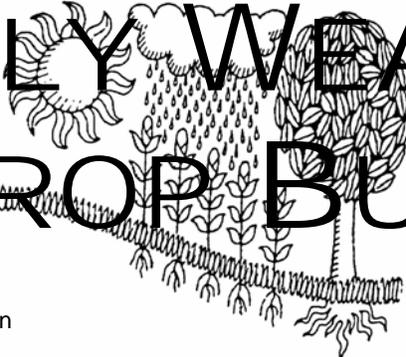
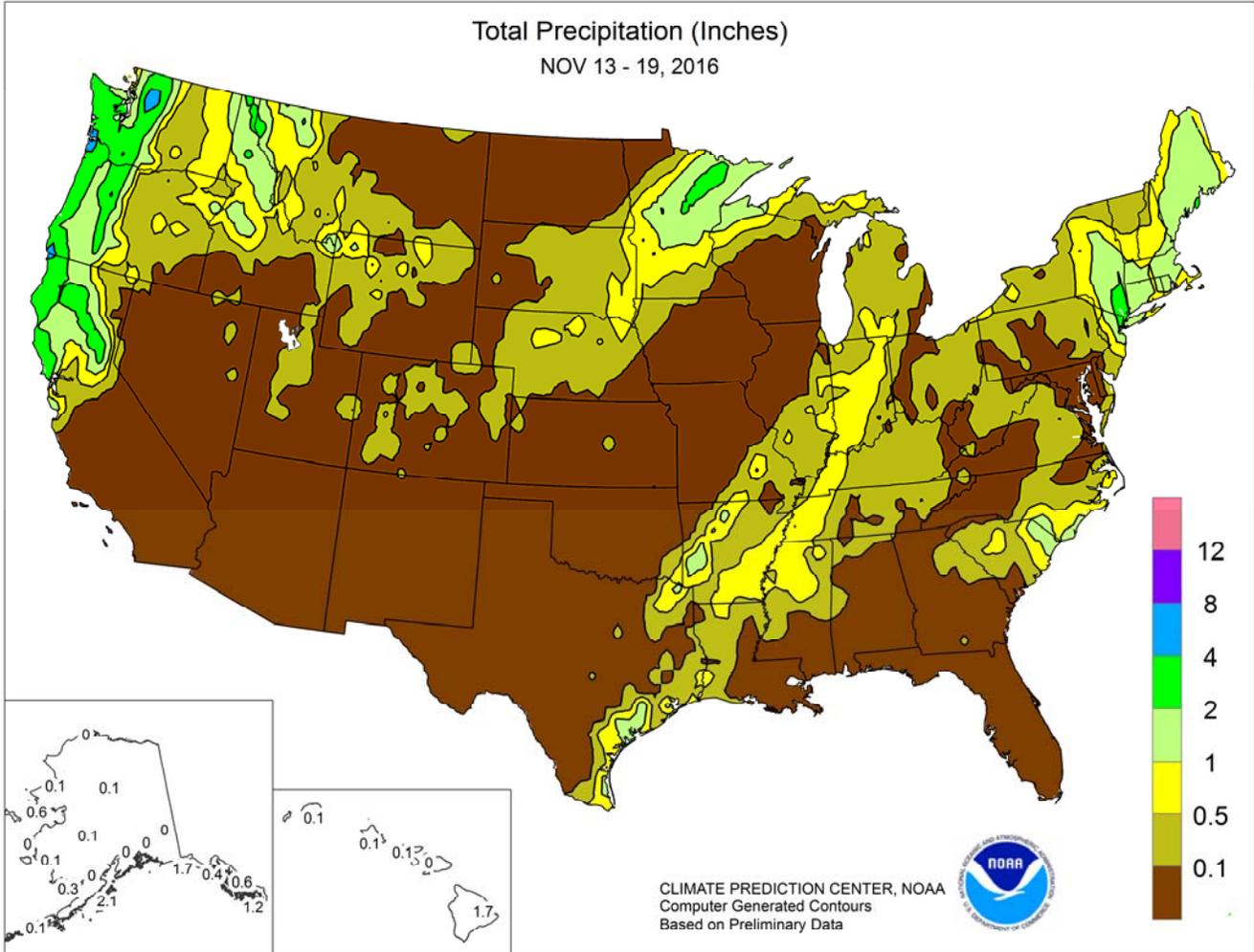


WEEKLY WEATHER AND CROP BULLETIN



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

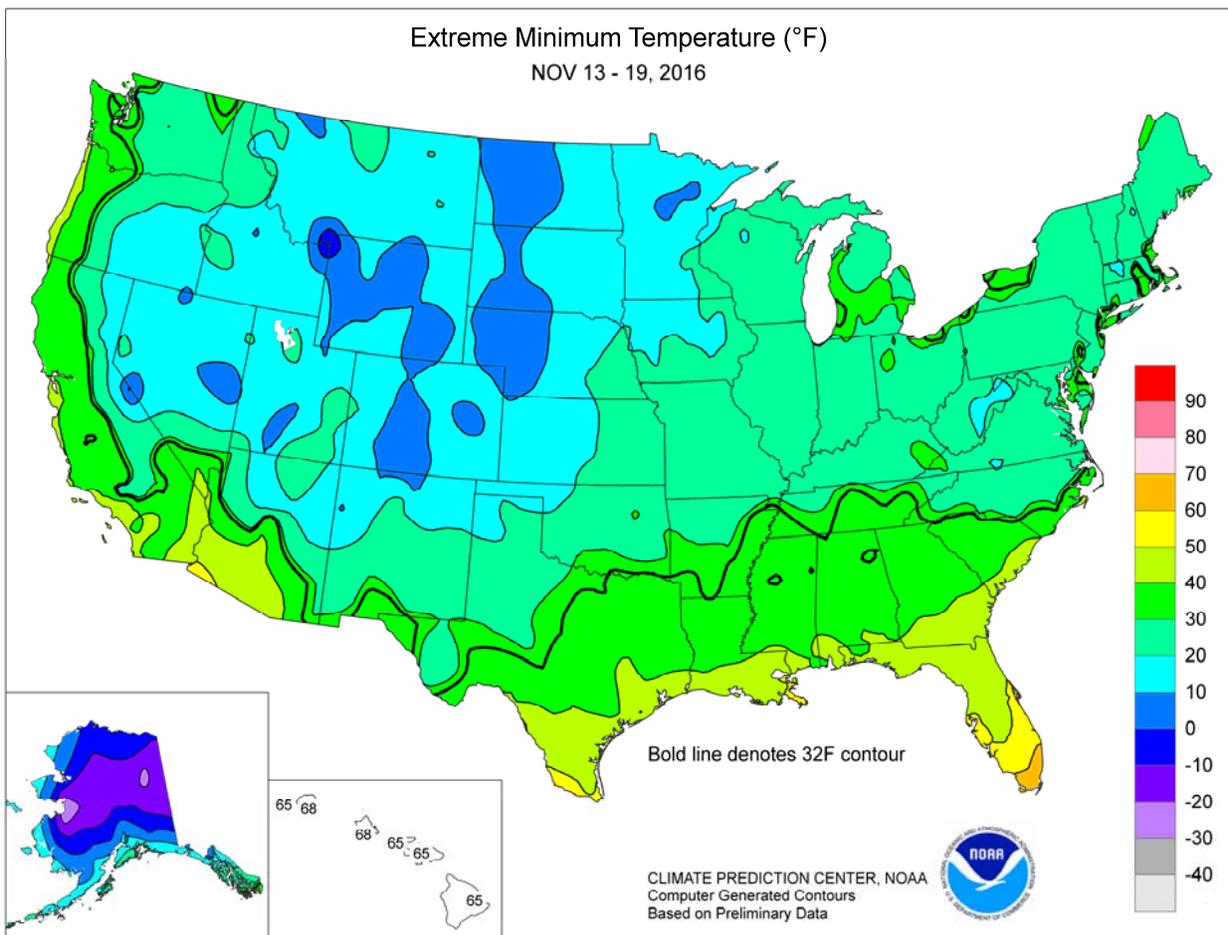
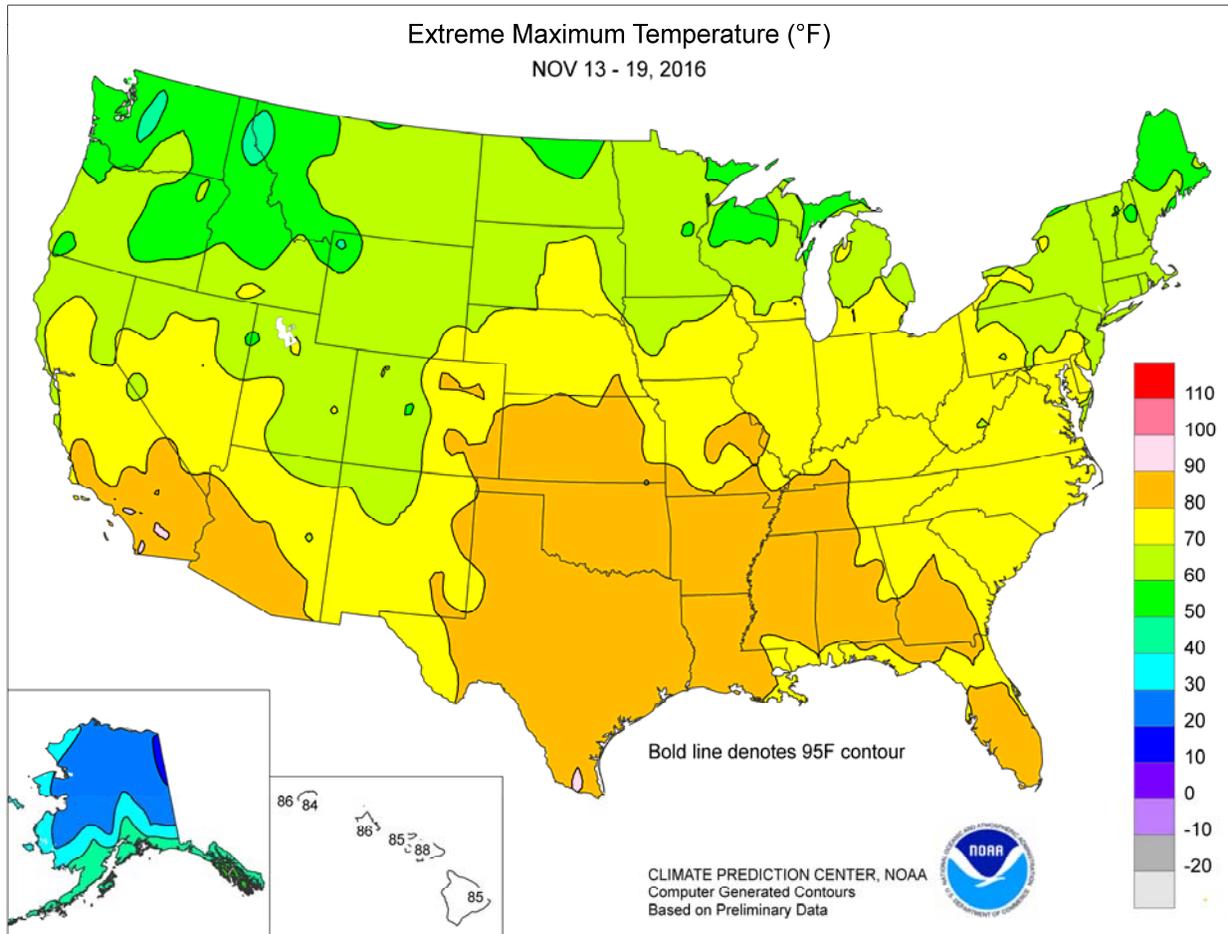
November 13 – 19, 2016

Highlights provided by USDA/WAOB

Dry weather dominated the country, except for widespread precipitation in the **Northwest** and pesky but drought-easing showers in the **Northeast**. Late-season warmth combined with the dry weather to allow many harvest activities to near completion. In the **Southeast**, however, intensifying drought led to a variety of agricultural impacts, including the need for supplemental livestock feeding; poor pasture conditions; reduced surface water supplies; and negligible soil moisture for the germination and growth of winter grains and cover crops. In addition,

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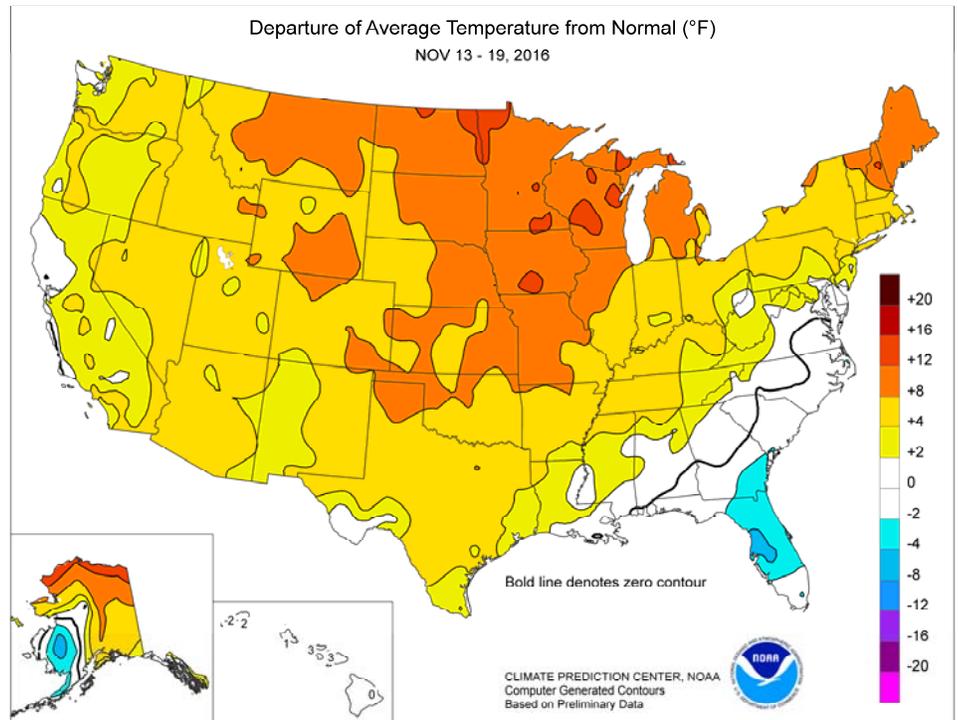


(Continued from front cover)

several large wildfires continued to burn in a broad area centered on the **southern Appalachians**, contributing to local reductions in air quality. Pockets of drought also persisted across portions of the **nation's mid-section**, especially on the **central High Plains**, further reducing moisture availability for proper winter wheat establishment. Late in the week, however, a storm system emerged from the **West**, trailed by colder air. Wind-driven snow spread from the **northern and central Rockies into the upper Midwest**, while showers developed farther east. Late-week rain provided some beneficial moisture across the **mid-South** but largely bypassed the core **Southeastern** drought area. Prior to the storm's arrival, record-setting warmth boosted weekly temperatures at least 10°F above normal from the **upper Midwest into northern New England**. In the storm's wake, sharply colder weather across the **western half of the country** partially offset earlier warmth. By week's end, temperatures dipped to 10°F or below across portions of the **northern Plains** and **Intermountain West**, while freezes on the **southern High Plains** promoted non-chemical cotton defoliation.

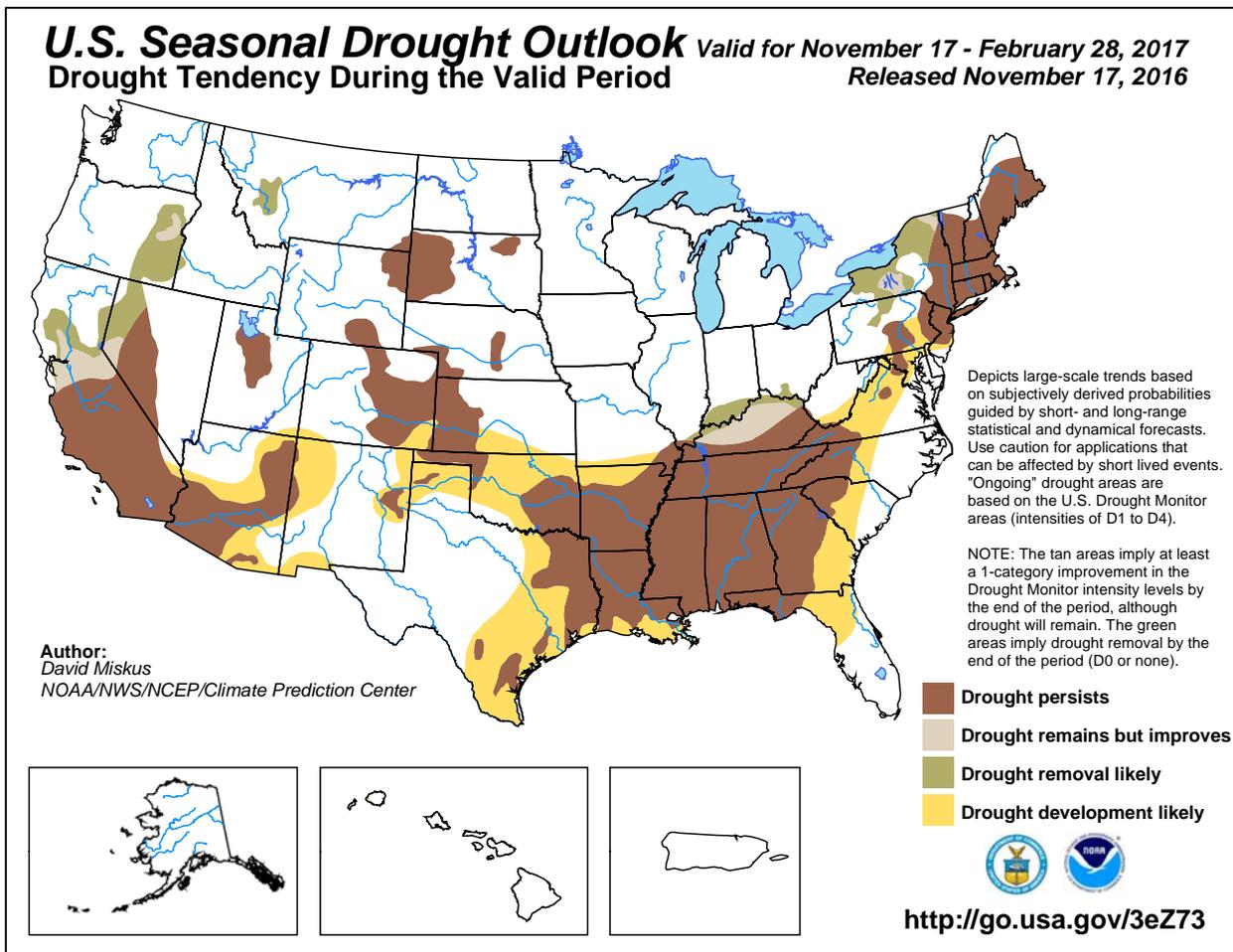
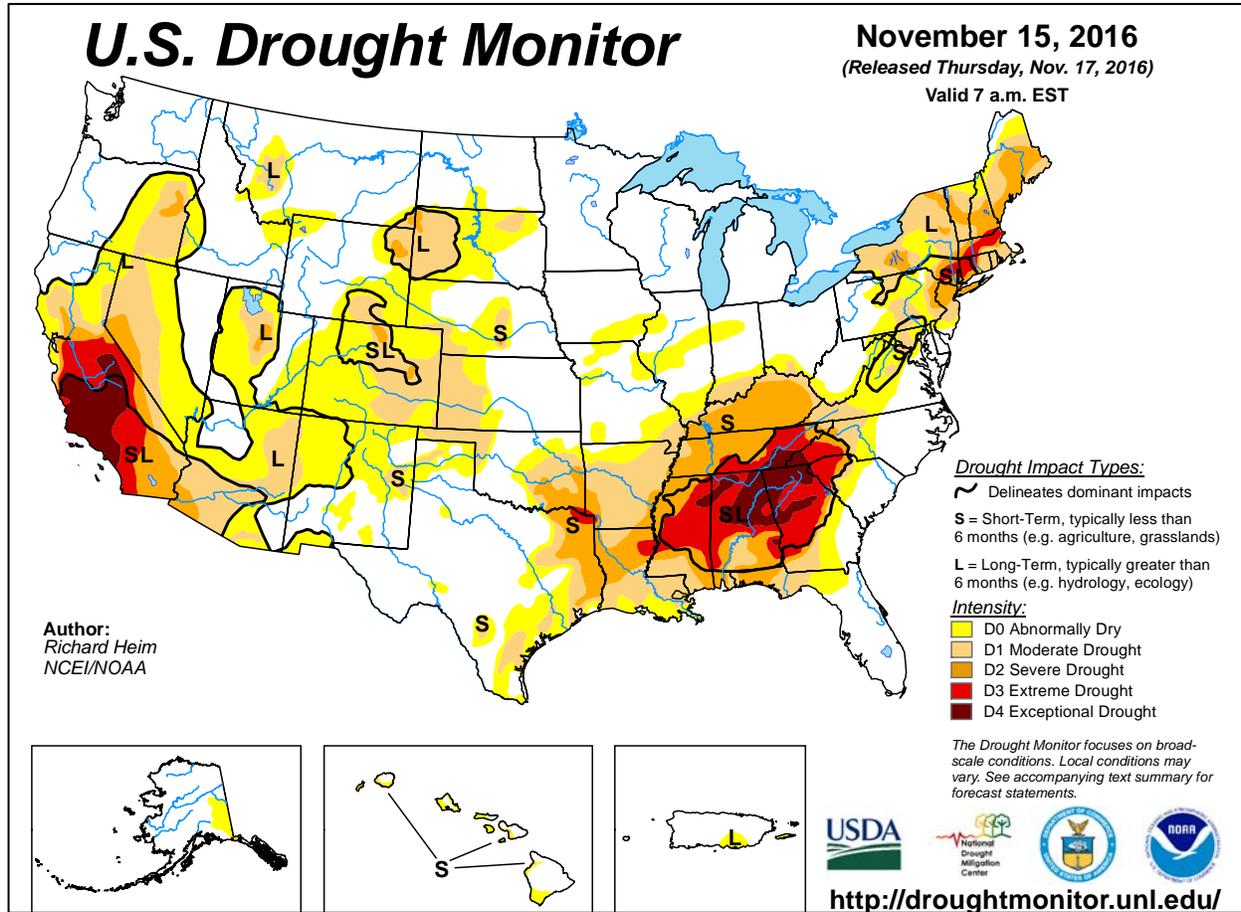
Cool weather lingered in the **Atlantic Coast States**, where record-setting lows for November 13 dipped to 20°F in **Danville, VA**, and 25°F in **Elizabeth City, NC**. At the same time, late-season warmth covered much of the **western and central U.S.** In **South Dakota**, daily-record highs for the 13th soared to 71°F in **Aberdeen** and **Sisseton**. On November 14, **Elsinore, CA**, notched a daily-record high of 94°F. In **Idaho**, **Pocatello** posted consecutive daily-record highs (66 and 68°F, respectively) on November 14-15. Similarly, November 14-15 featured consecutive daily-record highs in locations such as **Pueblo, CO** (81 and 82°F); **Borger, TX** (84 and 85°F); and **Ashland, KS** (85 and 89°F). However, sharply cooler air trailed the warmth, resulting in the first autumn freeze of the season in **Salt Lake City, UT**, on November 17; **Lubbock, TX**, on November 18; and **Cleveland, OH**, on November 20. For **Cleveland**, it was the latest first freeze since November 21, 1935. High winds accompanied the surge of cold air, resulting in peak gusts that were clocked to 95 mph (on November 17) on **Whitaker Peak** in **southern California**; 69 mph (on November 17) in **Las Vegas, NM**; and 59 mph (on November 18) in **Minneapolis-St. Paul, MN**. In advance of a cold front, warmth expanded eastward. On November 17, maxima of 87°F in **Dallas-Ft. Worth, TX**; 83°F in **St. Louis, MO**; and 80°F in **Evansville, IN**, were among dozens of daily-record highs. **Lansing, MI**, experienced latest-ever reading above the 70-degree mark on November 18, when the high reached 72°F (previously, 71°F on November 16, 1931). Other record-breaking highs for the 18th included 91°F in **McAllen, TX**, and 81°F in **Louisville, KY**. On November 19, a final day of warmth in the **East** resulted in daily-record highs in **Georgetown, DE** (74°F), and **Watertown, NY** (72°F).

By day's end, however, rain changed to snow in the **Northeast**. **Binghamton, NY**, received 4.0 inches of snow on November 19—the beginning of a multi-day storm that included lake-effect snow. From November 19-21, snowfall totals in **New York** climbed to



24.7 inches in **Binghamton** and **Syracuse**, along with 14.7 inches in **Rochester**. Three-day totals near 3 feet were reported in some of **New York's** favored lake-belt snow locations downwind of **Lake Ontario**. Farther west, the storm system responsible for the **Northeast's** quick transition had produced wind-blown snow—locally a foot or more—in the **upper Midwest** and environs. In **Minnesota**, November 18 snowfall totals included 4.1 inches in **St. Cloud** and 3.5 inches in **Duluth**. Earlier, **Lander, WY**, had been blanketed by 13.5 inches of snow on November 17. Along the storm's trailing cold front, record-setting rainfall totals in **Texas** for November 18 reached 2.06 inches in **Victoria** and 1.02 inches in **Corpus Christi**. Although no records were set, post-storm temperatures by the morning of November 19 fell to 3°F in **Valentine, NE**, and 5°F in **Bismarck ND**. Elsewhere, precipitation highlights included early-week rain in the **Northeast** and periodic showers in the **Pacific Northwest**. On November 15, daily-record **Northeastern** totals reached 1.78 inches in **Poughkeepsie, NY**, and 1.61 inches at **New York's LaGuardia Airport**. In **Oregon**, **Troutdale** collected a daily-record rainfall of 1.38 inches on November 14. Later, in **northern California**, record-setting amounts for the 19th totaled 2.06 inches in **Redding** and 1.72 inches in **Ukiah**.

Mild weather prevailed across **northern and eastern Alaska**, where weekly temperatures averaged at least 10°F above normal in several locations. In contrast, cold conditions covered **southwestern Alaska**. Most of the precipitation that fell occurred early in the week. For example, November 13-14 rainfall totaled 1.79 inches in **Kodiak**; 1.63 inches in **Yakutat**; and 1.07 inches on **Annette Island**. Farther south, leeward sections of **Hawaii** continued to experience short-term dryness. In addition, **Lihue, Kauai**, posted consecutive daily record-tying highs of 84°F on November 15-16. Through November 19, month-to-date rainfall totaled just 0.13 inch (5 percent of normal) in **Lihue** and 0.10 inch (6 percent) in **Honolulu, Oahu**. Showers increased, however, in some windward locations. On the **Big Island** at **Hilo**, rainfall totaled 1.09 inches on November 14-15 and 1.32 inches on November 18-19. Still, **Hilo's** month-to-date total stood at 2.79 inches, or 28 percent of normal.



National Weather Data for Selected Cities

Weather Data for the Week Ending November 19, 2016

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE SEP 1	PCT. NORMAL SINCE SEP 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP		
																90 AND ABOVE	32 AND BELOW	.01 INCH OF MORE	.50 INCH OF MORE	
AL BIRMINGHAM	72	43	80	38	58	5	0.01	-1.11	0.01	0.69	7	35.86	75	90	31	0	0	1	0	
HUNTSVILLE	73	41	81	36	57	6	0.20	-1.04	0.20	1.45	13	33.95	68	83	37	0	0	1	0	
MOBILE	75	47	80	44	61	2	0.00	-1.33	0.00	5.75	46	52.73	89	90	49	0	0	0	0	
AK MONTGOMERY	75	43	83	39	59	3	0.00	-1.08	0.00	2.36	25	35.54	74	80	26	0	0	0	0	
ANCHORAGE	33	24	44	13	29	7	0.08	-0.14	0.08	3.14	56	14.93	102	79	67	0	7	1	0	
BARROW	22	3	28	-4	12	13	0.00	-0.03	0.00	1.30	112	4.97	126	88	78	0	7	0	0	
FAIRBANKS	16	1	26	-11	8	6	0.07	-0.07	0.06	2.35	96	14.04	151	91	86	0	7	2	0	
JUNEAU	40	28	49	17	34	1	0.44	-0.77	0.27	19.21	99	55.53	109	93	83	0	5	2	0	
KODIAK	41	32	47	21	36	2	2.14	0.64	1.06	21.77	107	73.76	113	84	77	0	3	3	2	
NOME	25	17	31	9	21	4	0.61	0.32	0.34	4.70	96	14.97	99	85	73	0	7	3	0	
AZ FLAGSTAFF	58	22	72	14	40	4	0.00	-0.41	0.00	2.34	45	19.53	96	66	16	0	7	0	0	
PHOENIX	81	56	87	47	69	8	0.00	-0.17	0.00	0.87	44	4.92	70	36	19	0	0	0	0	
PRESCOTT	69	34	79	23	51	7	0.00	-0.28	0.00	3.11	76	13.88	80	54	12	0	3	0	0	
TUCSON	82	51	89	42	66	7	0.00	-0.14	0.00	2.11	69	10.71	98	30	18	0	0	0	0	
AR FORT SMITH	74	41	87	31	58	7	0.10	-1.05	0.10	2.32	22	28.98	75	81	28	0	1	1	0	
LITTLE ROCK	71	41	81	32	56	4	0.10	-1.27	0.10	3.33	29	49.28	112	98	37	0	1	1	0	
CA BAKERSFIELD	73	47	77	38	60	5	0.00	-0.14	0.00	0.24	31	4.34	79	64	43	0	0	0	0	
FRESNO	70	45	78	38	58	5	0.00	-0.25	0.00	0.67	43	9.75	103	77	51	0	0	0	0	
LOS ANGELES	76	56	86	51	66	4	0.00	-0.26	0.00	0.37	31	6.37	59	70	34	0	0	0	0	
REDDING	64	43	74	35	53	2	1.99	1.03	1.91	10.04	196	40.67	149	93	70	0	0	2	1	
SACRAMENTO	65	43	74	35	54	1	0.26	-0.26	0.26	5.11	203	17.86	123	99	50	0	0	1	0	
SAN DIEGO	76	59	84	52	67	5	0.00	-0.25	0.00	0.39	31	5.40	60	62	34	0	0	0	0	
SAN FRANCISCO	64	52	68	46	58	3	0.55	-0.04	0.55	3.35	124	15.79	98	83	67	0	0	1	1	
STOCKTON	70	45	76	37	57	4	0.24	-0.17	0.24	2.64	121	14.76	131	89	65	0	0	1	0	
CO ALAMOSA	55	12	67	4	34	5	0.00	-0.10	0.00	0.48	26	7.83	116	77	33	0	7	0	0	
CO SPRINGS	63	31	78	17	47	11	0.01	-0.09	0.01	0.17	7	14.83	88	59	18	0	3	1	0	
DENVER INTL	59	28	80	14	44	7	0.22	0.09	0.22	0.76	33	11.49	88	59	34	0	3	1	0	
GRAND JUNCTION	59	29	69	20	44	6	0.22	0.07	0.22	1.28	54	7.53	91	75	41	0	5	1	0	
PUEBLO	67	26	82	14	47	9	0.08	-0.05	0.08	0.13	7	10.45	88	62	27	0	6	1	0	
CT BRIDGEPORT	60	42	63	36	51	6	0.78	-0.07	0.78	7.76	82	32.52	83	74	53	0	0	1	1	
HARTFORD	60	35	65	28	48	6	0.71	-0.25	0.70	5.31	50	27.65	67	80	41	0	3	2	1	
DC WASHINGTON	65	41	72	33	53	4	0.07	-0.64	0.05	3.67	41	28.61	81	86	41	0	0	2	0	
DE WILMINGTON	64	35	72	30	50	4	0.08	-0.66	0.08	7.46	83	36.91	97	90	37	0	2	1	0	
FL DAYTONA BEACH	75	53	79	49	64	-3	0.00	-0.70	0.00	16.31	125	43.94	96	100	50	0	0	0	0	
JACKSONVILLE	74	45	80	41	60	-2	0.00	-0.53	0.00	13.89	105	36.23	74	98	44	0	0	0	0	
KEY WEST	79	72	82	70	76	0	0.03	-0.57	0.03	10.18	87	35.52	99	81	62	0	0	1	0	
MIAMI	81	67	81	64	74	-1	0.22	-0.55	0.22	16.55	97	63.55	115	80	52	0	0	1	0	
ORLANDO	78	56	82	50	67	-2	0.00	-0.54	0.00	10.05	102	51.73	115	92	49	0	0	0	0	
PENSACOLA	73	56	78	51	65	4	0.00	-1.07	0.00	3.51	28	54.29	93	84	41	0	0	0	0	
TALLAHASSEE	78	46	83	42	62	1	0.00	-0.91	0.00	7.82	73	55.12	96	86	43	0	0	0	0	
TAMPA	78	59	81	56	69	0	0.00	-0.35	0.00	5.70	59	52.13	125	86	43	0	0	0	0	
WEST PALM BEACH	80	64	81	61	72	-1	0.00	-1.36	0.00	13.38	78	47.56	84	85	54	0	0	0	0	
GA ATHENS	69	39	80	33	54	1	0.33	-0.55	0.33	1.58	17	32.54	76	93	46	0	0	1	0	
ATLANTA	69	45	79	40	57	3	0.00	-0.98	0.00	3.59	37	32.71	73	82	39	0	0	0	0	
AUGUSTA	72	39	80	35	56	2	0.24	-0.37	0.14	6.91	81	33.48	83	92	45	0	0	1	0	
COLUMBUS	72	44	79	40	58	1	0.00	-0.94	0.00	1.67	22	29.59	70	88	28	0	0	0	0	
MACON	73	40	81	35	56	1	0.00	-0.75	0.00	2.38	32	26.59	67	89	26	0	0	0	0	
SAVANNAH	72	46	79	43	59	0	0.00	-0.54	0.00	16.58	170	50.95	111	90	44	0	0	0	0	
HI HILO	81	67	85	65	74	0	1.66	-2.18	0.46	32.02	112	100.15	91	88	75	0	0	5	0	
HONOLULU	84	73	86	68	79	1	0.07	-0.43	0.04	3.13	73	11.66	80	73	61	0	0	2	0	
KAHULUI	86	72	88	65	79	3	0.03	-0.47	0.02	2.02	76	11.83	80	76	66	0	0	2	0	
LIHUE	83	73	84	68	78	2	0.12	-0.98	0.07	1.25	13	11.98	36	81	72	0	0	3	0	
ID BOISE	54	37	63	26	46	6	0.08	-0.24	0.08	1.58	69	6.55	64	77	53	0	2	1	0	
LEWISTON	52	37	60	27	45	5	0.38	0.10	0.17	3.61	145	13.24	118	83	71	0	2	4	0	
POCATELLO	54	29	68	15	42	7	0.00	-0.25	0.00	5.34	212	12.59	114	76	50	0	4	0	0	
IL CHICAGO/O'HARE	58	38	72	28	48	8	0.21	-0.49	0.20	5.95	76	32.92	101	82	59	0	1	2	0	
MOLINE	62	37	76	27	50	11	0.00	-0.63	0.00	4.68	61	34.10	98	76	53	0	2	0	0	
PEORIA	61	38	75	28	49	9	0.00	-0.70	0.00	9.61	125	34.62	107	82	52	0	2	0	0	
ROCKFORD	60	36	73	25	48	11	0.03	-0.58	0.03	5.37	70	31.79	95	82	56	0	2	1	0	
SPRINGFIELD	64	39	79	30	51	9	0.01	-0.65	0.01	4.56	63	40.41	127	83	42	0	2	1	0	
IN EVANSVILLE	67	36	80	28	52	6	0.61	-0.39	0.61	5.20	63	43.66	112	79	41	0	2	1	1	
FORT WAYNE	60	34	72	28	47	6	0.61	-0.08	0.56	9.88	136	33.69	103	86	50	0	3	2	1	
INDIANAPOLIS	62	35	75	26	49	6	0.88	0.03	0.88	7.62	97	42.63	117	86	48	0	3	1	1	
SOUTH BEND	60	35	73	27	48	8	0.04	-0.74	0.00	7.93	87	42.34	120	74	57	0	2	1	0	
IA BURLINGTON	61	38	75	27	50	9	0.00	-0.63	0.00	6.96	85	31.20	90	86	48	0	2	0	0	
CEDAR RAPIDS	59	34	73	19	46	9	0.00	-0.52	0.00	10.81	157	41.20	132	93	51	0	4	0	0	
DES MOINES	64	37	76	27	51	13	0.00	-0.48	0.00	6.50	91	31.83	97	79	48	0	1	0	0	
DUBUQUE	57	35	70	23	46	10	0.00	-0.58	0.00	8.24	108	37.40	114	84	61	0	2	0	0	
SIoux CITY	58	33	72	21	45	10	0.37	0.04	0.37	4.75	88	29.10	117	88	58	0	3	1	0	
WATERLOO	59	33	72	19	46	11	0.00	-0.49	0.00	9.81	143	38.44	123	83	58	0	3	0	0	
KS CONCORDIA	64	35	80	20	49	8	0.00	-0.34	0.00	3.35	63	29.56	109	85	50	0	2	0	0	
DODGE CITY	68	33	87	14	51	9	0.00	-0.22	0.00	0.76	20	22.77	107	75	25	0	2	0	0	
GOODLAND	62	30	82	13	46	9	0.10	-0.09	0.10	2.63	96	16.67	87	71	37	0	4	1	0	
TOPEKA	69	37	80	27	53	10	0.00	-0.54	0.00	9.16	111	42.05	126	82	47	0	3	0	0	

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending November 19, 2016

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE SEP 1	PCT. NORMAL SINCE SEP 1	TOTAL IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP		
																90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
KY WICHITA	69	37	84	24	53	9	0.00	-0.42	0.00	13.48	204	49.82	175	82	34	0	2	0	0	
JACKSON	67	40	79	32	53	5	0.26	-0.72	0.26	3.23	34	44.23	102	73	45	0	1	1	0	
LEXINGTON	67	36	78	25	52	6	0.13	-0.67	0.13	2.91	37	37.92	94	78	40	0	3	1	0	
LOUISVILLE	68	38	81	31	53	5	0.20	-0.70	0.17	3.37	42	37.04	94	79	31	0	2	2	0	
PADUCAH	69	38	80	23	54	7	0.23	-0.83	0.17	1.45	15	45.11	105	82	32	0	2	2	0	
LA BATON ROUGE	76	48	83	42	62	3	0.05	-1.07	0.05	3.54	31	77.76	139	95	38	0	0	1	0	
LAKE CHARLES	75	49	82	43	62	2	0.18	-0.93	0.18	4.32	34	61.24	121	93	46	0	0	1	0	
NEW ORLEANS	74	54	80	49	64	3	0.05	-1.17	0.05	6.80	59	62.21	109	94	56	0	0	1	0	
SHREVEPORT	77	46	85	37	61	5	0.49	-0.58	0.49	2.00	19	52.37	116	92	40	0	0	1	0	
ME CARIBOU	50	36	53	31	43	12	0.78	0.06	0.69	6.29	77	37.39	113	92	73	0	2	3	1	
PORTLAND	58	38	63	30	48	9	1.26	0.15	1.07	11.27	104	34.80	87	88	54	0	1	3	1	
MD BALTIMORE	66	33	73	28	50	4	0.02	-0.70	0.02	5.36	59	36.45	98	83	31	0	2	1	0	
MA BOSTON	60	44	66	39	52	7	1.03	0.10	0.99	8.04	82	28.31	76	83	54	0	0	3	1	
WORCESTER	55	41	62	38	48	8	1.27	0.25	1.25	11.22	95	34.61	79	81	42	0	0	3	1	
MI ALPENA	60	32	68	26	46	11	0.13	-0.35	0.08	5.57	86	26.26	102	90	51	0	4	2	0	
GRAND RAPIDS	57	37	70	31	47	8	0.41	-0.39	0.32	10.31	114	42.06	127	86	56	0	1	2	0	
HOUGHTON LAKE	57	33	66	27	45	10	0.35	-0.15	0.33	6.24	93	29.84	115	88	60	0	4	2	0	
LANSING	60	37	72	31	48	10	0.30	-0.33	0.30	8.40	114	31.87	113	79	52	0	1	1	0	
MUSKEGON	57	40	70	32	49	10	0.32	-0.45	0.20	10.33	124	35.48	122	82	66	0	1	2	0	
TRAVERSE CITY	60	37	73	31	49	12	0.08	-0.53	0.07	7.51	91	26.98	90	87	50	0	1	2	0	
MN DULUTH	46	32	59	18	39	11	1.01	0.50	0.75	6.09	76	30.02	102	89	72	0	3	3	1	
INT'L FALLS	45	28	63	18	36	11	0.72	0.41	0.68	5.70	96	26.24	115	87	62	0	6	3	1	
MINNEAPOLIS	52	36	62	23	44	11	0.80	0.34	0.80	9.68	158	35.99	129	82	62	0	2	1	1	
ROCHESTER	55	34	64	21	44	12	0.12	-0.36	0.12	11.96	180	40.23	135	93	66	0	4	1	0	
ST. CLOUD	50	29	61	14	40	11	0.67	0.32	0.61	6.43	102	31.26	120	96	59	0	5	2	1	
MS JACKSON	75	43	82	38	59	4	0.06	-1.13	0.06	1.52	16	54.71	113	88	34	0	0	1	0	
MERIDIAN	76	41	83	39	58	2	0.01	-1.17	0.01	0.78	8	38.12	74	85	39	0	0	1	0	
TUPELO	73	41	82	34	57	6	0.56	-0.61	0.47	1.68	18	37.52	79	86	36	0	0	2	0	
MO COLUMBIA	65	40	80	30	53	10	0.00	-0.83	0.00	10.66	121	39.01	107	78	43	0	2	0	0	
KANSAS CITY	66	40	76	27	53	10	0.00	-0.52	0.00	7.83	83	47.26	133	74	40	0	3	0	0	
SAINT LOUIS	67	42	83	32	54	9	0.21	-0.68	0.21	11.19	140	39.66	115	72	45	0	1	1	0	
SPRINGFIELD	68	40	79	28	54	8	0.00	-1.07	0.00	9.94	91	35.56	89	81	49	0	1	0	0	
MT BILLINGS	49	34	64	19	41	7	0.38	0.22	0.22	5.47	178	13.22	96	79	54	0	3	3	0	
BUTTE	43	27	54	11	35	8	0.34	0.21	0.29	3.97	176	10.03	83	84	43	0	4	2	0	
CUT BANK	42	28	55	7	35	6	0.26	0.18	0.18	2.59	139	10.85	91	88	63	0	4	2	0	
GLASGOW	48	29	63	21	39	11	0.03	-0.05	0.03	4.81	249	20.54	192	86	61	0	4	1	0	
GREAT FALLS	51	33	63	16	42	10	0.28	0.16	0.19	4.26	168	13.56	97	81	41	0	4	3	0	
HAVRE	48	32	62	25	40	11	0.00	-0.08	0.00	5.32	284	18.81	175	83	67	0	3	0	0	
MISSOULA	47	32	59	19	40	8	0.26	0.04	0.21	4.22	172	12.45	102	90	72	0	4	2	0	
NE GRAND ISLAND	59	33	77	20	46	10	0.31	-0.02	0.19	3.49	72	22.89	93	87	54	0	2	2	0	
LINCOLN	63	32	80	24	48	10	0.03	-0.34	0.03	5.32	90	27.71	103	86	49	0	4	1	0	
NORFOLK	56	31	76	19	44	9	0.41	0.07	0.37	4.93	100	29.80	117	86	65	0	4	2	0	
NORTH PLATTE	58	24	73	6	41	7	0.58	0.41	0.39	3.06	99	22.22	117	85	40	0	6	2	0	
OMAHA	61	35	73	23	48	10	0.00	-0.43	0.00	6.10	93	32.43	113	81	48	0	1	0	0	
SCOTTSBLUFF	57	25	70	11	41	7	0.02	-0.15	0.02	1.73	63	15.04	97	74	43	0	7	1	0	
VALENTINE	55	25	70	3	40	7	0.27	0.11	0.16	4.69	142	27.22	144	78	48	0	4	2	0	
NV ELY	58	20	71	3	39	6	0.17	0.04	0.13	0.98	41	9.84	106	58	30	0	6	2	0	
LAS VEGAS	71	51	78	41	61	6	0.00	-0.06	0.00	0.23	33	3.94	100	30	16	0	0	0	0	
RENO	63	33	74	23	48	7	0.00	-0.18	0.00	2.43	187	7.68	123	57	43	0	2	0	0	
WINNEMUCCA	60	24	71	13	42	5	0.02	-0.15	0.02	2.30	140	6.88	96	82	48	0	7	1	0	
NH CONCORD	61	32	67	24	46	8	0.67	-0.17	0.52	10.23	115	28.44	85	90	44	0	5	3	1	
NJ NEWARK	62	41	67	34	51	4	3.07	2.14	2.79	8.44	88	33.05	80	77	50	0	0	2	1	
NM ALBUQUERQUE	62	37	70	30	50	6	0.00	-0.13	0.00	2.44	98	5.80	66	54	22	0	2	0	0	
NY ALBANY	56	32	64	25	44	5	1.64	0.87	1.57	7.06	82	30.50	89	90	50	0	4	2	1	
BINGHAMTON	56	34	66	30	45	7	0.42	-0.36	0.28	7.55	88	31.50	92	81	46	0	3	3	0	
BUFFALO	57	38	72	33	48	7	0.54	-0.38	0.54	9.90	105	28.42	81	83	50	0	0	1	1	
ROCHESTER	60	37	73	34	49	9	0.18	-0.48	0.16	8.77	113	26.41	88	85	54	0	0	2	0	
SYRACUSE	58	33	70	25	46	6	0.21	-0.69	0.21	12.62	131	36.03	102	94	46	0	3	1	0	
NC ASHEVILLE	65	32	77	29	48	2	0.00	-0.91	0.00	1.10	12	29.55	70	86	36	0	5	0	0	
CHARLOTTE	68	36	77	27	52	0	0.05	-0.74	0.05	8.27	86	29.81	76	88	36	0	1	1	0	
GREENSBORO	68	37	79	28	53	4	0.00	-0.69	0.00	6.14	66	36.93	95	88	29	0	1	0	0	
HATTERAS	65	48	71	45	57	-1	0.81	-0.36	0.81	14.88	104	67.14	130	95	58	0	0	1	1	
RALEIGH	68	37	77	24	52	1	0.33	-0.36	0.27	12.12	131	48.85	126	94	44	0	1	2	0	
WILMINGTON	67	43	76	38	55	-2	1.77	1.01	1.40	24.60	208	66.38	128	99	51	0	0	2	1	
ND BISMARCK	50	26	64	5	38	10	0.00	-0.15	0.00	1.46	43	20.00	124	85	57	0	5	0	0	
DICKINSON	47	25	61	9	36	7	0.00	-0.12	0.00	5.05	150	16.99	107	90	47	0	6	0	0	
FARGO	49	31	67	19	40	13	0.10	-0.14	0.06	5.09	103	20.54	101	83	54	0	2	3	0	
GRAND FORKS	48	28	65	16	38	12	0.01	-0.21	0.01	5.27	121	24.29	129	84	51	0	5	1	0	
JAMESTOWN	47	27	63	14	37	10	0.00	-0.15	0.00	5.26	145	24.09	135	88	54	0	6	0	0	
WILLISTON	48	26	65	9	37	11	0.01	-0.13	0.01	4.60	178	16.35	123	85	59	0	5	1	0	
OH AKRON-CANTON	59	34	73	27	46	5	0.48	-0.23	0.48	11.44	148	35.04	102	78	52	0	3	1	0	
CINCINNATI	65	33	76	24	49	4	0.19	-0.61	0.16	5.78	73	38.86	102	89	49	0	5	2	0	
CLEVELAND	63	38	74	34	50	8	0.43	-0.37	0.43	9.49	112	32.85	96	73	41	0	0	1	0	
COLUMBUS	63	33	75	26	48	4	0.25	-0.51	0.25	6.86	96	35.12	102	92	52	0	3	1	0	
DAYTON	62	36	75	28	49	7	0.03	-0.74	0.03	5.28	71	32.80	93	87	43	0	2	1	0	
MANSFIELD	61	35	73	29	48	7	0.18	-0.71	0.18	7.70	92	31.32	81	85						

Weather Data for the Week Ending November 19, 2016

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS					
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE SEP 1	PCT. NORMAL SINCE SEP 1	TOTAL IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP	
																		01 INCH OR MORE	50 INCH OR MORE	01 INCH OR MORE	50 INCH OR MORE
OK TOLEDO	60	36	73	31	48	7	0.02	-0.62	0.02	7.39	108	30.70	104	91	56	0	2	1	0		
OK YOUNGSTOWN	59	31	72	25	45	4	0.36	-0.36	0.36	11.17	138	39.67	118	85	46	0	5	1	0		
OK OKLAHOMA CITY	72	41	86	29	57	8	0.00	-0.47	0.00	5.56	62	25.47	77	85	34	0	1	0	0		
OR TULSA	72	43	84	30	57	7	0.00	-0.82	0.00	6.74	61	27.43	71	85	48	0	1	0	0		
OR ASTORIA	57	46	59	41	51	4	4.15	1.65	1.44	25.95	179	66.80	127	88	76	0	0	7	3		
OR BURNS	47	26	55	15	36	3	0.44	0.19	0.22	1.71	93	6.10	69	89	64	0	4	3	0		
OR EUGENE	56	43	63	36	49	4	1.16	-0.88	0.66	13.00	133	33.96	87	91	78	0	0	5	1		
OR MEDFORD	57	41	65	35	49	5	0.57	-0.12	0.39	6.32	168	16.32	115	96	64	0	0	4	0		
OR PENDLETON	53	36	59	30	45	4	0.20	-0.19	0.08	3.40	131	10.79	102	90	68	0	2	4	0		
OR PORTLAND	55	45	60	39	50	4	1.40	0.06	0.98	12.64	162	34.55	119	88	74	0	0	6	1		
OR SALEM	56	43	59	37	49	4	1.39	-0.13	0.91	15.30	187	37.45	121	91	79	0	0	5	1		
PA ALLENTOWN	63	33	70	26	48	6	0.19	-0.69	0.19	5.25	53	32.56	81	80	36	0	3	1	0		
PA ERIE	61	40	75	34	51	8	0.41	-0.51	0.41	13.54	122	41.60	111	68	54	0	0	1	0		
PA MIDDLETOWN	62	33	69	26	48	3	0.28	-0.55	0.25	6.20	73	36.97	103	93	36	0	2	2	0		
PA PHILADELPHIA	64	40	72	35	52	5	0.03	-0.71	0.03	6.00	71	31.45	84	77	36	0	0	1	0		
PA PITTSBURGH	60	33	74	27	47	5	0.22	-0.49	0.22	7.50	104	30.63	91	87	39	0	4	1	0		
PA WILKES-BARRE	59	35	70	31	47	5	0.47	-0.27	0.47	6.38	73	28.05	83	84	39	0	2	1	0		
PA WILLIAMSPORT	58	31	65	25	45	4	0.21	-0.64	0.19	7.32	78	31.34	84	89	47	0	4	2	0		
RI PROVIDENCE	60	41	66	37	51	7	1.16	0.11	1.13	8.78	87	34.62	85	75	48	0	0	2	1		
SC BEAUFORT	70	45	78	42	57	-2	0.01	-0.58	0.01	20.85	209	48.11	105	97	43	0	0	1	0		
SC CHARLESTON	69	44	79	42	57	-1	0.11	-0.50	0.11	22.86	214	54.86	116	94	43	0	0	1	0		
SC COLUMBIA	69	39	79	37	54	-1	0.85	0.19	0.85	12.10	140	35.04	80	88	47	0	0	1	1		
SC GREENVILLE	68	38	79	33	53	2	0.20	-0.68	0.20	1.63	16	29.84	66	84	34	0	0	1	0		
SD ABERDEEN	50	27	71	13	39	10	0.23	0.07	0.16	3.27	82	17.33	88	86	61	0	6	2	0		
SD HURON	52	28	73	12	40	9	0.15	-0.05	0.13	2.48	62	18.43	91	95	55	0	5	2	0		
SD RAPID CITY	53	27	69	10	40	7	0.20	0.08	0.20	1.50	51	12.47	78	71	43	0	4	1	0		
SD SIOUX FALLS	52	31	66	15	41	10	0.40	0.08	0.39	11.06	202	28.91	122	90	66	0	3	2	0		
TN BRISTOL	64	31	76	26	48	2	0.09	-0.63	0.09	3.47	49	28.42	78	91	33	0	4	1	0		
TN CHATTANOOGA	70	38	79	35	54	4	0.01	-1.17	0.01	1.72	16	25.06	53	85	35	0	0	1	0		
TN KNOXVILLE	68	37	78	34	52	3	0.16	-0.78	0.16	1.76	22	32.59	78	84	31	0	0	1	0		
TN MEMPHIS	72	44	81	38	58	6	0.57	-0.80	0.57	2.56	26	52.36	113	83	38	0	0	1	1		
TN NASHVILLE	72	40	81	33	56	7	0.13	-0.93	0.13	2.44	27	34.04	82	80	29	0	0	1	0		
TX ABILENE	74	45	84	31	60	6	0.00	-0.26	0.00	7.62	113	34.74	157	75	44	0	1	0	0		
TX AMARILLO	71	37	83	19	54	9	0.00	-0.13	0.00	2.00	52	16.88	89	69	20	0	2	0	0		
TX AUSTIN	80	50	87	36	65	5	0.00	-0.60	0.00	6.32	73	51.20	169	86	48	0	0	0	0		
TX BEAUMONT	77	51	84	45	64	3	0.38	-0.73	0.38	6.99	51	64.51	122	94	42	0	0	1	0		
TX BROWNSVILLE	78	62	85	52	70	2	1.24	0.85	1.14	7.41	72	21.07	81	91	67	0	0	3	1		
TX CORPUS CHRISTI	81	55	90	47	68	3	1.02	0.66	1.02	5.24	52	30.53	102	94	55	1	0	1	1		
TX DEL RIO	77	52	84	42	64	4	0.00	-0.20	0.00	8.11	173	29.96	175	92	59	0	0	0	0		
TX EL PASO	72	43	78	40	58	5	0.00	-0.07	0.00	2.48	96	8.15	97	51	18	0	0	0	0		
TX FORT WORTH	77	51	87	38	64	9	0.05	-0.51	0.05	5.40	65	34.07	109	79	33	0	0	1	0		
TX GALVESTON	77	62	84	53	70	4	0.04	-0.83	0.04	4.27	37	44.96	116	86	49	0	0	1	0		
TX HOUSTON	78	53	84	45	65	4	0.04	-0.94	0.04	3.48	30	57.05	134	86	47	0	0	1	0		
TX LUBBOCK	72	38	81	23	55	7	0.00	-0.14	0.00	2.96	63	12.88	73	72	32	0	2	0	0		
TX MIDLAND	72	46	82	30	59	7	0.00	-0.12	0.00	4.16	92	14.51	104	75	31	0	1	0	0		
TX SAN ANGELO	76	44	85	29	60	6	0.00	-0.22	0.00	8.56	136	34.08	174	78	41	0	1	0	0		
TX SAN ANTONIO	78	53	85	40	66	6	0.00	-0.57	0.00	8.27	95	37.72	125	87	39	0	0	0	0		
TX VICTORIA	80	52	87	39	66	3	2.06	1.47	2.06	6.54	60	36.12	98	96	48	0	0	1	1		
TX WACO	76	48	86	32	62	5	0.00	-0.58	0.00	3.89	47	35.88	121	95	49	0	1	0	0		
TX WICHITA FALLS	73	43	84	31	58	6	0.00	-0.35	0.00	13.97	188	36.35	137	80	44	0	1	0	0		
UT SALT LAKE CITY	60	36	73	28	48	8	0.11	-0.21	0.06	2.89	76	11.21	76	73	30	0	2	2	0		
VT BURLINGTON	56	36	66	33	46	9	0.24	-0.48	0.17	5.02	56	24.23	74	90	53	0	0	2	0		
VA LYNCHBURG	66	32	76	22	49	2	0.00	-0.74	0.00	5.33	58	39.04	100	88	31	0	4	0	0		
VA NORFOLK	65	39	77	28	52	0	0.04	-0.65	0.04	23.78	252	66.15	159	94	49	0	1	1	0		
VA RICHMOND	63	34	75	26	49	0	0.36	-0.34	0.34	16.24	170	49.66	125	92	47	0	2	2	0		
VA ROANOKE	68	35	78	28	51	4	0.00	-0.74	0.00	9.19	102	42.96	112	80	34	0	2	0	0		
VA WASH/DULLES	65	30	73	23	47	2	0.06	-0.71	0.03	3.45	37	31.44	84	89	34	0	5	3	0		
WA OLYMPIA	53	39	57	30	46	4	2.45	0.51	1.36	19.12	173	46.76	118	100	91	0	2	5	1		
WA QUILLAYUTE	52	40	56	37	46	2	3.72	0.20	1.77	40.04	174	98.23	121	92	84	0	0	7	4		
WA SEATTLE-TACOMA	54	45	57	39	49	4	1.87	0.46	1.18	15.54	186	39.27	135	85	69	0	0	5	1		
WA SPOKANE	46	36	53	30	41	6	0.71	0.18	0.38	7.35	238	16.15	120	95	73	0	3	5	0		
WA YAKIMA	52	34	62	26	43	6	0.38	0.15	0.17	3.18	215	9.07	142	84	67	0	3	4	0		
WV BECKLEY	61	33	73	26	47	4	0.09	-0.58	0.09	6.09	80	43.14	115	72	37	0	3	1	0		
WV CHARLESTON	63	33	77	25	48	2	0.24	-0.63	0.24	7.11	86	39.64	101	90	36	0	2	1	0		
WV ELKINS	60	25	74	19	43	2	0.09	-0.71	0.09	8.86	102	39.84	97	90	36	0	7	1	0		
WV HUNTINGTON	66	34	79	26	50	4	0.12	-0.65	0.12	4.80	64	40.97	109	85	33	0	3	1	0		
WI EAU CLAIRE	54	32	64	21	43	11	0.04	-0.42	0.04	10.96	151	38.02	125	90	55	0	4	1	0		
WI GREEN BAY	58	38	68	26	48	14	0.07	-0.47	0.07	7.12	106	28.74	107	94	57	0	1	1	0		
WI LA CROSSE	59	36	70	24	48	12	0.03	-0.47	0.03	12.72	184	43.56	143	84	50	0	2	1	0		
WI MADISON	57	36	70	24	47	11	0.00	-0.55	0.00	13.67	203	46.05	151	81	58	0	2	0	0		
WI MILWAUKEE	58	41	72	27	49	10	0.00	-0.63	0.00	8.38	112	29.02	92	75	59	0	1	0	0		
WY CASPER	55	28	70	10	41	9	0.09	-0.09	0.09	1.80	68	15.19	126	60	44	0	4	1	0		
WY CHEYENNE	56	28	75	13	42	9	0.09	-0.05	0.09	1.20	47	15.86	108	62	34	0	3	1	0		
WY LANDER	48	25	70	7	37	7	1.11	0.89	1.09	3.77	119	21.31	171	80	42	0	4	2	1		
WY SHERIDAN	48	25	70	5	37	6	1.16	0.99	0.91	6.32	190	18.01	131	86	57	0	5	2	1		

Based on 1971-2000 normals

*** Not Available

National Agricultural Summary

November 14 – 20, 2016

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Mostly dry conditions across the nation aided in the completion of row crop harvest. Precipitation totals were minimal except for small pockets in the Northwest, northern Plains, and Northeast. Continuing the trend of the 2016 harvest season,

above-normal temperatures covered nearly the entire nation. Weekly temperatures averaged more than 9°F above normal in much of the upper Midwest and New England. The only exception was cooler-than-normal weather along the southern Atlantic Coast.

Corn: Ninety-seven percent of the corn crop was harvested by week's end, equal to last year but slightly ahead of the 5-year average. Corn harvest was more than 90 percent complete in all estimating states except Michigan.

Winter Wheat: Ninety-seven percent of the nation's 2017 winter wheat was sown by November 20, two percentage points ahead of last year but 2 points behind the 5-year average. By week's end, 89 percent of the nation's winter wheat had emerged, equal to last year but slightly ahead of the 5-year average. The greatest advances in emergence were observed in Arkansas, California, Missouri, North Carolina, and Oregon, where emergence made double-digit gains during the week. Overall, 58 percent of the winter wheat was reported in good to excellent condition, down slightly from last week but 5 percentage points above the same time last year.

Cotton: By November 20, sixty-seven percent of the cotton was harvested, slightly behind last year and 10 percentage points behind the 5-year average. Cotton harvest in Texas continued in parts of the Plains, Blacklands, and the Edwards Plateau. The Texas cotton

harvest was 47 percent complete by week's end, 21 percentage points behind the 5-year average.

Sorghum: Producers had harvested 94 percent of the nation's sorghum by week's end, slightly ahead of the same time last year and 2 percentage points ahead of the 5-year average. The sorghum harvest was more than 90 percent complete in all estimating states except for New Mexico.

Other Crops: Nationally, peanut producers had harvested 96 percent of the crop by November 20, ten percentage points ahead of last year and slightly ahead of the 5-year average. The peanut harvest was complete in Alabama, 10 percentage points ahead of the state's 5-year average.

By week's end, 98 percent of this year's sugarbeet crop had been dug, 2 percentage points behind both last year and the 5-year average.

Producers had harvested 94 percent of the nation's sunflower crop by November 20, slightly ahead of last year and 5 percentage points ahead of the 5-year average. By week's end, all estimating states were at or ahead of their 5-year average harvest pace.

Crop Progress and Condition

Week Ending November 20, 2016

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

Corn Percent Harvested				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
CO	89	94	97	93
IL	100	97	100	98
IN	100	94	97	94
IA	97	94	98	97
KS	100	99	100	99
KY	99	99	100	98
MI	93	70	83	83
MN	100	94	97	98
MO	100	100	100	98
NE	94	93	96	96
NC	100	100	100	100
ND	97	85	93	93
OH	100	90	95	87
PA	85	87	91	86
SD	99	92	97	97
TN	99	100	100	100
TX	93	97	98	98
WI	91	83	92	85
18 Sts	97	93	97	96
These 18 States harvested 95% of last year's corn acreage.				

Sugarbeets Percent Harvested				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
ID	98	90	93	100
MI	99	85	95	99
MN	100	97	100	100
ND	100	99	99	100
4 Sts	100	94	98	100
These 4 States harvested 84% of last year's sugarbeet acreage.				

Cotton Percent Harvested				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
AL	79	81	90	84
AZ	69	58	65	62
AR	100	100	100	99
CA	98	75	80	96
GA	61	79	87	73
KS	60	35	54	60
LA	100	100	100	100
MS	95	98	100	98
MO	91	97	100	90
NC	68	71	79	77
OK	67	55	65	65
SC	57	65	77	75
TN	87	93	97	85
TX	59	41	47	68
VA	85	80	94	85
15 Sts	68	61	67	77
These 15 States harvested 98% of last year's cotton acreage.				

Sunflowers Percent Harvested				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
CO	91	90	92	91
KS	89	79	89	89
ND	94	85	92	89
SD	93	93	97	89
4 Sts	93	89	94	89
These 4 States harvested 84% of last year's sunflower acreage.				

Sorghum Percent Harvested				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
AR	100	100	100	100
CO	96	94	98	89
IL	99	90	92	96
KS	94	91	95	93
LA	100	100	100	100
MO	93	93	95	95
NE	94	97	98	97
NM	72	41	52	63
OK	93	88	95	89
SD	94	98	99	96
TX	91	87	91	90
11 Sts	93	90	94	92
These 11 States harvested 98% of last year's sorghum acreage.				

Peanuts Percent Harvested				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
AL	82	99	100	90
FL	96	99	100	99
GA	87	93	97	95
NC	82	84	91	94
OK	89	83	90	91
SC	63	92	96	91
TX	84	78	81	92
VA	98	98	99	99
8 Sts	86	92	96	95
These 8 States harvested 97% of last year's peanut acreage.				

Crop Progress and Condition

Week Ending November 20, 2016

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

Winter Wheat Percent Planted				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
AR	91	90	97	93
CA	81	66	90	69
CO	100	100	100	100
ID	100	97	99	100
IL	100	95	100	99
IN	100	96	99	99
KS	100	97	99	100
MI	100	94	96	100
MO	95	87	94	94
MT	100	98	99	99
NE	100	100	100	100
NC	54	56	71	71
OH	100	99	100	99
OK	99	96	100	100
OR	98	96	97	100
SD	100	100	100	100
TX	83	88	91	91
WA	100	94	98	100
18 Sts	95	94	97	99

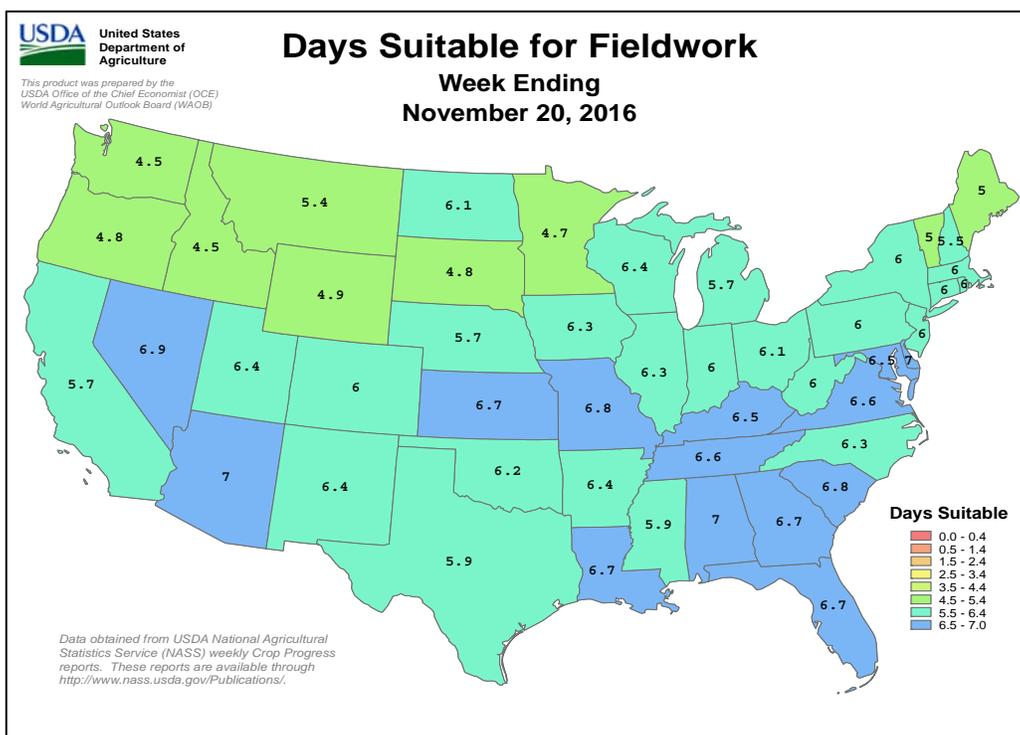
These 18 States planted 90% of last year's winter wheat acreage.

Winter Wheat Percent Emerged				
	Prev Year	Prev Week	Nov 20 2016	5-Yr Avg
AR	77	69	82	80
CA	46	44	71	44
CO	100	96	97	98
ID	90	91	93	96
IL	94	85	90	88
IN	96	85	92	93
KS	96	91	94	96
MI	99	85	90	95
MO	87	65	76	79
MT	97	90	94	89
NE	100	98	99	99
NC	38	30	50	44
OH	99	88	91	91
OK	93	89	92	93
OR	74	65	75	82
SD	99	96	99	90
TX	74	72	79	76
WA	84	85	91	93
18 Sts	89	84	89	88

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

Winter Wheat Condition by Percent					
	VP	P	F	G	EX
AR	7	9	36	38	10
CA	0	0	0	25	75
CO	2	12	39	41	6
ID	0	0	22	55	23
IL	3	1	26	56	14
IN	2	4	27	53	14
KS	2	9	34	48	7
MI	2	5	18	58	17
MO	4	7	33	49	7
MT	0	2	22	48	28
NE	2	10	34	49	5
NC	1	12	29	56	2
OH	0	1	13	61	25
OK	3	7	34	48	8
OR	1	3	19	65	12
SD	1	8	40	46	5
TX	4	14	41	34	7
WA	0	0	9	74	17
18 Sts	2	8	32	47	11
Prev Wk	2	7	32	49	10
Prev Yr	2	8	37	42	11

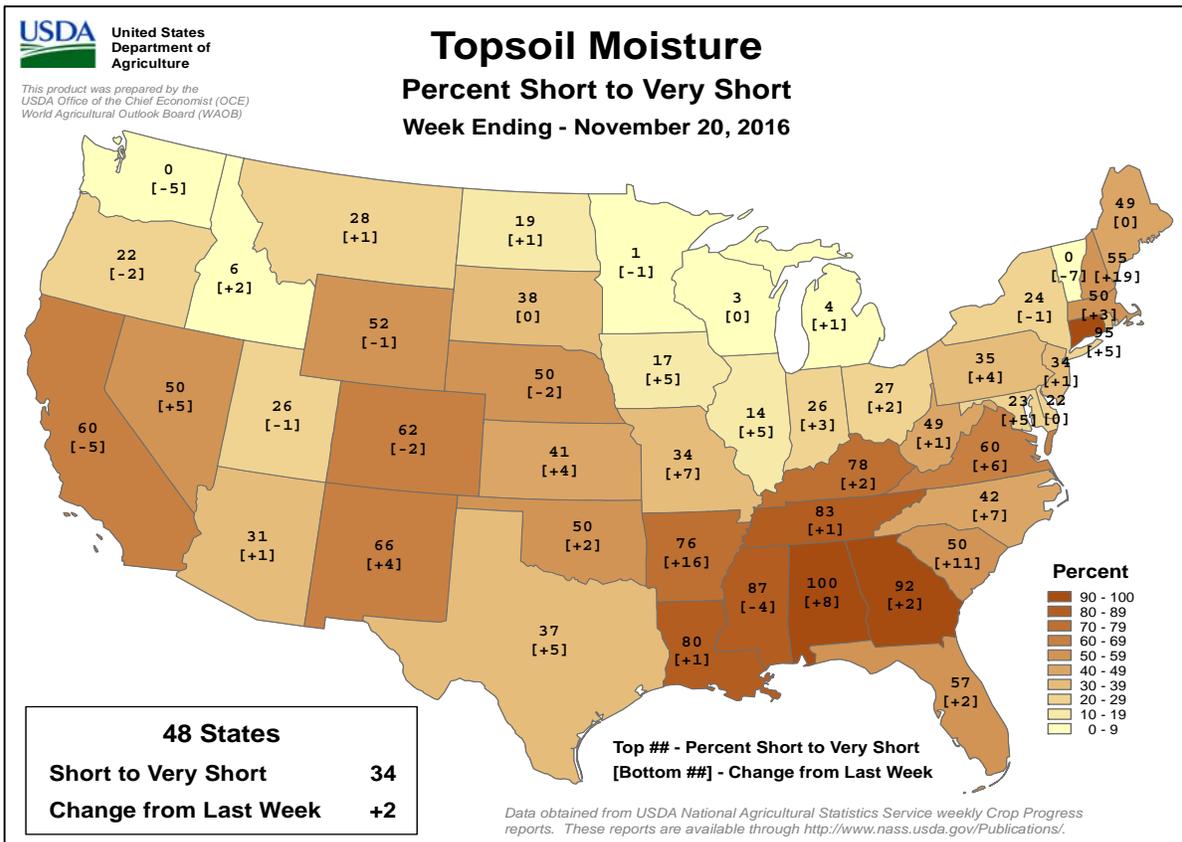
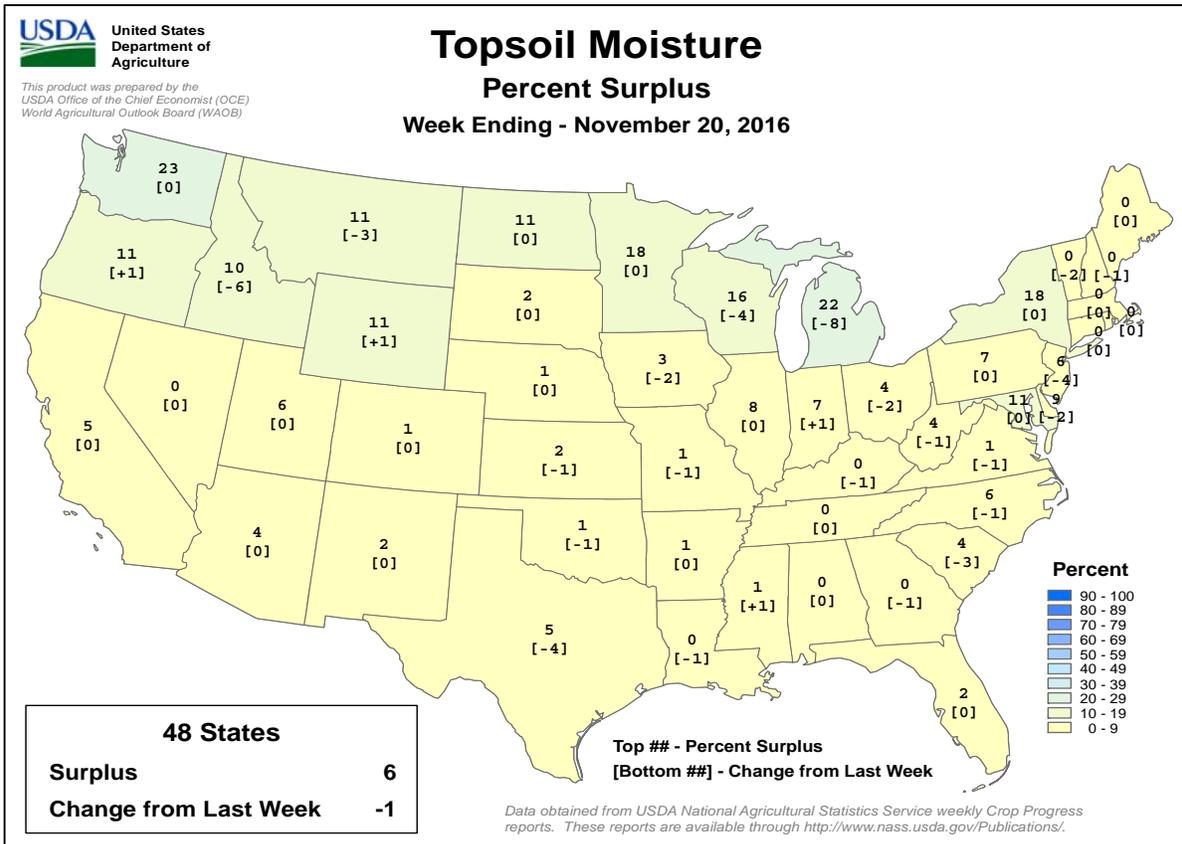
VP - Very Poor; P - Poor; F - Fair; G - Good; EX - Excellent
 NA - Not Available; *Revised



Crop Progress and Condition

Week Ending November 20, 2016

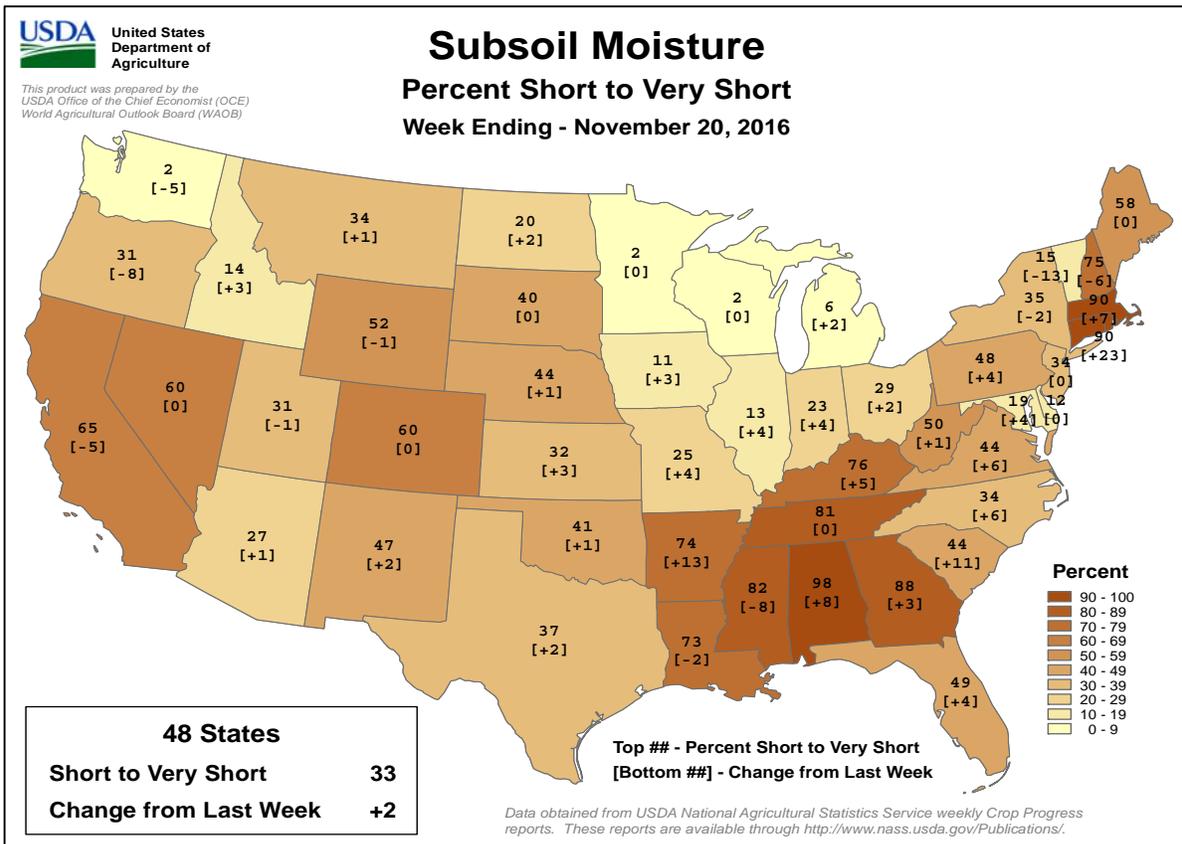
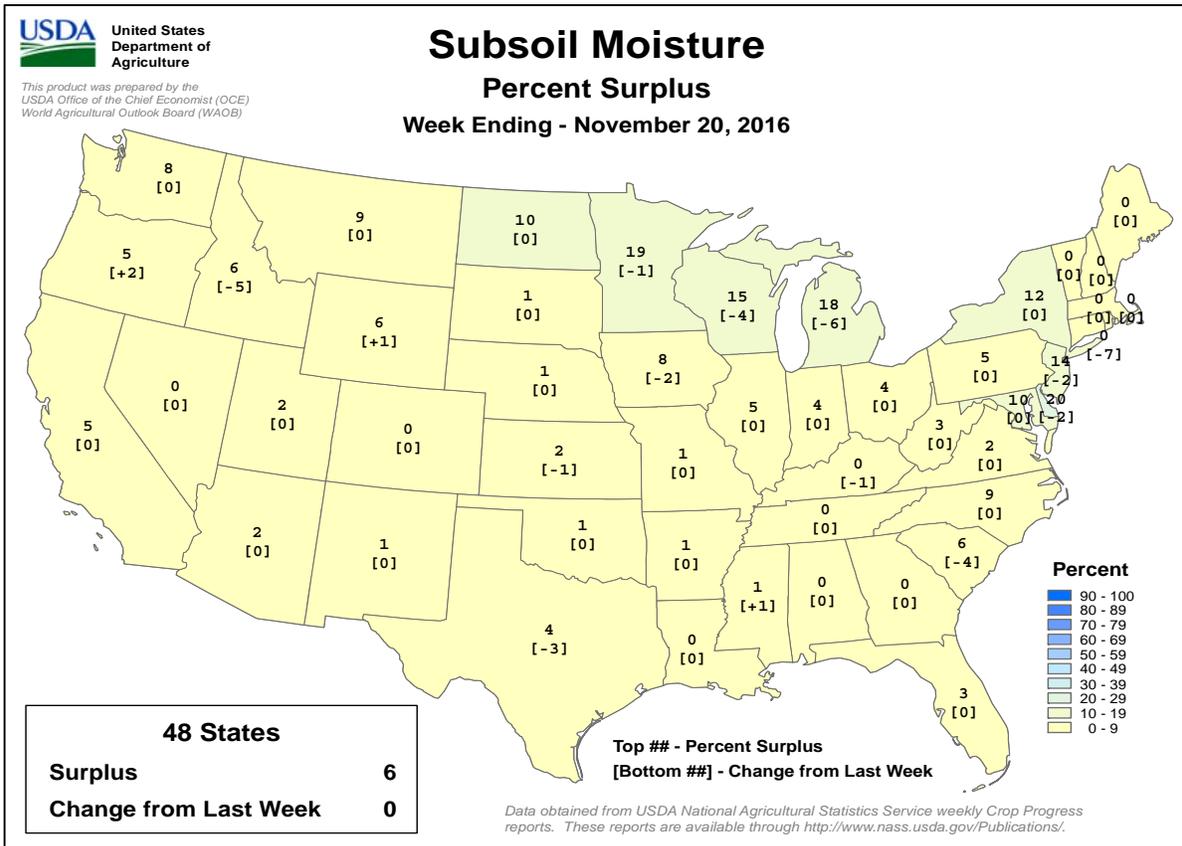
Weekly U.S. Progress and Condition Data provided by USDA/NASS



Crop Progress and Condition

Week Ending November 20, 2016

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



International Weather and Crop Summary

November 13-19, 2016

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

HIGHLIGHTS

EUROPE: Cool, unsettled weather maintained favorable moisture supplies in France and ushered winter crops into dormancy over much of northeastern Europe.

WESTERN FSU: Cooler weather along with rain and snow maintained favorable soil moisture reserves for dormant (north) to vegetative (south) winter wheat but hampered late corn harvesting.

MIDDLE EAST: Intensifying drought in Turkey depleted soil moisture for proper winter wheat establishment, with dryness expanding south and east across the region.

NORTHWESTERN AFRICA: Additional soaking rainfall alleviated drought in Algeria, though dryness concerns lingered in northern Morocco.

EASTERN ASIA: Unseasonably mild weather and passing showers promoted late-autumn vegetative growth of winter crops.

SOUTHEAST ASIA: Greater-than-normal rainfall returned to northern sections of the region, slowing fieldwork.

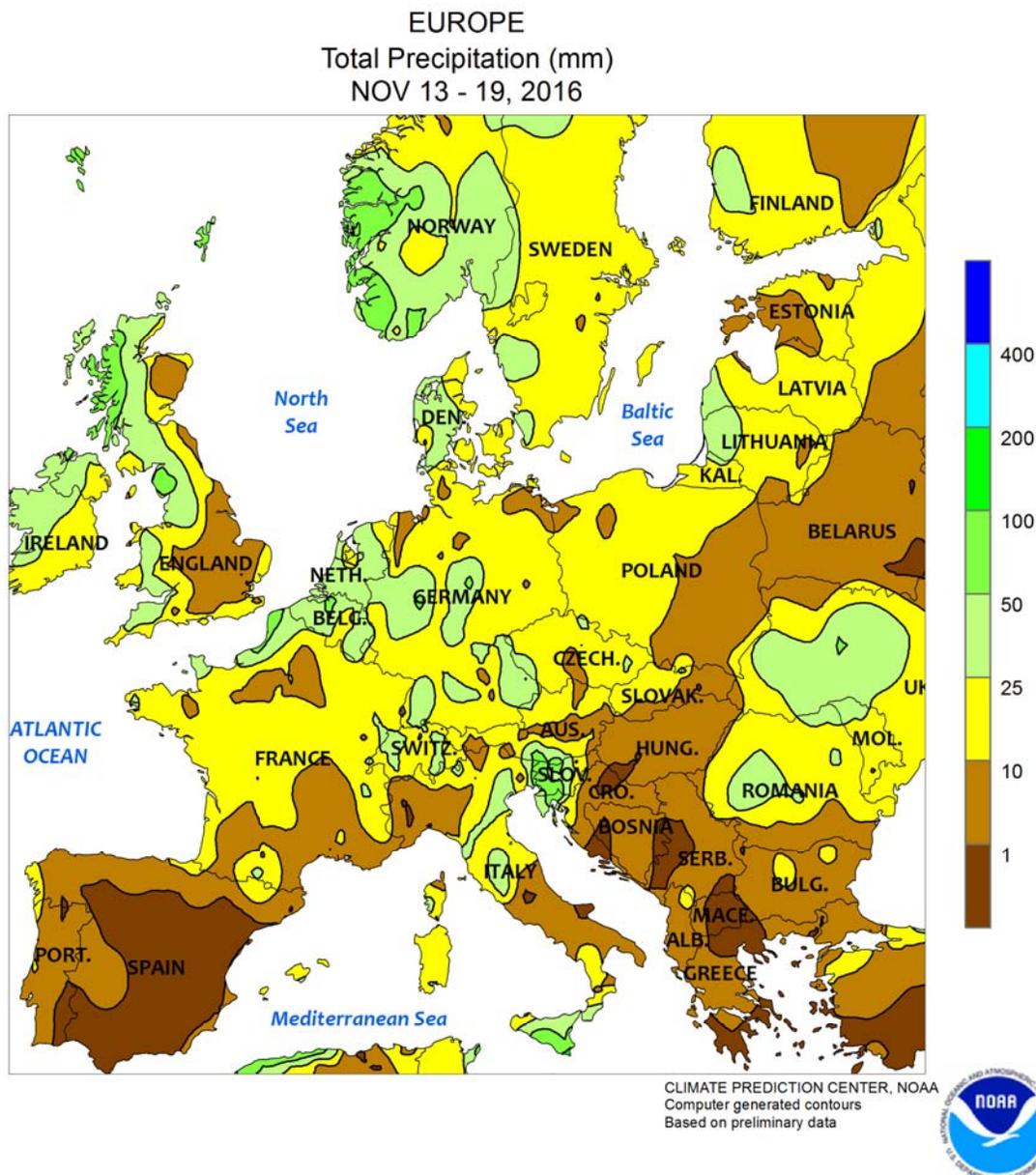
AUSTRALIA: Generally spotty, short-lived showers caused minor disruptions in winter crop drydown and harvesting.

SOUTH AFRICA: Warm, showery weather maintained favorable prospects for corn planting.

ARGENTINA: Light showers sustained mostly favorable levels of moisture for summer crop germination.

BRAZIL: Seasonal rainfall intensified throughout central Brazil, as drier weather developed in southern agricultural areas.



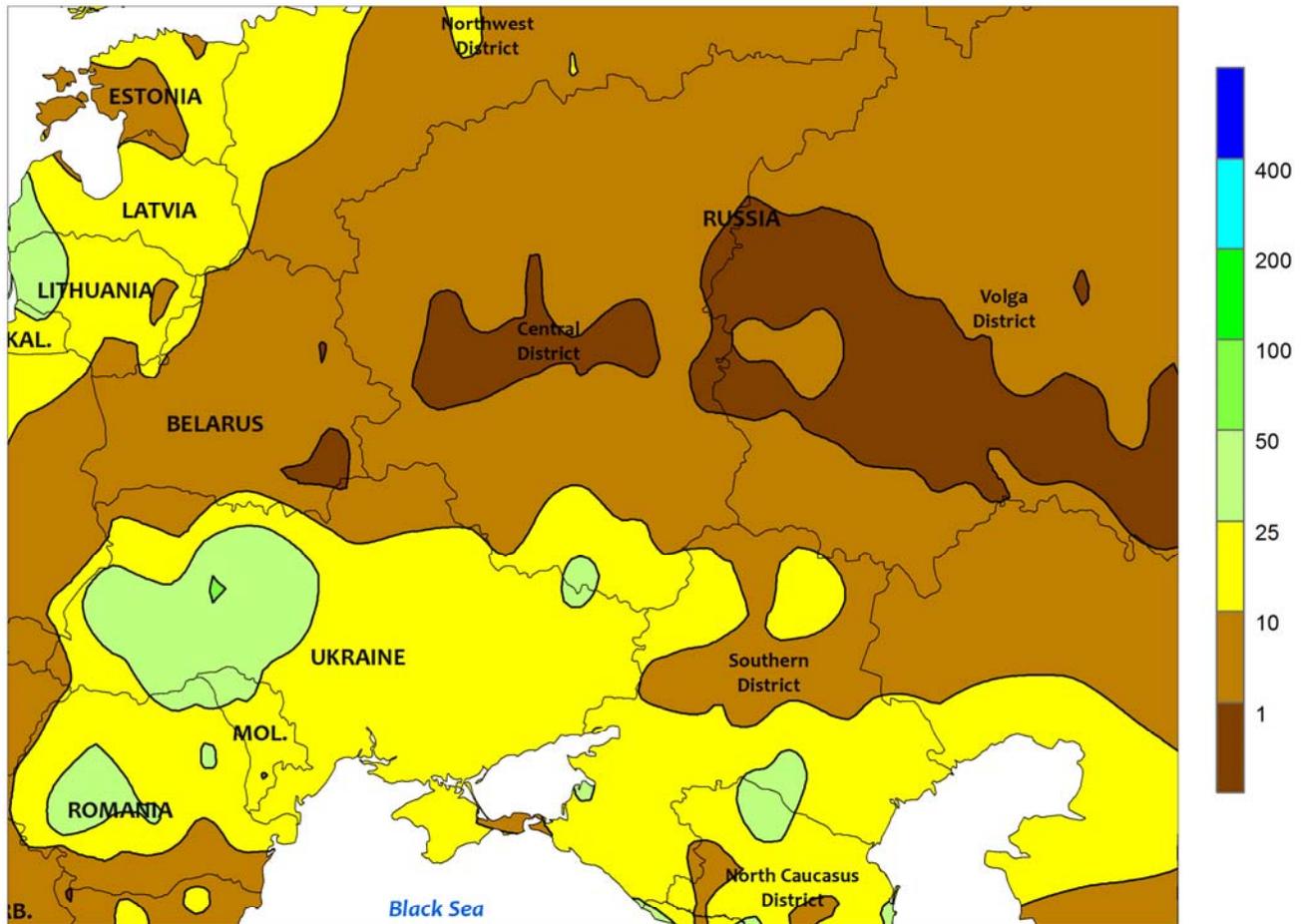


EUROPE

Unsettled, seasonably cool weather prevailed over most of the continent, maintaining favorable moisture supplies while ushering northeastern winter crops into dormancy. A series of storms drifted across central and northern portions of the continent, generating widespread rain (10-60 mm) across most of northern Europe’s major winter wheat and rapeseed areas. Crops in England, France, and the Low Countries remained vegetative, with weekly average temperatures well above the

dormancy-threshold value of 5°C. In contrast, weekly average temperatures remained below 5°C for a second consecutive week from eastern Germany into Poland and the northern Balkans, indicating winter wheat and rapeseed were now dormant in these locales. In southern Europe, rain (3-50 mm) in Italy maintained good soil moisture for winter grain planting, while dry weather in Spain encouraged early wheat and barley sowing following a beneficial soaking earlier in November.

WESTERN FSU
 Total Precipitation (mm)
 NOV 13 - 19, 2016



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

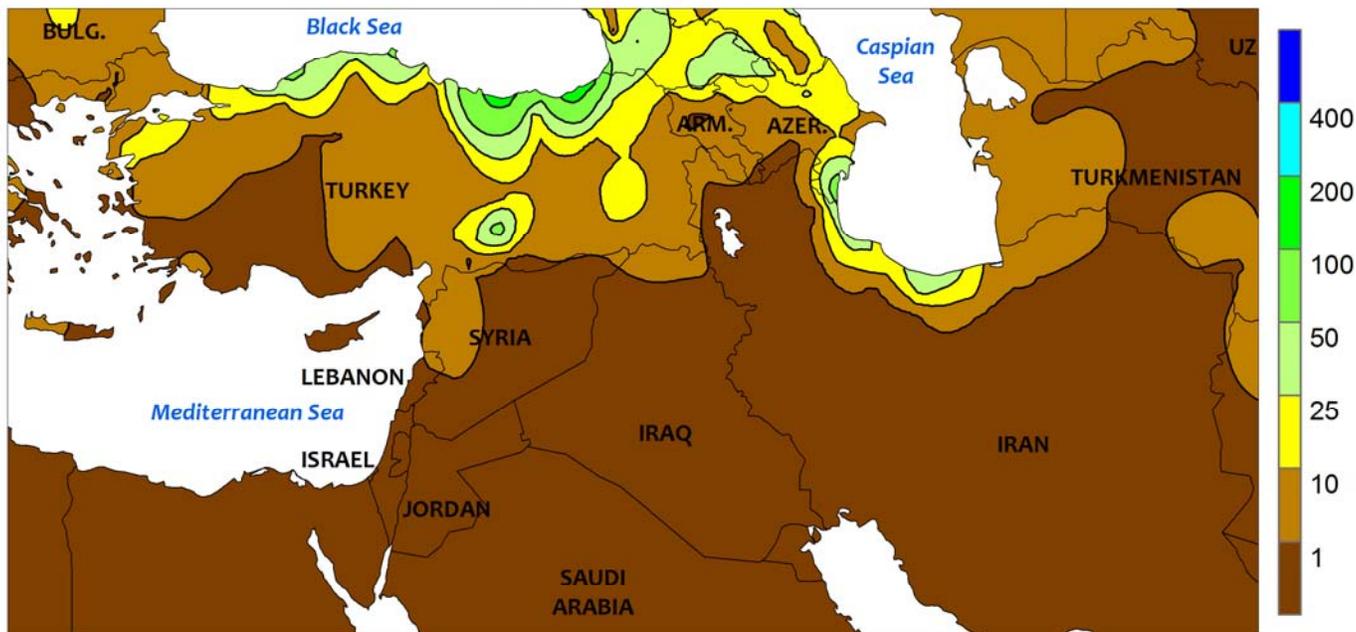


WESTERN FSU

Cooler weather returned, accompanied by widespread rain and snow in western and southern portions of the region. After last week's warmth, near- to below-normal temperatures (up to 4°C below normal) ensured winter crops remained dormant and resistant to freeze injury across all but southern-most growing areas. However, weekly average temperatures were below 5°C even in southern Ukraine and the Southern District — save for the immediate Black Sea Coast — indicating southern winter wheat was

easing toward dormancy. A fresh snowfall blanketed winter crop areas early in the period, though somewhat warmer conditions during the latter half of the week eroded the snow depth and coverage; at week's end, snow was shallow (2-10 cm) and mostly confined to central and northern Russia. Early-week rain and snow (10-50 mm, liquid equivalent) over the southern half of the region hampered late corn harvesting in Ukraine but maintained abundant moisture reserves for winter crops.

MIDDLE EAST
Total Precipitation (mm)
NOV 13 - 19, 2016



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

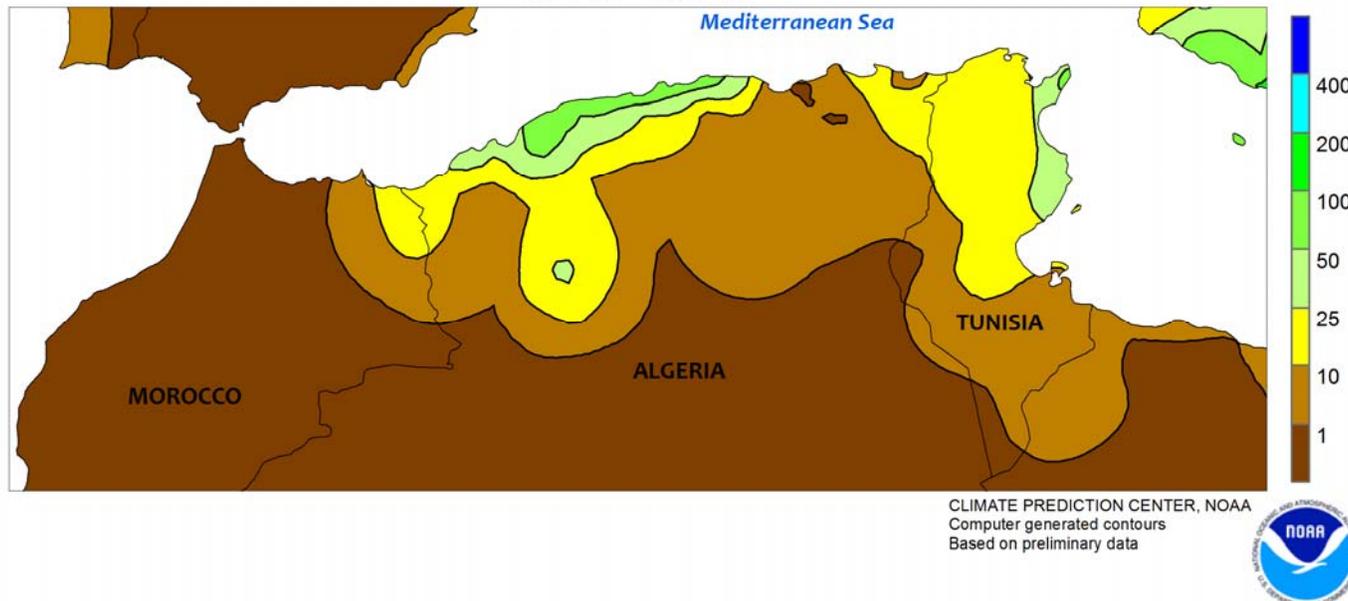


MIDDLE EAST

Short-term drought intensified in Turkey and began to spread south and east across the region. Precipitation was confined to northern- and eastern-most portions of Turkey, where 15 to 100 mm (locally more) of rain and snow improved soil moisture and irrigation reserves. However, Turkey’s major winter wheat areas — located in central and southeastern portions of the country — slipped further into drought. Across central Turkey’s Anatolian Plateau, season-to-date (since September 1) rainfall has averaged a meager 38 mm in the west (49 percent of normal)

and 28 mm in the east (35 percent of normal). Time is running out for proper winter wheat establishment, as crops typically go dormant at the end of November. Dryness is also becoming an increasing concern across central and southern Iraq as well as western Iran; for example, season-to-date precipitation in Kordestan, Iran, has averaged 10 mm, or approximately 20 percent of normal. Cooler-than-normal conditions (up to 2°C below normal) in northern Turkey contrasted with readings up to 5°C above normal elsewhere.

NORTHWESTERN AFRICA
Total Precipitation (mm)
NOV 13 - 19, 2016

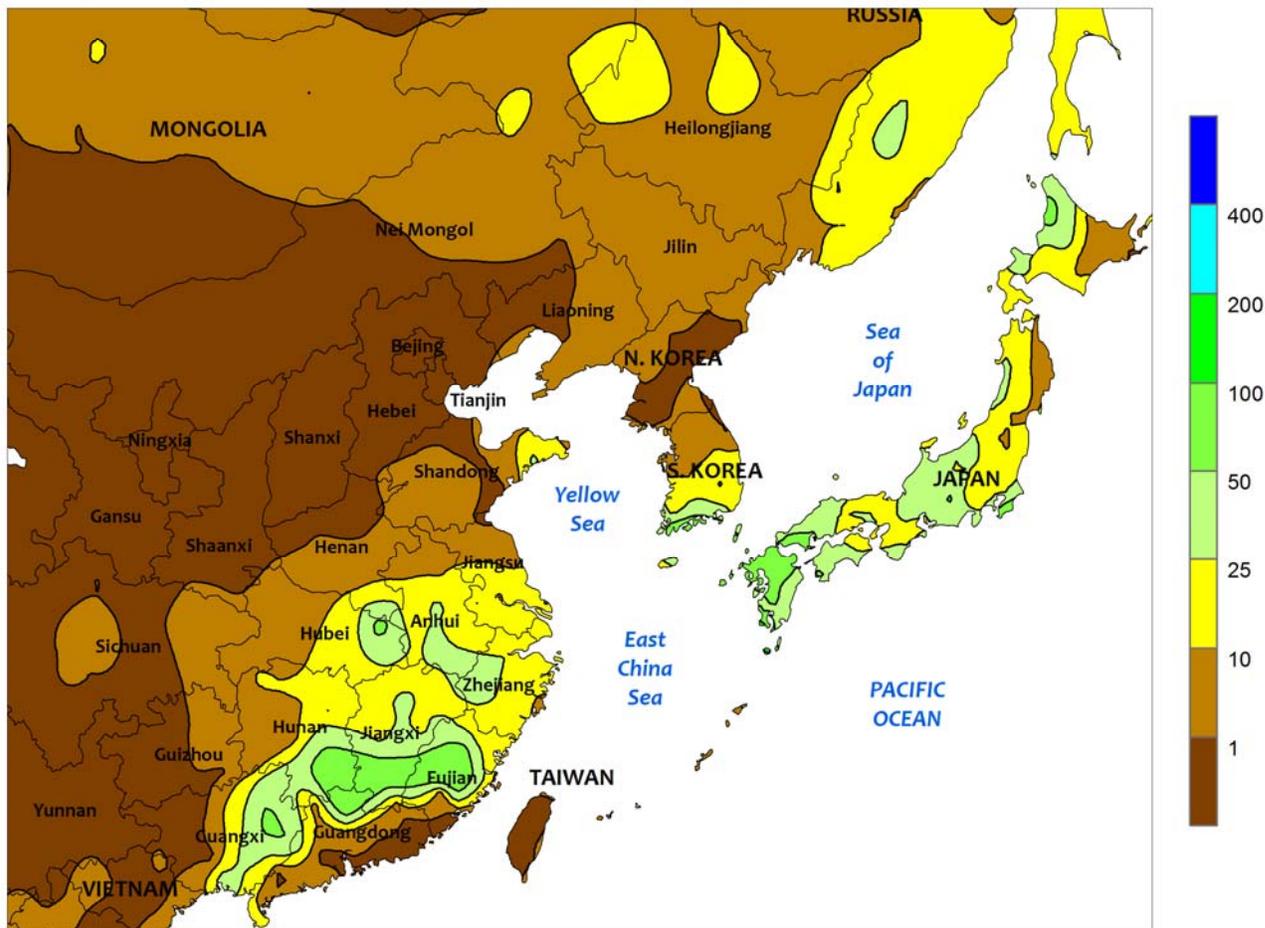


NORTHWESTERN AFRICA

Additional soaking rain alleviated drought in central growing areas and sustained good early-season winter grain prospects in the east. For the second consecutive week, moderate to heavy showers (10-100 mm) in Algeria further improved prospects for winter grain planting and establishment. The rain was particularly welcomed in western portions of the

country, which missed out on last week's storm. Meanwhile, unfavorably dry conditions lingered in Morocco, though soil moisture remained adequate for wheat and barley emergence due to early-month showers. In Tunisia, widespread rain (10-60 mm) maintained good to excellent prospects for winter grain establishment.

EASTERN ASIA
Total Precipitation (mm)
NOV 13 - 19, 2016



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

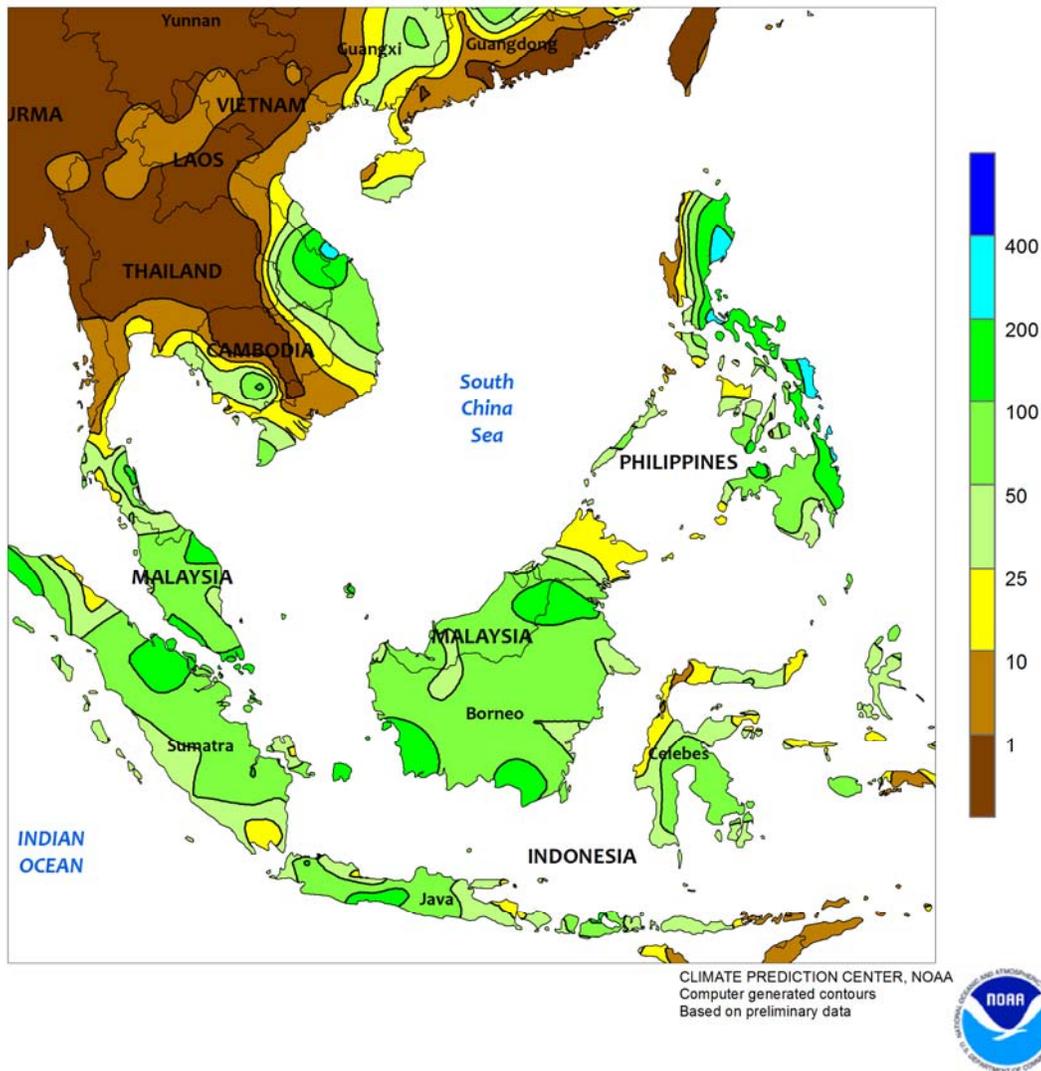


EASTERN ASIA

Mild weather and showers promoted development of vegetative rapeseed and wheat in China. Temperatures were 3 to 5°C (locally as much as 8°C) above normal across winter crop areas in eastern China. Meanwhile, light (1-10 mm) showers on southern sections of the North China Plain maintained favorable soil moisture for wheat, with heavier showers (10-30 mm) in the central and

eastern Yangtze Valley benefiting rapeseed. The highest rainfall totals (over 50 mm) occurred in southern provinces, boosting soil moisture for sugarcane and winter-grown vegetables. Additional vegetative growth to winter crops (in particular wheat) makes them less susceptible to freeze damage and improves prospects when plants enter reproduction in the spring.

SOUTHEAST ASIA
Total Precipitation (mm)
NOV 13 - 19, 2016

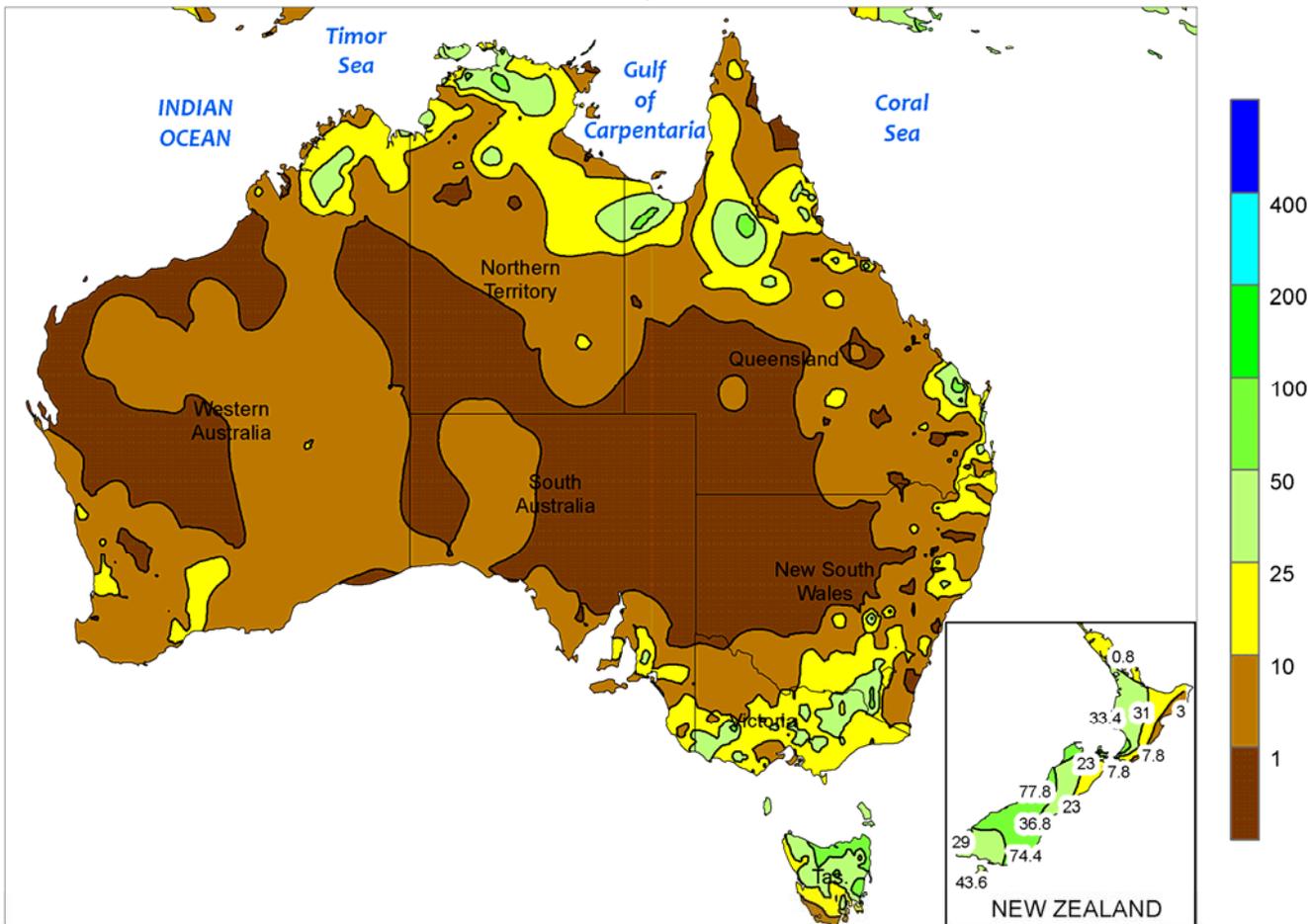


SOUTHEAST ASIA

Easterly winds returned in full strength to the region and, along with La Nina conditions, brought unseasonably heavy showers to northern sections of the region. Central Vietnam received over 250 mm of rain, while portions of the eastern Philippines received over 300 mm. The wet weather slowed fieldwork in both countries but particularly in the Philippines as the rainfall

occurred in major rice and corn areas. Farther south, widespread showers (over 50 mm) maintained favorable soil moisture for oil palm in Malaysia and Indonesia. In addition, rice in Java (Indonesia) also benefited from consistent rainfall, although excessively heavy rainfall early in the season may have adversely impacted sowing.

AUSTRALIA
Total Precipitation (mm)
NOV 13 - 19, 2016



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

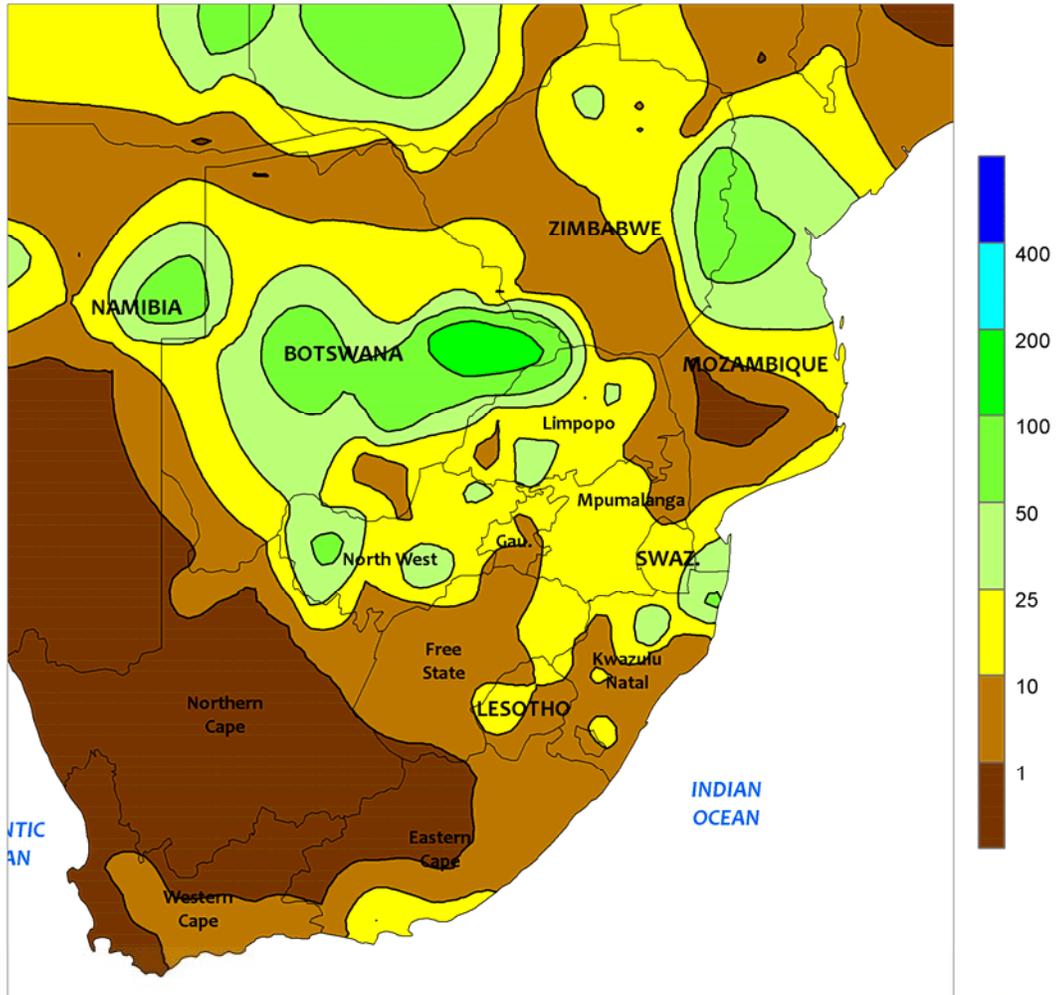


AUSTRALIA

Early in the week, a concentrated area of showers (5-30 mm) in southern and eastern Victoria and southeastern New South Wales slowed winter crop maturation and likely interrupted harvesting. During the remainder of the week, however, dry weather covered all of southern and eastern Australia, favoring wheat, barley, and canola maturation and harvesting. The sunny skies benefited summer crops as well, aiding emergence and establishment and promoting

additional planting. Elsewhere in the wheat belt, spotty showers (5-20 mm) in Western Australia may have temporarily delayed local fieldwork during mid-week. Otherwise, generally dry weather favored winter grain and oilseed maturation and harvesting. Temperatures in Western Australia averaged about 1°C above normal, while in southern and eastern Australia temperatures were generally seasonable.

SOUTH AFRICA
 Total Precipitation (mm)
 NOV 13 - 19, 2016



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

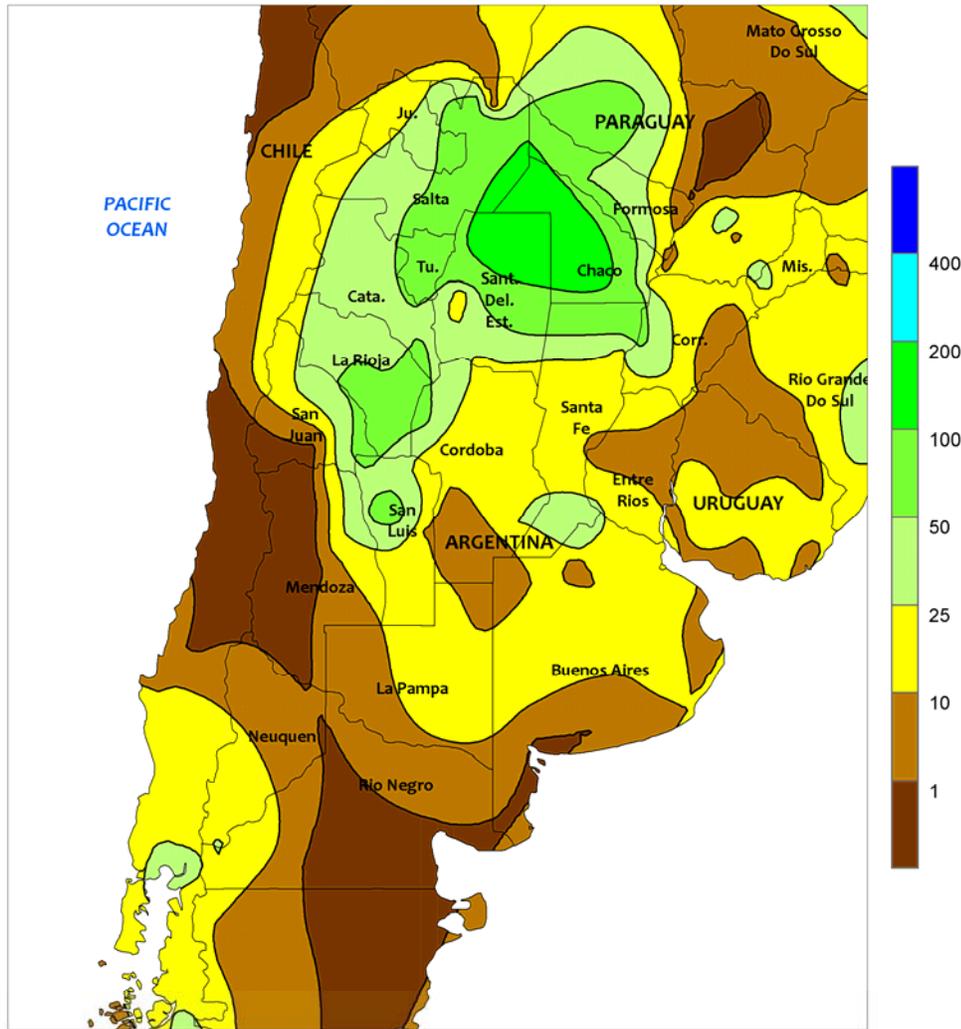


SOUTH AFRICA

Showers and occasional warmth maintained generally favorable conditions for corn and other emerging summer crops. Rainfall totaled more than 10 mm from North West to Limpopo to Mpumalanga, with just a few locations recording amounts in excess of 25 mm. Weekly temperatures averaged near to slightly below normal in eastern sections of the corn belt (Mpumalanga, Gauteng, and eastern Free State), with daytime highs briefly reaching the lower 30s (degrees C). Higher temperatures (daytime highs reaching the lower and

middle 30s on several days) maintained high evaporative losses in western and northern sections of the corn belt (North West and Mpumalanga), though planting had likely not begun yet in those areas. Elsewhere, mostly dry weather dominated KwaZulu-Natal and the Cape Provinces; the increased sunshine favored development of sugarcane and other summer row crops, though seasonable warmth (daytime highs in the middle and upper 30s) maintained high irrigation demands of crops farther west.

ARGENTINA
Total Precipitation (mm)
NOV 13 - 19, 2016



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

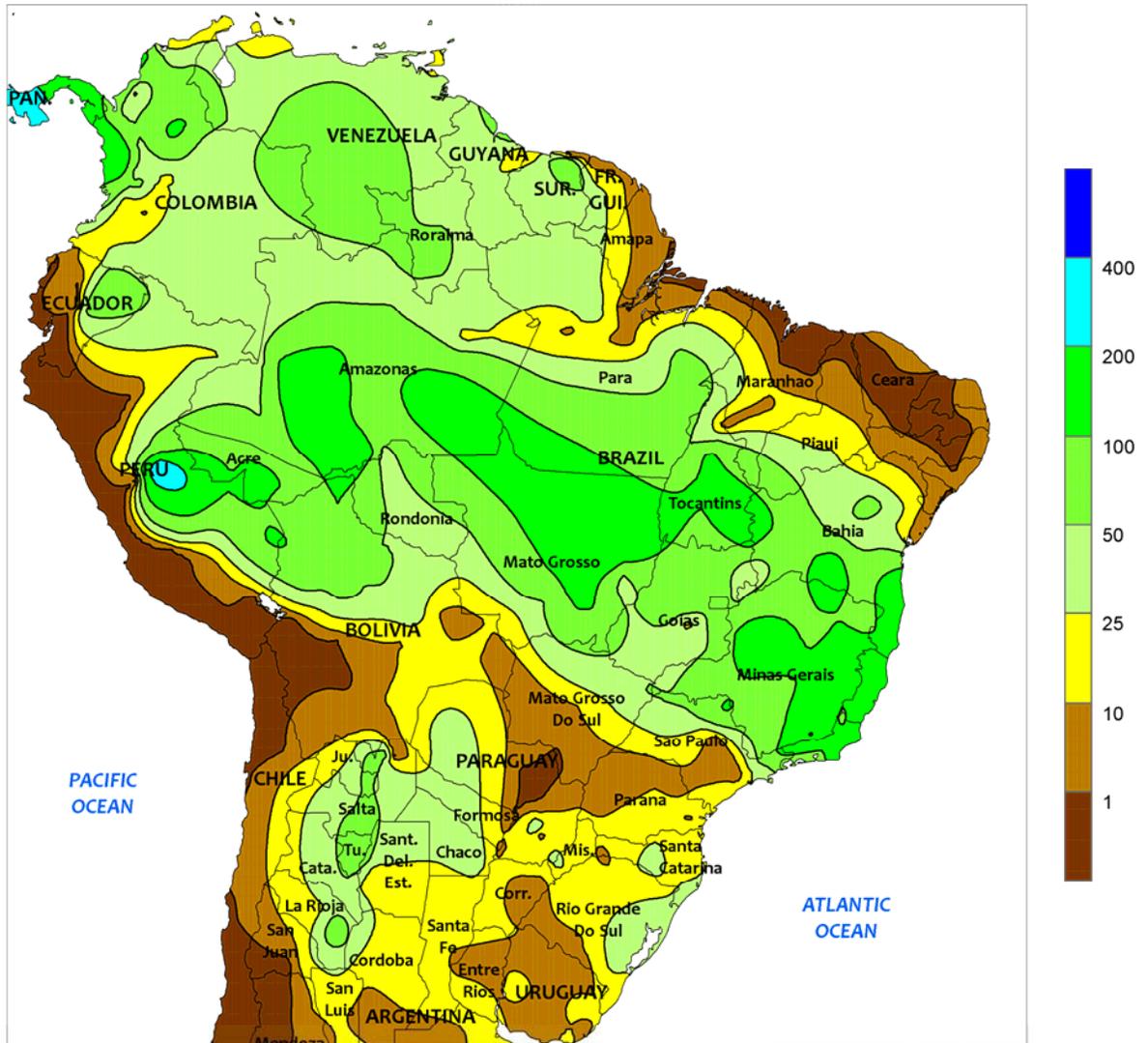


ARGENTINA

Lingering showers maintained mostly favorable levels of moisture for germination of summer grains, oilseeds, and cotton. The heaviest rainfall (greater than 25 mm) was concentrated over the northwest (Chaco and Formosa westward), with amounts exceeding 50 mm over Tucuman and central Salta. Rainfall totaled 2 to 25 mm elsewhere, keeping topsoils moist as planting proceeded. Weekly temperatures averaged 1 to 2°C below normal, as a cooler air mass descended upon the region toward the end of the week; most areas recorded daytime highs in the lower 30s

(degrees C) during the first half of the week, dipping into the upper 10s and lower 20s a few days later. Frost (nighttime lows at or below 0°C) in traditionally cooler locations of southeastern Buenos Aires may have caused isolated damage to immature winter grains. According to the government of Argentina, sunflowers were 81 percent planted as of November 17, 2 points ahead of last year’s pace. Corn was 43 percent planted versus 44 percent last year, and soybeans were 24 percent planted, 12 points behind last year’s pace.

BRAZIL
Total Precipitation (mm)
NOV 13 - 19, 2016



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



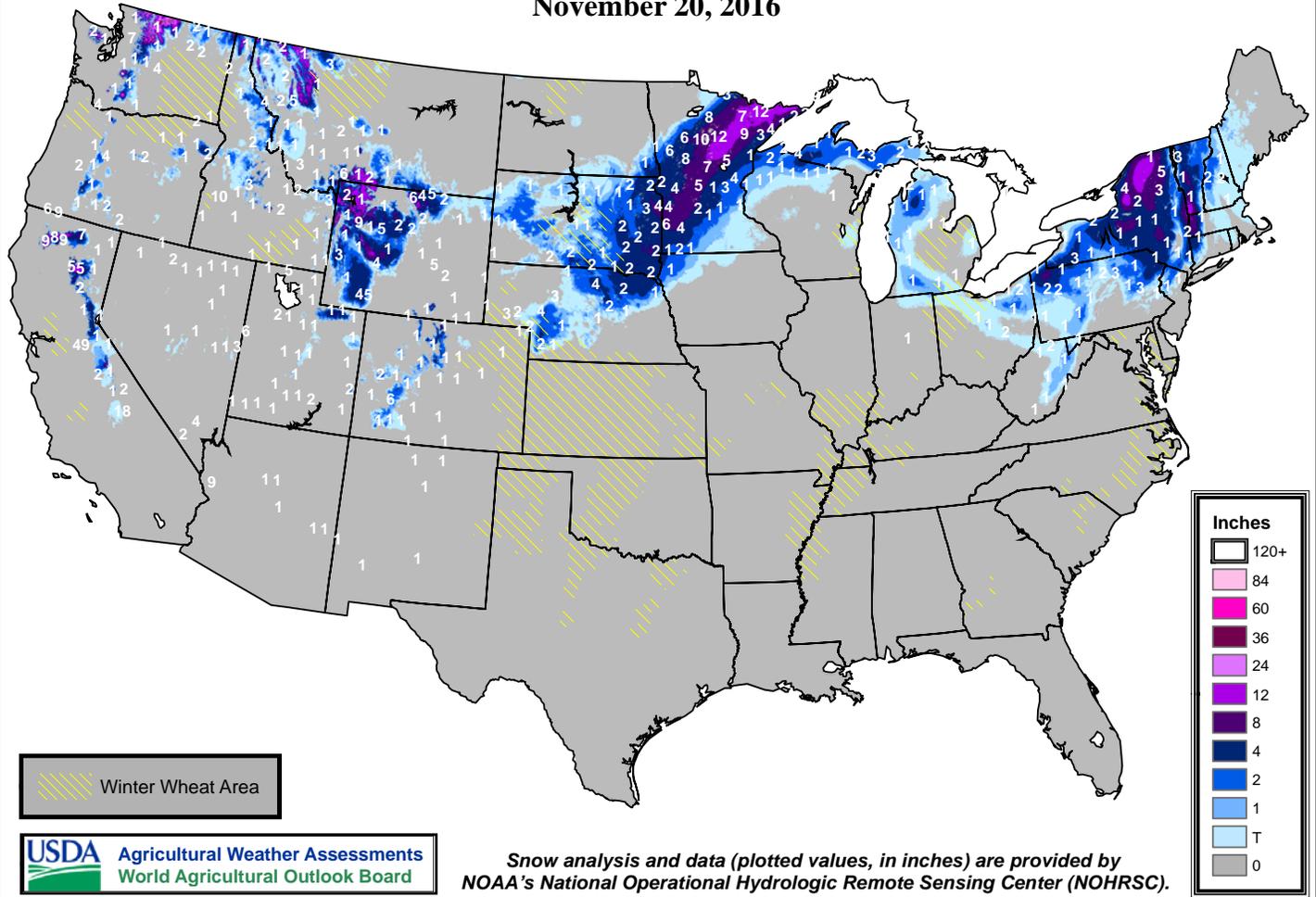
BRAZIL

Seasonal rainfall intensified throughout Brazil’s central farming areas, improving prospects of summer row and specialty crops. Amounts totaling more than 50 mm spanned a large area from Mato Grosso eastward through Minas Gerais and southern Bahia. Conditions remained overall favorable in the Center-West Region (Mato Grosso, Goiás, and Mato Grosso do Sul), owing to a timely start of the rainy season in most areas; it was the second week of heavy rain in the northeastern interior (Tocantins, western Bahia, and environs), providing timely moisture for planting soybeans and cotton. The rainfall extended

southward into northern parts of Sao Paulo, benefiting citrus, sugarcane, and coffee in key production areas. In contrast to the northern wetness, drier weather prevailed over southern Brazil (southern sections of Mato Grosso do Sul and Sao Paulo to Rio Grande do Sul), with most locations reporting well below 25 mm. Despite the dryness, weekly average temperatures were near to below normal, with nighttime lows falling below 10°C as far north as southeastern Parana. However, daytime highs reached the lower and middle 30s (degrees C) on several days, spurring summer crop development in the absence of stressful heat.

Snow Depth

November 20, 2016



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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: brippy@oce.usda.gov

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