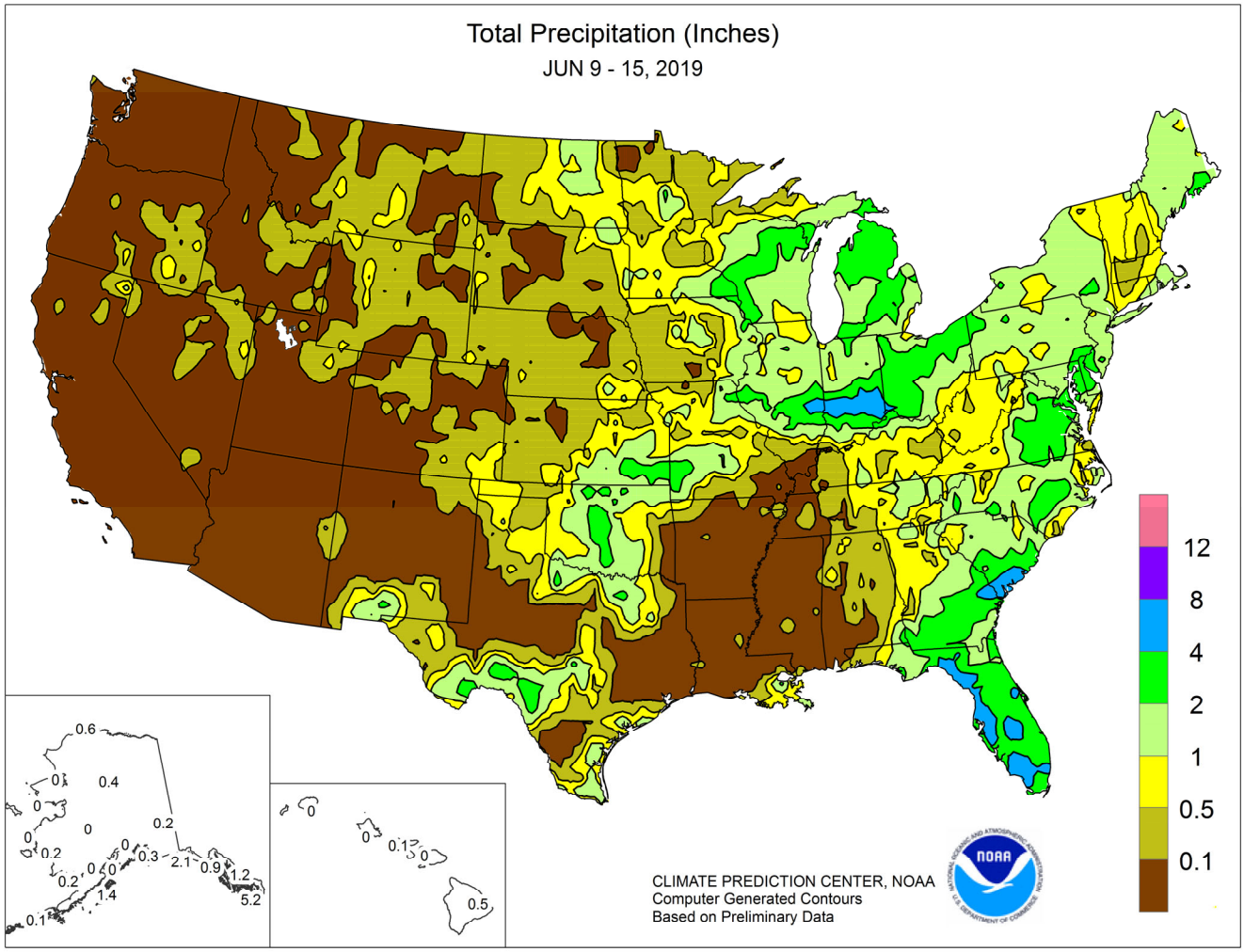
Volume 106, No. 25 http://www.usda.gov/oce/weather June 18, 2019

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
June 9 – 15, 2019

Highlights provided by USDA/WAOB

Soaking showers continued to delay late-season corn and soybean planting in the **eastern Corn Belt**, while favorably drier weather prevailed in the **upper Midwest**. Weekly rainfall totaled 1 to 2 inches or more across large sections of **Illinois**, **Indiana**, **Michigan**, **Ohio**, and **Wisconsin**. Meanwhile, scattered showers across the **Plains** maintained adequate to locally excessive soil moisture for summer crops. Some of the wettest conditions lingered across the **southeastern Plains**, while drought was limited to a small area along and near the

(Continued on page 5)

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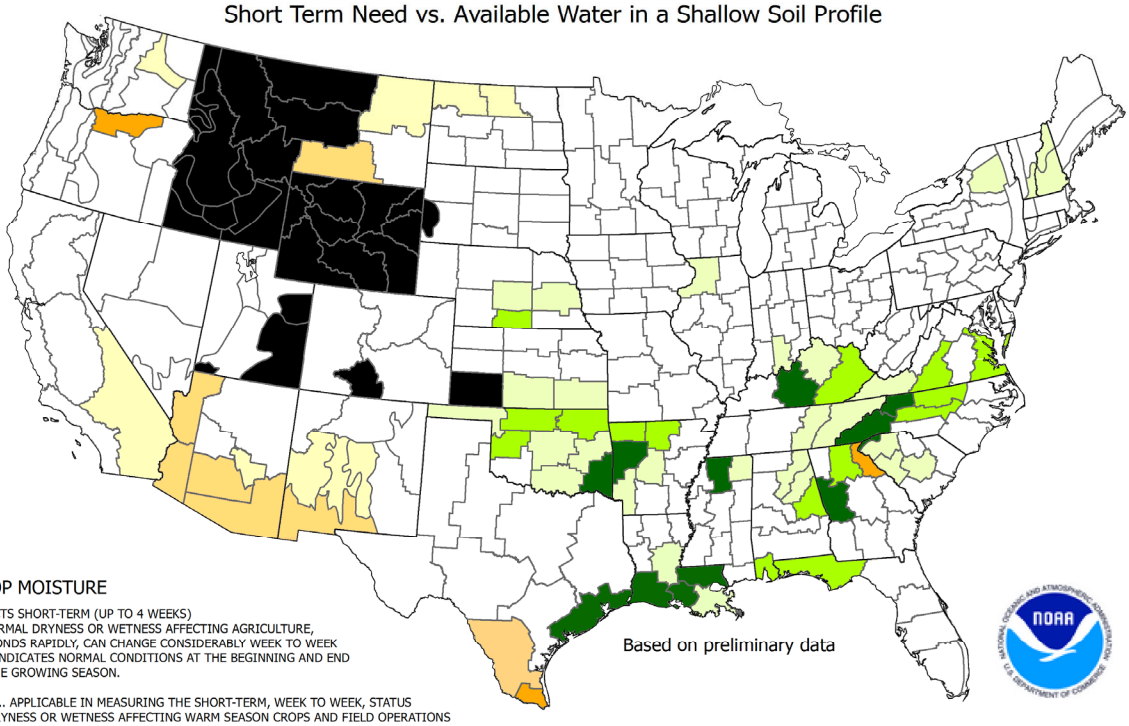
Crop Moisture Index by Division
Weekly Value for Period Ending Jun 15, 2019
Short Term Need vs. Available Water in a Shallow Soil Profile



Based on preliminary data

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.

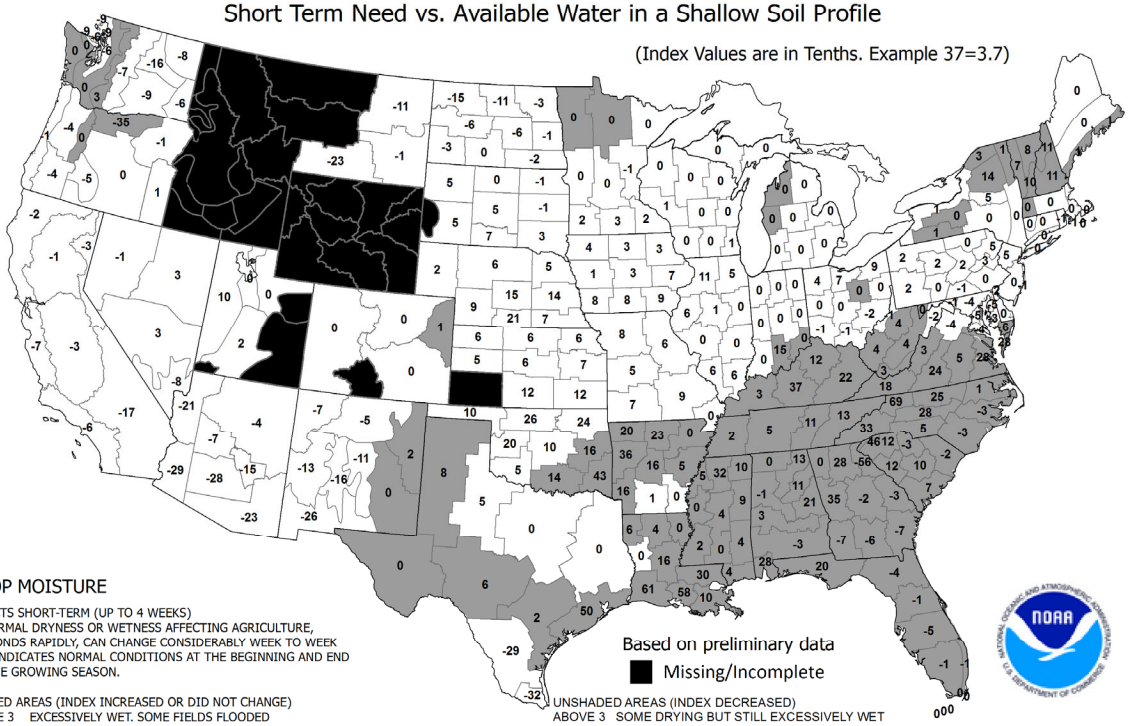
USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS
OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS

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.

- -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

Crop Moisture Index by Division
Weekly Value for Period Ending Jun 15, 2019
Short Term Need vs. Available Water in a Shallow Soil Profile

(Index Values are in Tenths. Example 37=3.7)



Based on preliminary data

Missing/Incomplete

CROP MOISTURE

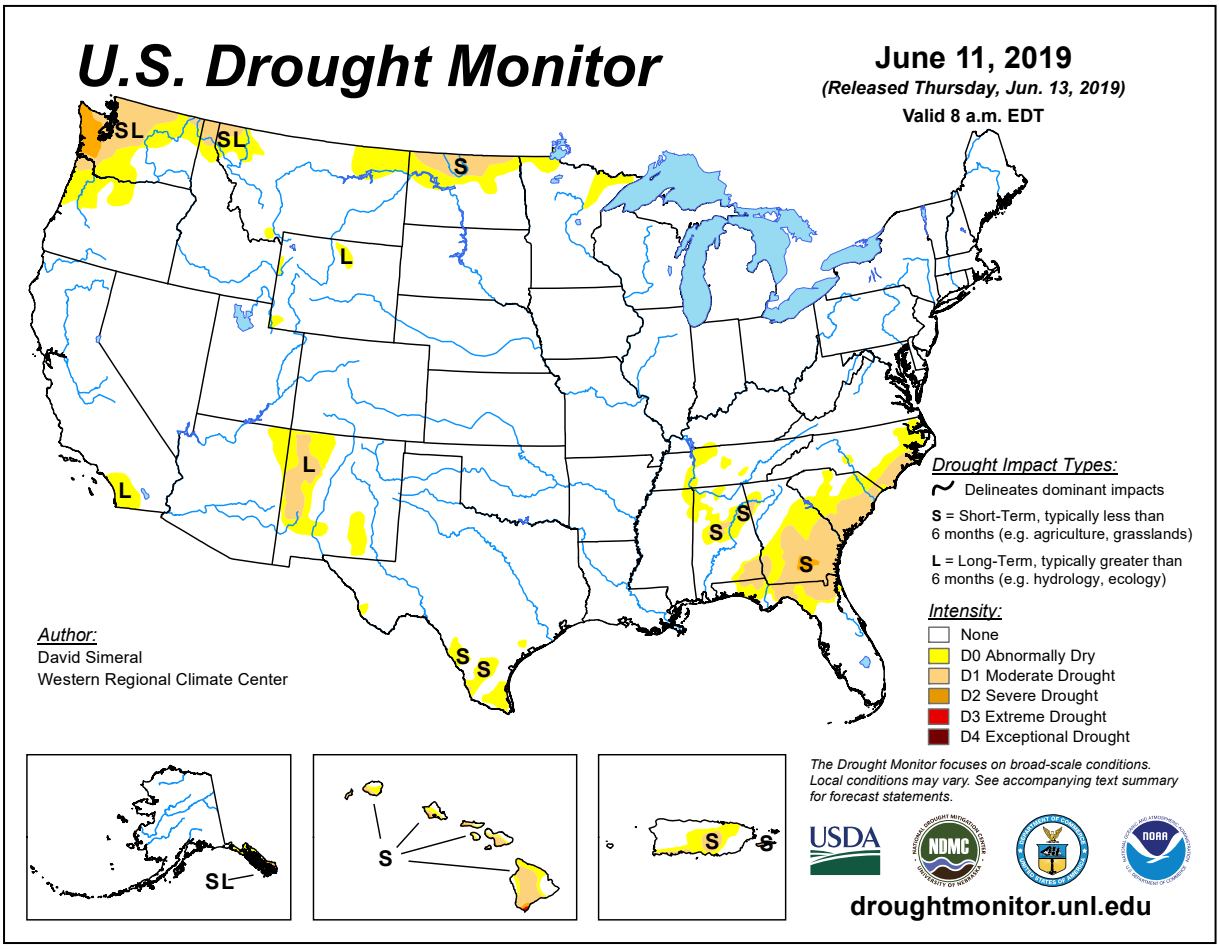
DEPICTS SHORT-TERM (UP TO 4 WEEKS)
ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE,
RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK
AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END
OF THE GROWING SEASON.

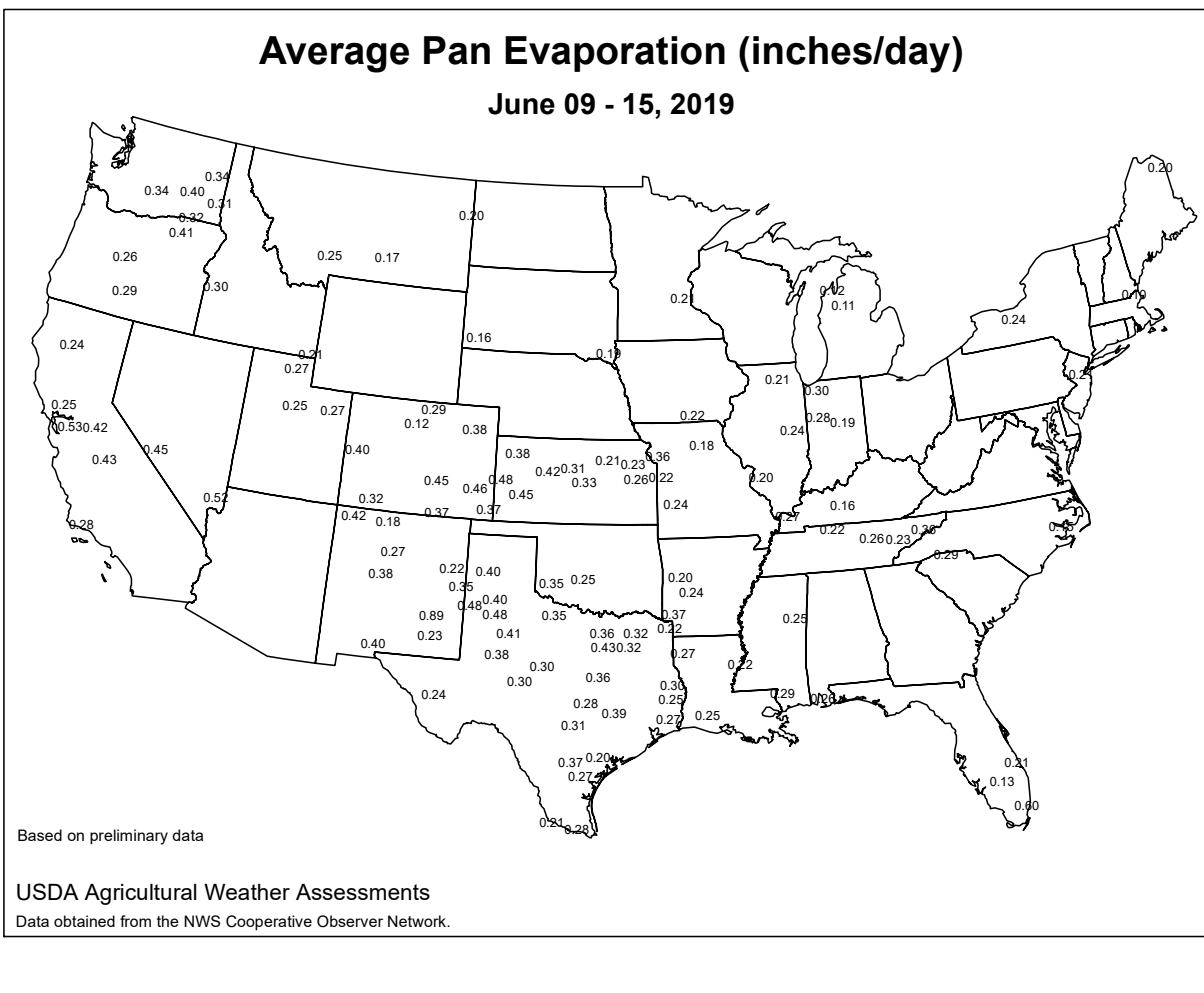
SHADED AREAS (INDEX INCREASED OR DID NOT CHANGE)

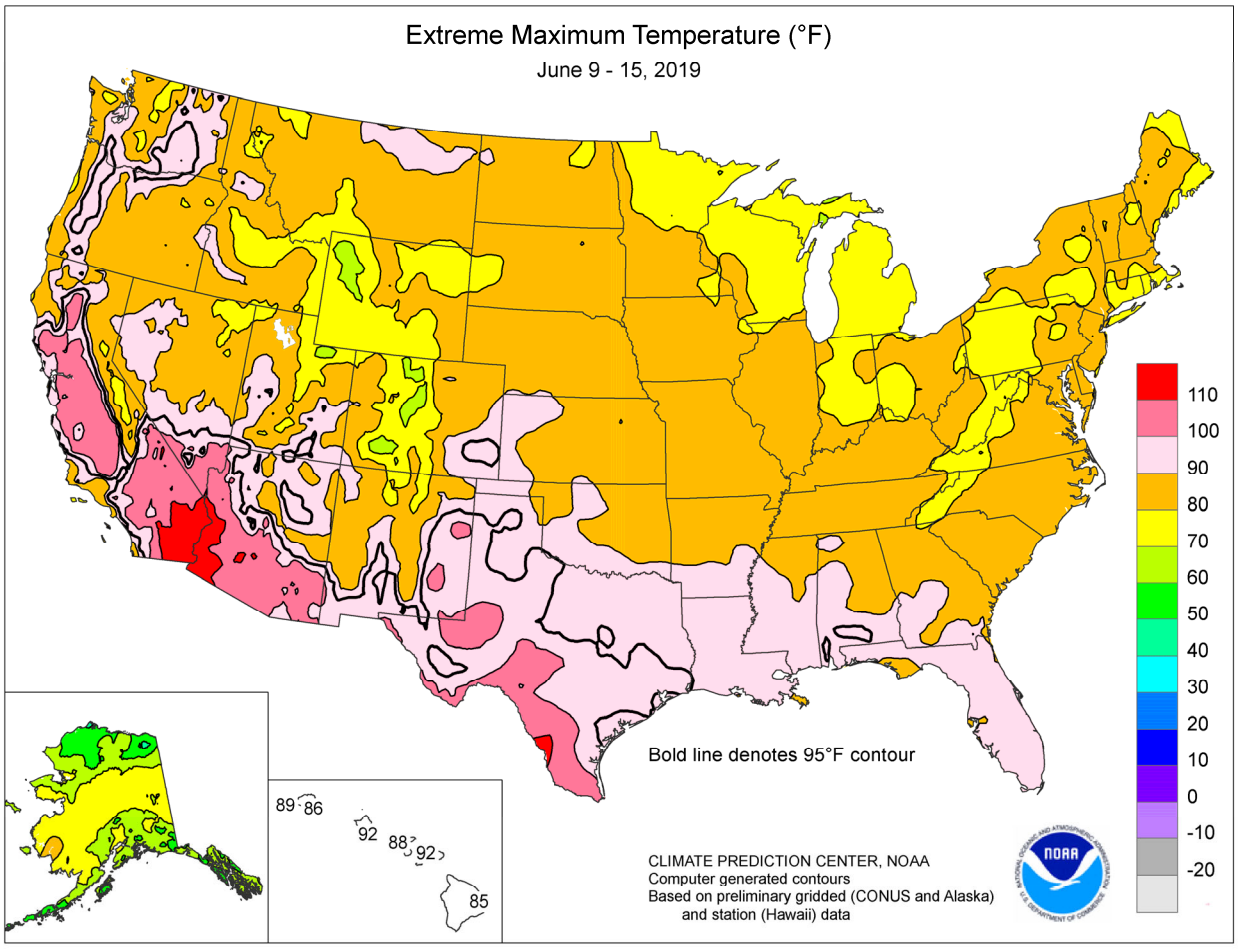
ABOVE 3	EXCESSIVELY WET. SOME FIELDS FLOODED
2 TO 3	TOO WET. SOME STANDING WATER
1 TO 2	SOME FIELDS TOO WET, PROSPECTS ABOVE NORMAL
0 TO 1	MOISTURE ADEQUATE FOR PRESENT CROP NEEDS
0 TO -1	PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2	SOME IMPROVEMENT BUT STILL ABNORMALLY DRY
-2 TO -3	DRYNESS EASED BUT FIELDS STILL EXCESSIVELY DRY
-3 TO -4	SEVERE DRYNESS CONTINUES, MORE RAIN URGENTLY NEEDED
BELOW -4	NOT ENOUGH RAIN. EXTREMELY DRY

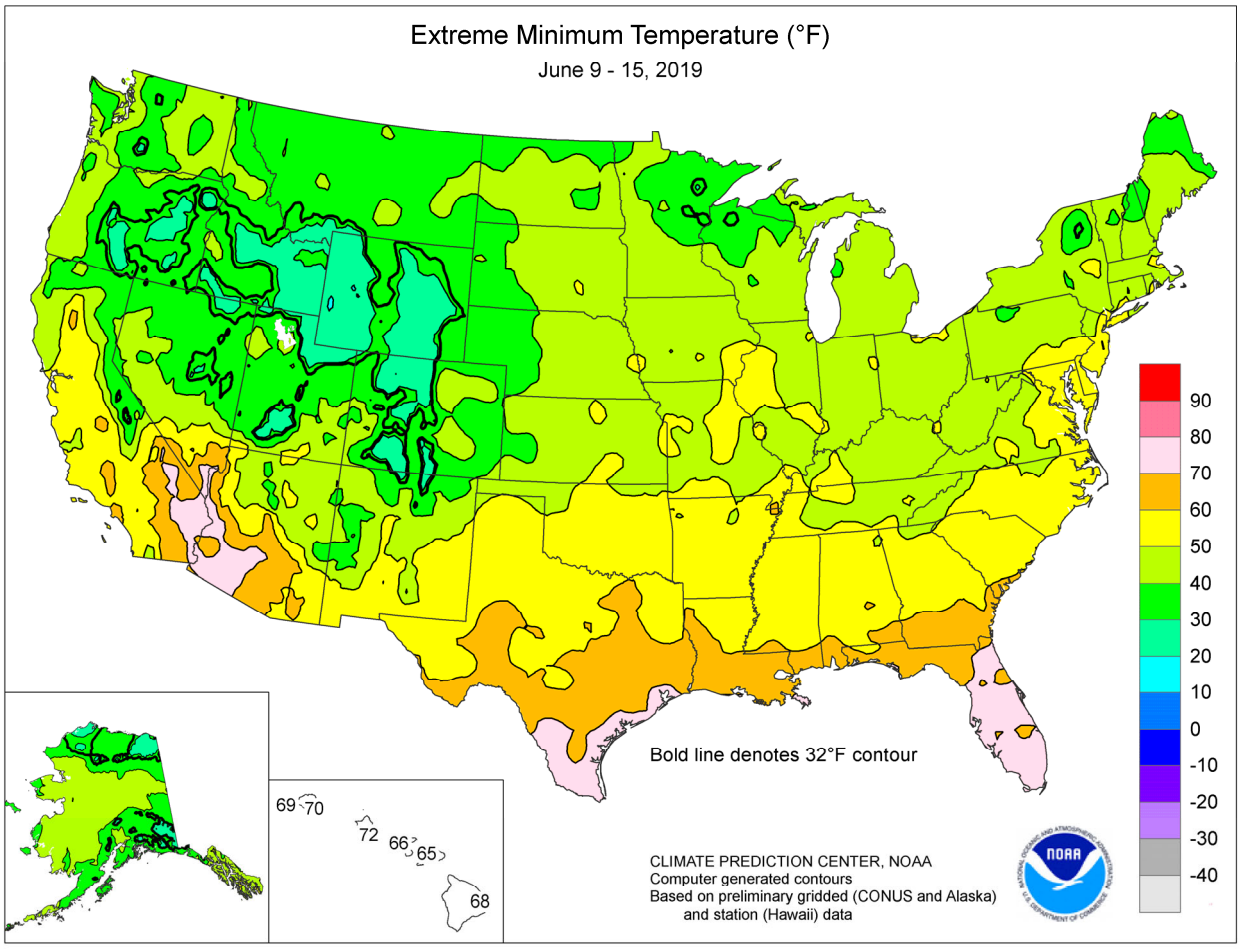
UNSHADED AREAS (INDEX DECREASED)

ABOVE 3	SOME DRYING BUT STILL EXCESSIVELY WET
2 TO 3	MORE DRY WEATHER NEEDED, WORK DELAYED
1 TO 2	FAVORABLE EXCEPT STILL TOO WET IN SPOTS
0 TO 1	FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1	TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1 TO -2	ABNORMALLY DRY. PROSPECTS DETERIORATING
-2 TO -3	EXCESSIVELY DRY. YIELD PROSPECTS REDUCED
-3 TO -4	POTENTIAL YIELDS SEVERELY CUT BY DRYNESS
BELOW -4	EXTREMELY DRY. CROPS RUINED

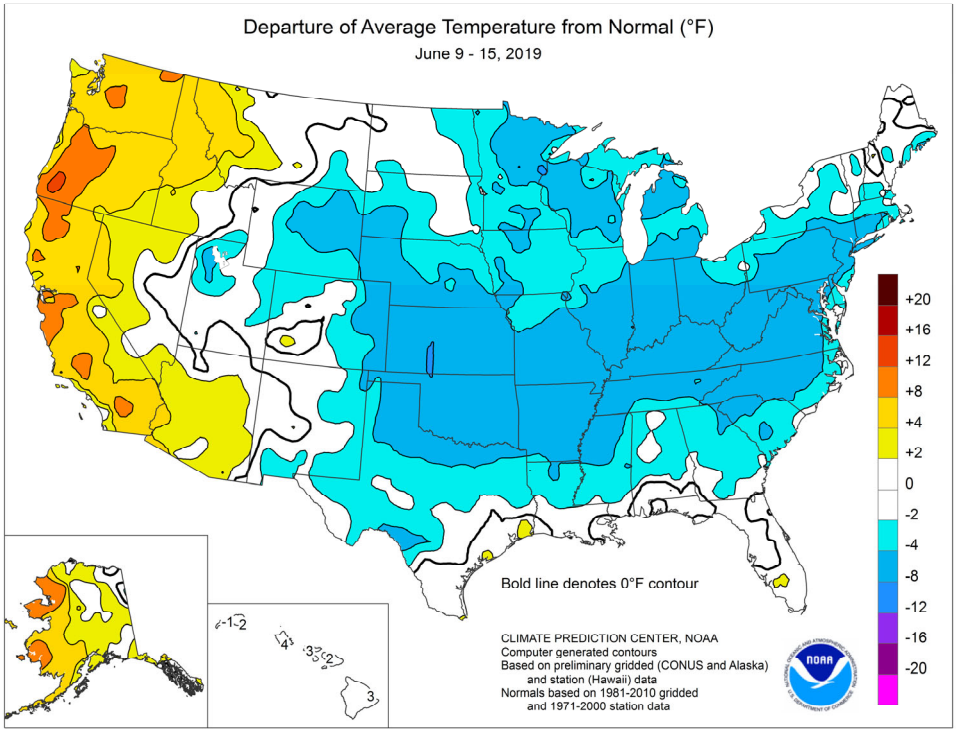

U.S. Drought Monitor
June 11, 2019
(Released Thursday, Jun. 13, 2019)
Valid 8 a.m. EDT
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
Author:
David Simeral
Western Regional Climate Center
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
USDA
NDMC
NOAA
droughtmonitor.unl.edu


Average Pan Evaporation (inches/day)
June 09 - 15, 2019
Based on preliminary data
USDA Agricultural Weather Assessments
Data obtained from the NWS Cooperative Observer Network.


Extreme Maximum Temperature (°F)
June 9 - 15, 2019
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
89
86
92
88
92
85
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)
June 9 - 15, 2019
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
69
70
72
66
65
68
Bold line denotes 32°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA

(Continued from front cover)

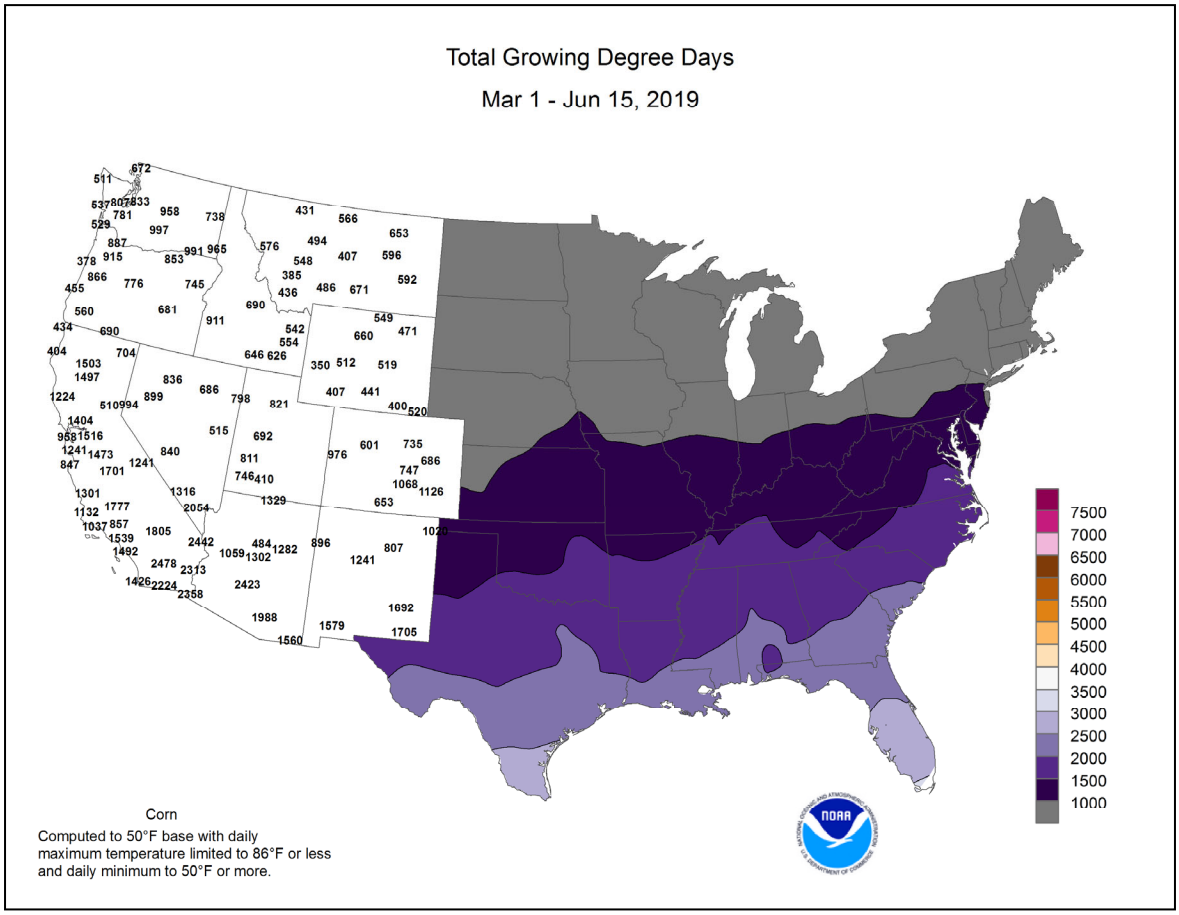


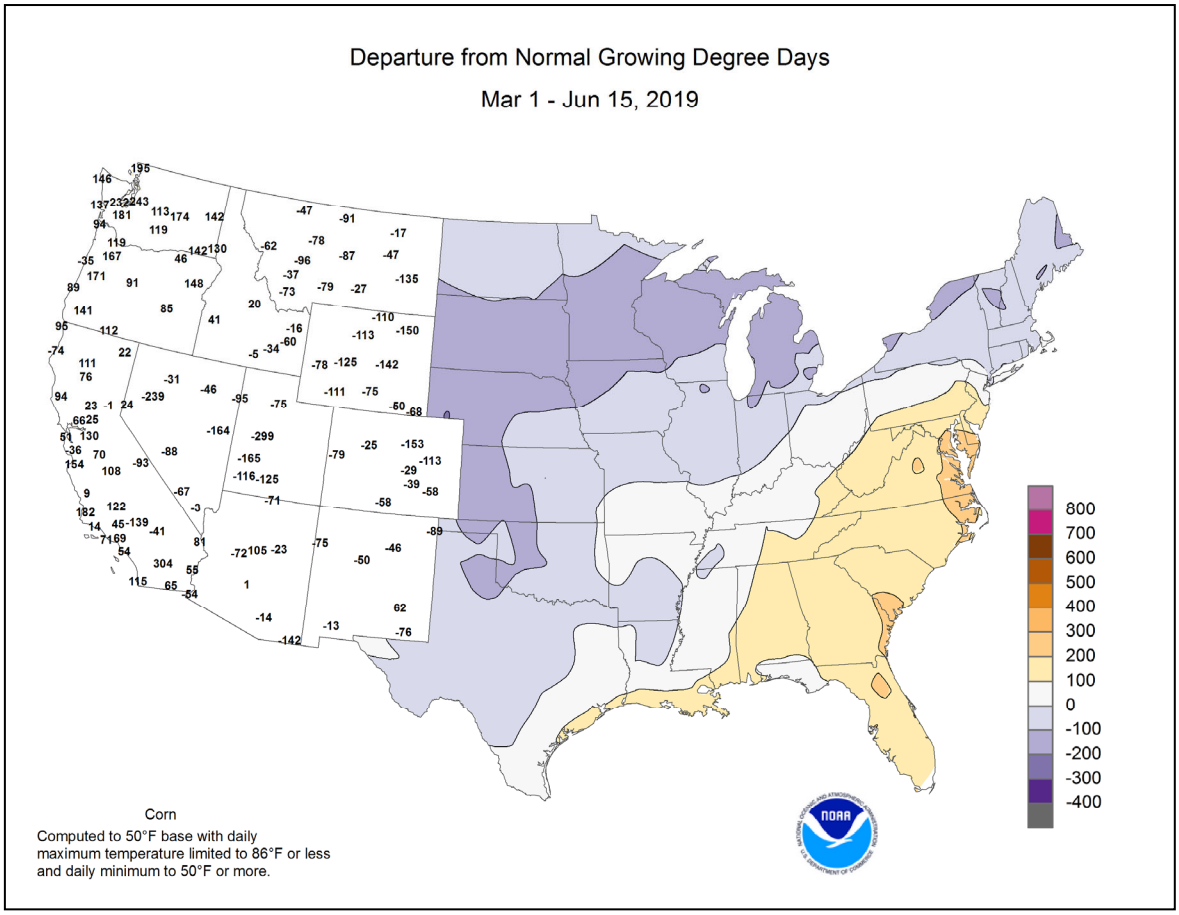
Canadian border. Farther east, abundant rainfall provided additional **Southeastern** drought relief, especially in the **southern Atlantic States**. Rainfall totaled 2 to 4 inches or more in many locations from **Florida to the mid-Atlantic coastal plain**. In contrast, dry weather favored fieldwork in the **lower Mississippi Valley** and environs. Elsewhere, an early-season hot spell in the **Far West** promoted crop development, including **Northwestern** winter wheat maturation. Weekly temperatures averaged at least 10°F above normal at several locations in the **Pacific Coast States**, but were more than 5°F below normal in a broad area stretching from the **central and southern Plains into the Ohio Valley**. In fact, generally cool weather **east of the Rockies** slowed summer crop emergence and growth.

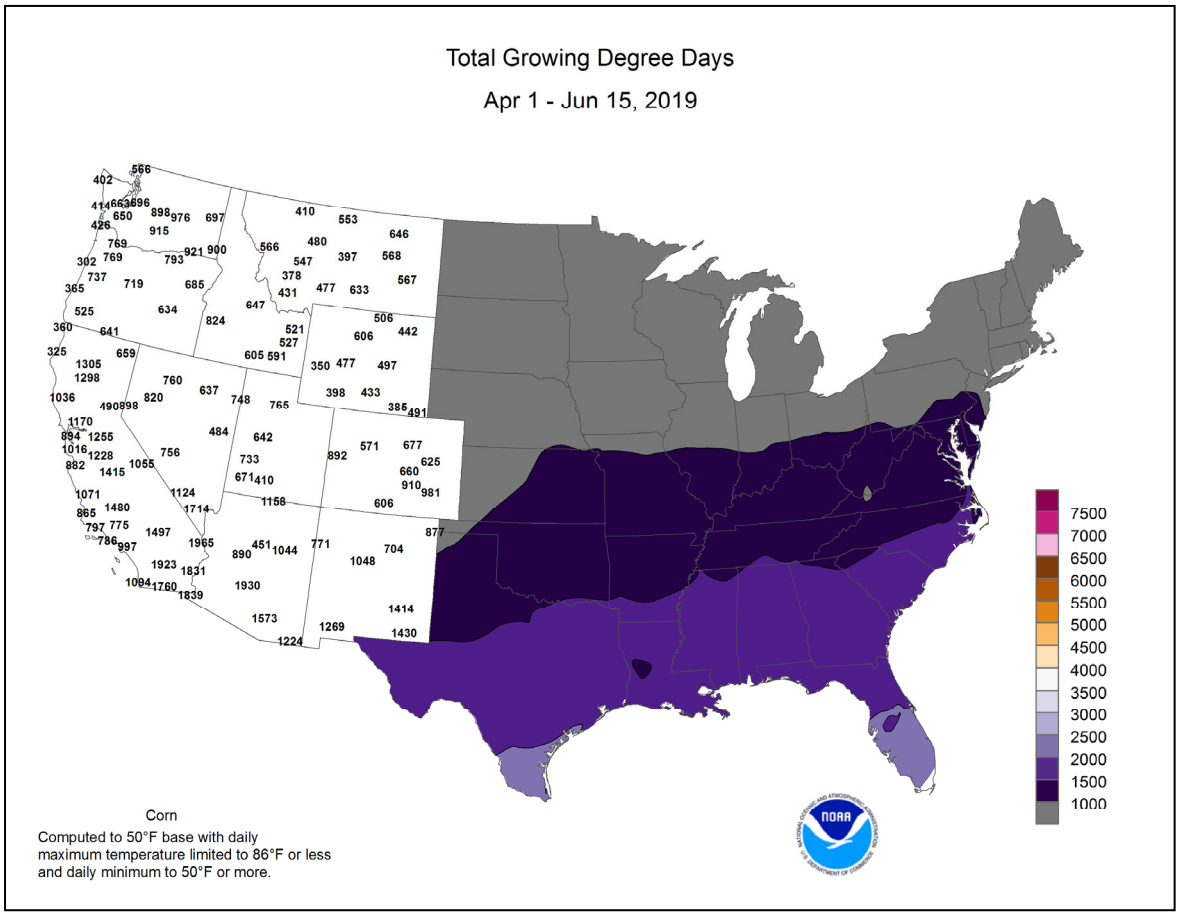
Early in the week, record-setting heat gripped the **Far West**. From June 9-11, the airport observation sites in **California** locations such as **San Francisco** (92, 100, and 99°F) and **Salinas** (98, 105, and 104°F) opened the week with a trio of daily-record highs. On June 10, both locations also registered monthly record highs. **San Francisco** topped its monthly mark of 98°F, previously set on June 8, 1973, and June 22, 1989, while **Salinas** demolished its standard of 99°F, most recently attained on June 14, 2000. Elsewhere in **California**, **Thermal** reported three consecutive daily-record highs (113, 116, and 118°F) from June 10-12. **Stockton, CA**, noted a pair of daily-record highs (105 and 108°F, respectively) on June 10-11. Around mid-week, heat briefly shift into the **Northwest**, replacing previously cool conditions. On June 9, **Northwestern** lows had dipped to daily-record levels in locations such as **Stanley, ID** (23°F); **Casper, WY** (27°F); and **Burns, OR** (31°F). By June 12, however, daily-record highs were set in **Oregon** locations such as **Roseburg** (101°F), **Medford** (99°F), and **Portland** (98°F). On the same date in **Washington**, **Seattle** posted a daily-record high of 95°F. Elsewhere in **Washington**, record-setting highs for June 13 soared to 101°F in **Pasco** and 95°F in **Wenatchee**. **East of the Rockies**, however, multiple surges of cool air led to several daily-record lows. On the **Plains**, record-setting lows for June 10 dipped to 32°F in **Sidney, NE**, and 38°F in **Garden City, KS**. Later, **Hibbing, MN**, notched consecutive daily-record lows (31 and 28°F, respectively) on June 12-13. Record-setting lows for June 14 included 45°F in **Lexington, KY**, and 49°F in **Evansville, IN**, and **Charlotte, NC**.

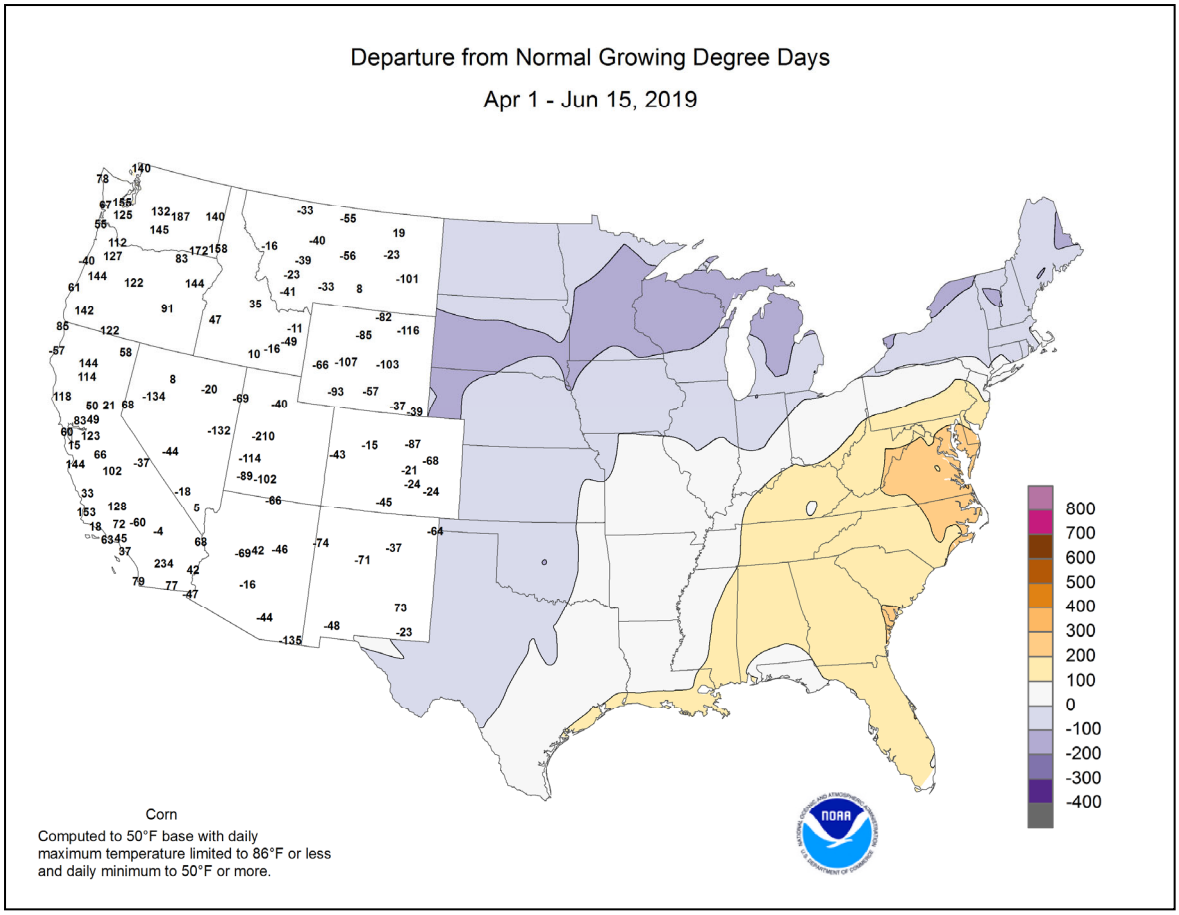
Locally heavy showers, mainly across the **Midwest** and **East**, led to several record-setting rainfall totals. Daily-record amounts in excess of 2 inches included 4.53 inches (on June 11) in **Savannah, GA**; 4.08 inches (on June 12) in downtown **Charleston, SC**; 2.10 inches (on June 9) in **Asheville, NC**; and 2.03 inches (on June 14) in **Antigo, WI**. The 4.53-inch total in **Savannah** represented its wettest day since September 11, 2017, when 4.74 inches fell. In addition, **Savannah** received 10.92 inches of rain from June 5-12. At week's end, widespread rainfall developed across the **Midwest** and **Northeast**. Record-setting rainfall totals for June 15 reached 3.85 inches in **Indianapolis, IN**; 1.52 inches in **Dayton, OH**; and 1.49 inches in **Quincy, IL**. The previous wettest June day in **Indianapolis** had been June 7, 1963, when 3.80 inches fell.

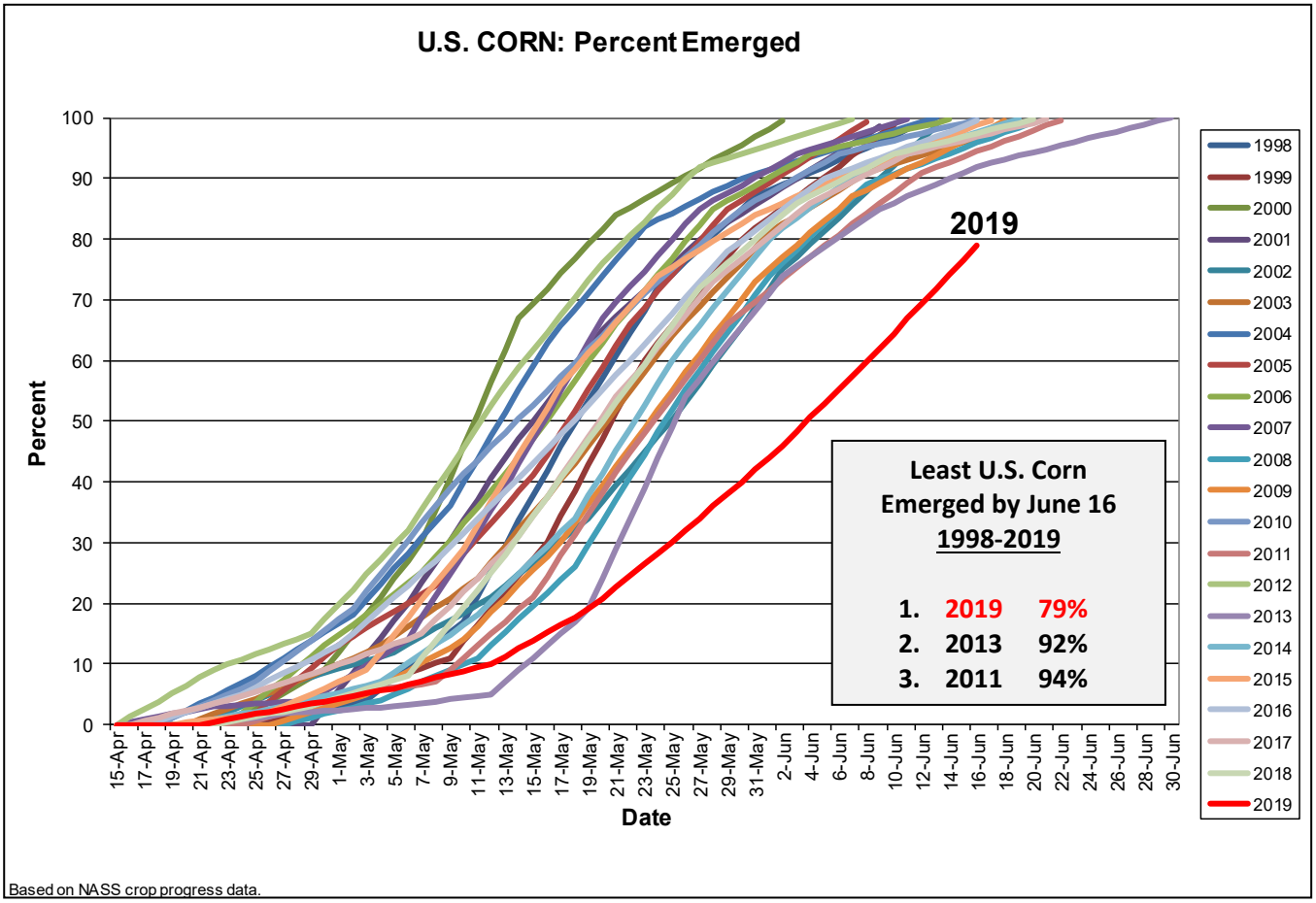
Very warm weather prevailed in **western Alaska**, while near- or above-normal temperatures covered the remainder of the state. On June 15, **Kotzebue** posted a daily-record high of 70°F—the highest reading in that location since July 31, 2018. Precipitation across **Alaska** was highly variable, with **Kotzebue** reporting no measurable rain during the first half of June and **Ketchikan** receiving 4.90 inches from June 9-12. **Utqiagvik**, formerly **Barrow**, netted a daily-record total of 0.34 inch on June 13. Farther south, **Hawaii's** very warm, mostly dry weather regime persisted. **Kahului, Maui**, logged highs of 90°F or greater each day from June 3-12, with highs peaking at 95°F on the 6th and 7th. Meanwhile, **Honolulu, Oahu**, registered five daily-record highs in 6 days from June 10-15, with highs each day ranging from 90 to 92°F. During the first half of June, rainfall at the state's major airport observation sites ranged from 0.03 inch (21 percent of normal) in **Honolulu** to 2.92 inches (88 percent) in **Hilo**, on the **Big Island**.


Total Growing Degree Days
Mar 1 - Jun 15, 2019
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.

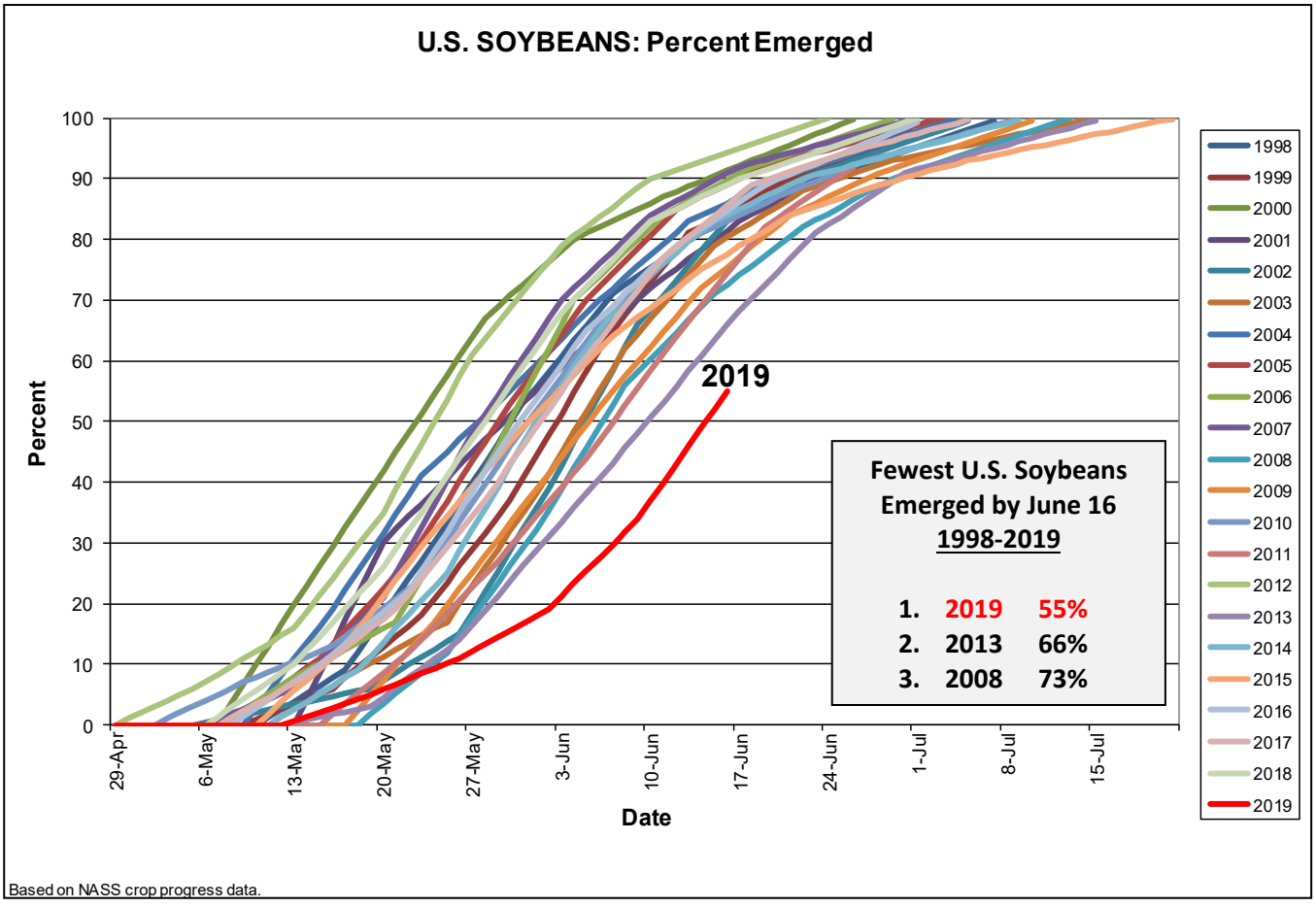

Departure from Normal Growing Degree Days
Mar 1 - Jun 15, 2019
800
700
600
500
400
300
200
100
0
-100
-200
-300
-400
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.


Total Growing Degree Days
Apr 1 - Jun 15, 2019
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.


Departure from Normal Growing Degree Days
Apr 1 - Jun 15, 2019
800
700
600
500
400
300
200
100
0
-100
-200
-300
-400
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.



Based on NASS crop progress data.



Based on NASS crop progress data.

National Weather Data for Selected Cities

Weather Data for the Week Ending June 15, 2019

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE ˚F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. ˚F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	85	64	89	57	75	0	0.61	-0.20	0.36	3.12	171	27.31	101	86	45	0	0	3	0
	HUNTSVILLE	86	64	90	55	75	0	0.13	-0.84	0.13	1.30	59	36.23	124	85	47	1	0	1	0
	MOBILE	90	69	94	63	79	0	0.00	-1.12	0.00	2.97	118	24.25	76	88	54	6	0	0	0
	MONTGOMERY	88	67	90	60	77	-1	0.24	-0.62	0.14	2.58	143	23.15	85	91	49	2	0	2	0
AK	ANCHORAGE	68	52	73	47	60	6	0.02	-0.20	0.02	0.03	7	5.06	136	78	57	0	0	1	0
	BARROW	38	31	47	26	35	2	0.57	0.53	0.46	0.57	814	3.53	560	95	72	0	5	3	0
	FAIRBANKS	75	50	78	46	62	4	0.10	-0.20	0.05	1.39	244	4.87	189	81	47	0	0	3	0
	JUNEAU	61	50	65	45	56	3	0.91	0.15	0.47	1.54	94	19.24	94	96	80	0	0	4	0
	KODIAK	55	47	60	36	51	3	1.40	0.10	0.71	1.46	51	29.88	89	90	77	0	0	4	2
	NOME	67	47	77	42	57	11	0.01	-0.21	0.01	0.13	29	7.27	177	71	46	0	0	1	0
AZ	FLAGSTAFF	79	42	83	37	60	2	0.00	-0.03	0.00	0.00	0	15.17	159	57	15	0	0	0	0
	PHOENIX	107	79	112	75	93	6	0.00	0.00	0.00	0.00	0	3.02	98	25	12	7	0	0	0
	PRESCOTT	90	56	94	52	73	7	0.00	0.00	0.00	0.11	550	8.91	131	42	10	4	0	0	0
	TUCSON	103	72	107	63	87	4	0.00	0.00	0.00	0.00	0	5.03	157	27	12	7	0	0	0
AR	FORT SMITH	84	63	89	57	74	-2	0.00	-1.04	0.00	4.80	205	31.37	153	86	47	0	0	0	0
	LITTLE ROCK	83	62	88	55	73	-4	0.00	-0.93	0.00	1.45	71	36.10	148	85	40	0	0	0	0
CA	BAKERSFIELD	101	71	108	63	86	10	0.00	-0.03	0.00	0.23	288	6.51	142	46	25	7	0	0	0
	FRESNO	99	70	106	64	85	10	0.00	-0.06	0.00	0.00	0	9.52	122	52	32	7	0	0	0
	LOS ANGELES	73	62	80	61	67	1	0.00	-0.01	0.00	0.00	0	12.81	136	86	73	0	0	0	0
	REDDING	99	68	105	59	84	10	0.00	-0.20	0.00	0.00	0	31.08	143	61	39	7	0	0	0
	SACRAMENTO	92	62	103	54	77	7	0.00	-0.04	0.00	0.00	0	19.36	163	80	29	4	0	0	0
	SAN DIEGO	73	62	77	61	68	1	0.00	-0.02	0.00	0.00	0	8.41	111	83	68	0	0	0	0
	SAN FRANCISCO	83	60	100	54	71	10	0.00	-0.02	0.00	0.00	0	18.42	138	70	53	3	0	0	0
	STOCKTON	98	64	108	56	81	9	0.00	-0.02	0.00	0.00	0	12.48	139	60	33	6	0	0	0
CO	ALAMOSA	79	38	82	34	59	1	0.00	-0.11	0.00	0.15	56	4.83	199	79	24	0	0	0	0
	CO SPRINGS	75	48	84	44	62	-1	0.26	-0.30	0.20	1.03	84	6.72	97	69	28	0	0	2	0
	DENVER INTL	77	49	86	42	63	-1	0.02	-0.37	0.02	0.35	36	7.69	126	75	26	0	0	1	0
	GRAND JUNCTION	87	52	93	45	69	0	0.03	-0.06	0.03	0.04	16	5.88	140	45	21	2	0	1	0
	PUEBLO	83	50	91	43	67	-1	0.04	-0.26	0.04	0.45	69	4.88	99	68	31	2	0	1	0
CT	BRIDGEPORT	72	57	79	54	65	-2	0.78	-0.05	0.39	0.91	50	22.80	111	81	59	0	0	3	0
	HARTFORD	76	52	83	49	64	-3	1.02	0.11	0.40	1.20	60	26.00	124	74	41	0	0	3	0
DC	WASHINGTON	79	62	84	57	71	-2	1.77	1.05	1.04	1.79	110	19.81	112	83	50	0	0	4	2
DE	WILMINGTON	78	58	83	52	68	-2	3.49	2.69	1.72	3.82	216	23.88	122	90	48	0	0	5	2
FL	DAYTONA BEACH	89	71	92	69	80	1	2.52	1.21	1.32	3.16	120	14.50	80	100	65	3	0	4	2
	JACKSONVILLE	88	71	91	67	80	2	2.48	1.31	1.12	3.30	140	15.86	80	94	57	1	0	5	2
	KEY WEST	88	79	89	75	84	1	0.42	-0.71	0.29	0.42	18	11.20	83	81	69	0	0	3	0
	MIAMI	91	77	94	74	84	2	1.80	-0.30	0.69	6.55	152	19.76	100	87	62	5	0	7	2
	ORLANDO	89	72	93	71	81	0	3.35	1.72	1.52	3.85	119	15.48	87	92	69	5	0	5	3
	PENSACOLA	90	73	92	69	82	2	0.59	-0.79	0.59	4.48	159	19.39	70	88	54	6	0	1	1
	TALLAHASSEE	89	72	92	68	80	0	1.03	-0.52	0.49	2.39	74	14.70	52	96	64	4	0	5	0
	TAMPA	88	75	90	71	81	0	3.85	2.65	2.13	5.90	248	22.35	151	87	64	1	0	6	3
	WEST PALM BEACH	90	76	92	75	83	2	1.43	-0.35	0.53	3.44	94	24.46	108	87	71	5	0	6	1
GA	ATHENS	82	63	87	54	72	-3	0.92	0.03	0.59	6.18	320	22.21	96	86	59	0	0	2	1
	ATLANTA	82	66	88	60	74	-2	0.29	-0.46	0.23	4.87	297	26.03	107	81	57	0	0	3	0
	AUGUSTA	85	65	88	54	75	-2	3.04	2.06	1.32	5.36	265	19.84	93	94	65	0	0	3	3
	COLUMBUS	87	67	91	60	77	-1	1.19	0.46	0.64	4.65	296	22.21	92	89	49	1	0	4	1
	MACON	86	65	91	55	76	-1	0.42	-0.34	0.27	1.42	89	14.83	67	93	49	2	0	3	0
	SAVANNAH	86	69	90	62	78	0	8.20	6.95	3.93	10.33	407	21.00	105	96	64	1	0	4	3
HI	HILO	84	70	85	68	77	2	0.48	-1.03	0.23	2.71	85	37.24	66	81	65	0	0	6	0
	HONOLULU	90	75	92	72	83	4	0.00	-0.09	0.00	0.03	14	3.11	34	68	59	6	0	0	0
	KAHULUI	91	68	92	65	79	2	0.00	-0.03	0.00	0.03	38	9.31	85	72	55	6	0	0	0
	LIHUE	85	73	86	70	79	2	0.00	-0.42	0.00	0.39	40	8.85	48	79	73	0	0	0	0
ID	BOISE	85	56	91	45	70	4	0.01	-0.17	0.01	0.01	2	12.08	175	63	31	1	0	1	0
	LEWISTON	87	57	92	45	72	8	0.00	-0.29	0.00	0.72	111	8.66	129	65	37	2	0	0	0
	POCATELLO	80	44	87	29	62	2	0.05	-0.17	0.05	0.38	70	8.92	132	74	34	0	1	1	0
IL	CHICAGO/O'HARE	74	56	82	51	65	-2	0.87	0.02	0.75	1.45	81	22.67	152	72	51	0	0	4	1
	MOLINE	79	58	86	53	69	-1	1.82	0.72	1.02	2.16	93	27.34	167	78	48	0	0	3	1
	PEORIA	77	57	83	50	67	-3	1.44	0.59	1.16	1.63	88	25.93	166	81	45	0	0	3	1
	ROCKFORD	75	55	82	49	65	-3	0.44	-0.68	0.20	1.90	82	24.27	161	84	51	0	0	4	0
	SPRINGFIELD	78	57	86	51	68	-4	1.79	0.90	1.49	3.06	157	26.17	164	91	42	0	0	4	1
IN	EVANSVILLE	80	57	85	49	68	-6	0.07	-0.89	0.07	1.44	68	31.19	142	89	50	0	0	1	0
	FORT WAYNE	74	56	81	50	65	-3	0.74	-0.20	0.35	0.98	49	19.84	123	86	51	0	0	4	0
	INDIANAPOLIS	74	56	78	47	65	-6	4.73	3.79	4.01	5.30	260	28.43	155	92	54	0	0	4	2
	SOUTH BEND	71	54	78	46	63	-5	2.53	1.57	0.99	2.79	140	23.32	144	90	71	0	0	5	3
IA	BURLINGTON	79	58	89	52	68	-3	1.17	0.15	0.96	1.36	62	24.05	150	82	42	0	0	2	1
	CEDAR RAPIDS	77	55	86	49	66	-3	0.80	-0.24	0.45	1.26	58	19.65	144	92	42	0	0	3	0
	DES MOINES	80	57	88	48	68	-2	0.88	-0.19	0.79	1.01	44	19.06	131	80	43	0	0	3	1
	DUBUQUE	73	54	78	48	63	-4	1.09	0.12	0.71	3.12	149	20.88	139	84	58	0	0	4	1
	SIOUX CITY	79	53	86	43	66	-3	0.03	-0.82	0.02	0.09	5	14.46	125	89	56	0	0	2	0
	WATERLOO	78	55	84	47	67	-2	0.54	-0.59	0.23	1.69	71	17.74	129	83	48	0	0	3	0
KS	CONCORDIA	82	58	88	51	70	-2	0.74	-0.18	0.40	0.87	43	15.96	129	76	45	0	0	4	0
	DODGE CITY	80	54	88	45	67	-6	0.22	-0.51	0.21	0.92	59	12.72	128	84	42	0	0	2	0
	GOODLAND	79	49	91	42	64	-4	0.13	-0.64	0.01	0.77	45	8.58	98	83	42	1	0	2	0
	TOPEKA	82	57	89	50	69	-4	0.45	-0.74	0.17	0.89	35	20.05	131	82	44	0	0	4	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending June 15, 2019

STATES AND STATIONS		TEMPERATURE ˚F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. ˚F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	81	57	88	51	69	-5	1.19	0.16	0.44	1.85	82	21.55	159	81	48	0	0	5	0
KY	JACKSON	76	57	81	48	66	-4	0.28	-0.82	0.18	3.09	128	26.32	115	90	53	0	0	4	0
	LEXINGTON	77	56	83	45	66	-5	0.99	-0.07	0.78	2.22	97	25.59	118	79	51	0	0	3	1
	LOUISVILLE	79	60	85	51	70	-3	1.07	0.21	1.07	2.69	138	30.06	139	77	47	0	0	1	1
	PADUCAH	82	58	87	50	70	-3	0.00	-1.00	0.00	1.72	82	40.26	172	82	44	0	0	0	0
LA	BATON ROUGE	89	69	93	64	79	0	0.00	-1.19	0.00	5.84	232	33.49	112	90	47	5	0	0	0
	LAKE CHARLES	91	73	95	69	82	2	0.00	-1.44	0.00	5.39	172	33.86	134	85	46	5	0	0	0
	NEW ORLEANS	90	74	94	66	82	2	2.49	0.96	2.49	3.15	103	30.18	103	73	55	5	0	1	1
	SHREVEPORT	88	66	94	60	77	-2	0.00	-1.19	0.00	1.86	72	24.58	97	84	45	2	0	0	0
ME	CARIBOU	73	48	78	39	61	1	0.76	0.02	0.36	1.08	66	19.69	130	87	42	0	0	4	0
	PORTLAND	71	50	78	47	61	0	1.74	0.99	0.97	2.86	175	24.32	115	90	54	0	0	3	2
MD	BALTIMORE	80	59	86	53	69	-1	1.07	0.28	0.50	1.68	96	20.38	107	86	51	0	0	5	1
MA	BOSTON	76	58	84	53	67	1	1.30	0.56	0.63	1.44	91	21.63	111	79	44	0	0	3	1
	WORCESTER	70	51	76	48	61	-2	1.07	0.14	0.49	1.28	63	24.53	113	89	47	0	0	3	0
MI	ALPENA	69	47	74	40	58	-2	2.50	1.92	0.66	2.52	203	18.73	164	94	52	0	0	6	2
	GRAND RAPIDS	72	53	78	44	63	-3	1.65	0.84	0.84	2.27	134	22.10	151	91	51	0	0	5	2
	HOUGHTON LAKE	68	49	76	41	59	-2	3.04	2.35	0.81	3.07	210	18.57	165	81	63	0	0	6	3
	LANSING	71	53	78	45	62	-3	2.25	1.41	1.23	4.45	262	20.05	156	90	61	0	0	5	2
	MUSKEGON	70	53	76	44	62	-2	1.81	1.18	1.29	2.45	179	24.64	184	85	62	0	0	3	1
	TRAVERSE CITY	68	49	75	46	59	-4	2.75	2.01	0.85	2.80	192	20.13	152	92	45	0	0	6	2
MN	DULUTH	72	46	77	40	59	0	0.27	-0.68	0.15	1.07	55	13.70	129	77	46	0	0	3	0
	INT'L FALLS	70	39	76	34	54	-6	0.38	-0.54	0.28	1.22	66	10.15	123	93	43	0	0	3	0
	MINNEAPOLIS	75	57	86	48	66	-1	0.26	-0.75	0.16	0.54	26	17.95	158	75	46	0	0	3	0
	ROCHESTER	73	52	77	43	62	-3	1.79	0.90	1.22	2.40	130	23.62	197	84	55	0	0	5	1
	ST. CLOUD	73	49	84	40	61	-3	0.42	-0.66	0.38	0.97	44	16.04	158	92	36	0	0	2	0
MS	JACKSON	87	64	91	56	75	-3	0.00	-0.83	0.00	1.58	87	30.82	108	86	43	2	0	0	0
	MERIDIAN	87	64	92	57	75	-3	0.34	-0.49	0.34	1.88	104	34.73	114	85	50	2	0	1	0
	TUPELO	84	62	90	55	73	-3	0.00	-1.17	0.00	1.40	53	39.38	134	82	47	1	0	0	0
MO	COLUMBIA	79	59	89	51	69	-2	0.19	-0.76	0.16	1.41	67	24.10	132	79	43	0	0	2	0
	KANSAS CITY	79	58	86	51	68	-4	1.70	0.67	1.10	1.76	77	26.31	165	87	45	0	0	4	2
	SAINT LOUIS	79	62	87	55	71	-3	0.66	-0.19	0.43	2.43	131	28.80	163	75	48	0	0	3	0
	SPRINGFIELD	79	57	86	50	68	-4	0.15	-1.02	0.13	0.91	37	28.19	144	81	52	0	0	2	0
MT	BILLINGS	80	52	88	43	66	2	0.33	-0.13	0.17	1.02	98	9.83	127	77	29	0	0	5	0
	BUTTE	76	43	84	33	59	4	0.06	-0.44	0.05	0.30	27	6.53	109	81	23	0	0	2	0
	CUT BANK	74	44	84	36	59	3	0.00	-0.62	0.00	0.08	6	4.97	88	77	30	0	0	0	0
	GLASGOW	81	50	93	40	65	2	0.02	-0.50	0.02	0.14	13	4.70	102	73	31	1	0	1	0
	GREAT FALLS	77	46	85	37	62	3	0.00	-0.57	0.00	0.25	20	9.78	132	86	28	0	0	0	0
	HAVRE	80	46	91	38	63	1	0.06	-0.39	0.06	0.23	23	4.94	95	82	35	1	0	1	0
	MISSOULA	82	49	88	41	65	6	0.00	-0.43	0.00	0.35	36	8.16	120	75	38	0	0	0	0
NE	GRAND ISLAND	79	55	87	47	67	-3	0.34	-0.56	0.16	1.92	96	17.75	149	81	50	0	0	4	0
	LINCOLN	79	54	86	46	67	-4	0.68	-0.15	0.33	2.05	110	17.32	138	79	52	0	0	3	0
	NORFOLK	78	54	85	48	66	-3	0.09	-0.90	0.06	0.95	45	16.41	138	82	58	0	0	2	0
	NORTH PLATTE	79	49	87	40	64	-3	0.30	-0.44	0.12	2.30	143	15.16	167	86	37	0	0	3	0
	OMAHA	79	59	86	53	69	-2	0.41	-0.51	0.39	1.25	62	16.48	126	79	48	0	0	2	0
	SCOTTSBLUFF	78	47	87	38	62	-4	0.27	-0.34	0.10	0.52	39	15.83	195	91	53	0	0	2	0
	VALENTINE	80	49	90	40	64	-2	0.08	-0.59	0.02	0.54	37	16.28	191	81	36	1	0	5	0
NV	ELY	79	39	84	32	59	1	0.00	-0.17	0.00	0.18	42	11.52	223	83	29	0	1	0	0
	LAS VEGAS	101	77	107	71	89	5	0.00	0.00	0.00	0.00	0	4.60	202	19	11	7	0	0	0
	RENO	90	58	94	48	74	11	0.00	-0.11	0.00	0.00	0	8.51	203	43	22	6	0	0	0
	WINNEMUCCA	87	45	92	38	66	4	0.00	-0.18	0.00	0.09	22	7.11	154	67	21	2	0	0	0
NH	CONCORD	75	47	81	43	61	-3	0.74	0.04	0.39	2.25	148	18.66	115	96	43	0	0	3	0
NJ	NEWARK	76	59	84	56	67	-4	1.63	0.89	0.80	2.15	127	26.10	123	75	48	0	0	3	2
NM	ALBUQUERQUE	87	59	93	55	73	-1	0.00	-0.14	0.00	0.03	10	3.48	118	48	16	3	0	0	0
NY	ALBANY	75	53	83	49	64	-1	1.48	0.60	1.18	2.81	149	19.13	115	80	40	0	0	4	1
	BINGHAMTON	68	50	77	44	59	-4	1.54	0.67	1.02	2.07	114	20.19	120	82	53	0	0	4	1
	BUFFALO	72	53	84	48	63	-2	2.71	1.80	1.13	3.46	181	21.78	129	84	45	0	0	4	2
	ROCHESTER	75	54	85	48	65	0	1.36	0.58	0.53	1.86	114	14.85	105	74	45	0	0	4	1
	SYRACUSE	75	54	85	48	65	0	1.68	0.88	0.97	2.95	177	21.40	132	85	43	0	0	4	1
NC	ASHEVILLE	77	58	79	50	67	-1	2.78	1.72	2.00	4.82	209	31.96	141	85	51	0	0	2	2
	CHARLOTTE	81	62	86	49	72	-3	1.83	1.04	1.26	3.46	198	24.93	123	88	49	0	0	3	1
	GREENSBORO	78	60	84	53	69	-3	3.11	2.34	2.32	7.29	434	27.55	141	92	54	0	0	3	2
	HATTERAS	82	67	86	57	74	0	2.12	1.23	0.92	2.17	110	30.72	128	95	60	0	0	5	2
	RALEIGH	80	61	87	51	71	-2	0.95	0.19	0.61	2.09	124	22.52	114	90	56	0	0	4	1
	WILMINGTON	83	67	89	55	75	-1	1.10	-0.03	0.53	1.92	81	13.31	60	91	51	0	0	4	1
ND	BISMARCK	80	53	88	48	67	3	0.12	-0.46	0.08	0.97	79	8.45	126	83	40	0	0	2	0
	DICKINSON	76	47	84	42	61	-1	0.34	-0.43	0.25	0.63	40	9.44	133	85	32	0	0	3	0
	FARGO	74	51	85	44	63	-2	0.19	-0.64	0.11	0.64	37	10.66	130	78	38	0	0	3	0
	GRAND FORKS	73	48	84	40	61	-3	0.32	-0.37	0.28	1.14	80	9.15	131	81	37	0	0	2	0
	JAMESTOWN	75	51	86	40	63	-1	1.06	0.39	0.96	1.36	99	9.56	137	89	40	0	0	3	1
	WILLISTON	79	47	91	39	63	0	0.40	-0.12	0.28	0.53	49	4.70	83	83	40	1	0	2	0
OH	AKRON-CANTON	75	55	81	48	65	-1	2.99	2.19	1.02	4.13	237	22.99	135	74	54	0	0	4	3
	CINCINNATI	75	55	80	47	65	-6	2.52	1.45	1.87	3.54	153	31.45	154	79	58	0	0	5	1
	CLEVELAND	75	57	83	50	66	0	2.46	1.57	0.93	4.84	260	23.25	141	86	49	0	0	4	3
	COLUMBUS	76	56	83	48	66	-4	1.15	0.25	0.52	1.27	66	23.56	141	72	53	0	0	4	1
	DAYTON	75	56	79	50	66	-3	2.38	1.39	1.52	2.60	124	27.06	146	84	51	0	0	5	2
	MANSFIELD	73	55	82	49	64	-1	3.62	2.57	2.05	4.86	217	25.35	133	94	53	0	0	5	3

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending June 15, 2019

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 JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	75	54	81	46	65	-2	1.12	0.22	0.54	3.15	169	20.94	143	80	59	0	0	4	1
	YOUNGSTOWN	74	54	82	47	64	-1	2.79	1.94	1.27	5.56	314	27.69	173	76	60	0	0	5	2
OK	OKLAHOMA CITY	81	59	87	56	70	-5	1.01	-0.15	0.51	3.74	143	27.63	165	90	51	0	0	3	1
	TULSA	82	62	85	56	72	-5	0.70	-0.49	0.57	3.50	130	30.67	154	86	54	0	0	3	1
OR	ASTORIA	71	52	86	44	61	5	0.00	-0.63	0.00	0.42	30	22.42	65	89	64	0	0	0	0
	BURNS	83	43	90	31	63	7	0.12	-0.05	0.12	0.28	70	10.32	177	75	32	1	1	1	0
	EUGENE	86	52	98	45	69	10	0.00	-0.39	0.00	0.14	15	22.21	82	83	51	2	0	0	0
	MEDFORD	95	57	100	46	76	12	0.00	-0.17	0.00	0.01	2	13.86	148	63	17	7	0	0	0
	PENDLETON	87	52	93	41	69	5	0.00	-0.20	0.00	0.05	11	9.33	138	65	31	2	0	0	0
	PORTLAND	86	58	98	51	72	10	0.00	-0.40	0.00	0.16	17	13.08	69	70	49	2	0	0	0
	SALEM	86	53	97	47	70	10	0.00	-0.36	0.00	0.09	11	18.64	90	79	46	2	0	0	0
PA	ALLENTOWN	76	54	82	49	65	-2	1.24	0.32	0.84	1.50	74	27.87	141	75	47	0	0	4	1
	ERIE	74	56	84	51	65	-1	1.52	0.51	0.71	2.01	97	18.63	111	72	51	0	0	4	2
	MIDDLETOWN	76	58	83	54	67	-3	1.52	0.62	0.93	2.28	116	24.61	133	83	47	0	0	3	2
	PHILADELPHIA	77	59	81	53	68	-3	1.87	1.15	1.49	2.93	187	24.11	127	80	52	0	0	3	1
	PITTSBURGH	75	53	79	47	64	-3	0.72	-0.22	0.34	1.18	59	22.14	130	94	52	0	0	5	0
	WILKES-BARRE	74	52	82	46	63	-3	1.11	0.22	0.62	2.05	110	21.44	133	86	39	0	0	4	1
	WILLIAMSPORT	74	52	82	47	63	-4	1.62	0.62	0.94	2.76	133	23.26	129	84	52	0	0	3	2
RI	PROVIDENCE	73	54	79	51	64	-2	2.19	1.39	0.80	2.29	134	26.09	120	82	51	0	0	3	3
SC	CHARLESTON	84	68	87	58	76	-1	3.37	2.03	2.05	5.97	219	13.68	67	95	59	0	0	4	3
	COLUMBIA	84	65	87	56	74	-3	0.57	-0.54	0.37	6.24	276	18.15	84	88	59	0	0	3	0
	FLORENCE	84	66	88	57	75	-2	0.59	-0.37	0.25	2.18	109	15.52	81	94	50	0	0	4	0
	GREENVILLE	80	62	84	54	71	-3	0.90	0.00	0.80	3.95	195	24.99	104	82	48	0	0	2	1
SD	ABERDEEN	79	51	90	44	65	0	0.99	0.17	0.64	1.34	79	12.18	143	80	40	1	0	4	1
	HURON	79	57	86	50	68	1	0.33	-0.33	0.20	***	***	15.05	160	85	44	0	0	2	0
	RAPID CITY	73	44	77	34	58	-5	0.28	-0.42	0.16	0.57	38	17.83	217	84	46	0	0	3	0
	SIOUX FALLS	78	54	86	44	66	0	0.31	-0.52	0.31	0.93	53	18.99	178	83	52	0	0	1	0
TN	BRISTOL	77	56	82	46	66	-4	1.23	0.35	0.52	5.53	287	31.94	157	88	47	0	0	3	1
	CHATTANOOGA	83	63	89	53	73	-1	1.16	0.30	0.93	2.82	149	37.39	139	87	58	0	0	3	1
	KNOXVILLE	79	59	84	50	69	-4	1.78	0.89	1.07	3.46	176	35.66	146	88	49	0	0	4	1
	MEMPHIS	82	64	88	57	73	-4	0.00	-0.96	0.00	4.38	211	35.09	129	81	44	0	0	0	0
	NASHVILLE	83	61	89	52	72	-2	0.95	-0.02	0.95	3.13	143	33.15	140	79	41	0	0	1	1
TX	ABILENE	88	66	95	60	77	-2	0.00	-0.79	0.00	2.78	164	17.12	176	82	48	3	0	0	0
	AMARILLO	82	56	95	53	69	-4	0.16	-0.64	0.09	2.67	160	10.44	134	84	41	1	0	2	0
	AUSTIN	91	71	97	66	81	1	0.45	-0.56	0.39	1.94	83	21.12	133	80	51	5	0	2	0
	BEAUMONT	93	74	96	68	83	3	0.00	-1.57	0.00	7.20	217	30.96	120	79	47	6	0	0	0
	BROWNSVILLE	95	78	100	74	86	3	0.73	0.04	0.65	0.95	66	6.63	71	95	58	7	0	2	1
	CORPUS CHRISTI	93	75	97	72	84	3	1.67	0.77	1.67	2.41	124	12.06	95	90	59	7	0	1	1
	DEL RIO	90	70	101	64	80	-2	1.42	0.90	0.79	6.67	596	12.08	158	86	62	4	0	3	1
	EL PASO	92	67	101	56	80	-1	0.70	0.54	0.69	0.97	323	1.68	84	63	24	5	0	2	1
	FORT WORTH	87	67	93	63	77	-3	0.39	-0.46	0.39	0.79	39	20.57	116	76	44	3	0	1	0
	GALVESTON	89	78	92	75	84	2	0.01	-0.93	0.01	2.67	133	19.79	112	85	56	3	0	1	0
	HOUSTON	92	73	97	69	83	2	0.01	-1.33	0.01	2.56	88	19.69	91	91	53	6	0	1	0
	LUBBOCK	86	61	97	57	74	-2	0.00	-0.71	0.00	1.22	82	8.12	115	75	43	2	0	0	0
	MIDLAND	91	66	103	62	78	-1	0.00	-0.39	0.00	0.29	35	8.34	171	76	44	4	0	0	0
	SAN ANGELO	90	67	101	59	78	0	0.06	-0.61	0.04	2.44	163	12.07	132	84	56	4	0	2	0
	SAN ANTONIO	90	71	96	65	80	-1	0.12	-1.00	0.08	1.69	68	11.02	73	86	47	4	0	2	0
	VICTORIA	91	73	95	70	82	1	0.84	-0.39	0.79	2.25	84	12.29	70	92	58	6	0	2	1
	WACO	91	67	96	60	79	-1	0.00	-0.76	0.00	0.02	1	19.33	121	82	45	4	0	0	0
	WICHITA FALLS	87	62	94	58	75	-3	1.36	0.40	1.23	2.49	118	17.51	129	87	50	2	0	3	1
UT	SALT LAKE CITY	82	57	88	43	69	2	0.01	-0.18	0.01	0.11	21	14.32	155	59	27	0	0	1	0
VT	BURLINGTON	76	53	85	47	65	1	0.87	0.11	0.49	2.44	152	19.05	136	87	36	0	0	4	0
VA	LYNCHBURG	78	56	82	50	67	-3	1.47	0.64	0.73	3.20	176	20.50	103	90	53	0	0	4	2
	NORFOLK	81	66	89	56	73	0	0.50	-0.33	0.30	3.23	182	21.97	109	89	51	0	0	4	0
	RICHMOND	80	62	83	55	71	-1	2.24	1.46	1.09	5.05	290	25.43	130	86	56	0	0	5	2
	ROANOKE	78	58	84	52	68	-3	0.99	0.15	0.57	4.54	245	22.28	112	87	52	0	0	4	1
	WASH/DULLES	77	57	82	50	67	-2	1.00	0.02	0.58	1.24	58	21.12	112	85	56	0	0	4	1
WA	OLYMPIA	79	48	93	40	64	7	0.00	-0.43	0.00	0.08	9	15.10	59	89	53	1	0	0	0
	QUILLAYUTE	69	49	91	38	59	5	0.06	-0.82	0.05	0.66	33	32.31	62	96	68	1	0	2	0
	SEATTLE-TACOMA	80	57	95	51	69	9	0.00	-0.36	0.00	0.11	14	14.08	77	74	52	1	0	0	0
	SPOKANE	83	56	91	44	69	9	0.00	-0.29	0.00	0.23	35	7.91	94	64	27	1	0	0	0
	YAKIMA	89	51	97	38	70	8	0.00	-0.14	0.00	0.00	0	5.89	147	69	32	3	0	0	0
WV	BECKLEY	72	53	78	43	63	-3	1.13	0.27	0.97	2.12	112	25.36	130	81	56	0	0	2	1
	CHARLESTON	77	56	84	48	66	-3	1.13	0.22	0.79	2.02	102	24.61	124	93	50	0	0	4	1
	ELKINS	74	51	80	46	63	-2	1.55	0.49	0.77	2.61	113	23.28	110	87	53	0	0	4	2
	HUNTINGTON	77	57	83	50	67	-3	0.47	-0.42	0.20	2.09	106	23.15	117	86	50	0	0	4	0
WI	EAU CLAIRE	73	49	81	38	61	-5	0.14	-0.86	0.10	0.21	10	18.58	150	93	44	0	0	3	0
	GREEN BAY	69	52	79	48	61	-3	1.31	0.53	0.96	1.66	103	17.59	157	90	56	0	0	4	1
	LA CROSSE	77	54	84	47	65	-3	2.01	1.12	1.03	2.33	127	19.24	151	81	42	0	0	4	2
	MADISON	74	53	78	48	63	-3	0.42	-0.51	0.35	1.45	77	19.16	144	79	52	0	0	3	0
	MILWAUKEE	73	53	80	51	63	-2	1.62	0.82	1.22	2.27	139	20.08	138	75	54	0	0	3	1
WY	CASPER	74	38	83	25	56	-5	0.04	-0.30	0.04	0.10	12	10.32	151	91	37	0	2	1	0
	CHEYENNE	71	45	83	38	58	-2	0.09	-0.39	0.09	0.50	46	13.06	185	72	34	0	0	1	0
	LANDER	74	44	80	30	59	-3	0.01	-0.27	0.01	0.02	3	13.40	180	76	30	0	1	1	0
	SHERIDAN	74	43	80	32	59	-1	0.29	-0.21	0.14	0.62	57	11.47	151	83	51	0	1	3	0

Based on 1971-2000 normals

*** Not Available

National Agricultural Summary

June 10 – 16, 2019

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Rainfall was mostly confined to the eastern half of the United States. Rain was heaviest in parts of the mid-Atlantic, Great Lakes, and Southeast, with some areas receiving more than 3 inches. Below-normal temperatures were noted across much of the country. Parts of the Great Plains and Mississippi and Ohio Valleys recorded temperatures more than 6°F below normal. However, temperatures were at least 6°F above normal in parts of Idaho and the Pacific Coast States.

Corn: By June 16, producers had planted 92 percent of the nation's corn acreage, 8 percentage points behind both last year and the 5-year average. Seventy-nine percent of the corn had emerged by June 16, eighteen percentage points behind both last year and the average. Emergence in six of the 18 estimating states was behind average by 25 percentage points or more. Eighty-eight percent of Iowa's corn acreage had emerged by June 16, eleven percentage points behind both last year and the average. On June 16, fifty-nine percent of the nation's corn was rated in good to excellent condition, unchanged from the previous week but 19 percentage points below the same time last year.

Soybean: Seventy-seven percent of the nation's soybean acreage was planted by June 16, nineteen percentage points behind last year and 16 points behind the 5-year average. Fifty-five percent of the soybeans had emerged by June 16, thirty-four percentage points behind last year and 29 points behind average. Emergence in ten of the 18 estimating states was behind average by 20 percentage points or more. Fifty percent of Illinois' soybean acreage had emerged by June 16, forty-three percentage points behind last year and 38 points behind the average.

Winter Wheat: By June 16, eighty-nine percent of the nation's winter wheat acreage had reached the headed stage, 5 percentage points behind last year and 6 points behind the 5-year average. Eight percent of the winter wheat was harvested by June 16, seventeen percentage points behind last year and 12 points behind average. Harvesting was at or behind average in all of the estimating states. Sixteen percent of Oklahoma's winter wheat was harvested by June 16, fifty-four percentage points behind last year and 40 points behind average. On June 16, sixty-four percent of the 2019 winter wheat acreage was reported in good to excellent condition, unchanged from the previous week but 25 percentage points above the same time last year.

Cotton: Nationwide, 89 percent of the cotton acreage had been planted by June 16, six percentage points behind last year and 5 points behind the 5-year average. In Texas, 86 percent of the 2019 cotton acreage was planted by June 16, eight percentage points behind the previous year and 5 points behind average. Nineteen percent of the nation's cotton had reached the squaring stage by June 16, two percentage points behind last year but 1 point ahead of average. On June 16, forty-nine percent of the cotton was rated in good to excellent condition, 5 percentage points above the previous week and 11 points above the same time last year.

Sorghum: Sixty-nine percent of the nation's sorghum acreage was planted by June 16, nineteen percentage points behind the previous year and 12 points behind the 5-year average. Planting progress in Kansas, Nebraska, Oklahoma, and South Dakota was behind the average pace by 16, 14, 17, and 16 percentage points, respectively. By June 16, fifteen percent of the nation's sorghum had reached the headed stage, 3 percentage points behind last year and 1 point behind average. Fifty percent of Texas' sorghum acreage had reached the headed stage by June 16, four percentage points behind last year but 4 points ahead of average.

Rice: By June 16, ninety-four percent of the nation's rice acreage had emerged, 6 percentage points behind last year and 5 points behind the 5-year average. Emergence was behind the average pace in four of the six estimating states. On June 16, sixty-three percent of the rice was rated in good to excellent condition, 2 percentage points above last week but 11 points below the same time last year.

Small Grains: Ninety-four percent of the nation's oat acreage had emerged by June 16, four percentage points behind last year and 5 points behind the 5-year average. Emergence in Ohio and Wisconsin was behind the average pace by 15 and 18 percentage points, respectively. Thirty-three percent of the nation's oats had headed by June 16, seventeen percentage points behind last year and 21 points behind average. Heading was behind the average pace by 19 percentage points or more in five of the nine estimating states. On June 16, sixty-six percent of the nation's oats were rated in good to excellent condition, 1 percentage point above last week but 4 points below the same time last year.

Ninety-two percent of the nation's barley acreage emerged by June 16, three percentage points behind last year and 4 points behind the 5-year average. Two percent of the barley had reached the headed stage by June 16, five percentage points behind last year and 10 points behind average. On June 16, seventy-six percent of the nation's barley was rated in good to excellent condition, 8 percentage points below both last week and the same time last year.

By June 16, ninety-five percent of the nation's spring wheat acreage had emerged, 2 percentage points behind both the previous year and the 5-year average. Two percent of the spring wheat had reached the headed stage by June 16, six percentage points behind the last year and 10 points behind average. On June 16, seventy-seven percent of the nation's spring wheat was rated in good to excellent condition, 4 percentage points below last week and 1 point below the same time last year.

Other Crops: Nationally, peanut producers had planted 94 percent of the 2019 peanut acreage by June 16, one percentage point behind last year and 3 points behind the 5-year average. By June 16, sixteen percent of the peanuts had reached the pegging stage, 4 percentage points ahead of last year and 6 points ahead of average. On June 16, sixty-four percent of the nation's peanuts were rated in good to excellent condition, 4 percentage points above the previous week but identical to the same time last year.

Sixty-eight percent of the nation's intended 2019 sunflower acreage was planted by June 16, thirteen percentage points behind last year and 12 points behind the 5-year average. By week's end, 56 percent of South Dakota's sunflower acreage had been planted, 17 percentage points behind last year and 15 points behind average.

Crop Progress and Condition

Week Ending June 16, 2019

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

Corn Percent Planted

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
CO	100	88	93	99
IL	100	73	88	100
IN	100	67	84	100
IA	100	93	98	100
KS	99	89	96	99
KY	99	94	97	99
MI	92	63	84	98
MN	100	92	99	99
MO	100	81	89	99
NE	100	94	98	100
NC	100	100	100	100
ND	100	93	98	99
OH	100	50	68	100
PA	92	89	94	94
SD	100	64	78	100
TN	100	99	100	100
TX	100	100	100	100
WI	98	78	87	99
18 Sts	100	83	92	100

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

Corn Percent Emerged

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
CO	96	69	86	96
IL	99	51	74	99
IN	99	35	61	95
IA	99	73	88	99
KS	99	73	83	96
KY	95	85	91	95
MI	86	33	48	93
MN	99	69	87	98
MO	100	67	80	98
NE	100	80	90	99
NC	100	95	100	100
ND	95	63	86	95
OH	95	31	50	95
PA	81	74	86	88
SD	98	34	56	97
TN	99	93	99	98
TX	96	86	90	96
WI	95	48	66	94
18 Sts	97	62	79	97

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

Corn Condition by Percent

	VP	P	F	G	EX
CO	0	4	18	68	10
IL	4	11	34	45	6
IN	3	10	37	45	5
IA	2	7	32	51	8
KS	3	11	39	42	5
KY	2	3	14	69	12
MI	4	13	37	40	6
MN	2	6	34	51	7
MO	5	23	44	26	2
NE	1	3	19	68	9
NC	5	11	34	41	9
ND	0	1	19	73	7
OH	3	9	35	46	7
PA	0	3	22	62	13
SD	1	4	38	51	6
TN	1	3	23	55	18
TX	2	4	27	58	9
WI	3	9	34	41	13
18 Sts	2	8	31	52	7
Prev Wk	2	7	32	52	7
Prev Yr	1	3	18	59	19

Soybeans Percent Planted

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AR	98	66	79	90
IL	99	49	70	95
IN	98	42	64	94
IA	99	70	89	98
KS	93	48	74	82
KY	85	61	74	78
LA	100	95	98	98
MI	85	45	53	94
MN	99	79	94	98
MS	98	85	91	95
MO	93	37	57	81
NE	100	79	91	98
NC	77	68	74	75
ND	100	88	96	99
OH	94	32	46	94
SD	99	43	70	98
TN	86	77	85	79
WI	95	60	77	96
18 Sts	96	60	77	93

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

Soybeans Percent Emerged

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AR	93	52	65	84
IL	93	25	50	88
IN	93	19	38	85
IA	96	35	63	92
KS	83	24	45	65
KY	69	44	56	61
LA	99	88	94	95
MI	75	23	34	84
MN	95	43	70	93
MS	94	72	80	91
MO	86	20	36	69
NE	96	55	73	92
NC	64	54	62	63
ND	86	43	74	87
OH	87	17	29	84
SD	89	11	36	89
TN	69	59	72	62
WI	86	26	47	85
18 Sts	89	34	55	84

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

Sorghum Percent Planted

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
CO	72	58	77	70
KS	84	25	55	71
NE	95	54	80	94
OK	59	42	53	70
SD	90	44	68	84
TX	100	90	93	93
6 Sts	88	49	69	81

These 6 States planted 97% of last year's sorghum acreage.

Sorghum Percent Headed

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
CO	0	0	0	0
KS	2	0	0	1
NE	0	0	0	0
OK	1	0	0	0
SD	0	0	0	1
TX	54	44	50	46
6 Sts	18	14	15	16

These 6 States planted 97% of last year's sorghum acreage.

Crop Progress and Condition

Week Ending June 16, 2019

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

Cotton Percent Planted

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AL	93	95	98	95
AZ	100	100	100	100
AR	100	98	99	100
CA	100	100	100	100
GA	92	90	96	95
KS	96	76	91	83
LA	100	98	99	100
MS	98	89	94	98
MO	100	80	85	100
NC	96	91	96	97
OK	92	43	64	87
SC	95	98	99	96
TN	100	97	99	99
TX	94	67	86	91
VA	100	96	99	97
15 Sts	95	75	89	94

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

Cotton Percent Squaring

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AL	16	12	28	22
AZ	29	23	31	40
AR	62	11	46	43
CA	19	15	25	30
GA	26	16	29	22
KS	5	0	0	2
LA	63	4	12	45
MS	18	3	9	21
MO	45	0	8	23
NC	14	8	22	14
OK	11	0	0	9
SC	17	3	25	15
TN	31	15	27	22
TX	17	13	17	14
VA	25	7	15	21
15 Sts	21	11	19	18

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

Cotton Condition by Percent

	VP	P	F	G	EX
AL	0	5	39	55	1
AZ	0	1	8	85	6
AR	0	2	15	54	29
CA	0	5	90	5	0
GA	3	11	32	50	4
KS	2	12	52	32	2
LA	0	2	37	57	4
MS	1	8	39	44	8
MO	8	8	56	27	1
NC	1	2	36	45	16
OK	0	2	19	78	1
SC	0	6	36	57	1
TN	4	9	26	48	13
TX	6	14	39	34	7
VA	0	0	15	85	0
15 Sts	4	11	36	42	7
Prev Wk	7	8	41	37	7
Prev Yr	5	21	36	33	5

Peanuts Percent Planted

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AL	90	94	95	92
FL	96	95	99	97
GA	95	94	98	98
NC	96	91	93	96
OK	99	55	82	94
SC	96	99	100	96
TX	96	74	78	96
VA	98	94	99	96
8 Sts	95	91	94	97

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

Peanuts Percent Pegging

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AL	7	4	28	10
FL	7	1	18	10
GA	20	4	21	13
NC	3	NA	1	6
OK	6	NA	0	2
SC	17	3	17	14
TX	0	0	0	2
VA	1	NA	4	3
8 Sts	12	NA	16	10

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

Peanut Condition by Percent

	VP	P	F	G	EX
AL	0	12	55	33	0
FL	1	14	25	59	1
GA	1	6	30	56	7
NC	0	0	35	51	14
OK	0	0	46	48	6
SC	0	1	34	62	3
TX	0	0	4	95	1
VA	0	4	10	85	1
8 Sts	1	6	29	59	5
Prev Wk	1	6	33	58	2
Prev Yr	1	4	31	57	7

Rice Percent Emerged

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AR	100	85	93	100
CA	97	87	95	94
LA	100	97	100	100
MS	99	90	94	98
MO	100	79	85	97
TX	95	93	97	98
6 Sts	100	87	94	99

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

Rice Condition by Percent

	VP	P	F	G	EX
AR	2	10	35	37	16
CA	0	0	5	90	5
LA	0	5	26	62	7
MS	0	3	37	54	6
MO	4	7	42	30	17
TX	1	2	57	33	7
6 Sts	1	6	30	51	12
Prev Wk	1	6	32	52	9
Prev Yr	0	3	23	60	14

Sunflowers Percent Planted

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
CO	55	35	61	52
KS	68	38	58	59
ND	95	69	84	92
SD	73	19	56	71
4 Sts	81	42	68	80

These 4 States planted 87% of last year's sunflower acreage.

Crop Progress and Condition

Week Ending June 16, 2019

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

Winter Wheat Percent Headed

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AR	100	100	100	100
CA	100	100	100	100
CO	96	83	92	97
ID	84	50	74	80
IL	100	93	97	100
IN	99	89	94	98
KS	100	96	97	100
MI	84	35	64	90
MO	100	97	100	100
MT	38	0	16	57
NE	97	69	83	96
NC	100	100	100	100
OH	100	81	92	98
OK	100	100	100	100
OR	99	89	97	98
SD	87	23	53	84
TX	100	99	99	100
WA	94	76	91	92
18 Sts	94	83	89	95

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

Winter Wheat Percent Harvested

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
AR	83	27	59	60
CA	38	0	40	44
CO	0	0	0	0
ID	0	0	0	0
IL	26	0	6	21
IN	5	0	4	8
KS	20	0	1	12
MI	0	0	0	0
MO	39	0	11	26
MT	0	0	0	0
NE	0	0	0	0
NC	50	31	44	45
OH	0	0	0	1
OK	70	4	16	56
OR	0	0	0	0
SD	0	0	0	0
TX	64	27	42	56
WA	0	0	0	0
18 Sts	25	4	8	20

These 18 States harvested 91% of last year's winter wheat acreage.

Winter Wheat Condition by Percent

	VP	P	F	G	EX
AR	4	12	39	38	7
CA	0	0	5	60	35
CO	2	3	16	55	24
ID	0	5	25	60	10
IL	8	14	45	29	4
IN	5	9	34	45	7
KS	3	10	29	46	12
MI	6	15	35	36	8
MO	4	19	47	28	2
MT	3	3	15	61	18
NE	1	5	23	45	26
NC	7	10	38	39	6
OH	8	23	39	26	4
OK	2	6	23	59	10
OR	4	14	21	46	15
SD	1	3	32	60	4
TX	1	5	31	45	18
WA	0	3	27	63	7
18 Sts	2	7	27	51	13
Prev Wk	2	7	27	50	14
Prev Yr	15	18	28	30	9

Spring Wheat Percent Emerged

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
ID	96	93	96	96
MN	99	87	99	99
MT	92	79	89	94
ND	98	86	96	97
SD	100	89	97	99
WA	98	92	98	99
6 Sts	97	85	95	97

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

Spring Wheat Percent Headed

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
ID	12	NA	5	21
MN	5	NA	1	13
MT	3	0	0	2
ND	2	NA	1	6
SD	43	NA	5	37
WA	41	NA	13	43
6 Sts	8	NA	2	12

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

Spring Wheat Condition by Percent

	VP	P	F	G	EX
ID	6	8	22	57	7
MN	0	1	13	72	14
MT	2	2	28	64	4
ND	0	1	16	75	8
SD	0	0	30	63	7
WA	1	2	37	53	7
6 Sts	1	1	21	69	8
Prev Wk	0	1	18	73	8
Prev Yr	1	2	19	64	14

Barley Percent Emerged

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
ID	98	94	96	98
MN	96	89	99	97
MT	93	79	86	95
ND	97	88	96	95
WA	96	76	91	96
5 Sts	95	86	92	96

These 5 States planted 78% of last year's barley acreage.

Barley Percent Headed

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
ID	22	NA	3	27
MN	3	0	2	12
MT	1	NA	0	5
ND	1	NA	0	6
WA	25	NA	17	35
5 Sts	7	NA	2	12

These 5 States planted 78% of last year's barley acreage.

Barley Condition by Percent

	VP	P	F	G	EX
ID	0	4	18	59	19
MN	1	1	20	66	12
MT	2	10	17	55	16
ND	0	2	14	80	4
WA	0	1	31	59	9
5 Sts	1	6	17	63	13
Prev Wk	0	2	14	68	16
Prev Yr	1	2	13	72	12

Crop Progress and Condition

Week Ending June 16, 2019

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

Oats Percent Emerged

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
IA	100	97	98	100
MN	98	90	99	98
NE	100	89	94	100
ND	92	75	91	94
OH	99	83	85	100
PA	99	96	100	98
SD	100	83	91	99
TX	100	100	100	100
WI	96	70	80	98
9 Sts	98	87	94	99

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

Oats Percent Headed

	Prev Year	Prev Week	Jun 16 2019	5-Yr Avg
IA	60	18	41	60
MN	9	4	9	24
NE	73	24	43	70
ND	8	0	1	11
OH	54	9	18	51
PA	29	27	37	44
SD	46	0	3	52
TX	100	89	90	100
WI	30	5	9	28
9 Sts	50	28	33	54

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

Oat Condition by Percent

	VP	P	F	G	EX
IA	1	3	34	51	11
MN	1	2	28	56	13
NE	1	5	20	65	9
ND	0	1	17	76	6
OH	1	4	54	38	3
PA	0	7	21	64	8
SD	0	1	29	64	6
TX	6	8	33	47	6
WI	1	5	24	53	17
9 Sts	2	4	28	58	8
Prev Wk	2	4	29	57	8
Prev Yr	4	3	23	58	12

Pasture and Range Condition by Percent
Week Ending Jun 16, 2019

	VP	P	F	G	EX		VP	P	F	G	EX
AL	5	10	32	48	5	NH	0	9	21	59	11
AZ	3	16	31	47	3	NJ	0	0	4	93	3
AR	3	3	28	51	15	NM	7	34	36	18	5
CA	10	10	20	55	5	NY	3	8	30	38	21
CO	1	2	15	67	15	NC	1	6	31	58	4
CT	0	0	0	100	0	ND	2	7	25	60	6
DE	0	1	5	89	5	OH	1	15	29	46	9
FL	2	7	27	50	14	OK	0	2	21	61	16
GA	4	16	40	37	3	OR	1	5	25	38	31
ID	0	1	10	51	38	PA	0	3	19	68	10
IL	1	6	23	48	22	RI	0	15	25	40	20
IN	1	6	32	46	15	SC	6	11	40	35	8
IA	1	4	29	50	16	SD	1	3	15	56	25
KS	1	2	21	58	18	TN	1	6	35	50	8
KY	1	6	17	67	9	TX	1	6	23	52	18
LA	1	8	36	51	4	UT	0	0	5	45	50
ME	0	0	17	66	17	VT	0	0	6	63	31
MD	2	7	39	41	11	VA	0	9	31	49	11
MA	0	0	13	67	20	WA	1	6	48	44	1
MI	2	8	29	46	15	WV	0	3	20	70	7
MN	1	4	30	55	10	WI	3	9	28	41	19
MS	1	9	36	48	6	WY	0	2	14	70	14
MO	0	2	24	64	10	48 Sts	1	5	23	56	15
MT	1	3	23	60	13						
NE	0	2	11	72	15	Prev Wk	1	6	25	54	14
NV	5	5	30	55	5	Prev Yr	6	14	32	40	8

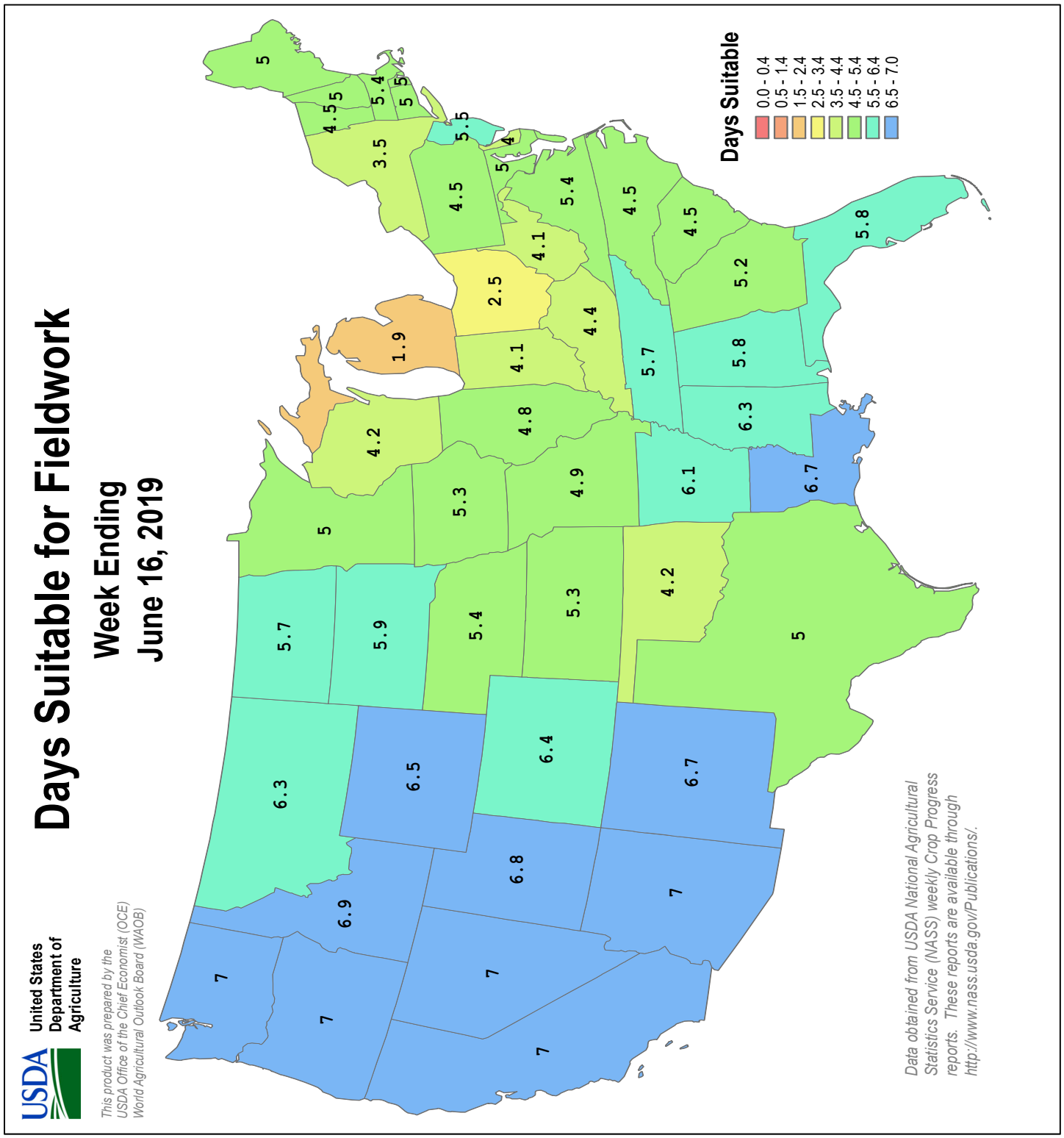
VP - Very Poor; P - Poor;
F - Fair;
G - Good; EX - Excellent

NA - Not Available
* Revised

Crop Progress and Condition

Week Ending June 16, 2019

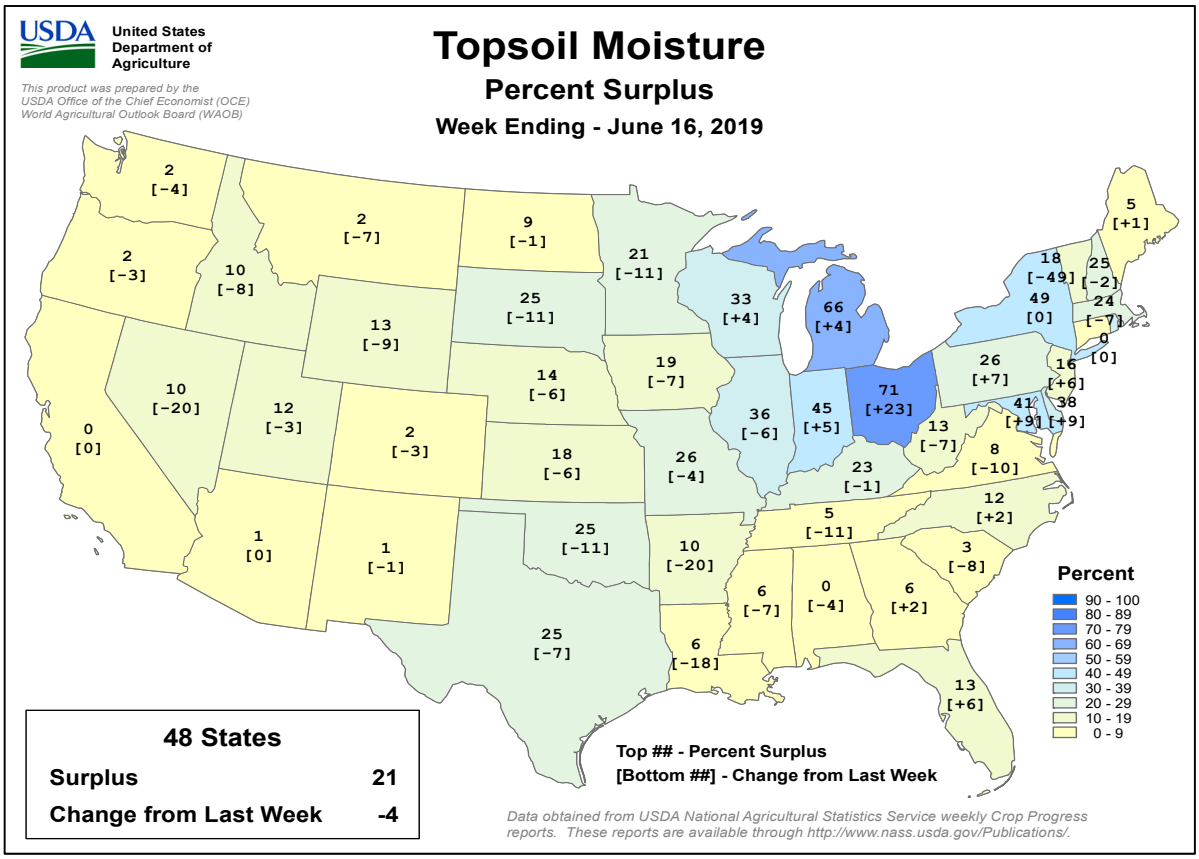
Weekly U.S. Progress and Condition Data provided by USDA/NASS

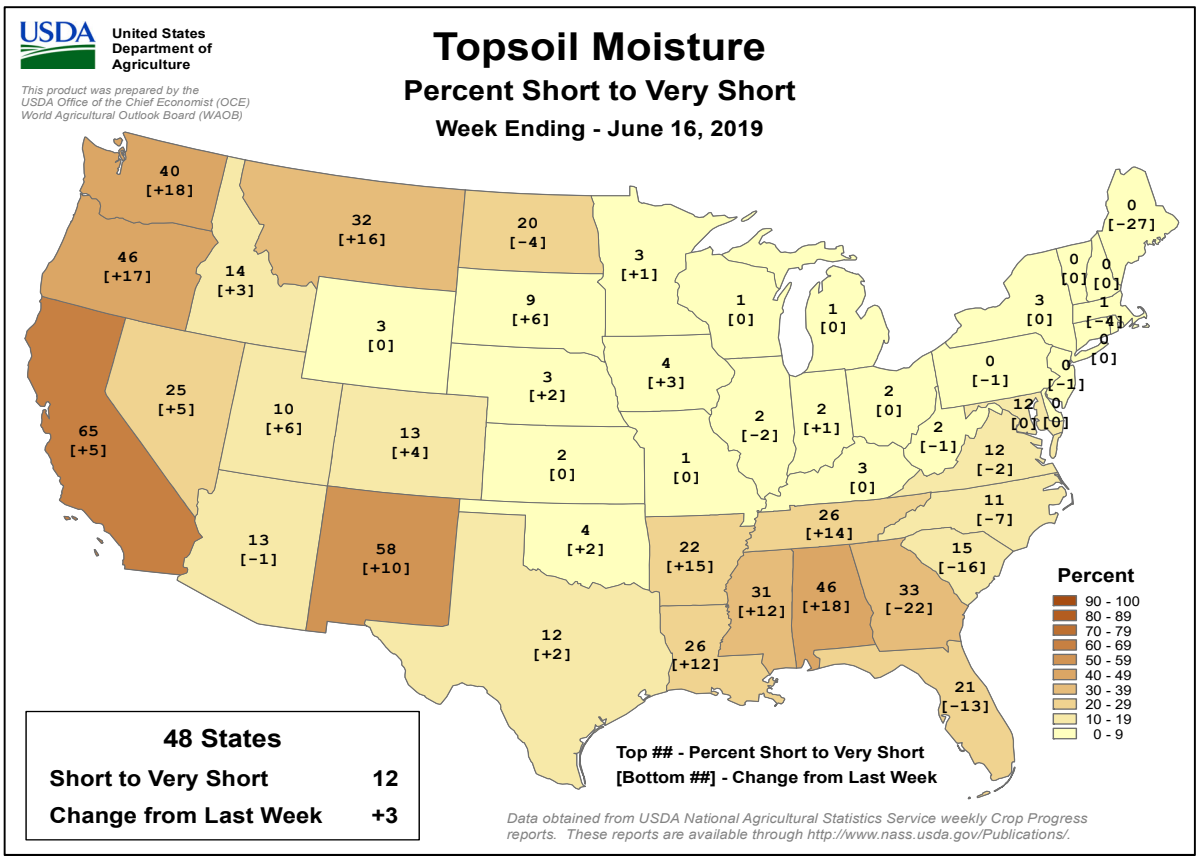


Crop Progress and Condition

Week Ending June 16, 2019

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

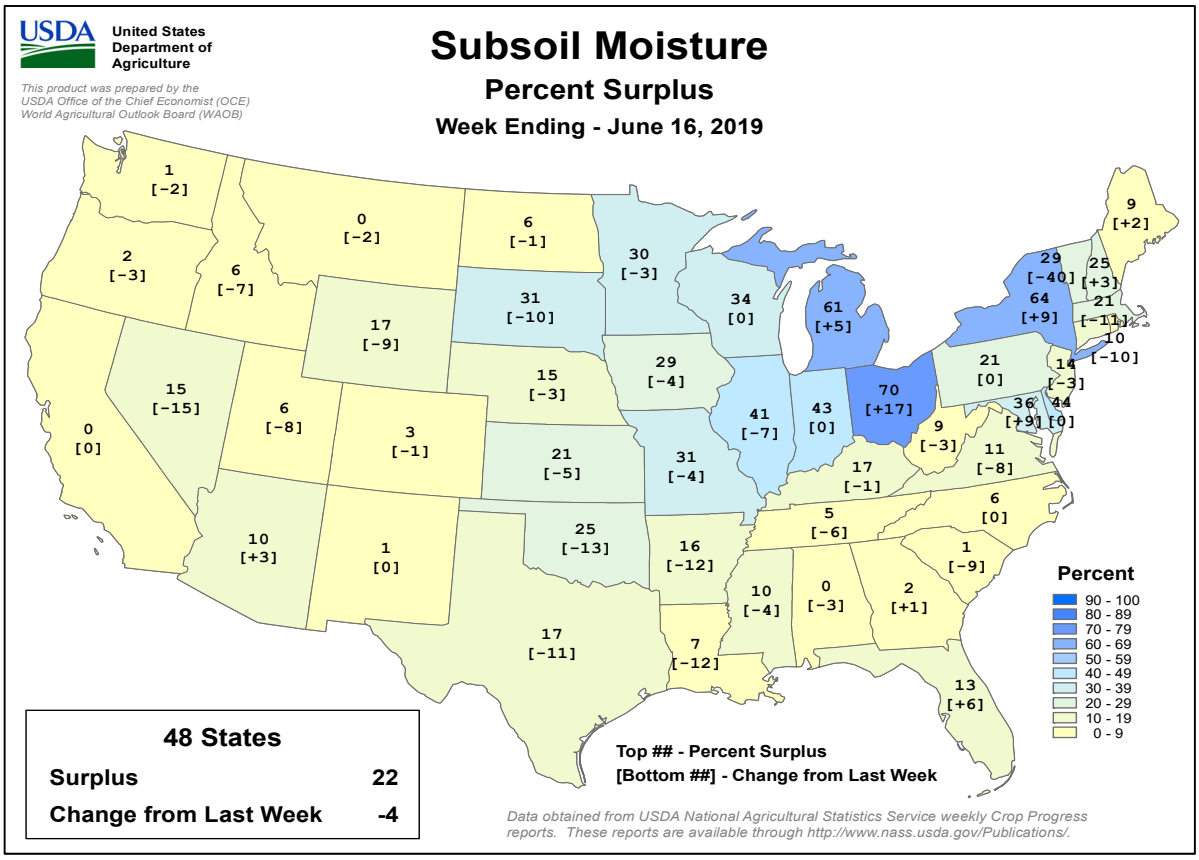


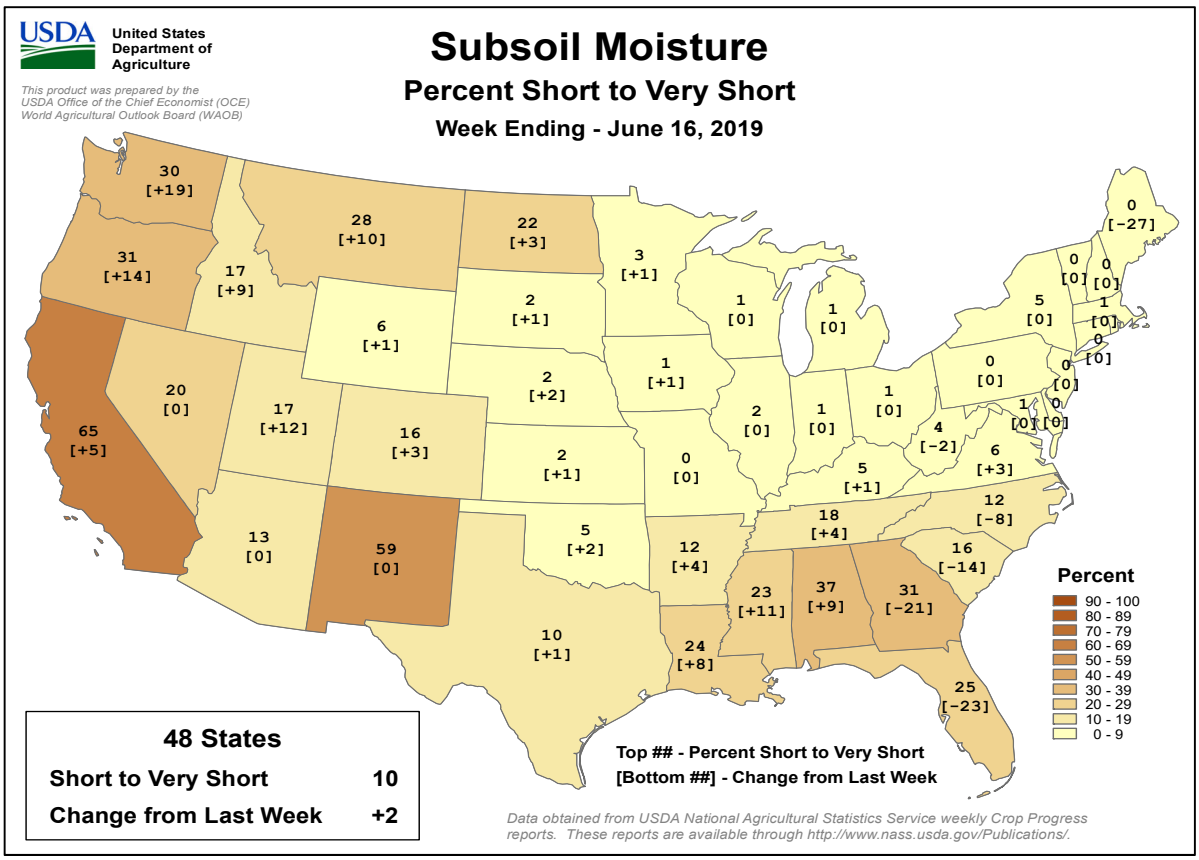


Crop Progress and Condition

Week Ending June 16, 2019

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





June 13 ENSO Diagnostic Discussion

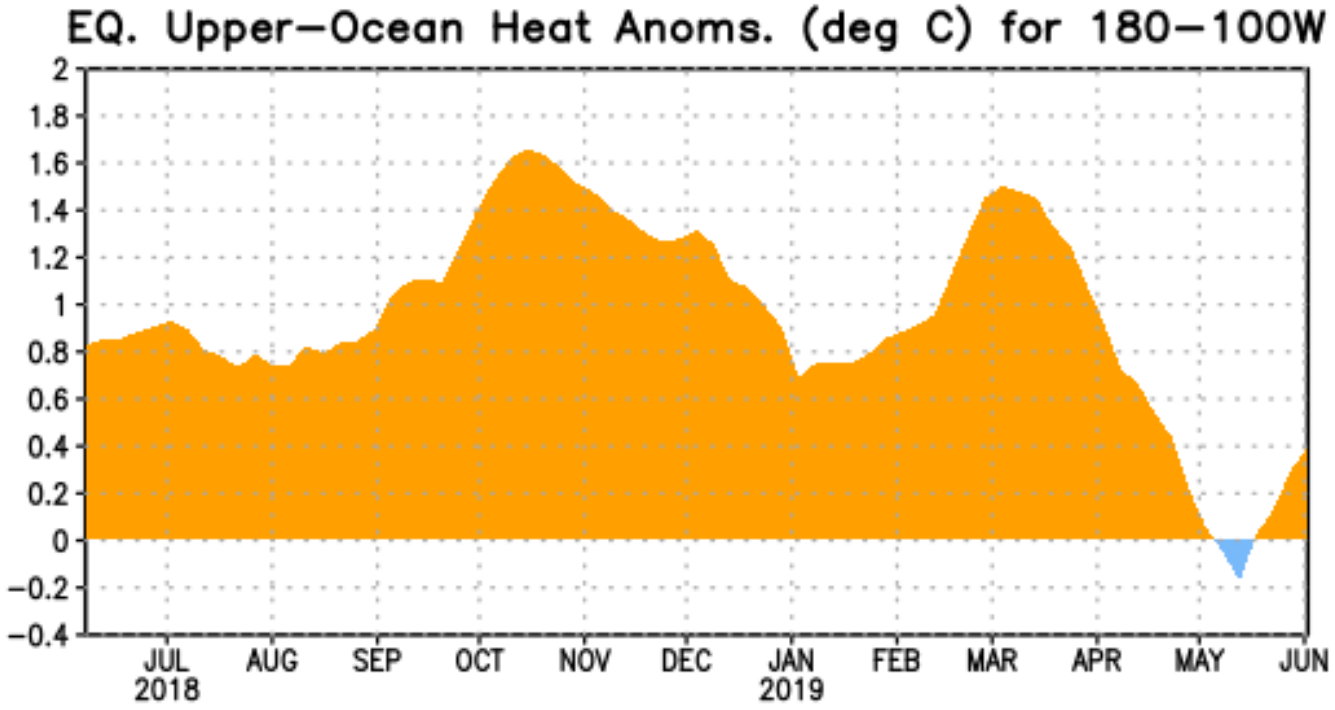


Figure 1: El Niño is predicted to persist through the Northern Hemisphere summer 2019 (66% chance), with lower odds of continuing through the fall and winter (50-55% chance).

ENSO Alert System Status: El Niño Advisory

Synopsis: El Niño is likely to continue through the Northern Hemisphere summer 2019 (70% chance) and fall (55-60% chance).

During May, El Niño was reflected in the continued presence of above-average sea surface temperatures (SSTs) across most of the equatorial Pacific Ocean. The latest weekly ENSO indices indicate the largest positive SST anomalies were within the central Pacific (+1.1°C in Niño-4 and +0.9°C in Niño-3.4) with smaller departures in the Niño-3 and Niño-1+2 regions. Upper-ocean subsurface temperatures (averaged across 180°-100°W) were nearly average at the start of May, but positive anomalies increased toward the end of the month in association with a downwelling Kelvin wave (Fig. 1). Thus, anomalies remained positive at depth in the central equatorial Pacific Ocean, with negative anomalies evident in the eastern Pacific. Suppressed tropical convection continued over Indonesia, while weak, enhanced convection persisted near the Date Line. Low-level wind anomalies were westerly over the western tropical Pacific Ocean, and upper-level wind anomalies were easterly over the western and east-central Pacific. Overall, oceanic and atmospheric conditions were consistent with El Niño.

The combined averages in the IRI/CPC plume predict El Niño to continue into Northern Hemisphere winter 2019-20, but individual models span ENSO-neutral to El Niño outcomes (generally +0.0°C to +1.0°C). The forecast consensus reflects this uncertainty, with slightly lower chances for El Niño compared to the previous month. Ongoing subseasonal variability within the tropical Pacific contributes to an overall murky picture, but the current downwelling oceanic Kelvin wave should fuel the persistence of El Niño at least in the short-term. In summary, El Niño is predicted to persist through the Northern Hemisphere summer 2019 (66% chance), with lower odds of continuing through the fall and winter (50-55% chance; click CPC/IRI consensus forecast for the chance of each outcome for each 3-month period).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Forecasts are also updated monthly in the Forecast Forum of CPC's Climate Diagnostics Bulletin. Additional perspectives and analysis are also available in an ENSO blog. The next ENSO Diagnostics Discussion is scheduled for **11 July 2019**. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

International Weather and Crop Summary

June 9-15, 2019

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

HIGHLIGHTS

EUROPE: Heavy rain across northwestern Europe raised quality concerns for maturing winter crops, while heat in eastern growing areas accelerated crop development but increased water demands.

WESTERN FSU: Hot weather accelerated winter wheat maturation and drydown but reduced yield prospects for later developing crops.

EASTERN FSU: Hot, dry weather limited spring grain establishment in western growing areas, while rain benefited wheat and barley development in the east.

MIDDLE EAST: Widespread showers in Turkey favored vegetative summer crops, while extreme heat in Iraq maintained very high irrigation demands for specialty crops.

SOUTH ASIA: The monsoon moved slowly northward, bringing increased showers to the southern tip of India and along the western coast.

EASTERN ASIA: Showers across southern and northeastern China benefited vegetative summer crops, while hot, dry conditions promoted wheat maturation in the east.

SOUTHEAST ASIA: Rainfall across the Philippines improved moisture supplies for rice, but lighter-than-normal showers prevailed in Indochina.

AUSTRALIA: Dry weather returned to the drought-plagued northeast, while soaking rain fell in the south and west.

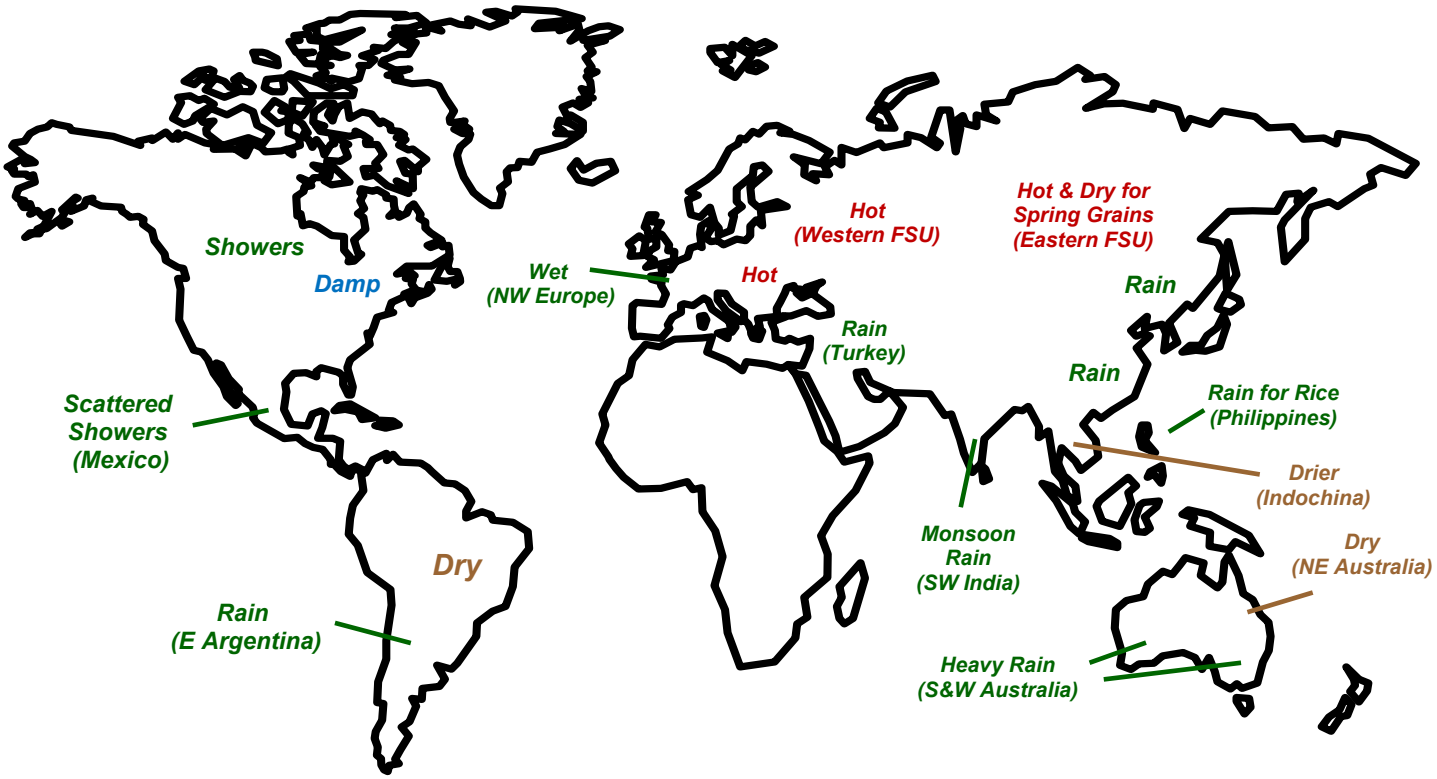
ARGENTINA: Showers slowed seasonal fieldwork in eastern farming areas.

BRAZIL: Warm, sunny weather promoted rapid development of corn and other maturing row crops.

MEXICO: Scattered showers promoted additional corn planting, though moisture remained limited in spots.

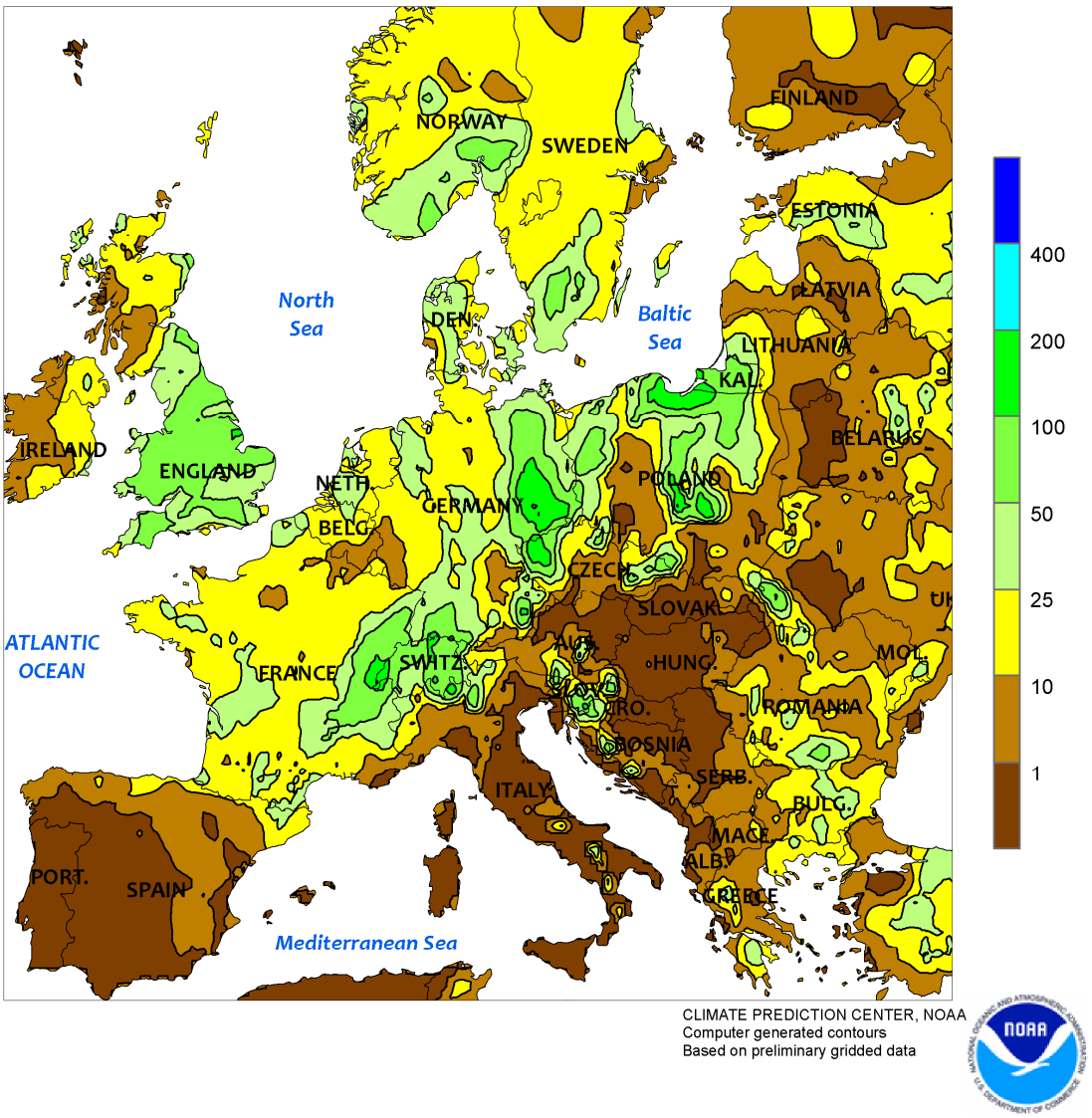
CANADIAN PRAIRIES: Showers provided localized drought relief as spring crop planting neared completion.

SOUTHEASTERN CANADA: Mild, showery weather continued, sustaining locally excessive levels of moisture for field crops.



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

EUROPE
Total Precipitation (mm)
June 9 - 15, 2019

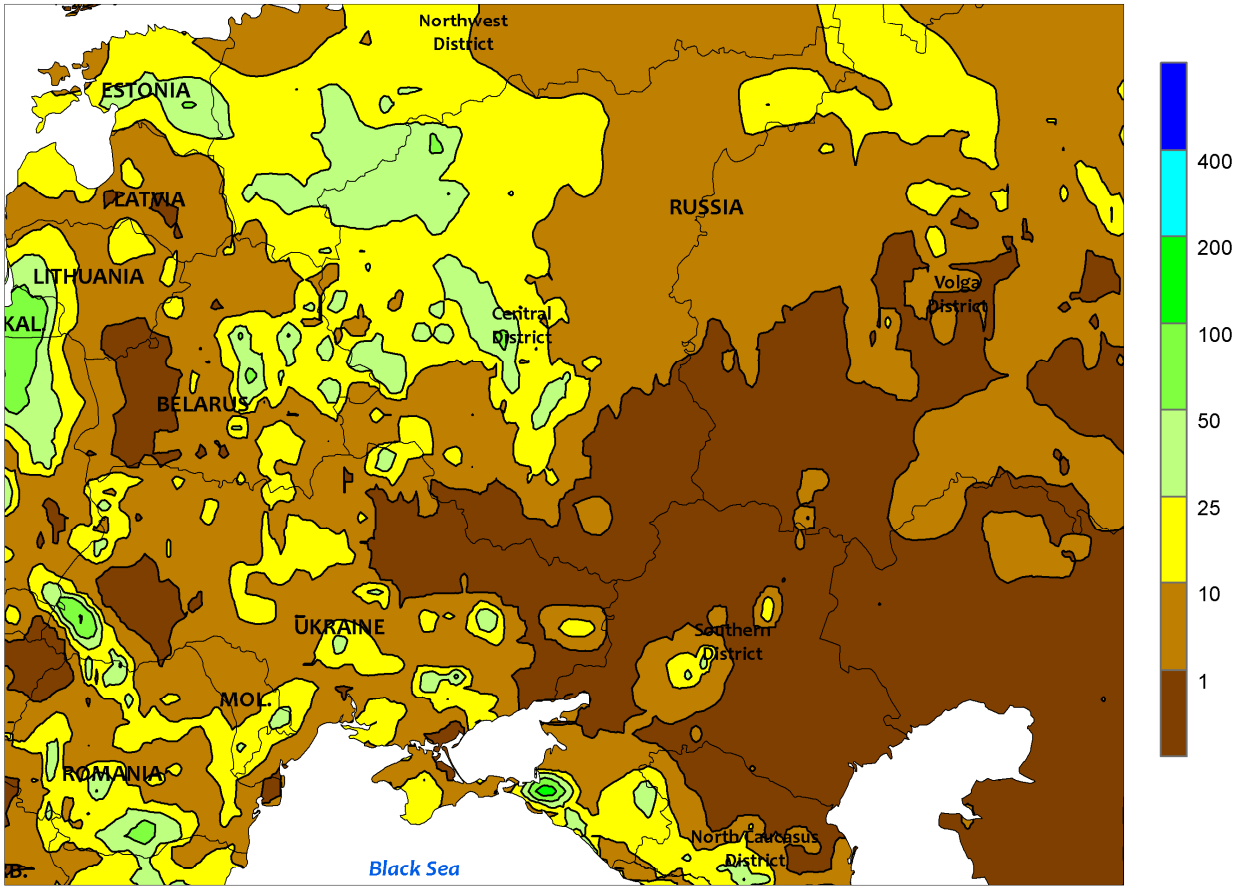


EUROPE

Heavy rain in parts of western and northern Europe contrasted with heat and localized dryness over southern portions of the continent. A slow-moving storm system was responsible for 10 to 125 mm of rainfall across England and France, raising quality concerns for maturing winter grains and oilseeds in areas where rain was heaviest. Widespread moderate to heavy showers (10-75 mm) across the remainder of northern Europe provided timely moisture for reproductive to filling winter wheat and rapeseed, though increasingly warm temperatures (up to 8°C above normal) in Poland and the Baltic States increased crop-water demands. Farther south, hot weather (30-34°C) in Hungary and the Balkans hastened winter crop maturation and drydown while increasing stress on vegetative summer crops. However, showers and thunderstorms (10-60 mm) in the lower Danube River Valley helped mitigate heat stress while providing localized moisture for corn and sunflowers. Dry, hot weather (highs above 30°C) across much of Italy accelerated corn, soybean, and sunflower development, though moisture remained in good supply due to a wet spring. In Spain and Portugal, drought continued to afflict filling to maturing winter grains and also impeded summer crop development.

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

WESTERN FSU
Total Precipitation (mm)
June 9 - 15, 2019



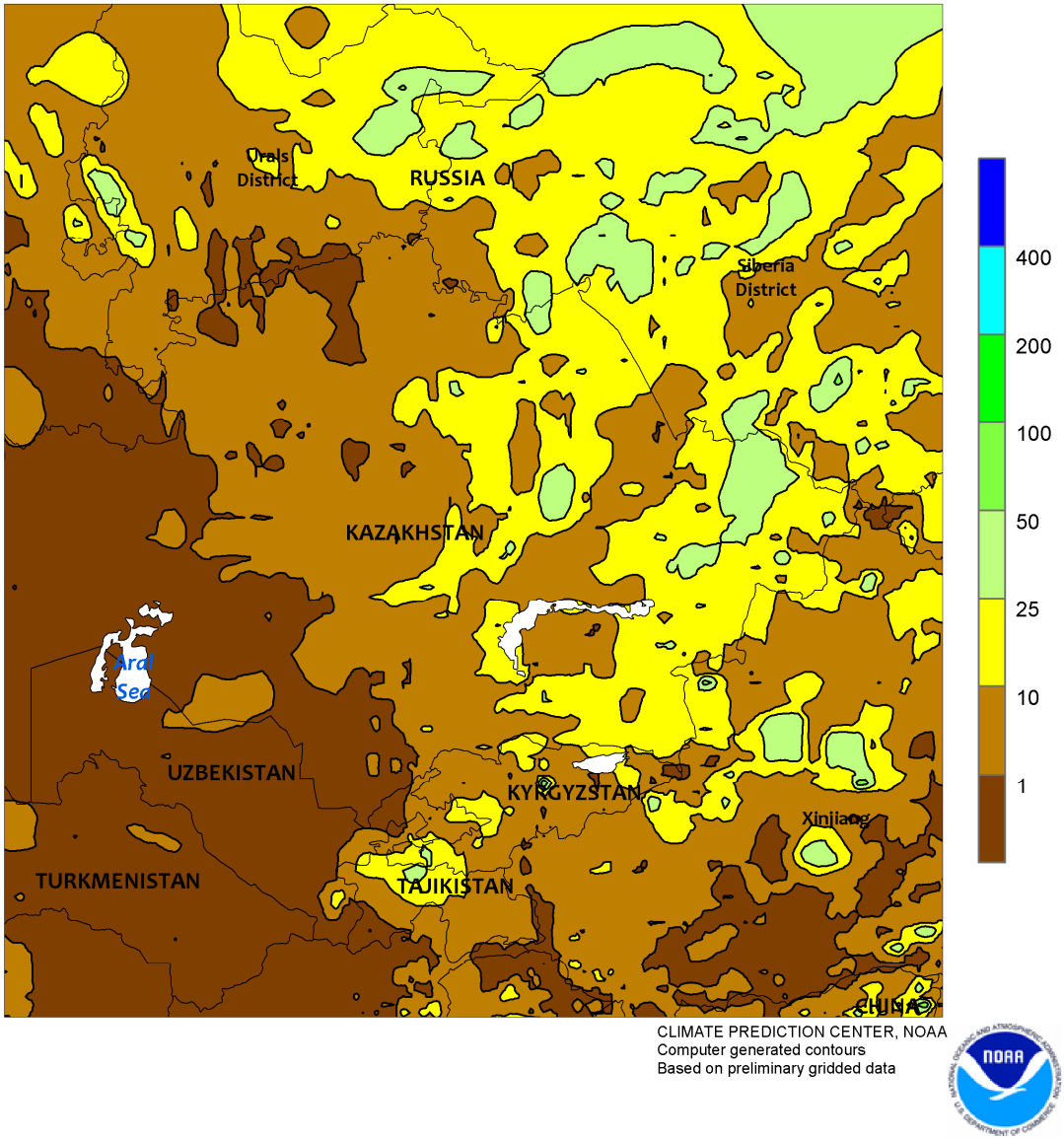
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

WESTERN FSU

Hot, dry weather increased crop stress, particularly in growing areas away from the Black Sea Coast. An area of high pressure remained anchored over western Russia, resulting in sunny skies and increasing heat nearly region wide. Temperatures for the week averaged 3 to 8°C above normal, with daytime highs at or above 35°C in western and southern Russia trimming the yield potential for later-developing winter wheat. Likewise, the early-season heat adversely impacted vegetative corn and sunflowers, though summer crops were not yet in the temperature-sensitive reproductive stages of development. Moisture from the Black Sea tried to work northward in the form of showers and thunderstorms, but rain was highly variable (trace to 45 mm) and generally limited to croplands adjacent to the coast by the high to the north. Moisture deficits are beginning to mount in Russia, particularly in the North Caucasus District as well as southern portions of the Volga District; 30-day rainfall has totaled less than half of normal in both of these locales.

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

EASTERN FSU
Total Precipitation (mm)
June 9 - 15, 2019



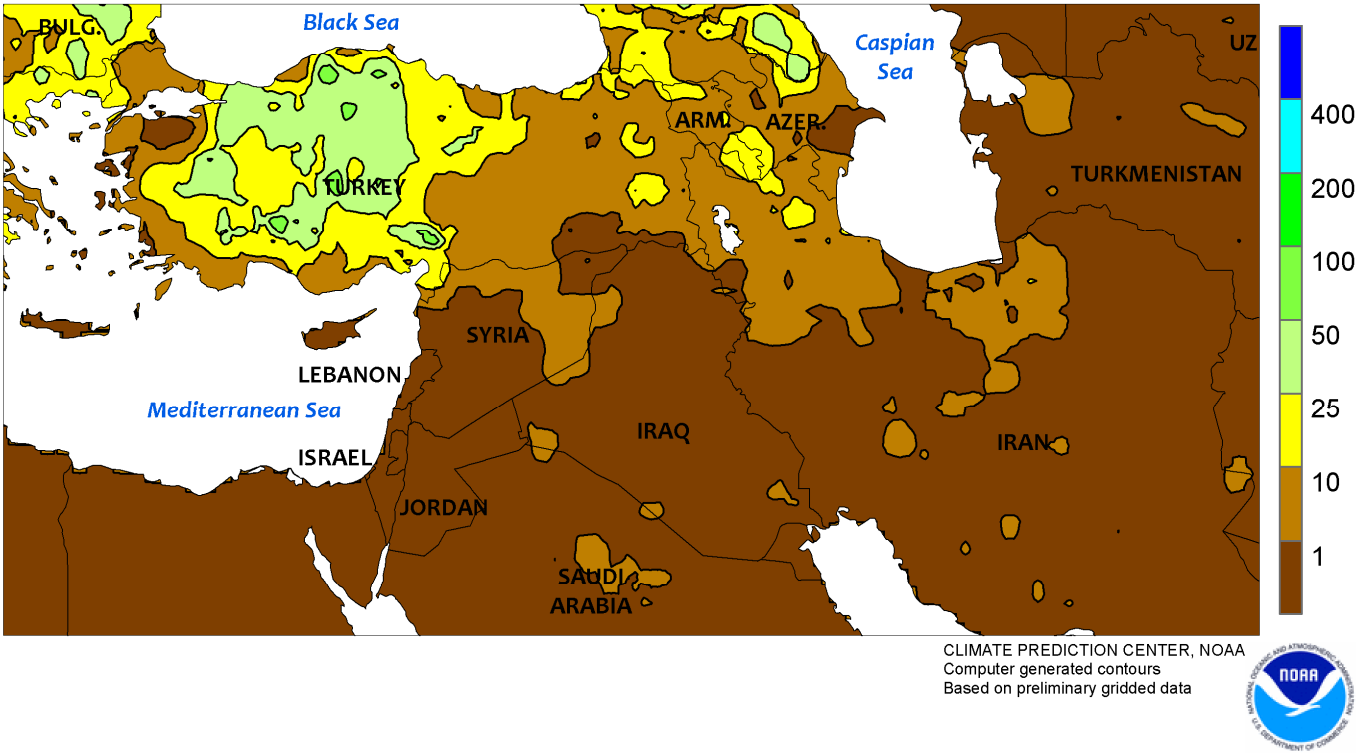
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

EASTERN FSU

Hot, dry weather in the west contrasted with widespread showers in the east. Across northwestern Kazakhstan and adjacent portions of central Russia, sunny, hot weather (30-33°C) exacerbated the impacts of short-term dryness (30-day rainfall less than 50 percent of normal). Spring grain establishment has likely been impeded in these westerly crop regions by the recent hot, dry conditions. Conversely, widespread moderate to heavy rainfall (10-50 mm) across eastern Kazakhstan and Russia's Siberia District favored spring wheat and barley establishment. Farther south, showers and thunderstorms (2-30 mm) maintained favorable supplemental moisture for irrigated cotton in eastern Uzbekistan and environs. The remainder of the cotton belt benefited from sunny weather and a lack of excessive heat (1-3°C below normal).

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

MIDDLE EAST
Total Precipitation (mm)
June 9 - 15, 2019

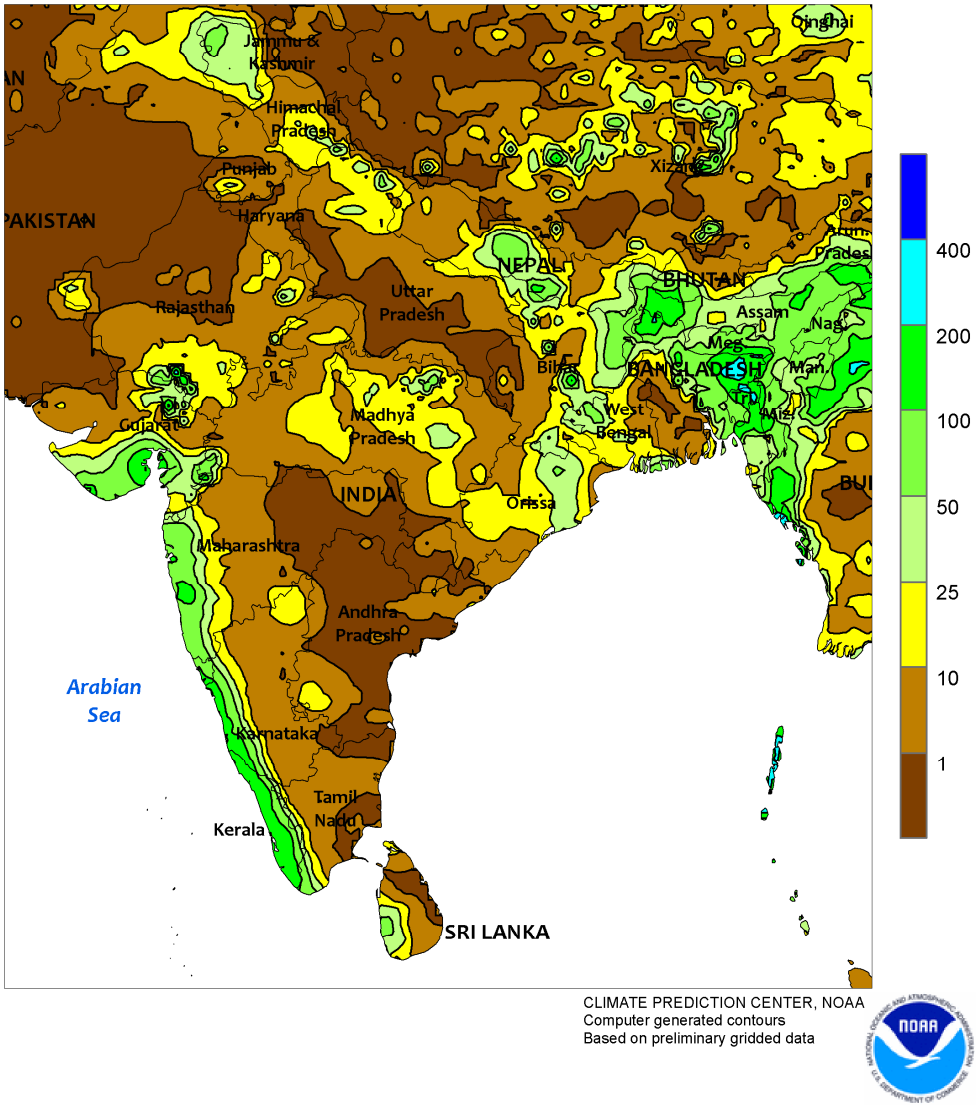


MIDDLE EAST

Above-normal temperatures prevailed across most of the region, though showers benefited vegetative summer crops in Turkey. Temperatures averaged 1 to 3°C above normal from the eastern Mediterranean Coast into western Iran, while readings for the week were 5°C or more above normal near the Black and Caspian Seas in addition to central and southern Iraq. Heat was particularly intense (45-48°C) over Iraq, maintaining very high irrigation demands for specialty crops. Conversely, widespread albeit highly variable showers and thunderstorms (2-75 mm) in Turkey provided moisture for sunflowers in the northwest (Thrace), cotton in the west (Aegean) and southeast (GAP Region), as well as corn along the Black Sea Coast and in the southeast (Adana).

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

SOUTH ASIA
Total Precipitation (mm)
June 9 - 15, 2019

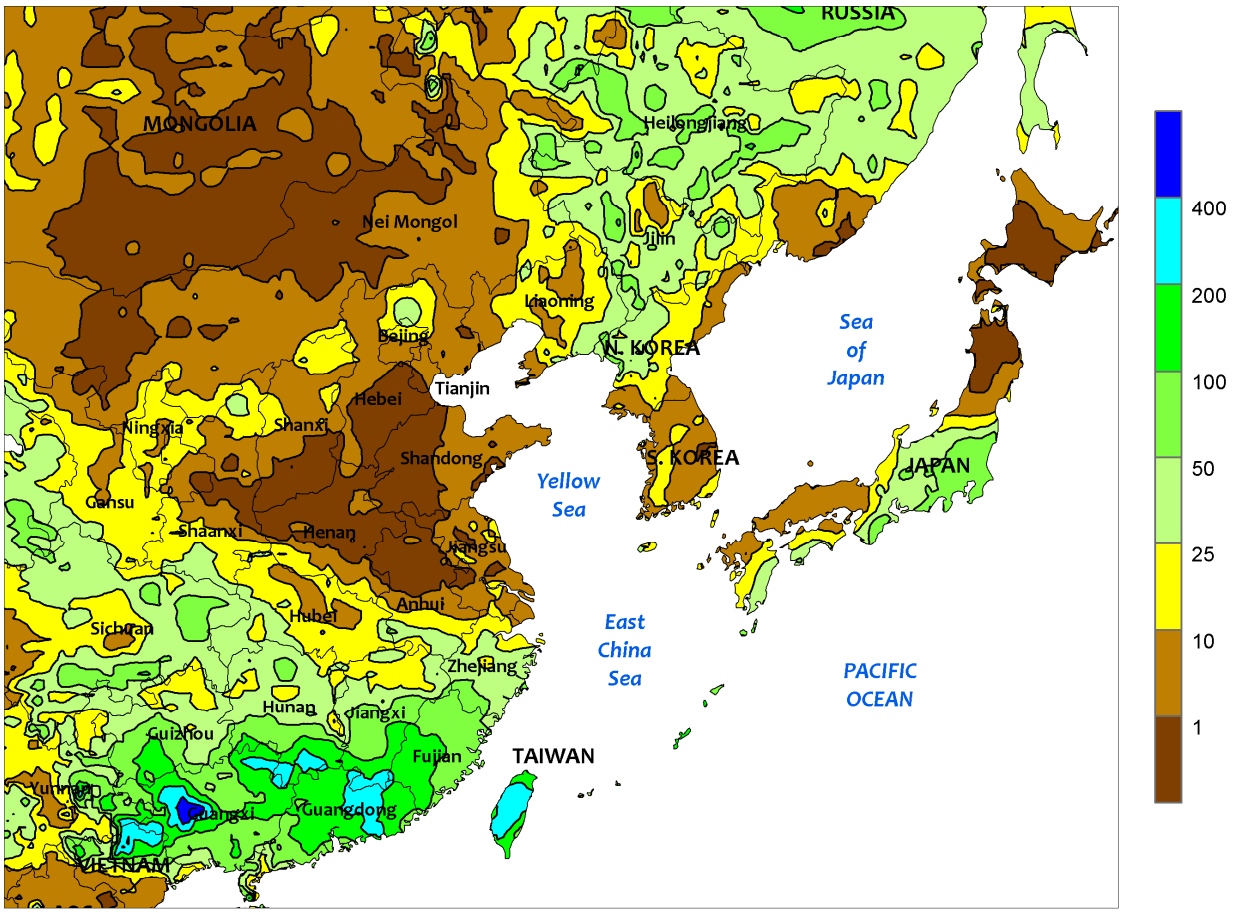


SOUTH ASIA

The leading edge of the monsoon moved north across the southern tip of India bringing increased showers (over 100 mm) to Kerala and spawning pre-monsoon showers in coastal areas as far north as Gujarat. The rainfall encouraged rice sowing in the south and field preparations for cotton and oilseeds in western India; growers in the west will await the onset of monsoon showers before beginning widespread sowing. Meanwhile, monsoon showers also progressed into northeastern India and the western half of Bangladesh, supporting rice sowing and establishment. Elsewhere, most of interior India and Pakistan experienced periodic light rainfall (less than 25 mm) and sweltering heat (over 45°C), increasing irrigation demands for rice and cotton grown in northern India and neighboring sections of Pakistan.

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

EASTERN ASIA
Total Precipitation (mm)
June 9 - 15, 2019



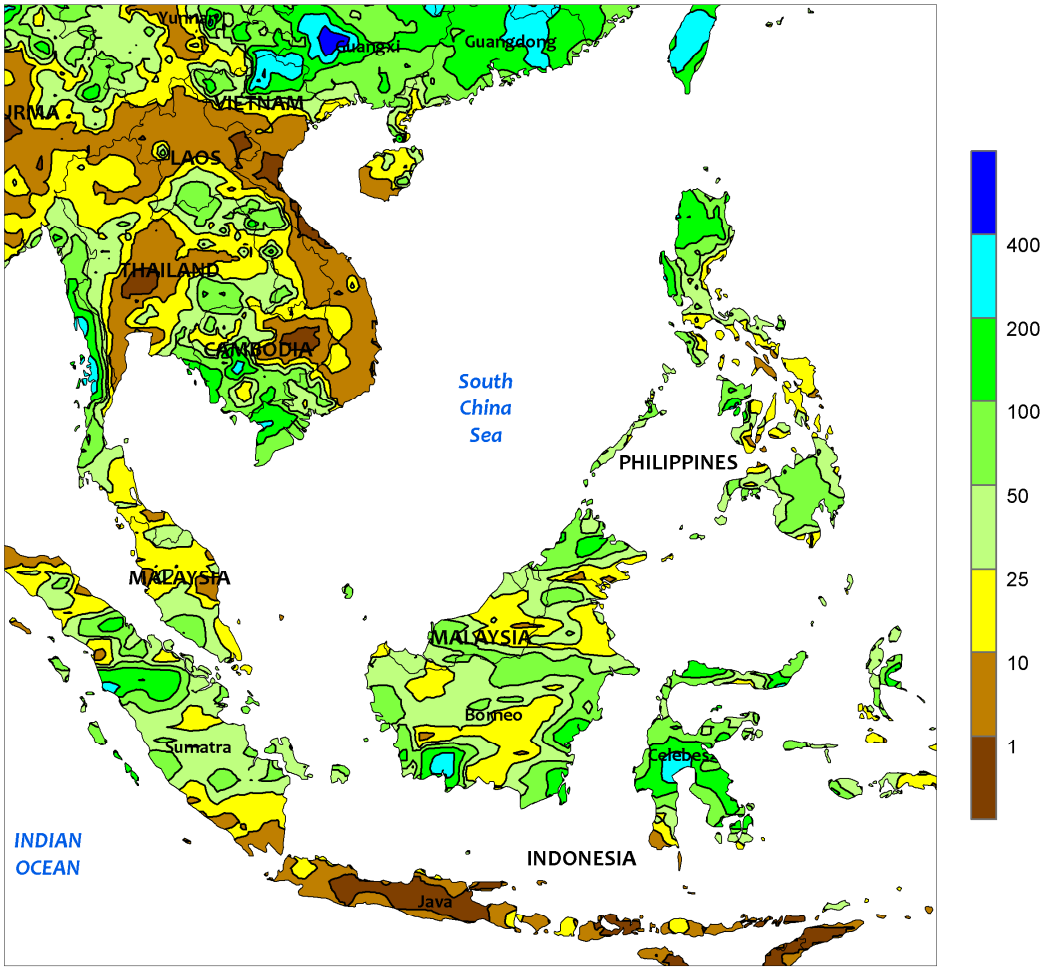
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

EASTERN ASIA

Seasonably wet weather continued in southern China (50-200 mm or more), maintaining above-average moisture supplies for vegetative single-crop rice but slowing maturation of early-crop rice in the southeast where rainfall amounts were the highest. In the northeast, widespread showers (25-50 mm, less in westernmost prefectures of Heilongjiang, Jilin and nearby sections of Inner Mongolia) maintained good soil moisture for vegetative corn, soybeans, and rice. Meanwhile, hot (over 35°C), dry weather in eastern China promoted wheat maturation and rapeseed harvesting but reduced soil moisture for non-irrigated summer crops. Elsewhere, drier-than-normal conditions continued in northern Japan and across much of the Korean Peninsula, lowering moisture supplies for vegetative rice.

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

SOUTHEAST ASIA
Total Precipitation (mm)
June 9 - 15, 2019



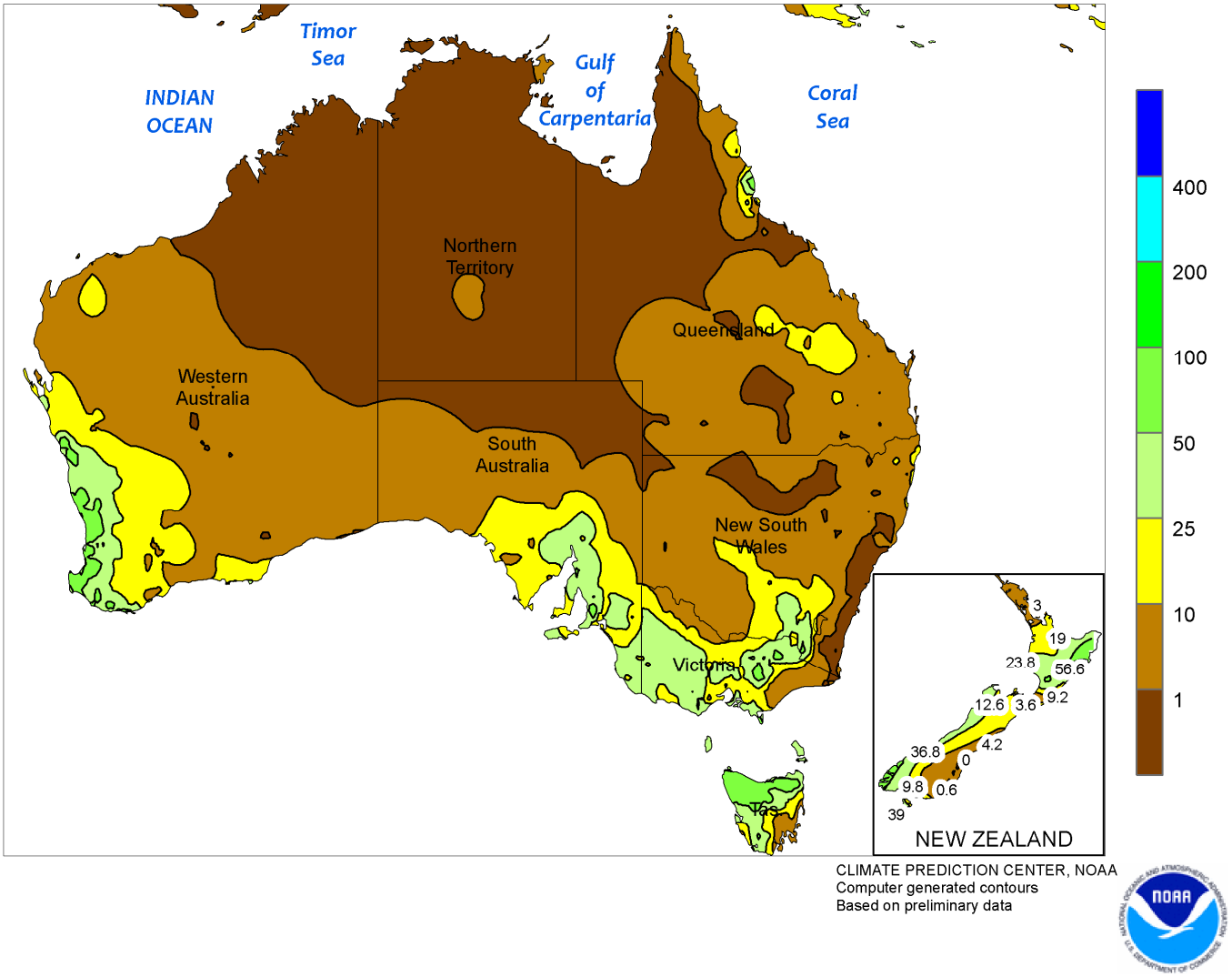
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

SOUTHEAST ASIA

Widespread showers (25-100 mm or more) in the Philippines maintained adequate water supplies for rice and moisture conditions for other summer crops. Rainfall has generally been consistent since the start of the growing season (May 1), keeping totals near normal. In contrast, monsoon showers were unseasonably light across Thailand and environs. Many areas received less than 25 mm of rain, with only a few pockets exceeding 25 mm. The main rice-producing regions of Thailand have had below-average rainfall thus far this season and all but the Central Plain Region are less than last year as well. More consistent rain would be welcome to improve soil moisture and bolster irrigation supplies. Farther south in the region, showers (25-100 mm) continued to improve soil moisture for oil palm in key-producing areas of Malaysia and Indonesia.

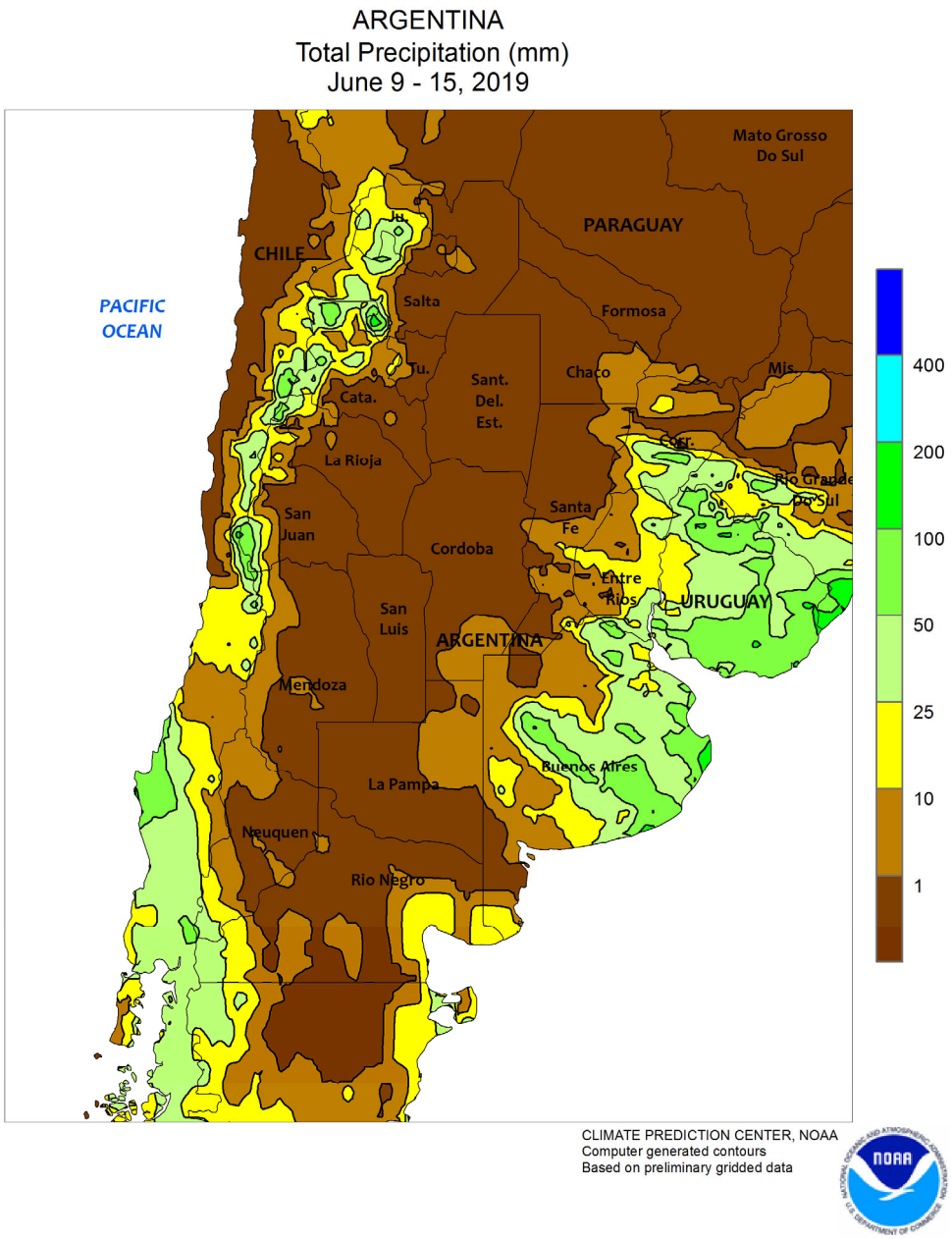
For additional information contact: mbrusberg@oce.usda.gov

AUSTRALIA
Total Precipitation (mm)
JUN 9 - 15, 2019



AUSTRALIA

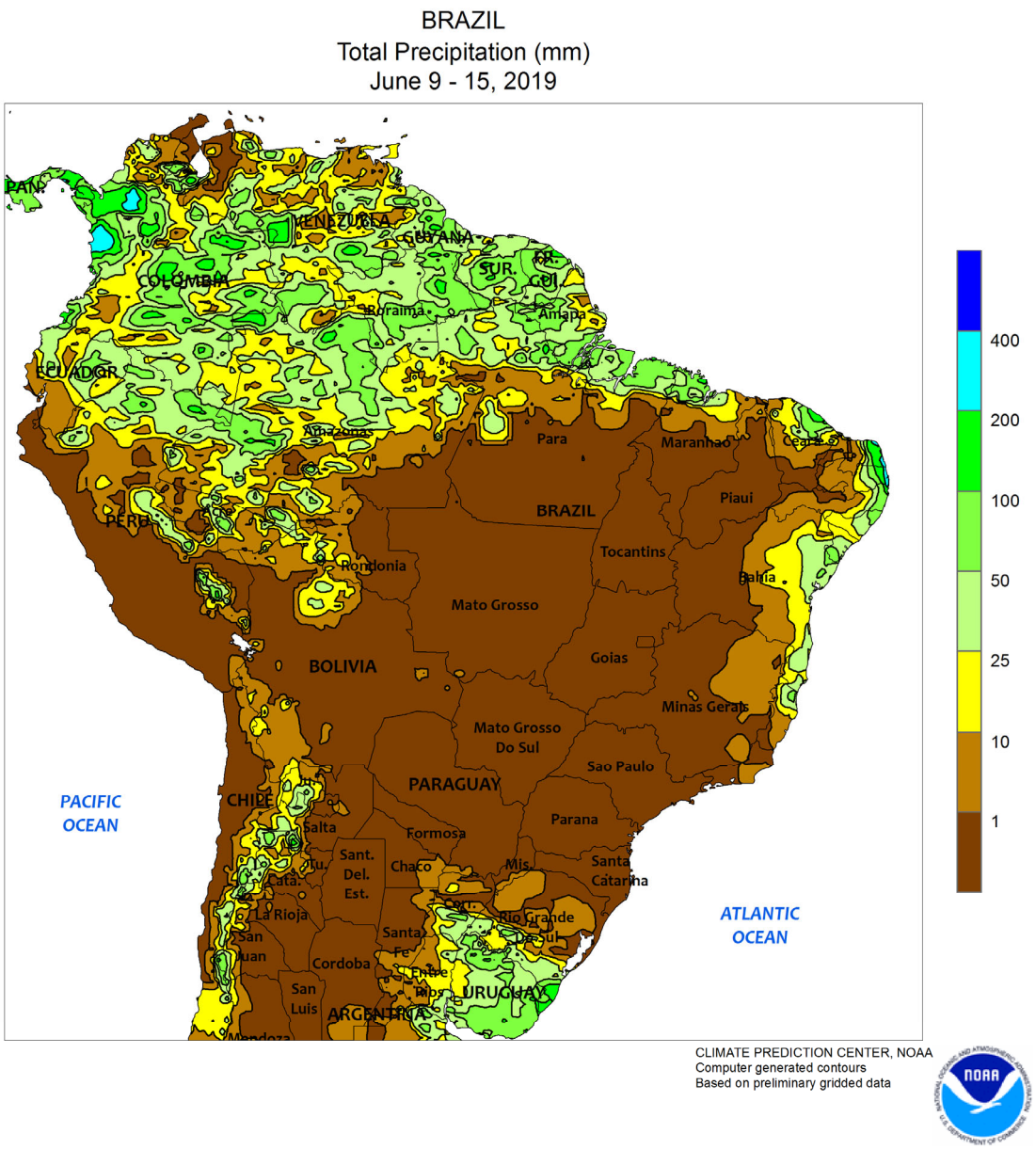
In the wake of last week's welcome rain, mostly dry weather returned to drought-beleaguered southern Queensland and northern New South Wales. The overall dryness reduced topsoil moisture for wheat and other winter crops, hampering establishment and maintaining local concerns about crop prospects. Elsewhere in the wheat belt, soaking rain fell across southeastern and western Australia, spurring wheat, barley, and canola development. The rain aided winter crop germination, emergence, and establishment, supporting generally good early-season yield prospects throughout these areas. Temperatures averaged near normal in western Australia and about 2 to 4°C above normal in the south and east.



ARGENTINA

Showers returned to eastern farming areas of central Argentina, slowing summer crop harvesting but providing much-needed moisture for winter grain establishment. Rainfall totaled 10 to 50 mm or more in and around Buenos Aires and Entre Rios, pushing eastward into Uruguay. The rain came after several weeks of favorable dryness for autumn fieldwork. In contrast, mostly dry weather continued in western and northern crop regions, aiding fieldwork but also favoring maturing cotton. Weekly average temperatures ranged from 1 to 2°C above normal in southern and western sections of the region (Buenos Aires to Salta) to 8°C above normal in the northeast (Corrientes and environs), with freezes confined to outlying southern and far northwestern production areas. According to the government of Argentina, corn and soybeans were 59 and 100 percent harvested respectively, as of June 13; wheat planting was 31 percent planted nationally, on par with last year's pace.

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

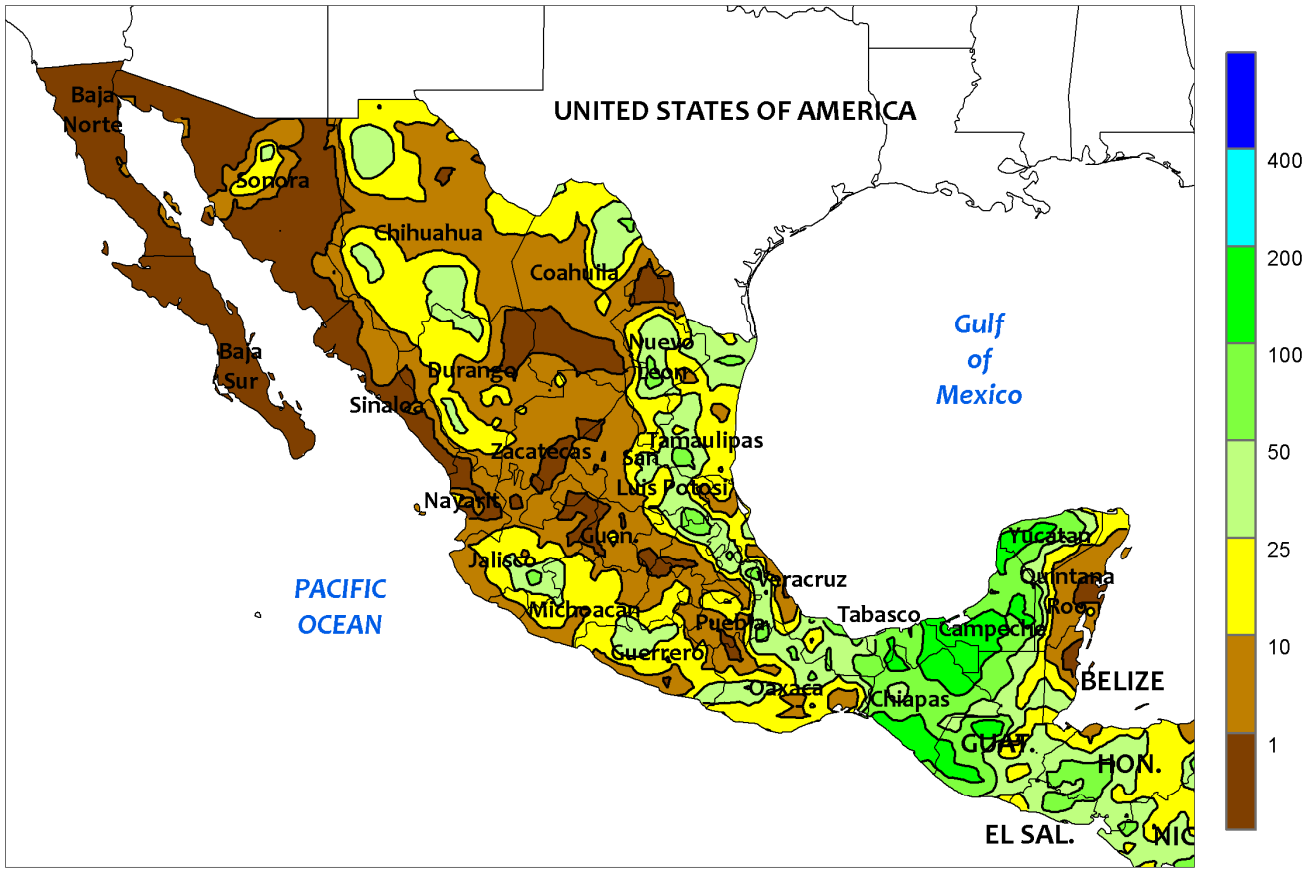


BRAZIL

Warm, sunny weather dominated major agricultural areas of central, southern, and northeastern Brazil, advancing summer row crops toward maturation and sustaining overall favorable conditions for fieldwork. Nearly all high-production farmlands received no rain, exceptions being in southern-most Rio Grande do Sul (4-25 mm) and along the northeastern coast (10-50 mm or more). Weekly temperatures averaged 5 to 7°C above normal in southern Brazil (notably Rio Grande do Sul and Santa Catarina) and 2 to 5°C above normal in other locations, with daytime highs ranging from the upper 20s (degrees C) in coastal states to the middle 30s in traditionally warmer interior farming areas. According to the government of Parana, second-crop corn was 12 percent harvested as of June 10, with over 50 percent of the remaining crop maturing; meanwhile, wheat was 74 percent planted.

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

MEXICO
Total Precipitation (mm)
June 9 - 15, 2019



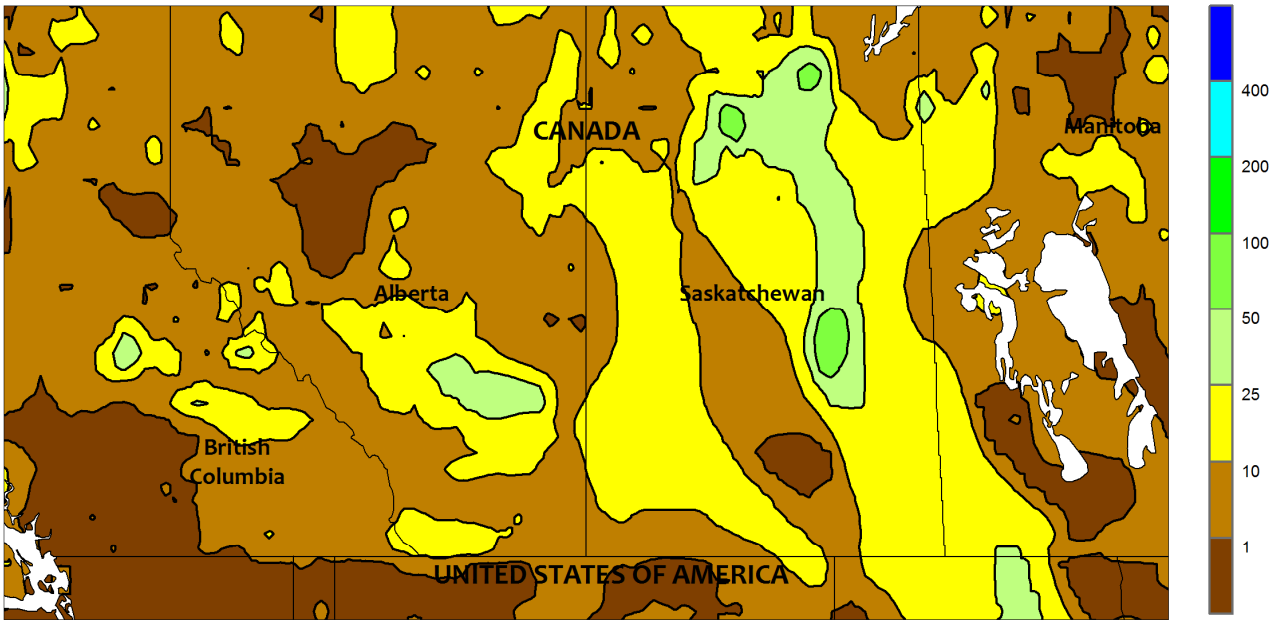
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

MEXICO

Showers continued across the southern plateau, though amounts were generally lower than last week, and additional rain was needed to aid germination and establishment of corn and other rain-fed summer crops. Amounts greater than 50 mm were scattered throughout the region though most locations between Jalisco and Puebla recorded between 5 and 25 mm. Similar amounts were recorded along much of the southern Pacific Coast (notably Guerrero and Oaxaca) and from Veracruz northward through Tamaulipas and Nuevo Leon. However, heavier rain (50-100 mm, locally higher) fell in Chiapas, Tabasco, and Campeche, providing a significant boost in irrigation supplies for coffee, fruit, and vegetables. Meanwhile, showers (5-25 mm, locally approaching 50 mm) developed in western watersheds from Zacatecas to Chihuahua, giving an early boost to reservoirs ahead of the arrival of the monsoon. Weekly temperatures averaged above normal in most regions, with the hottest weather (daytime highs reaching the lower and middle 40s degrees C) in northern agricultural areas hastening maturation of winter grains while maintaining high water requirements of livestock.

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

CANADIAN PRAIRIES
Total Precipitation (mm)
June 9 - 15, 2019



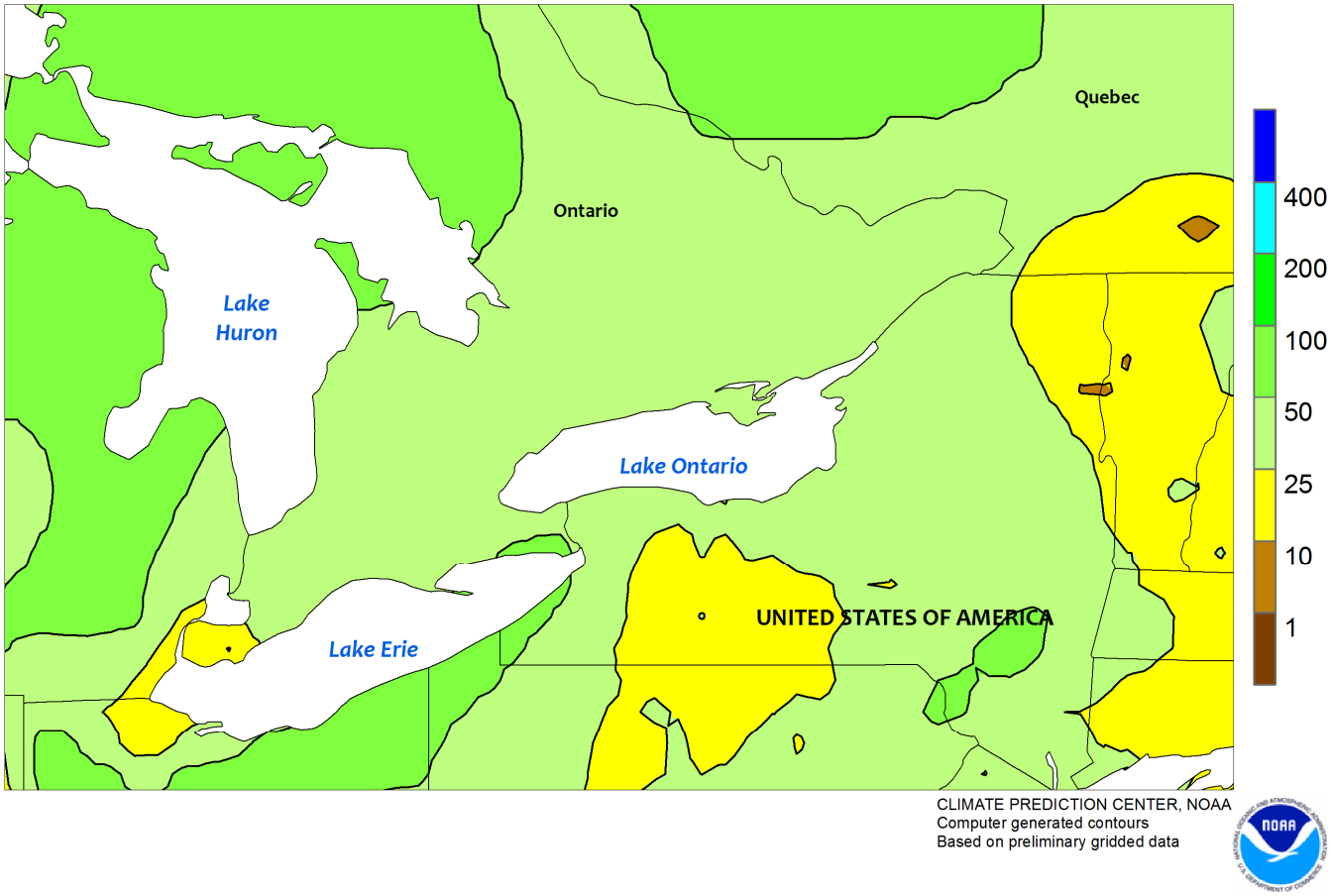
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

CANADIAN PRAIRIES

Showers brought some localized relief from dryness to emerging spring crops but the moisture was insufficient to significantly reduce drought. Similar to last week, rainfall was widely scattered and generally light, with large areas recording less than 10 mm; rainfall totaled up to 25 mm in sections of southern Alberta and Saskatchewan that missed last week's beneficial rain. Weekly average temperatures were near to below normal in Manitoba and eastern Saskatchewan but warmer than normal farther west, with daytime highs reaching the lower 30s (degrees C) in the southwest (southern Alberta and southwestern agricultural districts of Saskatchewan). Nighttime lows dropped into the lower single digits throughout the region but no widespread freeze was evident. According to the government of Saskatchewan, total crop seeding was mostly completed as of June 10, though germination was patchy and growth slow in areas experiencing limited moisture.

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

SOUTHEASTERN CANADA
Total Precipitation (mm)
June 9 - 15, 2019

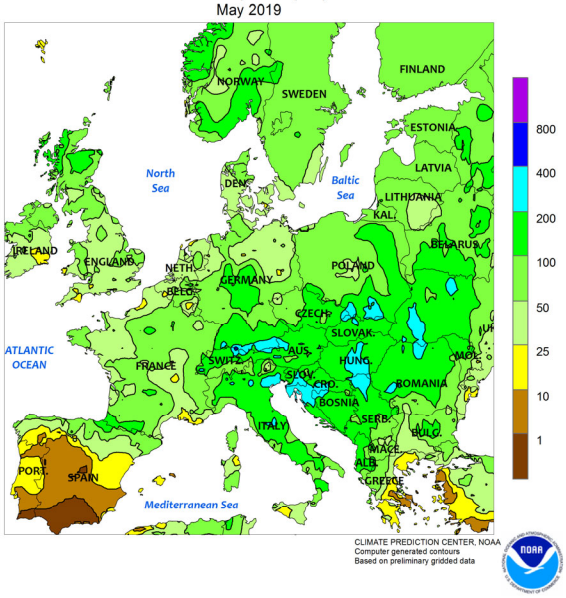


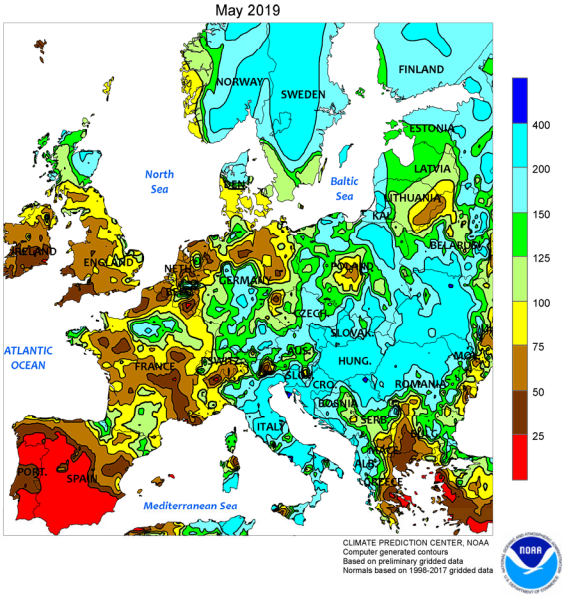
SOUTHEASTERN CANADA

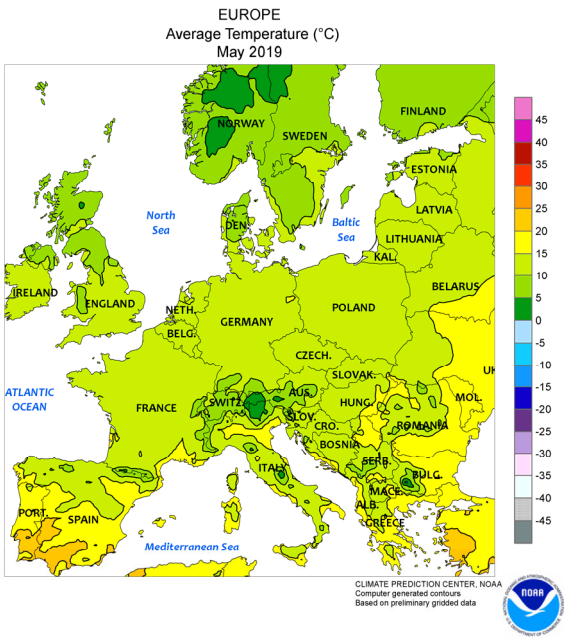
Mild, showery weather persisted across the region, keeping crops and fields in many major farming areas unfavorably wet. Following several weeks of generally drier conditions, more moderate rain (locally greater than 25 mm) fell across the region, renewing concerns for excessive moisture on crops and waterlogging of heavy soils. Weekly temperatures averaged near to slightly below normal across the region with pockets of warmer conditions (daytime highs reaching 30°C) in Quebec. Nighttime lows generally stayed well above freezing, though a few spots recorded temperatures dipping into the low single digits. According to the government of Ontario, corn was 90 to 95 percent planted as of June 10 in areas with better draining soils; soybean planting also reportedly made good local progress despite lingering wetness, with recommendations to increase plant seeding density for later-planted soybeans and to scout fields for diseases.

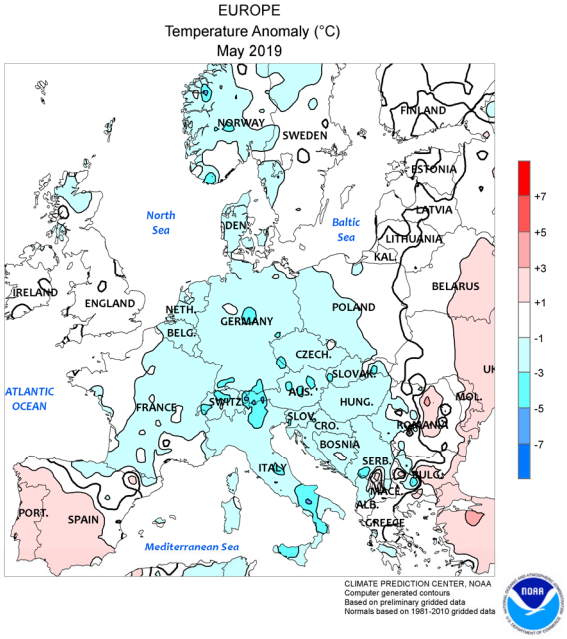
For additional information contact: mbrusberg@oce.usda.gov

May International Temperature and Precipitation Maps





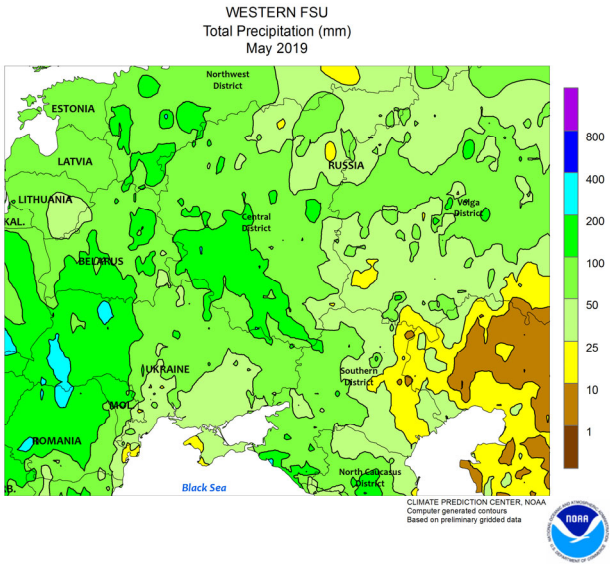


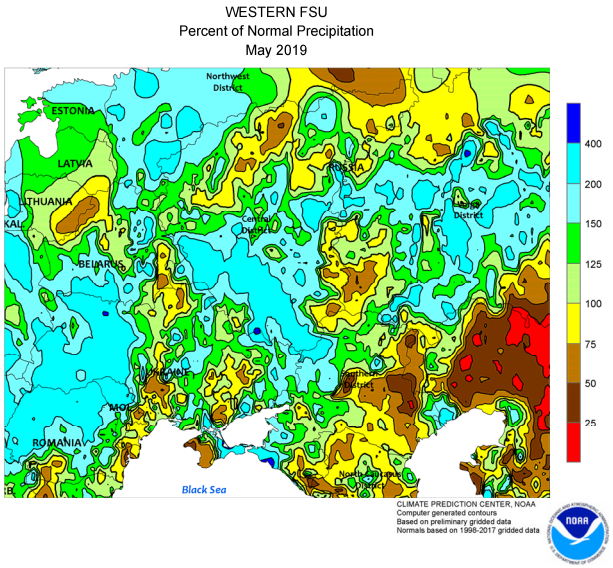


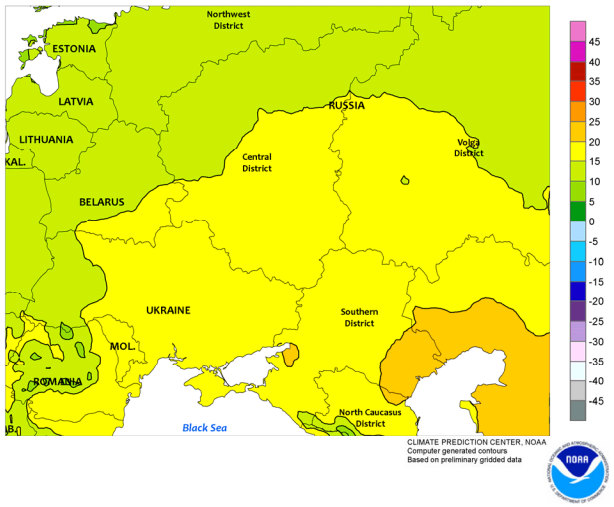
EUROPE

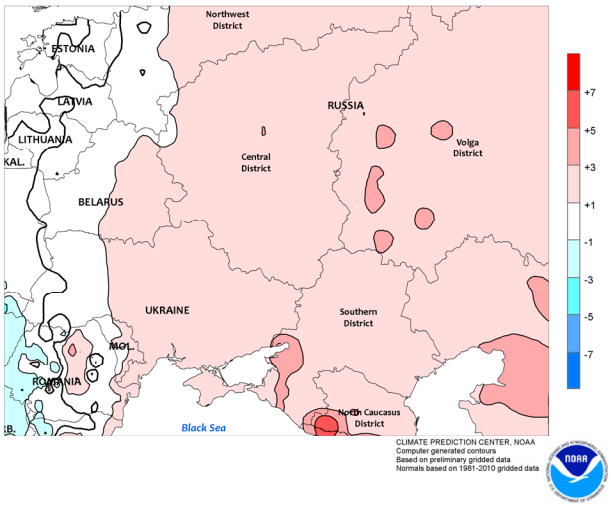
During May, cool weather over much of the continent slowed winter crop development, with heavy rain across eastern Europe contrasting with areas of dryness in western growing areas. Temperatures during the month averaged 1 to 3°C below normal over most primary winter crop areas, slowing the previously accelerated pace of development while affording wheat and rapeseed additional time to benefit from late-spring rains. From Italy and southern Germany into most of eastern Europe, rainfall totaled 50 to 200 mm (locally more than 400 percent of normal). The wet conditions improved moisture supplies for reproductive to filling winter grains and oilseeds, though the quality of some crops was likely reduced where rain was heaviest. Wet weather (175-400 percent of normal) was also noted in Scandinavia, helping to eradicate lingering long-term drought but likely causing localized flooding. Conversely, dry May weather (locally less than 50 percent of normal) from southeastern England and northwestern France into northeastern Germany reduced moisture supplies for reproductive wheat and rapeseed, though early- and late-month rain helped stabilize yields somewhat. In Spain, dry, hot weather exacerbated drought and reduced yield prospects for flowering to filling winter wheat and barley; some of the country's croplands reported less than 5 mm for the month (less than 10 percent of normal).

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









WESTERN FSU

During May, warm but mostly wet weather favored winter wheat approaching or progressing through the reproductive stages of development. Rainfall for the month was near to above normal (locally more than 200 percent of normal) in most key winter wheat areas of southern Ukraine and southwestern Russia. However, dry conditions (65 percent of normal) were noted in the North Caucasus District as well as southern and eastern portions of the Volga District, reducing yield prospects locally. Temperatures averaged 2 to 4°C above normal, with daytime temperatures up to 34°C by month's end increasing crop-water demands.

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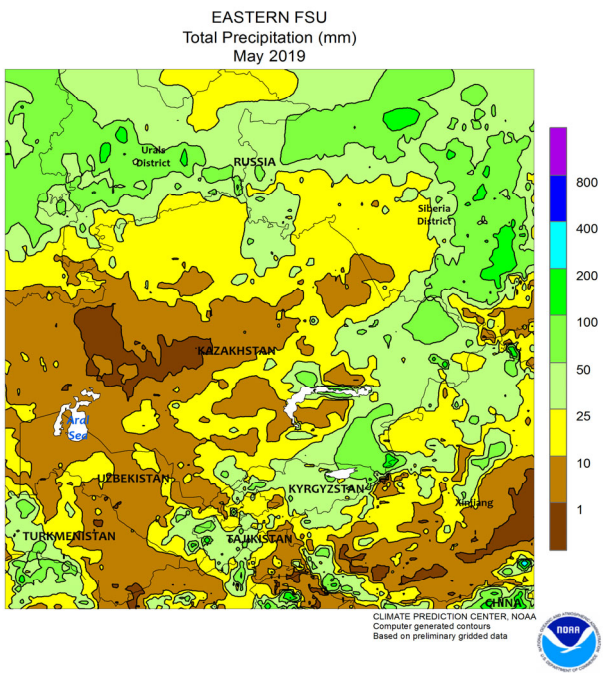
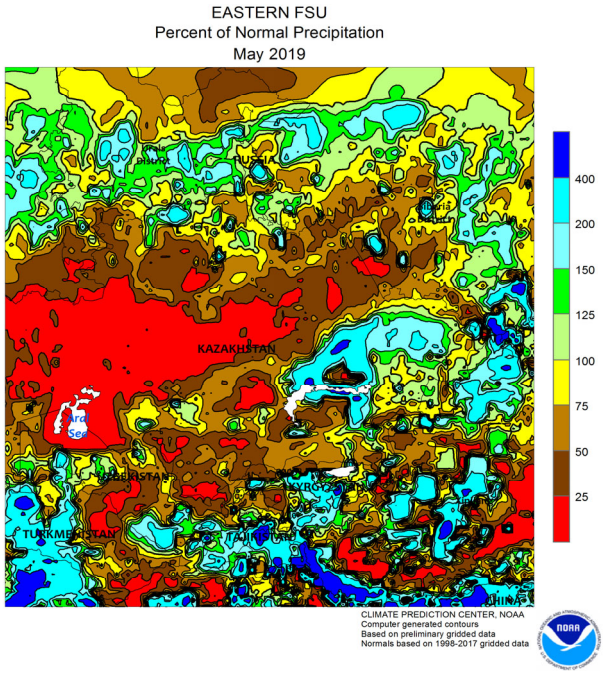
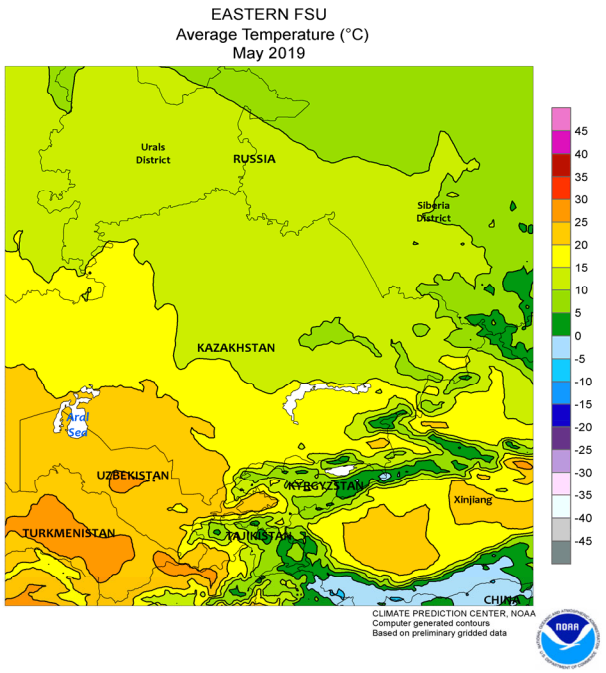
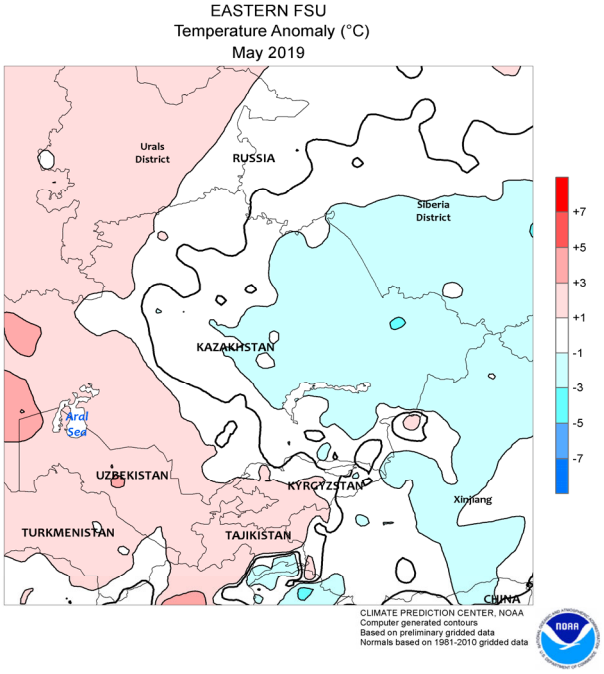


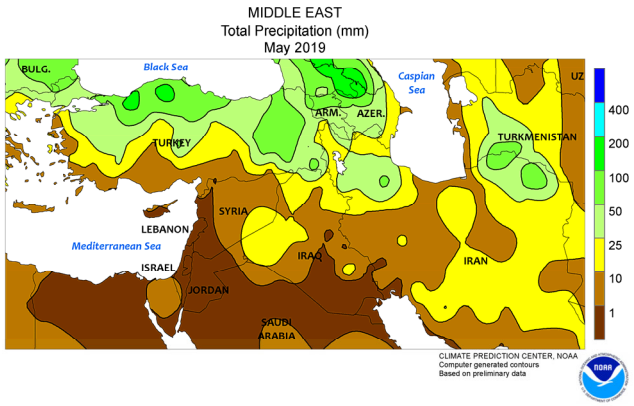


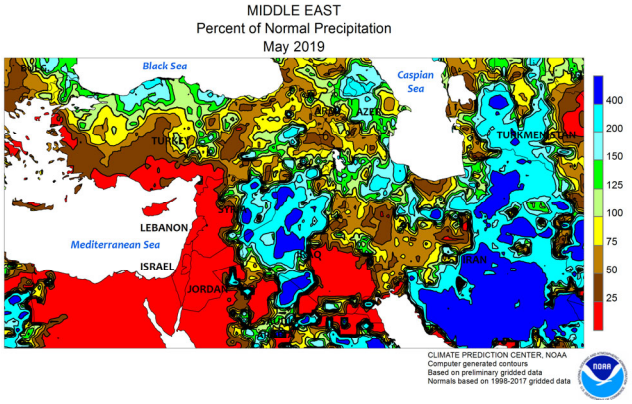


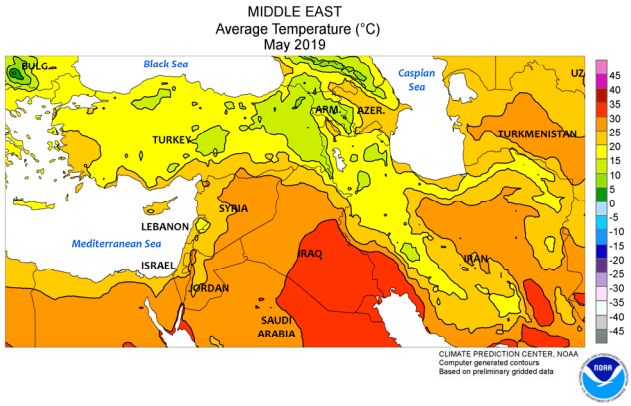


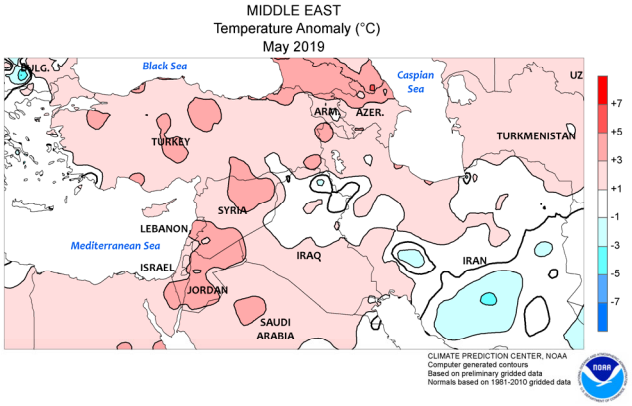
EASTERN FSU

During May, conditions were highly variable in the spring grain belt. From northern Kazakhstan eastward into Russia's Siberia District, drier-than-normal weather (less than 50 percent of normal, locally less than 25 percent in northwestern Kazakhstan) reduced soil moisture for spring grain planting and emergence. Furthermore, early-season heat (up to 35°C) in northwestern Kazakhstan and adjacent portions of Russia increased evapotranspiration rates and soil moisture losses. Conversely, near- to above-normal rainfall in central Russia (Urals and western Siberia Districts) favored early spring grain emergence and establishment. Farther south, seasonably warm, dry weather in Uzbekistan, Tajikistan, and southern Kazakhstan favored winter wheat maturation and drydown in addition to late cotton planting.





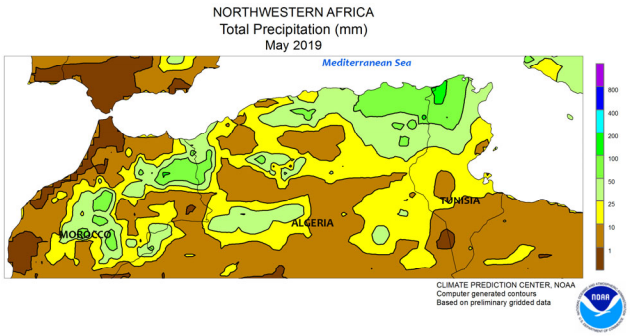


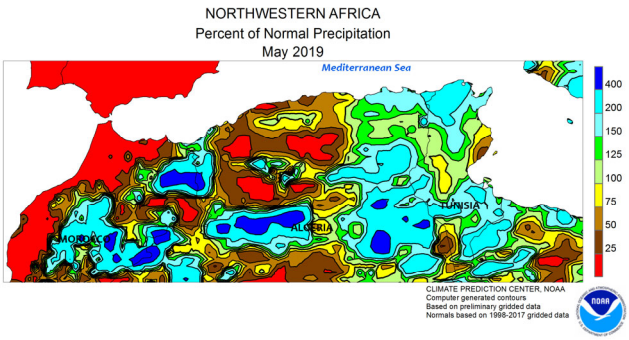


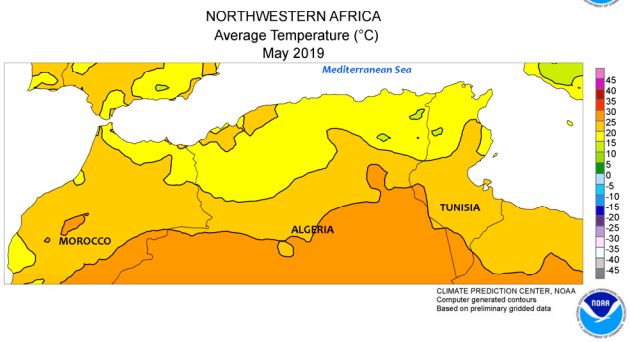
MIDDLE EAST

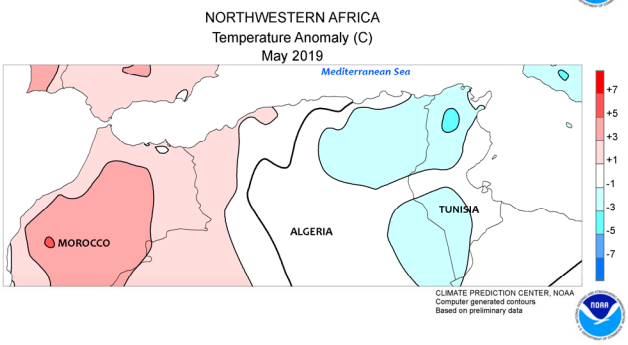
During May, wet weather from northern Turkey into central and eastern Iran contrasted with building heat and dryness in central portions of the region. Moderate to heavy rain (30-100 mm, locally more) was beneficial for corn and sunflower establishment in northern Turkey and likewise aided reproductive to filling winter grains over northern portions of Iraq and Iran. Meanwhile, dry weather on central Turkey's Anatolian Plateau reduced moisture supplies for reproductive wheat and barley. Dry, hot conditions (40-47°C) hastened winter grain maturation and drydown from Syria into central and southern Iraq, though winter crops were mostly at maturation when the crux of the heat arrived.

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



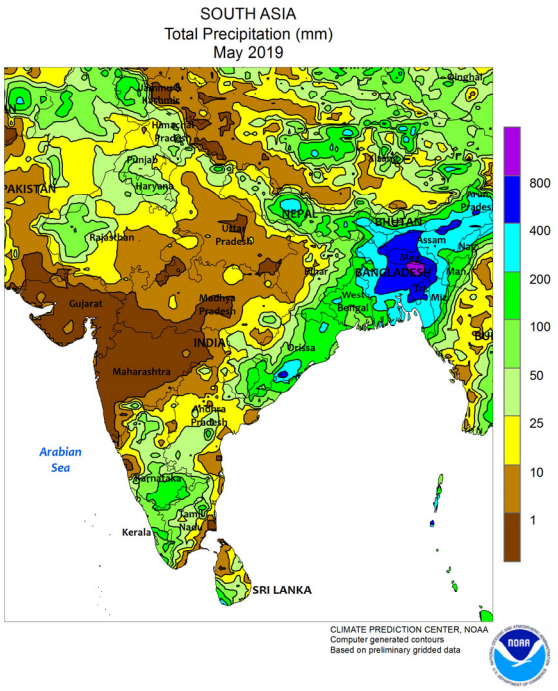


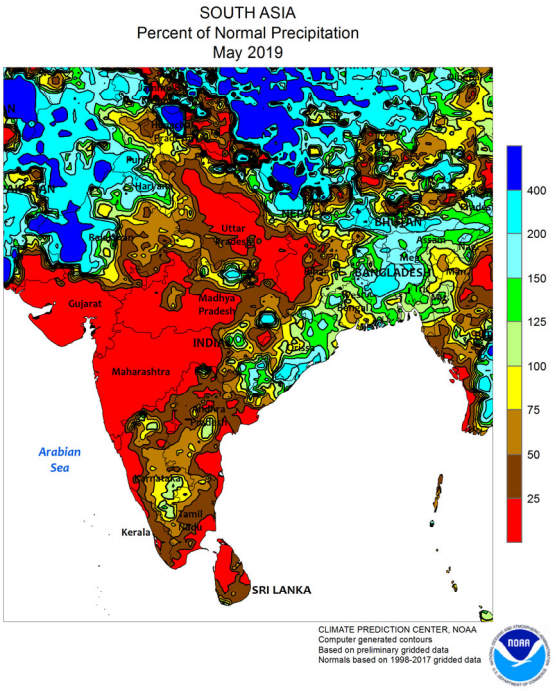


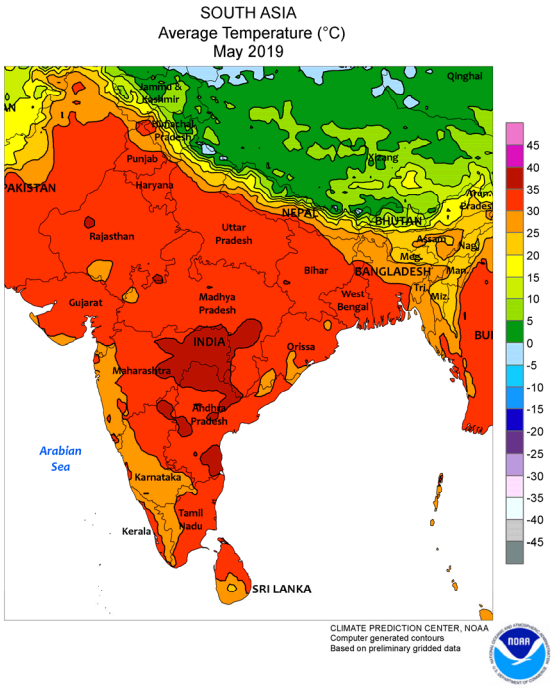


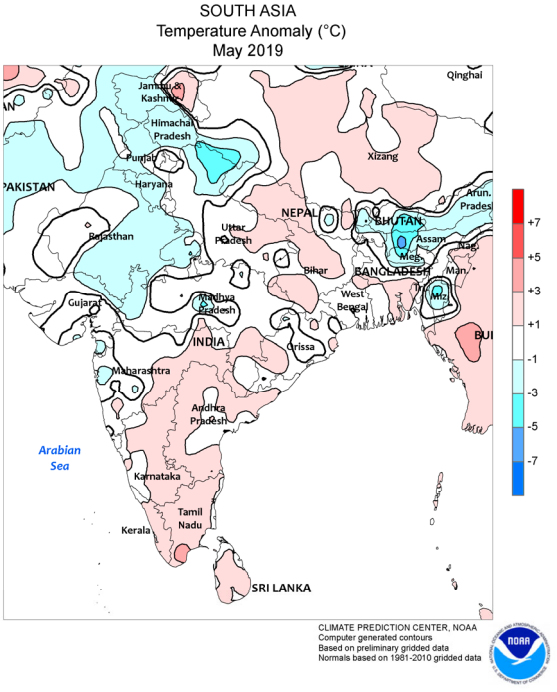
NORTHWESTERN AFRICA

Dry, hot weather in the west contrasted with cool, wet conditions in the east. In Morocco and western Algeria, sunny skies and increasing heat (39-43°C) accelerated maturation, drydown, and harvesting of this season's drought afflicted winter grains. Conversely, near- to below-normal temperatures and above-normal rainfall (nearly 400 percent of normal) from eastern Algeria into Tunisia maintained good to excellent prospects for late reproductive to filling winter wheat and barley.





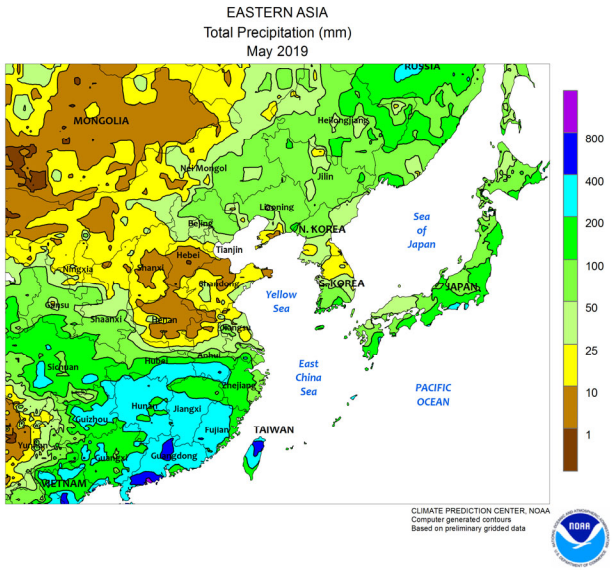


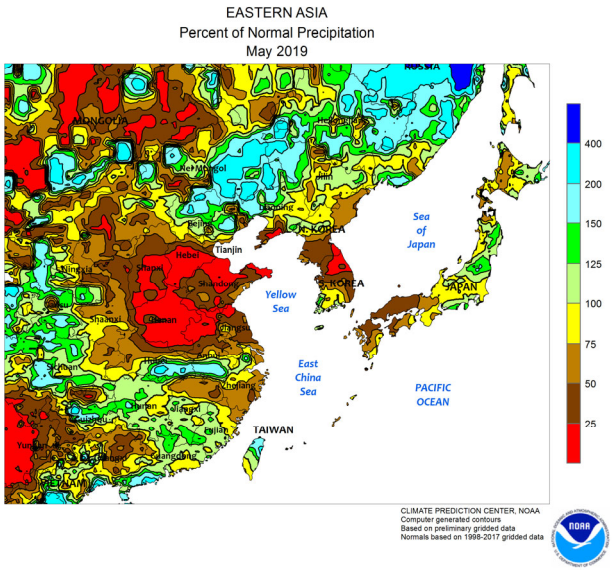


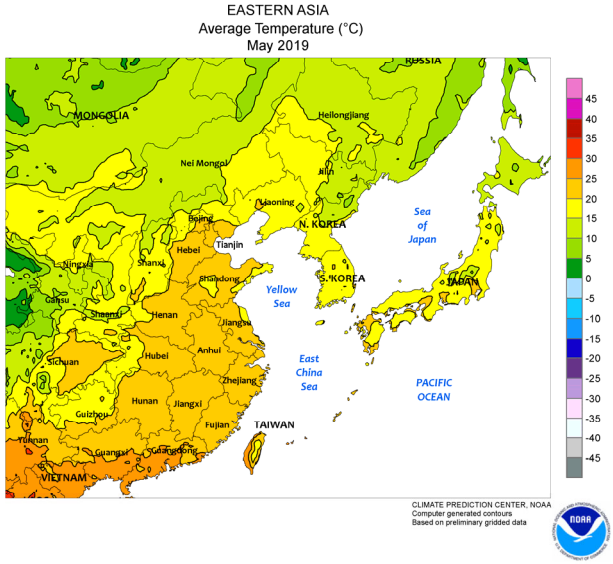
SOUTH ASIA

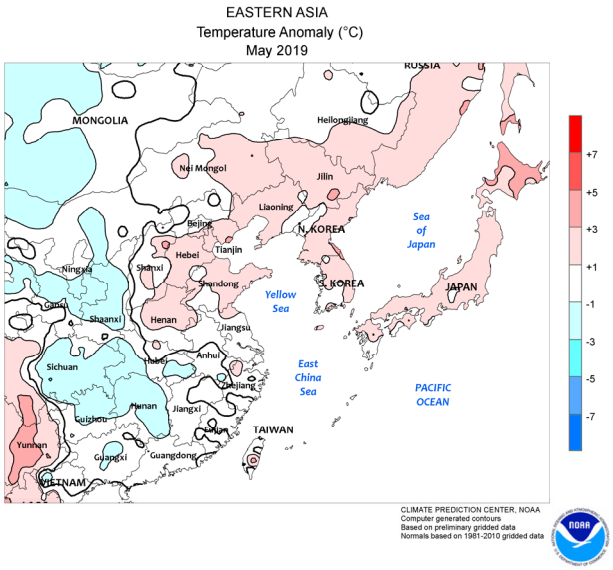
Unseasonably showery weather occurred throughout the region during May, providing an early-season boost to moisture supplies. Much of northern India and adjacent areas of Pakistan received over 25 mm (over 200 percent of normal) for the month, imparting supplemental moisture to irrigated cotton and rice. Temperatures throughout interior India and into Pakistan were consistently over 40°C, though, causing stress to vegetative crops even with adequate irrigation. Meanwhile, a tropical cyclone (Fani) skirted the eastern coast of India and moved ashore into Bangladesh early in the month. The storm brought heavy rainfall that pushed monthly totals over 100 mm in eastern India and over 200 mm in parts of Bangladesh. In southern India, pre-monsoon showers (25-100 mm) encouraged early rice sowing, while the leading edge of monsoon rainfall moved into Sri Lanka at the end of the month, benefiting spring-sown (yala) rice.

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



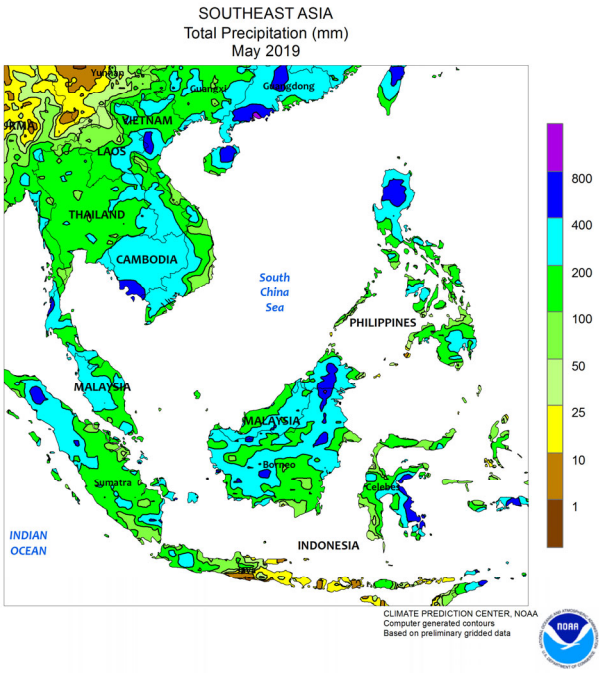


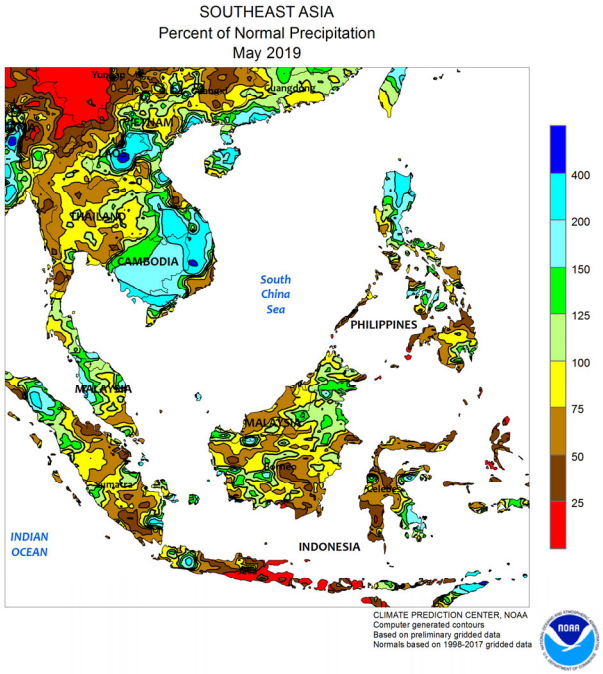


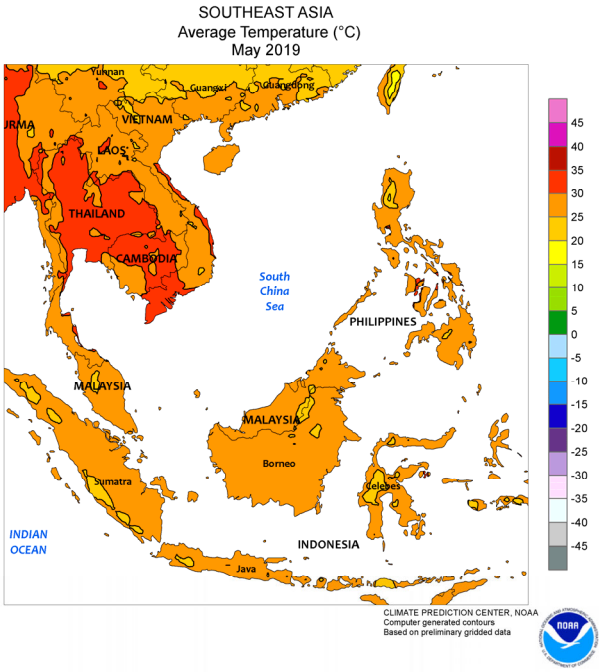


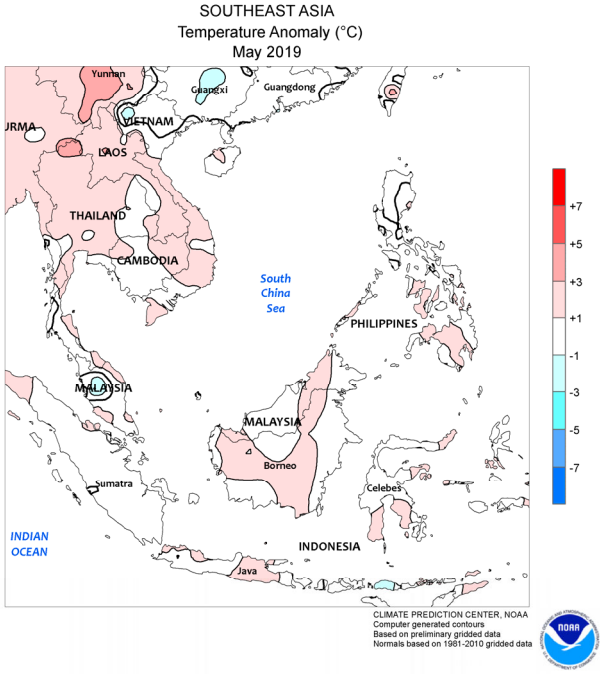
EASTERN ASIA

Hot, unseasonably dry weather during May occurred on the North China Plain into the Yangtze Valley, advancing development of filling wheat and maturing rapeseed. Wetter weather was prevalent in other parts of China, with over 150 mm of rain (over 100 percent of normal) in the south benefiting rice and 50 to 100 mm (2-3 times the normal amount) in the northeast boosting soil moisture for emerging corn and soybeans. Additionally, above-normal rainfall (25-50 mm) in western China provided supplemental moisture to irrigated cotton. Elsewhere in the region, rainfall (25-100 mm) was below average across the Koreas and Japan, lowering moisture supplies for rice and other summer crops.





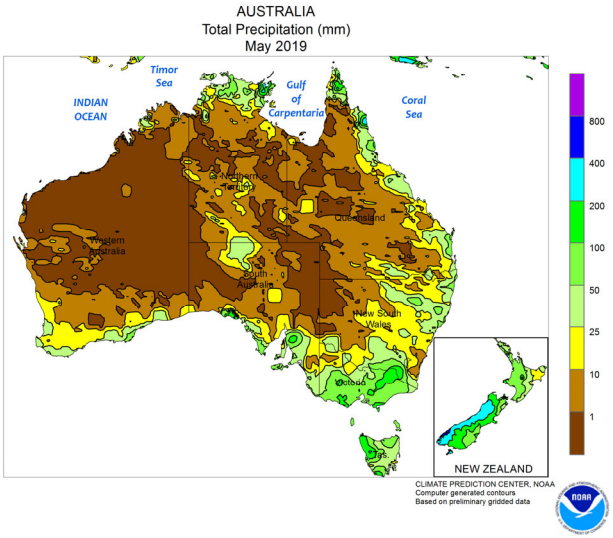


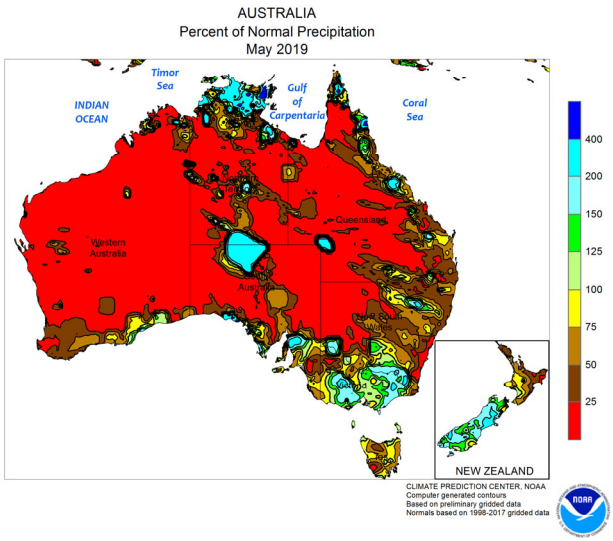


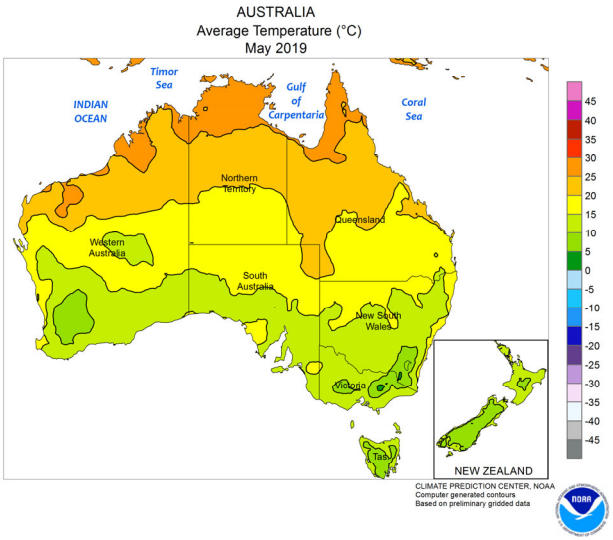
SOUTHEAST ASIA

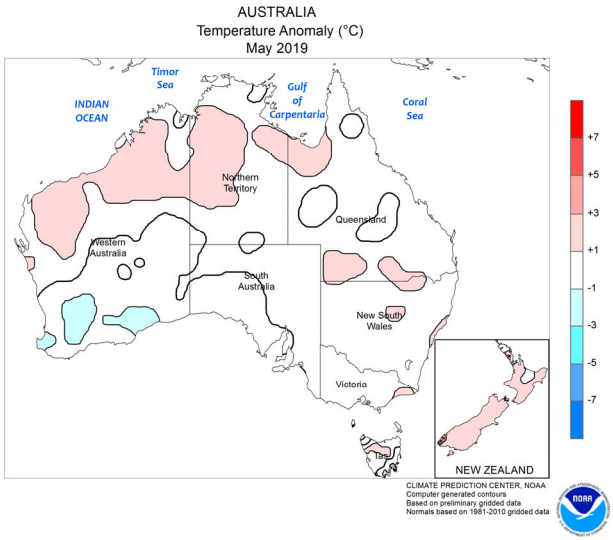
Monsoon showers moved into Indochina and portions of the Philippines during the latter half of May, boosting moisture supplies for rice and other crops. In Thailand, rainfall totals exceeded 100 mm in most areas, representing above normal values in all but the northeastern section of the country (based on a combination of surface reports and satellite-derived values). In fact, a pocket of below-average rainfall was recorded extending into nearby areas of Cambodia, Laos, and Vietnam. More moisture would be welcome, as a significant percentage of rice is rain fed. To the east, rainfall totals in the Philippines exceeded 150 mm across large portions of the country (locally over 600 mm in northern Luzon) but represented below-normal totals in many parts. With a wet season that extends into November, there is time for moisture conditions to improve for rice and corn. In southern sections of the region, oil palm benefited from increased rainfall (over 150 mm) in key growing areas of Malaysia and Indonesia, but more consistent rain is needed to maintain yield prospects.

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



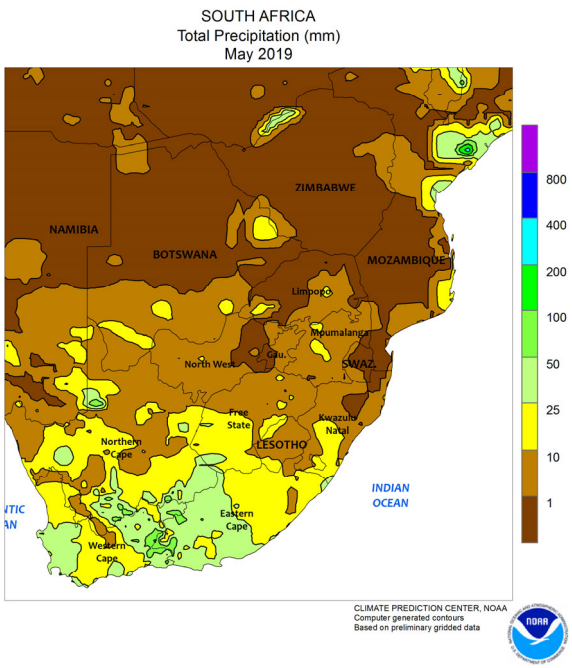


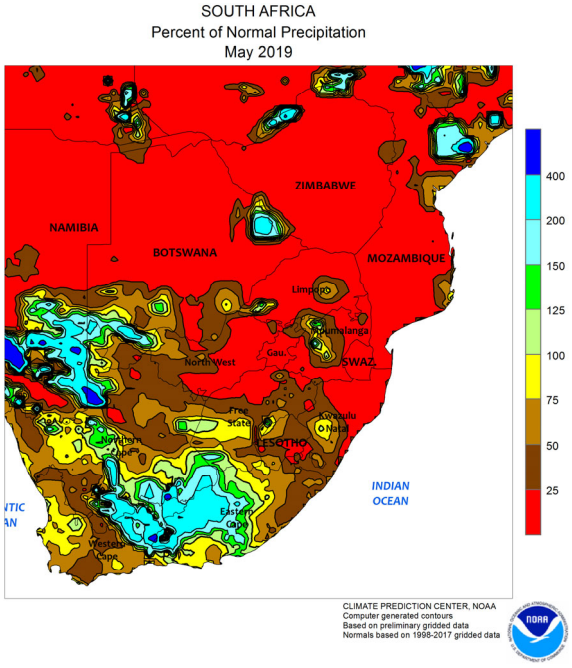


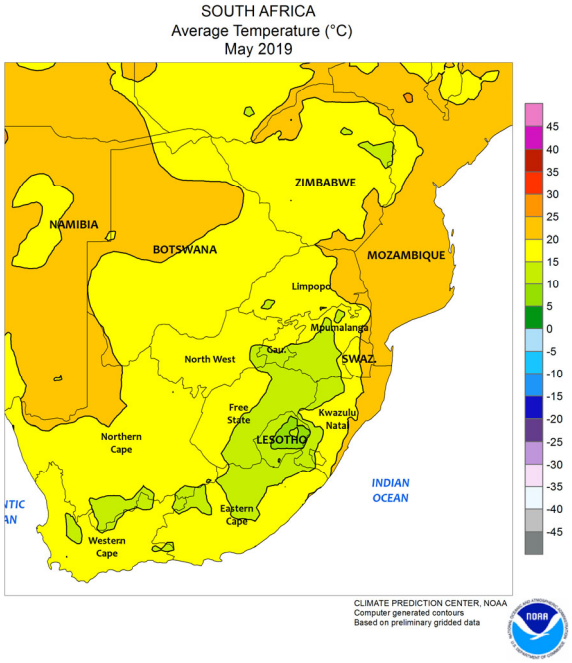


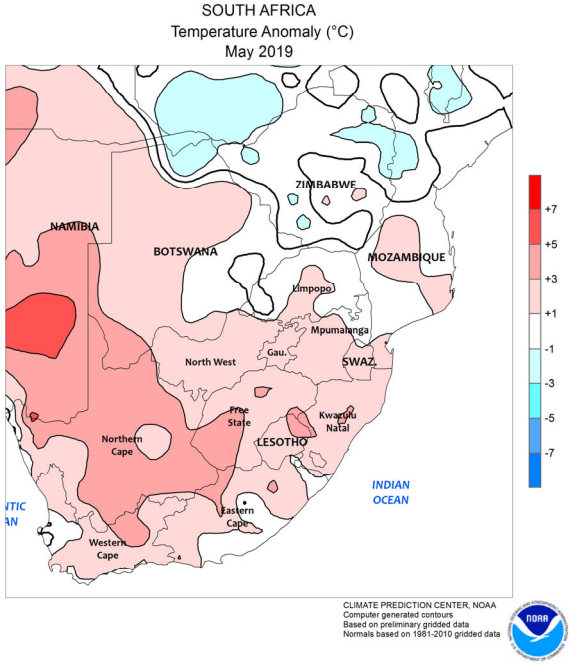
AUSTRALIA

During May, near-normal rainfall in southeastern Australia promoted winter crop planting, germination, and emergence. In contrast, unfavorably dry weather in Western Australia delayed sowing in some areas and led to farmers dusting crops into relatively dry soil in other areas. Elsewhere in the wheat belt, drier-than-normal weather persisted in drought-plagued southern Queensland and northern New South Wales. The dry weather hampered winter wheat planting and establishment and has already raised concerns about yield prospects in the wake of last year's disastrous harvest.



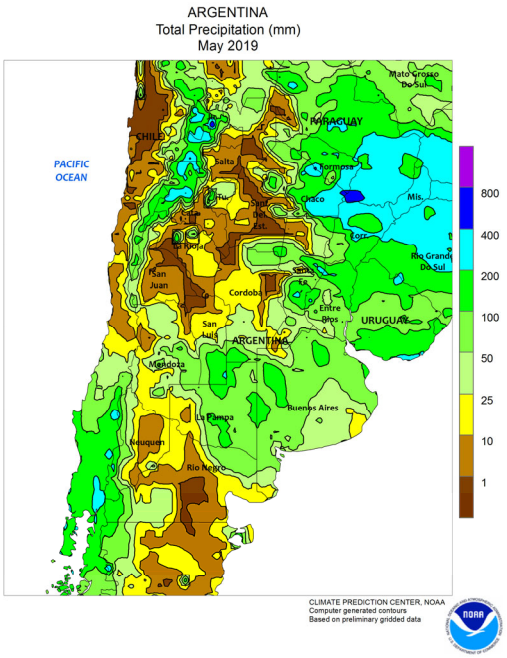


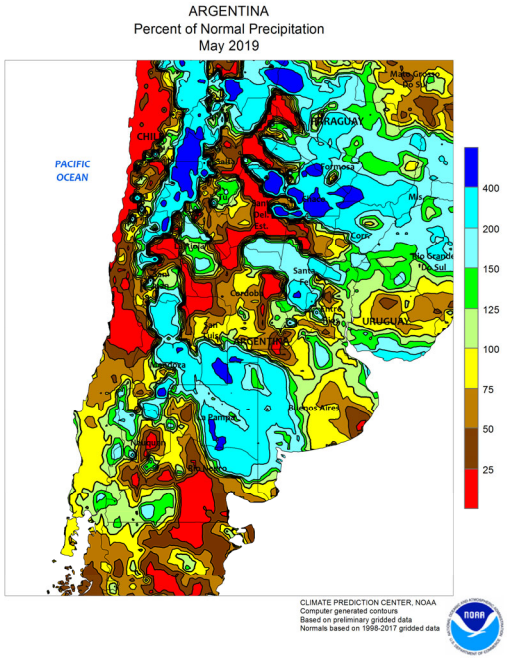


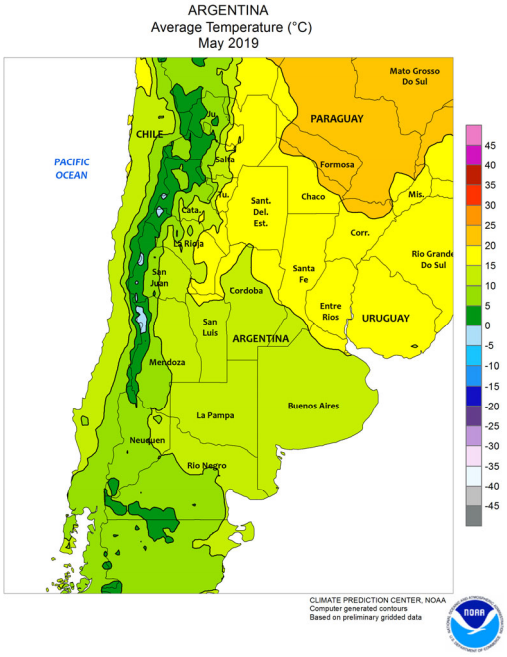


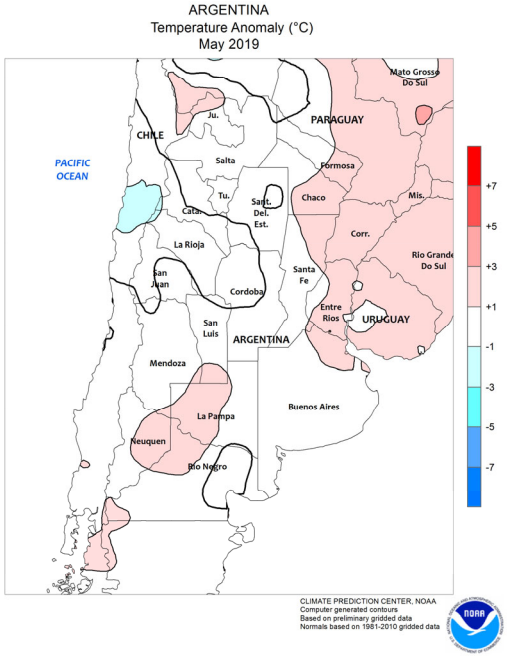
SOUTH AFRICA

In May, scattered showers improved soil moisture levels for germinating wheat in the main production areas of Western Cape. Monthly accumulations totaled 10 to 50 mm, with rain falling on several occasions during the month; while the rainfall was timely, amounts were near to below normal and additional rain will be needed to ensure expected yield potential of rain-fed crops. The beneficial rainfall extended eastward into Eastern Cape and neighboring locations in Northern Cape, Free State, and KwaZulu-Natal. Meanwhile, dry weather dominated the corn belt (North West and Free State eastward to Mpumalanga), aiding drydown of summer crops. Except for southern KwaZulu-Natal, which recorded scattered showers, the eastern dryness also favored sugarcane harvesting northward into eastern Mpumalanga. May temperatures averaging 1 to 3°C above normal favored emerging winter grains across the country's main agricultural areas.



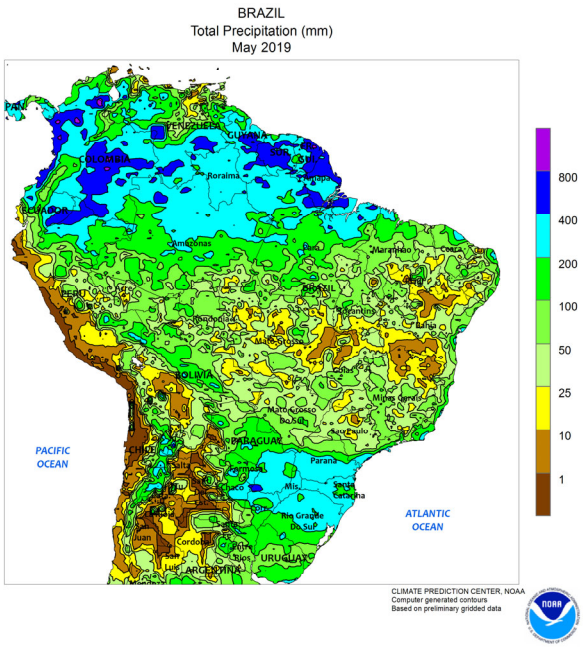


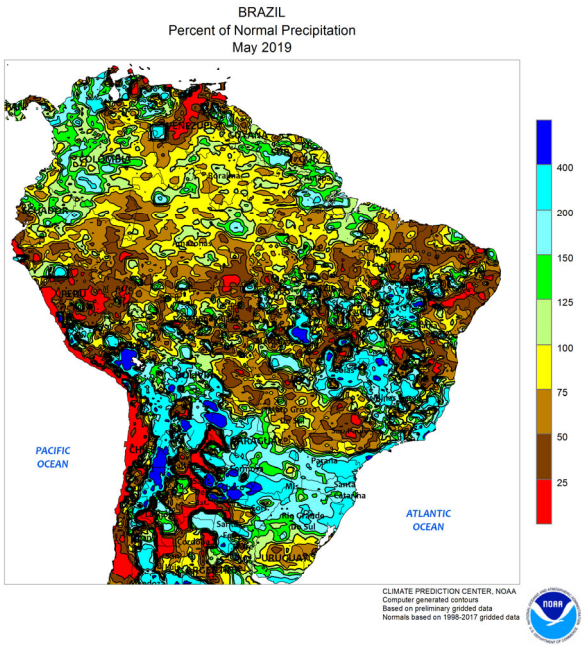


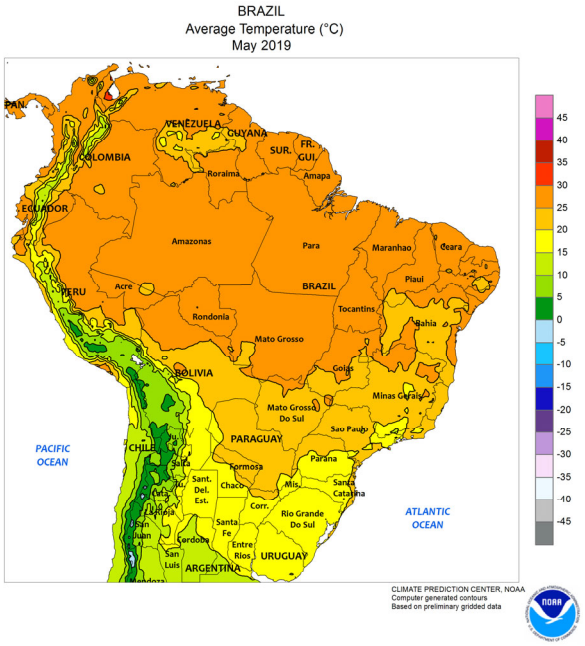


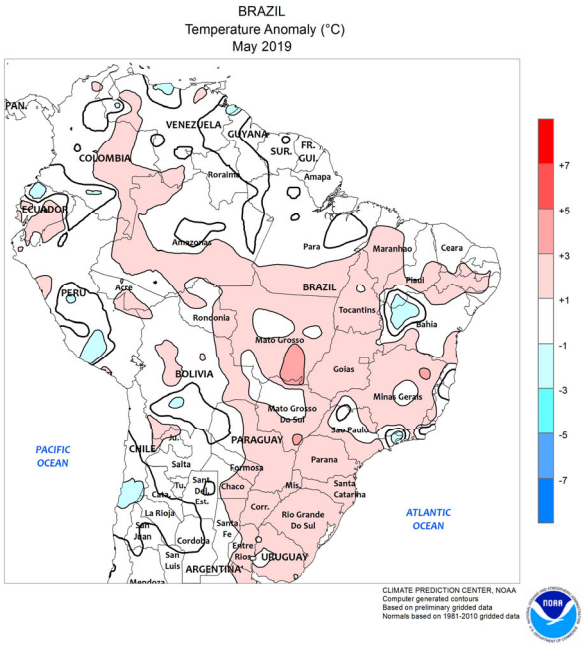
ARGENTINA

During May, extended periods of dryness provided opportunities for summer crop harvesting in key production areas of central Argentina (La Pampa, Buenos Aires, and southern farming areas of Cordoba, Santa Fe, and Entre Rios). However, occasional showers sustained generally favorable levels of moisture for winter grain germination in the aforementioned areas, and monthly temperatures averaging near to slightly above normal promoted late-season development of later-planted crops. In the north, unseasonably high amounts of rain (monthly accumulations of 100-200 mm, reaching more than 300 mm in spots) were excessive for mature cotton in Chaco, Formosa, and parts of northern Santa Fe. As in the more southerly farming areas, monthly temperatures were near to above normal, with daytime highs often reaching the 30s (degrees C). Wheat planting was reportedly underway by month's end.





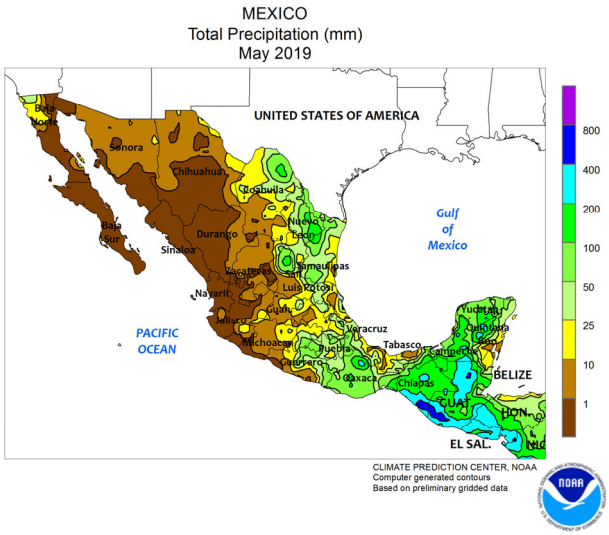


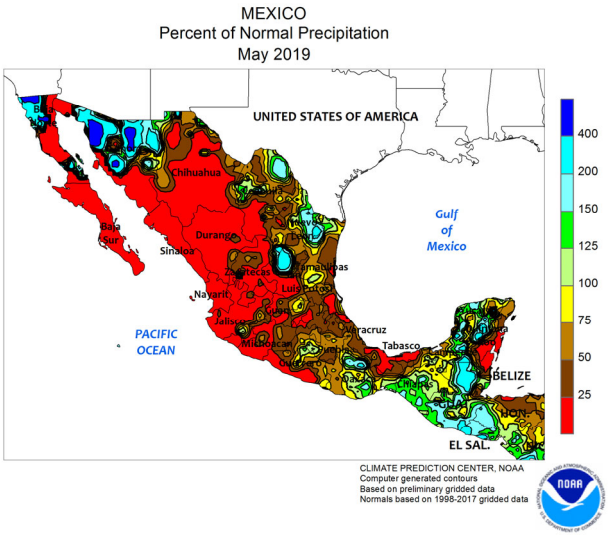


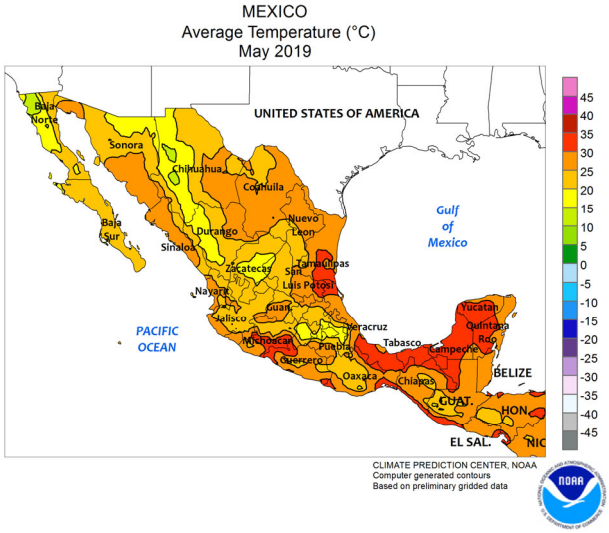
BRAZIL

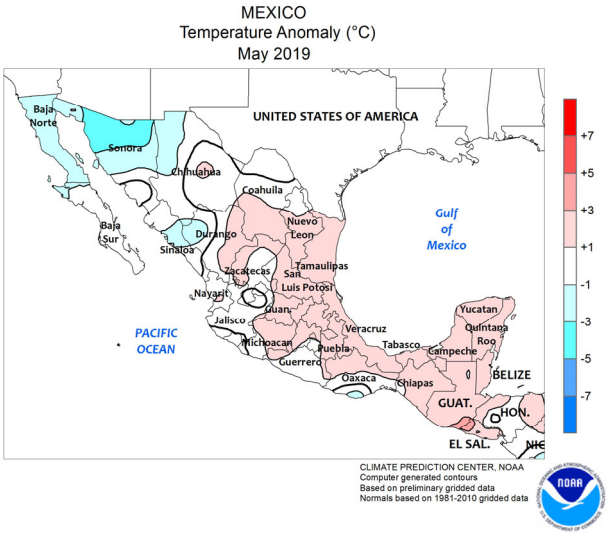
Seasonal dryness was entrenched across Brazil's central and northeastern farming areas by the middle part of May, bringing to an end an overall favorable rainy season for second-crop corn and cotton. Even with the overall drier pattern, showers were occasionally recorded over the southeast (notably Sao Paulo and Minas Gerais) during the latter half of May, giving a late-season boost in moisture to sugarcane and coffee. Warm weather (daytime highs exceeding 35°C in the traditionally warmest locations of Mato Grosso and Tocantins) fostered a rapid growth rate of filling row crops. Farther south, frequent, occasionally heavy rain maintained abundant levels of moisture for immature second-crop corn in and around Parana, while sustaining high levels of soil moisture for newly sown wheat. May average temperatures were 1 to 3°C above normal in the southern corn and wheat areas, with highs often reaching the upper 20s and lower 30s (degrees C).

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





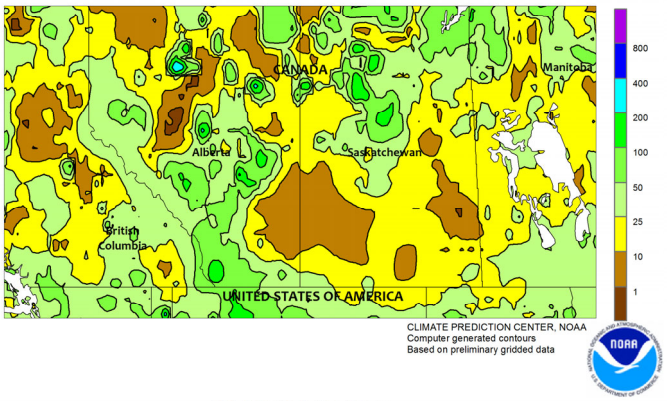




MEXICO

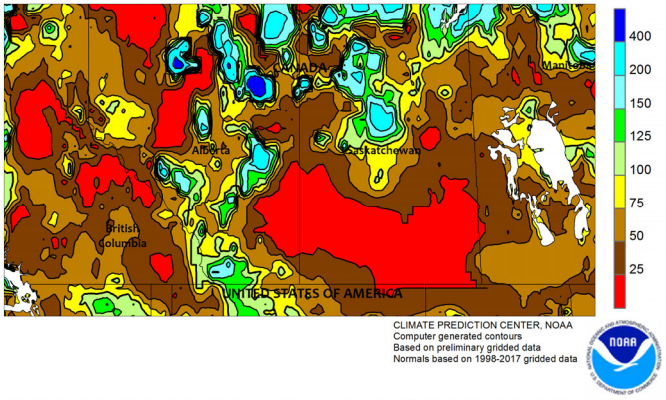
Seasonally wetter weather developed across the south during May, providing timely albeit unseasonably late moisture for corn and other rain-fed summer crops. Following an unseasonably dry April, showers (monthly accumulations of 10-50 mm) gradually intensified over eastern sections of the southern plateau (Puebla and Mexico) as the month progressed, but rainfall remained sparse in key western production (Jalisco and Michoacan) at month's end. Unseasonable dryness dominated other parts of the southeast, including sugarcane areas of Veracruz and the important agricultural state of Tabasco, until the latter half of the month, although coffee areas of Chiapas received near to above-normal rainfall. Elsewhere, occasional rain provided a late-season boost in moisture to rain-fed winter sorghum in and around Tamaulipas, although early summer heat (daytime highs reaching 40°C) maintained water moisture requirements of livestock and irrigated crops. Meanwhile, seasonable warmth and dryness favored maturation and early harvesting of irrigated winter wheat and corn in the northwest.

CANADIAN PRAIRIES
Total Precipitation (mm)
May 2019



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

CANADIAN PRAIRIES
Percent of Normal Precipitation
May 2019



CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data
Normals based on 1998-2017 gridded data

CANADIAN PRAIRIES
Average Temperature (°C)
May 2019

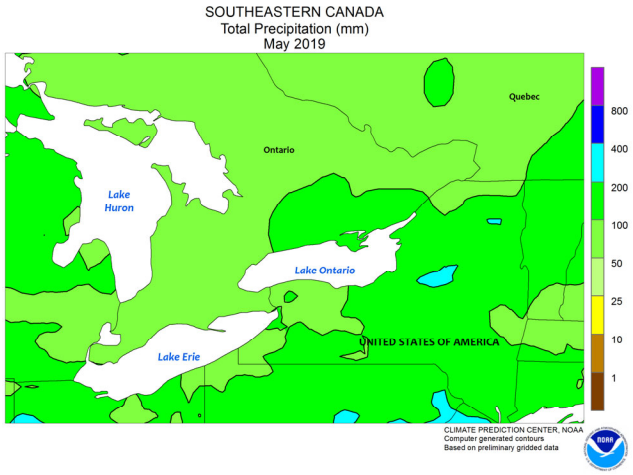
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

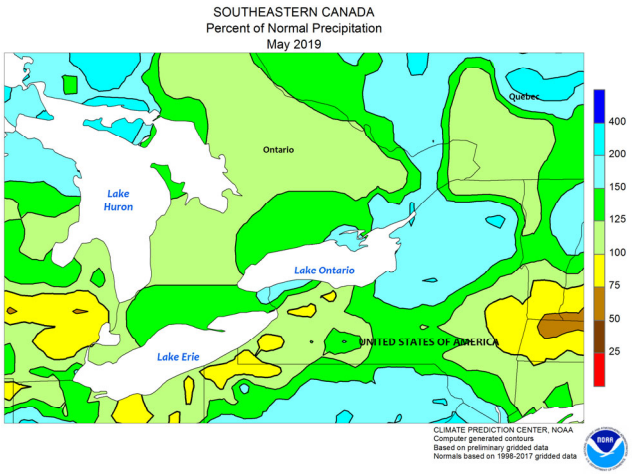
CANADIAN PRAIRIES
Temperature Anomaly (°C)
May 2019

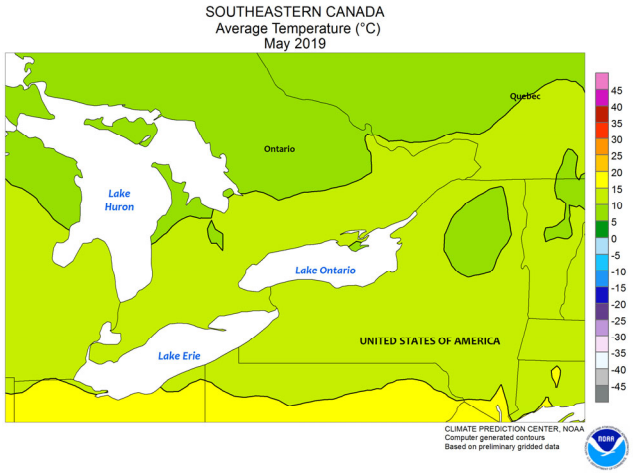
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data
Normals based on 1981-2010 gridded data

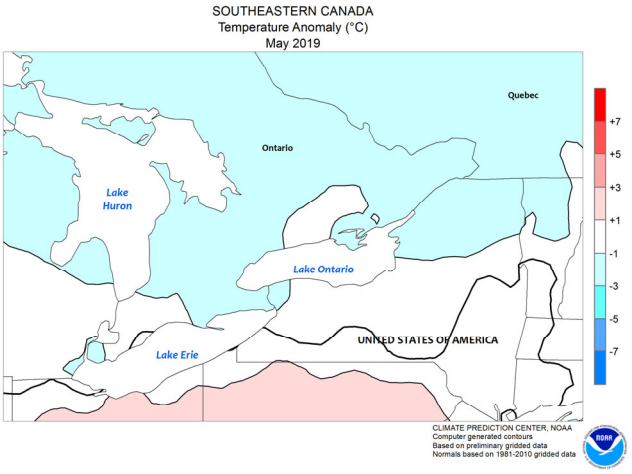
CANADIAN PRAIRIES

Unseasonably dry weather fostered a rapid pace of planting across the Prairies throughout much of May, but many locations were in need of moisture to ensure uniform germination and proper crop establish. Nearly all agricultural districts recorded below-normal monthly rainfall, with amounts totaling well below 25 mm over a large portion of the region stretching from eastern Alberta into Manitoba's Interlake Region. According to the Canadian Drought Monitor, large sections of the Prairies were anomalously dry, with sections of central Saskatchewan west of Regina reaching D3 (Extreme Drought, or an event that occurs roughly once every 20-25 years). May temperatures averaged near to slightly above average in Alberta and 2°C below normal over most of Saskatchewan and Manitoba. Most locations recorded freezing nighttime lows throughout the month, which is typical for Canada's western farming areas this time of year.









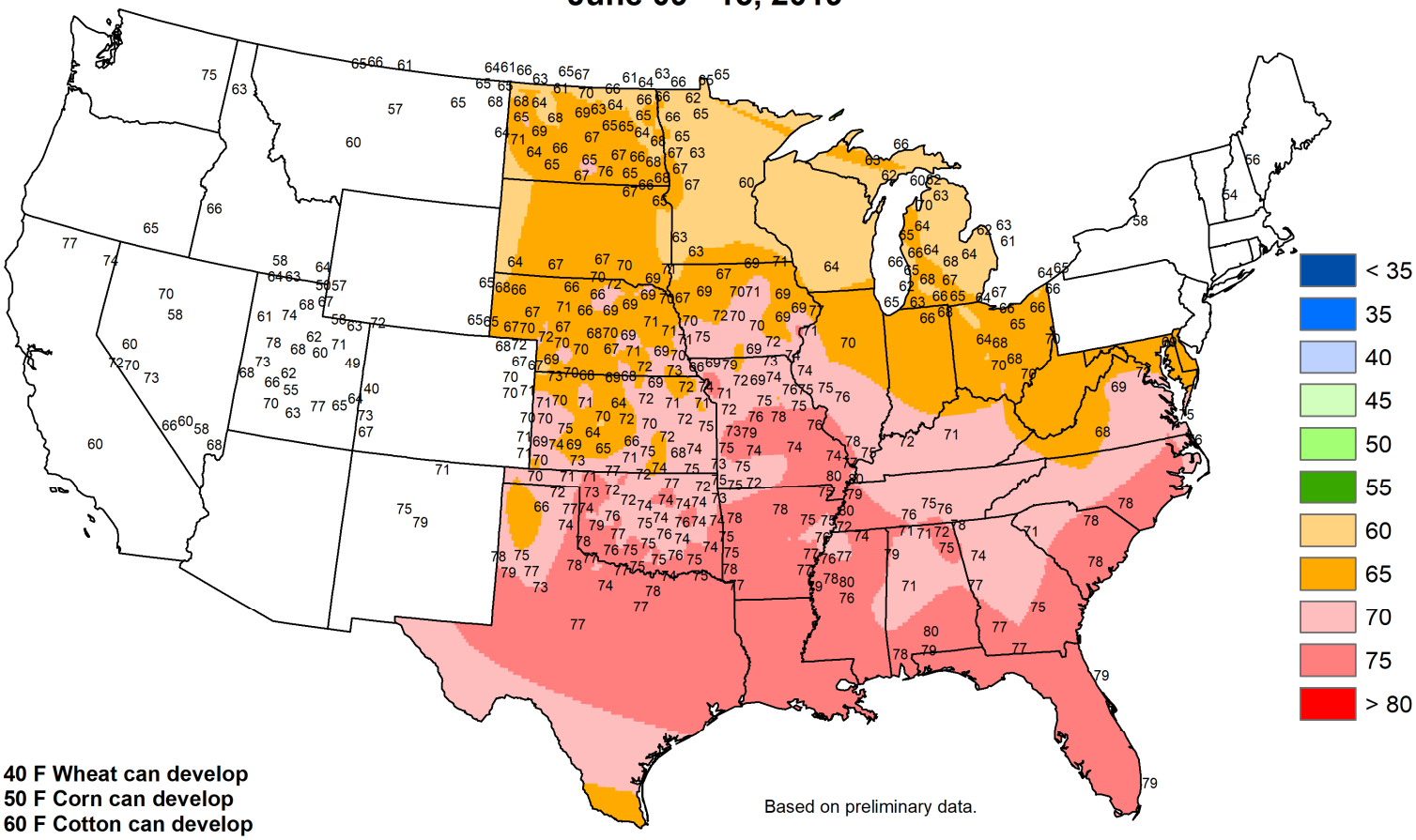
SOUTHEASTERN CANADA

Cool, showery weather prevailed across the region throughout May, sustaining levels of moisture ranging from adequate to locally excessive for wheat, pastures, and early planted summer crops. Monthly rainfall accumulations generally ranged from between 75 and 125 mm in major agricultural districts of both Ontario and Quebec, amounts that were near to above normal in most locations. Monthly temperatures averaging 1 to 2°C below normal, with extended periods of mild days (highs not reaching 20°C for several days at a time) lowered evaporative rates and kept vegetation unfavorably damp, raising concern for disease and pest pressure later in the growing cycle. In addition, reports emanating from Ontario depicted slow rates of corn and soybean planting in regions with relatively poorer draining fields.

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

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

June 09 - 15, 2019



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

Based on preliminary data.

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.

United States Department of Agriculture

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

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