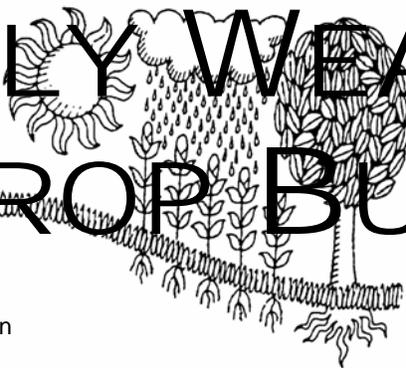
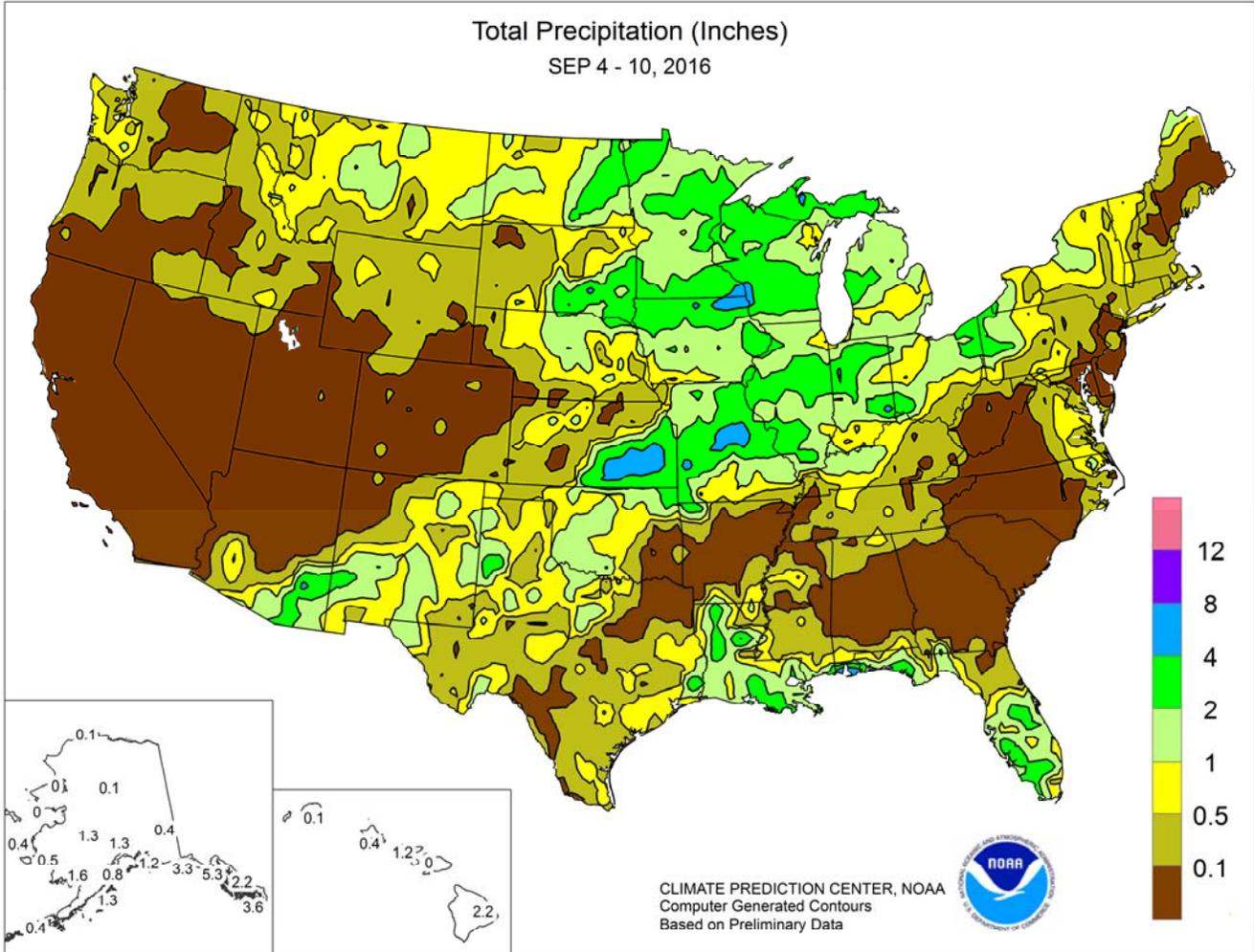


WEEKLY WEATHER AND CROP BULLETIN



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 4 – 10, 2016

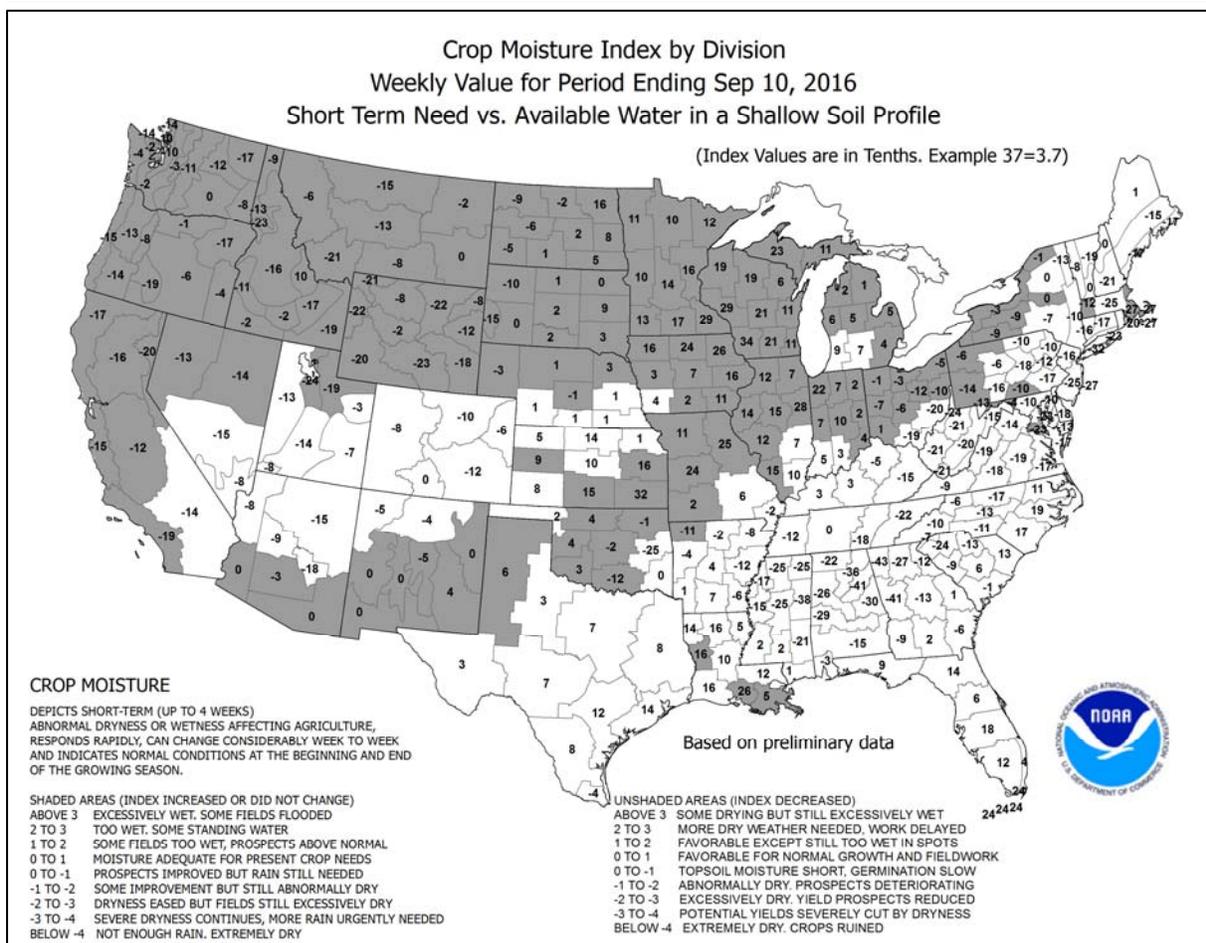
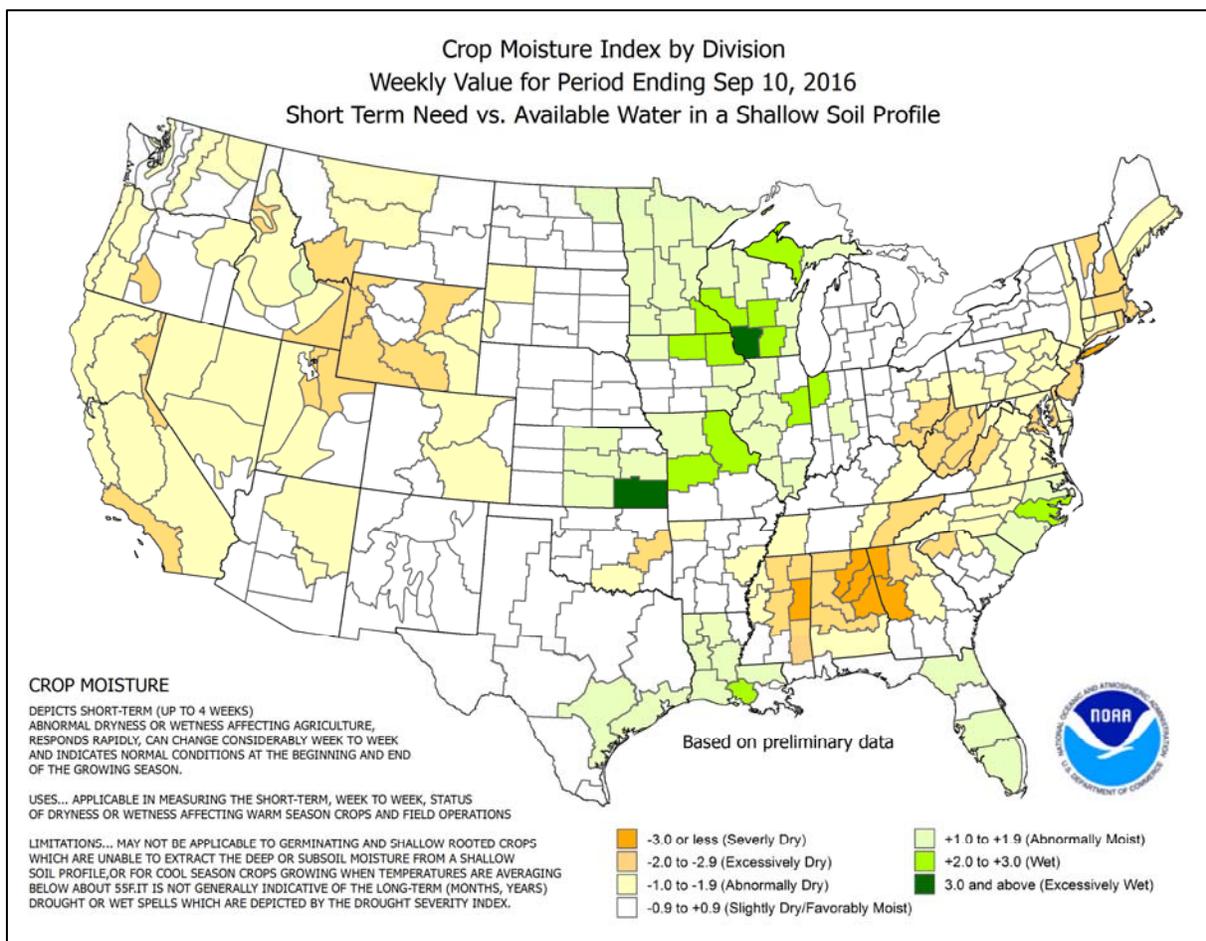
Highlights provided by USDA/WAOB

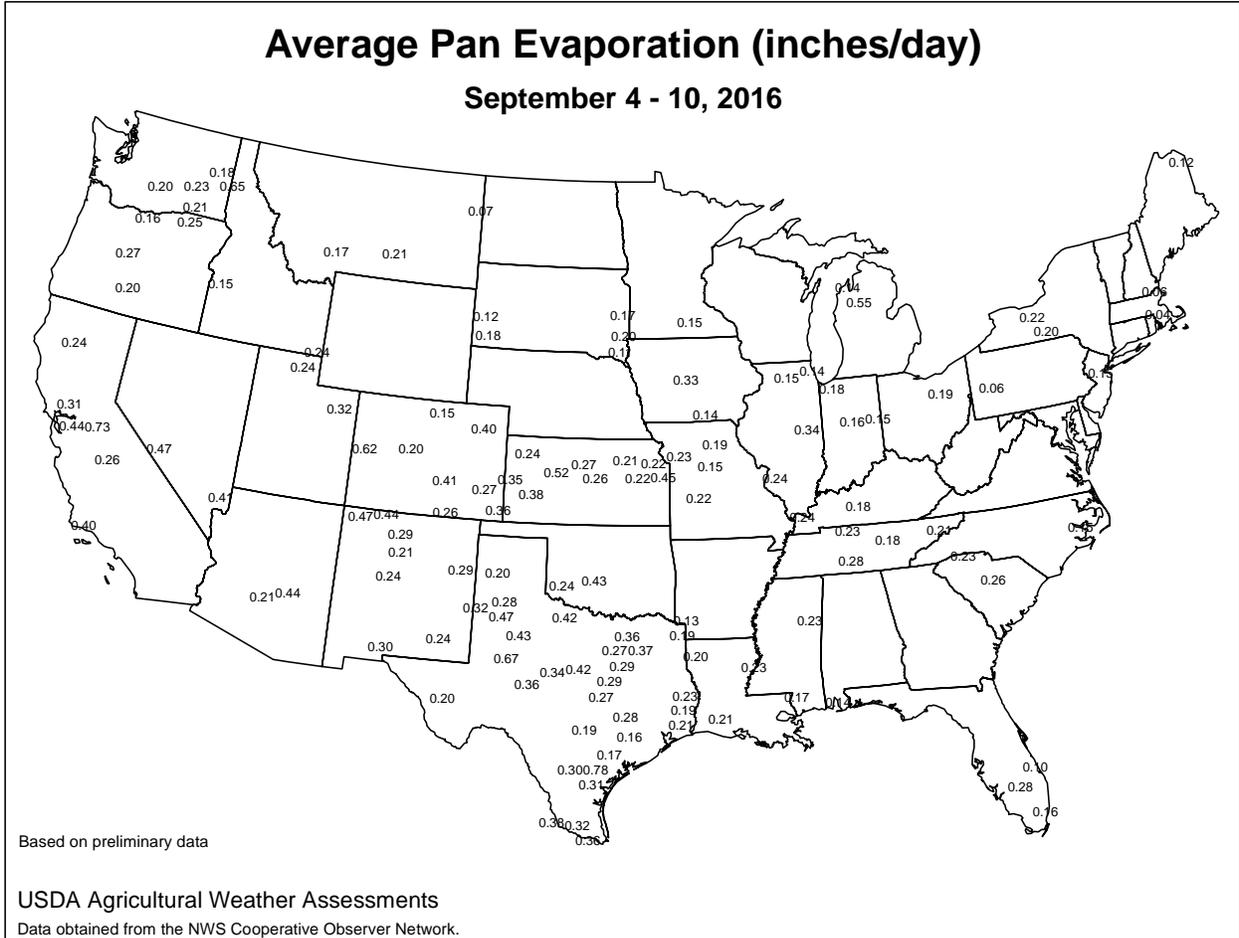
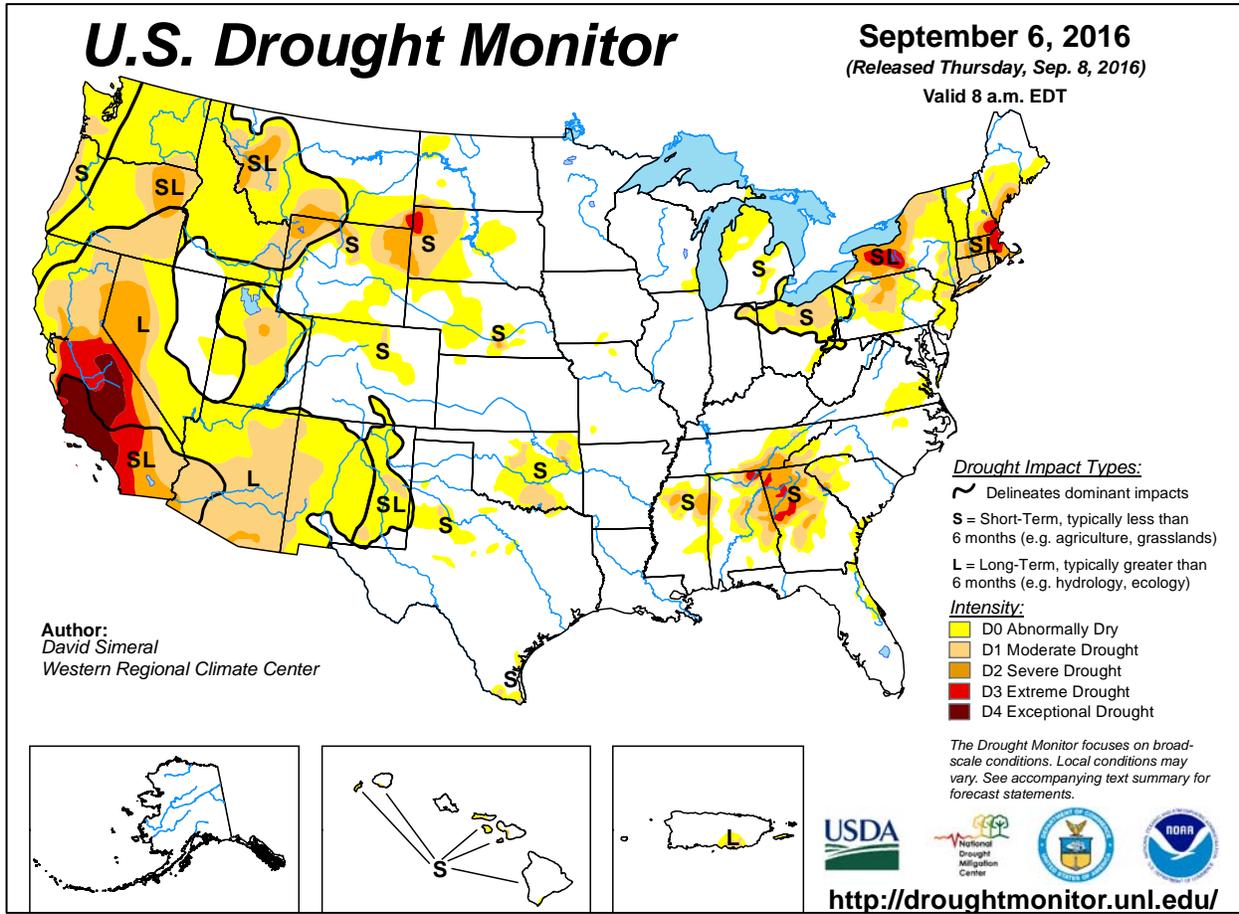
The post-tropical remnant of Hurricane Hermine steadily weakened just offshore near **Long Island**, producing some gusty winds but only light rain in the drought-affected **northern Atlantic region**. Meanwhile, Hurricane Newton struck **Mexico's Baja Peninsula** on September 6 before weakening. Still, Newton's remnant moisture contributed to heavy rain, locally 2 to 4 inches or more, in **southeastern Arizona** and **southwestern New Mexico**. In addition, residual tropical moisture interacting with strong cold fronts led to torrential rain and flash flooding

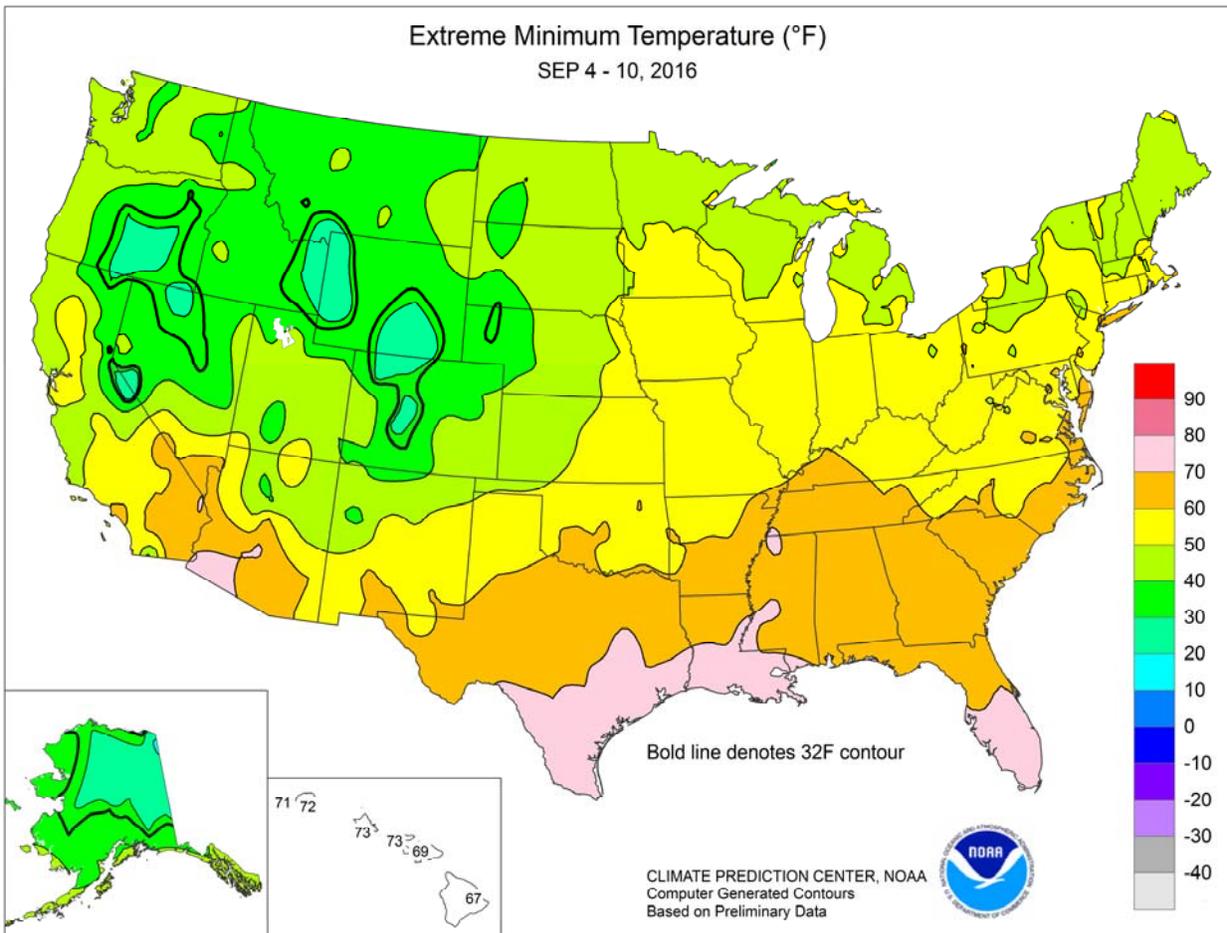
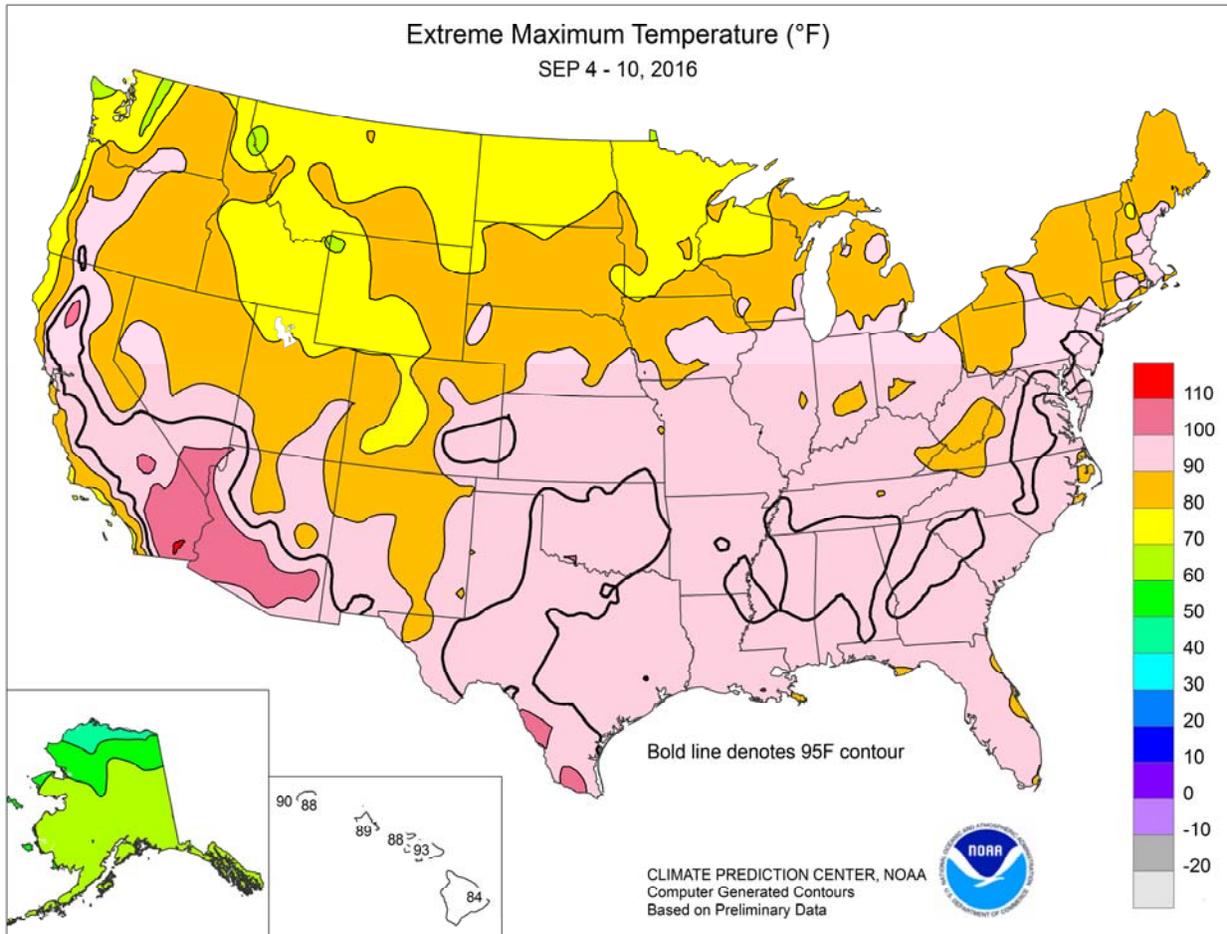
(Continued on page 5)

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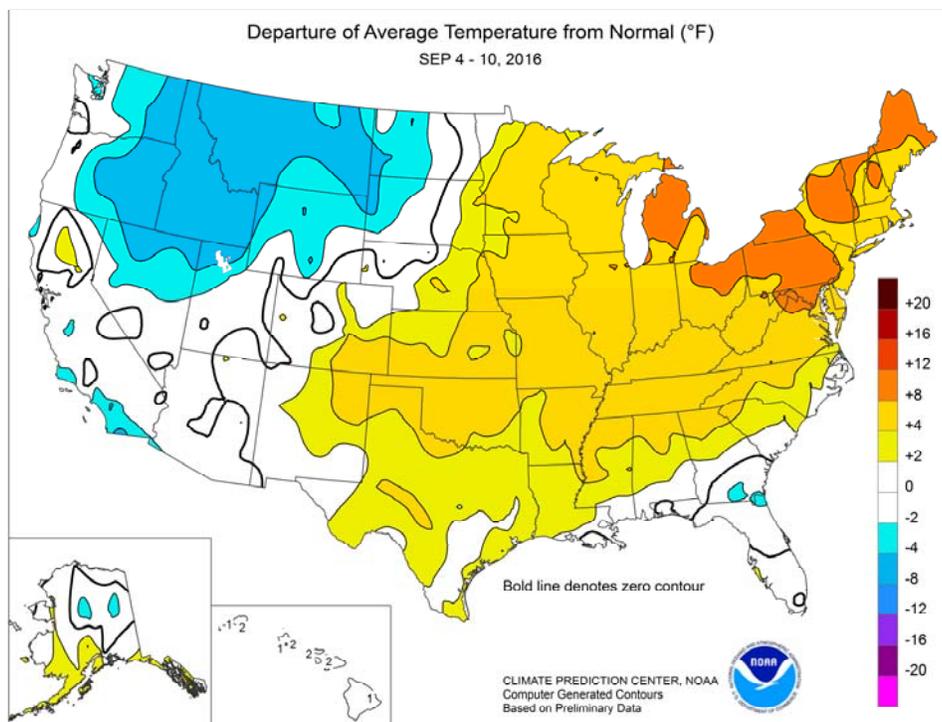




(Continued from front cover)

across portions of the **Corn Belt**. Most of the **upper Midwest** received at least an inch of rain, with some locations netting in excess of 4 inches. Concerns related to ongoing **Midwestern** wetness included disease pressure on corn and soybeans, as well as the ability of soggy fields to support heavy machinery during the upcoming harvest season. In contrast, warm, dry weather favored summer crop maturation and harvesting in much of the **southern and eastern U.S.** Scattered showers were generally limited to the **Northeast** and areas along and near the **Gulf Coast**. Weekly temperatures averaged 5 to 10°F above normal in a broad area stretching from the **middle and upper Mississippi Valley into the Northeast**. Mostly dry weather also prevailed from the **Pacific Coast to the Great Basin and Intermountain West**. Isolated showers, if any, were limited to the **Northwest**, where unusually cool weather prevailed. Weekly temperatures averaged more than 5°F below normal across portions of the **interior Northwest**. Elsewhere, cool weather and occasional rain slowed final small grain harvesting on the **northern Plains**, while warm, showery weather covered the **central and southern Plains**. Like the **Midwest**, portions of the **Plains**—especially **southeastern Kansas**—experienced flooding due to rainfall in excess of 4 inches. The **Plains'** rain also slowed initial winter wheat planting efforts.

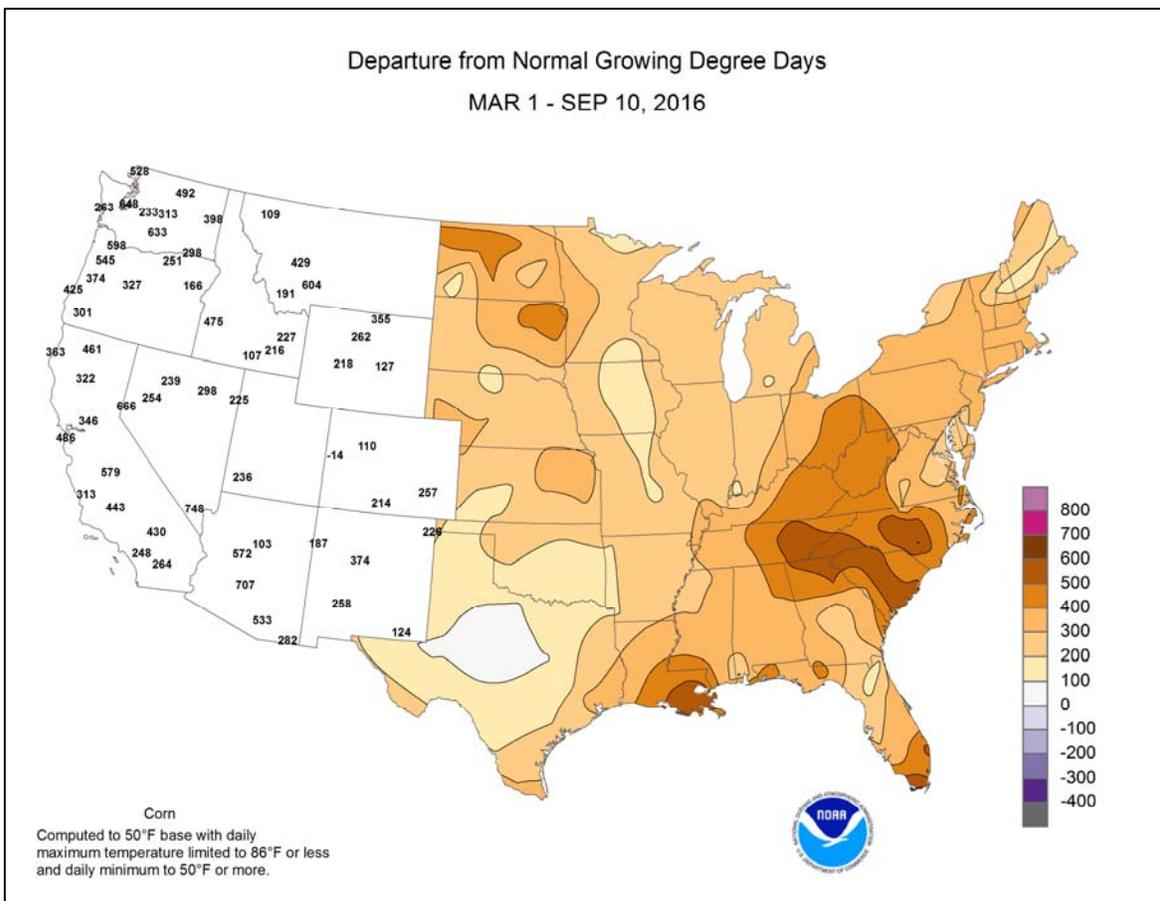
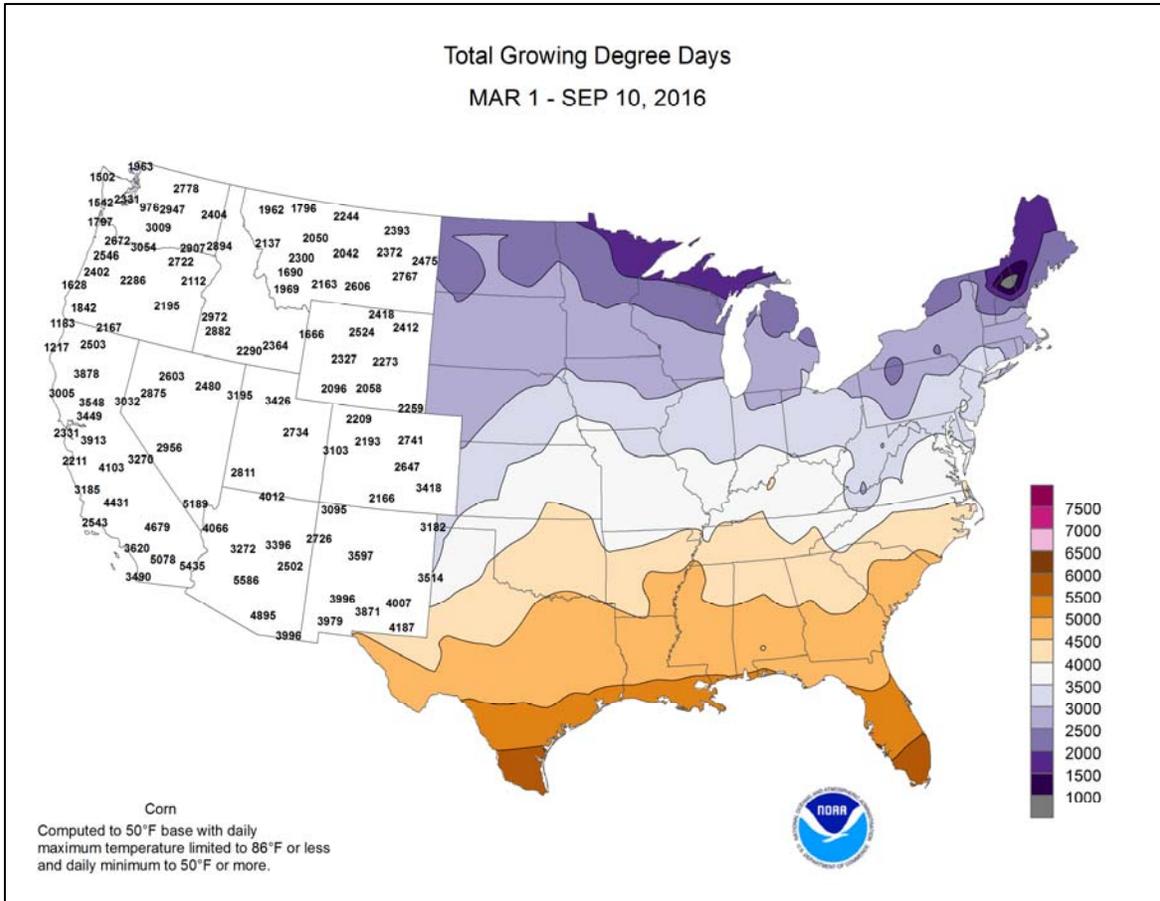
The remnant circulation of Hermine briefly edged toward the **northern Atlantic Coast**, resulting in some gusty winds. On September 5, wind gusts were clocked to 56 mph in **Nantucket, MA**, and 51 mph in **Groton, CT**. Meanwhile, tropical moisture overspread parts of the **Southwest** in advance of Hurricane Newton, which quickly weakened on September 6-7 after making landfall near **Cabo San Lucas, Mexico**. Although Newton did not officially reach the U.S. as a tropical storm, a few wind gusts above 50 mph were reported on the morning of September 7 at higher elevations of **southeastern Arizona**. Across the same area, 48-hour (September 6-8) rainfall totals of at least 4 to 6 inches led to local flooding. Official September 6-8 totals in **southeastern Arizona** included 2.14 inches in **Safford** and 2.13 inches in **Nogales**. Farther north, the week opened with a heavy-rain event on the **northern Plains**. In **North Dakota**, daily-record totals for September 4 reached 2.96 inches in **Grand Forks** and 2.48 inches in **Jamestown**. Some snow fell in the **northern Rockies**, with 0.5 inch reported on September 5 in **Wisdom, MT**. Later, locally heavy showers developed in the **Midwest**, while a new cold front arrived in the **Pacific Northwest**. On September 6, record-setting rainfall totals included 2.31 inches in **Muskegon, MI**, and 0.70 inch in **Eugene, OR**. **Muskegon's** weekly rainfall eventually climbed to 4.49 inches. On September 6-7, the wettest 24-hour period on record during September occurred in **Wisconsin** locations such as **Genoa** (4.80 inches) and **Viroqua** (4.04 inches). In both places, previous records had been set on September 5-6, 1946. During the second half of the week, downpours shifted to the **central Plains** and the **lower Missouri Valley**. **Columbia, MO**, collected 6.67 inches of rain during the last 3 days of the week, aided by daily-record totals (2.85 and 2.11 inches, respectively) on September 8-9. Similarly, **Wichita, KS**, was inundated by 8.96

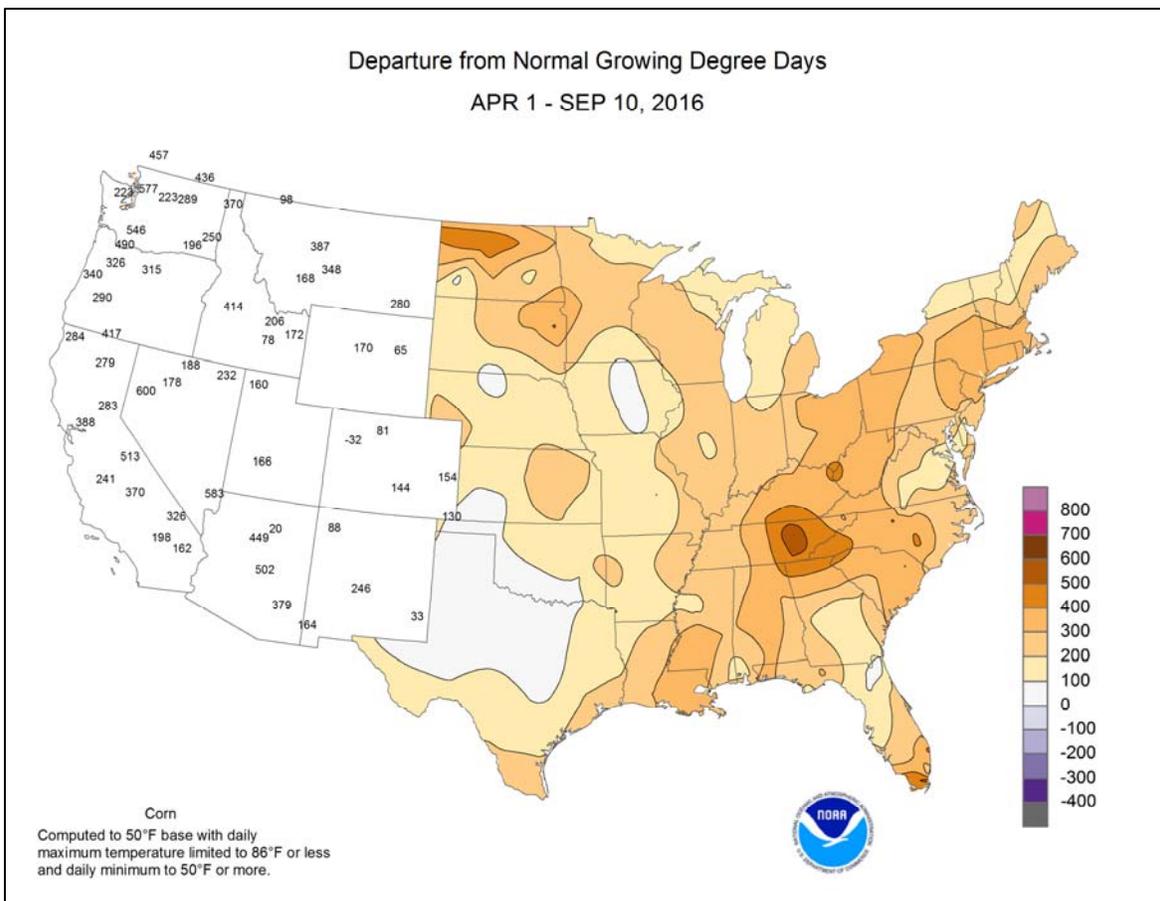
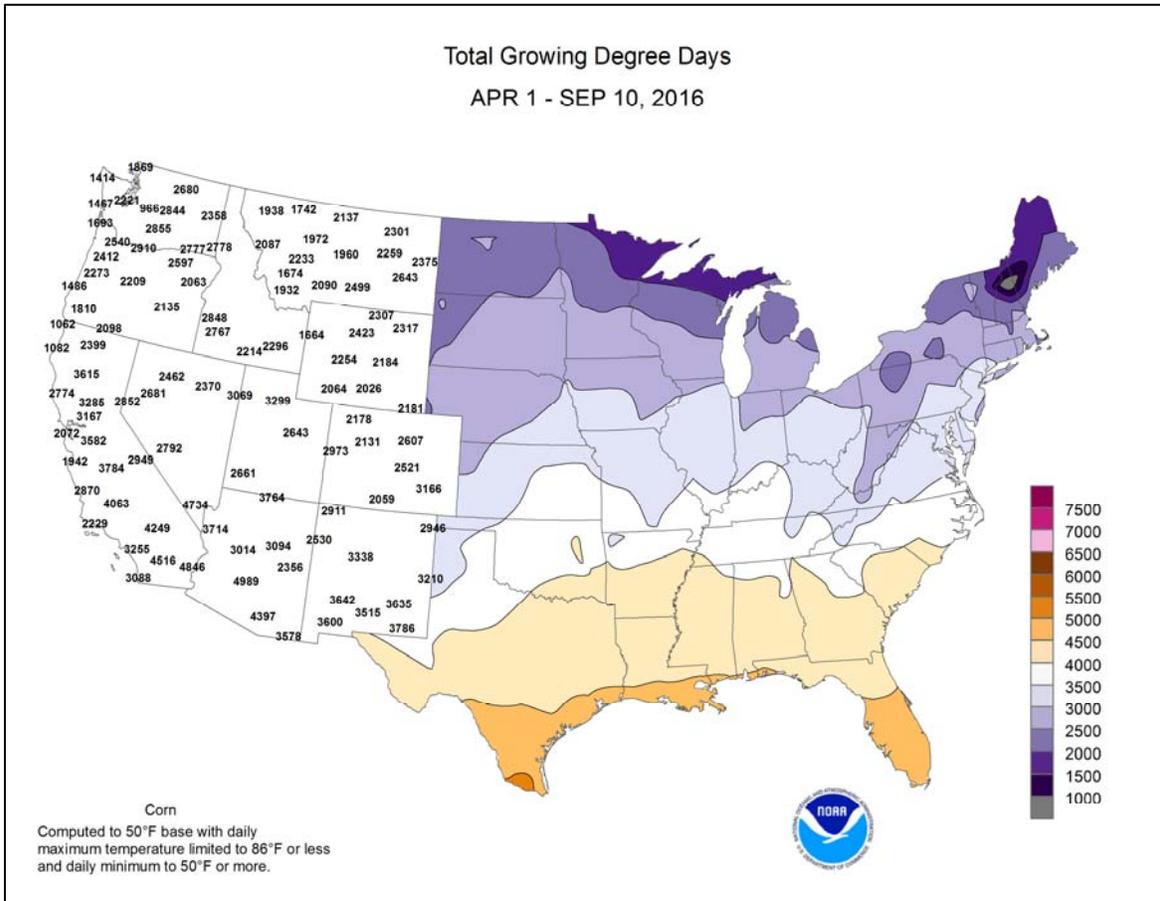


inches of rain from September 7-9, with 5.39 inches falling on the last day of the event. Meanwhile, heavy rain returned at week's end to the **upper Midwest**, helping to push the **Turkey River in Elkader, IA**, 5.17 feet above flood stage on September 11.

Midwestern and **Northeastern** temperatures remained elevated for much of the week, resulting in numerous daily-record highs. **Cleveland, OH**, posted a daily-record high of 94°F on September 7. The following day, record-setting highs for September 8 included 95°F in **Trenton, NJ**, and 94°F in **Williamsport, PA**. **Virginia's Dulles Airport** posted consecutive daily-record highs (96 and 98°F, respectively) on September 8-9. Daily-record highs for September 9 were also established in locations such as **Atlantic City, NJ** (97°F), and **Boston, MA** (93°F). Extreme heat also prevailed across **Deep South Texas**, where **McAllen** logged consecutive daily-record highs of 103°F on September 9-10. In contrast, dry air settled across the **Southeast**, resulting in some cooler nights. **Jacksonville, FL**, notched daily-record lows (62 and 61°F, respectively) on September 7 and 9. However, a more sustained cool spell affected the **Northwest**, where sub-freezing, daily-record lows dipped to 31°F (on September 5) in **Ely, NV**, and 30°F (on September 10) in **Casper, WY**, and **Pocatello, ID**.

Cooler, wetter weather arrived in **Alaska**, following a warm, mostly dry week. **Alaskan** temperatures generally averaged within a few degrees of normal, although lingering warmth in the **Aleutians** led to a daily record-tying high of 62°F in **Cold Bay** on September 4. Later, heavy precipitation developed across **southeastern Alaska**, where **Juneau** collected daily-record rainfall totals (1.28 and 2.54 inches, respectively) for September 6 and 9. **Juneau's** weekly rainfall totaled 5.29 inches. Meanwhile, warm weather prevailed across **Hawaii** in the wake of former Hurricane Madeline's departure and dissipation. On **Maui, Kahului** posted a daily record-tying high of 93°F on September 4. **Lihue, Kauai**, also tied a daily record with a high of 88°F on September 8. **Hawaiian** rainfall was generally light, with September 1-10 totals at the state's major airport observation sites ranging from 0.10 inch (83 percent of normal) in **Kahului** to 2.74 inches (88 percent) in **Hilo**, on the **Big Island**.





National Weather Data for Selected Cities

Weather Data for the Week Ending September 10, 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	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	TEMP. °F		PRECIP	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	94	70	96	68	82	6	0.00	-0.92	0.00	0.28	22	35.45	91	86	33	7	0	0	0
HUNTSVILLE	96	70	97	68	83	8	0.31	-0.65	0.31	0.31	23	32.81	82	83	41	7	0	1	0
MOBILE	89	71	91	68	80	1	0.87	-0.69	0.82	1.91	86	48.89	99	96	65	3	0	2	1
AK MONTGOMERY	96	69	97	66	82	3	0.00	-0.99	0.00	0.00	0	33.18	83	95	32	7	0	0	1
ANCHORAGE	61	49	65	39	55	3	0.65	-0.04	0.28	0.65	65	12.45	125	84	67	0	0	4	0
BARROW	37	33	39	31	35	0	0.12	-0.05	0.04	0.14	54	3.81	125	91	75	0	2	5	0
FAIRBANKS	59	38	69	30	49	0	1.12	0.83	0.70	1.12	267	12.81	176	95	79	0	2	2	1
JUNEAU	57	48	64	44	53	1	5.28	3.74	2.70	5.28	246	41.60	123	92	83	0	0	6	2
KODIAK	63	48	65	43	55	3	1.34	-0.25	0.90	1.46	67	53.45	114	89	72	0	0	3	1
NOME	54	39	64	32	47	0	0.00	-0.67	0.00	0.00	0	10.27	92	83	63	0	1	0	0
AZ FLAGSTAFF	76	44	82	39	60	0	0.03	-0.48	0.03	0.09	12	17.28	109	84	23	0	0	1	0
PHOENIX	100	77	104	74	89	1	0.04	-0.10	0.04	0.04	20	4.09	77	44	28	7	0	1	0
PRESCOTT	83	55	90	50	69	1	0.00	-0.54	0.00	0.92	115	11.68	83	74	24	1	0	0	0
TUCSON	94	69	104	68	82	-1	1.27	0.93	1.07	1.27	254	9.87	119	61	42	5	0	2	1
AR FORT SMITH	92	69	95	61	81	4	0.01	-0.77	0.01	1.13	105	27.78	95	88	42	5	0	1	0
LITTLE ROCK	94	73	96	66	84	7	0.00	-0.83	0.00	0.00	0	45.95	136	87	50	6	0	0	0
CA BAKERSFIELD	93	66	98	61	79	0	0.00	-0.03	0.00	0.00	0	4.10	87	39	25	5	0	0	0
FRESNO	92	62	98	56	77	0	0.00	-0.03	0.00	0.00	0	9.08	115	60	32	5	0	0	0
LOS ANGELES	73	64	74	63	69	-2	0.00	-0.06	0.00	0.00	0	6.00	62	84	66	0	0	0	0
REDDING	97	61	104	57	79	4	0.00	-0.06	0.00	0.00	0	30.63	138	46	26	6	0	0	0
SACRAMENTO	90	56	97	53	73	0	0.00	-0.07	0.00	0.00	0	12.75	105	82	24	4	0	0	0
SAN DIEGO	75	66	77	64	71	-1	0.00	-0.04	0.00	0.00	0	5.01	64	75	64	0	0	0	0
SAN FRANCISCO	74	56	88	53	65	1	0.00	-0.03	0.00	0.00	0	12.44	92	82	66	0	0	0	0
STOCKTON	91	55	96	52	73	-1	0.00	-0.06	0.00	0.00	0	12.12	132	77	40	5	0	0	0
CO ALAMOSA	80	41	82	33	61	4	0.00	-0.22	0.00	0.06	19	7.41	143	84	26	0	0	0	0
CO SPRINGS	83	52	87	44	67	4	0.01	-0.41	0.01	0.01	2	14.67	98	72	18	0	0	1	0
DENVER INTL	86	50	93	37	68	3	0.03	-0.21	0.02	0.03	9	10.76	97	78	20	2	0	2	0
GRAND JUNCTION	88	54	90	50	71	2	0.00	-0.19	0.00	0.16	62	6.41	105	35	19	1	0	0	0
PUEBLO	92	56	98	45	74	6	0.00	-0.27	0.00	0.00	0	10.31	100	65	25	5	0	0	0
CT BRIDGEPORT	83	69	90	61	76	7	0.12	-0.73	0.11	0.75	61	25.51	82	80	59	1	0	2	0
HARTFORD	84	64	92	53	74	7	0.14	-0.82	0.12	0.49	36	22.83	72	87	54	2	0	2	0
DC WASHINGTON	93	72	98	65	83	9	0.02	-0.83	0.02	0.06	5	25.00	91	79	41	5	0	1	0
DE WILMINGTON	90	68	95	57	79	8	0.04	-0.87	0.04	0.12	9	29.57	97	84	42	5	0	1	0
FL DAYTONA BEACH	88	72	90	66	80	-1	0.91	-0.72	0.48	2.36	102	29.99	86	95	62	1	0	2	0
JACKSONVILLE	89	65	93	61	77	-2	0.01	-1.95	0.01	2.30	83	24.64	64	99	48	4	0	1	0
KEY WEST	90	79	91	76	84	0	2.16	0.79	1.42	2.16	110	27.50	104	92	70	6	0	5	1
MIAMI	90	77	91	74	83	0	1.39	-0.76	0.67	1.39	45	48.39	117	93	65	4	0	6	1
ORLANDO	90	73	92	71	82	0	2.35	0.85	2.32	3.25	151	44.93	120	91	64	5	0	2	1
PENSACOLA	86	77	89	73	81	0	0.48	-0.98	0.47	0.71	34	51.49	107	90	64	0	0	2	0
TALLAHASSEE	92	70	95	67	81	0	0.24	-1.10	0.24	2.43	125	49.73	102	92	48	6	0	1	0
TAMPA	93	76	95	74	84	1	0.46	-1.32	0.46	3.41	133	49.84	144	89	53	7	0	1	0
GA WEST PALM BEACH	89	78	90	76	84	2	1.07	-0.95	0.37	2.06	72	36.25	86	84	66	3	0	3	0
ATHENS	93	66	96	63	79	4	0.00	-0.83	0.00	0.18	15	31.14	90	93	43	5	0	0	0
ATLANTA	91	69	93	68	80	4	0.00	-0.94	0.00	2.66	203	31.78	87	80	41	5	0	0	0
AUGUSTA	92	65	94	62	78	2	0.00	-0.91	0.00	4.24	321	30.81	93	96	47	5	0	0	0
COLUMBUS	94	67	96	65	81	2	0.00	-0.77	0.00	0.00	0	27.92	78	85	32	7	0	0	0
MACON	94	64	98	60	79	2	0.00	-0.82	0.00	0.39	33	24.60	74	89	34	6	0	0	0
SAVANNAH	91	68	94	65	80	1	0.00	-1.42	0.00	3.28	158	37.65	98	90	43	6	0	0	0
HI HILO	84	70	84	67	77	1	2.20	-0.11	1.54	4.87	148	73.00	86	89	77	0	0	6	1
HONOLULU	88	75	89	73	81	-1	0.38	0.31	0.28	0.39	433	8.92	86	78	64	0	0	6	0
KAHULUI	90	72	93	69	81	2	0.03	-0.05	0.02	0.10	83	9.91	81	79	63	4	0	2	0
LIHUE	87	77	88	72	82	2	0.10	-0.40	0.08	0.13	19	10.86	46	77	71	0	0	3	0
ID BOISE	75	49	83	44	62	-6	0.00	-0.15	0.00	0.00	0	4.97	61	63	32	0	0	0	0
LEWISTON	76	52	87	47	64	-4	0.37	0.20	0.37	0.39	163	10.02	112	66	41	0	0	1	0
POCATELLO	71	40	79	30	56	-6	0.08	-0.10	0.08	0.12	48	7.37	84	66	36	0	2	1	0
IL CHICAGO/O'HARE	83	66	91	59	75	8	0.45	-0.46	0.39	0.45	34	27.42	105	89	68	1	0	3	0
MOLINE	84	66	92	54	75	7	0.86	0.01	0.45	0.86	69	30.28	107	91	61	2	0	3	0
PEORIA	84	66	92	57	75	6	3.00	2.28	1.23	3.00	297	28.01	109	100	62	2	0	4	2
ROCKFORD	84	64	92	56	74	8	1.49	0.58	1.27	1.49	113	27.91	103	91	68	1	0	3	1
SPRINGFIELD	87	67	94	56	77	7	1.13	0.44	0.79	1.13	113	36.98	144	94	54	3	0	3	1
IN EVANSVILLE	91	68	95	60	80	8	0.27	-0.45	0.26	0.27	26	38.73	122	89	55	5	0	2	0
FORT WAYNE	84	63	92	54	74	7	2.76	2.04	2.15	2.76	265	26.57	101	93	58	2	0	3	1
INDIANAPOLIS	85	67	90	60	76	6	1.54	0.82	1.06	1.54	147	36.55	123	92	60	1	0	4	1
SOUTH BEND	83	64	91	56	74	8	1.16	0.23	1.04	1.16	87	35.57	129	94	70	2	0	3	1
IA BURLINGTON	84	65	92	53	74	4	0.29	-0.44	0.20	0.29	26	24.53	89	97	60	1	0	2	0
CEDAR RAPIDS	83	63	91	53	73	6	2.97	2.09	1.51	2.97	232	33.36	131	100	61	1	0	4	2
DES MOINES	84	68	93	57	76	7	1.21	0.37	0.65	1.21	98	26.54	99	87	58	2	0	3	

Weather Data for the Week Ending September 10, 2016

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION						RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS				
	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	TEMP. °F		PRECIP	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
KY WICHITA	89	69	94	58	79	5	8.96	8.27	5.44	8.96	914	45.30	199	85	58	5	0	3	2
JACKSON	88	65	90	58	76	5	0.17	-0.74	0.17	0.17	13	41.17	117	90	47	1	0	1	0
LEXINGTON	90	65	93	55	78	7	0.22	-0.52	0.22	0.22	21	35.23	105	84	50	5	0	1	0
LOUISVILLE	91	70	94	62	81	8	0.47	-0.25	0.47	0.47	47	34.14	106	83	45	5	0	1	0
PADUCAH	90	71	92	60	80	8	0.14	-0.64	0.14	0.14	13	43.80	127	90	55	6	0	1	0
LA BATON ROUGE	91	74	93	72	83	3	1.07	-0.18	0.55	1.07	59	75.29	163	98	60	6	0	5	1
LAKE CHARLES	91	75	92	75	83	2	1.98	0.54	1.46	1.98	98	58.89	147	96	64	6	0	4	1
NEW ORLEANS	92	78	95	77	85	4	1.60	0.07	1.43	1.80	82	57.21	120	86	64	6	0	2	1
SHREVEPORT	93	75	94	69	84	4	0.16	-0.48	0.16	0.16	18	50.53	143	96	59	7	0	1	0
ME CARIBOU	78	57	82	51	68	11	0.31	-0.50	0.26	0.46	39	31.56	121	94	59	0	0	2	0
PORTLAND	77	59	91	51	68	6	0.07	-0.65	0.05	0.07	7	23.60	78	96	63	1	0	2	0
MD BALTIMORE	91	67	96	56	79	8	0.00	-0.93	0.00	0.09	7	31.18	105	83	43	5	0	0	0
MA BOSTON	77	65	93	60	71	3	0.25	-0.55	0.14	0.27	24	20.53	72	97	67	1	0	4	0
WORCESTER	77	62	87	55	70	7	0.38	-0.58	0.16	0.38	28	23.77	71	93	59	0	0	5	0
MI ALPENA	83	57	92	43	70	11	1.52	0.82	1.10	1.52	150	22.21	109	93	51	1	0	4	1
GRAND RAPIDS	82	63	90	54	73	8	0.88	-0.19	0.47	0.88	58	32.63	128	92	62	1	0	4	0
HOUGHTON LAKE	80	59	90	44	69	9	1.16	0.33	0.79	1.16	97	24.77	122	94	63	1	0	3	1
LANSING	82	63	90	50	72	8	0.76	-0.16	0.27	0.76	58	24.23	109	89	67	1	0	4	0
MUSKOGON	82	63	87	54	72	8	4.49	3.57	2.31	4.49	340	29.64	135	93	70	0	0	3	2
TRAVERSE CITY	82	64	91	54	73	10	1.26	0.39	0.49	1.73	140	21.20	93	90	56	1	0	3	0
MN DULUTH	74	58	80	51	66	8	2.21	1.15	1.24	2.21	146	26.14	114	95	68	0	0	4	2
INT'L FALLS	72	51	76	42	61	4	1.03	0.27	0.50	1.03	94	21.57	120	95	63	0	0	4	1
MINNEAPOLIS	77	64	81	57	71	7	1.67	0.92	0.89	1.67	152	27.98	123	86	66	0	0	5	2
ROCHESTER	77	60	83	52	69	7	3.18	2.35	1.25	3.18	265	31.45	130	96	71	0	0	4	3
ST. CLOUD	75	60	80	50	68	7	0.85	0.04	0.44	0.85	72	25.68	123	99	61	0	0	5	0
MS JACKSON	93	73	95	71	83	5	0.08	-0.69	0.05	0.08	7	53.27	133	93	50	7	0	2	0
MERIDIAN	95	71	96	67	83	4	0.02	-0.78	0.02	0.21	19	37.54	88	88	49	7	0	1	0
TUPELO	94	70	96	68	82	6	0.00	-0.73	0.00	0.00	0	35.84	92	85	45	7	0	0	0
MO COLUMBIA	85	67	92	58	76	5	6.67	5.84	2.84	6.67	565	35.02	121	96	60	2	0	3	3
KANSAS CITY	84	68	90	56	76	5	1.56	0.55	0.77	1.56	111	40.99	149	83	58	1	0	3	2
SAINT LOUIS	90	71	96	62	80	7	3.36	2.67	1.43	3.36	346	31.83	116	84	58	3	0	4	2
SPRINGFIELD	88	67	94	56	78	6	1.17	0.01	0.63	1.17	72	26.79	87	88	57	3	0	3	1
MT BILLINGS	72	49	84	41	60	-3	0.35	0.09	0.23	0.36	103	8.11	73	77	33	0	0	2	0
BUTTE	62	37	75	31	50	-5	0.46	0.18	0.26	0.57	146	6.63	65	89	34	0	2	3	0
CUT BANK	64	43	76	37	53	-3	0.30	-0.04	0.18	0.30	60	8.56	81	83	38	0	0	2	0
GLASGOW	68	48	78	40	58	-3	0.53	0.31	0.20	0.53	161	16.26	178	84	52	0	0	3	0
GREAT FALLS	66	44	79	41	55	-4	1.06	0.75	0.64	1.06	230	10.36	87	82	32	0	0	5	1
HAVRE	68	45	81	38	57	-3	0.95	0.70	0.41	0.95	271	14.44	157	83	65	0	0	6	0
MISSOULA	66	42	81	35	54	-6	0.52	0.26	0.26	0.52	137	8.74	86	***	***	0	0	4	0
NE GRAND ISLAND	83	61	92	48	72	4	1.30	0.65	1.18	1.34	144	20.74	100	93	67	1	0	3	1
LINCOLN	86	67	93	54	77	8	0.86	0.14	0.78	1.18	113	23.57	107	86	58	2	0	3	1
NORFOLK	79	61	87	49	70	3	0.85	0.30	0.84	0.85	106	25.72	120	89	65	0	0	2	1
NORTH PLATTE	82	55	92	39	68	2	0.75	0.44	0.58	0.76	169	19.92	122	93	48	1	0	4	1
OMAHA	84	66	92	54	75	6	1.06	0.31	0.93	1.06	99	27.38	118	84	64	2	0	3	1
SCOTTSBLUFF	82	51	92	36	67	3	0.10	-0.16	0.10	0.10	27	13.41	102	87	53	1	0	1	0
VALENTINE	78	52	86	41	65	0	1.23	0.87	0.88	1.23	237	23.76	147	91	56	0	0	3	1
NV ELY	***	***	***	***	***	***	***	***	***	***	***	8.86	125	***	***	***	***	***	***
LAS VEGAS	98	73	102	69	85	0	0.00	-0.06	0.00	0.00	0	3.71	112	21	11	7	0	0	0
RENO	85	50	92	45	67	2	0.00	-0.08	0.00	0.00	0	5.25	104	42	20	1	0	0	0
WINNEMUCCA	80	37	88	31	59	-5	0.00	-0.11	0.00	0.00	0	4.58	81	56	23	0	2	0	0
NH CONCORD	83	59	94	47	71	8	0.06	-0.66	0.02	0.06	6	18.27	72	89	50	1	0	4	0
NJ NEWARK	88	69	93	58	78	7	0.01	-0.94	0.01	0.22	16	24.83	75	79	50	3	0	1	0
NM ALBUQUERQUE	86	62	92	57	74	2	0.13	-0.14	0.05	0.13	33	3.49	52	76	32	2	0	3	0
NY ALBANY	86	62	89	54	74	10	0.70	-0.11	0.57	0.70	60	24.14	90	91	50	0	0	2	1
BINGHAMTON	80	59	86	51	70	8	0.12	-0.73	0.07	0.12	10	24.07	89	94	58	0	0	4	0
BUFFALO	84	64	88	53	74	9	1.00	0.03	1.00	1.00	72	19.52	72	88	53	0	0	1	1
ROCHESTER	87	61	92	49	74	10	0.13	-0.74	0.12	0.13	10	17.78	75	93	52	3	0	2	0
SYRACUSE	86	59	89	52	72	7	1.55	0.57	1.53	1.55	112	24.96	92	95	48	0	0	2	1
NC ASHEVILLE	87	60	90	56	73	5	0.00	-0.96	0.00	0.01	1	28.46	83	90	38	1	0	0	0
CHARLOTTE	92	64	95	60	78	2	0.00	-0.87	0.00	1.25	101	22.79	74	87	34	5	0	0	0
GREENSBORO	90	67	94	60	79	6	0.00	-0.96	0.00	0.09	7	30.88	100	91	41	5	0	0	0
HATTERAS	83	74	88	70	79	2	0.00	-1.42	0.00	6.34	309	58.60	149	89	66	0	0	0	0
RALEIGH	91	66	96	58	78	4	0.00	-0.97	0.00	1.58	115	38.31	124	88	43	5	0	0	0
WILMINGTON	89	68	94	62	78	1	0.00	-1.74	0.00	7.86	318	49.64	117	92	48	4	0	0	0
ND BISMARCK	69	48	76	41	59	-3	0.51	0.12	0.39	0.51	89	19.05	142	94	63	0	0	5	0
DICKINSON	67	46	75	40	57	-4	1.15	0.78	0.65	1.15	221	13.09	101	96	46	0	0	4	1
FARGO	76	55	83	46	65	3	1.50	0.98	1.34	1.50	200	16.96	105	92	53	0	0	4	1
GRAND FORKS	72	52	77	45	62	1	3.47	2.99	2.96	3.47	489	22.49	149	95	57	0	0	4	1
JAMESTOWN	68	53	75	48	61	-1	3.26	2.85	2.48	3.26	553	22.09	149	97	61	0	0	3	2
WILLISTON	69	49	77	41	59	-1	0.85	0.55	0.56	0.86	200	12.61	113	87	67	0	0	5	1
OH AKRON-CANTON	87	65	92	56	76	10	2.13	1.30	1.22	2.13	181	25.73	93	85	57	2	0	3	2
CINCINNATI	88	66	90	61	77	6	1.05	0.33	0.52	1.05	100	34.13	110	92	57	3	0	3	1
CLEVELAND	89	66	94	52	78	12	2.09	1.15	1.25	2.20	164	25.56	95	83	47	3	0	3	2
COLUMBUS	87	65	90	57	76	6	1.37	0.63	0.76	1.37	129	29.63	105	89	55	1	0	3	2
DAYTON	87	65	90	56	76	8	1.00	0.33	0.72	1.00	102	28.52	99	90	53	2	0	2	1
MANSFIELD	88	64	91	53	76	10	1.65	0.71	0.91	1.65	120	25.27	80	94	48	2	0	2	2

Weather Data for the Week Ending September 10, 2016

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	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	TEMP. °F		PRECIP	
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
OK TOLEDO	85	63	92	52	74	7	0.87	0.13	0.87	0.87	81	24.18	102	98	63	2	0	1	1
OK YOUNGSTOWN	85	63	89	52	74	9	2.18	1.25	1.32	2.18	166	30.68	114	91	61	0	0	3	2
OK OKLAHOMA CITY	92	70	97	58	81	5	1.36	0.55	1.08	1.36	123	21.27	84	87	44	6	0	2	1
OR TULSA	94	72	99	63	83	6	1.31	0.29	1.00	1.46	104	22.15	76	88	55	6	0	2	1
OR ASTORIA	70	54	76	48	62	2	0.51	-0.01	0.25	1.08	150	41.93	108	89	68	0	0	4	0
OR BURNS	74	33	83	28	53	-5	0.05	-0.05	0.04	0.05	38	4.44	63	68	35	0	4	2	0
OR EUGENE	79	48	90	42	64	0	0.70	0.33	0.70	0.73	138	21.69	73	86	57	1	0	1	1
OR MEDFORD	86	49	98	45	68	-1	0.00	-0.17	0.00	0.00	0	10.00	94	70	25	3	0	0	0
OR PENDLETON	76	49	88	43	63	-4	0.33	0.19	0.33	0.35	175	7.74	94	72	40	0	0	1	0
OR PORTLAND	76	55	86	51	65	-1	0.17	-0.18	0.17	0.78	159	22.69	105	83	64	0	0	1	0
OR SALEM	78	51	89	48	65	0	0.11	-0.19	0.11	0.35	85	22.50	97	80	56	0	0	1	0
PA ALLENTOWN	90	64	95	52	77	10	0.00	-1.07	0.00	0.20	13	27.51	86	83	46	4	0	0	0
PA ERIE	84	67	89	58	75	8	2.66	1.50	1.57	2.66	161	30.72	109	83	63	0	0	3	2
PA MIDDLETOWN	91	67	94	59	79	9	1.03	0.20	0.54	1.05	90	31.82	112	96	42	5	0	2	1
PA PHILADELPHIA	90	71	95	63	81	9	0.00	-0.92	0.00	0.45	35	25.90	86	76	44	4	0	0	0
PA PITTSBURGH	86	64	89	53	75	8	1.02	0.22	0.50	1.02	89	24.15	87	92	51	0	0	4	1
PA WILKES-BARRE	86	62	92	53	74	8	0.22	-0.67	0.12	0.23	18	21.90	83	95	49	2	0	2	0
PA WILLIAMSPORT	90	63	94	54	77	10	0.39	-0.54	0.25	0.39	30	24.41	84	90	50	5	0	3	0
RI PROVIDENCE	82	66	92	60	74	7	0.18	-0.74	0.12	0.67	51	26.51	83	88	55	1	0	3	0
SC BEAUFORT	90	69	93	65	80	2	0.00	-1.52	0.00	4.70	212	31.96	84	93	45	4	0	0	0
SC CHARLESTON	90	69	93	64	80	2	0.00	-1.60	0.00	2.33	101	34.33	88	88	42	5	0	0	0
SC COLUMBIA	93	69	96	64	81	4	0.00	-1.06	0.00	4.57	297	27.50	75	84	43	5	0	0	0
SC GREENVILLE	91	66	95	64	79	5	0.30	-0.59	0.30	0.69	55	28.90	80	88	34	5	0	1	0
SD ABERDEEN	76	53	86	42	65	2	0.41	-0.03	0.34	0.41	64	14.47	89	92	60	0	0	4	0
SD HURON	76	56	83	46	66	1	1.01	0.60	0.43	1.01	171	16.96	101	96	59	0	0	3	0
SD RAPID CITY	76	47	86	36	61	-3	0.19	-0.05	0.11	0.25	69	11.22	83	90	42	0	0	3	0
SD SIOUX FALLS	77	61	81	50	69	4	2.77	2.12	1.61	2.77	295	20.62	107	97	68	0	0	5	1
TN BRISTOL	89	59	91	55	74	4	0.00	-0.71	0.00	0.61	61	25.56	84	96	36	4	0	0	0
TN CHATTANOOGA	95	68	97	66	81	6	0.25	-0.76	0.25	0.25	18	23.59	61	84	43	7	0	1	0
TN KNOXVILLE	93	65	95	61	79	5	0.35	-0.32	0.35	0.35	38	31.17	89	82	29	7	0	1	0
TN MEMPHIS	94	75	95	72	84	6	0.58	-0.18	0.54	0.58	54	50.38	134	81	52	7	0	2	1
TN NASHVILLE	93	68	94	67	81	7	0.31	-0.54	0.31	0.31	26	31.91	94	86	36	7	0	1	0
TX ABILENE	90	71	94	65	81	3	0.29	-0.37	0.29	1.49	159	28.60	175	90	59	4	0	1	0
TX AMARILLO	86	64	90	54	75	3	0.68	0.17	0.68	0.68	91	15.56	99	85	47	1	0	1	1
TX AUSTIN	93	73	94	71	83	1	0.88	0.31	0.63	1.00	125	45.88	204	92	57	7	0	3	1
TX BEAUMONT	93	75	95	74	84	3	0.26	-1.17	0.14	0.28	14	57.80	141	95	56	7	0	4	0
TX BROWNSVILLE	96	77	97	75	86	4	0.30	-0.89	0.28	0.30	18	13.97	81	92	56	7	0	2	0
TX CORPUS CHRISTI	96	78	97	75	87	5	0.13	-1.00	0.11	0.13	8	25.41	119	95	50	7	0	3	0
TX DEL RIO	92	74	94	72	83	1	0.00	-0.41	0.00	0.08	14	21.93	168	90	63	7	0	0	0
TX EL PASO	87	69	94	66	78	0	0.88	0.49	0.55	1.11	202	6.78	106	76	41	3	0	2	1
TX FORT WORTH	93	75	95	69	84	4	0.12	-0.28	0.12	0.12	21	28.79	122	83	48	6	0	1	0
TX GALVESTON	90	82	92	76	86	3	0.23	-1.17	0.23	0.23	12	40.92	139	84	67	6	0	1	0
TX HOUSTON	92	75	94	74	84	3	0.35	-0.67	0.29	0.35	24	53.92	166	95	61	7	0	3	0
TX LUBBOCK	87	67	92	60	77	3	0.32	-0.29	0.22	0.48	55	10.40	75	87	56	2	0	3	0
TX MIDLAND	90	71	97	64	81	5	0.69	0.21	0.53	0.86	128	11.21	111	81	55	4	0	2	1
TX SAN ANGELO	92	72	98	64	82	5	0.68	0.03	0.68	2.23	245	27.75	195	84	52	6	0	1	1
TX SAN ANTONIO	92	75	93	72	84	3	0.08	-0.55	0.05	0.19	21	29.64	132	90	48	7	0	2	0
TX VICTORIA	92	74	93	73	83	1	0.33	-0.74	0.33	1.63	109	31.21	115	97	69	6	0	1	0
TX WACO	93	74	94	69	84	3	0.02	-0.50	0.02	0.02	3	32.01	145	93	61	6	0	1	0
TX WICHITA FALLS	95	73	100	65	84	5	1.02	0.32	1.02	1.02	103	23.40	116	84	47	6	0	1	1
UT SALT LAKE CITY	80	55	84	50	67	-2	0.00	-0.24	0.00	0.01	3	8.33	74	53	19	0	0	0	0
VT BURLINGTON	86	62	88	53	74	11	0.11	-0.83	0.11	0.11	8	19.31	77	85	42	0	0	1	0
VA LYNCHBURG	90	62	94	55	76	6	0.00	-0.85	0.00	0.00	0	33.71	109	96	41	5	0	0	0
VA NORFOLK	86	71	91	69	79	4	0.31	-0.65	0.31	3.24	233	45.61	136	83	56	2	0	1	0
VA RICHMOND	89	67	94	58	78	5	1.03	0.13	1.02	1.72	134	35.14	112	89	58	4	0	2	1
VA ROANOKE	89	66	93	58	78	7	0.00	-0.91	0.00	0.33	26	34.10	111	81	44	4	0	0	0
VA WASH/DULLES	92	66	98	54	79	8	0.00	-0.91	0.00	0.17	13	28.16	95	83	39	5	0	0	0
WA OLYMPIA	71	49	79	44	60	-1	0.58	0.15	0.54	0.78	128	28.42	97	94	78	0	0	3	1
WA QUILLAYUTE	64	50	68	42	57	-1	1.05	0.30	0.68	2.34	223	60.53	102	92	78	0	0	5	1
WA SEATTLE-TACOMA	69	54	77	50	62	-1	0.50	0.15	0.43	0.72	147	24.45	115	85	66	0	0	3	0
WA SPOKANE	71	46	81	41	59	-4	0.00	-0.17	0.00	0.08	33	8.88	84	79	33	0	0	0	0
WA YAKIMA	80	46	90	42	63	0	0.06	-0.02	0.06	0.16	133	6.05	120	73	38	1	0	1	0
WV BECKLEY	84	61	86	56	72	6	0.00	-0.73	0.00	0.39	38	37.44	121	87	48	0	0	0	0
WV CHARLESTON	90	63	93	56	77	8	0.05	-0.80	0.05	0.05	4	32.59	101	95	40	4	0	1	0
WV ELKINS	86	58	90	49	72	7	0.00	-0.94	0.00	0.03	2	31.01	91	93	41	1	0	0	0
WV HUNTINGTON	91	64	94	58	78	8	0.08	-0.61	0.08	0.08	8	36.25	117	94	41	4	0	1	0
WI EAU CLAIRE	76	61	80	52	68	5	1.75	0.73	1.01	1.75	118	28.81	117	97	64	0	0	6	1
WI GREEN BAY	80	58	87	50	69	7	1.81	0.98	0.82	1.81	152	23.43	109	100	65	0	0	3	2
WI LA CROSSE	80	63	87	56	72	6	4.62	3.71	1.76	4.62	353	35.46	143	96	61	0	0	5	4
WI MADISON	79	62	88	55	71	7	1.83	0.97	1.29	1.83	145	34.20	137	93	71	0	0	4	1
WI MILWAUKEE	83	65	94	57	74	8	1.67	0.80	1.56	1.67	133	22.32	88	85	68	1	0	3	1
WY CASPER	75	44	81	30	59	-2	0.56	0.39	0.43	0.56	255	13.95	144	90	54	0	1	3	0
WY CHEYENNE	78	45	86	35	62	2	0.00	-0.36	0.00	0.05	10	14.71	116	78	33	0	0	0	0
WY LANDER	75	46	80	37	61	-1	0.11	-0.08	0.11	0.12	46	17.66	185	69	18	0	0	1	0
WY SHERIDAN	72	45	83	35	58	-3	0.28	0.02	0.24	0.29	78	11.99	111	82	46	0	0	3	0

Based on 1971-2000 normals

*** Not Available

August Weather and Crop Summary

Weather

Weather summary provided by USDA/WAOB

Highlights: Mid-August downpours from an unnamed disturbance caused extensive flooding in southern Louisiana and soaked a much broader area stretching from the western Gulf Coast region into parts of the Midwest. The Southern rain and flooding led to degradations in quality for a variety of unharvested summer crops, including rice and sorghum.

Farther north, widespread, occasionally heavy showers brought drought relief to the eastern Corn Belt but increased disease pressure for some Midwestern corn and soybeans. Wet conditions also reached into parts of the Southwest, in part due to an active monsoon circulation.

In contrast, hot, dry weather persisted from the Pacific Coast to the Intermountain West, stressing rain-fed crops but promoting fieldwork and crop maturation. At times, the hot, dry weather also hampered wildfire containment efforts.

Across the nation’s mid-section, scattered showers and near- or slightly below-normal temperatures provided generally favorable growing conditions. Despite minor fieldwork delays on the northern Plains, small grain harvesting neared completion by month’s end.

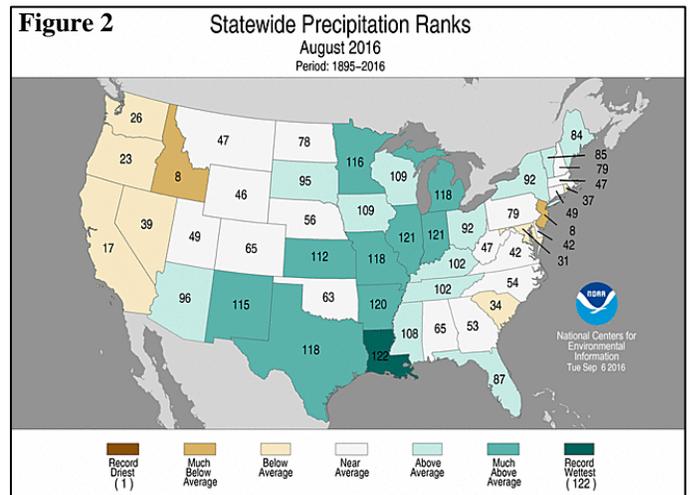
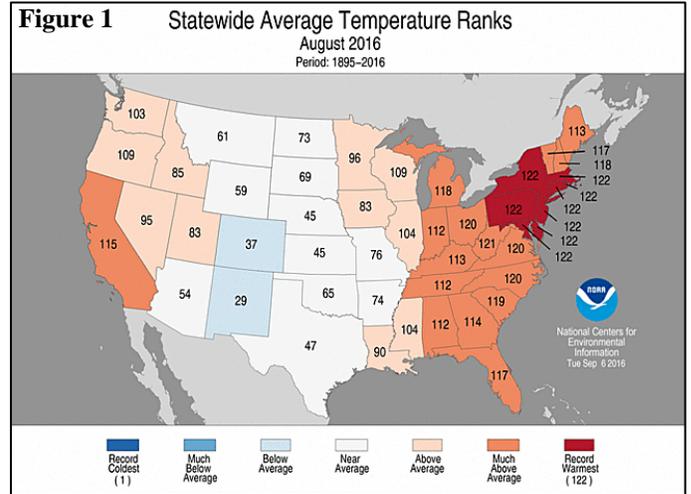
Meanwhile, the worst Northeastern drought since 2002 persisted or intensified, despite a few August showers. Record-setting August heat aggravated the effects of drought, reducing water availability in some communities and leaving more than half of the pastures rated in very poor to poor condition on September 4 in Massachusetts (88 percent), Connecticut (69 percent), New Hampshire (68 percent), and Rhode Island (65 percent). Heat’s footprint extended much farther than the Northeast, affecting nearly all areas east of the Mississippi River.

Elsewhere, August rain provided some drought relief in the interior Southeast. At month’s end, Tropical Storm Hermine—later a Category 1 hurricane—formed over the eastern Gulf of Mexico. In early September, Hermine’s heavy rain and gusty winds threatened the quality of unharvested crops, including open-boll cotton, in the southern Atlantic region.

Historical Perspective: According to preliminary information provided by the National Centers for Environmental Information, the contiguous U.S. experienced its 17th-warmest, second-wettest August during the 1895-2016 period of record. The nation’s monthly average temperature of 73.6°F was 1.5°F above the 20th century mean, while precipitation averaged 3.47 inches, 132 percent of normal. The only wetter August occurred in 1977, when an average of 3.55 inches fell.

Statewide temperature rankings ranged from the 29th-coolest August in New Mexico to the hottest August on record in eight states across the Mid-Atlantic region and southern New England (figure 1). Previous August temperature records in

Delaware, Maryland, and Pennsylvania had been set in 1900. Meanwhile, state precipitation rankings ranged from the eighth-driest August in Idaho and New Jersey to the wettest August ever in Louisiana (figure 2). Monthly rainfall averaged a stunning 12.90 inches (278 percent of normal) in Louisiana, demolishing the August 1940 standard of 9.71 inches.



Summary: August began with record-setting heat baking the Deep South. Triple-digit, daily-record highs were set in several Southern locations, including McAllen, TX (105°F on August 5), and Meridian, MS (102°F on August 2). Meridian’s streak with above-normal daily average temperatures stretched to 99 days (May 25 – August 31) by month’s end—not a single cooler-than-normal day during that span. Meridian also did not report a summer temperature below 72°F after July 1. Meanwhile, in advance of a cold front, heat briefly surged northward across many other parts of the country. On August 2, for example, daily-record highs in Wyoming climbed to 101°F in Sheridan and 100°F in Worland. Later, in Michigan, record-setting highs for August 4 included 95°F in Alpena and 93°F in Gaylord. Daily-record highs were also set in locations such as Cleveland, OH (94°F on August 5), and Portland, ME (94°F on August 6). Cool air eventually arrived in the Northwest, where Big Piney posted a

daily-record low of 25°F on August 4. Other Northwestern daily-record lows dipped to 38°F (on August 5) in Idaho Falls, ID, and 42°F (on August 6) in Eugene, OR.

August also opened with pockets of heavy showers in the Midwest, Southeast, and Southwest. For example, August 3-4 rainfall totals of at least 6 to 12 inches in parts of Surry County, NC, with 12.52 inches reported in Ararat. Meanwhile, heavy showers peppered the mid-South and the north-central U.S. Daily-record amounts reached 2.68 inches (on August 2) in Columbia, MO; 2.16 inches (on August 5) in Harrison, AR; and 1.49 inches (on August 3) in Grand Forks, ND. A wind gust to 58 mph accompanied the rain in Grand Forks. The following day, on August 4, a gust to 63 mph was clocked in Decorah, IA. During the first 6 days of August, rainfall totaled 6.06 inches in Paducah, KY, and 6.05 inches in Vichy-Rolla, MO. Showers also became more numerous across the Southeast and continued in the Southwest. Daily-record Southeastern totals reached 4.97 inches (on August 4) in Athens, GA, and 3.79 inches (on August 2) in Miami, FL. During July, rainfall in Athens had totaled just 1.60 inches (36 percent of normal), with 1.17 inches of that occurring on the final day of the month. Farther west, daily-record totals included 0.80 inch (on August 1) in Kingman, AZ, and 0.62 inch (on August 4) in Alamosa, CO.

About a week later, a slow-moving, non-tropical disturbance drifted westward along the Gulf Coast, helping to focus heavy rain first in Florida's Big Bend region and later in southern Louisiana and environs. Mid-month rainfall totals of 10 to 20 inches or more resulted in historic flooding along the Amite, Comite, Tickfaw, and Tangipahoa Rivers in southern Louisiana. At the same time, the complex interaction between the Gulf Coast storm, a Midwestern cold front, and the Southwestern monsoon circulation led to extensive shower activity from southern sections of the Rockies and Plains into the Northeast. Separate areas of heavy rain, associated with the cold front, soaked the upper Midwest. Even before the Gulf storm's arrival, hit-or-miss showers became more cohesive in several regions. Daily-record totals on August 7 included 2.67 inches in Wichita, KS, and 2.47 inches in Little Rock, AR. Wichita's August 5-8 total climbed to 6.80 inches. Heavy showers also dotted Florida, where Vero Beach netted 7.44 inches from August 7-9. Meanwhile, downpours developed in Florida's Big Bend region in conjunction with a weak but persistent low-pressure system. Storm-total rainfall in excess of 10 inches occurred in the sparsely populated marshland between Tallahassee and Gainesville, FL. Gulf Coast rainfall became even heavier on August 12, when the wettest day on record occurred in New Iberia, LA. From August 10-14, rainfall reached 23.64 inches in New Iberia, boosted by the record-setting, 13.54-inch total on the 12th. During the same period, 21.35 inches fell in Lafayette, LA, with most of the rain (10.39 and 10.40 inches, respectively) occurring on August 12-13. Lafayette's previous wettest day had been May 16, 1980, when 10.38 inches fell. Elsewhere in Louisiana, Baton Rouge was battered by 19.24 inches of rain from August 10-13, with more than half (11.24 inches) of that total falling on the 12th. That became the second-highest daily total on record in Baton Rouge, behind only 11.99 inches on April 14, 1967. Baton Rouge went on to record its wettest August and month, with a 30.04-inch total (previously, 16.27 inches in 1926 and 23.73 inches in May 1907, respectively).

In Louisiana's ensuing flooding, high-water marks from April 1983 were broken in locations such as the Amite River at Denham Springs (17.20 feet above flood stage on August 14 and 4.70 feet above the record) and the Tickfaw River at Holden (7.16 feet above flood stage on August 13 and 1.12 feet above the record). Along the Tangipahoa River at Robert, LA, the water crested 12.33 feet above flood stage on August 13—and 0.23 foot above the March 1921 record. Southern Louisiana's flooding ultimately resulted in more than a dozen fatalities and damaged or destroyed more than 60,000 homes. Record-setting floods persisted for days in several basins, including the Amite, where the river crested 5.21 feet above flood stage at French Settlement on August 16. The previous high-water mark along the Amite River in that location was 3.40 feet above flood stage on April 25, 1977. Farther north, nearly-as-impressive downpours were heaviest in the upper Midwest. Wabasha, MN, experienced its wettest 24-hour period on record on August 9-10, when 6.41 inches fell (previously, 6.15 inches on May 27-28, 1970). Daily-record amounts reached 3.90 inches (on August 11) in Watertown, SD, and 2.26 inches (on August 9) in Great Falls, MT. On August 12, Springfield, IL, experienced its wettest day on record, with a daily sum of 5.59 inches (previously, 5.44 inches on September 8, 1926). Elsewhere, daily-record totals topped the 2-inch mark in locations such as Mt. Ida, AR (3.29 inches on August 13); Vichy-Rolla, MO (2.95 inches on August 12); Grand Rapids, MI (2.61 inches on August 12); and Midland, TX (2.04 inches on August 12).

The slow-moving frontal boundary partly responsible for the Southwestern-to-Northeastern band of heavy rain also separated late-summer heat from cool conditions. In McAllen, TX, temperatures reached or exceeded 105°F on 9 consecutive days from August 5-13, including a daily-record high of 107°F on August 11. Elsewhere in Texas, record-setting highs for August 12 soared to 108°F in Laredo and 107°F in Del Rio and Dallas-Ft. Worth. Meanwhile, unusual heat also arrived across the lower Great Lakes region before spreading into the East. In Michigan, daily-record highs rose to 97°F in Alpena (on August 10) and Flint (on August 11). Heat in New England generally peaked on August 12, when highs rocketed to 99°F in Portland, ME, and Concord, NH. Farther south, Mid-Atlantic heat persisted for several more days. Washington, DC, posted a trio of daily-record highs (99, 101, and 100°F) from August 12-14. Bridgeport, CT, matched that feat, with respective daily-record highs of 94, 95, and 94°F on those three dates. Washington, DC, also recorded at least three triple-digit readings in a row—the high of 100°F on August 15 was not a daily record—for the first time since July 5-8, 2012. The nation's capital had not experienced consecutive highs of 100°F or greater in August since 1997. In contrast, cool conditions prevailed in parts of the West. South Lake Tahoe, CA, collected consecutive daily-record lows (32 and 34°F, respectively) on August 9-10. Other record-setting lows for August 10 included 35°F in Butte, MT, and 38°F in Challis, ID. The Northwestern cool spell lingered through August 12, when Pocatello, ID, notched a daily-record low of 42°F.

The Western cool spell was short-lived, as mid-month highs soared to daily-record levels in southern California locations such as Needles (117°F on August 15) and Palm Springs (115°F on August 16). Western heat briefly shifted northward, as Redding, CA, registered a daily-record high of

108°F on August 17. In the Pacific Northwest, August 18-20 featured a trio of daily-record highs in locations such as Quillayute, WA (96, 96, and 86°F); Medford, OR (108, 109, and 105°F); and Montague, CA (104, 106, and 103°F). Meanwhile, slightly cooler air arrived on the Plains. From August 14-18, Dalhart, TX, reported five consecutive lows below the 60-degree mark—including a daily-record low of 51°F on the 15th—for the first time since early June. Soon, a new surge of cool air arrived across northern sections of the Rockies and Plains. By August 20, daily-record lows in Wyoming dipped to 31°F in Rawlins; 36°F in Rock Springs; and 37°F in Cheyenne.

Even after the departure of the unnamed Gulf storm, a general band of heavy showers lingered from Texas into the Midwest. During the week of August 14-20, rain fell on each day in several locations, totaling 7.43 inches in Austin, TX, and 4.10 inches in Little Rock, AR. Heavy rain also extended into the eastern Corn Belt, where South Bend, IN, experienced its wettest day on record. South Bend's total for August 15 reached 7.69 inches, topping the standard of 6.58 inches set on September 13, 2008. Elsewhere in the lower Midwest, daily-record amounts for August 15 included 2.14 inches in Lincoln, IL, and 1.79 inches in Cincinnati, OH. A day later, record-setting totals in Michigan for August 16 climbed to 1.76 inches in Lansing and 1.74 inches in Grand Rapids. Farther east, Northeastern daily-record totals reached 1.64 inches (on August 15) in Baltimore, MD, and 1.11 inches (on August 17) in Houlton, ME. A few days later, rainfall re-intensified from southern and eastern Texas into the Great Lakes States. Madison, WI, set a rainfall record for August 19, when 2.74 inches fell. Daily-record amounts for August 20 totaled 4.19 inches in Mt. Ida, AR; 3.12 inches in Del Rio, TX; and 1.59 inches in Marquette, MI.

By late August, nearly a dozen actively burning wildfires in six Western States had charred at least 20,000 acres of vegetation apiece. The largest of the Western blazes was the 184,000-acre Pioneer fire, a few miles north of Idaho City, ID. Containment of the Pioneer fire, of unknown origin, topped the halfway mark in early September. The fire was first spotted on July 18. However, the most destructive of August's wildfires was California's short-lived Blue Cut fire, northwest of San Bernardino near Lytle Creek. The Blue Cut fire, reported on August 16, quickly grew to more than 36,000 acres, destroying 105 homes and more than 200 outbuildings. By early September, the nation's year-to-date vegetation charred by wildfires stood at more than 4.7 million acres, well shy of the ten-year average of about 5.9 million acres. Alaska's wet summer contributed to the relatively low national acreage total; the year-to-date sum in that state was just under one-half million acres.

One of the contributing factors to the wildfires was hot (and dry) weather, which peaked in the Northwest from August 18-20 and 24-26. During the latter heat wave, Quillayute, WA, matched its earlier feat of three daily-record highs in a row, registering 91, 92, and 86°F. Similarly, August 25-26 featured consecutive daily-record highs in Salem, OR (97 and 99°F), and Seattle, WA (91 and 92°F). Meanwhile, a brief cool spell across the nation's mid-section contrasted with ongoing heat in the East. Daily-record lows for August 21 dipped to 38°F in Casper, WY; 43°F in North Platte, NE; and 46°F in Hill City, KS. Two days later, on August 23, Sarasota-Bradenton, FL,

logged a daily-record high of 99°F. Eastern heat was fairly consistent for several days, with daily-record highs reaching 99°F (on August 26) in Richmond, VA, and 98°F (on August 27) in Raleigh-Durham, NC. At month's end, some additional heat occurred in the West. Temperatures surged to daily-record levels in Montana locations such as Missoula (94°F on August 29); Ennis (95°F on August 30); and Lewistown (99°F on August 31). Elsewhere, daily-record highs included 99°F (on August 30) in Sandberg, CA, and 94°F (on August 31) in Idaho Falls, ID.

During August, Northeastern drought reached its greatest intensity and areal extent since 2002, according to the U.S. Drought Monitor. Regional drought had appeared as early as the spring of 2015, covering nearly one-quarter of the Northeast, but summer and autumn rainfall temporarily vanquished the dry conditions. However, a shortage of 2015-16 winter snowfall and the emergence of hot, dry conditions during the 2016 growing season rapidly depleted soil moisture and resulted in amplifying drought impacts. In Massachusetts, for example, Worcester's reservoir system fell to just 55% of capacity, compared to the September 1 average of 82 percent. Late-month rainfall brought limited drought relief to a few spots, but failed to provide large-scale improvement. Daily-record rainfall totals for August 21 reached 1.45 inches in Reading, PA, and 1.30 inches in Watertown, NY. Despite some August showers, Boston, MA, completed its driest summer on record, with a June-August rainfall total of just 3.92 inches, or 37% of normal (previously, 3.97 inches in 1957). At the same time, Boston experienced its hottest August on record, breaking a record originally set in 1998. Elsewhere in the Northeast, August average temperature records from 1947 were tied or broken in locations such as Buffalo, NY, and Cleveland, OH. Farther south, August records were also shattered in West Palm Beach, FL (previous record set in 2005), and Charleston, SC (2007).

During the summer of 2016, several coastal Florida communities were unusually dry. As a result, the driest June-August period on record ended in Jacksonville (7.88 inches, or 40% of normal; previously, 8.71 inches in 1954) and Daytona Beach (7.63 inches, or 42 percent; previously, 8.75 inches in 1989). However, torrential rainfall arrived at the end of August across parts of Florida in conjunction with Tropical Storm Hermine. On the 31st, with a 7.76-inch total, Sarasota-Bradenton, FL, experienced its wettest August day (previously, 5.90 inches on August 14, 1928). Elsewhere in Florida, daily-record amounts for August 31 included 5.01 inches in St. Petersburg, 4.04 inches in Tampa, and 3.48 inches in Lakeland. Parts of Pinellas County, FL, received at least 15 to 20 inches of rain in a 72-hour period ending on September 2, with 20.11 inches measured near Baskin. More details on Hermine's early-September impacts across the southern Atlantic region will appear in next month's summary.

In the wake of Louisiana's deluge, wet weather lingered during the flood-recovery period. Shreveport, LA, received measureable rain on 9 consecutive days from August 14-22, tying an August record first set in 2008. Heavy rain returned to the mid-South on August 25, when daily-record totals reached 4.71 inches in El Dorado, AR, and 2.17 inches in Shreveport. August rainfall records were broken at several Arkansas locations, including Mt. Ida—where the previous record of 12.00 inches had been set in 1915. Mt. Ida's final

monthly total reached 12.30 inches. Elsewhere in Arkansas, El Dorado's 12.87-inch sum eclipsed its August 1950 standard of 11.18 inches. Meanwhile in Louisiana, New Iberia's monthly rainfall totaled 29.67 inches, more than doubling its August 1989 record of 13.15 inches and battering its October 1984 all-time mark of 21.35 inches. With a summer rainfall of 41.82 inches, New Iberia also edged its June-August 1989 record of 40.61 inches. Record-setting wetness extended into the Midwest, where August rainfall records were dispatched in South Bend, IN (12.81 inches; previously 8.88 inches in 2007), and Springfield, IL (10.82 inches; previously 8.37 inches in 1981).

Late in the month, several more heavy rainfall events unfolded across the Midwest, as arriving cold fronts acted upon moisture being channeled into the region by the Southwestern monsoon circulation and a Southeastern ridge of high pressure. Decorah, IA, was deluged by 8.06 inches of rain on August 23-24, breaking a 24-hour rainfall record in that location (previously, 6.60 inches on June 7-8, 2008). And, areas from central Indiana to northwestern Ohio endured a widespread tornado outbreak on August 24. More directly tied to the Southwestern monsoon, rainfall in Flagstaff, AZ, totaled 1.41 and 0.94 inches, respectively, on August 26-27—setting daily records both days. Finally, St. Cloud, MN, experienced its third-wettest August day with a 4.08-inch total on the 29th. Heavy rain also developed on the central and southern Plains, where Salina, KS, received 6.21 inches during the last 7 days of the month. Meanwhile in southeastern New Mexico, August 30-31 rainfall totaled 2.22 inches in Artesia and 1.90 inches in Carlsbad.

Alaska's warm, wet summer came to an end. Anchorage experienced its second-warmest, fourth-wettest August on record, with an average temperature of 60.5°F (3.8°F above normal) and rainfall totaling 5.45 inches (168% of normal). The only warmer August in Anchorage occurred in 2004. In southeastern Alaska, August average temperature records were broken in locations such as Annette Island (63.6°F; previously, 62.9°F in 1977) and Yakutat (57.7°F; previously, 57.0°F in 2004). The week of August 7-13 was especially wet across southern Alaska, with totals reaching 4.47 inches in Yakutat, 2.47 inches in Anchorage, and 2.36 inches in Juneau. Daily-record totals were set during the wet spell in several Alaskan locations, including Anchorage (1.06 inches on August 8) and Bettles (0.89 inch on August 10). Early signs of winter appeared across northern Alaska by August 19, when Barrow received a daily-record snowfall of 1.6 inches. Around the same time, from August 19-21, a wave of precipitation brought 1.53 inches to McGrath, 1.44 inches to Bethel, and 1.43 inches to Nome. In southern Alaska, Valdez netted 9.08 inches of rain in a 12-day period from August 7-18. Very warm weather late in the month resulted in daily-record highs for August 27 in Yakutat (78°F) and King Salmon (76°F). Bethel reported four consecutive daily-record highs (72, 72, 73, and 74°F) from August 30 – September 2. Other Alaskan daily-record highs included 77°F (on August 28) in Anchorage; 77°F (on August 31) in King Salmon; and 72°F (on August 31) in Nome. In contrast, widespread frost occurred on August 31 across eastern interior Alaska, where lows dipped to 24°F in Chicken and 25°F in Tok.

For much of the month, Hawaii experienced typical, late-summer conditions: showers mainly in windward locations. Warm weather prevailed at times, with the Big Island location

of Hilo posting daily record-tying highs of 87°F on August 1 and 88°F on August 7 and 8. Rainfall became a little heavier around mid-month, especially on the Big Island. Several Big Island totals of 3 to 5 inches were noted in a 24-hour period on August 15-16, with Glenwood recording 4.46 inches. About a week later, parts of Hawaii experienced additional downpours. Hilo recorded 11.19 inches of rain on August 22-23. As the month drew to a close, westbound, weakening Tropical Storm Madeline passed less than 100 miles south of South Point on the Big Island of Hawaii. Madeline, a former Category 4 Pacific hurricane with maximum sustained winds of 130 mph, weakened to a tropical storm on August 31 while skirting the Big Island. Nevertheless, portions of the Hawaiian Islands experienced heavy rain and gusty winds, in part due to a high-pressure system situated north of the tropical cyclone. Hilo's daily-record sum of 4.29 inches on August 31 helped to boost its monthly total to 24.68 inches (251% of normal). Elsewhere on the Big Island, 48-hour rainfall totals from August 30 – September 1 reached 11.38 inches at the Saddle Road Quarry and 9.39 inches in Glenwood. On September 1, the barometric pressure gradient between Madeline and the high-pressure system contributed to wind gusts clocked at 70 mph at the Oahu Forest National Wildlife Refuge and 61 mph at Kaupo Gap on Maui.

Fieldwork

Fieldwork summary provided by USDA/NASS

Nearly all areas east of the Great Plains recorded above-average monthly temperatures. Temperatures averaged at least 4°F above normal in most of the Great Lakes region. Conversely, below-average temperatures were noted in the Rocky Mountains and High Plains. During August, most areas of the nation had near-normal precipitation totals, with exceptions in the Mississippi Valley and Texas. A mid-month low-pressure system in the Delta produced more than 20 inches of rain in parts of southern Louisiana, causing major flooding. Below-average precipitation and above-average temperatures along the Pacific Coast provided no relief for drought conditions in California.

Ninety-one percent of the corn was at or beyond the silking stage by July 31, four percentage points ahead of last year and 6 points ahead of the 5-year average. At the beginning of August, the percentage of the crop in the silking stage was at or ahead of the average in all 18 major estimating states. By July 31, thirty percent of corn was at or beyond the dough stage, 5 percentage points ahead of both last year and the 5-year average. By August 7, ninety-seven percent of the corn was at or beyond the silking stage, 3 percentage points ahead of both last year and the 5-year average. Nationally, 53% of the crop was at or beyond the dough stage by August 7, nine percentage points ahead of last year and 11 points ahead of the average. By August 7, denting was evident in 9% of this year's crop, slightly ahead of last year but 3 percentage points behind the 5-year average. Nine percent of the corn was mature by August 28, slightly ahead of last year but 2 percentage points behind the average. By September 4, ninety-six percent of the corn had reached the dough stage, slightly ahead of last year and 2 percentage points ahead of average. Nationally, 76% of the corn was at or beyond the dent stage by September 4, five percentage points ahead of last year and 7 points ahead of average. Eighteen percent of this year's crop

this year's crop was reported as mature by September 4, slightly ahead of last year but 2 percentage points behind the average. Overall, 74% of the corn was reported in good to excellent condition on September 4, down 2 percentage points from July 31 but 6 points above the same time last year.

By July 31, eighty-five percent of this year's soybean crop was at or beyond the blooming stage, 7 percentage points ahead last year and 6 points ahead of the 5-year average. By July 31, fifty-four percent of the soybeans were at or beyond the pod-setting stage, 6 percentage points ahead of last year and 10 points ahead of average. By August 14, ninety-five percent of the soybeans were at or beyond the blooming stage, 3 percentage points ahead of last year and 2 points ahead of average. Nationwide, 80% of the soybeans were at or beyond the pod-setting stage by August 14, four percentage points ahead of last year and 5 points ahead of average. Ninety-four percent of the soybeans were at or beyond the pod-setting stage by August 28, three percentage points ahead of last year and 2 points ahead of average. Nationally, leaf drop advanced to 5% complete by August 28, three percentage points behind last year but equal to the 5-year average. Ninety-seven percent of the soybeans were at or beyond the pod-setting stage by September 4, two percentage points ahead of last year but equal to the 5-year average. Pod setting was at least 90% complete in all soybean-estimating states by September 4. Leaf drop had advanced to 12% complete by September 4, three percentage points behind last year but equal to the 5-year average. Overall, 73% of the soybeans were in good to excellent condition on September 4, up slightly from July 31 and 10 percentage points above the same time last year.

By July 31, producers had harvested 89% of the 2016 winter wheat crop, 2 percentage points behind last year but 3 points ahead of the 5-year average. Producers had harvested 94% of the crop by August 7, two percentage points behind last year but 3 points ahead of average. Producers had harvested 97% of the crop by August 14, two percentage points behind last year but 2 points ahead of average. With the exception of the Pacific Northwest, winter wheat harvest was complete or nearing completion in all major estimating states.

Nationally, 92% of the cotton was at or beyond the squaring stage by July 31, two percentage points ahead of last year and slightly ahead of the 5-year average. By July 31, bolls were setting on 54% of the nation's crop, slightly ahead of last year but 3 percentage points behind the 5-year average. Eighty-eight percent of the cotton was setting bolls by August 14, sixteen percentage points ahead of last year and 5 points ahead of average. Nationally, 12% of the cotton had open bolls by August 14, three percentage points ahead of last year and 2 points ahead of average. By August 28, bolls were open in 23% of the nation's cotton fields, 3 percentage points ahead of last year but equal to the 5-year average. By September 4, thirty-three percent of this year's cotton had open bolls, 5 percentage points ahead of last year but equal to the 5-year average. Overall, 48% of the cotton was in good to excellent condition on September 4, down 2 percentage points from July 31 and 5 points lower than at the same time last year.

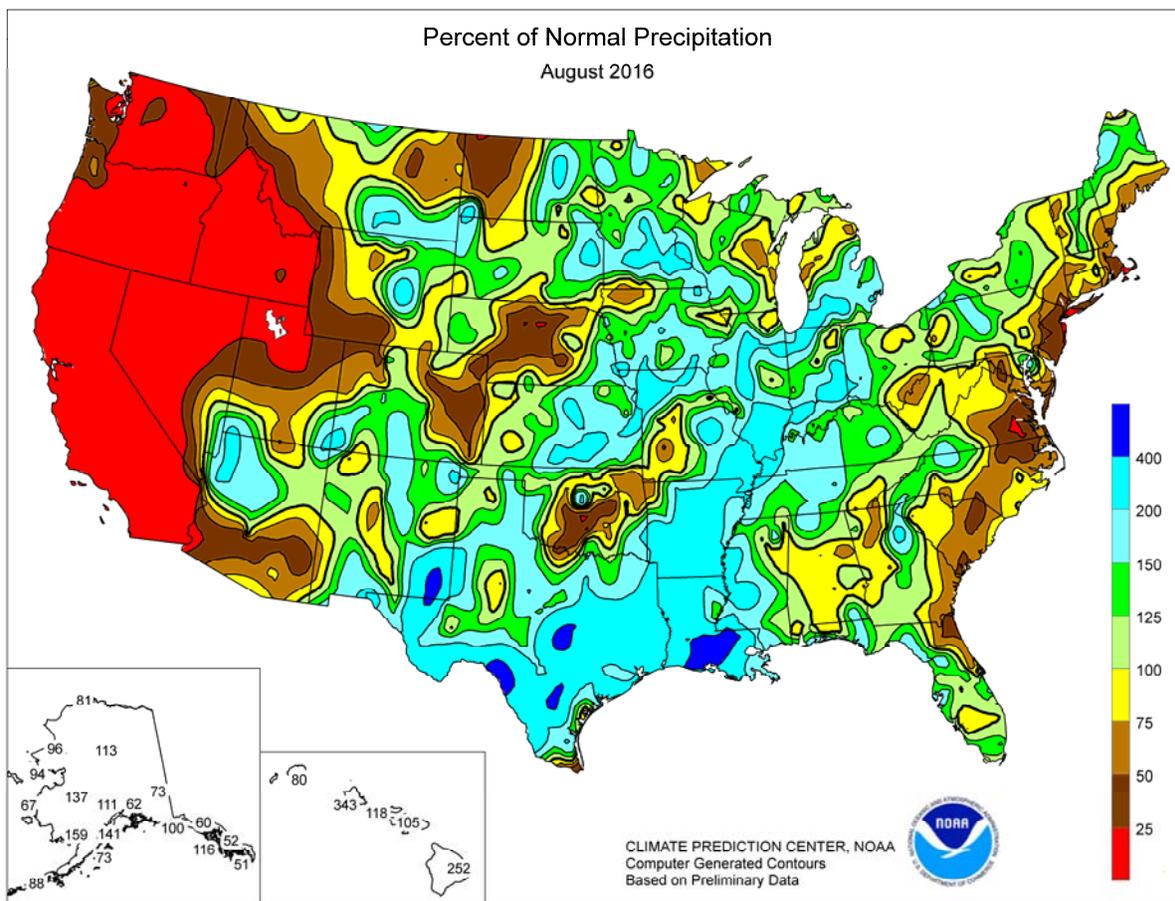
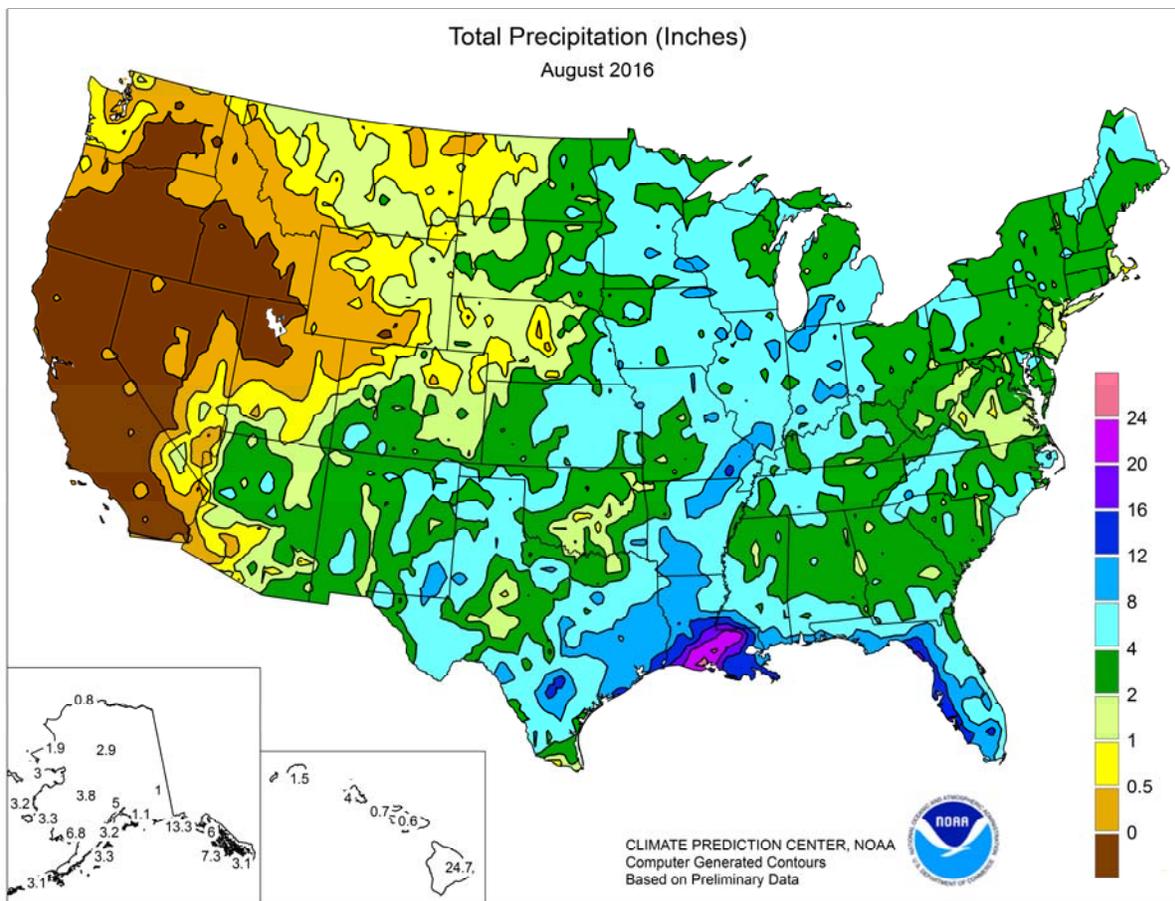
By July 31, sixty-one percent of the nation's sorghum was at or beyond the heading stage, 7 percentage points ahead of last

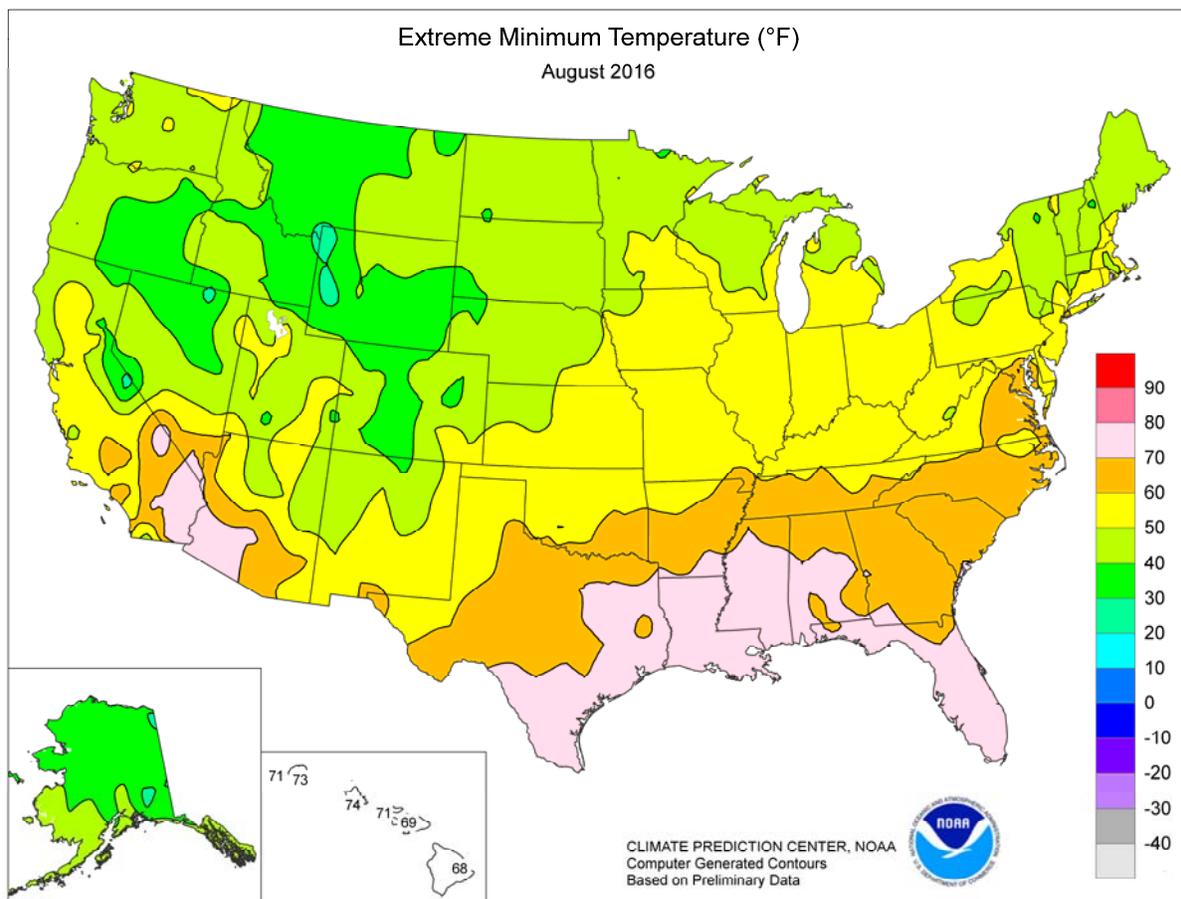
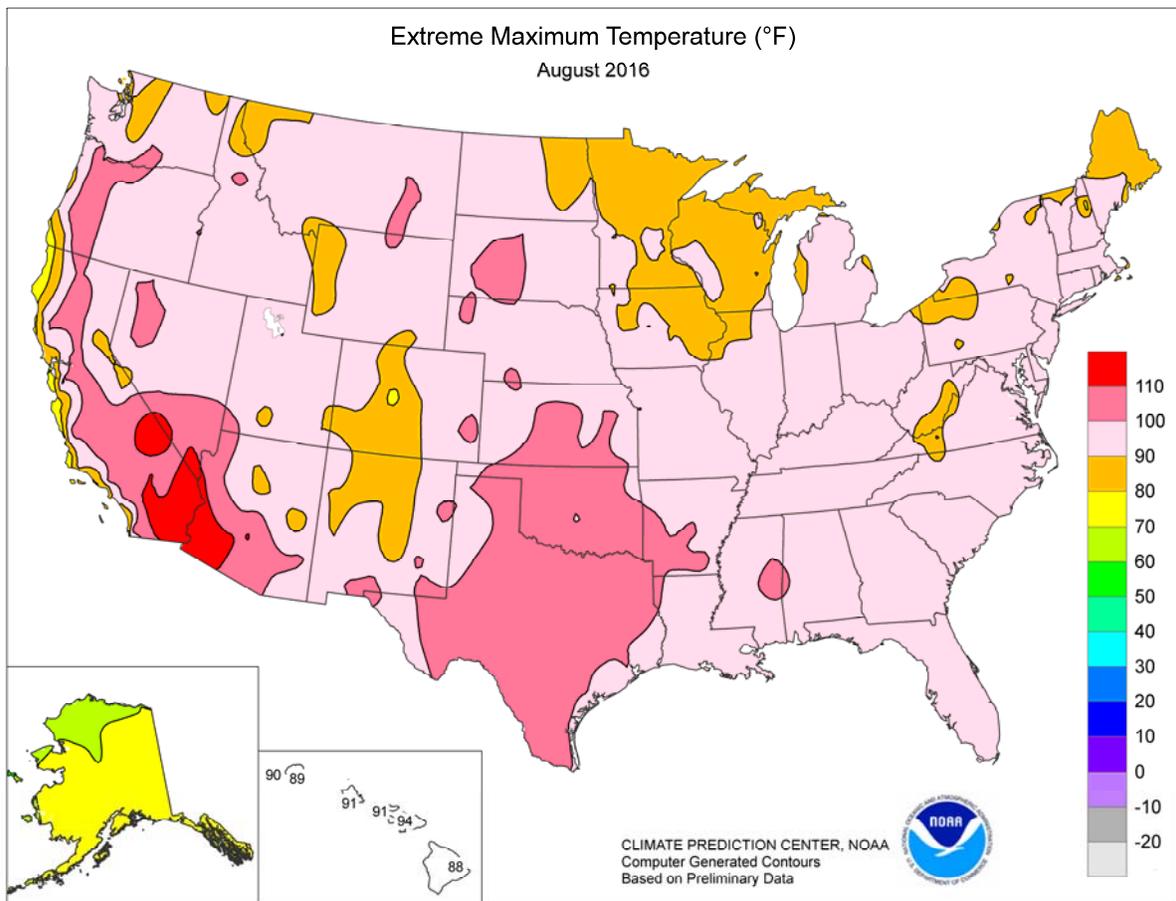
year and 11 points ahead of the 5-year average. Nationally, 26% of this year's crop was at or beyond the coloring stage by July 31, slightly behind last year and 3 percentage points behind average. By August 14, eighty-three percent of the sorghum was at or beyond the heading stage, 3 percentage points ahead of last year and 11 points ahead of average. Twenty-three percent of the sorghum was mature by August 14, equal to last year but 3 percentage points behind average. Nationally, 62% of the sorghum was at or beyond the coloring stage by August 28, seven percentage points ahead of last year and 11 points ahead of average. By August 28, thirty-three percent of the sorghum was mature, 5 percentage points ahead of last year and 3 points ahead of average. By August 28, producers had harvested 18% of the crop, slightly behind last year and 5 percentage points behind average. Nationwide, producers had harvested 20% of the sorghum by September 4, two percentage points behind last year and 5 points behind average. Overall, 66% of the sorghum was reported in good to excellent condition on September 4, unchanged from July 31 but 2 percentage points below the same time last year.

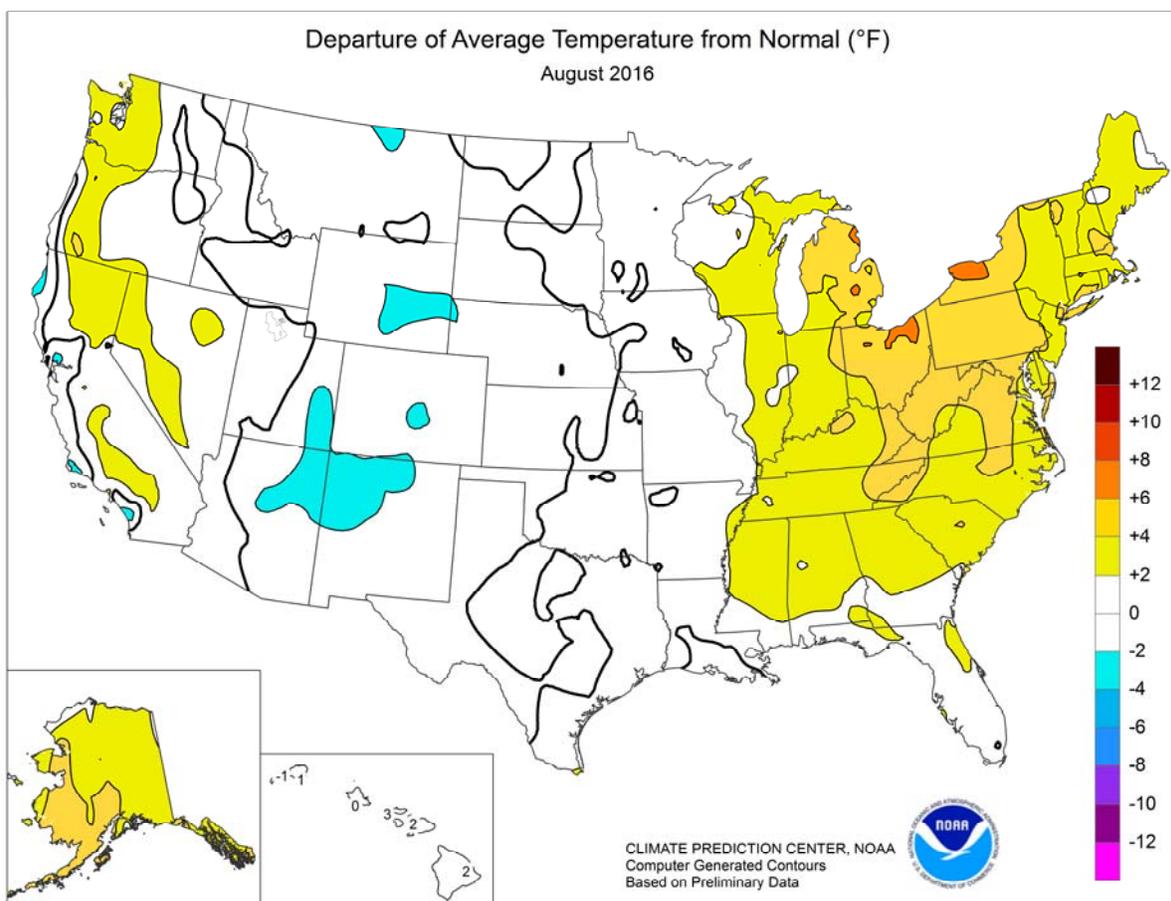
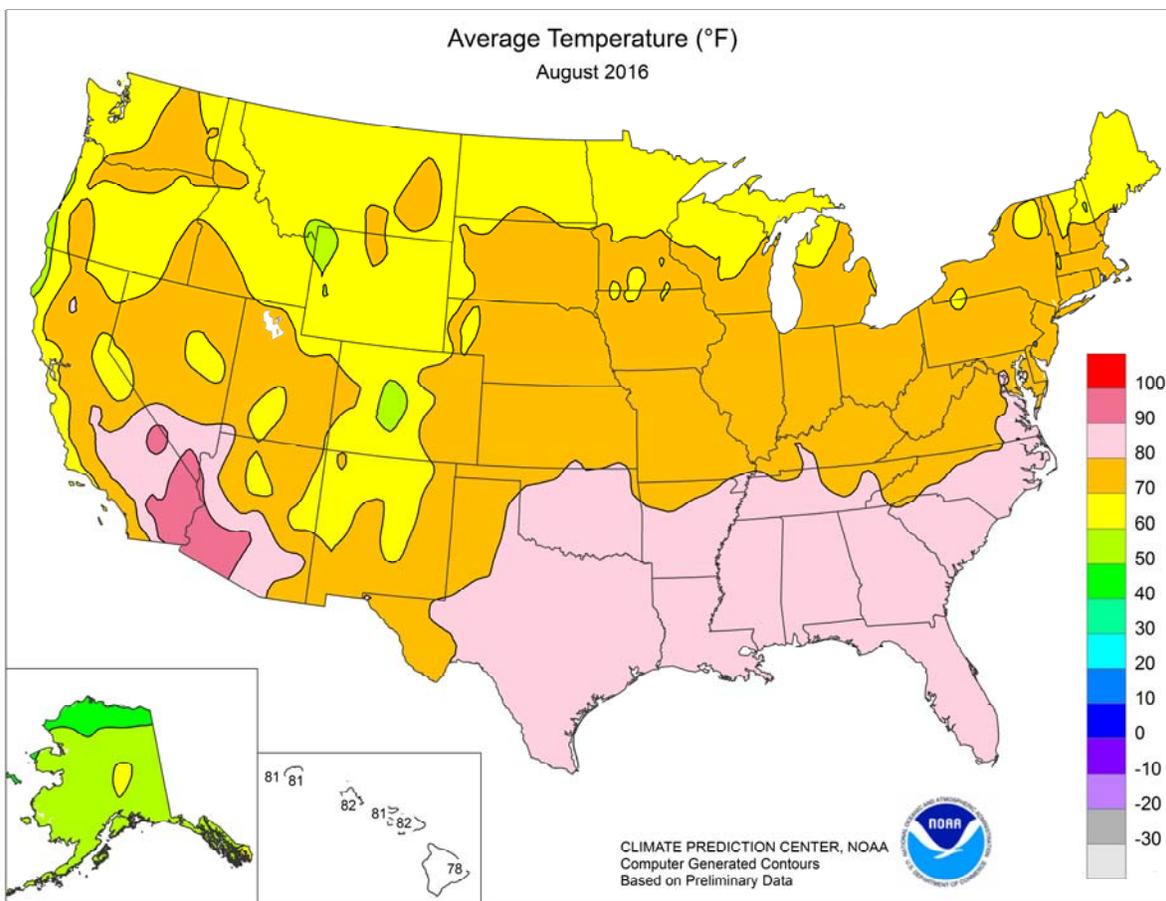
Rice heading advanced to 71% complete by July 31, eleven percentage points ahead of last year and 17 points ahead of the 5-year average. By August 7, eighty-six percent of the rice was at or beyond the heading stage, 10 percentage points ahead of last year and 18 points ahead of average. Nationally, 9% of the rice was harvested by August 7, two percentage points ahead of last year and 4 points ahead of the 5-year average. By September 4, rice producers had harvested 35% of this year's crop, 3 percentage points ahead of last year and 5 points ahead of average. Overall, 58% of the rice was reported in good to excellent condition on September 4, compared with 66% on July 31 and 65% at the same time last year.

Eighty-nine percent of the peanut crop was pegging by July 31, three percentage points ahead of last year and 4 points ahead of the 5-year average. By August 7, ninety-five percent of the peanuts were pegging, 3 percentage points ahead of last year and 4 points ahead of average. Overall, 64% of the peanut crop was reported in good to excellent condition on September 4, compared with 66% on July 31 and 71% at the same time last year. Producers had begun digging peanuts on early varieties in Georgia by September 4.

Ten percent of the spring wheat was harvested by July 31, four percentage points ahead of last year and slightly ahead of the 5-year average. Thirty percent of the spring wheat was harvested by August 7, eight percentage points ahead of last year and 12 points ahead of average. Overall, 66% of the spring wheat was reported in good to excellent condition on August 14, down 2 percentage points from July 31 and 4 points lower than at the same time last year. By August 21, spring wheat producers had harvested 65% of the nation's crop, four percentage points behind last year but 19 points ahead of the 5-year average. By September 4, ninety-one percent of the spring wheat was harvested, slightly behind last year but 16 percentage points ahead of average. Harvest progress was over 2 weeks ahead of the 5-year average in Montana and North Dakota by the end of the month.







National Weather Data for Selected Cities

August 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMP, °F		PRECIP.		STATES AND STATIONS	TEMP, °F		PRECIP.		STATES AND STATIONS	TEMP, °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	83	3	2.52	-0.96	LEXINGTON	79	4	6.54	2.77	COLUMBUS	78	4	5.82	2.10
HUNTSVILLE	83	4	4.88	1.56	LONDON-CORBIN	78	4	5.02	1.66	DAYTON	77	5	4.74	1.25
MOBILE	83	2	4.59	-1.61	LOUISVILLE	81	4	5.71	2.30	MANSFIELD	76	7	3.39	-1.21
MONTGOMERY	85	4	2.47	-1.16	PADUCAH	80	4	9.60	6.61	TOLEDO	75	4	4.89	1.70
AK ANCHORAGE	60	4	5.45	2.52	LA BATON ROUGE	83	2	30.04	24.18	YOUNGSTOWN	74	6	5.23	1.80
BARROW	40	1	0.84	-0.20	LAKE CHARLES	83	1	14.70	9.85	OK OKLAHOMA CITY	82	1	0.55	-1.93
COLD BAY	56	4	3.15	-0.44	NEW ORLEANS	86	3	11.87	5.72	TULSA	83	1	2.31	-0.54
FAIRBANKS	61	5	1.56	-0.18	SHREVEPORT	84	1	7.81	5.10	OR ASTORIA	65	4	0.50	-0.71
JUNEAU	59	3	5.97	0.60	ME BANGOR	70	2	2.24	-0.75	BURNS	66	2	0.00	-0.45
KING SALMON	60	5	4.84	1.95	CARIBOU	66	3	5.89	1.74	EUGENE	70	4	0.00	-0.99
KODIAK	59	4	3.28	-1.20	PORTLAND	72	5	1.90	-1.15	MEDFORD	77	4	0.00	-0.52
NOME	54	3	3.03	-0.20	MD BALTIMORE	79	5	3.96	0.22	PENDLETON	72	0	0.07	-0.49
AZ FLAGSTAFF	62	-2	6.34	3.45	MA BOSTON	76	4	1.72	-1.65	PORTLAND	72	3	0.09	-0.84
PHOENIX	92	1	1.27	0.33	WORCESTER	72	4	3.96	-0.13	SALEM	71	4	0.41	-0.27
TUCSON	85	0	1.16	-1.14	MI ALPENA	71	6	1.92	-1.58	PA ALLENTOWN	76	5	1.99	-2.36
AR FORT SMITH	83	1	3.88	1.32	DETROIT	77	5	5.62	2.52	ERIE	76	5	8.12	3.91
LITTLE ROCK	84	3	7.56	4.63	FLINT	76	7	4.90	1.47	MIDDLETOWN	79	5	4.02	0.71
CA BAKERSFIELD	85	3	0.00	-0.08	GRAND RAPIDS	73	4	7.97	4.19	PHILADELPHIA	81	5	1.70	-2.12
EUREKA	56	-3	0.04	-0.34	HOUGHTON LAKE	70	5	3.76	0.04	PITTSBURGH	76	5	3.29	-0.09
FRESNO	83	3	0.00	-0.01	LANSING	74	6	6.63	3.17	WILKES-BARRE	74	4	3.07	-0.03
LOS ANGELES	71	0	0.00	-0.14	MUSKEGON	73	4	2.86	-0.91	WILLIAMSPORT	76	5	4.53	1.15
REDDING	82	3	0.00	-0.22	TRAVERSE CITY	73	5	3.67	0.28	PR SAN JUAN	84	2	5.14	-0.08
SACRAMENTO	74	-1	0.00	-0.06	MN DULUTH	67	3	4.96	0.74	RI PROVIDENCE	76	4	2.71	-1.19
SAN DIEGO	73	0	0.00	-0.09	INT'L FALLS	64	0	3.41	0.27	SC CHARLESTON	84	4	3.72	-3.19
SAN FRANCISCO	64	0	0.00	-0.07	MINNEAPOLIS	73	2	7.82	3.77	COLUMBIA	84	4	4.83	-0.58
STOCKTON	76	0	0.00	-0.05	ROCHESTER	70	2	5.74	1.41	FLORENCE	83	3	1.53	-3.80
CO ALAMOSA	61	-1	2.16	0.97	ST. CLOUD	69	2	8.35	4.42	GREENVILLE	81	3	4.37	0.29
CO SPRINGS	69	1	2.65	-0.83	MS JACKSON	83	2	9.42	5.76	MYRTLE BEACH	83	4	5.81	0.23
DENVER	71	0	0.22	-1.53	MERIDIAN	85	4	5.03	1.69	SD ABERDEEN	71	0	2.02	-0.40
GRAND JUNCTION	75	0	0.55	-0.29	TUPELO	83	3	5.35	2.68	HURON	73	2	3.83	1.76
PUEBLO	75	1	1.32	-0.95	MO COLUMBIA	77	1	5.84	2.09	RAPID CITY	69	-2	2.28	0.67
CT BRIDGEPORT	78	5	3.16	-0.59	JOPLIN	80	2	4.26	0.44	SIOUX FALLS	72	1	2.32	-0.69
HARTFORD	76	4	4.19	0.21	KANSAS CITY	77	0	9.16	5.62	TN BRISTOL	79	6	3.23	0.23
DC WASHINGTON	83	6	2.79	-0.65	SPRINGFIELD	79	1	2.62	-0.75	CHATTANOOGA	83	5	2.38	-1.21
DE WILMINGTON	79	4	1.55	-1.96	ST JOSEPH	76	0	6.74	2.94	JACKSON	81	2	3.79	0.91
FL DAYTONA BEACH	84	2	3.35	-2.74	ST LOUIS	81	3	5.77	2.79	KNOXVILLE	81	4	2.33	-0.56
FT LAUDERDALE	84	1	7.17	0.29	MT BILLINGS	71	0	1.67	0.82	MEMPHIS	85	4	5.53	2.53
FT MYERS	84	1	11.01	1.47	BUTTE	60	-2	0.66	-0.70	NASHVILLE	82	4	6.44	3.16
JACKSONVILLE	83	2	2.65	-4.22	GLASGOW	69	0	0.52	-0.73	TX ABILENE	83	0	5.54	2.91
KEY WEST	85	1	8.81	3.41	GREAT FALLS	65	-1	1.12	-0.53	AMARILLO	76	0	4.10	1.16
MELBOURNE	84	3	6.59	0.81	HELENA	68	1	0.92	-0.37	AUSTIN	83	-2	8.31	6.00
MIAMI	84	0	13.77	5.14	KALISPELL	64	1	1.08	-0.17	BEAUMONT	84	1	10.24	5.39
ORLANDO	84	1	9.89	3.64	MILES CITY	73	0	0.77	-0.39	BROWNSVILLE	87	3	0.51	-2.48
PENSACOLA	83	1	12.04	5.19	MISSOULA	67	1	0.28	-0.87	COLLEGE STATION	84	-1	8.92	6.29
ST PETERSBURG	84	1	12.15	3.89	NE GRAND ISLAND	74	0	0.57	-2.51	CORPUS CHRISTI	86	2	4.12	0.58
TALLAHASSEE	85	3	7.60	0.57	HASTINGS	74	0	1.77	-1.41	DALLAS/FT WORTH	86	2	4.42	2.39
TAMPA	84	1	12.71	5.11	LINCOLN	76	1	4.83	1.48	DEL RIO	85	0	10.26	8.67
WEST PALM BEACH	85	2	6.70	0.05	MCCOOK	74	-1	2.70	-0.10	EL PASO	81	0	4.46	2.71
GA ATHENS	82	4	10.10	6.32	NORFOLK	72	-1	2.33	-0.47	GALVESTON	85	1	8.82	4.60
ATLANTA	83	4	3.06	-0.61	NORTH PLATTE	73	0	0.88	-1.27	HOUSTON	85	2	10.41	6.58
AUGUSTA	83	4	3.66	-0.82	OMAHA/EPPLEY	76	2	5.78	2.57	LUBBOCK	79	1	3.03	0.68
COLUMBUS	83	2	4.37	0.59	SCOTTSBLUFF	71	0	1.86	0.67	MIDLAND	82	2	3.20	1.43
MACON	83	3	2.03	-1.76	VALENTINE	72	0	1.34	-0.86	SAN ANGELO	84	3	2.87	0.82
SAVANNAH	84	3	3.53	-3.67	NV ELKO	71	3	0.00	-0.36	SAN ANTONIO	84	0	4.91	2.34
HI HILO	78	2	24.68	14.90	ELY	67	1	0.33	-0.58	VICTORIA	84	0	5.52	2.47
HONOLULU	82	0	1.58	1.12	LAS VEGAS	91	2	0.17	-0.28	WACO	85	0	4.61	2.76
KAHULUI	82	2	0.56	0.03	RENO	76	6	0.04	-0.23	WICHITA FALLS	83	0	0.78	-1.60
LIHUE	81	1	1.52	-0.39	WINNEMUCCA	71	1	0.00	-0.35	UT SALT LAKE CITY	80	4	0.15	-0.61
ID BOISE	75	1	0.00	-0.30	NH CONCORD	73	5	1.89	-1.32	VT BURLINGTON	74	6	2.25	-1.76
LEWISTON	75	2	0.24	-0.51	NJ ATLANTIC CITY	77	3	1.10	-3.22	VA LYNCHBURG	77	3	1.79	-1.62
POCATELLO	68	0	0.24	-0.42	NEWARK	80	4	0.93	-3.09	NORFOLK	81	4	4.75	-0.04
IL CHICAGO/O'HARE	76	4	4.26	-0.36	NM ALBUQUERQUE	74	-2	0.86	-0.87	RICHMOND	80	4	0.52	-3.66
MOLINE	75	2	8.07	3.66	NY ALBANY	74	5	3.94	0.27	ROANOKE	78	3	4.46	0.72
PEORIA	76	3	7.45	4.29	BINGHAMTON	71	4	5.23	1.88	WASH/DULLES	79	5	0.96	-2.82
ROCKFORD	74	3	4.30	0.09	BUFFALO	75	6	4.17	0.30	WA OLYMPIA	65	2	0.40	-0.70
SPRINGFIELD	77	3	10.82	7.41	ROCHESTER	76	7	3.91	0.37	QUILLAYUTE	63	4	0.67	-2.00
EVANSVILLE	79	3	3.14	0.00	SYRACUSE	74	5	4.05	0.49	SEATTLE-TACOMA	69	3	0.17	-0.85
FORT WAYNE	76	5	3.06	-0.54	NC ASHEVILLE	76	4	6.65	2.35	SPOKANE	71	2	0.16	-0.52
INDIANAPOLIS	78	4	7.32	3.50	CHARLOTTE	82	3	1.88	-1.84	YAKIMA	73	5	0.00	-0.36
SOUTH BEND	74	3	12.81	8.83	GREENSBORO	80	4	4.96	1.25	WV BECKLEY	73	4	4.26	0.81
BURLINGTON	75	1	5.03	1.17	HATTERAS	82	3	5.64	-0.92	CHARLESTON	78	5	3.17	-0.94
CEDAR RAPIDS	73	1	7.68	3.45	RALEIGH	82	5	3.01	-0.77	ELKINS	74	5	3.17	-1.09
DES MOINES	72	2	5.64	1.13	WILMINGTON	82	2	7.76	0.45	HUNTINGTON	79	5	3.27	-0.61
DUBUQUE	76	2	3.75	-0.84	ND BISMARCK	69	0	1.88	-0.27	WI EAU CLAIRE	71	2	4.84	0.16
SIoux CITY	74	2	5.05	2.15	DICKINSON	67	-2	0.65	-0.86	GREEN BAY	71	4	2.78	-0.99
WATERLOO	72	1	5.22	1.14	FARGO	70	1	1.56	-0.96	LA CROSSE	74	2	6.36	2.08
KS CONCORDIA	76	-1	6.01	2.77	GRAND FORKS	69	1	3.53	0.81	MADISON	73	4	7.87	3.54
DODGE CITY	77	-1	2.88	0.15	JAMESTOWN	67	-2	4.59	2.26	MILWAUKEE	76	5	3.59	-0.44
GOODLAND	72	-1	2.31	-0.18	MINOT	72	4	1.24	-0.71	WAUSAU	70	2	3.87	-0.66
HILL CITY	75	-2	3.73	0.70	WILLISTON	70	2	0.45	-1.03	WY CASPER	67	-2	2.13	1.40
TOPEKA	78	1	5.83	2.02	OH AKRON-CANTON	77	7	3.36	-0.29	CHEYENNE	67	1	1.24	-0.58
WICHITA	80	0	8.28	5.34	CINCINNATI	78	4	5.92	2.13	LANDER	68	-1	0.52	-0.05
KY JACKSON	78	4	6.83	2.70	CLEVELAND	78	8	3.50	-0.19	SHERIDAN	69	1	1.44	0.64

National Agricultural Summary

September 5 – 11, 2016

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Weekly average temperatures were above normal across most of the eastern U.S., facilitating the maturation and harvest of row crops. In the Northeast, temperatures averaged at least 6°F above normal. Elsewhere, cooler weather dominated the northern Rocky

Mountains, with most of Idaho recording temperatures more than 4°F below normal. Precipitation was generally near normal levels for the week, except for significant rainfall in parts of the upper Mississippi Valley, Great Lakes Region, and Kansas.

Corn: Eighty-seven percent of this year's corn was at or beyond the dent stage by week's end, 3 percentage points ahead of last year and 5 points ahead of the 5-year average. Nationwide, 33 percent the corn was mature by September 11, two percentage points ahead of last year and slightly ahead of the 5-year average. Favorable weather conditions promoted double-digit crop maturation in 15 of the 18 corn-estimating states during the week. By week's end, 5 percent of the corn was harvested, slightly ahead of last year but 2 percentage points behind the 5-year average. In Iowa, producers began harvesting the earliest planted corn. Overall, 74 percent of the corn crop was reported in good to excellent condition, unchanged from last week but 6 percentage points above the same time last year.

Soybeans: By week's end, 26 percent of the soybean crop was at or beyond the leaf drop stage, 4 percentage points behind last year but slightly ahead of the 5-year average. Leaf drop was rapid in most soybean-estimating states, with progress advancing 20 percentage points or more during the week in Arkansas, North Dakota, Tennessee, and Wisconsin. Overall, 73 percent of the soybean crop was reported in good to excellent condition, unchanged from last week but 12 percentage points above the same time last year.

Winter Wheat: Nationwide, producers had sown 6 percent of the intended 2017 winter wheat acreage by September 11, slightly behind both last year and the 5-year average. The weather favored Pacific Northwest fieldwork during the week, with planting progress advancing to 32 percentage points in Washington.

Cotton: Forty-one percent of the cotton was at or beyond the boll opening stage by week's end, slightly behind last year and 4 percentage points behind the 5-year average. Cotton harvest continued in South Central Texas; however, harvesting was delayed in the Blacklands, the Coastal Bend, and the Upper Coast due to the recent rainfall and wet field conditions. By September 11, four percent of the nation's crop was harvested, slightly ahead of last year but slightly behind the 5-year average. Overall, 47 percent of the cotton was reported in good to excellent condition, down slightly from last week and 5 percentage points lower than at the same time last year.

Sorghum: By week's end, 83 percent of the sorghum was at or beyond the coloring stage, 3 percentage points ahead of last

year and 11 points ahead of the 5-year average. By September 11, forty-four percent of this year's crop was mature, 4 percentage points ahead of last year and 6 points ahead of the 5-year average. Sorghum was 19 percent mature by week's end in Kansas, 8 percentage points ahead of the 5-year average. Producers had harvested 26 percent of the nation's sorghum by week's end, equal to last year but slightly behind the 5-year average. Overall, 65 percent of the sorghum was reported in good to excellent condition, down slightly from last week and 2 percentage points lower than at the same time last year.

Rice: Nationally, rice producers had harvested half of the crop by week's end, 9 percentage points ahead of last year and 11 points ahead of the 5-year average. Double-digit harvest progress during the week was observed in Arkansas, Mississippi, and Missouri. Overall, 55 percent of the rice was rated in good to excellent condition, 3 percentage points below last week and 7 points below the same time last year.

Other Small Grains: By week's end, 95 percent of the barley was harvested, 3 percentage points behind last year but 3 points ahead of the 5-year average. The barley harvest was more than 90 percent complete in all estimating states.

Ninety-four percent of the spring wheat was harvested by week's end, 2 percentage points behind last year but 8 points ahead of the 5-year average. The spring wheat harvest was 13 percentage points ahead of the 5-year average in North Dakota.

Other Crops: Peanut producers had harvested 4 percent of this year's crop by September 11, slightly ahead of both last year and the 5-year average. Harvest progress was limited to Alabama, Florida, Georgia, and South Carolina. Overall, 64 percent of the peanut crop was reported in good to excellent condition, unchanged from last week but 7 percentage points lower than at the same time last year.

By September 11, sugarbeet producers had harvested 8 percent of the nation's crop, 2 percentage points behind last year but 3 points ahead of the 5-year average. Harvest progress was almost 2 weeks ahead of the 5-year average in Minnesota, with 87 percent of the crop rated good to excellent on September 11.

Crop Progress and Condition

Week Ending September 11, 2016

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

Corn Percent Dented				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
CO	80	62	77	74
IL	93	83	91	89
IN	76	77	88	77
IA	85	80	90	83
KS	88	80	88	89
KY	88	84	90	87
MI	65	54	65	63
MN	91	77	90	81
MO	91	91	95	94
NE	83	76	89	87
NC	98	97	98	98
ND	78	64	77	70
OH	77	60	78	73
PA	80	63	74	68
SD	77	65	82	79
TN	95	96	98	97
TX	83	82	83	86
WI	70	71	81	62
18 Sts	84	76	87	82
These 18 States planted 93% of last year's corn acreage.				

Corn Percent Mature				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
CO	16	6	13	15
IL	56	22	42	45
IN	29	20	35	28
IA	21	14	29	31
KS	48	26	42	49
KY	65	58	74	64
MI	10	5	17	13
MN	15	7	18	17
MO	49	44	64	59
NE	23	8	28	25
NC	90	91	94	93
ND	11	8	23	16
OH	23	12	27	15
PA	31	11	22	22
SD	25	8	18	21
TN	67	72	85	71
TX	66	66	67	72
WI	11	13	29	13
18 Sts	31	18	33	32
These 18 States planted 93% of last year's corn acreage.				

Corn Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
CO	0	NA	0	1
IL	5	1	3	7
IN	1	NA	3	3
IA	0	NA	1	3
KS	9	NA	8	19
KY	16	14	27	24
MI	0	NA	0	1
MN	0	NA	0	1
MO	12	8	18	21
NE	1	NA	1	4
NC	53	50	66	51
ND	0	NA	1	1
OH	0	NA	0	1
PA	5	NA	3	2
SD	0	NA	0	2
TN	14	14	38	31
TX	53	57	58	58
WI	0	NA	0	0
18 Sts	4	NA	5	7
These 18 States harvested 95% of last year's corn acreage.				

Corn Condition by Percent					
	VP	P	F	G	EX
CO	1	2	22	60	15
IL	1	2	12	59	26
IN	3	5	19	54	19
IA	1	3	13	58	25
KS	1	7	25	55	12
KY	2	5	18	56	19
MI	3	10	28	46	13
MN	1	3	12	58	26
MO	2	5	18	54	21
NE	1	5	20	57	17
NC	3	7	24	50	16
ND	1	4	17	62	16
OH	6	14	37	38	5
PA	6	14	32	39	9
SD	5	13	30	44	8
TN	3	7	24	47	19
TX	2	11	31	45	11
WI	1	2	10	44	43
18 Sts	2	5	19	54	20
Prev Wk	2	5	19	54	20
Prev Yr	3	7	22	49	19

Soybeans Percent Dropping Leaves				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AR	36	25	47	32
IL	26	2	14	18
IN	34	11	26	31
IA	14	5	19	14
KS	16	5	12	18
KY	18	7	14	20
LA	76	52	63	67
MI	30	6	16	18
MN	34	6	23	25
MS	61	34	46	52
MO	7	2	7	11
NE	33	16	29	22
NC	21	11	18	12
ND	61	29	53	46
OH	32	9	25	27
SD	47	26	45	44
TN	27	14	36	24
WI	10	5	25	12
18 Sts	30	12	26	25
These 18 States planted 95% of last year's soybean acreage.				

Soybean Condition by Percent					
	VP	P	F	G	EX
AR	8	10	24	43	15
IL	2	4	15	58	21
IN	2	5	18	54	21
IA	1	3	14	58	24
KS	1	4	25	55	15
KY	2	5	19	56	18
LA	6	11	30	48	5
MI	2	6	25	52	15
MN	1	4	16	57	22
MS	1	7	20	45	27
MO	2	4	20	56	18
NE	1	3	19	60	17
NC	1	7	28	51	13
ND	2	5	18	61	14
OH	2	9	33	47	9
SD	3	10	27	50	10
TN	0	3	18	56	23
WI	1	3	12	46	38
18 Sts	2	5	20	55	18
Prev Wk	2	5	20	55	18
Prev Yr	3	9	27	46	15

Crop Progress and Condition

Week Ending September 11, 2016

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

Cotton Percent Bolls Opening				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AL	58	47	65	41
AZ	69	63	70	76
AR	53	53	78	63
CA	46	30	40	44
GA	64	49	69	55
KS	21	11	15	24
LA	85	83	92	84
MS	69	46	65	64
MO	31	17	37	36
NC	55	31	40	47
OK	20	11	19	30
SC	66	22	43	47
TN	36	29	54	42
TX	31	28	29	39
VA	46	18	24	40
15 Sts	42	33	41	45
These 15 States planted 99% of last year's cotton acreage.				

Cotton Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AL	0	NA	0	0
AZ	4	5	10	5
AR	0	NA	0	1
CA	0	NA	0	0
GA	0	NA	1	1
KS	1	NA	1	0
LA	2	NA	2	10
MS	1	NA	1	2
MO	0	NA	0	0
NC	0	NA	0	0
OK	0	NA	0	0
SC	0	NA	0	0
TN	0	NA	1	0
TX	7	7	8	11
VA	0	NA	0	0
15 Sts	3	NA	4	5
These 15 States harvested 98% of last year's cotton acreage.				

Cotton Condition by Percent					
	VP	P	F	G	EX
AL	1	3	42	44	10
AZ	4	0	3	53	40
AR	6	6	16	44	28
CA	0	0	30	30	40
GA	4	11	31	44	10
KS	1	2	29	66	2
LA	2	9	39	45	5
MS	1	7	32	44	16
MO	5	14	51	27	3
NC	4	9	32	49	6
OK	0	0	48	47	5
SC	0	1	57	39	3
TN	1	3	16	58	22
TX	5	16	39	33	7
VA	0	5	28	67	0
15 Sts	4	12	37	38	9
Prev Wk	3	12	37	39	9
Prev Yr	2	11	35	43	9

Winter Wheat Percent Planted				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AR	0	NA	0	0
CA	0	NA	0	0
CO	22	7	17	15
ID	14	NA	5	10
IL	0	NA	0	0
IN	1	1	2	0
KS	4	1	4	3
MI	2	NA	2	1
MO	0	NA	0	0
MT	13	NA	3	11
NE	13	5	19	16
NC	0	NA	0	0
OH	0	NA	0	0
OK	0	NA	1	4
OR	4	NA	5	5
SD	17	NA	7	13
TX	4	2	5	5
WA	35	NA	32	33
18 Sts	7	NA	6	7
These 18 States planted 90% of last year's winter wheat acreage.				

Peanuts Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AL	0	NA	1	1
FL	11	9	16	13
GA	3	NA	3	2
NC	0	NA	0	1
OK	0	NA	0	1
SC	0	NA	4	4
TX	1	NA	0	1
VA	0	NA	0	0
8 Sts	3	NA	4	3
These 8 States harvested 97% of last year's peanut acreage.				

Peanut Condition by Percent					
	VP	P	F	G	EX
AL	0	0	51	42	7
FL	0	4	18	68	10
GA	4	10	25	44	17
NC	0	4	16	67	13
OK	0	0	11	86	3
SC	0	5	22	65	8
TX	1	7	34	42	16
VA	0	15	17	68	0
8 Sts	2	7	27	51	13
Prev Wk	2	6	28	51	13
Prev Yr	1	3	25	54	17

Rice Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AR	38	31	52	34
CA	7	1	4	4
LA	93	77	84	89
MS	42	28	42	42
MO	6	18	40	14
TX	88	88	96	92
6 Sts	41	35	50	39
These 6 States harvested 100% of last year's rice acreage.				

Rice Condition by Percent					
	VP	P	F	G	EX
AR	12	16	32	29	11
CA	0	0	20	75	5
LA	6	11	30	50	3
MS	0	2	21	49	28
MO	1	3	25	50	21
TX	3	4	25	55	13
6 Sts	7	10	28	45	10
Prev Wk	6	9	27	46	12
Prev Yr	2	5	31	46	16

Crop Progress and Condition

Week Ending September 11, 2016

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

Sorghum Percent Coloring				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AR	100	100	100	100
CO	56	61	78	64
IL	83	79	83	86
KS	78	69	84	62
LA	100	100	100	100
MO	86	77	87	79
NE	81	89	95	75
NM	30	37	44	26
OK	82	56	73	70
SD	84	79	86	85
TX	82	80	81	82
11 Sts	80	74	83	72
These 11 States planted 98% of last year's sorghum acreage.				

Sorghum Percent Mature				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AR	93	99	100	88
CO	14	3	8	15
IL	32	25	36	32
KS	19	9	19	11
LA	100	100	100	99
MO	36	17	35	32
NE	9	12	22	7
NM	1	6	10	0
OK	33	27	33	33
SD	7	19	29	15
TX	69	76	77	74
11 Sts	40	38	44	38
These 11 States planted 98% of last year's sorghum acreage.				

Sorghum Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
AR	66	53	91	58
CO	0	0	0	1
IL	1	0	0	2
KS	2	0	1	2
LA	89	90	97	92
MO	6	0	2	5
NE	0	0	0	0
NM	0	0	0	0
OK	12	9	15	11
SD	1	0	0	2
TX	58	49	60	62
11 Sts	26	20	26	27
These 11 States harvested 98% of last year's sorghum acreage.				

Sorghum Condition by Percent					
	VP	P	F	G	EX
AR	5	18	33	37	7
CO	0	5	27	60	8
IL	2	5	21	63	9
KS	1	3	22	58	16
LA	0	15	30	43	12
MO	0	2	28	60	10
NE	0	1	14	64	21
NM	0	2	75	22	1
OK	0	1	30	66	3
SD	0	4	42	53	1
TX	2	8	34	41	15
11 Sts	1	5	29	51	14
Prev Wk	1	5	28	53	13
Prev Yr	2	5	26	56	11

Spring Wheat Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
ID	97	82	93	92
MN	99	98	100	91
MT	94	87	89	81
ND	96	91	95	82
SD	99	93	97	98
WA	100	91	96	94
6 Sts	96	91	94	86
These 6 States harvested 99% of last year's spring wheat acreage.				

Barley Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
ID	96	88	94	92
MN	99	100	100	96
MT	99	89	92	91
ND	96	95	98	89
WA	100	93	99	95
5 Sts	98	91	95	92
These 5 States harvested 86% of last year's barley acreage.				

Sugarbeets Percent Harvested				
	Prev Year	Prev Week	Sep 11 2016	5-Yr Avg
ID	5	NA	6	3
MI	11	4	5	4
MN	11	8	10	5
ND	11	5	8	7
4 Sts	10	NA	8	5
These 4 States harvested 84% of last year's sugarbeet acreage.				

Crop Progress and Condition

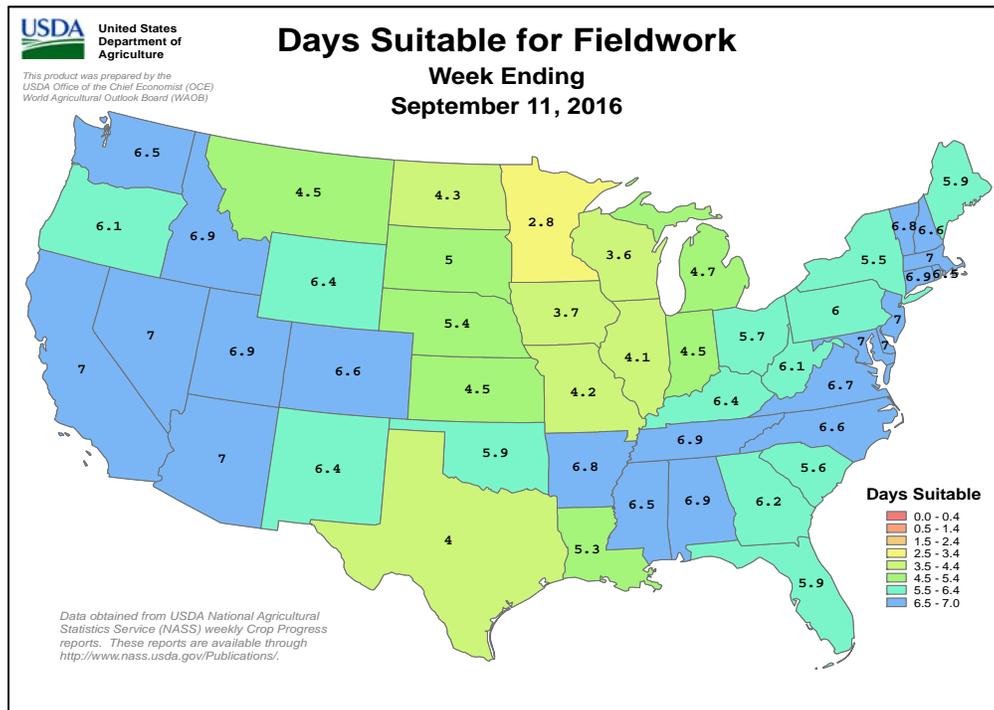
Week Ending September 11, 2016

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

Pasture and Range Condition by Percent Week Ending Sep 11, 2016												
	VP	P	F	G	EX		VP	P	F	G	EX	
AL	10	13	32	42	3		NH	35	33	27	5	0
AZ	11	13	32	34	10		NJ	2	12	41	41	4
AR	1	6	35	46	12		NM	2	22	46	26	4
CA	20	20	25	30	5		NY	5	12	39	37	7
CO	3	6	26	57	8		NC	4	17	42	32	5
CT	5	55	40	0	0		ND	6	11	28	50	5
DE	11	25	33	25	6		OH	8	18	34	36	4
FL	2	2	23	59	14		OK	2	9	38	45	6
GA	13	23	37	24	3		OR	31	25	25	16	3
ID	5	23	38	29	5		PA	20	18	38	21	3
IL	1	2	15	57	25		RI	6	50	44	0	0
IN	2	5	25	59	9		SC	4	21	35	37	3
IA	1	6	28	54	11		SD	8	18	35	37	2
KS	1	4	23	59	13		TN	7	18	36	34	5
KY	2	6	24	58	10		TX	3	8	31	41	17
LA	3	12	37	44	4		UT	4	11	40	39	6
ME	35	20	19	26	0		VT	0	31	59	10	0
MD	2	13	35	44	6		VA	8	17	34	38	3
MA	40	50	10	0	0		WA	11	17	26	42	4
MI	6	14	28	42	10		WV	7	17	29	45	2
MN	1	6	18	58	17		WI	1	4	17	54	24
MS	2	9	33	49	7		WY	11	18	31	35	5
MO	0	3	31	56	10		48 Sts	5	11	31	44	9
MT	15	21	36	24	4							
NE	3	9	25	55	8		Prev Wk	5	11	31	44	9
NV	15	20	30	35	0		Prev Yr	5	14	34	40	7

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

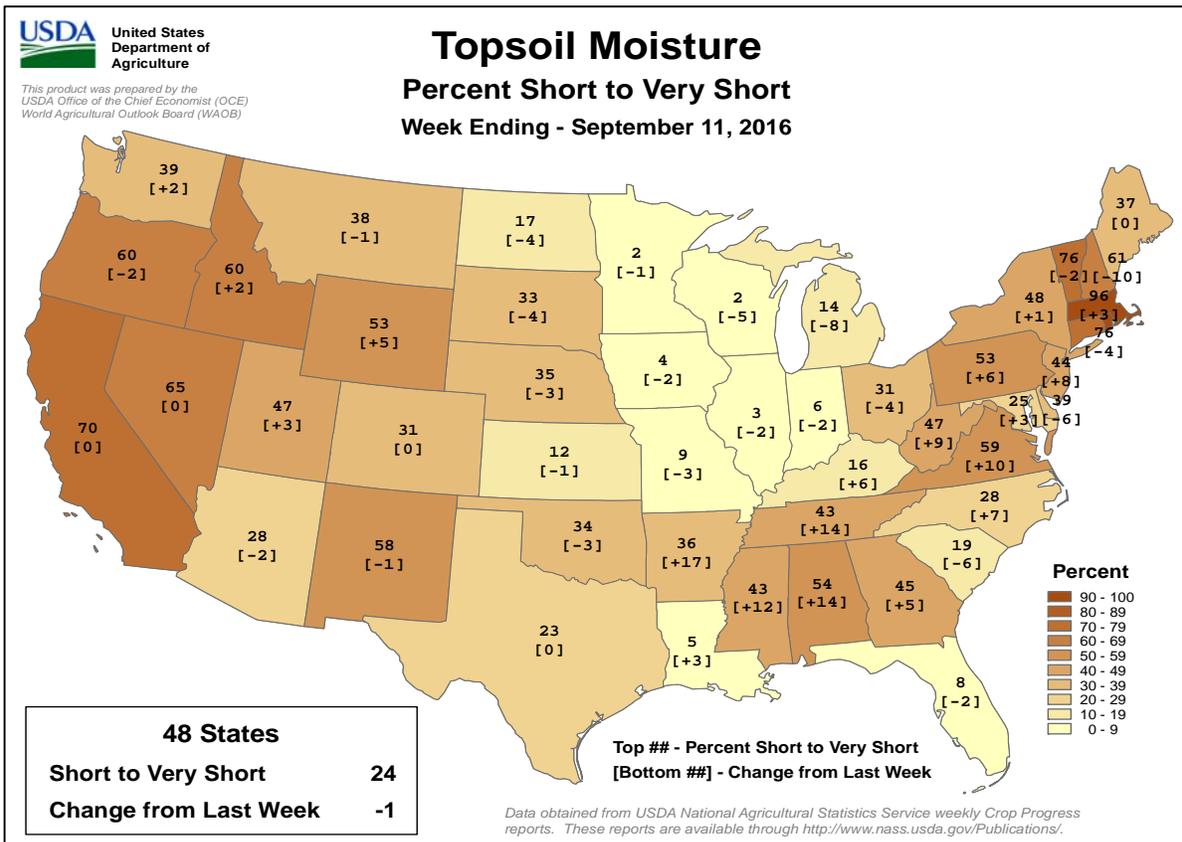
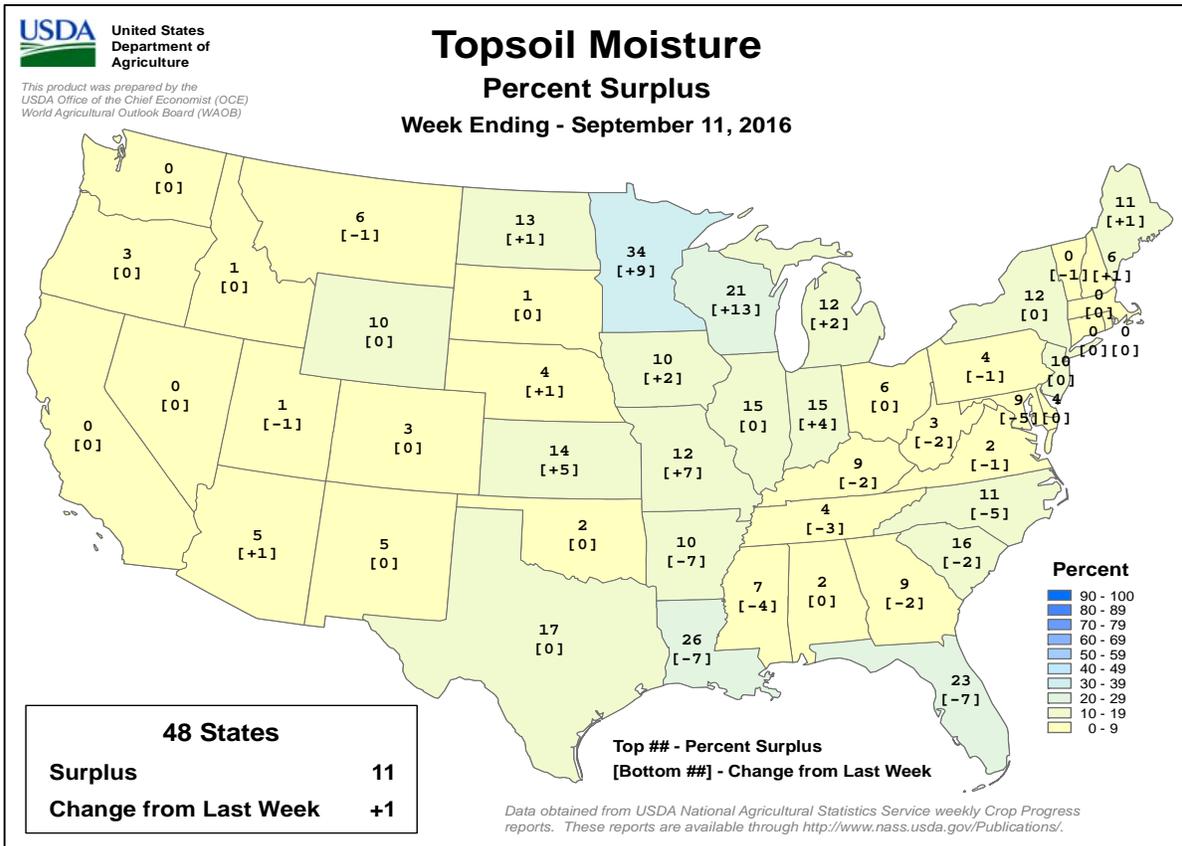
NA - Not Available
* Revised



Crop Progress and Condition

Week Ending September 11, 2016

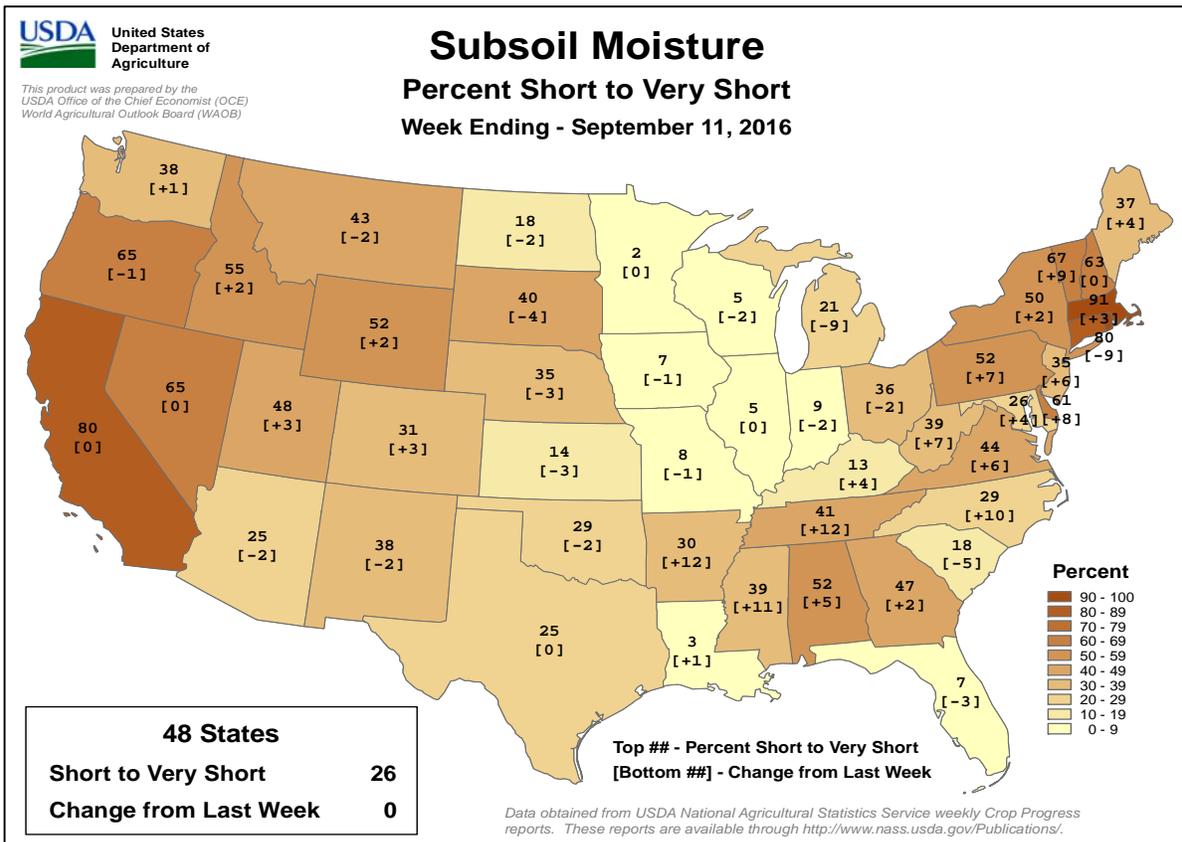
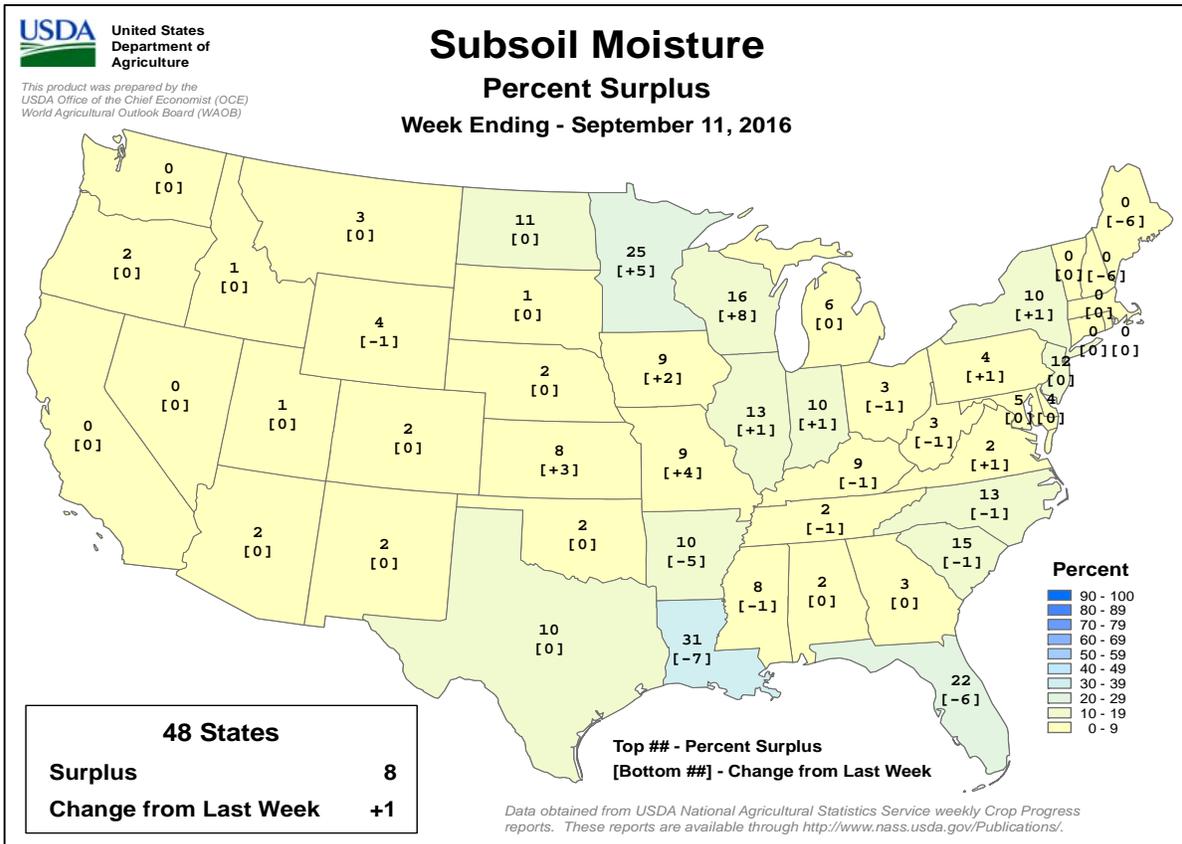
Weekly U.S. Progress and Condition Data provided by USDA/NASS



Crop Progress and Condition

Week Ending September 11, 2016

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



September 8 ENSO Update

EQ. Upper-Ocean Heat Anoms. (deg C) for 180-100W

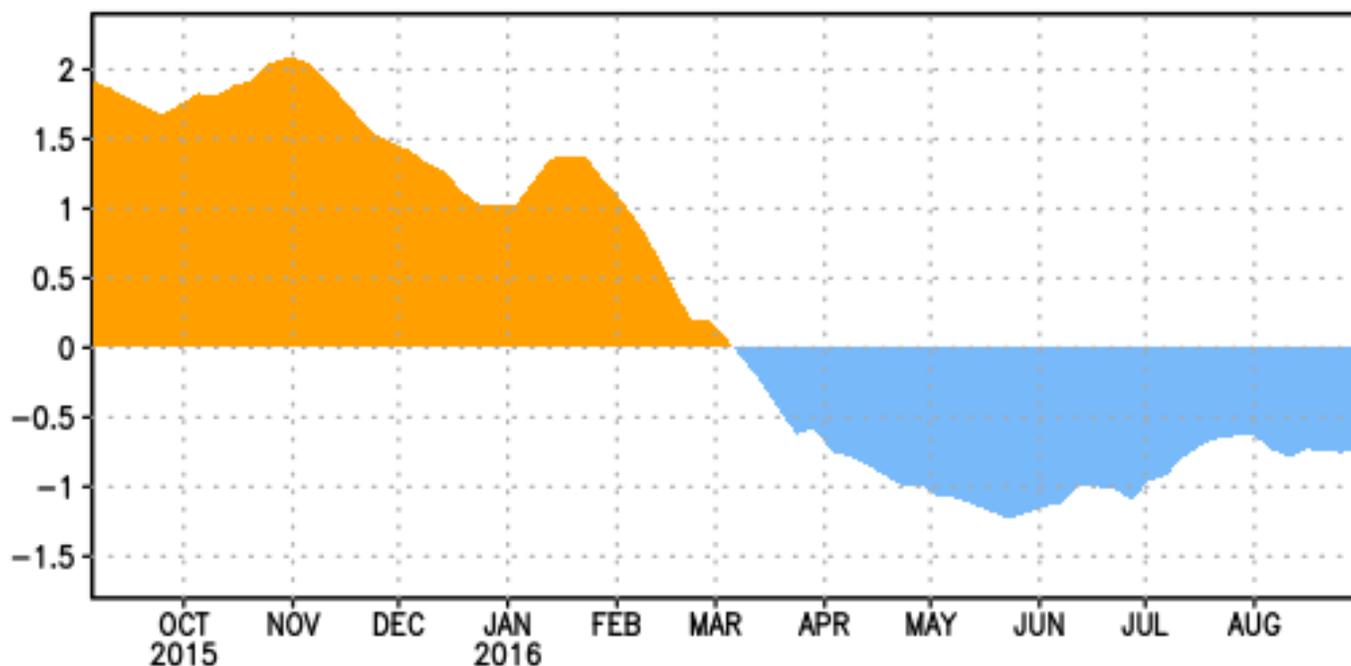


Figure 1: Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180°-100°W). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

ENSO Alert System Status: Not Active

Synopsis: ENSO-Neutral conditions are slightly favored (between 55-60%) during the upcoming Northern Hemisphere fall and winter 2016-17.

ENSO-Neutral conditions were observed over the past month, although sea surface temperatures (SSTs) were below-average over the east-central equatorial Pacific Ocean. While the Niño-3.4 and Niño-3 regions remained around -0.5°C for most of the month, Niño-4 and Niño 1+2 were -0.1°C and $+0.3^{\circ}\text{C}$, respectively, by the end of the month. Subsurface temperatures across the eastern and central Pacific remained below average (Fig. 1), and negative temperature anomalies remained weak across the western Pacific. Atmospheric anomalies over the tropical Pacific Ocean largely indicated ENSO-Neutral conditions. The traditional Southern Oscillation index and the equatorial Southern Oscillation index were weakly positive during August. The lower-level winds were near average, while the upper-level winds were anomalously westerly in a small region to the east of the International Date Line. Convection was suppressed over the western and central tropical Pacific, although less suppressed compared to last month. Overall, the combined ocean and atmosphere system continues to reflect ENSO-Neutral.

The multi-model averages favor borderline Neutral-La Niña conditions (3-month average Niño-3.4 index less than or equal to -0.5°C) during the Northern Hemisphere fall, continuing into winter. However, the more recently updated model runs

from the North American Multi-Model Ensemble (NMME) more strongly favor ENSO-Neutral. The forecaster consensus prefers this outcome, which is supported by the lack of significant anomalies in several indicators over the past month (winds, convection, subsurface temperatures). Overall, ENSO-Neutral conditions are slightly favored (between 55-60%) during the upcoming Northern Hemisphere fall and winter 2016-17 (click [CPC/IRI consensus forecast](#) for the chance of each outcome for each 3-month period).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site ([El Niño/La Niña Current Conditions and Expert Discussions](#)). Forecasts are also updated monthly in the [Forecast Forum](#) of CPC's Climate Diagnostics Bulletin. Additional perspectives and analysis are also available in an [ENSO blog](#). The next ENSO Diagnostics Discussion is scheduled for **13 October 2016**. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.ens-update@noaa.gov.

International Weather and Crop Summary

September 4-10, 2016

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

HIGHLIGHTS

EUROPE: Dry weather promoted fieldwork over much of western and southern Europe, while showers improved soil moisture for winter crop establishment in northeastern growing areas.

WESTERN FSU: Warm, dry weather facilitated rapid summer crop maturation and harvesting as well as winter wheat planting.

EASTERN FSU: Despite some showers, spring wheat maturation and harvesting proceeded with minimal delay.

MIDDLE EAST: Seasonably dry, hot weather maintained a rapid pace of summer crop harvesting.

SOUTH ASIA: Unseasonably dry weather overspread much of India, aiding maturing crops in the north but limiting soil moisture for cotton in the west.

EAST ASIA: Wet weather in northeastern China prevented further yield losses in corn and soybeans.

SOUTHEAST ASIA: Showers throughout the region benefited rice and other crops.

AUSTRALIA: Showers helped maintain good to excellent crop conditions throughout the wheat belt.

ARGENTINA: Mostly dry weather dominated the region, though showers lingered in eastern agricultural areas.

BRAZIL: Rainy weather continued in the southern wheat belt, as seasonably drier conditions returned to central corn areas.

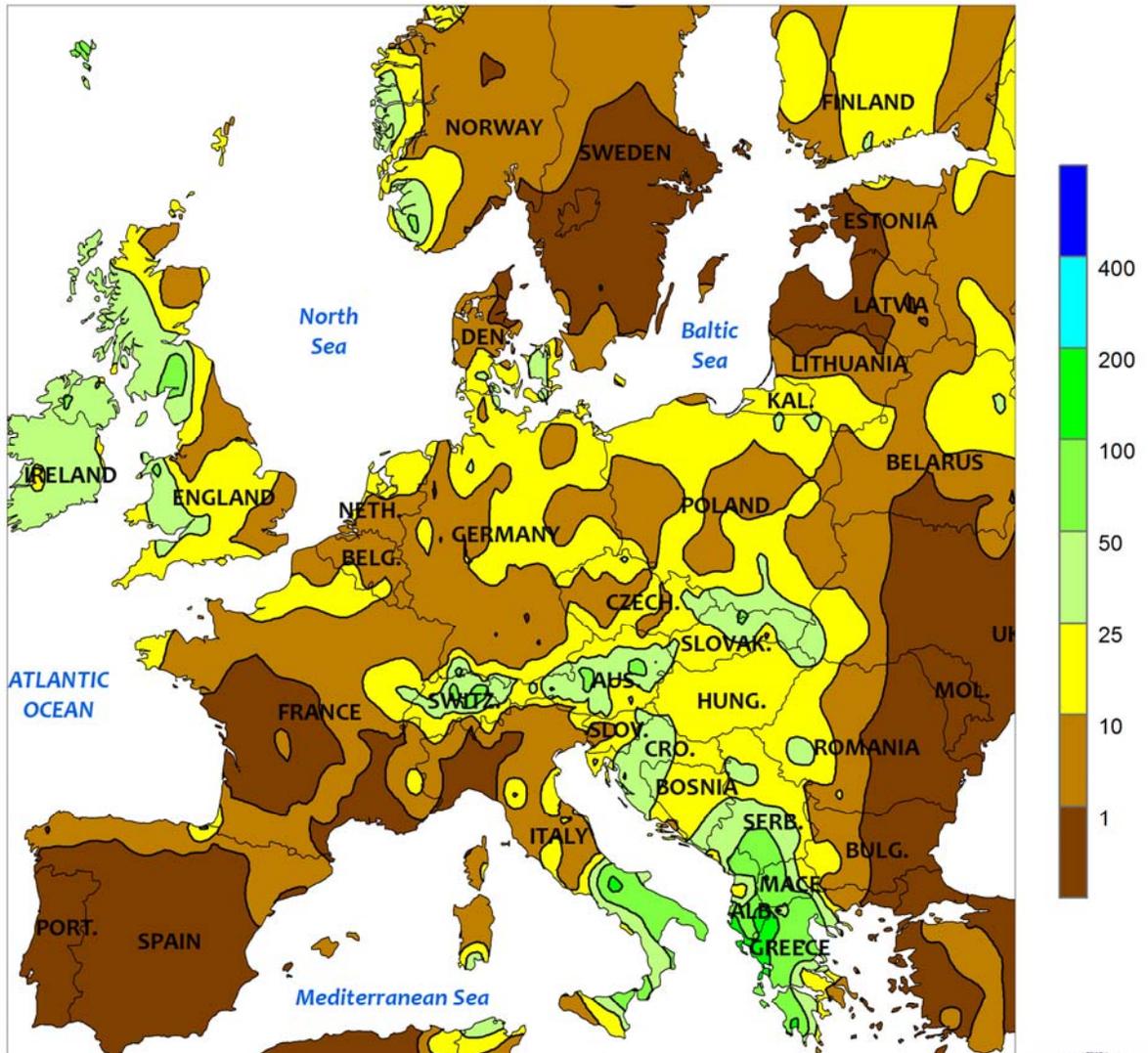
MEXICO: An influx of tropical moisture intensified monsoon showers over northwestern watersheds.

CANADIAN PRAIRIES: Showers slowed fieldwork in Manitoba and eastern Saskatchewan.

SOUTHEASTERN CANADA: Rain provided a late-season boost in moisture for immature soybeans and sowing of winter wheat.



EUROPE
Total Precipitation (mm)
SEP 4 - 10, 2016



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

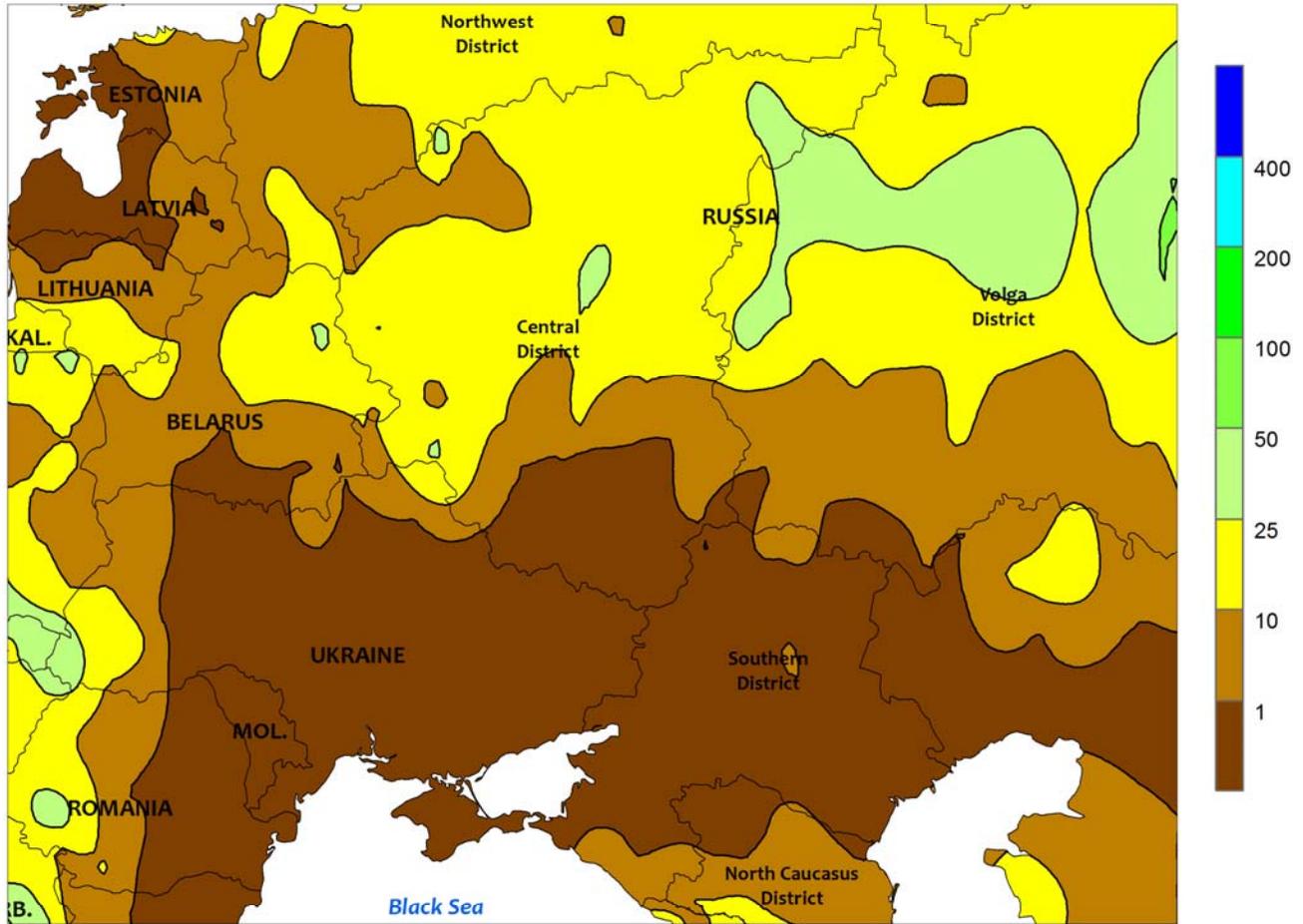


EUROPE

Mostly dry weather across western and southern Europe contrasted with showery conditions over eastern growing areas. Sunny skies and above-normal temperatures (2-6°C above normal) accelerated drydown and harvesting of corn, soybeans, and sunflowers from Spain and France into northern Italy and southern Germany. However, drier-than-normal conditions over the past 60 days (locally less than 25 percent of normal) in Spain and France have depleted topsoil moisture for winter crops. Light to moderate showers (5-20

mm) over northern Germany provided much-needed soil moisture for winter crop planting and establishment. Likewise, 5 to 40 mm of rain improved soil moisture for winter wheat and rapeseed establishment from Poland and the Baltic States southward into Serbia and western Romania. Despite the generally wet weather over eastern Europe, localized drought in the lower Danube River Valley has diminished moisture reserves for winter crop planting and establishment.

WESTERN FSU
Total Precipitation (mm)
SEP 4 - 10, 2016



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

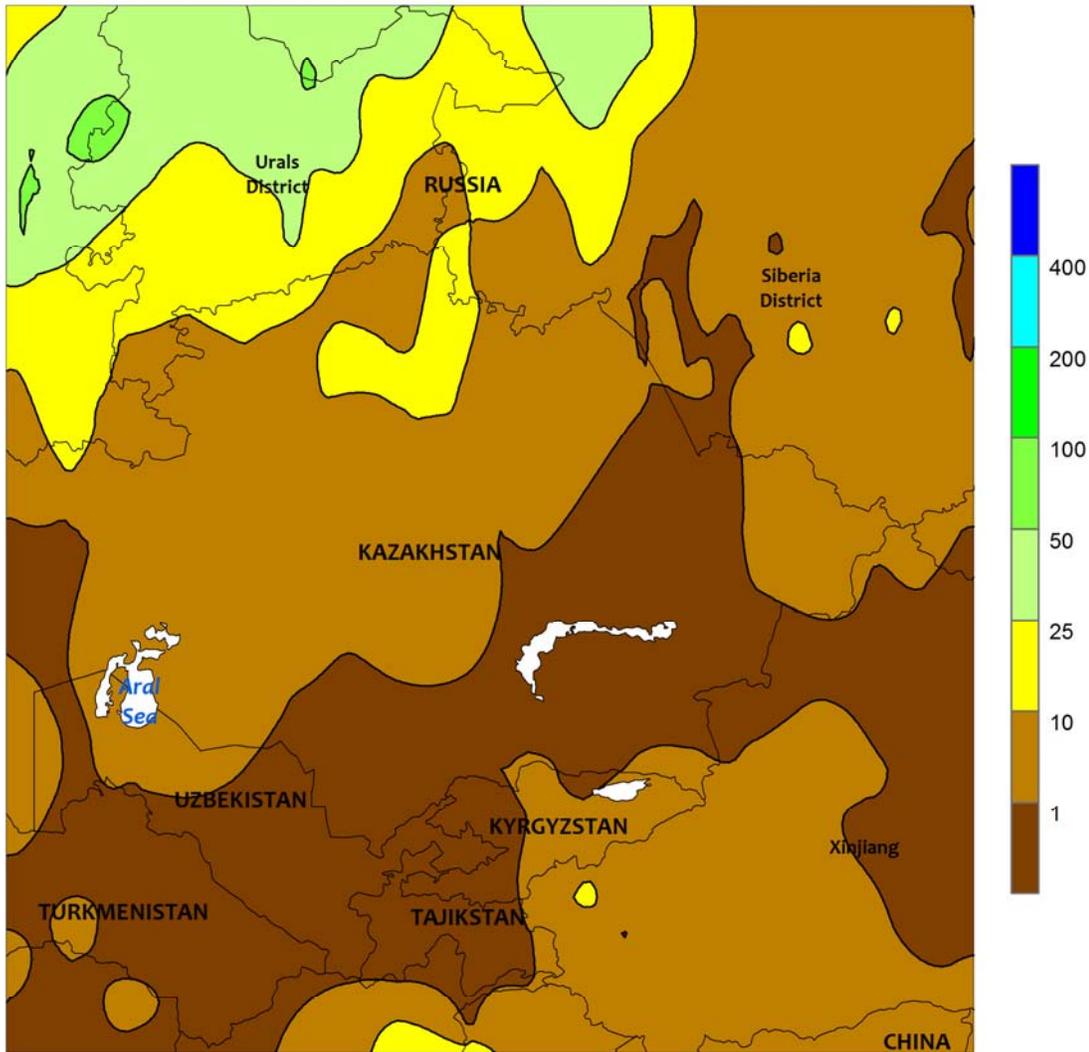


WESTERN FSU

Mostly dry, warm weather accelerated seasonal fieldwork. Temperatures for the week averaged 1 to 3°C above normal in Russia, which coupled with sunny skies facilitated rapid summer crop drydown and harvesting. Farther west, dry, hot weather (3-8°C above normal) in Ukraine and Moldova likewise accelerated summer crop drydown and harvesting but

exacerbated soil moisture losses brought on by short-term drought (25 to 50 percent of normal rainfall over the past 60 days), particularly in western and southeastern Ukraine. Winter wheat planting also proceeded without delay, though producers in Ukraine’s driest areas are likely awaiting rain to sow winter crops.

EASTERN FSU
 Total Precipitation (mm)
 SEP 4 - 10, 2016



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

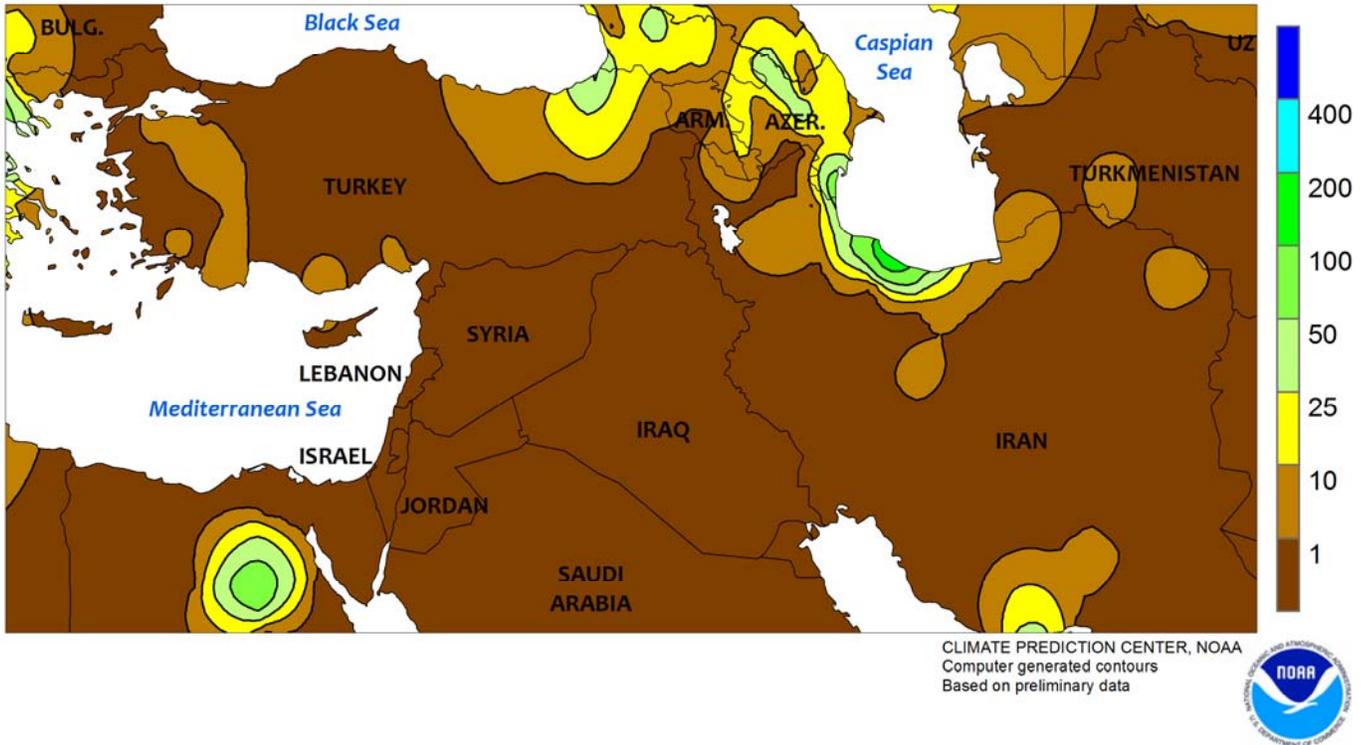


EASTERN FSU

Despite some showers, spring wheat drydown and harvesting continued without significant delay. Light to moderate showers (10-30 mm) were reported in northwestern Kazakhstan and neighboring portions of central Russia, slowing spring wheat harvesting. However, crops in these westerly areas matured sooner and the harvest was likely well

underway. Russia's larger spring wheat production areas (Siberia District) were mostly dry (5 mm or less) and warm (3-7°C above normal), promoting wheat drydown and harvesting. Farther south, seasonable heat (33-36°C) and dryness in Uzbekistan accelerated cotton toward maturity; the cotton harvest typically beginning during the latter half of September.

MIDDLE EAST
Total Precipitation (mm)
SEP 4 - 10, 2016

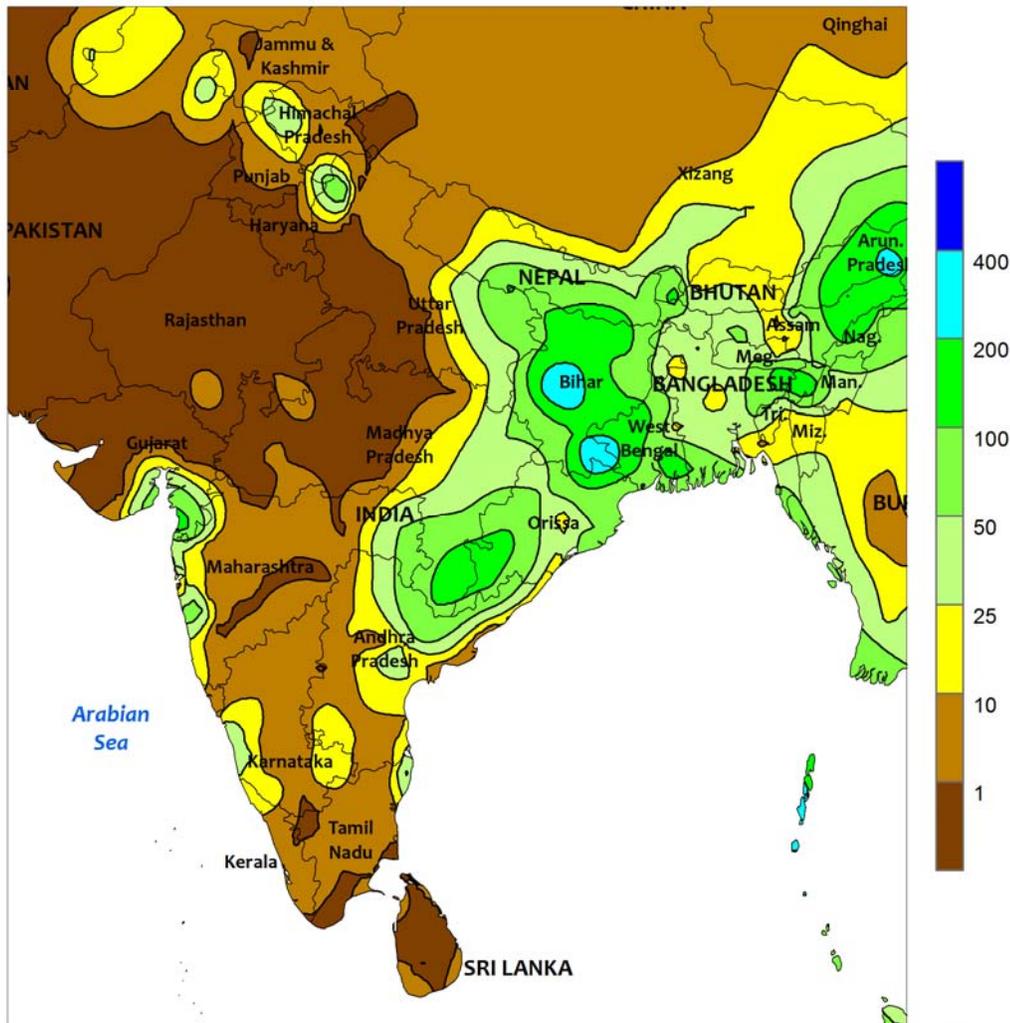


MIDDLE EAST

Seasonably dry, warm weather promoted summer crop maturation and harvesting. In Turkey, sunflower harvesting was likely nearing completion, while the corn harvest was likely peaking.

Cotton harvesting typically starts in September and gains momentum in October. Winter grain planting will commence in mid-autumn with the arrival of cooler weather and seasonal rains.

SOUTH ASIA
Total Precipitation (mm)
SEP 4 - 10, 2016



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

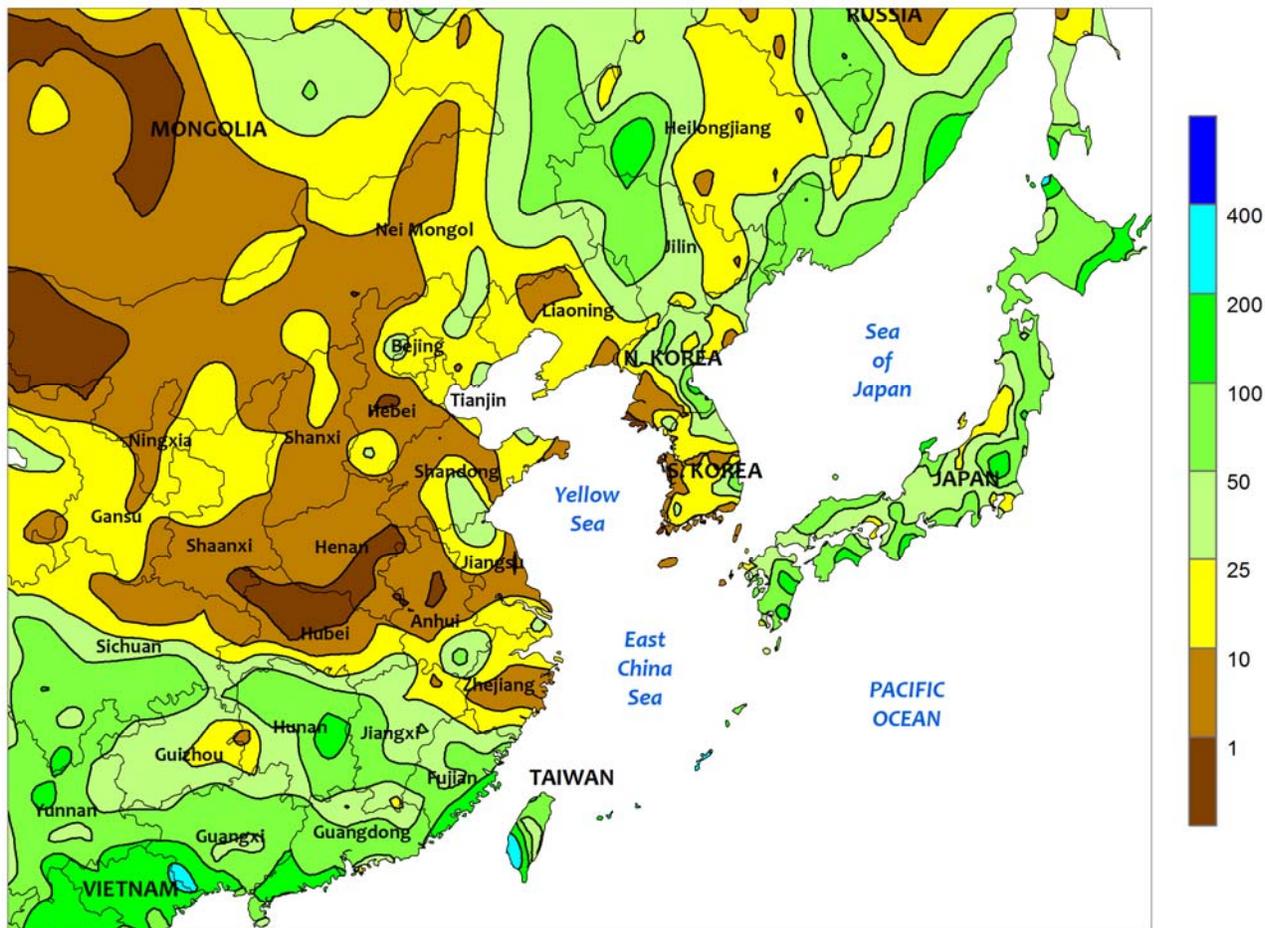


SOUTH ASIA

An incursion of dry air from the north brought unseasonably dry weather to the majority of India. The unusual dryness benefited maturation and harvesting of irrigated cotton and rice in the north and eased the excessive wetness in soybean areas of Madhya Pradesh and Rajasthan. However, these conditions maintained stress on cotton in Gujarat and Maharashtra and more rain would be welcomed to prevent yield declines. Rainfall that did occur in India was concentrated in the eastern rice areas, where totals over

25 mm were widely reported with localized amounts over 400 mm in West Bengal and Bihar. Rice areas in the east have received consistent rainfall throughout the summer monsoon season and many areas have recorded season-to-date amounts in excess of 1,000 mm. In other parts of the region, rice in Bangladesh also benefited from favorable rainfall (25-50 mm or more), while dry weather aided maturing rice and cotton in Pakistan and maturing rice in Sri Lanka.

EASTERN ASIA
Total Precipitation (mm)
SEP 4 - 10, 2016



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

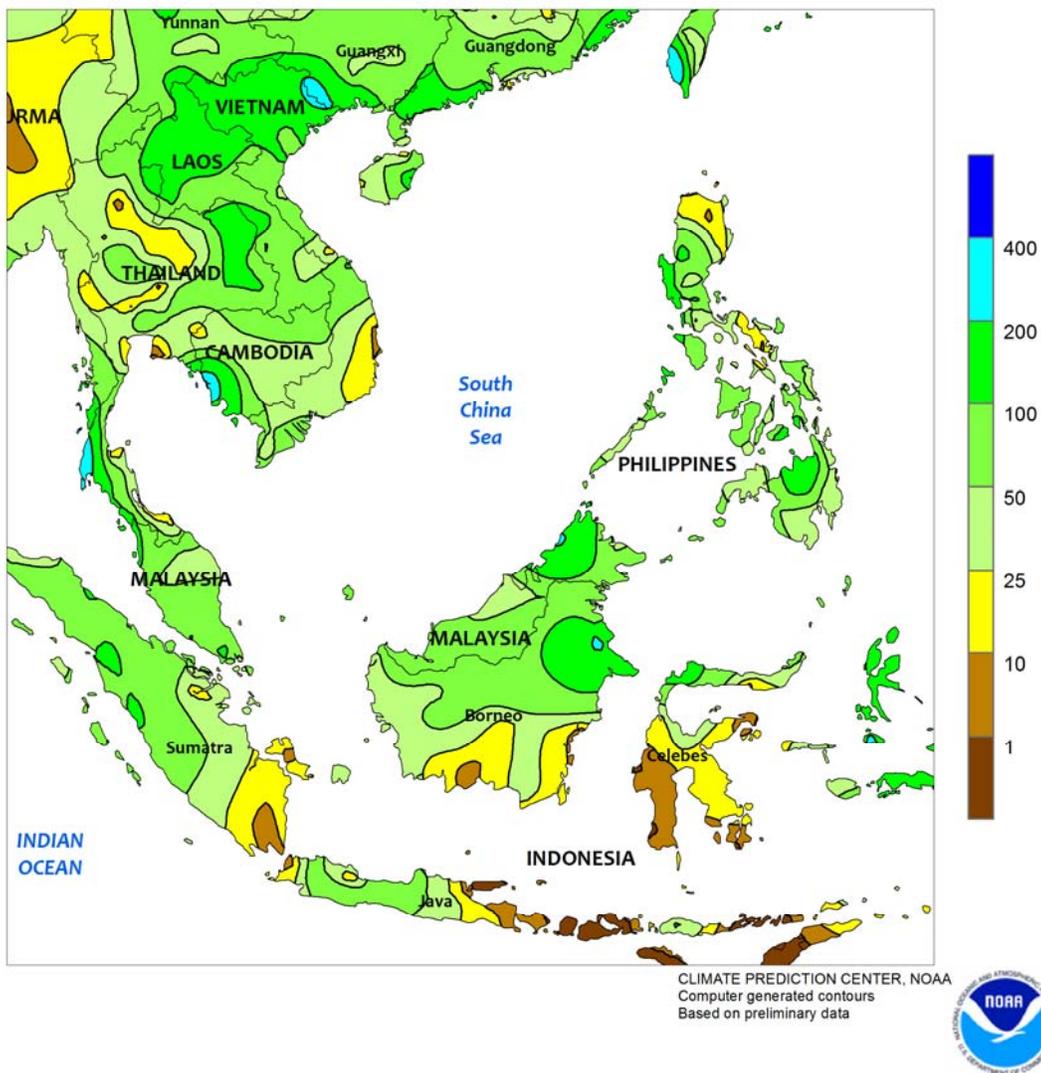


EASTERN ASIA

Showers continued in northeastern China, bringing locally over 100 mm to drought stricken areas of western Heilongjiang and neighboring portions of Jilin and Inner Mongolia. The wet weather improved soil moisture and stemmed further yield losses of filling corn and soybeans but came too late to reverse damage done during the flowering period. To the south, dry, unseasonably hot (temperatures 2-4°C above normal) weather on the North China Plain and into the Yangtze River Basin aided maturation and harvesting of summer crops; however, those conditions increased water demands of reproductive corn

on the North China Plain. Meanwhile, heavy showers (25-100 mm or more) in southern China maintained favorable water supplies and soil moisture for late-crop rice that was reproductive to ripening. Elsewhere in the region, widespread rainfall (25-100 mm or more) in Japan kept immature rice adequately watered, but dry weather will soon be preferable as the crop begins to mature. Showers (10-50 mm or more) in eastern sections of the Korean peninsula benefited the limited amount of rice grown in these areas, while dry conditions occurred in the major rice areas to the west.

SOUTHEAST ASIA
Total Precipitation (mm)
SEP 4 - 10, 2016

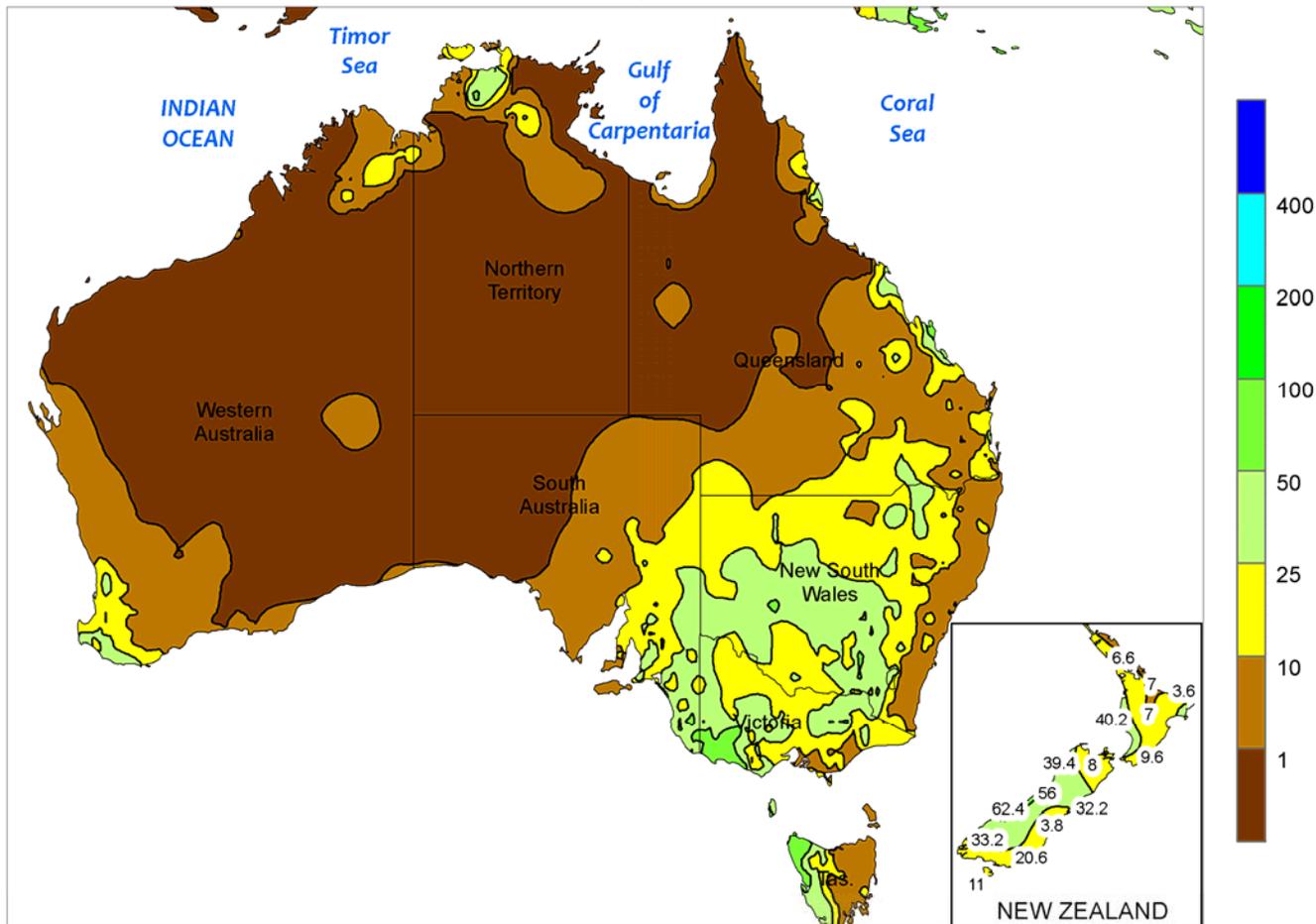


SOUTHEAST ASIA

Heavy showers (50-100 mm) continued throughout large portions of Indochina, extending from northern Vietnam to eastern Thailand and adjoining portions of Laos and Cambodia. The rainfall maintained favorable soil moisture for rice while improving reservoir levels as well. In general, most areas continued to experience conditions that are better than last year. Meanwhile in the Philippines,

rainfall (50-100 mm or more) returned to much of the country, maintaining or improving moisture conditions for rice and corn. To the south, showers (50-100 mm) across oil palm areas of Malaysia and Indonesia slowed harvest activities that typically peak during September and October, but the wet weather maintained favorable longer-term moisture conditions.

AUSTRALIA
Total Precipitation (mm)
SEP 4 - 10, 2016



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

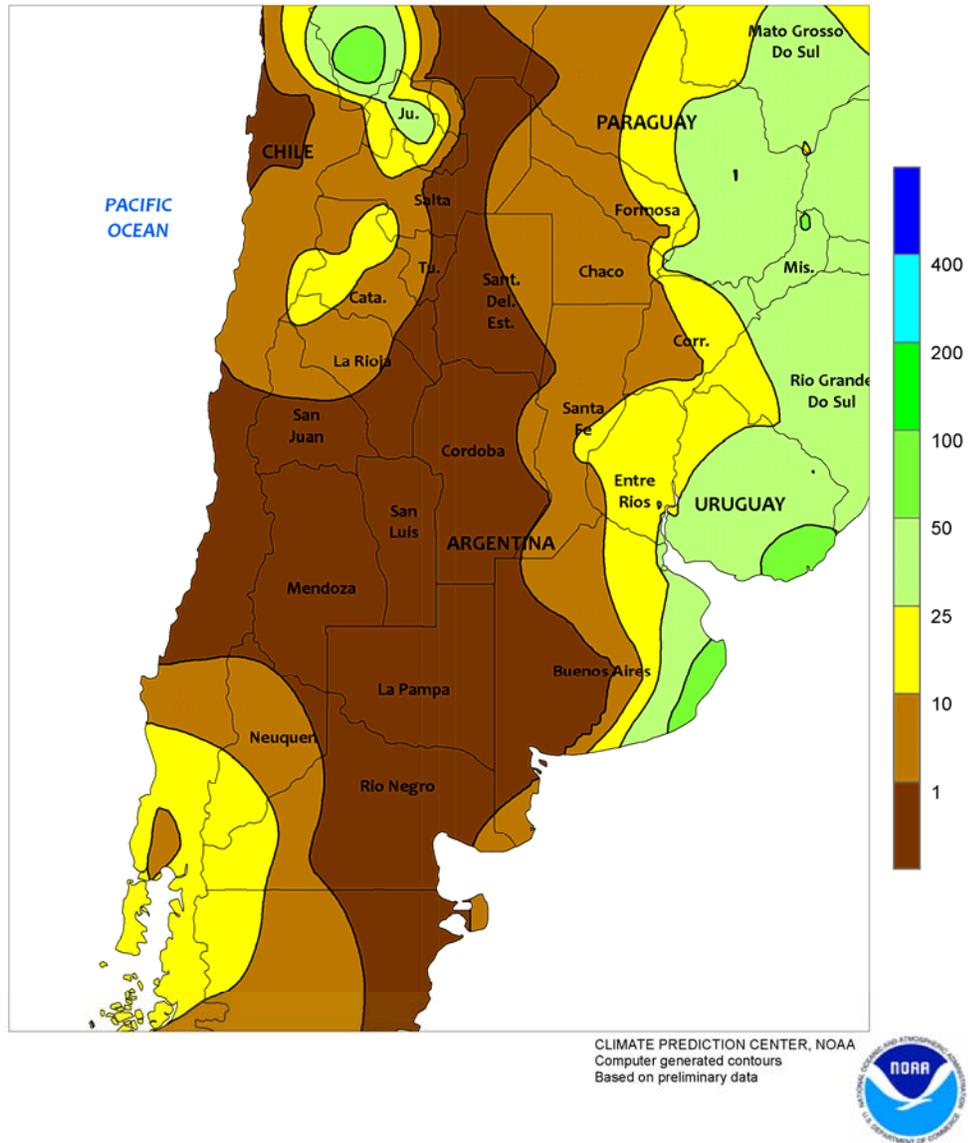


AUSTRALIA

Widespread showers (10-35 mm, locally more) in southern and eastern Australia kept winter grains and oilseeds well watered, helping to maintain good to excellent yield prospects. The rain further increased irrigation supplies for summer crops as well, but the wet weather likely slowed fieldwork, including early planting in southern Queensland and New South Wales. Elsewhere in the wheat belt,

widespread, albeit lighter showers (5-15 mm) in Western Australia further benefited wheat, barley, and canola. Winter crops are generally in or near the reproductive stages of development throughout the wheat belt, and are thus benefiting from the additional rainfall. Temperatures averaged near normal in Western Australia and up to 2°C above normal in southern and eastern Australia.

ARGENTINA
Total Precipitation (mm)
SEP 4 - 10, 2016

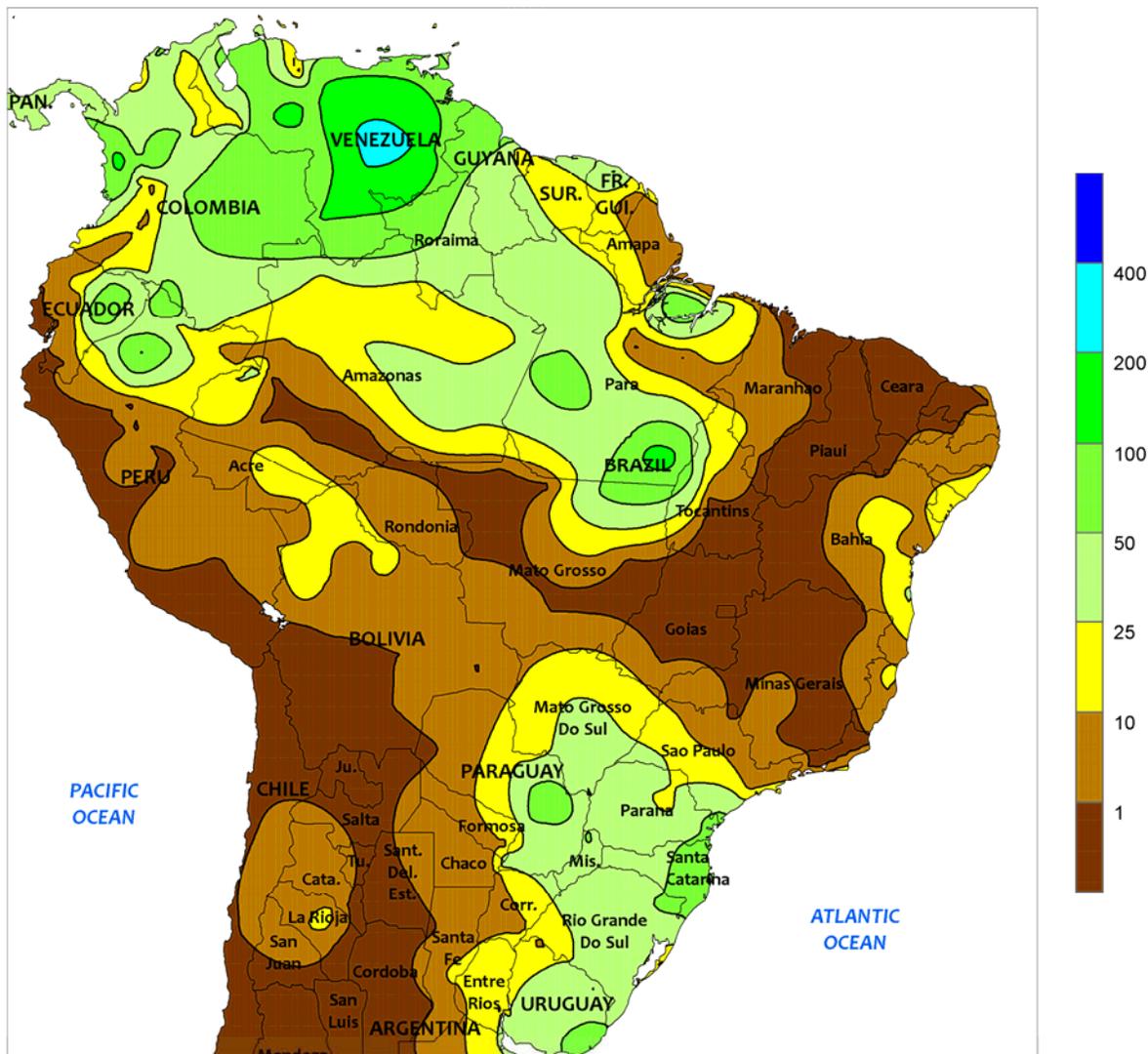


ARGENTINA

Dry weather dominated much of the region, with rainfall generally confined to eastern agricultural areas. Rainfall totaling up to 25 mm stretched from eastern Buenos Aires to eastern Formosa, with somewhat heavier amounts in far eastern Buenos Aires. In contrast, virtually no rain fell from western Buenos Aires to Salta. Weekly average temperatures were near to below normal, with the highest departures (locally

more than 3°C below normal) in the far north. Nighttime lows lower than 0°C were recorded as far north as Santiago del Estero; however, daytime highs occasionally reached the 30s (degrees C) as far south as Cordoba as seasonal warming continued. According to Argentina’s Ministry of Agriculture, corn was 96 percent harvested as of September 8 compared with 98 percent last year.

BRAZIL
Total Precipitation (mm)
SEP 4 - 10, 2016



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

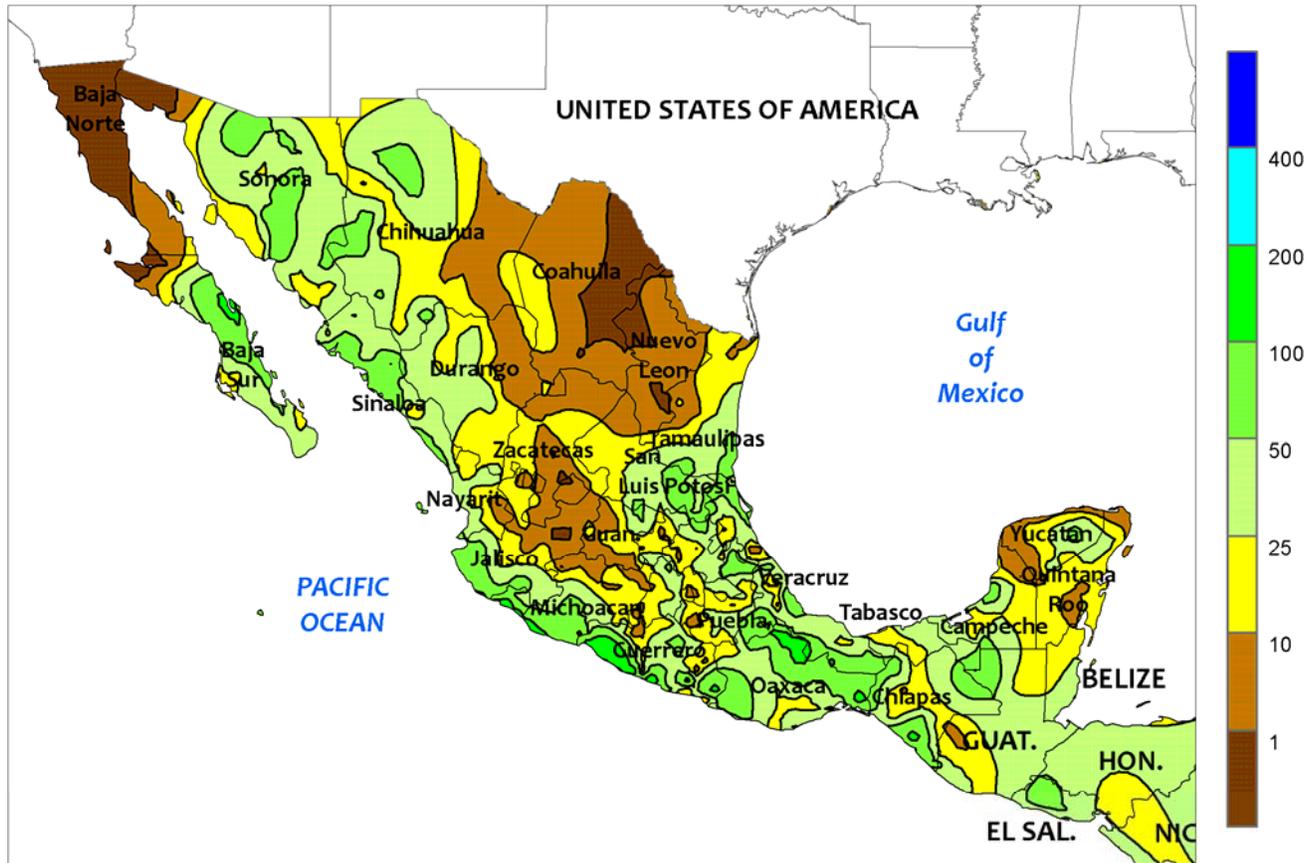


BRAZIL

Wetter-than-normal conditions prevailed in southern Brazil, maintaining adequate to locally excessive levels of moisture for wheat. Rainfall totaled 10 to 50 mm from Mato Grosso do Sul southward through Rio Grande do Sul, with pockets of heavier rain (greater than 50 mm) in Santa Catarina and parts of Paraguay and Uruguay. The moisture extended into southern and western sections of Sao Paulo, slowing local sugarcane harvests, but drier conditions prevailed in key coffee areas of Minas Gerais and Espirito Santo, allowing harvesting to progress toward completion. Seasonably dry

weather also returned to central Brazil (notably Mato Grosso and Goias), after several weeks of unseasonable rainfall; daytime highs in the middle and upper 30s (degrees C) maintained high evaporative losses, reducing the incentive for early corn planting. According to the government of Parana, wheat was 2 percent harvested as of September 5, with more than 70 percent of the remainder of the crop filling to maturing. In Rio Grande do Sul, the earlier-planted crop was reportedly 43 percent flowering and beginning grain filling as of the same date.

MEXICO
Total Precipitation (mm)
SEP 4 - 10, 2016



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

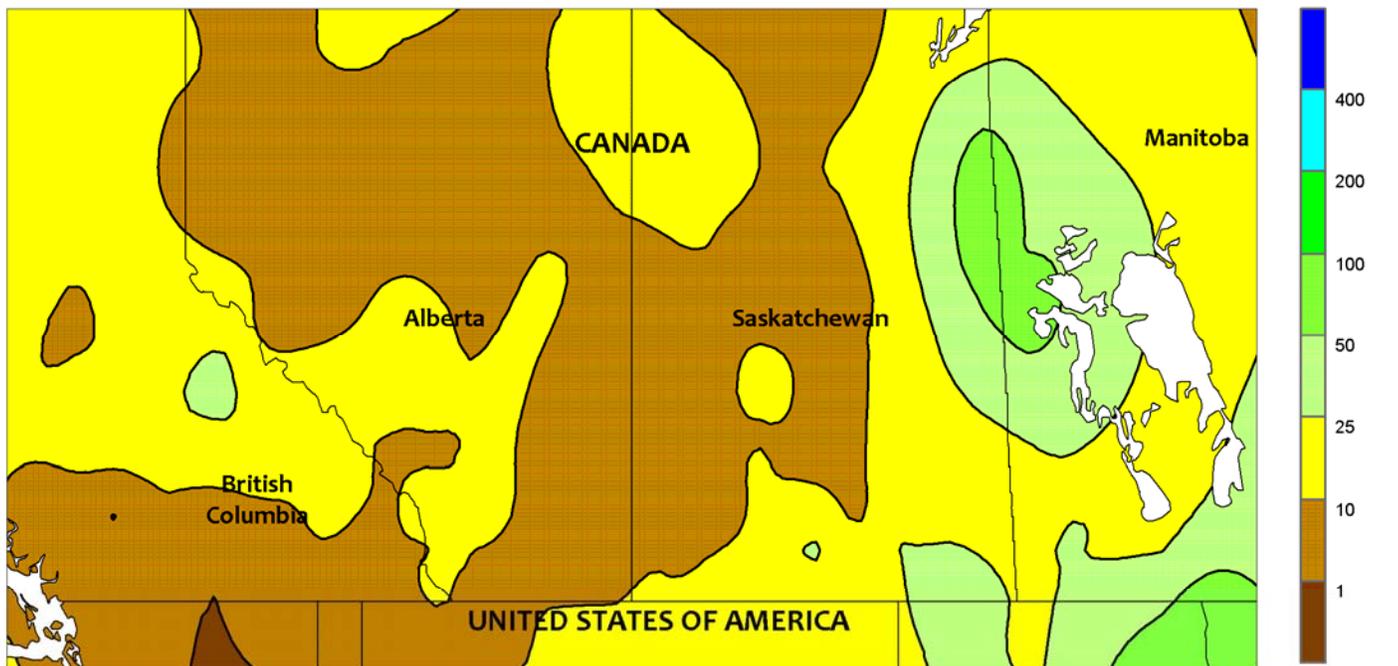


MEXICO

Monsoon showers intensified over northwestern watersheds, aided by moisture from Hurricane Newton. Following several weeks of dryness, rainfall totaling 10 to 50 mm — locally approaching 100 mm — spread northward through Sonora and western Chihuahua. Earlier in the week, Newton generated additional heavy rain (greater than 50 mm) along the western Pacific Coast (Jalisco to Sinaloa) before making landfall at the southern tip of Baja California on September 6 with sustained winds of about 70 mph. Farther east, showers were generally

scattered and light (5-25 mm) across the southern plateau (interior Jalisco to Puebla), as well as the Yucatan Peninsula. Heavier showers (locally greater than 100 mm) were recorded along the southern Pacific Coast (Michoacan to Oaxaca) and the western Gulf Coast (southern Tamaulipas and Veracruz). In contrast, drier conditions returned to the northeast (eastern Chihuahua to northern Tamaulipas), where unseasonable warmth (daytime highs approaching 40°C) maintained high moisture requirements of crops and pastures.

CANADIAN PRAIRIES Total Precipitation (mm) SEP 4 - 10, 2016



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

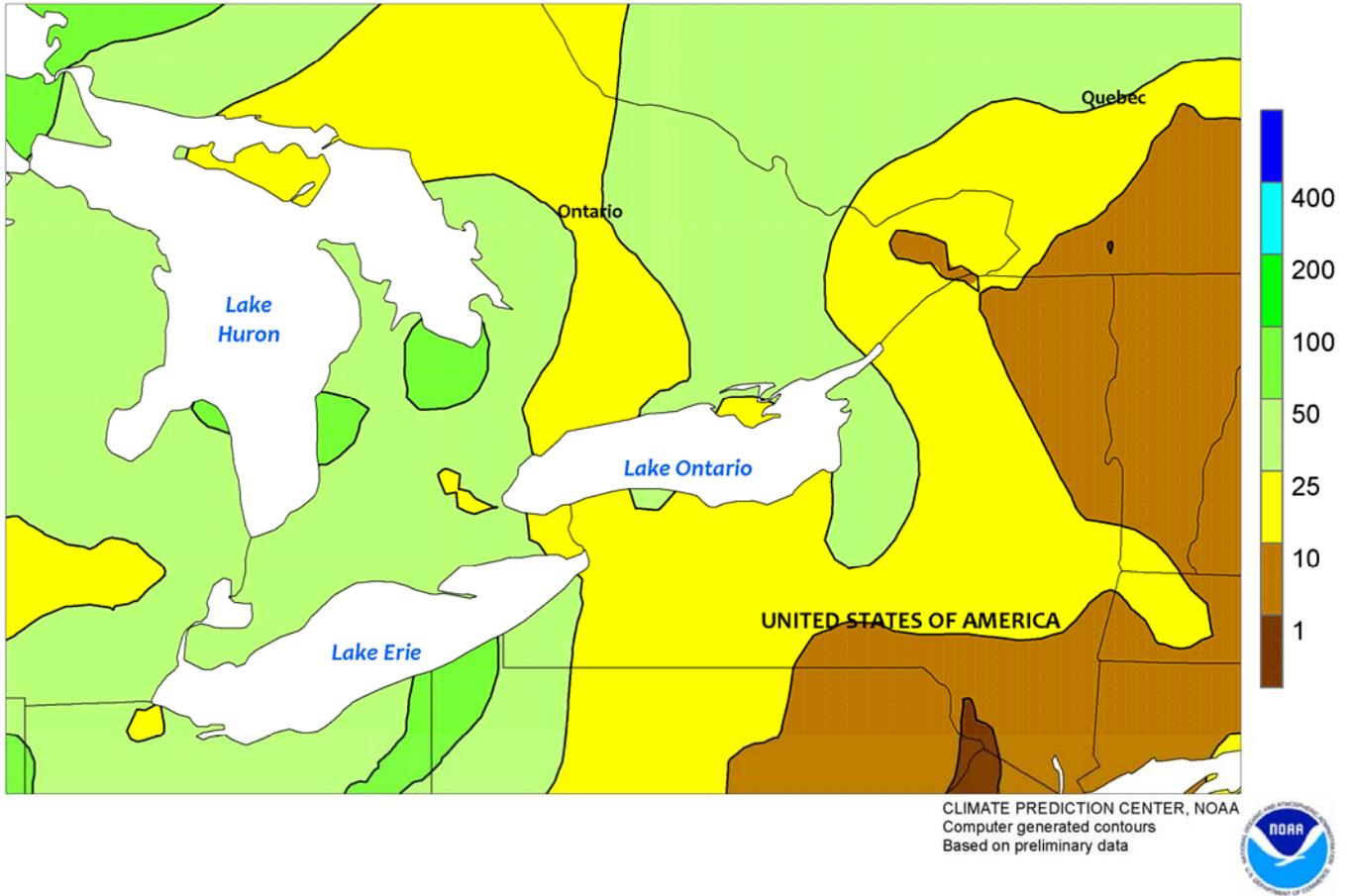


CANADIAN PRAIRIES

Rain slowed harvesting of spring grains and oilseeds in parts of the southern and eastern Prairies. Rainfall totaled more than 10 mm throughout Manitoba, as well as eastern and southern sections of Saskatchewan, with local amounts well above 25 mm. According to the government of Saskatchewan, harvesting of all crops reached 32 percent as of September 5 before the onset of the heaviest rain, ahead of the 5-year average of 28 percent. Generally drier weather prevailed elsewhere in the

Prairies, improving conditions for fieldwork; the drier weather was particularly welcome in Alberta's Peace River Valley, following last week's heavy rain. Weekly average temperatures were near to below normal, with nighttime lows falling below 0°C in some northern and western agricultural districts, including the Peace River Valley. However, the freezes came after the typical first date of the first autumn freeze, and no season-ending freeze has been recorded yet.

SOUTHEASTERN CANADA
Total Precipitation (mm)
SEP 4 - 10, 2016



SOUTHEASTERN CANADA

Widespread, locally heavy showers gave a late-season boost in moisture to immature summer crops and newly sown winter wheat. Rainfall totaled 10 to 50 mm throughout most of Ontario and Quebec, with slightly higher amounts to the east of Lake Huron. Much above-normal temperatures (averaging

4-5°C above normal) accompanied the moisture, with daytime highs reaching the lower 30s (degrees C) in a few locations on several days. The warmth helped to advance corn toward maturity, while keeping topsoils warm for rapid germination of winter wheat.

U.S. Crop Production Highlights

The following information was released by USDA Agricultural Statistics Board on Sep. 12, 2016. Forecasts refer to Sep. 1.

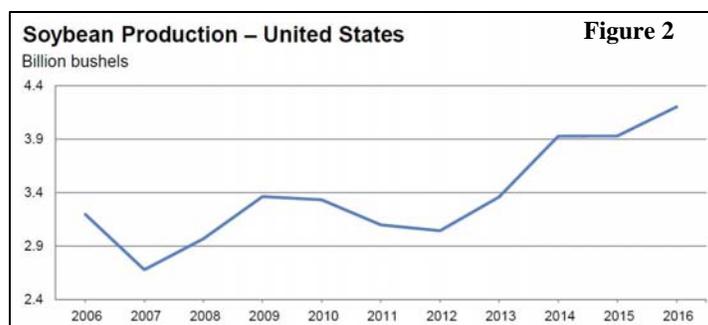
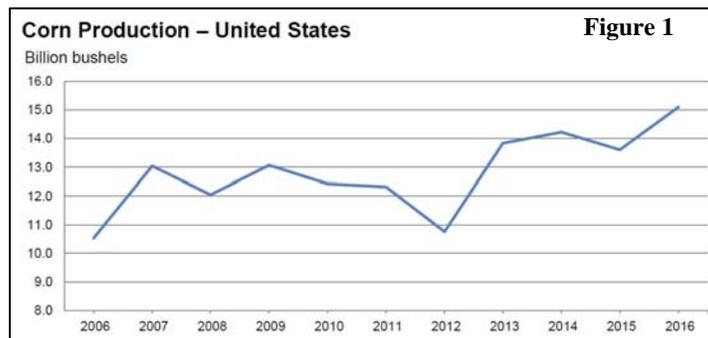
Corn production is forecast at 15.1 billion bushels, up 11 percent from last year but down less than one percent from the August forecast (figure 1). Yields are expected to average 174.4 bushels per acre, down 0.7 bushel from the August forecast but up 6.0 bushels from 2015. If realized, this will be the highest U.S. yield and production on record. Area harvested for grain is forecast at 86.6 million acres, unchanged from the August forecast but up 7 percent from 2015.

Soybean production is forecast at a record-high 4.20 billion bushels, up 3 percent from August and up 7 percent from last year (figure 2). Yields are expected to average a record 50.6 bushels per acre, up 1.7 bushels from last month and up 2.6 bushels from last year. U.S. area for harvest is forecast at a record 83.0 million acres, unchanged from August but up 1 percent from 2015.

All cotton production is forecast at 16.1 million 480-pound bales, up 2 percent from August and up 25 percent from last year. Yield is expected to average 802 pounds per harvested acre, up 36 pounds from last year. Upland cotton production is forecast at 15.6 million 480-pound bales, up 25 percent from 2015. Pima cotton production is forecast at 562,000 bales, up 30 percent from last year.

California Navel orange production for the 2016-2017 season is forecast at 1.68 million tons (42.0 million boxes), down 8 percent from last season. This initial forecast is based on an objective measurement survey conducted in California's

Central Valley from July 9 to September 1. The objective survey measurements indicated that fruit set and the average fruit size were below last year. Harvest is expected to begin in October.



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