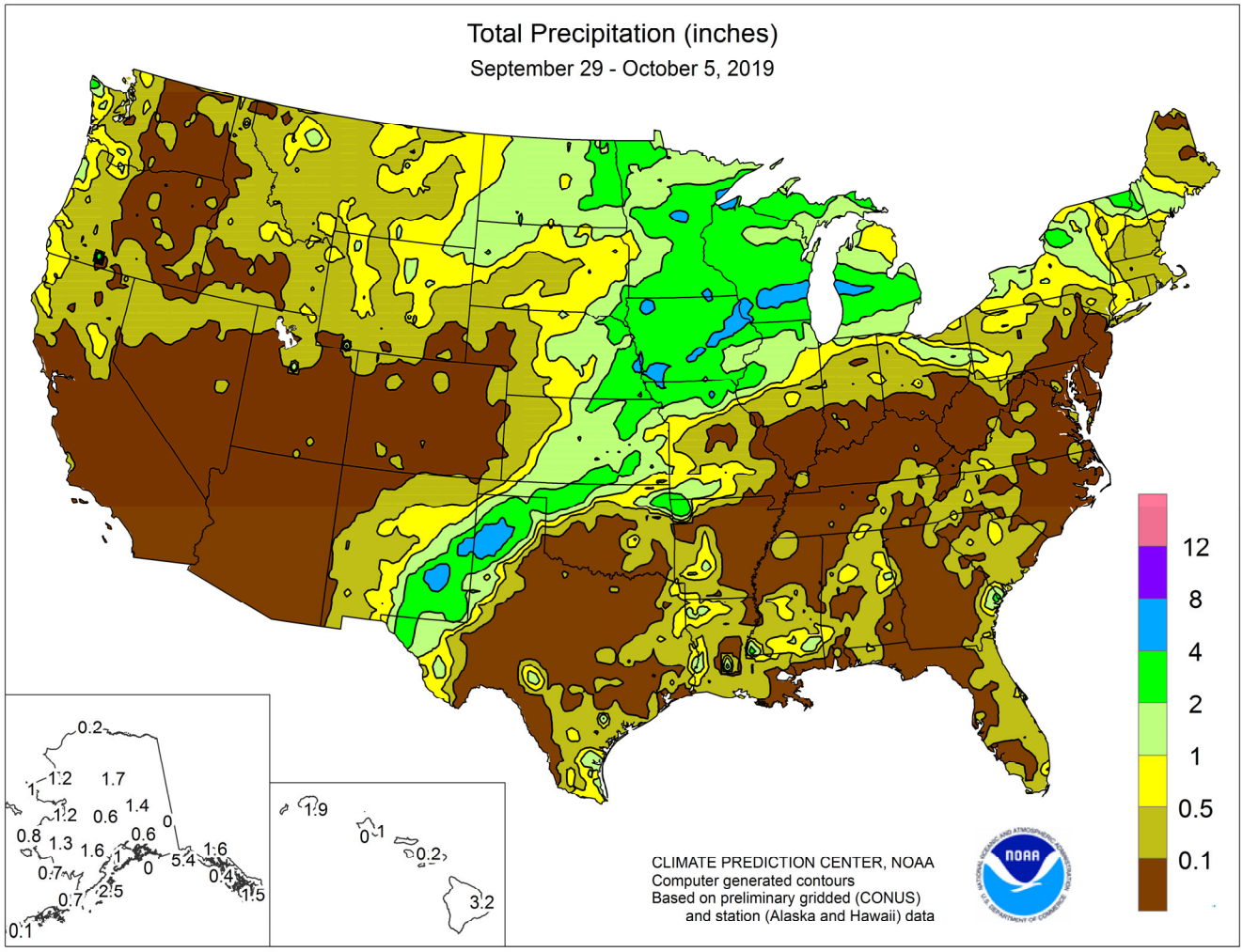
Volume 106, No. 41 http://www.usda.gov/oce/weather October 8, 2019

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 29 – October 5, 2019

Highlights provided by USDA/WAOB

Drenching rainfall (2 to 4 inches or more) across the **northern and western Corn Belt** left fields soggy, resulted in additional lowland flooding, and slowed the push of late-planted corn and soybeans toward maturity. Nevertheless, the **Midwestern** growing season continued into early October, allowing for further summer crop development. Rain also extended southwestward across the **Plains**, generally along an axis from **eastern Nebraska to southeastern New Mexico**. Some of the highest totals (also 2 to 4 inches or more) occurred on the

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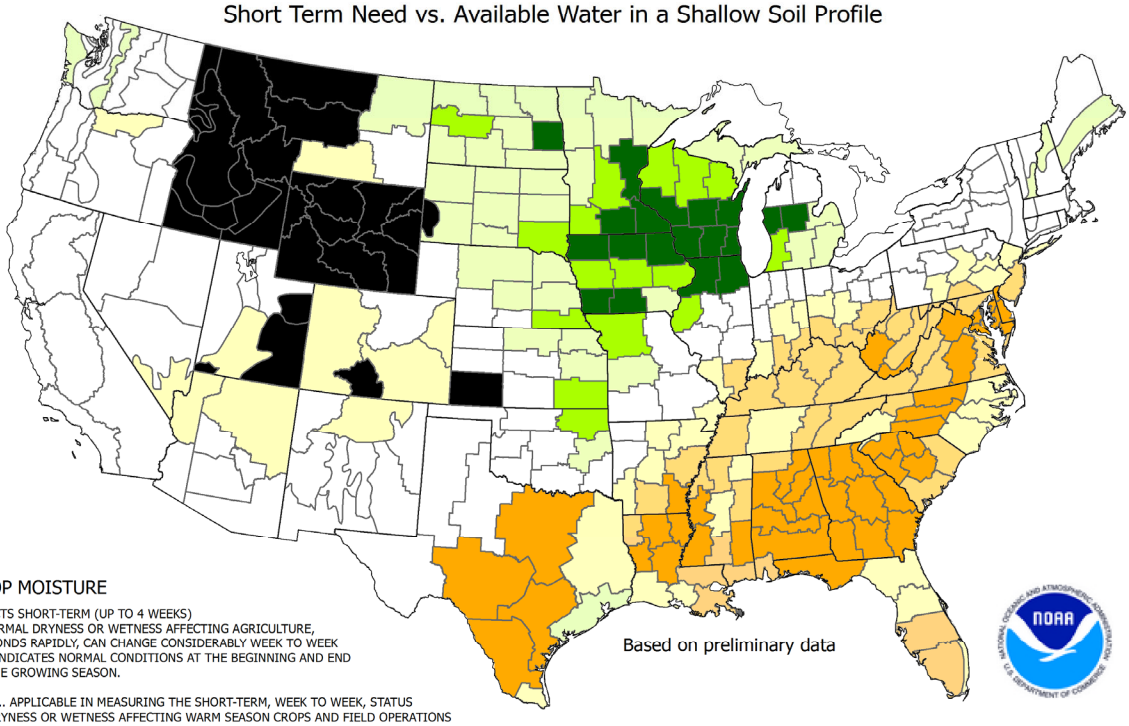


Based on preliminary data

CROP MOISTURE

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

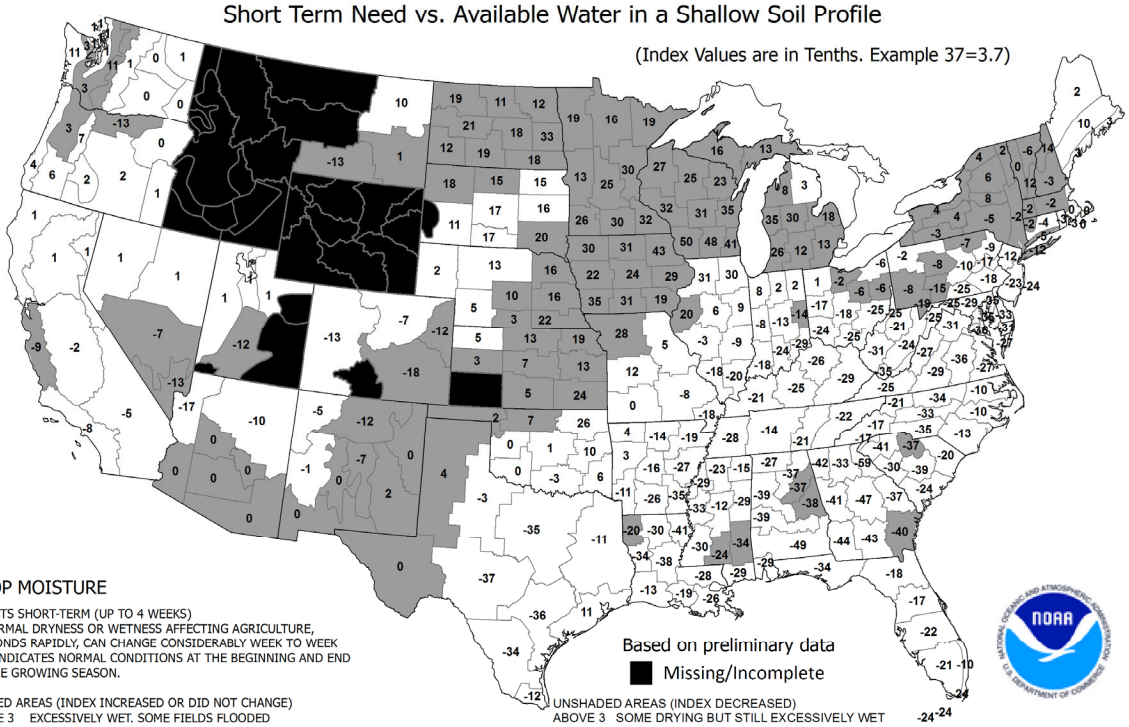
USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS

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

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

Crop Moisture Index by Division
Weekly Value for Period Ending Oct 05, 2019
Short Term Need vs. Available Water in a Shallow Soil Profile

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



Based on preliminary data

Missing/Incomplete

CROP MOISTURE

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

SHADED AREAS (INDEX INCREASED OR DID NOT CHANGE)

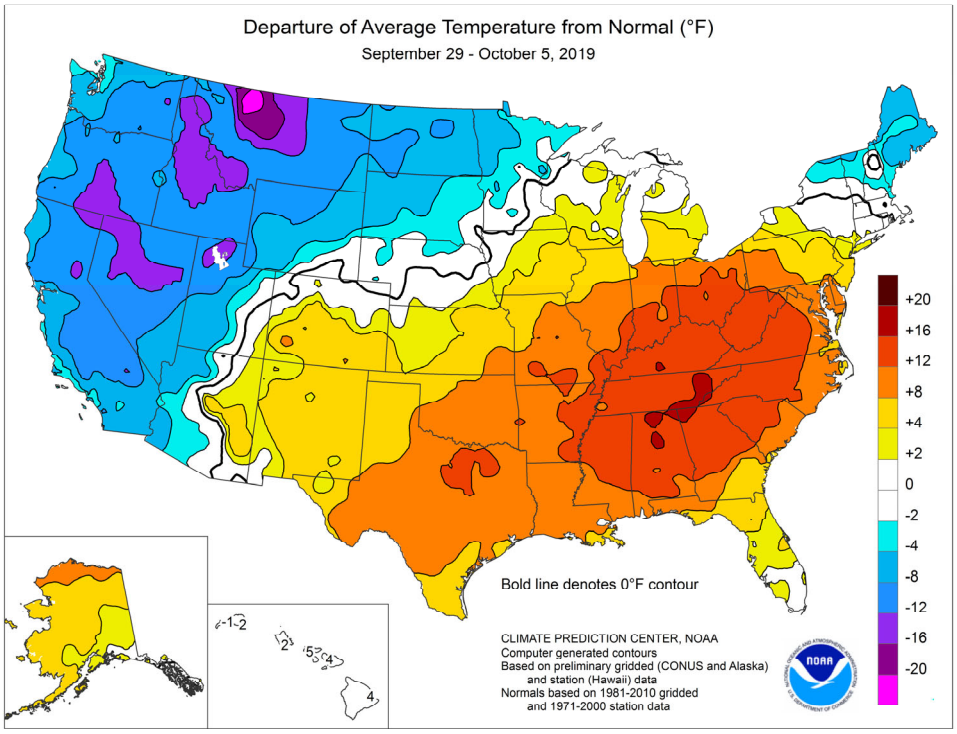
ABOVE 3	EXCESSIVELY WET. SOME FIELDS FLOODED
2 TO 3	TOO WET. SOME STANDING WATER
1 TO 2	SOME FIELDS TOO WET, PROSPECTS ABOVE NORMAL
0 TO 1	MOISTURE ADEQUATE FOR PRESENT CROP NEEDS
0 TO -1	PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2	SOME IMPROVEMENT BUT STILL ABNORMALLY DRY
-2 TO -3	DRYNESS EASED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

UNSHADED AREAS (INDEX DECREASED)

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

(Continued from front cover)

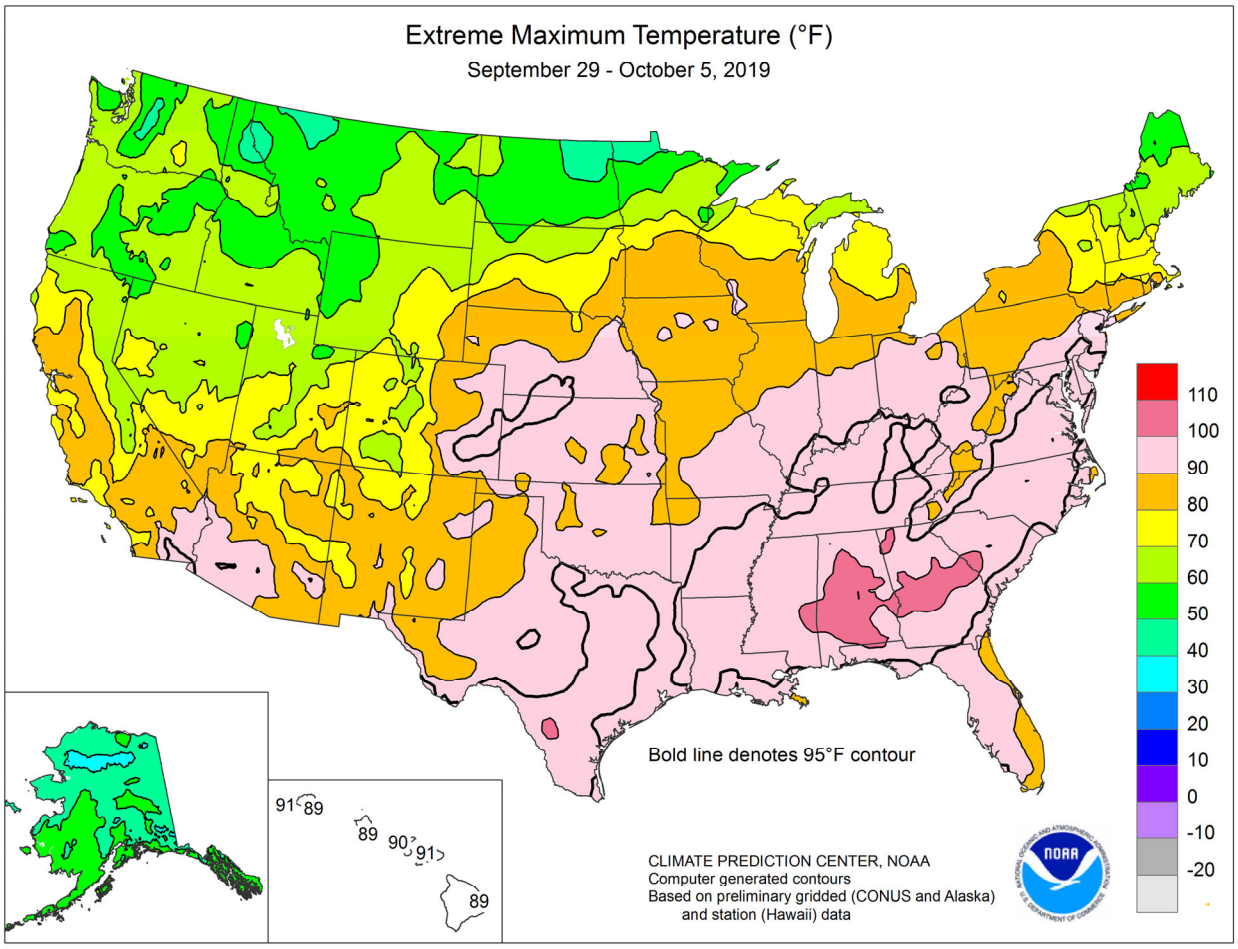
southern High Plains. In contrast, little or no rain fell in the **Southeast**. The combination of mostly dry weather and record-setting high temperatures led to further drought development and intensification as far north as the **Ohio Valley** and **mid-Atlantic**. In fact, weekly temperatures generally averaged 10 to 15°F above normal from the **southeastern Plains to the Ohio Valley and interior Southeast**. Meanwhile, cool weather in **northern New England** held readings as much as 5°F below normal. Elsewhere, mostly dry weather favored autumn fieldwork in the **Desert Southwest**, while rain and snow showers accompanied below-normal temperatures in the **Northwest**. In the latter region, the cool, showery weather boosted soil moisture but slowed winter wheat emergence and establishment. Weekly temperatures averaged more than 10°F below normal in many locations from **California to Montana**.

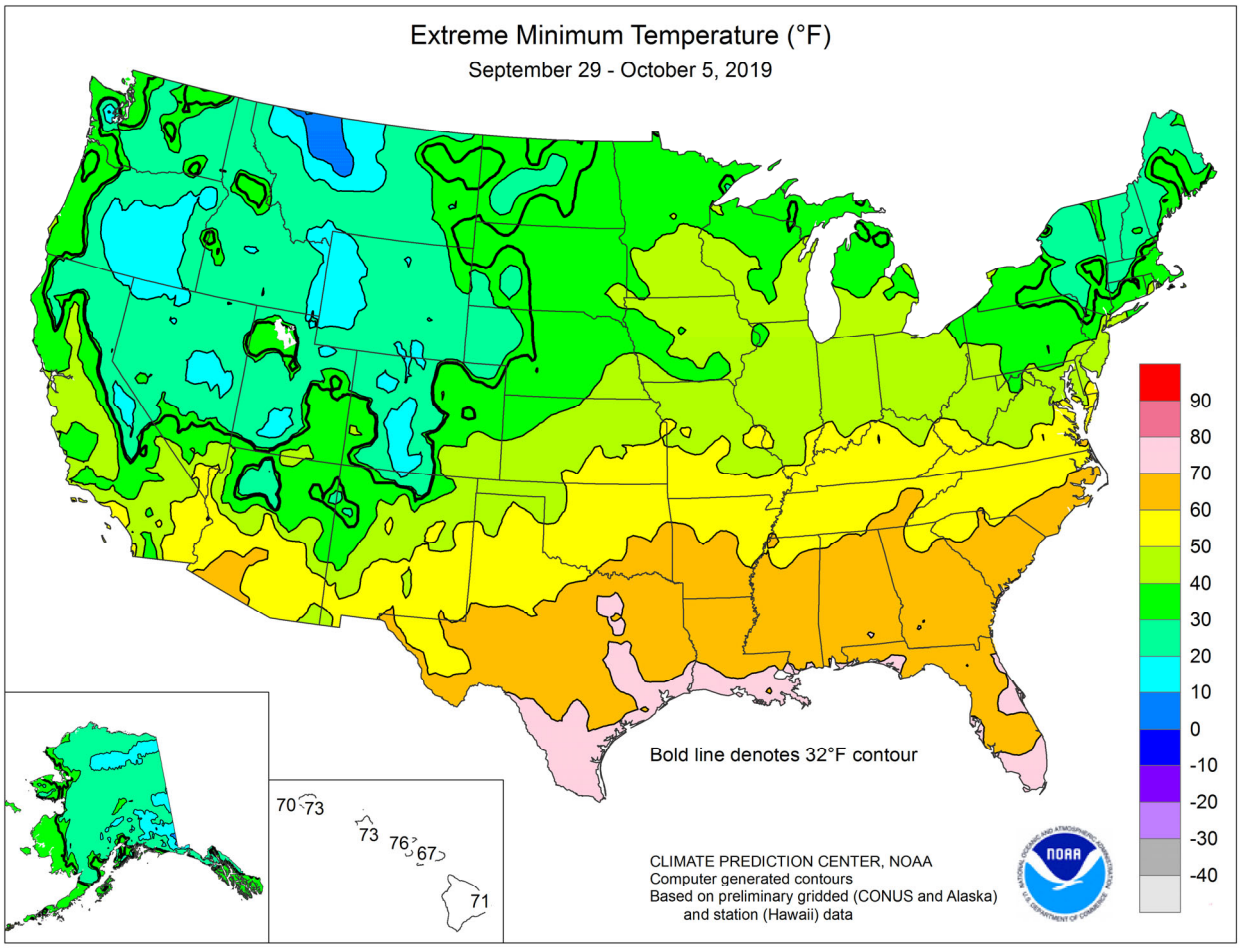


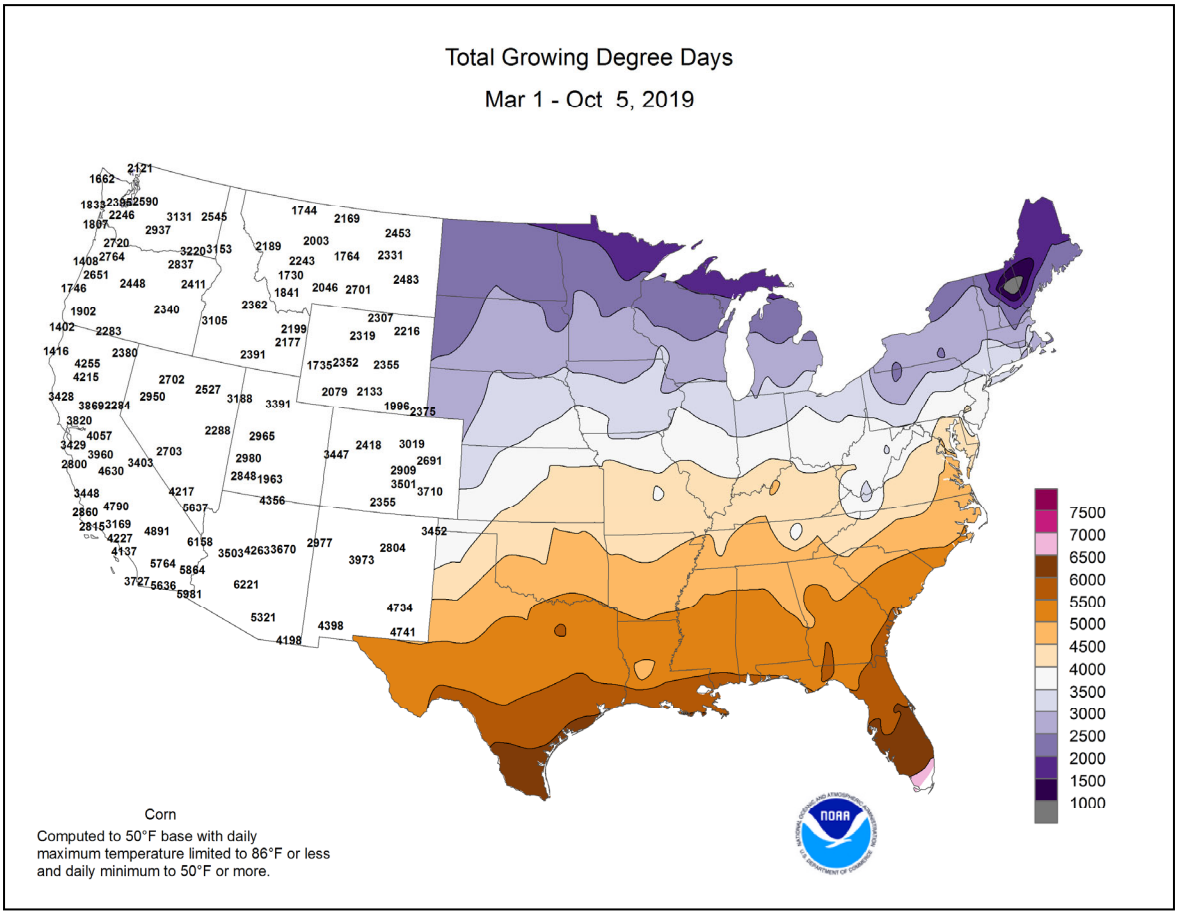
For the first time on record, October temperatures reached or topped the 100-degree mark in locations such as **Huntsville, AL** (100°F on October 2 and 3); **Birmingham, AL** (101°F on October 3); **Raleigh-Durham, NC** (100°F on October 3); **Athens, GA** (100°F on October 3); **Augusta, GA** (100 and 101°F, respectively, on October 3-4); **Greenwood, MS** (100°F on October 3); and **Chattanooga, TN** (100°F on October 2 and 3). Like many **Southeastern** communities, **Macon, GA**, set multiple October record highs, reaching 102 and 103°F, respectively, on October 3-4. Previously, **Macon's** highest October reading had been 100°F on October 5, 1954. **Montgomery, AL**, achieved three triple-digit readings in October—101°F on the 1st and 102°F on the 3rd and 4th. Prior to this year, **Montgomery's** highest October temperature had been 100°F on October 6, 1954. In the **Midwest**, the 1st was the hottest October day on record in **Cincinnati, OH** (95°F), and **Evansville, IN** (94°F). Elsewhere on October 1, monthly record highs were established in many **West Virginia** locations, including **Huntington** (95°F), **Parkersburg** (94°F), **Beckley** (91°F), and **Elkins** (90°F). Neither **Beckley** nor **Elkins** had ever attained a 90-degree reading in October. Farther east, monthly records from October 5, 1941, were broken on the 2nd in **mid-Atlantic** cities such as **Washington, DC** (98°F); **Wilmington, DE** (98°F); and **Newark, NJ** (96°F). In stark contrast, frigid conditions affected snow-covered sections of the **northern Rockies** and **northern High Plains** in late September and early October. From September 30 – October 2, a trio of daily-record lows were set in **Montana** locations such as **Cut Bank** (6, 1, and 8°F) and **Great Falls** (12, 9, and 17°F). By October 3, cold air had pushed eastward across the **Plains**, where **Sidney, NE**, notched a daily-record low of 24°F. Chilly air settled as far south as **southern California**; **Bishop** collected consecutive daily-record lows (30 and 28°F, respectively) on October 3-4. Cold air also edged westward toward the **Pacific Coast**, where record-setting lows for October 1 dipped to 29°F (on September 30) in **Olympia, WA**, and 35°F (on October 1) in **Astoria, OR**.

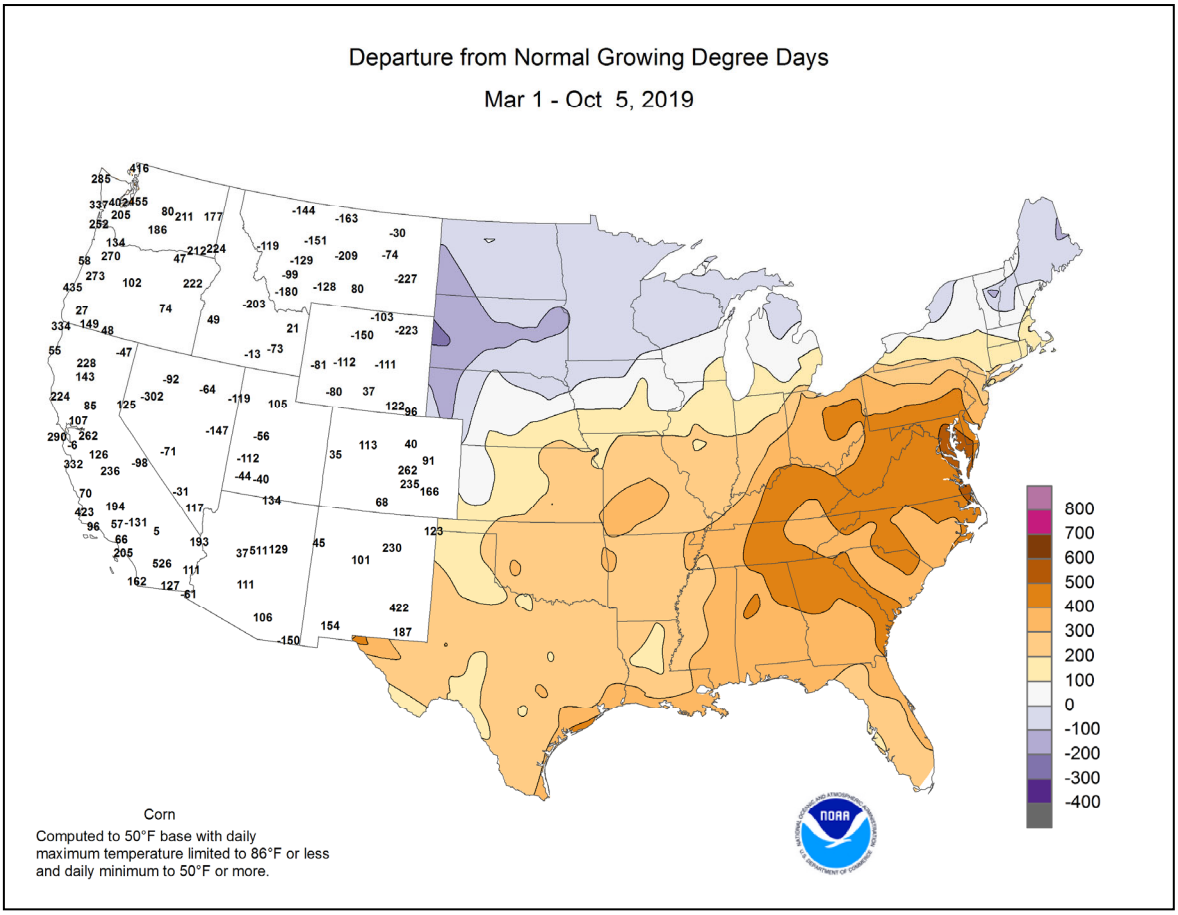
Great Falls, MT, received 17.7 inches of snow in a 24-hour period on September 28-29 and reported a 2-day storm total of 19.3 inches. Previously, **Great Falls'** snowiest 24-hour period occurred on April 20, 1973, when 16.8 inches fell. Unofficial storm totals in **Montana** reached 52 inches in **Babb** and 48 inches in **Browning**. Elsewhere in **Montana**, it was the snowiest September on record in **Cut Bank** (20.0 inches, estimated), **Great Falls** (19.3 inches), **Havre** (10.5 inches), and **Missoula** (1.7 inches). With a 3.3-inch total on September 28-29, **Spokane, WA**, also completed its snowiest September. Heavy precipitation extended into the **Intermountain West**, where **Trenton, UT**, experienced its wettest day on record (2.55 inches on September 29; previously, 2.40 inches on August 18, 1977). Farther east, multiple rounds of heavy rain drenched the **upper Midwest**. Record-setting rainfall totals for September 29 included 3.30 inches in **Springfield, IL**, and 1.24 inches in **Grand Forks, ND**. On the last day of September, daily-record amounts in the **Great Lakes region** reached 3.00 inches in **Sault Sainte Marie, MI**; 2.19 inches in **Brainerd, MN**; and 2.06 inches in **Ashland, WI**. In early October, heavy rain extended southwestward across the **Plains**. Record-setting rainfall totals for October 1 included 3.59 inches in **Des Moines, IA**; 3.44 inches in **Roswell, NM**; 2.83 inches in **Lincoln, NE**; 2.76 inches in **Oshkosh, WI**; and 2.08 inches in **Amarillo, TX**. For **Roswell**, where September 30 – October 4 rainfall totaled 5.36 inches, it was the second-wettest October day on record. During the first 5 days of October, rainfall topped 5 inches in locations such as **Dubuque, IA** (5.40 inches), and **Amarillo, TX** (5.38 inches). At week's end, another heavy-rain event unfolded across the **upper Midwest**, where daily-record totals for October 5 included 1.61 inches in **Waterloo, IA**, and 1.38 inches in **Rochester, MN**. **Rochester** has already set an annual precipitation record, with 48.74 inches (173 percent of normal) through October 5; previously, the standard was 43.94 inches in 1990.

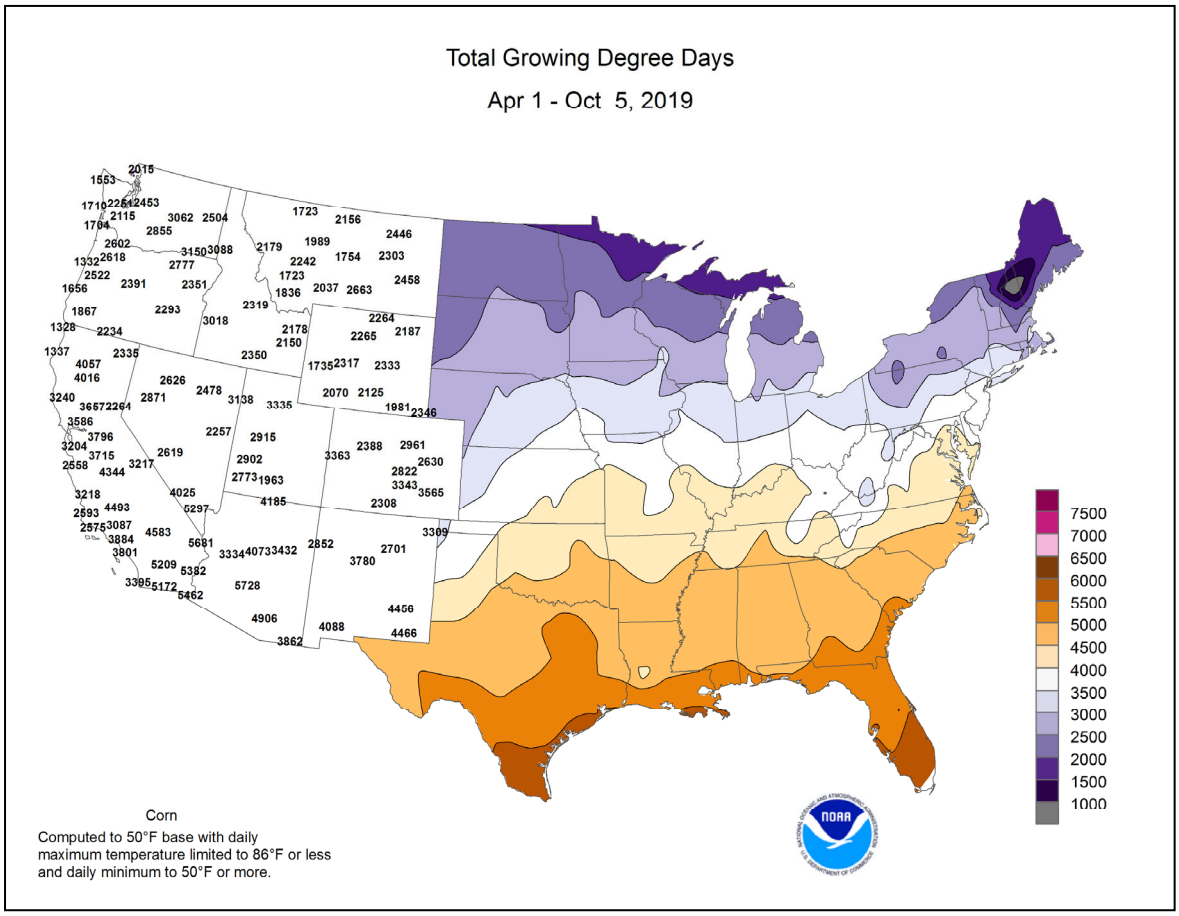
Mild, wet weather covered much of **Alaska**. Weekly temperatures averaged more than 10°F above normal across the **northern tier of Alaska**, where, **Utqiaġvik (Barrow)** notched daily-record highs (43 and 42°F, respectively) on October 1 and 4. Meanwhile, **Alaskan** weekly precipitation totals reached 2.07 inches in **Nome** and 1.55 inches in **McGrath**. In **southeastern Alaska**, 5.55 inches fell in Yakutat from September 29 – October 5. Farther south, in **Hawaii**, hot weather accompanied locally heavy showers. On the **Big Island**, **Hilo** posted three consecutive daily-record highs (92, 90, and, 89°F) from September 27-29. Hilo also reported a weekly rainfall total of 3.43 inches. Meanwhile, **Lihue, Kauai**, netted a daily-record rainfall (0.99 inch) on October 4.

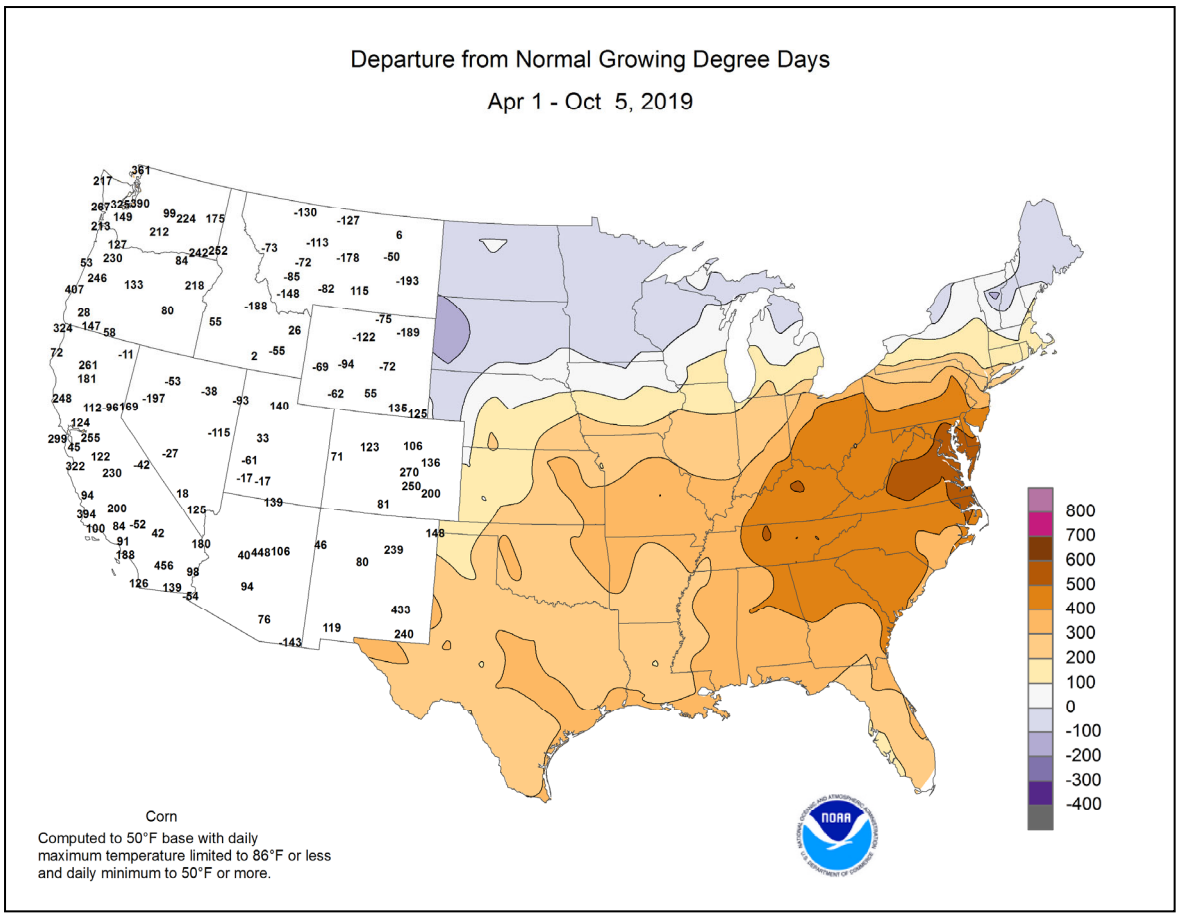

Extreme Maximum Temperature (°F)
September 29 - October 5, 2019
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95°F contour
91 89
89 90 91
89
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data


Extreme Minimum Temperature (°F)
September 29 - October 5, 2019
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32°F contour
70 73
73 76 67
71
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data


Total Growing Degree Days
Mar 1 - Oct 5, 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 - Oct 5, 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 - Oct 5, 2019
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.


Departure from Normal Growing Degree Days
Apr 1 - Oct 5, 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.

National Weather Data for Selected Cities

Weather Data for the Week Ending October 5, 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	99	72	103	67	85	16	0.39	-0.44	0.39	0.95	21	37.45	89	81	31	7	0	1	0
	HUNTSVILLE	98	68	100	62	83	16	0.03	-0.87	0.03	0.30	6	45.52	104	90	37	7	0	1	0
	MOBILE	96	71	98	69	84	11	0.01	-0.96	0.01	1.58	24	46.44	87	97	61	7	0	1	0
	MONTGOMERY	100	71	102	68	85	14	0.58	-0.21	0.58	0.63	13	34.59	80	88	34	7	0	1	1
AK	ANCHORAGE	52	41	54	34	46	4	0.71	0.13	0.50	3.94	120	9.87	81	87	78	0	0	5	1
	BARROW	41	32	43	29	36	12	0.24	0.13	0.14	1.03	134	9.40	264	94	78	0	5	3	0
	FAIRBANKS	45	35	53	31	40	4	1.31	1.11	0.54	2.01	160	13.47	166	91	84	0	3	7	1
	JUNEAU	52	41	54	31	46	-1	2.46	0.46	1.43	8.69	97	36.87	91	95	83	0	1	5	1
	KODIAK	56	43	62	35	50	5	2.46	0.42	1.78	6.42	69	41.80	77	83	71	0	0	5	1
	NOME	45	37	47	31	41	5	2.18	1.75	1.06	5.46	194	22.66	174	96	82	0	2	7	1
AZ	FLAGSTAFF	67	37	70	28	52	-1	0.00	-0.44	0.00	0.95	39	17.26	98	78	22	0	2	0	0
	PHOENIX	93	69	96	65	81	-1	0.00	-0.17	0.00	0.25	29	3.68	62	49	26	7	0	0	0
	PRESCOTT	74	47	78	41	60	-1	0.00	-0.35	0.00	2.18	94	12.41	79	67	18	0	0	0	0
	TUCSON	90	64	92	59	77	0	0.01	-0.29	0.01	2.48	149	10.16	107	63	32	5	0	1	0
AR	FORT SMITH	90	68	93	63	79	10	0.06	-0.79	0.06	2.33	55	52.40	162	98	53	5	0	1	0
	LITTLE ROCK	90	68	95	62	79	10	0.00	-0.85	0.00	1.36	31	48.61	132	89	43	5	0	0	0
CA	BAKERSFIELD	75	50	81	48	63	-10	0.00	-0.03	0.00	0.02	12	6.52	134	56	37	0	0	0	0
	FRESNO	77	51	82	48	64	-7	0.00	-0.07	0.00	0.00	0	9.52	116	61	40	0	0	0	0
	LOS ANGELES	74	57	77	54	65	-4	0.00	-0.03	0.00	0.00	0	12.86	130	74	46	0	0	0	0
	REDDING	74	47	84	41	61	-8	0.06	-0.13	0.06	0.30	48	32.39	142	69	36	0	0	1	0
	SACRAMENTO	76	45	82	42	60	-9	0.00	-0.08	0.00	0.12	29	19.48	156	85	23	0	0	0	0
	SAN DIEGO	74	57	78	53	66	-4	0.00	-0.03	0.00	0.11	48	8.54	107	82	55	0	0	0	0
	SAN FRANCISCO	71	51	80	50	61	-2	0.02	-0.04	0.02	0.06	25	18.48	135	72	51	0	0	1	0
	STOCKTON	77	46	83	45	62	-8	0.00	-0.08	0.00	0.23	59	12.70	134	72	38	0	0	0	0
CO	ALAMOSA	74	36	78	18	55	5	0.00	-0.17	0.00	0.73	72	6.97	118	70	22	0	2	0	0
	CO SPRINGS	74	45	87	35	59	4	0.03	-0.11	0.03	0.35	26	10.12	64	80	23	0	0	1	0
	DENVER INTL	72	43	89	37	57	1	0.09	-0.13	0.05	0.50	42	13.09	109	87	38	0	0	2	0
	GRAND JUNCTION	76	46	82	39	61	1	0.00	-0.22	0.00	0.26	24	7.13	103	33	18	0	0	0	0
	PUEBLO	79	49	94	40	64	5	0.00	-0.11	0.00	0.51	55	11.25	104	76	44	2	0	0	0
CT	BRIDGEPORT	70	54	87	42	62	2	0.66	-0.12	0.35	1.59	38	37.27	109	81	59	0	0	3	0
	HARTFORD	69	48	83	33	58	0	0.27	-0.62	0.14	2.21	46	35.68	101	88	53	0	0	4	0
DC	WASHINGTON	83	65	98	49	74	9	0.16	-0.67	0.16	0.27	6	31.04	101	83	51	2	0	1	0
DE	WILMINGTON	80	61	98	46	71	9	0.04	-0.81	0.04	0.52	11	37.43	111	93	52	1	0	1	0
FL	DAYTONA BEACH	88	75	89	70	81	3	0.25	-1.05	0.20	4.28	57	40.10	100	91	61	0	0	3	0
	JACKSONVILLE	89	68	91	63	79	5	0.11	-1.33	0.11	2.47	28	34.60	78	94	55	3	0	1	0
	KEY WEST	87	78	89	77	83	1	0.67	-0.43	0.29	4.72	76	23.57	77	85	68	0	0	5	0
	MIAMI	89	79	90	76	84	3	0.51	-1.12	0.45	3.74	39	55.67	116	78	55	2	0	4	0
	ORLANDO	92	73	93	71	83	4	0.18	-0.79	0.08	2.05	32	35.92	86	87	48	7	0	4	0
	PENSACOLA	94	75	97	72	84	9	0.00	-1.06	0.00	0.00	0	39.62	76	95	52	7	0	0	0
	TALLAHASSEE	95	70	97	68	83	8	0.01	-0.83	0.01	0.01	0	30.38	58	94	48	7	0	1	0
	TAMPA	92	74	94	72	83	4	0.15	-0.86	0.14	1.58	22	48.89	125	87	44	7	0	2	0
	WEST PALM BEACH	88	78	89	73	83	3	0.08	-1.41	0.05	1.45	16	45.41	94	75	60	0	0	2	0
GA	ATHENS	94	67	100	61	81	13	0.00	-0.78	0.00	1.40	34	35.21	94	89	43	6	0	0	0
	ATLANTA	94	73	98	64	83	15	0.00	-0.83	0.00	0.76	16	32.33	81	75	44	6	0	0	0
	AUGUSTA	95	69	101	66	82	13	0.26	-0.46	0.26	0.77	19	38.02	105	92	46	6	0	1	0
	COLUMBUS	97	72	101	70	85	14	0.00	-0.56	0.00	1.29	37	32.73	86	84	34	7	0	0	0
	MACON	99	68	103	65	84	14	0.00	-0.60	0.00	0.02	1	27.32	76	89	32	7	0	0	0
	SAVANNAH	93	70	97	69	82	10	2.63	1.80	2.63	3.90	69	33.70	81	97	52	6	0	1	1
HI	HILO	88	73	89	71	81	5	3.24	1.46	1.06	10.45	100	67.84	74	80	71	0	0	6	3
	HONOLULU	89	76	89	73	83	2	0.24	-0.10	0.09	2.41	243	11.47	102	76	67	0	0	5	0
	KAHULUI	90	74	91	67	82	3	0.24	0.15	0.21	0.43	93	10.16	81	80	67	5	0	2	0
	LIHUE	87	75	89	73	81	2	1.87	1.08	1.02	5.03	154	22.72	86	82	77	0	0	7	1
ID	BOISE	58	37	62	34	48	-11	0.02	-0.13	0.02	0.81	93	13.02	148	76	51	0	0	1	0
	LEWISTON	58	40	64	32	49	-9	0.17	0.00	0.17	1.06	115	10.48	109	76	60	0	1	1	0
	POCATELLO	54	31	69	24	43	-11	0.28	0.09	0.26	1.75	170	11.07	116	83	59	0	4	3	0
IL	CHICAGO/O'HARE	71	56	86	45	63	5	3.17	2.61	1.61	10.22	278	42.06	147	92	75	0	0	4	3
	MOLINE	75	56	90	43	66	6	1.88	1.29	0.88	8.76	245	43.55	142	86	67	1	0	4	2
	PEORIA	77	58	88	44	68	8	1.30	0.63	0.58	8.52	237	43.73	154	91	61	0	0	4	1
	ROCKFORD	70	55	86	44	63	5	2.08	1.45	0.60	10.82	277	44.75	150	97	79	0	0	5	3
	SPRINGFIELD	81	61	91	45	71	9	0.73	0.15	0.19	4.34	134	39.44	141	92	52	1	0	3	1
IN	EVANSVILLE	90	63	96	51	76	12	0.01	-0.58	0.01	0.09	3	46.10	135	84	41	4	0	1	0
	FORT WAYNE	77	56	89	42	67	8	0.04	-0.51	0.04	2.29	72	31.55	110	96	59	0	0	1	0
	INDIANAPOLIS	84	62	92	49	73	12	0.07	-0.50	0.07	0.49	15	38.52	121	85	46	3	0	1	0
	SOUTH BEND	74	58	90	45	66	8	1.66	0.89	0.78	7.45	172	38.03	125	91	71	1	0	4	1
IA	BURLINGTON	74	58	89	43	66	4	2.26	1.52	1.19	9.30	226	41.23	134	93	64	0	0	3	2
	CEDAR RAPIDS	70	54	88	40	62	3	2.18	1.63	0.91	8.55	234	38.55	138	99	74	0	0	4	3
	DES MOINES	71	54	87	41	62	2	3.25	2.67	1.66	7.59	213	42.01	144	91	75	0	0	4	2
	DUBUQUE	68	53	86	41	60	3	3.51	2.90	1.95	15.86	397	47.51	162	94	82	0	0	5	3
	SIOUX CITY	65	47	89	34	56	-2	2.03	1.54	1.59	6.00	217	31.24	140	96	78	0	0	6	1
	WATERLOO	68	53	91	45	61	4	3.87	3.32	1.64	8.86	265	37.10	133	88	76	1	0	4	3
KS	CONCORDIA	75	56	93	46	66	3	1.11	0.62	0.47	3.19	112	32.53	132	88	66	2	0	5	0
	DODGE CITY	74	57	92	48	65	1	1.15	0.82	0.99	1.35	70	21.08	109	92	63	2	0	3	1
	GOODLAND	71	46	94	34	59	0	0.09	-0.13	0.06	***	***	21.99	125	96	61	2	0	3	0
	TOPEKA	77	60	90	48	69	6	1.46	0.70	0.84	3.97	93	44.87	152	87	68	1	0	4	1

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending October 5, 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	80	63	91	52	72	7	2.01	1.38	1.05	2.99	88	38.58	153	85	63	2	0	5	2
KY	JACKSON	92	65	97	50	78	15	0.02	-0.74	0.02	0.02	0	39.48	103	88	36	5	0	1	0
	LEXINGTON	92	64	97	50	78	15	0.00	-0.65	0.00	0.00	0	36.51	101	77	35	5	0	0	0
	LOUISVILLE	92	67	98	54	80	15	0.00	-0.64	0.00	0.04	1	39.82	115	74	32	5	0	0	0
	PADUCAH	91	63	96	52	77	13	0.00	-0.81	0.00	0.32	8	56.14	150	85	41	5	0	0	0
LA	BATON ROUGE	95	71	97	69	83	9	1.49	0.59	1.49	4.03	74	54.04	108	93	43	7	0	1	1
	LAKE CHARLES	94	74	96	73	84	9	0.37	-0.76	0.37	4.16	62	56.40	126	93	52	7	0	1	0
	NEW ORLEANS	94	76	97	74	85	10	0.00	-0.84	0.00	0.19	3	46.95	91	87	53	7	0	0	0
	SHREVEPORT	94	71	98	67	82	10	0.64	-0.24	0.64	1.98	52	34.33	90	93	46	6	0	1	1
ME	CARIBOU	53	36	58	31	45	-3	0.17	-0.49	0.09	5.04	135	31.56	110	85	50	0	2	2	0
	PORTLAND	61	43	70	32	52	-1	0.43	-0.43	0.20	0.85	21	35.15	106	89	50	0	1	5	0
MD	BALTIMORE	83	62	98	47	73	11	0.00	-0.84	0.00	0.17	4	28.06	85	78	55	2	0	0	0
MA	BOSTON	66	51	79	42	59	-1	0.38	-0.41	0.22	2.55	63	37.18	118	81	50	0	0	4	0
	WORCESTER	62	45	73	37	54	-1	0.28	-0.74	0.14	2.47	49	37.70	102	97	57	0	0	4	0
MI	ALPENA	60	44	77	31	52	1	0.90	0.35	0.35	4.37	137	28.69	127	95	71	0	2	6	0
	GRAND RAPIDS	67	52	84	41	60	4	3.60	2.82	1.29	9.91	206	41.43	144	92	71	0	0	5	4
	HOUGHTON LAKE	60	44	72	33	52	0	1.11	0.56	0.45	5.90	169	30.67	135	92	81	0	0	6	0
	LANSING	67	51	82	40	59	4	3.09	2.49	1.24	5.07	130	32.42	131	93	77	0	0	5	3
	MUSKEGON	67	53	82	42	60	5	4.05	3.42	2.51	9.50	240	39.94	162	91	73	0	0	5	2
	TRAVERSE CITY	65	47	80	34	56	1	0.92	0.20	0.30	6.80	166	33.10	129	88	65	0	0	5	0
MN	DULUTH	53	45	64	40	49	-1	3.10	2.38	1.19	7.61	164	29.48	113	85	72	0	0	5	2
	INT'L FALLS	48	41	54	36	45	-3	2.10	1.54	0.56	7.86	230	28.82	142	94	75	0	0	6	2
	MINNEAPOLIS	61	49	86	44	55	-1	2.70	2.25	1.05	6.14	204	40.03	162	89	77	0	0	6	2
	ROCHESTER	61	49	89	43	55	1	3.67	3.13	1.48	11.80	337	51.02	192	90	79	0	0	6	2
	ST. CLOUD	56	45	82	42	51	-1	2.90	2.40	1.24	9.44	288	38.09	166	97	70	0	0	7	2
MS	JACKSON	95	70	99	67	82	12	0.22	-0.47	0.17	0.47	13	43.11	101	86	42	6	0	2	0
	MERIDIAN	99	71	102	68	85	14	0.00	-0.79	0.00	0.25	6	45.63	100	86	40	7	0	0	0
	TUPELO	97	67	99	61	82	14	0.00	-0.76	0.00	0.01	0	58.37	139	83	38	7	0	0	0
MO	COLUMBIA	82	62	90	48	72	10	0.14	-0.57	0.10	2.56	65	40.80	129	87	56	2	0	2	0
	KANSAS CITY	77	60	88	49	68	5	1.32	0.30	0.65	6.83	127	50.13	159	90	68	0	0	4	1
	SAINT LOUIS	85	65	94	51	75	10	0.01	-0.61	0.01	1.71	50	44.77	150	79	51	4	0	1	0
	SPRINGFIELD	85	64	91	53	75	11	0.72	-0.21	0.72	2.33	43	42.41	123	83	55	4	0	1	1
MT	BILLINGS	50	34	63	29	42	-12	0.28	-0.05	0.18	3.34	211	19.56	159	86	55	0	3	3	0
	BUTTE	44	26	57	22	35	-12	0.22	0.03	0.14	2.10	171	12.16	111	85	49	0	7	2	0
	CUT BANK	35	16	48	1	26	-22	0.09	-0.05	0.09	1.28	101	11.29	99	88	70	0	7	1	0
	GLASGOW	50	36	61	33	43	-9	0.67	0.48	0.63	4.39	392	17.37	175	87	71	0	0	2	1
	GREAT FALLS	43	22	56	9	33	-18	0.64	0.42	0.64	2.13	153	15.93	124	87	56	0	6	1	1
	HAVRE	42	27	57	19	35	-16	0.68	0.50	0.68	1.99	172	11.57	116	95	80	0	6	1	1
	MISSOULA	50	31	58	26	40	-10	0.22	0.03	0.19	2.47	202	13.19	120	85	60	0	5	2	0
NE	GRAND ISLAND	70	49	95	38	59	0	0.89	0.48	0.41	1.93	71	40.02	177	90	67	1	0	6	0
	LINCOLN	71	52	92	42	62	2	3.91	3.36	2.83	5.60	170	32.12	132	88	67	1	0	5	2
	NORFOLK	65	47	94	37	56	-2	1.82	1.39	1.13	3.06	120	29.68	128	92	71	1	0	6	1
	NORTH PLATTE	68	43	94	32	56	-1	0.65	0.37	0.41	1.19	78	29.85	171	93	56	1	1	4	0
	OMAHA	69	54	91	44	61	1	4.51	3.88	2.12	9.51	263	36.69	143	93	75	1	0	5	3
	SCOTTSBLUFF	66	41	91	28	54	-1	0.17	-0.09	0.12	1.21	86	28.25	200	86	68	1	1	3	0
	VALENTINE	64	43	87	32	53	-3	0.51	0.17	0.20	3.09	167	33.60	192	83	72	0	1	4	0
NV	ELY	59	24	67	19	42	-9	0.04	-0.18	0.04	0.79	72	12.85	161	77	37	0	7	1	0
	LAS VEGAS	82	59	87	56	70	-6	0.00	-0.06	0.00	0.24	69	4.88	136	20	12	0	0	0	0
	RENO	63	38	71	33	50	-8	0.00	-0.08	0.00	0.30	59	9.06	167	65	37	0	0	0	0
	WINNEMUCCA	58	26	69	20	42	-13	0.30	0.19	0.15	1.08	177	8.50	138	81	49	0	6	3	0
NH	CONCORD	63	39	70	27	51	-3	0.26	-0.46	0.11	1.28	35	30.30	108	94	51	0	2	5	0
NJ	NEWARK	75	56	96	43	66	4	1.07	0.26	0.58	2.67	58	45.38	125	80	56	1	0	2	1
NM	ALBUQUERQUE	78	57	87	53	68	4	0.58	0.38	0.52	1.04	85	6.93	92	71	31	0	0	2	1
NY	ALBANY	66	47	78	34	56	1	1.05	0.36	0.64	3.26	86	33.34	113	85	52	0	0	4	1
	BINGHAMTON	64	45	82	30	55	1	1.27	0.53	0.72	3.00	73	33.19	111	95	65	0	1	5	1
	BUFFALO	64	49	81	39	57	1	1.13	0.39	0.52	7.34	168	35.70	118	96	69	0	0	5	1
	ROCHESTER	66	52	88	39	59	3	0.82	0.17	0.57	3.87	99	25.18	96	87	66	0	0	4	1
	SYRACUSE	66	48	88	33	57	1	0.38	-0.45	0.17	3.80	80	35.75	117	90	60	0	0	5	0
NC	ASHEVILLE	87	62	91	56	75	14	0.39	-0.30	0.39	0.90	21	42.61	115	92	50	4	0	1	0
	CHARLOTTE	93	68	99	59	80	12	0.03	-0.83	0.03	0.22	5	39.34	116	86	41	6	0	1	0
	GREENSBORO	88	67	95	57	78	14	0.00	-0.93	0.00	0.56	11	38.65	112	89	51	4	0	0	0
	HATTERAS	98	72	129	67	85	14	0.01	-1.16	0.01	***	***	***	***	92	50	3	0	1	0
	RALEIGH	90	67	100	58	79	13	0.00	-0.89	0.00	1.12	23	33.51	97	88	48	4	0	0	0
	WILMINGTON	91	71	98	65	81	11	0.02	-1.15	0.02	8.35	110	34.41	72	91	45	5	0	1	0
ND	BISMARCK	48	40	58	34	44	-8	1.18	0.85	0.47	6.44	350	25.68	175	93	77	0	0	4	0
	DICKINSON	47	36	57	29	41	-11	2.08	1.73	0.64	6.86	369	24.24	169	99	73	0	3	6	1
	FARGO	50	42	57	36	46	-6	2.67	2.20	0.91	5.92	236	29.02	162	97	76	0	0	6	2
	GRAND FORKS	49	40	51	36	44	-7	2.79	2.40	1.24	9.44	421	26.28	158	90	69	0	0	5	2
	JAMESTOWN	49	40	55	33	45	-7	2.19	1.83	0.66	5.54	277	26.81	165	98	76	0	0	5	3
	WILLISTON	48	38	62	33	43	-7	0.86	0.60	0.50	8.63	564	21.65	177	90	78	0	0	5	1
OH	AKRON-CANTON	80	59	91	42	70	12	0.61	-0.06	0.36	1.78	46	37.55	124	91	64	1	0	4	0
	CINCINNATI	89	63	95	51	76	14	0.03	-0.55	0.03	0.64	20	44.95	135	80	38	5	0	1	0
	CLEVELAND	79	60	93	44	69	11	0.18	-0.52	0.14	1.43	34	33.76	113	86	56	1	0	2	0
	COLUMBUS	86	60	94	44	73	12	0.12	-0.42	0.12	0.85	26	36.68	120	86	48	4	0	1	0
	DAYTON	86	61	94	44	73	13	0.56	0.04	0.55	0.71	24	35.94	116	84	42	3	0	2	1
	MANSFIELD	80	60	90	43	70	12	1.93	1.36	1.49	3.98	104	42.60	126	94	56	1	0	3	1

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending October 5, 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	77	58	91	50	67	9	0.79	0.26	0.38	4.14	129	37.64	146	83	67	1	0	4	0
	YOUNGSTOWN	76	56	88	40	66	10	0.34	-0.40	0.28	4.85	110	45.46	151	87	65	0	0	3	0
OK	OKLAHOMA CITY	85	67	89	56	76	8	0.00	-0.99	0.00	2.23	48	40.36	140	93	62	0	0	0	0
	TULSA	85	67	92	57	76	7	0.08	-1.01	0.08	4.04	73	48.07	145	87	64	2	0	1	0
OR	ASTORIA	59	41	63	35	50	-6	0.36	-0.38	0.14	6.55	208	32.20	78	94	75	0	0	4	0
	BURNS	54	26	62	17	40	-10	0.18	0.07	0.09	1.20	207	12.60	168	84	54	0	6	4	0
	EUGENE	62	39	66	33	50	-8	0.78	0.46	0.48	5.55	312	28.76	93	91	75	0	0	4	0
	MEDFORD	63	41	70	36	52	-9	0.13	-0.04	0.06	1.91	212	16.63	147	91	47	0	0	4	0
	PENDLETON	58	38	65	29	48	-10	0.00	-0.14	0.00	1.11	152	10.85	124	74	53	0	3	0	0
	PORTLAND	61	44	66	37	52	-7	0.43	0.02	0.35	3.95	203	19.35	84	86	65	0	0	3	0
	SALEM	60	39	65	34	50	-8	0.51	0.14	0.36	3.46	204	23.18	95	90	70	0	0	3	0
PA	ALLENTOWN	75	54	93	37	64	6	0.22	-0.63	0.20	1.56	31	48.03	136	83	51	1	0	3	0
	ERIE	73	56	89	37	64	5	0.29	-0.67	0.18	3.60	67	32.47	102	82	65	0	0	3	0
	MIDDLETOWN	77	58	93	40	67	6	0.19	-0.53	0.17	1.67	42	34.70	111	90	51	1	0	2	0
	PHILADELPHIA	78	60	95	46	69	6	0.09	-0.68	0.09	1.26	29	39.19	117	81	57	1	0	1	0
	PITTSBURGH	78	59	89	43	69	10	1.83	1.24	1.35	5.83	161	42.58	141	91	54	0	0	3	1
	WILKES-BARRE	70	53	87	36	62	5	0.97	0.16	0.50	2.12	48	40.38	137	89	53	0	0	3	1
	WILLIAMSPORT	70	52	89	36	61	4	0.96	0.15	0.51	2.46	54	39.22	121	91	68	0	0	3	1
RI	PROVIDENCE	69	50	83	39	60	1	0.20	-0.56	0.10	1.36	32	35.67	103	88	57	0	0	3	0
SC	CHARLESTON	90	70	94	66	80	8	0.00	-0.99	0.00	3.93	59	33.82	78	94	52	5	0	0	0
	COLUMBIA	95	70	100	63	82	12	0.34	-0.36	0.31	1.99	45	27.83	70	86	45	6	0	2	0
	FLORENCE	92	70	99	65	81	11	0.36	-0.34	0.36	4.04	97	33.26	92	91	43	5	0	1	0
	GREENVILLE	93	68	98	57	81	15	0.07	-0.84	0.07	0.25	5	36.55	93	88	41	6	0	1	0
SD	ABERDEEN	55	42	66	34	49	-5	0.86	0.47	0.45	5.49	263	27.61	156	87	78	0	0	4	0
	HURON	59	44	76	35	51	-4	0.48	0.09	0.22	3.76	181	36.76	201	93	72	0	0	5	0
	RAPID CITY	57	38	75	31	48	-7	0.36	0.09	0.13	2.88	222	32.49	225	94	62	0	1	6	0
	SIOUX FALLS	62	48	86	42	55	0	1.85	1.37	0.86	4.64	159	35.17	166	86	76	0	0	6	1
TN	BRISTOL	90	62	94	58	76	15	0.00	-0.63	0.00	0.68	19	42.21	128	92	38	4	0	0	0
	CHATTANOOGA	96	70	100	68	83	16	0.00	-0.85	0.00	0.56	11	46.17	110	87	42	6	0	0	0
	KNOXVILLE	94	67	96	62	81	16	0.01	-0.64	0.01	0.04	1	48.27	129	85	35	5	0	1	0
	MEMPHIS	94	71	98	61	82	12	0.00	-0.70	0.00	0.12	3	52.35	130	76	37	6	0	0	0
	NASHVILLE	96	66	99	58	81	15	0.00	-0.70	0.00	0.02	0	47.97	131	81	31	6	0	0	0
TX	ABILENE	93	71	95	61	82	11	0.00	-0.69	0.00	0.83	24	19.81	105	78	45	7	0	0	0
	AMARILLO	79	60	87	50	69	5	5.38	5.04	2.08	6.48	306	23.46	137	91	67	0	0	4	4
	AUSTIN	96	74	97	67	85	9	0.25	-0.58	0.17	0.43	12	25.24	100	84	43	7	0	2	0
	BEAUMONT	93	75	95	72	84	9	0.27	-0.99	0.27	23.45	336	77.11	167	94	59	7	0	1	0
	BROWNSVILLE	92	77	94	74	84	6	1.04	-0.12	0.42	4.82	79	18.51	85	90	61	7	0	6	0
	CORPUS CHRISTI	94	76	95	72	85	7	0.13	-1.00	0.10	4.29	74	17.31	68	91	58	7	0	3	0
	DEL RIO	96	76	98	72	86	10	0.09	-0.43	0.09	0.10	4	13.37	90	79	49	7	0	1	0
	EL PASO	86	66	92	63	76	5	1.13	0.84	0.63	2.42	134	5.16	68	81	38	1	0	4	1
	FORT WORTH	94	75	95	71	84	11	0.00	-0.82	0.00	0.00	0	27.13	104	82	40	7	0	0	0
	GALVESTON	90	81	92	79	86	8	0.06	-1.01	0.06	18.06	277	45.98	136	86	63	6	0	1	0
	HOUSTON	92	74	93	72	83	8	0.02	-0.94	0.02	14.98	298	44.20	122	92	58	7	0	1	0
	LUBBOCK	82	63	88	56	73	7	1.03	0.51	0.99	6.96	237	22.57	141	89	76	0	0	2	1
	MIDLAND	91	71	95	61	81	11	0.00	-0.54	0.00	1.04	39	12.43	103	75	48	6	0	0	0
	SAN ANGELO	94	70	96	64	82	11	0.00	-0.69	0.00	0.27	8	14.76	88	75	46	7	0	0	0
	SAN ANTONIO	94	75	97	70	84	8	0.12	-0.68	0.08	1.54	43	16.83	67	88	41	7	0	2	0
	VICTORIA	93	74	95	68	83	6	0.10	-1.08	0.06	3.73	64	19.59	62	93	59	7	0	2	0
	WACO	96	74	97	70	85	11	0.00	-0.85	0.00	0.17	5	27.67	111	86	47	7	0	0	0
	WICHITA FALLS	91	69	95	59	80	9	0.00	-0.77	0.00	2.89	77	23.91	104	90	62	5	0	0	0
UT	SALT LAKE CITY	60	40	69	37	50	-9	0.13	-0.23	0.13	1.57	99	16.82	134	79	39	0	0	1	0
VT	BURLINGTON	61	41	73	32	51	-3	0.87	0.11	0.80	4.61	105	30.88	110	88	57	0	1	5	1
VA	LYNCHBURG	87	62	97	49	75	13	0.11	-0.77	0.09	0.17	4	28.84	85	92	51	4	0	2	0
	NORFOLK	82	69	97	62	76	9	0.00	-0.86	0.00	2.96	63	38.58	105	84	60	1	0	0	0
	RICHMOND	87	65	97	50	76	12	0.00	-0.89	0.00	0.43	9	34.46	99	87	46	3	0	0	0
	ROANOKE	88	66	98	52	77	15	0.01	-0.79	0.01	1.32	30	32.81	97	81	51	4	0	1	0
	WASH/DULLES	82	63	96	46	72	11	0.07	-0.73	0.07	0.41	9	30.26	93	80	54	1	0	1	0
WA	OLYMPIA	60	38	64	29	49	-5	0.68	0.16	0.55	4.09	170	21.31	69	94	72	0	3	3	1
	QUILLAYUTE	59	40	62	33	50	-4	1.26	-0.12	0.83	10.71	207	48.00	75	94	72	0	0	2	1
	SEATTLE-TACOMA	61	46	64	40	54	-3	0.14	-0.28	0.09	3.38	175	20.61	91	73	59	0	0	3	0
	SPOKANE	50	35	58	30	42	-11	0.25	0.11	0.24	2.00	233	11.12	99	84	54	0	3	2	0
	YAKIMA	60	34	68	26	47	-8	0.10	0.04	0.08	0.62	141	7.40	138	81	51	0	2	2	0
WV	BECKLEY	84	61	91	50	72	13	0.00	-0.69	0.00	0.11	3	35.72	107	80	42	2	0	0	0
	CHARLESTON	89	62	94	50	76	15	0.00	-0.65	0.00	0.55	14	34.57	99	88	33	5	0	0	0
	ELKINS	84	55	90	41	69	12	0.00	-0.74	0.00	0.48	11	39.19	106	90	46	2	0	0	0
	HUNTINGTON	90	63	95	50	77	15	0.00	-0.58	0.00	0.01	0	36.67	110	89	37	5	0	0	0
WI	EAU CLAIRE	62	50	84	45	56	2	2.18	1.57	1.15	8.11	195	38.67	141	88	67	0	0	5	2
	GREEN BAY	63	51	84	43	57	3	2.18	1.65	1.31	11.39	327	41.09	173	90	71	0	0	6	1
	LA CROSSE	66	53	91	48	60	3	2.74	2.17	1.58	8.79	231	39.24	144	88	63	1	0	5	2
	MADISON	65	51	85	42	58	2	4.82	4.31	2.40	10.72	312	42.22	155	93	77	0	0	6	4
	MILWAUKEE	66	55	87	48	61	3	4.01	3.42	1.72	9.91	267	38.85	140	89	75	0	0	5	3
WY	CASPER	59	34	75	23	46	-6	0.50	0.22	0.22	1.61	136	16.50	155	92	66	0	3	5	0
	CHEYENNE	64	37	81	29	50	-1	0.04	-0.20	0.04	0.55	34	20.67	150	82	55	0	1	1	0
	LANDER	56	33	69	26	44	-9	0.13	-0.18	0.10	1.51	110	17.08	160	91	36	0	3	2	0
	SHERIDAN	52	32	66	23	42	-9	0.34	-0.02	0.16	2.23	136	18.45	153	84	65	0	3	5	0

Based on 1971-2000 normals

***** Not Available**

September Weather and Crop Summary

Weather

Weather summary provided by USDA/WAOB

Highlights: Summer-like heat (monthly temperatures 5 to 10°F above normal) baked the Southeast, favoring summer crop maturation and harvesting. However, the hot weather—accompanied by little or no rainfall in most areas—stressed pastures and depleted topsoil moisture. The hot, dry weather extended as far north as the Ohio Valley and Mid-Atlantic States. By September 29, pastures were rated more than 40 percent very poor to poor in many Eastern States, including Alabama, Georgia, Indiana, Kentucky, Tennessee, Virginia, West Virginia, and the Carolinas. In addition, topsoil moisture was at least 90 percent very short to short on that date in in Alabama, Delaware, Georgia, and Maryland.

In stark contrast, excessively wet conditions across the northern Plains hampered late-season small grain harvest efforts and threatened the quality of crops remaining in the field. In late September, a particularly strong storm delivered heavy precipitation, including wind-driven snow, in northern sections of the Rockies and High Plains.

Heavy precipitation also extended into the Northwest and across the northern and western Corn Belt. The upper Midwestern wetness was detrimental to crops, maintaining a slow pace of development for late-planted corn and soybeans. Although warm, dry weather benefited crops in the southeastern Corn Belt, overall development remained significantly behind the normal pace. By September 29, just 43 percent of the U.S. corn crop was fully mature—the slowest development pace since 2009. Only 55 percent of the soybeans were dropping leaves on that date, comparable to the slowest development pace in the last one-quarter century—56 percent in 1996.

Farther south, shower activity increased during September across portions of the southern Plains, improving prospects for newly planted winter wheat and benefiting rangeland and pastures. In Texas, topsoil moisture rated very short to short improved from 84 to 64 percent between September 1 and 29. Showers also provided some limited drought relief in the Southwest, particularly across southern Arizona.

Elsewhere, two named tropical systems affected the U.S. mainland during September. Hurricane Dorian grazed the southern Atlantic Coast early in the month, officially making landfall on Cape Hatteras, North Carolina, on September 6, with maximum sustained winds near 90 mph. Although heavy rain and high winds affected some coastal locations, Dorian's inland agricultural impacts were relatively minor. Less than 2 weeks later, on September 17, Tropical Storm Imelda suddenly developed and moved inland near Freeport, Texas. Imelda delivered inundating rainfall (1 to 3 feet or more) across a relatively small geographic area, mainly in southeastern Texas, but caused only localized agricultural losses.

Historical Perspective: According to preliminary data provided by the National Centers for Environmental Information, the contiguous U.S. experienced its second-warmest, 51st-driest September during the 1895-2019 period of record. The nation's average temperature of 68.5°F was 3.7°F above the 20th century mean, while precipitation averaged 2.42 inches—97 percent of normal. This year tied with 2015 for the second-warmest September; only 1998, with an average of 69.0°F, was warmer.

State temperature rankings ranged from the 47th-coolest September in Oregon to the hottest on record in Colorado, Louisiana, New Mexico, Ohio, and Texas (figure 1). In addition, top-five rankings for September heat were noted in 19 other states from the central and southern Plains to the mid-Atlantic and Southeastern States. Meanwhile, state precipitation rankings ranged from the driest September in Alabama, Florida, Georgia, Kentucky, Mississippi, and West Virginia, to the wettest on record in North Dakota (figure 2). Top-ten rankings for September dryness were also observed in Delaware, Maryland, New Jersey, Tennessee, and Virginia, while top-ten values for wetness were noted in Michigan, Minnesota, Montana, Oregon, South Dakota, Washington, and Wisconsin.

Figure 1 Statewide Average Temperature Ranks
September 2019
Period: 1895–2019

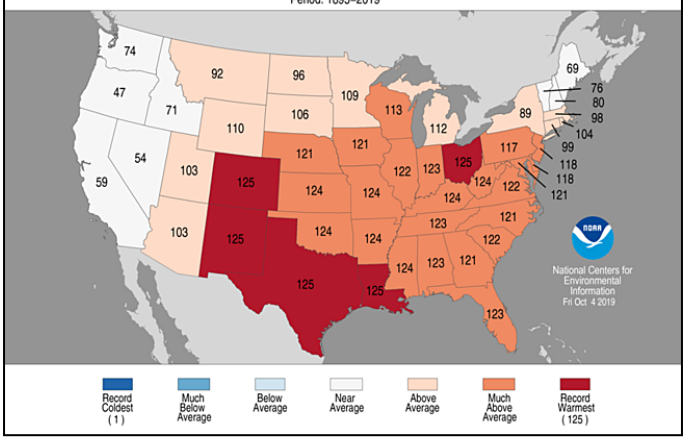
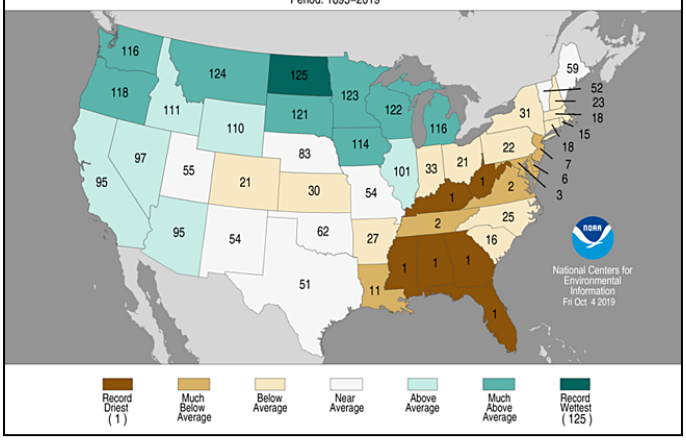


Figure 2 Statewide Precipitation Ranks
September 2019
Period: 1895–2019



Summary: Hurricane Dorian threatened Florida's east coast before veering northward, eventually grazing the Carolinas and making landfall on Cape Hatteras. The storm, a Category 1 shadow of the Category 5 hurricane that had devastated the northern Bahamas, crossed Cape Hatteras on the morning of September 6 with maximum sustained winds of 90 mph, down from 185 mph over the northern Bahamas on September 1. In the U.S., rainfall totals of 4 to 8 inches or more and hurricane-force wind gusts (74 mph or greater) were generally confined to the coastal Carolinas, although locally heavy showers and tropical storm-force winds (39 to 73 mph) were observed across a broader coastal area of the middle and southern Atlantic States. A storm surge also occurred on September 6 at some coastal sites, with water-level rises of more than 7 feet observed on the Pamlico Sound side of Cape Hatteras in a 2-hour period. The hurricane also skirted coastal New England. However, agricultural impacts from Dorian were overall relatively minor. Tropical storm-force winds associated with Dorian first arrived on September 4 along Florida's east coast, where a gust to 70 mph was reported on Cape Canaveral. On September 5, a few hurricane-force gusts occurred in South Carolina, with Fort Sumter recording 80 mph. Daily-record rainfall totals for September 5 reached 10.39 inches in North Myrtle Beach, SC, and 8.58 inches in Wilmington, NC. By the morning of September 6, when Dorian crossed Cape Hatteras, winds gusted to 70 mph in Elizabeth City, NC, and on Cape Henry, VA. Elizabeth City also collected a daily-record rainfall (6.56 inches) for the 6th.

Elsewhere in early September, a record-setting heat wave gripped the West. In fact, September 1 featured monthly record-tying highs in Salt Lake City, UT (100°F), and Alamosa, CO (87°F). On September 2, monthly record highs were established in locations such as Pueblo, CO (102°F); Denver, CO (100°F); and Casper, WY (98°F). Previous records in Pueblo and Casper, 101 and 97°F, respectively, had been originally set in September 1995. Prior to this year, Denver's highest September reading had been 97°F, set on September 3, 2017, and several earlier dates. In addition, Denver's previous latest triple-digit reading had occurred on August 16, 2002. Similarly, Billings, MT, experienced its latest triple-digit heat with a high of 101°F on September 4. Later, record-setting heat expanded into the East, where Vero Beach, FL, tied a monthly record with highs of 97°F on September 5 and 6. By September 7, daily-record, triple-digit highs affected a large area of the South, with temperatures rising to 103°F in Austin, TX, and 102°F in Vicksburg, MS, and Monroe, LA. Meanwhile, spotty, early-September downpours were primarily confined to the North. Pittsburgh, PA, opened the month with a daily-record rainfall of 3.38 inches on September 1. The following day in Minnesota, Rochester netted a daily-record sum of 1.69 inches. Wausau, WI, received a daily-record total (1.94 inches) on September 3.

As the month progressed, persistent heat across the South led to a multitude of daily-record highs and widespread triple-digit temperatures. Record-setting highs for September 8 were set 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 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. Later, 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.

Meanwhile, 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. In North Dakota, monthly rainfall in Williston totaled 8.09 inches (763 percent of normal). Williston's former September rainfall record of 3.74 inches was set in 1959. Elsewhere, September rainfall totaled at least 6 inches in South Dakota locations such as Mitchell (7.63 inches, or 329 percent of normal) and Sisseton (6.31 inches, or 248 percent). Mitchell also achieved its wettest September, 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 the 11th) in Dubuque, IA; 1.58 inches (on the 12th) in Milwaukee, WI; and 1.11 inches (on the 8th) 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.

Just after mid-month, Tropical Storm Imelda delivered inundating rainfall (1 to 3 feet or more) across a relatively small geographic area, mainly in southeastern Texas. The bulk of Imelda's rain fell after landfall, which occurred on September 17 near Freeport, TX. Some of the heaviest rain associated with Imelda fell in southeastern Texas from September 17-20. During that 4-day period, Texas totals included 22.82 inches in Beaumont-Port Arthur; 17.46 inches in Galveston; 16.15 inches in Conroe; and 12.68 inches in Houston. For those locations, the wettest calendar day during the event was September 19, when daily totals topped the 10-inch mark in Beaumont-Port Arthur (11.63 inches) and Conroe (11.18 inches). (Even wetter weather had occurred with Hurricane Harvey just 2 years ago when daily

totals had included 13.64 inches [on August 27] in Conroe and 26.03 inches [on August 29] in Beaumont-Port Arthur.) During Imelda, unofficial totals topped 3 feet in several southeastern Texas locations, including Taylors Bayou (43.39 inches), Mayhaw Bayou (42.76 inches), and Pevito Bayou (39.41 inches). Following Imelda's deluge, near-record flooding was reported in several Texas locations, including Cow Bayou near Mauriceville and Pine Island Bayou near Sour Lake. Cow Bayou rose 6.98 feet above flood stage on September 20, behind only 9.85 feet on August 30, 2017. Pine Island Bayou crested 10.70 feet above flood stage on September 21, behind 14.68 feet on August 30, 2017, and 12.50 feet on October 20, 1994. Farther north, high water continued to work its way through parts of the Missouri Valley. In Niobrara, NE, the Missouri River crested 5.34 feet above flood stage on September 22. That marked the second-highest crest in that location, behind 5.76 feet above flood stage on June 26, 2011, and exceeded the March 2019 crest by 2.42 feet. Elsewhere, annual precipitation records were broken—with more than 3 months left in the year—in locations such as Rochester, MN, and Kennebec, SD. Previous annual records had been 43.94 inches (in 1990) and 30.25 inches (in 1915), respectively. On September 20, an extreme rainfall event in parts of North Dakota and northern Minnesota sparked local flooding. The NWS office in Grand Forks, ND, experienced its wettest September day on record on the 20th, with a 4.73-inch total. Previously, the wettest September day in that location had been September 4, 2016, when 3.73 inches fell. Farther south, scattered daily-record totals in excess of 2 inches were reported on the Plains in locations such as Childress, TX (3.46 inches on September 21), and Omaha, NE (2.79 inches on September 19). Meanwhile, pesky Northwestern showers led to several daily-record amounts, including 1.75 inches (on September 15) in Bellingham, WA; 1.08 inches (on September 20) in Livingston, MT; 1.03 inches (on September 18) in Omak, WA; and 1.02 inches (on September 19) in Elko, NV.

In contrast, hot, dry weather gripped the Southeast. Memphis, TN, reported highs of 90°F or greater each day from August 31 to September 22, a span of 23 days. Tallahassee, FL, reported highs of 90°F or greater on all 30 days during September, along only a trace of rain. Previously, Tallahassee's driest September had occurred in 1972, when 0.11 inch fell. Kentucky locations such as Jackson and Lexington also reported no measurable rain during September. It was also the driest September on record in locations such as Pensacola, FL (a trace); Huntington, WV (0.01 inch); Tupelo, MS (0.01 inch); Nashville, TN (0.02 inch); Macon, GA (0.02 inch); Danville, VA (0.04 inch); Louisville, KY (0.04 inch); and Montgomery, AL (0.05 inch). Amid the dryness, record-setting heat prevailed. With a high of 99°F on September 16, Cape Girardeau, MO, experienced its highest temperature since June 16, 2016, when it was 101°F. In Alabama, Montgomery's highs of 103°F on September 17 and 18 represented the hottest weather in that location since August 2007. On September 18, daily-record, triple-digit highs soared to 102°F in Pensacola, FL, and Meridian, MS, and 101°F in Tallahassee, FL, and Greenwood, MS. With a high of 100°F on the 18th, Mobile, AL, achieved a triple-digit reading in September for the first time since 1927. In Texas, Del Rio tallied a trio of daily-record highs (101, 104, and 104°F) from September 17-19. Later, daily-record highs stretched as far north as Michigan, where temperatures on September 21 climbed to 88°F in Traverse City and 87°F in Pellston. In contrast, a surge of cool air into the East resulted in scattered daily-record lows, including 31°F (on September 19) in Glens Falls, NY, and 46°F (on September 20) at Wallops Island, VA.

However, the Southeastern heat continued into October. From September 24-26, Jacksonville, FL (94, 96, and 97°F) registered three consecutive daily-record highs. Macon, GA, closed September with seven consecutive daily-record highs (98, 99, 102, 102, 98, 97, and 100°F), starting on the 25th. Macon also experienced 22 September days with a high of 95°F or greater, breaking a 1925 record by a single day. Montgomery, AL, which noted a daily-record high of 100°F on the 26th, set a September record with 24 days of 95-degree heat. Montgomery's monthly total of 7 triple-digit days was second only to September 1925, when there were 10 days of 100-degree heat. In North Carolina, highs soared to daily-record levels on September 26 in Charlotte (95°F) and Raleigh-Durham (94°F). Elsewhere in the Southeast, three consecutive daily-record highs were set from September 25-27 in Florida locations such as Pensacola (96°F each day) and Apalachicola (94, 95, and 92°F). Late-month heat also briefly affected northern and central California in advance of a cold front. On September 24-25, the San Francisco airport registered consecutive daily-record highs (94 and 96°F, respectively). On the 25th, daily-record highs in California soared to 100°F in Sacramento and 99°F in San Jose. Late in the month, heat continued across the South and spread into the lower Midwest. Cincinnati, OH, posted consecutive daily-record highs (91 and 93°F, respectively) on September 27-28. Not surprisingly, monthly records for highest September average temperature were set in dozens of communities across the Southeast and lower Midwest. Average temperature records originally set in September 1911 were broken in Texas locations such as Del Rio (87.6°F), San Antonio (85.8°F), and Tyler (84.7°F). A record from 1925 was shattered in Clarksburg, WV (72.9°F). A September standard set in September 31 was broken in Dodge City, KS (78.0°F).

Meanwhile, rain drenched portions of the Great Lakes region. In Michigan, record-setting rainfall totals for September 22 included 2.04 inches in Traverse City and 1.93 inches in Gaylord. In the Southwest, out-of-season showers arrived on September 23, when daily-record amounts reached 0.53 inch in Yuma, AZ, and 0.24 inch in Las Vegas, NV. The following day in Arizona, record-setting amounts for September 24 included 2.27 inches in Nogales and 1.52 inches in Douglas. Farther east, torrential rainfall shifted into portions of the eastern Plains and mid-South, where Fayetteville, AR, netted a daily-record sum (4.57 inches) for September 24. In stark contrast, the streak without measurable rain in Lexington, KY, stretched to 34 days (August 28 – September 30) and counting—the second-longest dry spell on record in that location behind 37 days from August 22 – September 27, 1908. Augusta, GA, followed its wettest August on record (12.92 inches) with September rainfall totaling just 0.77 inch. In contrast, heavy Midwestern rainfall led to daily-record rainfall totals for September 27 in Illinois locations such as Peoria (3.14 inches), Rockford (2.92 inches), and Chicago (2.28 inches). A few days later, another round of heavy rain soaked the upper Midwest. Record-setting rainfall totals for September 29 included 3.30 inches in Springfield, IL, and 1.24 inches in Grand Forks, ND. On the last day of September, daily-record amounts in the Great Lakes region reached 3.00 inches in Sault Sainte Marie, MI; 2.19 inches in Brainerd, MN; and 2.06 inches in Ashland, WI.

Toward month's end, a winter-like storm unfolding across the northern High Plains delivered heavy snow. On September 28-29, Great Falls, MT, received 19.3 inches of snow—a monthly record. Previously, the snowiest September in Great Falls occurred in 1934, with a 13.2-inch total. Unofficial storm totals in Montana reached 52 inches in Babb and 48 inches in Browning. Elsewhere in Montana, it was the snowiest September on record in Cut Bank (20.0 inches, estimated), Havre (10.5 inches), and Missoula (1.7 inches). With a 3.3-inch total on September 28-29, Spokane, WA, also completed its snowiest September. Heavy precipitation extended into the Intermountain West, where Trenton, UT, experienced its wettest day on record (2.55 inches on September 29; previously, 2.40 inches on August 18, 1977). In the wake of the storm, a trio of daily-record lows were set from September 30 – October 2 in Montana locations such as Cut Bank (6, 1, and 8°F) and Great Falls (12, 9, and 17°F).

September was another warm month in Alaska, especially across the state's northern tier, where temperatures averaged as much as 10°F above normal. Widespread precipitation accompanied the mild weather, although drier-than-normal conditions lingered in southeastern Alaska. In early September, a monthly record was established in Deadhorse with a high of 70°F on the 3rd. Later, McGrath reported its first freeze of the season on September 17, with a low of 31°F. Similarly, Fairbanks' first freeze occurred on the morning of September 22, with a low of 30°F. Bettles reported lows ranging from 29 to 31°F each day from September 15-20. In addition, Bettles received a 3.4-inch snowfall (from liquid totaling 0.88 inch) on September 17. The mid-month period was wet across much of the state, with September 15-21 precipitation totaling 8.36 inches in Yakutat; 4.82 inches in Sitka; 2.29 inches in King Salmon; and 1.96 inches in Anchorage. September 20 was especially wet in southeastern Alaska, where daily totals reached 4.10 inches in Yakutat and 2.97 inches in Sitka. Overall, September precipitation topped 4 inches and was more than 150 percent of normal in Nome and Bethel. King Salmon received 6.05 inches, which was 190 percent of the September normal. In contrast, monthly rainfall was 60 to 70 percent of normal in Yakutat (13.96 inches), Ketchikan (8.39 inches), and Kodiak (5.09 inches).

Hawaii's hot spell, fueled by oceanic warmth, continued through September. On Kauai, Lihue's 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. Through September, Lihue 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, easily set a record for number of days with 90-degree heat; previously, the annual record of 94 days had been set in 1968. One of Kahului's hottest periods occurred from September 15-18, when there were four consecutive daily-record highs (94, 97, 95, and 96°F). Kahului's high of 97°F set a monthly record (previously, 96°F on September 14, 1997, and earlier dates) and tied an all-time record. Despite the heat, most of Hawaii received plenty of rain. September 25 was a particularly wet day in Honolulu, Oahu, where 1.11 inches fell. It was Honolulu's first day with at least an inch of rain since June 26. At the state's major airport observation sites, September rainfall ranged from 0.21 inch (55 percent of normal) at Kahului to 8.16 inches (82 percent) in Hilo. However, Honolulu's monthly total of 2.13 inches was 304 percent of normal.

Fieldwork

Fieldwork summary provided by USDA/NASS

September was warmer than average across much of the country, with temperatures averaging 6°F or more above normal from the central and southern Great Plains to the central and southern Appalachians. However, temperatures were below-normal in parts of Arizona, California, Idaho, Montana, Nevada, New England, and the Pacific Northwest. September was extremely dry across much of the South and East; exceptions included the coastal Carolinas and southeastern Texas. Meanwhile, wet weather was observed from the Pacific Northwest into parts of the Great Lakes region.

By September 1, eighty-one percent of the corn acreage was at or beyond the dough stage, 14 percentage points behind the previous year and 12 points behind the 5-year average. Forty-one percent of the acreage was denting by September 1, thirty-two percentage points behind the previous year and 22 points behind average. Six percent of the 2019 corn acreage had reached maturity as of September 1, fourteen percentage points behind the previous year and 7 points behind average. By September 15, ninety-three percent of the corn acreage was at or beyond the dough stage, 6 percentage points behind the previous year and 5 points behind average. Sixty-eight percent of the acreage was dented by September 15, twenty-four percentage points behind last year and 19 points behind average. Eighteen percent of the corn had matured by September 15, thirty-three percentage points behind the previous year and 21 points behind average. By September 15, four percent of the 2019 acreage was harvested, 4 percentage points behind the previous year and 3 points behind average pace. Eighty-eight percent of the acreage was dented by September 29, twelve percentage points behind the previous year and 10 points behind average. By September 29, forty-three percent of the corn had matured, forty-one percentage points behind the previous year and 30 points behind average. Eleven percent of the 2019 acreage was harvested by September 29, fourteen percentage points behind the previous year and 8 points behind average. Overall, 57 percent of the nation's corn was rated in good to excellent condition on September 29, twelve percentage points below the same time last year.

Ninety-six percent of the nation's soybean acreage had reached the blooming stage by September 1, four percentage points behind both the previous year and the 5-year average. By September 1, eighty-six percent of the soybeans were setting pods, 12 percentage points behind the previous year and 10 points behind average. By September 15, ninety-five percent of the soybeans were setting pods, 5 percentage points behind both the previous year and the average. Fifteen percent of the soybeans were at or beyond the leaf-dropping stage by September 15, thirty-five percentage points behind the previous year and 23 points behind average. Fifty-five percent of the soybeans were at or beyond the leaf-dropping stage by September 29, twenty-six percentage points behind the previous year and 21 points behind average. By September 29,

the U.S. soybean harvest was 7 percent complete, 15 percentage points behind the previous year and 13 points behind average. Overall, 55 percent of the nation's soybean acreage was rated in good to excellent condition on September 29, thirteen percentage points below the same time last year.

Eight percent of the nation's intended 2020 winter wheat acreage was sown by September 15, four percentage points behind both the previous year and the 5-year average. By September 29, producers had sown 39 percent of the intended 2020 winter wheat acreage, two percentage points behind the previous year but 1 point ahead of average. Nationwide, 11 percent of the winter wheat acreage had emerged by September 29, one percentage point behind the previous year and 2 points behind average.

By September 1, ninety-seven percent of the nation's cotton acreage had set bolls, 2 percentage points ahead of the previous year and 1 point ahead of the 5-year average. Thirty-six percent of the cotton had open bolls by September 1, eight percentage points ahead of the previous year and 9 points ahead of average. By September 15, fifty-four percent of the cotton had open bolls, 6 percentage points ahead of the previous year and 7 points ahead of average. Nine percent of the cotton was harvested by September 15, four percentage points behind last year but 1 point ahead of average. By September 29, seventy-seven percent of the cotton had open bolls, 11 percentage points ahead of the previous year and 10 points ahead of average. Sixteen percent of the cotton was harvested by September 29, three percentage points behind the previous year but 2 points ahead of average. Overall, 40 percent of the cotton was rated in good to excellent condition on September 29, two percentage points below the same time last year.

By September 1, ninety-two percent of the nation's sorghum acreage had reached the heading stage, 4 percentage points behind the previous year and 3 points behind the 5-year average. Fifty-two percent of sorghum was at or beyond the coloring stage by September 1, fifteen percentage points behind the previous year and 12 points behind average. By September 1, twenty-four percent of the sorghum was mature, 6 percentage points behind the previous year and 9 points behind average. Seventy-six percent of Texas' sorghum acreage had matured by September 1, two percentage points ahead of both the previous year and the average. Twenty-one percent of the 2019 sorghum acreage was harvested by September 1, one percentage point behind both the previous year and the average. By September 15, seventy-nine percent of sorghum was at or beyond the coloring stage, eight percentage points behind the previous year and 5 points behind average. Thirty-four percent of the sorghum was mature by September 15, six percentage points behind the previous year and 10 points behind average. Eighty-seven percent of Texas' sorghum acreage had matured by September 15, seven percentage points ahead of the previous year and 9 points ahead of average. By September 15, twenty-four percent of the U.S. sorghum was harvested, two percentage points behind the previous year and 3 points behind average. Ninety-five percent of the sorghum was at or beyond the coloring stage by September 29, two percentage points behind the previous year but equal to the average. By September 29, fifty-four percent of the sorghum was mature, 6 percentage points behind the previous year and 9 points behind average. Ninety-one percent of Texas' sorghum acreage had matured by September 29, seven percentage points ahead of the previous year and 9 points ahead of average. Thirty percent of the U.S. sorghum was harvested by September 29, three percentage points behind the previous year and 5 points behind average. Overall, 65 percent of the sorghum was rated in good to excellent condition on September 29, eleven percentage points above the same time last year.

Nationally, 21 percent of the rice acreage was harvested by September 1, eight percentage points behind the previous year and 6 points behind the 5-year average. Rice was 46 percent harvested by September 15, two percentage points behind both the previous year and the average. Overall, 69 percent of the rice was rated in good to excellent condition on September 15, five percentage points below the same time last year. Nationally, 68 percent of the rice was harvested by September 29, one percentage point behind the previous year and 3 points behind average.

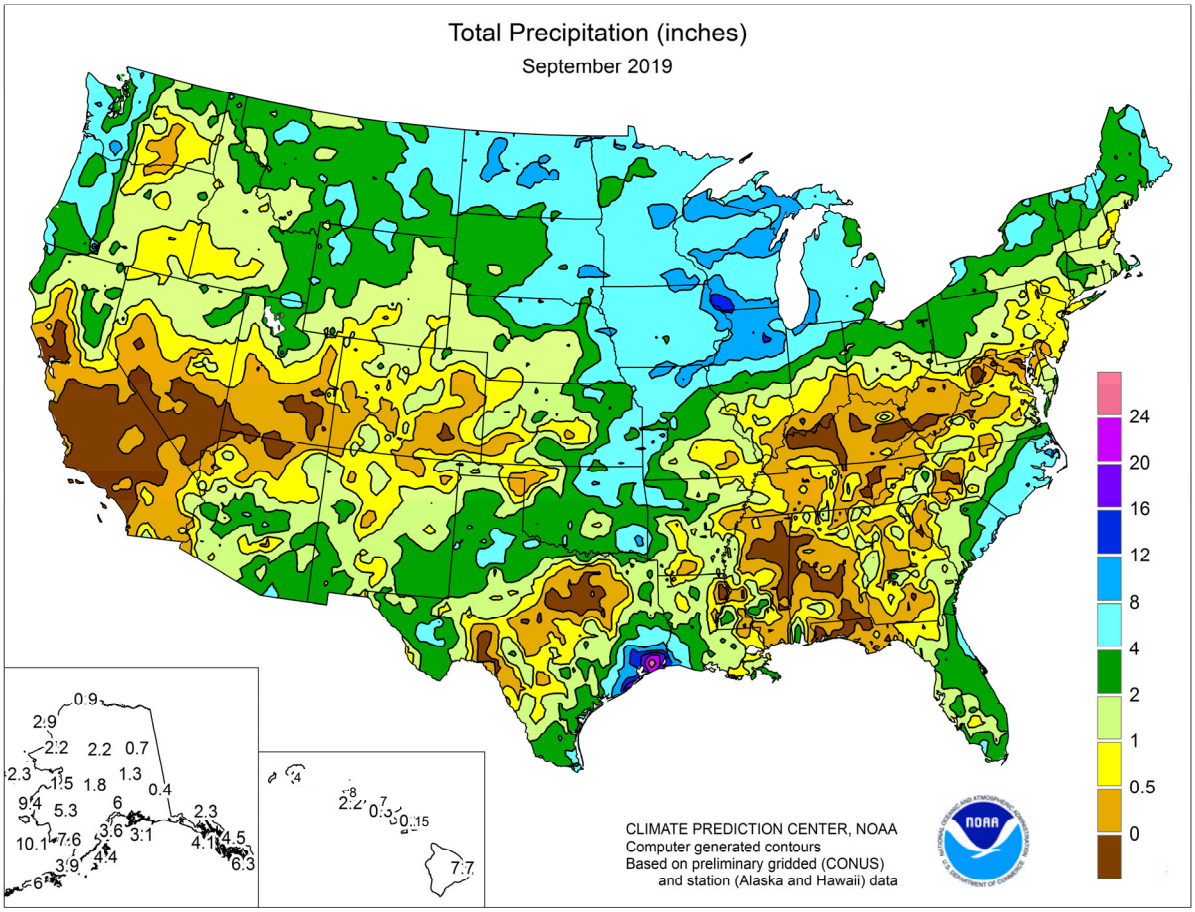
Eighty-four percent of the nation's oat acreage had been harvested by September 1, nine percentage points behind the previous year and 7 points behind the 5-year average. By September 15, ninety-two percent of the oats had been harvested, 4 percentage points behind the previous year and 5 points behind average. Ninety-six percent of the oats had been harvested by September 22, four percentage points behind the previous year and 3 points behind average.

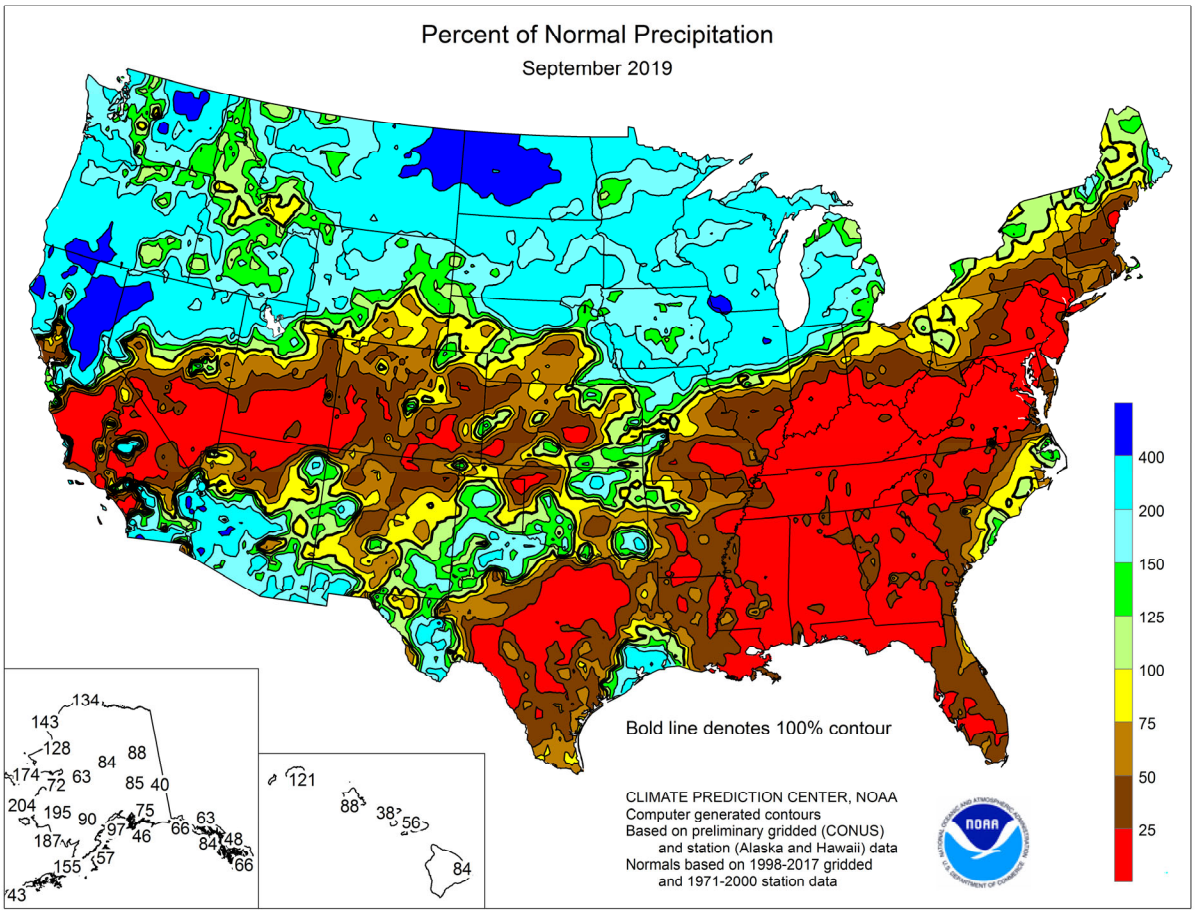
By September 1, seventy-two percent of the nation's barley was harvested, 11 percentage points behind both the previous year and the 5-year average. Eighty-seven percent of the barley was harvested by September 15, eight percentage points behind the previous year and 9 points behind average. By September 29, ninety-six percent of the barley was harvested, 4 percentage points behind both the previous year and the average.

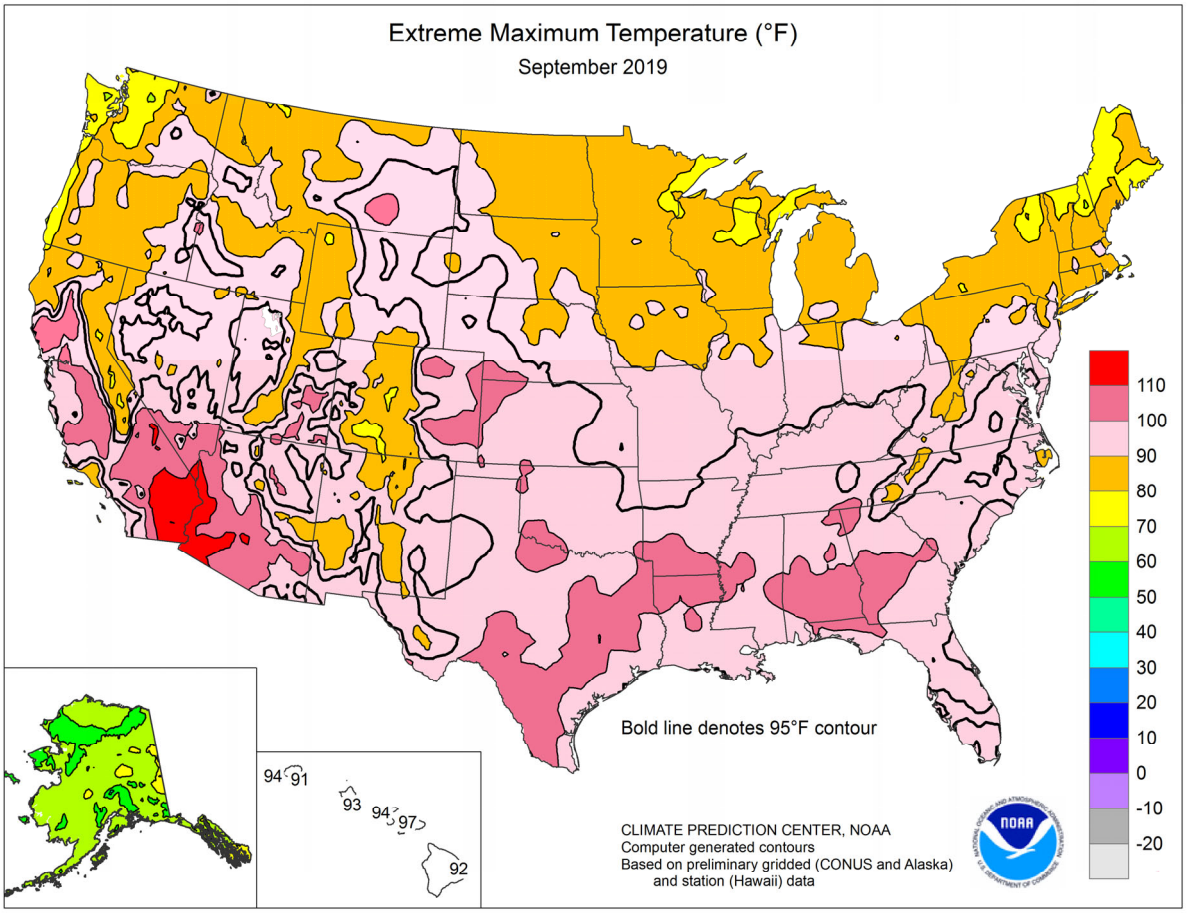
Fifty-five percent of the spring wheat acreage was harvested by September 1, thirty-one percentage points behind last year and 23 points behind the 5-year average. Overall, 67 percent of the spring wheat was rated in good to excellent condition on September 1, seven percentage points below the same time last year. By September 15, seventy-six percent of the spring wheat was harvested, 20 percentage points behind the previous year and 17 points behind average. Ninety percent of the spring wheat was harvested by September 29, ten percentage points behind last year and 9 points behind average.

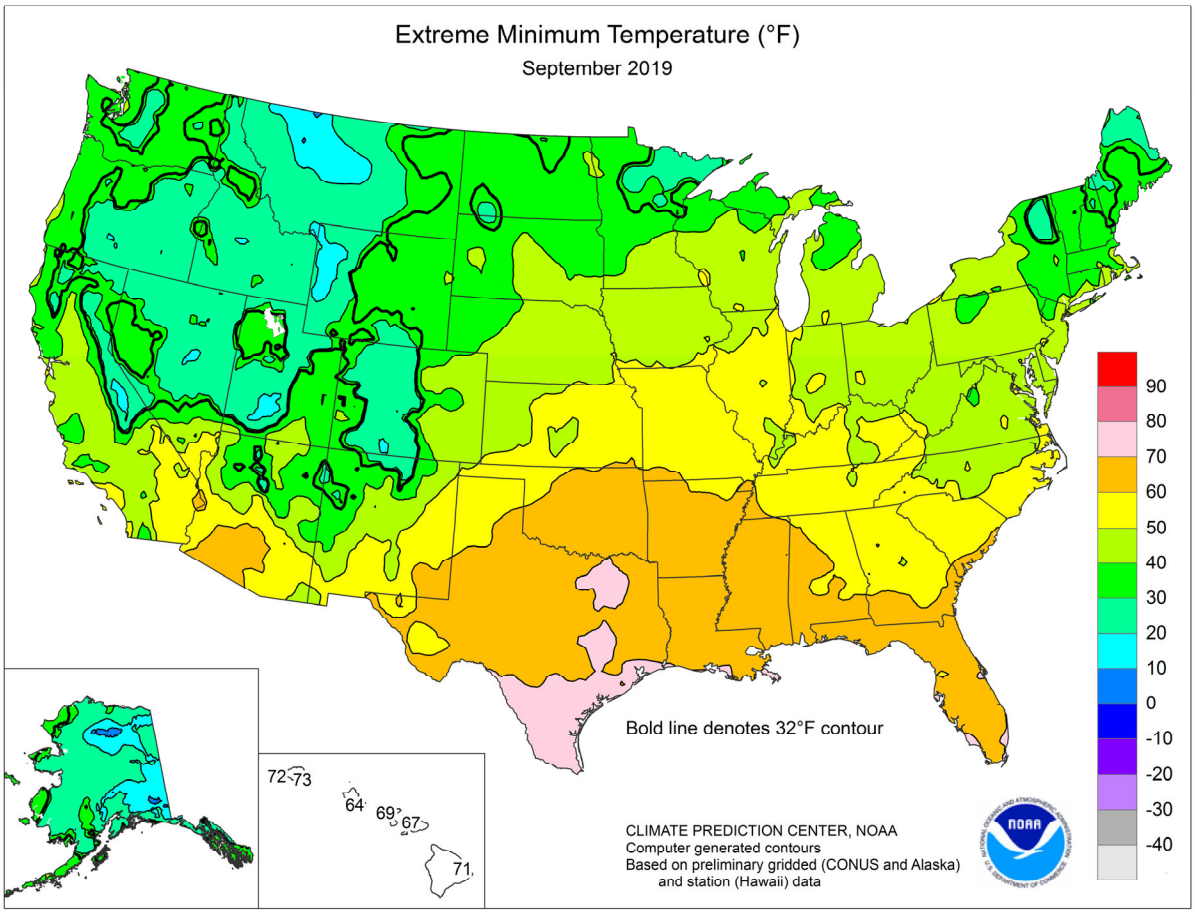
By September 15, five percent of the nation's peanut acreage was harvested, 2 percentage points ahead of the previous year but equal to the 5-year average. Twenty-six percent of the peanuts were harvested by September 29, seven percentage points ahead of both the previous year and the average. Overall, 55 percent of the peanuts were rated in good to excellent condition on September 29, sixteen percentage points below the same time last year.

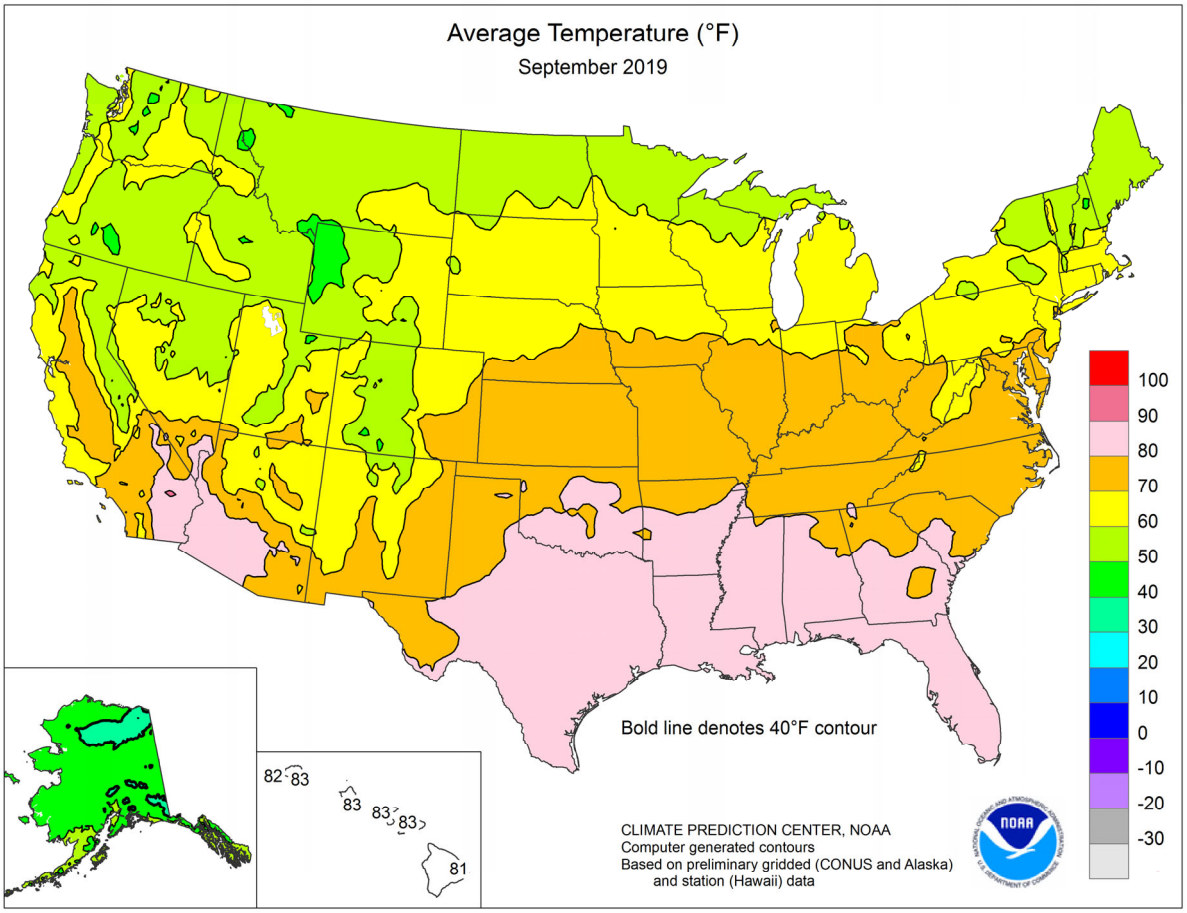
Sugarbeet producers harvested 8 percent of the nation's acreage by September 15, three percentage points behind the previous year and 1 point behind the 5-year average. By September 29, sugarbeet producers had harvested 16 percent of the acreage, 5 percentage points behind the previous year and 4 points behind average.

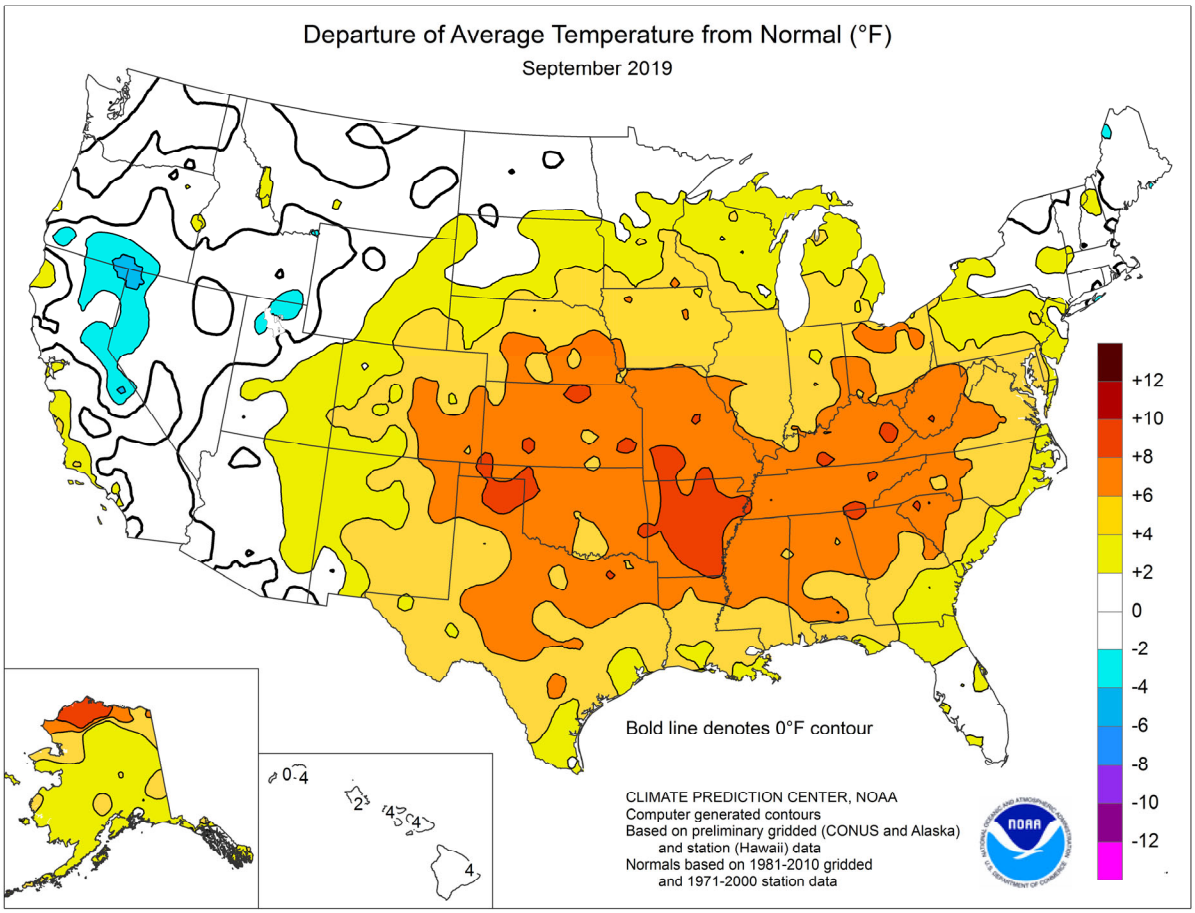

Total Precipitation (inches)
September 2019
24
20
16
12
8
4
2
1
0.5
0
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS)
and station (Alaska and Hawaii) data
NOAA


Percent of Normal Precipitation
September 2019
400
200
150
125
100
75
50
25
Bold line denotes 100% contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS)
and station (Alaska and Hawaii) data
Normals based on 1998-2017 gridded
and 1971-2000 station data
NOAA


Extreme Maximum Temperature (°F)
September 2019
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95°F contour
94
91
93
94
97
92
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA


Extreme Minimum Temperature (°F)
September 2019
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32°F contour
72
73
64
69
67
71
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA


Average Temperature (°F)
September 2019
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
82
83
83
83
83
81
Bold line denotes 40°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA


Departure of Average Temperature from Normal (°F)
September 2019
+12
+10
+8
+6
+4
+2
0
-2
-4
-6
-8
-10
-12
0
4
2
4
4
4
Bold line denotes 0°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
Normals based on 1981-2010 gridded
and 1971-2000 station data
NOAA

National Weather Data for Selected Cities

September 2019

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMP, °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	82	8	0.56	-3.49
HUNTSVILLE	81	9	0.27	-4.02
MOBILE	83	6	1.57	-4.44
MONTGOMERY	83	7	0.05	-4.17
AK ANCHORAGE	53	5	3.78	0.91
BARROW	41	10	0.93	0.24
COLD BAY	52	4	6.01	1.50
FAIRBANKS	49	5	1.06	-0.06
JUNEAU	52	2	6.66	-0.88
KING SALMON	51	3	6.06	3.25
KODIAK	54	5	4.43	-3.41
NOME	46	3	4.37	1.86
AZ FLAGSTAFF	59	1	0.95	-1.17
PHOENIX	89	3	0.25	-0.50
TUCSON	82	1	2.47	1.02
AR FORT SMITH	82	8	2.27	-1.34
LITTLE ROCK	81	7	1.36	-2.35
CA BAKERSFIELD	78	1	0.02	-0.13
EUREKA	60	3	1.75	0.89
FRESNO	77	2	0.00	-0.26
LOS ANGELES	74	4	0.00	-0.26
REDDING	74	1	0.30	-0.18
SACRAMENTO	72	0	0.12	-0.24
SAN DIEGO	73	1	0.11	-0.10
SAN FRANCISCO	68	4	0.06	-0.14
STOCKTON	74	1	0.23	-0.10
CO ALAMOSA	59	4	0.73	-0.16
CO SPRINGS	69	9	0.32	-0.91
DENVER	70	9	0.41	-0.63
GRAND JUNCTION	69	4	0.26	-0.65
PUEBLO	73	8	0.51	-0.33
CT BRIDGEPORT	68	2	0.93	-2.65
HARTFORD	65	2	1.95	-2.18
DC WASHINGTON	76	5	0.27	-3.52
DE WILMINGTON	72	4	0.48	-3.53
FL DAYTONA BEACH	82	2	4.25	-2.36
FT LAUDERDALE	84	2	1.33	-6.93
FT MYERS	83	1	2.87	-4.99
JACKSONVILLE	81	3	2.36	-5.54
KEY WEST	84	1	4.10	-1.35
MELBOURNE	83	3	2.09	-5.11
MIAMI	85	3	3.24	-5.14
ORLANDO	82	1	1.96	-3.80
PENSACOLA	85	6	0.00	-5.75
ST PETERSBURG	85	3	1.72	-5.87
TALLAHASSEE	83	4	0.00	-5.01
TAMPA	84	2	1.44	-5.10
WEST PALM BEACH	83	1	1.40	-6.70
GA ATHENS	79	6	1.40	-2.13
ATLANTA	82	9	0.76	-3.33
AUGUSTA	80	6	0.77	-2.82
COLUMBUS	83	7	1.29	-1.78
MACON	81	7	0.02	-3.24
SAVANNAH	81	4	1.27	-3.81
HI HILO	81	5	7.72	-1.42
HONOLULU	83	1	2.18	1.44
KAHULUI	83	4	0.22	-0.17
LIHUE	83	3	3.25	0.56
ID BOISE	65	1	0.79	0.03
LEWISTON	66	2	1.06	0.26
POCATELLO	60	1	1.73	0.84
IL CHICAGO/O'HARE	69	5	7.62	4.35
MOLINE	72	7	7.19	4.03
PEORIA	72	7	7.68	4.56
ROCKFORD	69	6	9.11	5.64
SPRINGFIELD	73	6	4.17	1.34
IN EVANSVILLE	76	7	0.08	-2.91
FORT WAYNE	69	5	2.29	-0.52
INDIANAPOLIS	74	8	0.49	-2.39
SOUTH BEND	69	6	6.57	2.78
IA BURLINGTON	72	5	8.23	4.63
CEDAR RAPIDS	68	4	6.52	3.25
DES MOINES	72	7	4.65	1.50
DUBUQUE	66	4	12.92	9.36
SIOUX CITY	69	6	4.00	1.58
WATERLOO	69	6	5.05	2.10
KS CONCORDIA	77	9	2.18	-0.32
DODGE CITY	78	9	0.20	-1.50
GOODLAND	71	6	0.65	-0.57
HILL CITY	75	8	1.32	-0.74
TOPEKA	76	8	2.51	-1.20
WICHITA	79	8	0.98	-1.98
KY JACKSON	77	9	0.00	-3.77
LEXINGTON	77	9	0.00	-3.11
LONDON-CORBIN	75	7	0.11	-3.26
LOUISVILLE	80	10	0.04	-3.01
PADUCAH	77	8	0.32	-3.24
LA BATON ROUGE	83	5	2.54	-2.30
LAKE CHARLES	84	6	3.79	-2.16
NEW ORLEANS	85	6	0.19	-5.36
SHREVEPORT	84	7	1.34	-1.87
ME BANGOR	58	-1	2.74	-0.65
CARIBOU	55	1	4.87	1.60
PORTLAND	61	2	0.44	-2.93
MD BALTIMORE	74	7	0.17	-3.81
MA BOSTON	68	3	2.17	-1.30
WORCESTER	62	2	2.19	-2.08
MI ALPENA	60	4	3.49	0.69
DETROIT	68	4	3.44	0.17
FLINT	66	5	2.87	-0.89
GRAND RAPIDS	66	5	7.36	3.08
HOUGHTON LAKE	60	3	4.85	1.74
LANSING	66	6	2.70	-0.78
MUSKEGON	66	6	5.86	2.34
TRAVERSE CITY	64	4	5.94	2.36
MN DULUTH	60	5	5.76	1.63
INT'L FALLS	56	3	6.65	3.62
MINNEAPOLIS	67	6	4.03	1.34
ROCHESTER	65	6	8.43	5.31
ST. CLOUD	62	5	7.56	4.63
MS JACKSON	83	7	0.25	-2.98
MERIDIAN	83	7	0.25	-3.39
TUPELO	82	9	0.01	-3.34
MO COLUMBIA	76	9	2.52	-0.90
JOPLIN	78	8	2.72	-2.50
KANSAS CITY	75	7	5.79	1.15
SPRINGFIELD	78	9	1.61	-3.22
ST JOSEPH	75	7	4.33	0.42
ST LOUIS	78	8	1.71	-1.25
MT BILLINGS	63	3	3.24	1.90
BUTTE	53	1	1.96	0.87
GLASGOW	60	3	4.35	3.37
GREAT FALLS	56	1	2.13	0.90
HELENA	59	3	3.04	1.99
KALISPELL	56	3	2.54	1.34
MILES CITY	61	1	2.33	1.14
MISSOULA	58	2	2.44	1.36
NE GRAND ISLAND	72	8	1.37	-1.06
HASTINGS	73	8	1.66	-1.08
LINCOLN	74	8	2.02	-0.90
MCCOOK	73	8	0.64	-0.73
NORFOLK	70	7	1.56	-0.69
NORTH PLATTE	70	8	0.95	-0.37
OMAHA/EPPLEY	74	9	5.87	2.70
SCOTTSBLUFF	67	7	1.04	-0.18
VALENTINE	68	6	2.67	1.06
NV ELKO	60	2	2.40	1.72
ELY	57	0	0.79	-0.15
LAS VEGAS	84	3	0.24	-0.07
RENO	65	3	0.30	-0.15
WINNEMUCCA	60	0	1.04	0.51
NH CONCORD	60	1	1.03	-2.13
NJ ATLANTIC CITY	71	5	1.37	-1.77
NEWARK	71	3	1.60	-2.41
NM ALBUQUERQUE	73	4	0.46	-0.61
NY ALBANY	64	3	2.22	-1.09
BINGHAMTON	61	2	1.88	-1.71
BUFFALO	65	3	6.27	2.43
ROCHESTER	64	3	3.05	-0.40
SYRACUSE	64	3	3.49	-0.66
NC ASHEVILLE	73	7	0.90	-2.82
CHARLOTTE	79	6	0.19	-3.64
GREENSBORO	76	6	0.56	-3.73
HATTERAS	***	***	***	***
RALEIGH	77	6	1.12	-3.14
WILMINGTON	79	4	8.33	1.54
ND BISMARCK	60	2	5.77	4.16
DICKINSON	59	2	5.62	4.00
FARGO	61	3	4.45	2.27
GRAND FORKS	59	2	8.15	6.19
JAMESTOWN	60	2	4.60	2.86
MINOT	59	2	7.53	5.79
WILLISTON	59	3	8.11	6.76
OH AKRON-CANTON	71	8	1.67	-1.76
CINCINNATI	75	8	0.61	-2.21
CLEVELAND	71	8	1.29	-2.48
COLUMBUS	73	6	0.85	-2.07
DAYTON	74	9	0.70	-1.95
MANSFIELD	70	7	3.79	0.35
TOLEDO	71	7	3.80	0.96
YOUNGSTOWN	67	5	4.52	0.63
OK OKLAHOMA CITY	79	6	2.23	-1.75
TULSA	81	7	3.96	-0.80
OR ASTORIA	60	2	6.20	3.59
BURNS	56	1	1.12	0.62
EUGENE	63	1	5.29	3.75
MEDFORD	65	-1	1.87	1.09
PENDLETON	63	0	1.11	0.48
PORTLAND	65	1	3.87	2.22
SALEM	62	0	2.98	1.55
PA ALLENTOWN	69	6	1.35	-3.02
ERIE	69	5	3.31	-1.42
MIDDLETOWN	71	5	1.48	-2.03
PHILADELPHIA	73	4	1.17	-2.71
PITTSBURGH	69	5	5.35	2.14
WILKES-BARRE	66	4	1.23	-2.63
WILLIAMSPORT	67	4	1.53	-2.45
PR SAN JUAN	85	3	9.61	4.01
RI PROVIDENCE	66	2	1.16	-2.54
SC CHARLESTON	79	3	3.93	-2.05
COLUMBIA	81	6	1.96	-1.98
FLORENCE	79	4	3.68	0.01
GREENVILLE	79	8	0.18	-3.78
MYRTLE BEACH	78	4	9.05	3.47
SD ABERDEEN	63	3	4.74	2.93
HURON	66	5	3.31	1.51
RAPID CITY	62	1	2.70	1.60
SIOUX FALLS	67	6	2.88	0.30
TN BRISTOL	74	7	0.68	-2.40
CHATTANOOGA	81	9	0.56	-3.75
JACKSON	78	6	1.07	-2.69
KNOXVILLE	78	7	0.03	-3.01
MEMPHIS	83	8	0.12	-3.19
NASHVILLE	80	9	0.02	-3.57
TX ABILENE	84	8	0.83	-2.08
AMARILLO	76	7	1.10	-0.78
AUSTIN	85	5	0.43	-2.48
BEAUMONT	84	5	23.18	17.08
BROWNSVILLE	85	4	4.19	-1.12
COLLEGE STATION	85	5	2.21	-1.70
CORPUS CHRISTI	85	4	4.19	-0.84
DALLAS/FT WORTH	85	7	0.00	-2.42
DEL RIO	88	8	0.10	-1.96
EL PASO	80	5	1.48	-0.13
GALVESTON	86	5	18.06	12.30
HOUSTON	84	5	14.96	10.63
LUBBOCK	78	7	5.97	3.40
MIDLAND	82	8	1.04	-1.27
SAN ANGELO	83	8	0.27	-2.68
SAN ANTONIO	86	7	1.46	-1.54
VICTORIA	85	5	3.69	-1.31
WACO	86	7	0.17	-2.71
WICHITA FALLS	82	6	2.89	-0.30
UT SALT LAKE CITY	68	3	1.57	0.24
VT BURLINGTON	62	3	3.75	-0.08
VA LYNCHBURG	74	7	0.17	-3.71
NORFOLK	76	4	2.96	-1.10
RICHMOND	76	6	0.43	-3.55
ROANOKE	75	7	1.32	-2.53
WASH/DULLES	72	5	0.41	-3.41
WA OLYMPIA	60	2	3.43	1.40
QUILLAYUTE	58	2	9.45	5.30
SEATTLE-TACOMA	63	2	3.33	1.70
SPOKANE	59	0	1.99	1.23
YAKIMA	61	1	0.54	0.15
WV BECKLEY	72	9	0.11	-3.12
CHARLESTON	75	9	0.55	-2.90
ELKINS	69	7	0.48	-3.34
HUNTINGTON	75	8	0.01	-2.79
WI EAU CLAIRE	64	5	5.94	2.20
GREEN BAY	64	5	9.38	6.27
LA CROSSE	69	6	6.09	2.69
MADISON	66	5	6.81	3.73
MILWAUKEE	68	5	7.00	3.70
WAUSAU	62	3	7.33	3.25
WY CASPER	62	4	1.41	0.43
CHEYENNE	64	7	0.51	-0.92
LANDER	60	1	1.48	0.34
SHERIDAN	60	3	1.90	0.52

Based on 1971-2000 normals

*** Not Available

National Agricultural Summary

September 30 – October 6, 2019

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

The majority of the nation was dry, but heavy rain fell in parts of the Great Lakes region, New Mexico, the Plains, and northern New England. Temperatures were more than 10°F above normal in parts of the Delta, mid Atlantic, Ohio Valley, Mississippi Valley, southern Plains, and Southeast. In contrast, temperatures were 10°F or more below normal in parts of California, the Pacific Northwest, and northern Rocky Mountains.

Corn: By October 6, ninety-three percent of this year's acreage was dented, 7 percentage points behind last year and 6 points behind the 5-year average. All estimating states, except Michigan, North Dakota, Ohio, and Wisconsin, were complete or nearing completion in terms of corn dented. Fifty-eight percent of the corn had matured by October 6, thirty-four percentage points behind last year and 27 points behind average. Fifteen percent of the 2019 acreage was harvested by week's end, 18 percentage points behind last year and 12 points behind average. Harvest progress advanced 13 percentage points or more during the week in Kentucky, Pennsylvania, and Tennessee. Overall, 56 percent of the nation's corn was rated in good to excellent condition, one percentage point below the previous week and 12 points below the same time last year.

Soybean: Seventy-two percent of the nation's soybean acreage was at or beyond the leaf-dropping stage by October 6, eighteen percentage points behind last year and 15 points behind the 5-year average. Leaf dropping advanced 14 percentage points or more from the previous week in 13 of the 18 estimating states. Soybean harvest was 14 percent complete, 17 percentage points behind last year and 20 points behind average. Harvest progress advanced 10 percentage points or more during the week in seven of the 18 estimating states. By October 6, fifty-three percent of the nation's soybeans were rated in good to excellent condition, 2 percentage points below the previous week and 15 points below the same time last year.

Winter Wheat: Nationwide, producers had sown 52 percent of the intended 2020 winter wheat acreage by October 6, three percentage points behind last year and 1 point behind the 5-year average. Winter wheat planting advanced by 12 percentage points or more during the week in ten of the 18 estimating states. Nationwide, 26 percent of the winter wheat acreage had emerged by October 6, two percentage points behind last year but equal to the average. Emergence was at or behind the average in 11 of the 18 estimating states.

Cotton: By October 6, eighty-three percent of the nation's cotton acreage had open bolls, 7 percentage points ahead of last year and 8 points ahead of the 5-year average. All estimating states, except California, Kansas, Missouri, Oklahoma, and Texas, were complete or nearing completion in terms of bolls opening. By October 6, twenty-five percent of the nation's cotton was harvested, 1 percentage point ahead of last year and 5 points ahead of average. Harvest progress advanced 10 percentage points or more during the week in eight of the 15 estimating states. By October 6, thirty-nine percent of the cotton was rated in good to excellent condition, 1 percentage point behind the previous week and 3 points below the same time last year.

Sorghum: Sixty-five percent of the nation's sorghum acreage was mature by October 6, six percentage points behind last year and 8 points behind the 5-year average. Ninety-three percent of Texas' sorghum acreage had matured by October 6, eight percentage points ahead of both last year and the average. Thirty-three percent of the sorghum was harvested by October 6, five percentage points behind last year and 7 points behind average. Eighty-seven percent of Texas' sorghum was harvested by October 6, ten percentage points ahead of last year and 15 points ahead of average. By October 6, sixty-five percent of the nation's sorghum was rated in good to excellent condition, unchanged from the previous week but 10 percentage points above the same time last year.

Rice: Nationally, 76 percent of the rice acreage was harvested by October 6, two percentage points behind last year and 4 points behind the 5-year average. Rice harvest advanced 19 percentage points during the week in Missouri and was 84 percent complete.

Small Grains: By October 6, ninety-one percent of the spring wheat acreage was harvested, 9 percentage points behind last year and 8 points behind the 5-year average. Spring wheat harvest progress was complete or nearing completion in all estimating states, except Montana.

Other Crops: Forty-one percent of the nation's peanut acreage was harvested as of October 6, ten percentage points ahead of last year and 11 points ahead of the 5-year average. Advances of 13 percentage points or more from the previous week occurred in six of the eight estimating states. On October 6, fifty-four percent of the peanuts were rated in good to excellent condition, 1 percentage point below the previous week and 16 points below the same time last year.

By October 6, sugarbeet producers had harvested 19 percent of the nation's crop, 18 percentage points behind last year and 21 points behind the 5-year average. Sugarbeet harvest advanced 7 percentage points during the week in Idaho and was 28 percent complete. Harvest progress was behind the average pace in all estimating states.

By October 6, one percent of this year's sunflower crop was harvested, 4 percentage points behind both last year and the 5-year average. Harvest progress was behind the average pace in North Dakota and South Dakota.

Crop Progress and Condition

Week Ending October 6, 2019

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

Corn Percent Dented

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
CO	97	93	99	98
IL	100	85	91	100
IN	100	84	91	100
IA	100	90	94	99
KS	100	96	97	100
KY	100	99	100	100
MI	99	72	82	96
MN	100	88	94	99
MO	100	96	100	100
NE	100	95	96	99
NC	100	100	100	100
ND	99	75	84	98
OH	99	70	84	99
PA	94	87	90	96
SD	100	84	91	99
TN	100	100	100	100
TX	100	100	100	100
WI	98	67	76	95
18 Sts	100	88	93	99

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

Corn Percent Mature

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
CO	71	41	65	69
IL	99	40	59	94
IN	94	41	56	87
IA	94	36	52	88
KS	94	73	84	92
KY	95	90	96	94
MI	76	17	31	69
MN	95	22	39	83
MO	99	72	87	96
NE	91	52	74	85
NC	100	98	100	100
ND	92	15	22	75
OH	80	27	44	76
PA	80	62	71	80
SD	88	29	36	80
TN	98	98	100	98
TX	87	79	84	86
WI	82	16	30	69
18 Sts	92	43	58	85

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

Corn Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
CO	19	12	17	13
IL	61	4	13	46
IN	37	8	15	29
IA	14	2	3	12
KS	57	28	36	54
KY	69	58	76	68
MI	15	0	4	10
MN	14	0	1	10
MO	74	26	35	61
NE	22	8	12	17
NC	87	87	91	86
ND	8	0	0	6
OH	20	5	11	17
PA	19	23	36	23
SD	15	0	2	12
TN	77	74	88	80
TX	72	72	74	71
WI	13	0	1	8
18 Sts	33	11	15	27

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

Corn Condition by Percent

	VP	P	F	G	EX
CO	0	6	22	61	11
IL	5	16	33	41	5
IN	8	20	40	28	4
IA	2	7	26	53	12
KS	5	12	31	40	12
KY	3	8	24	45	20
MI	6	16	34	32	12
MN	3	10	33	44	10
MO	5	17	33	40	5
NE	2	5	20	56	17
NC	13	17	29	31	10
ND	0	6	22	62	10
OH	6	23	39	29	3
PA	1	6	19	53	21
SD	2	6	30	45	17
TN	1	3	11	55	30
TX	1	9	38	41	11
WI	3	8	24	47	18
18 Sts	4	11	29	45	11
Prev Wk	4	10	29	46	11
Prev Yr	4	8	20	47	21

Sorghum Percent Mature

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
CO	52	39	59	53
KS	67	38	52	65
NE	88	38	75	82
OK	63	54	63	75
SD	44	29	37	59
TX	85	91	93	85
6 Sts	71	54	65	73

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

Sorghum Condition by Percent

	VP	P	F	G	EX
CO	1	2	26	62	9
KS	3	7	29	51	10
NE	1	2	16	66	15
OK	0	1	28	64	7
SD	1	2	23	66	8
TX	1	5	29	40	25
6 Sts	2	5	28	51	14
Prev Wk	2	6	27	50	15
Prev Yr	5	11	29	44	11

Sorghum Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
CO	12	3	17	10
KS	15	6	10	17
NE	22	2	4	17
OK	39	18	24	43
SD	15	3	5	16
TX	77	86	87	72
6 Sts	38	30	33	40

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

Crop Progress and Condition

Week Ending October 6, 2019

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

Soybeans Percent Dropping Leaves

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AR	80	62	78	83
IL	92	41	65	87
IN	93	49	66	90
IA	93	49	68	89
KS	78	44	63	74
KY	70	55	69	67
LA	96	91	96	96
MI	88	56	69	89
MN	97	60	80	95
MS	92	80	87	90
MO	72	26	45	67
NE	95	75	86	93
NC	70	59	73	59
ND	99	86	92	97
OH	90	48	68	90
SD	95	58	78	96
TN	81	71	85	80
WI	88	42	60	86
18 Sts	90	55	72	87

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

Soybeans Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AR	30	25	38	47
IL	49	1	11	40
IN	38	6	14	33
IA	18	3	5	26
KS	13	2	5	15
KY	28	19	31	25
LA	78	68	80	83
MI	15	7	8	23
MN	36	5	8	43
MS	59	46	58	69
MO	19	1	6	18
NE	35	6	14	30
NC	10	14	17	10
ND	33	4	8	48
OH	28	6	18	33
SD	27	1	5	36
TN	28	27	39	27
WI	16	1	3	20
18 Sts	31	7	14	34

These 18 States harvested 96% of last year's soybean acreage.

Soybean Condition by Percent

	VP	P	F	G	EX
AR	3	10	30	40	17
IL	6	14	37	38	5
IN	9	20	39	28	4
IA	2	7	27	53	11
KS	4	8	31	48	9
KY	6	15	32	44	3
LA	2	6	26	61	5
MI	4	14	41	32	9
MN	2	8	34	49	7
MS	0	4	32	44	20
MO	3	10	34	47	6
NE	1	4	21	62	12
NC	8	18	30	35	9
ND	1	9	29	54	7
OH	5	22	39	31	3
SD	3	9	31	48	9
TN	2	8	31	47	12
WI	1	6	22	50	21
18 Sts	4	11	32	45	8
Prev Wk	3	10	32	46	9
Prev Yr	3	7	22	49	19

Cotton Percent Bolls Opening

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AL	87	88	92	86
AZ	99	99	100	95
AR	100	94	97	96
CA	46	60	86	77
GA	87	87	92	90
KS	72	46	65	59
LA	100	94	97	99
MS	96	88	93	93
MO	99	76	83	88
NC	92	85	94	88
OK	72	69	77	75
SC	66	91	95	84
TN	96	82	90	89
TX	68	71	77	65
VA	81	89	95	83
15 Sts	76	77	83	75

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

Cotton Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AL	17	12	25	20
AZ	25	15	17	21
AR	42	22	41	28
CA	4	0	5	6
GA	11	18	28	14
KS	1	0	0	3
LA	49	33	51	56
MS	38	23	37	34
MO	47	6	7	21
NC	7	5	16	8
OK	6	0	1	2
SC	9	12	25	13
TN	30	12	22	17
TX	28	18	25	22
VA	3	10	18	2
15 Sts	24	16	25	20

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

Cotton Condition by Percent

	VP	P	F	G	EX
AL	2	11	38	42	7
AZ	0	9	30	50	11
AR	0	3	14	40	43
CA	0	0	50	40	10
GA	4	11	32	47	6
KS	6	15	32	39	8
LA	1	5	33	52	9
MS	0	5	35	47	13
MO	12	14	55	19	0
NC	11	29	26	28	6
OK	8	3	73	15	1
SC	1	8	29	56	6
TN	4	7	26	45	18
TX	4	19	47	26	4
VA	0	9	19	72	0
15 Sts	4	15	42	32	7
Prev Wk	3	17	40	34	6
Prev Yr	6	19	33	32	10

Crop Progress and Condition

Week Ending October 6, 2019

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

Peanuts Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AL	27	30	56	35
FL	56	46	59	54
GA	36	28	46	30
NC	23	18	33	18
OK	1	0	4	6
SC	13	24	37	24
TX	8	0	1	13
VA	32	41	60	23
8 Sts	31	26	41	30

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

Peanut Condition by Percent

	VP	P	F	G	EX
AL	3	12	36	43	6
FL	5	22	37	35	1
GA	5	13	28	47	7
NC	2	2	36	51	9
OK	0	0	15	80	5
SC	3	3	35	58	1
TX	0	1	36	63	0
VA	0	9	11	80	0
8 Sts	4	10	32	49	5
Prev Wk	2	10	33	50	5
Prev Yr	1	5	24	56	14

Winter Wheat Percent Planted

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AR	16	10	15	12
CA	16	10	12	9
CO	76	67	79	79
ID	65	43	58	67
IL	20	4	19	19
IN	29	7	17	25
KS	56	30	45	47
MI	30	23	28	40
MO	13	3	6	15
MT	56	40	49	74
NE	85	71	88	85
NC	5	1	2	3
OH	29	26	50	33
OK	57	45	57	55
OR	41	43	57	41
SD	73	59	77	76
TX	52	34	49	48
WA	74	61	67	74
18 Sts	55	39	52	53

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

Rice Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AR	86	72	82	87
CA	28	20	30	38
LA	99	94	97	99
MS	91	79	80	88
MO	69	65	84	73
TX	100	97	98	100
6 Sts	78	68	76	80

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

Spring Wheat Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
ID	100	97	99	100
MN	100	97	98	100
MT	97	84	86	97
ND	100	89	90	99
SD	100	100	100	100
WA	100	93	95	100
6 Sts	100	90	91	99

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

Winter Wheat Percent Emerged

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
AR	3	1	6	3
CA	0	0	0	0
CO	54	39	50	47
ID	32	12	27	32
IL	3	0	3	3
IN	9	0	3	7
KS	31	12	24	24
MI	13	2	11	14
MO	7	1	2	5
MT	29	1	9	34
NE	56	23	41	60
NC	0	0	0	0
OH	9	0	18	8
OK	25	5	29	22
OR	10	19	23	13
SD	46	15	48	39
TX	18	6	25	23
WA	39	13	30	52
18 Sts	28	11	26	26

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

Sugarbeets Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
ID	33	21	28	31
MI	33	10	14	25
MN	38	16	17	44
ND	41	18	19	51
4 Sts	37	16	19	40

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

Sunflowers Percent Harvested

	Prev Year	Prev Week	Oct 6 2019	5-Yr Avg
CO	0	1	8	3
KS	11	3	7	5
ND	9	NA	0	6
SD	4	NA	0	5
4 Sts	5	NA	1	5

These 4 States harvested 86% of last year's sunflower acreage.

Crop Progress and Condition

Week Ending October 6, 2019

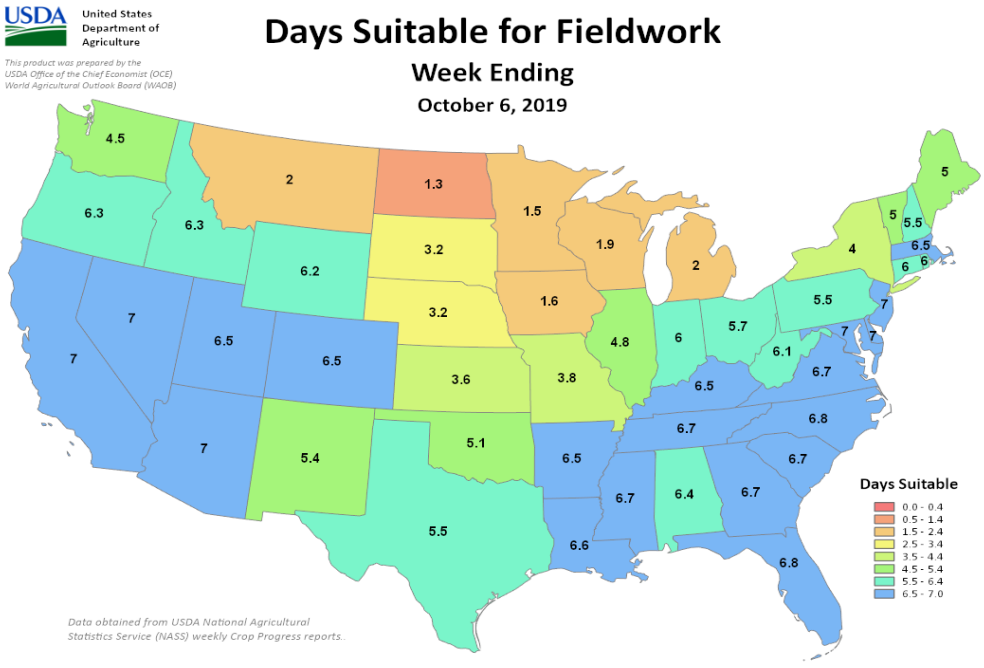
Weekly U.S. Progress and Condition Data provided by USDA/NASS

Pasture and Range Condition by Percent
Week Ending Oct 6, 2019

	VP	P	F	G	EX		VP	P	F	G	EX
AL	22	36	34	8	0	NH	8	10	55	27	0
AZ	13	40	29	18	0	NJ	14	15	15	56	0
AR	2	12	33	47	6	NM	18	28	31	15	8
CA	40	5	10	40	5	NY	5	17	26	31	21
CO	2	10	28	51	9	NC	18	32	32	16	2
CT	0	0	100	0	0	ND	1	5	21	58	15
DE	0	41	30	27	2	OH	9	28	36	26	1
FL	3	14	30	43	10	OK	1	6	34	54	5
GA	25	35	28	11	1	OR	2	26	35	33	4
ID	1	9	32	51	7	PA	2	34	28	31	5
IL	6	14	34	43	3	RI	0	15	55	30	0
IN	23	27	33	15	2	SC	18	43	30	9	0
IA	4	11	38	41	6	SD	1	3	22	50	24
KS	2	6	24	57	11	TN	20	45	26	7	2
KY	27	38	28	7	0	TX	19	30	32	17	2
LA	3	14	43	37	3	UT	2	8	32	57	1
ME	0	40	60	0	0	VT	0	20	56	24	0
MD	12	39	30	17	2	VA	39	32	21	8	0
MA	0	20	40	40	0	WA	9	14	23	51	3
MI	4	18	35	36	7	WV	32	27	24	16	1
MN	4	10	30	49	7	WI	3	9	32	40	16
MS	7	18	48	26	1	WY	2	5	46	47	0
MO	0	6	24	58	12	48 Sts	10	17	28	37	8
MT	2	5	20	46	27						
NE	1	3	15	63	18	Prev Wk	8	17	30	37	8
NV	10	10	20	60	0	Prev Yr	8	14	30	40	8

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

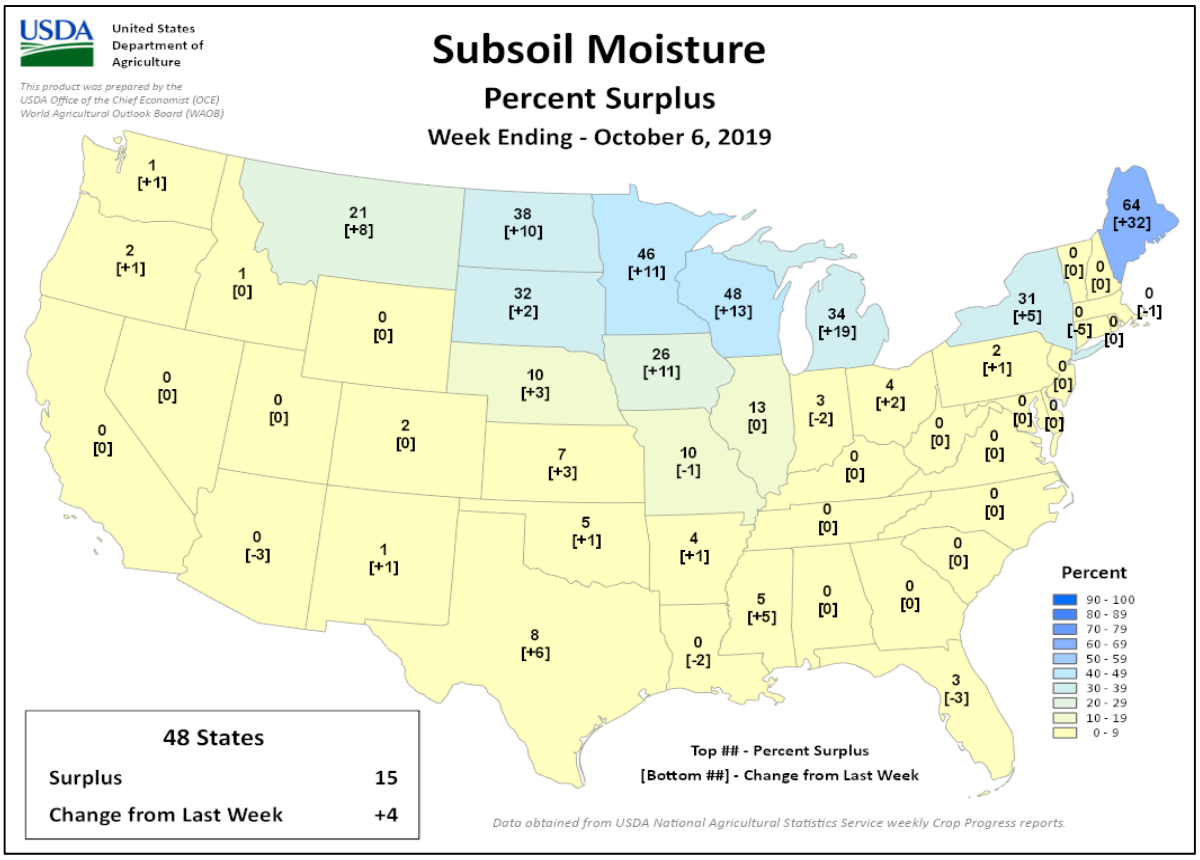
NA - Not Available
*** Revised**

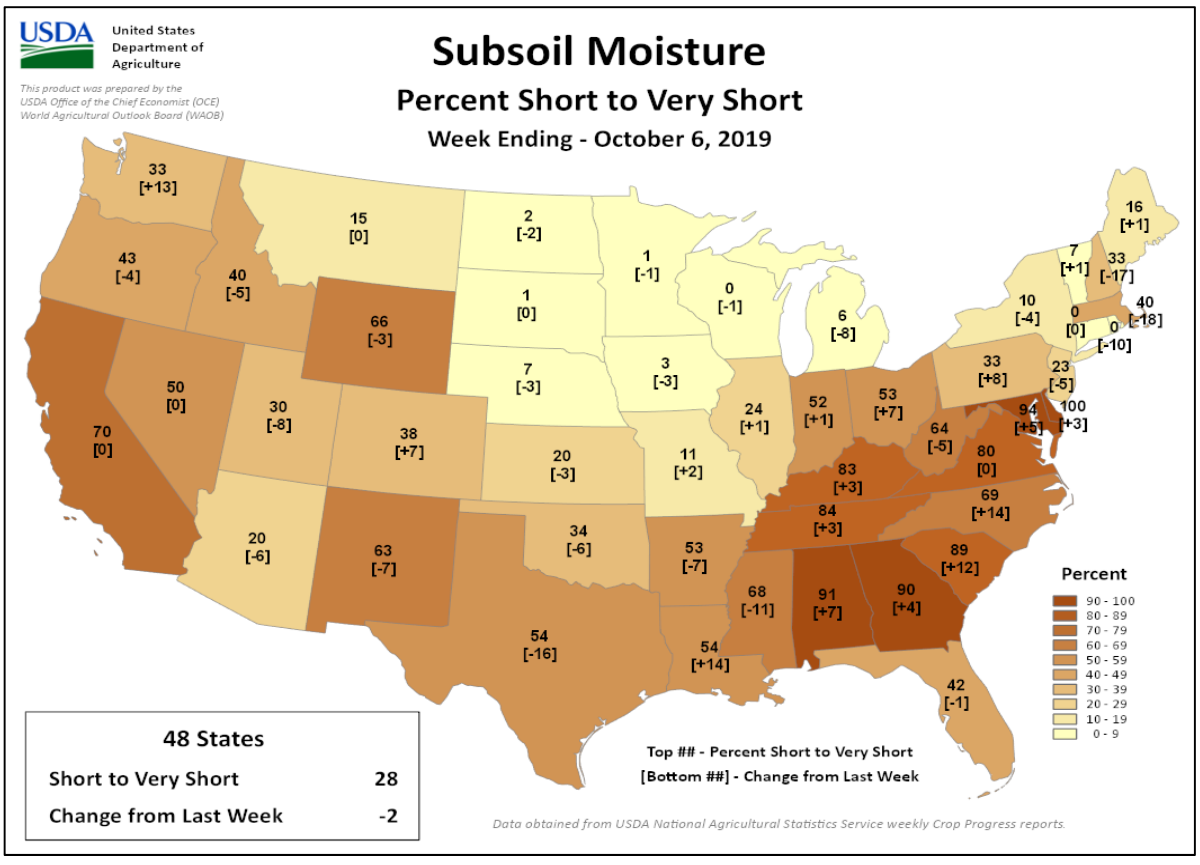


Crop Progress and Condition

Week Ending October 6, 2019

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

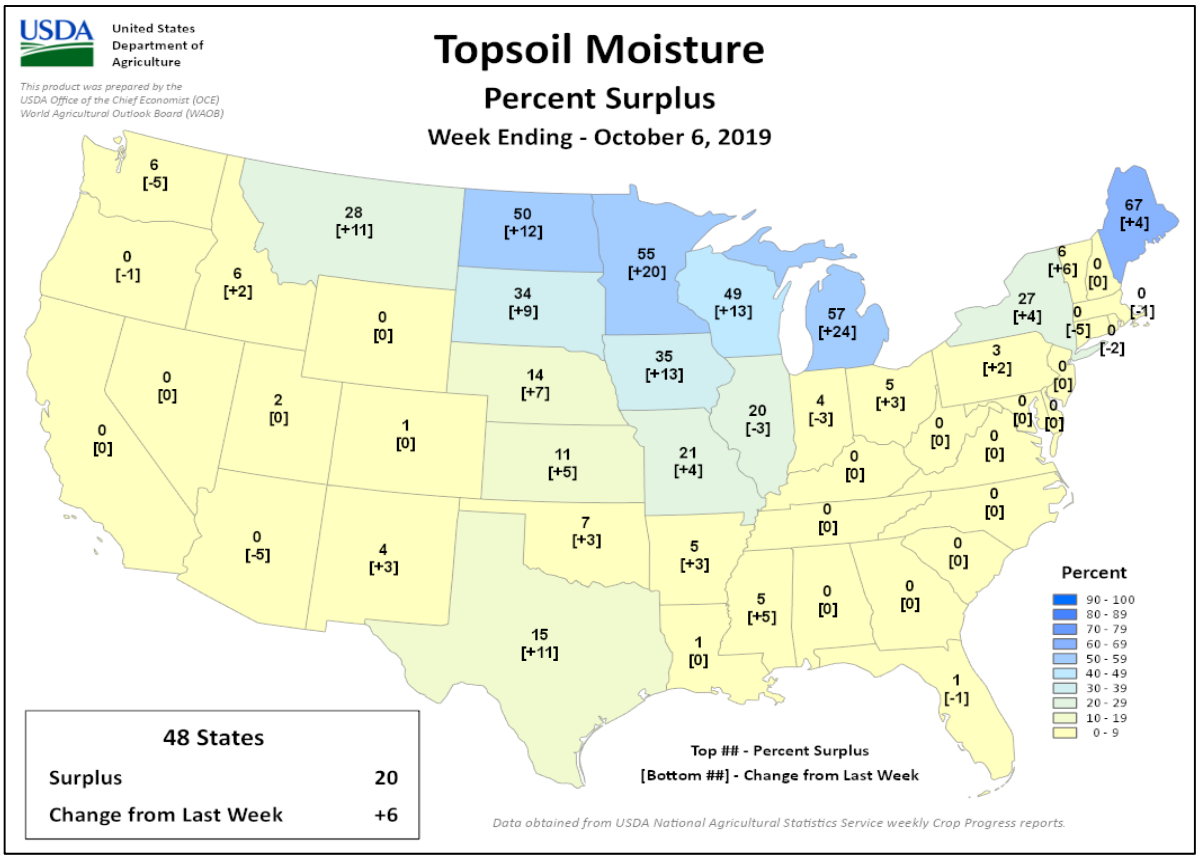


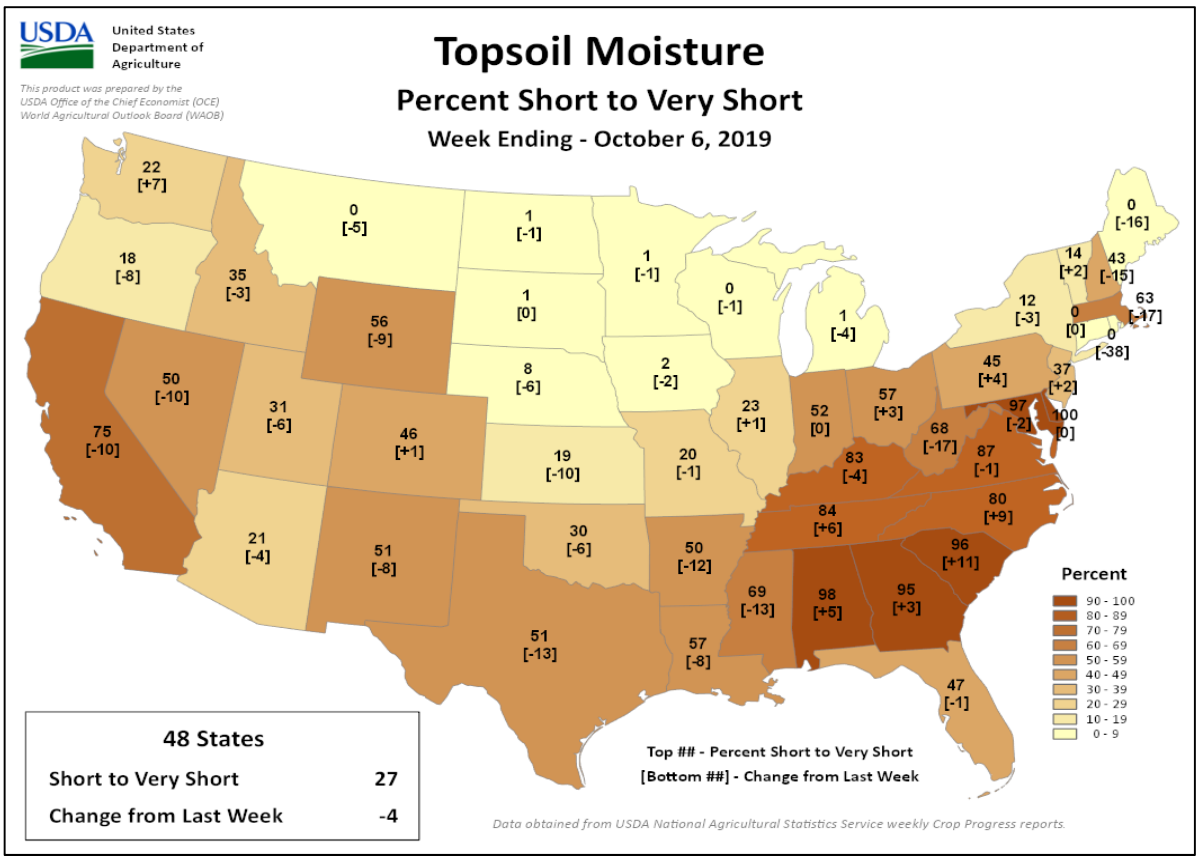


Crop Progress and Condition

Week Ending October 6, 2019

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





International Weather and Crop Summary

September 29 - October 5, 2019

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

EUROPE: Additional rain further reduced drought in France and Germany, while localized dryness continued in parts of the Balkans.

WESTERN FSU: Much-needed rainfall in Ukraine eased drought and improved prospects for winter wheat establishment.

MIDDLE EAST: Despite some showers in the west, mostly dry weather favored summer crop harvesting and winter grain sowing in Turkey.

SOUTH ASIA: The southwest monsoon largely withdrew from northern India and Pakistan, while showers continued in other parts of India.

EAST ASIA: Mostly dry, hotter-than-normal conditions in eastern and southern China promoted summer crop maturation and harvesting.

SOUTHEAST ASIA: Showers continued in the region, benefiting immature wet-season rice in Indochina and the Philippines while boosting reservoir levels for the upcoming dry season.

AUSTRALIA: Showers helped stabilize crop conditions in parts of the west, while dry weather prevailed elsewhere.

ARGENTINA: Showers provided timely rain for summer crops in eastern farming areas, but western areas remained unfavorably dry.

BRAZIL: Soybean planting progressed, as showers continued in central Brazil.

MEXICO: Moisture from Tropical Storm Narda boosted northwestern reservoirs.

CANADIAN PRAIRIES: Cold, snowy weather halted fieldwork while raising concern for potential damage to unharvested spring crops.

SOUTHEASTERN CANADA: Rain slowed corn and soybean harvesting but provided much-needed moisture for winter wheat.

September 2019

COUNTRY	CITY	TEMPERATURE (C)						PRECIP. (MM)	
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DEP NRM	TOT	DEP NRM
ALGERI	ALGER	31	19	38	14	25	1.9	52	17
	BATNA	31	15	35	11	23	1.5	32	2
ARGENT	IGUAZU	29	16	38	7	23	3.1	34	-136
	FORMOSA	28	15	39	8	21	1.5	5	-92
	CERES	24	10	37	3	17	0.9	39	-6
	CORDOBA	23	7	37	-1	15	-0.1	7	-29
	RIO CUARTO	22	8	35	-2	15	1.1	15	-30
	ROSARIO	22	7	36	-3	15	0.3	28	-37
	BUENOS AIRES	20	8	29	-1	14	0.5	14	-45
	SANTA ROSA	21	6	33	-7	13	1	4	-34
	TRES ARROYOS	17	5	30	-4	11	0.2	53	-6
AUSTRA	DARWIN	32	21	36	18	27	-1.3	1	-15
	BRISBANE	24	14	32	9	19	0.8	44	8
	PERTH	23	9	33	2	16	1.5	32	-46
	CEDUNA	23	9	35	0	16	1.2	2	-27
	ADELAIDE	18	9	30	4	14	0.1	28	-38
	MELBOURNE	17	8	25	3	12	0.6	24	-28
	WAGGA	19	4	26	-2	12	0.4	16	-39
	CANBERRA	18	3	24	-3	10	0.5	39	-17
AUSTRI	VIENNA	22	12	32	2	17	0.7	86	24
	INNSBRUCK	21	10	28	4	15	1.4	120	40
BAHAMA	NASSAU	32	26	35	23	29	1.2	115	-45
BARBAD	BRIDGETOWN	31	26	33	23	28	0.9	80	-56
BELARU	MINSK	18	7	27	-3	13	0.9	51	-13
BERMUD	ST GEORGES	29	25	31	22	27	0.2	54	-64
BOLIVI	LA PAZ	16	0	19	-4	8	0.2	45	13
BRAZIL	FORTALEZA	31	25	31	24	28	0.4	2	-16
	RECIFE	28	24	29	22	26	-1.3	50	-29
	CAMPO GRANDE	33	21	40	15	27	3.2	21	-52
	FRANCA	31	19	34	14	25	3.4	102	37
	RIO DE JANEIRO	27	20	38	17	23	1.2	62	1
	LONDRINA	31	18	38	12	24	4.7	46	-67
	SANTA MARIA	23	11	35	4	17	0.2	91	-65
	TORRES	21	13	26	8	17	-2.3	90	-47
BULGAR	SOFIA	25	11	31	1	18	1.8	21	-18
BURKIN	OUAGADOUGOU	34	25	37	22	29	1.8	97	-40
CANADA	LETHBRIDGE	19	5	29	-12	12	*****	36	******
	REGINA	18	7	32	-3	12	*****	79	******
	WINNIPEG	18	10	29	3	14	*****	154	******
	TORONTO	22	13	31	9	18	2.2	46	-31
	MONTREAL	21	11	27	5	16	1.1	105	14
	PRINCE ALBERT	17	5	32	-3	11	1	50	12
	CALGARY	16	6	26	-5	11	0.4	68	24
	VANCOUVER	19	12	28	4	16	0.9	122	69
CANARY	LAS PALMAS	27	21	28	20	24	-0.1	1	-7
CHILE	SANTIAGO	21	6	29	1	14	2.3	4	-17
CHINA	HARBIN	23	11	30	3	17	2.6	71	17
	HAMI	32	15	39	7	23	4.9	0	-4
	BEIJING	29	17	36	14	23	2.9	91	45
	TIENTSIN	29	18	35	13	24	2.4	19	-23
	LHASA	21	10	26	6	15	2	108	41
	KUNMING	23	15	26	9	19	1.1	191	71
	CHENGCHOW	28	18	35	13	23	1.8	48	-30
	YEHCHANG	30	21	35	17	25	1.9	1	-108
	HANKOW	32	20	38	14	26	1.7	2	-78
	CHUNGKING	29	22	38	18	26	1.6	101	-44
	CHIHKIANG	32	20	38	14	26	3	10	-59
	WU HU	29	21	33	14	25	1.2	51	-33
	SHANGHAI	28	22	33	16	25	0.3	222	87
	NANCHANG	32	24	37	20	28	3.2	21	-48
	TAIPEI	30	25	36	21	28	0.2	362	108
	CANTON	33	23	36	18	28	0.7	106	-47
	NANNING	33	24	36	21	28	1.2	12	-113
COLOMB	BOGOTA	20	9	22	5	15	1.3	98	40
COTE D	ABIDJAN	28	24	29	22	26	1.7	135	74
CUBA	CAMAGUEY	32	23	34	22	28	0.9	255	90
CYPRUS	LARNACA	32	22	35	19	27	1.6	10	8
CZECHR	PRAGUE	19	10	30	3	14	1.2	42	0
DENMAR	COPENHAGEN	18	12	23	6	15	1.3	75	13
EGYPT	CAIRO	33	24	37	21	28	1.5	0	******

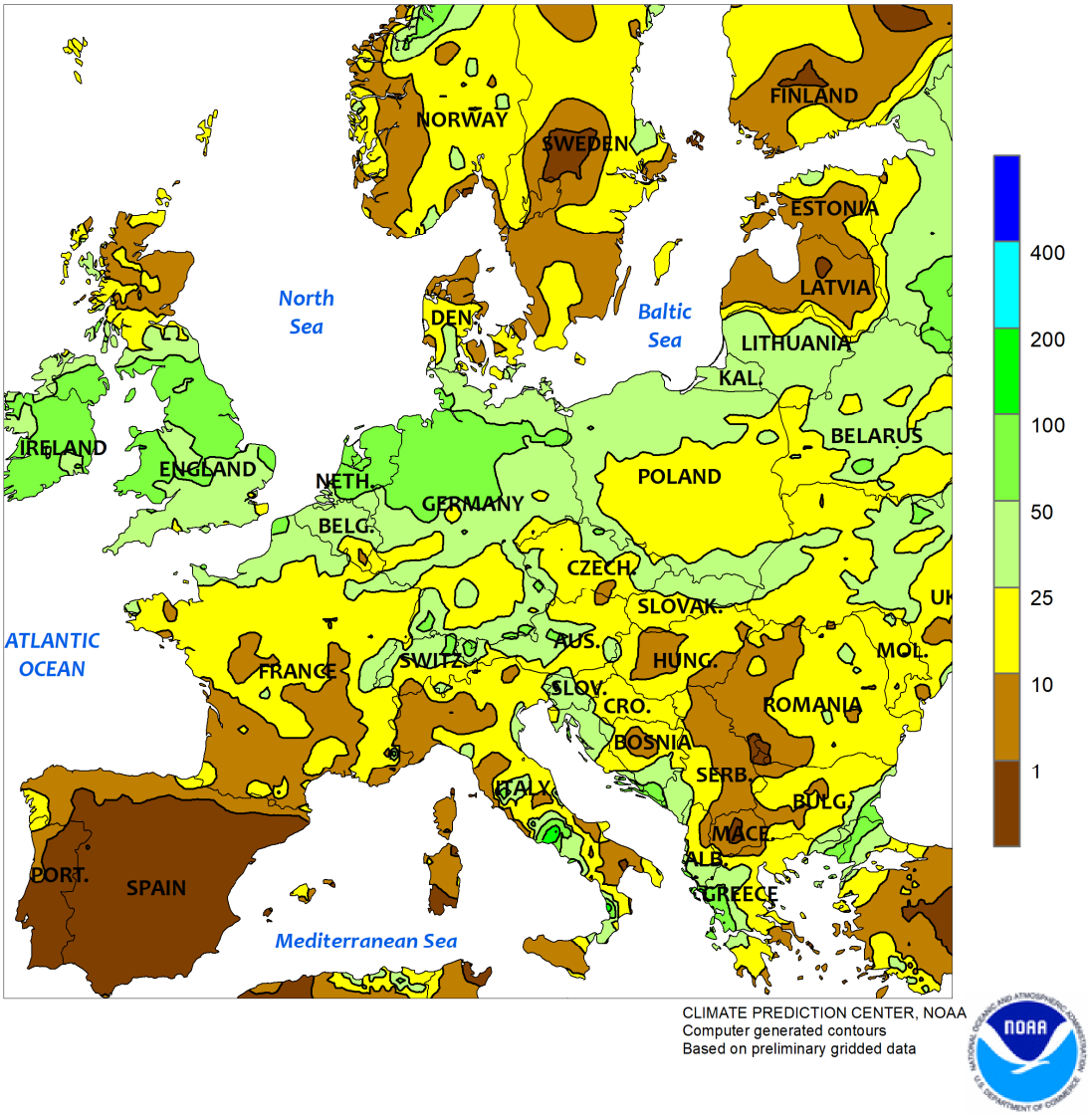
Based on Preliminary Reports

September 2019

COUNTRY	CITY	TEMPERATURE (C) AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DEP NRM	PRECIP. (MM) TOT	DEP NRM
ESTONI	TALLINN	17	9	26	0	13	1.7	81	5
ETHIOP	ADDIS ABABA	21	13	23	11	17	0.9	218	43
F GUIA	CAYENNE	33	23	34	21	28	1.4	66	-4
FIJI	NAUSORI	27	21	31	15	24	1.1	248	87
FINLAN	HELSINKI	15	8	23	-1	12	1.5	95	26
FRANCE	PARIS/ORLY	23	13	29	7	18	1.3	25	-29
	STRASBOURG	23	11	29	4	17	1.8	32	-29
	BOURGES	24	12	32	4	18	2.1	29	-34
	BORDEAUX	26	14	33	8	20	2.2	67	-22
	TOULOUSE	26	15	32	9	21	2.5	14	-37
	MARSEILLE	28	17	33	14	22	2.3	76	19
GABON	LIBREVILLE	29	***	30	25	***	*****	90	-16
GERMAN	HAMBURG	18	11	25	5	15	1.0	86	18
	BERLIN	20	12	31	7	16	1.4	48	3
	DUSSELDORF	21	11	28	4	16	0.3	44	-24
	LEIPZIG	20	11	28	4	16	1.2	45	2
	DRESDEN	20	11	30	5	16	1.2	38	-13
	STUTTGART	20	10	26	3	15	0.8	39	-18
	NURNBERG	21	9	28	0	15	0.7	27	-24
	AUGSBURG	19	8	26	1	14	-0.1	47	-23
GREECE	THESSALONIKA	29	18	33	12	23	1.2	11	-16
	LARISSA	30	15	34	9	23	0.7	14	-17
	ATHENS	30	21	34	17	25	1.1	4	1
GUADEL	RAIZET	32	24	33	23	28	0.8	226	28
HONGKO	HONG KONG INT	33	27	35	25	30	1.3	151	-147
HUNGAR	BUDAPEST	23	12	33	4	18	1.6	56	12
ICELAN	REYKJAVIK	13	8	19	2	10	2.7	116	51
INDIA	AMRITSAR	34	25	37	21	29	1.0	132	55
	NEW DELHI	35	26	38	24	31	1.3	120	1
	AHMEDABAD	32	26	35	24	29	-0.3	340	242
	INDORE	28	23	33	21	25	-0.5	477	323
	CALCUTTA	33	27	36	24	30	0.5	356	17
	VERAVAL	30	26	34	24	28	0.5	371	280
	BOMBAY	31	25	36	23	28	-0.1	1136	789
	POONA	28	22	32	19	25	-0.2	294	149
	BEGAMPET	30	23	33	21	27	-0.1	334	195
	VISHAKHAPATNAM	31	26	34	23	29	0.2	276	95
	MADRAS	34	25	36	22	29	-0.3	246	106
	MANGALORE	29	23	32	20	26	-0.3	577	290
INDONE	SERANG	34	23	35	20	28	0.4	0	-74
IRELAN	DUBLIN	17	10	21	3	14	0.3	98	35
ITALY	MILAN	26	15	32	10	21	1.6	0	-88
	VERONA	***	***	32	10	***	*****	*****	******
	VENICE	24	16	31	11	20	1.2	32	-42
	GENOA	26	20	31	14	23	1.2	34	-60
	ROME	28	17	32	14	22	1.3	27	-45
	NAPLES	29	19	32	15	24	2.6	93	6
JAMAIC	KINGSTON	33	26	34	24	29	0.8	172	41
JAPAN	SAPPORO	24	16	33	10	20	2.3	111	-22
	NAGOYA	32	23	37	18	28	3.9	39	-192
	TOKYO	29	22	36	17	26	2.2	201	-14
	YOKOHAMA	29	23	34	19	26	2.6	112	-128
	KYOTO	31	23	37	16	27	2.7	74	-122
	OSAKA	31	24	36	17	27	2.7	84	-81
KAZAKH	KUSTANAY	16	6	26	-2	11	-0.7	50	25
	TSELINOGRAD	18	7	31	-3	13	0.2	36	2
	KARAGANDA	18	7	32	-6	12	0.1	37	18
KENYA	NAIROBI	26	15	29	12	21	1.9	38	11
LIBYA	BENGHAZI	31	21	36	18	26	0.2	0	-2
LITHUA	KAUNAS	19	8	29	-2	14	1.5	47	-7
LUXEMB	LUXEMBOURG	19	11	26	7	15	1.1	59	-14
MALAYS	KUALA LUMPUR	34	25	36	23	29	2.4	145	-44
MALI	BAMAKO	32	22	37	20	27	0.8	153	-45
MARSHA	MAJURO	31	27	32	25	29	1.4	384	82
MARTIN	LAMENTIN	33	25	34	23	29	1.7	190	-15
MAURIT	NOUAKCHOTT	35	26	43	23	30	1.0	12	-21
MEXICO	GUADALAJARA	28	18	30	15	23	2.0	268	109
	TLAXCALA	24	13	27	8	18	0.8	106	-16
	ORIZABA	26	17	29	15	22	1.7	502	144
MOROCC	CASABLANCA	26	20	32	17	23	0.9	0	-5
	MARRAKECH	35	19	42	16	27	1.5	0	-7
MOZAMB	MAPUTO	28	17	39	12	23	1.6	26	-21
N KORE	PYONGYANG	27	17	32	9	22	2.7	130	25
NEW CA	NOUMEA	25	18	28	14	22	0.9	7	-35
NIGER	NIAMEY	36	26	40	22	31	2.2	80	-9
NORWAY	OSLO	14	7	23	3	11	1.3	143	55
NZEALA	AUCKLAND	17	10	19	6	13	*****	128	******
	WELLINGTON	14	9	17	5	12	*****	70	******
P RICO	SAN JUAN	33	26	35	24	29	1.4	244	102
PAKIST	KARACHI	36	27	40	24	32	2.4	66	56
PERU	LIMA	19	15	21	15	17	0.2	1	-2
PHILIP	MANILA	31	25	34	24	28	-0.1	295	-71
PNEWGU	PORT MORESBY	28	23	30	20	26	-0.5	136	103
POLAND	WARSAW	19	11	30	4	15	2.0	61	14
	LODZ	20	9	32	0	15	0.9	75	27
	KATOWICE	20	10	31	3	15	0.9	78	22
PORTUG	LISBON	29	18	36	14	23	2.2	18	-12
ROMANI	BUCHAREST	27	11	34	2	19	1.7	8	-33
RUSSIA	ST.PETERSBURG	16	9	27	1	12	1.4	56	-10
	KAZAN	15	7	26	0	11	0.0	29	-20
	MOSCOW	17	9	27	1	13	1.8	34	-31
	YEKATERINBURG	13	6	24	-1	10	0.0	59	5
	OMSK	16	6	28	-2	11	0.9	38	3
	BARNAUL	18	7	27	-1	13	2.1	36	1
	KHABAROVSK	20	10	28	4	15	1.4	72	-14
	VLADIVOSTOK	21	14	28	9	18	2.0	43	-93
	VOLGOGRAD	21	9	28	0	15	-0.1	30	7
	ASTRAKHAN	22	11	28	6	17	-0.7	22	4
	ORENBURG	17	6	27	-2	12	-2.0	37	10
S AFRI	JOHANNESBURG	24	10	29	2	17	1.3	9	-22
	DURBAN	24	15	28	10	20	0.5	59	-16
	CAPE TOWN	22	12	36	6	17	3.2	14	-29
S KORE	SEOUL	27	19	31	14	23	2.0	139	17
SAMOA	PAGO PAGO	30	26	32	24	28	1.0	129	-58
SENEGA	DAKAR	31	26	34	23	29	0.9	182	35
SPAIN	VALLADOLID	25	12	31	10	19	0.6	59	29
	MADRID	28	15	34	10	21	0.7	37	14
	SEVILLE	32	19	38	15	26	0.7	3	-23
SWITZE	ZURICH	20	12	27	6	16	1.7	93	2
	GENEVA	23	12	29	7	18	2.5	26	-70
SYRIA	DAMASCUS	35	17	39	11	26	2.5	0	******
TAHITI	PAPEETE	29	23	32	19	26	0.8	20	-29
TANZAN	DAR ES SALAAM	31	22	34	20	27	2.2	122	93
THAILA	PHITSANULOK	33	25	35	24	29	0.5	235	7
	BANGKOK	34	26	37	24	30	1.2	431	83
TOGO	TABLIGBO	32	24	36	22	28	1.9	217	110
TRINID	PORT OF SPAIN	33	24	34	23	29	1.5	129	-74
TUNISI	TUNIS	31	22	35	18	26	1.5	56	21
TURKEY	ISTANBUL	26	19	30	11	23	1.6	10	-21
	ANKARA	26	10	31	1	18	1.6	4	-10
TURKME	ASHKHABAD	30	19	39	14	24	1.0	0	-4
UKINGD	ABERDEEN	16	9	22	1	12	0.5	89	16
	LONDON	21	12	26	6	16	1.0	61	5
UKRAIN	KIEV	21	11	31	2	16	2.5	18	-42
	LVOV	21	9	29	0	15	1.7	51	-15
	KIROVOGRAD	23	10	33	2	16	1.5	23	-18
	ODESSA	24	15	29	7	19	2.6	8	-29
	KHARKOV	23	10	32	0	16	2.5	30	-17
UZBEKI	TASHKENT	29	15	37	11	22	1.3	1	-5
YUGOSL	BELGRADE	26	15	35	7	21	3.0	25	-26
ZAMBIA	LUSAKA	27	17	34	11	22	-0.9	0	-1
ZIMBAB	KADOMA	***	***	33	5	***	*****	*****	******

Based on Preliminary Reports

EUROPE
Total Precipitation (mm)
September 29 - October 5, 2019

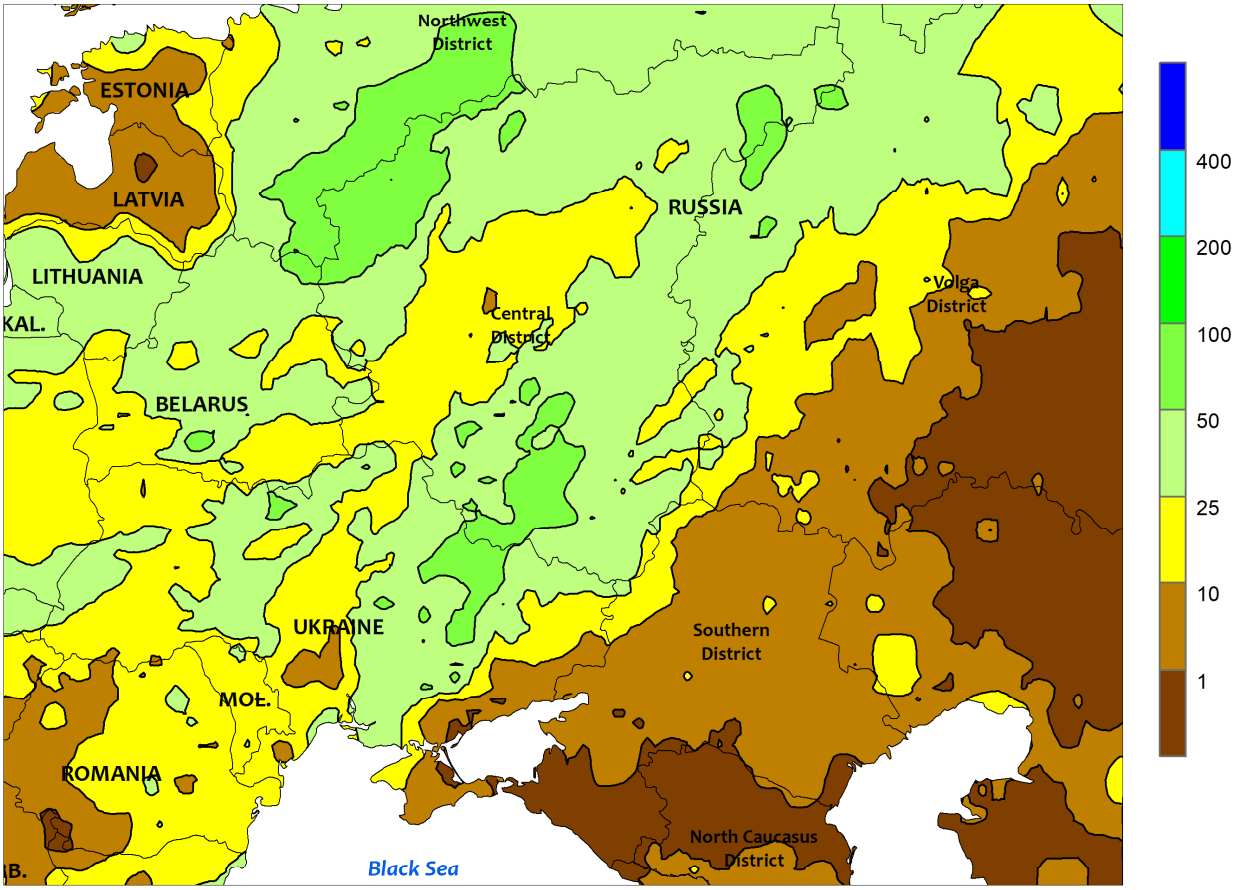


EUROPE

Additional drought relief over northwestern Europe contrasted with lingering short-term dryness and drought in parts of the Balkans. Another round of moderate to heavy rain (10-90 mm) further improved soil moisture for winter crop establishment in Germany and France; drought has been eradicated in Germany and greatly reduced in France. Likewise, widespread rainfall (10-80 mm) boosted moisture reserves for wheat and rapeseed establishment across the remainder of northern Europe. Light to moderate showers (5-25 mm) also eased short-term drought in the southern Balkans for winter crop planting and establishment, though rain mostly bypassed western Romania and environs. Even with this past week's showers, 60-day rainfall totals remained locally less than 25 percent of normal in southwestern Romania. Across the remainder of southern Europe, 10 to 60 mm of rain in Italy boosted moisture reserves for winter wheat, while dry weather in Spain and Portugal promoted summer crop harvesting and early winter grain sowing.

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

WESTERN FSU
Total Precipitation (mm)
September 29 - October 5, 2019



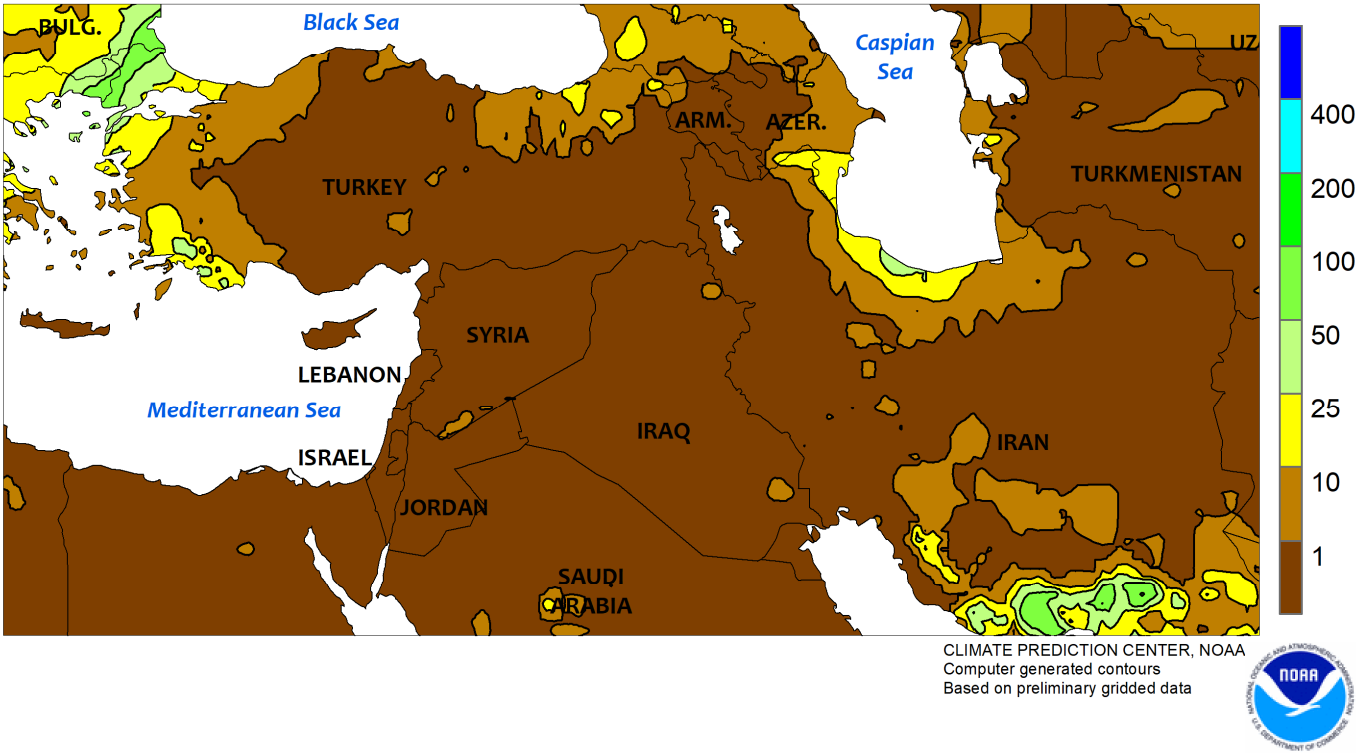
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

WESTERN FSU

Widespread rainfall eased drought across Ukraine, while sunny skies favored wheat development in southwestern Russia. On the heels of recent acute short-term dryness in the southeastern quadrant of Ukraine, moderate to heavy rain (10-75 mm) eased drought and provided much-needed soil moisture for winter wheat establishment. Likewise, moderate to heavy showers (10-40 mm) across the remainder of central and western Ukraine improved moisture supplies following this past summer's drought. Similar rainfall totals in west-central Russia eased short-term drought and improved prospects for winter wheat establishment, particularly in southern portions of the Central District. In Russia's Southern District—where last week's rain provided timely moisture—sunny skies and above-normal temperatures (up to 5°C above normal) favored winter wheat development. Across the entire region, weekly average temperatures in the lower and middle teens (degrees C) indicated winter wheat was still adding vegetative growth and highlighted the benefits of the late-season uptick in rainfall.

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

MIDDLE EAST
Total Precipitation (mm)
September 29 - October 5, 2019

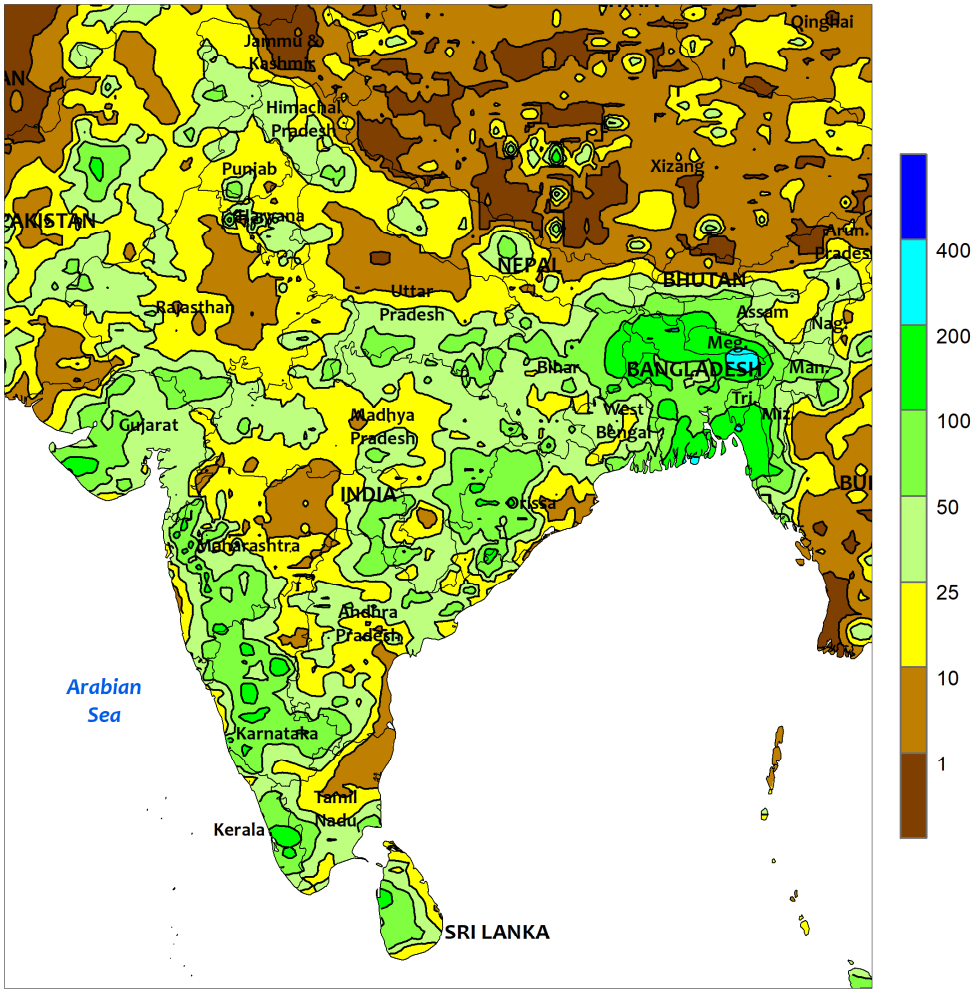


MIDDLE EAST

Despite some showers in the west, mostly dry, warm weather in Turkey promoted summer crop drydown and harvesting. Highly variable showers (2-50 mm, locally more) in southwestern and northwestern Turkey caused some summer crop harvest delays, particularly sunflowers in the far northwest (Thrace Region). However, most primary corn (southeast) and cotton (southeast and west) areas were dry and producers were able to continue with harvest activities without delay. Likewise, winter grain sowing gained momentum in Turkey (Anatolian Plateau) and northwestern Iran, while producers from Syria into Iraq typically plant in November. Temperatures across the region averaged 1 to 3°C above normal, but more than 5°C above normal in northern Turkey and southern Iraq.

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

SOUTH ASIA
Total Precipitation (mm)
September 29 - October 5, 2019



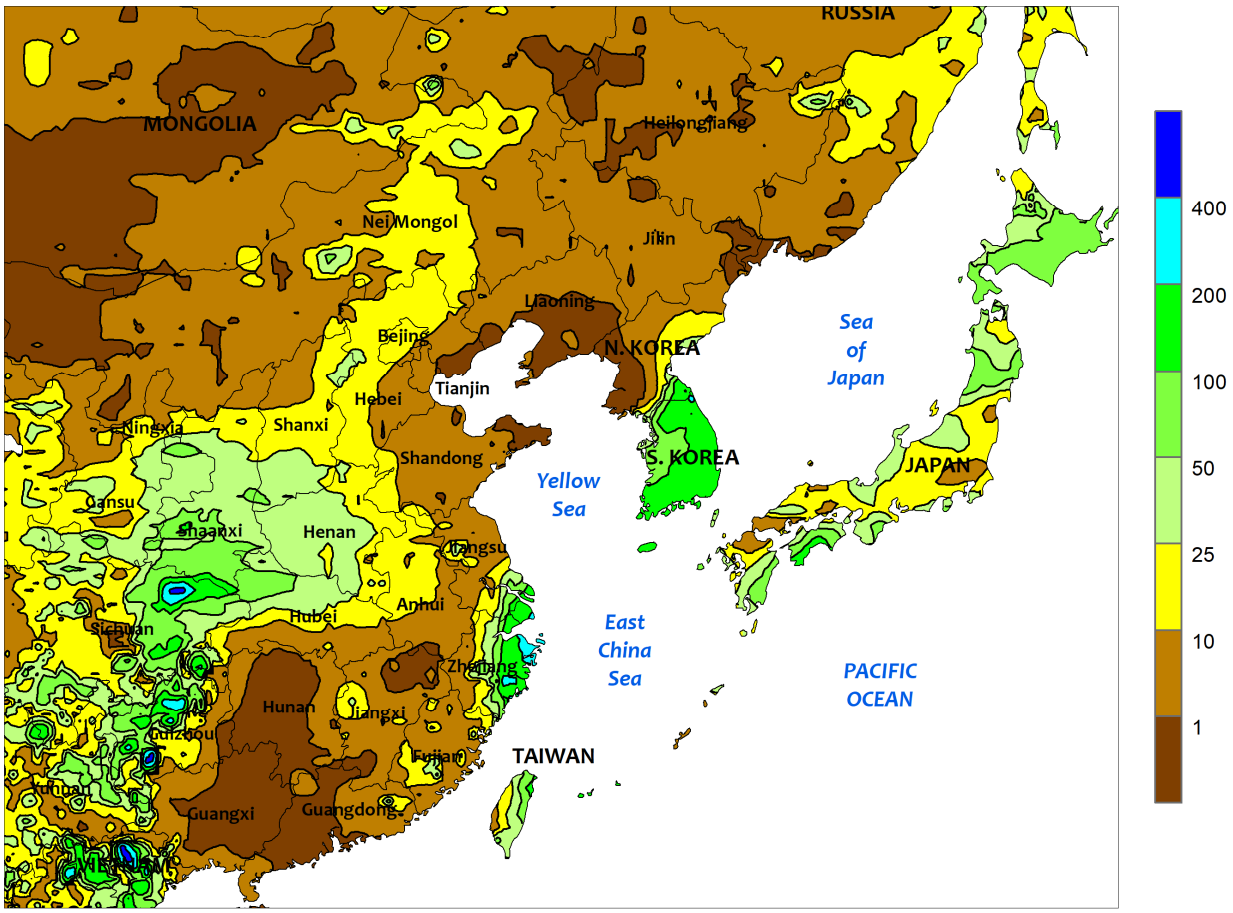
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

SOUTH ASIA

The southwest monsoon circulation had largely vacated northern portions of India and Pakistan, although light to moderate showers (10-25 mm or more) lingered. The occasional showers helped boost irrigation reserves for winter (rabi) crops sown in November without adversely affecting rice and cotton harvesting. The remainder of India reported rainfall totals in excess of 25 mm with pockets of lesser amounts scattered throughout. The continued wet weather provided immature kharif crops with beneficial late-season moisture and helped maintain good yield prospects, particularly for cotton. However, drier conditions would be welcome in western Madhya Pradesh and environs where record rainfall caused excessive wetness for soybeans. Elsewhere, heavy showers (over 50 mm) in Bangladesh maintained high moisture levels for summer (aman) rice, while similarly heavy showers in Sri Lanka boosted moisture supplies for winter (maha) rice sowing.

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

EASTERN ASIA
Total Precipitation (mm)
September 29 - October 5, 2019



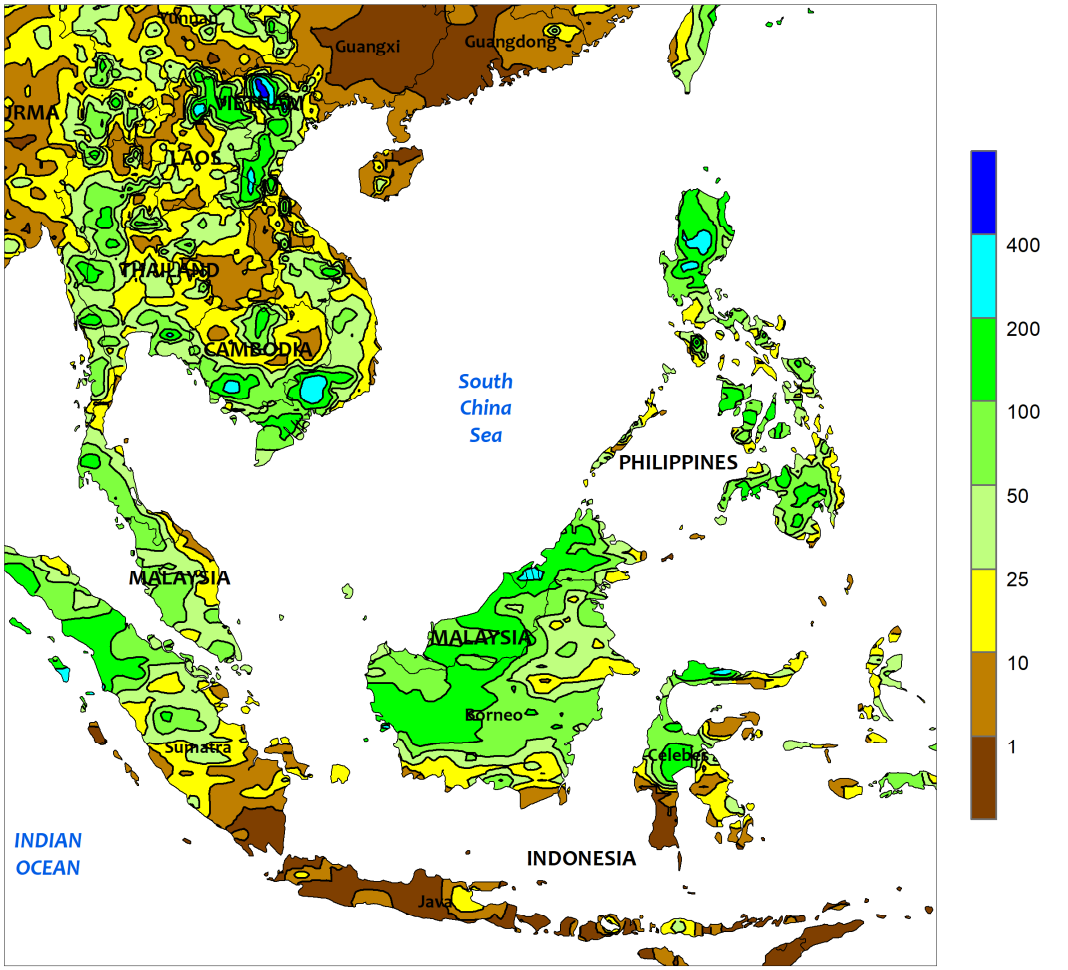
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

EASTERN ASIA

Showers (25-50 mm or more) were reported in western sections of the North China Plain and Yangtze Valley, slowing summer crop harvesting but boosting moisture reserves for winter grains and oilseeds sown in the next few weeks. Meanwhile, mostly dry weather and summer-like heat (maximum temperatures over 35°C) in the remainder of eastern and southern China promoted summer crop maturation and harvesting. Elsewhere, Typhoon Mitag skirted southeastern China around midweek, producing heavy showers (50-150 mm) mainly in Zhejiang. The storm weakened rapidly prior to crossing South Korea, where similarly heavy showers throughout the country and into eastern North Korea helped ease season-long drought.

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

SOUTHEAST ASIA
Total Precipitation (mm)
September 29 - October 5, 2019

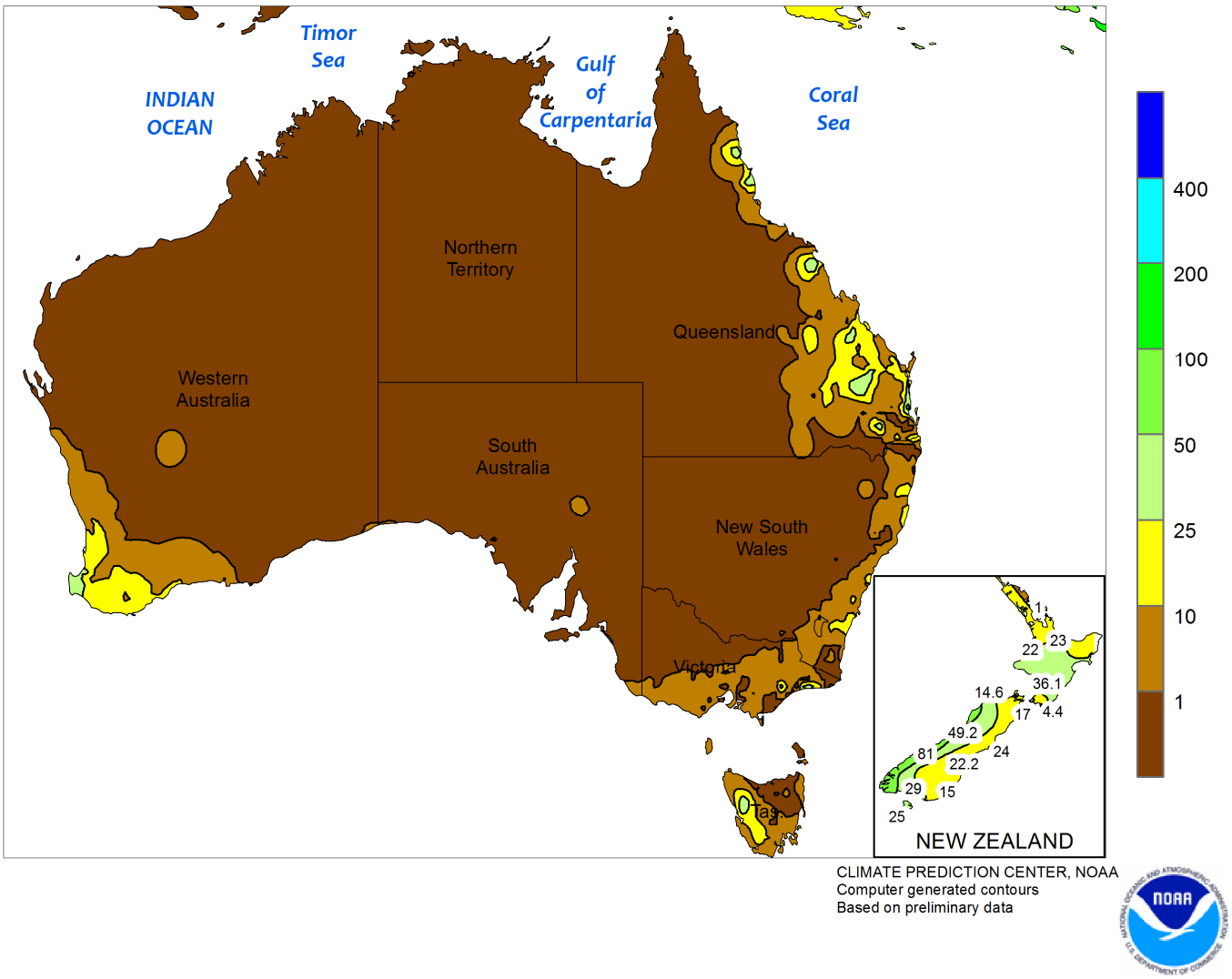


CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

SOUTHEAST ASIA

Rainfall continued across Thailand and environs although amounts varied widely (10-150 mm). The moisture benefited immature wet-season rice and helped replenish reservoirs for dry-season crops (sowing begins in November). In the Philippines, heavy showers (25-150 mm) prevailed throughout the country, maintaining good late-season moisture for rice. Similarly heavy rainfall was reported across Malaysia and northern Indonesia, easing 90-day deficits for oil palm but more rain is needed to prevent declines in yields. Meanwhile in southern Indonesia (Java), seasonal rainfall had yet to materialize, discouraging sowing of wet-season rice in areas with limited irrigation; showers typically begin in August with the wet season becoming fully established in November.

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



AUSTRALIA

For the second consecutive week, mostly dry weather hampered winter grain and oilseed development in northern portions of the Western Australia wheat belt. In contrast, widespread showers (5-20 mm) in southern parts of the wheat belt benefited reproductive to filling wheat, barley, and canola, helping to stabilize crop conditions. In southeastern Australia, sunny skies and adequate moisture supplies promoted winter crop growth in South Australia and southern Victoria. However, a lack of soil moisture hindered wheat development in northern Victoria. Crop prospects remained poor in southern Queensland and New South Wales, where dryness and drought continued to dominate. Although isolated showers (1-10 mm, locally more than 25 mm) helped moisten the topsoil in parts of southern Queensland, facilitating local summer crop sowing, dry weather gripped the remainder of eastern Australia, hastening maturation of drought-ravaged winter crops and spurring early harvesting. Temperatures averaged near normal in Victoria and 1 to 3°C above normal in southern Queensland, New South Wales, and Western Australia. In South Australia, temperatures averaged 3 to 5°C above normal.

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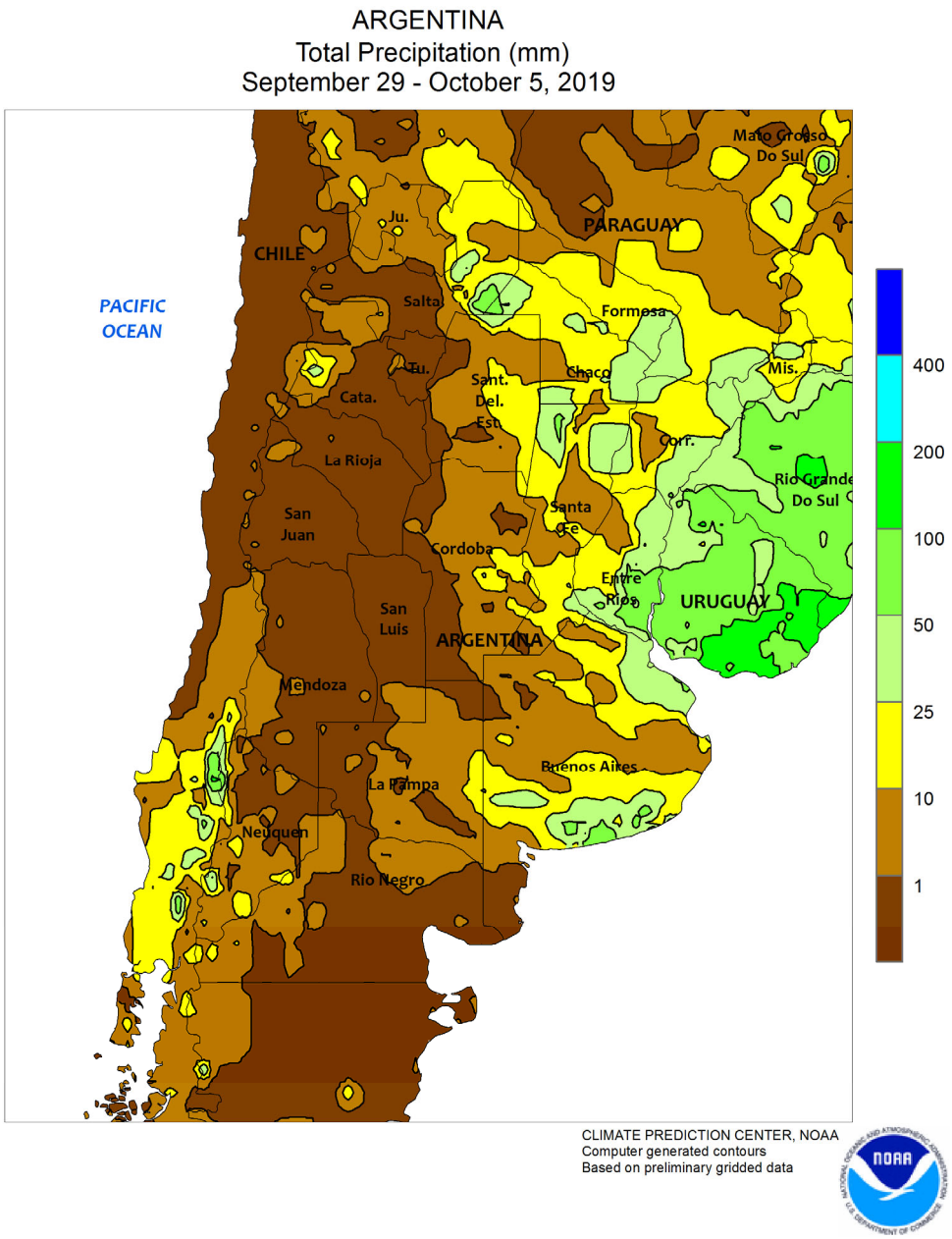
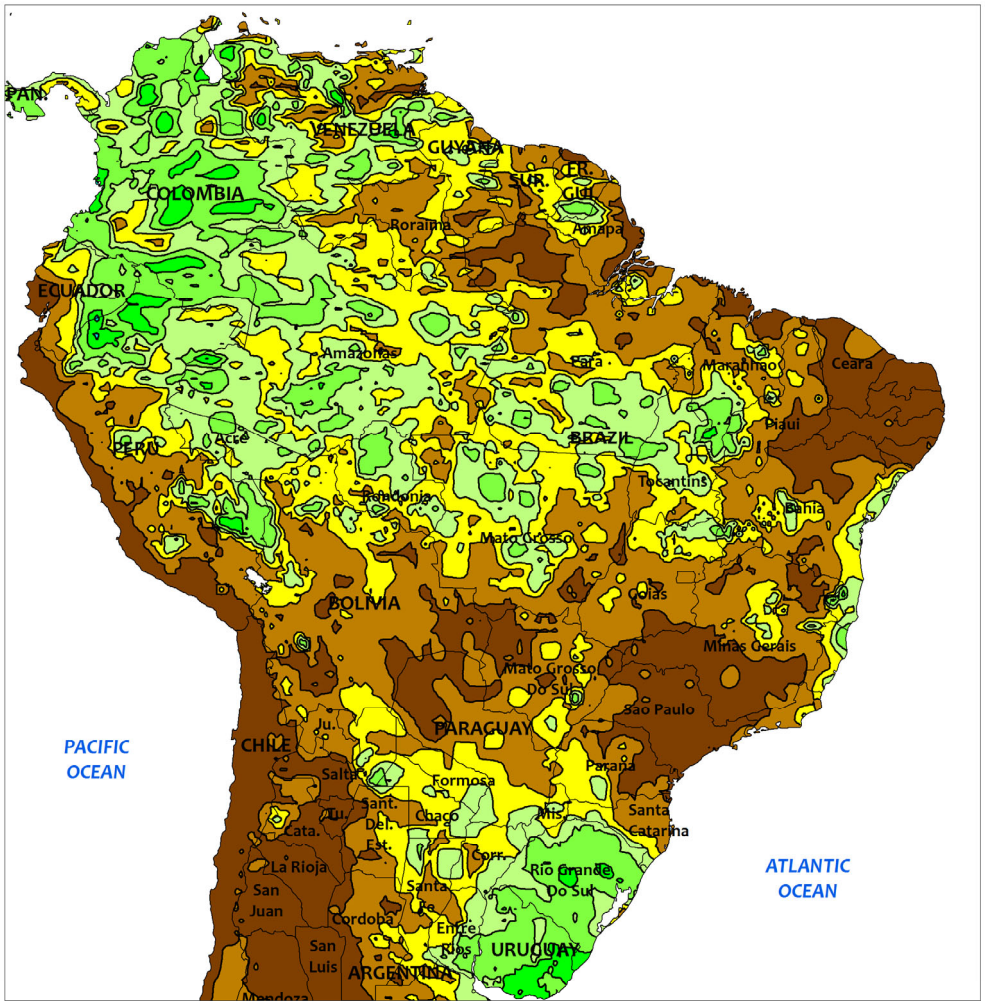


ARGENTINA

Rainy weather returned to Argentina's eastern farmlands but drought remained a problem in western agricultural areas. Rainfall totaled 10 to 50 mm from central Buenos Aires northward through Chaco and Formosa, with the highest amounts recorded near the borders with Uruguay and Rio Grande do Sul, Brazil. In contrast, generally drier conditions prevailed from western Buenos Aires and La Pampa northward to central Salta. The dryness included much of Cordoba, where moisture remained limited for summer crop germination and early delays in fieldwork were likely. Weekly temperatures averaged from near normal in southwestern field crop areas (La Pampa, Buenos Aires, and Cordoba) to as much as 3°C above normal farther north. Though near normal, temperatures were highly variable in the country's southern production areas, with daytime highs reaching the upper 20s and lower to middle 30s (degrees C) and nighttime lows dropping to near freezing. According to the government of Argentina, planting of sunflowers was 38 percent complete as of October 3, equal to last year's pace; planting was underway in Buenos Aires, Argentina's largest producer of sunseed, but less than 1 percent of the expected area had been planted. The report noted problems caused by unseasonable warmth and dryness experienced by summer crops and winter grains, underscoring the need for an immediate increase in seasonal rainfall.

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

BRAZIL
Total Precipitation (mm)
September 29 - October 5, 2019



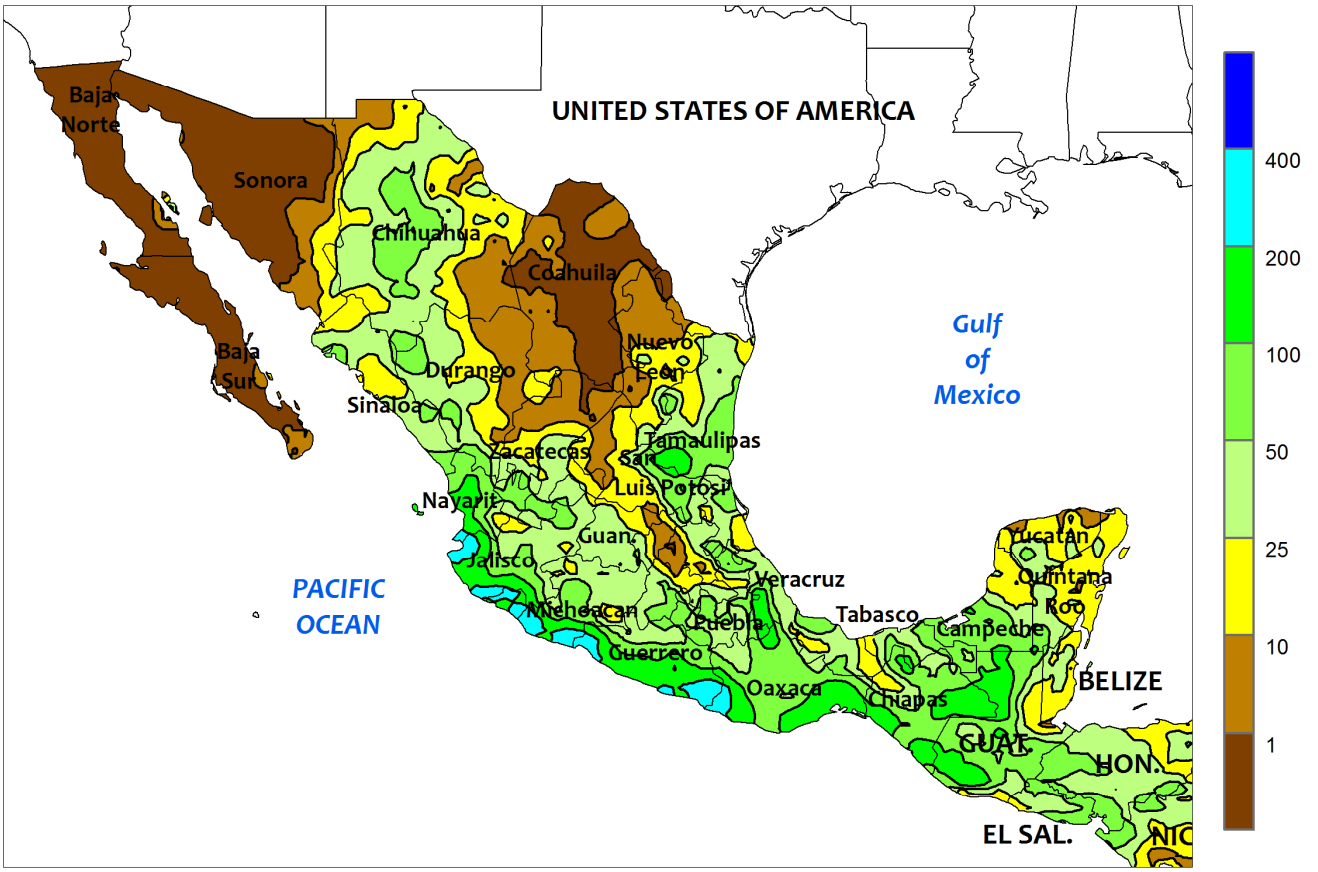
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

BRAZIL

Showers improved moisture levels for germination of soybeans and other crops in key production areas of central Brazil. Rainfall totaled 10 to 50 mm, locally higher, from central and northern Mato Grosso eastward through Tocantins and into neighboring locations in Piaui and Maranhao. In contrast, drier conditions returned to Mato Grosso do Sul and southern sections of and Goias and Mato Grosso, facilitating planting in locations with sufficient moisture. Throughout the aforementioned areas, daytime highs ranging from the upper 30s to 40°C maintained high evaporative losses, requiring a more consistent level of rainfall. According to the government of Mato Grosso, soybeans were about 7 percent planted as of October 4, compared with 13 percent last year and the 5-year average of 9 percent. Elsewhere, mostly dry, unseasonably warm weather fostered rapid growth of sugarcane and flowering coffee in Sao Paulo and southern Minas Gerais, with daytime highs ranging from the upper 30s (degrees C) in the west to the middle 20s closer to the coast. Unseasonable dryness also continued in Parana, though heavy showers (50-100 mm or more) returned to much of Rio Grande do Sul. According to the government of Parana, first-crop corn was 57 percent planted as of September 30, with soybean planting advancing to 10 percent complete; meanwhile, wheat was 70 percent harvested. In Rio Grande do Sul, corn was 52 percent planted, slightly ahead of the 5-year average pace (49 percent); wheat was nearly 70 percent filling to maturing but no harvesting had been recorded.

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

MEXICO
Total Precipitation (mm)
September 29 - October 5, 2019



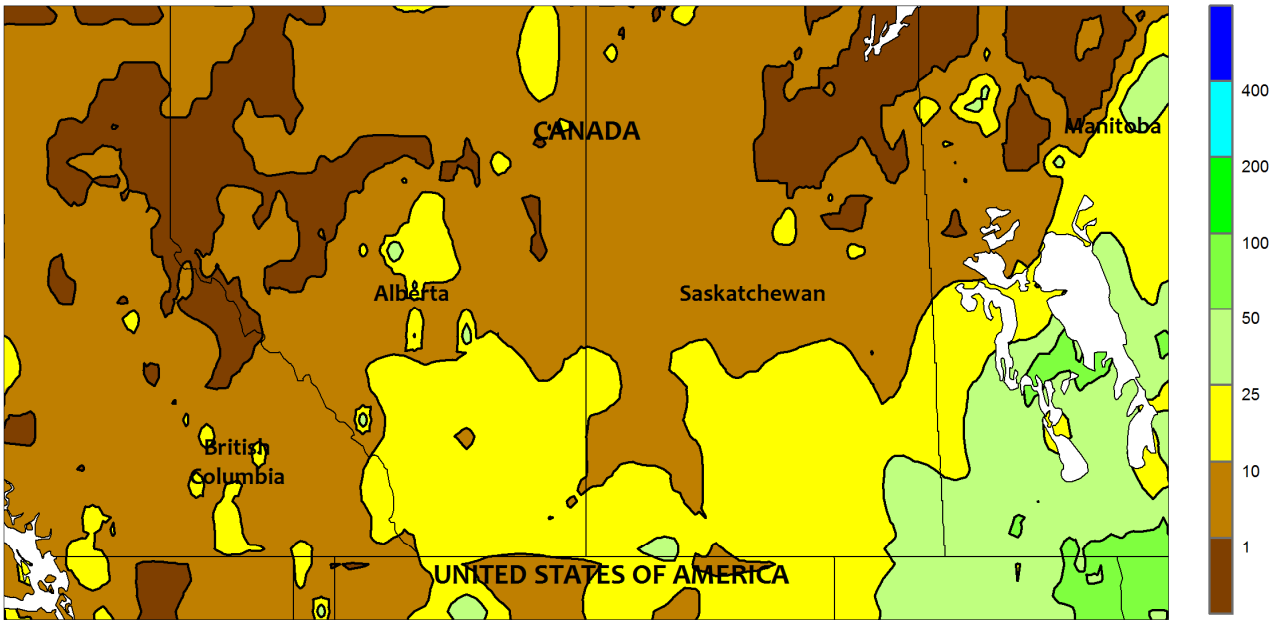
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

MEXICO

Tropical Storm Narda grazed Mexico's southern and western coast, inundating coastal areas but generating additional beneficial rainfall in northwestern watersheds. Narda followed a northwestern track along the Pacific Coastline, making landfall near the border between Michoacan and Guerrero on September 29 and again on September 30 in Veracruz, with sustained winds peaking from 39 to 44 knots both times. Inundating rain (100 to more than 200 mm) was recorded in coastal areas from Nayarit to Guerrero, with more moderate amounts (10-50 mm or more) recorded further inland, including much of the southern plateau (Jalisco to Puebla) and irrigation districts in Chihuahua, western Durango, and Sinaloa. The late-season moisture was welcome for reservoirs following a generally dry year but likely came too late for most summer crops. Similarly, locally heavy rain (10-50 mm, locally approaching 100 mm) brought some drought relief to the Gulf Coast, particular Veracruz, southern Tamaulipas, and San Luis Potosi, where drought has reduced production prospects for crops, including sugarcane and other summer row crops.

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

CANADIAN PRAIRIES
Total Precipitation (mm)
September 29 - October 5, 2019

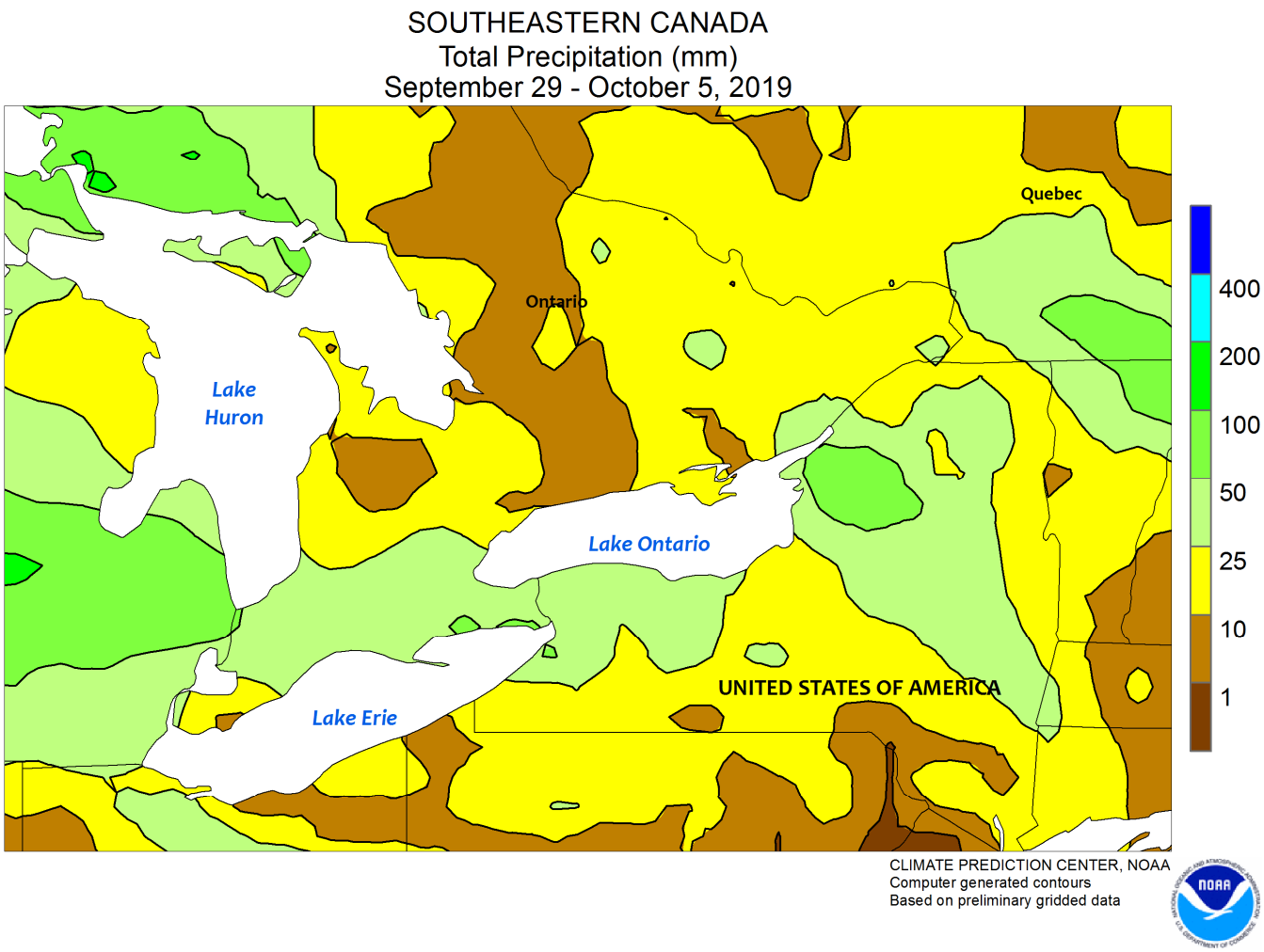


CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

CANADIAN PRAIRIES

Cold, wet weather disrupted fieldwork and raised concern for potential damage to unharvested crops. Significant snow accumulations (estimates of 10 cm or more) arrived in southern Alberta and southwestern Saskatchewan on September 29; by October 3, lighter amounts (5-10 cm) had fallen in southern Manitoba following several days of rainy, damp weather. The heaviest snow (greater than 40 cm in spots) was recorded in the southwest, though most had melted by week's end, aided by daytime highs consistently above 10°C. In Manitoba, however, late week rain showers returned, resulting in weekly precipitation accumulations of 25 to 50 mm (liquid equivalent) over much of the province. Favorably drier conditions prevailed in northern agricultural districts of Alberta and Saskatchewan. Weekly temperatures averaged 3 to 5°C below normal in most areas, with nighttime lows dropping below -5°C in Alberta, western Saskatchewan, and a few locations in the northern agricultural districts in Saskatchewan and Manitoba. Provincial reports depicted a mixture of impacts from the rapid change to the cold, wet weather, ranging from a welcoming of the moisture and help with maturation of immature spring crops to concerns regarding lodging and quality losses. According to the government of Alberta, harvesting of all crops was 34 percent complete as of October 1, lagging the 5-year average pace by 20 points. In Saskatchewan, harvesting of all crops reached 47 percent complete, well behind the 5-year average (75 percent) for the period ending September 30. In Manitoba, spring wheat and canola were reportedly 91 and 69 percent complete, respectively, as of October 1, lagging the 3-year harvest average for both crops.

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



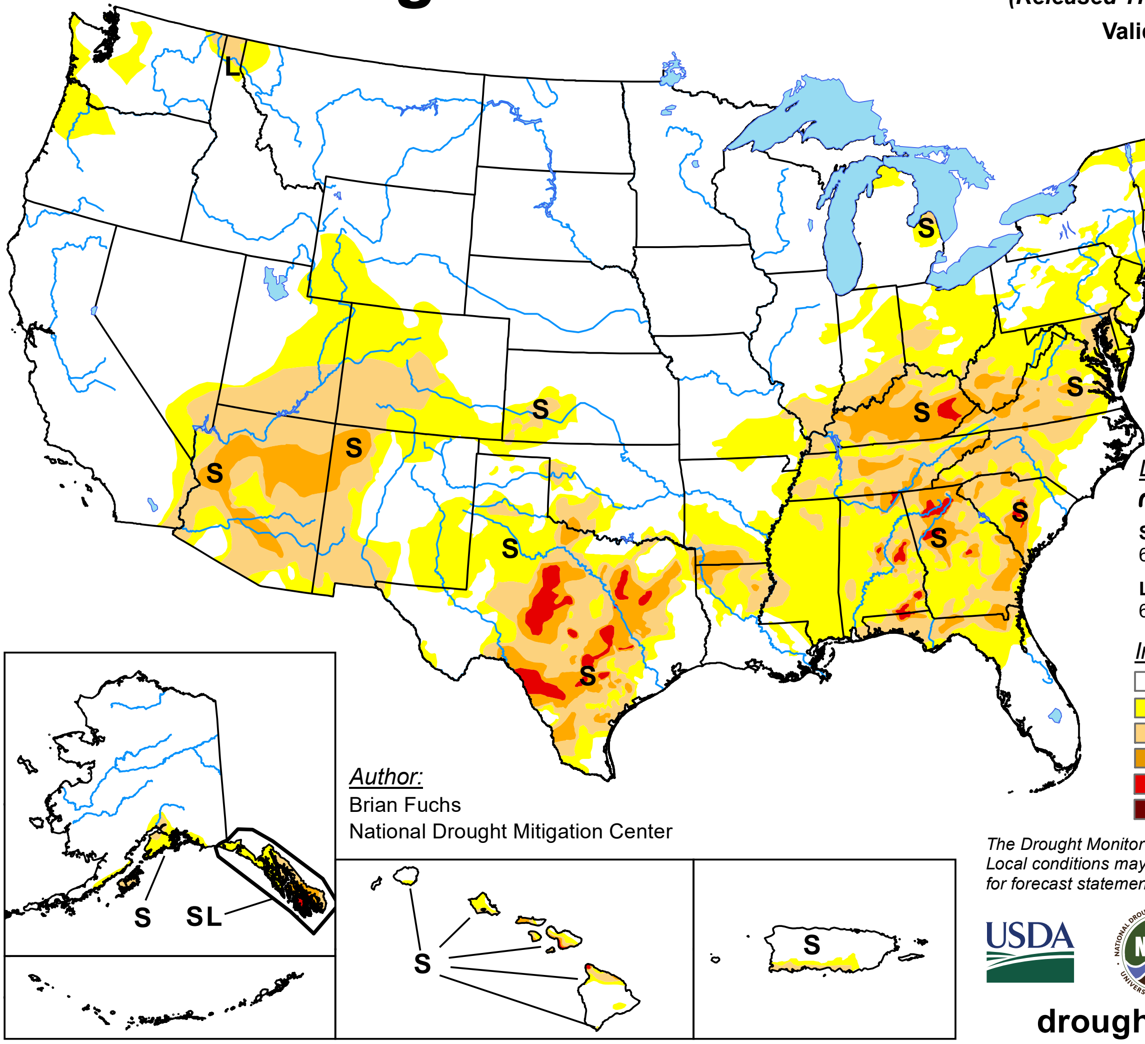
SOUTHEASTERN CANADA

Mild, showery weather boosted moisture for winter wheat establishment but some delays in corn and soybean harvesting were likely. Rainfall totaling 5 to 25 mm or more overspread Ontario, with heaviest amounts in agricultural areas to the north of Lake Erie. Pockets of moderate rain (greater than 10 mm) were particularly welcome north of Lake Ontario, where drought developed over the summer, though additional precipitation is needed to more fully recharge soil moisture. Meanwhile, moderate to heavy rain (10-25 mm, locally exceeding 50 mm) fell in southern Quebec and nearby locations in Ontario. Weekly average temperatures were near to slightly above normal in Ontario's western and central agricultural districts and as much as 3°C below normal farther east, as a season-ending freeze (nighttime lows at or below -2°C) stretched across the colder parts of the region.

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

U.S. Drought Monitor

October 1, 2019
(Released Thursday, Oct. 3, 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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

droughtmonitor.unl.edu

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

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