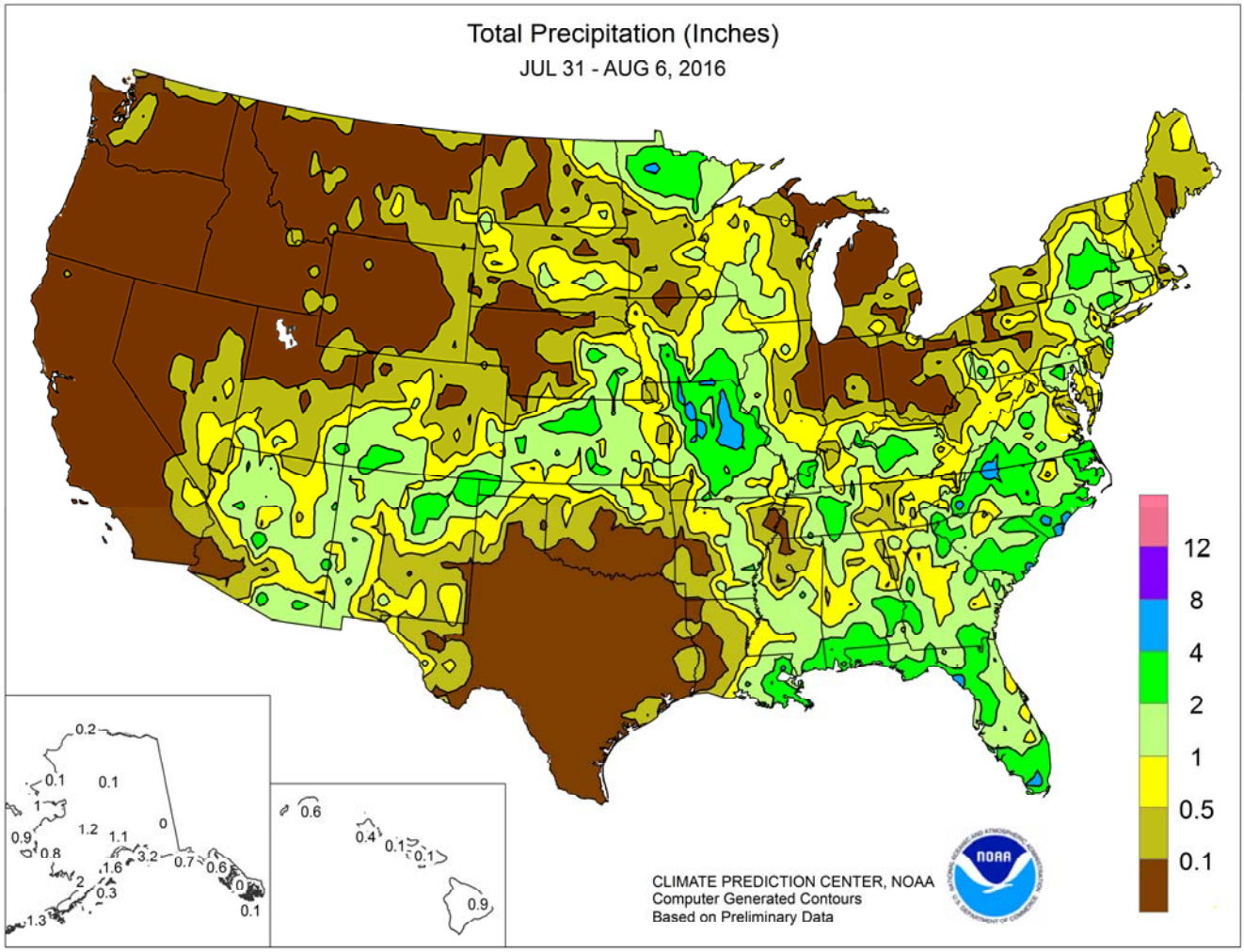
Volume 103, No. 32 http://www.usda.gov/oce/weather August 9, 2016

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

July 31 – August 6, 2016

Highlights provided by USDA/WAOB

Hot, mostly dry weather persisted in **Texas** and the **lower Great Lakes region**, further stressing pastures and immature, rain-fed summer crops—such as cotton in **Texas** and corn and soybeans in **Ohio** and **Michigan**. Weekly temperatures averaged at least 5°F above normal on the **southern High Plains** and in scattered locations across the **lower Great Lakes** region, with widespread triple-digit readings noted across the **southern half of the Plains**. In contrast, increasingly showery weather helped to offset the effects of ongoing **Southeastern** heat. The

(Continued on page 5)

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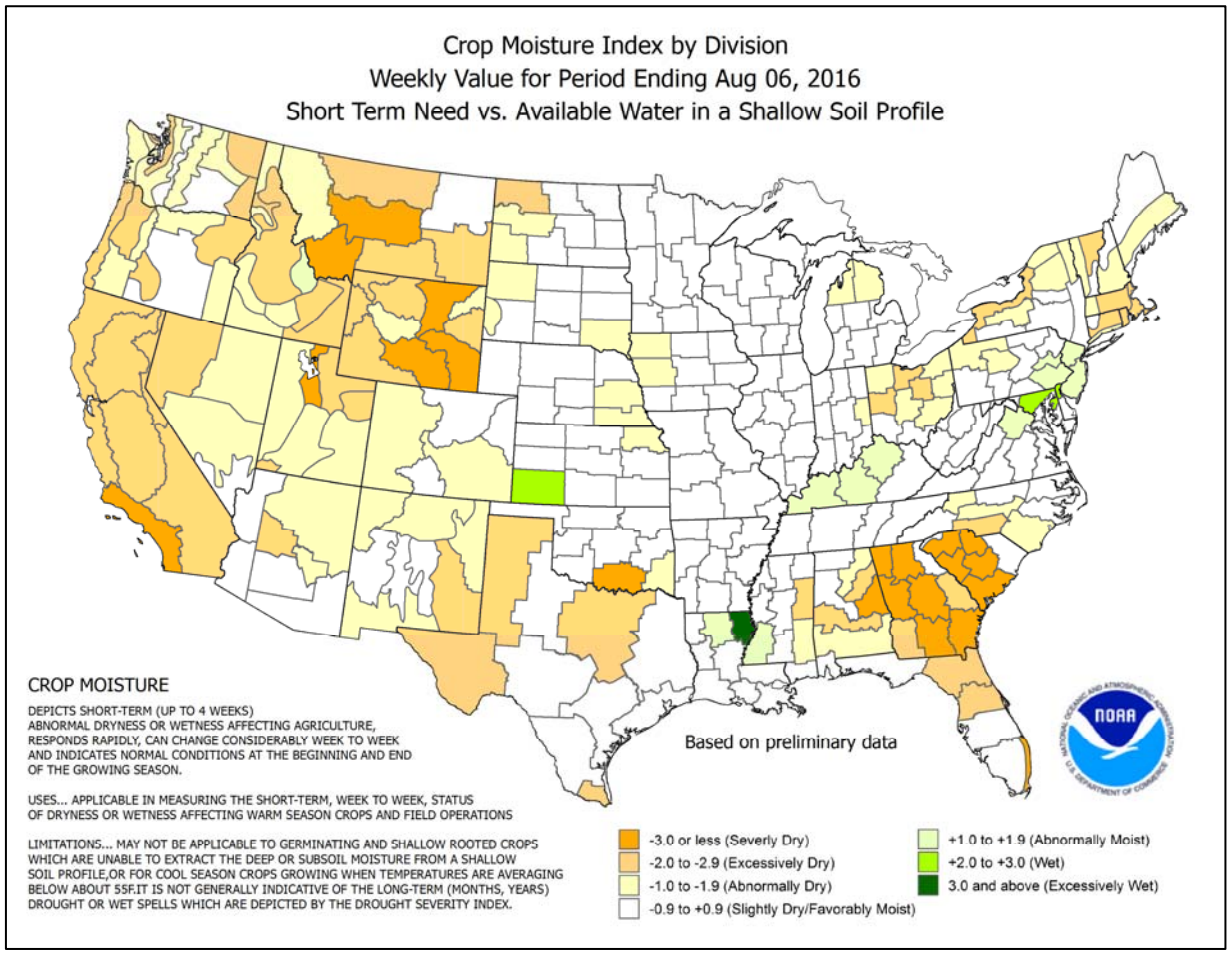
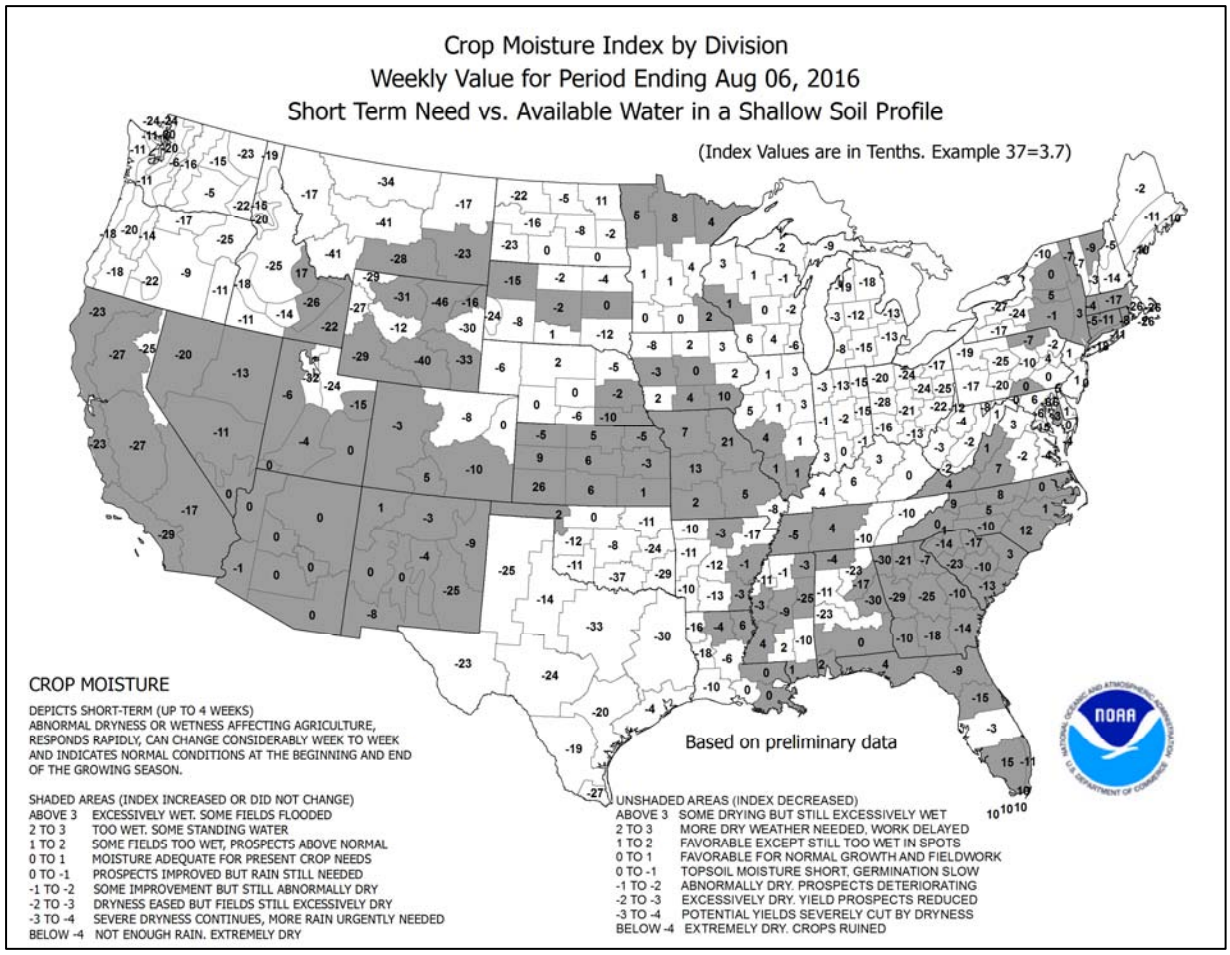
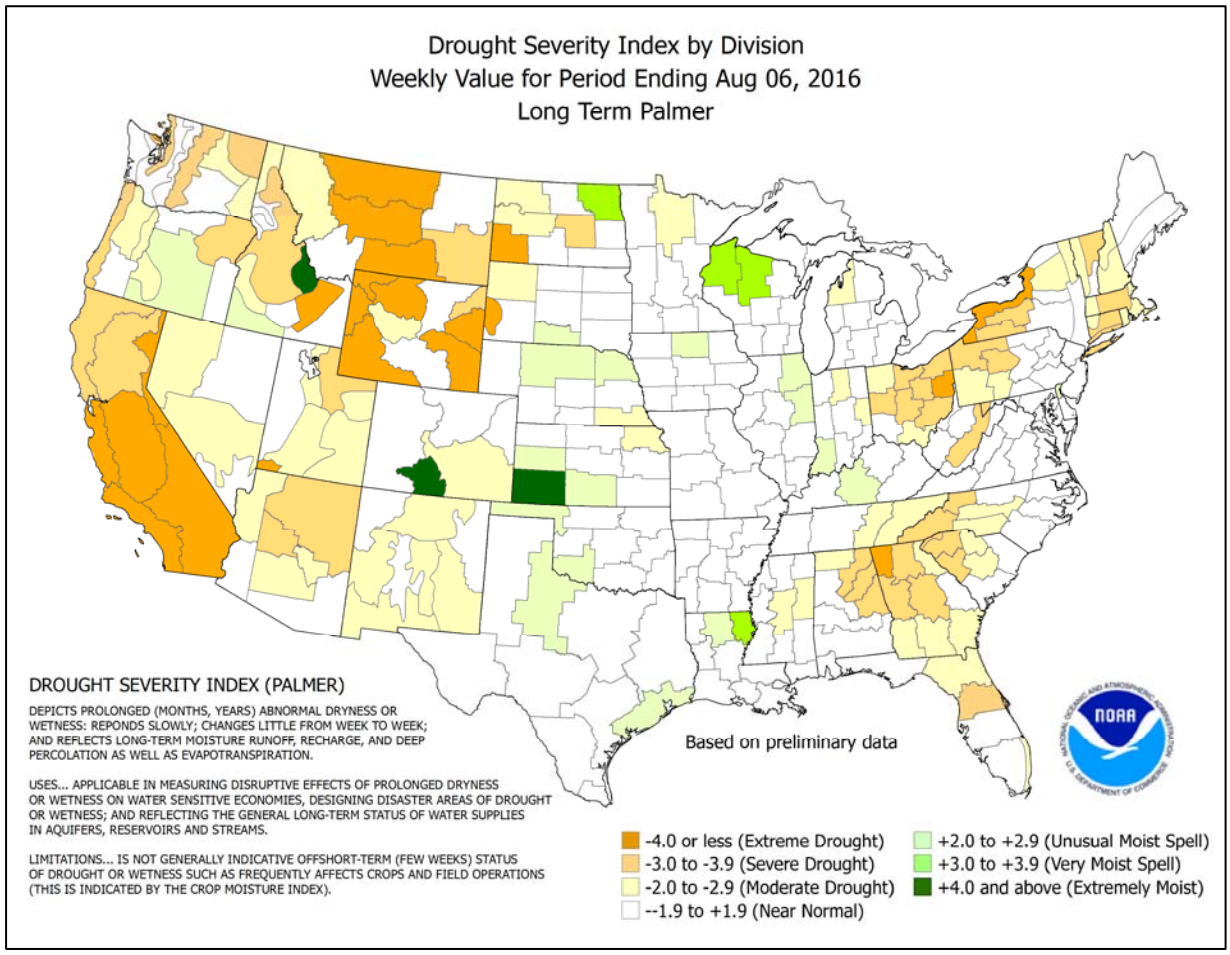
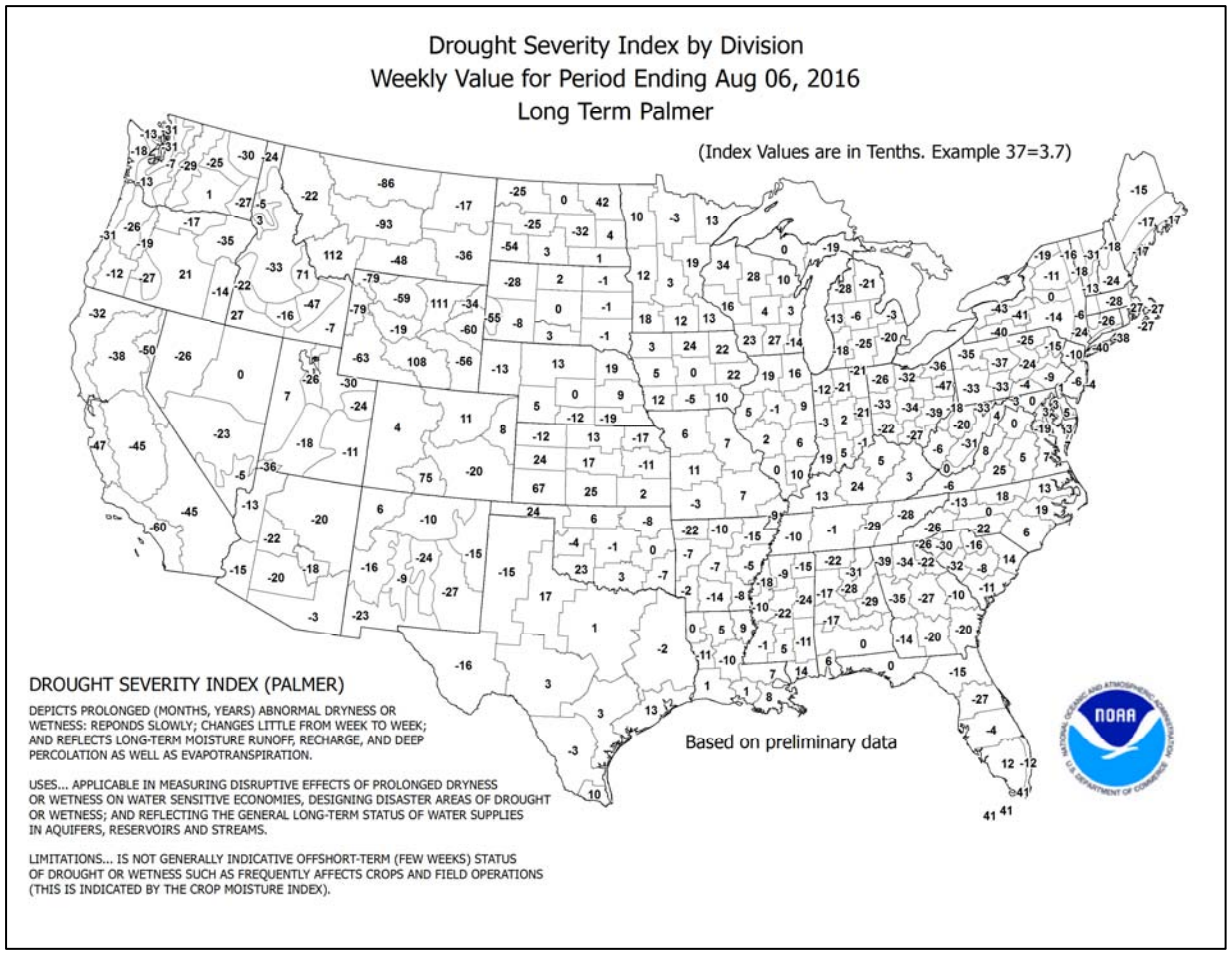

Crop Moisture Index by Division
Weekly Value for Period Ending Aug 06, 2016
Short Term Need vs. Available Water in a Shallow Soil Profile
CROP MOISTURE
DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.
USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS
LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE,OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55F.IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.
Based on preliminary data
-3.0 or less (Severly Dry)
-2.0 to -2.9 (Excessively Dry)
-1.0 to -1.9 (Abnormally Dry)
-0.9 to +0.9 (Slightly Dry/Favorably Moist)
+1.0 to +1.9 (Abnormally Moist)
+2.0 to +3.0 (Wet)
3.0 and above (Excessively Wet)
NOAA


Crop Moisture Index by Division
Weekly Value for Period Ending Aug 06, 2016
Short Term Need vs. Available Water in a Shallow Soil Profile
(Index Values are in Tenths. Example 37=3.7)
CROP MOISTURE
DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.
SHADED AREAS (INDEX INCREASED OR DID NOT CHANGE)
ABOVE 3 EXCESSIVELY WET. SOME FIELDS FLOODED
2 TO 3 TOO WET. SOME STANDING WATER
1 TO 2 SOME FIELDS TOO WET, PROSPECTS ABOVE NORMAL
0 TO 1 MOISTURE ADEQUATE FOR PRESENT CROP NEEDS
0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2 SOME IMPROVEMENT BUT STILL ABNORMALLY DRY
-2 TO -3 DRYNESS EASED BUT FIELDS STILL EXCESSIVELY DRY
-3 TO -4 SEVERE DRYNESS CONTINUES, MORE RAIN URGENTLY NEEDED
BELOW -4 NOT ENOUGH RAIN. EXTREMELY DRY
UNSHADED AREAS (INDEX DECREASED)
ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
2 TO 3 MORE DRY WEATHER NEEDED. WORK DELAYED
1 TO 2 FAVORABLE EXCEPT STILL TOO WET IN SPOTS
0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1 TOPSOIL MOISTURE SHORT. GERMINATION SLOW
-1 TO -2 ABNORMALLY DRY. PROSPECTS DETERIORATING
-2 TO -3 EXCESSIVELY DRY. YIELD PROSPECTS REDUCED
-3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DRYNESS
BELOW -4 EXTREMELY DRY. CROPS RUINED
Based on preliminary data
NOAA


Drought Severity Index by Division
Weekly Value for Period Ending Aug 06, 2016
Long Term Palmer
DROUGHT SEVERITY INDEX (PALMER)
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS: REPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.
LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
Based on preliminary data
NOAA
-4.0 or less (Extreme Drought)
-3.0 to -3.9 (Severe Drought)
-2.0 to -2.9 (Moderate Drought)
--1.9 to +1.9 (Near Normal)
+2.0 to +2.9 (Unusual Moist Spell)
+3.0 to +3.9 (Very Moist Spell)
+4.0 and above (Extremely Moist)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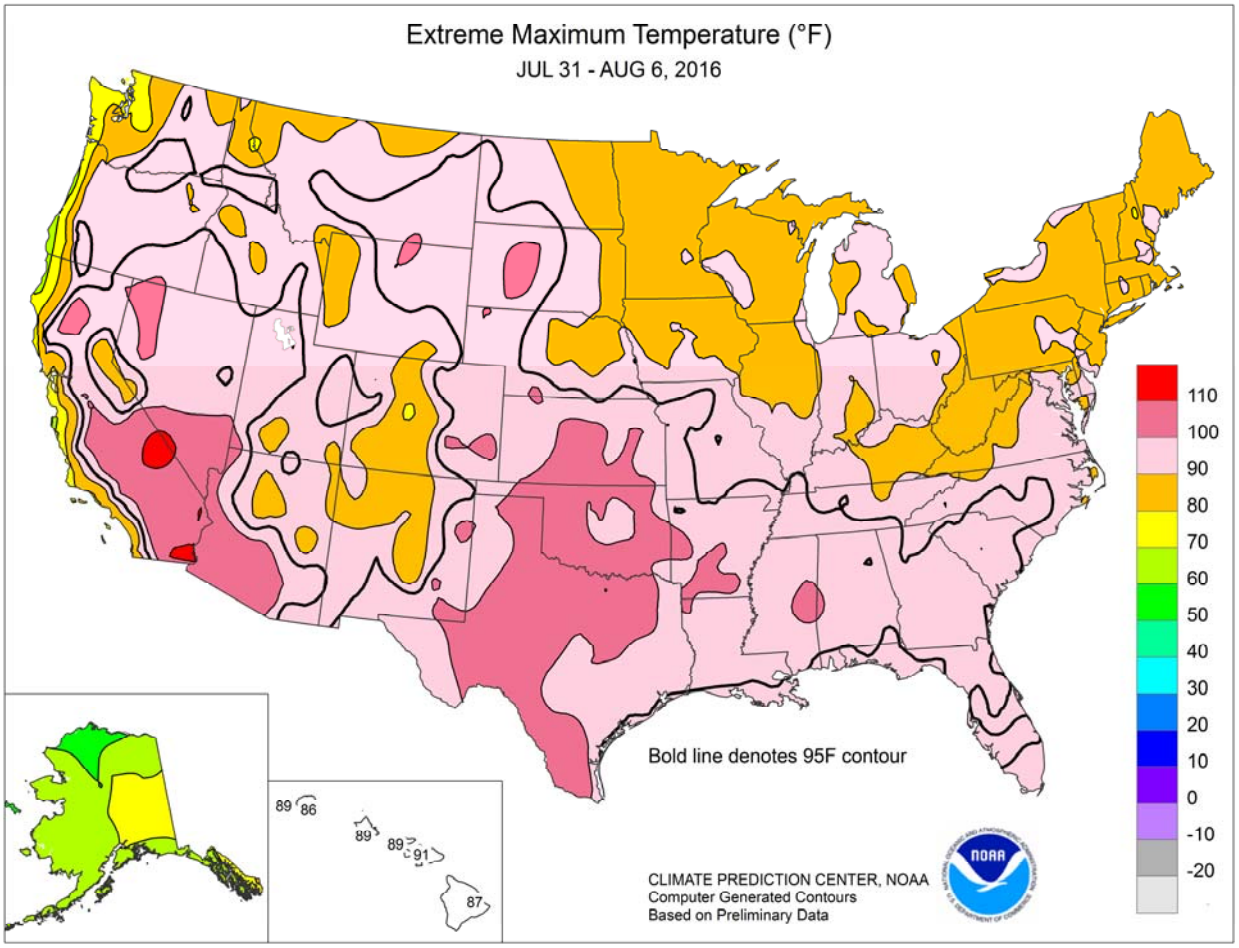
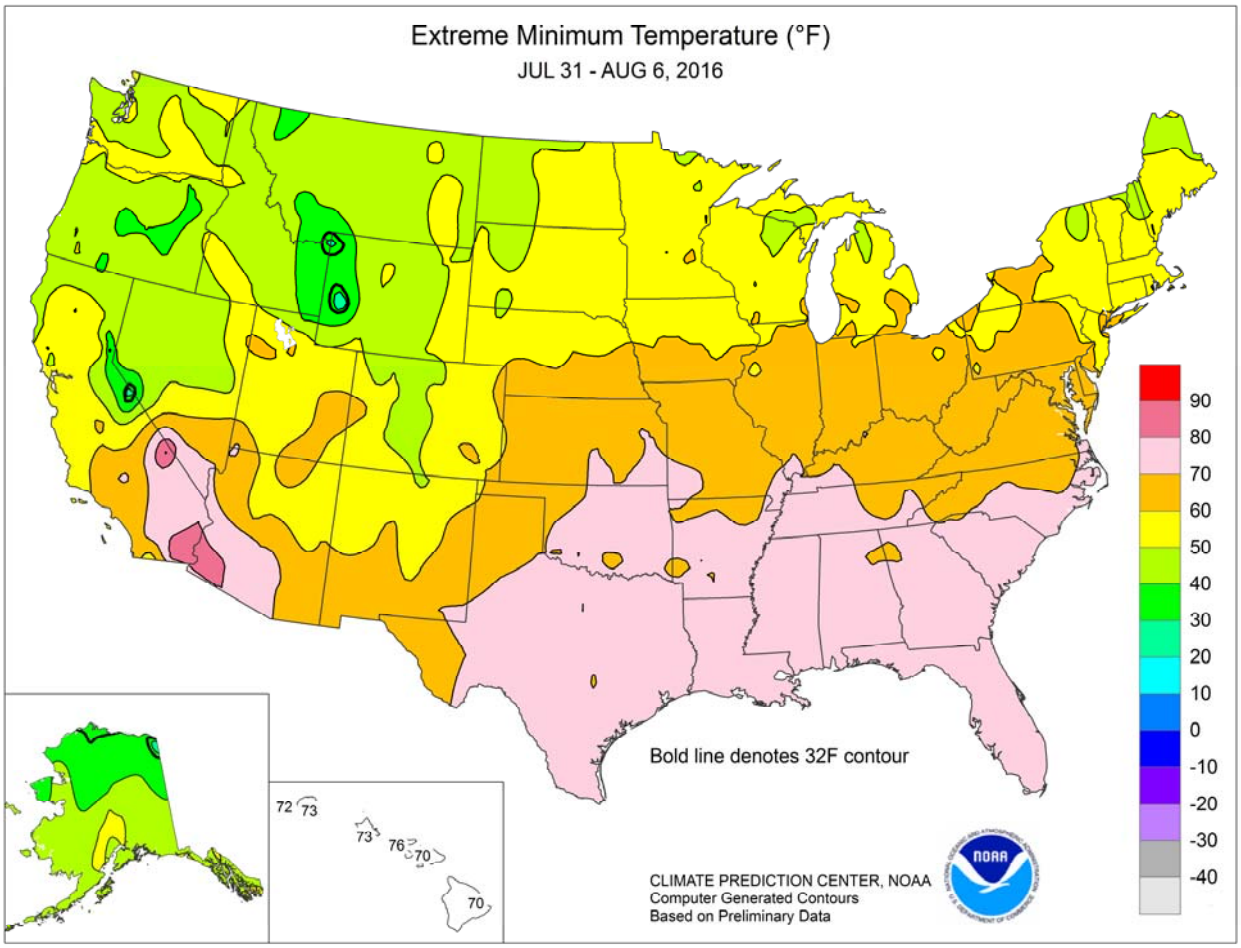
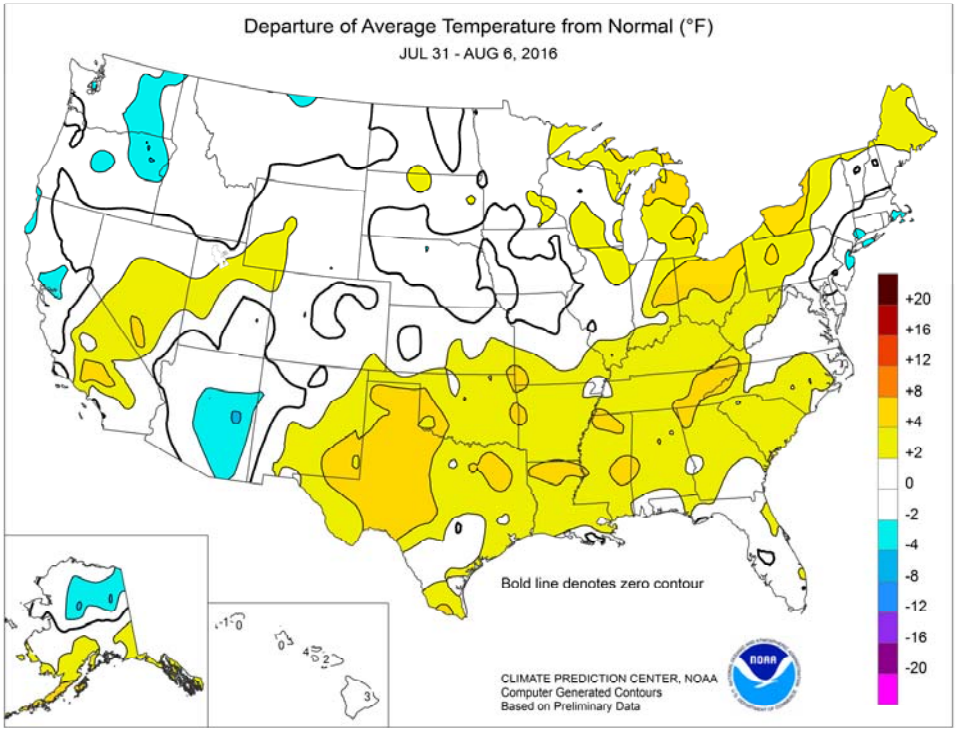
Based on preliminary data
NOAA


Extreme Maximum Temperature (°F)
JUL 31 - AUG 6, 2016
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95F contour
89
86
89
89
91
87
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data


Extreme Minimum Temperature (°F)
JUL 31 - AUG 6, 2016
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
Bold line denotes 32F contour
72
73
73
76
70
70
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data

(Continued from front cover)

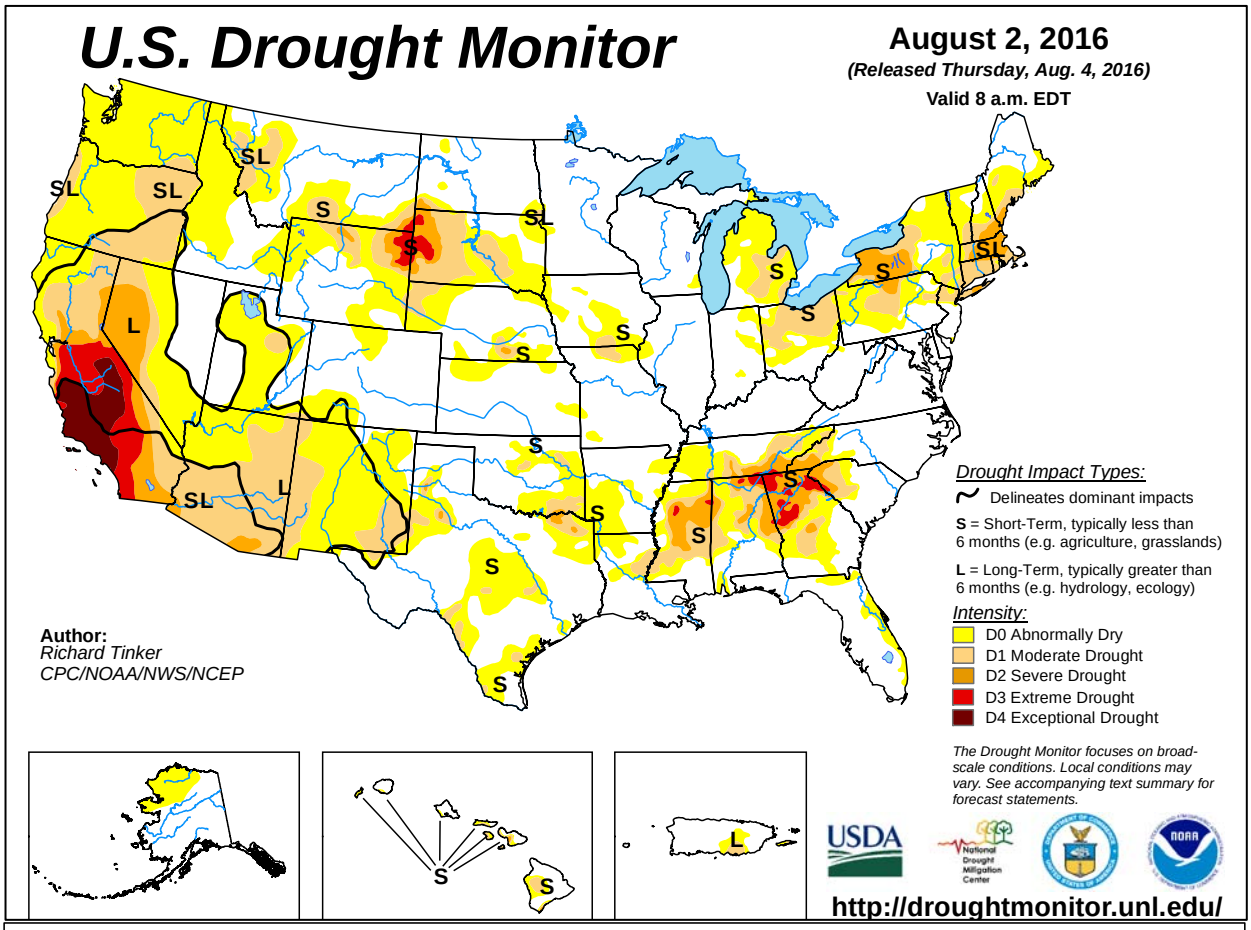


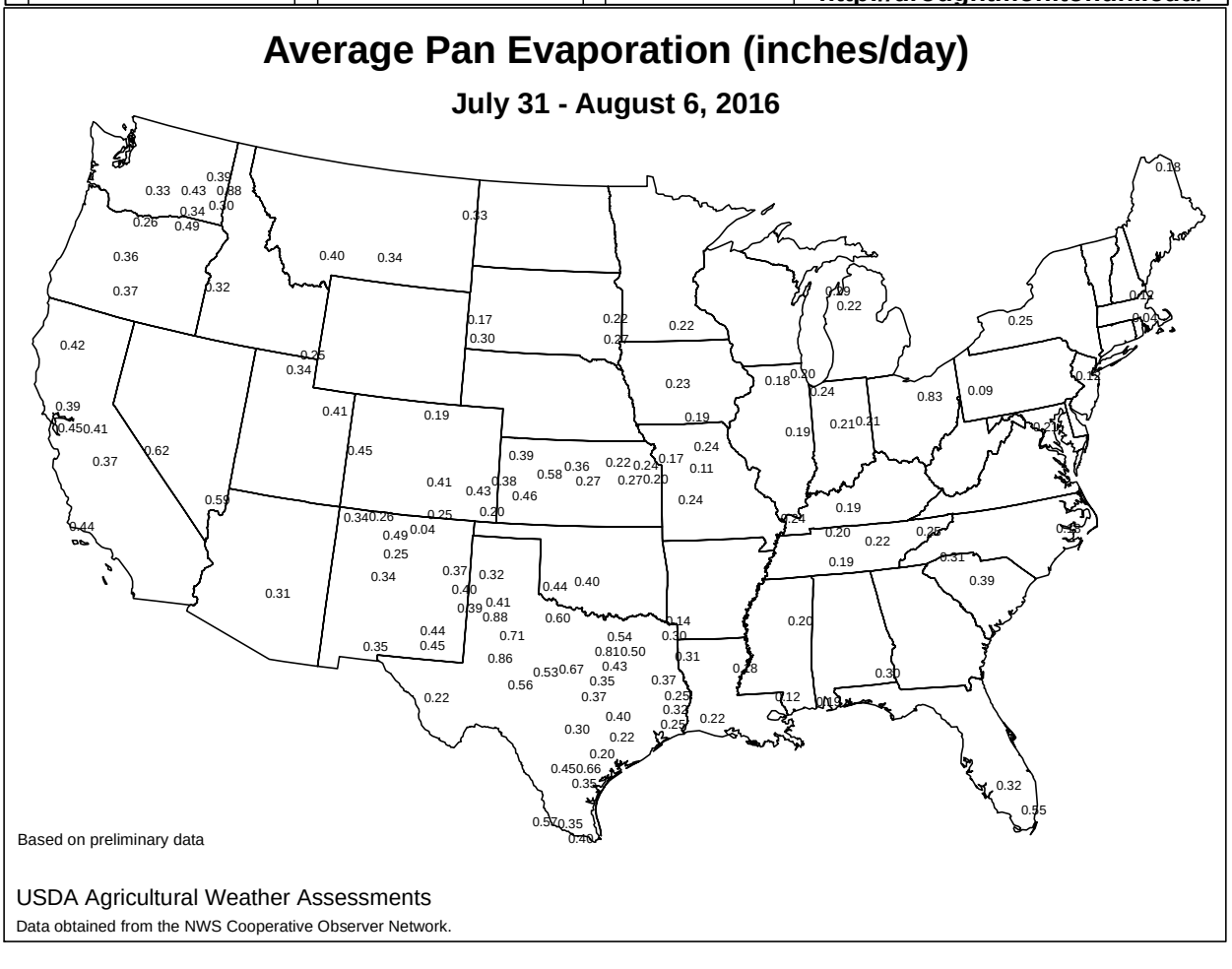
rain helped to revive **Southeastern** pastures and immature summer crops but triggered flash flooding in a few areas. Beneficial showers also dotted the **Northeast**, although significant rainfall mostly bypassed the driest areas of **western New York** and **southern New England**. Farther west, the heart of the **Corn Belt** experienced widespread showers and near-normal temperatures, maintaining generally favorable growing conditions for **Midwestern** corn and soybeans. However, excessive rainfall, locally in excess of 4 inches, caused some flooding in **northern and central Missouri**. Heavy showers also dotted the **central Plains**, while small grain harvesting advanced across the **northern Plains** amid mostly dry conditions. Elsewhere, dry weather dominated the **Pacific Coast States** and the **Northwest**, while locally heavy showers associated with the monsoon circulation covered the **Four Corners States**. **Northwestern** small grain harvesting proceeded, despite a late-week cooling trend, while several large wildfires—in various stages of containment—remained active.

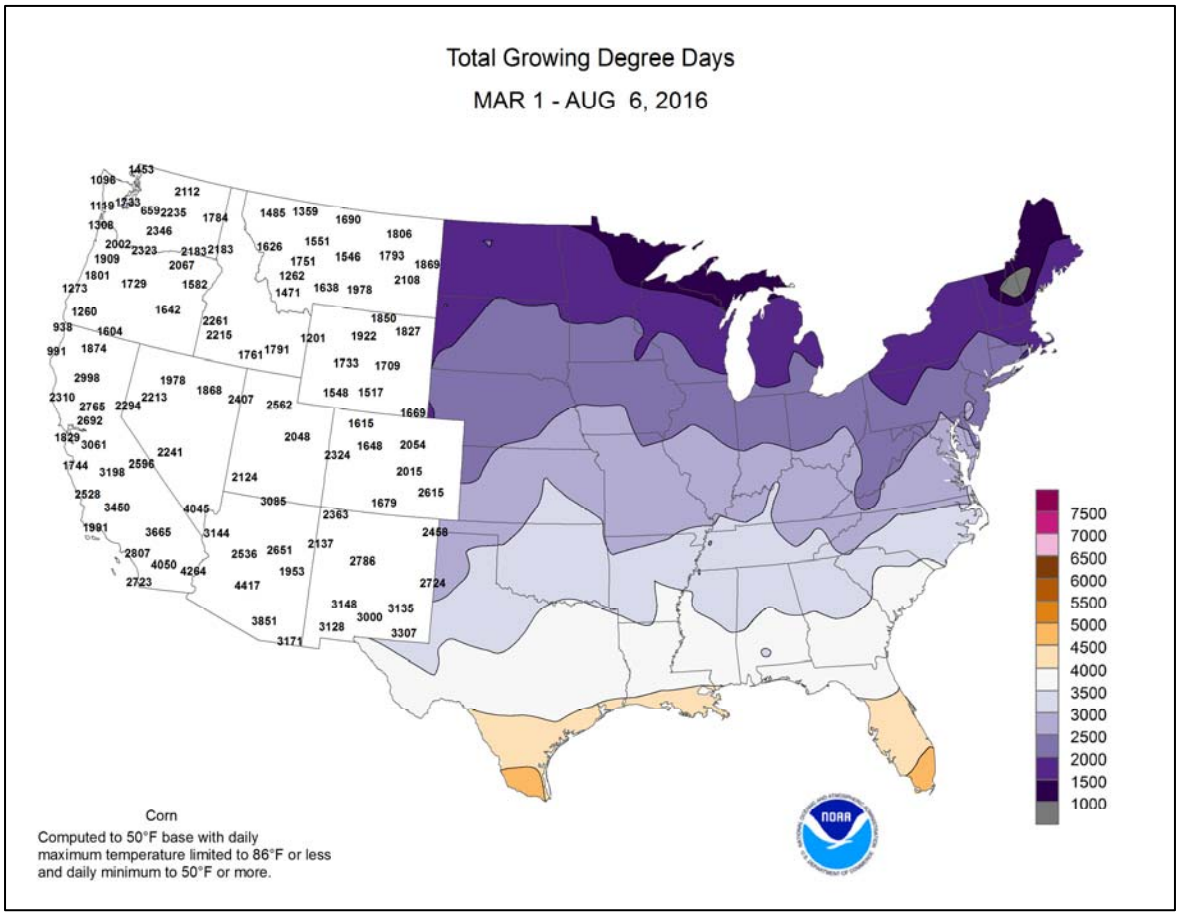
Triple-digit, daily-record highs were set in several **Southern** locations, including **McAllen, TX** (105°F on August 5), and **Meridian, MS** (102°F on August 2). Incredibly, **Meridian's** streak with above-normal daily average temperatures stretched to 76 days (May 25 – August 8). In advance of a cold front, heat briefly surged northward across many other parts of the country. On August 2, 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). **Washington, DC**, set an all-time record with the temperature remaining at or above 70°F on 35 consecutive days (July 5 – August 8)—previously, 32 days from July 15 – August 15, 1980. In contrast, cool air trailed the front into the **Northwest**. By August 4, **Big Piney, WY**, posted a daily-record low of 25°F. 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**.

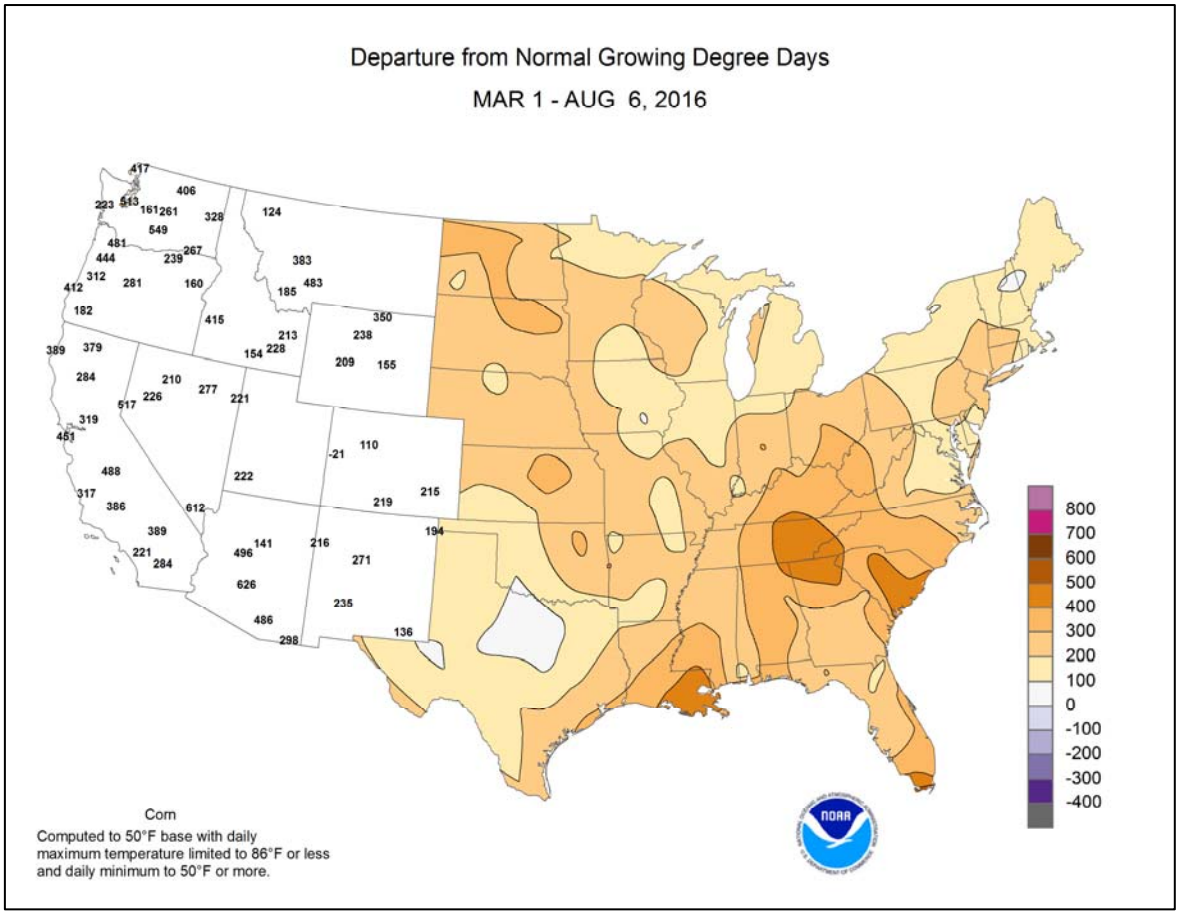
Early in the week, drought-easing rain soaked portions of the **Northeast**. The last day of July featured daily-record rainfall totals in **New York** locations such as **Albany** (2.55 inches) and **Poughkeepsie** (2.23 inches). Similarly, **Mt. Pocono, PA**, collected a record-setting total (2.03 inches) for July 31. Farther south, locally excessive rain fell in the **southern Mid-Atlantic States**. For example, **Norfolk, VA**, experienced its wettest July day on record on the 31st, when 6.98 inches fell (previously, 4.84 inches on July 10, 1939). Later, on August 3-4, rainfall totals of 6 to 12 inches or more occurred in parts of **Surry County, NC**, with 12.52 inches reported in **Ararat**. Meanwhile, heavy showers also 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**. Meanwhile, showers 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 much (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**. Elsewhere, the driest July on record came to a close in locations such as **San Angelo, TX** (a trace; tied with 1963, 1970, and 2011), and **Vero Beach, FL** (0.61 inch; previously, 1.30 inches in 2003).

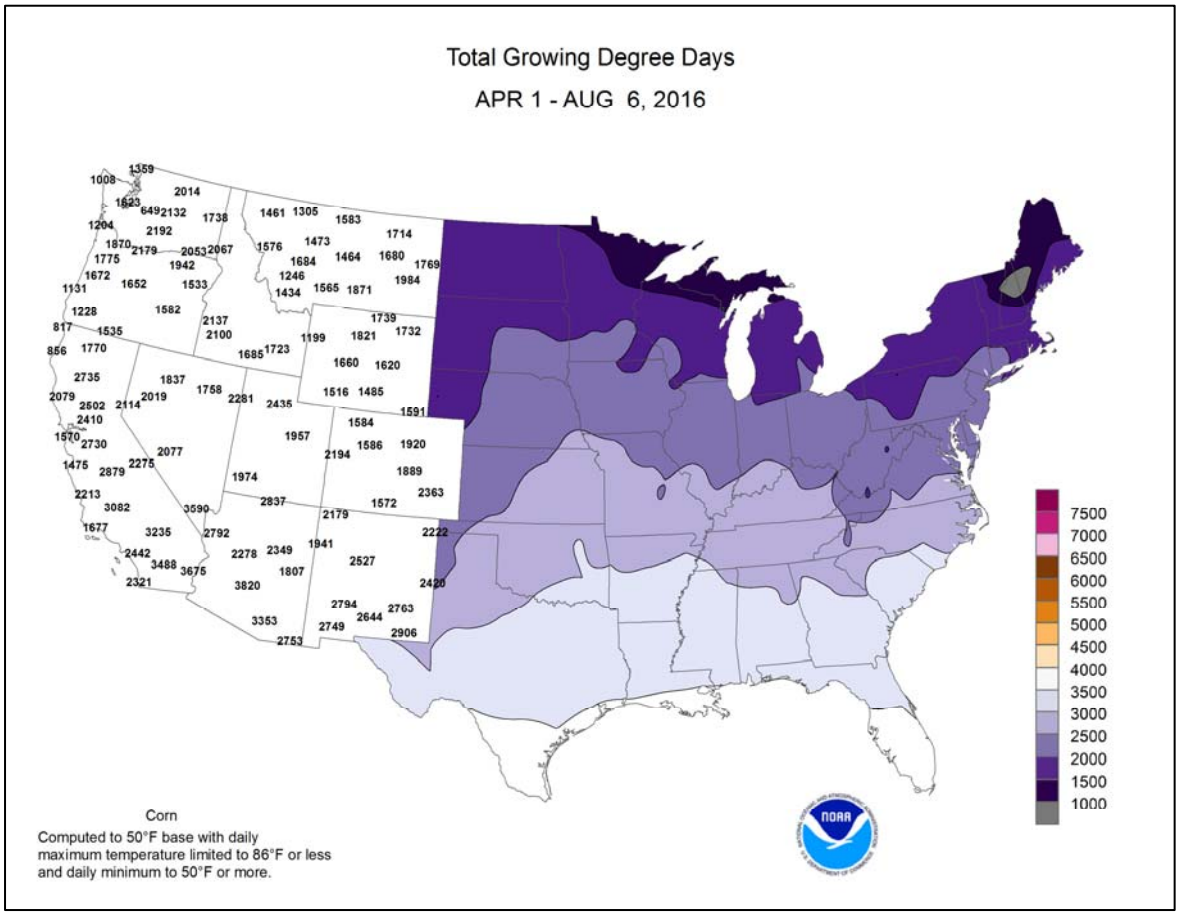
Cool weather in **northern Alaska** contrasted with mild conditions farther south. Across **southern Alaska**, daily-record highs were noted in locations such as **Annette Island** (81°F on August 6) and **St. Paul Island** (57°F on August 5). Elsewhere, widespread showers dotted **south-central and southwestern Alaska**, while many other parts of the state stayed mostly dry. During the first 6 days of August, rainfall totaled 1.50 inches in **King Salmon** and 1.19 inches in **Anchorage**. Farther south, warm weather accompanied scattered **Hawaiian** showers. On the **Big Island**, **Hilo** posted a daily record-tying high of 87°F on August 1. Showers, mainly confined to windward locations, were heaviest in parts of **Kauai**. In fact, **Kauai's** famously wet **Mt. Waialeale** netted a weekly rainfall total of 19.96 inches.

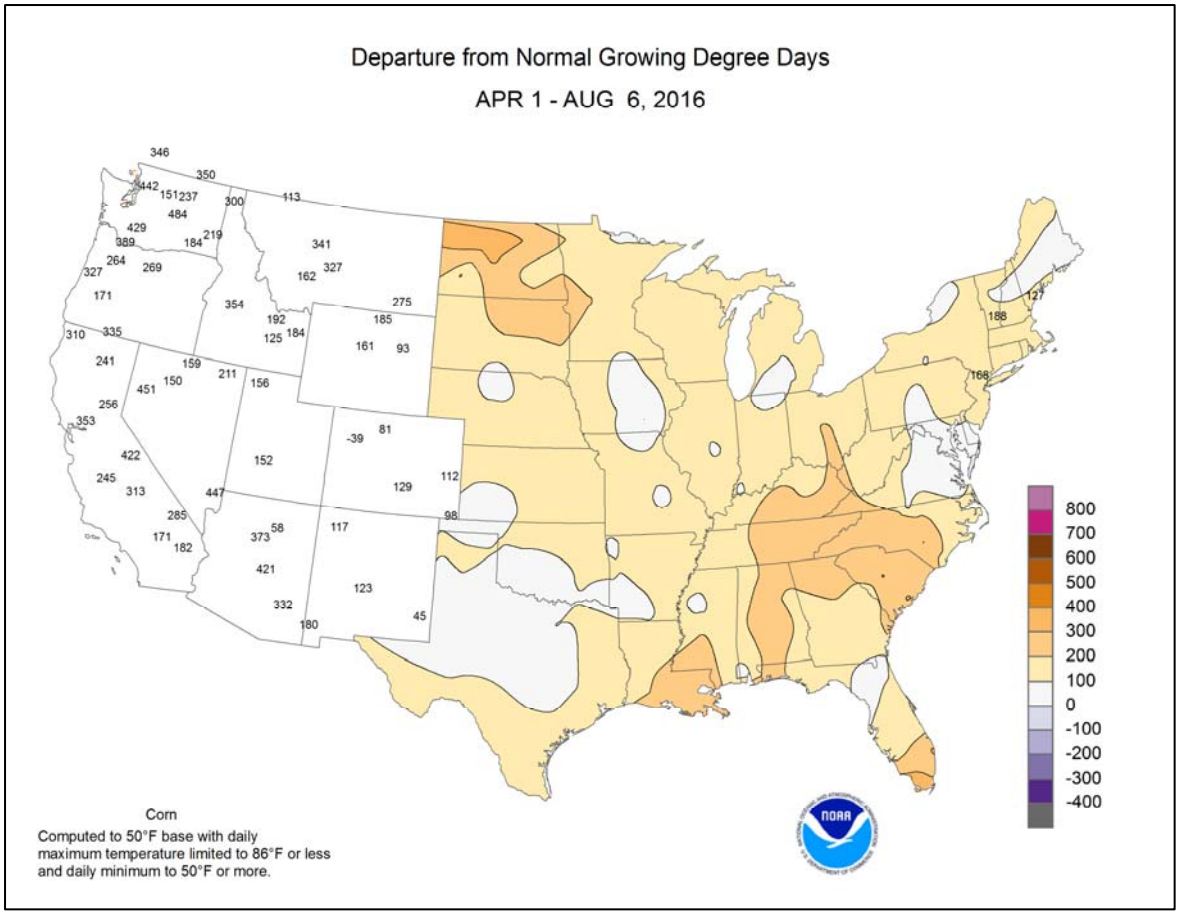

U.S. Drought Monitor
August 2, 2016
(Released Thursday, Aug. 4, 2016)
Valid 8 a.m. EDT
Author:
Richard Tinker
CPC/NOAA/NWS/NCEP
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
http://droughtmonitor.unl.edu/


Average Pan Evaporation (inches/day)
July 31 - August 6, 2016
Based on preliminary data
USDA Agricultural Weather Assessments
Data obtained from the NWS Cooperative Observer Network.


Total Growing Degree Days
MAR 1 - AUG 6, 2016
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.


Departure from Normal Growing Degree Days
MAR 1 - AUG 6, 2016
800
700
600
500
400
300
200
100
0
-100
-200
-300
-400
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.


Total Growing Degree Days
APR 1 - AUG 6, 2016
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.


Departure from Normal Growing Degree Days
APR 1 - AUG 6, 2016
800
700
600
500
400
300
200
100
0
-100
-200
-300
-400
Corn
Computed to 50°F base with daily maximum temperature limited to 86°F or less and daily minimum to 50°F or more.

National Weather Data for Selected Cities

Weather Data for the Week Ending August 6, 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	94	75	97	74	85	4	0.47	-0.46	0.47	11.51	119	33.12	95	94	50	7	0	1	0
	HUNTSVILLE	93	73	99	72	83	3	0.97	0.17	0.42	10.29	111	28.58	79	86	65	6	0	3	0
	MOBILE	92	74	94	71	83	1	0.89	-0.52	0.52	14.99	118	43.16	103	95	68	6	0	4	1
	MONTGOMERY	97	75	100	74	86	4	1.13	0.21	0.58	9.47	93	31.84	89	90	48	7	0	5	1
AK	ANCHORAGE	67	56	71	53	61	3	1.21	0.67	0.71	5.40	168	7.56	116	89	75	0	0	5	1
	BARROW	44	34	51	30	39	-1	0.16	-0.06	0.10	1.55	112	2.89	149	91	72	0	3	2	0
	FAIRBANKS	70	55	78	49	63	3	1.10	0.70	0.78	8.57	246	10.45	191	93	77	0	0	5	1
	JUNEAU	66	53	70	50	59	2	0.64	-0.42	0.64	8.20	98	30.99	114	89	78	0	0	1	1
	KODIAK	66	54	70	49	60	4	0.33	-0.47	0.14	6.27	62	49.04	119	96	80	0	0	4	0
	NOME	58	45	65	36	52	0	1.01	0.37	0.69	5.17	134	8.25	110	94	73	0	0	4	1
AZ	FLAGSTAFF	75	54	78	52	65	-1	2.65	1.96	1.11	6.14	180	13.16	102	99	50	0	0	7	2
	PHOENIX	101	81	106	76	91	-2	0.67	0.42	0.52	1.57	122	3.45	79	63	42	7	0	2	1
	PRESCOTT	84	63	90	59	74	1	1.82	0.99	0.72	2.92	73	6.71	62	92	45	1	0	7	1
	TUCSON	93	73	102	69	83	-3	0.89	0.29	0.64	5.16	182	7.69	128	81	54	6	0	4	1
AR	FORT SMITH	100	76	103	72	88	5	0.00	-0.55	0.00	5.56	70	22.77	87	85	34	7	0	0	0
	LITTLE ROCK	96	77	101	73	87	4	0.49	-0.12	0.49	9.69	125	38.88	129	88	49	6	0	1	0
CA	BAKERSFIELD	101	73	105	69	87	4	0.00	0.00	0.00	0.00	0	4.10	89	39	22	7	0	0	0
	FRESNO	100	68	104	63	84	3	0.00	0.00	0.00	0.06	25	9.08	115	57	34	7	0	0	0
	LOS ANGELES	78	67	82	66	73	3	0.00	0.00	0.00	0.00	0	6.00	63	84	65	0	0	0	0
	REDDING	99	63	105	62	81	0	0.00	-0.02	0.00	2.46	324	30.63	139	55	29	7	0	0	0
	SACRAMENTO	90	57	98	55	73	-3	0.00	0.00	0.00	0.00	0	12.75	106	83	26	4	0	0	0
	SAN DIEGO	78	69	80	68	74	2	0.00	0.00	0.00	0.00	0	5.01	65	79	70	0	0	0	0
	SAN FRANCISCO	71	56	76	54	63	0	0.00	0.00	0.00	0.00	0	12.44	93	84	68	0	0	0	0
	STOCKTON	93	57	99	53	75	-2	0.00	0.00	0.00	0.00	0	12.12	134	77	45	5	0	0	0
CO	ALAMOSA	77	53	84	49	65	1	0.42	0.17	0.32	1.24	71	5.61	144	91	72	0	0	2	0
	CO SPRINGS	84	60	92	57	72	2	0.29	-0.54	0.27	4.37	74	12.30	106	70	28	2	0	3	0
	DENVER INTL	88	62	96	59	75	2	0.01	-0.51	0.01	2.69	62	10.51	111	69	26	4	0	1	0
	GRAND JUNCTION	89	67	97	62	78	1	0.21	0.02	0.21	0.94	76	5.91	114	58	38	4	0	1	0
	PUEBLO	95	64	102	59	79	3	0.22	-0.34	0.14	2.04	53	9.22	113	65	29	5	0	2	0
CT	BRIDGEPORT	81	68	88	63	74	-1	0.43	-0.41	0.24	6.25	78	21.79	81	78	59	0	0	3	0
	HARTFORD	84	63	92	55	73	-1	1.04	0.21	0.63	4.62	56	18.56	68	85	60	1	0	2	1
DC	WASHINGTON	89	74	94	70	81	2	0.06	-0.74	0.06	6.87	92	22.21	95	86	54	4	0	1	0
DE	WILMINGTON	85	69	90	64	77	0	0.30	-0.55	0.30	10.04	117	27.90	106	90	58	1	0	1	0
FL	DAYTONA BEACH	94	74	96	73	84	2	0.11	-1.02	0.10	4.39	37	24.39	89	96	52	7	0	2	0
	JACKSONVILLE	94	73	97	71	83	2	1.07	-0.22	0.73	6.27	50	20.73	69	100	53	7	0	4	1
	KEY WEST	90	81	92	74	85	1	2.59	1.68	2.56	7.44	86	19.09	97	85	68	4	0	2	1
	MIAMI	91	76	92	73	84	0	7.57	6.11	3.69	20.40	131	40.79	132	89	62	7	0	3	3
	ORLANDO	93	75	95	74	84	2	1.39	0.03	1.35	13.09	84	33.18	110	91	64	7	0	4	1
	PENSACOLA	88	77	91	75	83	0	3.54	1.88	1.77	18.02	114	42.28	104	90	66	4	0	3	2
	TALLAHASSEE	93	76	96	75	84	2	2.62	0.90	1.42	18.74	114	42.13	102	94	68	6	0	5	2
	TAMPA	90	77	94	74	84	1	3.17	1.64	1.91	19.73	148	35.63	138	88	60	4	0	2	2
	WEST PALM BEACH	94	79	95	76	86	3	1.06	-0.09	1.01	7.17	49	28.54	85	80	56	7	0	3	1
GA	ATHENS	94	73	99	72	84	4	6.97	6.05	4.97	11.49	126	26.66	88	99	61	7	0	4	3
	ATLANTA	93	74	96	72	83	3	0.86	-0.09	0.57	7.21	75	26.35	82	94	60	7	0	3	1
	AUGUSTA	94	73	97	72	83	3	1.76	0.80	1.16	5.83	64	24.56	87	95	60	6	0	5	1
	COLUMBUS	94	73	96	71	84	2	0.88	-0.13	0.58	4.90	52	24.34	76	97	48	7	0	4	1
	MACON	93	73	97	72	83	2	0.97	0.08	0.38	5.16	60	23.12	79	96	58	6	0	6	0
	SAVANNAH	95	75	98	73	85	3	2.42	0.90	1.50	10.59	82	33.26	110	87	55	7	0	3	2
HI	HILO	86	72	87	70	79	3	0.94	-1.32	0.57	19.41	97	44.35	60	86	74	0	0	5	1
	HONOLULU	87	76	89	73	81	0	0.40	0.27	0.35	2.95	284	7.00	71	79	68	0	0	2	0
	KAHULUI	89	74	91	70	82	3	0.05	-0.06	0.03	1.57	194	9.30	80	85	73	2	0	3	0
	LIHUE	84	75	86	73	80	1	0.64	0.18	0.36	3.40	79	9.83	45	87	79	0	0	5	0
ID	BOISE	92	61	97	53	76	0	0.00	-0.03	0.00	0.45	39	4.97	65	40	21	6	0	0	0
	LEWISTON	91	60	99	56	76	1	0.00	-0.14	0.00	2.58	129	9.39	116	47	23	5	0	0	0
	POCATELLO	90	52	96	41	71	0	0.25	0.11	0.24	0.44	25	7.25	91	53	20	4	0	2	0
IL	CHICAGO/O'HARE	86	68	91	65	77	3	0.02	-0.90	0.02	9.10	115	22.73	108	85	52	2	0	1	0
	MOLINE	86	68	89	63	77	2	0.80	-0.14	0.75	12.15	128	22.15	94	88	63	0	0	3	1
	PEORIA	86	69	89	65	77	2	0.41	-0.36	0.30	8.86	104	17.97	81	97	64	0	0	2	0
	ROCKFORD	85	66	88	61	75	2	0.88	0.01	0.88	10.94	113	23.00	103	90	60	0	0	1	1
	SPRINGFIELD	87	70	90	65	78	2	0.40	-0.37	0.27	11.84	149	25.44	116	95	62	1	0	2	0
IN	EVANSVILLE	89	72	93	70	81	3	0.01	-0.72	0.01	13.57	160	35.32	125	93	66	4	0	1	0
	FORT WAYNE	88	66	92	63	77	4	0.00	-0.78	0.00	6.56	79	20.75	93	90	47	3	0	0	0
	INDIANAPOLIS	89	71	92	67	80	5	0.00	-0.94	0.00	10.19	109	27.69	108	89	50	4	0	0	0
	SOUTH BEND	83	64	91	60	74	1	0.00	-0.80	0.00	6.49	75	21.60	94	89	59	2	0	0	0
IA	BURLINGTON	84	67	90	62	76	0	2.28	1.38	1.95	10.64	110	21.49	91	100	66	1	0	3	1
	CEDAR RAPIDS	83	64	89	58	74	0	1.28	0.39	1.28	13.47	145	23.98	116	100	69	0	0	1	1
	DES MOINES	85	69	95	67	77	1	1.15	0.17	0.75	9.60	100	20.84	95	88	68	1	0	3	1
	DUBUQUE	81	66	86	60	74	2	0.67	-0.26	0.67	15.13	176	26.08	121	93	68	0	0	1	1
	SIOUX CITY	87	66	91	58	77	3	0.53	-0.15	0.42	4.10	55	19.83	115	92	66	2	0	2	0
	WATERLOO	84	64	89	58	74	1	1.59	0.68	1.59	14.57	149	25.00	118	91	67	0	0	1	1
KS	CONCORDIA	88	70	96	66	79	0	0.61	-0.24	0.42	7.52	85	20.39	106	88	64	4	0	3	0
	DODGE CITY	93	68	100	64	80	0	0.12	-0.57	0.12	8.13	118	19.25	126	85	44	5	0	1	0
	GOODLAND	89	63	96	61	76	1	0.10	-0.64	0.09	4.47	60	11.83	82	84	52	4	0	2	0
	TOPEKA	89	72	100	69	81	2	0.68	-0.12	0.68	7.75	82	27.06	122	88	71	3	0	1	1

Based on 1971-2000 normals ***** Not Available**

Weather Data for the Week Ending August 6, 2016

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	94	75	101	71	84	2	3.29	2.64	2.17	15.79	194	31.35	161	82	55	5	0	3	2
KY	JACKSON	86	70	90	69	78	3	2.18	1.22	0.76	13.54	134	36.35	119	97	62	1	0	4	3
	LEXINGTON	88	70	90	69	79	3	3.55	2.58	3.07	13.09	128	32.02	108	93	64	1	0	3	1
	LOUISVILLE	90	73	91	72	82	4	1.64	0.76	0.75	10.17	115	29.23	102	90	52	3	0	4	1
	PADUCAH	91	72	96	70	81	3	4.13	3.39	1.91	13.99	146	38.19	123	94	64	4	0	4	3
LA	BATON ROUGE	95	76	97	75	86	4	0.95	-0.37	0.62	14.82	119	45.02	113	93	52	7	0	3	1
	LAKE CHARLES	96	77	97	76	87	4	0.03	-0.93	0.03	11.89	99	42.21	124	94	51	7	0	1	0
	NEW ORLEANS	96	79	98	77	88	5	2.70	1.50	1.80	16.92	120	46.24	115	88	59	7	0	3	2
	SHREVEPORT	98	78	100	73	88	4	0.72	0.05	0.71	9.05	94	43.28	134	92	47	7	0	2	1
ME	CARIBOU	82	56	87	50	69	3	0.87	-0.07	0.65	10.16	127	26.08	121	90	44	0	0	2	1
	PORTLAND	80	61	94	55	71	2	0.10	-0.59	0.06	6.18	86	21.69	81	89	50	1	0	2	0
MD	BALTIMORE	86	69	91	64	78	2	0.07	-0.77	0.06	9.35	117	27.19	107	88	58	2	0	2	0
MA	BOSTON	80	66	89	62	73	-1	0.21	-0.48	0.15	2.26	33	18.60	75	90	57	0	0	3	0
	WORCESTER	77	62	83	58	69	-1	1.14	0.22	0.88	4.66	52	20.37	71	92	53	0	0	3	1
MI	ALPENA	87	60	95	54	73	6	0.05	-0.73	0.05	3.98	62	18.76	113	86	37	2	0	1	0
	GRAND RAPIDS	86	64	91	61	75	4	0.00	-0.72	0.00	6.77	86	23.78	114	88	46	2	0	0	0
	HOUGHTON LAKE	85	56	91	49	71	4	0.00	-0.71	0.00	5.78	92	19.85	124	90	45	1	0	0	0
	LANSING	87	63	93	59	75	5	0.00	-0.57	0.00	3.93	58	16.84	94	84	47	3	0	0	0
	MUSKEGON	84	63	89	61	74	4	0.14	-0.52	0.14	8.35	153	22.29	128	88	52	0	0	1	0
	TRAVERSE CITY	87	64	94	59	75	5	0.00	-0.65	0.00	4.21	60	15.80	84	88	39	3	0	0	0
MN	DULUTH	80	60	84	56	70	4	1.39	0.54	1.10	10.24	112	20.35	114	93	65	0	0	2	1
	INT'L FALLS	80	56	85	47	68	1	1.88	1.25	0.81	11.23	142	19.01	133	96	52	0	0	4	2
	MINNEAPOLIS	85	69	91	62	77	4	1.14	0.24	1.14	10.71	117	19.63	107	81	62	1	0	1	1
	ROCHESTER	82	63	86	56	72	2	1.22	0.20	1.09	12.06	127	23.75	121	95	73	0	0	2	1
	ST. CLOUD	84	61	89	54	73	3	0.09	-0.67	0.09	10.20	120	16.57	101	100	53	0	0	1	0
MS	JACKSON	96	74	99	71	85	3	3.09	2.16	2.43	14.32	154	46.76	130	92	51	7	0	3	2
	MERIDIAN	100	75	102	74	87	5	0.34	-0.62	0.21	7.65	75	32.64	84	88	47	7	0	2	0
	TUPELO	96	74	98	74	85	4	1.12	0.49	0.66	9.51	106	31.61	88	90	54	7	0	3	1
MO	COLUMBIA	85	69	94	67	77	-1	4.47	3.64	2.67	16.07	188	26.21	106	97	69	1	0	5	3
	KANSAS CITY	87	70	97	65	79	0	1.19	0.37	1.02	9.91	104	30.44	131	89	60	2	0	2	1
	SAINT LOUIS	89	73	97	72	81	1	1.66	0.93	0.96	11.26	136	24.30	101	86	60	2	0	5	1
	SPRINGFIELD	90	74	95	71	82	3	0.31	-0.25	0.18	11.88	131	23.13	88	84	64	5	0	3	0
MT	BILLINGS	90	60	98	53	75	1	0.65	0.46	0.65	1.33	40	6.73	67	51	16	5	0	1	1
	BUTTE	82	44	92	37	63	-1	0.03	-0.27	0.03	1.90	50	5.43	63	63	14	1	0	1	0
	CUT BANK	80	49	87	43	65	0	0.00	-0.33	0.00	2.62	60	7.10	82	84	21	0	0	0	0
	GLASGOW	85	57	90	53	71	-1	0.00	-0.31	0.00	6.93	163	15.21	195	79	41	1	0	0	0
	GREAT FALLS	86	49	95	45	67	-1	0.00	-0.33	0.00	2.16	54	8.18	81	73	15	2	0	0	0
	HAVRE	84	55	93	49	69	-1	0.02	-0.26	0.02	4.38	120	12.27	156	84	38	1	0	1	0
	MISSOULA	86	49	94	43	68	-1	0.02	-0.20	0.02	2.84	94	7.96	90	66	28	2	0	1	0
NE	GRAND ISLAND	85	66	89	62	76	0	0.21	-0.48	0.14	4.22	57	18.90	109	92	62	0	0	2	0
	LINCOLN	87	69	95	65	78	0	2.06	1.29	0.99	7.02	91	19.33	105	91	63	3	0	3	2
	NORFOLK	84	66	88	57	75	0	0.29	-0.40	0.16	6.25	73	22.70	123	91	68	0	0	2	0
	NORTH PLATTE	84	65	92	60	75	0	0.00	-0.61	0.00	7.10	103	18.28	128	94	55	4	0	0	0
	OMAHA	88	70	97	65	79	2	0.34	-0.42	0.33	7.88	93	20.87	107	85	59	3	0	2	0
	SCOTTSBLUFF	87	63	98	60	75	2	0.04	-0.28	0.02	2.38	47	11.49	97	85	45	4	0	3	0
	VALENTINE	86	63	94	55	75	0	0.41	-0.23	0.32	7.36	106	21.28	152	89	54	2	0	2	0
NV	ELY	89	54	94	44	71	3	0.18	0.00	0.10	1.91	135	8.71	142	70	37	4	0	2	0
	LAS VEGAS	101	81	106	73	91	0	0.08	-0.03	0.04	0.74	121	3.59	125	48	29	6	0	3	0
	RENO	95	59	98	50	77	5	0.00	-0.03	0.00	0.00	0	5.21	112	34	14	7	0	0	0
	WINNEMUCCA	95	54	98	49	75	2	0.00	-0.04	0.00	0.01	1	4.58	88	25	11	7	0	0	0
NH	CONCORD	83	59	91	54	71	1	0.40	-0.33	0.21	3.80	54	16.53	76	91	48	2	0	2	0
NJ	NEWARK	82	68	91	64	75	-2	0.80	-0.18	0.71	8.57	96	23.78	84	81	59	1	0	2	1
NM	ALBUQUERQUE	89	66	91	63	77	-1	0.51	0.13	0.45	1.82	81	3.01	62	78	31	3	0	3	0
NY	ALBANY	80	64	86	59	72	1	3.93	3.16	2.55	10.13	129	20.88	92	91	56	0	0	4	2
	BINGHAMTON	78	62	80	59	70	1	1.45	0.76	0.73	6.65	84	19.44	85	97	69	0	0	4	2
	BUFFALO	86	66	91	60	76	5	0.00	-0.72	0.00	3.11	41	14.35	64	83	45	1	0	0	0
	ROCHESTER	87	66	93	62	77	6	0.15	-0.51	0.14	2.27	33	13.88	72	86	52	3	0	2	0
	SYRACUSE	83	66	89	61	74	3	0.79	0.03	0.57	5.39	64	20.15	88	93	59	0	0	2	1
NC	ASHEVILLE	85	69	89	67	77	4	2.00	1.11	0.48	8.92	99	23.80	81	91	66	0	0	6	0
	CHARLOTTE	92	73	97	72	83	3	0.38	-0.47	0.37	4.75	60	20.04	76	89	49	5	0	2	0
	GREENSBORO	87	72	95	70	80	2	3.42	2.54	1.13	9.83	113	28.80	108	96	61	3	0	7	3
	HATTERAS	86	76	90	72	81	2	2.45	1.07	2.39	14.95	150	49.01	154	95	73	1	0	2	1
	RALEIGH	91	72	96	69	81	3	1.65	0.76	1.09	15.62	184	35.22	133	95	63	4	0	5	1
	WILMINGTON	90	74	94	73	82	1	3.99	2.32	1.73	15.33	106	38.01	111	95	62	4	0	5	3
ND	BISMARCK	87	59	95	51	73	1	0.00	-0.52	0.00	9.48	169	16.66	150	90	54	2	0	0	0
	DICKINSON	86	54	92	43	70	-1	0.04	-0.26	0.02	6.58	116	11.31	101	86	28	2	0	2	0
	FARGO	84	62	88	53	73	1	0.28	-0.29	0.23	8.71	127	14.18	106	86	50	0	0	2	0
	GRAND FORKS	84	59	90	53	71	1	1.50	0.85	1.49	10.10	152	16.99	139	92	48	1	0	2	1
	JAMESTOWN	83	59	88	52	71	-1	0.78	0.17	0.74	9.11	134	15.02	121	94	49	0	0	2	1
	WILLISTON	90	56	99	47	73	2	0.13	-0.25	0.12	6.35	128	11.42	119	80	37	4	0	2	0
OH	AKRON-CANTON	89	65	92	62	77	5	0.02	-0.82	0.02	5.57	67	20.24	86	83	44	3	0	1	0
	CINCINNATI	88	69	91	67	79	3	0.43	-0.42	0.39	7.98	90	27.59	102	93	61	1	0	3	0
	CLEVELAND	88	69	94	64	79	7	0.09	-0.63	0.09	3.93	49	19.86	88	79	42	3	0	1	0
	COLUMBUS	89	69	93	67	79	4	0.20	-0.73	0.20	7.91	84	22.64	93	85	49	3	0	1	0
	DAYTON	88	68	90	67	78	4	0.06	-0.74	0.06	6.63	77	22.84	91	90	48	3	0	1	0
	MANSFIELD	89	65	91	62	77	6	0.31	-0.66	0.31	4.14	43	20.54	78	96	42	3	0	1	0

Based on 1971-2000 normals ***** Not Available**

Weather Data for the Week Ending August 6, 2016

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE JUN 1	PCT. NORMAL SINCE JUN 1	TOTAL, IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	88	65	93	63	76	3	0.13	-0.46	0.13	4.79	67	18.55	93	95	56	3	0	1	0
	YOUNGSTOWN	86	63	89	59	75	5	1.35	0.61	1.23	8.29	96	23.39	102	90	53	0	0	2	1
OK	OKLAHOMA CITY	96	73	98	69	85	2	0.00	-0.50	0.00	6.95	87	19.36	87	82	45	7	0	0	0
	TULSA	97	78	100	72	88	4	2.01	1.50	2.01	6.54	81	20.39	81	75	56	6	0	1	1
OR	ASTORIA	69	57	73	55	63	2	0.05	-0.08	0.05	3.17	83	40.40	109	87	71	0	0	1	0
	BURNS	89	45	94	38	67	0	0.00	-0.08	0.00	0.54	48	4.39	67	48	18	3	0	0	0
	EUGENE	85	49	94	42	67	0	0.00	-0.09	0.00	1.03	46	20.96	74	84	49	1	0	0	0
	MEDFORD	94	58	101	52	76	2	0.00	-0.06	0.00	1.02	98	10.00	100	58	20	6	0	0	0
	PENDLETON	87	56	95	51	72	-2	0.00	-0.08	0.00	1.73	137	7.31	97	47	27	3	0	0	0
	PORTLAND	80	58	90	53	69	0	0.00	-0.11	0.00	2.08	87	21.82	107	75	57	1	0	0	0
	SALEM	84	54	95	50	69	1	0.00	-0.06	0.00	1.45	70	21.74	99	80	50	1	0	0	0
PA	ALLENTOWN	84	65	91	60	75	2	0.72	-0.22	0.49	8.82	97	25.55	95	85	60	1	0	3	0
	ERIE	84	67	90	63	76	4	0.02	-0.70	0.02	6.19	76	19.96	87	82	61	1	0	1	0
	MIDDLETOWN	86	69	90	66	77	1	0.39	-0.33	0.37	9.95	124	27.14	110	96	59	1	0	2	0
	PHILADELPHIA	86	70	91	66	78	0	0.00	-0.91	0.00	5.75	68	23.75	92	83	58	2	0	0	0
	PITTSBURGH	86	66	88	63	76	3	0.30	-0.46	0.19	6.44	74	20.06	84	87	46	0	0	3	0
	WILKES-BARRE	83	64	88	61	74	2	0.57	-0.08	0.26	6.25	76	19.07	85	93	56	0	0	3	0
	WILLIAMSPORT	86	67	92	64	77	5	0.21	-0.50	0.20	7.75	85	19.69	78	83	54	1	0	2	0
RI	PROVIDENCE	81	63	87	58	72	-2	0.95	0.19	0.53	5.55	77	23.69	87	84	57	0	0	3	1
SC	BEAUFORT	95	75	99	72	85	4	1.82	0.35	1.81	7.21	57	25.60	86	92	53	7	0	2	1
	CHARLESTON	93	77	96	75	85	4	1.82	0.41	1.27	9.28	70	30.04	97	85	56	7	0	5	1
	COLUMBIA	95	75	101	73	85	3	3.22	1.98	1.63	7.37	64	21.29	69	90	53	7	0	6	2
	GREENVILLE	89	72	94	70	81	2	1.40	0.38	0.74	7.54	80	25.07	80	95	59	3	0	5	1
SD	ABERDEEN	86	61	91	50	73	0	0.15	-0.43	0.13	5.25	76	12.19	89	90	50	1	0	2	0
	HURON	87	64	91	53	75	1	0.81	0.30	0.69	4.12	63	12.93	89	94	47	3	0	2	1
	RAPID CITY	87	59	96	51	73	0	0.02	-0.39	0.02	4.07	78	8.71	73	82	43	3	0	1	0
	SIOUX FALLS	84	63	87	53	73	0	0.01	-0.62	0.01	4.05	58	15.54	98	89	63	0	0	1	0
TN	BRISTOL	91	69	93	67	80	6	0.02	-0.76	0.01	4.83	55	21.74	80	96	47	5	0	2	0
	CHATTANOOGA	95	73	98	72	84	4	0.42	-0.43	0.33	3.81	40	21.05	61	87	55	6	0	2	0
	KNOXVILLE	92	73	94	71	82	4	0.43	-0.40	0.19	9.65	102	28.92	91	89	47	7	0	3	0
	MEMPHIS	96	79	99	75	87	4	0.00	-0.72	0.00	9.18	101	44.27	129	83	52	7	0	0	0
	NASHVILLE	93	73	96	72	83	4	1.92	1.18	0.69	12.27	145	26.71	89	93	53	7	0	6	2
TX	ABILENE	100	77	101	75	89	5	0.00	-0.44	0.00	3.77	73	21.57	164	69	37	7	0	0	0
	AMARILLO	95	68	98	66	82	4	0.00	-0.64	0.00	4.89	75	10.78	85	77	31	7	0	0	0
	AUSTIN	97	72	97	69	85	0	0.00	-0.46	0.00	8.28	134	36.57	185	88	49	7	0	0	0
	BEAUMONT	96	76	97	75	86	3	0.08	-0.87	0.08	17.86	142	47.36	135	96	53	7	0	1	0
	BROWNSVILLE	96	78	97	76	87	3	0.00	-0.35	0.00	3.16	63	13.15	102	93	52	7	0	0	0
	CORPUS CHRISTI	96	77	97	75	86	2	0.00	-0.51	0.00	2.95	49	21.17	127	93	51	7	0	0	0
	DEL RIO	102	78	103	76	90	4	0.00	-0.36	0.00	2.98	64	11.59	104	76	43	7	0	0	0
	EL PASO	96	72	100	67	84	2	0.49	0.13	0.30	1.06	40	1.70	39	65	29	7	0	3	0
	FORT WORTH	101	80	101	77	90	4	0.00	-0.50	0.00	7.49	130	24.25	113	69	30	7	0	0	0
	GALVESTON	91	82	91	81	87	2	0.00	-0.70	0.00	11.33	140	31.87	134	88	65	7	0	0	0
	HOUSTON	98	76	99	74	87	3	0.00	-0.67	0.00	14.21	156	43.16	155	92	50	7	0	0	0
	LUBBOCK	98	74	100	70	86	6	0.00	-0.43	0.00	1.62	30	6.89	62	56	34	7	0	0	0
	MIDLAND	101	76	102	73	88	6	0.00	-0.39	0.00	3.41	87	7.15	90	60	33	7	0	0	0
	SAN ANGELO	103	76	104	73	89	6	0.00	-0.29	0.00	7.02	181	22.65	196	72	33	7	0	0	0
	SAN ANTONIO	97	77	98	75	87	2	0.00	-0.45	0.00	2.72	40	24.54	127	86	41	7	0	0	0
	VICTORIA	98	73	100	72	86	1	0.02	-0.48	0.02	3.86	47	24.08	104	97	46	7	0	1	0
	WACO	101	78	102	75	89	3	0.00	-0.43	0.00	4.73	83	27.38	137	81	38	7	0	0	0
	WICHITA FALLS	102	75	104	73	89	4	0.00	-0.35	0.00	5.11	92	21.60	126	69	36	7	0	0	0
UT	SALT LAKE CITY	96	72	101	62	84	6	0.03	-0.13	0.03	0.55	34	8.20	79	39	16	7	0	1	0
VT	BURLINGTON	84	64	91	58	74	4	0.17	-0.71	0.10	6.27	77	17.12	83	80	44	1	0	3	0
VA	LYNCHBURG	84	70	89	68	77	2	0.69	-0.16	0.62	12.96	146	32.61	121	98	68	0	0	3	1
	NORFOLK	88	74	92	71	81	2	8.26	7.09	6.98	16.67	168	38.90	137	91	67	3	0	3	2
	RICHMOND	86	71	92	69	78	0	0.15	-0.89	0.09	12.36	136	32.99	123	95	69	1	0	2	0
	ROANOKE	84	70	91	67	77	1	2.25	1.41	0.91	12.92	154	30.65	116	93	74	3	0	6	1
	WASH/DULLES	86	70	91	64	78	2	0.02	-0.76	0.02	9.39	113	27.05	108	89	61	3	0	1	0
WA	OLYMPIA	76	51	83	46	63	-1	0.00	-0.11	0.00	1.86	69	27.24	99	87	64	0	0	0	0
	QUILLAYUTE	66	51	75	45	59	-1	0.04	-0.47	0.04	5.73	91	57.56	102	98	82	0	0	1	0
	SEATTLE-TACOMA	75	56	82	53	66	0	0.13	0.00	0.13	2.62	110	23.69	120	84	69	0	0	1	0
	SPOKANE	84	58	92	50	71	1	0.00	-0.14	0.00	0.78	38	8.64	88	57	21	1	0	0	0
	YAKIMA	90	55	97	48	72	2	0.00	-0.03	0.00	0.44	51	5.89	129	58	28	5	0	0	0
WV	BECKLEY	78	66	82	64	72	1	2.47	1.54	1.17	16.23	171	35.26	130	93	72	0	0	5	2
	CHARLESTON	85	69	87	67	77	3	1.17	0.15	0.90	10.64	108	30.54	110	93	65	0	0	3	1
	ELKINS	82	63	87	60	73	3	1.35	0.35	1.14	10.73	104	29.15	100	92	57	0	0	4	1
	HUNTINGTON	88	70	90	67	79	4	0.73	-0.26	0.22	13.85	151	33.56	124	94	59	1	0	5	0
WI	EAU CLAIRE	84	62	92	56	73	1	0.34	-0.60	0.34	10.14	112	22.56	117	96	52	1	0	1	0
	GREEN BAY	84	60	89	55	72	2	0.00	-0.78	0.00	7.66	102	18.84	110	100	59	0	0	0	0
	LA CROSSE	87	66	92	60	77	3	1.34	0.42	1.34	13.22	146	25.82	129	93	48	2	0	1	1
	MADISON	84	64	89	56	74	3	1.61	0.70	1.61	12.19	139	26.11	129	91	60	0	0	1	1
	MILWAUKEE	84	69	92	66	77	5	0.14	-0.67	0.09	5.39	69	17.20	83	82	55	1	0	2	0
WY	CASPER	91	54	96	44	72	1	0.00	-0.22	0.00	1.80	62	11.26	126	61	28	4	0	0	0
	CHEYENNE	82	57	91	54	70	2	0.31	-0.15	0.20	3.87	81	13.73	128	75	37	3	0	3	0
	LANDER	91	57	95	48	74	2	0.00	-0.13	0.00	0.87	41	17.02	192	47	13	5	0	0	0
	SHERIDAN	92	56	101	46	74	3	0.00	-0.14	0.00	0.91	28	10.26	105	63	29	5	0	0	0

Based on 1971-2000 normals

***** Not Available**

July Weather Summary

Weather

Weather summary provided by USDA/WAOB

Highlights: Extreme heat arrived during July, but rarely strayed from the Deep South. However, southern sections of the Rockies and High Plains suffered through a month-long heat wave, leading to topsoil moisture depletion as well as an increase in stress on rangeland, pastures, and rain-fed summer crops. Texas cotton rated very poor to poor doubled, to 20%, during the 4 weeks ending July 31.

Meanwhile, hot weather and spotty showers led to drought persistence across the interior Southeast, mainly from northern and central Mississippi to the southern Appalachians. On July 31, more than one-third (37%) of the pastures were rated very poor to poor in Georgia and South Carolina.

Farther north, Midwestern growing conditions remained mostly favorable, despite a brief, mid-month surge of heat and humidity that increased discomfort levels for humans and livestock. On July 31, more than three-quarters (76%) of the U.S. corn and 72% of the soybeans were rated in good to excellent condition. Showery July weather prevailed across the heart of the Midwest, although drought remained a problem in parts of Michigan, Ohio, and South Dakota.

Drought in the lower Great Lakes region extended eastward to the northern Atlantic Coast, resulting in significant agricultural consequences in parts of the Northeast. At the end of July, pastures were rated at least half very poor to poor in Connecticut (78%), Rhode Island (69%), and New Hampshire (60%).

In contrast, abundant showers dotted the northern and central Plains, while an erratic Southwestern monsoon grew stronger as the month progressed. The Plains' rain aided immature summer crops but was neither heavy nor sustained enough to slow the progression of small grain harvesting. Late-month Southwestern showers provided beneficial moisture but had little effect on long-term precipitation deficits. Notably, monsoon-related showers largely did not reach the northern Intermountain West—a region that experienced a sharp increase in wildfire activity as the month progressed.

Elsewhere, typical summer dryness prevailed in California, which also endured a few large wildfires, while scattered showers accompanied near-normal Northwestern temperatures.

Historical Perspective: According to preliminary information provided by the National Centers for Environmental Information, the contiguous U.S. experienced its 14th-warmest, 52nd-wettest July during the 1895-2016 period of record. With an average temperature of 75.3°F, 1.6°F above the 20th century mean, it was overall the nation's hottest July since 2012. However, statistically significant July heat was confined to the southern and eastern U.S. For example, it was the hottest July on record in New Mexico, tying 2003, and Florida, edging 1998. The July average temperature was among the ten highest values on record in Arizona, Texas, Louisiana, Tennessee, and ten Atlantic Coast States from Georgia to Massachusetts (figure 1). In contrast, it was the 44th-coolest July in Oregon; similar rankings (among the fifty coolest) were noted in Idaho, Iowa, and Washington.

Precipitation averaged 2.87 inches (103% of normal) across the Lower 48 states, marking the 52nd-wettest July during the 122-year period of record. However, patches of wet and dry conditions tended to offset each other. As a result, top-ten rankings for July wetness occurred in Illinois, Kentucky, Minnesota, Missouri, and North Dakota, while top-ten values for July dryness were noted in Florida, Georgia, New Mexico, and Wyoming (figure 2). In Illinois, it was the third-wettest July, with an average of 6.85 inches—behind only 8.10 inches in 1958 and 7.61 inches in 1992. Conversely, it was the second-driest July in Georgia and the third-driest July in Florida. With an average of 2.66 inches (48% of normal), Georgia narrowly missed its July 1980 record of 2.54 inches.

Figure 1 Statewide Average Temperature Ranks
July 2016
Period: 1895–2016

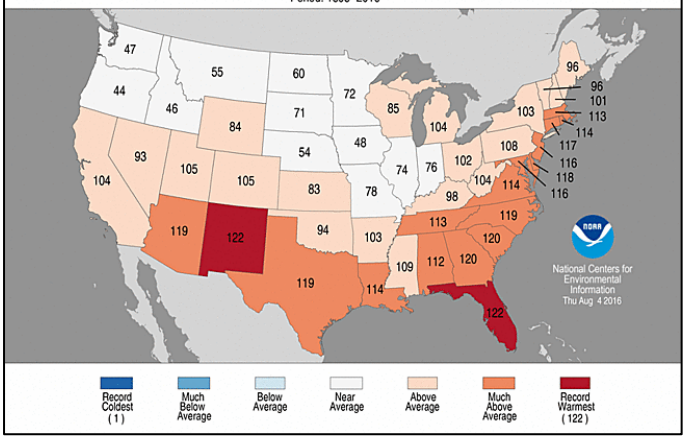
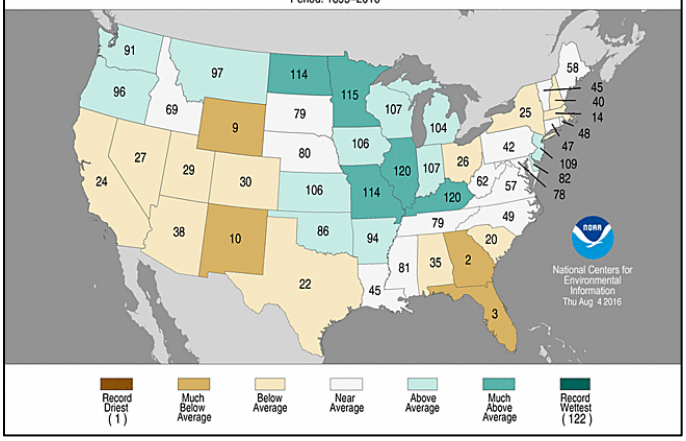


Figure 2 Statewide Precipitation Ranks
July 2016
Period: 1895–2016



Summary: July began with a surge of cool air arriving across the northern Plains and the Midwest. On July 1, Sisseton, SD, posted a daily-record low of 41°F. The following day, on July 2, Norfolk, NE, reported a high temperature of 64°F and received 1.10 inches of rain. Much heavier rain fell just to the south, from the central Plains into the middle Mississippi Valley, near the boundary between cool and hot air. Record-setting totals for July 2 reached 5.72 inches in Wichita, KS, and 4.33 inches in Kansas City, MO. For Wichita, it was also the wettest July day on record, easily supplanting the 3.52-inch total of July 31, 1950. For Kansas City, it was the wettest July day since July 6, 1986, when 5.08 inches fell. The deluge across the nation's mid-section was in part fueled by the interaction between monsoon moisture and a cold front.

Meanwhile, persistent warmth across the South and West led to numerous record highs. In South Carolina, daily-record highs for July 3 climbed to 104°F in Columbia and 99°F in Greenville-Spartanburg. Columbia notched another daily-record high (103°F) on July 5. Charleston, SC, also noted multiple daily records, with highs of 97 and 100°F, respectively, on July 3 and 8. Farther west, heat arrived across the southern High Plains on Independence Day, when Midland, TX, posted a daily-record high of 108°F. Midland set another daily record (107°F) on July 5. Elsewhere in western Texas, a trio of daily-record highs were tied or broken from July 5-7 in locations such as Borger (107, 104, and 107°F); Amarillo (106, 104, and 106°F); and Dalhart (104, 106, and 107°F). With a high of 109°F on July 7, Lubbock, TX, tied a monthly record originally set on July 10, 1940, and experienced its hottest day since June 26, 2011, when the temperature peaked at 112°F. The hot weather extended westward into New Mexico, where Clayton logged a daily-record high (102°F on July 7). Later, heat surged northward across the High Plains, where Scottsbluff, NE, collected a daily-record high of 104°F on July 9. In Colorado, Pueblo achieved consecutive daily-record highs (102 and 105°F, respectively) on July 9-10. In contrast, the 9th was the coolest July day in 7 years in parts of New England, with high temperatures reaching just 59°F in Portland, ME, and 63°F in Concord, NH. Meanwhile across the Deep South, there was minimal cooling at night. Starting on July 2, New Orleans, LA, recorded minimum temperatures of 80°F or higher on 6 consecutive days. New Orleans' previous all-time record of 5 days had been set from July 30 – August 3, 2010. On July 5, all-time records for highest minimum temperature were tied or broken in Louisiana locations such as Lake Charles (83°F) and Baton Rouge (82°F), while Houston, TX, tied a July record with a low of 83°F. Farther north, Washington, DC, set an all-time record as the temperature remained at or above 70°F on 35 consecutive days (July 5 – August 8), breaking the previous mark of 32 days set from July 15 – August 15, 1980.

Despite the hot weather lurking just to the south, heavy showers prevailed in early July from the southern Corn Belt into the southern Mid-Atlantic States. Columbia, MO, received a daily-record total (3.58 inches) on the 3rd, while Raleigh-Durham, NC, netted 3.14 inches of rain on July 2-3. For several locations, including Dallas-Ft. Worth, TX (3.20 inches); New Bern, NC (2.77 inches); and Evansville, IN (2.28 inches), it was the wettest 4th of July on record. Multiple rounds of heavy rain struck the lower Ohio Valley and environs, resulting in July 3-9 totals that reached 10 to 14 inches at a few locations in western Kentucky and southern Illinois. Unofficial totals climbed to 14.09 inches in Benton, KY, and 10.72 inches in Dixon Springs, IL. Meanwhile, monsoon-related showers subsided in the Southwest, although Cedar City, UT, tallied a daily-record total of 0.64 inch on July 3. Later, rain dampened parts of the Northeast; in Maine, record-setting totals for July 7 reached 1.58 inches in Houlton and 1.30 inches in Caribou. Late in the week, beneficial showers spread across the Northwest, while locally heavy showers lingered in the Northeast. Daily-record amounts for July 8 climbed to 3.47 inches in Atlantic City, NJ; 0.75 inch in Crescent City, CA; 0.53 inch in Walla Walla, WA; and 0.52 inch in Roseburg, OR. Northwestern rainfall records for July 10 included 0.97 inch in Lewiston, ID, and 0.77 inch in Whitman Mission, WA.

During the first half of the month, several rounds of locally severe thunderstorms struck the central and eastern U.S. On July 10 in North Dakota, wind gusts of 70 to 80 mph were clocked in several communities, including Mott, Mandan, and Medina. Torrential rainfall developed from central Minnesota into northwestern Wisconsin; a few 8- to 10-inch totals were reported in a 48-hour period ending July 12. Unofficial totals reached 9.80 inches near Saxon, Iron County, WI, and 8.90 inches near Brainerd, Crow Wing County, MN. Resultant flooding led to record-high crests in Wisconsin gauge locations such as the White River near Ashland and the Bad River near Odanah. In Ashland, the high-water mark on July 12 exceeded the July 1953 record by nearly 8 inches. In Odanah, the river surged 5.08 feet above the June 1946 crest record. Farther south, thunderstorm wind gusts on July 14 were measured at 80 mph in Wichita, KS, and 68 mph in Little Rock, AR. For Wichita, it was the eighth-highest gust in the last 45 years. In Little Rock, a July wind-gust record was established (previously, 56 mph on July 27, 1960). It was also Little Rock's highest gust since August 7, 2011. The stormy weather resulted in numerous daily-record rainfall totals, especially on July 11. On that date, record-setting amounts included 3.33 inches in Sisseton, SD, and 2.63 inches in St. Cloud, MN. A few days later, daily-record totals reached 3.17 inches (on July 15) in Little Rock, AR; 1.70 inches (on July 14) in Huntsville, AL; and 1.53 inches (on July 15, accompanied by hail) in Amarillo, TX. A few heavy showers also occurred in the Northwest, where daily-record amounts totaled 1.43 inches (on July 11) in Lewistown, MT, and 1.32 inches (on July 10) in McCall, ID.

Very cool weather trailed the Northwestern showers. Freezes (and daily-record lows) were noted in a few spots, including Ely, NV (31°F on July 11), and Big Piney, WY (29°F on July 12). Later, a push of cool air into the Great Lakes region led to a daily-record low of 39°F (on July 16) in Marquette, MI. However, hot weather covered many other areas, particularly the southern High Plains. In northern Texas, Dalhart tied a monthly record with highs of 107°F on July 7, 10, and 11. Previously, Dalhart had reached 107°F on July 9, 2011. Elsewhere in Texas, Borger (110°F) and Amarillo (108°F)

shattered monthly record highs on July 11. In New Mexico, all-time records were tied or broken on July 13 in locations such as San Jon (111°F; previously, 110°F on June 24, 1990) and Portales (109°F; previously, 109°F on June 25, 2011). At times, record-setting heat also reached northward across the central High Plains or into the South and East. For example, daily-record highs surged to 100°F (on July 10) in Denver, CO, and 95°F (on July 13) in Cleveland, OH. On July 13, Columbia, SC, reached or exceeded the 100-degree mark for the tenth time in July and the fourteenth time this year; eventually, Columbia would add seven more triple-digit days (July 23 and 26-31), boosting the monthly total to 17 days..

During the second half of the month, showers became more scattered, except for several organized clusters of Midwestern thunderstorms. Midwestern daily-record totals included 2.71 inches (on July 18) in Indianapolis, IN, and 1.45 inches (on July 20) in Dubuque, IA. Occasional high winds accompanied the storms, with July 21 gusts clocked to 75 mph in Ashland, WI, and 69 mph in Duluth, MN. Showers were sporadically heavy in other locations, including Jackson, MS (3.08 inches on July 23), and Beaumont-Port Arthur, TX (2.43 inches on July 17). In Arizona, Douglas also netted a daily-record sum (1.75 inches) for July 17. However, rainfall deficits since the beginning of summer (June 1 – July 31) continued to mount in many Southern locations, including Anniston, AL (4.58 inches; 53% of normal); Chattanooga, TN (3.72 inches; 42% of normal; and Columbus, GA (3.11 inches; 37%). In addition, long-running streaks of above-normal daily average temperatures stretched to 68 days (May 25 – July 31) in Meridian, MS, and 52 days (June 10 – July 31) in McAllen, TX. McAllen also posted 22 consecutive days (June 29 – July 20) with highs of 100°F or greater. In the Northwest, however, where cool weather prevailed, Idaho Falls, ID, notched a daily-record low of 39°F on July 17. Farther east, triple-digit, daily-record highs in South Dakota for July 20 soared to 108°F in Dupree and 107°F in Timber Lake. On July 21, the dewpoint temperature in Rochester, MN, climbed to the 80-degree mark for the first time since July 19, 2011. Heat also returned to the West, where Campo, CA, logged a daily-record high (105°F) for July 21. Two days later, record-setting highs for July 23 in southern California rose to 110°F in Riverside and 108°F in Campo. Elsewhere in California, the Sand fire near Santa Clarita was among the largest of several late-month blazes, with more than 41,000 acres of vegetation and at least 18 homes burned by July 31. Meanwhile in Salt Lake City, UT, the low temperature stayed above the 80-degree mark for the first time on record—81°F on July 19. Meanwhile, heat continued across the Plains and South and reached the East. Triple-digit, daily-record highs for July 22 surged to 104°F in Pueblo, CO; 101°F in Buffalo, WY, and Vicksburg, MS; and 100°F in Livingston, MT. Farther east, record-setting highs for July 23 reached 99°F in Williamsport, PA; 98°F in Detroit, MI; and 97°F in Bridgeport, CT.

Late-month showers spread from the lower Great Lakes region into the Northeast, providing local relief from previously dry conditions. Daily-record rainfall totals for July 24 included 3.27 inches in Springfield, IL, and 2.93 inches in Muskegon, MI. A day later in the Northeast, record-setting totals for July 25 reached 2.47 inches at New York's JFK Airport; 1.87 inches in Trenton, NJ; and 1.68 inches in Philadelphia, PA. Meanwhile, shower coverage and intensity began to increase across the mid-South, where Springfield, MO, collected a daily-record total (2.08 inches) for July 25. Unsettled weather continued for several days across parts of the South, with a non-tropical disturbance arriving from the Gulf of Mexico helping to focus shower activity. Springfield, MO, received another daily-record total (1.74 inches) on July 27. In Austin, TX, a 26-day streak (June 29 – July 24) without measurable rainfall ended with a 5.65-inch deluge from July 25-27. The parade of scattered rainfall records continued through month's end; record-setting totals for July 28 reached 2.97 inches in Monroe, LA, and 2.80 inches in Georgetown, DE. On the evening of July 30, major flooding struck Ellicott City, MD, where rainfall totaled 4.56 inches in an hour and 5.96 inches in 2 hours. Farther north, late-month showers slightly dented summer rainfall deficits. June-July rainfall totaled just 2 to 4 inches, and ranged from 30 to 50 percent of normal, in locations such as Boston, MA (2.20 inches, or 31 percent of normal); Manchester, NH (2.92 inches, or 38 percent); Worcester, MA (3.72 inches, or 44 percent); and Concord, NH (3.59 inches, or 48 percent). Elsewhere, July 26-31 rainfall in Arizona totaled 2.93 inches in Nogales and 2.12 inches in Tucson. Some of the Southwestern thunderstorms were accompanied by high winds, with July 29 evening gusts in Arizona clocked to 70 mph in Phoenix, 69 mph in Gila Bend, and 54 mph in Tucson.

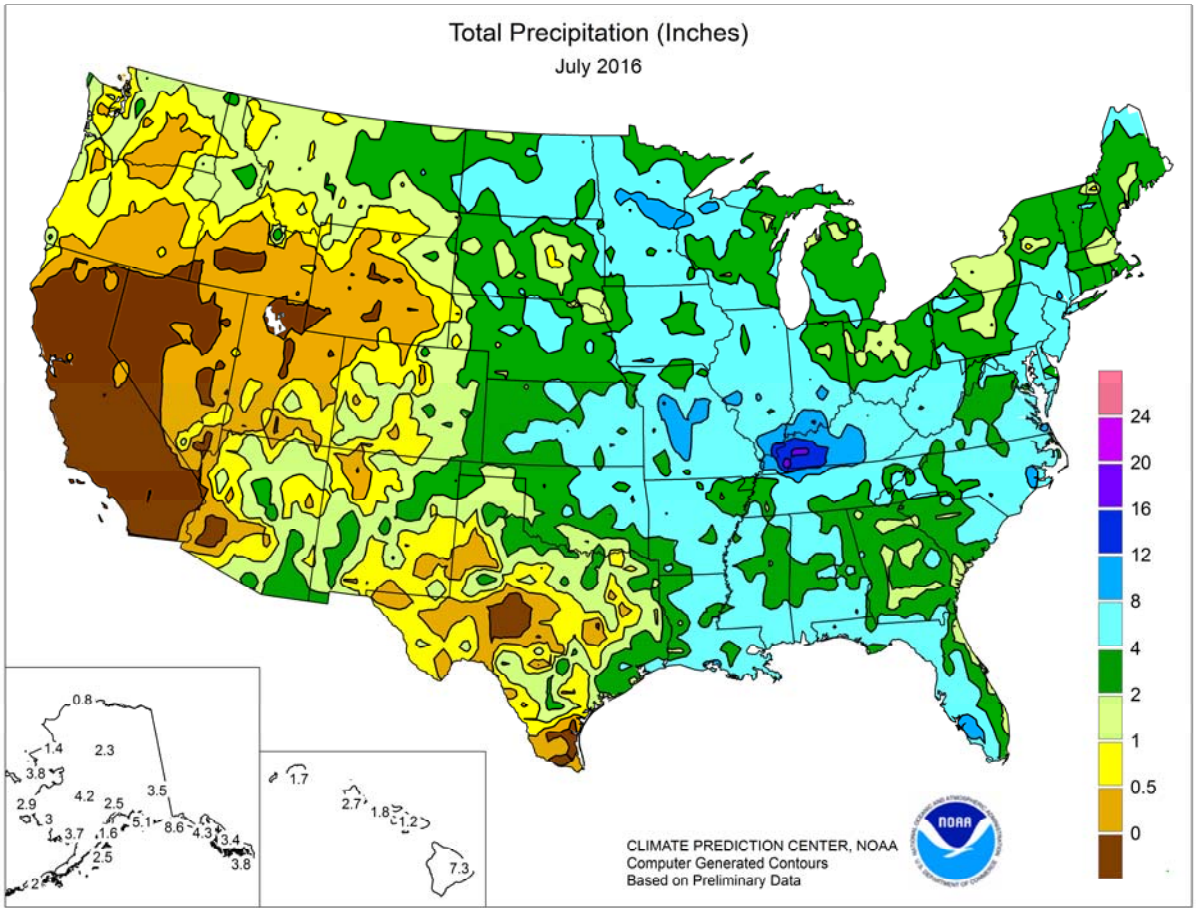
In spite of the monsoon-related showers, hot weather gripped the Four Corners States and the remainder of the West. Some of the most intense heat occurred on July 27-28, when consecutive daily-records highs were noted in Needles, CA (119°F both days), and Las Vegas, NV (115°F both days). Death Valley, CA, posted a daily record-tying high of 126°F on July 28. Cortez, CO, posted four daily-record highs in a row (98, 99, 99, and 97°F) from July 27-30. Triple-digit, daily-record highs were established in California locations such as Lancaster (110°F on July 29); Paso Robles (109°F on July 29); and Modesto (107°F on July 27). Elsewhere in California, Mt. Shasta City logged a trio of daily-record highs (99, 102, and 102°F) from July 27-29. Farther inland, Tonopah, NV, also tallied a trio of records (101, 104, and 102°F) on the same dates. And in

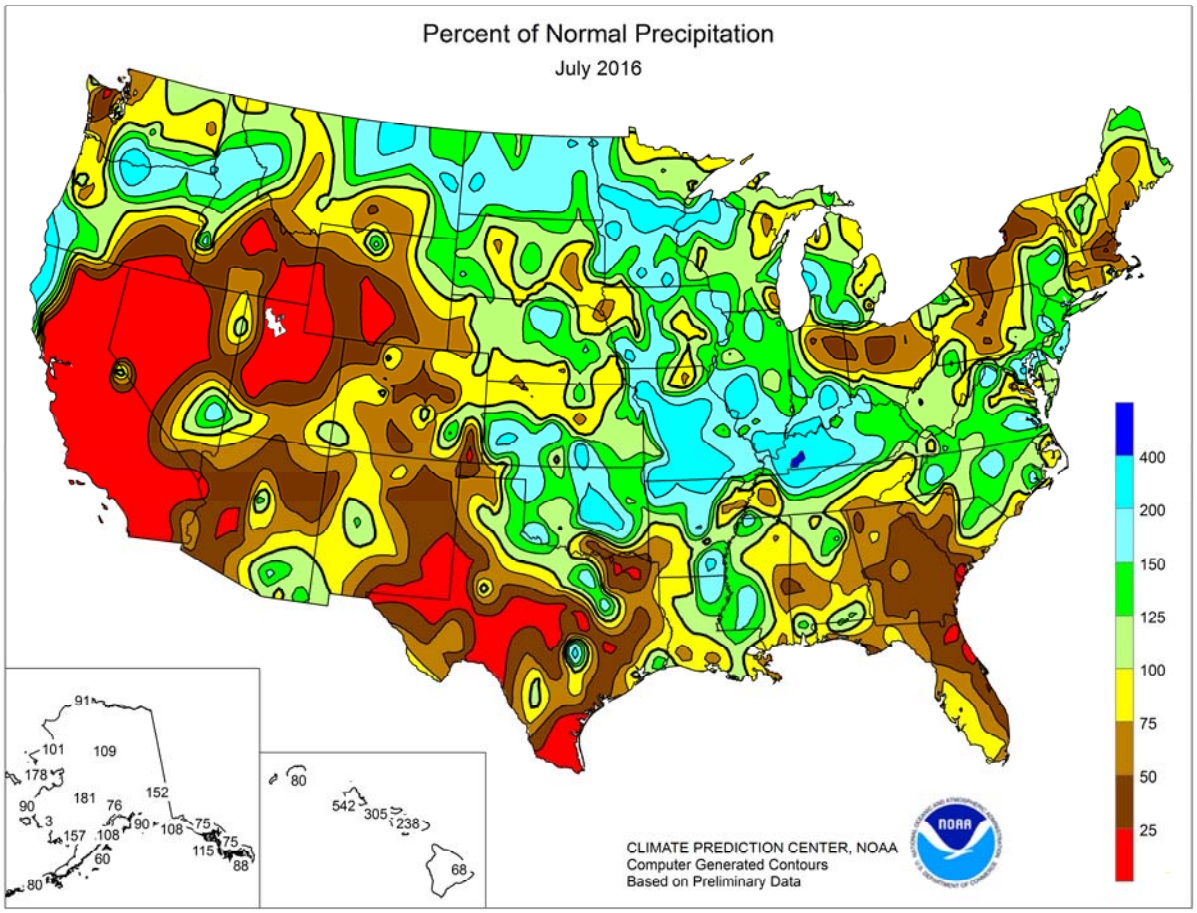
Utah, Cedar City measured consecutive daily-record highs of 101°F on July 27-28. Meanwhile, heat also blanketed the East. On July 25, all three D.C.-area airports (BWI, DCA, and IAD) topped out at 100°F—the first triple-digit heat in those locations since July 2012. In the Southeast, scattered triple-digit, daily-record highs included 101°F (on July 25) in Athens, GA, and 102°F (on July 26) in Columbia, SC. For some Southeastern locations, including West Palm Beach, FL, and Charleston, SC, July 2016 was the hottest month on record. West Palm Beach's monthly average temperature of 86.2°F was 3.5°F above normal, toppling the July 2011 standard of 85.7°F. Charleston's monthly average temperature was also 86.2°F, 4.1°F above normal, edging the July 1986 record of 86.1°F. Meanwhile in Texas, Midland cooled a bit toward month's end, but still set July records for the greatest number of days with highs of 105°F or greater (9; previously, 6 in 1995) and 100°F or greater (19; previously, 18 in 1964).

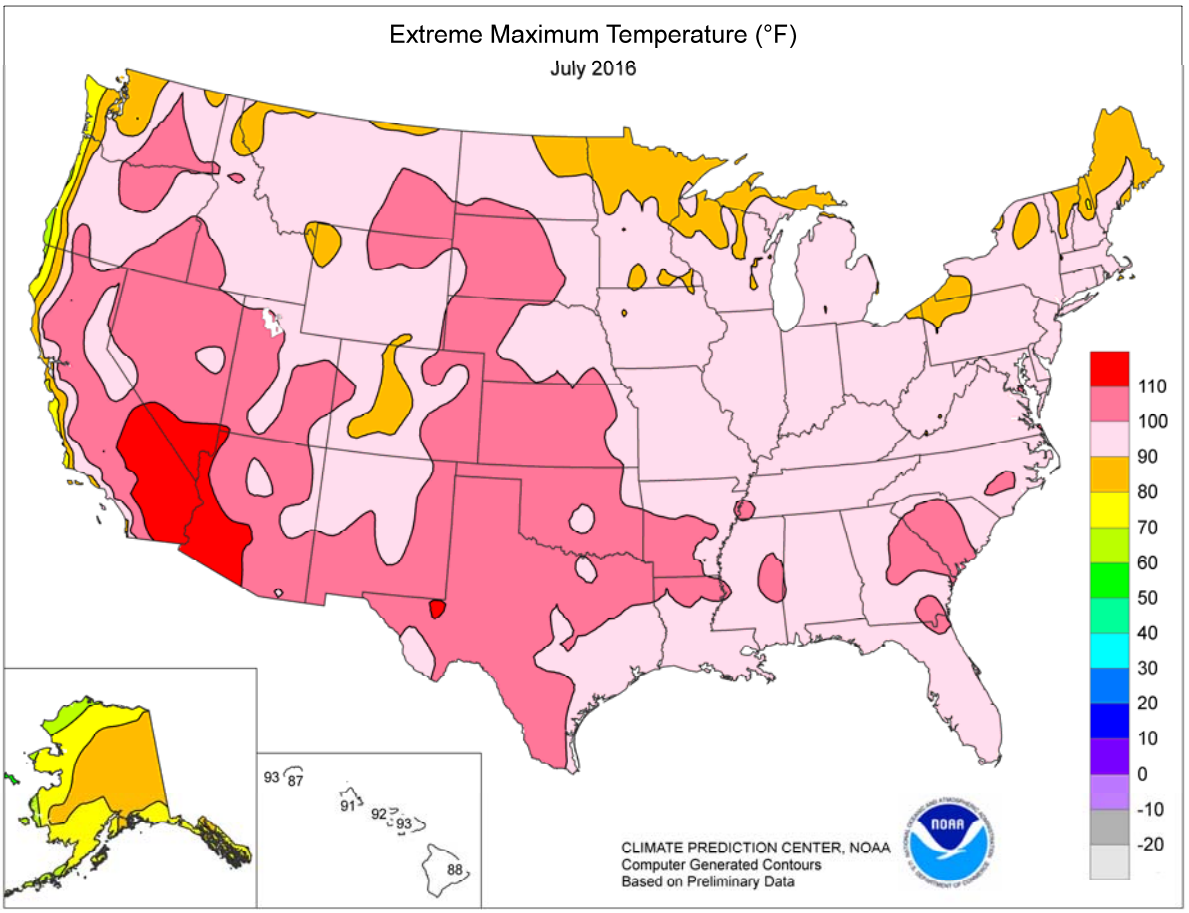
At month's end, drought-easing rain returned to portions of the Northeast. The last day of July featured daily-record rainfall totals in New York locations such as Albany (2.55 inches) and Poughkeepsie (2.23 inches). Similarly, Mt. Pocono, PA, collected a record-setting total (2.03 inches) for July 31. Farther south, locally excessive rain fell in the southern Mid-Atlantic States. For example, Norfolk, VA, experienced its wettest July day on record on the 31st, when 6.98 inches fell (previously, 4.84 inches on July 10, 1939). In contrast, the driest July on record came to a close in locations such as San Angelo, TX (a trace; tied with 1963, 1970, and 2011), and Vero Beach, FL (0.61 inch; previously, 1.30 inches in 2003).

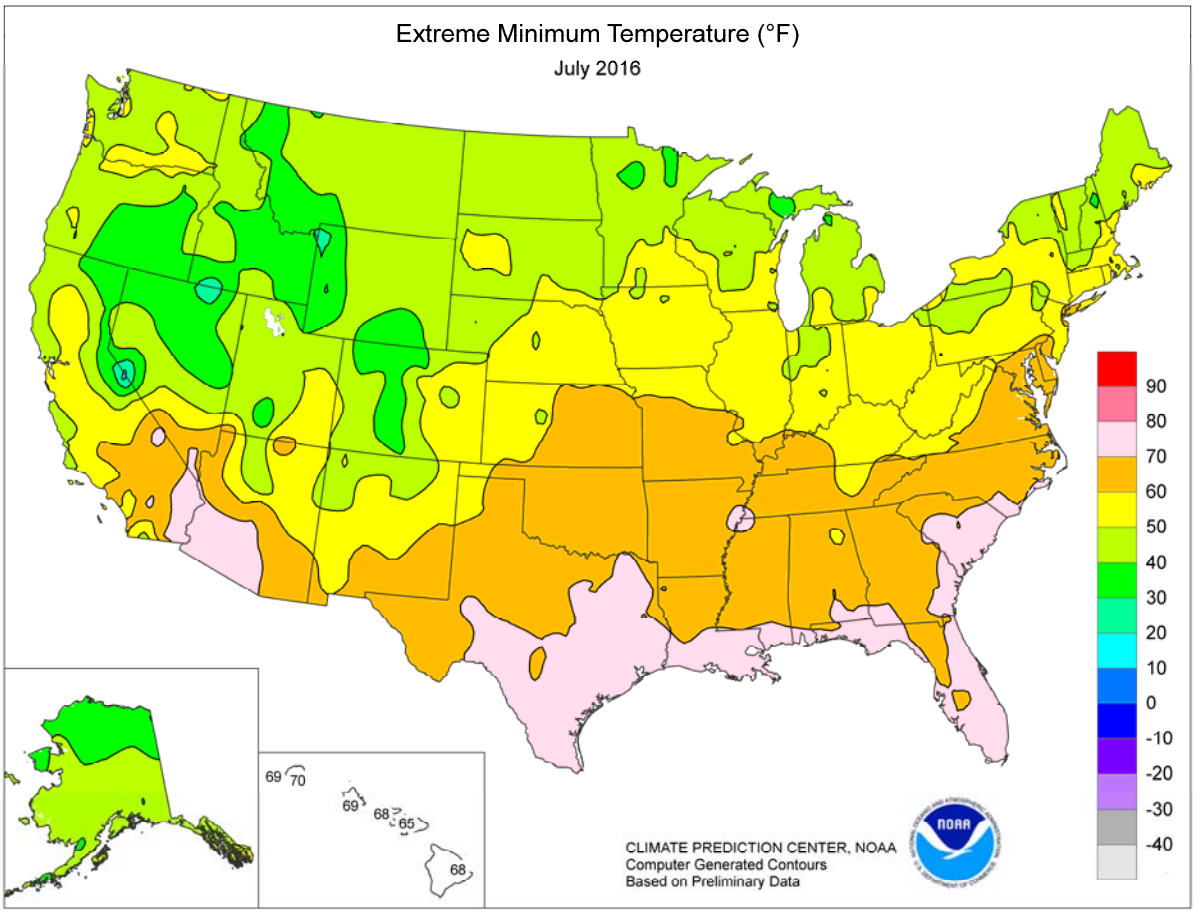
During July, near-normal temperatures prevailed across the central one-third of Alaska, while warmth continued across the state's southern tier. Meanwhile, the majority of the state received near- to above-normal monthly precipitation, except for a few pockets of dryness in southern Alaska. One of the wet spots was Fairbanks, where the monthly rainfall of 4.97 inches (230% of normal) represented the fourth-wettest July on record. Fairbanks also completed its second-wettest June-July period, with an 8.26-inch total (233% of normal)—behind only 9.34 inches in 2014. In southeastern Alaska, a round of wet weather occurred early in the month, when 3-day (June 30 – July 2) rainfall reached 1.91 inches on Annette Island and 1.36 inches in Juneau. Above Juneau, Lake Mendenhall experienced a record-setting crest on July 1 due to a glacial outburst, or jökulhlaup. The lake crested 2.99 feet above flood stage on July 1, exceeding the July 2014 high-water mark—which occurred during a similar outburst—by less than 2 inches. Meanwhile, Alaskan warmth was fairly impressive during the first half of July. Skagway, in southeastern Alaska, posted a daily-record high of 86°F on July 8. Later, daily-record highs soared to 88°F in Fairbanks (on July 13) and Bettles (on July 14). In western Alaska, St. Paul Island set an all-time record with a high of 68°F on July 11 (previously, 66°F on August 25, 1987). And, near the Arctic Coast, all-time records were established in locations such as Kuparuk (86°F on July 14) and Deadhorse (85°F on July 13). Around mid-month, cooler weather invaded northern and central Alaska. However, warmth lingered farther south, where Kodiak (78 and 77°F) and Cold Bay (66 and 67°F) posted consecutive daily-record highs on July 17-18. Other Alaskan daily-record highs for July 18 included 82°F in Juneau and 79°F in Anchorage. Precipitation later returned to southeastern Alaska, where July 21-24 rainfall totaled 3.86 inches at Annex Creek and 3.24 inches in Yakutat. Elsewhere, July rainfall ranged from 150 to 185 percent of normal in locations such as McGrath (4.20 inches), Nome (3.82 inches), and King Salmon (3.52 inches). Widespread showers continued through the end of the month, when daily-record totals included 1.43 inches (on July 29) in Nome; 0.77 inch (on July 31) in Fairbanks; and 0.68 inch (on July 30) in Bethel.

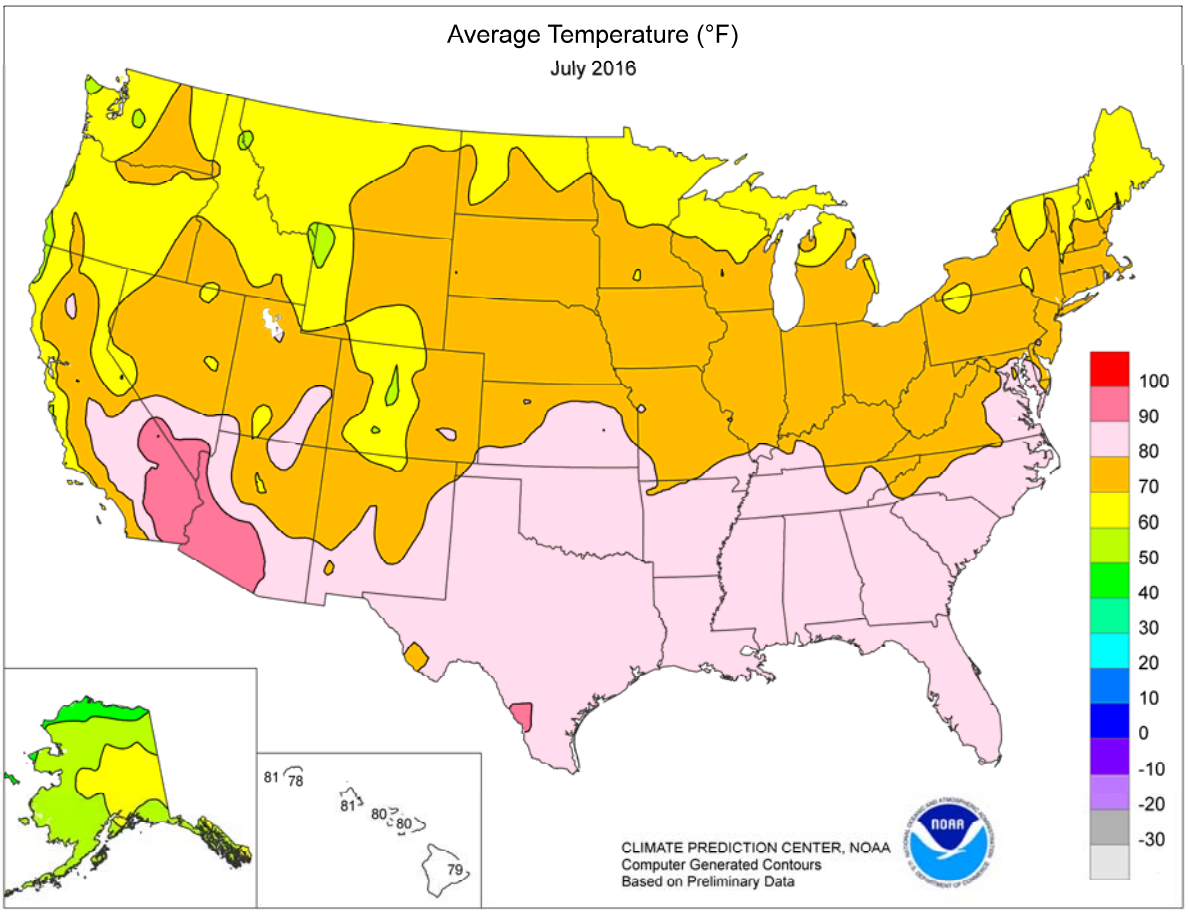
Wet weather in parts of Hawaii was largely due to the passage of Tropical Storm Darby through the island chain. From July 22-24, peak wind gusts on the Big Island were clocked to 61 mph at the Kohala Ranch and 53 mph at the Waimea-Kohala Airport. The Lanai Airport reported a gust to 48 mph. Meanwhile, some of the heaviest rain fell on Oahu, where several locations received in excess of 10 inches of rain. In fact, 24-hour totals on July 24-25 reached 10.56 inches in Luluku and 8.68 inches at the Manoa Lyon Arboretum. Before and after Darby's passage, seasonably quiet weather prevailed, with significant shower activity primarily confined to windward locations. In Honolulu, Oahu, the Darby-influenced monthly rainfall total reached 2.71 inches (531% of normal). Honolulu's wettest day during the month was July 24, when 1.47 inches fell. On the Big Island, however, Hilo's monthly rainfall was just 7.32 inches (68% of normal).

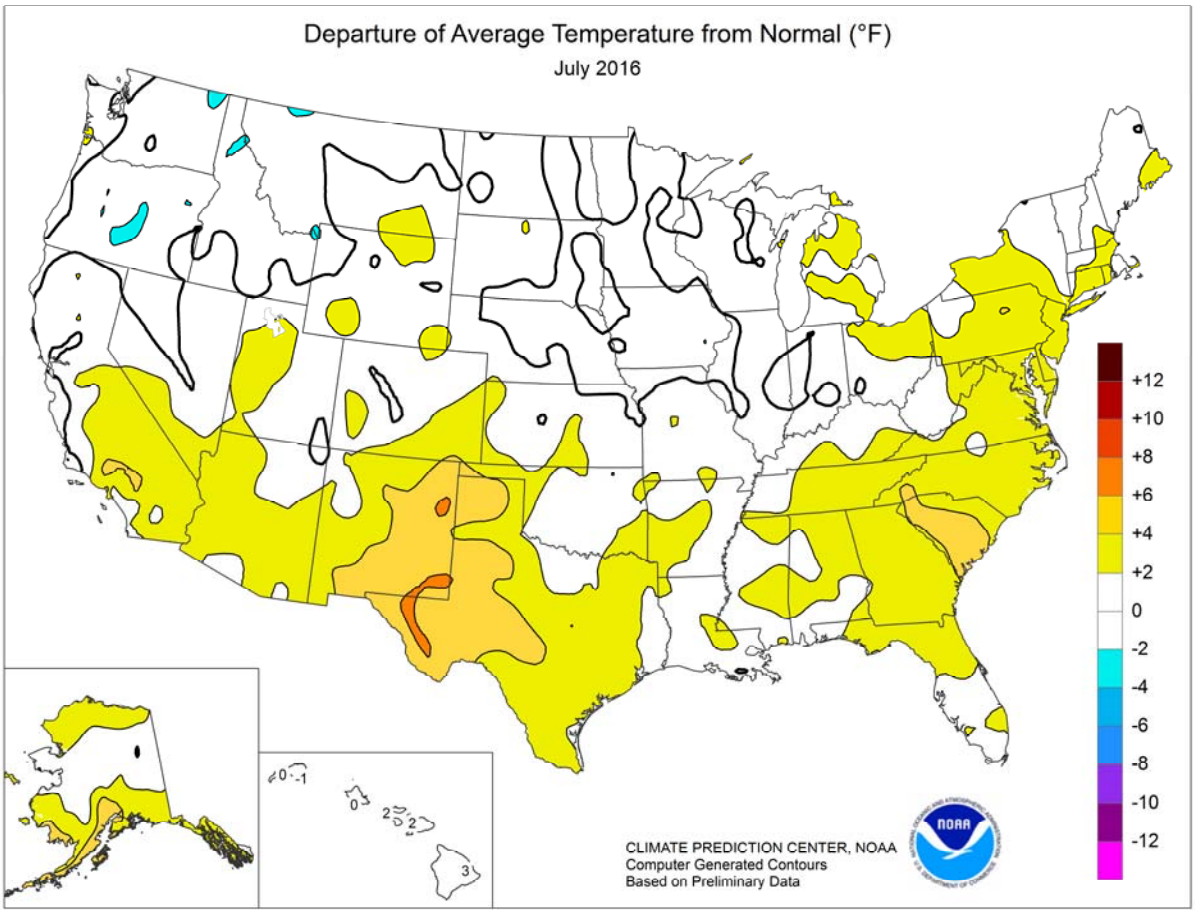

Total Precipitation (Inches)
July 2016
24
20
16
12
8
4
2
1
0.5
0
0.8
1.4
2.3
3.8
4.2
2.5
3.5
2.9
3
3.7
1.6
5.1
8.6
4.3
3.4
2.5
2
3.8
1.7
2.7
1.8
1.2
7.3
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data
NOAA


Percent of Normal Precipitation
July 2016
400
200
150
125
100
75
50
25
91
101
109
178
181
152
90
3
76
90
108
75
157
108
115
75
60
88
80
80
542
305
238
68
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data
NOAA


Extreme Maximum Temperature (°F)
July 2016
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
93
87
91
92
93
88
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data


Extreme Minimum Temperature (°F)
July 2016
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
69
70
69
68
65
68
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data


Average Temperature (°F)
July 2016
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
81
78
81
80
80
79
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data


Departure of Average Temperature from Normal (°F)
July 2016
+12
+10
+8
+6
+4
+2
0
-2
-4
-6
-8
-10
-12
0
-1
0
2
2
3
CLIMATE PREDICTION CENTER, NOAA
Computer Generated Contours
Based on Preliminary Data

National Weather Data for Selected Cities

July 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	84	4	7.08	1.99	LEXINGTON	78	2	4.98	0.18	COLUMBUS	76	1	2.49	-2.12
HUNTSVILLE	83	3	4.92	0.52	LONDON-CORBIN	78	2	8.39	4.00	DAYTON	75	1	2.97	-0.78
MOBILE	83	1	6.75	0.21	LOUISVILLE	81	3	4.65	0.35	MANSFIELD	75	4	1.75	-2.47
MONTGOMERY	85	3	5.61	0.30	PADUCAH	81	3	8.14	3.69	TOLEDO	75	2	3.04	0.24
AK ANCHORAGE	63	5	2.48	0.78	LA BATON ROUGE	84	2	6.64	0.68	YOUNGSTOWN	73	3	5.23	1.13
BARROW	44	4	0.79	-0.08	LAKE CHARLES	85	2	2.75	-2.37	OK OKLAHOMA CITY	83	1	3.65	0.71
COLD BAY	55	4	2.02	-0.51	NEW ORLEANS	87	4	4.44	-1.76	TULSA	85	2	3.76	0.80
FAIRBANKS	64	2	4.96	3.23	SHREVEPORT	86	3	3.89	-0.10	OR ASTORIA	63	3	1.12	-0.04
JUNEAU	60	3	4.28	0.14	ME BANGOR	73	4	2.69	-0.55	BURNS	65	-1	0.14	-0.26
KING SALMON	59	3	3.52	1.37	CARIBOU	67	1	5.64	1.75	EUGENE	67	1	0.25	-0.39
KODIAK	60	6	2.46	-1.66	PORTLAND	71	2	1.70	-1.62	MEDFORD	74	1	0.45	0.14
NOME	52	-1	3.82	1.67	MD BALTIMORE	80	4	6.09	2.24	PENDLETON	72	-1	0.80	0.39
AZ FLAGSTAFF	67	1	2.59	0.19	MA BOSTON	76	2	0.87	-2.19	PORTLAND	69	1	0.66	-0.06
PHOENIX	97	4	0.89	-0.10	WORCESTER	72	2	2.06	-2.13	SALEM	69	2	0.45	-0.12
TUCSON	90	3	3.32	1.25	MI ALPENA	70	3	2.54	-0.63	PA ALLENTOWN	77	4	6.72	2.45
AR FORT SMITH	84	2	3.65	0.46	DETROIT	77	3	1.57	-1.59	ERIE	74	2	4.33	1.05
LITTLE ROCK	86	4	7.37	4.06	FLINT	76	5	1.75	-1.42	MIDDLETOWN	79	3	5.10	1.51
CA BAKERSFIELD	86	3	0.00	0.00	GRAND RAPIDS	74	3	5.62	2.06	PHILADELPHIA	81	3	3.88	-0.51
EUREKA	58	0	0.54	0.38	HOUGHTON LAKE	69	2	3.02	0.27	PITTSBURGH	75	2	3.12	-0.84
FRESNO	84	3	0.00	-0.01	LANSING	73	3	3.35	0.67	WILKES-BARRE	76	4	4.19	0.45
LOS ANGELES	72	3	0.00	-0.03	MUSKEGON	72	2	6.02	3.70	WILLIAMSPORT	77	5	3.11	-0.97
REDDING	83	2	0.00	-0.05	TRAVERSE CITY	72	2	2.14	-1.00	PR SAN JUAN	83	1	5.10	0.94
SACRAMENTO	76	1	0.00	-0.05	MN DULUTH	67	2	4.39	0.19	RI PROVIDENCE	76	3	3.95	0.78
SAN DIEGO	71	0	0.00	-0.03	INT'L FALLS	66	0	2.43	-0.94	SC CHARLESTON	86	4	4.38	-1.75
SAN FRANCISCO	63	0	0.00	-0.03	MINNEAPOLIS	75	2	5.09	1.05	COLUMBIA	87	5	1.79	-3.75
STOCKTON	78	1	0.00	-0.05	ROCHESTER	71	1	5.60	0.99	FLORENCE	85	4	6.60	1.32
CO ALAMOSA	67	3	0.31	-0.63	ST. CLOUD	71	1	6.74	3.40	GREENVILLE	83	4	5.10	0.45
CO SPRINGS	74	4	3.04	0.19	MS JACKSON	84	3	8.30	3.61	MYRTLE BEACH	84	3	4.63	-0.56
DENVER	76	4	1.07	-1.18	MERIDIAN	85	3	2.40	-3.05	SD ABERDEEN	72	0	3.69	0.77
GRAND JUNCTION	79	2	0.60	-0.06	TUPELO	83	2	2.33	-1.32	HURON	74	1	1.40	-1.46
PUEBLO	80	5	1.04	-1.00	MO COLUMBIA	78	1	10.91	7.11	RAPID CITY	73	1	2.83	0.80
CT BRIDGEPORT	78	4	4.80	1.03	JOPLIN	81	1	5.30	1.75	SIOUX FALLS	73	0	2.32	-0.61
HARTFORD	76	2	2.20	-1.47	KANSAS CITY	79	1	8.76	4.34	TN BRISTOL	79	5	2.89	-1.32
DC WASHINGTON	83	4	3.13	-0.53	SPRINGFIELD	80	2	7.33	3.77	CHATTANOOGA	84	4	2.50	-2.23
DE WILMINGTON	79	2	6.35	2.07	ST JOSEPH	78	-1	8.54	4.65	JACKSON	82	2	2.54	-2.20
FL DAYTONA BEACH	84	2	0.71	-4.46	ST LOUIS	82	2	8.37	4.47	KNOXVILLE	82	4	4.80	0.09
FT LAUDERDALE	85	2	2.41	-4.29	MT BILLINGS	74	2	0.45	-0.83	MEMPHIS	85	2	8.02	3.80
FT MYERS	84	1	9.00	0.02	BUTTE	61	-2	0.94	-0.53	NASHVILLE	82	3	6.28	2.51
JACKSONVILLE	84	2	2.14	-3.83	GLASGOW	70	0	3.42	1.64	TX ABILENE	87	4	0.64	-1.05
KEY WEST	85	0	3.74	0.47	GREAT FALLS	67	1	1.20	-0.25	AMARILLO	83	5	3.51	0.83
MELBOURNE	84	3	1.09	-4.29	HELENA	71	3	0.78	-0.56	AUSTIN	86	2	5.65	3.68
MIAMI	85	1	4.11	-1.68	KALISPELL	64	0	1.51	0.10	BEAUMONT	85	2	7.98	2.75
ORLANDO	85	3	3.99	-3.16	MILES CITY	76	2	1.34	-0.27	BROWNSVILLE	87	3	0.18	-1.59
PENSACOLA	84	1	6.83	-1.19	MISSOULA	67	0	2.06	0.97	COLLEGE STATION	87	2	0.24	-1.68
ST PETERSBURG	85	2	3.68	-3.04	NE GRAND ISLAND	76	0	4.10	0.96	CORPUS CHRISTI	86	2	0.00	-2.00
TALLAHASSEE	85	3	7.93	-0.11	HASTINGS	77	1	2.22	-1.59	DALLAS/FT WORTH	87	2	3.89	1.77
TAMPA	85	2	6.34	-0.15	LINCOLN	78	0	4.67	1.13	DEL RIO	90	5	0.05	-1.97
WEST PALM BEACH	86	3	1.59	-4.38	MCCOOK	78	1	2.38	-0.92	EL PASO	89	6	0.24	-1.25
GA ATHENS	84	4	1.60	-2.81	NORFOLK	74	-1	2.88	-0.86	GALVESTON	86	2	3.40	-0.05
ATLANTA	83	3	3.66	-1.46	NORTH PLATTE	74	0	3.84	0.67	HOUSTON	87	3	1.09	-2.09
AUGUSTA	85	4	1.31	-2.76	OMAHA/EPPLEY	78	1	6.61	2.75	LUBBOCK	85	5	0.58	-1.55
COLUMBUS	84	2	1.96	-3.08	SCOTTSBLUFF	76	3	1.26	-0.87	MIDLAND	88	6	0.24	-1.65
MACON	85	4	2.33	-1.99	VALENTINE	74	0	3.11	-0.26	SAN ANGELO	87	5	0.00	-1.10
SAVANNAH	86	4	1.21	-4.83	NV ELKO	72	3	0.04	-0.26	SAN ANTONIO	87	3	0.33	-1.70
HI HILO	79	3	7.32	-3.39	ELY	69	2	0.17	-0.43	VICTORIA	86	2	0.66	-2.24
HONOLULU	81	0	2.71	2.21	LAS VEGAS	95	4	0.20	-0.24	WACO	87	2	0.14	-2.09
KAHULUI	80	1	1.16	0.67	RENO	76	5	0.00	-0.24	WICHITA FALLS	86	1	1.82	0.24
LIHUE	78	-1	1.70	-0.42	WINNEMUCCA	72	0	0.00	-0.27	UT SALT LAKE CITY	83	6	0.00	-0.72
ID BOISE	75	0	0.27	-0.12	NH CONCORD	72	2	2.18	-1.19	VT BURLINGTON	73	2	3.05	-0.92
LEWISTON	74	0	1.57	0.85	NJ ATLANTIC CITY	78	3	8.83	4.97	VA LYNCHBURG	78	3	6.00	1.61
POCATELLO	71	2	0.15	-0.55	NEWARK	80	3	6.08	1.40	NORFOLK	83	4	10.33	5.16
IL CHICAGO/O'HARE	75	2	6.23	2.72	NM ALBUQUERQUE	81	3	1.14	-0.13	RICHMOND	80	2	4.46	-0.21
MOLINE	76	1	7.55	3.52	NY ALBANY	74	3	6.44	2.98	ROANOKE	79	3	5.55	1.55
PEORIA	76	1	5.01	0.99	BINGHAMTON	72	3	2.89	-0.60	WASH/DULLES	79	3	3.02	-0.55
ROCKFORD	75	2	7.87	3.77	BUFFALO	74	3	1.80	-1.34	WA OLYMPIA	64	1	0.62	-0.20
SPRINGFIELD	78	2	9.51	5.98	ROCHESTER	75	4	1.22	-1.71	QUILLAYUTE	60	1	2.17	-0.17
IN EVANSVILLE	79	0	9.20	5.45	SYRACUSE	73	2	2.65	-1.37	SEATTLE-TACOMA	67	2	0.72	-0.07
FORT WAYNE	74	1	1.12	-2.46	NC ASHEVILLE	77	4	4.39	0.52	SPOKANE	69	0	0.27	-0.49
INDIANAPOLIS	76	1	5.66	1.24	CHARLOTTE	83	3	1.55	-2.24	YAKIMA	74	5	0.22	0.00
SOUTH BEND	73	0	3.24	-0.49	GREENSBORO	82	4	5.08	0.64	WV BECKLEY	73	2	5.69	0.91
IA BURLINGTON	74	-2	7.31	2.83	HATTERAS	82	3	2.05	-2.90	CHARLESTON	77	3	4.71	-0.15
CEDAR RAPIDS	73	-1	3.86	-0.20	RALEIGH	82	3	8.10	3.81	ELKINS	73	3	4.33	-0.50
DES MOINES	77	1	6.98	2.80	WILMINGTON	84	3	4.71	-2.91	HUNTINGTON	77	2	5.93	1.47
DUBUQUE	72	0	7.17	3.44	ND BISMARCK	72	2	5.10	2.52	WI EAU CLAIRE	72	1	3.51	-0.43
SIOUX CITY	76	1	2.19	-1.11	DICKINSON	69	0	3.90	1.79	GREEN BAY	71	1	3.22	-0.22
WATERLOO	73	-1	4.01	-0.19	FARGO	72	1	5.98	3.10	LA CROSSE	75	1	5.15	0.90
KS CONCORDIA	79	0	6.17	1.97	GRAND FORKS	70	1	5.30	2.24	MADISON	73	1	5.23	1.30
DODGE CITY	80	0	5.30	2.13	JAMESTOWN	70	-1	5.88	2.66	MILWAUKEE	74	2	1.76	-1.82
GOODLAND	78	3	2.75	-0.79	MINOT	73	3	2.73	0.03	WAUSAU	70	0	4.60	0.48
HILL CITY	80	1	2.30	-0.82	WILLISTON	71	2	3.39	1.11	WY CASPER	71	1	0.64	-0.65
TOPEKA	80	2	5.36	1.53	OH AKRON-CANTON	75	3	2.06	-1.96	CHEYENNE	72	4	1.48	-0.78
WICHITA	84	3	9.67	6.36	CINCINNATI	77	1	5.06	1.31	LANDER	73	2	0.30	-0.54
KY JACKSON	77	2	6.35	1.76	CLEVELAND	77	5	1.82	-1.70	SHERIDAN	73	4	0.52	-0.59

Based on 1971-2000 normals

***** Not Available**

National Agricultural Summary

August 1 – 7, 2016

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

With the exception of the Pacific Northwest and Arizona, above-normal temperatures blanketed much of the U.S. during the week. Most notably, weekly temperatures averaged more than 3°F above normal in parts of the South and the Great Lakes region. Meanwhile, the Mississippi Valley and the Four Corners region experienced above-normal precipitation totals. In Missouri, some locations received weekly rainfall in excess of 6 inches. Also, a frontal system delivered much-needed moisture to the Southeast.

Corn: 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 percent of the crop was at or beyond the dough stage by week's end, 9 percentage points ahead of last year and 11 points ahead of the 5-year average. With above-average temperatures across most the Corn Belt, eleven estimating states had advances of at least 20 percentage points in corn entering the dough stage during the week. By August 7, denting was evident in 9 percent of this year's crop, slightly ahead of last year but 3 percentage points behind the 5-year average. Overall, 74 percent of the nation's corn was reported in good to excellent condition, down 2 percentage points from last week but 4 points above the same time last year.

Soybeans: By week's end, 91 percent of the soybeans were at or beyond the blooming stage, 5 percentage points ahead of last year and 3 points ahead the 5-year average. Nationwide, 69 percent of the soybean crop was at or beyond the pod-setting stage by August 7, four percentage points ahead of last year and 8 points ahead of the 5-year average. The percentage of the crop in the setting pods stage was ahead of the 5-year average in all estimating states except Kentucky and Michigan. Overall, 72 percent of the soybeans were reported in good to excellent condition, unchanged from last week but 9 percentage points above the same time last year.

Winter Wheat: With favorable weather supporting rapid fieldwork in areas where winter wheat remained in the field, producers had harvested 94 percent of the nation's crop by week's end. This was 2 percentage points behind last year but 3 points ahead of the 5-year average. Only four of the eighteen estimating states had harvested less than 90 percent of the winter wheat crop.

Cotton: Nationally, 96 percent of the cotton was at or beyond the squaring stage by week's end, slightly ahead of last year but equal to the 5-year average. With double-digit progress evident in most states, 70 percent of this year's cotton was setting bolls by week's end. This was 5 percentage points ahead of last year but 2 points behind the 5-year average. Nine percent of the nation's cotton had open bolls, 3 percentage points ahead of last year and 2 points ahead of the 5-year average. In Texas, cotton harvest was underway in the Coastal Bend, South Texas, and the Lower Valley. Overall, 48 percent of the cotton was reported in good to excellent condition, down 2 percentage points from last week and 8 points below the same time last year. In both the High and Low Plains of Texas, dryland cotton was stressed due to high temperatures and lack of moisture.

Sorghum: By August 7, seventy-four percent of the sorghum was at or beyond the heading stage, 6 percentage points ahead of last year and 13 points ahead of the 5-year average. Sorghum heading progress was behind the 5-year average only in Arkansas. Nationally, 31 percent of the sorghum was at or beyond the coloring stage by week's end, equal to last year but 2 percentage points behind the 5-year average. Overall, 65 percent of the sorghum was reported in good to excellent condition, slightly below last week and 2 percentage points lower than at the same time last year.

Rice: By week's end, 86 percent of the rice was at or beyond the heading stage, 10 percentage points ahead of last year and 18 points ahead of the 5-year average. Nationally, 9 percent of the rice was harvested by week's end, 2 percentage points ahead last year and 4 points ahead the 5-year average. Harvest in Louisiana and Texas was well underway. Overall, 66 percent of the rice was reported in good to excellent condition, unchanged from last week but 3 percentage points below the same time last year.

Other Small Grains: Producers had harvested 68 percent of the nation's oat crop by week's end, 11 percentage points ahead of both last year and the 5-year average. Producers in the upper Midwest experienced favorable conditions, with harvest advancing more than 20 percentage points for the week in Minnesota and Wisconsin.

By August 7, barley producers had harvested 32 percent of this year's crop, 3 percentage points behind last year but 13 points ahead of the 5-year average. Double-digit increases were observed in harvest progress in all estimating states. Overall, 72 percent of the barley was reported in good to excellent condition, unchanged from last week but 6 percentage points above the same time last year.

Thirty percent of the spring wheat was harvested by week's end, 8 percentage points ahead of last year and 12 points ahead of the 5-year average. Harvest progress in South Dakota was 33 percentage points ahead of the 5-year average. Overall, 68 percent of the spring wheat was reported in good to excellent condition, unchanged from last week but slightly below the same time last year.

Other Crops: By week's end, 95 percent of the peanut crop was pegging, 3 percentage points ahead of last year and 4 points ahead of the 5-year average. Overall, 66 percent of the peanut crop was reported in good to excellent condition, unchanged from last week but 10 percentage points lower than at the same time last year.

Crop Progress and Condition

Week Ending August 7, 2016

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

Corn Percent Silking

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
CO	84	74	90	84
IL	95	97	100	98
IN	92	89	95	95
IA	96	95	98	93
KS	94	92	97	95
KY	95	90	93	91
MI	93	81	91	91
MN	97	95	98	94
MO	92	100	100	96
NE	97	95	98	97
NC	99	98	99	99
ND	91	70	89	87
OH	89	80	91	91
PA	88	81	91	90
SD	91	83	94	89
TN	98	97	98	99
TX	95	96	98	96
WI	89	88	96	84
18 Sts	94	91	97	94

These 18 States planted 93% of last year's corn acreage.

Corn Percent Dough

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
CO	11	1	13	16
IL	61	38	60	61
IN	38	29	49	41
IA	45	35	61	37
KS	53	33	56	59
KY	52	43	54	47
MI	27	10	25	22
MN	43	26	54	28
MO	63	60	77	68
NE	37	25	47	45
NC	88	88	93	89
ND	18	2	22	20
OH	30	14	41	34
PA	50	17	37	30
SD	30	20	47	28
TN	83	79	88	83
TX	83	68	87	78
WI	21	10	34	18
18 Sts	44	30	53	42

These 18 States planted 93% of last year's corn acreage.

Corn Percent Dented

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
CO	0	NA	0	1
IL	14	NA	6	17
IN	3	1	10	8
IA	3	1	7	8
KS	11	NA	13	19
KY	24	19	32	25
MI	0	NA	0	1
MN	1	NA	1	2
MO	27	NA	11	32
NE	4	NA	9	9
NC	65	55	75	67
ND	1	NA	2	2
OH	1	NA	1	4
PA	8	NA	0	5
SD	1	NA	3	2
TN	24	34	50	40
TX	54	56	57	64
WI	0	NA	3	0
18 Sts	8	NA	9	12

These 18 States planted 93% of last year's corn acreage.

Corn Condition by Percent

	VP	P	F	G	EX
CO	1	2	15	65	17
IL	1	2	14	57	26
IN	3	6	18	53	20
IA	1	3	13	57	26
KS	1	6	26	56	11
KY	2	5	17	58	18
MI	4	11	31	44	10
MN	1	3	11	61	24
MO	2	4	19	55	20
NE	1	4	19	59	17
NC	4	7	25	49	15
ND	1	3	16	65	15
OH	5	14	34	40	7
PA	2	10	29	45	14
SD	3	10	32	47	8
TN	2	8	24	43	23
TX	2	11	30	46	11
WI	0	2	10	46	42
18 Sts	2	5	19	54	20
Prev Wk	1	5	18	56	20
Prev Yr	2	7	21	52	18

Peanuts Percent Pegging

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AL	84	76	86	82
FL	96	96	98	94
GA	96	96	98	92
NC	94	90	95	97
OK	75	71	75	89
SC	99	94	96	95
TX	79	65	89	88
VA	86	73	84	86
8 Sts	92	89	95	91

These 8 States planted 97% of last year's peanut acreage.

Peanut Condition by Percent

	VP	P	F	G	EX
AL	0	0	54	40	6
FL	2	4	24	65	5
GA	2	6	25	49	18
NC	1	3	14	68	14
OK	0	0	9	91	0
SC	0	1	18	64	17
TX	0	12	35	48	5
VA	0	0	8	90	2
8 Sts	1	5	28	53	13
Prev Wk	1	4	29	54	12
Prev Yr	0	3	21	58	18

Barley Percent Harvested

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
ID	34	6	35	19
MN	51	18	42	36
MT	41	9	28	18
ND	21	16	33	19
WA	64	9	28	22
5 Sts	35	11	32	19

These 5 States harvested 86% of last year's barley acreage.

Barley Condition by Percent

	VP	P	F	G	EX
ID	0	1	22	67	10
MN	6	6	25	53	10
MT	1	5	32	39	23
ND	1	4	16	68	11
WA	0	1	13	80	6
5 Sts	1	4	23	57	15
Prev Wk	1	3	24	58	14
Prev Yr	2	6	26	49	17

Crop Progress and Condition

Week Ending August 7, 2016

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

Soybeans Percent Blooming

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	92	96	98	90
IL	87	85	91	91
IN	87	80	90	89
IA	91	90	94	92
KS	72	69	81	77
KY	74	60	69	71
LA	96	97	98	97
MI	95	81	89	91
MN	97	94	97	92
MS	93	89	94	94
MO	55	71	77	73
NE	93	87	94	93
NC	69	66	76	64
ND	97	91	96	94
OH	87	84	93	88
SD	88	89	94	91
TN	79	81	89	79
WI	87	93	97	85
18 Sts	86	85	91	88

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

Soybeans Percent Setting Pods

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	75	80	89	71
IL	65	51	68	66
IN	68	50	66	62
IA	68	64	79	67
KS	41	30	44	37
KY	50	31	46	47
LA	90	89	93	91
MI	63	41	60	64
MN	86	64	79	65
MS	81	79	86	80
MO	25	33	42	37
NE	63	43	65	63
NC	41	37	47	35
ND	82	60	78	72
OH	57	40	66	54
SD	66	65	78	59
TN	58	55	68	57
WI	65	69	82	55
18 Sts	65	54	69	61

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

Soybean Condition by Percent

	VP	P	F	G	EX
AR	6	6	28	45	15
IL	2	3	16	58	21
IN	2	5	19	55	19
IA	1	3	14	58	24
KS	1	6	32	54	7
KY	2	5	20	57	16
LA	0	4	18	69	9
MI	2	10	31	50	7
MN	1	3	16	60	20
MS	2	8	23	44	23
MO	1	5	24	56	14
NE	1	3	19	62	15
NC	1	5	26	53	15
ND	2	5	20	61	12
OH	4	11	33	44	8
SD	2	8	33	50	7
TN	1	3	20	49	27
WI	0	2	10	49	39
18 Sts	2	5	21	55	17
Prev Wk	2	5	21	56	16
Prev Yr	3	8	26	49	14

Sorghum Percent Headed

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	95	89	95	97
CO	46	42	66	41
IL	56	48	65	64
KS	52	47	66	41
LA	100	100	100	100
MO	70	56	67	65
NE	75	42	73	62
NM	16	15	21	18
OK	59	44	62	56
SD	77	62	81	70
TX	87	81	84	84
11 Sts	68	61	74	61

These 11 States planted 98% of last year's sorghum acreage.

Sorghum Percent Coloring

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	72	43	55	65
CO	11	5	10	13
IL	19	13	26	17
KS	4	3	9	4
LA	95	88	99	93
MO	15	11	14	14
NE	4	1	5	5
NM	0	0	1	1
OK	19	19	31	23
SD	2	13	17	9
TX	66	59	62	74
11 Sts	31	26	31	33

These 11 States planted 98% of last year's sorghum acreage.

Sorghum Condition by Percent

	VP	P	F	G	EX
AR	3	10	31	43	13
CO	0	5	31	58	6
IL	2	6	27	60	5
KS	0	3	22	62	13
LA	0	5	25	58	12
MO	0	2	29	61	8
NE	0	0	14	70	16
NM	0	3	77	19	1
OK	0	1	33	63	3
SD	0	5	44	50	1
TX	2	10	31	42	15
11 Sts	1	6	28	53	12
Prev Wk	1	5	28	55	11
Prev Yr	3	5	25	57	10

Crop Progress and Condition

Week Ending August 7, 2016

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

Cotton Percent Squaring

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AL	98	95	99	94
AZ	100	98	99	100
AR	100	100	100	100
CA	100	93	99	97
GA	99	95	97	95
KS	79	63	78	82
LA	100	100	100	100
MS	98	93	96	99
MO	99	92	95	100
NC	98	94	96	99
OK	92	77	94	83
SC	100	90	95	96
TN	92	95	97	96
TX	93	90	96	96
VA	98	91	94	99
15 Sts	95	92	96	96

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

Cotton Percent Setting Bolls

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AL	91	82	88	78
AZ	82	75	88	85
AR	96	98	99	98
CA	94	64	77	88
GA	85	77	86	80
KS	36	18	29	38
LA	92	85	95	95
MS	86	78	85	86
MO	56	41	42	71
NC	80	68	83	83
OK	55	31	44	44
SC	90	56	80	71
TN	69	68	80	74
TX	53	42	62	66
VA	70	42	64	76
15 Sts	65	54	70	72

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

Cotton Percent Bolls Opening

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AL	1	NA	1	1
AZ	22	6	23	24
AR	5	NA	7	3
CA	1	NA	0	5
GA	1	NA	1	1
KS	0	NA	0	1
LA	8	15	20	13
MS	6	1	6	3
MO	0	NA	0	1
NC	2	NA	2	1
OK	0	NA	0	0
SC	0	NA	0	1
TN	1	NA	1	0
TX	9	9	13	12
VA	0	NA	0	0
15 Sts	6	NA	9	7

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

Cotton Condition by Percent

	VP	P	F	G	EX
AL	1	5	45	42	7
AZ	3	1	6	50	40
AR	5	4	14	44	33
CA	0	5	30	25	40
GA	3	8	30	48	11
KS	1	2	33	62	2
LA	0	5	24	66	5
MS	2	8	35	41	14
MO	2	8	46	39	5
NC	4	8	24	57	7
OK	0	0	46	47	7
SC	0	1	52	41	6
TN	1	2	19	57	21
TX	3	19	39	34	5
VA	0	4	22	73	1
15 Sts	3	13	36	40	8
Prev Wk	3	12	35	42	8
Prev Yr	1	8	35	45	11

Spring Wheat Percent Harvested

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
ID	30	6	41	14
MN	25	13	42	24
MT	22	1	19	9
ND	11	4	22	15
SD	45	55	73	40
WA	72	14	30	27
6 Sts	22	10	30	18

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

Spring Wheat Condition by Percent

	VP	P	F	G	EX
ID	0	1	24	67	8
MN	3	5	22	55	15
MT	1	4	29	52	14
ND	3	7	19	62	9
SD	3	12	46	36	3
WA	0	1	14	77	8
6 Sts	2	6	24	58	10
Prev Wk	2	6	24	58	10
Prev Yr	2	6	23	55	14

Oats Percent Harvested

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
IA	87	78	90	88
MN	48	35	57	45
NE	81	76	85	90
ND	14	31	44	18
OH	70	80	89	76
PA	57	39	56	61
SD	76	78	87	68
TX	100	100	100	100
WI	48	34	60	47
9 Sts	57	53	68	57

These 9 States harvested 70% of last year's oat acreage.

Crop Progress and Condition

Week Ending August 7, 2016

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

Rice Percent Headed

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	73	80	92	67
CA	64	27	60	44
LA	95	91	94	94
MS	86	68	86	80
MO	67	55	78	52
TX	92	95	97	94
6 Sts	76	71	86	68

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

Rice Percent Harvested

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	0	NA	0	0
CA	0	NA	0	0
LA	35	20	39	25
MS	0	NA	0	1
MO	0	NA	0	0
TX	16	16	43	18
6 Sts	7	NA	9	5

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

Rice Condition by Percent

	VP	P	F	G	EX
AR	3	8	27	45	17
CA	0	0	20	70	10
LA	0	5	31	56	8
MS	0	2	23	47	28
MO	1	3	24	51	21
TX	3	4	45	33	15
6 Sts	2	5	27	51	15
Prev Wk	2	6	26	51	15
Prev Yr	2	4	25	51	18

Winter Wheat Percent Harvested

	Prev Year	Prev Week	Aug 7 2016	5-Yr Avg
AR	100	100	100	100
CA	100	98	99	98
CO	96	95	97	98
ID	73	21	55	43
IL	100	99	100	100
IN	98	100	100	100
KS	100	100	100	100
MI	93	94	99	95
MO	100	100	100	100
MT	80	54	82	50
NE	97	97	100	97
NC	100	100	100	100
OH	95	100	100	99
OK	100	100	100	100
OR	94	64	78	67
SD	87	87	92	81
TX	100	100	100	100
WA	88	41	57	55
18 Sts	96	89	94	91

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

Pasture and Range Condition by Percent
Week Ending Aug 7, 2016

	VP	P	F	G	EX			VP	P	F	G	EX
AL	12	15	30	40	3		NH	13	58	23	6	0
AZ	15	18	38	25	4		NJ	0	1	36	57	6
AR	2	8	32	49	9		NM	3	23	47	24	3
CA	15	25	20	35	5		NY	6	14	40	34	6
CO	3	6	25	56	10		NC	3	13	36	43	5
CT	4	74	22	0	0		ND	5	10	28	52	5
DE	5	12	33	44	6		OH	13	20	29	31	7
FL	3	7	25	49	16		OK	1	8	39	45	7
GA	13	22	37	25	3		OR	15	28	25	29	3
ID	3	19	34	33	11		PA	9	32	32	23	4
IL	1	3	17	63	16		RI	10	65	25	0	0
IN	3	6	23	55	13		SC	10	25	21	40	4
IA	2	7	29	50	12		SD	7	18	36	38	1
KS	1	4	25	61	9		TN	6	16	34	38	6
KY	1	6	20	61	12		TX	8	18	41	30	3
LA	1	10	33	50	6		UT	1	8	37	46	8
ME	22	24	25	14	15		VT	11	54	35	0	0
MD	1	7	28	58	6		VA	3	8	33	50	6
MA	17	28	30	25	0		WA	5	13	21	55	6
MI	9	23	32	29	7		WV	1	7	34	53	5
MN	1	5	18	59	17		WI	1	3	19	53	24
MS	1	9	33	50	7		WY	8	15	26	46	5
MO	1	4	34	53	8		48 Sts	5	12	32	44	7
MT	13	18	33	31	5							
NE	2	4	22	61	11		Prev Wk	5	12	32	44	7
NV	5	15	35	35	10		Prev Yr	3	11	31	46	9

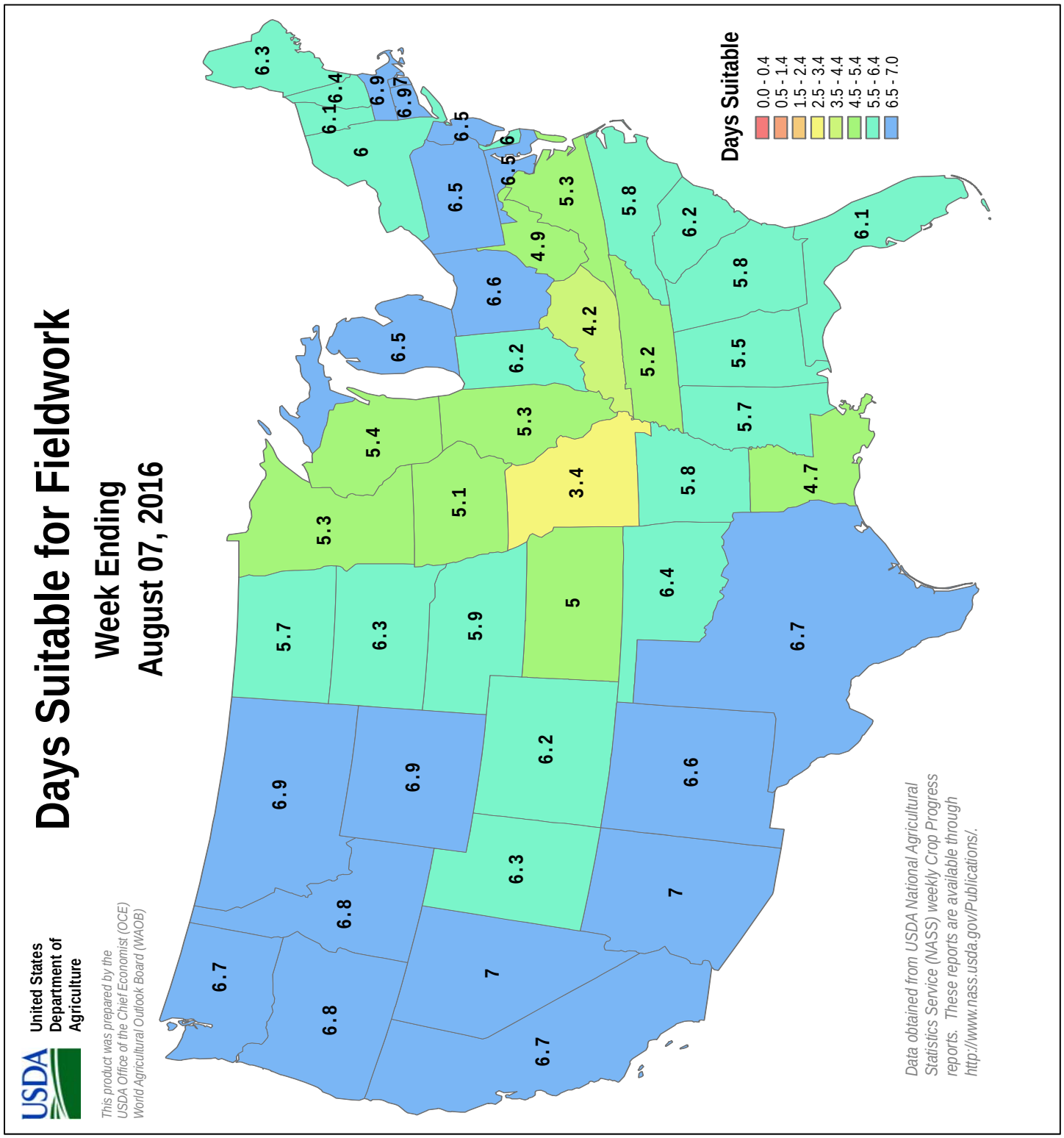
VP - Very Poor; P - Poor; F - Fair; G - Good; EX - Excellent

NA - Not Available; *Revised

Crop Progress and Condition

Week Ending August 7, 2016

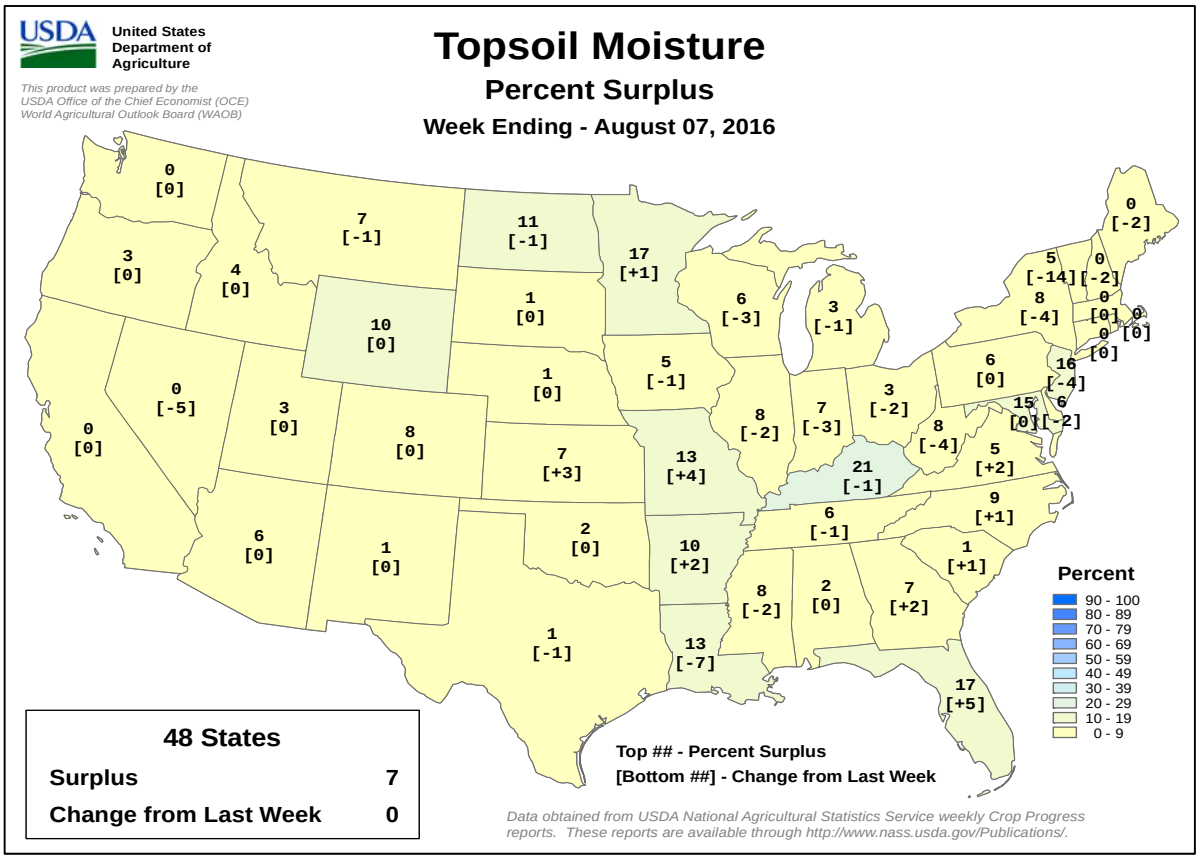
Weekly U.S. Progress and Condition Data provided by USDA/NASS

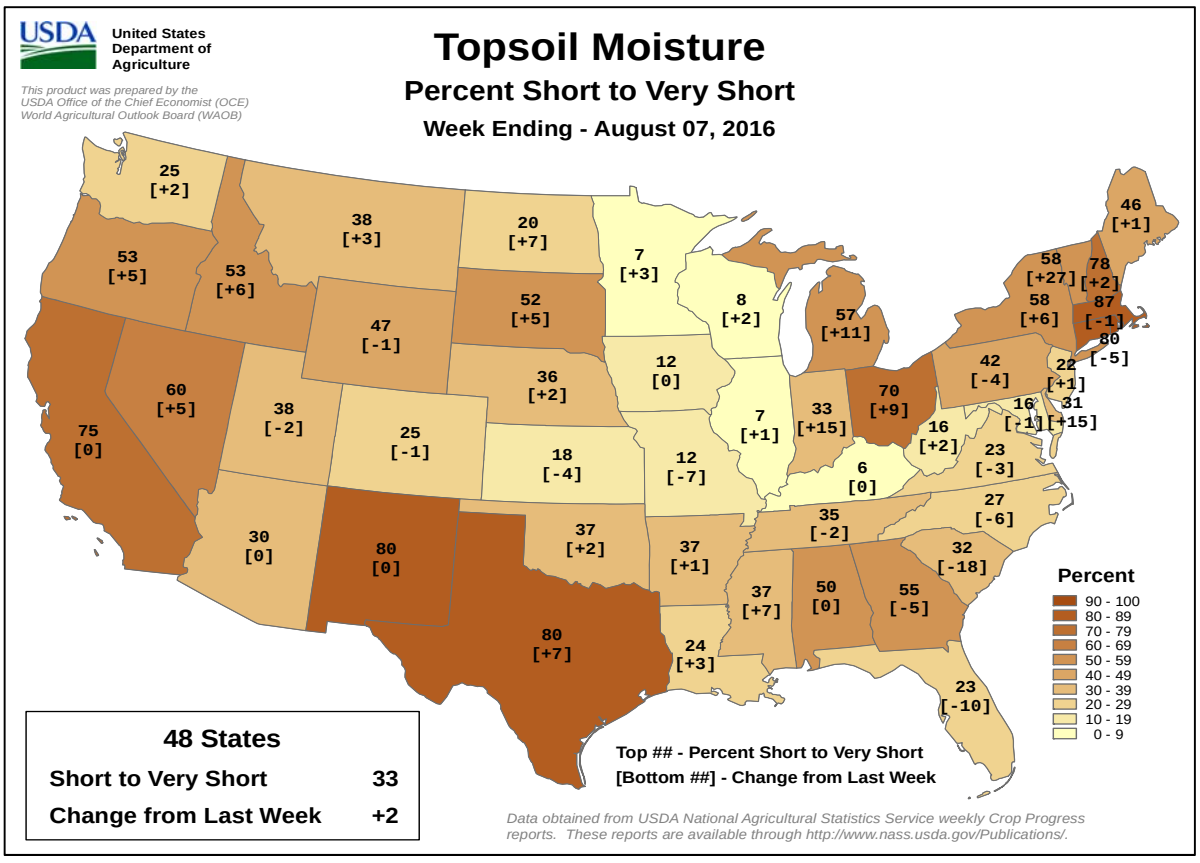


Crop Progress and Condition

Week Ending August 7, 2016

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

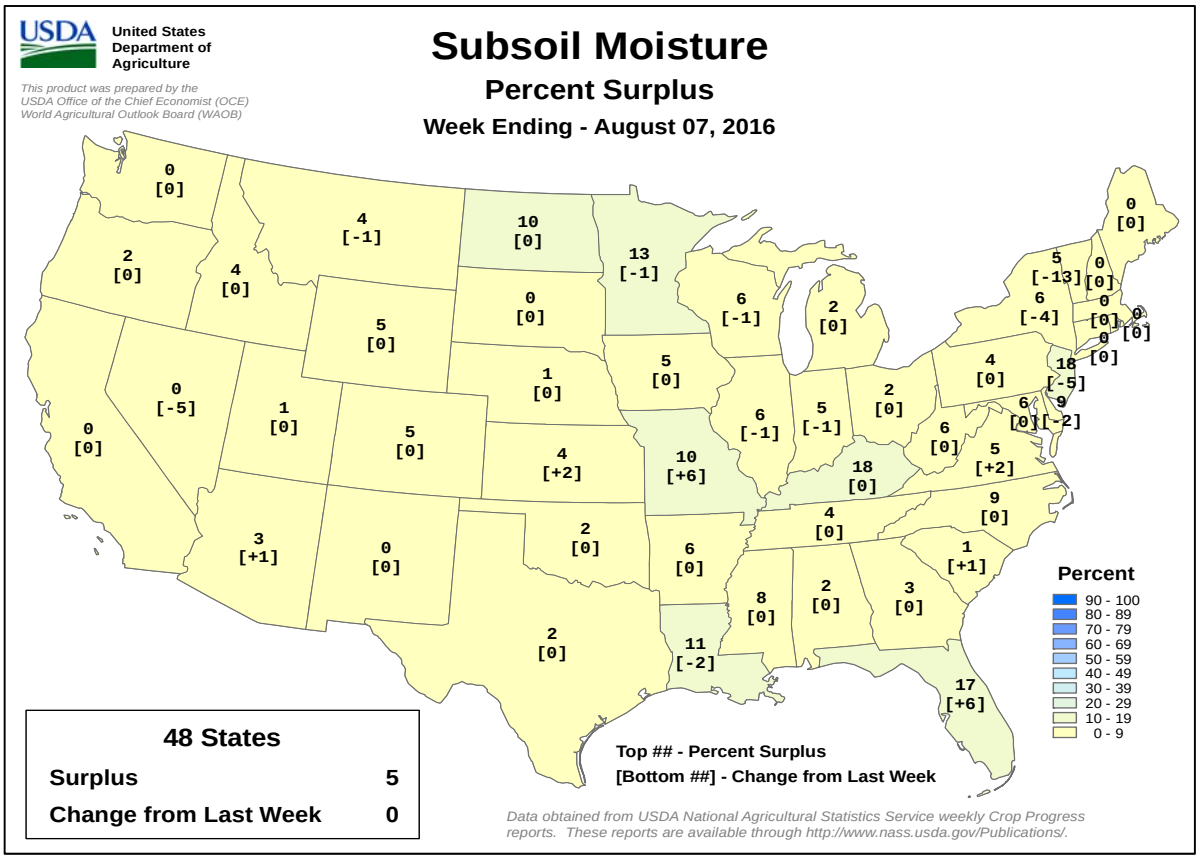


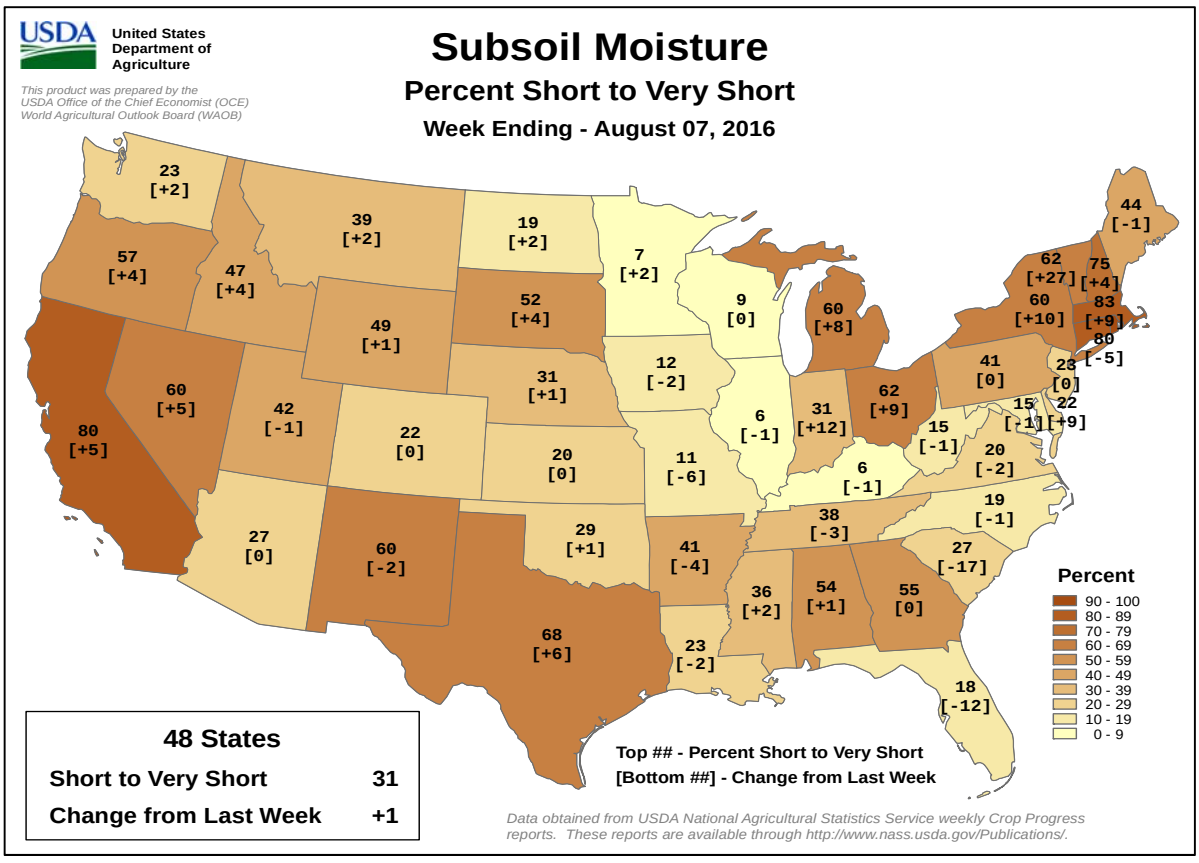


Crop Progress and Condition

Week Ending August 7, 2016

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





International Weather and Crop Summary

July 31 - August 6, 2016

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

HIGHLIGHTS

EUROPE: Frequent showers continued to benefit spring grains and summer crops throughout most of southern and eastern Europe.

WESTERN FSU: Showers and thundershowers maintained adequate to abundant moisture supplies for most summer crops but increasing heat likely caused some crop stress in the south.

EASTERN FSU: Widely scattered showers maintained good to excellent yield prospects for spring wheat, while seasonably hot, dry weather in the south benefited open-boll cotton.

MIDDLE EAST: Unseasonably warm weather fostered rapid growth of Turkish summer crops.

SOUTH ASIA: The monsoon remained active throughout India, bringing much-needed rainfall to cotton in Gujarat, but keeping soybean fields saturated in Madhya Pradesh.

EAST ASIA: Widespread showers maintained abundant to excessive soil moisture for summer crops in eastern China, although unfavorably hot, dry weather persisted for corn and soybeans in the northeast.

SOUTHEAST ASIA: Favorable rainfall continued for rice and other summer crops.

AUSTRALIA: Widespread showers further benefited wheat, barley, and canola.

ARGENTINA: Conditions improved for corn and cotton harvesting.

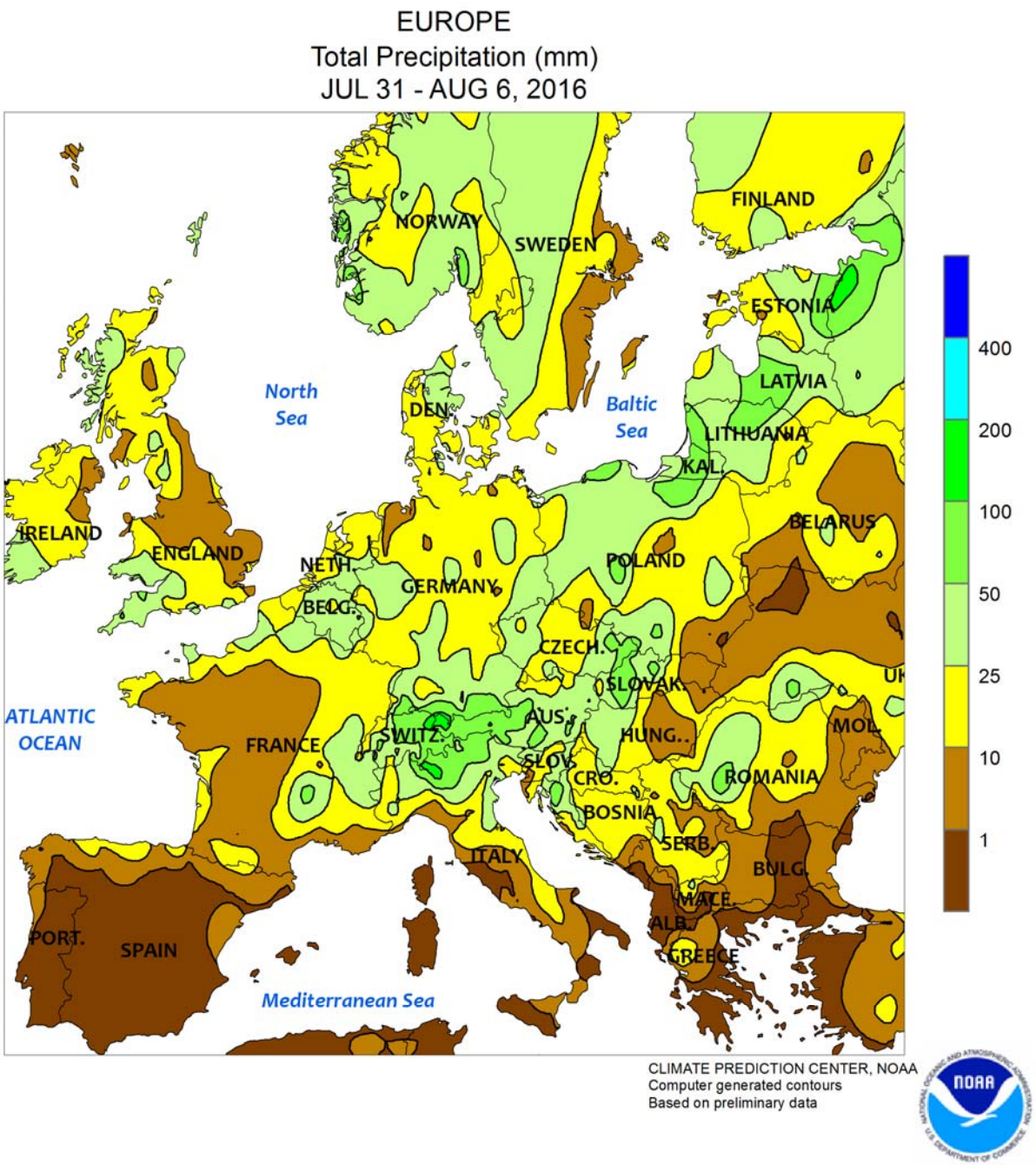
BRAZIL: Warmth and dryness aided corn harvesting and early wheat development.

MEXICO: Seasonal showers benefited southern summer crop areas and northwestern watersheds.

CANADIAN PRAIRIES: Warm, showery weather maintained favorable spring crop prospects.

SOUTHEASTERN CANADA: Drought continued in Ontario as corn and soybeans advanced through reproduction.

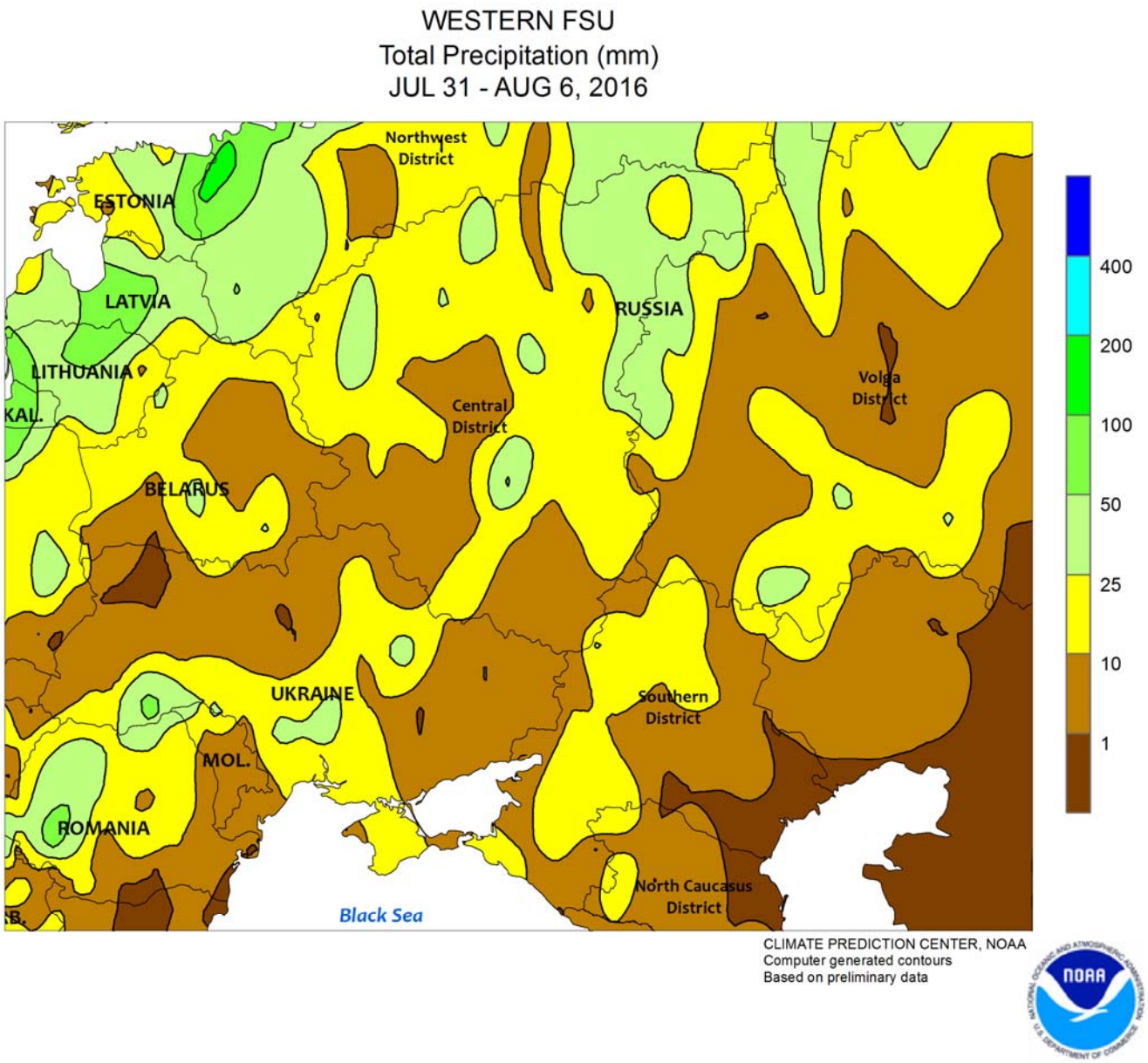
For additional information contact: mbrusberg@oce.usda.gov



EUROPE

In England, northern France, and the Benelux countries, mid-week showers (5-35 mm) may have temporarily delayed fieldwork, but dry weather during the remainder of the week promoted winter grain harvesting and winter rapeseed planting. Farther east, frequent showers (10-50 mm, locally more) in Germany, Poland, and the Baltic States further benefited filling spring grains and reproductive summer crops. Similarly, widespread showers (10-50 mm, locally more) in Italy and much of southeastern Europe favored reproductive corn, sunflowers, and soybeans. In contrast, mostly dry weather lingered over southern Romania, Bulgaria, and most of the Iberian Peninsula, reducing moisture supplies for reproductive to filling summer crops. Periods of hot weather (local maxima of 35-39°C) accompanied the dryness in Spain and southeastern Europe, potentially stressing some summer crops. The heat was relatively brief and localized, however, likely limiting the overall negative impact on yield potential. Temperatures in southern Spain and eastern Europe averaged about 2 to 3°C above normal. Elsewhere in Europe, temperatures averaged near to slightly below normal (up to 2°C below normal).

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



WESTERN FSU

Scattered showers and thundershowers (10-30 mm, locally more) spread across Belarus and western Russia, maintaining adequate to abundant moisture supplies for corn, soybeans, and sunflowers. The showers were generally passing in nature, allowing winter wheat harvesting to progress during drier periods. Elsewhere in the region, showers and thundershowers (10-30 mm, locally more) overspread Ukraine as well. The rain was welcome in west-central sections of the country, providing a needed boost in soil moisture for corn and soybeans in the wake of recent short-term dryness. After a generally seasonable start, temperatures in Belarus, Ukraine, and western Russia slowly crept up during the week. Temperatures averaged 3 to 5°C above normal for the week, with maximum temperatures often exceeding 35°C in southeastern Ukraine and the Southern District in Russia during the latter half. Summer crops are generally in the late reproductive to filling stages of development. As a result, the heat likely increased stress on summer crops, however, large reductions in yield potential are unlikely because crops are beyond the most critical stages of development.

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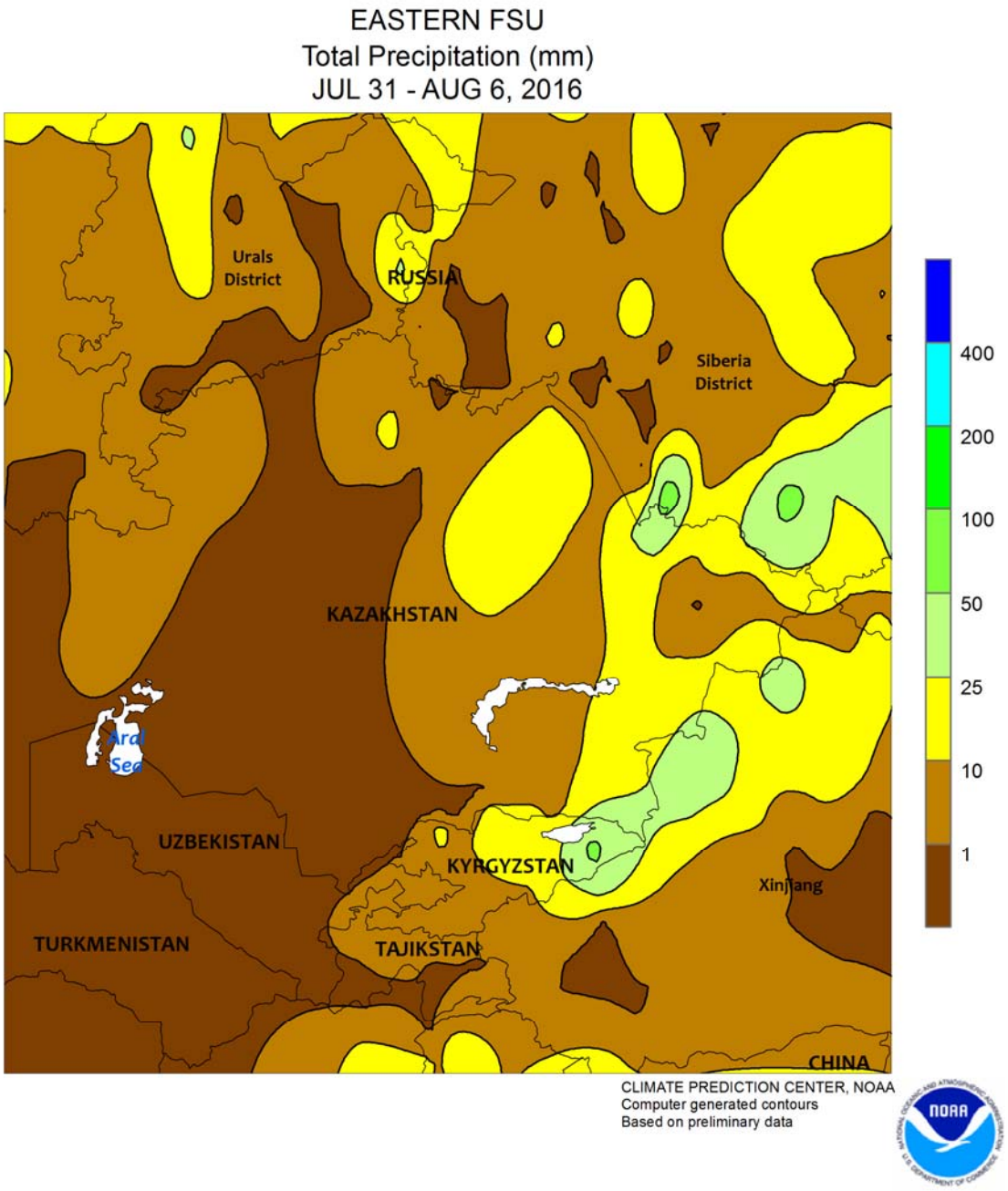

EASTERN FSU

Widely scattered showers in northern Kazakhstan and central Russia continued to favor late reproductive to filling spring wheat. Rainfall amounts were highly variable, with some locations receiving nearly 25 mm of rain and many locations tallying no rainfall. Despite this variability, soil moisture was adequate to abundant throughout the region and crop prospects remained good to excellent. Temperatures averaged up to 2°C above normal in western spring wheat producing areas (i.e., Urals District of Russia) and up to 2°C below normal in southern and eastern producing areas (i.e., northern Kazakhstan, Siberia District in Russia). Farther south, seasonably hot, mostly dry weather favored open-boll cotton in Uzbekistan.

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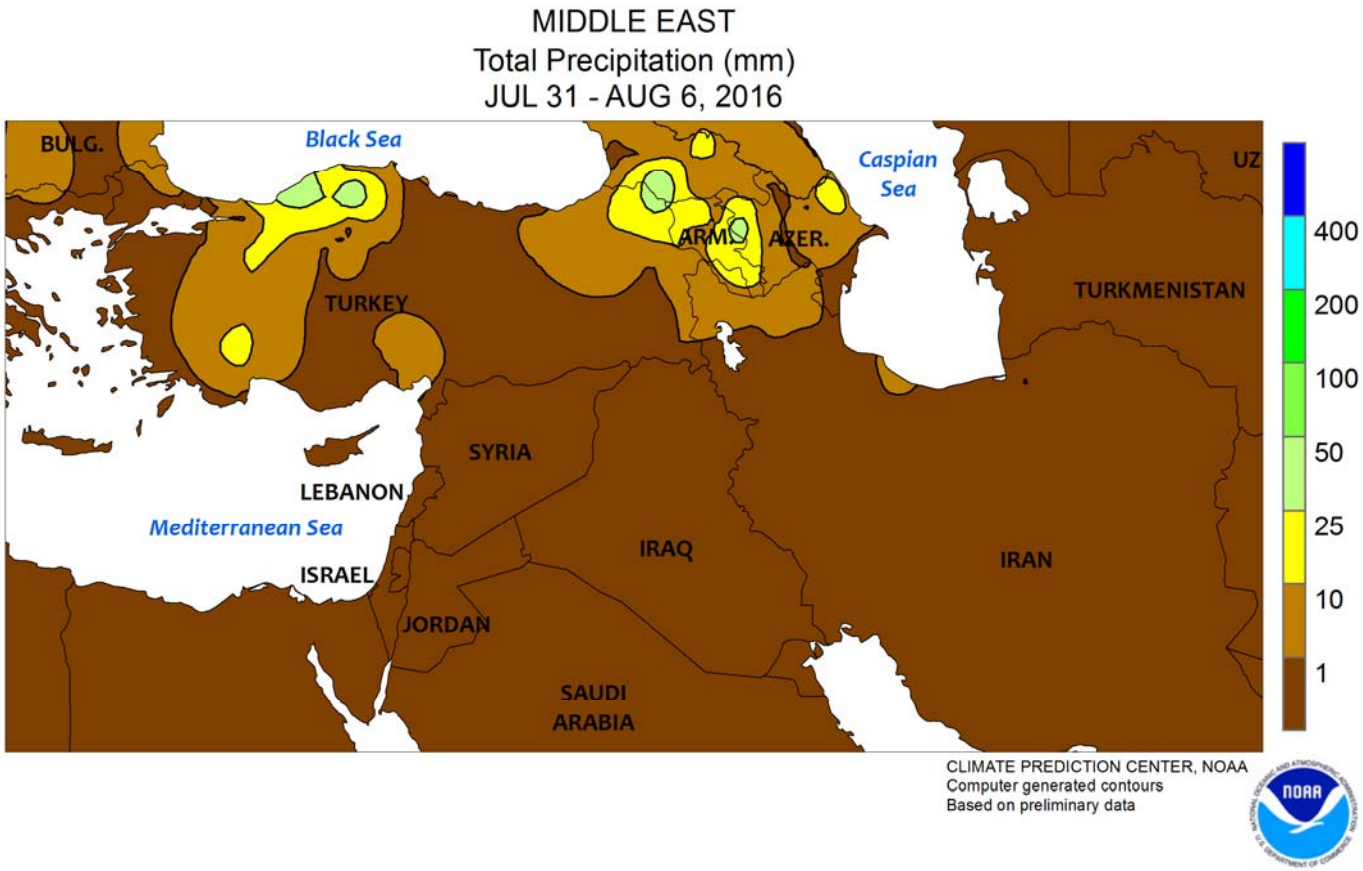

MIDDLE EAST

Warm, mostly dry weather continued to dominate Turkey, although showers were scattered throughout the west and north. Rainfall totaling more than 10 mm — locally exceeding 35 mm — was recorded in northwestern agricultural areas, as well as in northeastern watersheds. While increasing local moisture reserves, the moisture came too late to improve the conditions of maturing summer crops. Elsewhere, warm, mostly dry weather prevailed, with weekly temperatures averaging 2 to 3°C above normal (daytime highs ranging from the middle 30s to lower 40s degrees C) in southwestern and southeastern farming areas, hastening drydown of summer crops and supporting late winter wheat harvesting.

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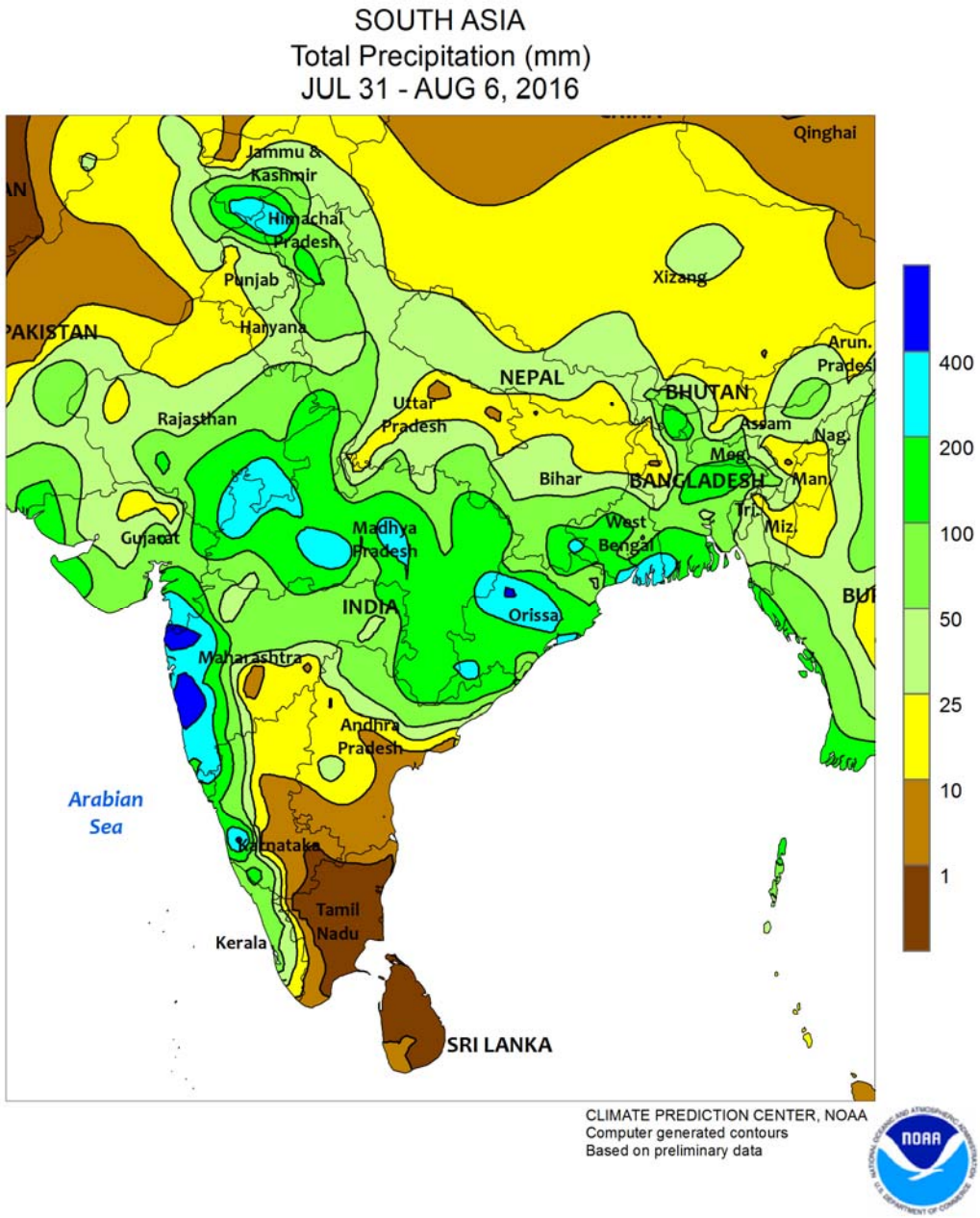

SOUTH ASIA

The monsoon remained active across India, bringing widespread rainfall to summer (kharif) crops. More rainfall was reported in Gujarat, with 25 to 50 mm in northern districts and over 50 mm in southern districts. The rainfall greatly improved soil moisture and irrigation supplies for cotton (total rainfall since July 1 has surpassed last year's total for the same period). Improvements in moisture supplies also occurred in eastern rice areas, where 50 to 100 mm (locally over 200 mm) of rain was observed. Meanwhile, soybean fields remained saturated, as persistent heavy showers dropped an additional 100 to nearly 300 mm. Since the start of the monsoon season (beginning June 1), rainfall totals averaged nearly 800 mm across soybean areas of western Madhya Pradesh, almost twice the normal amount and above last year during the same period. In other parts of the region, seasonal showers (50-100 mm) continued in Bangladesh, albeit lighter than previous weeks, while dryness returned to Sri Lanka, where water supplies were adequate for the current rice crop (yala). Pakistan reported unseasonably heavy showers (25-50 mm) in Sindh and more seasonable showers (10-25 mm) in Punjab. Cotton and rice conditions remained good in both provinces from adequate irrigation.

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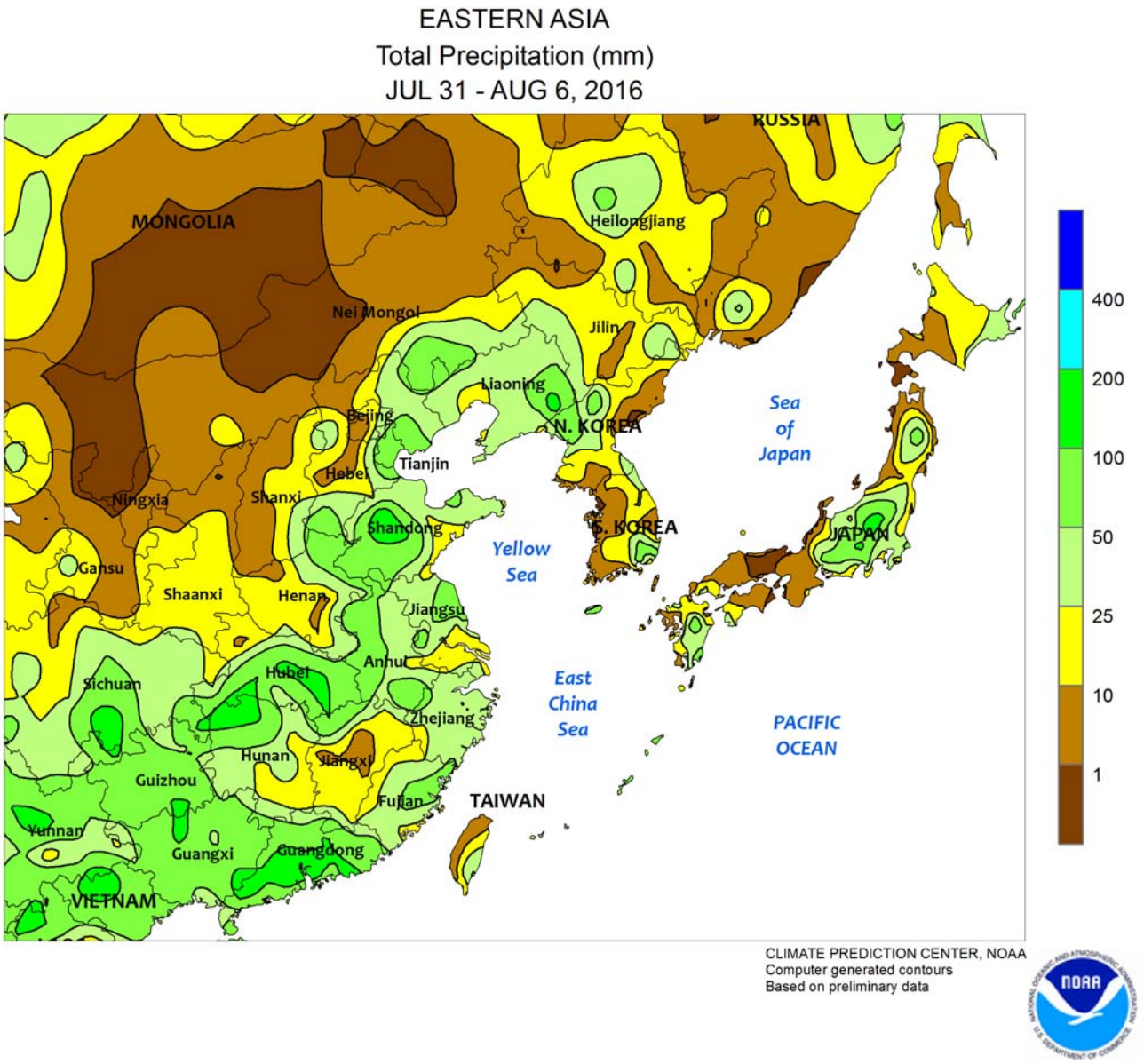

EASTERN ASIA

Widespread showers brought more beneficial moisture to summer crops in eastern China. Rainfall totals ranged between 25 to over 100 mm on the North China Plain and into the Yangtze River Basin, with amounts over 50 mm more common across southern rice areas. In addition, Typhoon Nida made landfall in Guangdong, bringing over 100 mm to late-crop rice. There were, however, pockets of drier weather in Jiangxi and western sections of the North China Plain, but, seasonal moisture conditions remained favorable for crops nevertheless. Meanwhile, daytime temperatures that had been trending near 40°C in eastern growing areas gave way to more seasonable values by mid-week, easing stress on crops. In northeastern China, corn and soybeans in Liaoning benefited from over 25 mm of rain, while most other areas received less than 25 mm, with hot, dry conditions continuing in border areas of western Heilongjiang, Jilin, and Inner Mongolia. Elsewhere in the region, rainfall (25-50 mm or more) in western North Korea maintained favorable moisture levels for rice, while rainfall remained below normal since June 1 in South Korea, with totals similar to last year over the same period. Japan was mostly dry for the week, although heavy showers (25-50 mm or more) were reported in central Honshu.

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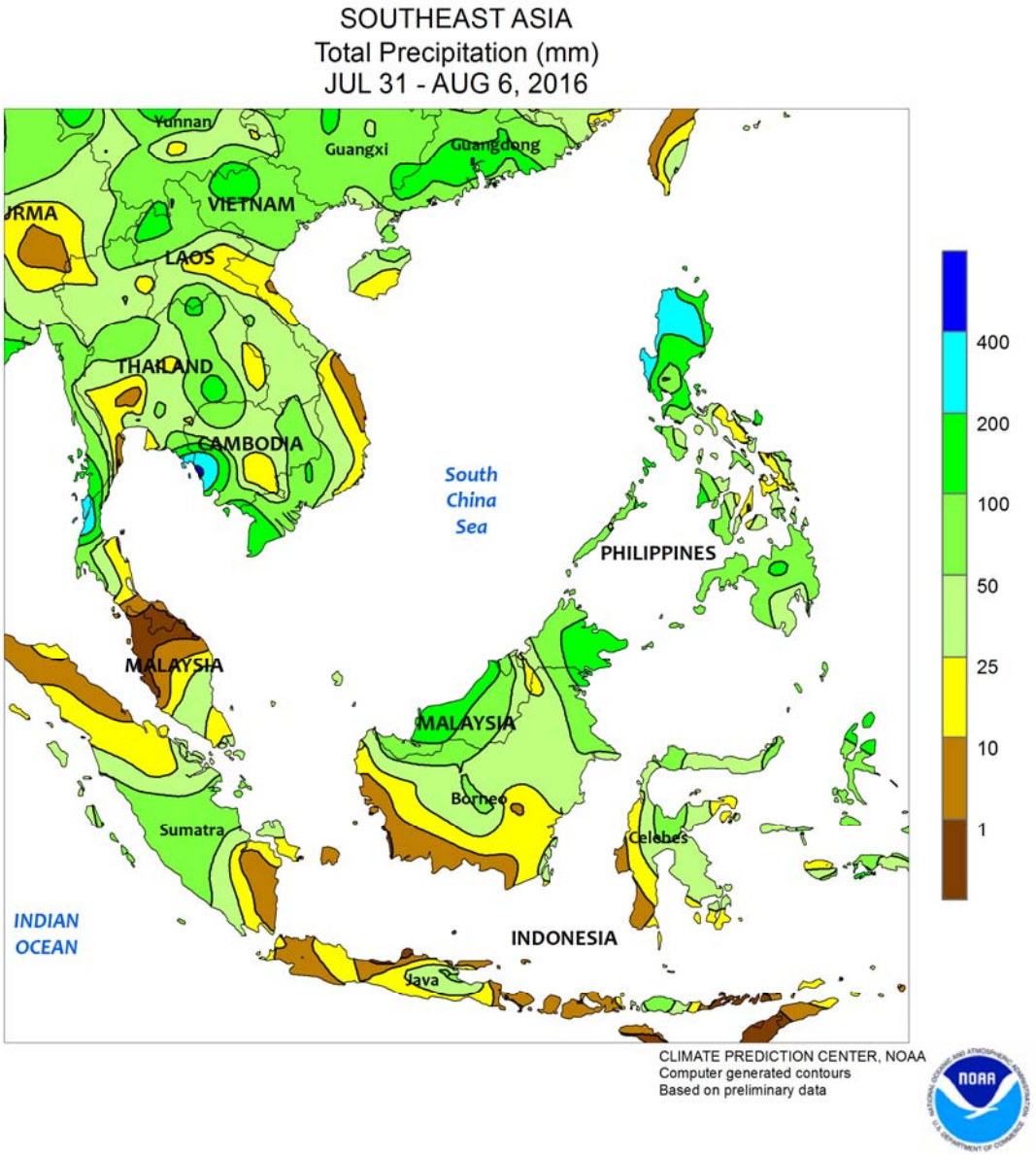

SOUTHEAST ASIA

Seasonal rainfall maintained favorable growing conditions for rice across Thailand and the rest of Indochina (based on a combination of satellite-derived estimates and surface reports). Much of northern and northeastern Thailand received over 25 mm of rain (locally over 50 mm), with drier conditions reported in southern sections of the Central Region. Heavier showers (50 mm or more) occurred throughout Laos, Cambodia, and parts of Vietnam (particularly in the north), keeping rice adequately watered in these areas. Meanwhile in the Philippines, Typhoon Nida brushed the northern tip of Luzon early in the period, bringing beneficial rainfall (200-300 mm) to rice in most western districts (some flooding was likely). The remainder of the Philippines received more seasonable amounts (25-100 mm), maintaining favorable soil moisture and irrigation supplies for rice and corn. To the south, rainfall was light (less than 50 mm) in western oil palm areas of Malaysia and Sumatra, while heavier showers (over 100 mm) were reported in the eastern sections.

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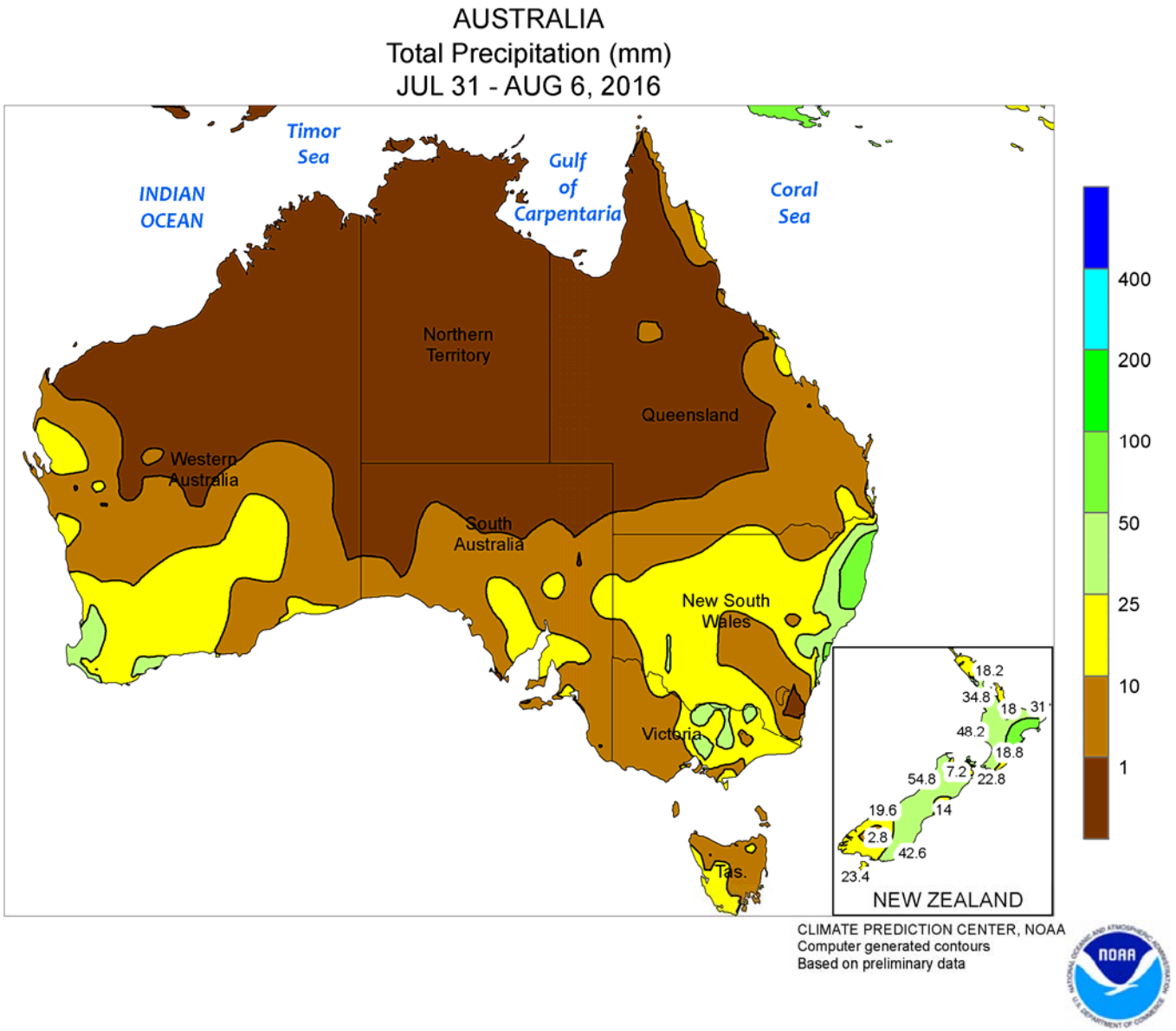

AUSTRALIA

Widespread showers fell across the Australian wheat belt, maintaining good to excellent yield prospects for vegetative winter grains and oilseeds. The heaviest rain fell across New South Wales, where amounts in most locations ranged from 15 to 35 mm. Elsewhere in the wheat belt, rainfall amounts were generally in the 5 to 20 mm range. Frequent rain throughout the growing season has kept winter crops well watered, while also providing a welcome boost in topsoil moisture and irrigation supplies in advance of upcoming summer crop planting. Cotton and sorghum planting typically begins in September in New South Wales and southern Queensland. Temperatures in the wheat belt were generally seasonable, averaging within 1°C of normal in major agricultural areas.

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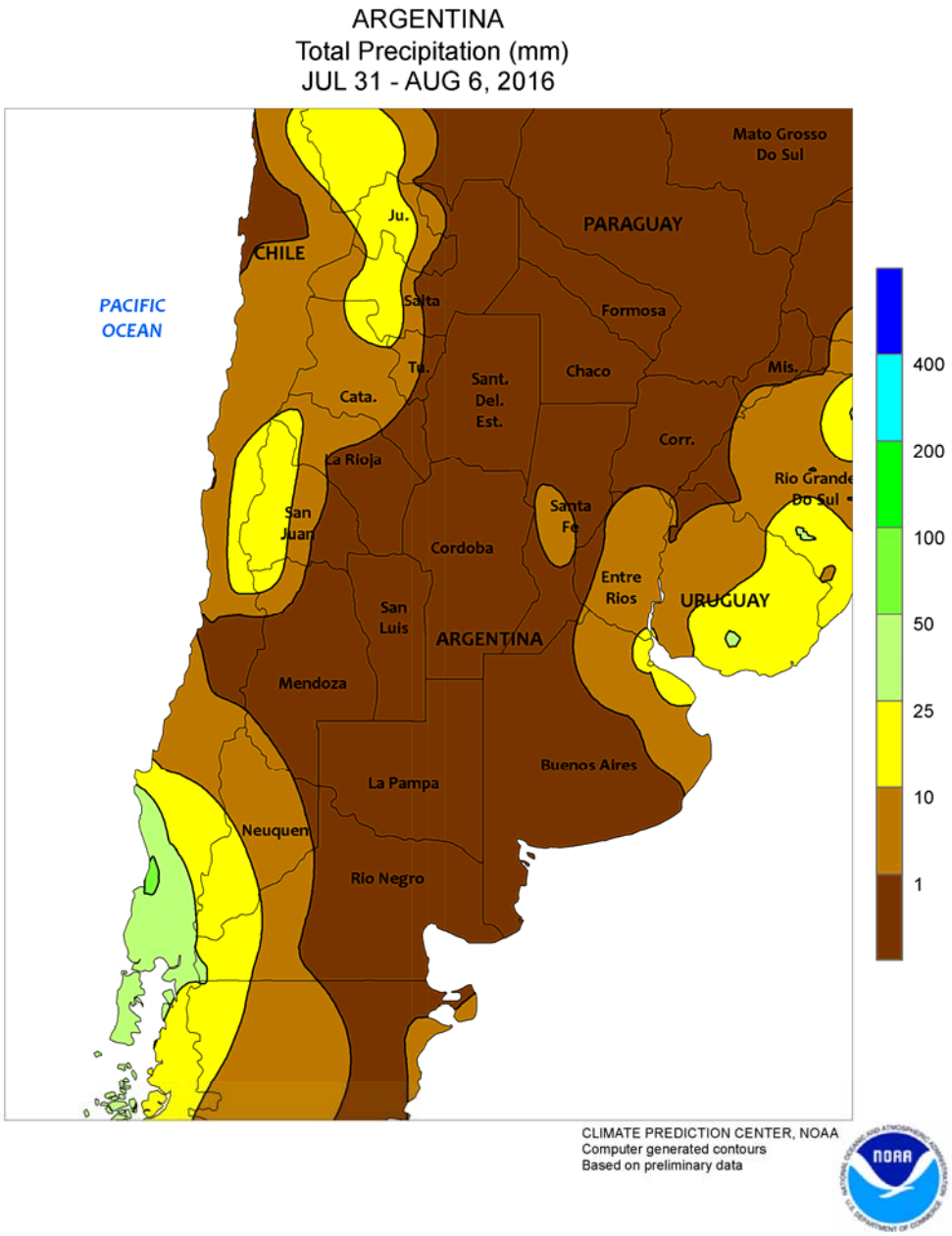

ARGENTINA

Dry weather returned to central Argentina, helping to reduce excessive moisture for fieldwork. Following last week's unseasonable wetness, virtually no rain fell in La Pampa and Buenos Aires; rainfall greater than 10 mm was confined to the largely non-agricultural areas of northeastern Buenos Aires. Weekly temperatures averaged 1 to 2°C above normal throughout the region, with daytime highs reaching the upper 10s and lower 20s (degrees C) and freezes occurring in traditionally cooler locations of La Pampa, Buenos Aires, and Cordoba. Dry weather continued to dominate Argentina's northern farming areas, aiding in the final stages of harvesting cotton and other summer row crops. Weekly average temperatures were 3 to 5°C above normal, with highs in the 30s. According to Argentina's Ministry of Agriculture, corn was 71 percent harvested as of August 4, compared with 93 percent last year. Wheat was 90 percent planted, 8 points behind last year's pace. In Buenos Aires, typically Argentina's largest producer of wheat, planting was 20 points behind last year's pace (77 percent planted, up 7 points from last week).

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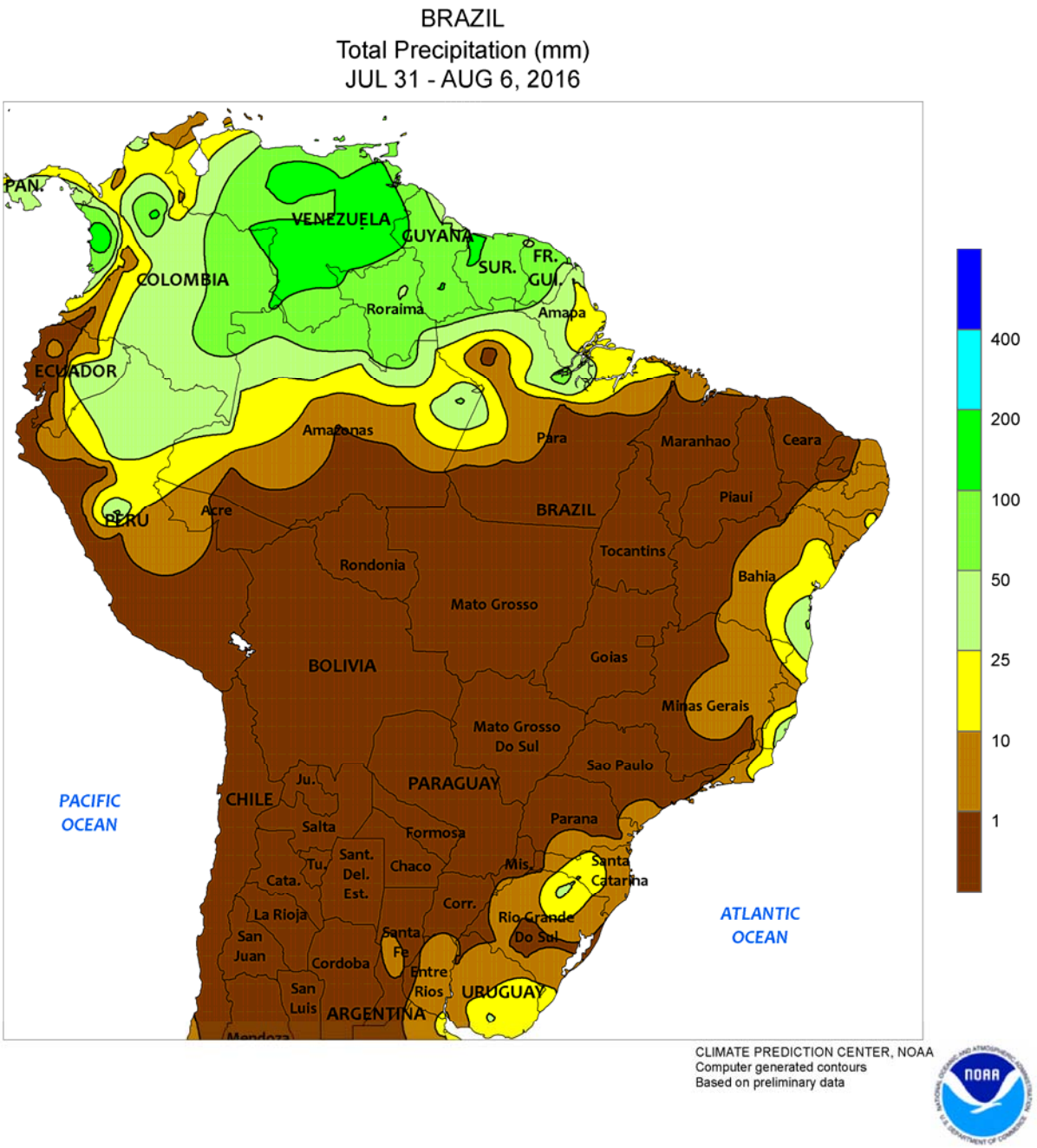

BRAZIL

Dry weather dominated most major agricultural areas, supporting harvesting of secondary summer row crops. Light showers (rainfall totaling up to 30 mm) developed in portions of Rio Grande do Sul and Santa Catarina; otherwise, no rain fell in the main production areas of southern and central Brazil, where above-normal temperatures fostered drydown and harvesting of corn and cotton. Similarly, weekly temperatures averaging 2 to 5°C above normal prompted rapid wheat growth in major southern production areas. According to the government of Parana, wheat was 50 percent flowering to filling as of August 1. Meanwhile, seasonal rainfall (local amounts in excess of 25 mm) continued along the northeastern coast, though the heaviest rain was concentrated south of the main sugarcane and cocoa areas in the country's northeastern tip.

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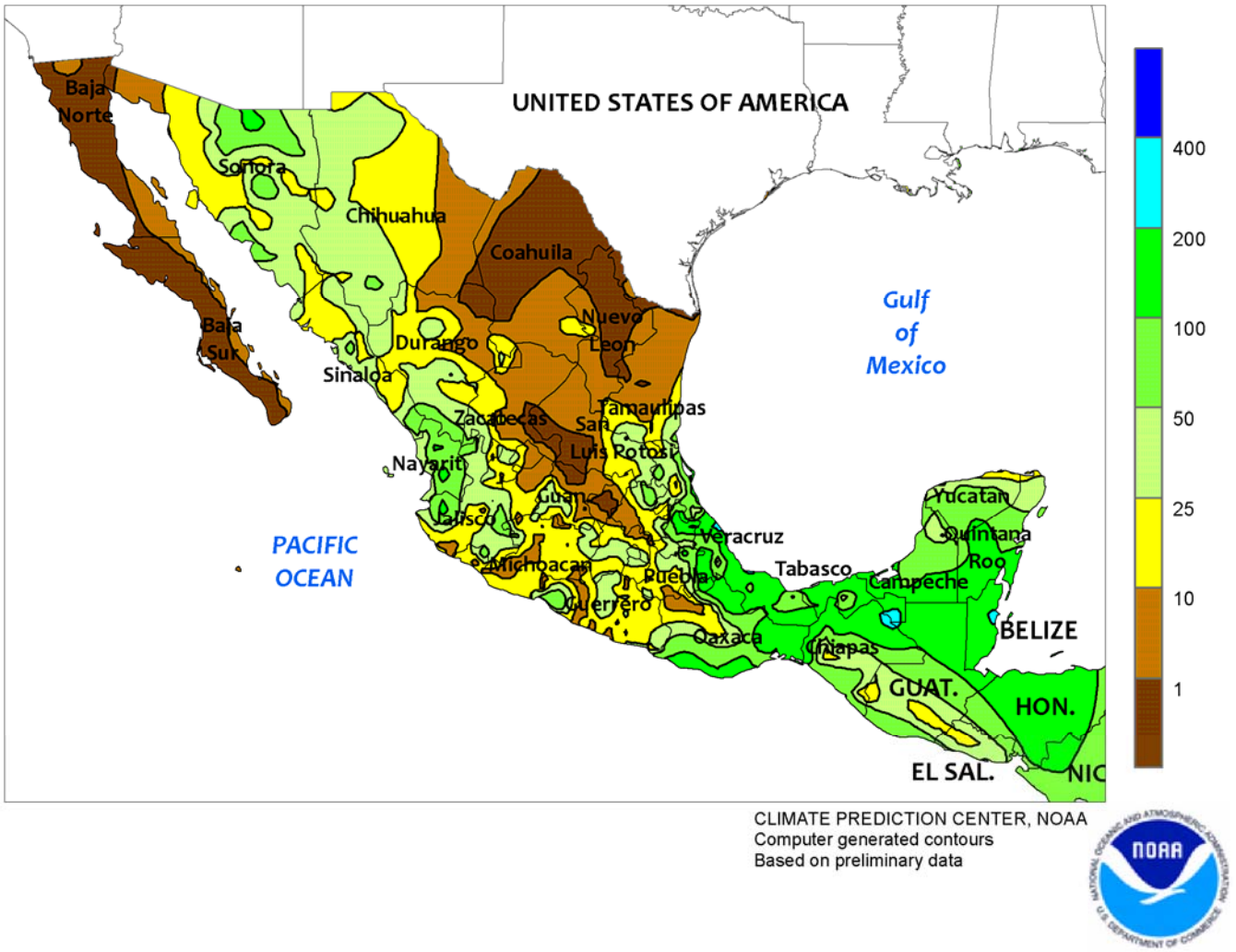

MEXICO

Seasonal rainfall tapered off from the previous week in some interior farming areas, though conditions remained overall favorable for rain-fed summer crops throughout southern Mexico. Rainfall totaled 5 to 25 mm (locally higher) across the southern plateau, maintaining favorable prospects for rain-fed summer corn. Heavier rain (25-100 mm) — mainly from the remnants of Tropical Storm Earl — fell in Veracruz and other southeastern locations, including Tabasco and Campeche, boosting moisture reserves for sugarcane and other summer crops. In contrast, mostly dry, unseasonably warm weather dominated the northeast, where daytime highs approaching 40°C maintained high moisture demands of crops and livestock and promoted high reservoir drawdown. Monsoon showers (10-50 mm) continued throughout the northwest but drier conditions persisted in north-central Mexico (eastern Chihuahua and Coahuila), where moisture was limited for cotton and other irrigated crops.

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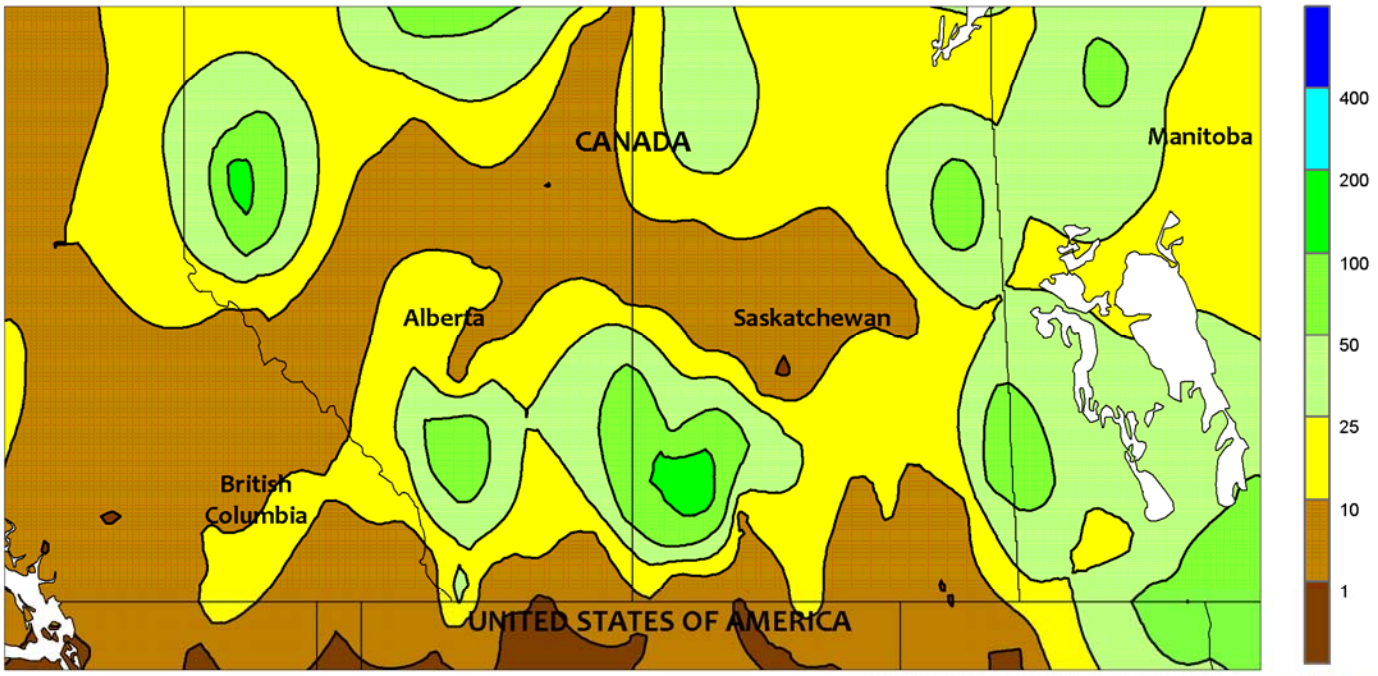
CANADIAN PRAIRIES
Total Precipitation (mm)
JUL 31 - AUG 6, 2016



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

CANADIAN PRAIRIES

Showers and seasonable warmth maintained mostly favorable spring crop prospects. Most agricultural districts received at least 10 mm of rainfall, with large pockets of unseasonably heavy rain (greater than 25 mm) scattered across the Prairies. Drier conditions (rainfall totaling less than 5 mm) were recorded in southeastern Saskatchewan, extending westward toward southern Alberta; these areas also reported daytime highs in excess of 30°C, helping to advance spring grains and oilseeds rapidly toward maturation. Daytime highs elsewhere were generally capped in the middle and upper 20s (degrees C). Recent reports emanating from Canada indicated that crops were generally in good conditions and are progressing at a near- to above-normal pace.

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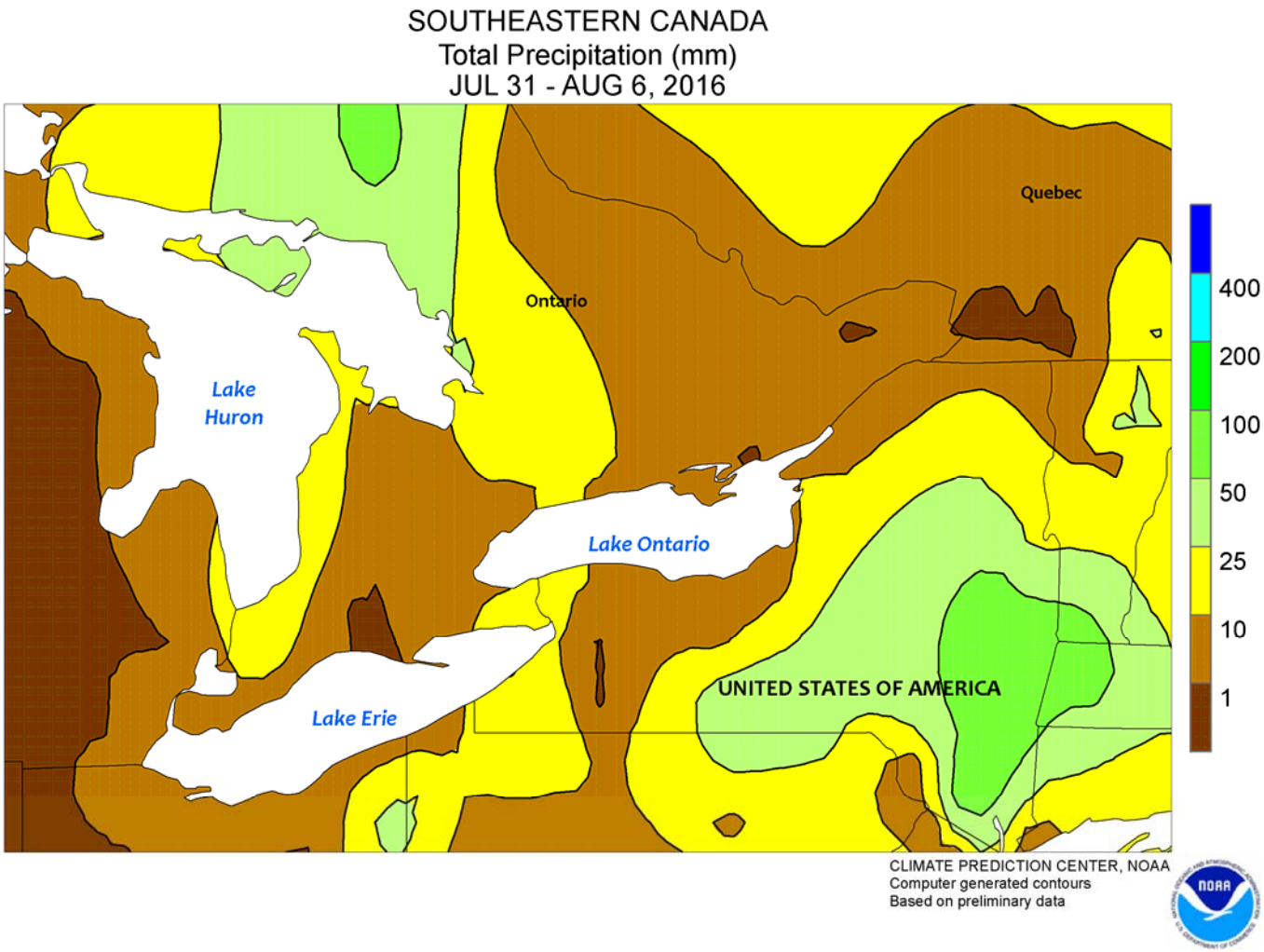

SOUTHEASTERN CANADA

Unseasonable warmth and dryness dominated the region, reducing moisture for reproductive to filling summer crops but aiding the final stages of winter wheat harvesting. Aside from some moderate showers (greater than 10 mm) near the Great Lakes, little to no rain fell in the main agricultural areas of Ontario and Quebec. Warmer-than-normal weather (weekly temperatures averaging 2-3°C above normal) accompanied the dryness, with daytime highs reaching the lower and middle 30s (degrees C) at most locations. At this point in the growing season, additional moisture would likely be of more benefit to soybeans than to corn. In addition, moisture will be needed soon for germination of winter wheat, which is typically planted beginning in September.

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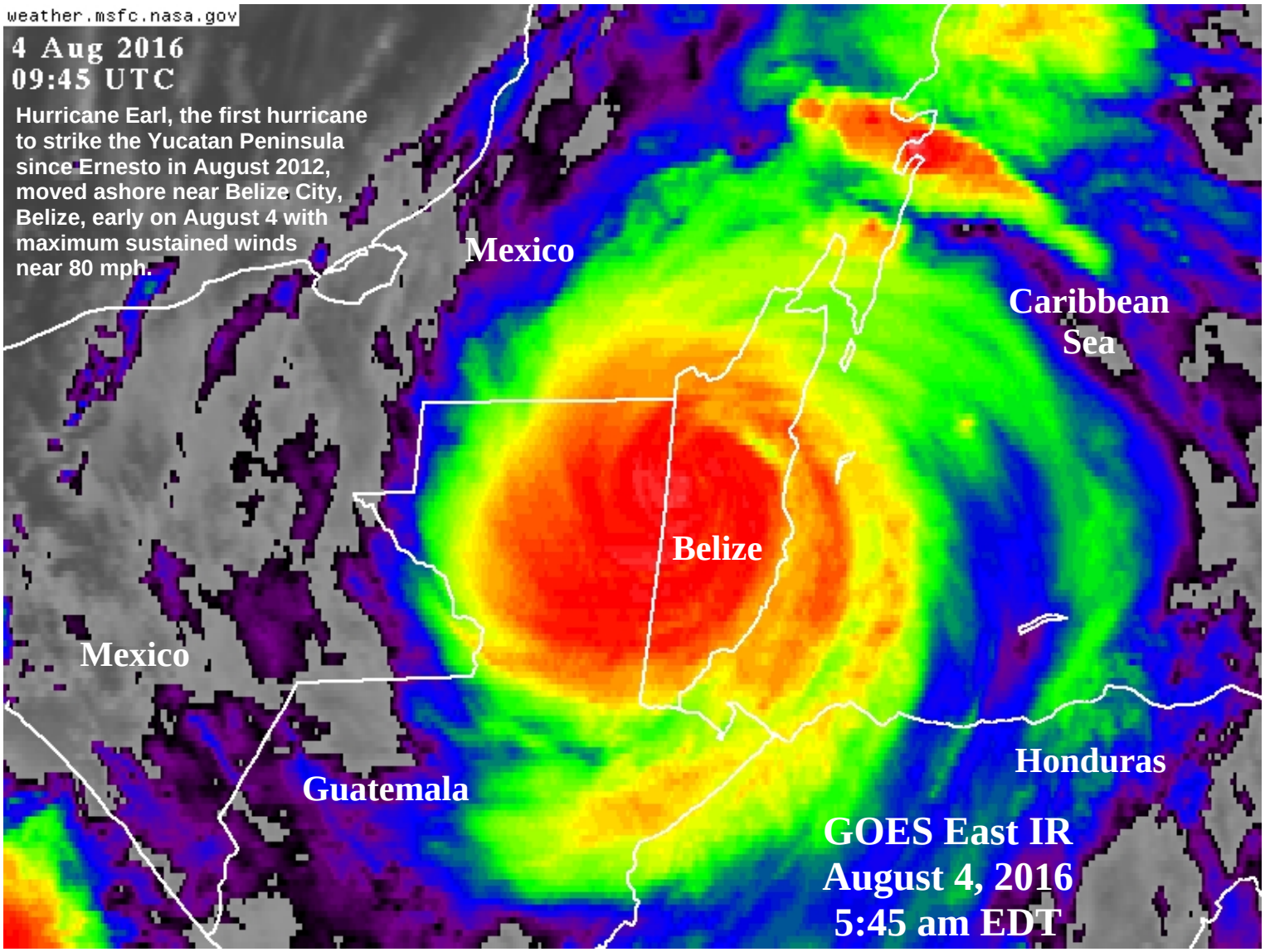

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Correspondence to the meteorologists should be directed to:
***Weekly Weather and Crop Bulletin*, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 4443B, Washington, DC 20250.**
Internet URL: **http://www.usda.gov/oce/weather**
E-mail address: ***brippey@oce.usda.gov***

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