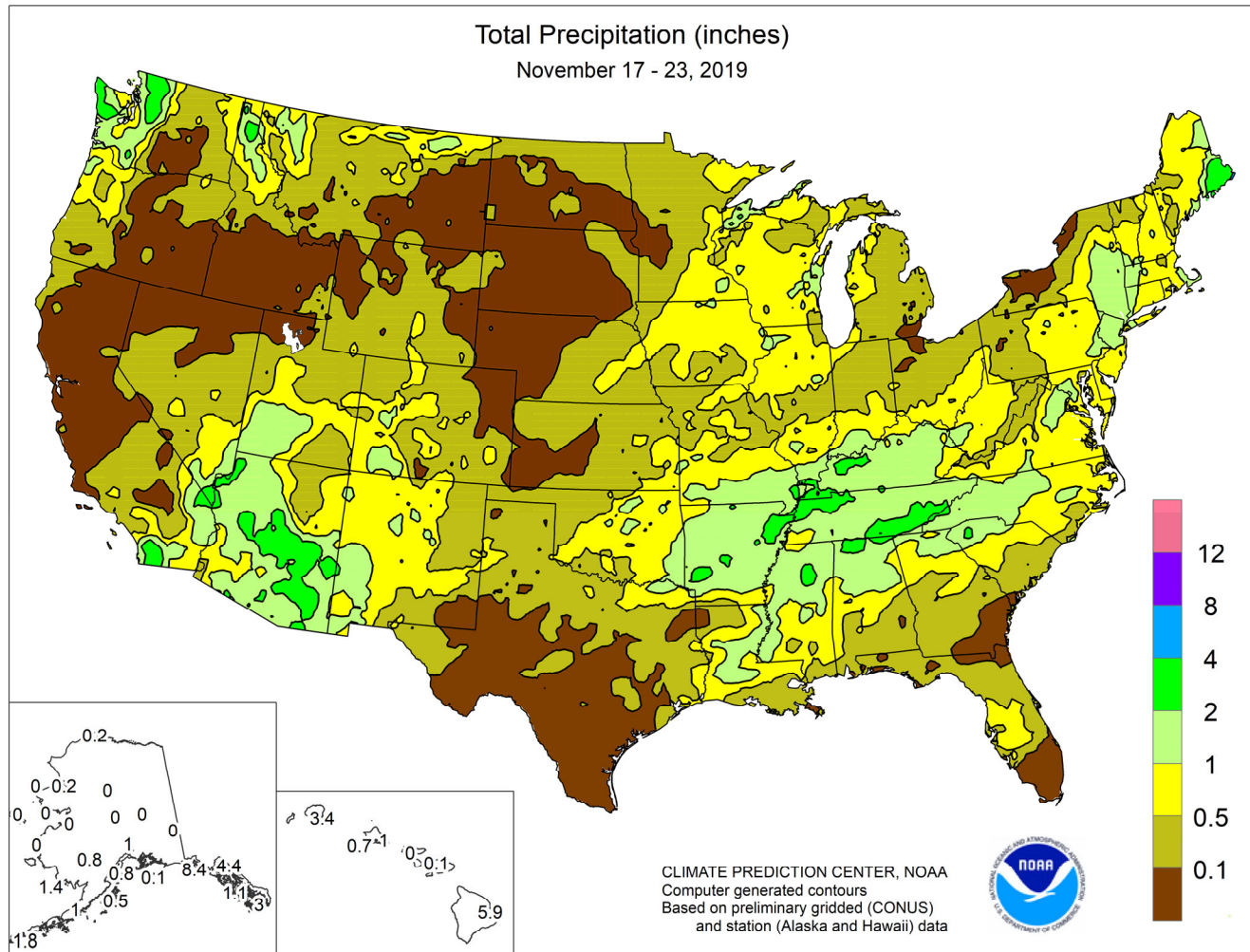


# WEEKLY WEATHER AND CROP BULLETIN

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 17 – 23, 2019**

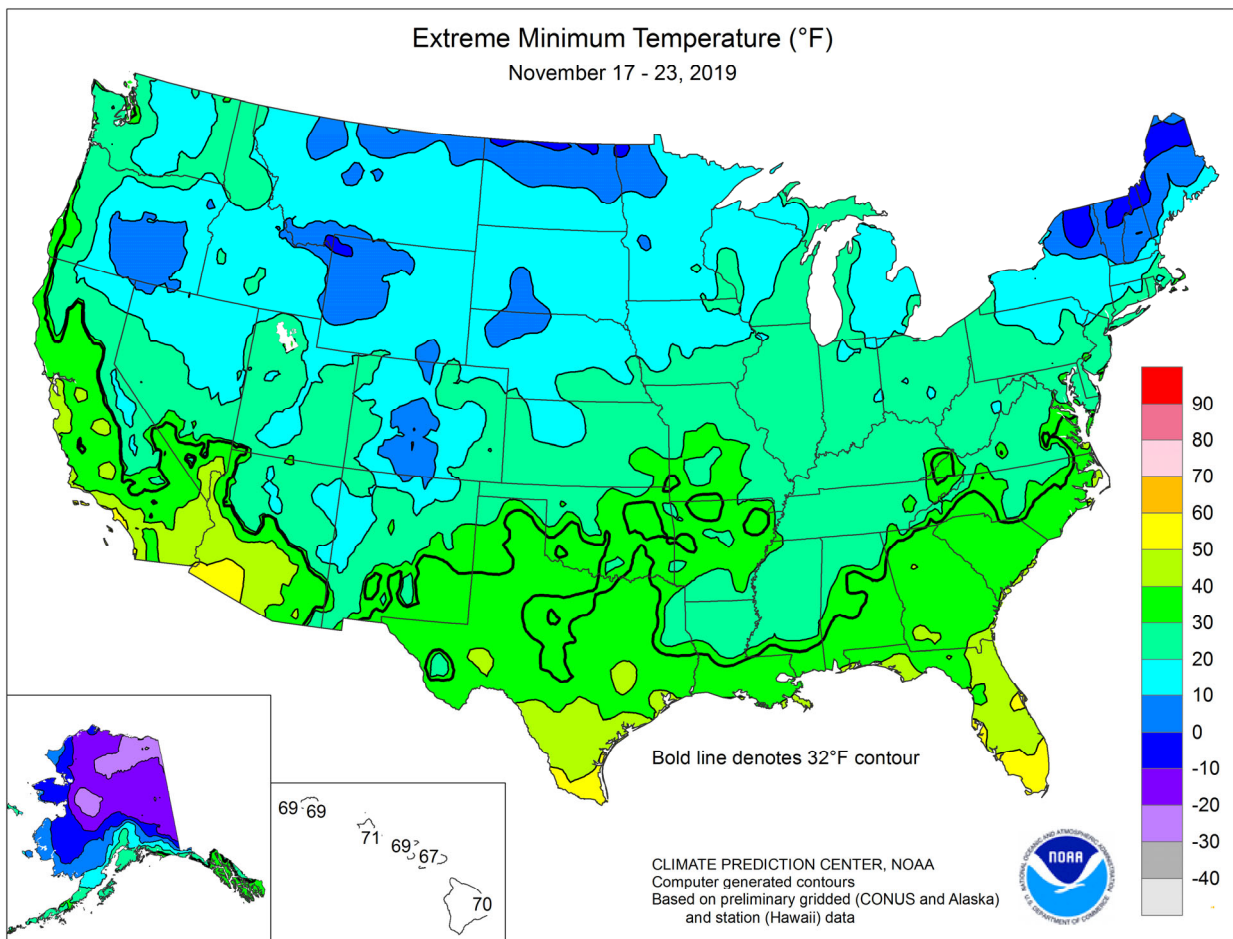
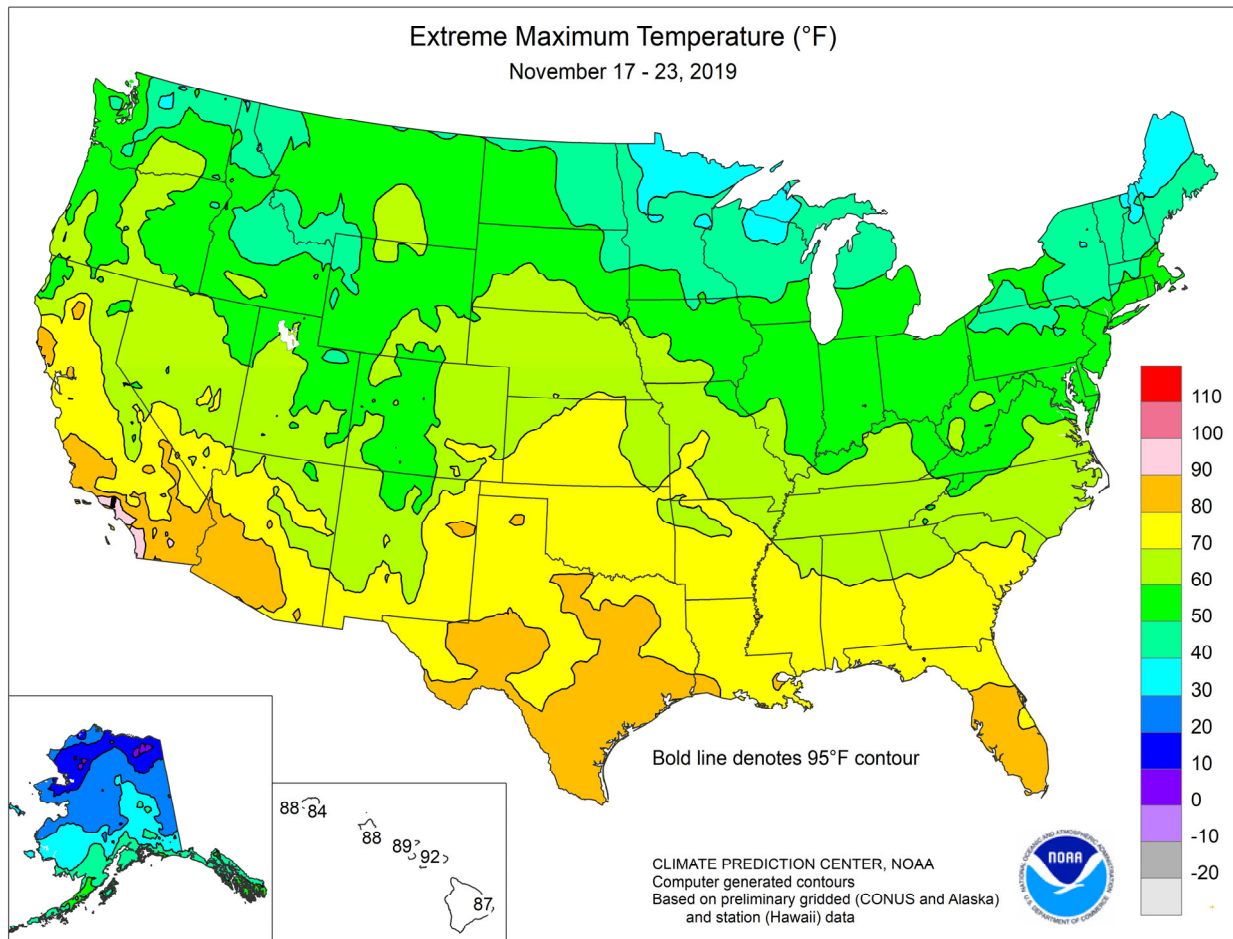
*Highlights provided by USDA/WAOB*

**T**he Southwest's most significant storm since spring 2019 delivered drought-easing precipitation in the southern Great Basin and parts of the Four Corners States. Heavy precipitation also fell in southern California. Meanwhile, generally light precipitation fell from the Pacific Northwest to the northern Rockies. Despite the increase in Western storminess, above-normal temperatures continued. In addition, above-normal temperatures (5 to 10°F above normal in many areas) returned across the Plains, following a mid-November

*(Continued on page 3)*

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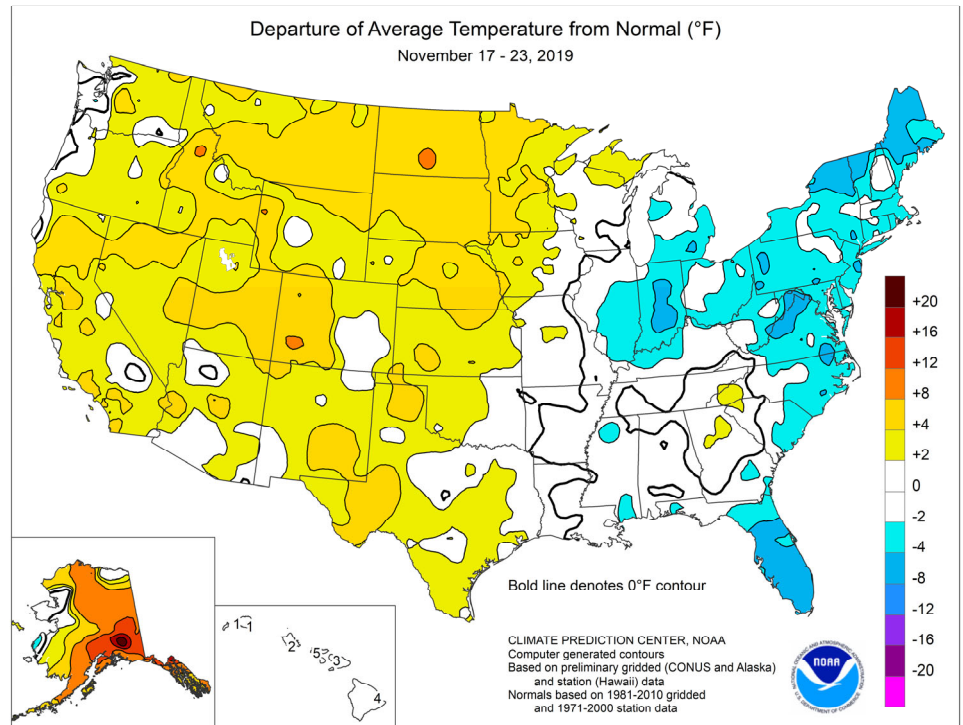


(Continued from front cover)

cold blast. Farther east, another round of rain further eased or eliminated any remaining pockets of **Southeastern** drought. The rain, which totaled 1 to 2 inches or more across the **interior Southeast**, also slowed fieldwork but benefited pastures, winter grains, and cover crops. Chilly conditions accompanied the precipitation, as weekly temperatures averaged more than 5°F below normal in some **Eastern** locations. In contrast, mostly dry weather prevailed in several areas, including **southern Texas** and from **northern California to the northern Plains**. Elsewhere, periods of precipitation plagued the **Midwest**, maintaining a sluggish harvest pace for corn and soybeans. In the **northern Corn Belt**, harvest efforts were complicated in some areas by a high grain or oilseed moisture content.

Early-week precipitation in the **Pacific Northwest** resulted in a daily-record total (2.09 inches) for November 17 in **Quillayute, WA**. Two days later, widespread precipitation developed across the **Southwest**. A record-setting, 155-day streak without measurable precipitation finally ended in **Saint George, UT**, as 1.29 inches fell in a 24-hour period on November 19-20. Elsewhere in **Utah**, **Bryce Canyon Airport** netted 1.85 inches in a 48-hour period from November 19-21. In **northern Arizona**, **Flagstaff** received 2.37 inches (6.6 inches of snow) on November 20-21. The 20th was a particularly wet day in several desert locations, including **Kingman, AZ** (0.83 inch), and **Las Vegas, NV** (0.67 inch). From November 19-21, totals in **southern California** reached 2.67 inches in **Campo** and 2.14 inches in **Ramona**. Meanwhile, heavy snow briefly affected **northern New England**, where **Caribou, ME**, reported a daily-record total (5.5 inches) for November 19. The National Weather Service office in **Grand Forks, ND**, achieved its wettest year on record when precipitation totaled 0.34 inch (1.0 inch of snow) on November 20. Prior to this year, **Grand Forks'** wettest year had been 2016, when 31.27 inches fell. Through November 23, **Grand Forks'** year-to-date total of 31.47 inches was 151 percent of normal. Late in the week, light snow fell across parts of the **High Plains**, while rain developed in the **Southeast**. On November 21-22, snowfall totaled 0.5 inch in **Dalhart, TX**. Later, record-setting rainfall totals for November 23 included 2.64 inches in **Knoxville, TN**; 1.13 inches in **Jackson, KY**; and 1.05 inches in **Greensboro, NC**.

In advance of **Pacific** storminess, early-week warmth dominated the **Far West**. In **California**, record-setting highs for November 17 soared to 94°F in **Camarillo** and **Escondido**. Daily-record highs for the 17th also topped the 90-degree mark in California locations such as **Thermal** (93°F), **Long Beach** (93°F), and **Palm Springs** (92°F). The warmth extended into the **Desert**



**Southwest**, where **Yuma, AZ**, posted a daily-record high of 89°F on November 17. Daily-record highs consecutively topped the 90-degree mark on November 17-18 at several **California** sites, including **Anaheim** (94 and 96°F), **Santa Ana** (94°F both days), and **Los Angeles International Airport** (93°F both days). In contrast, frigid weather lingered in the **Northeast**, where daily-record lows for the 17th plunged to -1°F in **Saint Johnsbury, VT**, and **Caribou, ME**. For **Caribou**, it was the earliest sub-zero reading on record (previously, -1°F on November 21, 1959). Later, warm weather replaced previously cool conditions across the **Deep South**, where daily-record highs included 84°F (on November 20) in **Austin, TX**, and 81°F (on November 21) in **Vicksburg, MS**.

Mild weather dominated **Alaska**, although some cold air edged across the western parts of the state. Daily-record highs were set in several locations, including **King Salmon** (50°F on November 19); **Yakutat** (50°F on November 19 and 20); and **Anchorage** (49°F on November 21). Meanwhile, generally light precipitation fell across the **Alaskan mainland**, but heavy rain and snow fell in the southeastern part of the state. Weekly precipitation totaled 8.40 inches in **Yakutat**; 5.61 inches in **Sitka**; and 4.10 inches in **Juneau**. Through November 23, month-to-date totals in those locations reached 16.65, 13.96, and 9.64 inches, respectively—150, 184, and 210 percent of normal. Farther south, locally heavy **Hawaiian** precipitation provided some relief from short-term dryness. On the **Big Island**, **Hilo's** weekly rainfall totaled 7.17 inches. As a result, **Hilo's** month-to-date total through November 23 climbed to 7.39 inches (61 percent of normal). On **Kauai**, nearly half (2.30 inches) of **Lihue's** 4.65-inch, month-to-date total fell on November 19. **Honolulu, Oahu**, also received heavy rain, with 2.34 inches falling on November 18-19. However, rainfall largely bypassed **Kahului, Maui**, where the November 1-23 total of 0.21 inch was just 14 percent of normal. **Kahului** also reported daily-record highs of 92°F on November 17 and 19.

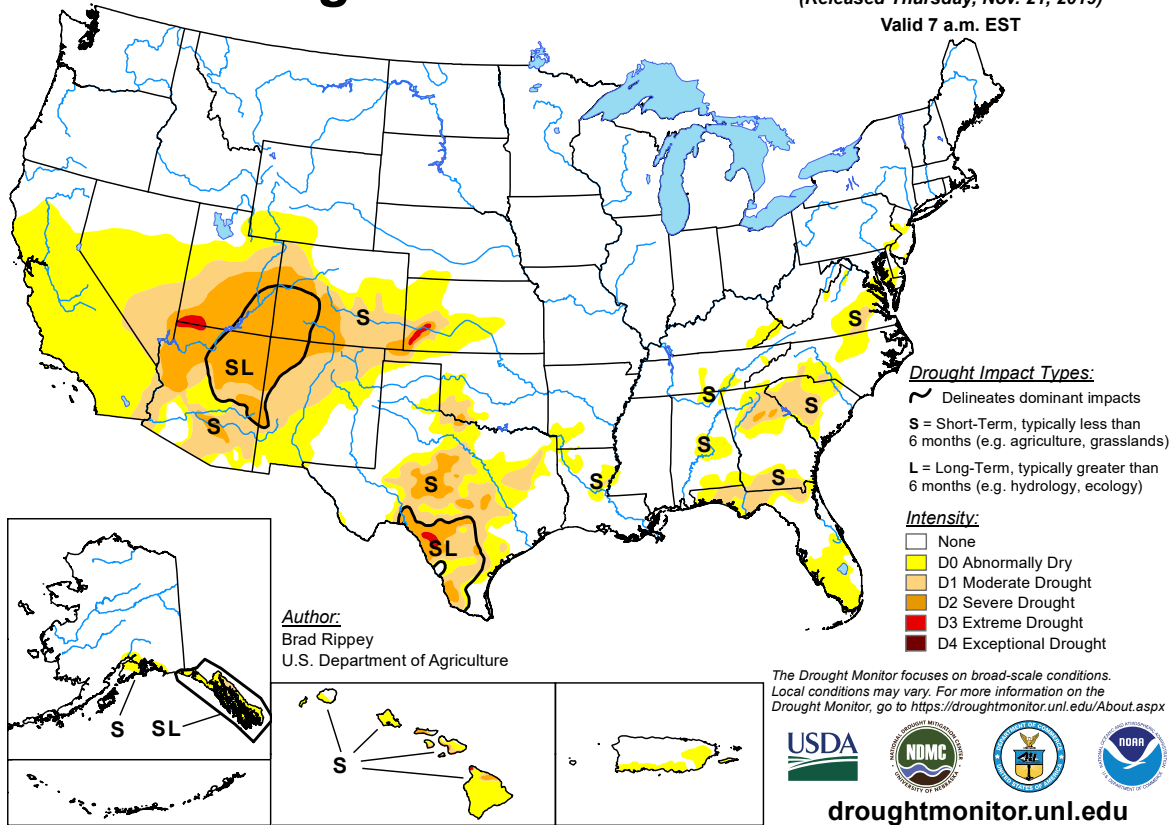


# U.S. Drought Monitor

November 19, 2019

(Released Thursday, Nov. 21, 2019)

Valid 7 a.m. EST

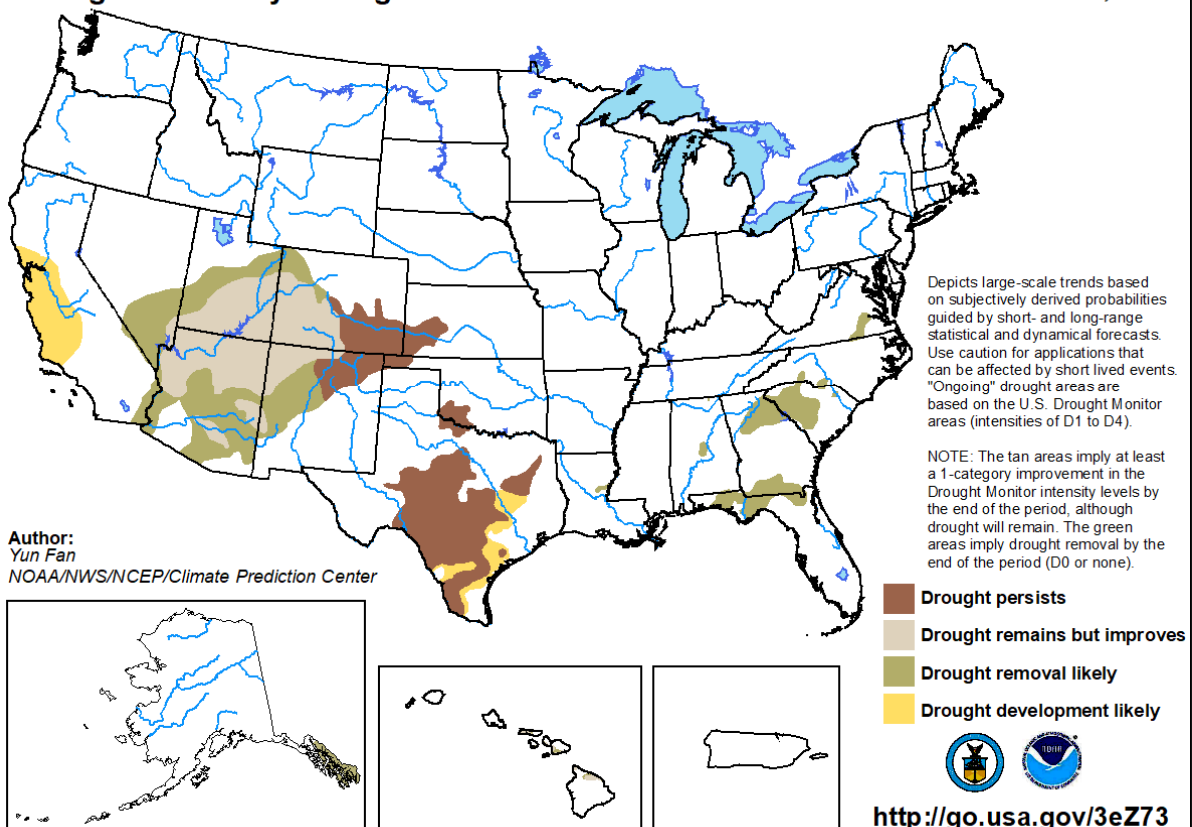


## U.S. Seasonal Drought Outlook

Valid for November 21, 2019 - February 29, 2020

Drought Tendency During the Valid Period

Released November 21, 2019



## National Weather Data for Selected Cities

Weather Data for the Week Ending November 23, 2019

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR IN.	TOTAL IN. SINCE SEP 1	PCT. NORMAL SINCE SEP 1	TOTAL IN. SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP		
																	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
AL	BIRMINGHAM	66	40	68	33	53	1	1.65	0.52	1.39	10.84	102	47.34	98	89	46	0	0	2	1	
	HUNTSVILLE	63	38	66	27	51	1	1.59	0.31	1.07	8.08	70	53.30	106	89	56	0	3	2	2	
	MOBILE	73	43	80	35	58	0	0.54	-0.83	0.54	13.93	106	58.79	98	88	49	0	0	1	1	
	MONTGOMERY	71	40	79	35	55	0	0.00	-1.14	0.00	7.79	79	41.75	86	89	43	0	0	0	0	
AK	ANCHORAGE	42	33	49	29	38	17	0.43	0.21	0.28	7.32	126	13.25	90	79	66	0	4	4	0	
	BARROW	14	6	24	-6	10	12	0.20	0.17	0.07	2.93	248	11.31	285	87	72	0	7	4	0	
	FAIRBANKS	21	3	38	-11	12	11	0.00	-0.14	0.00	2.79	110	14.25	152	82	73	0	7	0	0	
	JUNEAU	45	40	49	38	43	11	4.38	3.20	1.22	24.35	121	52.53	101	93	87	0	0	7	4	
	KODIAK	47	34	52	27	40	7	0.53	-0.96	0.31	24.26	114	59.64	90	84	72	0	3	4	0	
	NOME	18	10	24	0	14	-2	0.01	-0.27	0.01	8.82	174	26.03	171	73	55	0	7	1	0	
	FLAGSTAFF	50	24	68	15	37	1	2.37	1.96	1.94	3.61	67	19.92	97	87	50	0	7	2	1	
	PHOENIX	74	54	85	49	64	4	0.84	0.67	0.35	1.09	53	4.52	63	64	43	0	0	3	0	
	PRESCOTT	59	35	75	26	47	4	1.00	0.72	0.69	3.44	81	13.67	78	83	39	0	2	2	1	
	TUCSON	73	50	86	43	62	4	1.35	1.21	0.73	3.92	124	11.60	106	64	39	0	0	3	1	
	FORT SMITH	63	40	72	32	52	3	1.40	0.25	0.74	14.86	133	64.93	165	94	59	0	1	3	2	
	LITTLE ROCK	62	39	71	32	50	-1	1.66	0.28	0.95	12.31	101	59.56	133	94	48	0	1	2	2	
CA	BAKERSFIELD	69	47	82	44	58	4	0.37	0.23	0.37	0.39	46	6.89	125	77	57	0	0	1	0	
	FRESNO	70	47	76	43	58	7	0.00	-0.25	0.00	0.00	0	9.52	99	79	60	0	0	0	0	
	LOS ANGELES	77	57	93	53	67	6	0.37	0.10	0.34	0.37	28	13.23	121	70	47	2	0	3	0	
	REDDING	73	44	87	35	59	9	0.00	-0.96	0.00	0.39	7	32.48	117	61	41	0	0	0	0	
	SACRAMENTO	70	43	75	39	57	5	0.00	-0.52	0.00	0.12	4	19.48	131	91	38	0	0	0	0	
	SAN DIEGO	76	56	91	52	66	5	0.78	0.53	0.38	0.89	64	9.32	102	84	48	1	0	3	0	
	SAN FRANCISCO	67	50	74	47	58	4	0.00	-0.61	0.00	0.06	2	18.48	112	81	62	0	0	0	0	
	STOCKTON	71	44	76	40	57	5	0.00	-0.41	0.00	0.23	10	12.70	110	84	58	0	0	0	0	
CO	ALAMOSA	51	16	59	5	34	7	0.02	-0.07	0.02	0.82	43	7.06	104	81	41	0	7	1	0	
	CO SPRINGS	50	28	66	20	39	4	0.46	0.37	0.41	1.64	65	11.41	68	76	38	0	5	2	0	
	DENVER INTL	51	28	67	23	40	4	0.31	0.19	0.15	1.67	70	14.66	111	83	48	0	5	3	0	
	GRAND JUNCTION	54	32	61	25	43	6	0.37	0.23	0.19	0.65	26	7.52	90	73	50	0	4	3	0	
	PUEBLO	53	24	71	9	38	1	0.42	0.31	0.36	2.08	107	12.82	108	85	61	0	7	2	0	
	BRIDGEPORT	47	35	54	28	41	-3	0.50	-0.35	0.21	7.59	77	43.28	109	75	55	0	2	4	0	
	HARTFORD	47	33	55	20	40	-1	0.41	-0.53	0.34	9.68	86	43.15	104	69	54	0	2	4	0	
	WASHINGTON	52	40	56	35	46	-2	1.05	0.34	0.50	8.12	87	38.89	109	85	53	0	0	3	1	
DE	WILMINGTON	51	35	55	29	43	-2	0.41	-0.35	0.34	6.56	70	43.47	113	82	47	0	2	2	0	
FL	DAYTONA BEACH	71	50	79	47	61	-5	0.00	-0.68	0.00	19.59	145	55.41	121	99	53	0	0	0	0	
	JACKSONVILLE	72	47	80	44	59	-2	0.05	-0.49	0.05	9.35	69	41.48	84	93	48	0	0	1	0	
	KEY WEST	79	70	82	67	75	-1	0.00	-0.56	0.00	8.83	74	27.68	76	77	57	0	0	0	0	
	MIAMI	78	62	83	57	70	-4	0.00	-0.72	0.00	8.63	49	60.55	108	77	46	0	0	0	0	
	ORLANDO	74	53	81	48	64	-4	0.00	-0.55	0.00	8.78	86	42.66	94	89	53	0	0	0	0	
	PENSACOLA	73	47	79	43	60	0	0.12	-0.94	0.12	5.78	43	45.40	77	95	61	0	0	1	0	
	TALLAHASSEE	72	43	80	36	58	-2	0.09	-0.82	0.09	5.22	47	35.59	61	92	53	0	0	1	0	
	TAMPA	74	55	79	50	65	-4	0.00	-0.39	0.00	8.61	87	55.92	134	89	52	0	0	0	0	
	WEST PALM BEACH	76	60	82	54	68	-5	0.00	-1.33	0.00	9.90	55	53.86	94	82	53	0	0	0	0	
	ATHENS	66	43	68	37	55	3	0.59	-0.28	0.58	7.28	74	41.09	95	85	48	0	0	2	1	
	ATLANTA	65	46	66	43	55	2	0.57	-0.43	0.56	6.79	67	39.36	87	76	50	0	0	2	1	
	AUGUSTA	68	42	74	35	55	1	0.27	-0.32	0.26	7.50	84	44.74	110	88	58	0	0	2	0	
	COLUMBUS	69	45	72	38	57	1	0.34	-0.64	0.34	9.45	115	40.89	95	88	41	0	0	1	0	
	MACON	69	43	73	35	56	2	0.53	-0.25	0.52	8.50	107	35.80	89	91	43	0	0	2	1	
	SAVANNAH	69	46	78	39	58	0	0.01	-0.52	0.01	14.74	146	45.54	98	93	51	0	0	1	0	
	HILO	84	71	87	70	78	4	5.90	2.07	1.36	27.51	90	84.90	76	86	79	0	0	7	5	
	HONOLULU	86	74	88	71	80	3	2.38	1.88	1.63	5.92	129	14.98	101	77	66	0	0	3	2	
	KAHULUI	88	70	92	67	79	3	0.07	-0.45	0.04	0.64	22	10.37	69	81	70	2	0	4	0	
	LIHUE	82	72	84	69	77	1	3.37	2.28	1.72	13.37	127	31.06	92	94	81	0	0	7	3	
	BOISE	54	31	60	25	42	3	0.01	-0.32	0.01	1.09	44	13.30	128	75	56	0	4	1	0	
ID	LEWISTON	45	35	54	27	40	1	0.40	0.12	0.29	2.48	94	11.91	105	86	80	0	3	2	0	
	POCATELLO	50	24	55	17	37	4	0.00	-0.25	0.00	2.10	79	11.42	102	80	52	0	7	0	0	
	CHICAGO/O'HARE	43	32	54	24	37	-1	0.56	-0.13	0.51	15.19	184	47.03	142	89	74	0	3	3	1	
	MOLINE	45	30	56	25	38	0	0.89	0.27	0.53	11.38	141	46.18	131	87	72	0	5	4	1	
	PEORIA	45	32	56	28	38	-1	0.67	-0.04	0.40	13.83	171	49.04	149	89	68	0	4	3	0	
	ROCKFORD	43	31	56	23	37	1	0.77	0.16	0.54	14.89	186	48.82	144	93	78	0	3	3	1	
	SPRINGFIELD	48	31	60	26	39	-2	0.39	-0.27	0.21	9.42	124	44.52	138	90	68	0	5	3	0	
	EVANSVILLE	49	35	54	25	42	-3	0.74	-0.28	0.30	8.26	94	54.27	137	89	70	0	2	4	0	
	FORT WAYNE	45	29	53	21	37	-3	0.46	-0.23	0.29	6.80	89	36.06	109	92	67	0	4	3	0	
	INDIANAPOLIS	44	32	52	26	38	-4	0.57	-0.28	0.45	5.89	71	43.92	119	95	74	0	5	4	0	
	SOUTH BEND	43	30	54	19	36	-3	0.51	-0.29	0.50	12.62	132	43.20	121	87	75	0	3	2	1	
	BURLINGTON	46	32	56	26	39	0	0.49	-0.14	0.31	11.01	129	42.94	122	91	66	0	2	4	0	
IA	CEDAR RAPIDS	44	26	53	19	35															

**Weather Data for the Week Ending November 23, 2019**

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	PRECIP			
																			.01 INCH OR MORE	.50 INCH OR MORE		
KY	WICHITA	60	36	74	29	48	5	0.24	-0.16	0.18	4.45	65	40.04	140	71	53	0	3	3	0		
	JACKSON	54	37	58	30	46	-1	1.88	0.86	1.14	8.63	87	48.10	109	93	57	0	1	2	2		
	LEXINGTON	53	36	61	27	45	0	1.19	0.36	0.74	9.94	121	46.45	114	82	64	0	1	4	1		
	LOUISVILLE	51	38	61	29	44	-3	0.84	-0.08	0.50	7.41	86	47.19	119	86	62	0	1	4	1		
LA	PADUCAH	55	36	64	24	46	0	2.12	1.02	1.07	10.79	105	66.61	153	89	61	0	2	4	2		
	BATON ROUGE	73	44	77	34	59	1	0.63	-0.51	0.33	11.14	92	61.15	108	93	43	0	0	2	0		
	LAKE CHARLES	75	48	82	35	61	2	1.31	0.19	1.31	12.62	95	64.86	126	91	49	0	0	1	1		
	NEW ORLEANS	75	48	82	39	62	1	0.20	-1.06	0.20	12.93	106	59.69	104	88	51	0	0	1	0		
ME	SHREVEPORT	71	42	79	27	57	2	0.04	-1.03	0.03	8.56	76	40.90	90	91	48	0	1	2	0		
	CARIBOU	31	18	36	-1	25	-5	1.24	0.52	0.82	11.54	134	38.06	114	89	70	0	7	3	1		
MD	PORTLAND	42	28	49	16	35	-3	0.49	-0.60	0.30	8.12	71	42.42	105	83	57	0	5	4	0		
	BALTIMORE	52	36	57	28	44	-1	0.65	-0.08	0.49	7.20	76	35.09	93	82	51	0	1	4	0		
MA	BOSTON	47	36	56	27	41	-3	0.80	-0.12	0.24	8.13	79	42.76	113	78	57	0	1	4	0		
	WORCESTER	40	29	49	20	35	-4	0.58	-0.41	0.36	10.92	88	46.15	104	89	62	0	6	4	0		
MI	ALPENA	42	26	47	13	34	0	0.12	-0.35	0.12	9.69	144	34.01	130	89	62	0	5	1	0		
	GRAND RAPIDS	43	30	53	20	36	-2	0.28	-0.53	0.28	15.69	165	47.21	141	89	67	0	4	1	0		
	HOUGHTON LAKE	38	26	44	16	32	-2	0.37	-0.12	0.36	10.94	157	35.70	136	90	75	0	7	2	0		
	LANSING	43	27	52	16	35	-2	0.31	-0.32	0.29	10.78	140	38.13	133	86	67	0	5	3	0		
MN	MUSKEGON	42	31	51	22	37	-1	0.61	-0.15	0.59	15.71	179	46.14	157	83	70	0	4	2	1		
	TRAVERSE CITY	41	29	48	24	35	-1	0.53	-0.08	0.53	13.15	154	39.44	131	86	65	0	5	1	1		
	DULUTH	35	25	42	15	30	3	0.62	0.13	0.35	11.02	133	32.89	111	89	72	0	7	4	0		
	INT'L FALLS	34	23	38	13	29	6	0.31	0.01	0.28	12.13	199	33.09	144	89	77	0	7	3	0		
MS	MINNEAPOLIS	40	29	45	19	35	4	0.65	0.22	0.43	10.06	158	43.95	157	87	76	0	5	4	0		
	ROCHESTER	39	26	46	18	32	2	1.09	0.63	0.67	15.80	229	55.01	184	92	84	0	6	4	1		
	ST. CLOUD	39	26	45	16	33	6	0.46	0.14	0.24	13.02	201	41.68	159	93	69	0	6	5	0		
	JACKSON	70	39	76	28	54	0	0.42	-0.80	0.24	15.99	155	58.63	119	88	43	0	1	2	0		
MO	MERIDIAN	70	39	76	30	55	0	0.57	-0.65	0.51	13.65	131	59.03	114	89	49	0	1	2	1		
	TUPELO	64	40	70	30	52	1	1.85	0.63	1.17	9.14	89	67.50	140	86	56	0	1	3	1		
	COLUMBIA	53	36	68	30	45	3	0.42	-0.40	0.23	8.63	93	46.87	127	87	57	0	2	4	0		
	KANSAS CITY	55	34	68	28	45	4	0.29	-0.23	0.17	8.42	87	51.73	145	91	52	0	3	2	0		
MT	SAINT LOUIS	53	36	63	31	44	0	0.31	-0.59	0.19	7.22	85	50.28	144	86	63	0	1	5	0		
	SPRINGFIELD	56	36	70	29	46	1	0.79	-0.30	0.66	11.75	102	51.82	128	86	63	0	2	3	1		
	BILLINGS	50	30	64	19	40	7	0.00	-0.15	0.00	5.37	169	21.59	155	73	47	0	6	0	0		
	BUTTE	45	22	53	13	34	8	0.18	0.06	0.09	2.50	108	12.56	104	86	47	0	7	2	0		
NE	CUT BANK	38	22	54	1	30	2	0.12	0.04	0.11	2.49	130	12.50	104	79	56	0	4	2	0		
	GLASGOW	41	25	55	15	33	7	0.40	0.33	0.20	6.36	321	19.35	180	82	69	0	6	2	0		
	GREAT FALLS	45	29	56	12	37	6	0.28	0.17	0.20	3.92	151	17.72	126	71	52	0	4	2	0		
	HAVRE	41	24	57	4	32	4	0.45	0.37	0.37	3.63	189	13.21	123	85	74	0	6	2	0		
NV	MISSOULA	44	28	53	18	36	5	0.55	0.33	0.21	3.74	145	14.46	117	89	78	0	4	3	0		
	GRAND ISLAND	55	31	68	22	43	8	0.55	0.23	0.53	3.50	69	41.58	167	79	55	0	4	2	1		
	LINCOLN	56	30	68	18	43	6	0.37	0.01	0.37	7.09	116	33.61	124	82	56	0	6	1	0		
	NORFOLK	53	26	66	13	39	6	0.33	0.01	0.25	3.98	78	30.61	119	84	60	0	6	2	0		
NY	NORTH PLATTE	55	22	68	14	38	5	0.01	-0.14	0.01	1.66	52	30.32	159	86	34	0	7	1	0		
	OMAHA	54	31	65	22	42	6	0.50	0.08	0.41	12.07	177	39.25	136	82	60	0	5	3	0		
	SCOTTSBLUFF	53	25	64	16	39	6	0.02	-0.15	0.01	2.84	100	29.88	192	85	54	0	6	2	0		
	VALENTINE	52	21	65	7	37	5	0.00	-0.15	0.00	4.03	119	34.54	182	81	45	0	7	0	0		
OH	ELY	51	26	68	18	38	6	0.34	0.22	0.31	1.13	46	13.19	141	78	55	0	6	2	0		
	LAS VEGAS	68	48	81	43	58	4	0.70	0.64	0.68	0.94	129	5.58	141	62	47	0	0	2	1		
	RENO	57	34	69	28	46	6	0.12	-0.07	0.07	0.42	30	9.18	145	68	53	0	4	2	0		
	WINNEMUCCA	56	26	67	13	41	5	0.06	-0.11	0.06	1.21	70	8.63	119	69	44	0	5	1	0		
PA	CONCORD	41	26	46	7	34	-3	0.75	-0.08	0.41	7.62	81	36.64	108	92	59	0	6	5	0		
	NEWARK	49	36	55	28	42	-4	0.66	-0.28	0.37	9.65	96	52.36	126	82	54	0	2	4	0		
	ALBUQUERQUE	58	36	69	32	47	4	1.01	0.90	0.72	2.29	89	8.18	92	75	42	0	1	2	1		
	ALBANY	42	29	48	17	36	-2	1.19	0.43	0.96	11.33	125	41.41	120	80	60	0	5	5	1		
RI	BINGHAMTON	40	27	47	16	34	-3	0.37	-0.42	0.20	10.92	121	41.11	118	89	67	0	6	3	0		
	BUFFALO	45	29	51	19	37	-2	0.04	-0.89	0.04	13.65	138	42.01	118	84	61	0	7	1	0		
	ROCHESTER	44	28	52	15	36	-3	0.05	-0.61	0.03	9.26	114	30.57	100	84	70	0	6	2	0		
	SYRACUSE	45	29	53	18	37	-2	0.06	-0.85	0.04	11.29	112	43.24	120	81	57	0	5	2	0		
SC	ASHEVILLE	58	39	66	32	49	3	1.36	0.46	1.36	10.41	106	52.12	122	83	51	0	1	1	1		
	CHARLOTTE	59	41	65	34	50	-2	1.34	0.57	1.13	8.82	88	47.94	121	88	58	0	0	2	1		
	GREENSBORO	55	39	63	30	47	-2	1.24	0.55	1.05	8.49	87	46.58	119	93	57	0	1	2	1		
	HATTERAS	59	50	67	42	54	-3	0.54	-0.58	0.42	***	***	55.38	106	95	71	0	0	3	0		
TN	RALEIGH	58	41	66	31	49	-1	1.00	0.31	0.76	6.98	72	39.37	100	90	62	0	1	2	1		
	WILMINGTON	60	43	70	36	52	-4	0.33	-0.47	0.25	16.55	135	42.61	81	96	62	0	0	3	0		
	BISMARCK	44	28	53	19	36	10	0.13	-0.01	0.13	10.46	302	29.70	183	84	63	0	5	1	0		
	DICKINSON	45	24	54	18	34	7	0.01	-0.10	0.01	7.98	231	25.37	159	88	49	0	7	1	0		
TX	FARGO	41	25	44	12	33	8	0.06	-0.15	0.04	9.46	186	32.56	159	91	68	0	6	2	0		
	GRAND FORKS	36	21	41	2	29	5	0.45	0.25	0.32	13.79	307	30.63	162	90	71	0	7	2	0		
	JAMESTOWN	39	24	46	14	32	7	0.01	-0.12	0.01	8.77	236	30.04	168	94	69	0	7	1	0		
	WILLISTON	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	
UT	AKRON-CANTON	48	29	53	26	39	-1	0.59	-0.14	0.41	7.76	95	43.53	126	86	62	0	6	3	0		
	CINCINNATI	50	34	58	26	42	-2	0.62	-0.18	0.31	5.88	70	50.19	130	89	63	0	3	4	0		
	CLEVELAND	49	30	54	23	39	-2	0.15	-0.66	0.08	6.60	74	38.93	112	86	55	0	5	3	0		
	COLUMBUS	50	32	55	24	41	-2	0.36	-0.41	0.24	6.04	80	41.87	121	81	56	0	4	2	0		
	DAYTON	49	32	56	23	41	0	0.41	-0.36	0.36	4.87	62	40.09	112	89	59	0	4	3	0		
	MANSFIELD	48	29	54	24	39	-1	0.28	-0.63	0.16	7.98	90	46.60	120	91	59	0	4	3	0		

\*\*\* Not Available

## Weather Data for the Week Ending November 23, 2019

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE SEP 1	PCT. NORMAL SINCE SEP 1	TOTAL IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.		
																	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
OK	TOLEDO	47	28	55	22	38	-2	0.12	-0.53	0.12	8.64	120	42.14	141	80	61	0	6	1	0	
	YOUNGSTOWN	46	26	52	20	36	-4	0.36	-0.39	0.21	10.80	127	51.41	150	84	62	0	7	4	0	
	OKLAHOMA CITY	63	38	76	29	50	2	0.42	-0.03	0.37	6.30	68	44.43	133	91	54	0	1	3	0	
OR	TULSA	62	39	73	32	51	3	1.00	0.19	0.65	13.69	119	57.72	147	75	56	0	1	3	1	
	ASTORIA	54	38	57	29	46	0	0.82	-1.75	0.45	15.07	95	40.72	76	96	86	0	3	3	0	
	BURNS	51	19	58	8	35	3	0.01	-0.24	0.01	1.52	77	12.92	145	81	61	0	7	1	0	
PA	EUGENE	54	35	63	26	45	1	0.18	-1.92	0.14	7.05	65	30.26	75	92	82	0	3	2	0	
	MEDFORD	59	33	65	26	46	3	0.02	-0.70	0.02	2.54	61	17.26	118	88	52	0	4	1	0	
	PENDLETON	51	33	63	23	42	2	0.12	-0.27	0.12	1.79	64	11.53	106	84	73	0	4	1	0	
	PORTLAND	55	41	58	31	48	3	0.68	-0.70	0.50	6.60	77	22.00	74	93	79	0	2	3	1	
	SALEM	54	38	59	26	46	1	0.22	-1.35	0.17	5.89	65	25.61	81	93	77	0	3	2	0	
	ALLENTOWN	48	33	54	22	41	0	0.41	-0.47	0.35	10.22	98	56.69	139	71	54	0	3	3	0	
	ERIE	48	30	53	22	39	-3	0.18	-0.75	0.11	9.98	86	38.85	102	74	58	0	5	3	0	
	MIDDLETOWN	49	33	54	24	41	-3	0.37	-0.47	0.37	10.95	122	43.98	121	79	47	0	2	1	0	
	PHILADELPHIA	50	37	59	32	43	-3	0.24	-0.52	0.20	6.46	72	44.39	117	76	52	0	2	2	0	
	PITTSBURGH	48	28	54	24	38	-3	0.71	-0.02	0.56	13.89	182	50.64	148	90	58	0	7	2	1	
RI	WILKES-BARRE	45	33	52	22	39	-2	0.54	-0.20	0.44	8.88	96	47.14	138	78	55	0	4	3	0	
	WILLIAMSPORT	47	31	50	18	39	-1	0.67	-0.18	0.57	9.39	95	46.15	122	80	55	0	4	3	1	
	PROVIDENCE	46	34	55	25	40	-3	0.43	-0.61	0.19	7.98	74	42.29	103	86	70	0	2	4	0	
SC	CHARLESTON	65	44	74	38	54	-3	0.08	-0.53	0.08	10.77	98	40.66	85	93	51	0	0	1	0	
	COLUMBIA	63	41	71	33	52	-2	0.72	0.06	0.53	7.32	81	33.16	75	88	63	0	0	2	1	
	FLORENCE	62	42	71	37	52	-3	0.60	0.02	0.38	9.49	111	38.71	95	92	57	0	0	3	0	
SD	GREENVILLE	62	42	69	37	52	2	2.32	1.44	2.25	8.45	79	44.75	98	87	54	0	0	2	1	
	ABERDEEN	44	25	53	12	35	7	0.25	0.12	0.25	8.26	201	30.37	154	86	67	0	4	1	0	
	HURON	47	27	54	15	37	7	0.00	-0.18	0.00	6.75	163	39.75	195	90	58	0	4	0	0	
TN	RAPID CITY	50	23	61	13	37	5	0.07	-0.03	0.07	5.78	193	35.39	219	80	42	0	7	1	0	
	SIOUX FALLS	47	26	55	12	37	7	0.07	-0.23	0.06	6.15	109	36.68	153	84	64	0	5	2	0	
	BRISTOL	56	36	61	31	46	1	1.40	0.65	1.15	9.64	128	51.17	138	91	54	0	2	4	1	
TX	CHATTANOOGA	63	40	69	31	52	2	1.71	0.51	1.51	10.44	94	56.05	116	93	58	0	1	2	1	
	KNOXVILLE	59	40	64	30	50	2	2.71	1.74	2.64	8.90	105	57.13	134	89	48	0	1	2	1	
	MEMPHIS	61	41	72	32	51	0	0.79	-0.63	0.49	15.23	143	67.46	143	91	55	0	1	3	0	
UT	NASHVILLE	59	39	65	28	49	1	1.49	0.40	1.12	9.06	94	57.01	135	83	49	0	1	2	1	
	ABILENE	67	43	80	34	55	2	0.03	-0.21	0.02	2.99	43	21.97	99	82	60	0	0	2	0	
	AMARILLO	61	37	78	31	49	5	0.38	0.26	0.24	7.42	187	24.40	128	81	40	0	1	3	0	
	AUSTIN	76	47	84	36	62	3	0.04	-0.53	0.04	3.40	38	28.22	92	85	56	0	0	1	0	
	BEAUMONT	76	49	80	35	62	2	0.51	-0.62	0.51	31.55	221	85.21	160	94	56	0	0	1	1	
	BROWNSVILLE	82	61	86	53	71	4	0.00	-0.37	0.00	7.85	74	21.54	82	90	55	0	0	0	0	
	CORPUS CHRISTI	78	57	84	50	68	4	0.00	-0.34	0.00	9.71	94	22.73	75	94	64	0	0	0	0	
	DEL RIO	76	51	82	40	64	5	0.00	-0.19	0.00	1.75	36	15.02	87	86	55	0	0	0	0	
	EL PASO	67	44	74	36	56	4	0.37	0.29	0.19	3.60	136	6.35	75	77	34	0	0	4	0	
	FORT WORTH	69	44	80	34	56	2	0.20	-0.33	0.16	5.37	62	32.50	103	85	47	0	0	3	0	
VA	GALVESTON	72	57	78	48	65	0	0.84	-0.04	0.84	31.33	263	59.25	151	94	65	0	0	1	1	
	HOUSTON	75	51	80	40	63	3	0.04	-0.91	0.04	21.80	180	51.02	118	90	55	0	0	1	0	
	LUBBOCK	65	39	78	33	52	5	0.07	-0.07	0.06	7.74	161	23.35	131	84	54	0	0	2	0	
	MIDLAND	73	42	81	35	57	6	0.02	-0.09	0.02	2.07	45	13.46	96	85	50	0	0	1	0	
	SAN ANGELO	73	42	82	33	57	4	0.02	-0.18	0.02	1.66	26	16.15	82	85	56	0	0	1	0	
	SAN ANTONIO	75	51	83	42	63	4	0.01	-0.53	0.01	6.02	67	21.31	70	89	51	0	0	1	0	
	VICTORIA	79	52	85	40	66	4	0.09	-0.48	0.09	8.74	77	24.60	66	92	57	0	0	1	0	
	WACO	74	45	81	34	59	3	0.08	-0.50	0.07	4.62	54	32.11	107	91	57	0	0	2	0	
	WICHITA FALLS	67	41	80	34	54	3	0.31	-0.03	0.15	5.55	73	26.58	99	91	60	0	0	3	0	
	SALT LAKE CITY	52	34	60	30	43	5	0.12	-0.19	0.12	2.18	55	17.43	117	82	49	0	2	1	0	
WV	BURLINGTON	38	23	45	7	31	-5	0.50	-0.21	0.27	14.27	153	40.54	122	84	61	0	7	4	0	
	LYNCHBURG	52	34	59	26	43	-3	1.05	0.31	0.72	8.14	84	36.81	94	84	60	0	3	3	1	
	NORFOLK	55	46	65	45	51	-1	0.46	-0.22	0.45	8.30	84	43.92	104	84	66	0	0	2	0	
WA	RICHMOND	54	39	61	30	46	-2	0.80	0.11	0.75	6.82	69	40.85	102	85	58	0	1	3	1	
	ROANOKE	51	36	60	33	43	-4	0.69	-0.05	0.50	8.36	89	39.86	103	87	62	0	0	3	1	
	WASH/DULLES	49	34	54	25	41	-3	1.12	0.35	0.83	7.79	80	37.63	99	86	58	0	3	3	1	
WI	OLYMPIA	47	32	55	25	40	-2	0.89	-1.10	0.40	10.23	84	27.45	67	97	92	0	4	4	0	
	QUILLAYUTE	53	36	57	28	45	1	4.05	0.49	2.26	28.70	115	66.00	79	96	83	0	2	4	3	
	SEATTLE-TACOMA	51	41	58	34	46	2	0.74	-0.70	0.39	8.51	93	25.73	86	91	81	0	0	3	0	
WY	SPOKANE	43	33	51	24	38	4	0.48	-0.06	0.38	4.16	123	13.28	97	90	73	0	3	2	0	
	YAKIMA	53	26	69	14	39	3	0.03	-0.21	0.03	1.10	68	7.87	121	86	66	0	5	1	0	
	BECKLEY	50	32	59	29	41	-2	0.42	-0.27	0.31	7.82	98	43.44	115	84	63	0	4	2	0	
WY	CHARLESTON	55	33	61	23	44	-1	1.02	0.13	0.65	8.26	94	42.28	106	91	51	0	3	3	1	
	ELKINS	53	25	62	19	39	-1	0.48	-0.34	0.35	7.88	86	46.59	112	87	57	0	7	2	0	
	HUNTINGTON	53	33	58	25	43	-2	0.94	0.16	0.67	7.30	92	43.96	116	92	57	0	4	3	1	
WY	EAU CLAIRE	39	28	45	21	34	3	0.81	0.37	0.69	12.01	160	42.57	139	89	66	0	5	3	1	
	GREEN BAY	39	30	45	26	34	1	0.77	0.24	0.76	15.50	2									

## National Agricultural Summary

November 18 – 24, 2019

*Weekly National Agricultural Summary provided by USDA/NASS*

### HIGHLIGHTS

**Most of the Southwest, upper and lower Mississippi Valleys, mid Atlantic, and Northeast regions received above-normal precipitation during the week, with parts of Arizona reporting 3 inches or more. Weekly temperatures were more than 2°F above normal across most of the western half of**

**the country. Parts of the northern Great Plains were more than 8°F above normal. In contrast, temperatures were 2°F or more below normal in most of the Northeast, eastern Corn Belt, mid-Atlantic, and Southeast. Parts of Florida and Maine were 4°F or more below normal.**

**Corn:** Eighty-four percent of the 2019 acreage was harvested by week's end, 9 percentage points behind last year and 12 points behind the 5-year average pace. Harvest progress was behind the 5-year average pace by 11 percentage points or more in seven of the 18 estimating states.

**Soybean:** Soybean harvest across the nation was 94 percent complete, unchanged from last year but 3 percentage points behind the 5-year average. Harvest progress was behind the 5-year average pace by 10 percentage points or more in Michigan, North Dakota, and Wisconsin.

**Winter wheat:** Nationwide, 87 percent of the winter wheat acreage had emerged by November 24, two percentage points ahead of last year but 3 points behind the 5-year average. Winter wheat emergence advanced by 10 percentage points or more from the previous week in California and North Carolina. Overall, 52 percent of the 2020 winter wheat acreage was reported in good to excellent condition, unchanged from the previous week but 3 percentage points below the same time last year.

**Cotton:** By November 24, seventy-eight percent of the nation's cotton acreage was harvested,

10 percentage points ahead of last year and 4 points ahead of the 5-year average. Harvest progress advanced 12 percentage points or more for the week in California, Kansas, Oklahoma, and Texas.

**Sorghum:** Ninety-seven percent of the 2019 sorghum acreage was harvested by November 24, nine percentage points ahead of last year and 5 points ahead of the 5-year average. Harvest in all estimating states, except South Dakota, was at or nearing completion.

**Other Crops:** Ninety-six percent of the nation's peanut acreage was harvested as of November 24, six percentage points ahead of last year and 2 points ahead of the 5-year average. Harvest was at or nearing completion in all estimating states, except Texas.

By November 24, fifty-six percent of this year's sunflower crop was harvested, 20 percentage points behind last year and 33 points behind the 5-year average. Harvest progress advanced 11 percentage points from the previous week in South Dakota. Harvest progress was behind the 5-year average pace in North Dakota and South Dakota by 49 and 29 percentage points, respectively.



**Crop Progress and Condition****Week Ending November 24, 2019**

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

Corn Percent Harvested				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
CO	96	92	96	94
IL	100	80	88	99
IN	95	80	89	95
IA	95	77	86	97
KS	94	95	97	98
KY	96	98	99	98
MI	81	39	56	83
MN	96	77	86	97
MO	99	85	92	99
NE	93	85	93	96
NC	100	100	100	100
ND	79	23	30	91
OH	85	75	83	91
PA	81	72	80	87
SD	89	53	68	96
TN	100	100	100	100
TX	98	95	98	97
WI	87	44	57	85
18 Sts	93	76	84	96
These 18 States harvested 94% of last year's corn acreage.				

Soybeans Percent Harvested				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
AR	87	93	96	97
IL	99	92	95	100
IN	95	91	94	97
IA	98	95	97	99
KS	90	92	95	96
KY	79	88	92	89
LA	98	100	100	99
MI	88	76	80	94
MN	99	97	98	100
MS	97	97	98	99
MO	84	83	91	93
NE	99	99	100	100
NC	63	61	67	68
ND	94	84	89	99
OH	90	90	93	97
SD	100	95	99	100
TN	82	85	91	91
WI	94	77	82	97
18 Sts	94	91	94	97
These 18 States harvested 96% of last year's soybean acreage.				

Cotton Percent Harvested				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
AL	77	86	92	84
AZ	68	62	70	69
AR	98	95	98	99
CA	79	65	90	88
GA	71	79	85	80
KS	36	44	64	53
LA	99	98	99	100
MS	94	89	94	98
MO	99	86	91	96
NC	80	84	89	83
OK	68	60	74	67
SC	64	86	92	78
TN	91	79	88	92
TX	58	56	68	61
VA	88	89	93	91
15 Sts	68	68	78	74
These 15 States harvested 99% of last year's cotton acreage.				

Winter Wheat Percent Emerged				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
AR	68	76	81	82
CA	34	30	40	53
CO	98	91	94	99
ID	98	95	98	97
IL	86	85	91	90
IN	88	82	89	91
KS	86	86	89	93
MI	86	81	85	92
MO	71	68	77	80
MT	93	75	81	96
NE	100	100	100	100
NC	44	47	60	55
OH	88	95	100	94
OK	86	89	92	93
OR	77	78	85	80
SD	97	98	100	99
TX	79	72	75	80
WA	90	83	91	93
18 Sts	85	83	87	90
These 18 States planted 90% of last year's winter wheat acreage.				

Winter Wheat Condition by Percent					
	VP	P	F	G	EX
AR	10	12	42	29	7
CA	0	0	15	80	5
CO	4	8	23	50	15
ID	0	1	46	43	10
IL	7	11	37	42	3
IN	3	10	39	42	6
KS	5	12	39	37	7
MI	6	10	34	40	10
MO	2	9	48	39	2
MT	2	6	24	31	37
NE	2	2	22	53	21
NC	1	2	23	70	4
OH	1	9	38	41	11
OK	2	12	34	43	9
OR	4	10	23	49	14
SD	2	2	18	66	12
TX	9	19	41	20	11
WA	0	2	27	62	9
18 Sts	4	10	34	41	11
Prev Wk	4	10	34	41	11
Prev Yr	3	10	32	45	10

Peanuts Percent Harvested				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
AL	90	95	97	93
FL	97	100	100	98
GA	92	96	99	95
NC	93	89	91	93
OK	84	87	90	91
SC	78	97	97	88
TX	79	70	79	88
VA	98	100	100	99
8 Sts	90	93	96	94
These 8 States harvested 96% of last year's peanut acreage.				

Sorghum Percent Harvested				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
CO	80	95	99	91
KS	81	92	97	91
NE	94	79	90	96
OK	89	88	95	93
SD	93	75	83	96
TX	96	100	100	92
6 Sts	88	93	97	92
These 6 States harvested 98% of last year's sorghum acreage.				

## Crop Progress and Condition

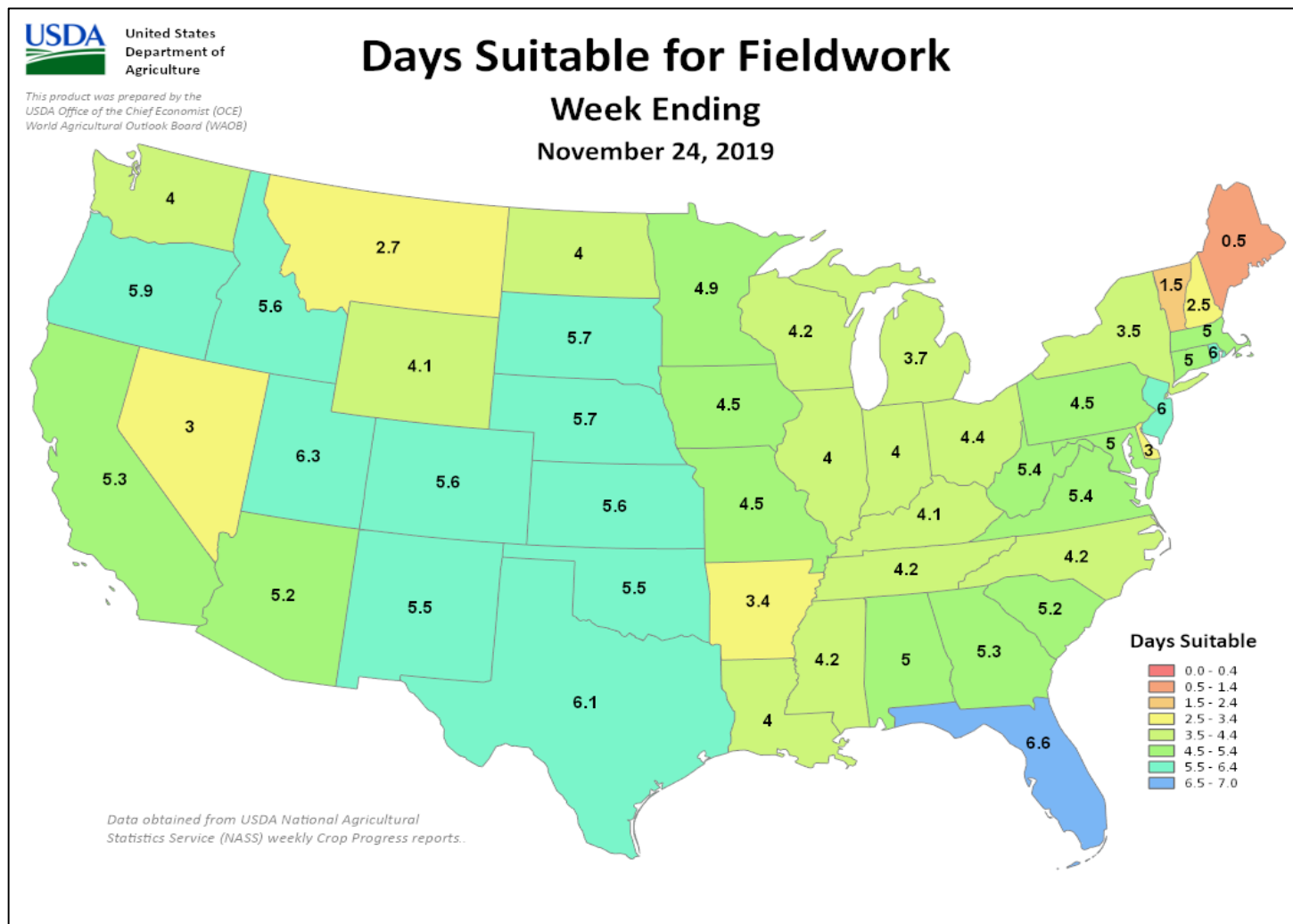
### Week Ending November 24, 2019

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

Sunflowers Percent Harvested				
	Prev Year	Prev Week	Nov 24 2019	5-Yr Avg
CO	81	92	97	90
KS	80	92	94	88
ND	79	34	41	90
SD	72	49	60	89
4 Sts	76	47	56	89
These 4 States harvested 86% of last year's sunflower acreage.				

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

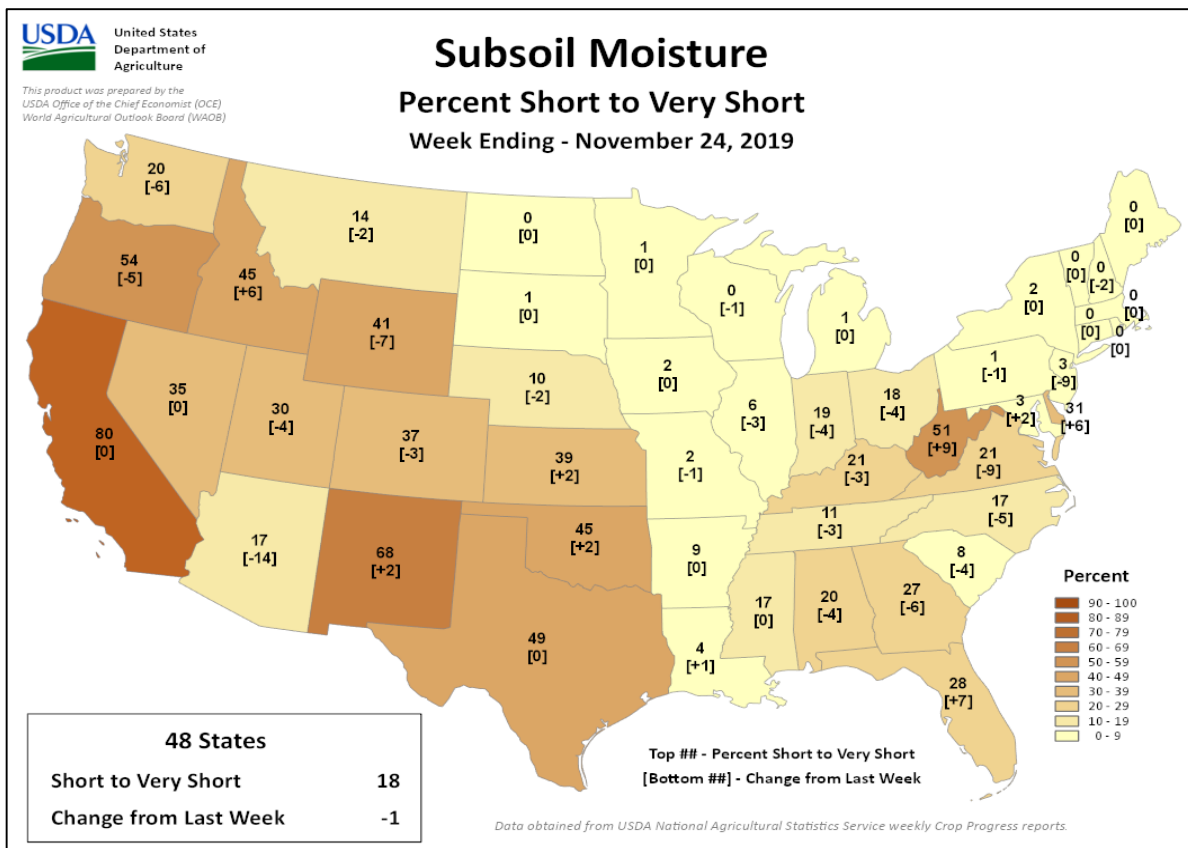
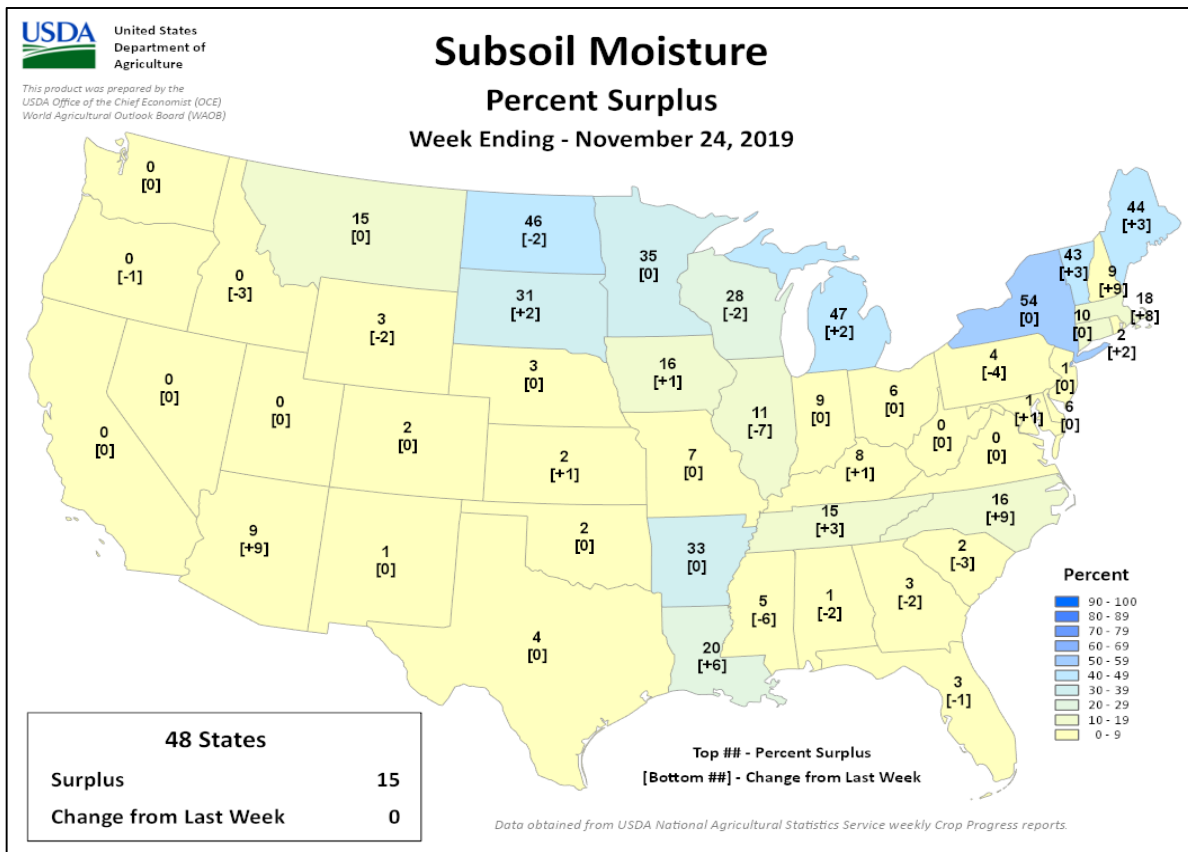
NA - Not Available  
\* Revised



## Crop Progress and Condition

### Week Ending November 24, 2019

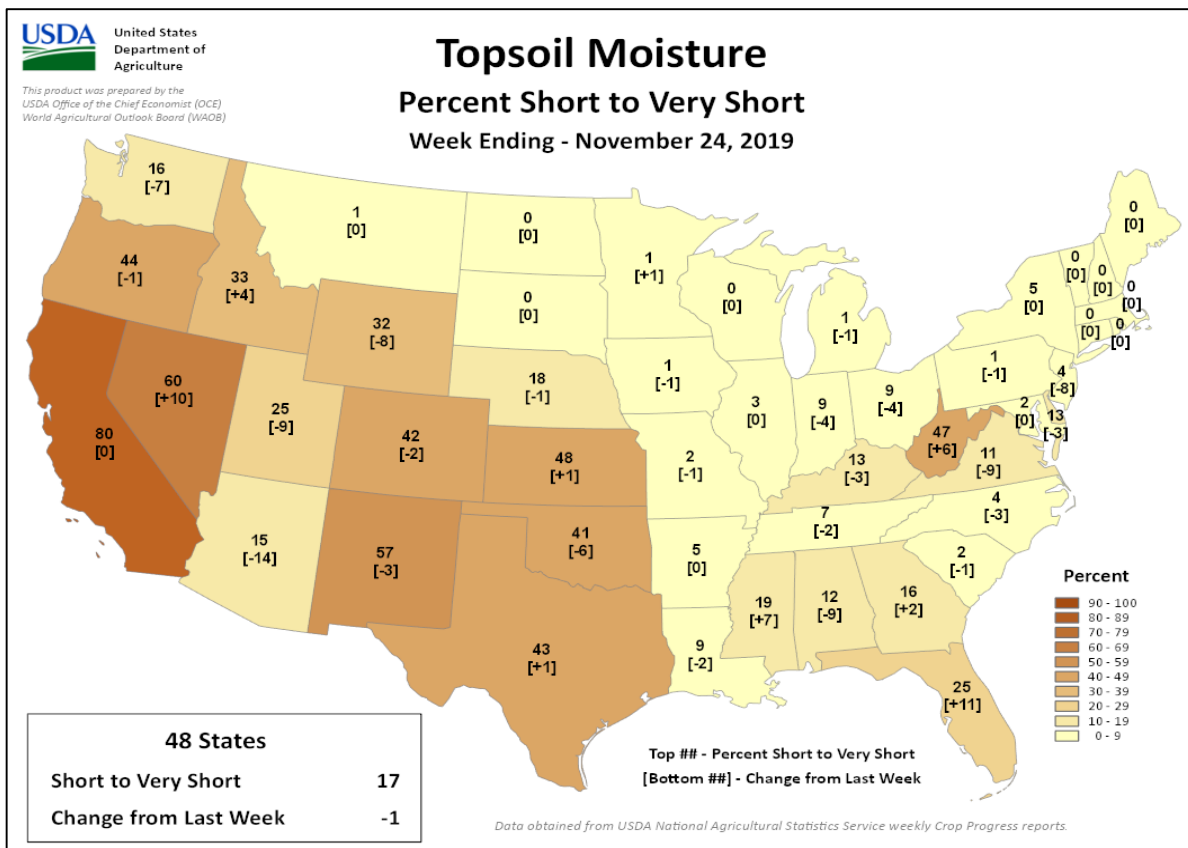
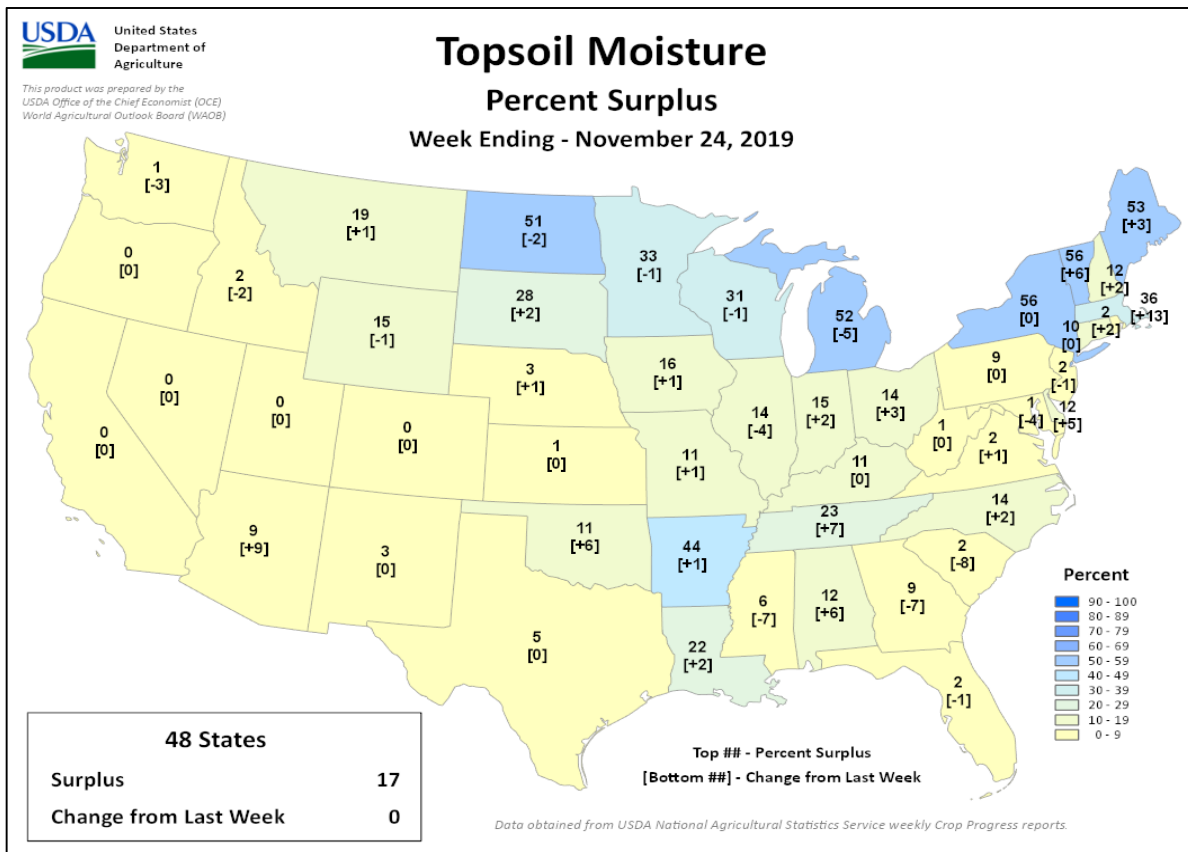
Weekly U.S. Progress and Condition Data provided by USDA/NASS



# Crop Progress and Condition

## Week Ending November 24, 2019

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



## International Weather and Crop Summary

November 17-23, 2019

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

### HIGHLIGHTS

**EUROPE:** Unsettled weather continued, with additional heavy rain and localized flooding in parts of southern Europe.

**MIDDLE EAST:** Intensifying drought in Turkey and immediate environs contrasted with timely rain across much of Iran.

**NORTHWESTERN AFRICA:** Showers expanded across the region, maintaining a favorable start to the growing season in central and eastern growing areas and easing dryness concerns in Morocco.

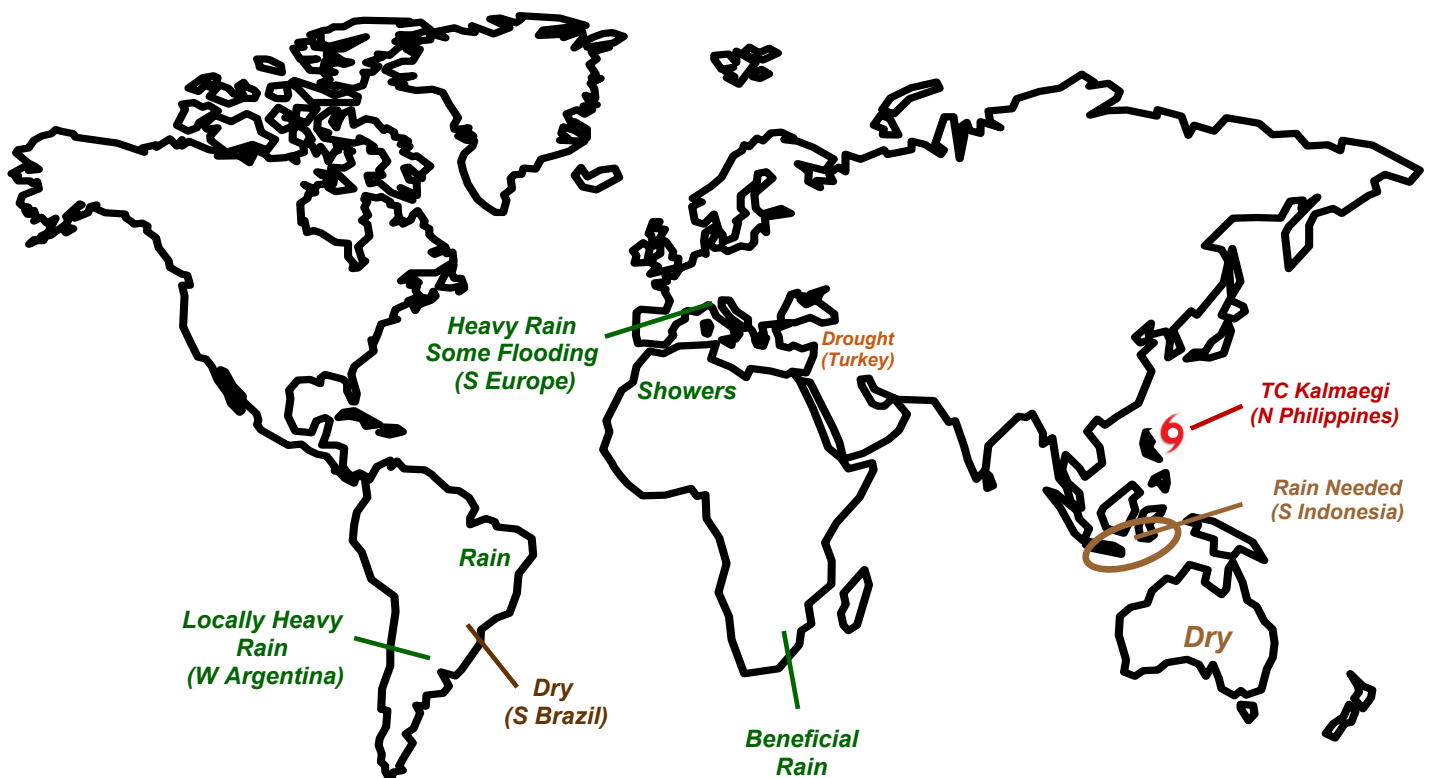
**SOUTHEAST ASIA:** Tropical Cyclone Kalmaegi continued to bring heavy showers to the northern Philippines, while seasonal rainfall remained slow to materialize in southern Indonesia.

**AUSTRALIA:** Hot, dry weather promoted winter crop drydown and harvesting.

**SOUTH AFRICA:** Conditions were overall favorable for summer crop planting in large sections of the corn belt.

**ARGENTINA:** Locally heavy rain further improved conditions for winter grains and emerging summer crops in many western production areas.

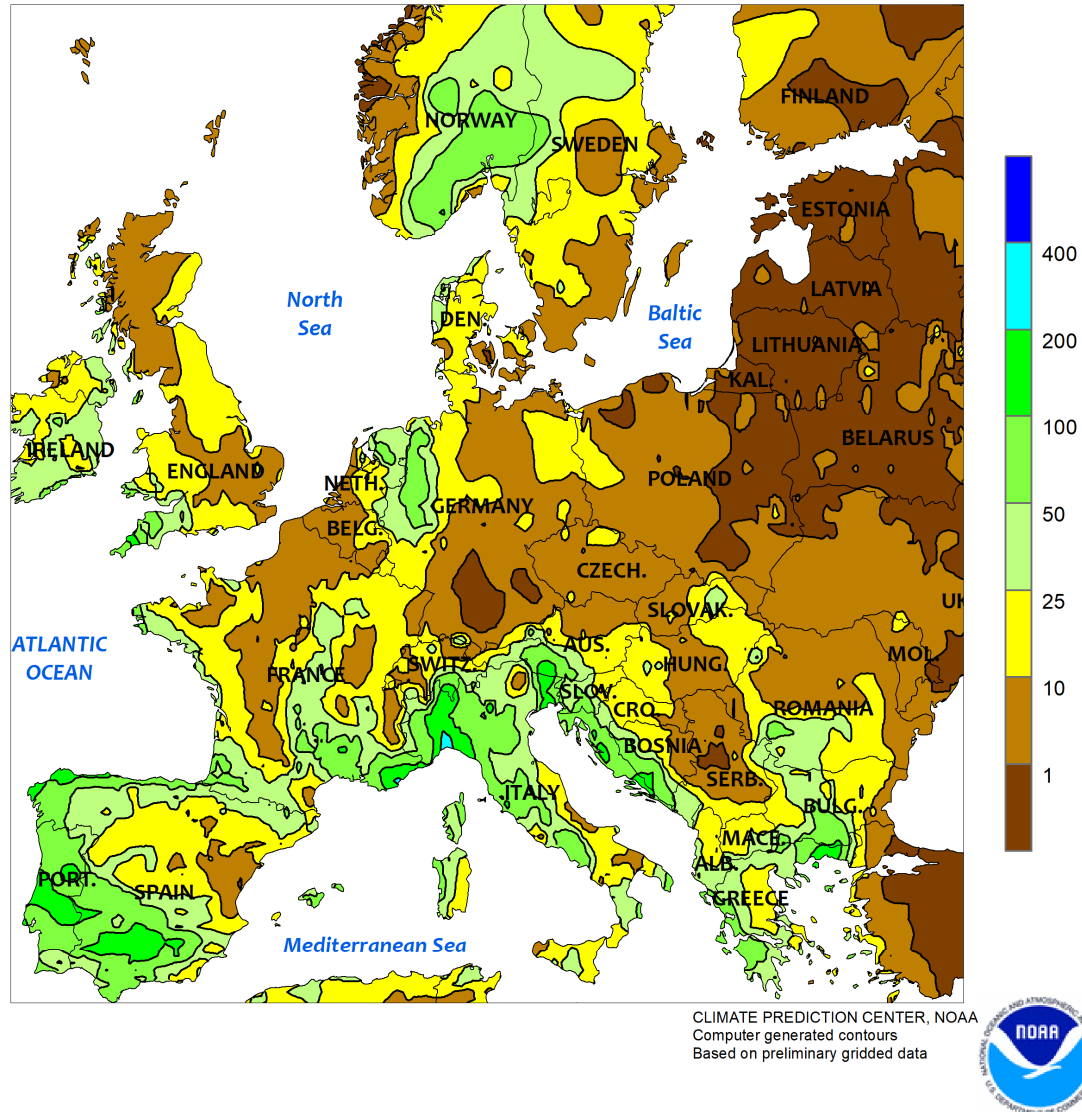
**BRAZIL:** Rain intensified in soybean and cotton areas of the northeastern interior, but rainfall diminished in southern farming areas.





## EUROPE

Total Precipitation (mm)  
November 17 - 23, 2019

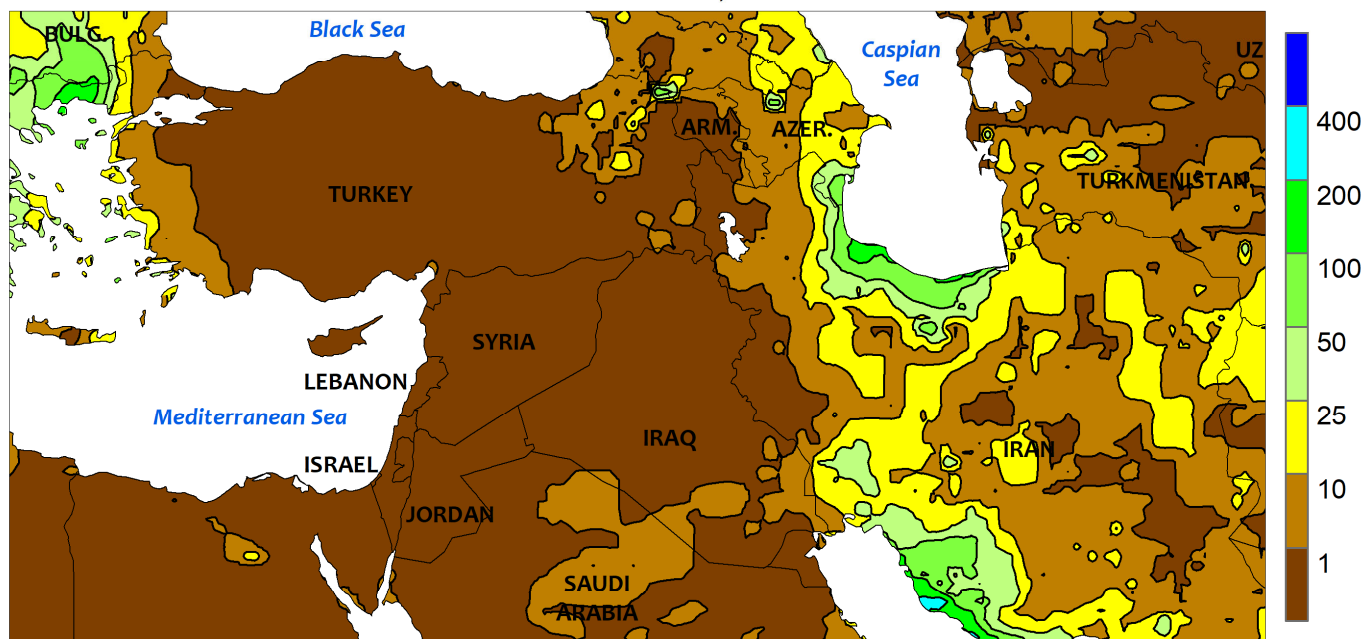


## EUROPE

With a strong high to the east acting as a block, a series of storm systems continued to move southeastward from the northeastern Atlantic before recurving slowly north-northwestward from the central Mediterranean Sea. The result was another round of widespread albeit highly variable showers (2-55 mm) across central and northern Europe, maintaining adequate to abundant moisture supplies for winter crops. Farther south, heavy rain (25-100 mm, locally more) and gusty winds from the aforementioned storms maintained localized flooding across Italy and the western Balkans, while high-elevation snow further inland provided an early season boost to mountain snowpacks and subsequent spring runoff prospects. Moderate to heavy

showers also overspread the lingering drought areas in southern portions of Spain and Portugal (15-80 mm) as well as the lower Danube River Valley (10-40 mm), though much of Serbia remained unfavorably dry (less than 5 mm, 90-day rainfall locally less than 50 percent of normal). Despite a dry September, this autumn is shaping up to be one of the wettest on record across much of Europe. The blocking high also maintained very warm weather (3-8°C above normal) across eastern growing areas, keeping winter wheat and rapeseed from going dormant. Conversely, cooler conditions (1-3°C below normal) settled over western Europe, easing winter crops in England, France, and Germany toward dormancy.

MIDDLE EAST  
Total Precipitation (mm)  
November 17 - 23, 2019



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



MIDDLE EAST

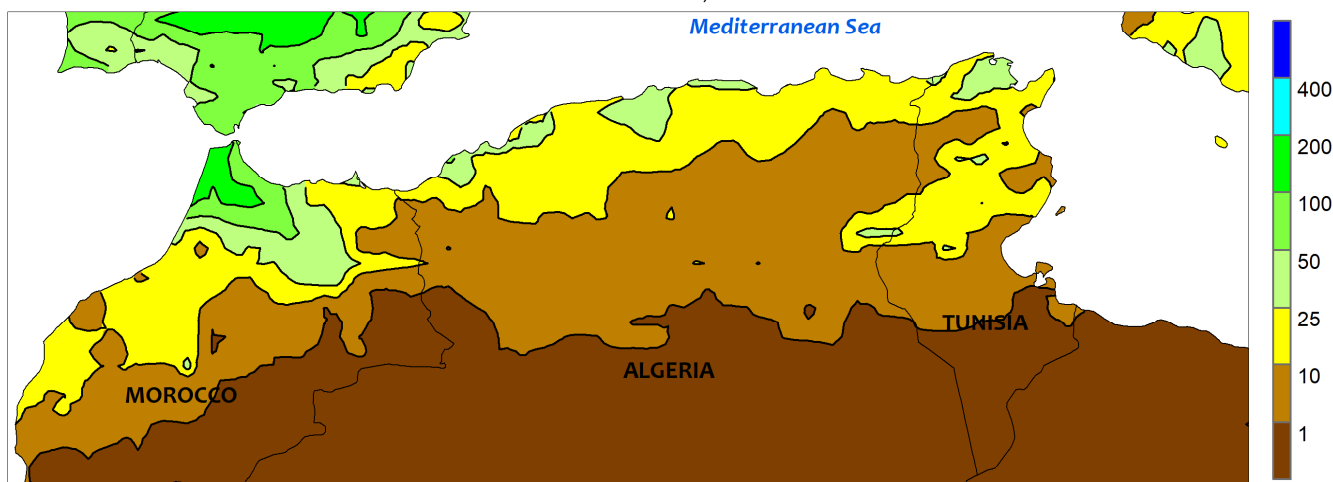
Intensifying drought across Turkey and environs contrasted with timely rain for winter grains over much of Iran. A strong blocking high north of the region maintained dry weather and near- to above-normal temperatures across Turkey and the eastern Mediterranean Coast. Drought has limited wheat and barley establishment on central Turkey's Anatolian Plateau, with 90-day rainfall totaling a meager 25 to 50 percent of normal. Likewise, acute moisture deficits over the past 30 days (locally less than 10 percent of normal) have been

detrimental to early winter grain prospects along the eastern Mediterranean Coast and from eastern Syria into northern Iraq and northwestern Iran. Conversely, moderate to heavy rain and mountain snow across western and central Iran (10-50 mm liquid equivalent, locally more in coastal areas) provided timely moisture for wheat and barley establishment. The precipitation was accompanied by temperatures up to 6°C below normal, easing winter grains toward dormancy in the Iran's colder western and northern growing areas.

## NORTHWESTERN AFRICA

Total Precipitation (mm)

November 17 - 23, 2019



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

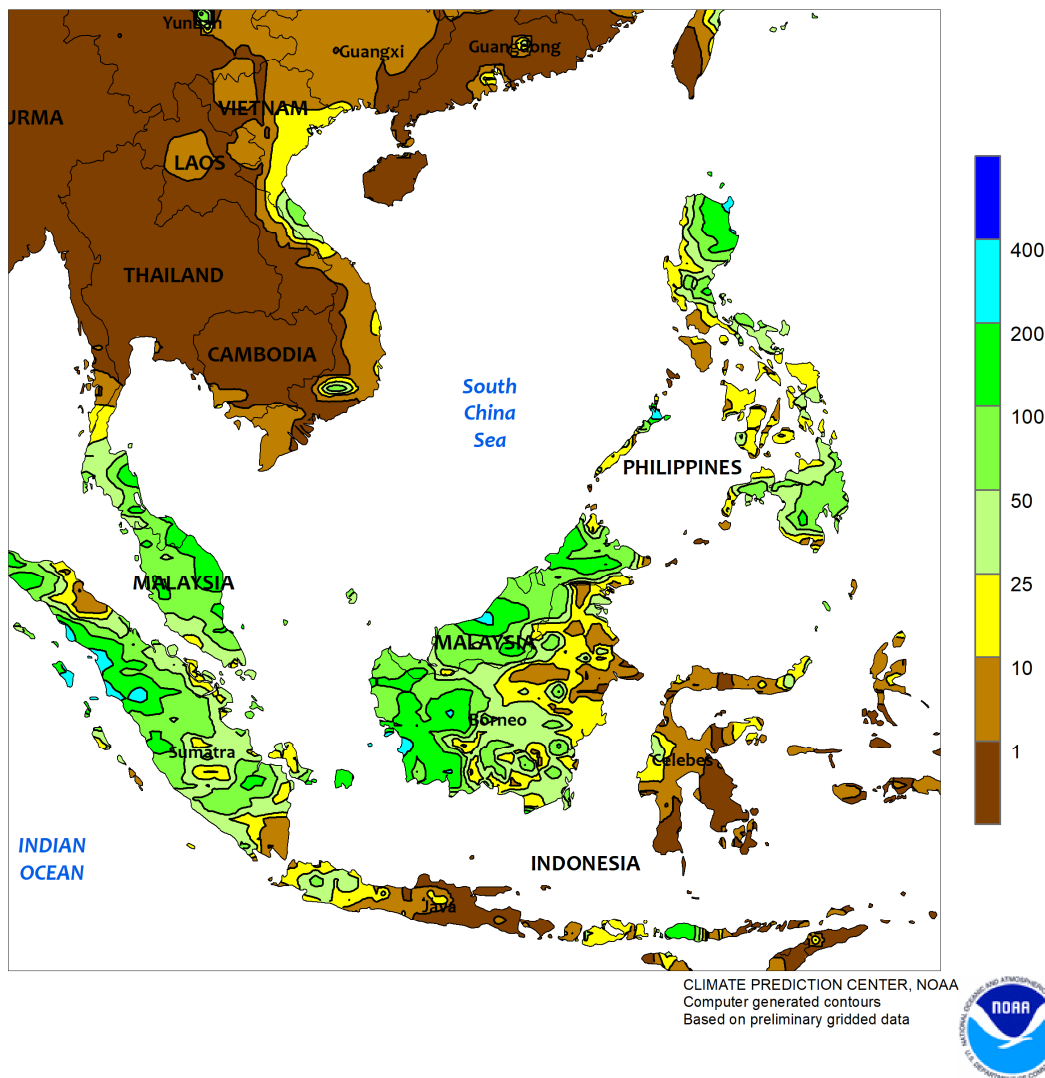


## NORTHWESTERN AFRICA

Rain eased dryness concerns in the west and maintained abundant moisture supplies in eastern growing areas. Another in a series of storm systems produced widespread showers (10-35 mm) across Algeria and Tunisia, sustaining adequate to abundant moisture supplies for winter grain emergence and establishment. Farther west, moderate to heavy showers (25-120 mm) expanded over northern Morocco, easing drought concerns and providing much-needed soil moisture for wheat

and barley establishment. However, more rain will be needed in Morocco to fully recharge soil moisture following a very dry autumn (to date). In particular, Morocco's southwestern growing areas — which missed out on the heaviest of this week's shower activity — continued to report 90-day rainfall less than 25 percent of normal. Furthermore, satellite-derived vegetation health data indicated very poor crop conditions at this early juncture across western Morocco.

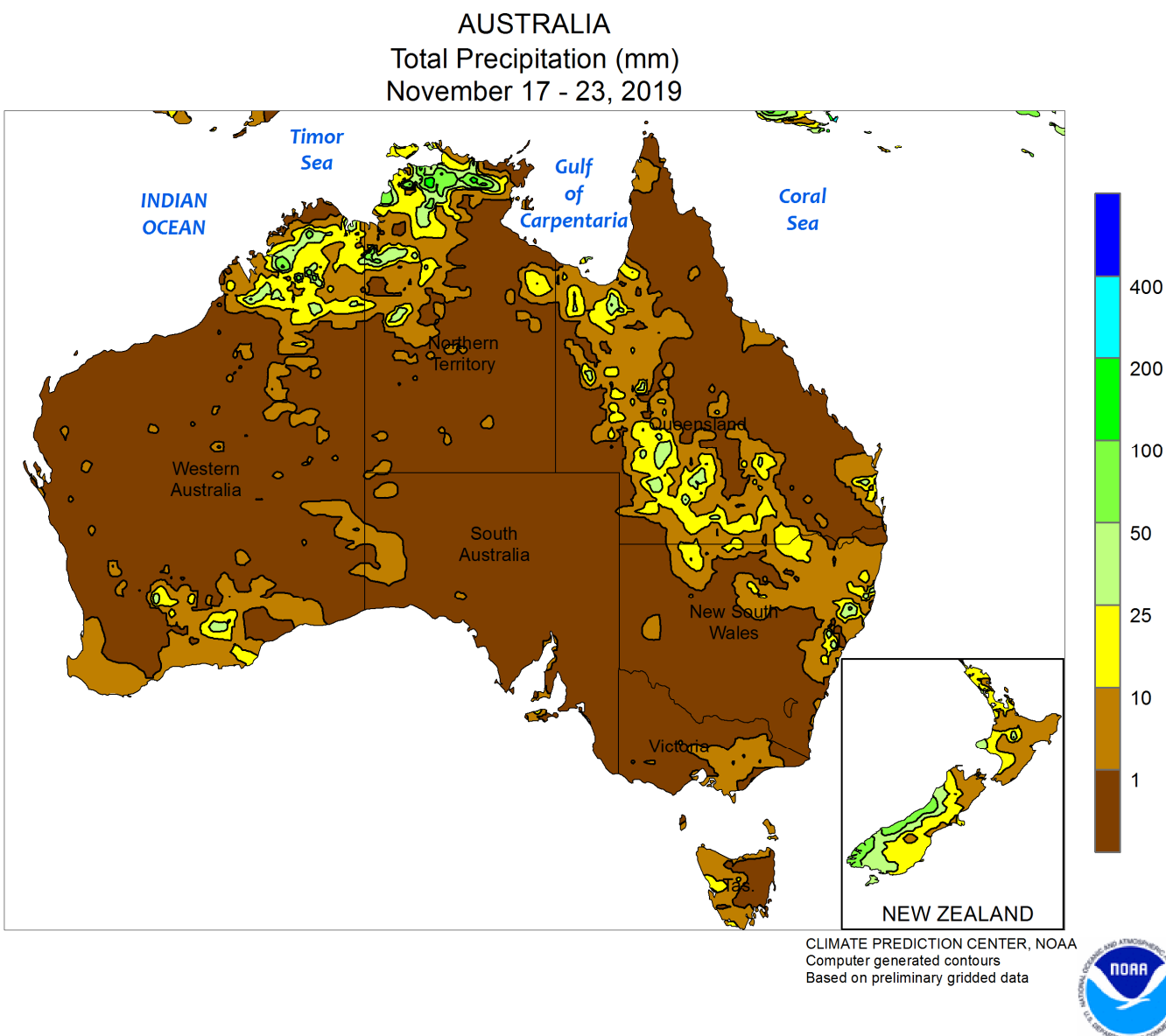
SOUTHEAST ASIA  
Total Precipitation (mm)  
November 17 - 23, 2019



### SOUTHEAST ASIA

Tropical Cyclone Kalmaegi continued to bring heavy showers to the northeastern Philippines during the first half of the period. Rainfall totals exceeded 150 mm in northeastern-most areas, while more seasonable amounts (25-100 mm) were reported in other parts of the country. The moisture benefited winter rice and corn in the north, but more moisture would be welcome in key southern growing areas (Mindanao), where

deficits have lingered for much of the calendar year. In southern portions of the region, showers increased in western Java, Indonesia, but the onset of consistent seasonal rainfall remained well behind normal, discouraging rice sowing. In contrast, rainfall (25-100 mm or more) in the remainder of Indonesia and Malaysia eased moisture shortages for oil palm but more is needed to fully eradicate deficits.



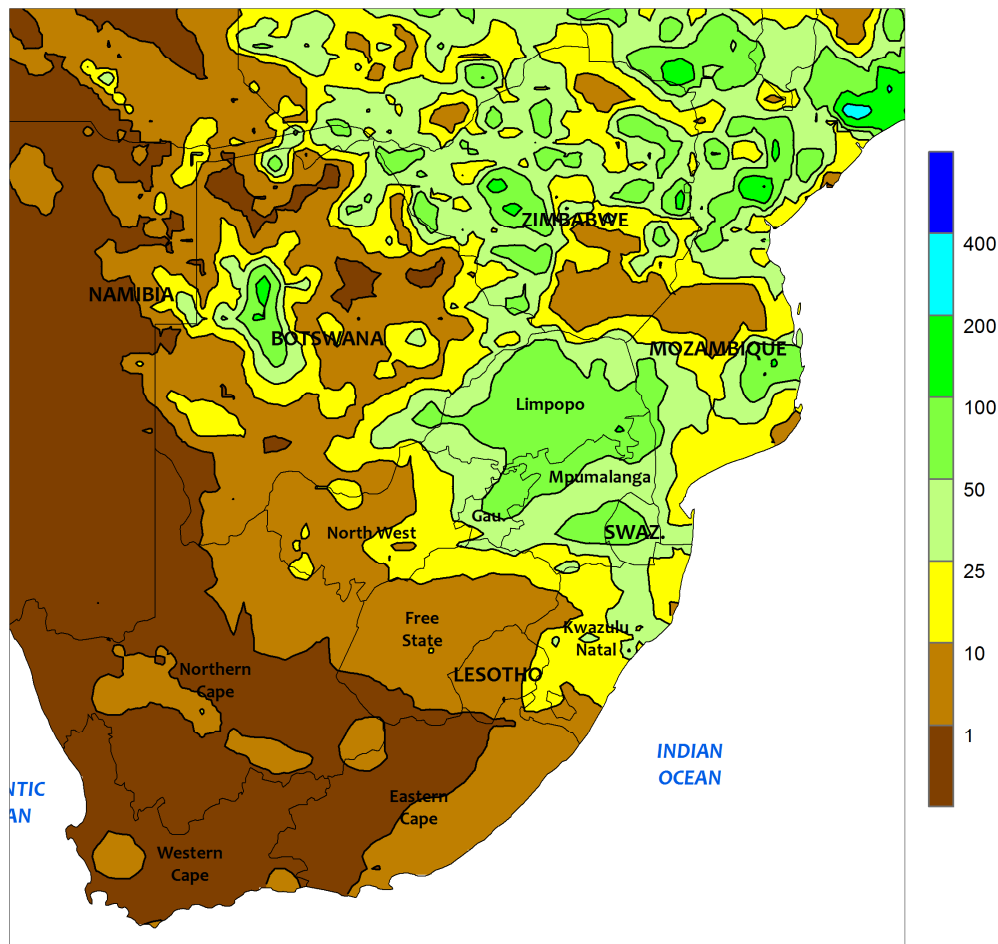
### AUSTRALIA

For the second consecutive week, dry weather prevailed throughout most of the wheat belt, promoting wheat, barley, and canola maturation and harvesting. Isolated showers overspread northeastern New South Wales and southwestern Queensland late in the week, but the showers were too light and widely scattered to qualify as meaningful drought relief. Early season yield prospects remained poor for cotton and sorghum given the

persistent lack of rainfall in eastern Australia. Temperatures averaged near normal in western Australia and 2 to 4°C above normal in southern and eastern Australia. In the south and east, maximum temperatures climbed into the lower 40s degrees C during midweek. The hot weather combined with strong winds to hasten winter crop drydown but also fan devastating wildfires which impacted local rural communities.



SOUTH AFRICA  
Total Precipitation (mm)  
November 17 - 23, 2019



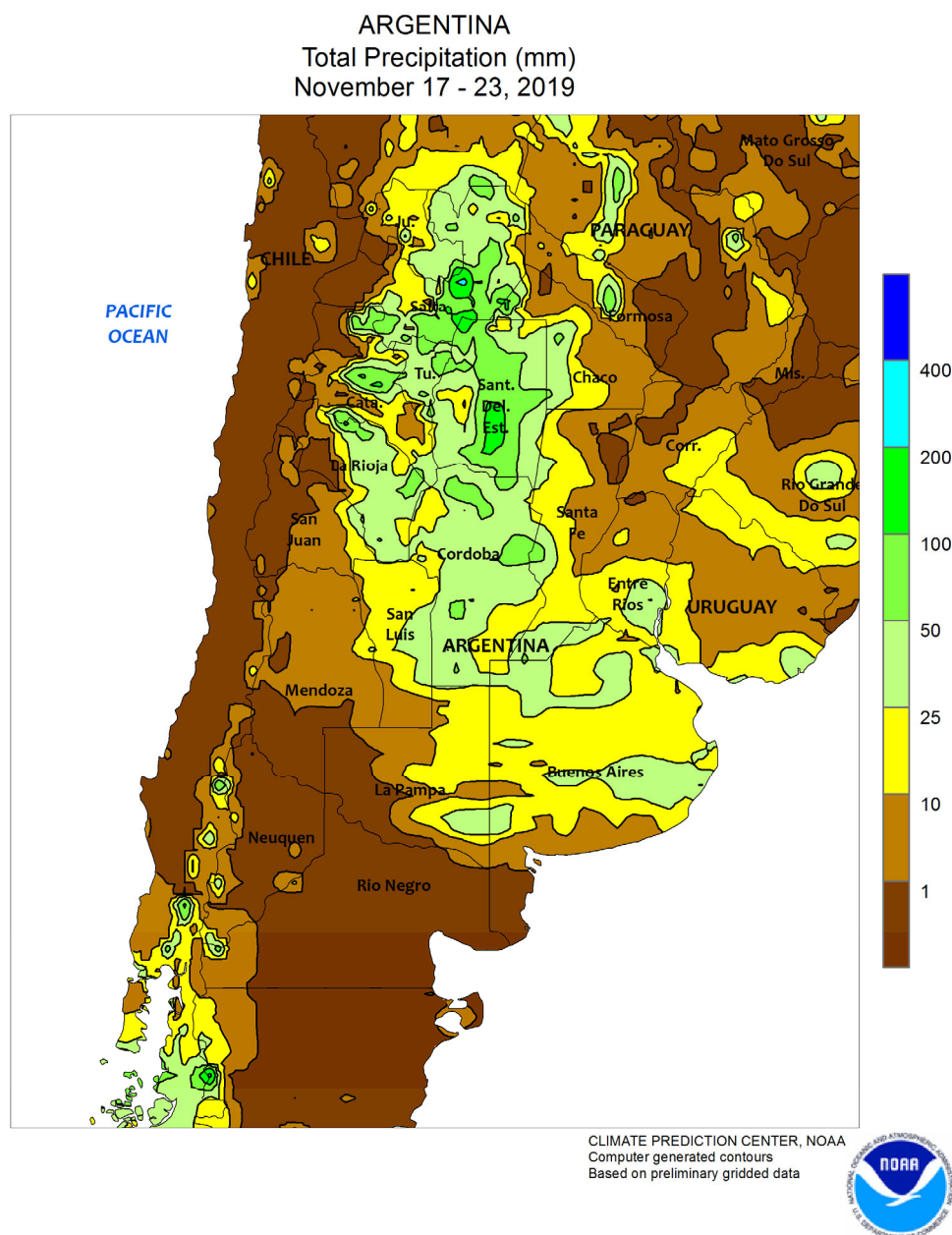
CLIMATE PREDICTION CENTER, NOAA  
Computer generated contours  
Based on preliminary gridded data



**SOUTH AFRICA**

Locally heavy showers further improved summer crop prospects in eastern and northern sections of the corn belt. Rainfall totaling 25 to 50 mm — locally exceeding 100 mm — covered most of Mpumalanga, Limpopo, and Gauteng, with lighter amounts (10-25 mm) in neighboring farming areas from North West to KwaZulu-Natal. Unseasonably warm weather (daytime highs generally ranging from the lower to middle 30s degrees C) fostered a rapid pace of germination without exposing emerging crops to extended periods of excessive heat. Elsewhere, drier

conditions prevailed along the Indian Coast, with highest amounts of rainfall (10-50 mm) confined to coastal sugarcane areas of KwaZulu-Natal. The predominantly rain-fed sugarcane areas of southern KwaZulu-Natal have trended dry for most of the season to date, and additional rain will be needed to improve current production prospects. Meanwhile, sunny, occasionally warm weather favored development of irrigated crops throughout the Cape Provinces, with daytime highs reaching the lower and middle 30s in the interior.

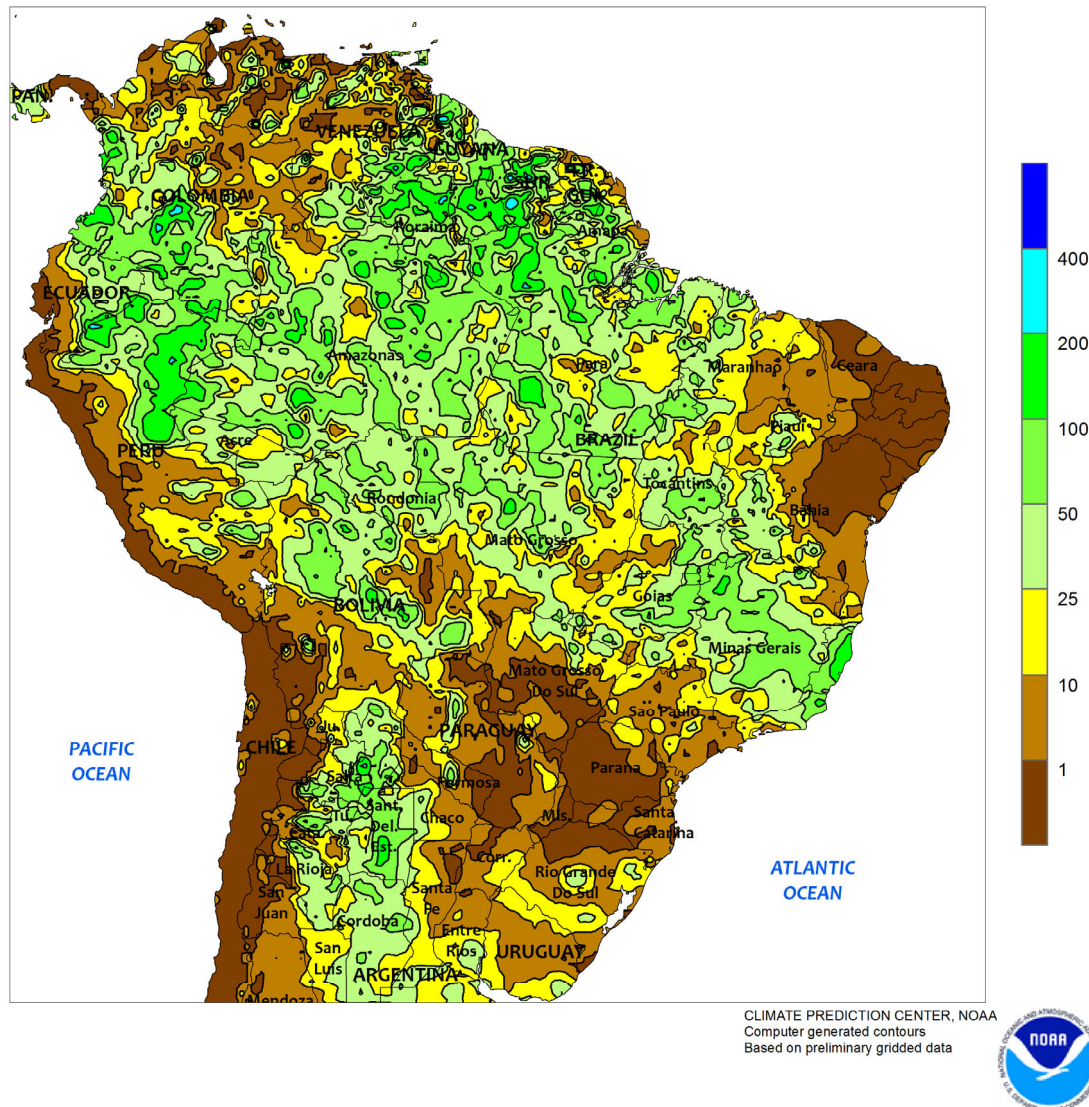


### ARGENTINA

Beneficial rain continued throughout Argentina's western farming areas, further improving prospects of immature winter grains and emerging summer crops. Rainfall totaled 10 to 50 mm in nearly all major farming areas stretching from southeastern Buenos Aires northwestward through Salta, including a return to rainy weather in the lower Parana River Valley (notably northern Buenos Aires and Entre Rios). In contrast, drier weather prevailed in the northeast, ending several weeks of overall beneficial rainfall. Dry weather also returned to traditionally more arid locations in southwestern Buenos Aires, which has

received sporadic rainfall thus far in the season. Unseasonable warmth (weekly temperatures averaging 4°C above normal over large sections of the region) maintained high levels of evapotranspiration and advanced development of winter grains possibly at the expense of yields. According to the government of Argentina, planting of sunflowers and corn were 83 and 46 percent complete, respectively, as of November 21, lagging last year's pace by 10 points for both crops; soybean planting was 36 percent complete, just 3 points off last year's pace. Cotton was 60 percent harvested versus 65 percent last year.

BRAZIL  
Total Precipitation (mm)  
November 17 - 23, 2019



### BRAZIL

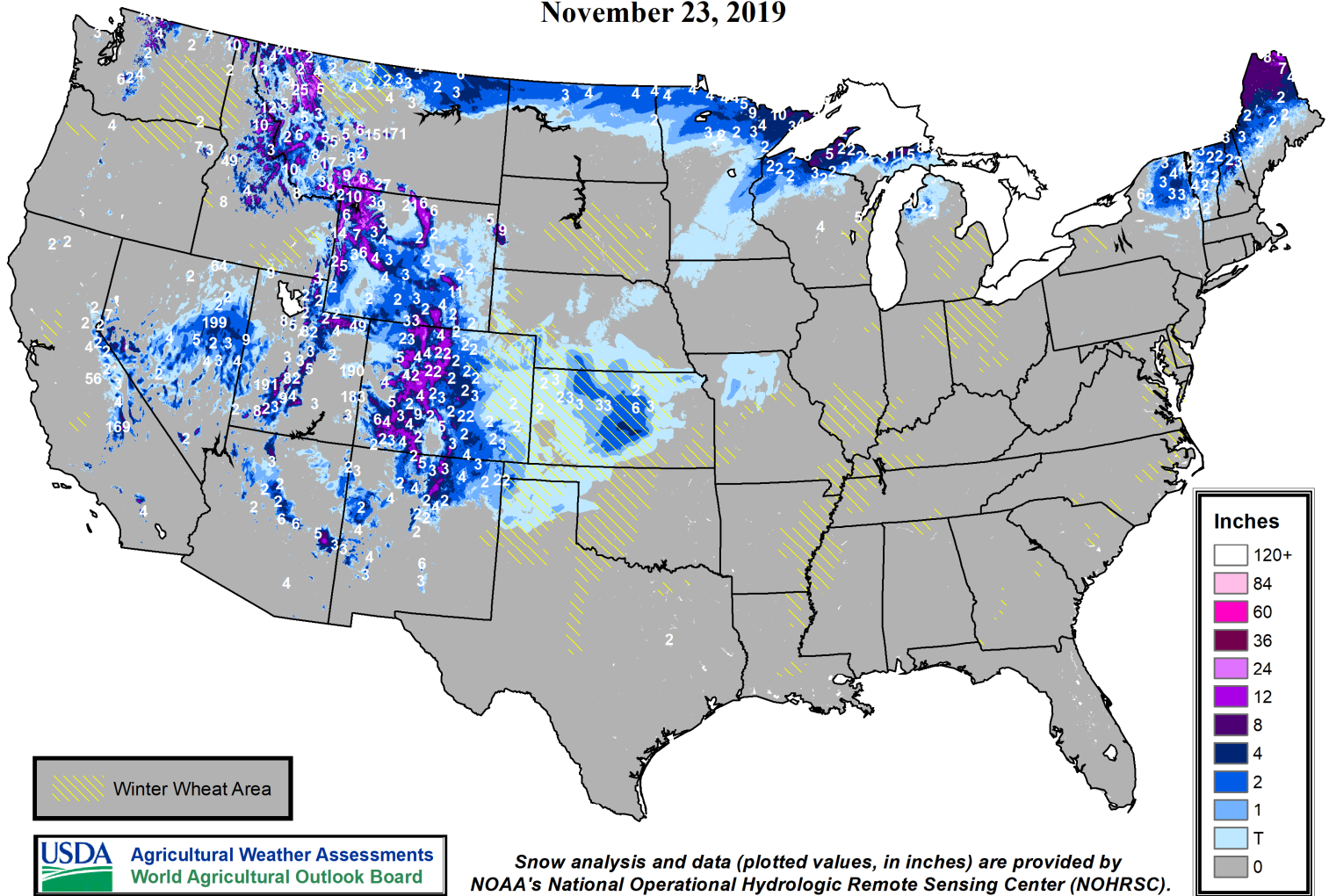
Showers brought needed relief from dryness to the northeastern interior, but rainfall diminished in many other summer production areas. Rainfall totals ranged from 25 to locally more than 100 mm from Para and western Maranhão south- and slightly eastward through Minas Gerais, providing a much-needed boost in moisture for germination and establishment of soybeans and other main-season summer crops. In contrast, drier conditions (rainfall totaling less than 25 mm) prevailed from southern Mato Grosso southward through Rio Grande do Sul; unseasonably hot weather (weekly temperatures averaging 4°C above normal, with highs reaching the upper 30s degrees C)

accompanied the dryness, spurring rapid development of soybeans and first-crop corn but arriving before most crops entered reproduction. According to the government of Parana, planting of soybeans and first-crop corn were virtually complete as of November 18, with earlier-planted crops entering reproduction; wheat was 98 percent harvested. In Rio Grande do Sul, corn was reportedly 84 percent planted as of November 21, slightly behind of the 5-year average pace (87 percent); soybeans were 53 percent planted versus 60 percent on average. Wheat harvesting was 91 percent complete in Rio Grande do Sul, on par with the 5-year average.



# Snow Depth

November 23, 2019



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