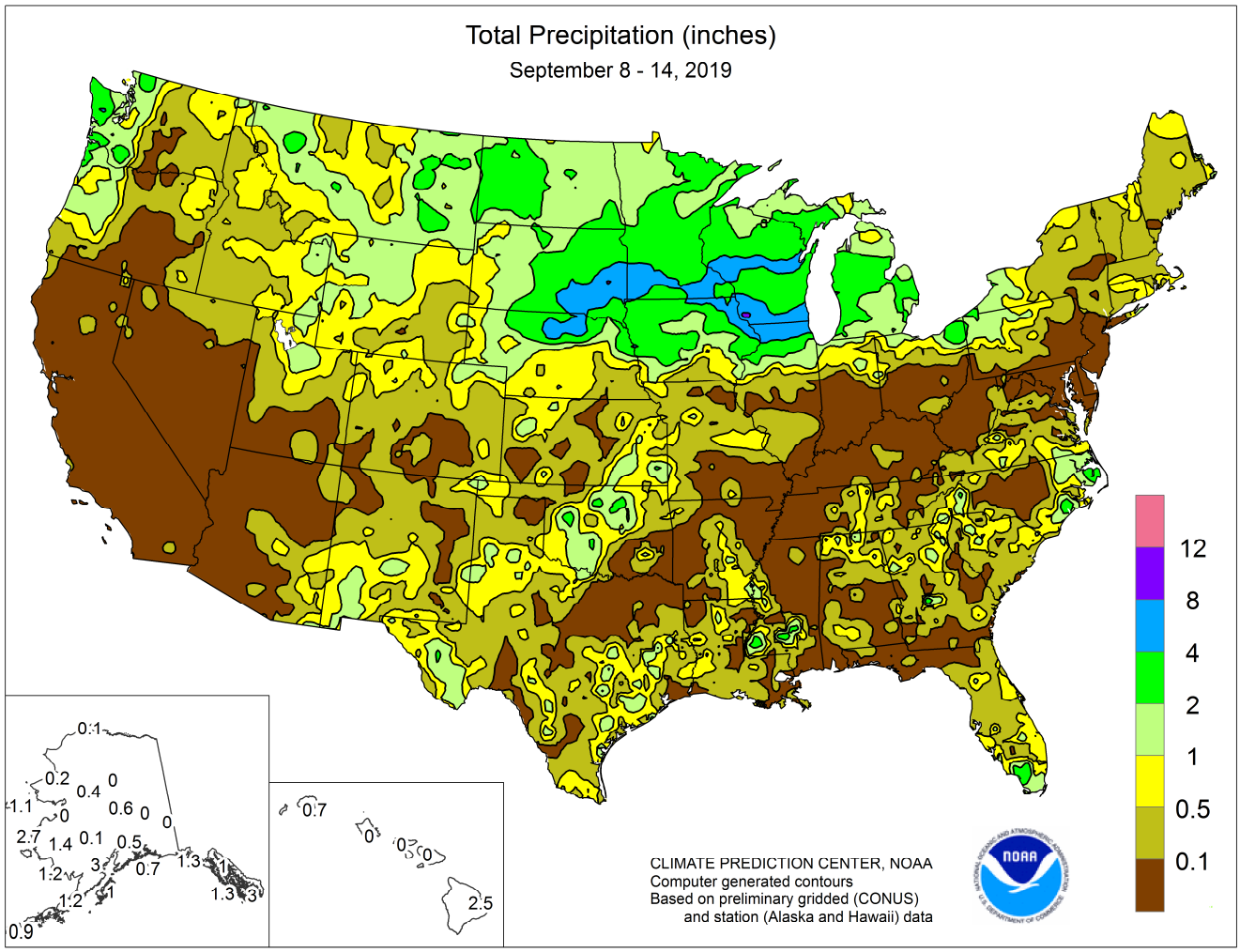
Volume 106, No. 38 http://www.usda.gov/oce/weather September 17, 2019

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
September 8 – 14, 2019

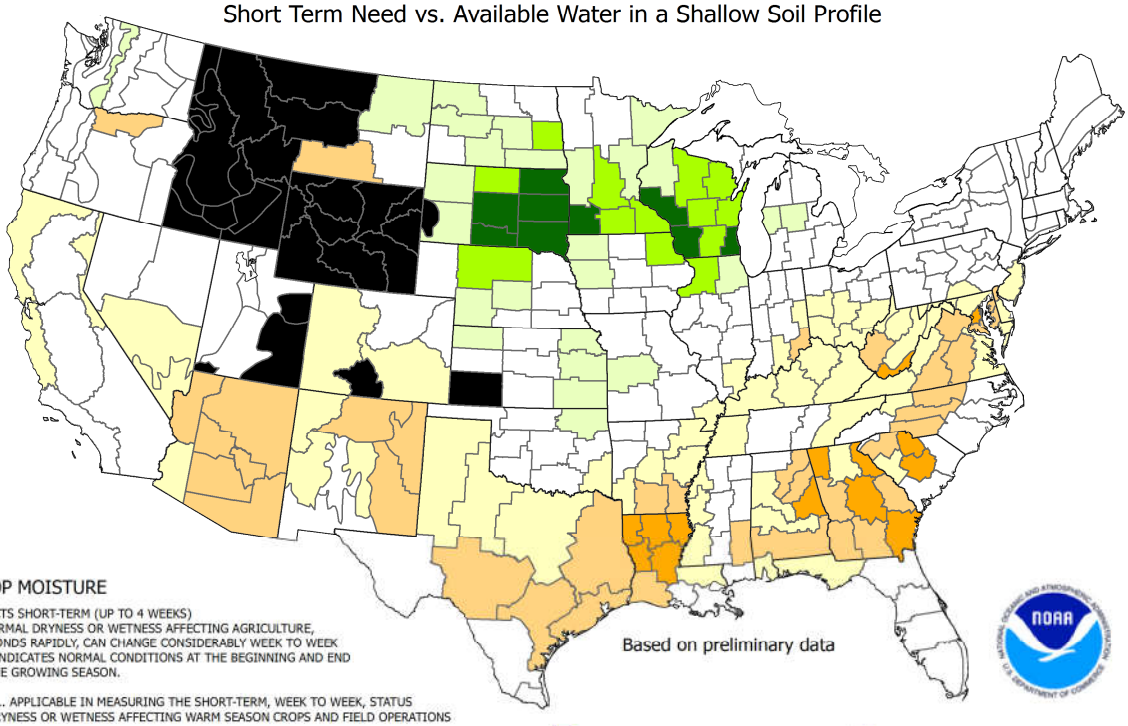
Highlights provided by USDA/WAOB

An oscillating frontal boundary helped delineate between cool conditions in the **North** and parts of the **West**, and late-season heat across the **South**. In general, the boundary shifted northward late in the week, leaving much of the nation experiencing warm weather. Exceptions included the **Pacific Northwest** and parts of the **Northeast**, which remained (or turned) cool. Weekly temperatures averaged 5 to 10°F above normal in a broad area from the **central and southern Plains into the Ohio Valley and much of the Southeast**. Some of the hottest

(Continued on page 5)

Contents

Crop Moisture Index by Division
Weekly Value for Period Ending Sep 14, 2019
Short Term Need vs. Available Water in a Shallow Soil Profile



CROP MOISTURE

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

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

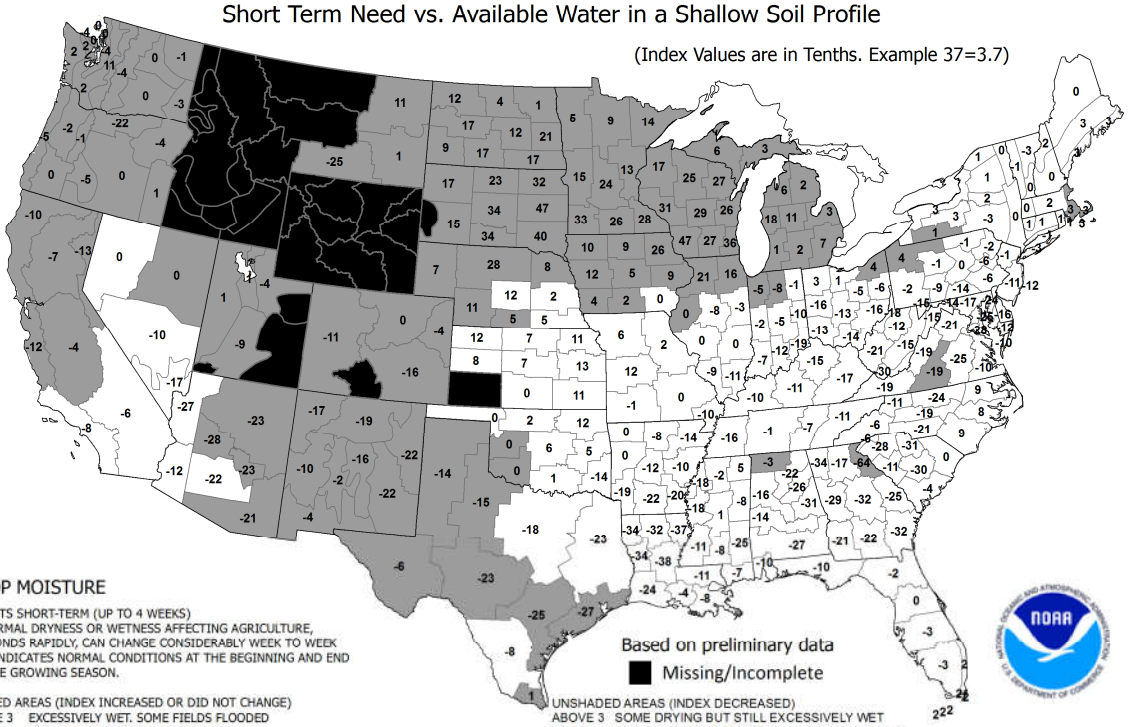
LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE,OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55F.IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.

Based on preliminary data

- -3.0 or less (Severly Dry)
- -2.0 to -2.9 (Excessively Dry)
- -1.0 to -1.9 (Abnormally Dry)
- -0.9 to +0.9 (Slightly Dry/Favorably Moist)
- +1.0 to +1.9 (Abnormally Moist)
- +2.0 to +3.0 (Wet)
- 3.0 and above (Excessively Wet)
- Missing/Incomplete

Crop Moisture Index by Division
Weekly Value for Period Ending Sep 14, 2019
Short Term Need vs. Available Water in a Shallow Soil Profile

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



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Based on preliminary data

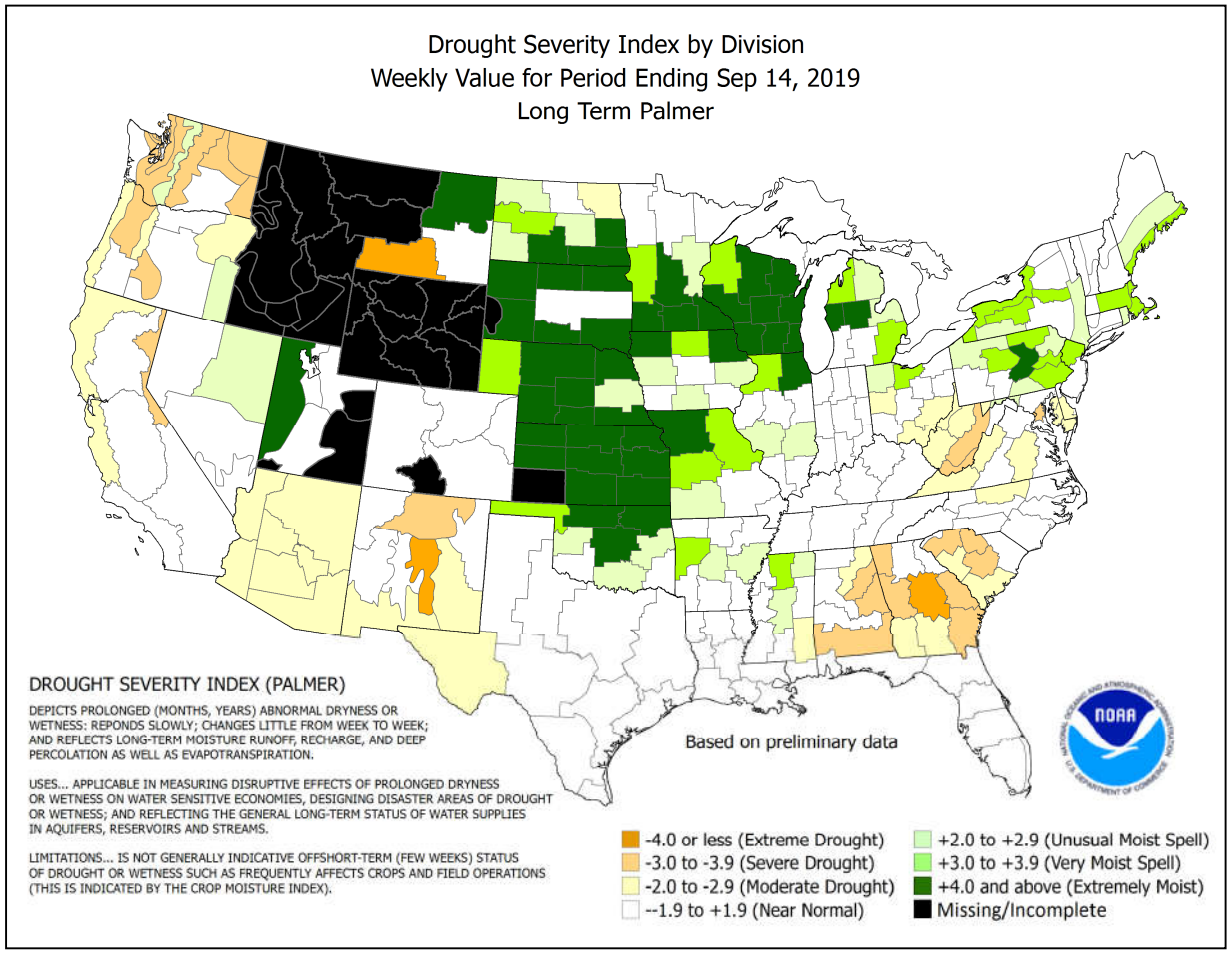
Missing/Incomplete

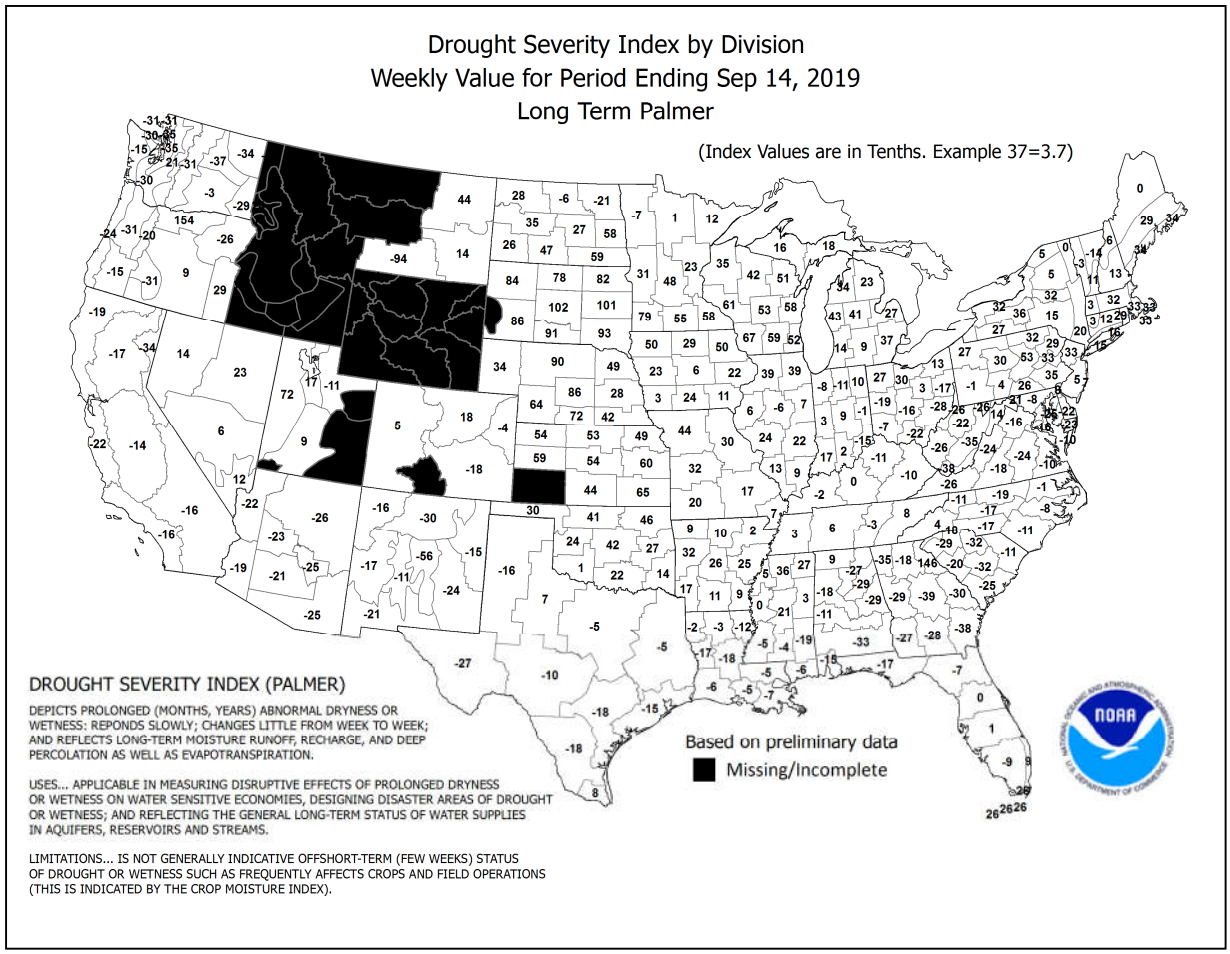
SHADED AREAS (INDEX INCREASED OR DID NOT CHANGE)

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


Drought Severity Index by Division
Weekly Value for Period Ending Sep 14, 2019
Long Term Palmer
DROUGHT SEVERITY INDEX (PALMER)
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS: REPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.
LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
Based on preliminary data
-4.0 or less (Extreme Drought)
-3.0 to -3.9 (Severe Drought)
-2.0 to -2.9 (Moderate Drought)
--1.9 to +1.9 (Near Normal)
+2.0 to +2.9 (Unusual Moist Spell)
+3.0 to +3.9 (Very Moist Spell)
+4.0 and above (Extremely Moist)
Missing/Incomplete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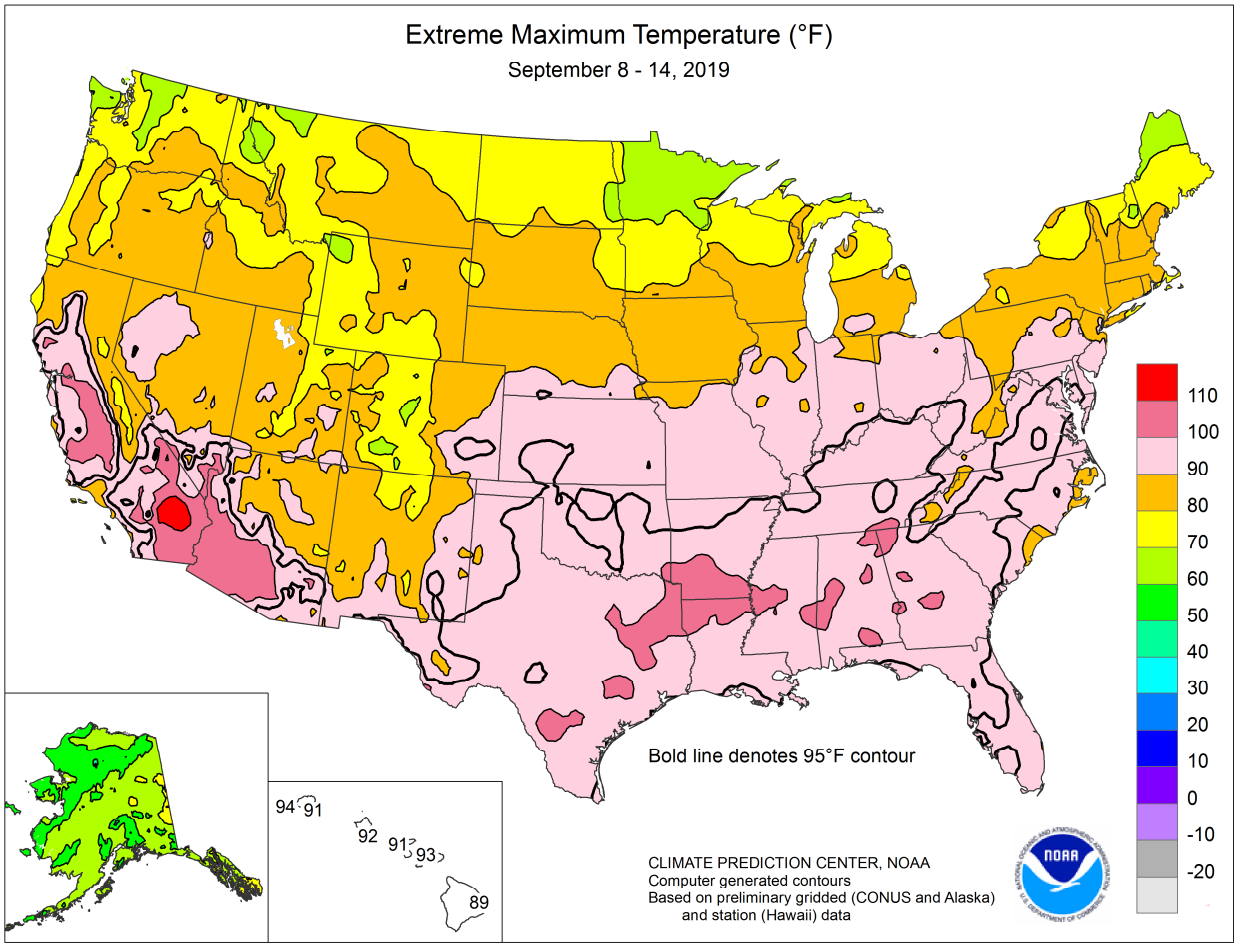
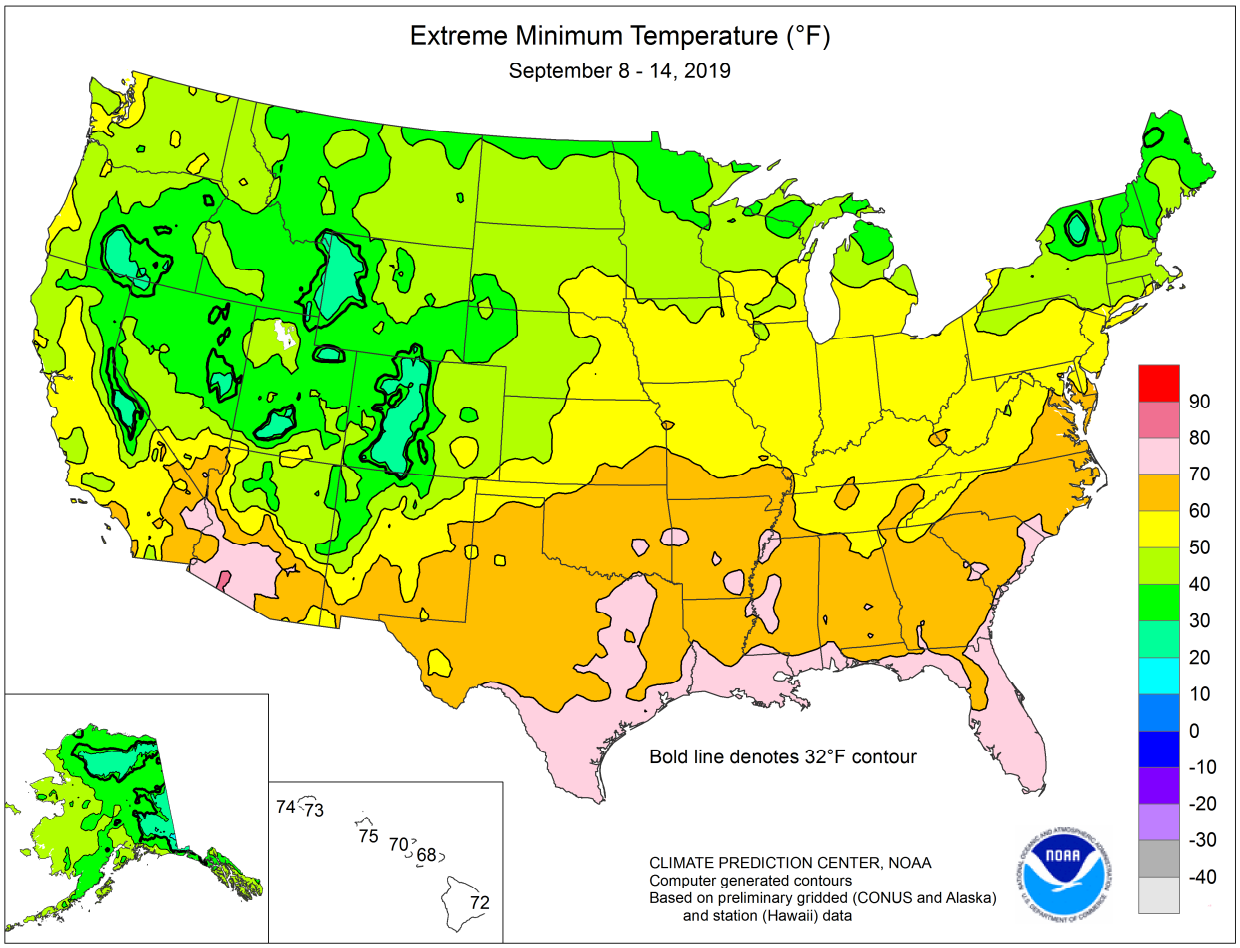
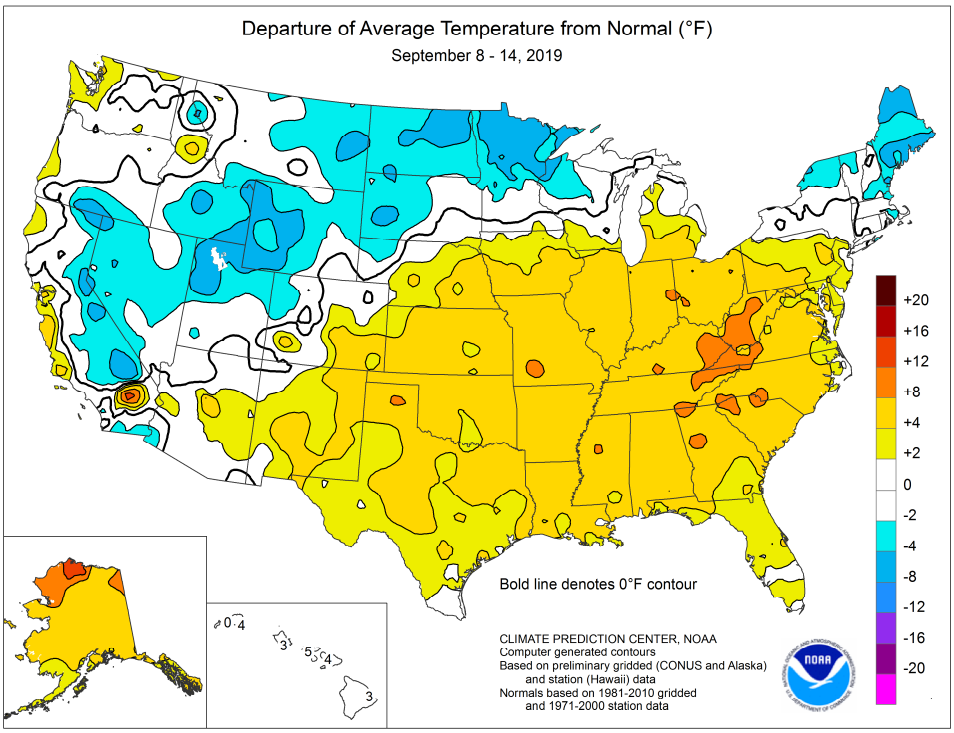

Extreme Maximum Temperature (°F)
September 8 - 14, 2019
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
94
91
92
91
93
89
Bold line denotes 95°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data


Extreme Minimum Temperature (°F)
September 8 - 14, 2019
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
74
73
75
70
68
72
Bold line denotes 32°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data

(Continued from front cover)

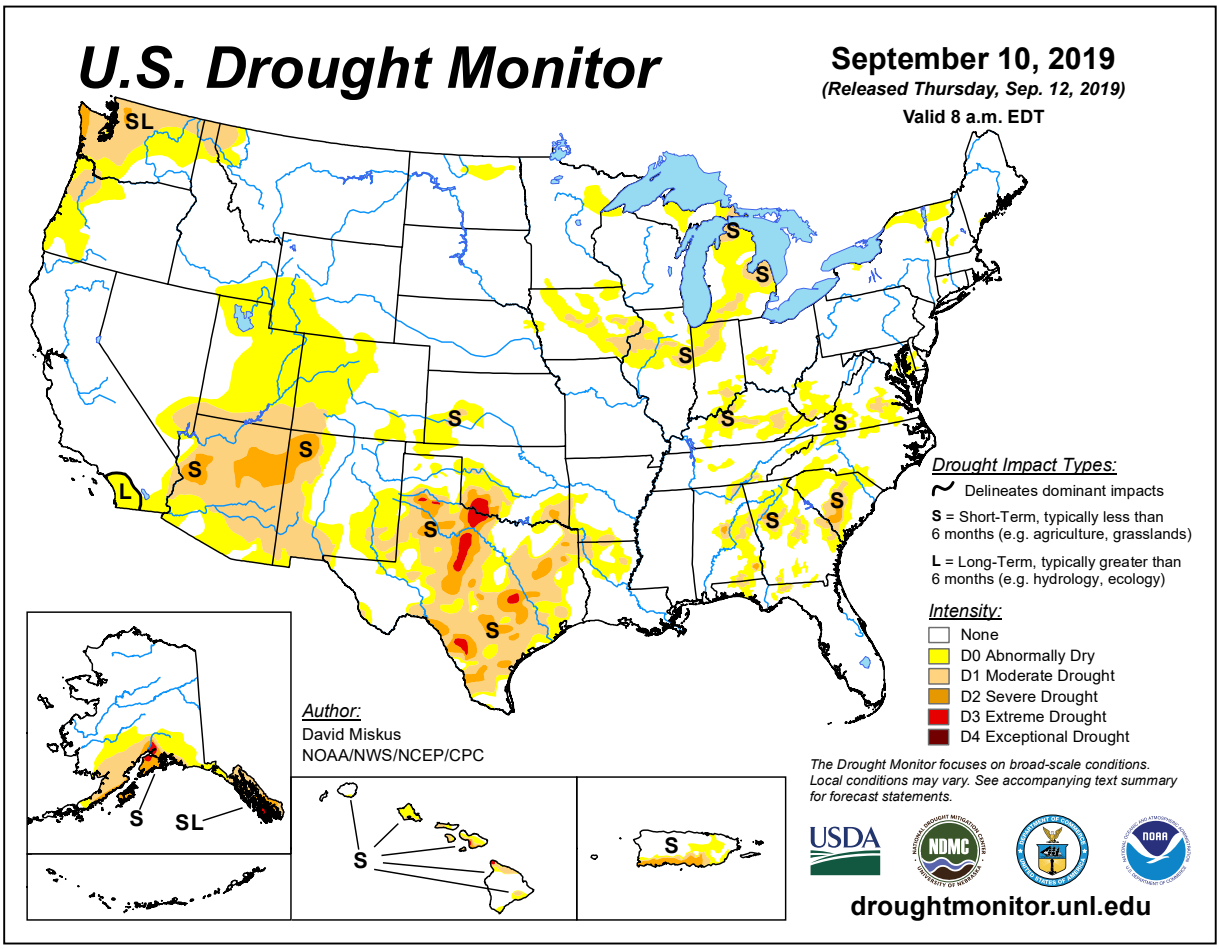
weather, relative to normal stretched from the **northern Mississippi Delta to the central Appalachians**. In contrast, weekly temperatures averaged at least 5°F below normal across parts of the **Intermountain West**, from **eastern Montana into the upper Great Lakes region**, and in **northern New England**. Abundant showers erupted in the vicinity of the frontal boundary, soaking much of the **North**. Rain was especially heavy across the **northern Plains** and **upper Midwest**, resulting in flooding and the slowing or halting of small grain harvesting and other early-autumn fieldwork. Significant precipitation also fell in the **Pacific Northwest**. Several other areas, including the **East**, **Southwest**, and **southern Plains**, received widely scattered showers, while **California**, the **Great Basin**, and the **Ohio Valley** were mostly dry. Any rain that fell in the **south-central and southwestern U.S.** provided only limited and localized relief from the punishing effects of late-summer heat and dryness on rangeland, pastures, and rain-fed summer crops.

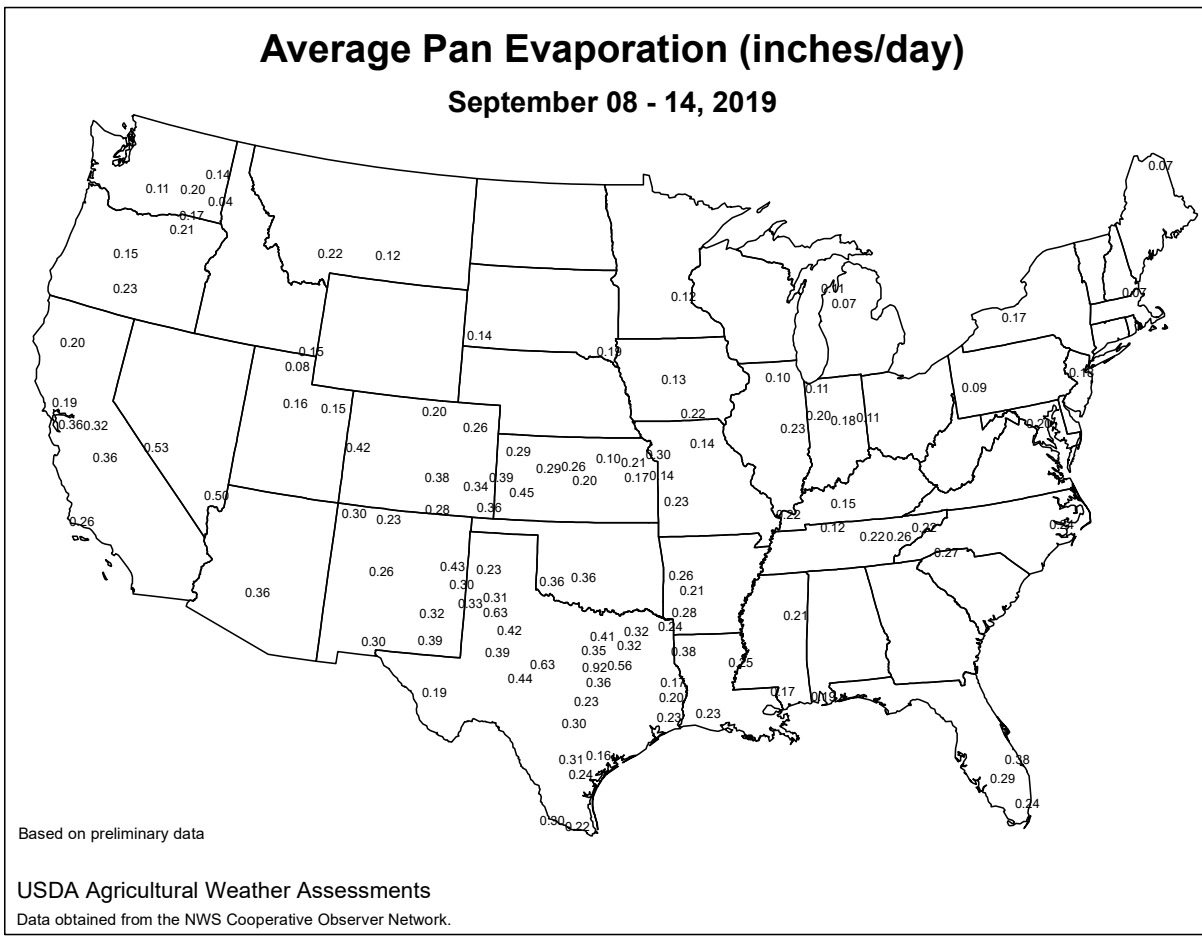


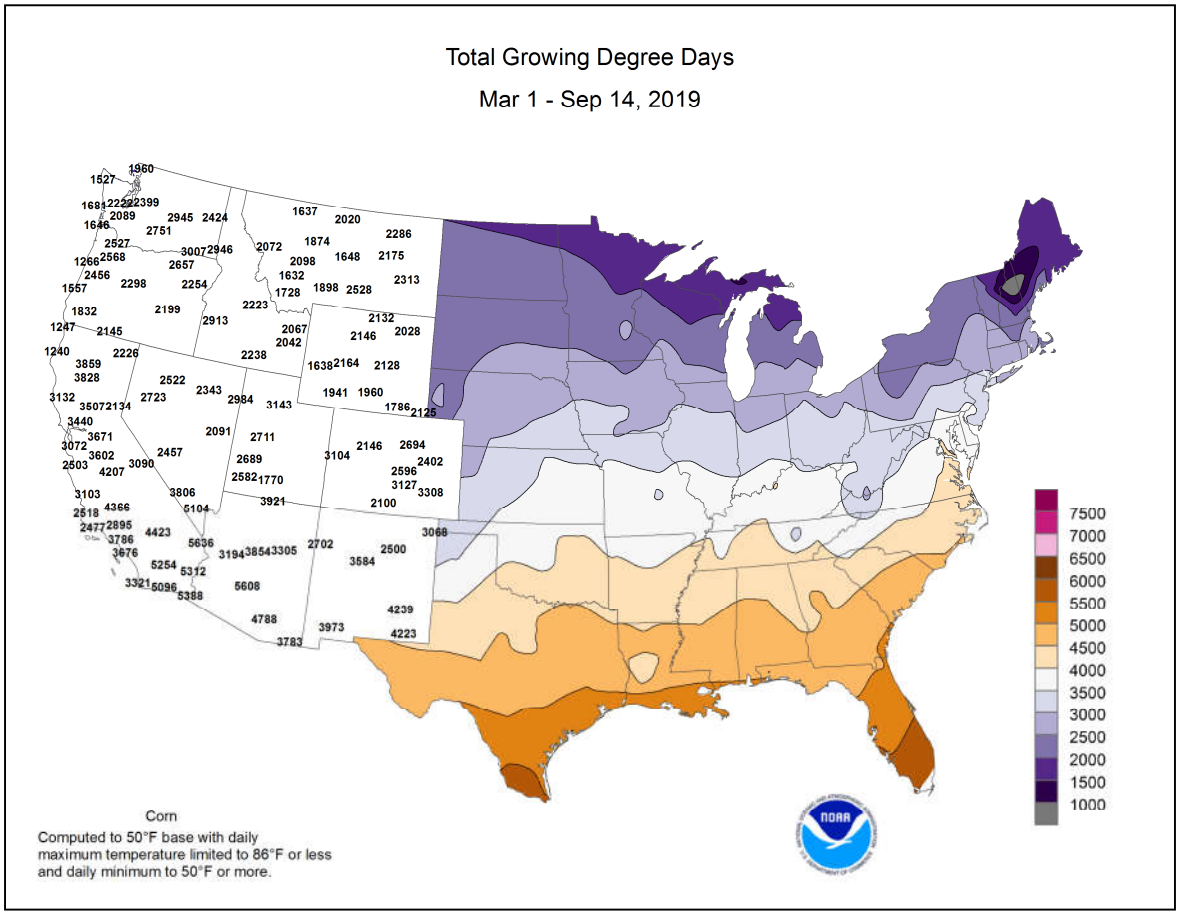
Persistent heat across the **South** led to dozens of daily-record highs and widespread triple-digit temperatures. The week opened with record-setting highs for September 8 in locations such as **El Dorado, AR** (102°F); **Shreveport, LA** (102°F); **Vicksburg, MS** (100°F); and **Montgomery, AL** (100°F). In **Texas**, **Austin (Bergstrom)** reached or exceeded 100°F each day from September 2-9. On September 10, **Jackson, KY**, set a monthly record of 98°F; previously, the highest reading had been 96°F on September 3, 2011. On September 11 in **Virginia**, **Blacksburg's** maximum temperature of 94°F was the highest reading in that location since July 1, 2012. On September 12-13, consecutive daily-record highs were established in **Montgomery, AL** (100°F both days); **Chattanooga, TN** (98 and 103°F, respectively); and **Meridian, MS** (100 and 102°F, respectively). Elsewhere in **Mississippi**, **Vicksburg** tallied a trio of daily-record highs (99, 100, and 99°F) from September 12-14. On September 12, late-season heat spread as far north as the **mid-Atlantic**, where daily-record highs reached 98°F in **Washington, DC**; **Richmond, VA**; and **Charlotte, NC**. Late in the week, hot weather briefly overspread parts of **California**, where daily-record highs soared to 103°F (on September 13) in **Santa Cruz** and 100°F (on September 14) in **Modesto**. Earlier in the week, chilly weather had resulted in a daily-record low (36°F on September 10) in **Bishop, CA**.

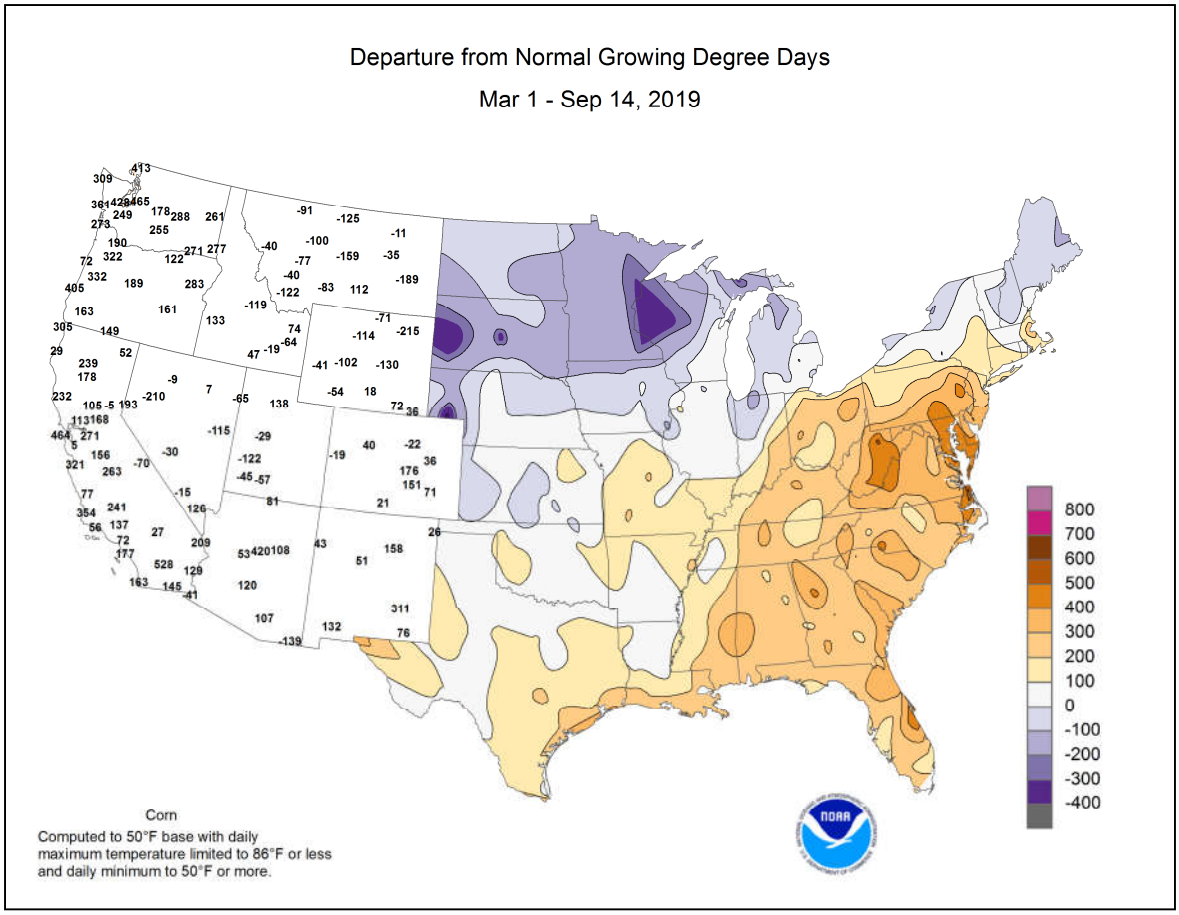
Torrential rain across **northern Plains** and **upper Midwest** sparked major flooding, especially in **South Dakota** along the **James and Big Sioux Rivers**. Record crests were established on September 14 along the **James River** from **Scotland to Yankton, SD**. Previous record crests in both locations had been established on June 23, 1984, and the new high-water marks (9.24 feet above flood stage in Scotland and at least 14.96 feet above flood stage in Yankton) topped the former standards by 1.79 and 2.62 feet, respectively. Similarly, the **Big Sioux River** from near **Brookings to Sioux Falls, SD**, generally achieved its second-highest level on record, behind the April 1969 flood. Near **Brookings**, the river crested 5.39 feet above flood stage on September 13, less than 5 inches shy of the 1969 high-water mark. At I-90 in **Sioux Falls, SD**, the **Big Sioux River** crested 6.91 feet above flood stage on September 13, less than a foot below the record (7.80 feet above flood stage) set on April 10, 1969. Meanwhile in **North Dakota**, month-to-date rainfall in **Williston** through the 14th totaled 6.13 inches (1,179 percent of normal). **Williston's** former September rainfall record of 3.74 inches was set in 1959. Elsewhere, rainfall during the first 2 weeks of September totaled at least 4 inches in **South Dakota** locations such as **Mitchell** (7.60 inches, or 685 percent of normal); **Sisseton** (5.59 inches, or 513 percent); **Sioux Falls** (4.38 inches, or 324 percent); and **Aberdeen** (4.09 inches, or 390 percent). **Mitchell** also achieved its wettest September on record, surpassing 6.83 inches in 1986. With a 3.53-inch total on September 11, **Mitchell** logged its wettest September day since 1950, when 4.35 inches fell on the 21st. Selected daily-record totals across the **northern Plains** and **Midwest** included 1.98 inches (on September 11) in **Dubuque, IA**; 1.58 inches (on September 12) in **Milwaukee, WI**; and 1.11 inches (on September 8) in **Helena, MT**. Locally heavy showers extended to other areas, including the **mid-South** and **Northeast**. In the latter region, **Buffalo, NY**, netted a record-setting total (2.14 inches) for September 11. In the **Northwest**, where multiple rounds of showers occurred, daily-record amounts reached 1.82 inches (on September 14) in **Quillayute, WA**; 1.51 inches (on September 9) in **Astoria, OR**; 1.07 inches (on September 11) in **Worland, WY**; 0.96 inch (on September 10) in **Salem, OR**; and 0.77 inch (on September 9) in **Kalispell, MT**.

Parts of **Alaska**, including some drought-affected southern locations, received significant precipitation, despite a continuation of near- or above-normal temperatures. Daily-record rainfall totals were set in a few **Alaskan** locations, including **King Salmon** (1.20 inches on September 12). Meanwhile, a sampling of daily-record highs included 71°F (on September 8) in **Juneau** and 62°F on (September 13) in **Nome**. Farther south, marginally cooler weather arrived in **Hawaii**, although temperatures remained far above normal. In **Lihue, Kauai**, a remarkable string of 20 consecutive daily-record highs (from August 24 – September 12) ended on the 13th. During the streak, **Lihue** tied its all-time-record high temperature of 91°F on 7 days: August 25 and 31, as well as each day from September 4-8. **Lihue** has also reached or exceeded the 90-degree mark on 20 days in 2019; the former annual record of 3 days was set in 1981. Similarly, **Kahului, Maui**, registered 113 days of 90-degree heat through September 14; previously, the annual record of 94 days had been set in 1968. Meanwhile, month-to-date rainfall at the state's major airport observation sites ranged from 0.02 inch (13 percent of normal) in **Kahului** to 4.44 inches (100 percent) in **Hilo**, on the **Big Island**.


U.S. Drought Monitor
September 10, 2019
(Released Thursday, Sep. 12, 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 Miskus
NOAA/NWS/NCEP/CPC
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
droughtmonitor.unl.edu

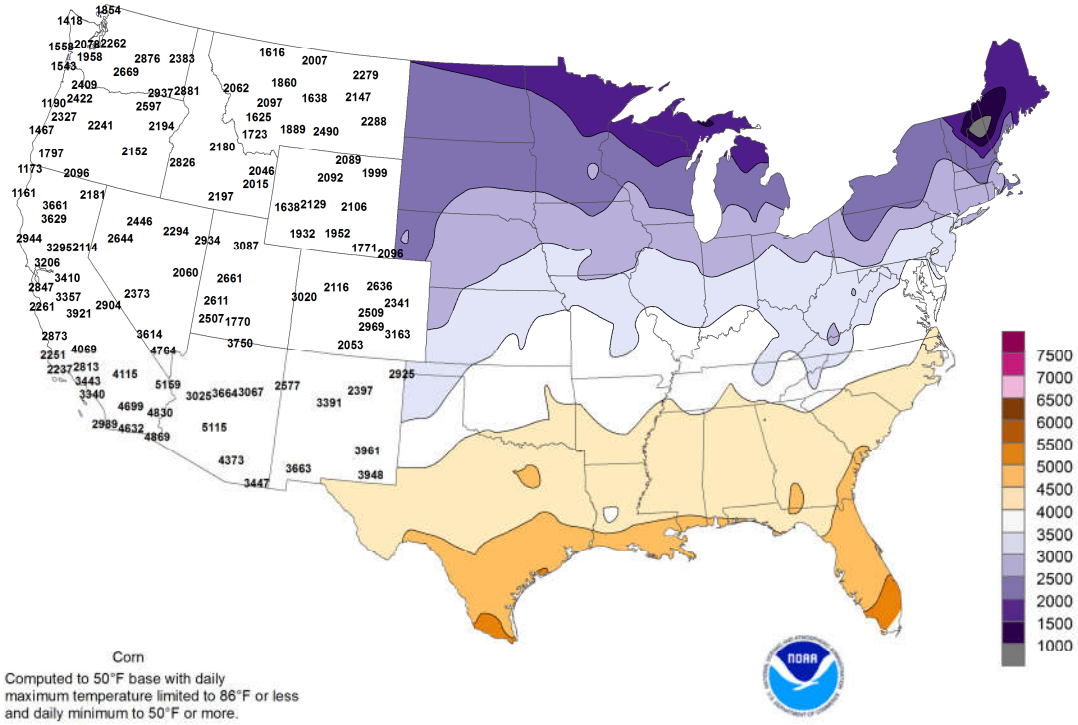

Average Pan Evaporation (inches/day)
September 08 - 14, 2019
Based on preliminary data
USDA Agricultural Weather Assessments
Data obtained from the NWS Cooperative Observer Network.


Total Growing Degree Days
Mar 1 - Sep 14, 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 - Sep 14, 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 - Sep 14, 2019



Corn

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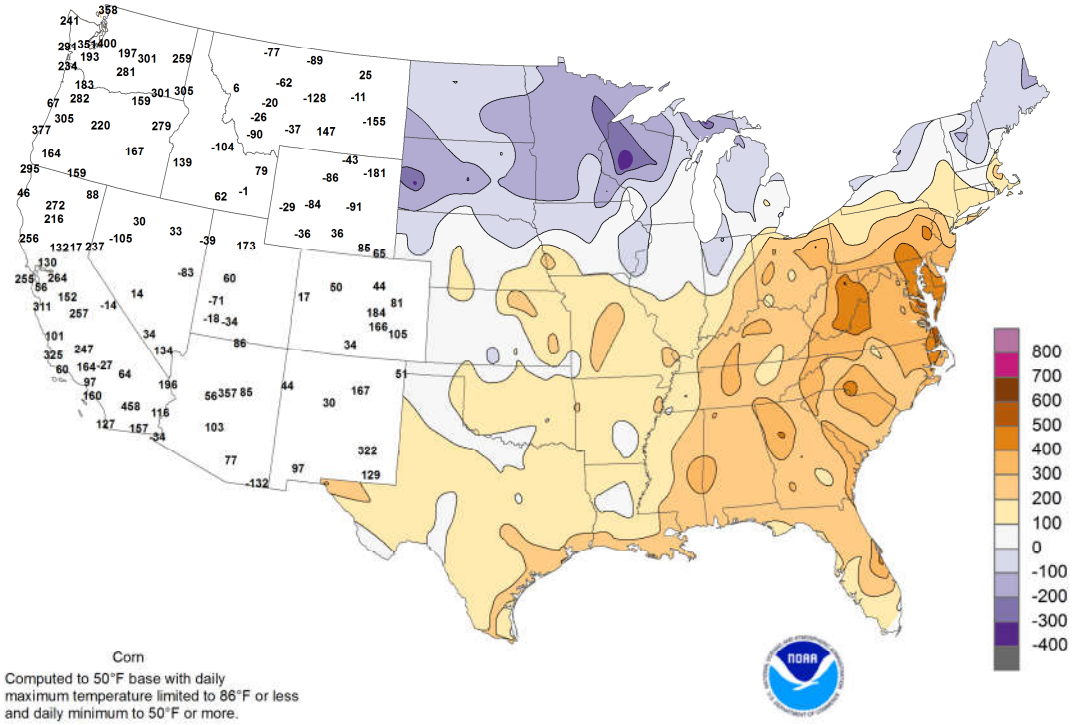
Departure from Normal Growing Degree Days

Apr 1 - Sep 14, 2019



Corn

Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.

National Weather Data for Selected Cities

Weather Data for the Week Ending September 14, 2019

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE ˚F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. ˚F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE SEP 1	PCT. NORMAL SINCE SEP 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	96	72	99	69	84	8	0.56	-0.39	0.34	0.56	31	37.08	94	85	37	7	0	2	0
	HUNTSVILLE	96	68	100	60	82	8	0.27	-0.74	0.16	0.27	14	45.31	111	94	44	6	0	2	0
	MOBILE	96	73	99	72	85	6	0.00	-1.56	0.00	0.00	0	44.87	90	96	62	7	0	0	0
	MONTGOMERY	98	72	100	70	85	7	0.00	-1.03	0.00	0.05	3	34.02	84	88	39	7	0	0	0
AK	ANCHORAGE	63	52	65	50	57	6	0.56	-0.13	0.24	1.05	75	6.98	67	90	78	0	0	5	0
	BARROW	50	42	59	35	46	12	0.09	-0.08	0.08	0.09	26	8.07	257	94	73	0	0	2	0
	FAIRBANKS	66	45	73	36	55	7	0.13	-0.14	0.12	0.13	22	11.63	156	80	67	0	0	2	0
	JUNEAU	63	44	71	39	54	3	0.98	-0.63	0.92	1.64	54	29.85	86	94	81	0	0	3	1
	KODIAK	61	47	70	43	54	3	0.98	-0.70	0.86	1.91	61	37.28	78	86	74	0	0	4	1
	NOME	54	48	62	40	51	5	0.55	-0.09	0.29	2.21	164	19.42	168	97	88	0	0	4	0
AZ	FLAGSTAFF	75	43	81	35	59	-1	0.02	-0.48	0.02	0.11	11	16.41	101	76	27	0	0	1	0
	PHOENIX	102	82	106	79	92	4	0.00	-0.15	0.00	0.00	0	3.43	64	43	30	7	0	0	0
	PRESCOTT	83	57	89	52	70	3	0.04	-0.48	0.04	1.24	113	11.48	80	70	22	0	0	1	0
	TUCSON	95	74	101	71	85	2	0.31	-0.02	0.31	0.33	47	8.02	94	60	35	7	0	1	0
AR	FORT SMITH	94	73	96	72	84	8	0.00	-0.81	0.00	0.04	3	49.79	168	96	52	7	0	0	0
	LITTLE ROCK	94	71	98	69	83	6	1.14	0.29	1.14	1.14	70	48.40	142	93	46	7	0	1	1
CA	BAKERSFIELD	90	63	101	58	77	-1	0.00	-0.03	0.00	0.02	33	6.52	137	52	32	3	0	0	0
	FRESNO	91	63	103	59	77	1	0.00	-0.03	0.00	0.00	0	9.52	120	64	38	3	0	0	0
	LOS ANGELES	80	67	85	65	73	2	0.00	-0.06	0.00	0.00	0	12.86	132	80	60	0	0	0	0
	REDDING	91	59	99	57	75	0	0.00	-0.07	0.00	0.00	0	32.09	144	59	29	4	0	0	0
	SACRAMENTO	90	58	98	56	74	1	0.00	-0.08	0.00	0.00	0	19.36	159	86	23	4	0	0	0
	SAN DIEGO	78	67	85	64	72	0	0.00	-0.04	0.00	0.01	14	8.43	108	86	64	0	0	0	0
	SAN FRANCISCO	80	60	94	57	70	6	0.00	-0.03	0.00	0.00	0	18.42	136	77	58	2	0	0	0
	STOCKTON	92	58	102	56	75	1	0.00	-0.06	0.00	0.00	0	12.48	136	73	39	3	0	0	0
CO	ALAMOSA	76	39	80	32	58	1	0.15	-0.06	0.13	0.40	91	6.65	125	83	32	0	1	2	0
	CO SPRINGS	83	53	88	48	68	6	0.07	-0.28	0.07	0.31	36	10.05	66	69	17	0	0	1	0
	DENVER INTL	83	52	89	45	67	3	0.26	0.04	0.17	0.40	85	12.99	115	78	30	0	0	2	0
	GRAND JUNCTION	80	51	88	42	66	-2	0.19	0.00	0.18	0.23	62	7.10	114	63	34	0	0	2	0
	PUEBLO	90	55	94	48	72	5	0.00	-0.23	0.00	0.51	93	11.26	107	68	31	4	0	0	0
CT	BRIDGEPORT	76	62	84	55	69	1	0.08	-0.76	0.04	0.78	46	36.47	115	85	61	0	0	2	0
	HARTFORD	75	55	88	48	65	-1	0.79	-0.17	0.61	1.85	96	35.32	109	88	61	0	0	2	1
DC	WASHINGTON	87	69	98	64	78	5	0.04	-0.83	0.03	0.11	6	30.88	110	85	48	2	0	2	0
DE	WILMINGTON	84	64	93	58	74	4	0.18	-0.75	0.16	0.29	16	37.20	120	93	47	2	0	2	0
FL	DAYTONA BEACH	90	77	93	74	83	2	0.67	-0.95	0.57	3.25	100	39.08	109	92	61	2	0	2	1
	JACKSONVILLE	92	73	97	71	82	3	0.34	-1.64	0.32	1.78	46	33.44	85	93	53	5	0	3	0
	KEY WEST	90	80	91	76	85	1	0.25	-1.09	0.09	1.91	70	20.76	77	81	66	4	0	4	0
	MIAMI	92	81	93	78	86	3	1.18	-0.92	0.60	2.32	54	54.02	127	77	55	7	0	4	1
	ORLANDO	91	75	95	72	83	1	0.13	-1.35	0.12	1.86	62	35.79	94	91	53	6	0	2	0
	PENSACOLA	94	77	97	74	86	6	0.00	-1.44	0.00	0.00	0	39.63	81	94	52	7	0	0	0
	TALLAHASSEE	96	73	98	70	84	3	0.00	-1.30	0.00	0.00	0	30.37	61	95	48	7	0	0	0
	TAMPA	94	78	96	77	86	3	0.09	-1.64	0.06	0.52	15	47.63	134	83	52	7	0	2	0
	WEST PALM BEACH	89	79	90	76	84	2	1.16	-0.88	0.84	1.25	31	43.98	102	79	63	3	0	3	1
GA	ATHENS	95	68	99	63	81	6	1.40	0.57	1.38	1.40	85	35.21	100	90	57	6	0	2	1
	ATLANTA	96	74	99	71	85	10	0.00	-0.97	0.00	0.00	0	31.57	85	72	40	6	0	0	0
	AUGUSTA	95	70	98	68	83	7	0.24	-0.64	0.24	0.51	28	37.75	112	92	54	7	0	1	0
	COLUMBUS	97	73	99	71	85	7	0.00	-0.76	0.00	0.42	28	31.86	88	85	39	7	0	0	0
	MACON	97	69	100	67	83	6	0.02	-0.79	0.02	0.02	1	27.32	81	94	40	7	0	1	0
	SAVANNAH	93	74	97	70	83	5	0.47	-0.88	0.37	1.18	41	30.98	79	98	54	6	0	2	0
HI	HILO	86	73	89	72	80	4	2.50	0.21	0.56	4.52	99	62.49	73	83	72	0	0	7	1
	HONOLULU	92	78	92	75	85	3	0.00	-0.08	0.00	0.04	29	9.12	88	68	61	7	0	0	0
	KAHULUI	91	75	93	68	83	4	0.02	-0.06	0.01	0.02	12	9.78	80	77	66	7	0	2	0
	LIHUE	90	79	91	73	84	4	0.71	0.18	0.29	0.99	100	18.98	79	79	71	5	0	7	0
ID	BOISE	78	53	91	49	66	-1	0.32	0.15	0.32	0.46	153	12.67	154	74	48	1	0	1	0
	LEWISTON	79	55	86	51	67	1	0.30	0.13	0.22	0.34	103	9.62	107	75	54	0	0	3	0
	POCATELLO	73	44	87	37	59	-2	0.69	0.50	0.39	0.89	254	10.21	115	88	53	0	0	3	0
IL	CHICAGO/O'HARE	79	63	90	56	71	5	1.93	1.08	1.35	2.49	136	34.33	129	89	65	1	0	6	1
	MOLINE	84	65	92	55	75	8	1.90	1.10	0.71	1.95	115	36.75	127	88	62	2	0	5	2
	PEORIA	84	66	91	57	75	7	0.73	0.01	0.66	1.43	101	36.65	140	91	58	1	0	3	1
	ROCKFORD	78	62	87	53	70	5	5.74	4.86	2.91	6.81	372	40.73	147	96	73	0	0	5	4
	SPRINGFIELD	84	65	90	53	75	6	0.35	-0.33	0.31	2.12	153	37.22	143	95	58	2	0	2	0
IN	EVANSVILLE	90	64	95	57	77	6	0.01	-0.71	0.01	0.01	1	46.02	143	89	48	5	0	1	0
	FORT WAYNE	82	61	89	55	71	5	0.41	-0.28	0.21	0.52	36	29.78	111	95	62	0	0	4	0
	INDIANAPOLIS	87	65	92	58	76	7	0.01	-0.69	0.01	0.01	1	37.69	125	90	50	4	0	1	0
	SOUTH BEND	81	61	90	55	71	5	1.23	0.31	1.07	1.72	92	32.31	115	94	66	2	0	3	1
IA	BURLINGTON	83	66	91	57	74	5	0.98	0.13	0.49	1.04	61	32.96	116	92	58	2	0	4	0
	CEDAR RAPIDS	78	61	87	51	70	4	2.09	1.24	0.88	2.42	137	32.28	124	99	67	0	0	4	1
	DES MOINES	81	63	88	57	72	4	3.04	2.24	2.29	3.13	184	37.60	138	89	73	0	0	6	1
	DUBUQUE	76	59	84	51	67	3	7.00	6.08	3.72	7.39	383	39.02	143	99	79	0	0	6	3
	SIOUX CITY	80	61	88	55	71	5	3.58	3.00	2.21	3.69	313	28.94	140	94	75	0	0	5	2
	WATERLOO	79	62	89	52	70	5	2.99	2.25	1.56	3.02	192	32.73	126	88	71	0	0	6	2
KS	CONCORDIA	88	66	93	52	77	7	0.02	-0.58	0.01	0.02	2	29.37	128	82	56	2	0	2	0
	DODGE CITY	90	65	96	50	78	6	0.10	-0.31	0.10	0.10	11	19.84	108	82	35	4	0	1	0
	GOODLAND	84	56	90	46	70	4	0.36	0.10	0.18	***	***	21.36	127	95	56	3	0	2	0
	TOPEKA	86	67	93	58	77	7	1.20	0.31	1.11	1.22	68	42.20	156	86	59	2	0	3	1

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending September 14, 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 SEP 1	PCT. NORMAL SINCE SEP 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	88	70	94	63	79	6	0.43	-0.26	0.41	0.43	31	35.19	152	80	57	4	0	2	0
KY	JACKSON	93	65	98	59	79	9	0.00	-0.91	0.00	0.00	0	39.46	110	92	36	4	0	0	0
	LEXINGTON	93	66	100	54	80	10	0.00	-0.74	0.00	0.00	0	36.52	107	79	43	5	0	0	0
	LOUISVILLE	93	70	99	60	82	10	0.00	-0.72	0.00	0.00	0	39.78	122	76	36	5	0	0	0
	PADUCAH	92	64	95	57	78	7	0.00	-0.81	0.00	0.00	0	55.81	160	89	47	5	0	0	0
LA	BATON ROUGE	96	73	98	71	85	6	0.64	-0.58	0.64	0.64	26	50.66	108	92	41	7	0	1	1
	LAKE CHARLES	95	76	98	75	86	6	0.02	-1.44	0.02	0.02	1	52.26	128	92	47	7	0	1	0
	NEW ORLEANS	96	77	99	74	87	7	0.02	-1.47	0.02	0.02	1	46.79	97	85	50	7	0	1	0
	SHREVEPORT	99	72	102	68	86	7	0.00	-0.67	0.00	0.00	0	32.39	91	87	35	7	0	0	0
ME	CARIBOU	63	43	65	39	53	-3	1.01	0.21	0.66	2.77	169	29.29	111	91	54	0	0	3	1
	PORTLAND	69	49	85	43	59	-2	0.02	-0.72	0.02	0.16	11	34.46	113	90	57	0	0	1	0
MD	BALTIMORE	87	65	98	58	76	6	0.15	-0.79	0.12	0.15	8	28.04	93	84	48	2	0	2	0
MA	BOSTON	75	60	87	53	67	0	0.28	-0.52	0.21	1.75	109	34.10	117	79	54	0	0	2	0
	WORCESTER	69	53	80	47	61	-1	0.65	-0.32	0.39	1.95	102	37.19	110	97	64	0	0	2	0
MI	ALPENA	70	50	80	36	60	2	0.98	0.30	0.42	2.23	158	25.86	125	93	60	0	0	3	0
	GRAND RAPIDS	76	59	88	53	68	4	2.03	0.96	1.10	2.26	107	33.79	129	90	65	0	0	5	2
	HOUGHTON LAKE	69	50	77	38	60	1	1.97	1.17	1.37	2.84	172	27.61	133	95	67	0	0	4	2
	LANSING	76	59	87	52	68	5	0.19	-0.70	0.11	0.38	21	27.73	122	87	76	0	0	3	0
	MUSKEGON	75	60	85	53	68	5	3.49	2.60	1.56	3.56	195	33.94	151	85	67	0	0	4	2
	TRAVERSE CITY	73	56	82	49	65	3	2.12	1.26	1.65	2.76	160	29.05	124	89	57	0	0	4	1
MN	DULUTH	63	50	73	46	57	0	2.64	1.59	1.37	3.55	168	25.42	108	88	73	0	0	5	2
	INT'L FALLS	58	45	62	34	51	-5	2.99	2.24	1.48	3.67	241	24.58	134	94	72	0	0	5	2
	MINNEAPOLIS	69	57	79	51	63	0	2.75	2.05	1.24	3.16	211	37.06	160	89	78	0	0	4	2
	ROCHESTER	70	56	83	46	63	2	4.54	3.74	2.70	6.36	383	45.58	184	92	80	0	0	5	2
	ST. CLOUD	66	51	76	45	58	-2	3.67	2.91	1.99	4.66	288	33.32	156	96	73	0	0	5	3
MS	JACKSON	97	71	100	70	84	6	0.04	-0.73	0.04	0.04	3	42.68	106	89	38	7	0	1	0
	MERIDIAN	99	71	102	70	85	7	0.01	-0.82	0.01	0.01	1	45.41	106	90	40	7	0	1	0
	TUPELO	95	71	98	66	83	8	0.01	-0.75	0.01	0.01	1	57.71	146	87	46	7	0	1	0
MO	COLUMBIA	86	67	92	56	77	7	1.27	0.45	1.27	1.27	77	39.51	134	91	55	3	0	1	1
	KANSAS CITY	85	67	89	59	76	6	1.01	-0.05	0.87	1.34	67	44.65	159	91	62	0	0	2	1
	SAINT LOUIS	89	70	93	61	79	7	0.83	0.14	0.83	0.83	61	43.90	158	76	55	4	0	1	1
	SPRINGFIELD	90	70	95	62	80	9	0.00	-1.18	0.00	0.00	0	40.12	128	86	51	5	0	0	0
MT	BILLINGS	73	53	87	50	63	1	0.94	0.66	0.88	1.09	214	17.31	154	78	42	0	0	4	1
	BUTTE	65	40	78	34	53	-1	0.95	0.69	0.38	1.47	272	11.53	112	89	40	0	0	4	0
	CUT BANK	64	45	74	38	55	0	0.19	-0.13	0.16	0.49	71	10.49	97	86	47	0	0	2	0
	GLASGOW	66	50	78	46	58	-2	2.24	2.02	1.61	3.23	702	16.77	181	87	70	0	0	4	2
	GREAT FALLS	69	47	82	42	58	0	0.56	0.26	0.51	0.60	95	14.40	119	90	42	0	0	3	1
	HAVRE	69	45	83	40	57	-2	0.07	-0.18	0.07	0.51	102	10.11	108	93	60	0	0	1	0
	MISSOULA	73	47	82	41	60	1	1.00	0.75	0.70	1.65	311	12.00	116	88	54	0	0	2	1
NE	GRAND ISLAND	83	62	89	52	72	5	0.53	-0.09	0.31	0.54	42	36.95	175	89	61	0	0	2	0
	LINCOLN	85	65	92	55	75	7	0.07	-0.65	0.06	0.19	13	26.72	119	81	58	2	0	2	0
	NORFOLK	82	60	86	51	71	5	0.15	-0.40	0.08	0.32	29	27.05	125	94	70	0	0	3	0
	NORTH PLATTE	84	55	90	44	70	5	0.38	0.08	0.24	0.38	60	29.05	175	93	44	1	0	3	0
	OMAHA	83	64	89	58	74	6	0.21	-0.55	0.05	0.32	21	27.53	117	87	66	0	0	4	0
	SCOTTSBLUFF	79	49	88	40	64	1	0.41	0.14	0.34	0.86	165	27.84	210	90	48	0	0	3	0
	VALENTINE	79	53	90	45	66	2	2.37	2.01	1.02	2.49	346	33.01	202	88	51	1	0	3	2
NV	ELY	77	37	85	29	57	-2	0.03	-0.16	0.03	0.09	23	12.16	167	60	24	0	1	1	0
	LAS VEGAS	96	73	102	70	84	0	0.00	-0.06	0.00	0.00	0	4.64	139	21	14	7	0	0	0
	RENO	82	49	94	44	66	2	0.00	-0.09	0.00	0.05	28	8.81	172	51	27	2	0	0	0
	WINNEMUCCA	80	40	93	36	60	-3	0.24	0.13	0.24	0.39	186	7.80	136	74	31	1	0	1	0
NH	CONCORD	71	46	85	41	59	-3	0.20	-0.52	0.10	0.75	52	29.78	115	97	57	0	0	3	0
NJ	NEWARK	79	63	91	57	71	1	0.04	-0.92	0.04	1.55	82	44.27	132	79	63	1	0	1	0
NM	ALBUQUERQUE	87	64	88	61	75	4	0.02	-0.24	0.02	0.02	4	5.89	86	61	25	0	0	1	0
NY	ALBANY	74	53	87	45	64	1	0.03	-0.76	0.02	1.80	111	31.88	117	86	53	0	0	2	0
	BINGHAMTON	71	53	83	47	62	1	0.22	-0.63	0.18	1.57	92	31.76	116	95	67	0	0	3	0
	BUFFALO	73	56	81	53	65	1	2.61	1.66	2.14	4.46	231	32.84	118	89	61	0	0	4	1
	ROCHESTER	73	54	85	49	64	1	0.82	-0.04	0.50	1.94	111	23.15	96	89	60	0	0	3	1
	SYRACUSE	75	54	83	47	64	0	0.23	-0.76	0.16	1.93	100	33.87	122	91	57	0	0	3	0
NC	ASHEVILLE	89	63	91	58	76	8	0.39	-0.55	0.36	0.39	20	42.10	121	90	45	4	0	2	0
	CHARLOTTE	93	71	98	68	82	7	0.19	-0.69	0.19	0.19	11	39.32	126	87	44	6	0	1	0
	GREENSBORO	88	69	95	65	79	7	0.02	-0.97	0.01	0.02	1	38.10	121	95	55	2	0	2	0
	HATTERAS	***	***	***	***	***	***	***	***	***	***	***	45.21	117	***	***	0	0	0	0
	RALEIGH	88	69	96	66	79	6	0.01	-0.99	0.01	1.05	54	33.44	106	92	61	2	0	1	0
	WILMINGTON	90	73	94	70	81	4	0.86	-0.86	0.59	7.84	228	33.91	78	94	55	3	0	2	1
ND	BISMARCK	65	51	80	48	58	-2	1.81	1.43	1.27	2.96	375	22.24	164	95	86	0	0	5	1
	DICKINSON	64	49	78	44	57	-3	2.71	2.34	1.60	3.73	511	21.11	160	98	67	0	0	5	1
	FARGO	64	52	67	46	58	-2	1.98	1.47	1.37	2.73	263	25.70	156	99	77	0	0	3	2
	GRAND FORKS	64	49	71	42	56	-3	1.59	1.12	1.03	2.05	209	18.89	123	91	62	0	0	3	2
	JAMESTOWN	64	50	76	45	57	-3	1.31	0.90	0.66	1.78	214	23.05	153	99	72	0	0	3	2
	WILLISTON	65	50	76	44	57	-2	3.05	2.75	1.34	6.13	1005	19.16	169	93	80	0	0	3	3
OH	AKRON-CANTON	85	63	93	55	74	9	0.54	-0.29	0.45	0.83	50	36.61	130	90	52	2	0	3	0
	CINCINNATI	89	66	95	57	77	7	0.00	-0.69	0.00	0.49	34	44.79	142	83	46	4	0	0	0
	CLEVELAND	84	64	94	60	74	8	0.89	-0.04	0.76	1.13	60	33.46	121	86	52	3	0	3	1
	COLUMBUS	87	64	93	56	75	6	0.00	-0.72	0.00	0.55	37	36.40	127	85	44	4	0	0	0
	DAYTON	88	64	94	57	76	9	0.00	-0.65	0.00	0.01	1	35.21	121	84	44	4	0	0	0
	MANSFIELD	84	62	91	56	73	8	0.50	-0.40	0.22	1.77	94	40.40	126	93	52	2	0	3	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending September 14, 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 SEP 1	PCT. NORMAL SINCE SEP 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	84	63	92	58	74	8	2.03	1.31	0.97	2.16	146	35.67	148	85	54	3	0	3	3
	YOUNGSTOWN	80	59	90	54	70	6	3.63	2.68	2.89	4.30	232	44.93	163	89	56	1	0	4	2
OK	OKLAHOMA CITY	89	68	92	66	79	4	0.53	-0.33	0.44	0.53	33	38.73	150	93	51	4	0	2	0
	TULSA	92	72	96	67	82	6	0.57	-0.51	0.41	0.57	28	44.64	150	84	58	6	0	2	0
OR	ASTORIA	69	55	73	50	62	3	2.80	2.25	1.54	2.81	273	28.48	73	95	77	0	0	6	2
	BURNS	76	40	87	34	58	1	0.09	-0.02	0.09	0.16	84	11.57	162	76	44	0	0	1	0
	EUGENE	75	56	83	50	65	2	1.61	1.23	0.71	1.66	227	24.86	83	93	74	0	0	3	1
	MEDFORD	82	54	90	52	68	0	0.05	-0.12	0.05	0.15	45	14.89	138	80	36	1	0	1	0
	PENDLETON	77	53	86	48	65	-1	0.56	0.42	0.35	0.58	207	10.33	124	77	54	0	0	4	0
	PORTLAND	75	59	83	53	67	2	0.93	0.57	0.28	1.02	148	16.43	75	88	71	0	0	4	0
	SALEM	74	55	82	50	64	0	1.28	0.98	0.96	1.29	226	21.01	90	94	73	0	0	3	1
PA	ALLENTOWN	81	62	91	56	71	5	0.74	-0.33	0.59	1.18	55	47.66	147	83	56	1	0	2	1
	ERIE	77	61	86	53	69	3	1.81	0.66	1.07	3.12	136	31.99	111	83	63	0	0	3	1
	MIDDLETOWN	82	64	93	58	73	4	0.37	-0.46	0.21	1.44	88	34.29	118	89	54	1	0	4	0
	PHILADELPHIA	83	64	90	61	74	3	0.25	-0.68	0.14	0.75	41	38.56	125	80	50	1	0	3	0
	PITTSBURGH	82	60	90	54	71	5	0.13	-0.67	0.13	3.66	229	40.41	144	87	50	1	0	1	0
	WILKES-BARRE	77	60	91	55	69	4	0.50	-0.41	0.43	0.55	31	38.84	145	91	59	1	0	2	0
	WILLIAMSPORT	78	59	92	54	69	3	0.15	-0.80	0.08	1.25	68	38.01	128	89	61	1	0	3	0
RI	PROVIDENCE	76	56	85	48	66	0	0.47	-0.43	0.32	0.53	29	34.84	108	86	57	0	0	2	0
SC	CHARLESTON	90	74	93	69	82	4	0.15	-1.41	0.15	3.93	123	33.83	85	95	57	5	0	1	0
	COLUMBIA	95	72	99	67	84	7	1.01	0.00	1.01	1.63	77	27.47	74	90	50	6	0	1	1
	FLORENCE	92	72	94	70	82	5	0.84	-0.08	0.72	3.67	190	32.90	97	95	51	6	0	2	1
	GREENVILLE	93	70	96	67	81	7	0.17	-0.73	0.13	0.17	10	36.47	100	86	42	6	0	2	0
SD	ABERDEEN	70	52	83	48	61	-1	2.95	2.52	0.96	4.09	460	26.21	158	92	83	0	0	5	4
	HURON	73	56	82	51	64	1	2.90	2.49	1.13	3.06	369	36.09	212	94	72	0	0	5	2
	RAPID CITY	70	48	81	39	59	-4	1.77	1.54	1.17	1.81	369	31.44	230	93	53	0	0	4	1
	SIOUX FALLS	74	58	82	53	66	3	2.74	2.10	1.08	2.75	210	33.31	170	93	77	0	0	5	2
TN	BRISTOL	93	62	96	56	77	8	0.68	-0.05	0.68	0.68	48	42.22	137	96	37	6	0	1	1
	CHATTANOOGA	96	69	103	63	83	9	0.10	-0.94	0.09	0.10	5	45.72	117	90	43	6	0	2	0
	KNOXVILLE	93	67	97	62	80	7	0.00	-0.70	0.00	0.00	0	48.23	136	89	39	6	0	0	0
	MEMPHIS	96	75	98	73	85	8	0.00	-0.78	0.00	0.00	0	52.24	137	78	43	7	0	0	0
	NASHVILLE	96	69	99	63	83	10	0.01	-0.86	0.01	0.01	1	47.62	139	84	37	6	0	1	0
TX	ABILENE	95	72	98	69	83	6	0.01	-0.65	0.01	0.02	2	19.00	114	76	38	7	0	1	0
	AMARILLO	89	66	94	63	78	7	0.09	-0.38	0.05	0.09	9	17.14	107	84	39	2	0	2	0
	AUSTIN	99	71	100	69	85	4	0.18	-0.41	0.18	0.18	16	26.33	116	82	48	7	0	1	0
	BEAUMONT	95	75	97	71	85	5	0.05	-1.41	0.05	0.07	2	53.74	128	92	56	7	0	1	0
	BROWNSVILLE	93	76	94	75	85	3	0.19	-1.04	0.19	3.37	145	17.06	95	87	58	7	0	1	0
	CORPUS CHRISTI	92	75	96	74	84	2	2.16	1.00	0.79	3.39	151	16.41	74	94	62	6	0	3	3
	DEL RIO	97	76	100	74	87	5	0.01	-0.42	0.01	0.01	1	13.27	100	80	48	7	0	1	0
	EL PASO	92	71	96	70	82	5	0.99	0.60	0.92	0.99	129	3.73	57	66	32	5	0	2	1
	FORT WORTH	96	75	99	73	86	7	0.00	-0.43	0.00	0.00	0	27.14	114	77	34	7	0	0	0
	GALVESTON	93	82	96	79	88	6	0.08	-1.35	0.06	0.12	4	28.05	93	83	51	7	0	2	0
	HOUSTON	96	75	98	71	85	5	1.73	0.71	1.63	1.73	85	30.96	93	91	49	7	0	3	1
	LUBBOCK	88	67	94	63	78	5	0.51	-0.10	0.25	0.51	42	16.12	113	85	59	2	0	3	0
	MIDLAND	92	70	97	67	81	5	0.44	-0.06	0.31	0.44	46	11.87	114	76	52	6	0	3	0
	SAN ANGELO	95	71	98	64	83	6	0.27	-0.39	0.27	0.27	21	14.76	101	79	44	7	0	1	0
	SAN ANTONIO	97	74	98	72	86	5	0.49	-0.15	0.49	0.49	38	15.78	69	89	39	7	0	1	0
	VICTORIA	96	74	99	73	85	4	2.85	1.73	2.40	2.85	134	18.72	67	93	49	7	0	4	1
	WACO	98	74	99	72	86	5	0.17	-0.39	0.17	0.17	17	27.67	123	86	42	7	0	1	0
	WICHITA FALLS	95	71	99	68	83	5	1.34	0.63	1.34	1.34	96	22.41	109	85	51	6	0	1	1
UT	SALT LAKE CITY	78	54	90	50	66	-2	1.00	0.74	0.81	1.11	231	16.37	143	71	31	1	0	3	1
VT	BURLINGTON	72	51	83	42	61	-1	0.06	-0.87	0.03	2.24	120	28.46	111	87	49	0	0	2	0
VA	LYNCHBURG	87	66	97	60	77	8	0.06	-0.82	0.06	0.06	4	28.73	92	93	53	2	0	1	0
	NORFOLK	84	71	92	69	78	4	1.77	0.81	1.58	2.96	153	38.59	113	93	67	1	0	2	1
	RICHMOND	88	68	98	66	78	6	0.01	-0.90	0.01	0.39	22	34.43	108	94	58	2	0	1	0
	ROANOKE	87	67	97	57	77	7	0.74	-0.17	0.57	0.80	44	32.29	103	89	58	2	0	3	1
	WASH/DULLES	85	63	95	56	74	4	0.01	-0.90	0.01	0.33	18	30.18	100	89	54	2	0	1	0
WA	OLYMPIA	71	54	79	47	62	2	1.17	0.73	0.68	1.17	138	18.39	63	96	77	0	0	5	1
	QUILLAYUTE	67	55	70	46	61	3	4.81	4.02	2.49	5.01	334	42.31	71	98	84	0	0	4	2
	SEATTLE-TACOMA	72	59	79	56	65	2	0.62	0.26	0.29	1.21	175	18.43	86	89	72	0	0	5	0
	SPOKANE	70	54	76	50	62	0	0.73	0.56	0.64	0.77	233	9.89	93	82	49	0	0	2	1
	YAKIMA	78	52	82	44	65	3	0.33	0.25	0.33	0.33	194	7.11	140	79	47	0	0	1	0
WV	BECKLEY	88	63	92	54	75	10	0.00	-0.74	0.00	0.03	2	35.64	114	84	45	3	0	0	0
	CHARLESTON	93	63	98	59	78	10	0.00	-0.85	0.00	0.09	5	34.11	105	92	34	6	0	0	0
	ELKINS	86	58	91	53	72	8	0.00	-0.94	0.00	0.00	0	38.70	112	90	49	1	0	0	0
	HUNTINGTON	90	64	96	58	77	8	0.00	-0.67	0.00	0.00	0	36.69	117	94	43	4	0	0	0
WI	EAU CLAIRE	68	53	81	47	61	-1	3.69	2.71	2.20	4.99	245	35.55	141	95	70	0	0	5	2
	GREEN BAY	70	56	81	52	63	2	5.04	4.24	2.09	7.19	436	36.89	169	90	69	0	0	5	3
	LA CROSSE	75	60	87	54	68	3	3.49	2.61	1.69	3.66	201	34.12	135	88	64	0	0	6	3
	MADISON	74	58	83	50	66	3	3.21	2.40	1.72	3.56	207	35.06	138	91	73	0	0	5	2
	MILWAUKEE	77	61	89	56	69	4	4.79	3.95	1.41	5.05	289	33.98	131	89	72	0	0	5	4
WY	CASPER	74	44	82	41	59	-1	0.50	0.32	0.25	0.50	152	15.39	157	80	42	0	0	2	0
	CHEYENNE	76	47	83	42	62	3	0.34	-0.01	0.16	0.41	58	20.56	160	77	37	0	0	3	0
	LANDER	71	45	84	38	58	-3	0.61	0.39	0.58	0.68	179	16.25	168	89	34	0	0	3	1
	SHERIDAN	73	47	86	43	60	0	1.16	0.87	0.99	1.16	219	17.29	157	83	56	0	0	2	1

Based on 1971-2000 normals

***** Not Available**

National Agricultural Summary

September 9 – 15, 2019

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Rain during the week ending September 15 fell heaviest in parts of northern Illinois, eastern Iowa, Minnesota, Nebraska, South Dakota, and Wisconsin with some areas receiving 4 inches or more of precipitation. Temperatures were more than 6°F above normal in parts of the southern Great Lakes, southern Great Plains, Mississippi Valley, the Southeast, Virginia, and West Virginia. In contrast, temperatures were 4°F or more below normal in parts of California, the northern Great Plains, Minnesota, New England, Nevada, Pacific Northwest, Rocky Mountains, and Wisconsin.

Corn: By September 15, ninety-three percent of the corn acreage was at or beyond the dough stage, 6 percentage points behind last year and 5 percentage points behind the 5-year average. Eighty percent or more of the acreage in all estimating States, except Wisconsin, was at or beyond the dough stage by week's end. By September 15, sixty-eight percent of this year's acreage was dented, 24 percentage points behind last year and 19 percentage points behind the 5-year average. All of the estimating States, except Tennessee and Texas, were behind their 5-year average pace in denting progress. Eighteen percent of the 2019 corn acreage had reached maturity as of September 15, thirty-three percentage points behind last year and 21 percentage points behind the 5-year average. Harvest was underway in 9 of the 18 estimating States. Four percent of the 2019 acreage was harvested by week's end, 4 percentage points behind last year and 3 percentage points behind the 5-year average harvest pace. Overall, 55 percent of the Nation's corn acreage was rated in good to excellent condition, unchanged from the previous week but 13 percentage points below the same time last year.

Soybean: Nationally, 95 percent of the Nation's soybean acreage was setting pods, 5 percentage points behind both last year and the 5-year average. Fifteen percent of the Nation's soybean acreage was at or beyond the leaf dropping stage by September 15, thirty-five percentage points behind last year and 23 percentage points behind 5-year average. Based on conditions as of September 15, fifty-four percent of the Nation's soybean acreage was rated in good to excellent condition, down 1 percentage point from the previous week and 13 percentage points below the same time last year.

Winter Wheat: Nationwide, producers had sown 8 percent of the intended 2020 winter wheat acreage by September 15, four percentage points behind both last year and the 5-year average. Winter wheat planting progress was most advanced in Washington at 30 percent planted, 14 percentage points behind last year and 12 percentage points behind the 5-year average.

Cotton: By September 15, fifty-four percent of the Nation's cotton acreage had open bolls, 6 percentage points ahead of last year and 7 percentage points ahead of the 5-year average. By September 15, nine percent of the Nation's cotton acreage was harvested, 4 percentage points behind last year but 1 percentage point ahead of the 5-year average. Based on conditions as of September 15, forty-one percent of the 2019 cotton acreage was rated in good to excellent condition, 2 percentage points below the previous week but 2 percentage points above the same time last year.

Sorghum: Seventy-nine percent of Nation's sorghum acreage was at or beyond the coloring stage by September 15, eight percentage points behind last year and 5 percentage points behind the 5-year average. Sorghum coloring advanced 15 percentage points or more in 4 of 6 of the estimating States during the week. By September 15, thirty-four percent of the Nation's sorghum acreage was considered mature, 6 percentage points behind last year and 10 percentage points behind the 5-year average. Eighty-seven percent of Texas' sorghum acreage had reached maturity by September 15, seven percentage points ahead of last year and 9 percentage points ahead of the 5-year average. Twenty-four percent of the 2019 sorghum acreage was harvested by September 15, two percentage points behind last year and 3 percentage points behind the 5-year average. As of September 15, sixty-five percent of the Nation's sorghum acreage was rated in good to excellent condition, 3 percentage points below the previous week but 12 percentage points above the same time last year.

Rice: Nationally, 46 percent of the rice acreage was harvested by September 15, two percentage points behind both last year and the 5-year average. As of September 15, sixty-nine percent of the Nation's rice acreage was rated in good to excellent condition, unchanged from the previous week but 5 percentage points below the same time last year.

Small Grains: By September 15, ninety-two percent of the Nation's oat acreage had been harvested, 4 percentage points behind last year and 5 percentage points behind the 5-year average. Oats harvest progress was complete or nearing completion in all estimating States, except North Dakota and Wisconsin.

Eighty-seven percent of the Nation's barley acreage was harvested by September 15, eight percentage points behind last year and 9 percentage points behind the 5-year average.

By September 15, seventy-six percent of the spring wheat acreage was harvested, 20 percentage points behind last year and 17 percentage points behind the 5-year average. By week's end, harvest progress advanced by 13 percentage points in Washington.

Other Crops: Five percent of the Nation's peanut acreage was harvested as of September 15, two percentage points ahead of last year but equal to the 5-year average. On September 15, sixty-one percent of the Nation's peanut acreage was rated in good to excellent condition, 3 percentage points below the previous week and 11 percentage points below the same time last year.

By September 15, sugarbeet producers harvested 8 percent of the Nation's crop, 3 percentage points behind last year and 1 percentage point behind the 5-year average. Producers in North Dakota led the Nation in harvest progress with 11 percent of the 2019 acreage harvested by September 15, two percentage points ahead of both last year and the 5-year average.

Crop Progress and Condition

Week Ending September 15, 2019

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

Corn Percent Dough

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	97	90	94	97
IL	100	88	94	100
IN	100	82	90	98
IA	99	91	94	99
KS	98	96	97	99
KY	99	93	95	98
MI	94	69	80	93
MN	100	90	95	99
MO	100	95	100	100
NE	100	94	97	99
NC	100	100	100	100
ND	99	87	92	97
OH	99	75	81	99
PA	92	79	84	92
SD	100	85	93	99
TN	100	100	100	100
TX	97	100	100	98
WI	95	72	78	93
18 Sts	99	89	93	98

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

Corn Percent Dented

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	84	44	61	80
IL	99	53	67	94
IN	93	43	59	86
IA	93	60	74	89
KS	93	80	88	92
KY	93	85	91	92
MI	78	26	41	71
MN	91	42	59	88
MO	99	72	80	97
NE	91	70	82	90
NC	99	95	97	99
ND	91	25	38	78
OH	82	29	44	81
PA	77	65	74	76
SD	94	35	50	84
TN	99	94	97	97
TX	95	94	97	91
WI	80	31	44	73
18 Sts	92	55	68	87

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

Corn Percent Mature

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	20	2	5	18
IL	72	8	14	53
IN	58	8	16	42
IA	49	4	8	34
KS	61	28	43	56
KY	80	59	71	74
MI	24	0	3	19
MN	38	1	2	23
MO	79	15	30	66
NE	41	9	19	35
NC	93	90	93	93
ND	43	1	3	22
OH	39	4	8	29
PA	29	19	32	32
SD	42	2	6	26
TN	82	63	84	81
TX	79	58	67	73
WI	34	0	2	22
18 Sts	51	11	18	39

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

Corn Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	0	NA	0	0
IL	11	NA	1	6
IN	6	NA	1	4
IA	2	NA	0	1
KS	15	4	10	16
KY	33	13	26	28
MI	1	NA	0	1
MN	1	NA	0	0
MO	23	2	8	19
NE	4	NA	0	2
NC	63	58	72	63
ND	1	NA	0	0
OH	2	NA	0	1
PA	1	2	6	4
SD	2	NA	0	1
TN	38	16	38	35
TX	66	52	59	61
WI	1	NA	0	0
18 Sts	8	NA	4	7

These 18 States harvested 94% of last year's corn acreage.

Corn Condition by Percent

	VP	P	F	G	EX
CO	1	8	25	56	10
IL	5	14	40	35	6
IN	9	19	41	28	3
IA	2	7	26	53	12
KS	4	12	34	40	10
KY	3	8	23	46	20
MI	7	14	37	31	11
MN	3	10	35	44	8
MO	3	16	38	38	5
NE	2	6	21	54	17
NC	13	17	29	31	10
ND	1	5	20	63	11
OH	7	19	40	32	2
PA	0	6	19	59	16
SD	2	6	23	50	19
TN	1	2	14	55	28
TX	1	9	38	41	11
WI	3	9	24	44	20
18 Sts	4	10	31	44	11
Prev Wk	4	10	31	45	10
Prev Yr	4	8	20	47	21

Sugarbeets Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
ID	14	NA	3	11
MI	17	1	4	11
MN	8	8	9	9
ND	9	10	11	9
4 Sts	11	NA	8	9

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

Crop Progress and Condition

Week Ending September 15, 2019

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

Soybeans Percent Setting Pods

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AR	100	97	100	100
IL	100	90	93	100
IN	100	84	91	100
IA	100	94	96	100
KS	97	89	93	97
KY	97	87	91	96
LA	100	100	100	100
MI	99	89	92	100
MN	100	99	100	100
MS	100	97	98	100
MO	95	84	90	94
NE	100	94	98	100
NC	95	93	97	94
ND	100	96	98	100
OH	100	89	93	100
SD	100	91	94	100
TN	100	95	98	98
WI	100	85	88	100
18 Sts	100	92	95	100

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

Soybeans Percent Dropping Leaves

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AR	38	22	30	47
IL	55	NA	3	33
IN	60	NA	5	44
IA	45	NA	5	29
KS	26	7	13	25
KY	30	15	25	24
LA	82	51	71	78
MI	36	3	17	34
MN	54	1	14	38
MS	67	27	50	63
MO	20	NA	2	16
NE	59	7	22	44
NC	27	20	32	24
ND	78	20	42	64
OH	46	NA	5	38
SD	65	2	9	51
TN	38	27	39	37
WI	34	1	6	24
18 Sts	50	NA	15	38

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

Soybean Condition by Percent

	VP	P	F	G	EX
AR	2	13	31	38	16
IL	8	14	36	36	6
IN	8	20	41	28	3
IA	2	6	29	52	11
KS	3	7	31	51	8
KY	4	10	25	55	6
LA	1	4	27	61	7
MI	4	12	43	32	9
MN	2	8	35	50	5
MS	0	2	23	59	16
MO	3	9	34	48	6
NE	1	4	21	61	13
NC	3	13	34	40	10
ND	3	6	27	56	8
OH	6	19	40	32	3
SD	3	6	26	50	15
TN	2	6	30	51	11
WI	2	6	25	44	23
18 Sts	4	10	32	45	9
Prev Wk	3	9	33	45	10
Prev Yr	3	7	23	49	18

Cotton Percent Bolls Opening

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AL	65	57	70	59
AZ	85	68	90	79
AR	87	66	85	73
CA	9	15	25	42
GA	53	59	70	67
KS	36	9	17	27
LA	94	65	77	92
MS	79	42	60	70
MO	80	29	48	51
NC	57	40	61	55
OK	47	40	47	39
SC	36	56	71	56
TN	78	27	47	56
TX	36	39	47	36
VA	42	41	56	41
15 Sts	48	43	54	47

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

Cotton Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AL	0	0	1	1
AZ	13	2	5	9
AR	1	0	4	1
CA	0	0	0	0
GA	1	0	4	1
KS	0	0	0	1
LA	13	1	9	8
MS	5	0	0	2
MO	2	0	0	0
NC	1	0	1	1
OK	0	0	0	0
SC	2	0	0	1
TN	2	0	0	1
TX	21	13	15	14
VA	0	0	0	0
15 Sts	13	7	9	8

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

Cotton Condition by Percent

	VP	P	F	G	EX
AL	2	9	31	50	8
AZ	0	11	41	39	9
AR	0	5	14	40	41
CA	0	0	65	30	5
GA	3	9	31	48	9
KS	6	14	36	39	5
LA	0	3	32	58	7
MS	0	3	38	43	16
MO	7	10	52	31	0
NC	5	17	33	39	6
OK	2	7	50	40	1
SC	1	8	31	56	4
TN	4	8	29	45	14
TX	3	19	47	27	4
VA	0	5	12	73	10
15 Sts	3	14	42	34	7
Prev Wk	3	15	39	37	6
Prev Yr	8	24	29	30	9

Crop Progress and Condition

Week Ending September 15, 2019

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

Sorghum Percent Coloring

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	86	31	58	74
KS	84	56	73	81
NE	90	59	84	91
OK	77	53	68	82
SD	75	58	65	81
TX	94	93	97	88
6 Sts	87	65	79	84

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

Sorghum Percent Mature

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	12	2	12	17
KS	19	3	9	21
NE	26	1	6	23
OK	38	25	35	44
SD	14	4	5	18
TX	80	80	87	78
6 Sts	40	27	34	44

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

Sorghum Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
CO	0	0	0	0
KS	3	0	1	3
NE	0	0	0	0
OK	11	3	6	15
SD	0	0	0	1
TX	69	75	79	65
6 Sts	26	22	24	27

These 6 States harvested 98% of last year's sorghum acreage.

Sorghum Condition by Percent

	VP	P	F	G	EX
CO	1	3	26	61	9
KS	2	8	29	51	10
NE	1	1	17	64	17
OK	0	0	25	69	6
SD	1	1	17	78	3
TX	1	5	29	40	25
6 Sts	1	6	28	51	14
Prev Wk	1	5	26	53	15
Prev Yr	5	12	30	44	9

Peanuts Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AL	0	1	6	2
FL	14	3	15	16
GA	3	1	5	4
NC	0	NA	1	1
OK	0	NA	0	0
SC	1	1	3	5
TX	0	NA	0	2
VA	3	NA	2	1
8 Sts	3	NA	5	5

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

Peanut Condition by Percent

	VP	P	F	G	EX
AL	5	8	42	44	1
FL	5	6	33	54	2
GA	1	9	27	54	9
NC	4	7	30	44	15
OK	0	0	10	83	7
SC	0	2	31	61	6
TX	0	1	28	71	0
VA	0	6	17	63	14
8 Sts	2	7	30	55	6
Prev Wk	2	6	28	55	9
Prev Yr	2	4	22	57	15

Rice Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AR	45	23	44	48
CA	5	1	5	6
LA	92	81	88	91
MS	69	25	51	53
MO	19	5	22	23
TX	94	78	92	94
6 Sts	48	30	46	48

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

Rice Condition by Percent

	VP	P	F	G	EX
AR	1	7	31	42	19
CA	0	0	0	45	55
LA	1	4	30	58	7
MS	0	1	20	63	16
MO	3	6	38	40	13
TX	1	4	30	54	11
6 Sts	1	5	25	47	22
Prev Wk	1	5	25	46	23
Prev Yr	0	4	22	58	16

Crop Progress and Condition

Week Ending September 15, 2019

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

Oats Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
IA	100	100	100	100
MN	100	94	97	99
NE	100	100	100	100
ND	98	72	79	93
OH	100	100	100	100
PA	91	90	94	94
SD	100	96	97	100
TX	100	100	100	100
WI	96	78	82	95
9 Sts	96	89	92	97

These 9 States harvested 65% of last year's oat acreage.

Winter Wheat Percent Planted

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
AR	0	NA	1	0
CA	2	NA	0	1
CO	22	4	21	25
ID	22	2	13	19
IL	0	NA	0	0
IN	4	NA	0	2
KS	6	1	6	6
MI	3	NA	3	3
MO	0	NA	0	0
MT	0	1	5	16
NE	19	4	19	26
NC	0	NA	0	0
OH	0	NA	1	0
OK	11	NA	7	10
OR	9	9	14	8
SD	26	NA	5	22
TX	12	NA	4	10
WA	44	17	30	42
18 Sts	12	NA	8	12

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

Spring Wheat Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
ID	96	85	89	97
MN	100	78	83	95
MT	93	62	69	91
ND	97	68	73	91
SD	100	91	96	98
WA	95	74	87	98
6 Sts	96	71	76	93

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

Barley Percent Harvested

	Prev Year	Prev Week	Sep 15 2019	5-Yr Avg
ID	98	92	94	97
MN	100	97	98	99
MT	91	76	80	95
ND	98	81	88	95
WA	94	66	70	97
5 Sts	95	82	87	96

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

Pasture and Range Condition by Percent
Week Ending Sep 15, 2019

	VP	P	F	G	EX			VP	P	F	G	EX
AL	1	15	45	37	2		NH	6	7	44	41	2
AZ	9	44	37	10	0		NJ	8	9	31	52	0
AR	2	11	35	43	9		NM	13	25	35	17	10
CA	30	20	5	45	0		NY	2	17	27	34	20
CO	3	7	24	59	7		NC	5	24	41	27	3
CT	0	0	100	0	0		ND	2	7	23	56	12
DE	2	27	35	28	8		OH	3	21	43	32	1
FL	1	8	28	51	12		OK	1	12	31	51	5
GA	5	22	39	31	3		OR	23	37	21	19	0
ID	1	11	35	40	13		PA	0	10	38	45	7
IL	8	14	43	33	2		RI	0	15	55	30	0
IN	10	27	38	23	2		SC	2	23	41	32	2
IA	4	12	41	39	4		SD	1	4	20	51	24
KS	1	6	26	58	9		TN	5	21	46	23	5
KY	15	27	35	22	1		TX	16	30	35	17	2
LA	3	9	47	38	3		UT	3	7	26	57	7
ME	0	0	44	56	0		VT	0	27	41	32	0
MD	3	11	38	44	4		VA	10	43	34	12	1
MA	0	10	30	60	0		WA	13	29	24	34	0
MI	5	22	37	29	7		WV	8	24	28	32	8
MN	2	10	24	54	10		WI	2	7	29	45	17
MS	1	11	45	37	6		WY	2	14	44	36	4
MO	1	6	27	54	12		48 Sts	6	16	31	39	8
MT	3	5	24	50	18							
NE	1	3	18	60	18		Prev Wk	6	14	29	43	8
NV	5	10	25	60	0		Prev Yr	9	16	31	38	6

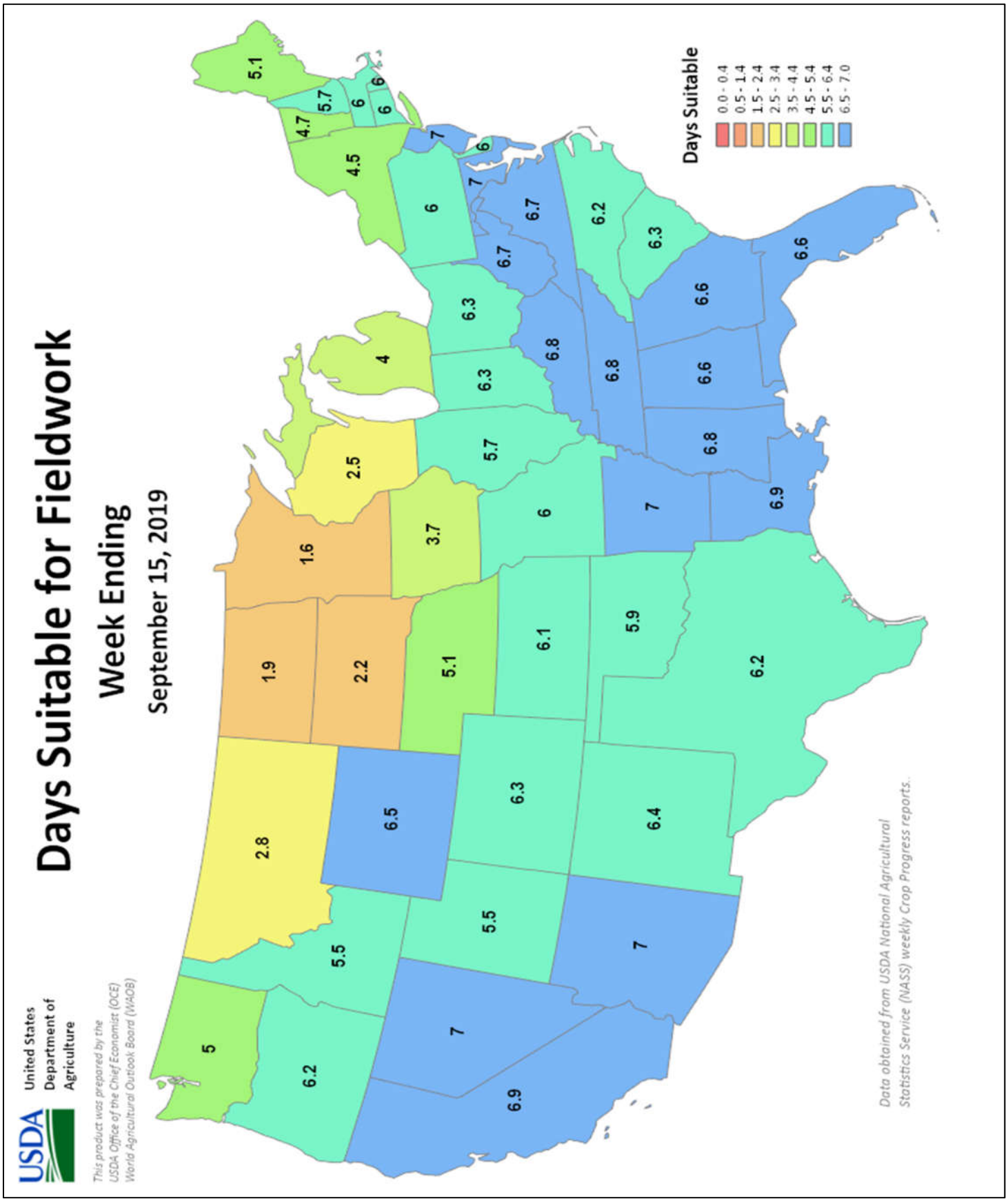
VP - Very Poor; P - Poor; F - Fair; G - Good; EX - Excellent

NA - Not Available; *Revised

Crop Progress and Condition

Week Ending September 15, 2019

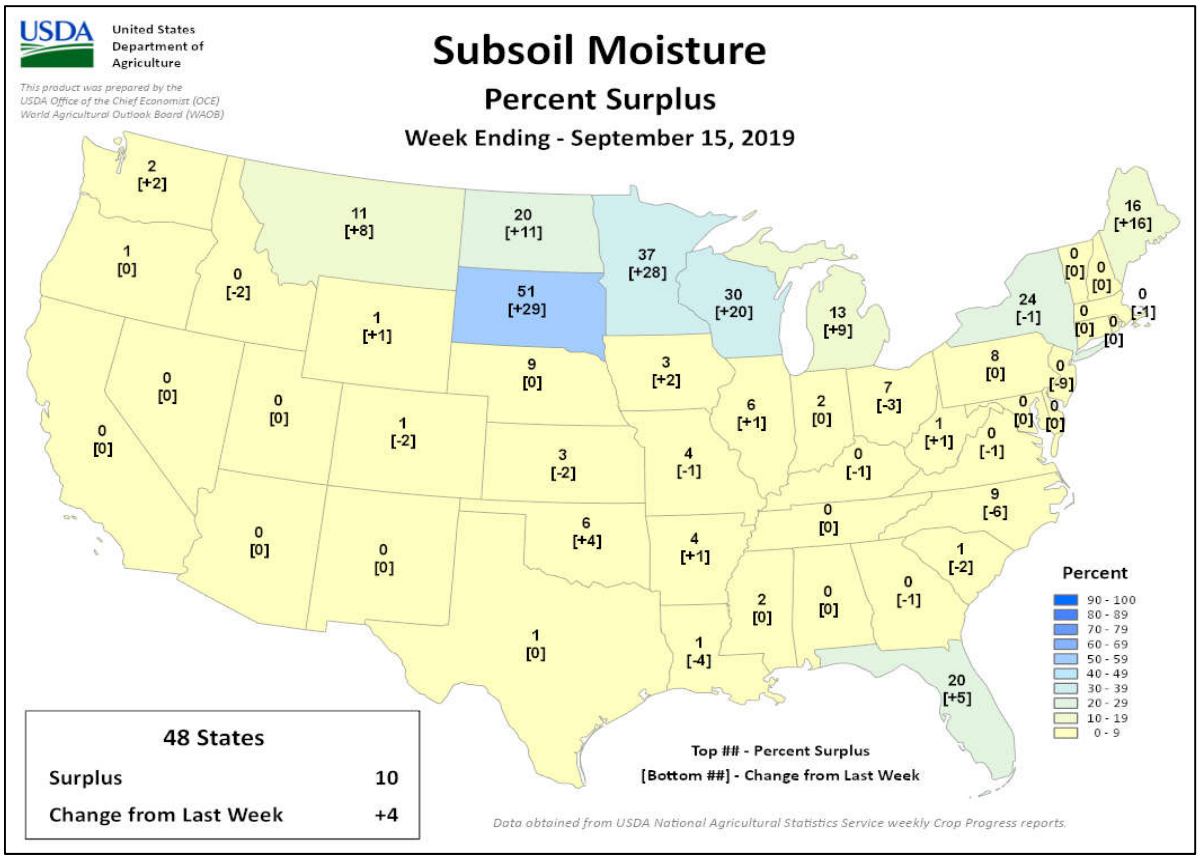
Weekly U.S. Progress and Condition Data provided by USDA/NASS

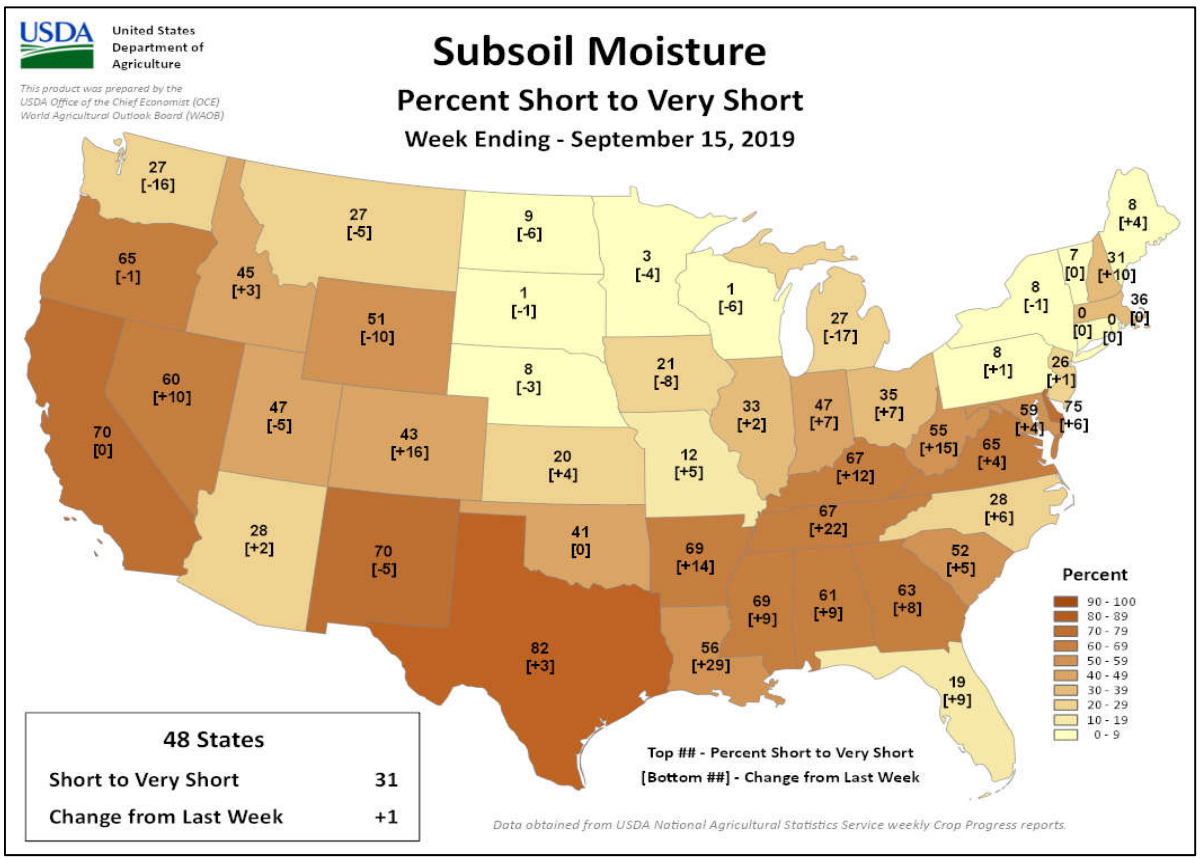


Crop Progress and Condition

Week Ending September 15, 2019

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

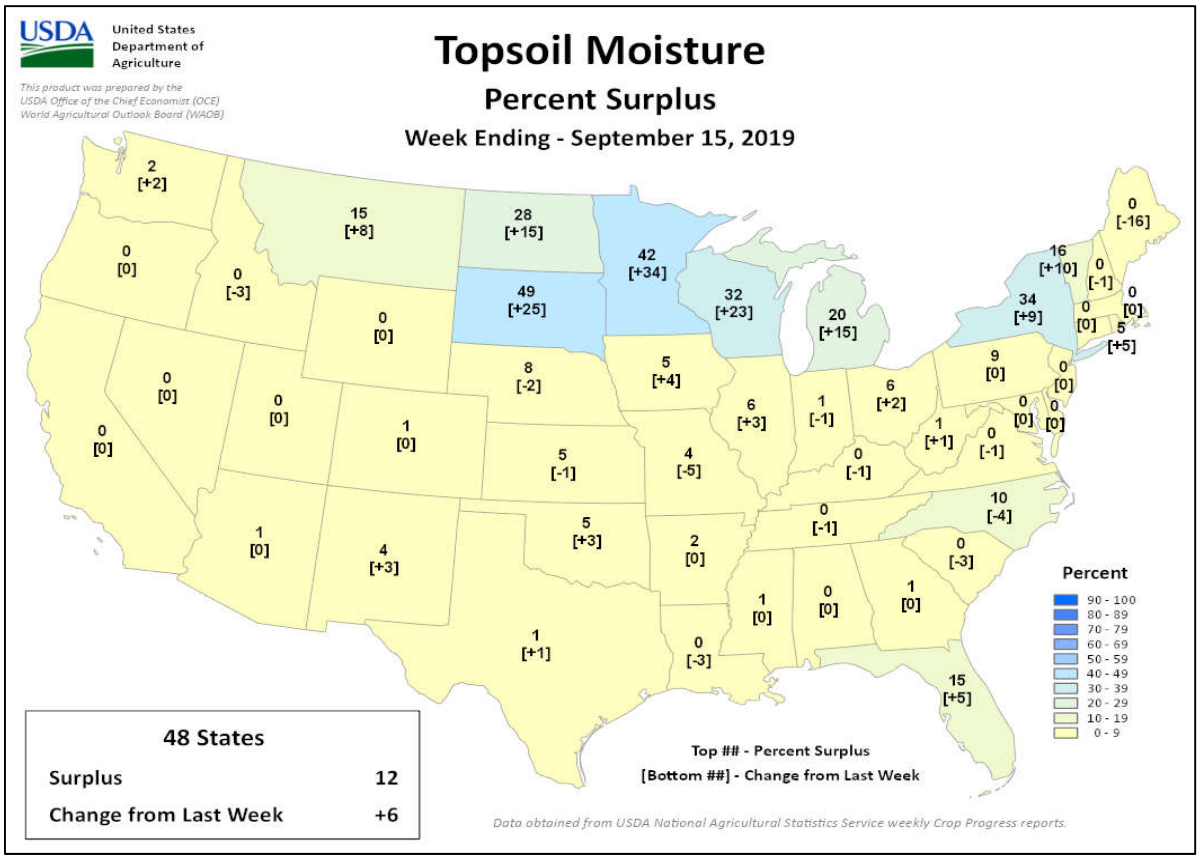


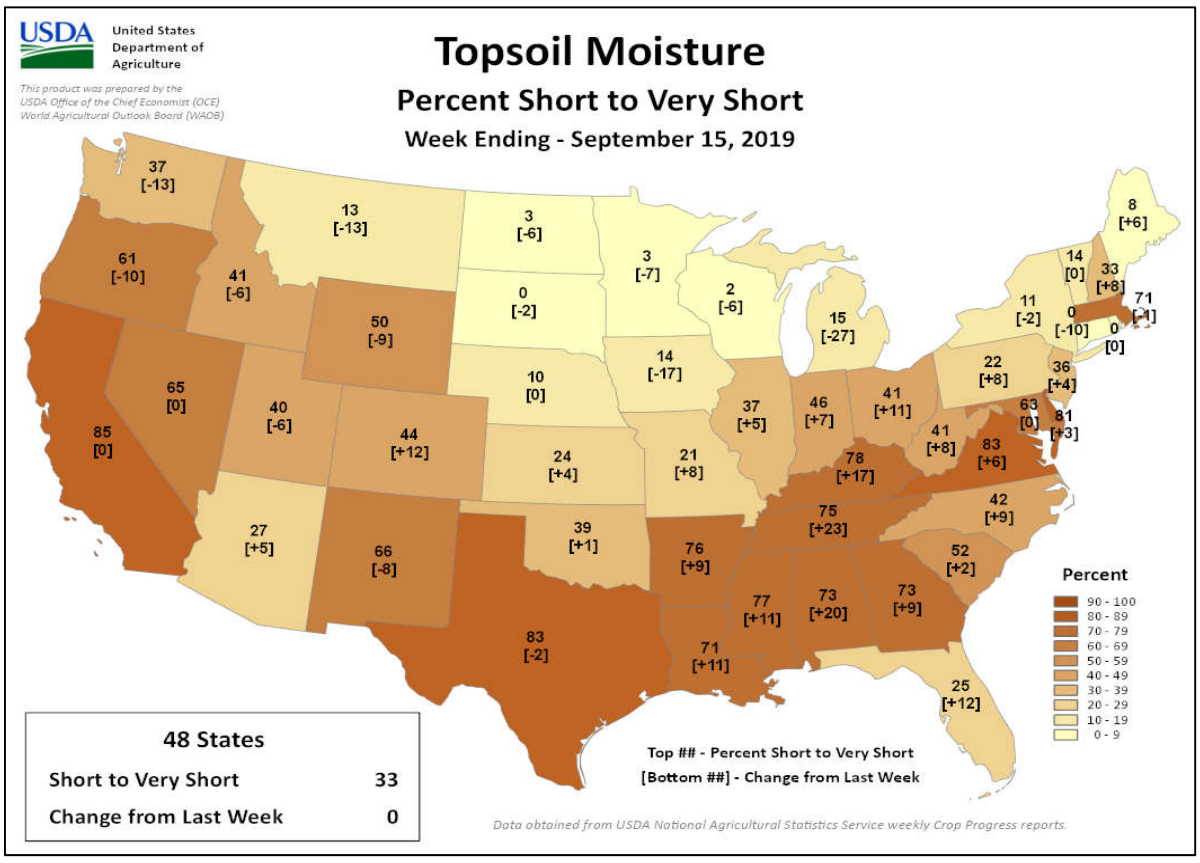


Crop Progress and Condition

Week Ending September 15, 2019

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





September 12 ENSO Diagnostic Discussion

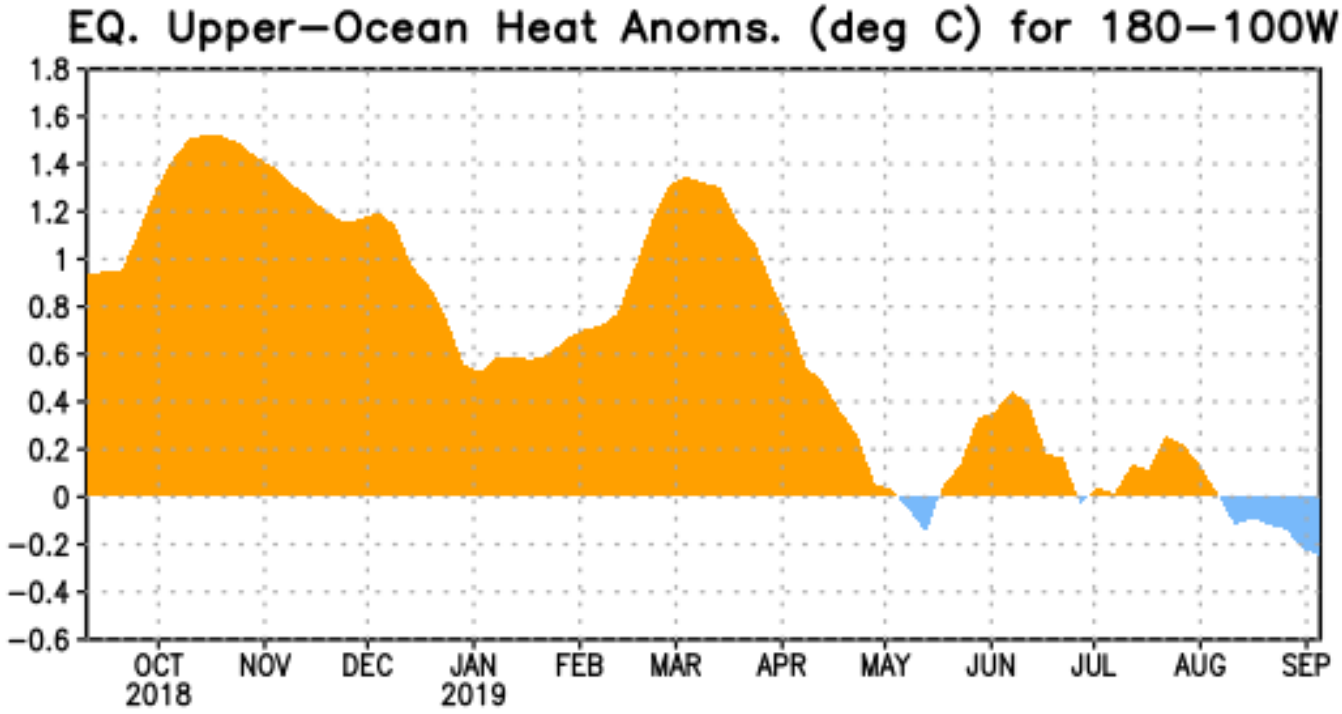


Figure 1: Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180º-100ºW). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

ENSO Alert System Status: Not Active

Synopsis: ENSO-neutral is favored during the Northern Hemisphere fall 2019 (~75% chance), continuing through spring 2020 (55-60% chance).

During August, ENSO-neutral continued as reflected by near-average sea surface temperatures (SST) across most of the central and eastern equatorial Pacific Ocean. The latest weekly Niño-3 and Niño-3.4 indices were -0.2°C and 0.0°C, respectively, with the westernmost Niño-4 region index remaining above average (0.5°C) and the easternmost Niño-1+2 region index remaining below average (-0.6°C). Upper-ocean subsurface temperature anomalies (averaged across 180°-100°W) decreased slightly during the month (Fig. 1), with below-average temperatures strengthening in the east-central equatorial Pacific. Suppressed tropical convection continued over parts of Indonesia, while near-average convection was evident near the Date Line. Low-level and upper-level winds were near average over most of the tropical Pacific Ocean. Overall, oceanic and atmospheric conditions were consistent with ENSO-neutral.

The majority of models in the IRI/CPC plume continue to favor ENSO-neutral (Niño-3.4 index between -0.5°C and +0.5°C) through the Northern Hemisphere spring. Interestingly, the statistical model averages favor Niño-3.4 values above the El Niño threshold (+0.5°C) during the fall and winter, while the dynamical model average indicates values near +0.2°C. Forecasters are leaning toward the dynamical model average, which is also supported by the current tendency of the ocean toward cooler conditions. In summary, ENSO-neutral is favored during the Northern Hemisphere fall 2019 (~75% chance), continuing through spring 2020 (55-60% 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 **10 October 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

September 8-14, 2019

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

HIGHLIGHTS

EUROPE: Additional beneficial rain in northeastern Europe contrasted with varying degrees of dryness and drought across other parts of northern Europe as well as the Balkans.

WESTERN FSU: Increasingly dry, warm weather accelerated summer crop drydown and harvesting but heightened drought concerns in Ukraine and to a lesser extent western Russia.

EASTERN FSU: Cool, unsettled weather slowed spring wheat maturation and harvesting in eastern portions of the region, while sunny skies favored spring grain harvesting in the west and cotton harvesting in the south.

MIDDLE EAST: Sunny skies benefited summer crop drydown and harvesting in Turkey.

SOUTH ASIA: Showers maintained adequate to locally excessive moisture supplies for kharif crops across central sections of India, as the monsoon signaled its withdrawal from the north.

EASTERN ASIA: Drier weather promoted maturation of summer crops in portions of eastern China.

SOUTHEAST ASIA: Widespread showers maintained beneficial moisture supplies for rice and other summer crops, although more rain would be welcome in some areas to erase seasonal deficits.

AUSTRALIA: Mostly dry weather reduced moisture supplies for winter grains and oilseeds, which are in or nearing reproduction.

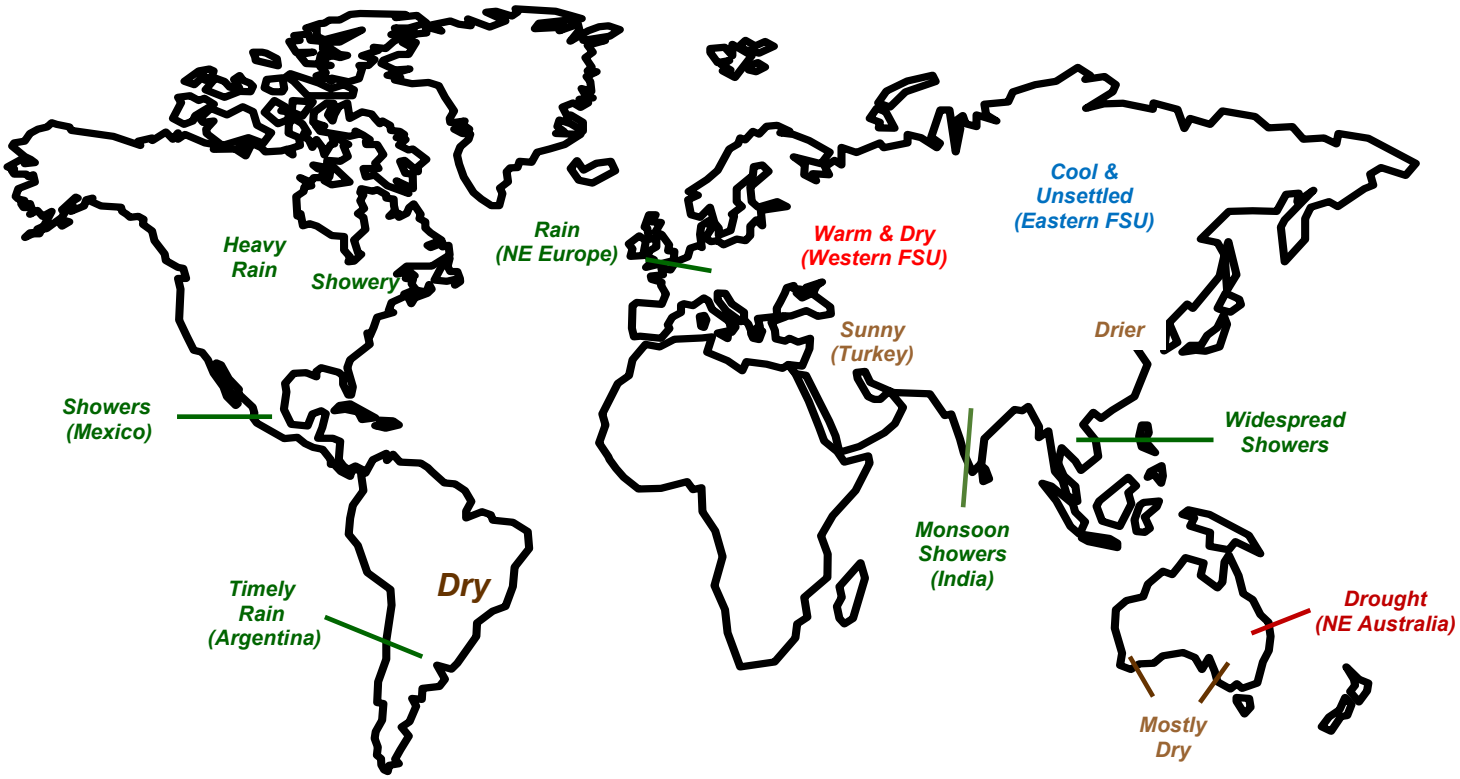
ARGENTINA: Rain provided timely moisture for winter grain development.

BRAZIL: Rain continued in southern-most wheat areas, but farmers awaited the arrival of seasonal rains elsewhere for planting soybeans and other rain-fed summer crops.

MEXICO: Showers brought some drought relief to agricultural areas along the Gulf Coast.

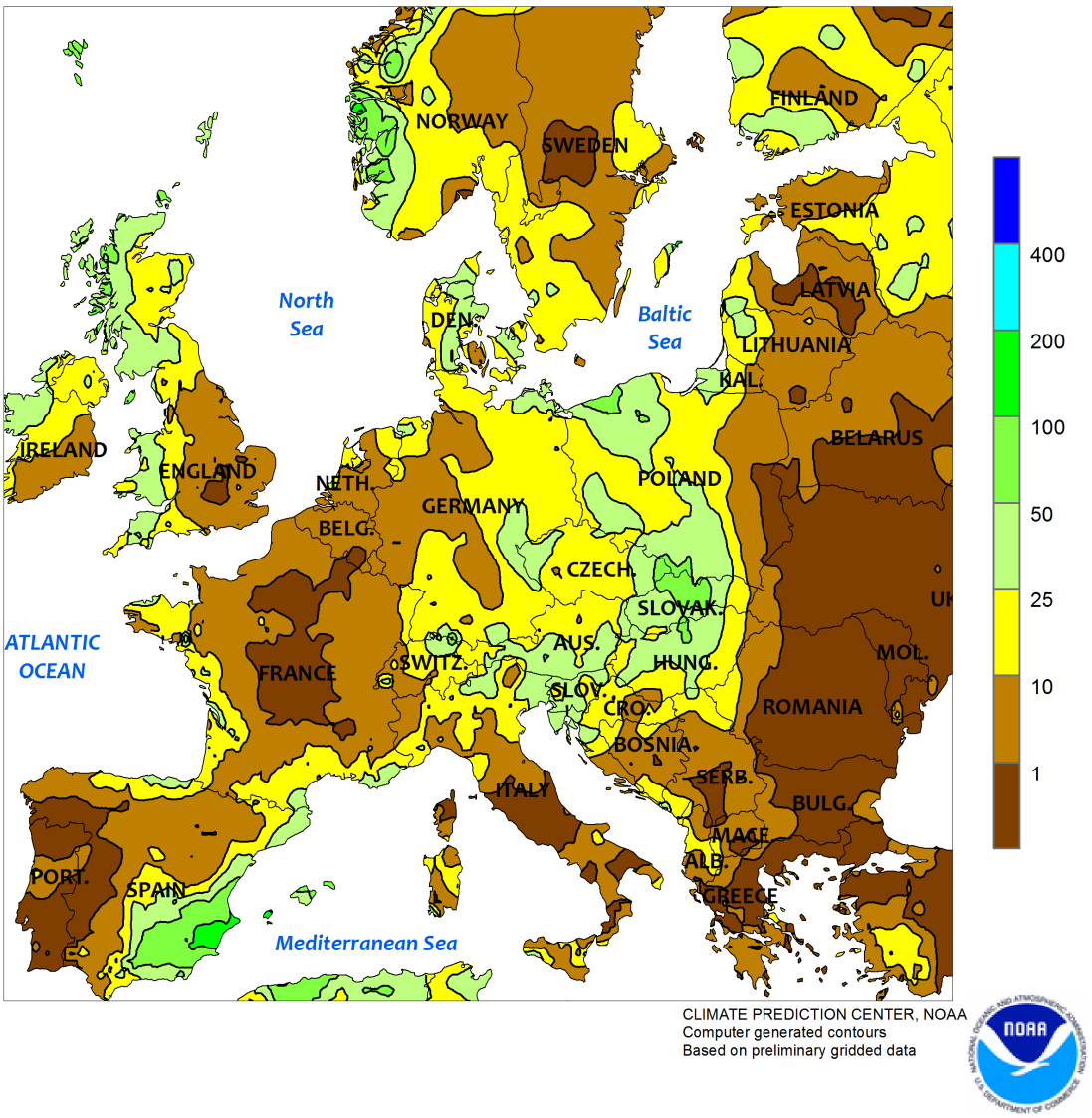
CANADIAN PRAIRIES: Locally heavy rain brought fieldwork to a standstill in key southern production areas.

SOUTHEASTERN CANADA: Mild, showery weather improved conditions locally for winter wheat germination but the moisture slowed fieldwork in spots.



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

EUROPE
Total Precipitation (mm)
September 8 - 14, 2019

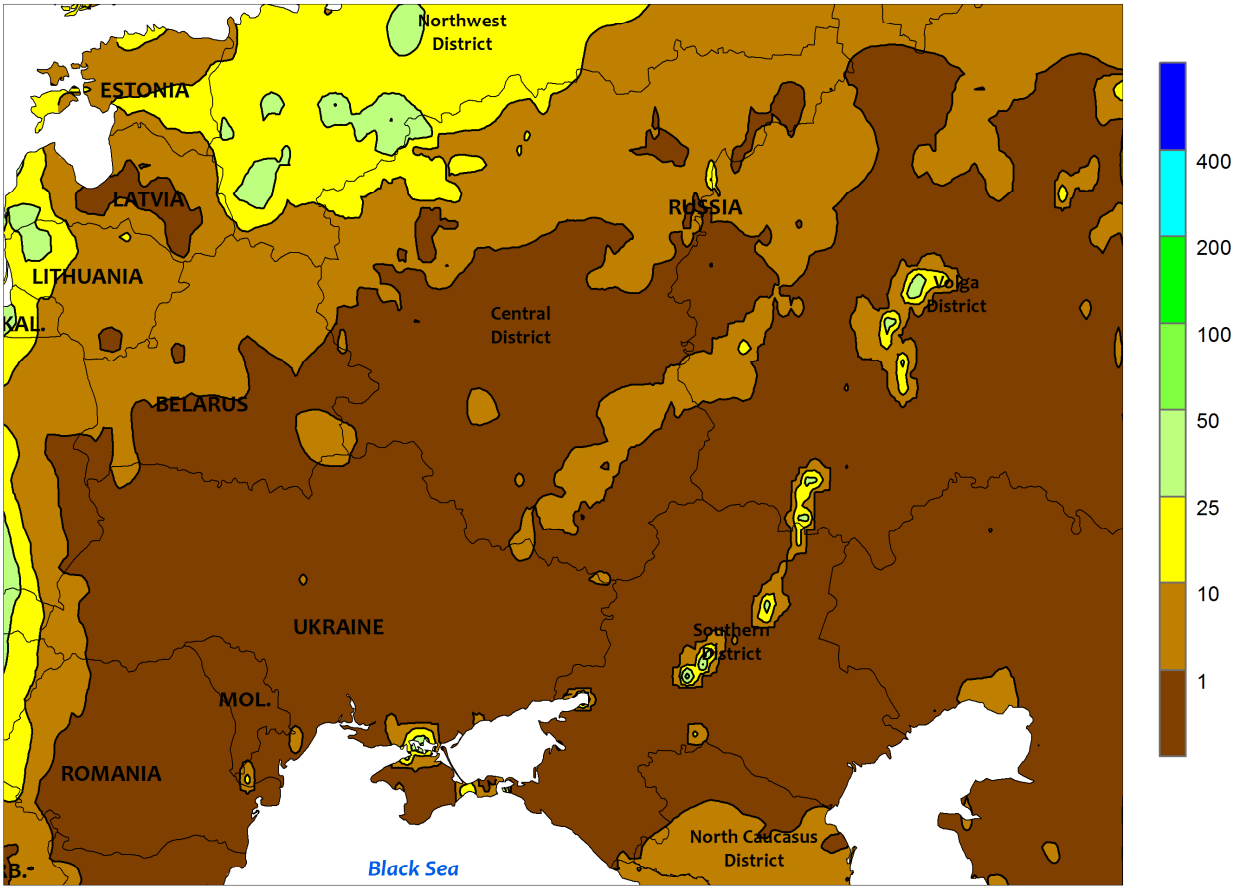


EUROPE

Additional rain eased drought concerns in northeastern crop areas, while varying degrees of dryness and drought continued over other portions of northern Europe as well as the Balkans. Moderate to heavy rain (10-60 mm, locally more) early in the week from northern Italy northeastward into southern and eastern Germany, Hungary, and much of Poland eased or eliminated lingering short-term drought and boosted topsoil moisture for winter crop planting and emergence. Conversely, rain was lighter (5 mm or less) across France and northwestern Germany, with pronounced short-term drought (60-day rainfall less than 50 percent of normal) noted in central and northeastern France. Moisture will be needed soon in these locales for winter crop sowing, especially rapeseed which is typically planted first. In contrast, moisture supplies remained favorable in croplands adjacent to the North Sea, with additional showers (2-40 mm) during the past week from northern England into Scandinavia. Late-summer heat (30-32°C) and dryness accelerated the drydown and harvesting of corn, sunflowers, and soybeans over southeastern Europe, though acute short-term drought (30-day rainfall less than 5 percent of normal) has reduced soil moisture available for winter crop planting and establishment. Conversely, occasional showers (2-20 mm, locally more) in Spain eased drought in the south and maintained good moisture in the north, improving prospects for upcoming winter grain planting and establishment.

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

WESTERN FSU
Total Precipitation (mm)
September 8 - 14, 2019



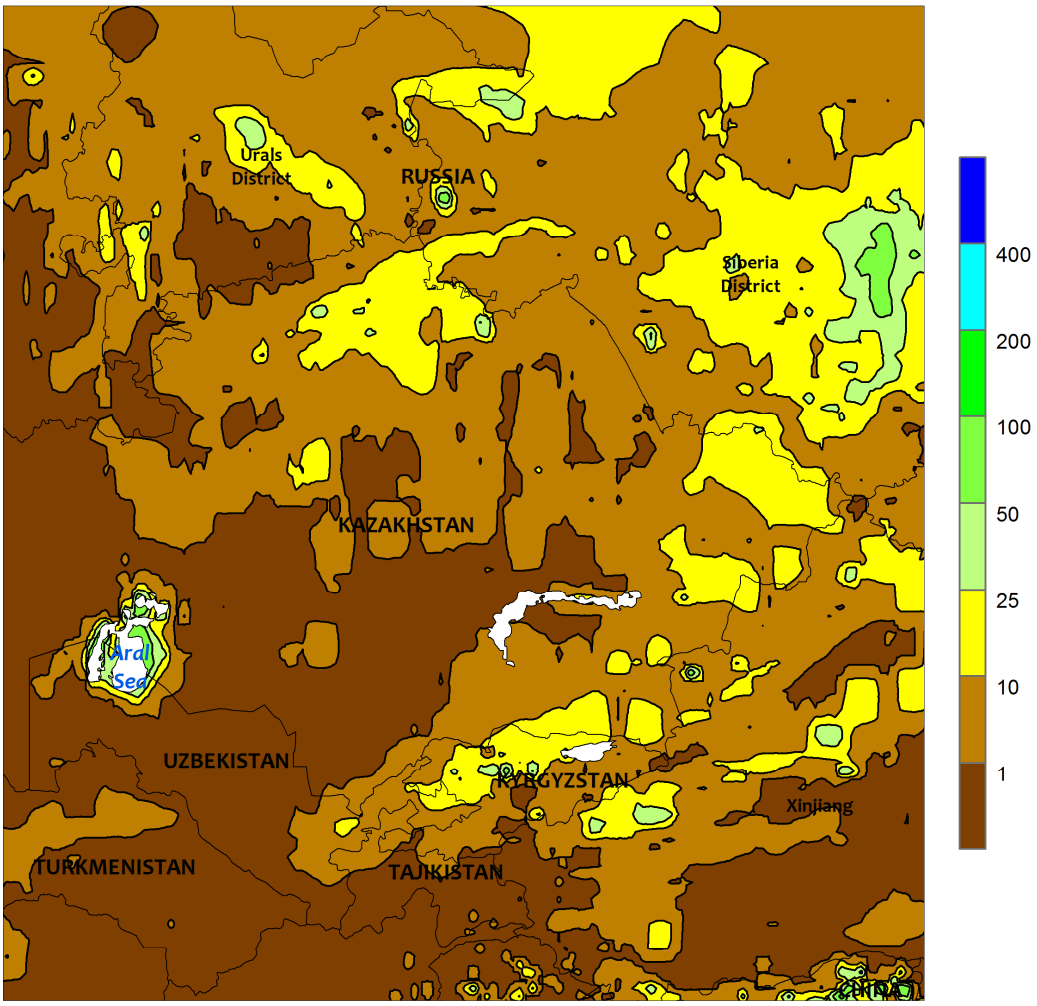
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

WESTERN FSU

Persistent dryness accelerated summer crop drydown and harvesting but amplified drought concerns, particularly over Ukraine. In Ukraine, another week with sunny skies and above-normal temperatures (2-6°C above normal) facilitated a rapid pace of summer crop drydown and harvesting. However, Ukraine's intensifying short-term drought trimmed yield prospects for later-developing corn and soybeans and left topsoils devoid of moisture for winter wheat planting; in particular, 60-day rainfall has totaled a meager 25 to 50 percent of normal over central, northern, and western portions of the country. Conversely, near- to above-normal summer rainfall from southern and eastern Ukraine into western Russia boosted soil moisture reserves for early-sown winter wheat. However, topsoil moisture for winter wheat has become limited in these same locales due to acute dryness over the past 30 days (precipitation locally less than 10 percent of normal), though the previous week's rain in southwestern Russia and southeastern Ukraine provided much-needed topsoil moisture locally.

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

EASTERN FSU
Total Precipitation (mm)
September 8 - 14, 2019



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

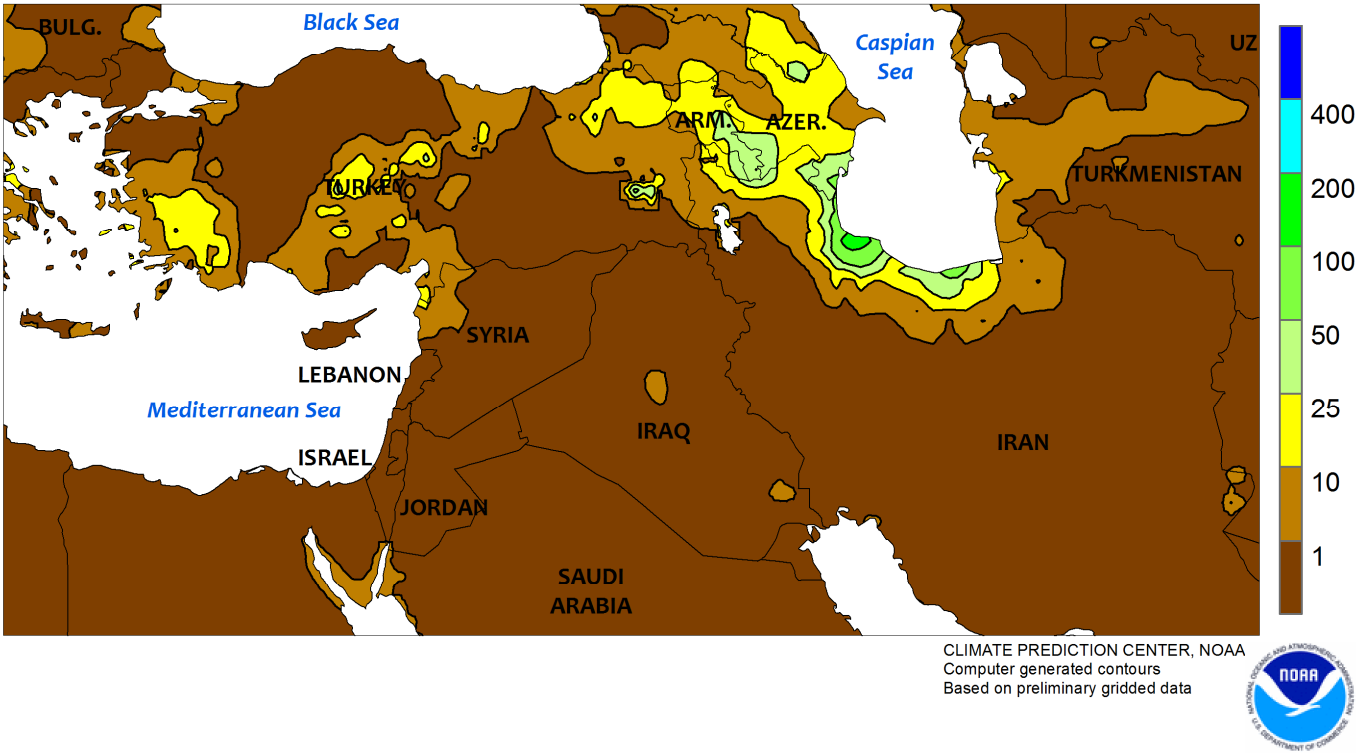
EASTERN FSU

Unsettled weather continued over eastern portions of the region, though rain was not as heavy as previous weeks. A storm system drifted slowly east, maintaining light to moderate showers (2-25 mm) from northeastern Kazakhstan into Russia's Siberia District. The cloudy, unsettled weather slowed spring grain drydown and harvesting but recharged moisture reserves following a drought during the second half of the summer. Farther west, sunny skies in northwestern Kazakhstan and environs favored the harvesting of spring wheat and barley. In Uzbekistan and neighboring countries, sunny skies promoted cotton harvesting, though a second straight week with below-normal temperatures (up to 4°C above normal) slowed the maturation of later-developing cotton.

This will be the last weekly summary for Eastern FSU. Coverage will resume in April, 2020, to coincide with spring grain planting.

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

MIDDLE EAST
Total Precipitation (mm)
September 8 - 14, 2019



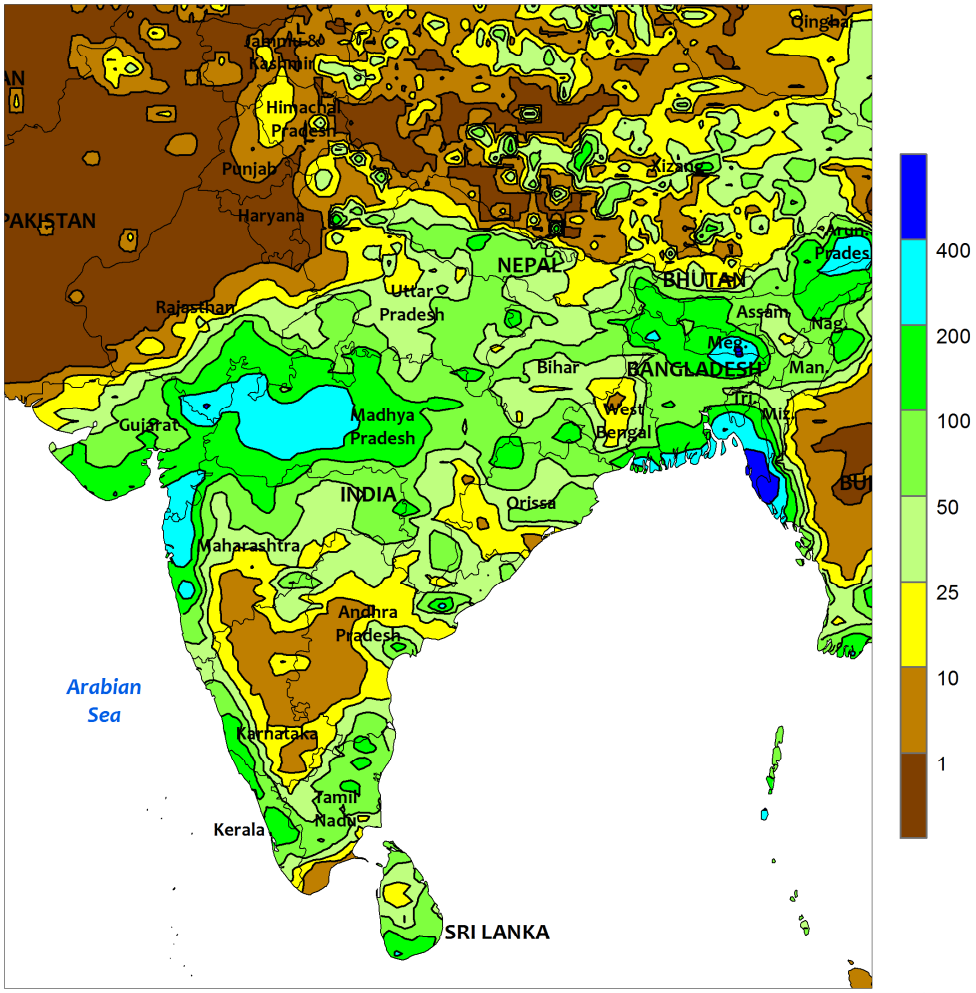
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

MIDDLE EAST

Seasonably dry, warm weather in Turkey promoted summer crop drydown and harvesting. In Turkey, a good summer crop growing season ended with most locales reporting near- to above-normal rainfall; satellite-derived vegetation health data indicated favorable yield prospects across most of the country. This week's sunny skies and seasonable temperatures (generally within 1°C of normal) favored cotton harvesting in western and southeastern Turkey as well as corn and sunflower harvesting in southeastern, central, and northern growing areas. In Turkey and Iran, winter grain sowing commences in September and gains momentum during October, while producers from Syria into Iraq typically plant in November.

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

SOUTH ASIA
Total Precipitation (mm)
September 8 - 14, 2019

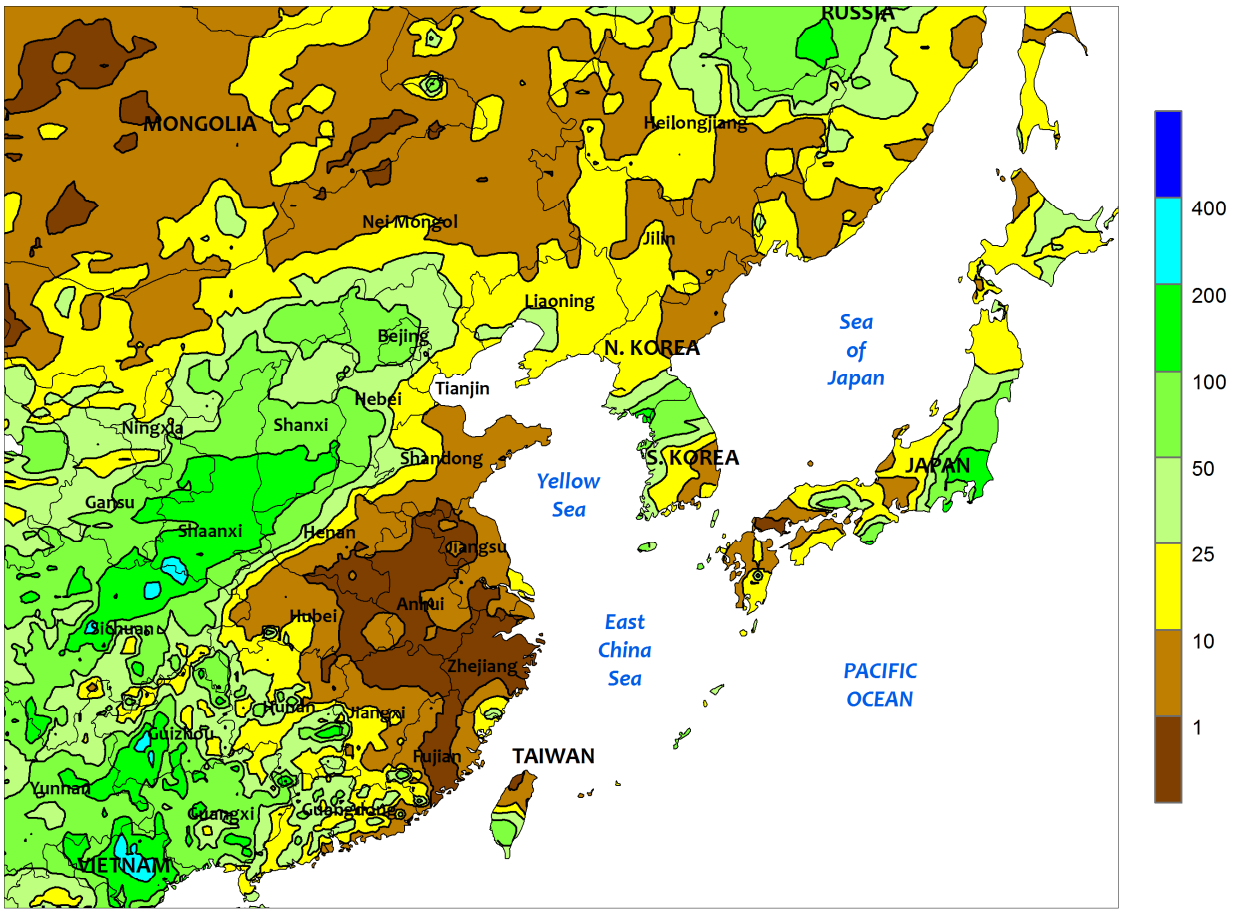


SOUTH ASIA

Monsoon showers continued across India, maintaining adequate to locally excessive soil moisture for kharif crops. The highest rainfall totals (over 200 mm) remained firmly entrenched in western Madhya Pradesh keeping soybeans unfavorably wet. In fact, totals since July 1 are approaching 1,000 mm (150 percent of normal). Meanwhile, most western cotton and groundnut areas (Gujarat and environs) received more seasonable amounts (25-100 mm or more). Similar amounts were also reported in eastern rice areas (Orissa and environs), but more rain would be welcome in these areas to erase slight seasonal moisture deficits. Elsewhere, the monsoon was showing signs of withdrawing from northern India and adjacent portions of Pakistan, ushering in beneficially drier conditions for maturing rice and cotton. Wet weather in Bangladesh maintained abundant moisture supplies for summer (aman) rice, while widespread showers in Sri Lanka slowed summer (yala) rice harvesting but boosted irrigation supplies for the upcoming winter (maha) crop.

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

EASTERN ASIA
Total Precipitation (mm)
September 8 - 14, 2019



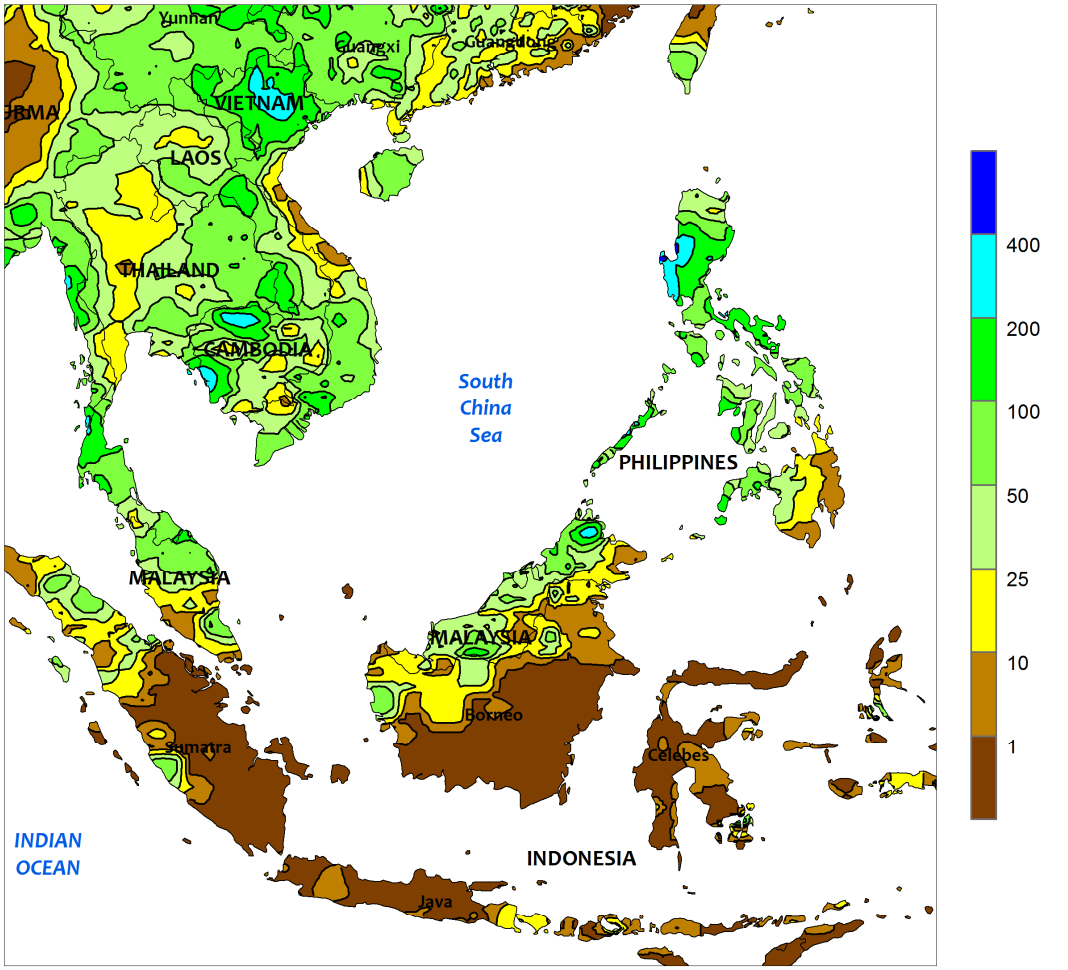
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

EASTERN ASIA

Showers eased across northeastern China, bringing favorably warmer, drier weather for maturing corn, soybeans, and rice. Growing conditions for the season across Heilongjiang and environs have been near ideal, promoting excellent yield prospects. Hot, dry weather continued across a large section of the east including drought areas of the Yangtze Valley. Temperatures were up to 6°C above normal, with day time temperatures approaching 40°C. The conditions promoted maturation of summer crops, but the ongoing severe drought in parts of the southeast lowered irrigation supplies for reproductive late-crop rice. Rainfall (25-200 mm or more) was concentrated in central China, with the highest totals occurring in Sichuan. The wet weather came too late to benefit summer crops but boosted irrigation supplies for winter grains and oilseeds sown in October and November. Elsewhere, Typhoon Faxai skirted the eastern coast of Japan, producing locally heavy showers (over 100 mm) in central Honshu. Periods of heavy showers (25-100 mm) on the Korean Peninsula eased short-term (less than 4 weeks) drought, but longer-term drought remained severe.

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

SOUTHEAST ASIA
Total Precipitation (mm)
September 8 - 14, 2019

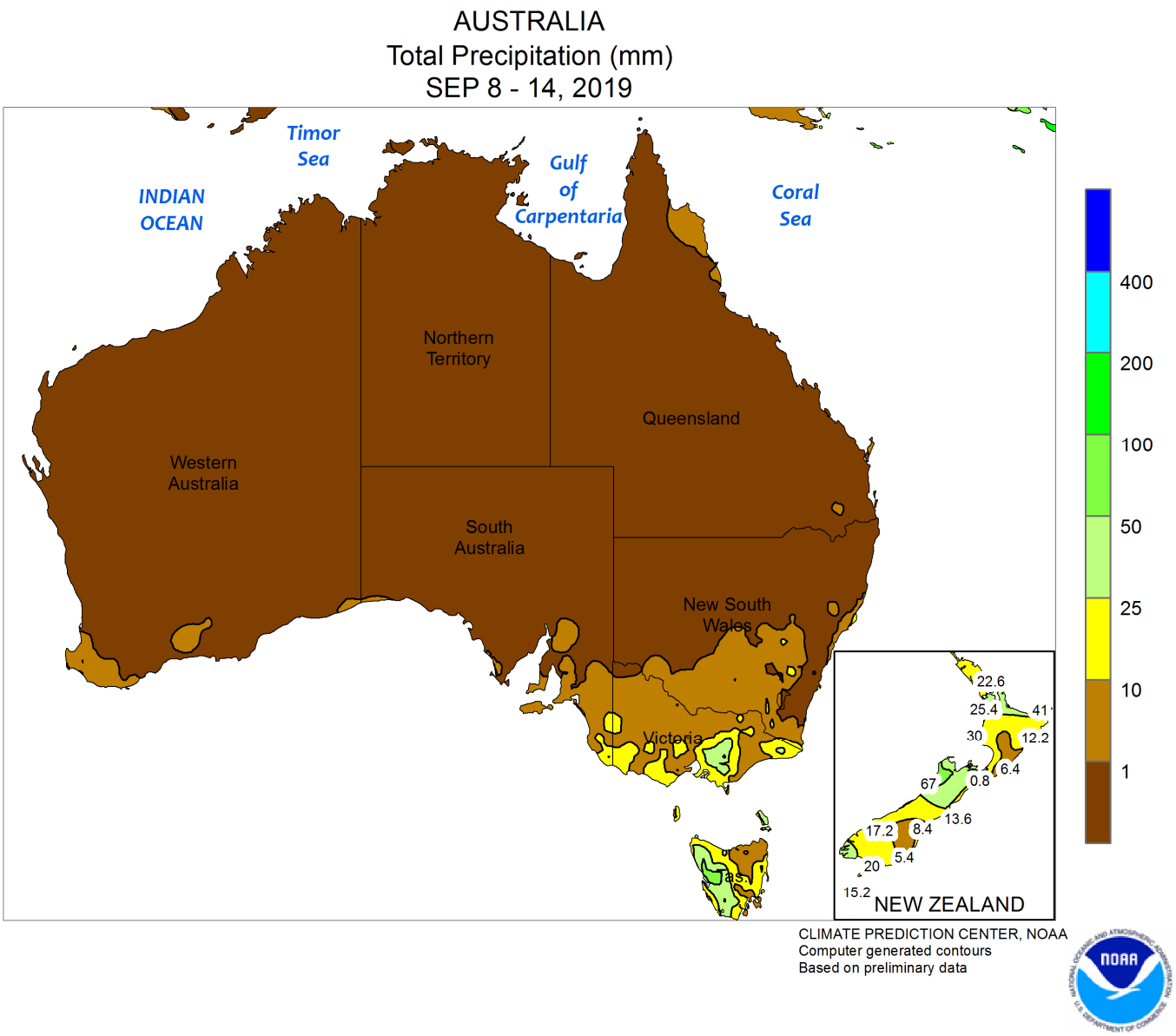


CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

SOUTHEAST ASIA

Widespread showers continued across much of the region, maintaining adequate moisture supplies for rice and other summer crops. In Thailand and environs, 25 to over 100 mm continued the reversal of poor rainfall in the early part of the season. Most of Thailand reported seasonal (since June 1) moisture conditions that were near normal and on par with last year. In contrast, key summer growing areas in the Philippines continued to run slight deficits in 90-day rainfall totals, but shorter-term soil moisture for crops remained adequate. Meanwhile, showers (25-100 mm) in Malaysia maintained good 90-day moisture conditions for oil palm, but persistent dryness in nearby areas of Indonesia further reduced soil moisture.

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

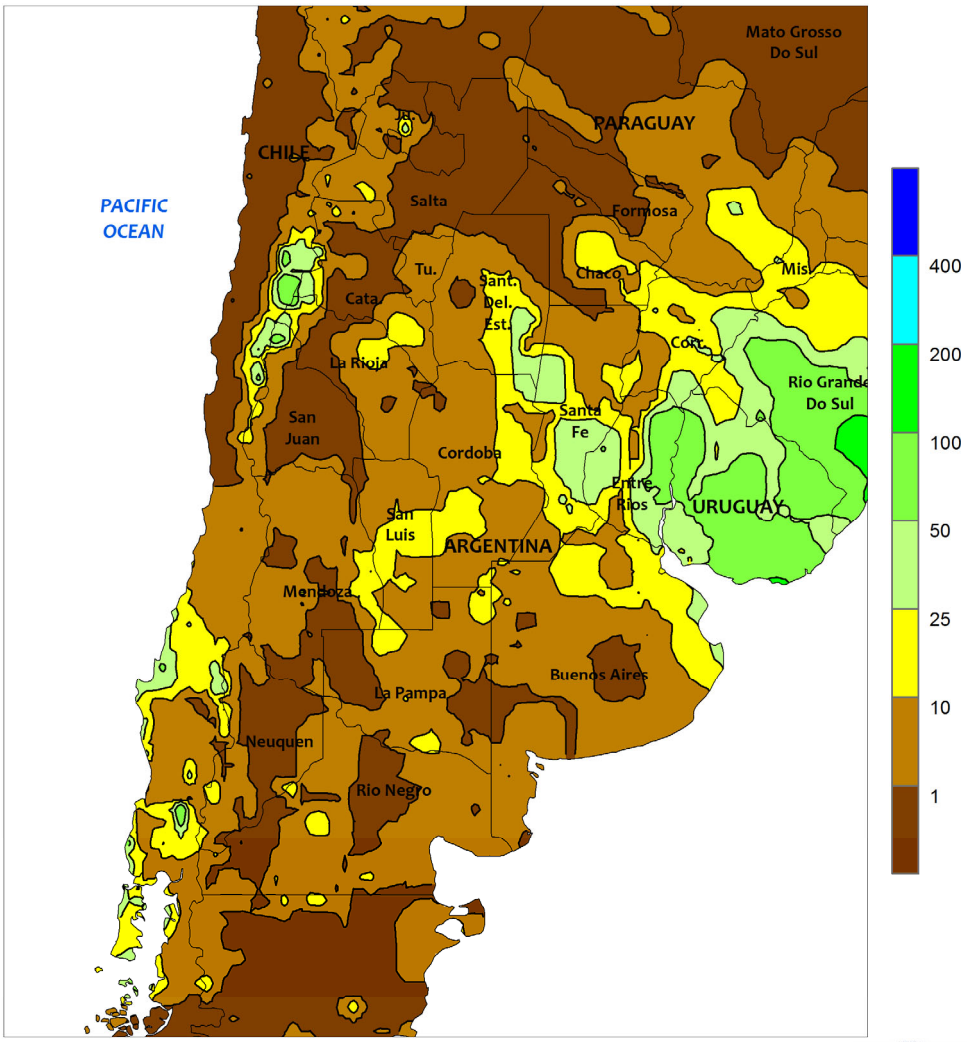


AUSTRALIA

In Western Australia, mostly dry, occasionally hot weather reduced moisture supplies for reproductive winter grains and oilseeds. Similarly, isolated showers (generally less than 5 mm) in South Australia and Victoria provided little additional moisture for vegetative to reproductive wheat, barley, and canola, while chilly nights early in the week may have resulted in local frost. More rain is needed in western and southeastern Australia to help maintain current yield prospects as crops advance through the critical reproductive stages of development. Elsewhere in the wheat belt, light showers in southern New South Wales were of little benefit to drought-stressed winter grains and oilseeds. Farther north, dry weather persisted in drought-ravaged northern New South Wales and southern Queensland, further reducing the yield potential of wheat and other winter crops. Additionally, the persistence and severity of the drought is increasing concern about summer crop prospects, given the lack of soil moisture and limited irrigation supplies as planting commences. Temperatures averaged near normal in eastern and southern Australia and 3 to 6°C above normal in Western Australia.

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

ARGENTINA
Total Precipitation (mm)
September 8 - 14, 2019

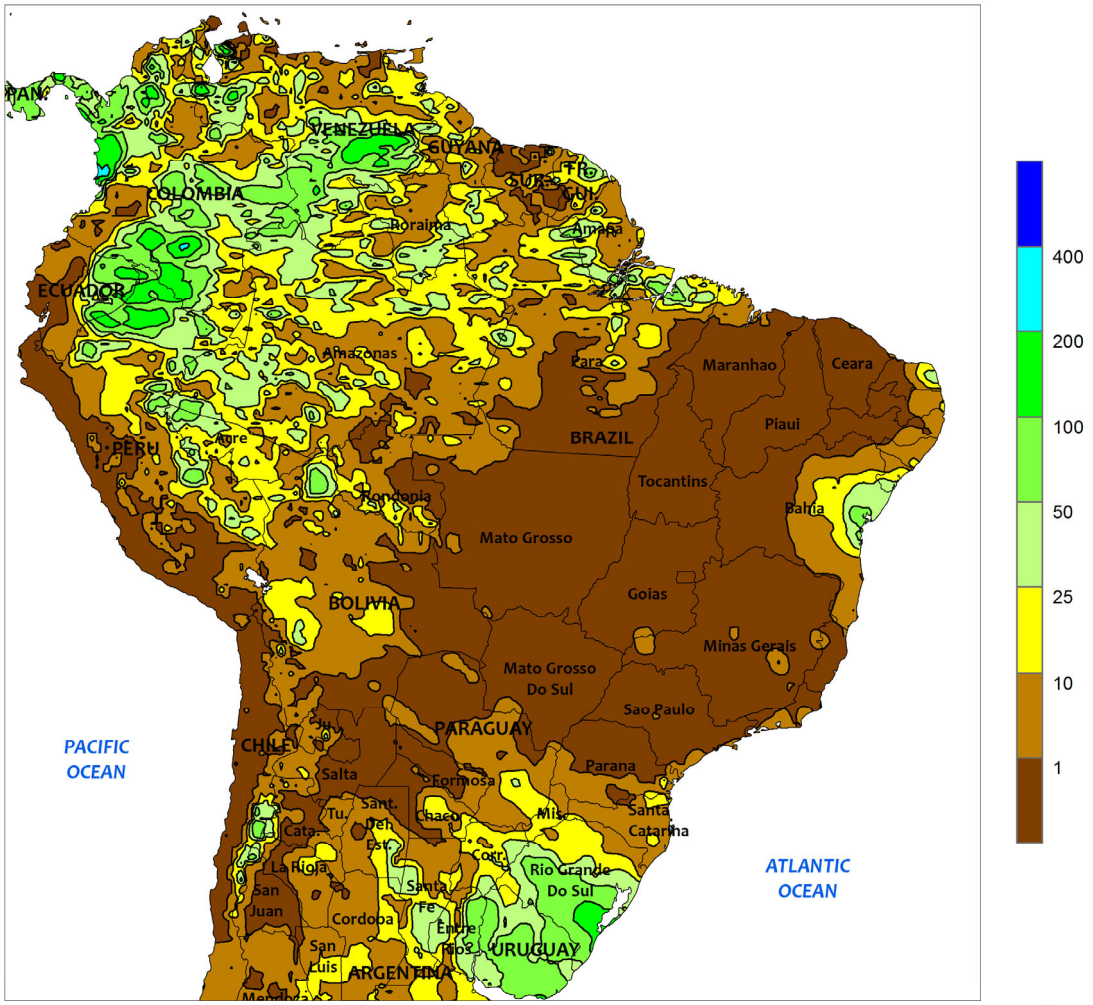


ARGENTINA

Showers provided timely moisture for winter grains and early planted summer crops in parts of central and northern Argentina. Rainfall totaled 10 to 50 mm or more from northern sections of La Pampa and Buenos Aires northeastward through Corrientes, with the highest amounts (greater than 25 mm) concentrated over Santa Fe and Entre Rios. The moisture was particularly timely in and around Cordoba, following a dry winter. Little rain fell elsewhere, and moisture will be needed in winter grain areas of La Pampa and Buenos Aires once seasonal warming takes place; however, freezes continued to be common in many southern and western farming areas and have so far limited winter grain growth. According to the government of Argentina, planting of sunflowers was 31 percent complete as of September 12, slightly ahead of last year's pace (34 percent); as is typical for the early phases of planting, activity was predominantly underway in northern production areas with no progress yet reported in Buenos Aires, Argentina's largest producer of sunseed.

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

BRAZIL
Total Precipitation (mm)
September 8 - 14, 2019



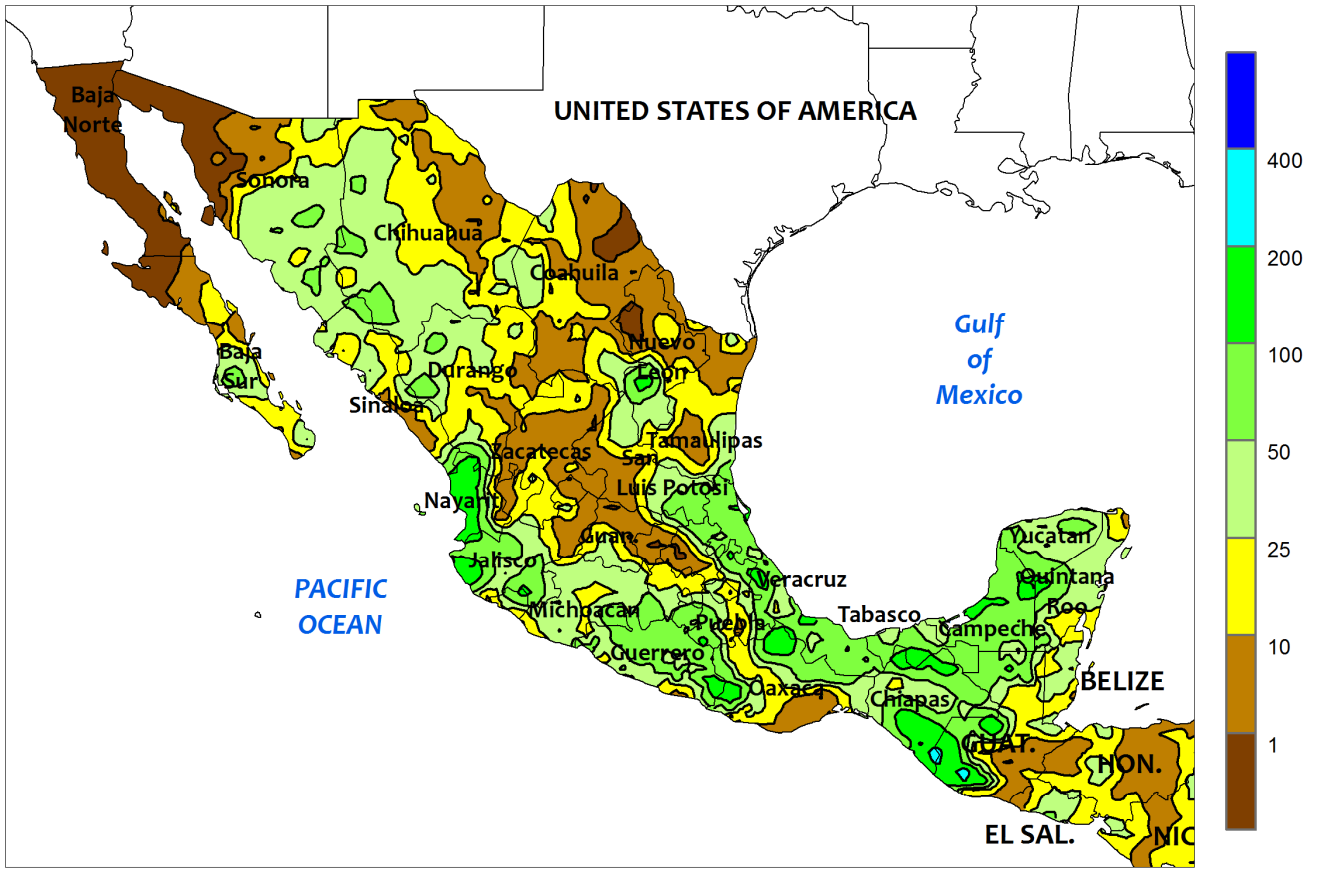
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

BRAZIL

Showers maintained adequate to abundant levels of moisture for wheat in Rio Grande do Sul but dry weather dominated most other farming areas. Rainfall exceeded 25 mm over most of the state, though weekly temperatures still averaged above normal and nighttime lows stayed well above freezing; according to government reports, nearly 70 percent of the wheat crop in Rio Grande do Sul was in reproductive to filling stages of development. Drier weather prevailed elsewhere in Brazil, aside from some scattered showers (locally greater than 25 mm) along the northeastern coast. The dryness favored seasonal fieldwork but most farmers were awaiting the arrival of seasonal rainfall to prompt planting of soybeans and other rain-fed summer crops. According to the government of Parana, 2019/20 first-crop corn was 9 percent planted as of September 9 as 2018/19 second-crop corn harvesting was virtually complete (99 percent); additionally, wheat was 28 percent harvested, with the remaining crop in filling to maturing stages of development.

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

MEXICO
Total Precipitation (mm)
September 8 - 14, 2019



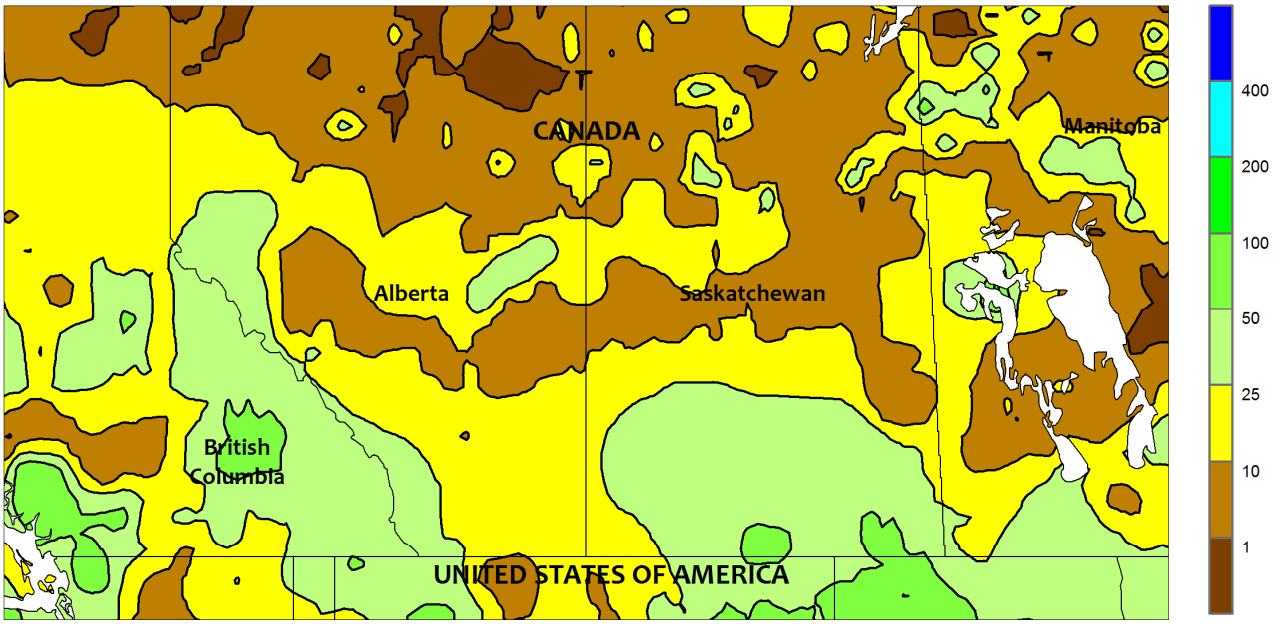
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

MEXICO

Showers brought some drought relief to eastern agricultural areas that have suffered from drought for most of the season. Rainfall totaling 25 to 50 mm or more stretched along the coast from Tamaulipas to Campeche, including farming areas in Veracruz and Tabasco where drought had intensified during August. The rain will ultimately benefit sugarcane production and help to replenish reservoirs, though much-above-normal rainfall would be needed for the remainder of the season to bring annual totals up to normal levels. Elsewhere, scattered showers (10-50 mm or more) continued across the southern plateau corn belt, sustaining mostly favorable levels of moisture for rain-fed summer crops. Similarly, monsoon showers (10-50 mm, locally higher) continued in northwestern watersheds, and tropical moisture lingered over the northeast, though daytime highs still reached the upper 30s (degrees C) throughout both regions, taxing moisture reserves.

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

CANADIAN PRAIRIES
Total Precipitation (mm)
September 8 - 14, 2019



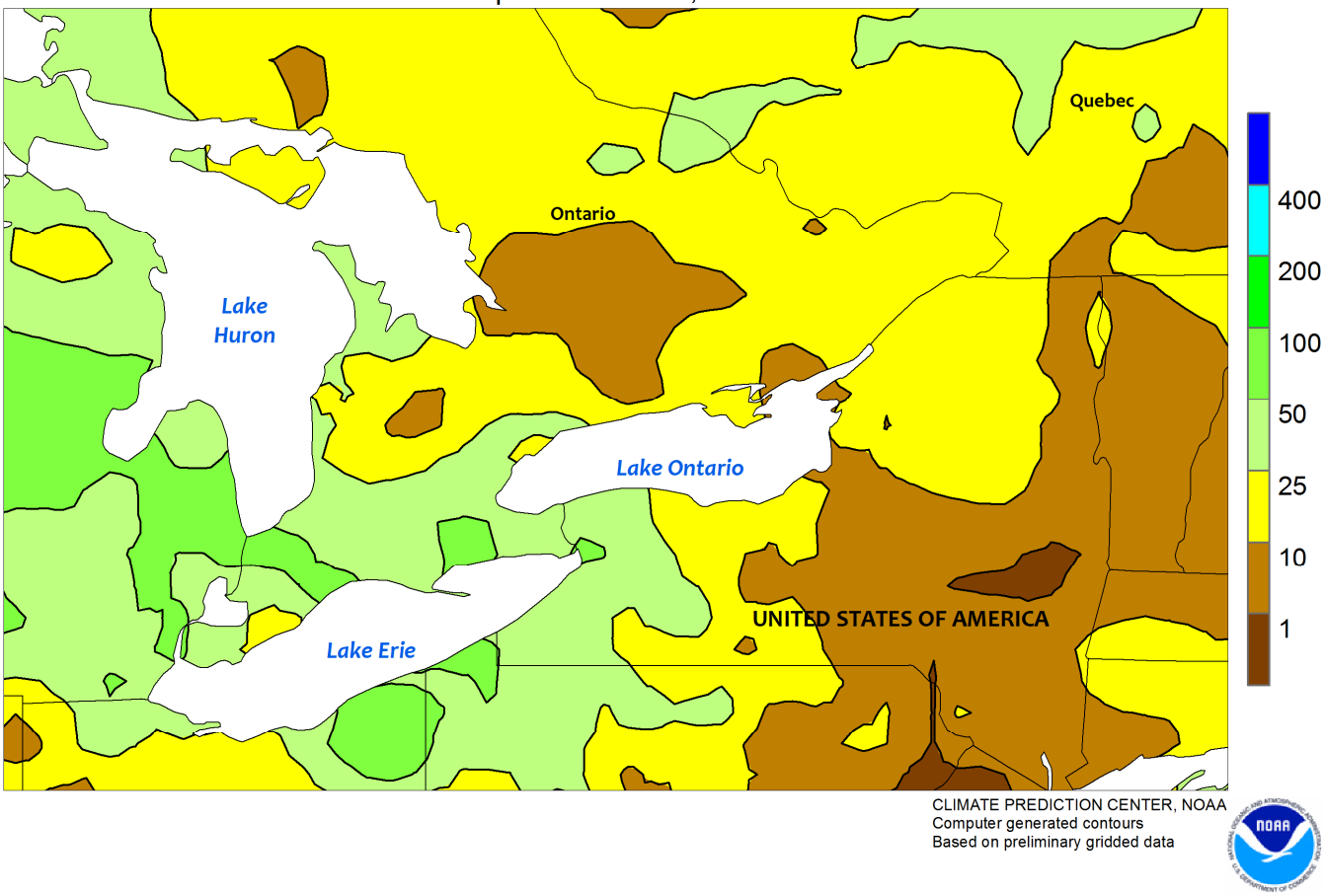
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

CANADIAN PRAIRIES

Widespread, locally heavy rain disrupted spring grain and oilseed harvesting, bringing fieldwork to a standstill in some southern production areas. Rainfall totaled 25 to more than 50 mm across a large section of southern Saskatchewan, as well as parts of southern Manitoba; many other Prairie farming areas received at least 10 mm. Temperatures were generally seasonable, with daytime highs ranging from the lower to middle 20s (degrees C) in most areas and nighttime lows dropping below freezing in parts of the southeast (southwestern Manitoba and neighboring locations in Saskatchewan). According to the government of Alberta, harvesting of all crops was 16 percent complete as of September 10, lagging the 5-year average pace by 7 points. In Manitoba, spring wheat and canola harvesting was reportedly 67 and 26 percent complete, respectively, as of September 10, lagging the 3-year harvest average for both crops. In Saskatchewan, harvesting of all crops reached 18 percent complete, well behind the 5-year average (43 percent) for the period ending September 9.

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

SOUTHEASTERN CANADA
Total Precipitation (mm)
September 8 - 14, 2019

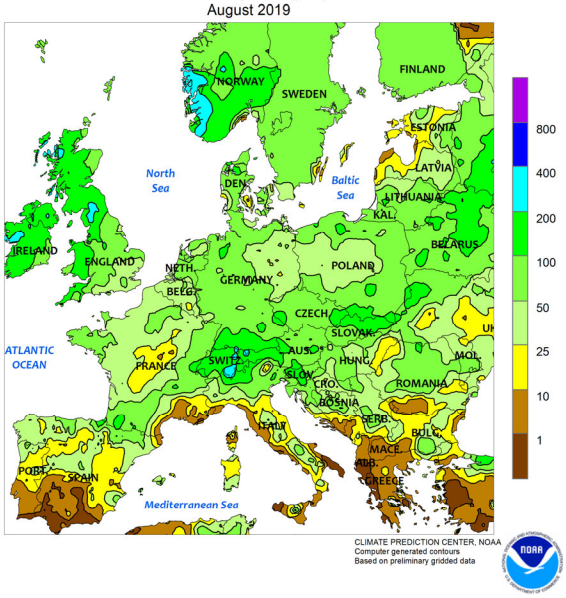


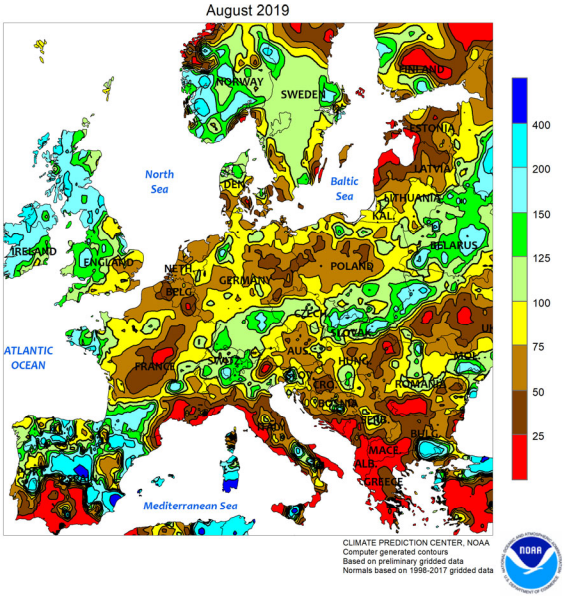
SOUTHEASTERN CANADA

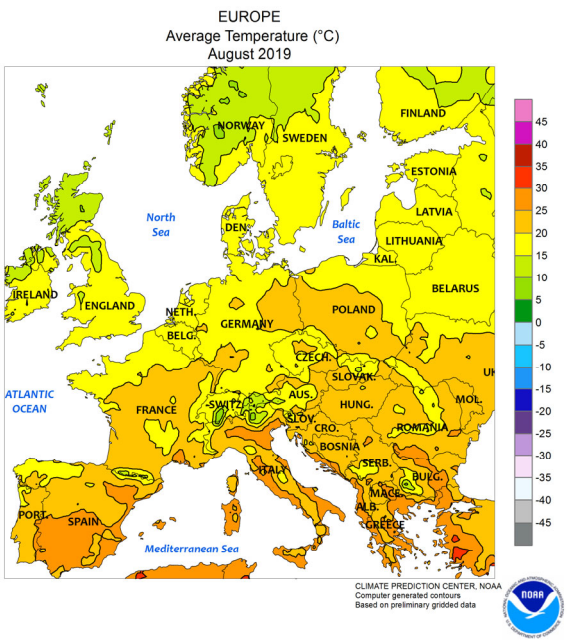
Mild, showery weather prevailed, boosting moisture for winter wheat but hampering fieldwork that typically would include wheat planting and early summer crop harvesting. Rainfall totaled 5 to 25 mm in most areas, with slightly higher amounts in farming areas near the Great Lakes. Weekly temperatures averaged near to slightly above normal in Ontario's southern-most agricultural districts and near to below normal elsewhere, with freezes recorded in northern-most farming areas of Ontario and Quebec. Daytime highs reached the upper 20s (degrees C) in the more southerly farming areas of both provinces, aiding development of late-planted corn and soybeans.

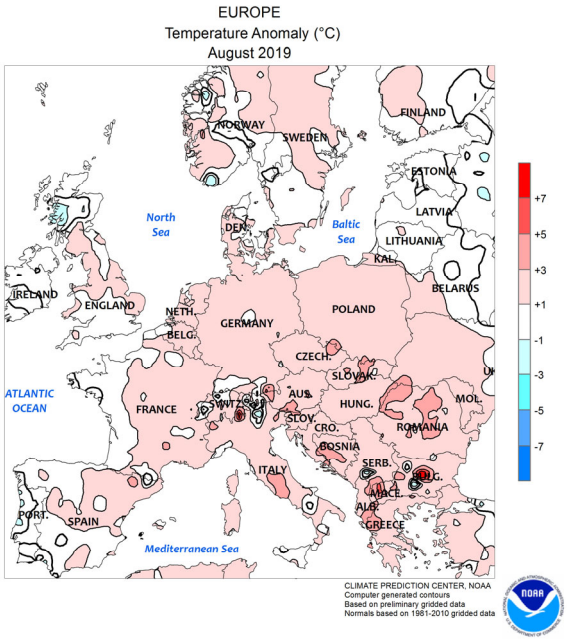
For additional information contact: mbrusberg@oce.usda.gov

August International Temperature and Precipitation Maps





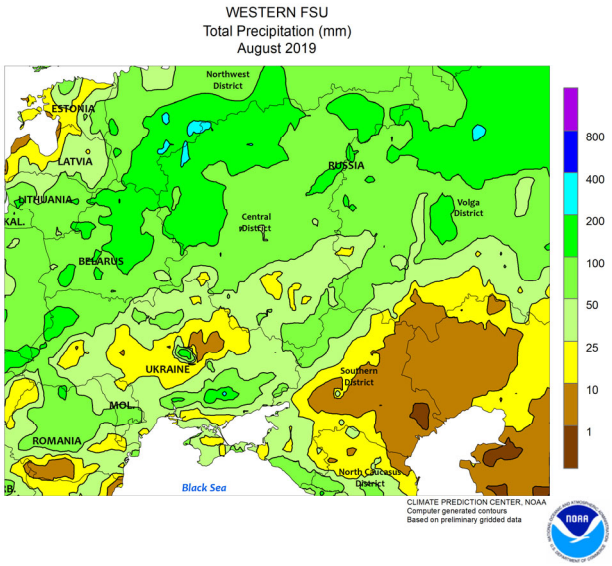


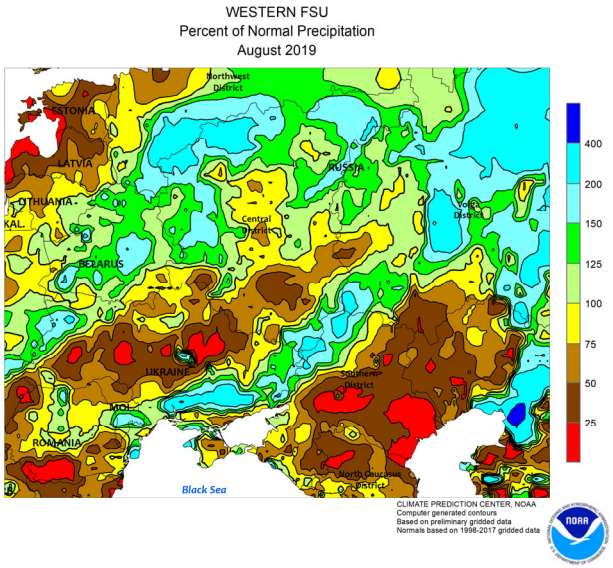


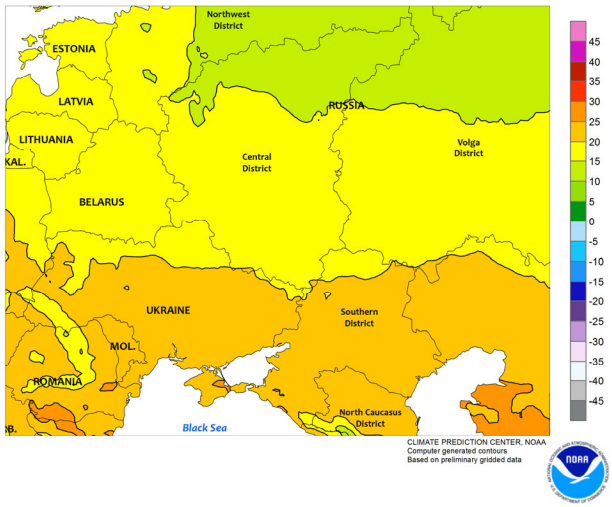
EUROPE

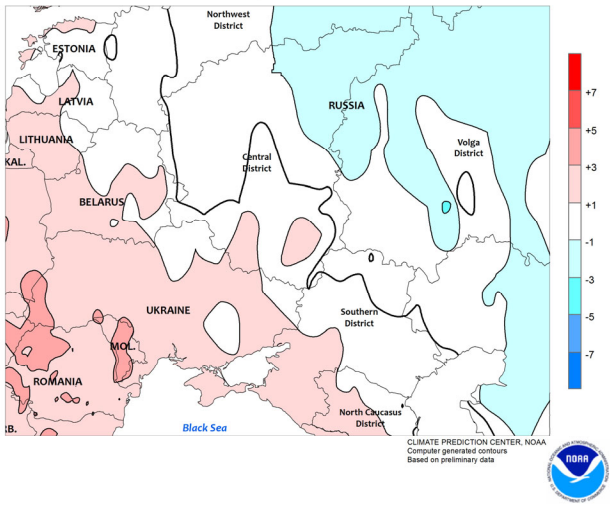
Conditions were highly variable across Europe during August. Much-needed rain (50-100 mm, locally more than 200 percent of normal) from southern Germany into Hungary and southern Poland eased drought and supplied soil moisture for winter crop planting. Meanwhile, unfavorable dryness (5-50 percent of normal) and above-normal temperatures (up to 4°C above normal) from northeastern France into northeastern Germany and northwestern Poland intensified drought and limited soil moisture for winter crop planting and establishment. Farther south, dry weather accelerated summer crop drydown and harvesting from northern Italy into the Balkans, though topsoil moisture was becoming limited for winter wheat and rapeseed planting in the lower Danube River Valley (locally less than 10 percent of normal). In Spain, drought in the south contrasted with welcome showers (locally more than 40 mm) in northern portions of the country. Elsewhere, moisture supplies remained favorable for winter crop planting in areas bordering the North Sea.

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





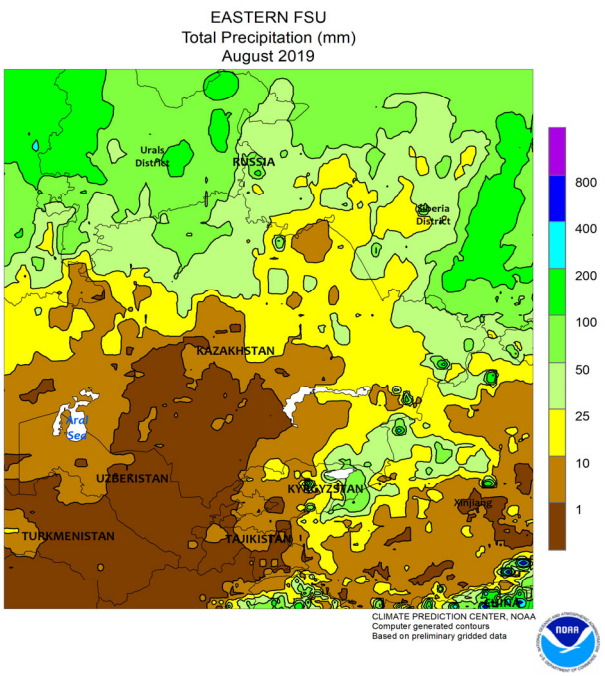


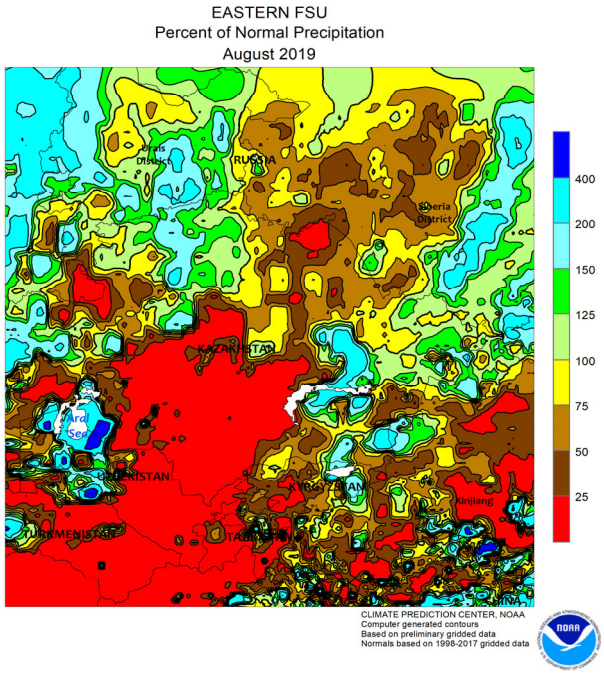


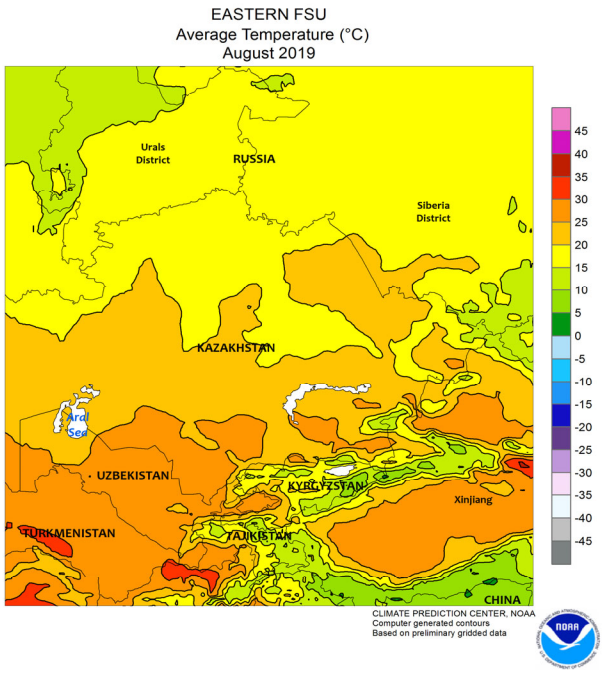
WESTERN FSU

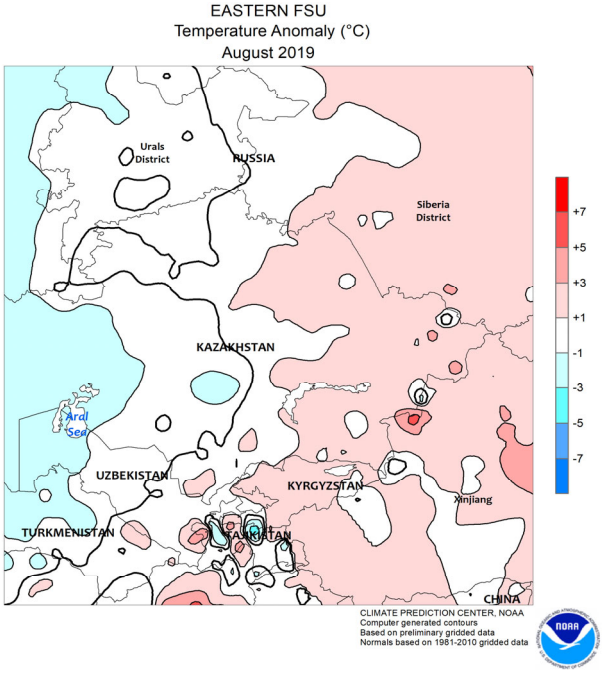
In August, drier- and warmer-than-normal weather accelerated corn, sunflowers, and soybeans toward maturity after favorable July rainfall. However, acute late-summer drought in northern and western Ukraine trimmed corn and soybean yields somewhat, with August rainfall totaling less than 20 percent of normal over large tracts of farmland in central Ukraine. The Ukraine drought was also clipping the northern extent of the country's winter wheat belt, which primarily encompasses the southern and eastern halves of the country; the remainder of Ukraine's winter wheat areas reported near- to above-normal rainfall during August. Recent dry weather has also limited soil moisture for winter wheat planting and establishment in parts of southwestern Russia, with rainfall totaling less than 10 percent of normal in central portions of the Southern District. However, key Russian winter wheat areas in the southwestern Southern District (in particular, Krasnodar Krai) reported nearly 50 mm of rain (locally more than 100 percent of normal).

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





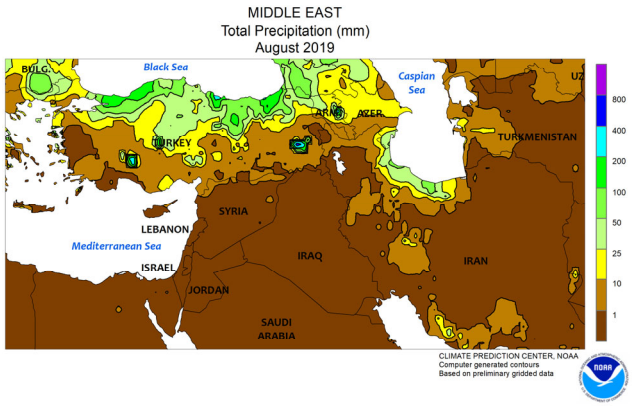


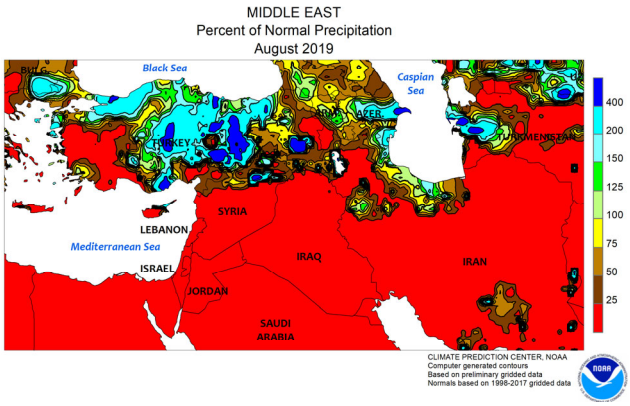


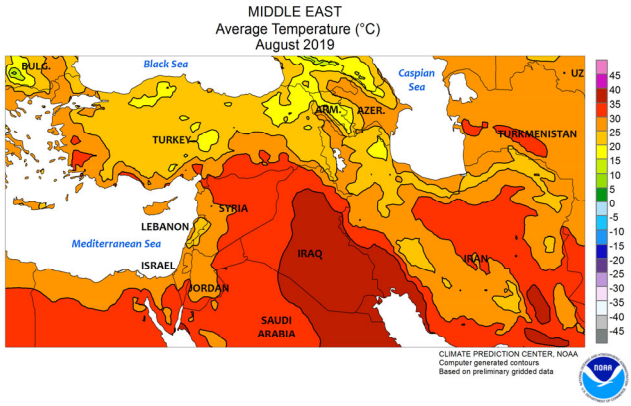
EASTERN FSU

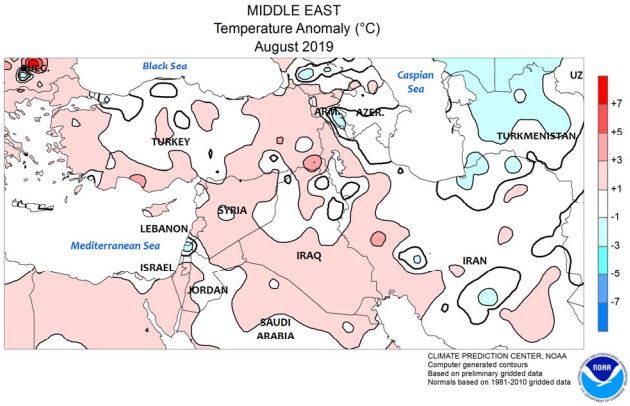
Wet weather during August in northern Kazakhstan and central Russia eased drought but was mostly too late to benefit filling to maturing spring grains. Rain totaling 35 to 120 mm (100-265 percent of normal) was reported in northern Kazakhstan and neighboring portions of central Russia, slowing drydown and harvesting of drought-afflicted wheat and barley. Conversely, intensifying dryness (10-50 percent of normal) in Russia's Siberia District reduced yield prospects for reproductive to filling spring wheat. Seasonable heat and dryness in Uzbekistan and neighboring countries favored cotton maturation, though yield prospects were reduced for a second consecutive year by record-setting heat during July (coincident with the flowering stage of development).

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



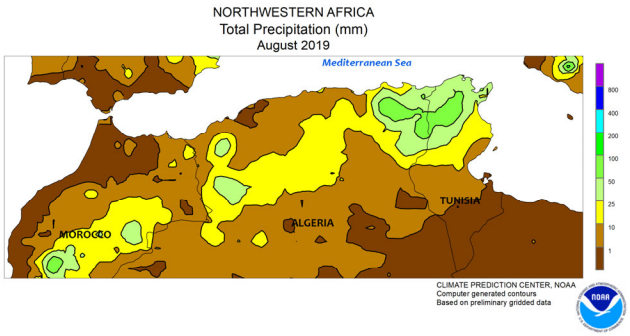


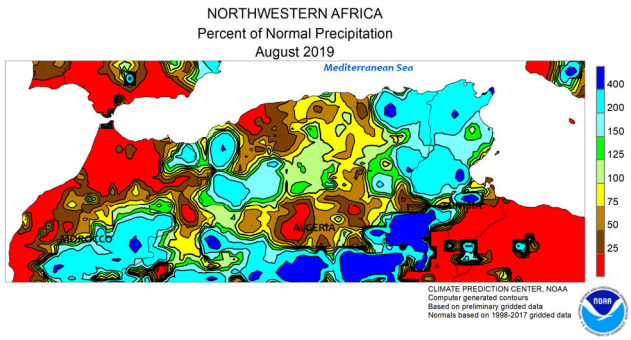


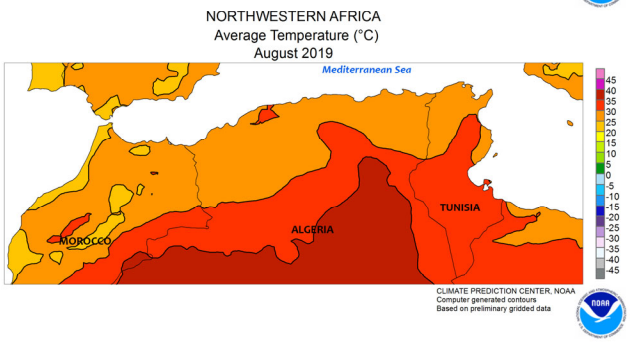


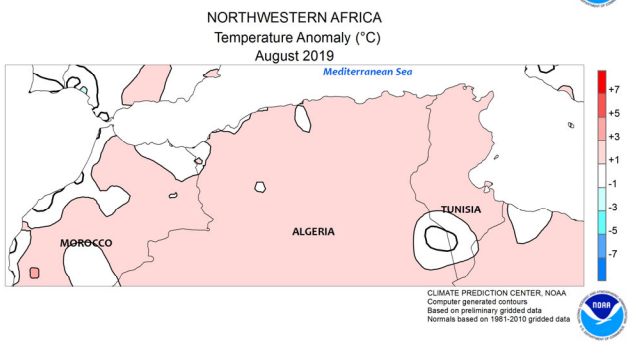
MIDDLE EAST

Following early-month rain, seasonably dry weather during the second half of August promoted fieldwork and summer crop maturation over most of Turkey. The unusual rain in Turkey during the first half of the month (10-100 mm, locally more than 1000 percent of normal) boosted moisture reserves for upcoming winter grain planting. The rain did not linger, however, and drier conditions during the latter half of the month eased concerns over losses of summer crop yield or quality. Harvesting of corn and sunflowers was underway, while cotton harvesting began by early September.





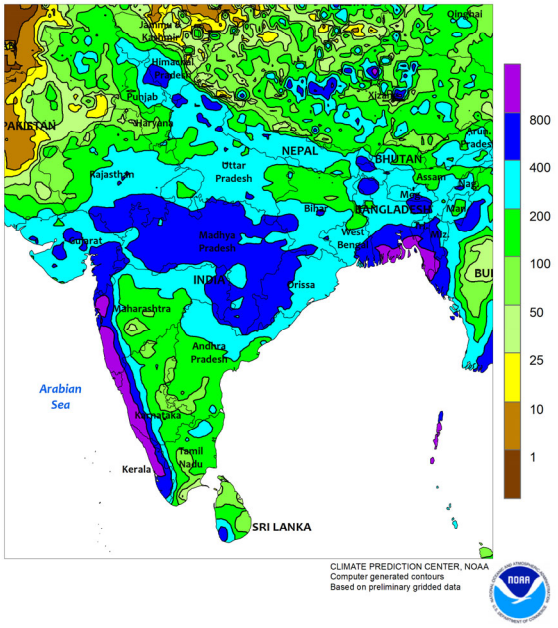




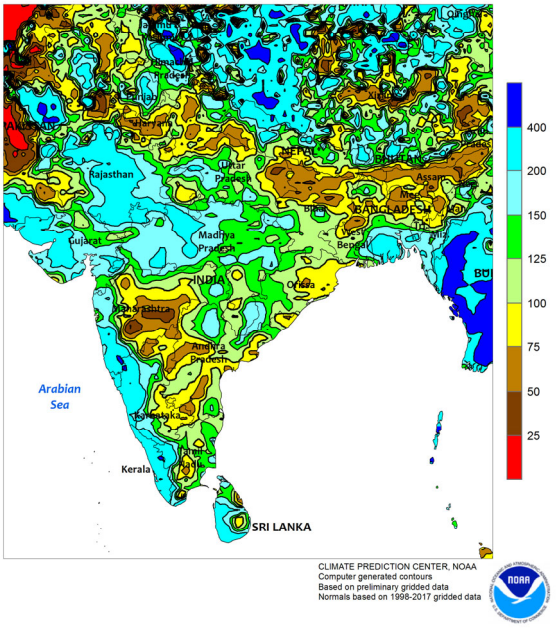
NORTHWESTERN AFRICA

During August, unusual rainfall in central and eastern portions of the region contrasted with seasonal dryness elsewhere. Agricultural activity in northern Africa is minimal during August. Nevertheless, unusual and locally intense rainfall (10-110 mm) from the typically arid northern Sahara into northern Tunisia was noteworthy, representing more than 1000 percent of normal. For winter grains, the early-season rain boosted moisture reserves for planting later in autumn in northeastern Algeria and Tunisia.

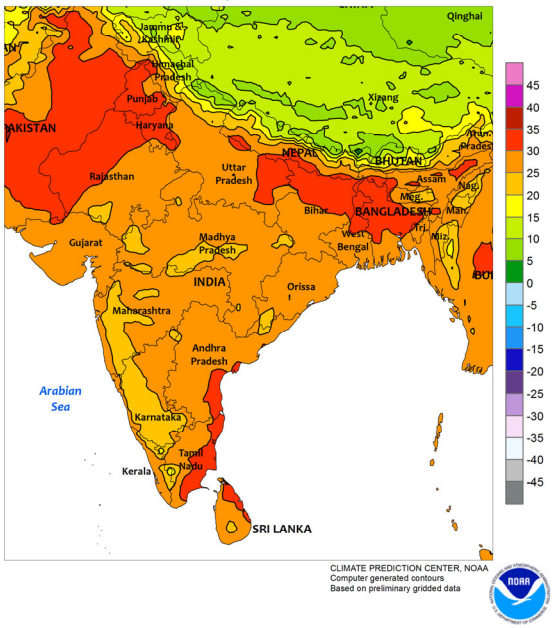
SOUTH ASIA
Total Precipitation (mm)
August 2019



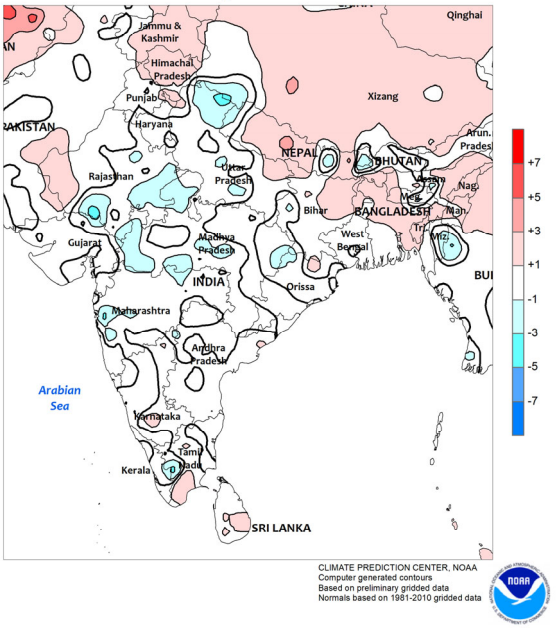
SOUTH ASIA
Percent of Normal Precipitation
August 2019



SOUTH ASIA
Average Temperature (°C)
August 2019

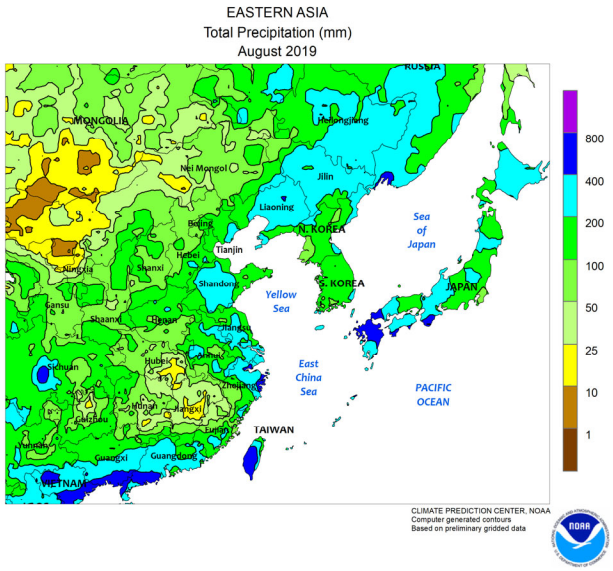


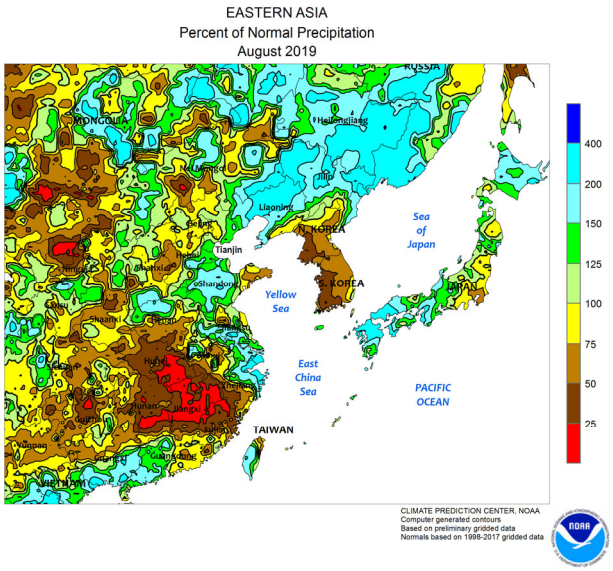
SOUTH ASIA
Temperature Anomaly (°C)
August 2019

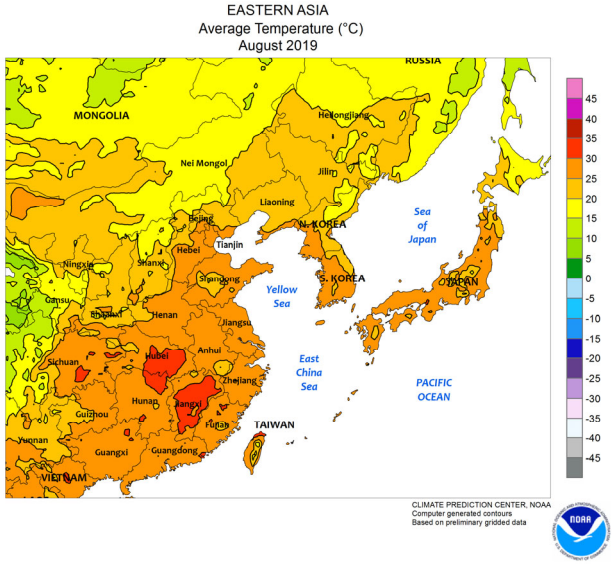


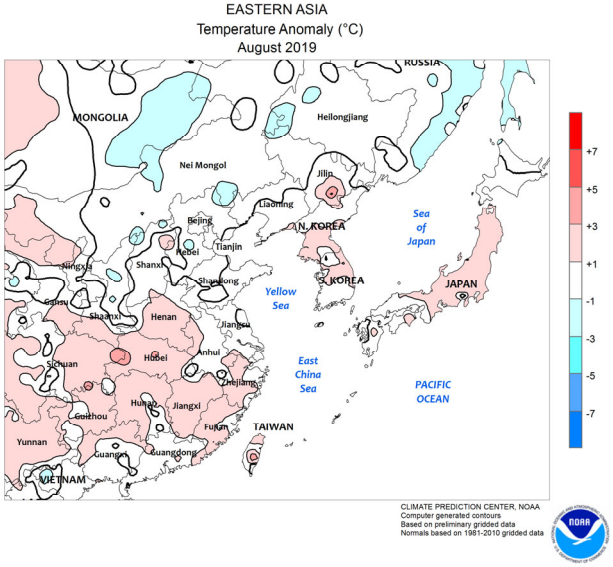
SOUTH ASIA

Rainfall in August continued to improve moisture conditions for kharif crops across India. Monthly totals over 300 mm (100-150 percent of normal) occurred over a broad swath of key growing areas, with reports of over 600 mm (125-175 percent of normal) in central Madhya Pradesh and along the traditionally wetter western coastal states. In addition, periodic downpours (over 150 mm; over 125 percent of normal) in Gujarat vastly improved soil moisture for cotton and groundnuts following poor monsoon showers in June and most of July. Elsewhere, near-normal rainfall (25-100 mm or more) in northern India and Pakistan boosted irrigation supplies for reproductive rice and cotton, while rainfall totals ranging from 150 to over 600 mm in Bangladesh maintained wetter-than-normal conditions for summer rice (aman).



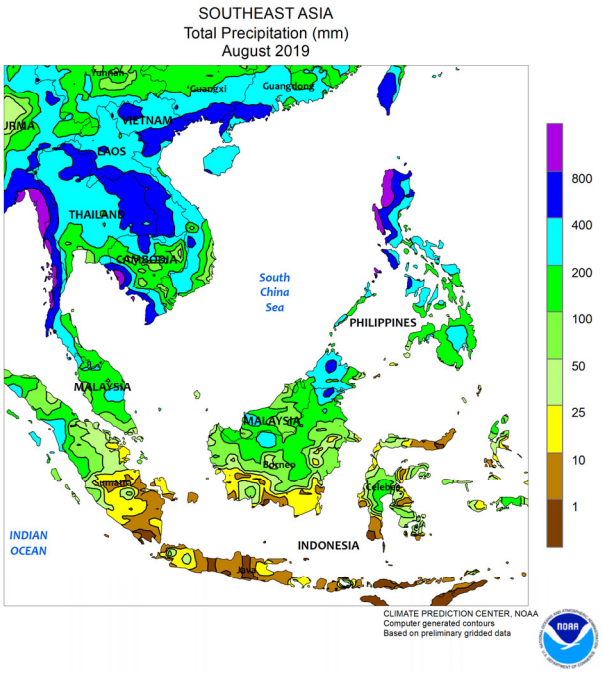


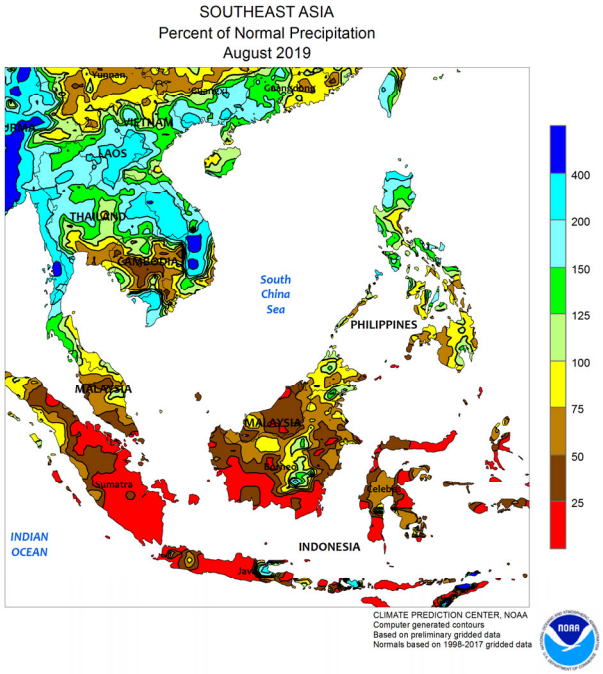


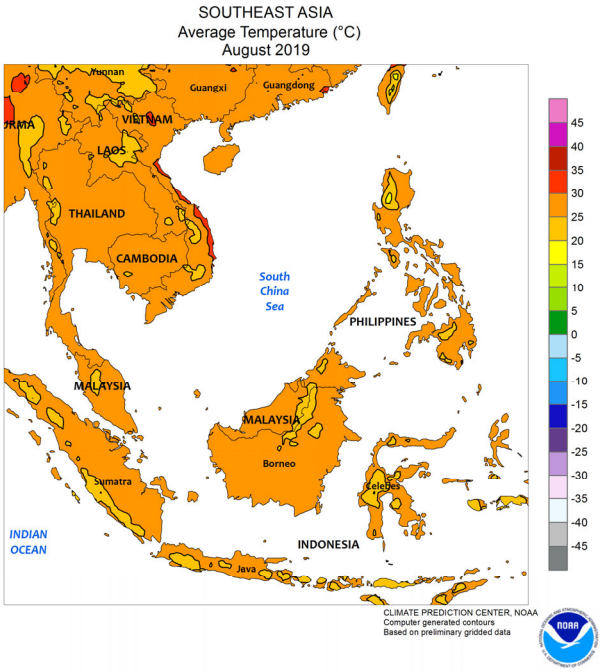


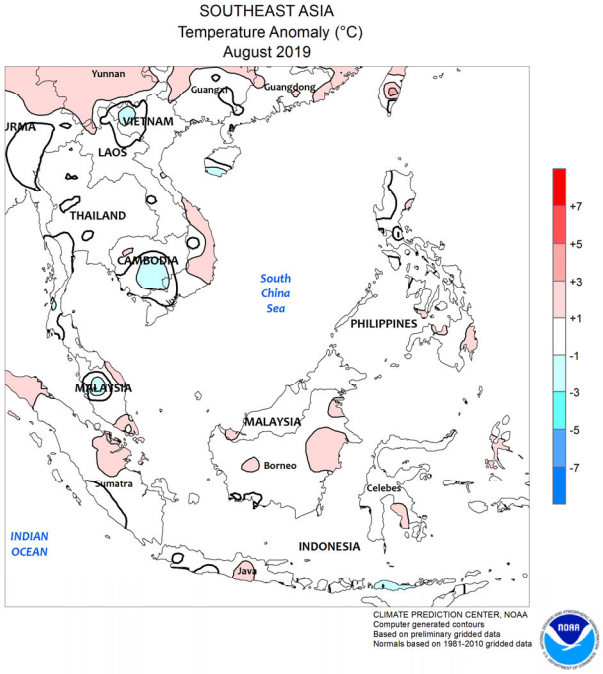
EASTERN ASIA

Typhoon Lekima made landfall in eastern China during the second week of August, producing heavy rainfall that extended from eastern coastal provinces to much of the northeast. The moisture in the east helped stabilize deteriorating conditions from poor seasonal rainfall. However, unfavorably hot, dry weather returned during the latter half of the month, stressing even irrigated summer crops. In contrast, the storm-related rainfall in the northeast added to already impressive seasonal totals, as corn, soybeans, and rice continued to benefit from well-above-normal rainfall. Meanwhile, short-term drought conditions developed in the Yangtze Valley, where monthly rainfall totals were less than 100 mm (less than 50 percent of normal). Irrigation was sufficient for rice and other summer crops, but temperatures averaging 3°C above normal likely caused some stress, nonetheless. In western China, irrigated, high-yielding cotton continued to benefit from good growing conditions, although some areas experienced stressful heat. Elsewhere, seasonal drought remained a problem on the Korean Peninsula, reducing irrigation water for rice, but moisture conditions improved for rice in Japan.





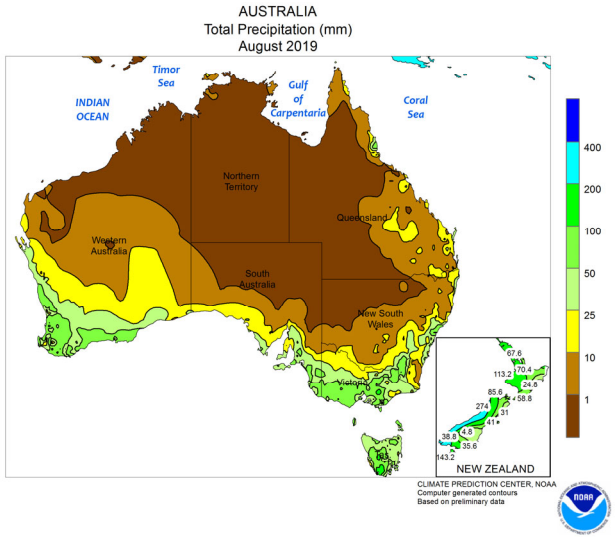


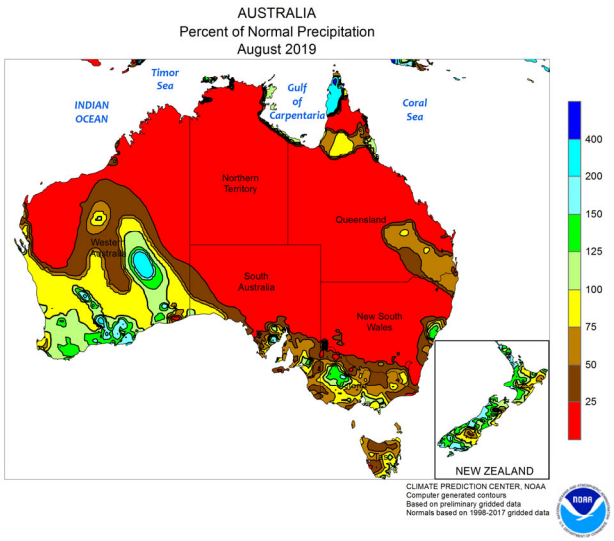


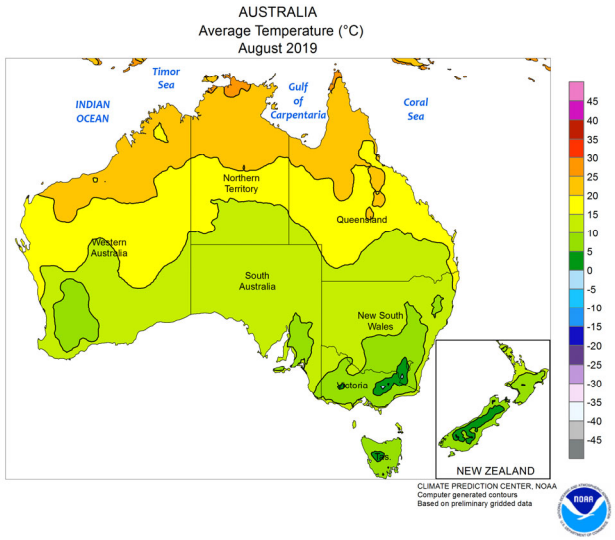
SOUTHEAST ASIA

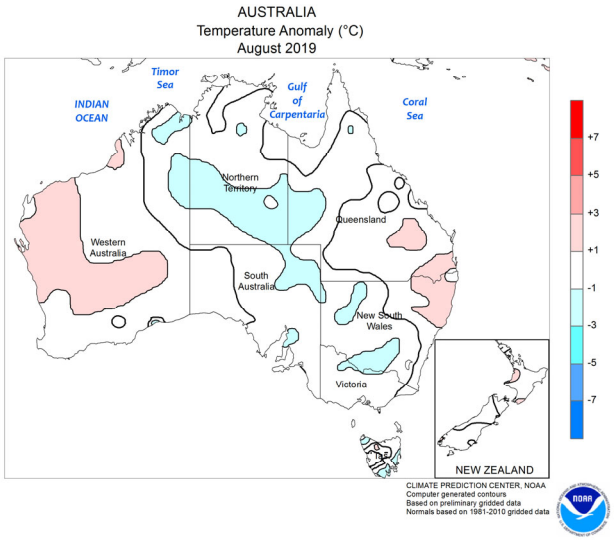
Monsoon showers improved greatly across Thailand in August, erasing lingering moisture deficits from poor rainfall earlier in the season. Rainfall (over 200 mm; 100-150 percent of normal) was consistent throughout the month in the north and central regions, while moisture from a late-month tropical cyclone pushed totals in the northeast above normal for the first time this season. Rice conditions have stabilized as a result of the improved moisture, but more rain would be welcome to bolster irrigation supplies for the dry-season crop sown in November. Meanwhile, much of the Philippines received near-normal rainfall, with over 150 mm in the south and central regions and 200 to locally over 600 mm in the seasonally wetter north. In contrast to the good moisture conditions in the northern portions of the region, large portions of oil palm areas in Malaysia and Indonesia continued to experience various levels of drought. The only exception was in eastern Malaysia (Sabah), where monthly rainfall was near normal (over 150 mm).

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



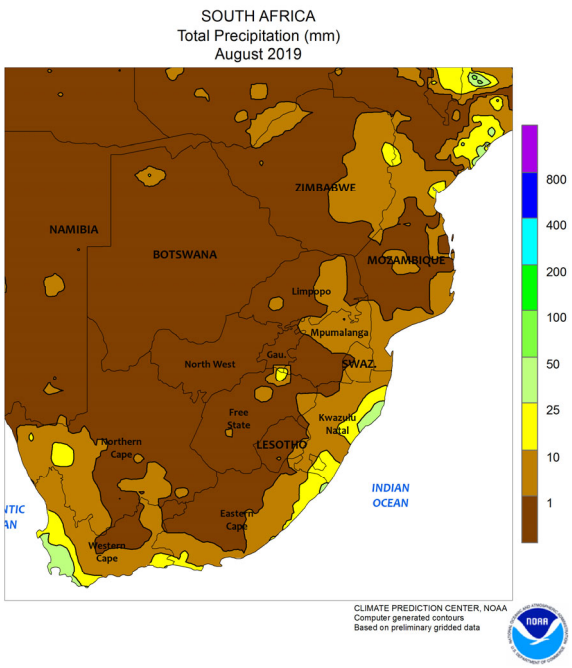


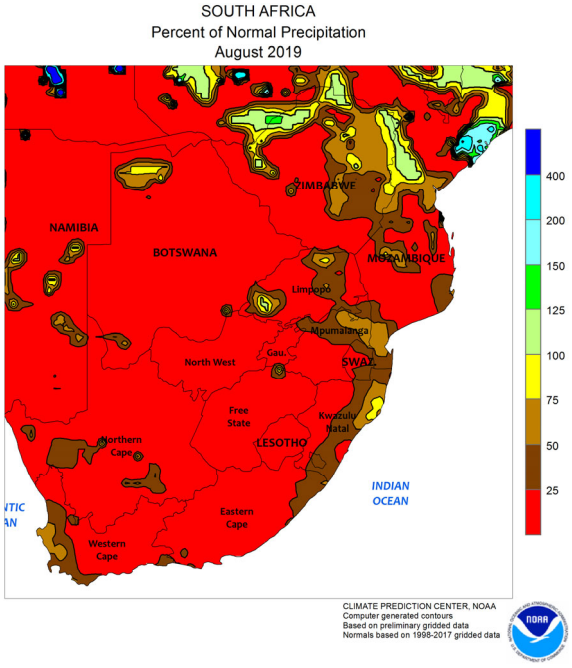


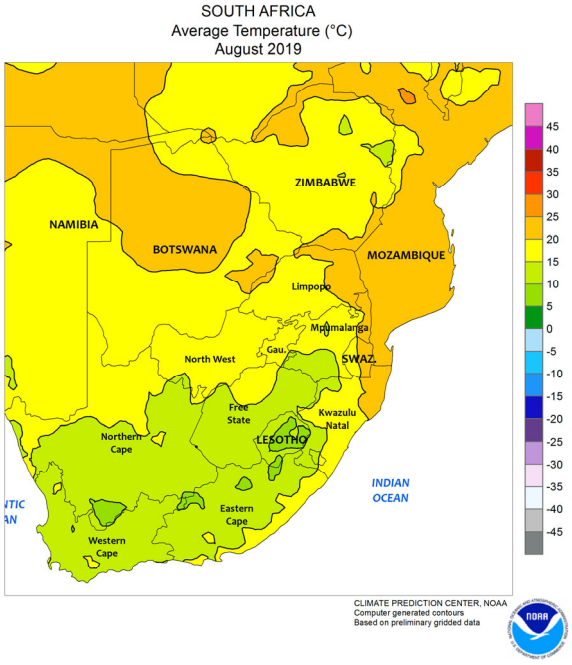


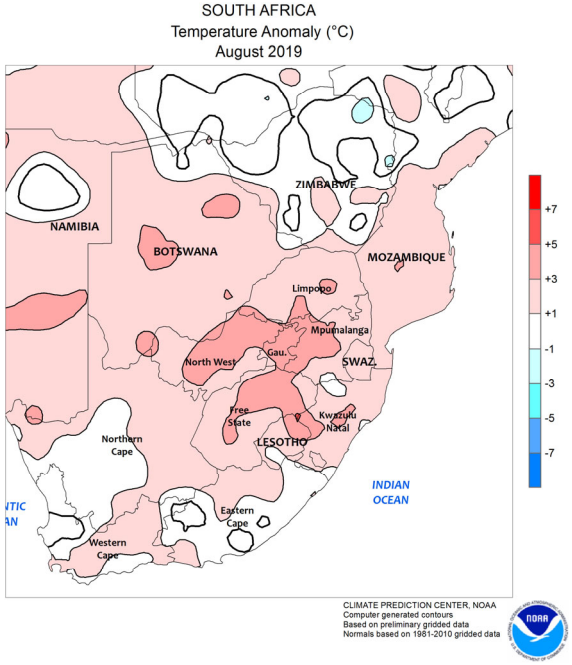
AUSTRALIA

During August, persistent dryness kept drought firmly entrenched in southern Queensland and New South Wales, further reducing the yield potential of wheat and other winter crops. Farther south, August rainfall was near to below normal in Victoria and South Australia, but sunny skies and adequate topsoil moisture maintained generally good yield prospects for vegetative wheat, barley, and canola. Crop prospects also remained good in Western Australia, where intermittent showers and sun helped promote growth of vegetative winter grains and oilseeds.



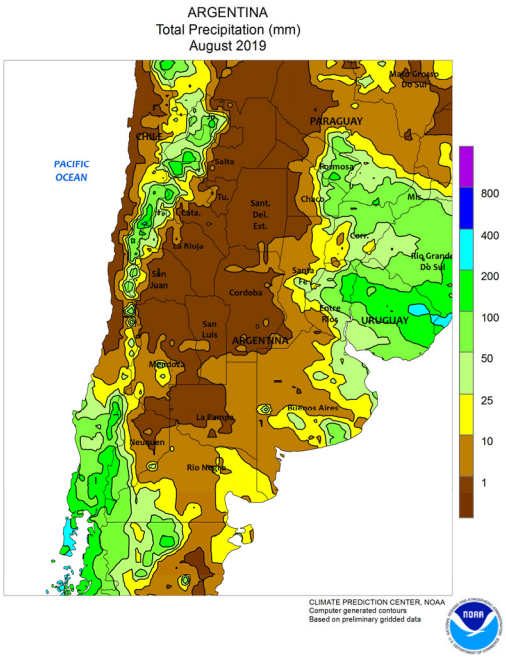


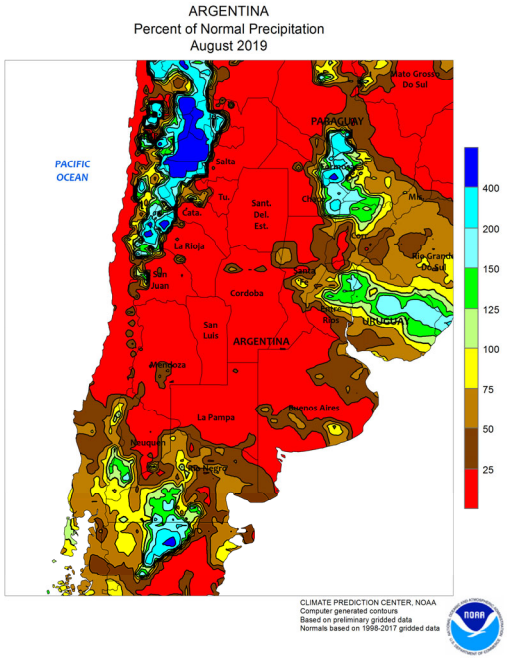


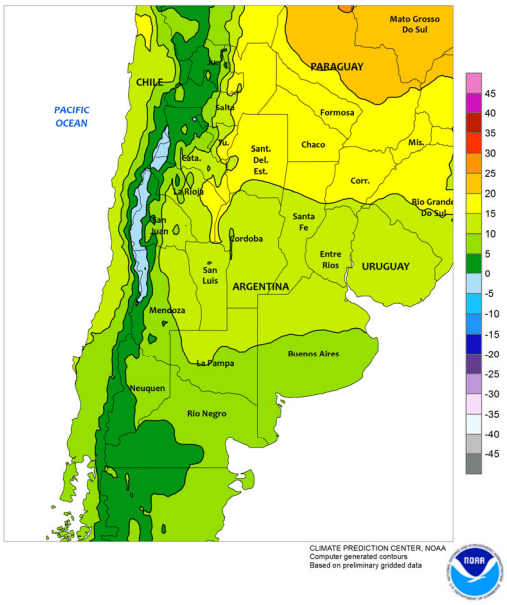


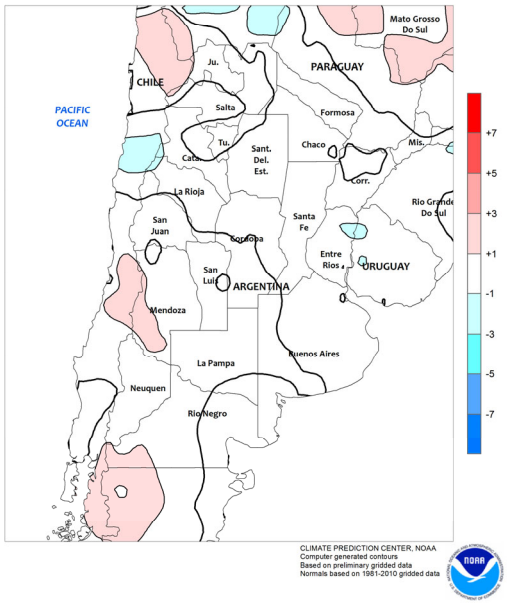
SOUTH AFRICA

Coastal showers helped to replenish local irrigation reserves during August, though the rain was not as frequent or widespread as needed and monthly rainfall was generally below normal. In Western Cape, total accumulations exceeded 10 mm in western and south-coastal farming areas, with the highest amounts (locally greater than 50 mm) concentrated near Cape Town. Light to moderate rain (10-25 mm or more) also grazed the coasts of Eastern Cape and KwaZulu-Natal, likely causing only minor delays in harvests of sugarcane and other crops. Meanwhile, dry, warmer-than-normal weather (monthly temperatures averaging 2-3°C above normal) dominated interior farming areas from North West and Free State eastward, maintaining high moisture demands of irrigated winter-grown crops.



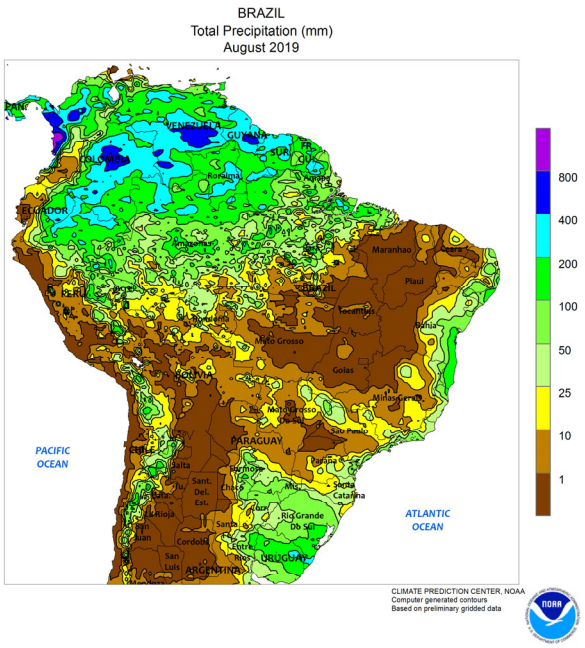


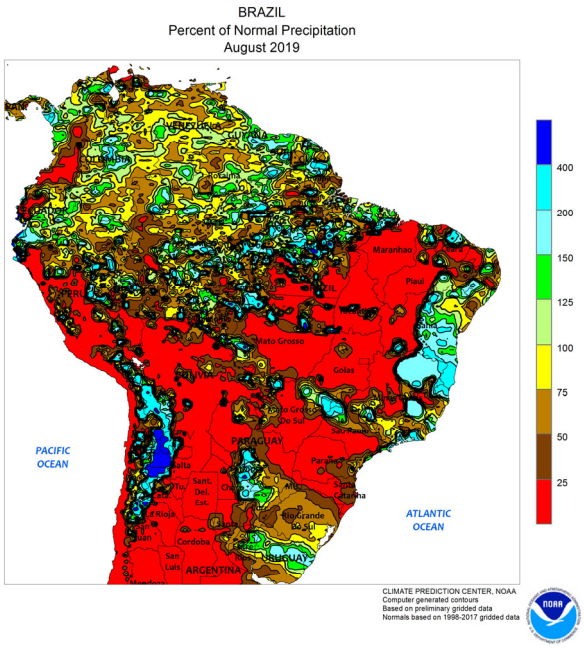


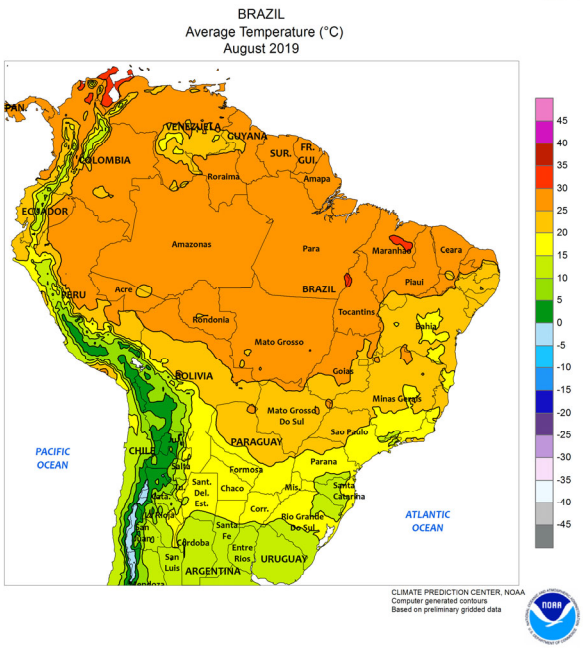


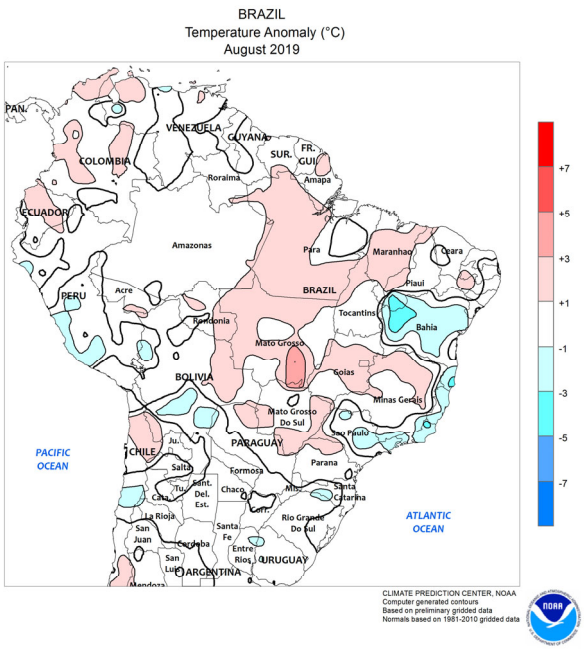
ARGENTINA

Dry weather dominated most Argentine farming areas during the month of August, favoring the final stages of autumn fieldwork. An exception was the northeast (Entre Rios northward through eastern Formosa), where locally heavy showers (weekly totals of 10-50 mm or more) developed at month's end. The moisture was favorable for winter grains and the upcoming planting of summer crops — including early planted sunflowers and corn — but the rain arrived as cotton planting was winding down. Scattered showers also developed over Buenos Aires at the same time, but showers were widely scattered and additional rain will be needed soon as seasonal warming prompts growth of winter grains; this is particularly true for western production areas (notably La Pampa and Cordoba), which are climatologically drier during the winter months. Monthly average temperatures were near normal as a late-month warm up offset earlier incursions of cold weather that produced freezes throughout much of the region.





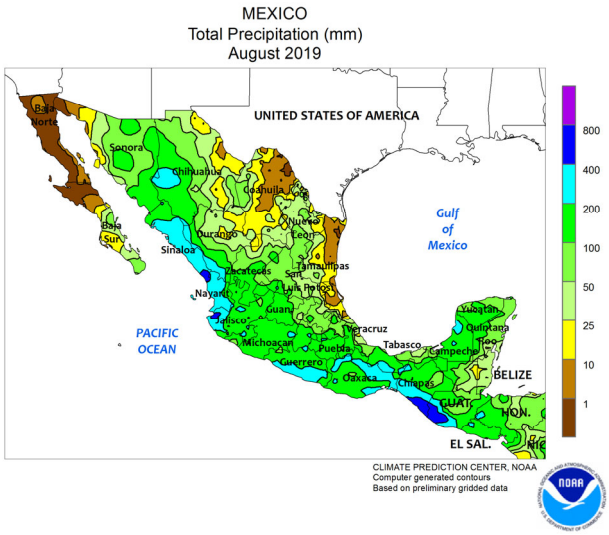


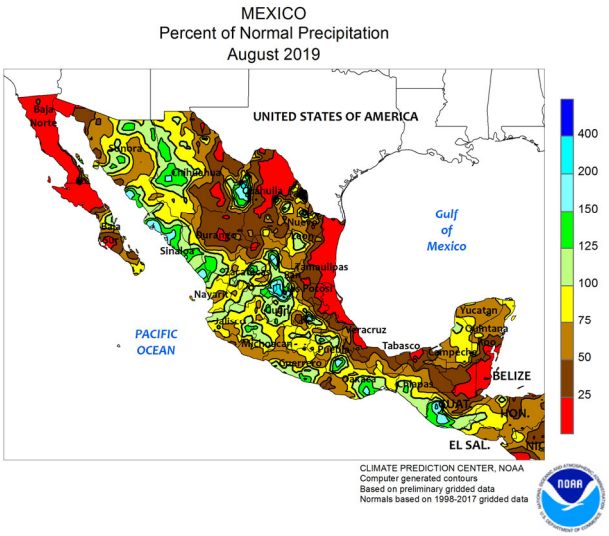


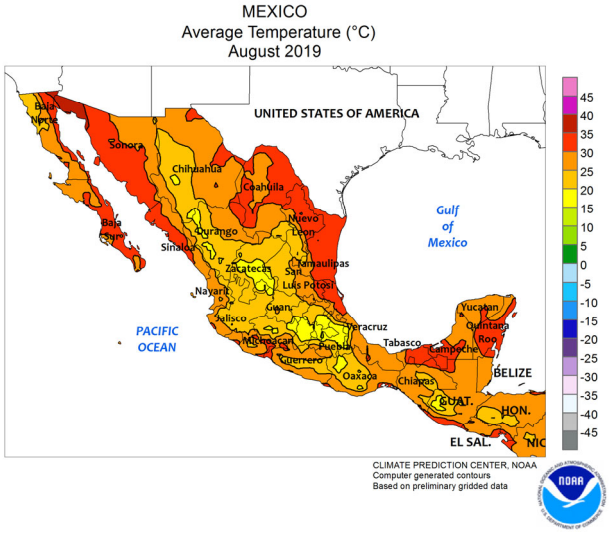
BRAZIL

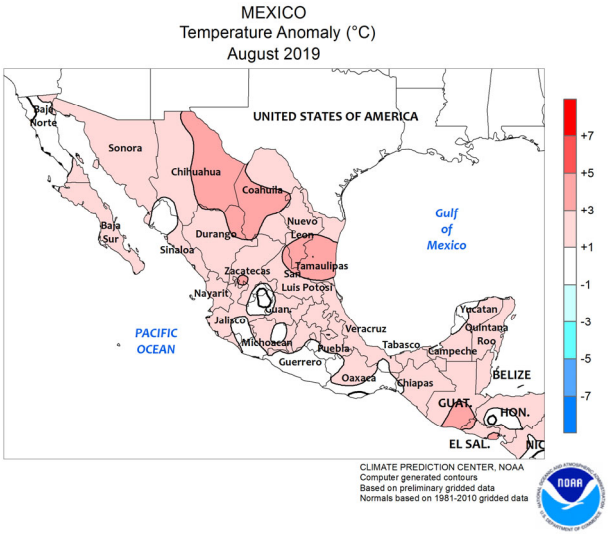
Warm, seasonably dry August weather in the main production areas of central and northeastern Brazil allowed cotton harvesting to rapidly advance toward completion. Aside from a few infrequent and isolated showers that likely had limited impact on agriculture, the pattern of dryness extended as far south as Parana, allowing seasonal fieldwork to progress with only minor interruptions. Rainfall was more frequent, however, in Rio Grande do Sul, maintaining abundant moisture for wheat. Temperatures briefly dropped below freezing during the middle part of August throughout much of Rio Grande do Sul, though the traditionally later-developing wheat crop was mostly in vegetative stages and only a small portion of the crop was reportedly susceptible to damage at that time.

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





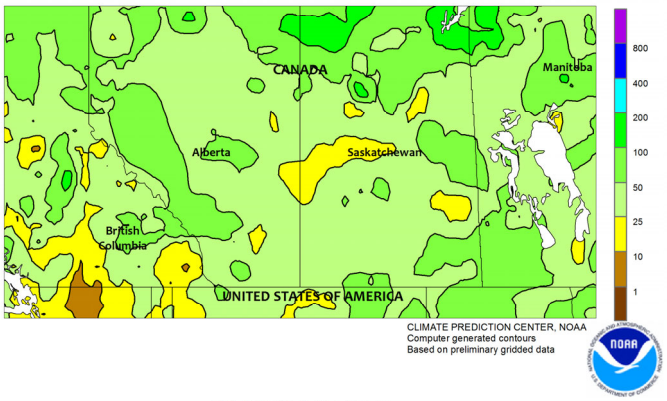




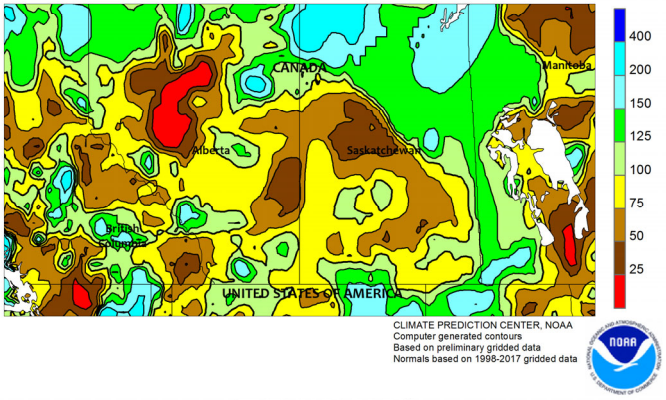
MEXICO

Seasonal showers were lighter than usual during August, resulting in below-normal rainfall and above-normal temperatures throughout much of Mexico. Rain was most frequent across the southern plateau (Jalisco to Puebla) and sections of the northwestern interior (Nayarit to western Chihuahua), though amounts varied greatly from week to week. Meanwhile, extended periods of hot (daytime highs ranging from the upper 30s to lower 40s degrees C), dry weather were recorded in the northeast, maintaining high water requirements of livestock and irrigated crops. The dryness often extended southward through Veracruz to Tabasco and western Campeche, taxing irrigation reserves and limiting moisture for sugarcane and other crops concentrated in that region. Monthly rainfall was also generally below normal along the Pacific Coast (Michoacan to Chiapas) though several periods of heavy rain were recorded.

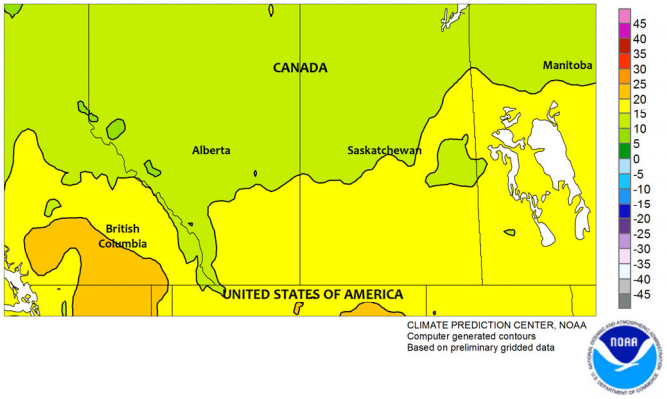
CANADIAN PRAIRIES
Total Precipitation (mm)
August 2019



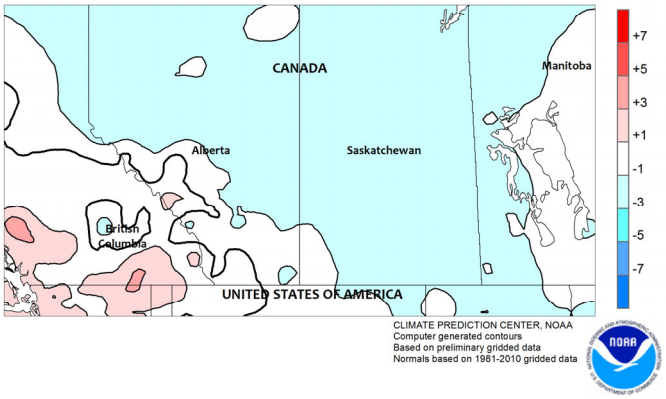
CANADIAN PRAIRIES
Percent of Normal Precipitation
August 2019



CANADIAN PRAIRIES
Average Temperature (°C)
August 2019

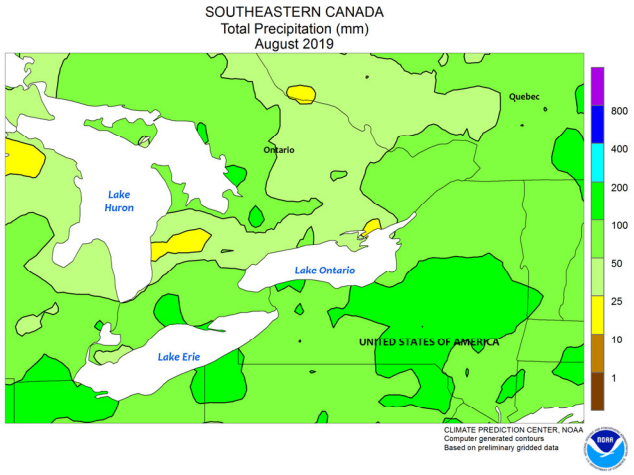


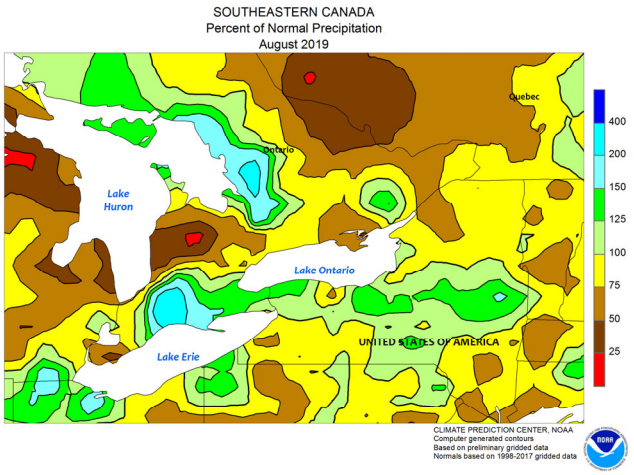
CANADIAN PRAIRIES
Temperature Anomaly (°C)
August 2019

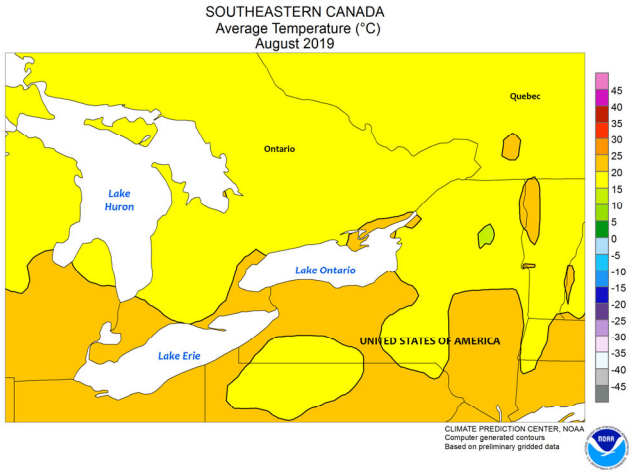


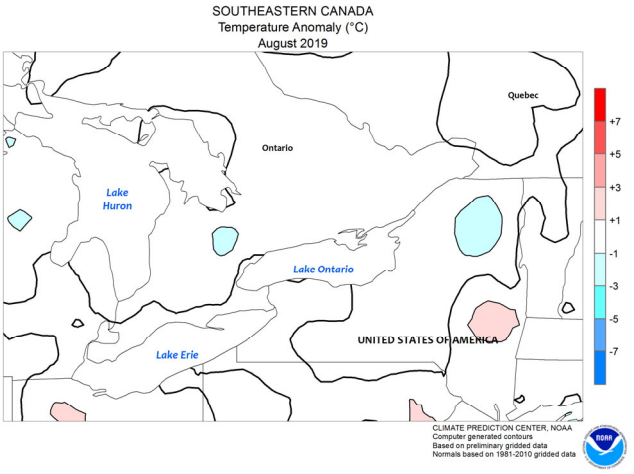
CANADIAN PRAIRIES

In August, periods of cool, showery weather slowed development of spring grains and oilseeds and, by month's end, damp conditions were impacting early harvest efforts. After a dry start to the month, weekly rainfall was more common across much of the region, with highest monthly accumulations (50-100 mm or more) concentrated over Manitoba, southern and eastern Saskatchewan, and Alberta's northern farming areas. August temperatures averaged below normal in these locations, and frost was recorded in the Peace River Valley during the first 10 days of the month. Elsewhere, climatologically drier conditions (monthly accumulations of 25-50 mm) and occasional late-summer warmth (daytime highs reaching the 30s degrees C) fostered a more favorable pace of development in the southwestern Prairies and supported harvesting of earlier-planted spring grains and oilseeds. By month's end, harvesting was underway, albeit with localized delays due to late crop development and untimely rain.









SOUTHEASTERN CANADA

During August, lingering summer warmth favored development of corn and soybeans, particularly those lagging in development due to late planting. Weekly temperatures consistently averaged near to slightly above normal across the region, with daytime highs periodically reaching the lower 30s (degrees C) into the latter half of the month. Nighttime lows occasionally dipped below 5°C in spots, particularly toward the end of the month, but no freeze was recorded. Meanwhile, rainfall was generally light and variable, with the highest accumulations (locally greater than 100 mm) in the farming areas north of Lake Erie. In contrast, a drying trend developed in Ontario's more easterly agricultural districts, aiding maturation of summer crops and fieldwork such as cutting hay but reducing moisture for the upcoming winter wheat crop.

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U.S. Crop Production Highlights

The following information was released by USDA's Agricultural Statistics Board on September 12, 2019. Forecasts refer to September 1.

Corn production for grain is forecast at 13.8 billion bushels, down 1 percent from the previous forecast and down 4 percent from last year. U.S. yields are expected to average 168.2 bushels per harvested acre, down 1.3 bushels from the previous forecast and down 8.2 bushels from 2018. Area harvested for grain is forecast at 82.0 million acres, unchanged from the previous forecast but up less than 1 percent from 2018.

Soybean production for beans is forecast at 3.63 billion bushels, down 1 percent from the previous forecast and down 20 percent from last year. Yields are expected to average 47.9 bushels per harvested acre, down 0.6 bushel from the previous forecast and down 3.7 bushels from 2018. Area harvested for beans is forecast at 75.9 million acres, unchanged from the previous forecast but down 14 percent from 2018.

All cotton production is forecast at 21.9 million 480-pound bales, down 3 percent from the previous forecast but up 19 percent from 2018. Yields are expected to average 839 pounds per harvested acre, down 16 pounds from the previous forecast and down 25 pounds from 2018. Upland cotton production is forecast at 21.1 million 480-pound bales, down 3 percent from the previous forecast but up 20 percent from 2018. Pima cotton production is forecast at 717,000 bales, down 9 percent from the previous forecast and down 10 percent from 2018. All cotton area harvested is forecast at 12.5 million acres, down 1 percent from the previous forecast but up 23 percent from 2018. Planted area totaled 13.8 million acres, down 1 percent from the previous forecast and down 2 percent from 2018.

California Navel orange production for the 2019-2020 season is forecast at 1.52 million tons (38.0 million boxes), down 7 percent from last season. This initial forecast is based on an objective measurement survey conducted in California's Central Valley from mid-June to the beginning of September. The objective measurement survey indicated fruit set was below last year but that the average fruit size was above last year. Harvest is expected to begin in October.

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