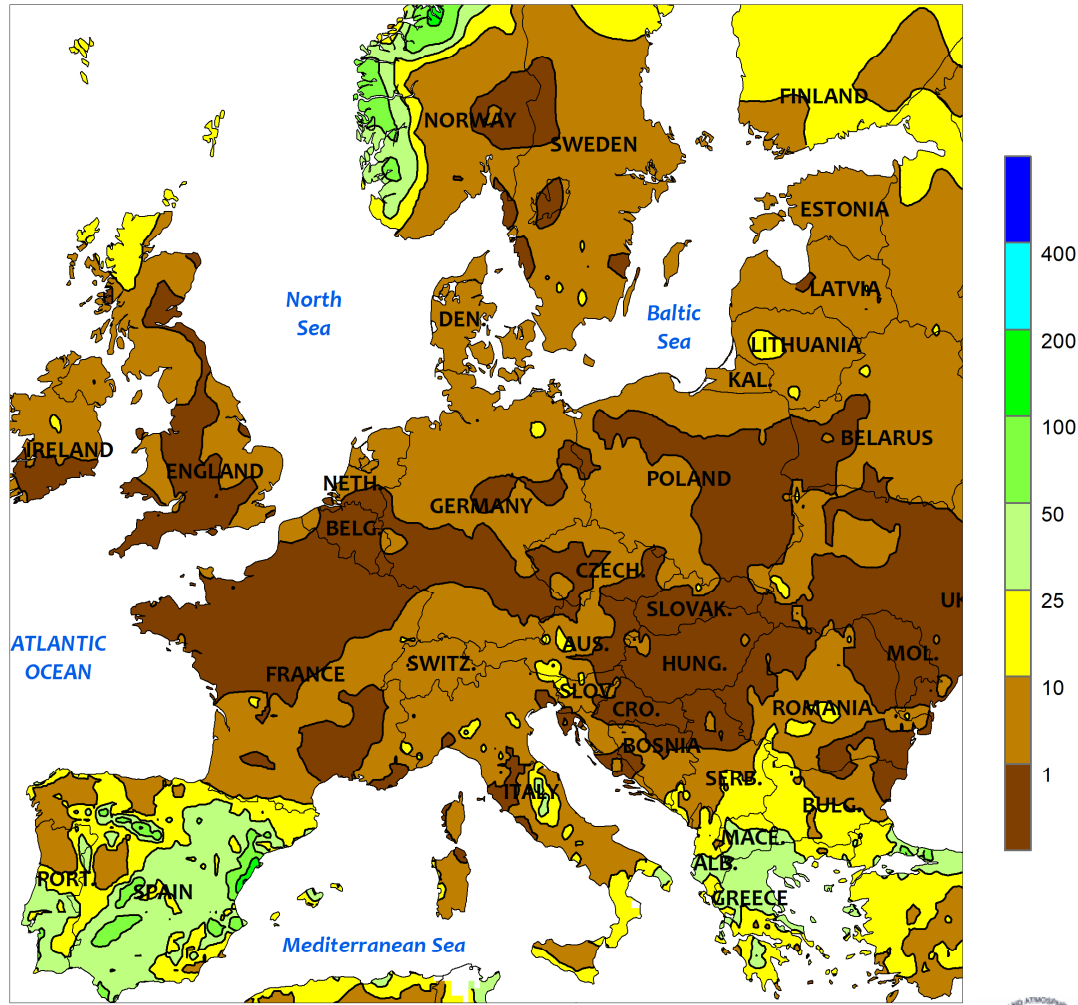
March 2020

COUNTRY	CITY	TEMPERATURE (C)					PRECIP. (MM)		
		AVG MAX	AVG MIN	HI MAX	LO MIN	DEP AVG	NRM	TOT	DEP NRM
ALGERI	ALGER	21	10	30	4	15	2.3	54	-8
	BATNA	17	4	25	-2	11	0.6	63	28
ARGENT	IGUAZU	32	20	38	16	26	1.1	86	-23
	FORMOSA	35	21	42	14	28	2.2	96	-44
	CERES	32	19	40	12	25	1.9	54	-97
	CORDOBA	29	16	37	13	22	2.4	100	-27
	RIO CUARTO	28	17	35	10	23	2.6	94	-23
	ROSARIO	30	18	36	11	24	2.6	86	-62
	BUENOS AIRES	29	17	34	12	23	2	110	0
AUSTRA	SANTA ROSA	29	16	38	8	22	2.8	78	-22
	TRES ARROYOS	28	16	37	6	22	3.8	96	12
	DARWIN	32	26	36	23	29	0.7	198	-142
	BRISBANE	27	20	30	17	24	0	83	-30
	PERTH	30	18	37	8	24	0.6	25	6
	CEDUNA	26	15	40	8	20	0.3	*****	*****
	ADELAIDE	24	15	34	10	20	-0.3	*****	*****
AUSTRI	MELBOURNE	22	14	32	10	18	-0.2	84	56
	WAGGA	26	15	33	9	20	-0.2	119	75
	CANBERRA	23	11	30	5	17	-0.5	176	132
	VIENNA	12	2	21	-8	7	1.3	39	-2
	INNSBRUCK	12	0	22	-6	6	1.6	31	-22
	BAHAMA	28	21	31	17	25	1.6	2	-63
	BARBAD	30	24	31	22	27	1	23	-12
BELARU	8	-1	16	-10	3	3.3	22	-23	
BERMUD	21	17	23	10	19	0.4	52	-56	
BOLIVI	15	4	19	0	10	0.9	62	-19	
BRAZIL	FORTALEZA	31	25	33	23	28	0.5	265	*****
	RECIFE	31	26	33	24	28	-0.4	111	-29
	CAMPO GRANDE	32	22	35	19	27	0.5	98	-39
	FRANCA	27	18	31	16	23	-0.1	75	-122
	RIO DE JANEI	28	22	34	19	25	-2.3	140	*****
	LONDRINA	32	19	36	16	26	1.3	87	-53
	SANTA MARIA	32	18	40	13	25	1.5	40	-96
TORRES	28	20	32	17	24	*****	19	-106	
BULGAR	12	2	22	-5	7	1.7	92	54	
BURKIN	40	26	42	21	33	1.6	0	-4	
CANADA	OUAGADOUGOU	3	-8	16	-24	-3	*****	6	*****
	LETHBRIDGE	3	-9	16	-16	-3	2.5	5	*****
	REGINA	1	-8	13	-17	-4	1.3	4	*****
	WINNIPEG	7	-1	18	-11	3	3.4	54	5
	TORONTO	5	-4	16	-14	1	2.5	129	63
	MONTREAL	-3	-17	5	-30	-10	-3.2	5	-12
	PRINCE ALBER	1	-10	11	-24	-4	-2.6	27	7
CALGARY	9	2	13	-4	5	-1.6	41	-72	
VANCOUVER	22	16	24	14	19	0.2	15	4	
CANARY	30	13	36	10	21	3.6	0	-7	
CHILE	SANTIAGO	4	-6	17	-19	-1	1.8	7	-5
CHINA	HAMI	15	-2	23	-12	6	1.2	2	1
	BEIJING	16	2	26	-5	9	2.4	24	13
	TIENTSIN	16	4	28	-4	10	2.8	34	26
	LHASA	13	0	21	-3	6	0.6	14	11
	KUNMING	23	10	28	5	17	2.3	9	-9
	CHENGCHOW	18	7	28	0	13	3.9	11	-17
	YEHCHANG	18	9	27	4	14	3.7	75	18
	HANKOW	18	9	27	3	14	3.5	87	1
	CHUNGKING	20	13	31	9	17	2	100	51
	CHIHKIANG	18	11	30	6	14	3.6	193	106
	WU HU	17	9	28	1	13	2.5	217	95
	SHANGHAI	16	8	28	3	12	3	138	45
	NANCHANG	18	12	29	7	15	2.9	206	29
	TAIPEI	24	18	32	14	21	2.6	282	94
	CANTON	23	18	30	13	20	4	166	72
	NANNING	22	17	31	11	19	2.2	190	129
	COLOMB	BOGOTA	21	10	25	4	15	1.8	52
COTE D	ABIDJAN	32	26	34	22	29	0.2	83	-21
CUBA	CAMAGUEY	29	19	33	14	24	0.1	*****	*****
CYPRUS	LARNACA	20	11	24	4	15	1.3	51	15
CZECHR	PRAGUE	9	0	16	-6	5	1.2	53	25
DENMAR	COPENHAGEN	8	2	11	-5	5	2.1	22	-10
EGYPT	CAIRO	23	14	31	10	18	0.6	62	58

Based on Preliminary Reports

EUROPE

Total Precipitation (mm)
March 29 - April 4, 2020



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

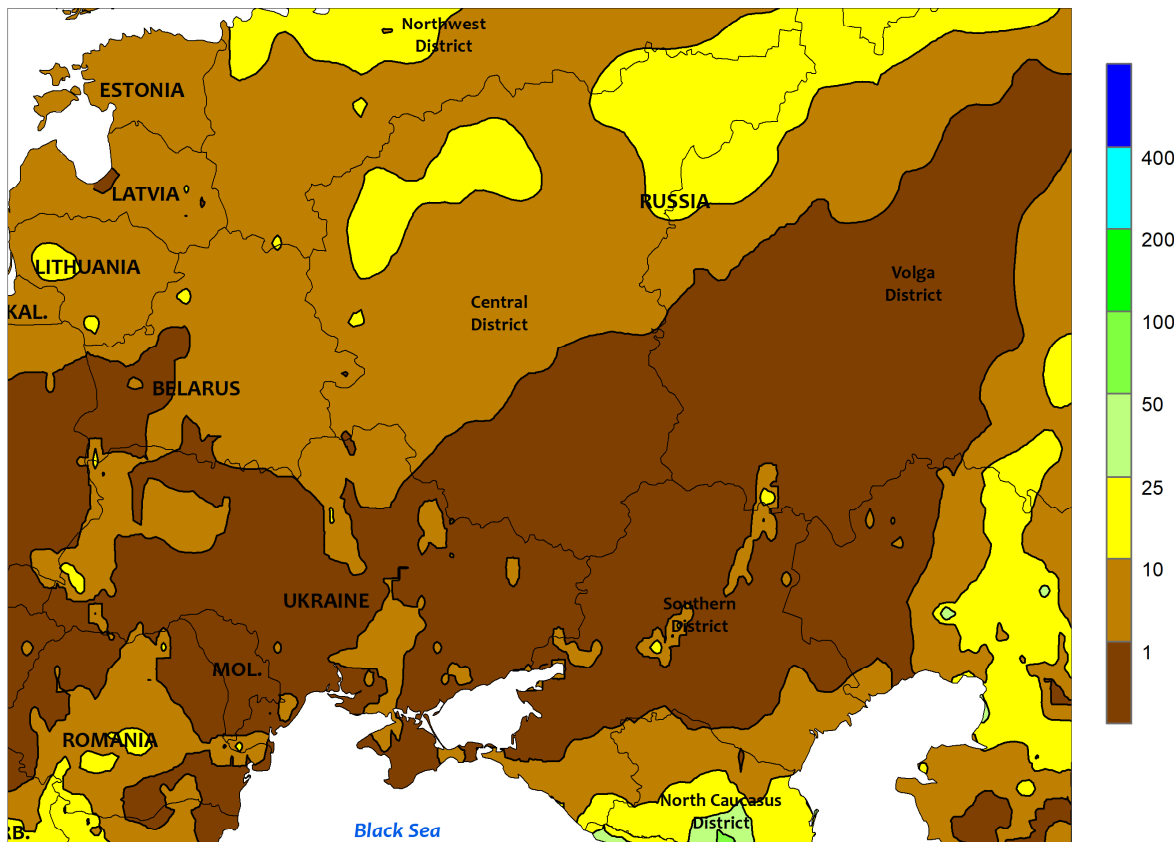


EUROPE

Dry, cool weather across central and northern Europe contrasted with periods of rain in southern growing areas. Mostly sunny skies prevailed for a third consecutive week from France and England into Poland and the Baltic States. The recent respite from a very wet winter favored fieldwork and allowed previously water-logged soils to dry, although acute short-term dryness (30-day rainfall less than 25 percent of normal) has developed from central and southeastern France into southern Poland and environs. Conversely, moderate to heavy rain (10-85 mm) across the Mediterranean region boosted soil moisture for vegetative winter grains in Spain but

impeded late cotton planting in Greece. Temperatures averaged 1 to 4°C below normal over most of the continent, slowing the recent rapid winter crop growth rates. Nevertheless, wheat and rapeseed were still progressing through the vegetative stages of development up to two weeks ahead of average even with this week's cold snap, especially in eastern growing areas where late-winter warmth was most pronounced. In addition, hard freezes (-9 to -2°C) were reported over much of northern and eastern Europe for a second straight week, though temperatures were not low enough to cause widespread burnback or frost damage.

WESTERN FSU
 Total Precipitation (mm)
 March 29 - April 4, 2020



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

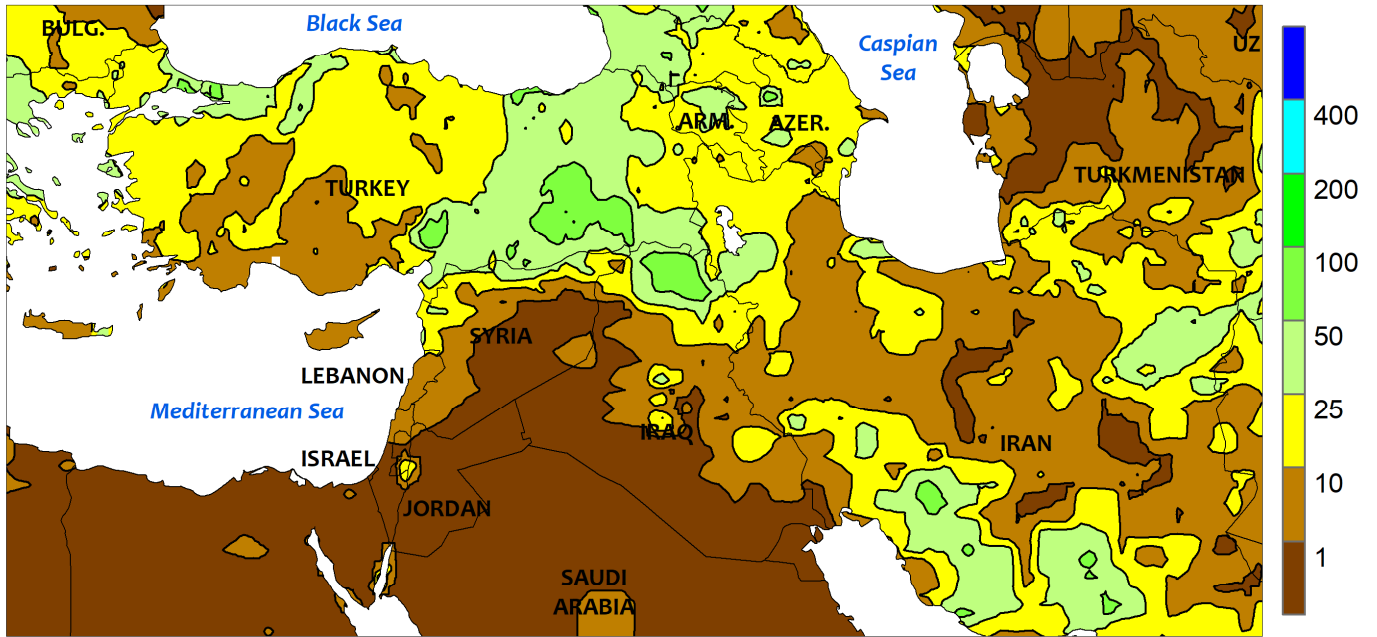


WESTERN FSU

Sunny skies favored fieldwork but exacerbated short-term dryness. Rain during the period was confined to northernmost portions of Russia (1-15 mm) as well as the southern North Caucasus District (10-50 mm, locally more), with neither representing a primary winter wheat area. Otherwise, dry weather promoted spring grain sowing and other seasonal fieldwork. However, acute short-term dryness has developed from the central Black Sea Coast into Russia's Southern District, where 30-day rainfall has

totaled a meager 10 percent of normal or less. Winter wheat in Krasnodar Krai (southwestern Southern District) was advancing through the tillering stage up to two weeks ahead of average, and moisture demands will increase as the crop approaches reproduction in late April and early May. Near-normal temperatures across primary wheat areas of southern Ukraine and southwestern Russia contrasted with readings up to 7°C above normal in Russia's Volga District (primarily spring grains).

MIDDLE EAST
Total Precipitation (mm)
March 29 - April 4, 2020



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

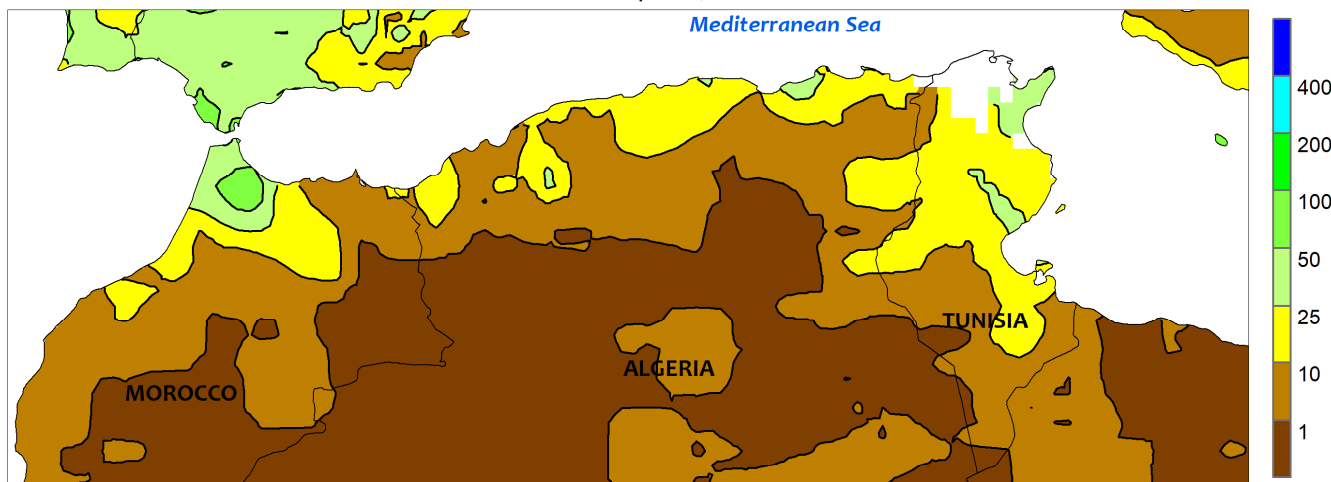


MIDDLE EAST

An ongoing parade of slow-moving Mediterranean storms maintained unusually wet weather across much of the region. During the 7-day monitoring period, a pair of storm systems generated 10 to 100 mm of rain from Turkey and the northeastern Mediterranean Coast into Iran. Moisture supplies remained adequate to abundant for vegetative (north) to reproductive (central and south)

wheat and barley, with crops generally developing on par with normal. This week's rainfall was more than four times normal in southeastern Turkey and eight times normal in southern Iran. Winter grain prospects remained good to excellent across the region, though satellite-derived vegetation health data continued to depict lingering impacts from autumn drought in central Turkey.

NORTHWESTERN AFRICA
 Total Precipitation (mm)
 March 29 - April 4, 2020



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

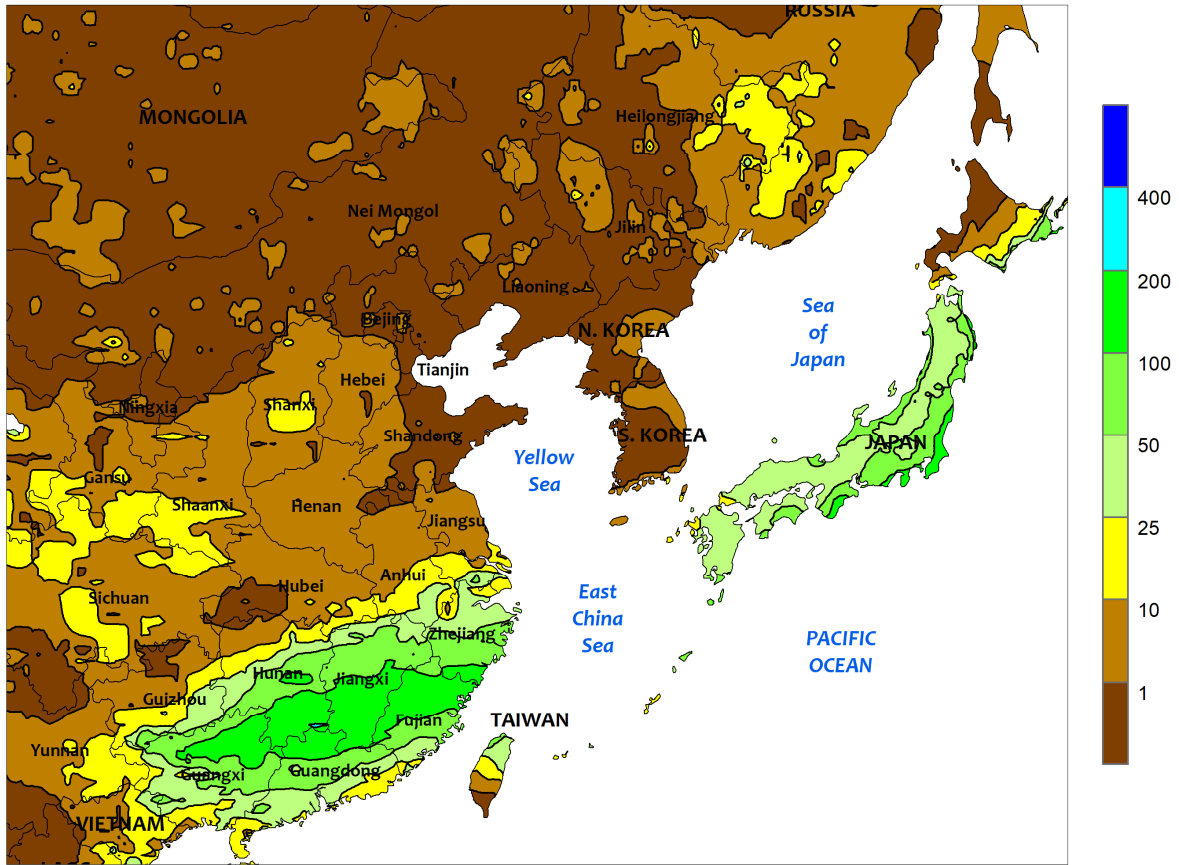


NORTHWESTERN AFRICA

The recent spate of wet weather continued, mostly benefiting winter grains in central and eastern portions of the region. In Morocco, where autumn drought impacted crop establishment and late-winter drought cut yield prospects for reproductive wheat and barley, light to moderate showers (1-20 mm) provided some topsoil moisture improvements but otherwise was too late to offer much benefit to filling to maturing winter grains.

In contrast, another round of moderate to heavy rain (10-60 mm) from north-central Algeria eastward into Tunisia continued the remarkable recovery from winter drought and further improved yield prospects for late-vegetative to reproductive winter grains. Temperatures averaged near to slightly below normal, with no concerns regarding adverse heat as crops over the eastern half of the region progressed through reproduction.

EASTERN ASIA
Total Precipitation (mm)
March 29 - April 4, 2020



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

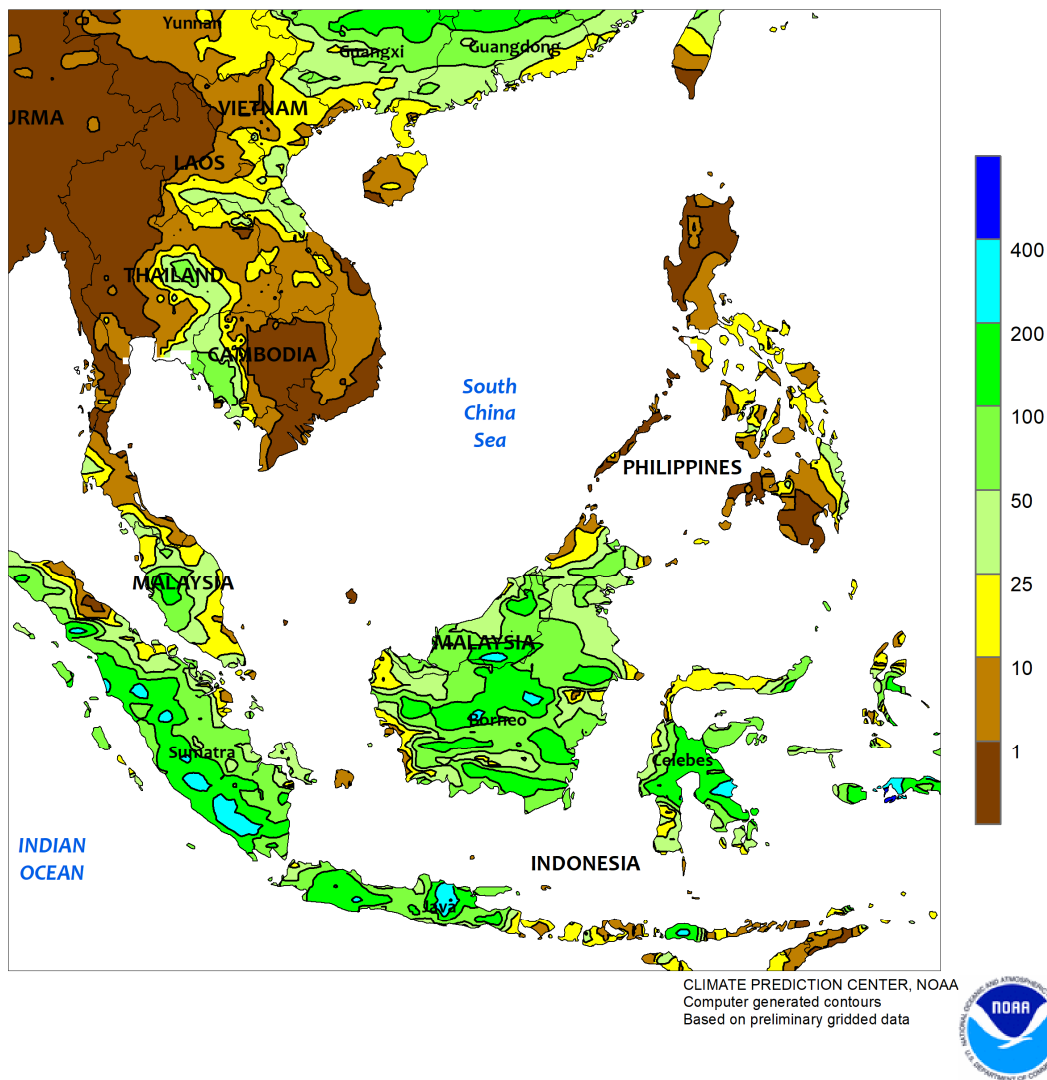


EASTERN ASIA

Light, mid-week rainfall (less than 10 mm) occurred across many of the wheat and rapeseed areas of eastern China, and along with seasonable temperatures, promoted good crop conditions. Farther south, heavier showers (50-150 mm) boosted moisture supplies for

early-crop rice entering reproduction. Overall, spring moisture conditions have been adequate to abundant for crops except for eastern portions of the North China Plain (Shandong, Anhui, and Jiangsu), where irrigation has been necessary.

SOUTHEAST ASIA
 Total Precipitation (mm)
 March 29 - April 4, 2020

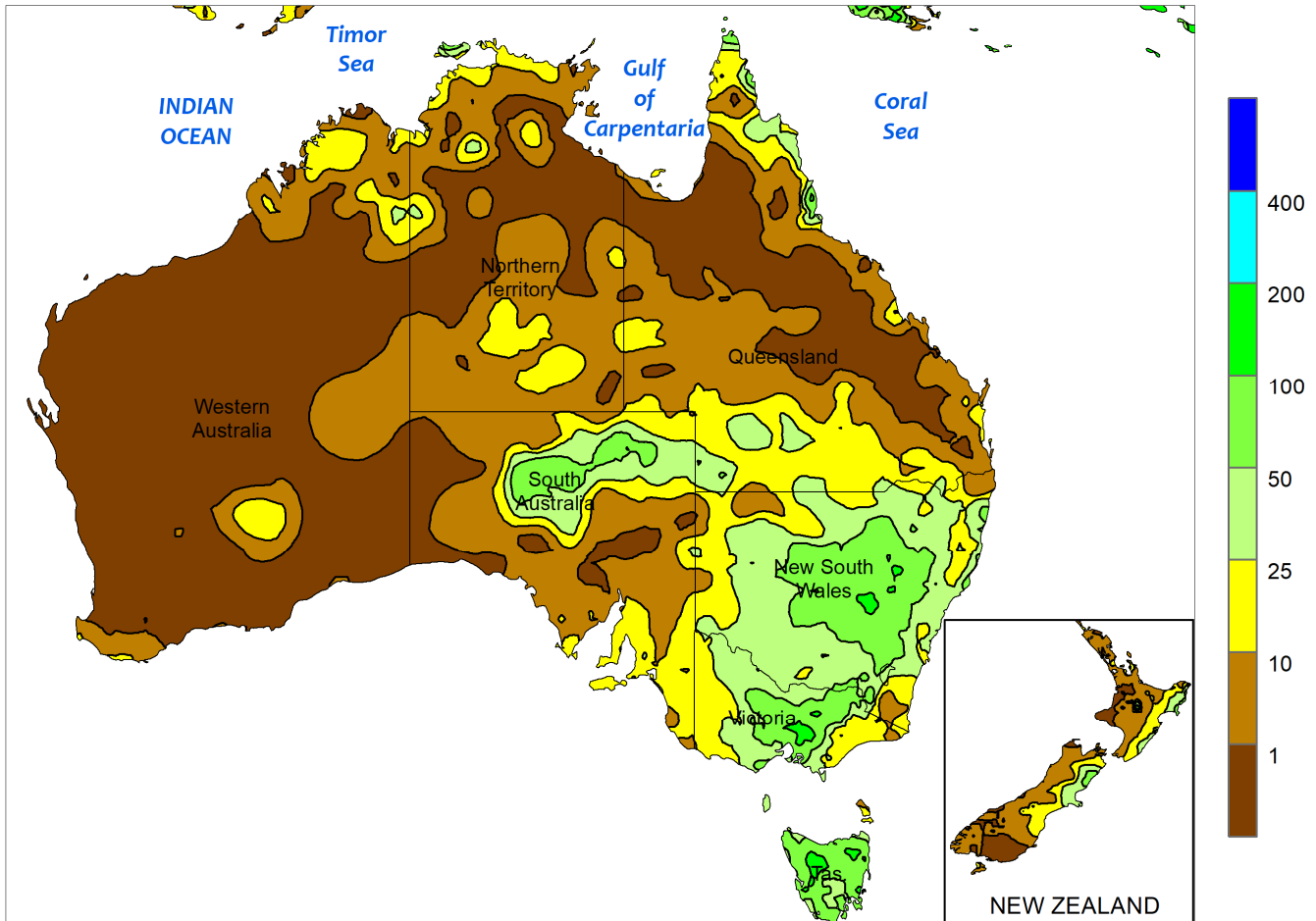


SOUTHEAST ASIA

Wet weather continued across Indonesia and Malaysia, boosting moisture supplies for spring- and summer-sown rice in Indonesia and improving short-term soil moisture for oil palm in both countries. However, rainfall totals over the last 90 days have been below (Indonesia) to well below (Malaysia) average in oil palm areas, lowering yield potential. Meanwhile in the

Philippines, mostly dry weather facilitated rice and corn harvesting as well as preparations for the summer growing season. Elsewhere, pre-monsoon heat (40°C or more) was building across Thailand and Indochina, with only isolated showers bringing temporary relief. Fieldwork preparations for the summer growing season were underway in these areas as well.

AUSTRALIA
Total Precipitation (mm)
March 29 - April 4, 2020



Gridded data from the Australian Bureau of Meteorology: www.bom.gov.au/
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CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

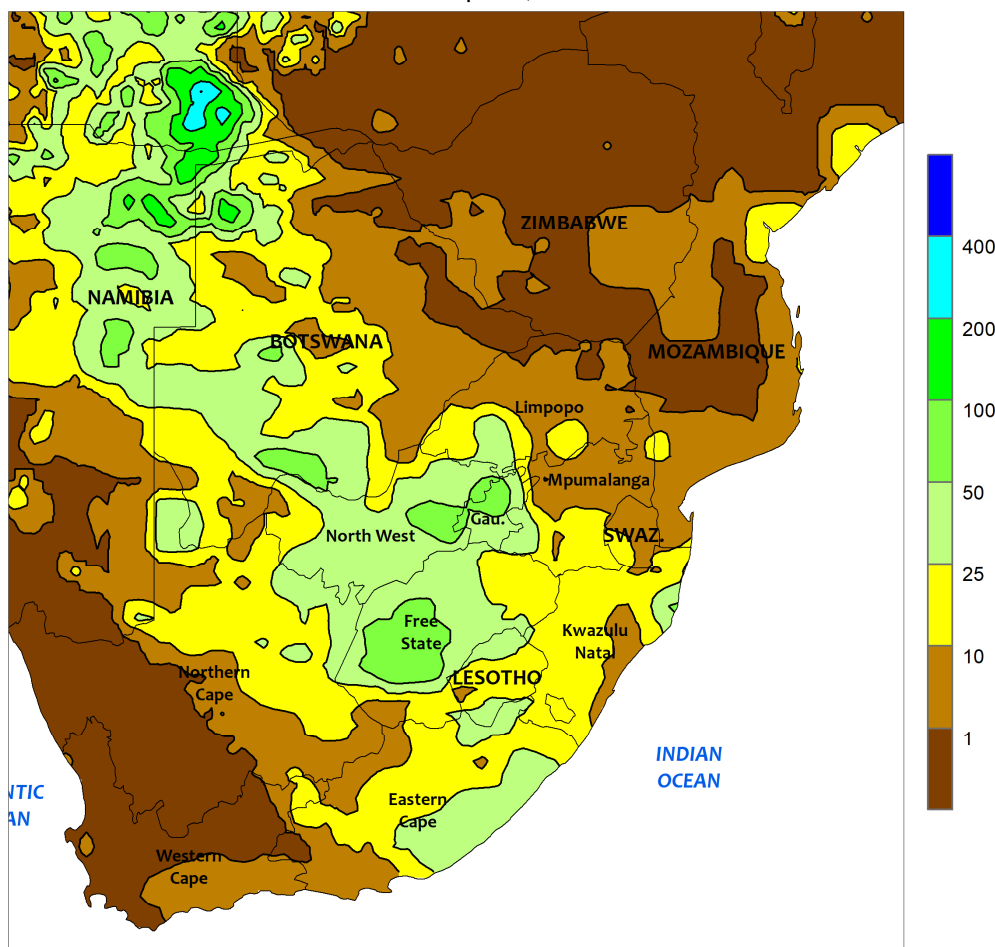


AUSTRALIA

Soaking rain (25-75 mm or more) overspread a large portion of eastern Australia, further increasing soil moisture in advance of wheat and other winter crop planting. The rain was unfavorable for maturing cotton and sorghum, however, slowing drydown while hindering or halting harvesting in many areas. Despite the negative impacts on mature summer crops, many farmers likely

welcomed the rain as the region continues to recover from severe, long-term drought. Winter crop sowing typically begins in mid-April and gains momentum through May. Conversely, summer crop harvesting often begins to wind down by the end of May. Temperatures averaged within 2°C of normal in eastern Australia, with maximum temperatures generally in the 20s (degrees C).

SOUTH AFRICA
 Total Precipitation (mm)
 March 29 - April 4, 2020



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

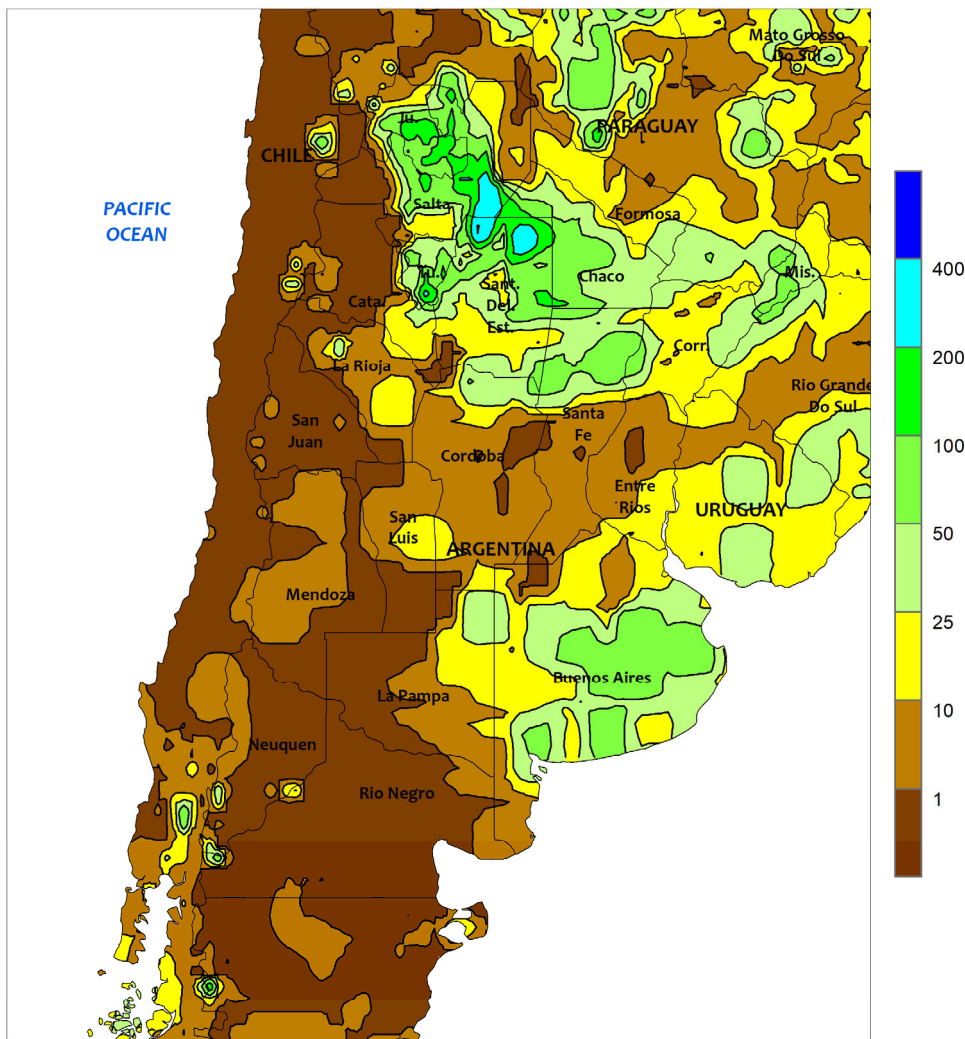


SOUTH AFRICA

Unseasonably heavy showers returned to farming areas in central parts of the country, maintaining ample levels of moisture for late summer crop development while increasing long-term moisture reserves across the region. Rainfall totaling 10 to 50 mm covered a broad area stretching from Namibia and Botswana southeastward to Eastern Cape and KwaZulu-Natal; this expanse included much of the corn belt (North West and Free State to Mpumalanga) and irrigated farming areas along the Orange River in Northern Cape.

Drier conditions prevailed at opposite ends of the wet area, notably Western Cape and environs as well as outlying farming areas in Limpopo and Mpumalanga. In the east, the drier conditions favored early sugarcane harvesting in irrigated production areas of Mpumalanga and KwaZulu-Natal. In Western Cape, rain will be needed soon for wheat planting. Near- to below-normal temperatures were common throughout the region, though no widespread freeze was evident in any interior production areas.

ARGENTINA
Total Precipitation (mm)
March 29 - April 4, 2020



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



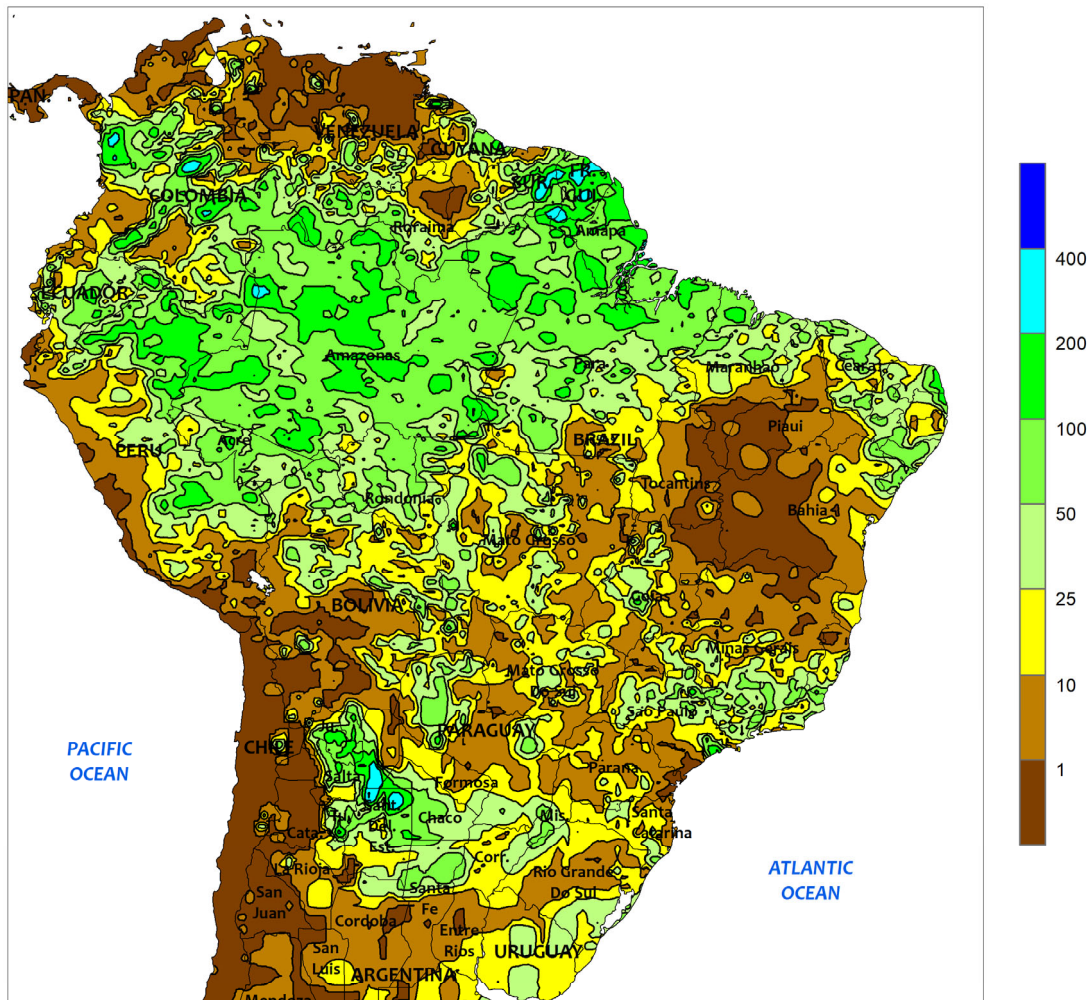
ARGENTINA

Above-normal rainfall covered much of region, increasing moisture for immature summer crops as well as helping to replenish long-term soil moisture reserves for the upcoming winter cropping season. The heaviest rain (25 to more than 50 mm) was concentrated over Buenos Aires in the south and from Salta and Tucuman eastward to Corrientes in the north, with most neighboring locations receiving at least 10 mm. An exception was an area extending from central Cordoba eastward to Entre Rios, where lighter rain (less than 10 mm) fell. Temperatures averaged up to 2°C above normal, with weekly temperatures averaging closer to normal in some of the

wettest locations. Daytime highs ranged from the lower and middle 20s (degrees C) to the upper 30s in the far north, and nighttime lows dropped below 10°C in most southern farming areas, though no freezes were recorded. According to the government of Argentina, sunflowers were 82 percent harvested as of April 2, lagging last year’s pace by 2 points; harvesting was 68 percent complete in Buenos Aires, on par with last season’s pace. In addition, corn was 19 percent harvested – equaling last year – and cotton was 18 percent harvested versus 17 percent last year. Similarly, soybeans were 10 percent harvested versus 9 percent last year.

BRAZIL

Total Precipitation (mm)
March 29 - April 4, 2020



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

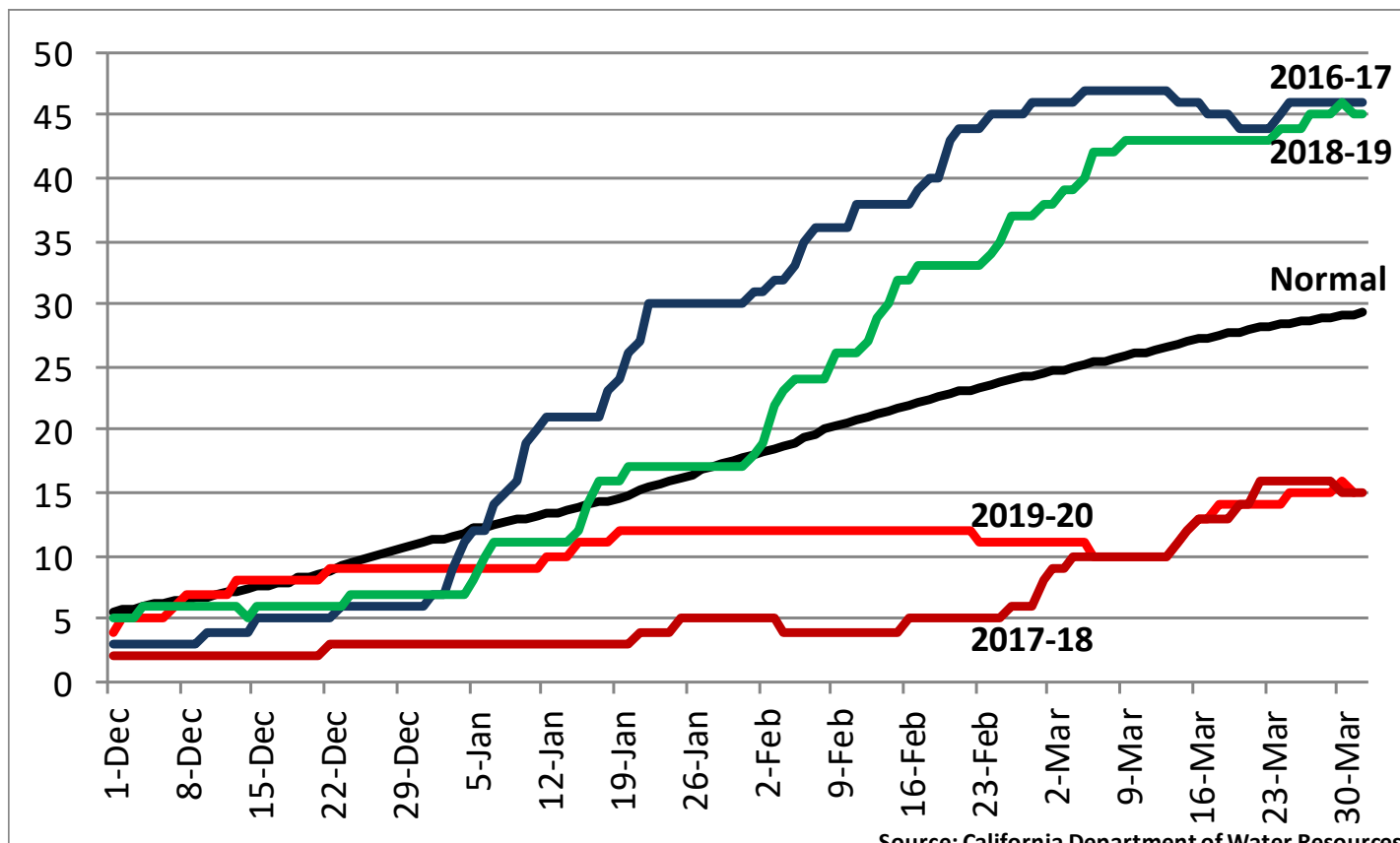


BRAZIL

Showers were unseasonably light throughout much of the region, providing only limited, localized relief from dryness. Pockets of light to moderate rain (5 to locally more than 25 mm) were scattered throughout southern Brazil (Mato Grosso do Sul and Sao Paulo southward), but large parts of the region recorded less than 10 mm. Daytime highs reaching the lower and middle 30s (degrees C) exacerbated the impacts of the dryness on actively growing crops. According to the government of Parana, harvesting of first-crop corn and soybeans had reached 85 and 92 percent complete, respectively, as of March 30, with most of the remainder maturing; however, second-crop corn was 9 percent flowering to filling, and needed moisture. In Rio Grande do Sul, corn was 72 percent harvested as of

April 2, with the majority of the remaining crop ranging from filling to mature; meanwhile, soybeans were 58 percent harvested, with about 10 percent of the crop still flowering to filling. Elsewhere, moderate showers (10-25 mm or more) provided a late-season boost in moisture to coffee in southern Minas Gerais, but aside from a few pockets of rain, drier conditions prevailed north and westward into major farming areas of the Center West and northeastern interior (Mato Grosso to western Bahia and environs). Following last week's generally beneficial rain, the warm (daytime highs reaching the middle 30s), sunny weather prompted growth of corn and cotton, although additional rain would be welcome as farmers eye the impending end of the rainy season.

Daily Sierra Nevada Snowpack (Inches) vs. Normal



Source: California Department of Water Resources

Recent winters have featured a recurring pattern in California's key watershed areas: a bountiful year followed by a drier-than-normal season. Both 2017-18 and 2019-20 ended with the Sierra Nevada snowpack containing only about 15 inches of liquid—just over one-half of normal. However, the preceding wet years (2016-17 and 2018-19, respectively) have helped to minimize hydrological impacts during the alternating dry years.

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