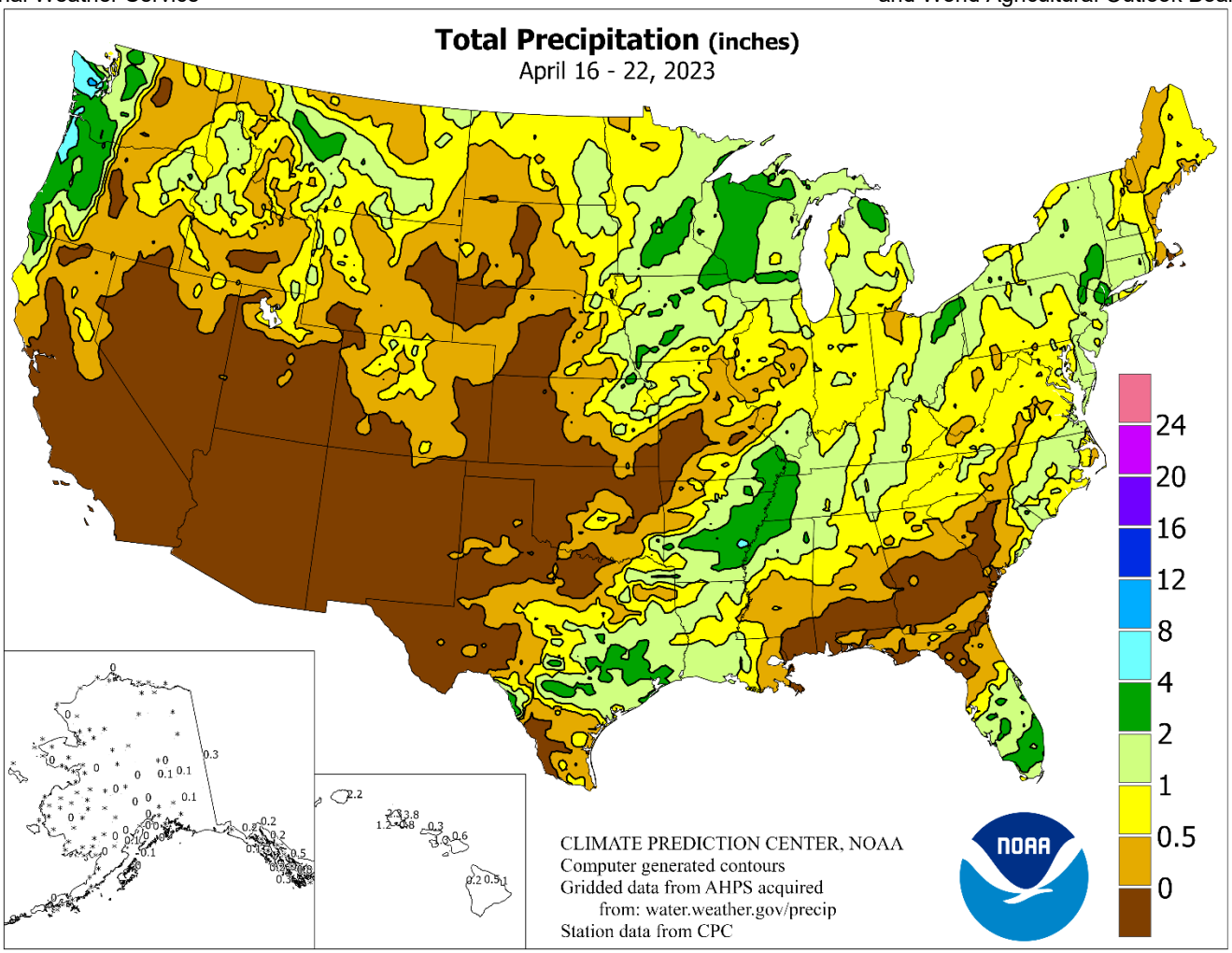
Volume 110, No. 17 www.usda.gov/oce/weather-drought-monitor April 25, 2023

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 16 – 22, 2023

Highlights provided by USDA/WAOB

A winter-like storm delivered accumulating snow early in the week across the **upper Midwest**, followed by a period of unusually cold weather. Many other areas across the **eastern half of the country** experienced showers and thunderstorms in advance of the surge of cool air. Thunderstorms were heavy and locally severe in a few areas, especially from April 19-22, as a cold front marched across the **central and eastern U.S.** Meanwhile, generally dry weather stretched from **California to the central and southern High Plains**. In the latter region, drought

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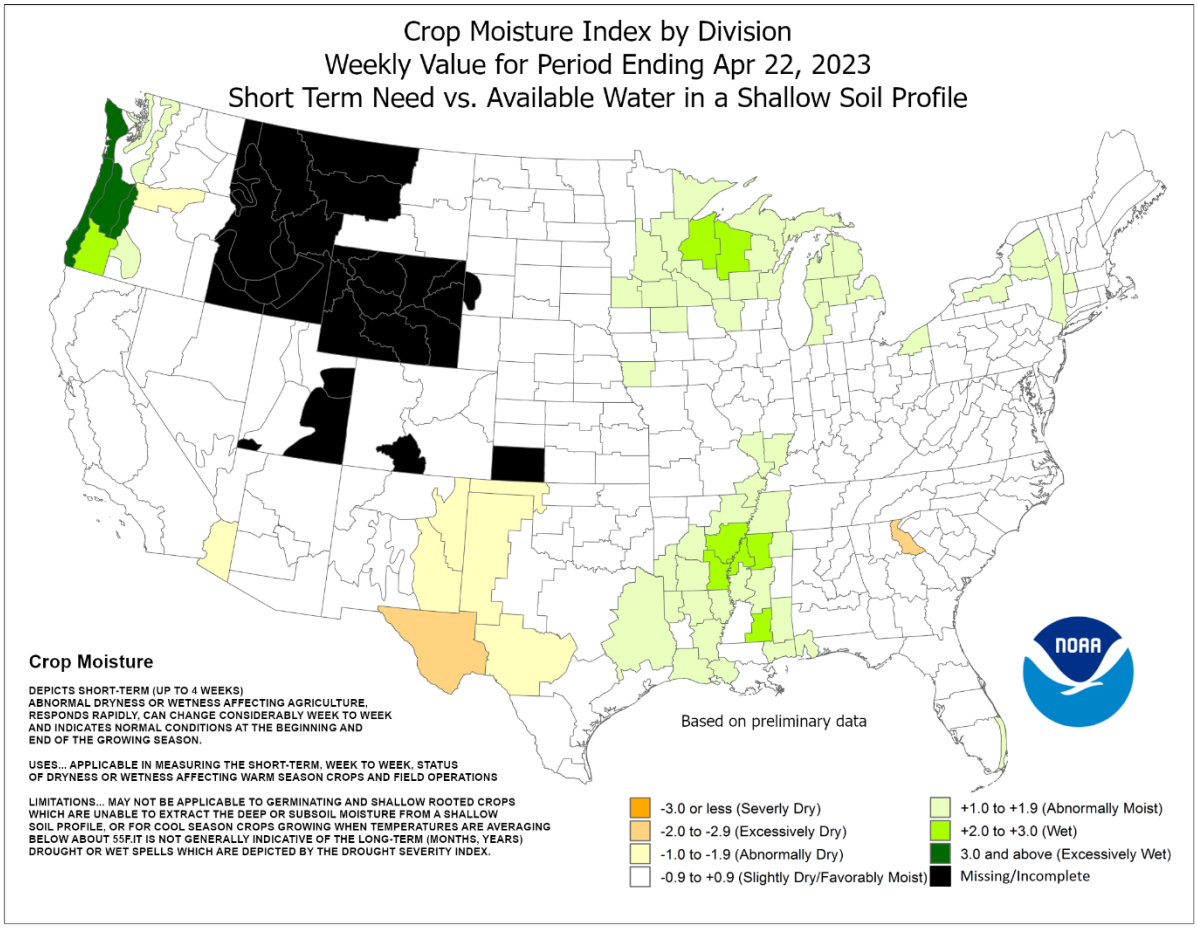
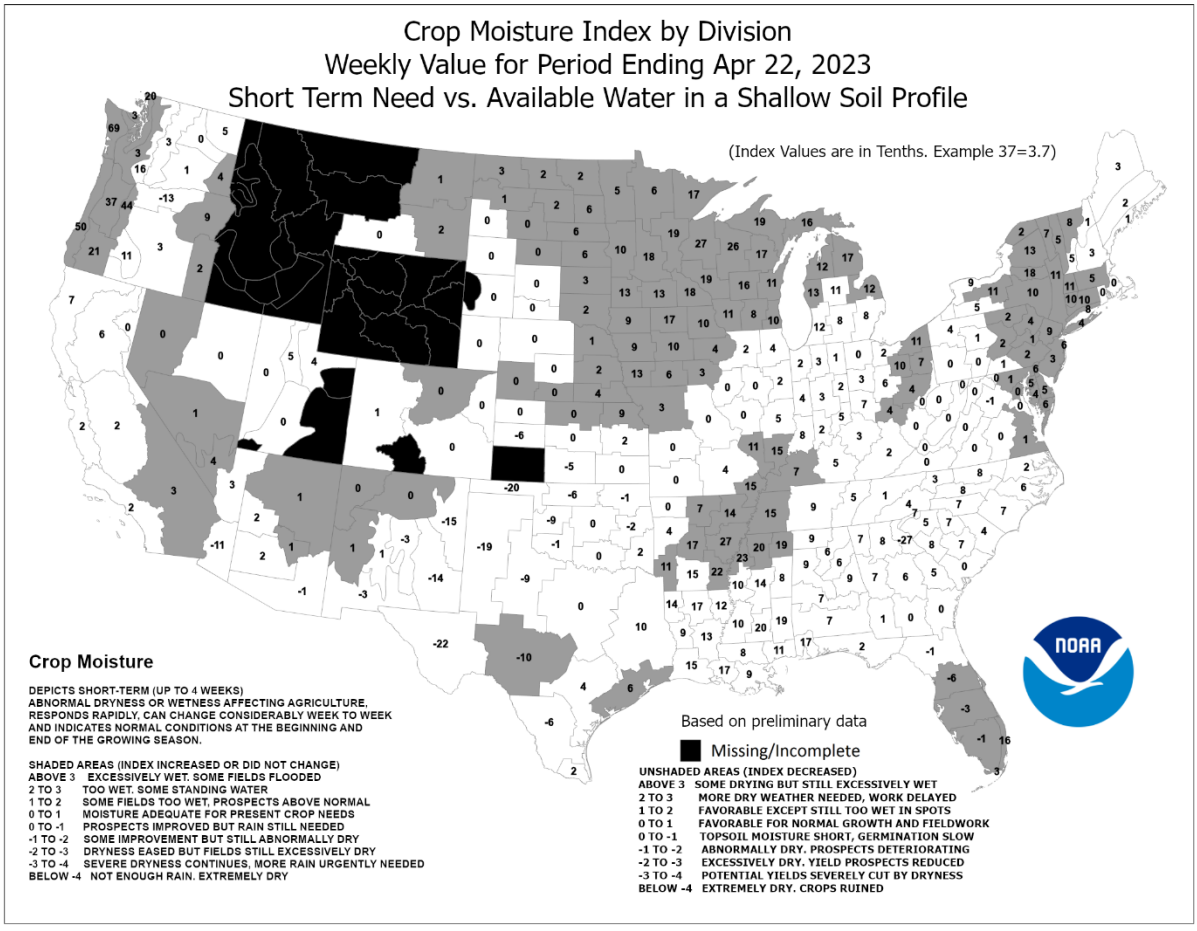
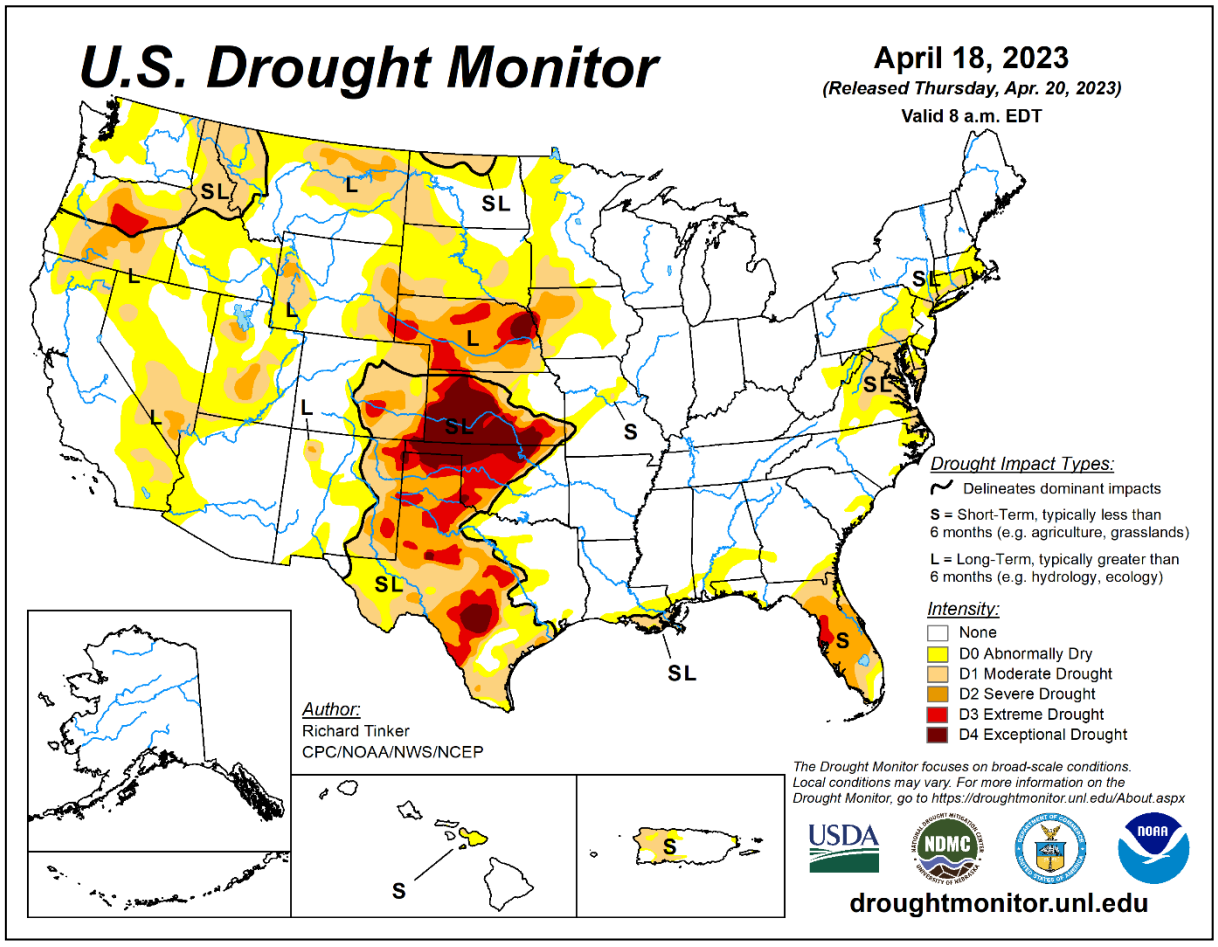
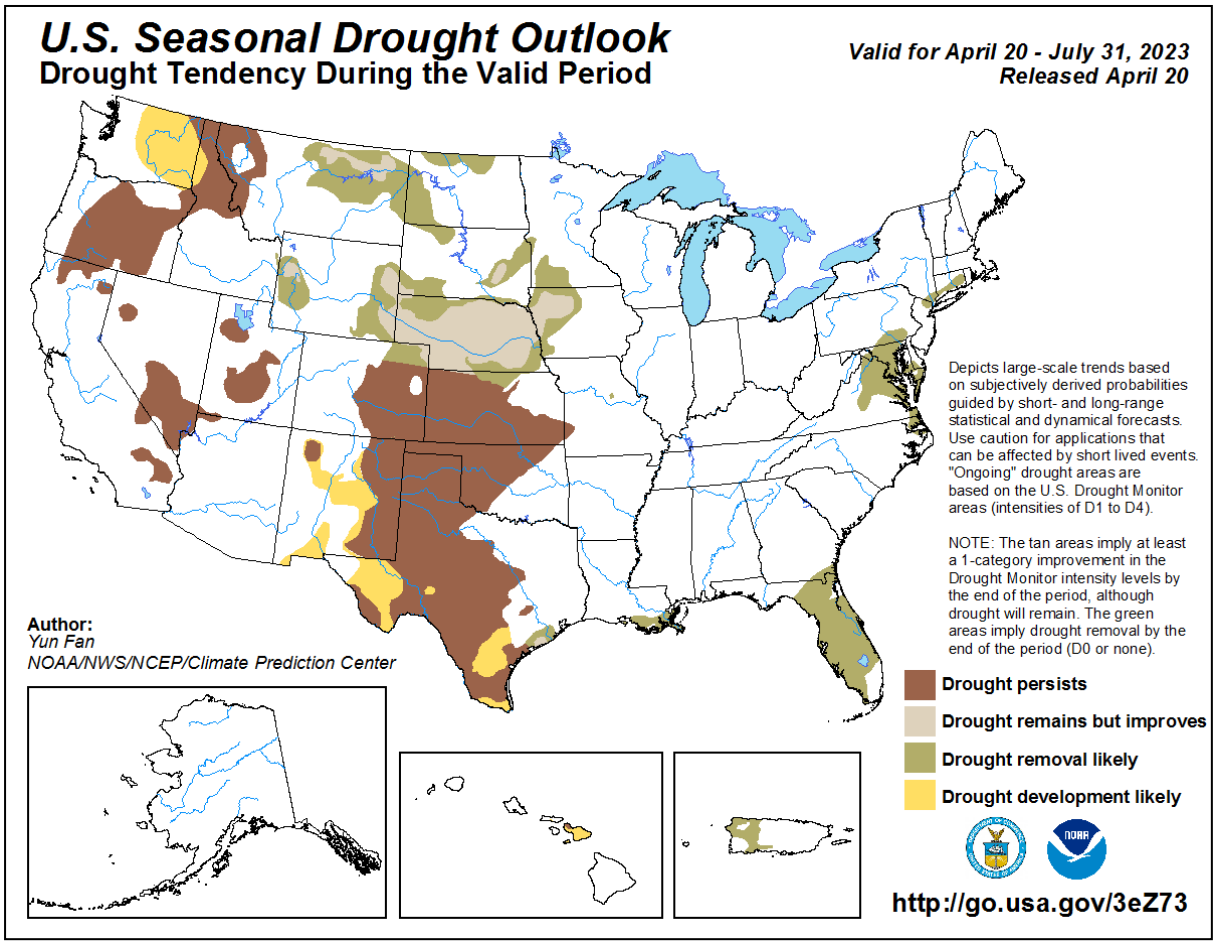
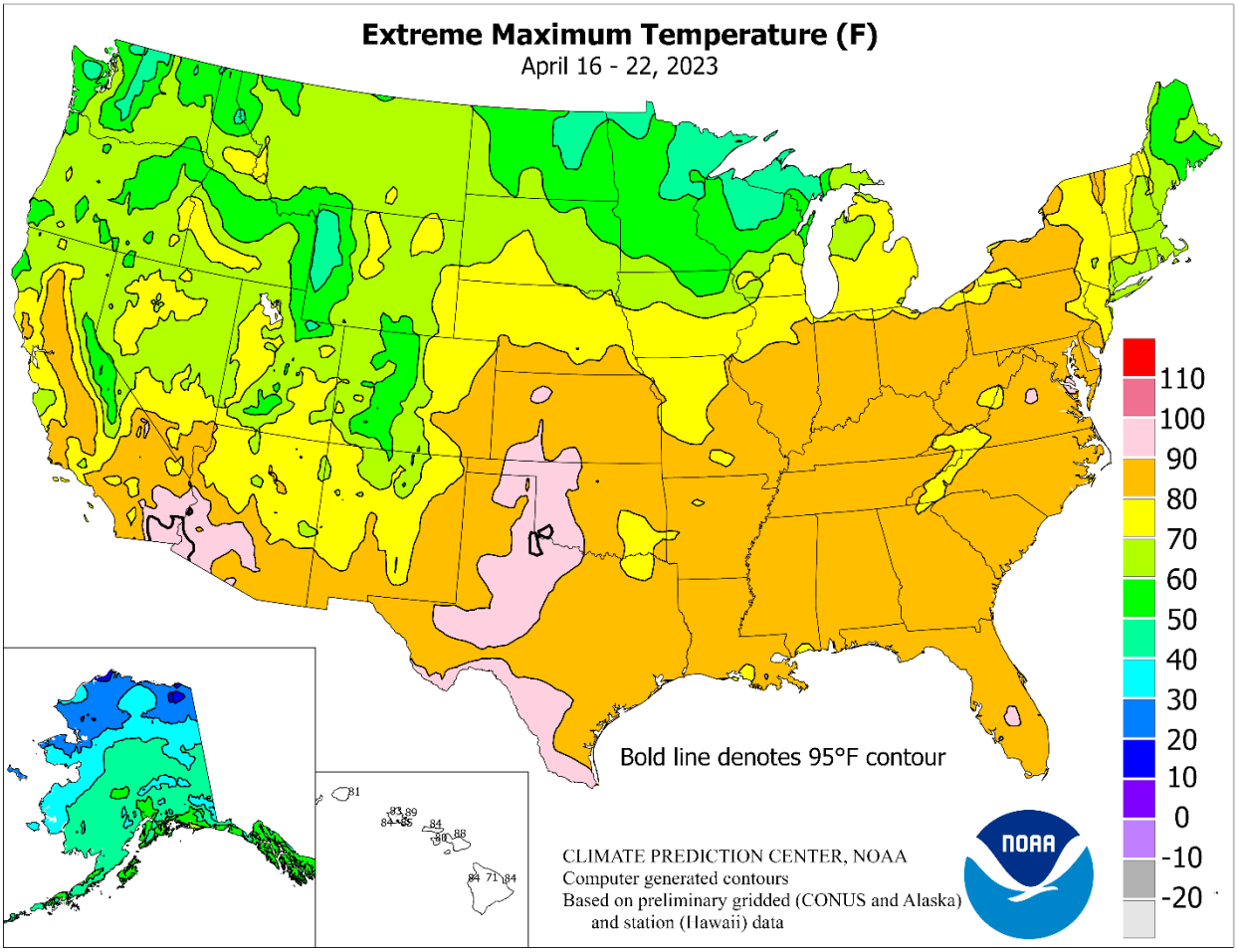
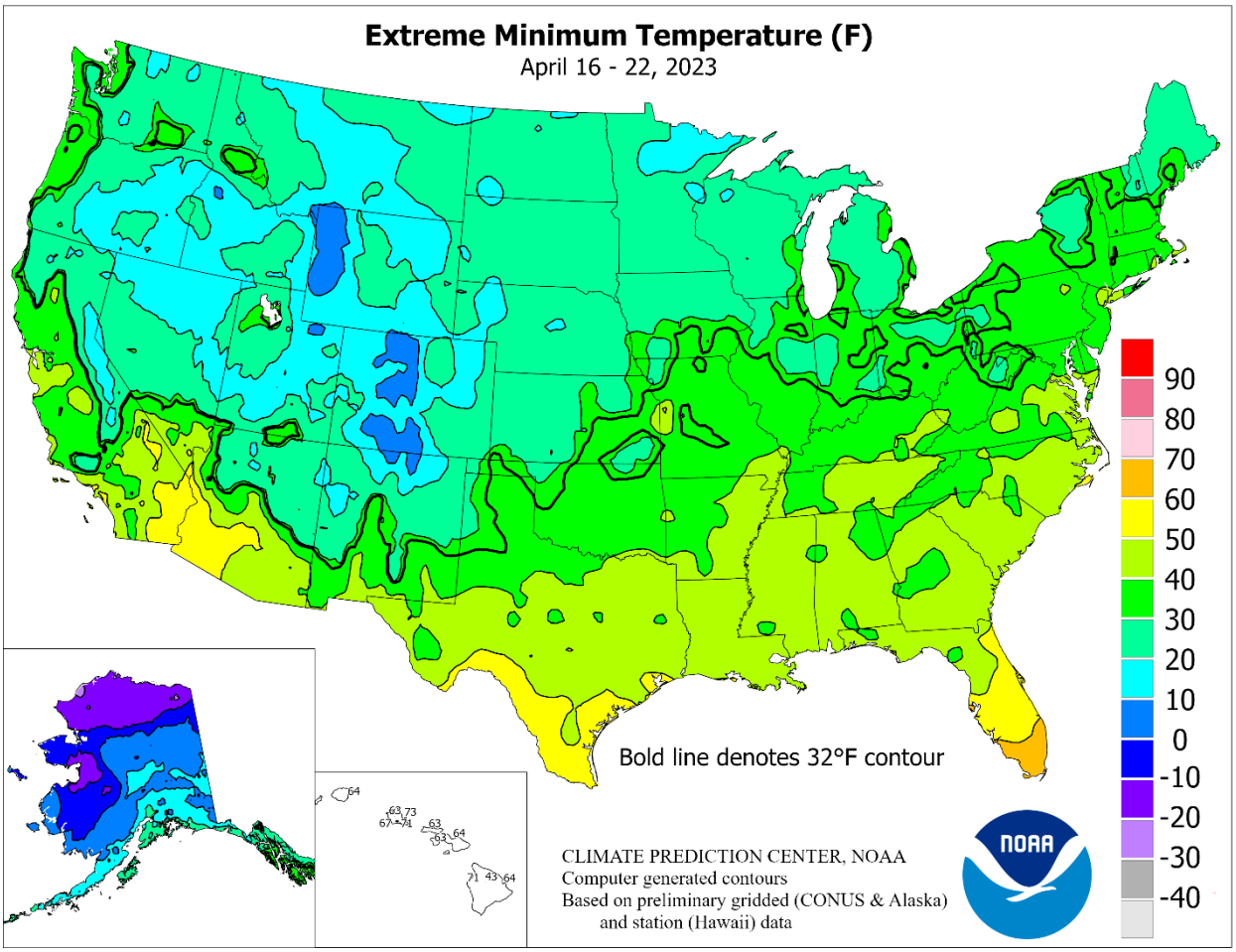

Crop Moisture Index by Division
Weekly Value for Period Ending Apr 22, 2023
Short Term Need vs. Available Water in a Shallow Soil Profile
Crop Moisture
DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES 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)
Missing/Incomplete
NOAA


Crop Moisture Index by Division
Weekly Value for Period Ending Apr 22, 2023
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
Based on preliminary data
Missing/Incomplete
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
NOAA


U.S. Drought Monitor
April 18, 2023
(Released Thursday, Apr. 20, 2023)
Valid 8 a.m. EDT
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
Author:
Richard Tinker
CPC/NOAA/NWS/NCEP
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx
USDA
NDMC
NOAA
droughtmonitor.unl.edu

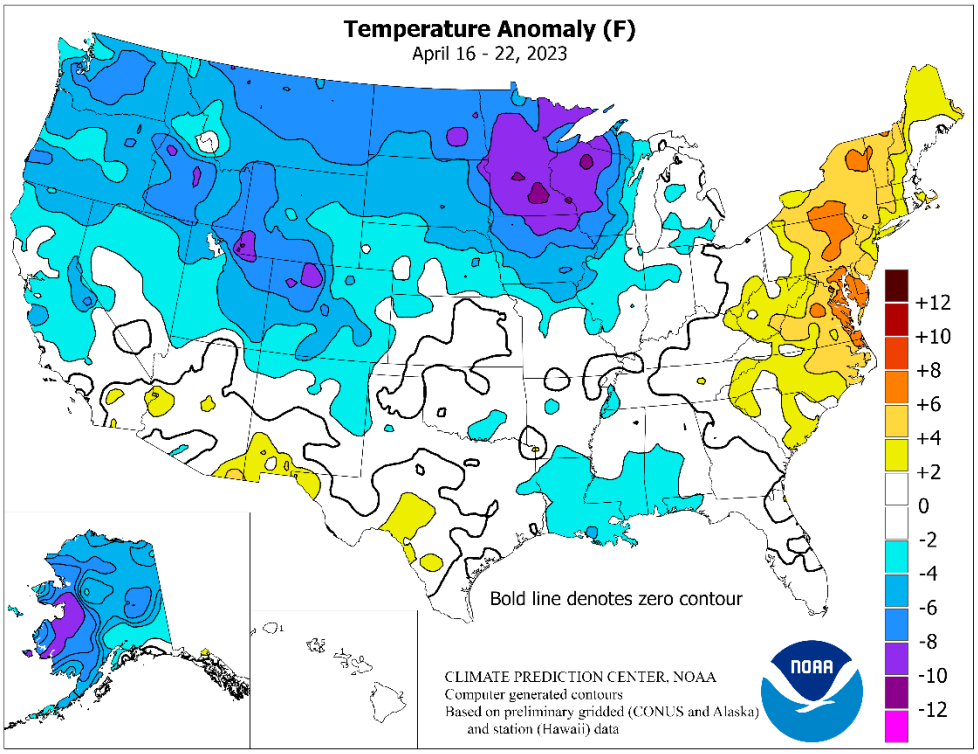

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for April 20 - July 31, 2023
Released April 20
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).
Drought persists
Drought remains but improves
Drought removal likely
Drought development likely
Author:
Yun Fan
NOAA/NWS/NCEP/Climate Prediction Center
http://go.usa.gov/3eZ73


Extreme Maximum Temperature (F)
April 16 - 22, 2023
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA


Extreme Minimum Temperature (F)
April 16 - 22, 2023
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS & Alaska)
and station (Hawaii) data
NOAA

(Continued from front cover)

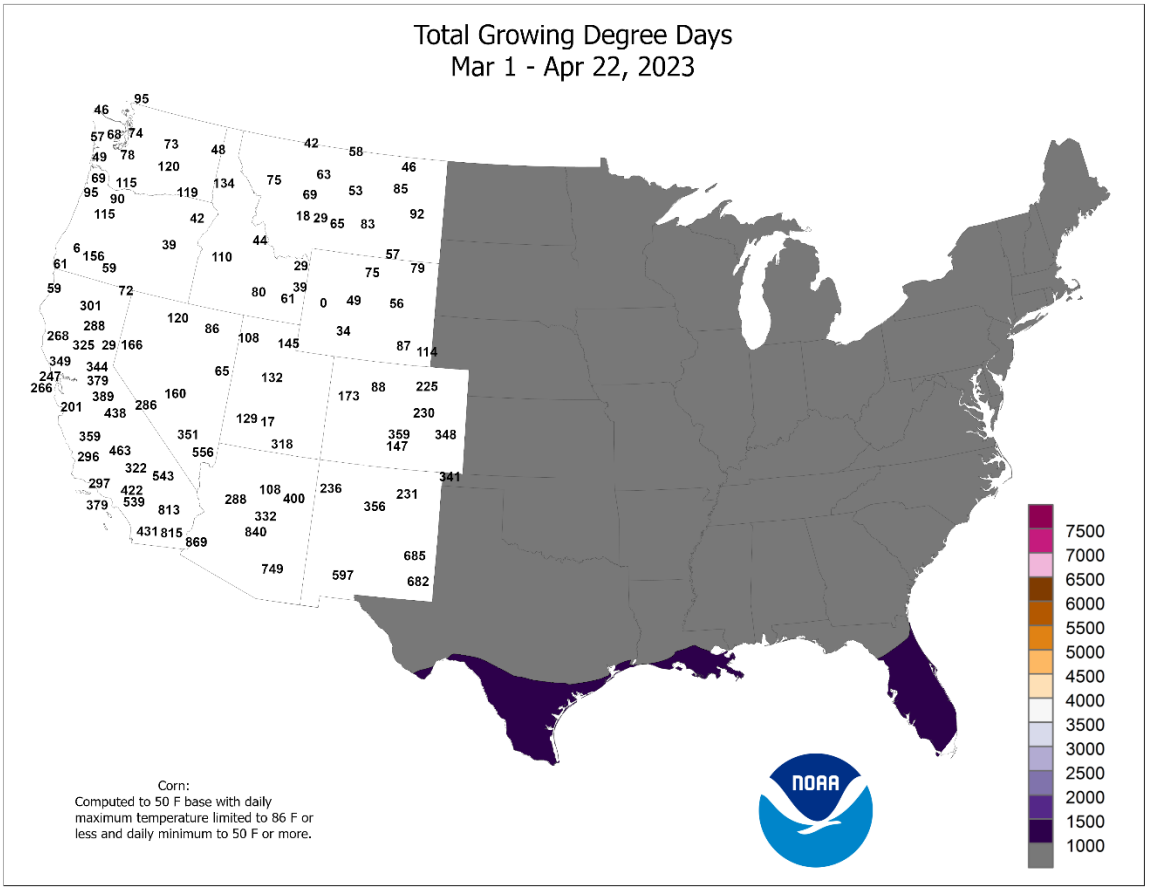
maintained significant stress on rangeland, pastures, and winter grains. The **High Plains** also dealt with other complications, such as high winds, blowing dust, and rapid temperature fluctuations. Elsewhere, cool **Northwestern** conditions and scattered showers slowed fieldwork but boosted topsoil moisture for winter grains and recently sown or soon-to-be planted summer crops. As chilly conditions advanced eastward, weekly temperatures broadly averaged 5 to 10°F below normal from the **Northwest into the upper Midwest**. Significantly below normal temperatures extended as far south as the **Sierra Nevada** and the **central Rockies**. Meanwhile, temperatures averaged at least 5°F above normal in portions of the **middle and northern Atlantic States**. Despite some brief **Western** warmth, the **Sierra Nevada** snowpack retained an average water equivalency of more than 55 inches at week's end, according to the California Department of Water Resources.

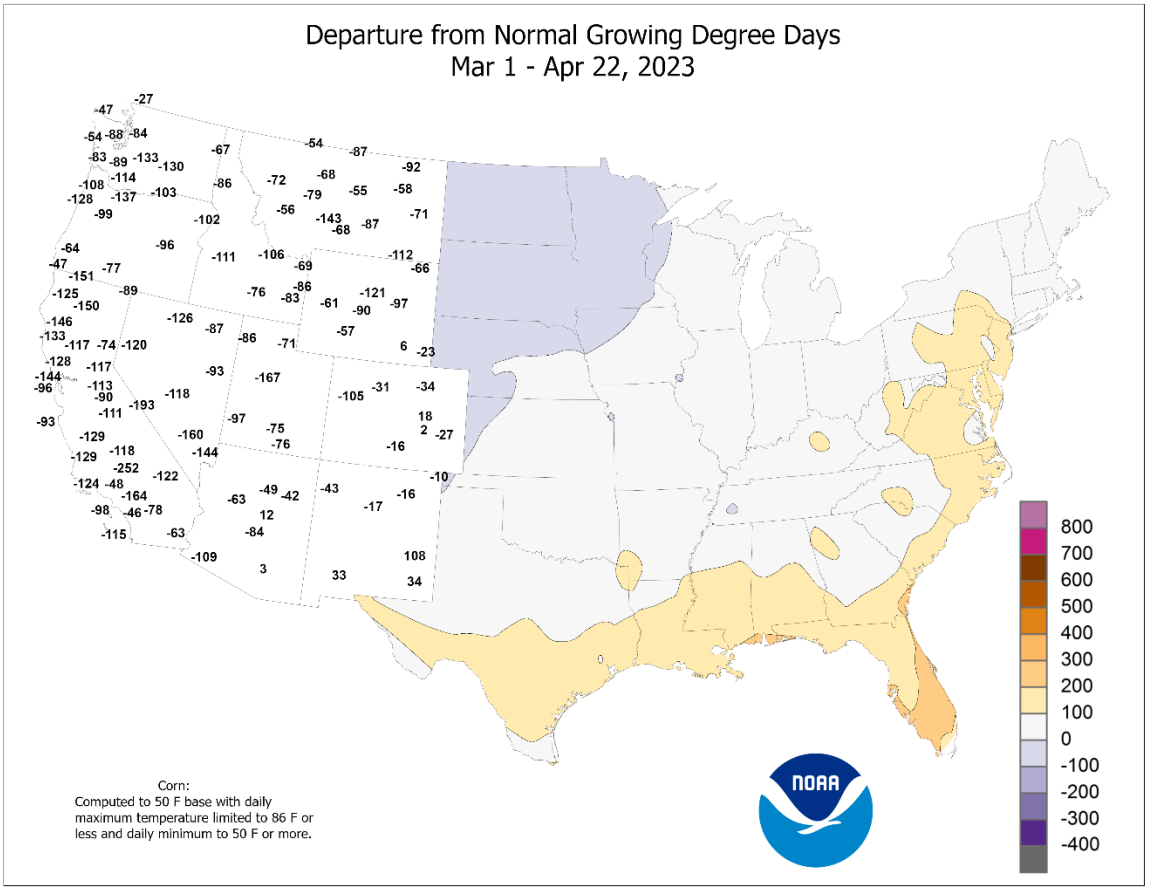


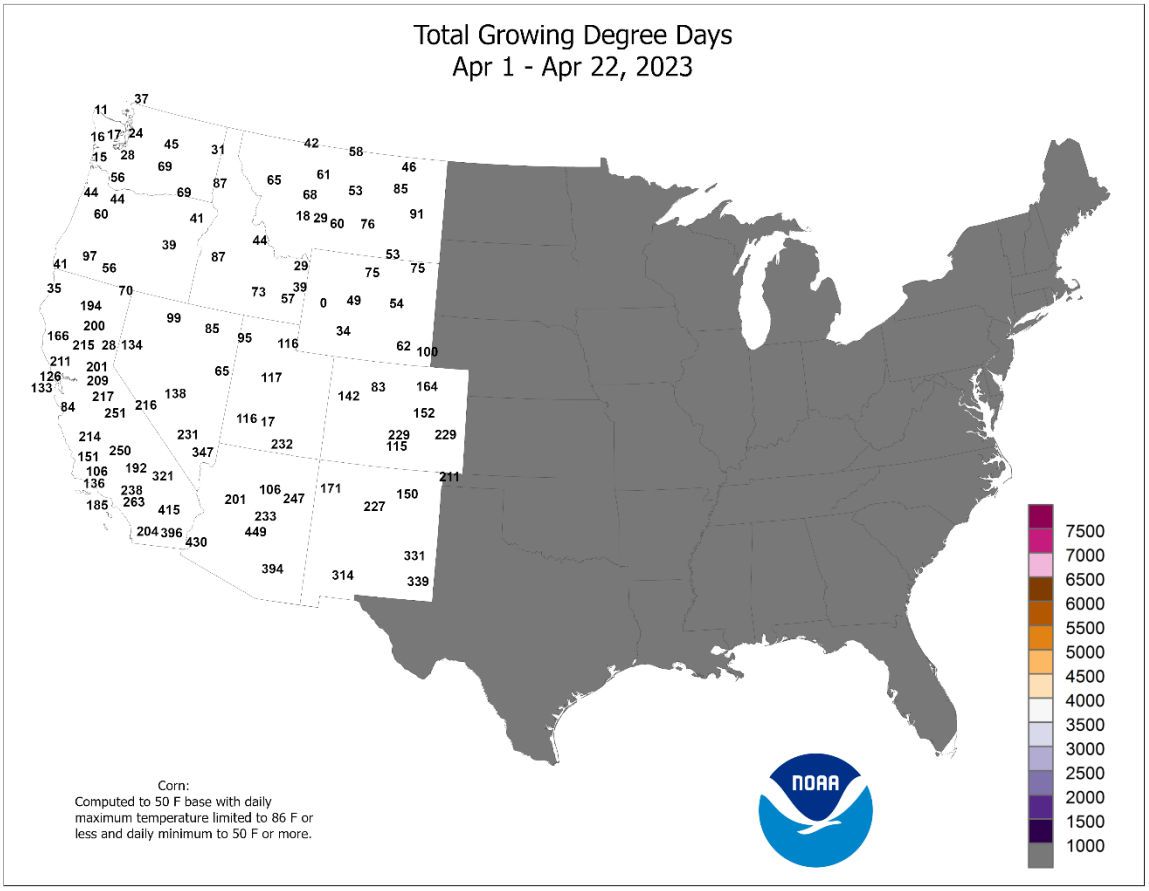
Early in the week, weather hazards included heavy rain in the **Deep South** and late-season snow in the **upper Midwest**. **La Crosse, WI**, received 9.5 inches of snow on April 16-17. The snow in **La Crosse** followed 3 consecutive days (April 12-14) with high temperatures ranging from 85 to 90°F. For the first time on record, **Rockford, IL**, reported measurable snow (0.2 inch on April 16) a day after topping the 80-degree mark (83°F on April 15). Both **Rockford** and **Chicago** noted highs above 80°F each day from April 12-15, followed by measurable snow. **Rockford** measured 0.7 inch on April 16-17, while **Chicago** collected 0.4 inch on April 17. Additional snow fell in both cities on April 22—with totals reaching 0.2 inch in **Rockford** and 0.1 inch in **Chicago**. In **northern Minnesota**, record-setting snowfall totals for April 20 reached 5.9 inches in **International Falls** and 3.2 inches in **Duluth**. **International Falls** logged another daily snowfall record, 2.6 inches, on April 21. Through April 22, seasonal snowfall records had already been broken in several locations, including **Duluth** (139.9 inches; previously, 135.4 inches in 1995-96); **Rhinelander, WI** (120.2 inches; previously, 116.3 inches in 2018-19); and **Saint Cloud, MN** (88.2 inches; previously, 87.9 inches in 1964-65). Even before the mid-April arrival of wintry weather, snow-melt flooding was underway in parts of the **upper Midwest**. On April 13, the **Big Sioux River near Watertown, SD**, achieved its third-highest level on record, cresting 1.81 feet above flood stage. It was the highest river level in that location since April 2001. Similarly, the **Mississippi River at Saint Cloud, MN**, rose to its third-highest level on record (0.95 foot above flood stage on April 16)—the highest crest in that city since April 2001. Farther south, the week opened with heavy rain on April 16 in **southern Florida**, where **West Palm Beach** netted a daily-record sum of 4.97 inches. Elsewhere on the 16th, thunderstorms near the mouth of the **Mississippi River** produced a wind gust to 76 mph in **Grand Isle, LA**. Later, rain spread into other parts of the **eastern U.S.**; record-setting totals for April 17 included 2.47 inches in **Sarasota-Bradenton, FL**, and 1.21 inches in **Plattsburgh, NY**. Meanwhile, rain and snow showers dotted the **Northwest**, where **Boise, ID**, collected a daily-record snowfall (0.9 inch) on April 18. During the mid- to late-week period, locally severe thunderstorms affected the **eastern half of the U.S.** On April 19, an EF-3 tornado with peak winds likely exceeding 150 mph carved an 11-mile path across **McClain County, OK**, resulting in one fatality. Daily-record rainfall totals associated with the thundershowers included 2.37 inches (on April 21) in **Memphis, TN**, and 1.47 inches (on April 22) in **Harrisburg, PA**.

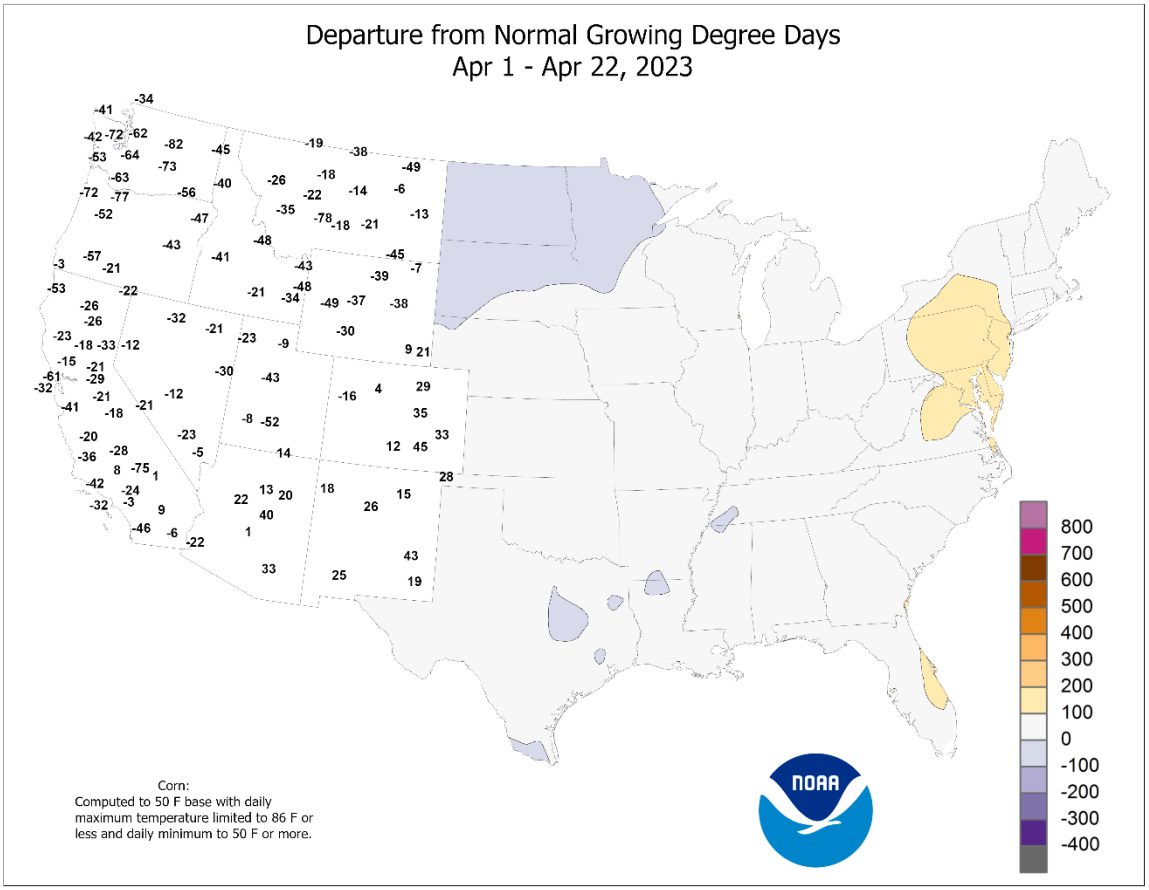
On April 16, lingering warmth in the **Northeast** resulted in daily-record highs in **Buffalo, NY** (86°F), and **Erie, PA** (82°F). Several days later, warmth again surged northward in advance of a cold front. By April 20, daily-record highs surged to 87°F in **Louisville, KY**, and 84°F in **Fort Wayne, IN**. On a final day of widespread **Eastern** warmth on April 21, record-setting highs reached 90°F in **Georgetown, DE**, and 88°F in **Syracuse, NY**. By April 22, chilly air engulfed the **Midwest**, where maximum temperatures included 35°F in **Brainerd, MN**; 42°F in **Ottumwa, IA**; and 44°F in **Quincy, IL**. On the **Plains**, the late-week cold spell sent temperatures tumbling to the freezing mark (32°F) or below as far south as **Texas' northern panhandle**. In **Kansas**, daily-record lows for April 22 dipped to 25°F in **Hill City** and 27°F in **Russell**. Widespread freezes also occurred in the **Midwest**. Although the cold weather posed a threat to some ornamentals and blooming fruits, most row crops likely escaped with minimal impacts. For example, widespread freezes did not reach into areas where winter wheat was heading, while newly planted summer crops, such as corn, had generally not yet emerged in freeze-affected areas. Farther west, scattered sub-zero temperatures were reported in the **Rockies**, with **Lake Yellowstone, WY**, dipping to -1°F on April 20. Elsewhere, **Western** daily-record lows included -2°F (on April 19) in **Stanley, ID**, and 9°F (on April 20) in **Alamosa, CO**.

For the third consecutive week, unusually cold weather gripped the **Alaskan mainland**. Weekly temperatures averaged at least 10°F below normal in parts of **west-central Alaska**, with sub-zero readings commonly observed in northern and western sections of the state. Mostly dry weather accompanied **Alaska's** late-season cold spell. Despite the cold weather, a higher sun angle and more hours of daylight began to reduce low-elevation snowpack. In **Anchorage**, the snow depth decreased from 30 to 14 inches in a 12-day period from April 11-23. Farther south, frequent showers dotted **Hawaii**, with the heaviest rain falling on April 18-19 across the western islands. **Lihue, Kauai**, netted a daily-record rainfall of 2.20 inches on April 19. Through the 22nd, **Lihue's** month-to-date rainfall climbed to 3.49 inches (222 percent of normal). Meanwhile on the **Big Island**, April 1-22 precipitation in **Hilo** totaled 8.35 inches (115 percent of normal), with the bulk of the rain falling during the first half of the month.


Total Growing Degree Days
Mar 1 - Apr 22, 2023
Corn:
Computed to 50 F base with daily maximum temperature limited to 86 F or less and daily minimum to 50 F or more.
NOAA
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000


Departure from Normal Growing Degree Days
Mar 1 - Apr 22, 2023
Corn:
Computed to 50 F base with daily maximum temperature limited to 86 F or less and daily minimum to 50 F or more.
NOAA
800
700
600
500
400
300
200
100
0
-100
-200
-300
-400


Total Growing Degree Days
Apr 1 - Apr 22, 2023
Corn:
Computed to 50 F base with daily maximum temperature limited to 86 F or less and daily minimum to 50 F or more.
NOAA
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000


Departure from Normal Growing Degree Days
Apr 1 - Apr 22, 2023
Corn:
Computed to 50 F base with daily maximum temperature limited to 86 F or less and daily minimum to 50 F or more.
NOAA
800
700
600
500
400
300
200
100
0
-100
-200
-300
-400

National Weather Data for Selected Cities

Weather Data for the Week Ending April 22, 2023

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
AK	ANCHORAGE	44	28	49	24	36	-3	0.00	-0.10	0.00	1.65	163	3.87	147	75	42	0	6	0	0
	BARROW	9	-7	19	-18	1	0	0.00	-0.04	0.00	0.49	159	2.06	310	82	70	0	7	0	0
	FAIRBANKS	38	19	46	11	29	-8	0.04	-0.04	0.04	0.80	126	2.46	139	74	45	0	7	1	0
	JUNEAU	52	33	58	30	43	1	0.17	-0.65	0.09	5.59	90	16.84	102	92	44	0	2	4	0
	KODIAK	47	32	57	27	40	-1	0.02	-1.43	0.02	3.02	32	13.80	57	68	40	0	5	1	0
	NOME	27	-1	38	-8	13	-12	0.00	-0.17	0.00	3.00	234	5.28	164	88	54	0	7	0	0
AL	BIRMINGHAM	78	50	85	44	64	-1	0.33	-0.81	0.33	8.75	92	20.58	106	82	26	0	0	1	0
	HUNTSVILLE	76	49	85	43	62	-2	0.67	-0.46	0.66	8.27	92	18.24	95	92	30	0	0	2	1
	MOBILE	80	51	84	43	65	-2	0.37	-1.00	0.36	11.10	115	18.16	91	93	29	0	0	2	0
	MONTGOMERY	81	49	87	43	65	-1	0.03	-0.87	0.02	8.19	99	16.48	92	91	28	0	0	2	0
AR	FORT SMITH	75	50	84	41	62	-1	0.43	-0.78	0.39	7.59	104	13.45	104	81	33	0	0	2	0
	LITTLE ROCK	77	51	85	43	64	1	3.31	1.89	2.61	14.60	163	28.23	171	82	32	0	0	2	2
AZ	FLAGSTAFF	62	29	66	20	46	1	0.00	-0.19	0.00	7.24	280	16.10	236	60	16	0	5	0	0
	PHOENIX	89	62	94	59	76	2	0.00	-0.03	0.00	1.44	139	2.81	101	32	8	4	0	0	0
	PRESCOTT	70	40	75	32	55	1	0.00	-0.09	0.00	2.06	154	5.47	143	44	14	0	1	0	0
	TUCSON	87	53	90	49	70	1	0.00	-0.03	0.00	0.66	85	2.96	120	28	7	2	0	0	0
CA	BAKERSFIELD	73	48	82	40	61	-3	0.00	-0.13	0.00	2.30	140	6.68	166	76	32	0	0	0	0
	EUREKA	53	42	58	36	48	-3	0.57	-0.22	0.28	9.71	111	19.57	93	95	75	0	0	4	0
	FRESNO	73	49	84	45	62	-1	0.00	-0.22	0.00	4.09	148	12.11	176	76	27	0	0	0	0
	LOS ANGELES	69	54	82	49	62	0	0.00	-0.12	0.00	7.44	332	18.78	232	82	44	0	0	0	0
	REDDING	70	46	86	38	58	-2	0.02	-0.51	0.02	12.22	186	25.31	140	77	28	0	0	1	0
	SACRAMENTO	71	47	83	39	59	-1	0.00	-0.26	0.00	5.25	140	13.04	119	84	33	0	0	0	0
	SAN DIEGO	69	55	81	51	62	-1	0.02	-0.10	0.01	4.04	201	10.94	176	82	48	0	0	2	0
	SAN FRANCISCO	63	49	70	47	56	-1	0.04	-0.24	0.04	6.66	171	19.18	163	84	46	0	0	1	0
	STOCKTON	71	46	83	38	58	-3	0.00	-0.23	0.00	5.34	189	12.94	162	86	34	0	0	0	0
CO	ALAMOSA	59	19	69	8	39	-4	0.02	-0.11	0.02	0.33	36	1.00	65	63	15	0	7	1	0
	CO SPRINGS	58	28	74	22	43	-5	0.11	-0.26	0.11	0.62	35	1.52	64	69	18	0	6	1	0
	DENVER INTL	59	31	78	23	45	-3	0.16	-0.27	0.09	0.80	40	2.27	82	71	20	0	5	3	0
	GRAND JUNCTION	60	35	73	24	47	-5	0.01	-0.21	0.01	2.33	153	3.71	139	74	22	0	2	1	0
	PUEBLO	68	29	83	22	48	-4	0.13	-0.27	0.13	0.31	16	0.93	36	65	14	0	5	1	0
CT	BRIDGEPORT	58	46	60	42	52	1	0.21	-0.76	0.20	3.96	55	10.17	75	84	55	0	0	2	0
	HARTFORD	64	47	74	36	55	4	0.34	-0.56	0.24	4.85	73	12.40	95	78	46	0	0	3	0
DC	WASHINGTON	79	53	88	45	66	6	0.65	-0.09	0.64	2.98	51	6.65	59	83	30	0	0	2	1
DE	WILMINGTON	74	49	84	38	62	6	1.21	0.42	1.18	4.00	59	8.04	62	87	38	0	0	2	1
FL	DAYTONA BEACH	82	61	87	51	71	1	1.54	1.04	1.27	5.03	94	6.98	67	90	46	0	0	3	1
	JACKSONVILLE	83	53	88	42	68	-1	0.11	-0.57	0.10	4.59	82	7.90	67	93	34	0	0	2	0
	KEY WEST	84	73	85	71	79	0	0.04	-0.56	0.04	0.93	31	1.02	16	80	42	0	0	1	0
	MIAMI	86	70	89	67	78	1	0.52	-0.37	0.24	11.35	235	14.98	170	85	52	0	0	4	0
	ORLANDO	85	62	89	54	73	1	0.67	0.06	0.63	1.05	21	2.59	27	91	40	0	0	2	1
	PENSACOLA	80	56	82	49	68	-1	0.37	-0.95	0.37	6.00	63	12.37	64	89	36	0	0	1	0
	TALLAHASSEE	84	51	88	42	67	-1	0.13	-0.63	0.13	5.27	66	15.83	95	91	30	0	0	1	0
	TAMPA	85	65	88	58	75	1	0.25	-0.38	0.18	0.63	14	2.62	27	82	39	0	0	2	0
	WEST PALM BEACH	84	69	89	64	76	1	5.25	4.33	4.98	7.72	128	9.04	74	87	52	0	0	2	1
GA	ATHENS	78	48	83	41	63	0	0.27	-0.53	0.23	7.72	110	19.73	125	88	27	0	0	2	0
	ATLANTA	77	54	84	47	65	1	0.11	-0.75	0.08	7.94	105	17.43	104	75	26	0	0	2	0
	AUGUSTA	81	48	86	41	65	-1	0.07	-0.56	0.07	7.89	124	19.67	142	93	26	0	0	1	0
	COLUMBUS	80	50	85	43	65	-2	0.15	-0.78	0.15	6.69	84	15.31	92	89	25	0	0	1	0
	MACON	80	48	86	39	64	-1	0.15	-0.67	0.15	7.46	104	18.43	118	92	29	0	0	1	0
	SAVANNAH	83	55	87	47	69	1	0.22	-0.59	0.22	4.45	73	11.64	95	84	26	0	0	1	0
HI	HILO	82	67	84	64	74	2	1.02	-1.06	0.41	15.79	79	54.34	143	95	62	0	0	5	0
	HONOLULU	83	73	85	71	78	1	0.84	0.70	0.76	4.76	160	8.29	122	90	59	0	0	3	1
	KAHULUI	85	67	88	64	76	0	0.65	0.35	0.63	2.39	65	8.19	101	90	52	0	0	2	1
	LIHUE	79	68	81	64	73	-1	2.22	1.86	2.15	9.54	132	23.12	170	96	72	0	0	2	1
IA	BURLINGTON	61	38	79	33	49	-4	0.38	-0.61	0.19	3.76	73	7.74	93	82	45	0	0	2	0
	CEDAR RAPIDS	56	34	71	29	45	-5	0.84	-0.07	0.80	1.84	41	4.93	74	91	50	0	3	2	1
	DES MOINES	57	38	77	33	47	-5	1.33	0.32	0.65	3.80	77	7.41	101	84	46	0	0	3	2
	DUBUQUE	52	32	68	26	42	-7	0.92	-0.10	0.39	3.28	63	8.42	104	92	60	0	5	5	0
	SIOUX CITY	57	34	70	25	45	-5	0.59	-0.21	0.28	1.96	49	4.69	84	85	40	0	4	4	0
	WATERLOO	53	34	61	25	43	-7	0.57	-0.46	0.40	2.87	59	7.07	101	85	52	0	3	4	0
ID	BOISE	57	35	74	27	46	-6	0.20	-0.08	0.11	2.74	121	3.81	81	78	31	0	3	3	0
	LEWISTON	57	39	67	33	48	-4	0.45	0.11	0.16	1.93	82	2.65	58	85	36	0	0	5	0
	POCATELLO	53	31	66	24	42	-4	0.01	-0.27	0.01	2.35	113	4.22	102	78	31	0	4	1	0
IL	CHICAGO/O_HARE	59	38	79	32	49	-2	0.31	-0.62	0.12	5.26	103	11.56	128	80	45	0	1	5	0
	MOLINE	62	38	78	31	50	-2	0.45	-0.49	0.21	3.67	69	9.30	106	82	44	0	1	4	0
	PEORIA	63	40	81	32	51	-3	1.16	0.16	0.89	6.11	111	10.96	114	87	39	0	1	3	1
	ROCKFORD	57	36	76	30	46	-4	0.78	-0.15	0.56	5.60	110	11.24	135	85	52	0	3	4	1
	SPRINGFIELD	65	41	83	35	53	-3	0.91	-0.09	0.65	5.16	93	8.73	92	83	44	0	0	2	1
IN	EVANSVILLE	70	46	85	36	58	-1	0.72	-0.59	0.63	10.67	130	18.96	128	87	38	0	0	3	1
	FORT WAYNE	62	38	82	32	50	-2	0.05	-0.85	0.05	5.22	94	12.02	118	89	46	0	1	1	0
	INDIANAPOLIS	66	41	84	30	54	-1	0.79	-0.25	0.52	7.48	110	13.82	111	86	45	0	1	3	1
	SOUTH BEND	60	38	80	32	49	0	0.60	-0.26	0.19	7.24	150	13.63	139	84	46	0	1	6	0
KS	CONCORDIA	71	39	85	31	55	1	0.66	0.05	0.66	1.45	44	3.19	66	75	23	0	1	1	1
	DODGE CITY	72	39	90	28	56	1	0.00	-0.47	0.00	0.30	11	1.13	28	65	16	1	2	0	0
	GOODLAND	65	30	85	23	48	-2	0.00	-0.42	0.00	0.99	48	1.57	55	74	16	0	5	0	0
	TOPEKA	71	43	85	32	57	1	0.79	-0.17	0.59	3.36	69	6.38	91	78	32	0	1	2	1

Based on 1991-2020 normals

***** Not Available**

Weather Data for the Week Ending April 22, 2023

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
	WICHITA	74	44	88	32	59	1	0.00	-0.78	0.00	0.28	6	2.76	43	71	23	0	1	0	0
KY	LEXINGTON	73	45	85	38	59	1	0.92	-0.14	0.80	6.22	81	16.15	110	76	33	0	0	2	1
	LOUISVILLE	73	48	87	40	60	0	0.65	-0.51	0.62	8.02	100	15.76	106	74	34	0	0	2	1
	PADUCAH	72	47	84	38	60	-1	2.48	1.15	1.50	12.17	146	23.14	143	87	34	0	0	3	2
LA	BATON ROUGE	80	55	87	47	67	-2	1.28	0.04	0.69	10.79	131	24.41	128	93	37	0	0	2	2
	LAKE CHARLES	76	56	81	47	66	-4	0.96	-0.13	0.96	11.11	162	18.38	114	93	48	0	0	1	1
	NEW ORLEANS	78	59	83	52	69	-2	0.65	-0.61	0.55	4.67	57	10.27	59	91	39	0	0	2	1
	SHREVEPORT	76	53	84	43	65	-2	0.00	-1.23	0.00	0.00	0	0.00	0	90	42	0	0	0	0
MA	BOSTON	54	46	60	42	50	0	0.44	-0.33	0.35	4.76	69	11.26	83	88	61	0	0	2	0
	WORCESTER	57	42	66	34	49	2	0.50	-0.41	0.44	5.28	73	13.06	93	85	55	0	0	2	0
MD	BALTIMORE	77	50	84	37	64	7	0.86	0.09	0.86	3.32	51	7.12	57	84	32	0	0	1	1
ME	CARIBOU	53	34	58	27	43	3	0.50	-0.21	0.38	3.08	62	9.71	94	90	55	0	2	2	0
	PORTLAND	52	40	61	34	46	0	0.29	-0.72	0.17	3.54	48	12.80	89	91	57	0	0	3	0
MI	ALPENA	50	35	71	30	42	-1	1.38	0.66	0.63	5.92	149	10.28	140	95	60	0	3	5	1
	GRAND RAPIDS	56	36	74	31	46	-3	0.60	-0.41	0.18	7.70	145	13.76	138	88	52	0	3	5	0
	HOUGHTON LAKE	50	34	69	28	42	-2	0.74	-0.02	0.32	5.57	137	9.26	129	90	57	0	3	5	0
	LANSING	58	37	72	30	47	-1	0.72	-0.08	0.24	7.80	173	12.80	154	86	48	0	2	6	0
	MUSKEGON	55	37	75	33	46	-2	1.41	0.56	0.61	6.33	128	12.11	128	85	52	0	0	4	1
	TRAVERSE CITY	54	37	70	31	46	1	0.61	-0.09	0.34	4.26	118	6.73	107	88	53	0	2	5	0
MN	DULUTH	37	28	50	25	32	-9	1.25	0.63	0.78	5.53	170	10.23	197	85	61	0	7	3	1
	INT_L FALLS	39	25	48	17	32	-8	0.65	0.28	0.43	5.37	249	6.14	169	78	48	0	6	3	0
	MINNEAPOLIS	44	33	56	31	39	-10	1.52	0.82	0.65	4.77	128	9.33	170	82	49	0	4	4	1
	ROCHESTER	45	31	53	28	38	-9	1.86	1.00	0.89	5.85	128	10.52	160	93	65	0	5	5	2
	ST. CLOUD	43	31	55	27	37	-8	2.07	1.45	0.86	5.97	177	9.33	194	89	54	0	5	4	3
MO	COLUMBIA	67	46	82	37	56	-1	0.13	-1.13	0.12	3.19	50	7.24	68	69	38	0	0	2	0
	KANSAS CITY	65	42	80	33	54	-2	1.93	0.89	1.42	5.40	106	9.99	129	77	40	0	0	2	2
	SAINT LOUIS	68	46	85	41	57	-2	0.13	-1.04	0.07	7.03	102	11.13	95	74	34	0	0	2	0
	SPRINGFIELD	69	45	81	35	57	-1	0.48	-0.72	0.48	8.09	121	13.55	116	74	35	0	0	1	0
MS	JACKSON	79	50	85	43	64	-1	0.67	-0.69	0.65	12.53	123	24.41	117	91	29	0	0	2	1
	MERIDIAN	79	47	85	41	63	-3	0.06	-1.28	0.04	9.67	98	25.77	124	95	30	0	0	2	0
	TUPELO	77	50	87	45	63	-1	1.69	0.40	1.65	14.12	150	23.37	119	83	28	0	0	2	1
MT	BILLINGS	51	32	68	21	41	-5	0.15	-0.26	0.09	2.11	98	3.22	98	83	38	0	5	2	0
	BUTTE	45	26	57	21	35	-4	0.24	-0.09	0.12	1.41	88	2.02	82	86	38	0	7	4	0
	CUT BANK	44	27	65	21	35	-6	0.30	0.06	0.26	0.60	58	0.87	58	86	50	0	6	2	0
	GLASGOW	49	31	67	25	40	-6	0.18	-0.08	0.18	1.71	151	3.56	186	79	45	0	5	1	0
	GREAT FALLS	45	27	65	16	36	-7	1.21	0.78	0.64	3.50	181	5.14	167	92	56	0	5	5	1
	HAVRE	48	31	67	25	40	-5	0.13	-0.12	0.11	0.91	76	1.75	87	85	47	0	5	2	0
	MISSOULA	53	32	72	27	42	-2	0.28	-0.06	0.20	1.12	57	2.59	68	84	34	0	3	3	0
NC	ASHEVILLE	75	44	81	39	60	2	0.61	-0.38	0.58	5.71	83	13.39	93	83	25	0	0	2	1
	CHARLOTTE	79	52	85	45	65	3	0.33	-0.62	0.31	5.29	78	13.96	104	77	29	0	0	2	0
	GREENSBORO	77	49	84	41	63	3	0.21	-0.70	0.21	7.18	110	14.50	114	80	35	0	0	1	0
	HATTERAS	74	61	77	57	67	5	0.50	-0.42	0.45	4.90	67	10.54	63	98	56	0	0	2	0
	RALEIGH	80	53	86	42	67	5	1.33	0.47	1.33	9.60	143	15.18	117	75	37	0	0	1	1
	WILMINGTON	82	56	88	46	69	5	0.82	0.11	0.82	6.51	105	11.93	88	86	33	0	0	1	1
ND	BISMARCK	50	29	63	25	40	-5	0.13	-0.17	0.09	2.14	123	3.09	113	81	37	0	5	3	0
	DICKINSON	48	28	61	23	38	-5	0.00	-0.31	0.00	0.19	12	0.29	14	89	40	0	5	0	0
	FARGO	45	31	58	27	38	-7	0.80	0.46	0.55	3.29	144	3.94	107	86	55	0	4	3	1
	GRAND FORKS	43	30	52	26	36	-6	0.73	0.46	0.54	2.44	144	2.88	106	85	56	0	6	3	1
	JAMESTOWN	42	28	50	25	35	-8	0.25	-0.03	0.15	0.60	42	0.82	39	90	56	0	6	2	0
NE	GRAND ISLAND	64	34	81	24	49	-3	0.03	-0.60	0.02	0.73	23	2.63	59	78	26	0	4	2	0
	LINCOLN	65	37	83	24	51	-2	0.24	-0.41	0.24	1.02	30	3.22	65	72	29	0	2	1	0
	NORFOLK	59	35	74	25	47	-3	0.15	-0.54	0.09	0.88	26	3.23	68	77	33	0	4	2	0
	NORTH PLATTE	64	28	79	23	46	-3	0.00	-0.60	0.00	0.44	17	2.38	67	79	22	0	5	0	0
	OMAHA	61	38	78	30	49	-4	1.93	1.17	1.73	4.06	103	7.05	125	81	37	0	2	2	1
	SCOTTSBLUFF	62	30	78	25	46	-2	0.01	-0.46	0.01	0.74	31	2.54	77	79	36	0	5	1	0
	VALENTINE	56	32	71	26	44	-4	0.22	-0.42	0.22	1.20	44	4.78	131	82	27	0	5	1	0
NH	CONCORD	58	41	69	37	50	3	0.23	-0.56	0.15	4.48	77	11.56	101	91	49	0	0	2	0
NJ	ATLANTIC_CITY	70	46	78	33	58	4	0.31	-0.43	0.27	3.65	52	9.12	67	92	42	0	0	2	0
	NEWARK	68	48	72	40	58	3	1.04	0.16	1.01	4.72	68	10.33	77	80	42	0	0	2	1
NM	ALBUQUERQUE	72	44	79	39	58	0	0.00	-0.12	0.00	0.52	61	1.14	69	30	9	0	0	0	0
NV	ELY	54	28	64	18	41	-3	0.00	-0.24	0.00	2.23	125	5.09	151	72	23	0	6	0	0
	LAS VEGAS	79	58	85	51	68	0	0.00	-0.04	0.00	0.50	86	1.45	74	25	8	0	0	0	0
	RENO	62	37	70	28	50	-3	0.08	-0.02	0.08	2.12	189	5.70	167	62	19	0	2	1	0
	WINNEMUCCA	60	29	72	15	44	-4	0.07	-0.16	0.07	2.44	153	3.46	133	73	20	0	4	1	0
NY	ALBANY	65	44	79	35	55	5	1.25	0.54	0.78	6.06	113	11.18	109	80	46	0	0	2	1
	BINGHAMTON	65	42	83	34	53	7	0.71	-0.14	0.46	4.06	71	9.23	86	86	39	0	0	3	0
	BUFFALO	61	40	86	33	51	3	1.09	0.30	0.47	7.00	130	13.42	119	87	49	0	0	6	0
	ROCHESTER	63	40	83	35	51	3	0.50	-0.20	0.22	5.06	107	10.96	117	88	43	0	0	5	0
	SYRACUSE	65	43	88	34	54	6	1.10	0.30	0.63	6.05	107	12.61	118	80	39	0	0	5	1
OH	AKRON-CANTON	65	40	82	30	53	0	1.70	0.78	0.91	7.57	124	14.24	124	86	43	0	1	4	2
	CINCINNATI	68	41	82	30	55	-1	0.79	-0.31	0.71	8.76	118	15.40	111	86	42	0	1	3	1
	CLEVELAND	64	40	83	31	52	0	1.54	0.64	0.54	5.54	94	13.57	119	83	38	0	1	4	1
	COLUMBUS	68	42	84	35	55	0	1.23	0.31	0.67	7.80	121	13.54	114	87	43	0	0	4	1
	DAYTON	66	41	83	30	54	-2	0.57	-0.54	0.28	8.25	122	13.67	112	79	41	0	1	4	0
	MANSFIELD	64	39	83	29	52	1	1.04	-0.02	0.47	6.87	105	13.91	113	85	44	0	1	4	0

Based on 1991-2020 normals ***** Not Available**

Weather Data for the Week Ending April 22, 2023

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
	TOLEDO	64	39	83	32	51	-1	0.26	-0.59	0.11	3.58	70	10.96	112	84	44	0	1	4	0
	YOUNGSTOWN	65	40	82	29	52	2	1.48	0.57	0.99	6.49	108	13.34	115	86	43	0	1	4	1
OK	OKLAHOMA CITY	73	48	86	37	61	1	0.94	0.07	0.90	3.54	72	5.90	77	78	31	0	0	2	1
	TULSA	74	48	84	35	61	-1	0.00	-1.09	0.00	3.74	62	8.36	90	79	30	0	0	0	0
OR	ASTORIA	50	40	59	37	45	-4	3.22	1.90	1.18	15.80	127	27.05	89	93	66	0	0	7	2
	BURNS	51	29	62	21	40	-4	0.26	0.04	0.15	3.93	232	6.01	151	86	35	0	5	4	0
	EUGENE	55	42	71	36	49	-3	1.30	0.56	0.29	8.96	123	13.70	76	92	65	0	0	7	0
	MEDFORD	59	40	75	34	49	-4	0.12	-0.22	0.05	2.69	90	4.22	55	88	42	0	0	5	0
	PENDLETON	56	37	65	29	47	-4	0.42	0.13	0.17	2.26	101	3.58	72	83	41	0	2	5	0
	PORTLAND	55	43	66	37	49	-5	1.38	0.72	0.57	8.87	142	14.64	98	86	56	0	0	6	1
	SALEM	54	41	70	35	48	-4	1.44	0.73	0.52	10.13	148	16.28	93	91	61	0	0	7	1
PA	ALLENTOWN	68	46	78	35	57	3	1.15	0.30	0.75	5.58	88	10.62	85	83	43	0	0	2	1
	ERIE	59	41	82	33	50	1	1.33	0.52	0.77	6.94	122	15.63	134	89	52	0	0	5	1
	MIDDLETOWN	72	48	83	37	60	5	1.47	0.65	1.47	4.67	74	8.13	68	85	39	0	0	1	1
	PHILADELPHIA	73	49	84	41	61	5	0.72	-0.07	0.64	3.46	53	8.10	65	88	37	0	0	2	1
	PITTSBURGH	66	41	83	30	53	0	0.73	-0.06	0.33	3.74	67	8.70	78	85	36	0	1	5	0
	WILKES-BARRE	71	46	87	41	58	7	0.62	-0.15	0.49	3.04	59	6.78	69	82	35	0	0	3	0
	WILLIAMSPORT	70	46	86	40	58	6	0.84	-0.01	0.68	2.59	44	5.96	53	84	35	0	0	3	1
RI	PROVIDENCE	58	44	67	38	51	0	0.33	-0.62	0.16	5.68	69	13.83	89	91	56	0	0	3	0
SC	CHARLESTON	83	55	87	45	69	2	0.72	-0.07	0.67	3.10	53	10.54	86	85	32	0	0	2	1
	COLUMBIA	82	51	87	43	67	1	0.01	-0.64	0.01	7.62	134	16.85	134	84	30	0	0	1	0
	FLORENCE	82	50	87	39	66	1	0.42	-0.28	0.42	7.28	135	15.33	133	86	32	0	0	1	0
	GREENVILLE	78	48	84	40	63	1	0.58	-0.39	0.57	8.62	116	19.22	124	79	28	0	0	2	1
SD	ABERDEEN	51	31	61	27	41	-5	0.61	0.15	0.46	2.62	125	3.72	114	86	43	0	5	3	0
	HURON	55	30	67	25	42	-5	0.27	-0.35	0.14	1.31	45	2.20	52	90	37	0	5	3	0
	RAPID CITY	53	27	65	22	40	-5	0.01	-0.51	0.01	3.65	156	4.89	156	82	31	0	7	1	0
	SIOUX FALLS	55	33	67	28	44	-5	0.51	-0.24	0.33	1.98	53	5.31	102	79	38	0	4	3	0
TN	BRISTOL	77	42	85	35	59	2	0.30	-0.57	0.28	5.37	79	14.44	101	88	27	0	0	2	0
	CHATTANOOGA	78	48	86	42	63	0	0.59	-0.52	0.47	8.02	90	17.65	93	86	23	0	0	2	0
	KNOXVILLE	76	48	85	43	62	1	0.99	-0.11	0.47	7.93	94	17.67	98	82	28	0	0	3	0
	MEMPHIS	73	50	82	43	62	-3	2.48	1.03	2.37	14.24	143	26.70	143	82	38	0	0	2	1
	NASHVILLE	77	49	86	44	63	1	0.77	-0.39	0.74	6.13	78	12.71	77	74	26	0	0	2	1
TX	ABILENE	80	54	92	44	67	1	0.31	-0.13	0.31	1.37	47	3.38	63	70	25	2	0	1	0
	AMARILLO	74	42	88	31	58	0	0.00	-0.36	0.00	0.73	32	1.23	35	56	12	0	1	0	0
	AUSTIN	81	60	88	49	71	0	0.25	-0.27	0.24	3.40	74	6.38	70	83	38	0	0	2	0
	BEAUMONT	80	60	83	48	70	0	1.34	0.43	1.26	6.77	104	13.17	88	95	48	0	0	3	1
	BROWNSVILLE	84	68	90	55	76	-2	0.01	-0.33	0.01	2.55	99	3.09	66	98	60	1	0	1	0
	CORPUS CHRISTI	82	65	84	56	74	0	0.24	-0.24	0.24	3.43	92	4.31	67	91	60	0	0	1	0
	DEL RIO	89	67	94	55	78	5	0.01	-0.33	0.01	1.91	85	2.12	61	71	31	4	0	1	0
	EL PASO	85	58	89	50	72	4	0.00	-0.04	0.00	0.06	15	0.64	55	20	7	0	0	0	0
	FORT WORTH	79	56	85	49	68	1	0.93	0.16	0.93	3.94	71	8.77	81	79	36	0	0	1	1
	GALVESTON	78	67	81	62	73	0	0.00	-0.46	0.00	3.41	75	7.18	65	81	54	0	0	0	0
	HOUSTON	78	59	84	50	69	-2	2.40	1.47	1.26	6.21	98	14.22	108	87	47	0	0	3	2
	LUBBOCK	77	47	91	34	62	0	0.00	-0.31	0.00	0.08	4	0.82	25	57	13	2	0	0	0
	MIDLAND	82	52	90	44	67	0	0.00	-0.15	0.00	0.00	0	0.40	16	71	13	2	0	0	0
	SAN ANGELO	86	54	93	40	70	2	0.02	-0.31	0.02	0.78	31	2.20	47	74	22	2	0	1	0
	SAN ANTONIO	81	61	88	50	71	1	1.57	1.02	0.94	4.67	117	6.54	85	85	44	0	0	3	2
	VICTORIA	82	61	84	51	71	0	0.02	-0.65	0.02	3.16	61	10.43	106	95	51	0	0	1	0
	WACO	78	51	86	38	65	-2	0.90	0.08	0.90	2.85	50	7.54	69	97	43	0	0	1	1
	WICHITA FALLS	78	48	92	40	63	0	0.00	-0.61	0.00	3.28	88	6.24	99	75	27	1	0	0	0
UT	SALT LAKE CITY	58	41	74	33	49	-3	0.29	-0.22	0.17	5.31	158	8.86	145	71	25	0	0	2	0
VA	LYNCHBURG	79	48	89	42	63	6	0.25	-0.58	0.25	3.55	56	9.61	76	77	31	0	0	1	0
	NORFOLK	79	56	88	49	68	6	1.22	0.43	1.20	3.47	56	8.69	69	87	34	0	0	2	1
	RICHMOND	80	51	89	41	66	6	0.26	-0.48	0.25	2.76	44	7.74	63	82	30	0	0	2	0
	ROANOKE	79	50	89	45	65	5	0.35	-0.49	0.19	2.92	48	8.56	70	67	26	0	0	2	0
	WASH/DULLES	78	46	88	34	62	6	0.45	-0.35	0.45	2.37	39	5.98	52	84	27	0	0	1	0
VT	BURLINGTON	63	44	83	36	54	6	0.76	0.00	0.62	4.17	93	9.02	108	79	42	0	0	4	1
WA	OLYMPIA	50	35	62	28	43	-6	1.67	0.85	0.46	9.17	107	16.05	74	99	69	0	3	7	0
	QUILLAYUTE	49	39	54	35	44	-3	4.28	2.43	0.92	19.35	106	36.07	83	98	77	0	0	7	5
	SEATTLE-TACOMA	51	40	61	36	45	-6	0.92	0.19	0.32	5.80	87	11.15	68	87	57	0	0	6	0
	SPOKANE	52	34	61	29	43	-4	0.13	-0.15	0.11	1.87	66	3.93	63	85	33	0	2	2	0
	YAKIMA	56	32	65	25	44	-7	0.11	-0.02	0.07	2.06	194	3.36	109	77	33	0	4	2	0
WI	EAU CLAIRE	44	31	55	27	38	-9	1.94	1.21	0.94	5.00	119	8.11	128	89	58	0	5	5	2
	GREEN BAY	52	34	65	31	43	-3	0.84	0.11	0.32	5.26	127	8.24	122	86	58	0	3	5	0
	LA CROSSE	47	34	57	30	41	-10	1.06	0.13	0.61	4.07	85	8.15	113	89	58	0	3	4	1
	MADISON	51	33	71	29	42	-6	0.93	0.00	0.56	5.37	107	10.12	126	86	55	0	4	5	1
	MILWAUKEE	56	37	77	32	46	-1	0.59	-0.38	0.17	5.68	112	11.97	140	82	50	0	1	5	0
WV	BECKLEY	72	45	83	38	58	3	0.17	-0.66	0.16	3.69	55	10.80	84	69	28	0	0	2	0
	CHARLESTON	75	44	86	39	59	1	0.20	-0.63	0.15	4.28	64	12.31	92	90	26	0	0	3	0
	ELKINS	71	37	85	29	54	2	0.46	-0.51	0.23	4.95	71	11.23	83	86	31	0	1	2	0
	HUNTINGTON	74	46	86	39	60	2	0.83	-0.10	0.51	5.62	81	13.34	99	83	29	0	0	3	1
WY	CASPER	52	28	67	21	40	-3	0.03	-0.30	0.03	2.03	112	4.71	165	80	27	0	5	1	0
	CHEYENNE	53	27	70	19	40	-3	0.11	-0.35	0.06	1.07	49	2.59	85	74	24	0	5	2	0
	LANDER	53	27	69	22	40	-4	0.26	-0.23	0.14	2.25	82	6.15	155	69	24	0	6	2	0
	SHERIDAN	51	27	67	16	39	-5	0.48	0.02	0.44	2.59	113	4.99	140	80	36	0	6	2	0

Based on 1991-2020 normals ***** Not Available**

National Agricultural Summary

April 17 – 23, 2023

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

The Southwest remained dry, while large sections of the upper Midwest, as well as parts of Arkansas, Florida, Texas, the Northeast, Plains, northern Rockies, and Pacific Northwest, recorded at least twice the normal amount of weekly precipitation. Some locations near the Great Lakes and in western Oregon recorded more than 3 inches of rain. Meanwhile, much of the nation was cooler than normal. Large parts of the upper Midwest, northern Plains, Rockies, and Pacific Northwest recorded weekly temperatures 6°F or more below normal. In contrast, large sections of the mid-Atlantic, Northeast, and southwestern Texas recorded temperatures 3°F or more above normal for the week.

Corn: By April 23, producers had planted 14 percent of the nation's corn crop, 7 percentage points ahead of last year and 3 points ahead of the 5-year average. Progress was furthest advanced in Texas and Missouri with 72 and 58 percent planted, respectively. Three percent of the nation's corn acreage had emerged by April 23, one percentage point ahead of both the previous year and the 5-year average.

Soybean: Nine percent of the nation's soybean acreage was planted by April 23, six percentage points ahead of last year and 5 points ahead of the 5-year average. Progress was furthest advanced in Louisiana at 41 percent, 4 percentage points ahead of last year and 16 points ahead of the 5-year average.

Winter Wheat: By April 23, eighteen percent of the nation's winter wheat crop was headed, 8 percentage points ahead of last year and 4 points ahead of the 5-year average. On April 23, twenty-six percent of the 2023 winter wheat crop was reported in good to excellent condition, 1 percentage point below both the previous week and the previous year. In Kansas, the largest winter wheat-producing state, 62 percent of the winter wheat crop was rated in poor to very poor condition.

Cotton: Nationwide, 12 percent of the cotton crop was planted by April 23, equal to the previous year but 1 percentage point ahead of the 5-year average. Progress was furthest advanced in Arizona with 33 percent planted, 15 percentage points behind both last year and the 5-year average.

Sorghum: Eighteen percent of the nation's sorghum acreage was planted by April 23, one percentage point behind the previous year and 2 points behind the 5-year average. Texas had planted 63 percent of its sorghum acreage by April 23, one percentage point ahead of the previous year but 2 points behind the 5-year average.

Rice: By April 23, producers had seeded 51 percent of the 2023 rice acreage, 26 percentage points ahead of the previous year and 14 points ahead of the 5-year average. Progress was furthest advanced in Louisiana and Texas, with 86 and 74 percent planted, respectively. By April 23, thirty percent of the nation's rice acreage had emerged, 12 percentage points ahead of last year and 9 points ahead of the 5-year average.

Small Grains: Nationally, oat producers had seeded 42 percent of this year's acreage by April 23, four percentage points ahead of the previous year but equal to the 5-year average. Twenty-eight percent of the nation's oat acreage was emerged by April 23, one percentage point ahead of the previous year but 1 point behind the 5-year average.

Ten percent of the nation's barley crop was planted by April 23, thirteen percentage points behind last year and 12 points behind the 5-year average. Progress was furthest advanced in Idaho and Washington, with 29 and 27 percent planted, respectively. One percent of the nation's barley crop had emerged by April 23, two percentage points behind the previous year and 4 points behind the 5-year average.

By April 23, five percent of the spring wheat crop was seeded, 7 percentage points behind both last year and the 5-year average. Progress was furthest advanced in Washington with 48 percent planted, 20 percentage points behind last year and 14 points behind the 5-year average. By April 23, one percent of the nation's spring wheat crop had emerged, 1 percentage point behind the previous year and 2 points behind the 5-year average.

Other Crops: Nationally, peanut producers had planted 4 percent of the 2023 peanut acreage by April 23, equal to both the previous year and the 5-year average. Producers in Florida had planted 19 percent of the 2023 intended acreage by week's end, 6 percentage points ahead of last year and 4 points ahead of the 5-year average.

By April 23, seventeen percent of the sugarbeet crop was planted, 7 percentage points ahead of last year but 5 points behind the 5-year average. Progress was furthest advanced in Idaho and Michigan with 53 and 49 percent planted, respectively.

Crop Progress and Condition

Week Ending April 23, 2023

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

Corn Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
CO	3	1	2	6
IL	2	10	18	11
IN	1	3	9	6
IA	2	7	10	10
KS	20	17	24	19
KY	9	14	36	23
MI	0	0	1	1
MN	0	0	1	8
MO	9	30	58	18
NE	9	2	10	7
NC	57	28	52	51
ND	0	0	0	1
OH	0	0	6	2
PA	2	0	9	1
SD	1	0	0	2
TN	16	23	49	29
TX	68	65	72	65
WI	0	1	1	3
18 Sts	7	8	14	11

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

Corn Percent Emerged

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
CO	0	NA	0	0
IL	0	NA	0	0
IN	0	NA	0	0
IA	0	NA	0	0
KS	1	NA	3	2
KY	0	NA	12	5
MI	0	NA	0	0
MN	0	NA	0	0
MO	0	NA	11	2
NE	0	NA	0	0
NC	29	10	25	23
ND	0	NA	0	0
OH	0	NA	0	0
PA	0	0	0	0
SD	0	NA	0	0
TN	3	1	11	8
TX	58	56	60	51
WI	0	NA	0	0
18 Sts	2	NA	3	2

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

Soybeans Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
AR	11	19	34	15
IL	1	4	15	6
IN	0	2	8	3
IA	1	3	5	2
KS	3	2	4	1
KY	5	7	19	6
LA	37	30	41	25
MI	0	1	2	1
MN	0	0	0	1
MS	22	23	34	25
MO	1	5	16	1
NE	3	0	4	2
NC	5	0	4	4
ND	0	0	0	0
OH	0	0	6	2
SD	0	0	0	0
TN	3	7	16	3
WI	0	0	0	1
18 Sts	3	4	9	4

These 18 States planted 95% of last year's soybean acreage.

Cotton Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
AL	1	3	6	4
AZ	48	21	33	48
AR	2	1	5	1
CA	81	0	20	45
GA	3	1	4	6
KS	1	0	0	0
LA	12	3	5	6
MS	2	0	1	2
MO	0	0	1	1
NC	3	0	1	1
OK	0	0	0	2
SC	1	0	1	2
TN	0	1	3	1
TX	19	13	18	16
VA	11	8	20	4
15 Sts	12	8	12	11

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

Sorghum Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
CO	0	0	0	0
KS	1	0	0	0
NE	0	0	0	0
OK	0	8	15	3
SD	1	0	0	0
TX	62	52	63	65
6 Sts	19	15	18	20

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

Sugarbeets Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
ID	59	40	53	72
MI	3	39	49	30
MN	0	0	0	8
ND	0	0	0	3
4 Sts	10	13	17	22

These 4 States planted 86% of last year's sugarbeet acreage.

Peanuts Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
AL	3	0	4	4
FL	13	12	19	15
GA	3	0	2	3
NC	1	0	2	1
OK	0	0	0	1
SC	1	0	2	3
TX	0	0	0	1
VA	0	0	0	0
8 Sts	4	1	4	4

These 8 States planted 96% of last year's peanut acreage.

Crop Progress and Condition

Week Ending April 23, 2023

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

Winter Wheat Percent Headed

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
AR	24	25	46	43
CA	76	63	74	46
CO	0	0	0	0
ID	0	0	0	0
IL	5	3	7	6
IN	0	0	0	1
KS	0	0	3	1
MI	0	0	0	0
MO	3	3	12	6
MT	0	0	0	0
NE	0	0	0	0
NC	45	33	57	31
OH	0	0	0	0
OK	5	15	33	24
OR	0	0	0	0
SD	0	0	0	0
TX	43	35	53	52
WA	0	0	0	0
18 Sts	10	10	18	14

These 18 States planted 88% of last year's winter wheat acreage.

Winter Wheat Condition by Percent

	VP	P	F	G	EX
AR	1	4	38	46	11
CA	0	0	5	75	20
CO	7	32	38	19	4
ID	1	12	59	28	0
IL	1	3	18	65	13
IN	2	4	18	57	19
KS	32	30	24	12	2
MI	2	4	31	50	13
MO	0	4	28	64	4
MT	0	4	58	37	1
NE	15	27	37	19	2
NC	0	1	15	73	11
OH	2	5	30	50	13
OK	32	31	31	6	0
OR	9	25	39	21	6
SD	3	12	56	28	1
TX	24	31	31	13	1
WA	1	12	40	45	2
18 Sts	18	23	33	23	3
Prev Wk	18	21	34	24	3
Prev Yr	20	19	34	24	3

Rice Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
AR	13	33	51	32
CA	0	0	0	3
LA	79	83	86	82
MS	23	25	39	29
MO	1	30	63	24
TX	76	55	74	78
6 Sts	25	38	51	37

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

Rice Percent Emerged

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
AR	5	5	21	10
CA	0	0	0	0
LA	68	73	81	72
MS	6	2	11	11
MO	0	0	12	5
TX	58	41	58	63
6 Sts	18	18	30	21

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

Oats Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
IA	44	51	67	55
MN	2	3	5	15
NE	76	52	68	62
ND	0	0	0	2
OH	28	41	61	37
PA	13	42	52	36
SD	36	4	13	25
TX	100	100	100	100
WI	7	6	15	19
9 Sts	38	36	42	42

These 9 States planted 69% of last year's oat acreage.

Oats Percent Emerged

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
IA	7	4	10	11
MN	0	0	1	3
NE	29	11	23	24
ND	0	0	0	0
OH	10	5	19	15
PA	2	5	17	21
SD	9	0	0	7
TX	100	100	100	100
WI	0	0	0	5
9 Sts	27	26	28	29

These 9 States planted 69% of last year's oat acreage.

Spring Wheat Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
ID	36	25	26	48
MN	0	0	0	4
MT	17	1	5	12
ND	4	0	1	6
SD	34	1	4	25
WA	68	27	48	62
6 Sts	12	3	5	12

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

Spring Wheat Percent Emerged

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
ID	9	0	1	9
MN	0	NA	0	0
MT	1	NA	0	0
ND	0	NA	0	0
SD	4	NA	0	6
WA	23	2	10	26
6 Sts	2	NA	1	3

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

Crop Progress and Condition

Week Ending April 23, 2023

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

Barley Percent Planted

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
ID	40	15	29	49
MN	0	0	0	4
MT	24	1	6	15
ND	1	0	0	3
WA	55	15	27	50
5 Sts	23	5	10	22

These 5 States planted 84% of last year's barley acreage.

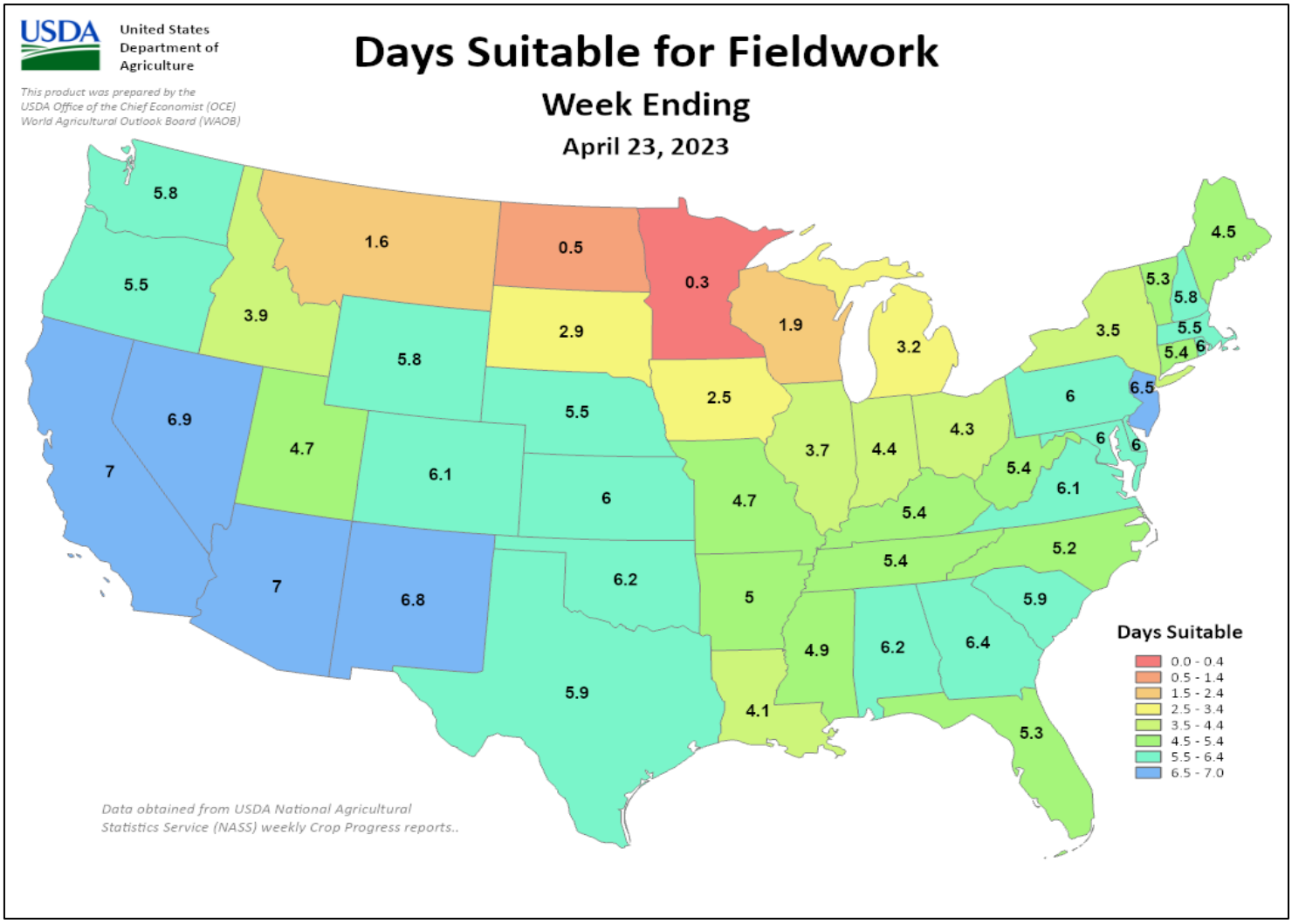
Barley Percent Emerged

	Prev Year	Prev Week	Apr 23 2023	5-Yr Avg
ID	11	0	2	15
MN	0	NA	0	0
MT	0	NA	0	0
ND	0	NA	0	0
WA	10	0	4	19
5 Sts	3	NA	1	5

These 5 States planted 84% of last year's barley acreage.

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

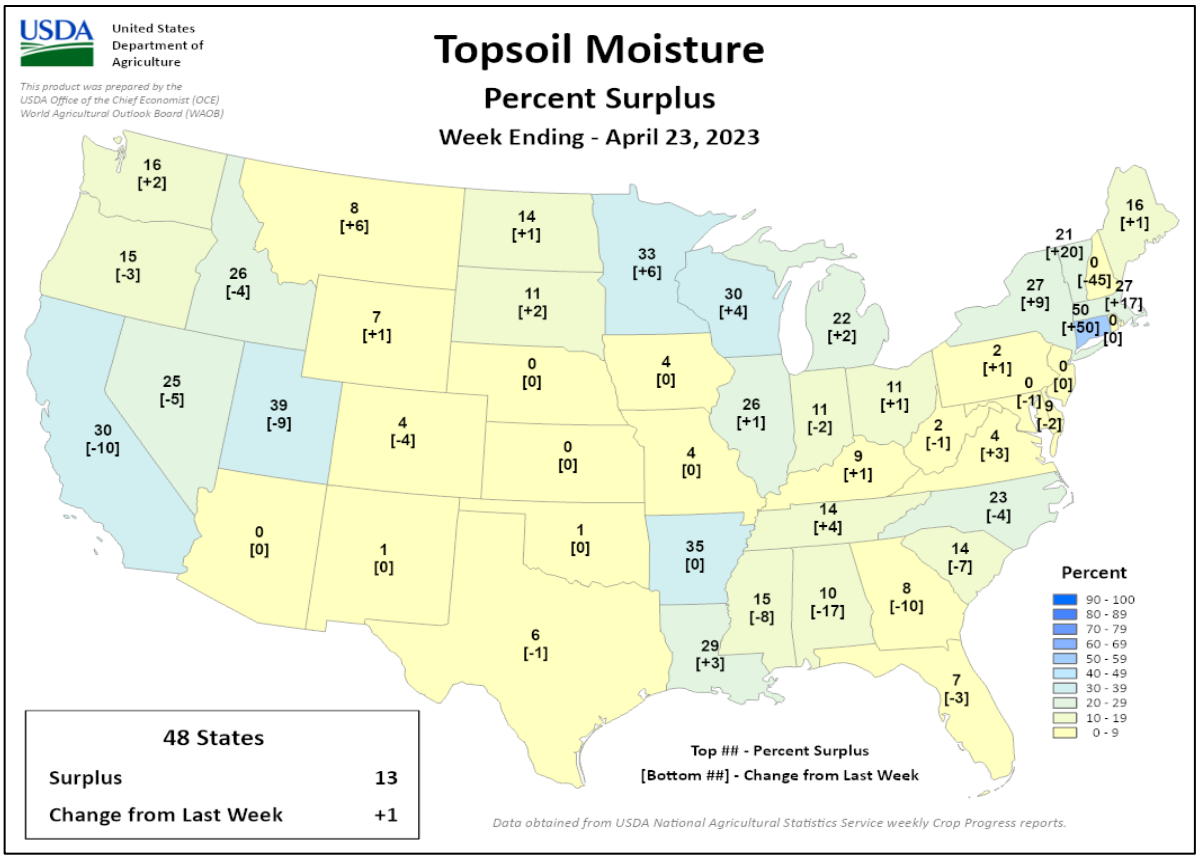
NA - Not Available
* Revised

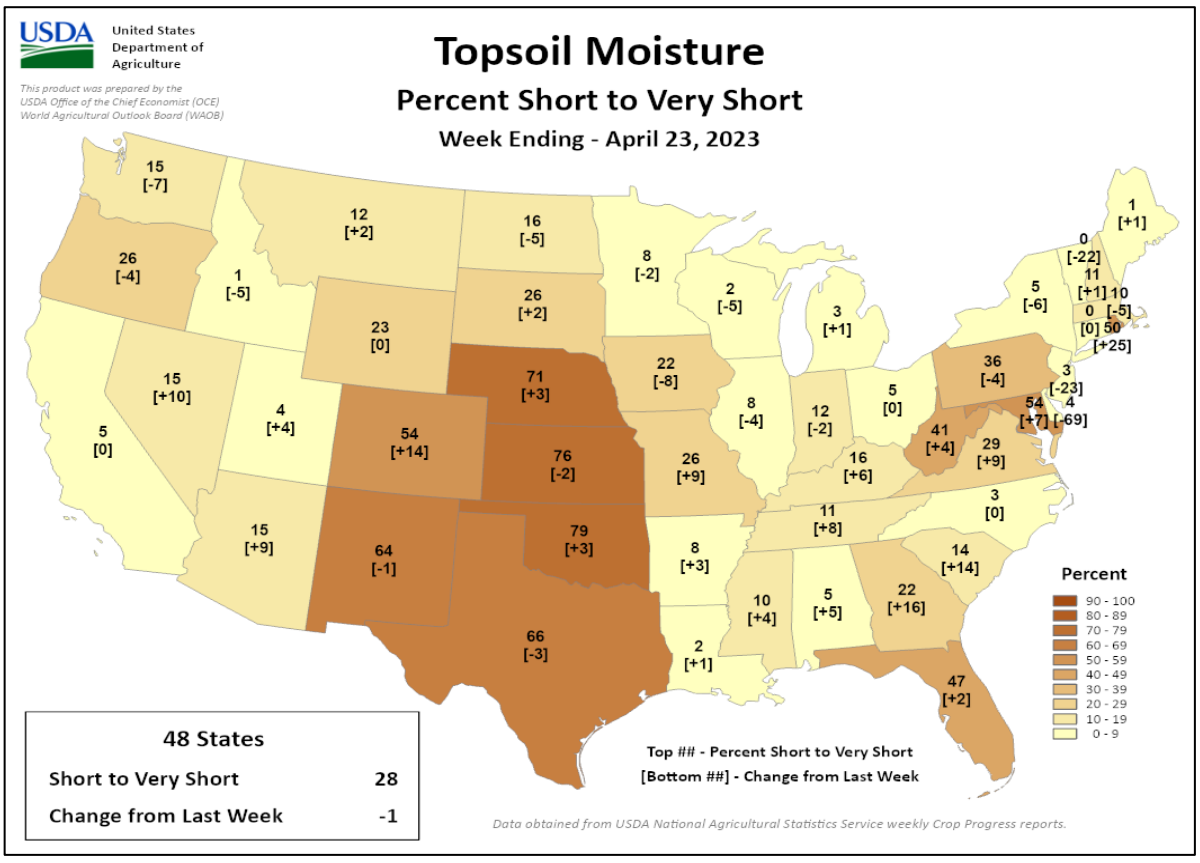


Crop Progress and Condition

Week Ending April 23, 2023

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

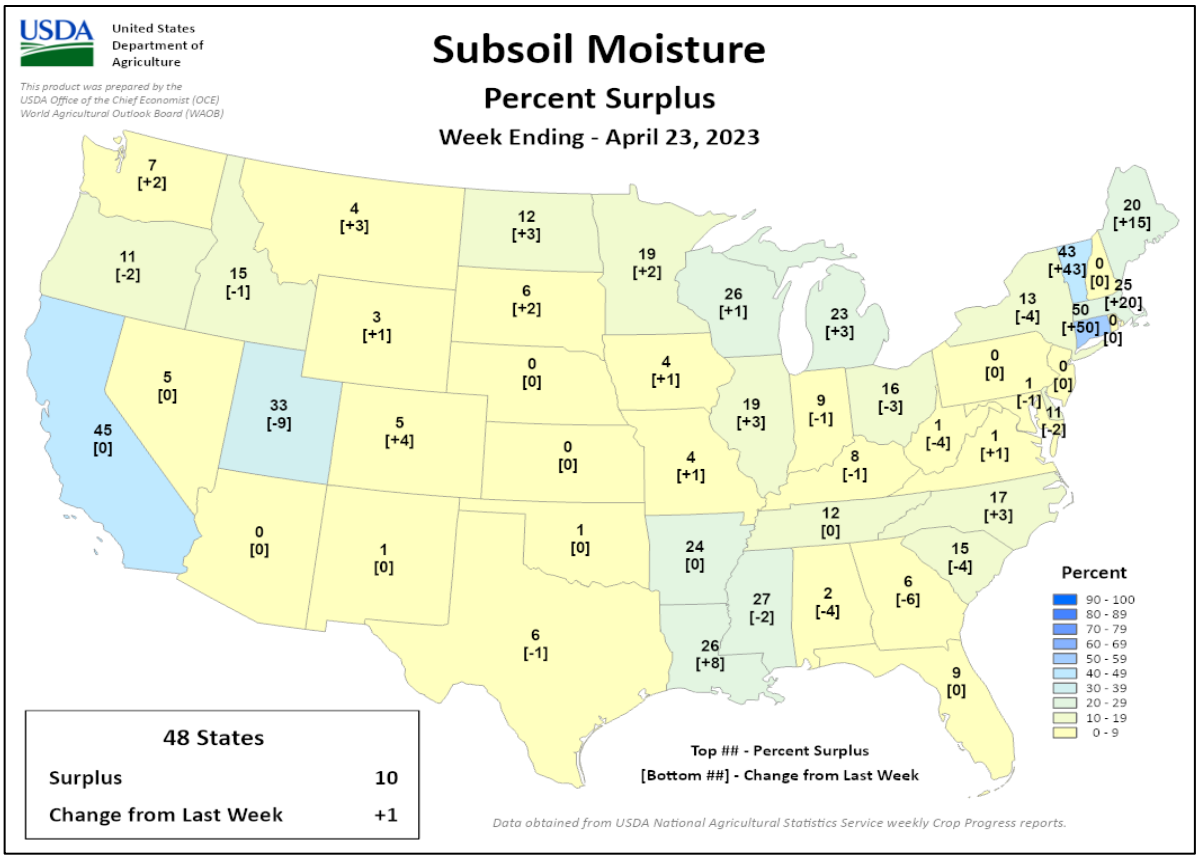


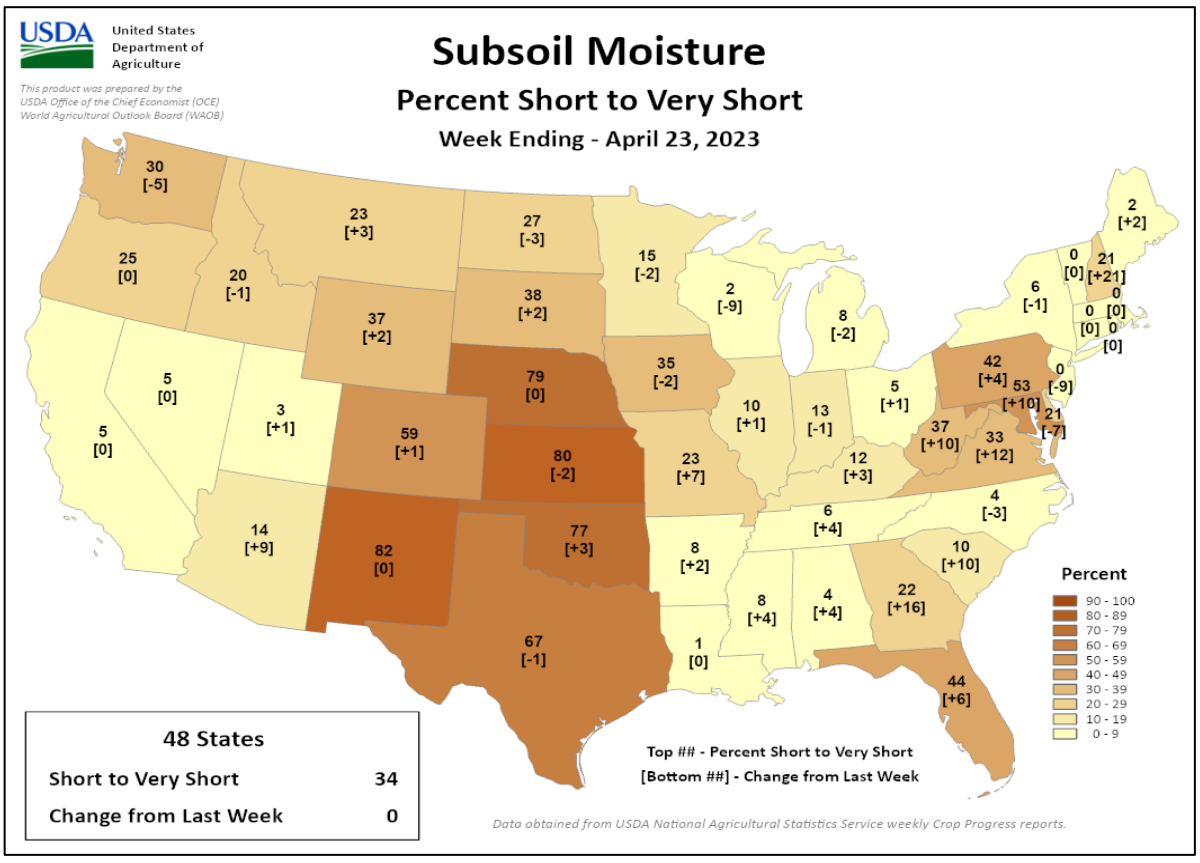


Crop Progress and Condition

Week Ending April 23, 2023

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





International Weather and Crop Summary

April 16-22, 2023

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

HIGHLIGHTS

EUROPE: Widespread showers maintained good to excellent prospects for winter grains and oilseeds, though drought persisted in southwestern growing areas.

WESTERN FSU: Widespread showers boosted moisture supplies for vegetative winter grains and oilseeds.

MIDDLE EAST: Additional rainfall in Turkey maintained favorable prospects for vegetative to reproductive winter wheat and barley, while sunny skies promoted winter grain development elsewhere.

NORTHWESTERN AFRICA: Heat and drought further lowered yield prospects for filling to maturing winter grains over much of the region.

EAST ASIA: Dry weather and summer-like heat in eastern and southern China gave way to beneficially cooler, wetter conditions.

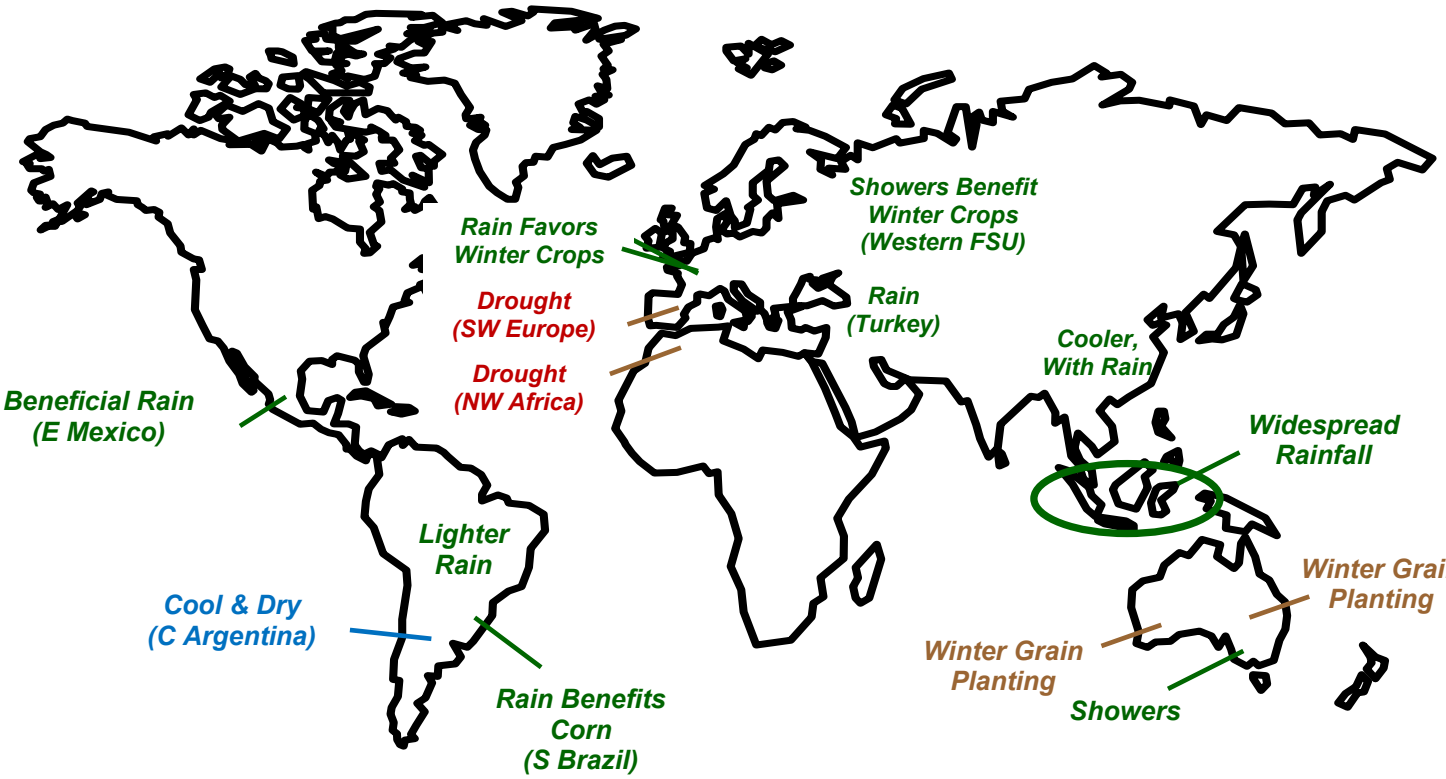
SOUTHEAST ASIA: Pre-monsoon rainfall, typical for this time of year, was patchy across northern portions of the region, while showers remained widespread and heavy to the south.

AUSTRALIA: Beneficial rain fell in the southeast, while mostly dry weather promoted early winter crop planting in the west and northeast.

ARGENTINA: Cool, dry weather promoted seasonal fieldwork.

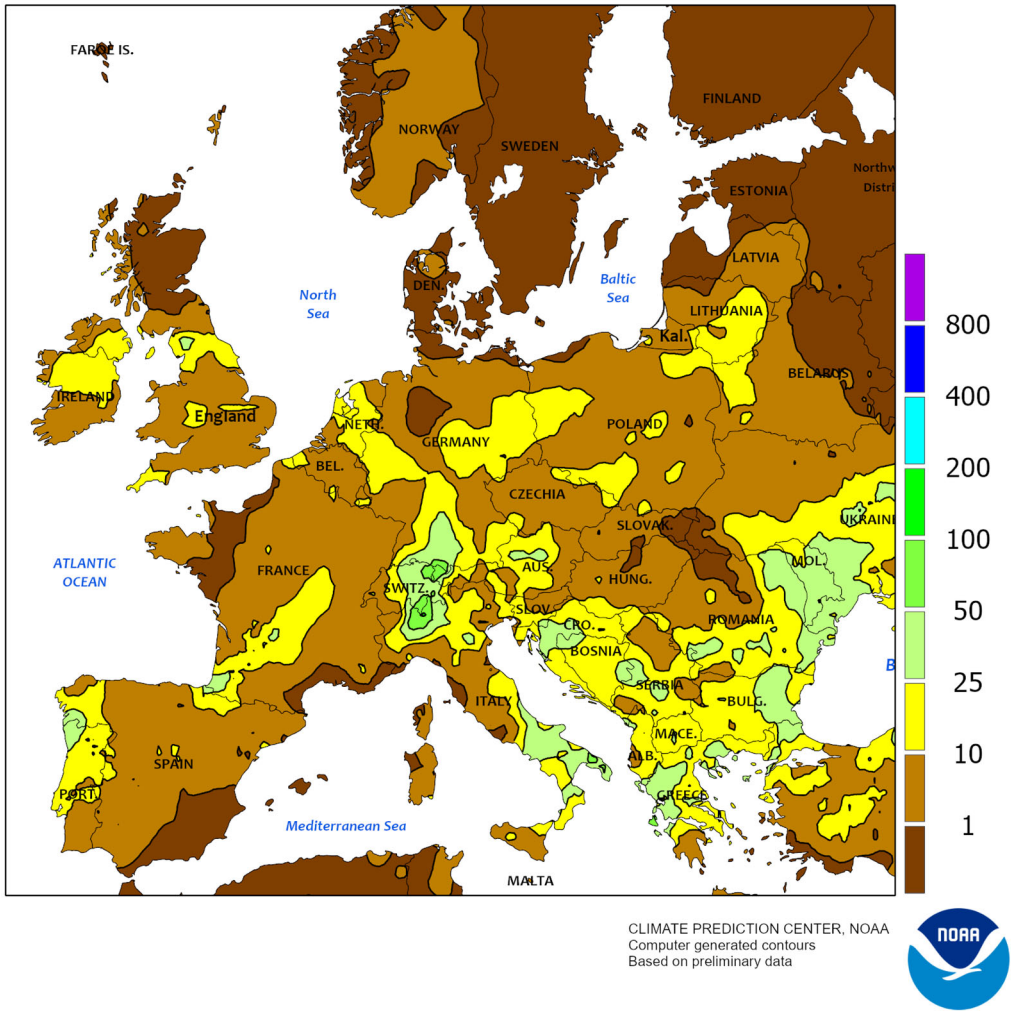
BRAZIL: Showers diminished in corn and cotton areas in central and northeastern Brazil, but beneficial rain continued for second-crop corn farther south.

MEXICO: Rain promoted planting of rain-fed summer crops in eastern farming areas.



For additional information contact: mark.brusberg@usda.gov

EUROPE
Total Precipitation(mm)
April 16 - 22, 2023



EUROPE

Unsettled weather continued, though drought intensified in southwestern Europe despite localized showers. Widespread light to moderate showers (2-30 mm, locally more) persisted from England and France eastward into Poland, Hungary, and the Balkans. As a result, conditions remained good to excellent for vegetative (north) to reproductive (south) winter grains and oilseeds. Locally heavy rain (10-60 mm) in northern Italy eased drought and improved irrigation prospects, though long-term deficits persisted. Conversely, drought intensified in Portugal and Spain despite localized showers (2-15 mm); most primary wheat and barley areas remained dry as crops approach or progress through reproduction in fair to poor condition. Exacerbating the drought's impacts on the Iberian Peninsula were temperatures which averaged 2 to 6°C above normal, with daytime highs again eclipsing 30°C in southwestern Spain and southern Portugal.

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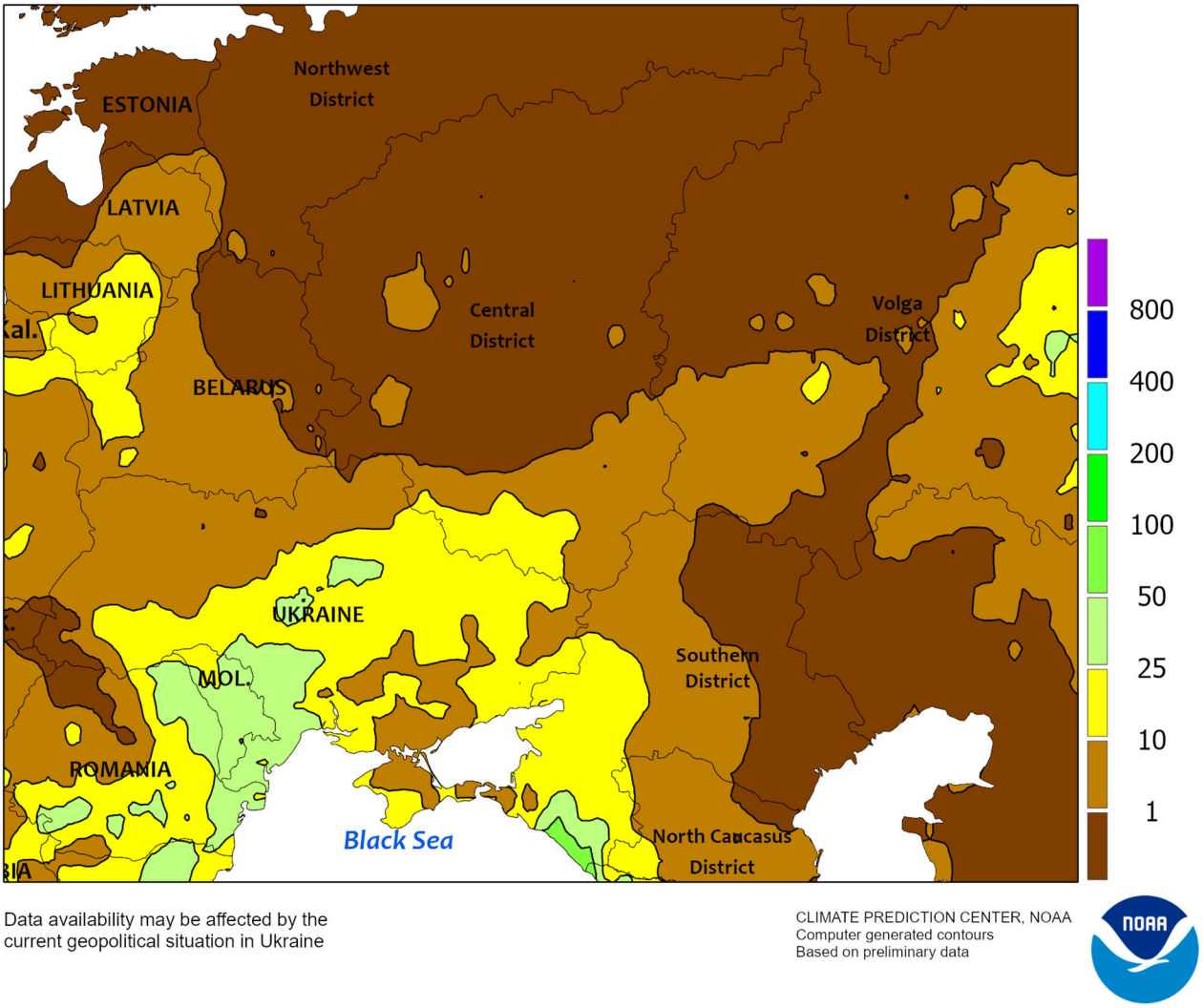
WESTERN FSU
Total Precipitation(mm)
April 16 - 22, 2023



Data availability may be affected by the current geopolitical situation in Ukraine

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

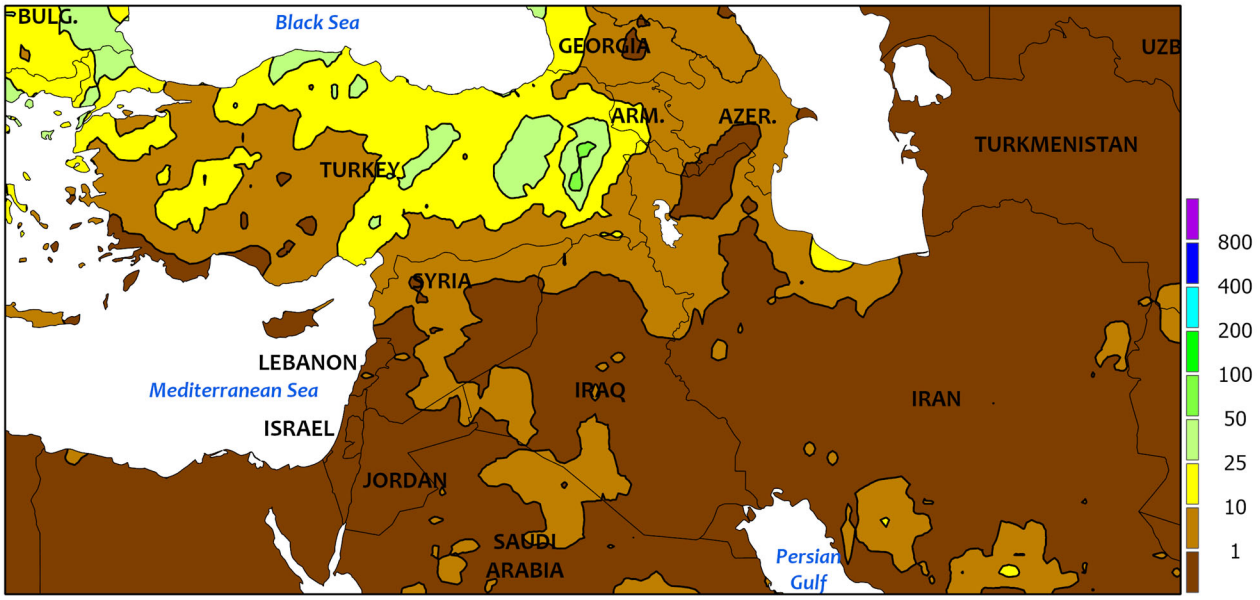
WESTERN FSU

Cool, showery weather prevailed over most major winter crop areas, though dry and warm conditions were noted in the north. Additional moderate to heavy rain (10-45 mm) in Moldova, Ukraine, and southwestern Russia maintained adequate to abundant moisture supplies for vegetative winter wheat, barley, and rapeseed. Temperatures in these growing areas averaged near to below normal (up to 2°C below normal), slowing crop development somewhat. Farther north and east, sunny skies and above-normal temperatures (2-4° above normal) accelerated spring grain establishment from Belarus and northwestern Ukraine into northern Russia.

The WWCB focuses entirely on weather and resultant crop conditions; conflict and unrest are beyond the scope of this publication.

For additional information contact: mark.brusberg@usda.gov

MIDDLE EAST
Total Precipitation(mm)
April 16 - 22, 2023



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

MIDDLE EAST

Showers continued in Turkey while dry weather returned elsewhere. In Turkey, an additional 5 to 45 mm of rainfall was reported over much of the country, though drier conditions were noted from the southeastern Anatolian Plateau to the central and western Mediterranean Coast. Prospects for vegetative (north) to reproductive and filling (south) winter grains have improved considerably following pronounced fall and winter drought. Meanwhile, sunny skies from the eastern Mediterranean Coast into Iraq and western Iran favored the development of vegetative (north) to reproductive (south) wheat and barley after last week's rain. However, dry and albeit cooler weather in eastern Iran's Khorasan Province maintained drought and further lowered winter grain yield prospects locally.

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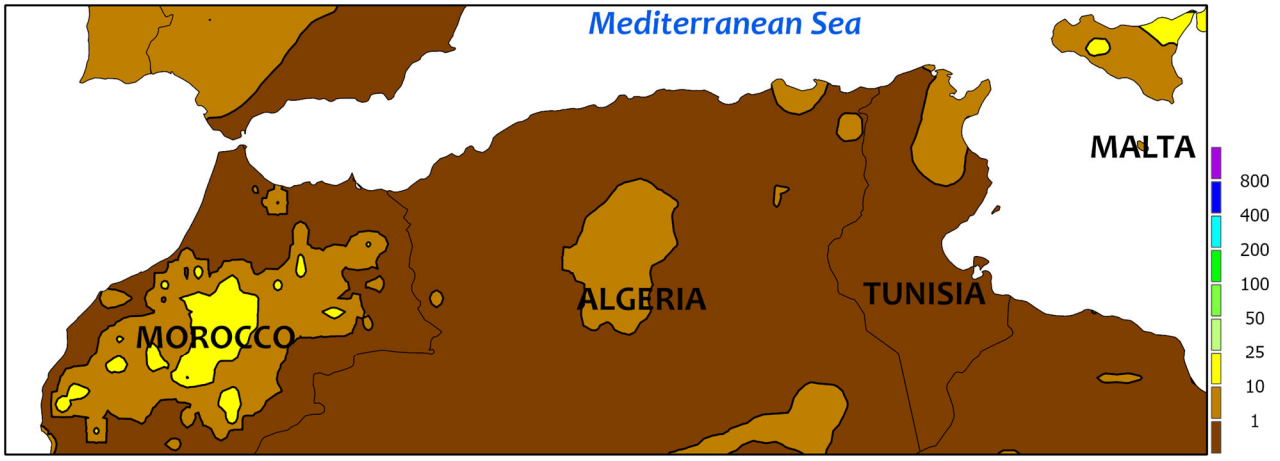
NORTHWESTERN AFRICA
Total Precipitation(mm)
April 16 - 22, 2023



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

NORTHWESTERN AFRICA

Dry and hot weather further lowered winter grain yield prospects across much of the region. Little to no rain was reported save for the eastern-most tip of northern Tunisia and the Atlas Mountains of central Morocco (10-15 mm). Exacerbating the drought's impacts were temperatures up to 5°C above normal in Morocco (peak daytime high of 40°C) as well as 1 to 3°C above normal in western Algeria (daytime highs reaching into the lower 30s degrees C). The latest satellite-derived Vegetation Health Index (VHI) indicated poor to very poor conditions from Morocco into central Algeria where winter grains were filling to maturing. The VHI remained highly variable farther east, with good crop vigor in coastal portions of northeastern Algeria and Tunisia contrasting with abysmal conditions farther inland; wheat and barley were reproductive to filling over the eastern third of the region.

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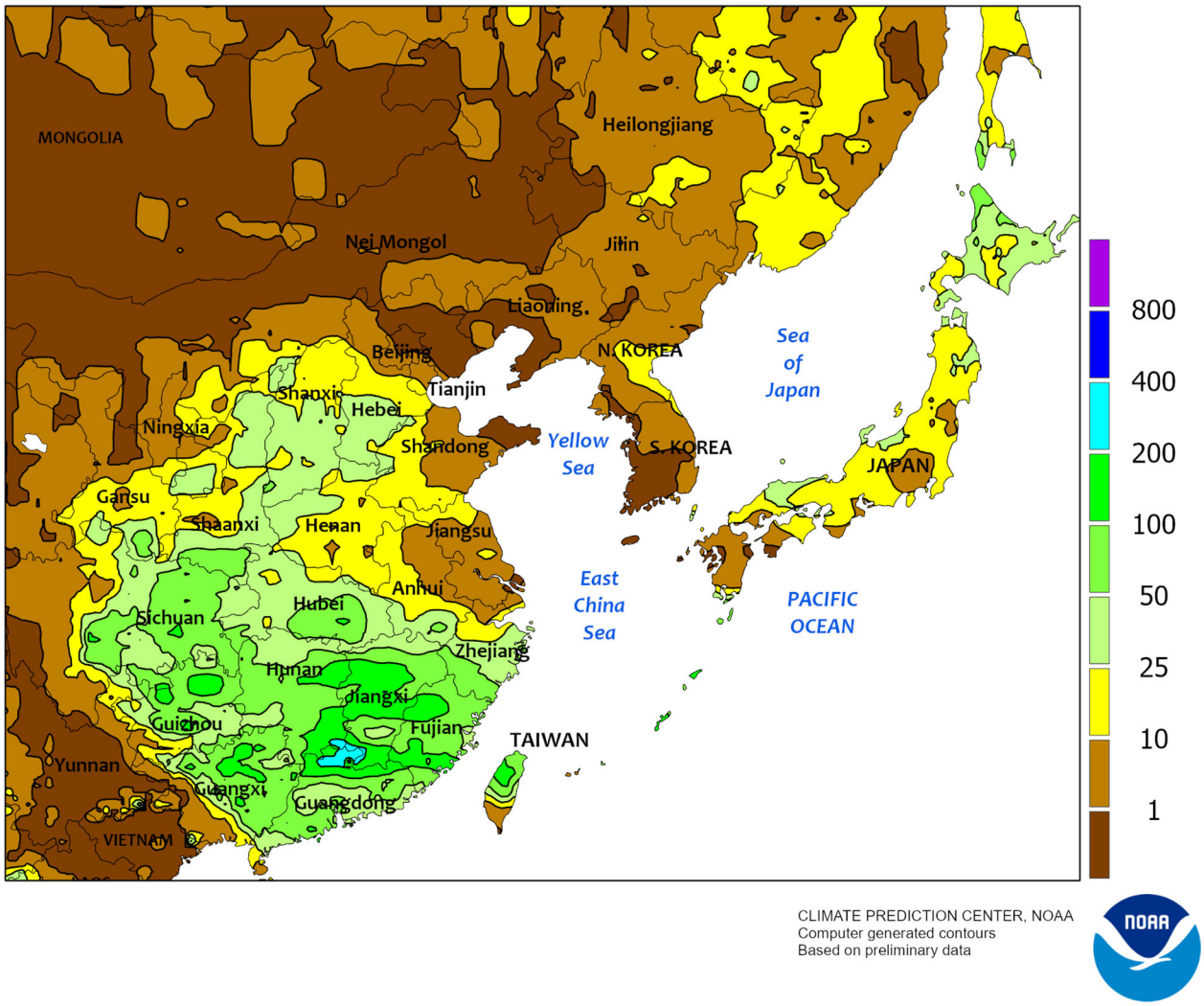
EASTERN ASIA
Total Precipitation(mm)
April 16 - 22, 2023



EASTERN ASIA

Warm, dry weather in eastern and southern China gave way to cooler, wetter conditions by week's end. Last week's dryness and summer-like heat extended into the beginning of this period with daytime temperatures peaking in the mid to upper 30s (degrees C) in some locales, stressing reproductive to filling winter crops. However, by the end of the week, heavy showers (25-100 mm) were pushing into the Yangtze Valley and onto the North China Plain, bringing welcome moisture and beneficially cooler weather (nearly a 20°C drop in daytime temperatures). Meanwhile, rainfall was more consistent across southern-most provinces throughout the week, aiding vegetative early-crop rice, as temperatures also declined after averaging as much as 6°C above normal. Elsewhere, unseasonably cool weather in western China limited cotton planting and may necessitate some replanting in areas where nighttime temperatures dropped below 5°C.

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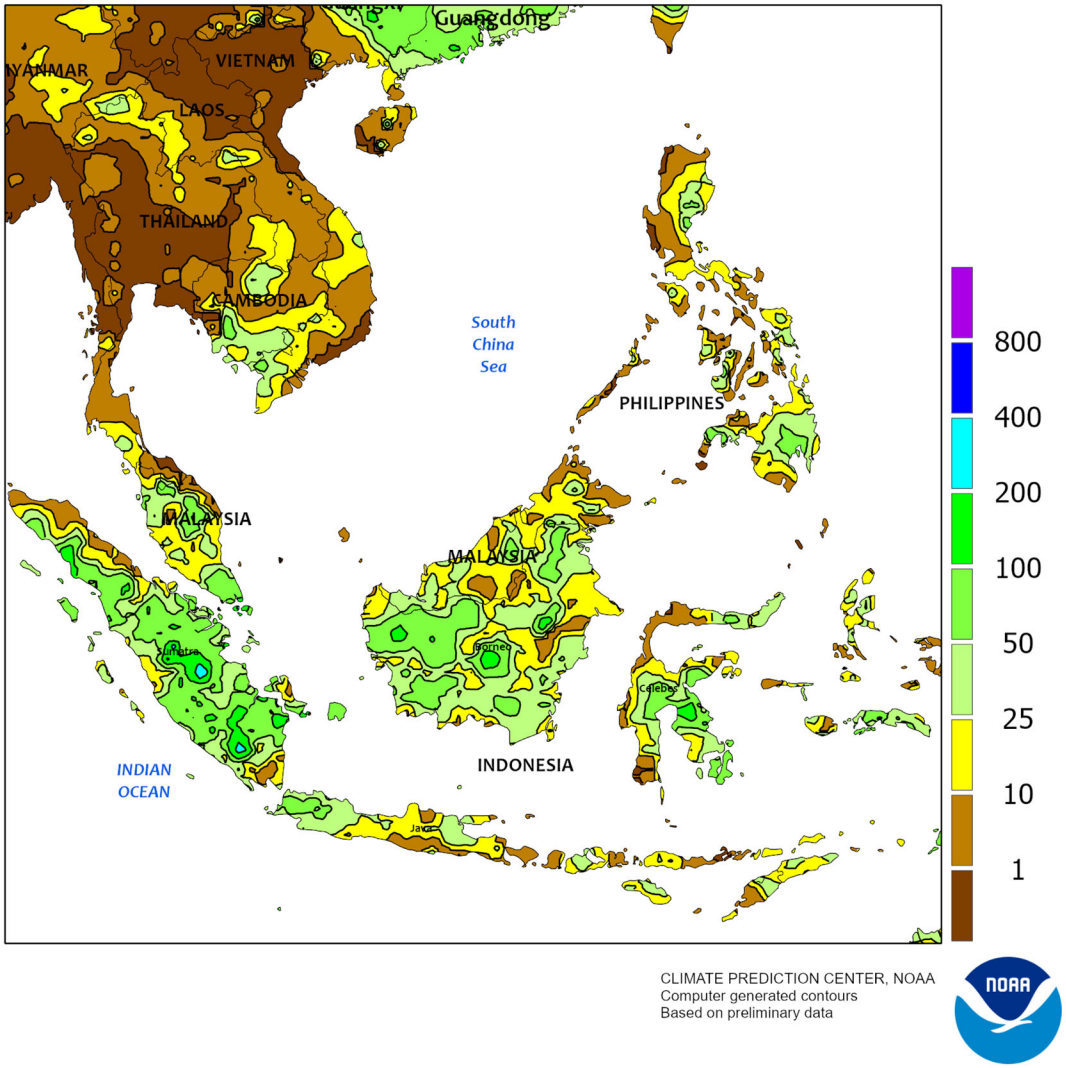
SOUTHEAST ASIA
Total Precipitation(mm)
April 16 - 22, 2023



SOUTHEAST ASIA

Rainfall was reported in most parts of the region but was heaviest and most widespread in Indonesia and portions of Malaysia. Showers in these southern sections of the region totaled between 25 and 100 mm, benefiting oil palm and seasonal rice. Meanwhile, showers in the Philippines were lighter than usual with few locations recording more than 25 mm. Showers were similarly light with locally heavier amounts across Indochina, as temperatures reached into the lower 40s (degrees C) — up to 4°C above normal — in Thailand and some of the surrounding areas. Rice growers and other producers in Indochina and the Philippines are actively preparing paddies and fields for the main growing season that commences with the onset of the southwest monsoon in May.

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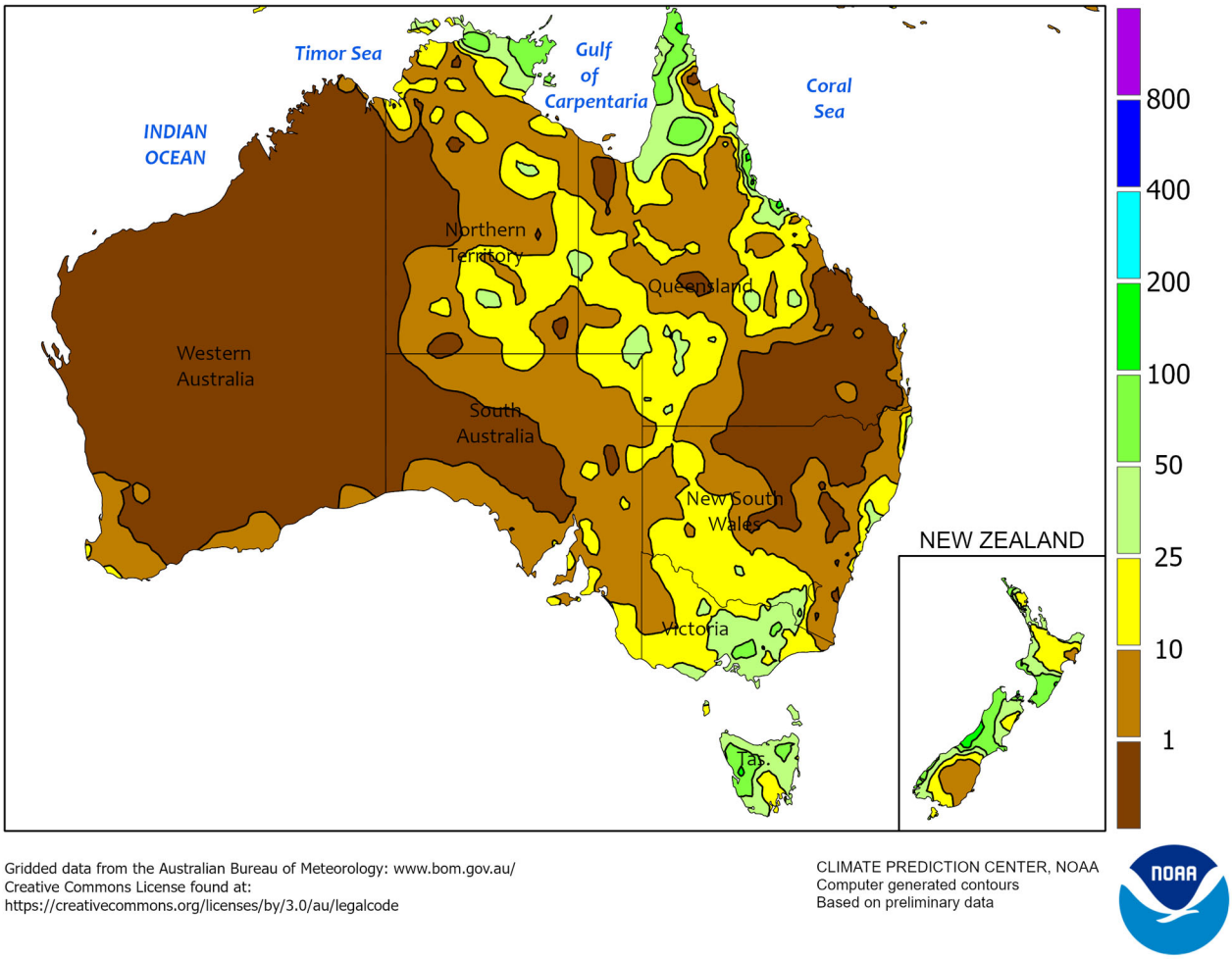
AUSTRALIA
Total Precipitation(mm)
April 16 - 22, 2023



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 data

AUSTRALIA

Widespread showers (5-25 mm, locally more) in southeastern Australia further filled the soil moisture profile in advance of wheat, barley, and canola planting. In contrast, mostly dry weather persisted in northern New South Wales and southern Queensland, favoring cotton and sorghum harvesting while allowing winter wheat sowing to commence. Similarly, mostly dry weather covered Western Australia, promoting early winter grain and oilseed planting. Soil moisture remained near to above normal in southern and western portions of Australia's wheat belt but had begun to decline in parts of the east in response to recent dry weather. Temperatures averaged 1 to 3°C below normal throughout most of the wheat belt, except in northern New South Wales and southern Queensland where temperatures averaged near normal. Maximum temperatures were generally in the lower to middle 20s (degrees C) in the southeast and middle to upper 20s in the west and northeast.

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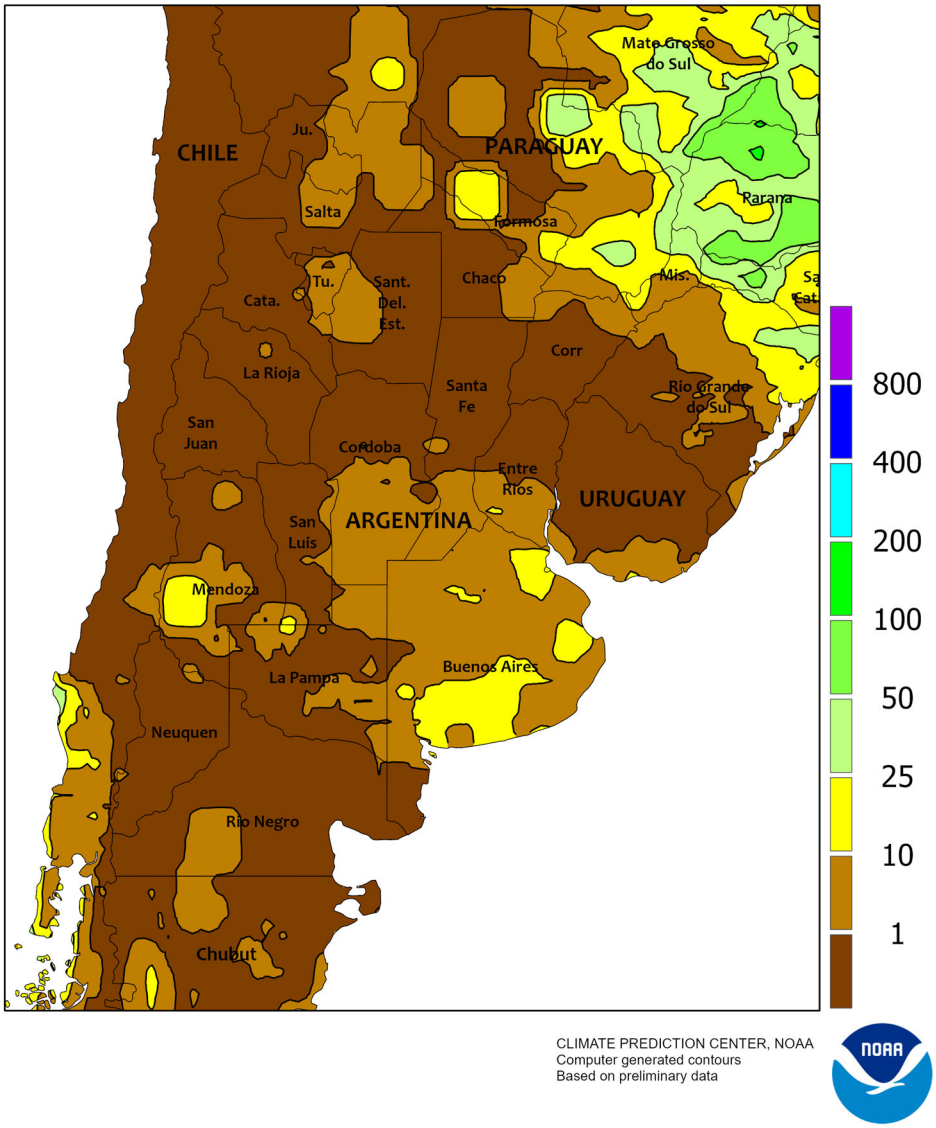
ARGENTINA
Total Precipitation(mm)
April 16 - 22, 2023



ARGENTINA

Mild, mostly dry weather prevailed, aiding drydown and harvesting of maturing summer crops as well as preparations for the upcoming winter grain season. Most areas recorded light if any rainfall (10 mm or less), exceptions being southeastern Buenos Aires and the far north (Formosa and environs), where moderate rain (10-25 mm) fell. While coming too late for summer crops the moisture was timely for germination of wheat and barley. Weekly temperatures averaged up to 2°C below normal in the region but temperatures stayed above freezing. According to the government of Argentina, corn was 20 percent harvested as of April 20 versus 32 percent last year, while soybeans were 19 percent harvested (31 percent last year). Cotton was 16 percent harvested, equal to last year's pace.

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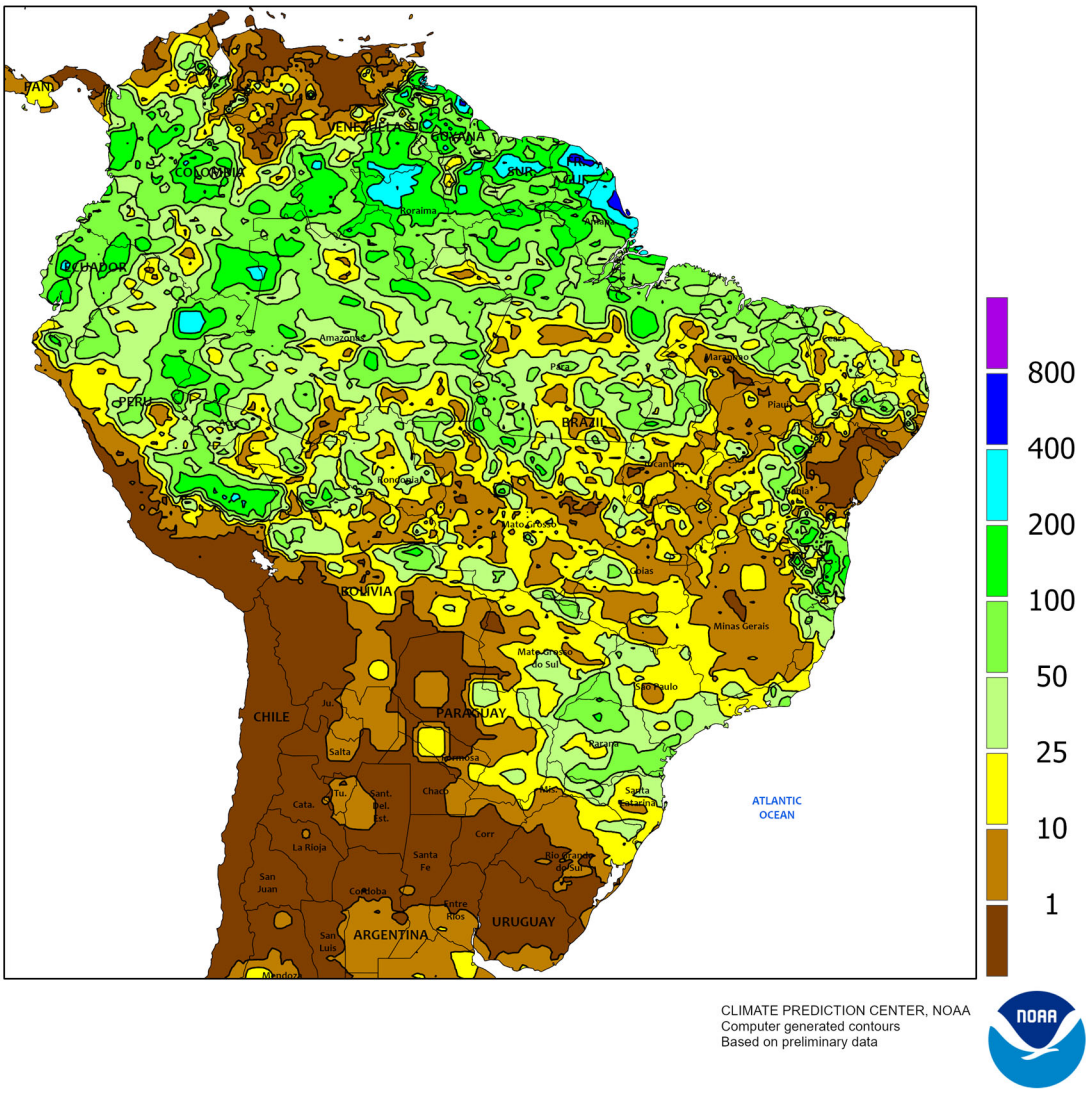
BRAZIL
Total Precipitation(mm)
April 16 - 22, 2023



BRAZIL

Rainfall tapered off in key corn and cotton production areas of central and northeastern Brazil, typical for this time of year as seasonal dryness approaches. Amounts totaled 2 to 25 mm from Mato Grosso eastward, with few interior farming areas receiving higher amounts. The dryness extended southward through Minas Gerais and northern sections of both Mato Grosso do Sul and São Paulo. Warm weather accompanied the dryness, exacerbating the impact of the dryness on immature crops, as highest daytime temperatures reached the middle 30s (degrees C) in most of the aforementioned areas. Farther south, generally dry conditions favored maturing summer crops in Rio Grande do Sul but other key production areas – including Paraná and neighboring locations in Mato Grosso do Sul and São Paulo – recorded moderate to heavy rain (25-50 mm, locally higher). According to the government of Paraná, soybeans and first crop corn were 97 and 82 percent harvested, respectively, as of April 17; second-crop corn planting was completed, with 11 percent of the crop flowering and wheat planting was underway (1 percent). In Rio Grande do Sul, soybeans were 46 percent filling to maturing as of April 20, with 54 percent harvested, while corn was 81 percent harvested.

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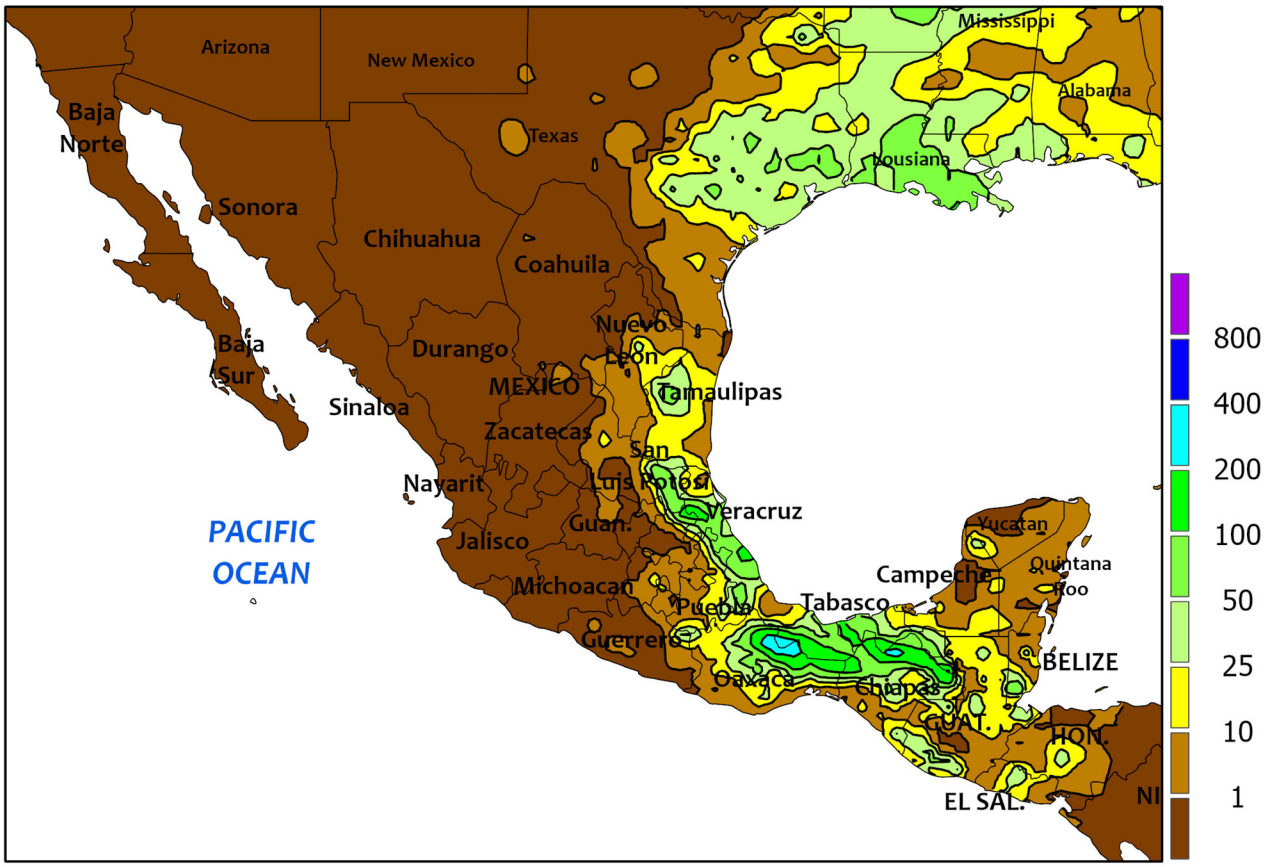
MEXICO
Total Precipitation(mm)
April 16 - 22, 2023



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

MEXICO

Locally heavy showers maintained generally favorable prospects for rain-fed summer crops in eastern-most production areas. Rainfall totaled 10 to 50 mm from Tamaulipas southward through Veracruz, with higher amounts (greater than 100 mm) in traditionally wetter locations in northern Oaxaca, Tabasco, and Chiapas. Planting was likely underway in eastern sections of the southern plateau corn belt (Puebla and environs), which benefited from timely rain during the first weeks of April. Meanwhile, seasonably drier and sunny conditions farther west promoted growth of winter grains. Corn planting typically occurs in western sections of the southern plateau (notably Jalisco and Michoacán) in May or June upon the onset of seasonal rainfall.

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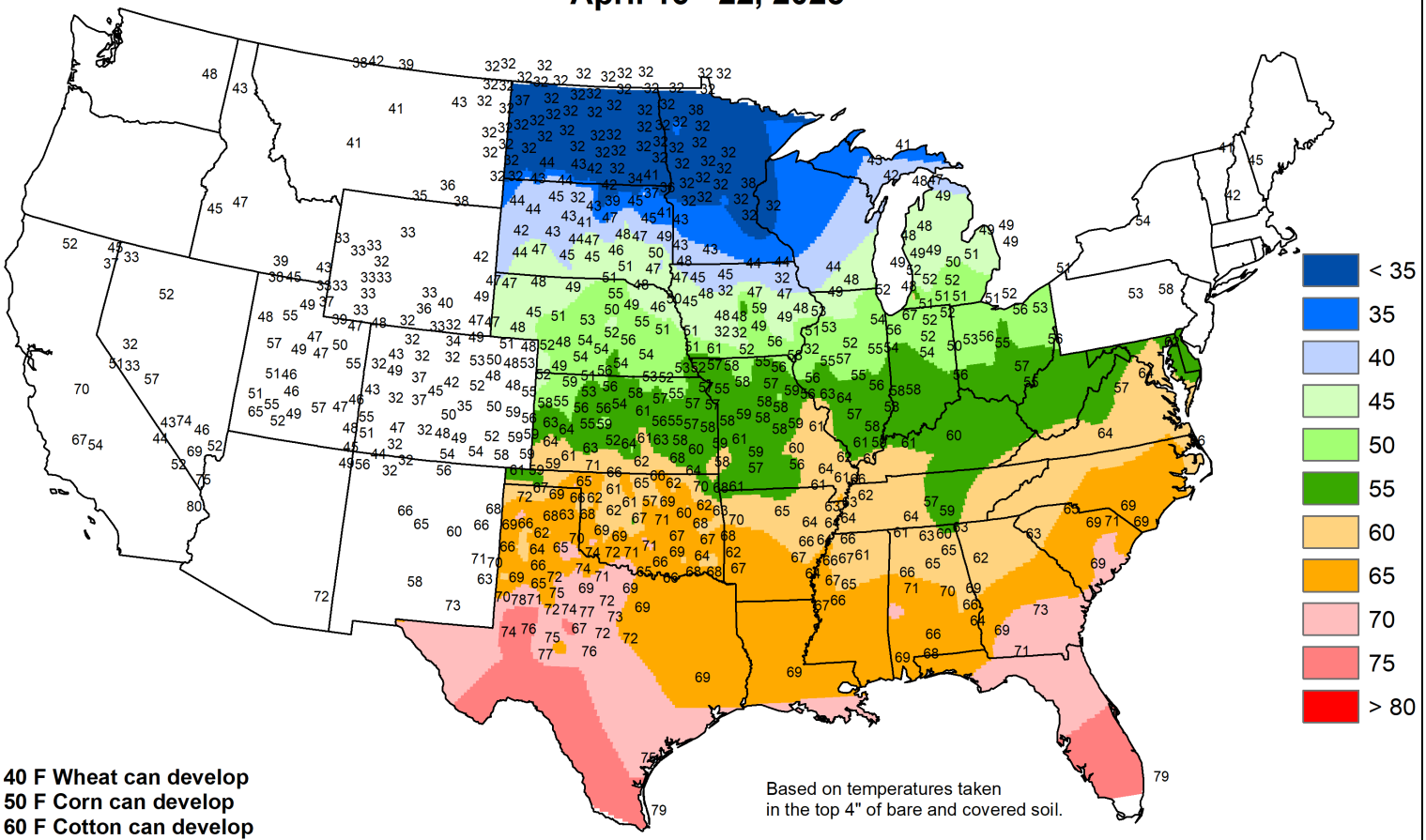
Average Soil Temperature (Deg. F)

April 16 - 22, 2023



40 F Wheat can develop
50 F Corn can develop
60 F Cotton can develop

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.

USDA United States Department of Agriculture

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