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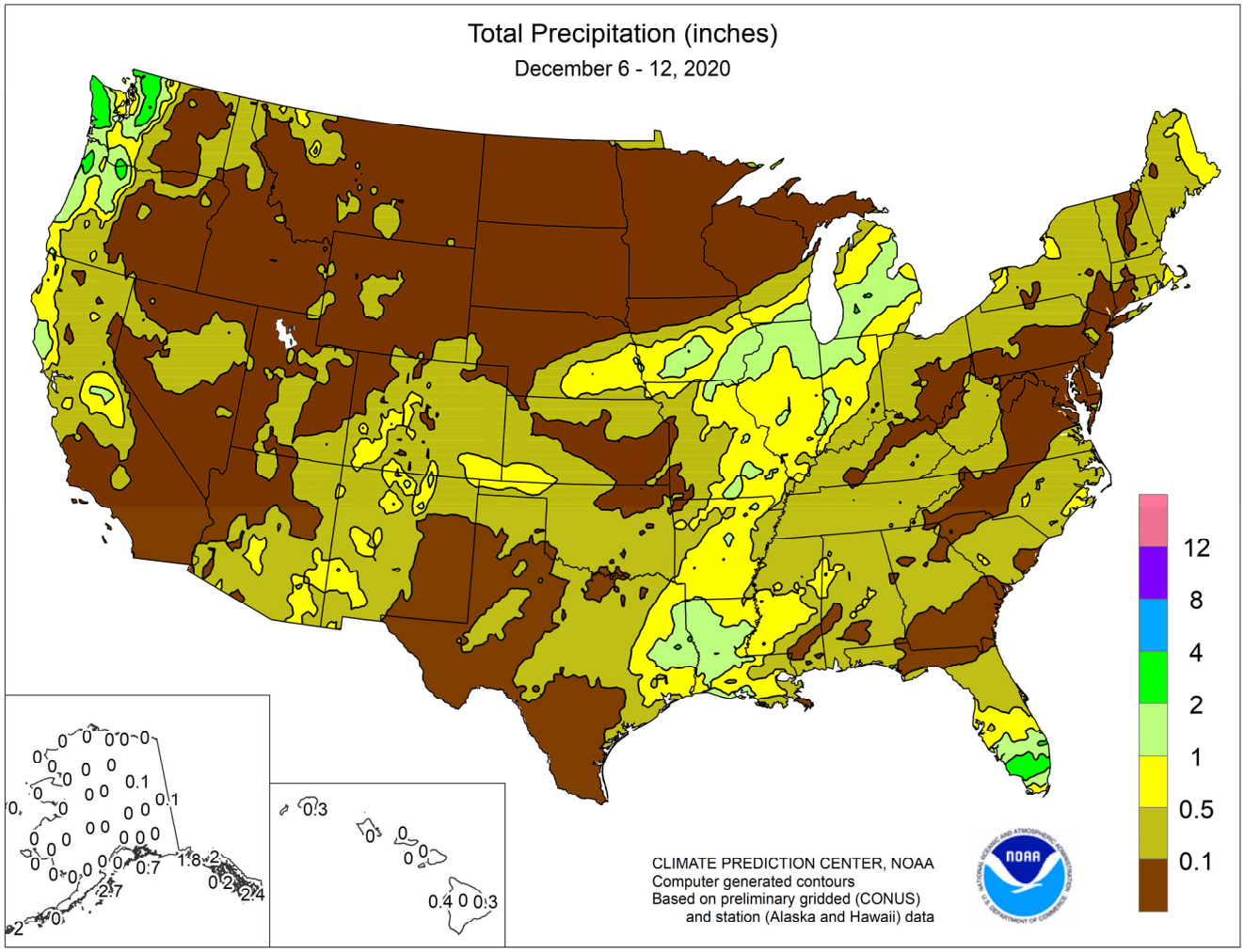
Weekly Weather and Crop Bulletin

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
December 6 – 12, 2020

Highlights provided by USDA/WAOB

Mild, dry weather dominated large sections of the country, favoring off-season fieldwork and farm maintenance activities, but leaving some areas unfavorably dry as drought continued to expand its footprint. On December 8, according to the *U.S. Drought Monitor*, drought covered 78.5 percent of the 11-state **Western region** and 49.1 percent of the **Lower 48 States**. Generally light precipitation fell in several areas of the **West**, but sustained storminess was mostly limited to the **Pacific Northwest**. Late in the week, however, precipitation

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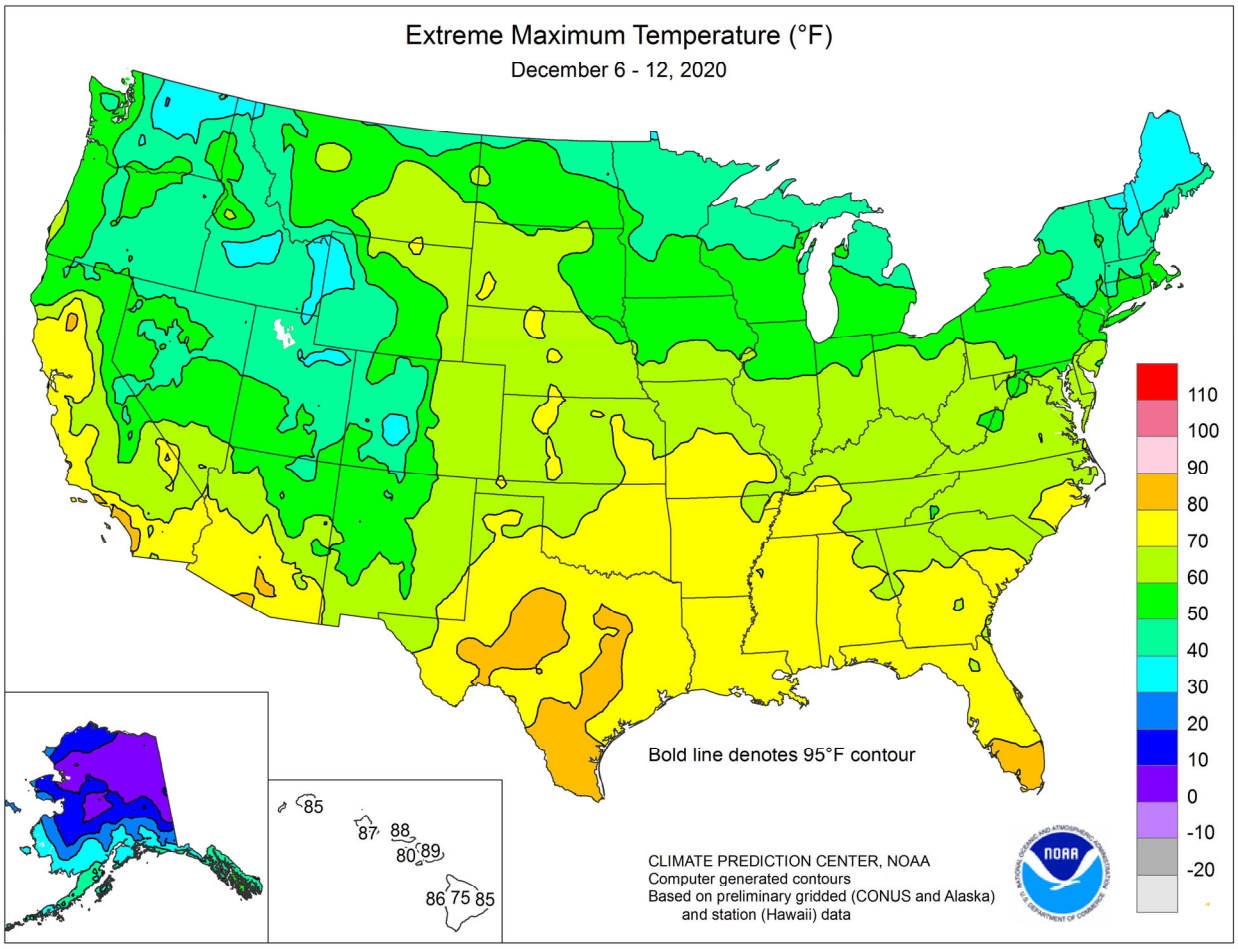
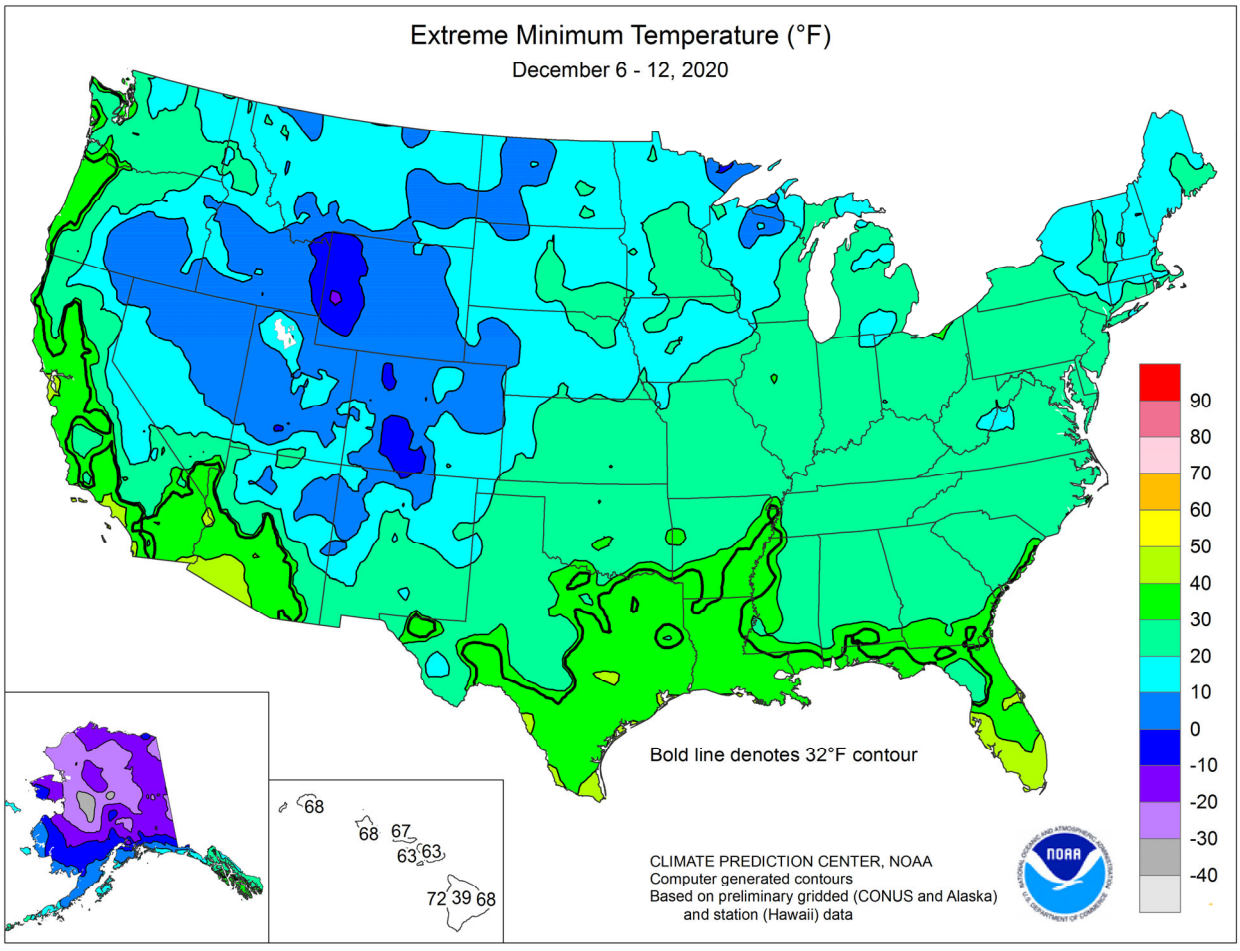
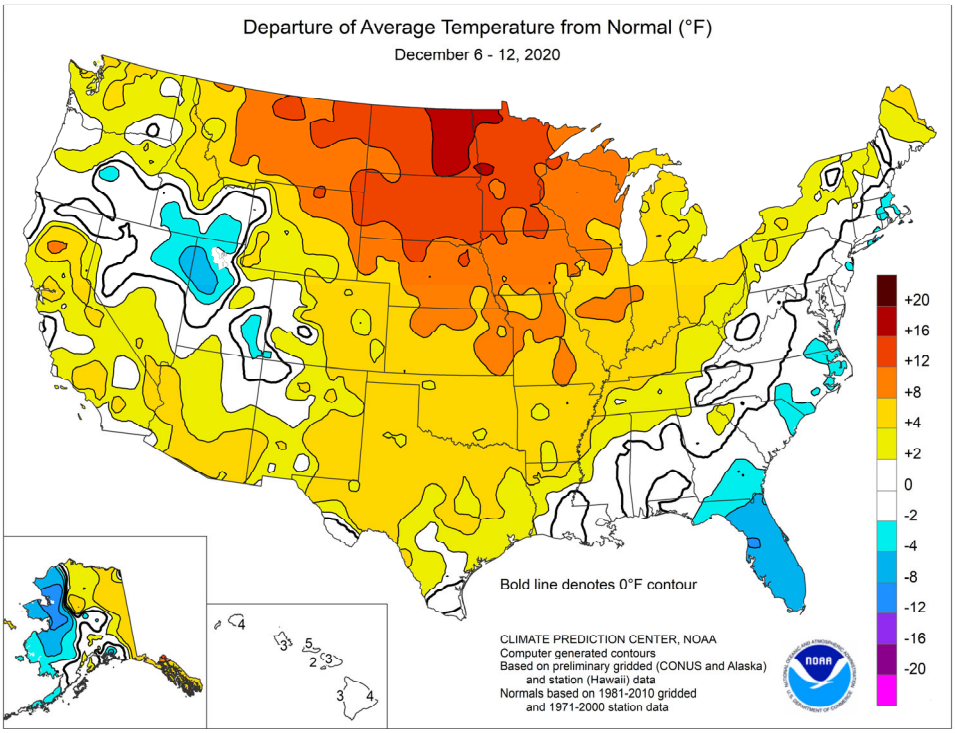
Contents


Extreme Maximum Temperature (°F)
December 6 - 12, 2020
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
85
87
88
80
89
86
75
85
Bold line denotes 95°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA


Extreme Minimum Temperature (°F)
December 6 - 12, 2020
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
68
68
67
63
63
72
39
68
Bold line denotes 32°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA

(Continued from front cover)

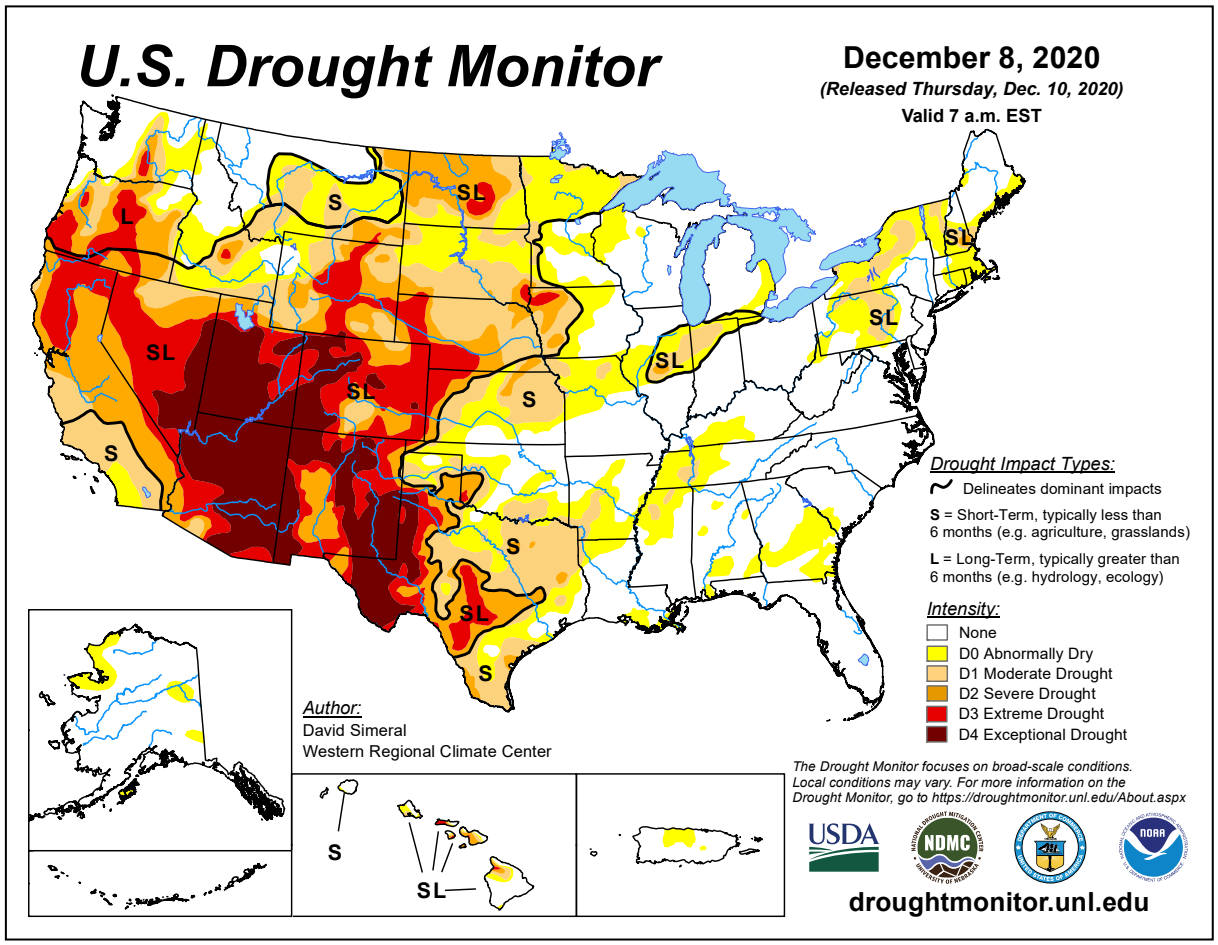
spread as far south as **central California**. Parts of the **Southwest** also received variable amounts of much-needed rain and snow. Elsewhere, mostly dry weather across the **northern Plains** and **upper Midwest** contrasted with widespread but mostly light precipitation from the **central and southern Plains into the mid-South and lower Midwest**. On December 11-12, however, several inches of snow accumulated in a stripe across the **Midwest** from **southern Nebraska into northern Lower Michigan**, with more than an inch of rain (and mixed precipitation) just to the south. Weekly temperatures averaged as much as 10 to 20°F above normal in portions of the **north-central U.S.**, as a warm weather pattern that had developed in early December further amplified. Mild weather gradually returned in the **South**, but a lingering chill held temperatures 5 to 10°F below normal across **Florida's peninsula**. Scattered frost was reported on December 9 as far south as **interior southern Florida**, near **Lake Okeechobee**.

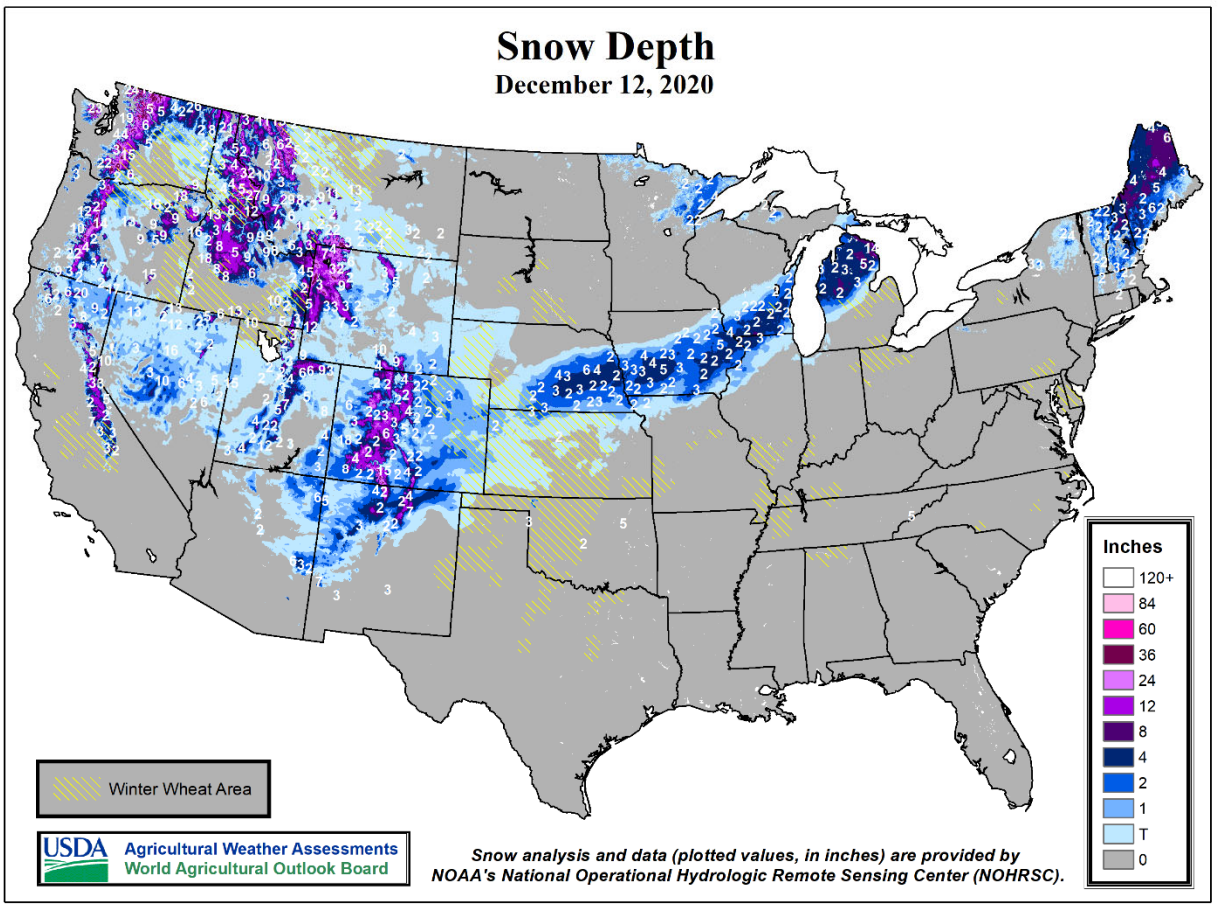


Early in the week, record-setting warmth developed in the **West** and quickly expanded eastward. December 7 featured daily-record highs in **California** locations such as **Death Valley** (83°F), **Ukiah** (77°F), **Stockton** (76°F), and **Santa Rosa** (75°F). **California's** warmth lingered through December 8, when daily-record highs soared to 84°F in **Oceanside Harbor** and 80°F in **Santa Barbara**. In **Wyoming**, **Sheridan** posted a pair of daily-record highs (67 and 72°F, respectively) on December 7-8. **Sheridan's** high of 72°F represented its warmest December day since 1981, when a reading of 72°F occurred on December 6. The only warmer December days in **Sheridan** were observed in 1939, with highs of 77 and 73°F, respectively, on December 5 and 6. Similarly, **Miles City, MT**, tied for its third-warmest December day, with a high of 67°F on December 8. It was the warmest December day in **Miles City** since December 4, 1979, when it was also 67°F. Meanwhile on the **Plains**, consecutive daily-record highs were established on December 8-9 in **Rapid City, SD** (68 and 70°F); **Lincoln, NE** (64 and 66°F); and **Livingston, MT** (61 and 62°F). Subsequently, a pair of daily-record highs were set on December 9-10 in **Fayetteville, AR** (73 and 75°F); **Springfield, MO** (71 and 72°F); and **Rockford, IL** (55 and 57°F). Warmth also arrived in the **South**, where daily-record highs rose to 79°F (on December 9) in **Dallas-Fort Worth, TX**, and 78°F (on December 10) in **Shreveport, LA**. A final day of warmth in **Texas** led to record-setting highs for the 10th in **San Angelo** (83°F) and **Abilene** (82°F). Farther east, however, high temperatures on December 8 in **Florida** peaked at only 61°F in **Melbourne** and 64°F in **Miami**—lower than the previously mentioned daily-record highs observed on that date in **Sheridan** (72°F), **Rapid City** (68°F), and **Miles City** (67°F). By the morning of December 9, lows in **Florida** fell to 29°F in **Brooksville** and 37°F in **Melbourne** and **Daytona Beach**. For **Brooksville**, it was the first freeze since January 22, 2020.

Before cold air settled across **Florida's peninsula**, there were heavy showers. On December 7, daily-record totals across **southern Florida** included 2.45 inches in **Naples** and 1.40 inches in **West Palm Beach**. Meanwhile, some light snow fell in the **mid-Atlantic**, with **Richmond, VA**, reporting an inch on December 7. Farther west, a storm system arriving in the **Southwest** generated some gusty winds across **southern California** and produced beneficial precipitation in the **Southwest**. In **southern California**, a wind gust to 72 mph was recorded on the 7th on **Big Black Mountain**. Two days later, a 110-day dry spell (August 21 – December 8) ended in **Phoenix, AZ**, where rainfall on December 9-10 totaled 0.45 inch. Measurable precipitation has fallen on just 15 days this year in Phoenix, shy of the annual record of 18 days in 1953 and 2002. Later, precipitation associated with the same storm system developed across the **nation's mid-section**. On December 11-12, **Grand Island, NE**, received 6.4 inches of snow. On those dates, snowfall totaled 6 to 10 inches in several other **Midwestern** locations, including **Dubuque, IA** (9.4 inches), and **Madison, WI** (6.4 inches). On the 12th, **Alpena, MI**, attained daily records for snowfall (13.7 inches) and precipitation (1.03 inches). Elsewhere in **Michigan**, record-setting precipitation totals for December 12 included 1.56 inches in **Grand Rapids** and 1.47 inches in **Holland**.

Cold, dry air overspread **western Alaska**, while mild weather lingered across the **southeastern part of the state**. Low temperatures in **Kotzebue** dipped to -20°F or below on December 8, 9, and 11. Meanwhile in **southern Alaska**, **Kodiak** netted a weekly precipitation total of 2.88 inches. As cooler air arrived in **southeastern Alaska**, **Juneau** made the transition from 1.92 inches of rain from December 6-8 to 2.3 inches of snow on December 11-12. Farther south, **Hawaii** experienced very warm, mostly dry weather. On the **Big Island**, **Hilo** posted a daily record-tying high of 85°F on December 10. **Kahului, Maui**, notched daily-record highs of 89°F on December 9 and 10. **Lihue, Kauai**, logged several daily records, including a high of 86°F on December 9. Through the 12th, month-to-date rainfall at the state's major airport observation sites ranged from a trace (1.24 inches below normal) in **Kahului** to 1.06 inches (22 percent of normal) in **Hilo**.


U.S. Drought Monitor
December 8, 2020
(Released Thursday, Dec. 10, 2020)
Valid 7 a.m. EST
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
Author:
David Simeral
Western Regional Climate Center
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx
droughtmonitor.unl.edu


Snow Depth
December 12, 2020
Inches
120+
84
60
36
24
12
8
4
2
1
T
0
Winter Wheat Area
Agricultural Weather Assessments
World Agricultural Outlook Board
Snow analysis and data (plotted values, in inches) are provided by NOAA's National Operational Hydrologic Remote Sensing Center (NOHRSC).

National Weather Data for Selected Cities

Weather Data for the Week Ending December 12, 2020

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE ˚F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. ˚F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AK	ANCHORAGE	26	15	37	-3	21	1	0.19	-0.08	0.19	5.52	83	17.15	107	87	71	0	7	1	0
	BARROW	2	-8	20	-13	-3	0	0.02	-0.01	0.01	2.83	188	6.11	128	78	69	0	7	2	0
	FAIRBANKS	3	-12	9	-22	-5	0	0.03	-0.11	0.03	3.52	122	12.95	122	81	72	0	7	1	0
	JUNEAU	40	33	49	25	37	6	2.27	0.85	1.04	28.49	110	75.32	128	95	80	0	3	5	2
	KODIAK	38	28	43	17	33	2	2.72	0.70	1.19	26.24	101	49.95	68	91	69	0	4	5	2
	NOME	15	-1	29	-10	7	-4	0.00	-0.24	0.00	7.02	123	17.33	106	72	50	0	7	0	0
AL	BIRMINGHAM	60	36	71	27	48	1	0.25	-0.84	0.24	9.36	66	69.84	136	93	46	0	3	2	0
	HUNTSVILLE	59	33	71	25	46	1	0.30	-1.10	0.30	13.38	91	67.90	133	92	51	0	4	1	0
	MOBILE	66	42	73	30	54	1	0.27	-0.85	0.14	12.90	81	55.92	88	100	50	0	1	2	0
	MONTGOMERY	64	38	73	29	51	1	0.11	-1.02	0.08	12.89	95	64.11	127	93	44	0	2	2	0
AR	FORT SMITH	60	34	76	31	47	5	0.19	-0.60	0.19	17.51	122	59.40	136	93	43	0	3	1	0
	LITTLE ROCK	64	36	75	31	50	6	0.69	-0.51	0.67	8.58	55	53.82	114	92	42	0	1	2	1
AZ	FLAGSTAFF	47	19	56	12	33	3	0.19	-0.20	0.14	1.01	15	9.64	46	75	26	0	7	2	0
	PHOENIX	72	48	80	42	60	4	0.46	0.26	0.46	0.46	20	5.10	66	61	23	0	0	1	0
	PRESCOTT	57	26	64	23	41	3	0.03	-0.19	0.03	0.22	5	6.68	49	66	27	0	6	1	0
	TUCSON	73	45	81	38	59	7	0.24	0.01	0.24	0.40	12	4.25	37	56	19	0	0	1	0
CA	BAKERSFIELD	62	40	66	38	51	3	0.00	-0.22	0.00	0.40	28	5.15	86	66	32	0	0	0	0
	EUREKA	53	39	57	35	46	-2	0.14	-1.66	0.08	3.96	34	21.31	60	95	83	0	0	3	0
	FRESNO	62	41	68	37	51	4	0.36	0.00	0.36	0.66	26	5.32	50	75	39	0	0	1	0
	LOS ANGELES	69	50	80	45	59	3	0.00	-0.40	0.00	0.12	4	7.48	64	78	33	0	0	0	0
	REDDING	65	39	76	33	52	6	0.28	-1.02	0.16	1.80	19	15.97	52	74	27	0	0	2	0
	SACRAMENTO	63	39	73	34	51	4	0.25	-0.44	0.18	0.79	17	5.54	33	84	35	0	0	2	0
	SAN DIEGO	68	49	79	45	58	2	0.00	-0.31	0.00	0.40	17	7.41	78	79	36	0	0	0	0
	SAN FRANCISCO	64	48	73	46	56	5	0.33	-0.50	0.24	0.65	13	4.94	27	85	46	0	0	2	0
	STOCKTON	65	38	75	33	52	5	0.48	0.02	0.31	0.57	15	4.71	37	80	36	0	0	2	0
CO	ALAMOSA	43	3	52	-5	23	4	0.24	0.15	0.13	1.61	78	4.54	63	90	34	0	7	3	0
	CO SPRINGS	50	26	63	18	38	8	0.17	0.08	0.11	0.79	29	9.49	57	53	26	0	7	3	0
	DENVER INTL	50	24	68	6	37	7	0.28	0.19	0.12	2.04	72	8.72	61	62	30	0	6	3	0
	GRAND JUNCTION	45	17	50	13	31	1	0.03	-0.11	0.03	1.95	60	5.03	54	66	28	0	7	1	0
	PUEBLO	53	17	67	15	35	5	0.13	0.03	0.09	1.59	73	5.52	44	67	29	0	7	2	0
CT	BRIDGEPORT	45	29	54	24	37	-1	0.04	-0.76	0.04	12.50	105	39.31	97	83	56	0	6	1	0
	HARTFORD	41	25	52	20	33	-1	0.11	-0.72	0.11	15.40	113	36.59	83	85	56	0	7	1	0
DC	WASHINGTON	51	34	63	30	42	1	0.00	-0.76	0.00	17.65	152	54.06	142	80	48	0	3	0	0
DE	WILMINGTON	48	29	62	25	38	0	0.00	-0.86	0.00	14.79	120	48.29	117	80	47	0	6	0	0
FL	DAYTONA BEACH	67	44	72	37	56	-6	0.15	-0.39	0.09	17.82	120	46.26	96	98	53	0	0	3	0
	JACKSONVILLE	65	38	71	29	52	-5	0.02	-0.59	0.02	13.43	87	51.73	102	97	46	0	1	1	0
	KEY WEST	73	64	79	57	68	-4	1.27	0.72	1.27	29.09	195	52.78	136	89	64	0	0	1	1
	MIAMI	74	59	84	48	67	-5	1.51	1.04	1.00	34.17	168	84.77	139	87	51	0	0	3	1
	ORLANDO	66	46	72	40	56	-8	0.25	-0.30	0.16	19.00	152	52.43	106	96	48	0	0	3	0
	PENSACOLA	68	47	77	35	57	2	0.25	-0.83	0.22	13.83	77	57.51	91	96	49	0	0	2	0
	TALLAHASSEE	67	38	74	30	52	-2	0.03	-0.87	0.03	16.53	128	58.12	102	97	42	0	1	1	0
	TAMPA	69	51	78	44	60	-4	0.57	0.06	0.36	13.31	120	44.56	99	87	45	0	0	2	0
	WEST PALM BEACH	74	54	81	44	64	-5	1.67	0.96	1.35	30.06	154	70.67	117	87	52	0	0	3	1
GA	ATHENS	62	36	70	30	49	3	0.09	-0.76	0.08	14.68	115	60.33	137	83	41	0	2	2	0
	ATLANTA	60	38	69	30	49	2	0.07	-0.84	0.05	17.17	126	65.42	138	86	44	0	2	2	0
	AUGUSTA	65	34	73	26	49	1	0.28	-0.44	0.24	9.22	87	54.13	130	95	39	0	3	2	0
	COLUMBUS	63	37	70	31	50	0	0.27	-0.75	0.14	16.17	140	65.15	147	92	42	0	1	2	0
	MACON	66	34	74	27	50	1	0.11	-0.79	0.08	15.17	135	58.24	134	92	38	0	2	2	0
	SAVANNAH	66	40	75	31	53	0	0.00	-0.64	0.00	11.11	94	48.41	105	90	41	0	1	0	0
HI	HILO	84	69	85	68	77	4	0.31	-2.50	0.09	33.51	83	108.59	90	85	55	0	0	6	0
	HONOLULU	84	72	87	68	78	3	0.04	-0.64	0.04	3.54	58	13.45	89	81	50	0	0	1	0
	KAHULUI	87	66	89	63	77	3	0.00	-0.72	0.00	0.81	16	11.47	72	81	48	0	0	0	0
	LIHUE	83	71	85	68	77	4	0.31	-0.85	0.29	9.59	77	39.92	118	92	66	0	0	2	0
IA	BURLINGTON	45	31	60	28	38	7	0.92	0.40	0.73	8.28	82	27.56	73	95	69	0	6	2	1
	CEDAR RAPIDS	41	26	58	16	34	9	0.51	0.13	0.36	10.81	126	29.51	87	95	68	0	7	2	0
	DES MOINES	46	28	64	19	37	9	0.95	0.59	0.52	11.56	136	32.41	91	91	60	0	6	2	1
	DUBUQUE	41	27	56	17	34	9	0.80	0.32	0.80	15.20	164	37.46	106	90	64	0	7	1	1
	SIOUX CITY	47	23	58	17	35	11	0.02	-0.20	0.02	4.96	73	19.54	71	87	50	0	7	1	0
	WATERLOO	42	26	60	19	34	10	0.40	0.08	0.29	10.11	132	35.62	104	90	64	0	6	2	0
ID	BOISE	41	21	45	18	31	-1	0.00	-0.35	0.00	2.26	68	13.06	119	88	46	0	7	0	0
	LEWISTON	41	30	56	23	36	1	0.08	-0.13	0.06	3.18	99	14.31	120	87	61	0	6	2	0
	POCATELLO	38	8	45	6	23	-2	0.01	-0.28	0.01	1.65	48	10.14	88	88	45	0	7	1	0
IL	CHICAGO/O_HARE	44	33	57	30	38	9	1.72	1.14	0.90	10.31	98	37.44	105	85	64	0	3	2	2
	MOLINE	45	30	62	23	37	9	1.31	0.76	0.72	12.10	127	32.31	88	87	60	0	6	2	2
	PEORIA	46	31	59	30	39	8	0.65	0.03	0.51	10.70	105	40.25	115	88	61	0	6	2	1
	ROCKFORD	44	29	57	25	37	9	1.00	0.50	0.69	11.67	123	33.60	95	83	56	0	7	2	1
	SPRINGFIELD	51	33	64	29	42	10	0.54	-0.10	0.31	6.17	59	37.18	103	93	59	0	5	2	0
IN	EVANSVILLE	55	35	68	28	45	8	0.21	-0.72	0.12	13.06	107	59.32	137	80	49	0	3	2	0
	FORT WAYNE	47	28	60	21	38	7	0.67	0.04	0.52	11.65	118	35.31	96	86	57	0	5	2	1
	INDIANAPOLIS	49	33	65	27	41	8	0.50	-0.22	0.44	9.79	88	44.04	109	87	56	0	5	2	0
	SOUTH BEND	45	29	55	25	37	7	1.35	0.73	1.18	7.84	70	38.44	105	83	59	0	6	2	1
KS	CONCORDIA	52	30	70	26	41	10	0.06	-0.17	0.05	4.37	68	25.82	93	80	44	0	5	2	0
	DODGE CITY	55	29	70	26	42	8	0.08	-0.12	0.08	4.26	94	22.40	106	79	37	0	6	1	0
	GOODLAND	51	23	67	13	37	7	0.20	0.09	0.11	1.19	33	15.78	81	70	34	0	7	3	0
	TOPEKA	55	29	69	25	42	9	0.09	-0.26	0.05	4.78	52	34.81	97	86	44	0	6	2	0

Based on 1981-2010 normals ***** Not Available**

Weather Data for the Week Ending December 12, 2020

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	55	30	67	28	43	8	0.00	-0.30	0.00	4.95	63	27.17	85	86	43	0	5	0	0
KY	LEXINGTON	50	30	65	24	40	3	0.10	-0.86	0.08	11.28	101	45.67	106	85	55	0	5	2	0
	LOUISVILLE	55	36	68	28	46	6	0.12	-0.78	0.12	11.21	99	51.03	120	81	47	0	1	1	0
	PADUCAH	58	34	68	25	46	8	0.47	-0.64	0.24	16.91	121	56.81	122	90	47	0	3	2	0
LA	BATON ROUGE	67	43	75	35	55	-3	0.33	-0.72	0.31	15.75	103	63.73	112	95	48	0	0	2	0
	LAKE CHARLES	68	44	74	36	56	1	0.82	-0.19	0.72	9.68	59	45.88	85	99	51	0	0	3	1
	NEW ORLEANS	69	49	76	41	59	2	0.40	-0.77	0.24	13.75	91	69.01	116	90	46	0	0	2	0
	SHREVEPORT	69	40	78	34	55	6	1.03	-0.10	1.03	8.76	59	54.52	112	85	34	0	0	1	1
MA	BOSTON	40	29	51	24	35	-2	0.50	-0.40	0.50	12.93	100	34.91	84	81	60	0	6	1	1
	WORCESTER	36	26	45	18	31	-1	0.24	-0.69	0.24	16.53	113	42.42	92	85	65	0	6	1	0
MD	BALTIMORE	51	29	64	27	40	2	0.00	-0.81	0.00	16.27	135	54.45	137	81	42	0	6	0	0
ME	CARIBOU	29	22	33	19	26	5	0.37	-0.43	0.22	13.56	115	33.36	91	85	72	0	7	4	0
	PORTLAND	37	24	44	19	31	-1	0.40	-0.59	0.37	13.06	85	38.74	86	94	65	0	7	2	0
MI	ALPENA	38	26	46	22	33	5	1.05	0.63	1.05	8.46	101	34.05	126	91	70	0	6	1	1
	GRAND RAPIDS	41	28	53	24	35	4	1.81	1.22	1.53	9.93	82	35.79	97	92	67	0	6	2	1
	HOUGHTON LAKE	38	22	47	18	30	4	0.69	0.29	0.65	7.10	82	25.11	94	91	70	0	6	2	1
	LANSING	41	27	52	23	34	4	1.41	0.96	1.21	10.56	110	35.91	117	92	65	0	7	2	1
	MUSKEGON	42	30	54	25	36	4	1.37	0.73	1.08	9.87	86	35.48	111	87	62	0	5	2	1
	TRAVERSE CITY	41	30	51	26	35	6	0.31	-0.24	0.31	10.74	103	33.07	105	88	67	0	6	1	0
MN	DULUTH	35	27	44	18	31	14	0.00	-0.29	0.00	6.16	64	20.86	68	87	69	0	7	0	0
	INT_L FALLS	32	24	43	17	28	16	0.05	-0.15	0.05	5.16	76	20.80	87	93	78	0	7	1	0
	MINNEAPOLIS	40	29	52	25	34	13	0.00	-0.28	0.00	4.72	61	29.20	97	88	64	0	7	0	0
	ROCHESTER	39	27	52	21	33	0	0.00	-0.32	0.00	6.34	77	30.89	95	89	64	0	7	0	0
	ST. CLOUD	37	25	51	20	31	13	0.00	-0.21	0.00	6.44	83	25.29	92	93	69	0	7	0	0
MO	COLUMBIA	53	33	69	23	43	10	0.50	-0.11	0.50	9.89	86	47.99	116	86	53	0	3	1	1
	KANSAS CITY	55	33	68	22	44	11	0.06	-0.33	0.04	3.39	32	32.44	85	88	48	0	4	2	0
	SAINT LOUIS	55	37	68	29	46	10	0.97	0.30	0.64	9.53	82	50.02	127	82	52	0	1	2	1
	SPRINGFIELD	57	32	72	26	44	8	0.10	-0.64	0.10	9.56	69	49.55	113	89	45	0	3	1	0
MS	JACKSON	65	37	75	31	51	2	0.64	-0.58	0.55	13.15	95	69.43	135	94	46	0	1	3	1
	MERIDIAN	64	35	73	27	49	1	0.57	-0.67	0.56	13.80	96	68.04	127	91	47	0	3	2	1
	TUPELO	63	35	73	29	49	4	0.31	-1.24	0.30	12.32	82	66.57	129	91	45	0	3	2	0
MT	BILLINGS	47	28	64	17	37	10	0.27	0.15	0.25	3.52	105	13.23	98	68	39	0	5	2	0
	BUTTE	39	10	58	5	25	7	0.00	-0.11	0.00	1.71	65	9.79	78	81	42	0	7	0	0
	CUT BANK	42	24	59	9	33	10	0.04	0.00	0.03	1.59	72	7.18	65	81	50	0	5	2	0
	GLASGOW	37	23	48	16	30	12	0.00	-0.08	0.00	2.74	117	11.52	99	86	66	0	7	0	0
	GREAT FALLS	46	30	63	14	38	13	0.09	-0.03	0.09	3.57	114	14.58	100	68	40	0	5	1	0
	HAVRE	42	27	56	16	35	14	0.03	-0.06	0.03	3.17	136	9.49	85	88	57	0	5	1	0
	MISSOULA	37	17	49	11	27	3	0.06	-0.17	0.04	4.12	116	14.09	103	97	64	0	7	2	0
NC	ASHEVILLE	54	31	63	27	42	2	0.00	-0.87	0.00	19.00	159	62.07	142	87	46	0	5	0	0
	CHARLOTTE	59	32	67	25	45	2	0.00	-0.72	0.00	18.49	168	54.76	138	92	43	0	4	0	0
	GREENSBORO	55	31	64	25	43	0	0.00	-0.67	0.00	17.38	150	60.63	150	84	46	0	5	0	0
	HATTERAS	57	43	71	35	50	-1	0.86	-0.07	0.81	19.21	105	67.01	120	89	61	0	0	2	1
	RALEIGH	56	32	68	26	44	-1	0.37	-0.31	0.37	13.98	117	51.05	123	92	50	0	4	1	0
	WILMINGTON	60	37	74	29	49	-1	0.12	-0.69	0.12	21.57	131	70.67	127	92	46	0	2	1	0
ND	BISMARCK	44	21	59	13	32	14	0.00	-0.11	0.00	1.59	42	8.44	48	88	51	0	6	0	0
	DICKINSON	46	22	60	7	34	14	0.00	-0.06	0.00	1.37	40	7.94	50	80	45	0	6	0	0
	FARGO	41	22	53	18	31	15	0.00	-0.19	0.00	2.20	36	18.76	85	89	60	0	7	0	0
	GRAND FORKS	39	21	50	17	30	17	0.00	-0.13	0.00	0.80	15	14.23	69	88	59	0	7	0	0
	JAMESTOWN	45	25	58	20	35	19	0.00	-0.09	0.00	0.61	14	11.04	59	79	50	0	6	0	0
NE	GRAND ISLAND	52	26	69	15	39	12	0.38	0.21	0.36	1.73	31	20.69	78	76	43	0	6	2	0
	LINCOLN	50	22	66	16	36	8	0.39	0.14	0.35	3.65	53	22.49	79	87	48	0	6	2	0
	NORFOLK	50	28	62	22	39	13	0.02	-0.18	0.02	4.24	65	18.48	68	79	41	0	6	1	0
	NORTH PLATTE	54	20	70	16	37	11	0.00	-0.11	0.00	1.33	34	14.34	71	76	33	0	7	0	0
	OMAHA	47	26	61	19	37	9	0.61	0.33	0.44	5.20	75	17.28	57	94	56	0	7	2	0
	SCOTTSBLUFF	52	21	69	12	37	10	0.14	0.02	0.14	1.61	50	8.72	56	68	27	0	7	1	0
	VALENTINE	53	24	71	18	38	14	0.00	-0.10	0.00	2.24	60	16.71	85	75	37	0	7	0	0
NH	CONCORD	35	23	41	17	29	0	0.07	-0.71	0.07	11.07	89	29.66	77	89	64	0	7	1	0
NJ	ATLANTIC_CITY	47	29	59	25	38	-1	0.00	-0.85	0.00	17.42	154	50.08	127	83	51	0	6	0	0
	NEWARK	46	31	58	26	39	0	0.06	-0.85	0.06	13.67	108	44.54	101	80	53	0	5	1	0
NM	ALBUQUERQUE	50	27	57	24	39	2	0.22	0.11	0.22	1.27	43	6.07	65	67	24	0	7	1	0
NV	ELY	47	9	57	1	28	2	0.04	-0.08	0.04	0.69	24	4.94	51	60	18	0	7	1	0
	LAS VEGAS	62	42	70	37	52	4	0.00	-0.11	0.00	0.00	0	2.35	56	36	13	0	0	0	0
	RENO	51	26	53	20	38	2	0.02	-0.20	0.02	0.63	29	2.55	36	78	28	0	7	1	0
	WINNEMUCCA	46	16	51	7	31	1	0.05	-0.16	0.05	2.01	82	6.61	83	81	31	0	7	1	0
NY	ALBANY	37	22	49	19	29	-1	0.07	-0.64	0.06	9.76	85	33.37	89	96	73	0	7	2	0
	BINGHAMTON	36	27	50	22	31	2	0.27	-0.43	0.26	9.89	86	44.92	119	90	68	0	6	2	0
	BUFFALO	42	31	56	24	37	5	0.65	-0.22	0.41	11.18	86	36.15	95	83	60	0	3	2	0
	ROCHESTER	42	29	56	25	35	3	0.24	-0.40	0.14	8.16	80	29.93	91	93	61	0	7	3	0
	SYRACUSE	41	29	56	24	35	3	0.20	-0.58	0.18	8.33	69	35.37	97	85	63	0	6	2	0
OH	AKRON-CANTON	45	34	61	30	40	7	0.08	-0.60	0.08	10.25	95	38.08	100	80	60	0	4	1	0
	CINCINNATI	50	33	64	26	42	6	0.06	-0.72	0.06	9.96	93	46.13	114	80	51	0	5	1	0
	CLEVELAND	44	34	57	30	39	5	0.27	-0.45	0.24	18.20	155	52.71	142	86	64	0	4	2	0
	COLUMBUS	47	31	63	26	39	4	0.11	-0.59	0.11	10.94	112	47.84	127	88	55	0	5	1	0
	DAYTON	49	32	63	24	40	8	0.05	-0.67	0.05	8.75	81	39.70	101	91	58	0	5	1	0
	MANSFIELD	45	32	60	25	38	7	0.13	-0.64	0.06	13.72	120	39.20	92	87	63	0	5	2	0

Based on 1981-2010 normals ***** Not Available**

Weather Data for the Week Ending December 12, 2020

STATES AND STATIONS		TEMPERATURE ˚F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. ˚F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	46	29	59	22	38	6	0.41	-0.21	0.41	7.95	85	29.91	92	82	56	0	6	1	0
	YOUNGSTOWN	44	34	60	29	39	7	0.17	-0.54	0.17	15.16	139	46.54	125	77	55	0	4	1	0
OK	OKLAHOMA CITY	60	32	72	28	46	4	0.04	-0.42	0.04	6.80	64	32.04	90	82	33	0	4	1	0
	TULSA	62	34	75	31	48	7	0.08	-0.52	0.08	12.34	102	43.80	111	84	38	0	3	1	0
OR	ASTORIA	49	38	52	30	43	0	1.44	-0.82	0.87	19.15	82	59.01	96	99	77	0	2	6	1
	BURNS	37	11	47	6	24	-1	0.15	-0.20	0.13	1.72	56	7.46	73	89	61	0	7	2	0
	EUGENE	52	35	61	34	44	4	0.60	-1.23	0.42	10.62	68	28.29	67	97	69	0	0	4	0
	MEDFORD	48	34	52	31	41	2	0.19	-0.59	0.13	3.83	62	13.00	79	93	63	0	1	4	0
	PENDLETON	41	28	50	25	35	1	0.01	-0.31	0.01	3.72	99	12.63	106	98	72	0	7	1	0
	PORTLAND	48	38	53	35	43	2	0.93	-0.34	0.46	10.03	81	29.19	89	92	71	0	0	5	0
	SALEM	49	37	55	33	43	3	0.69	-0.88	0.24	9.91	72	29.09	81	96	73	0	0	5	0
PA	ALLENTOWN	43	25	53	22	34	0	0.08	-0.83	0.08	13.32	98	42.17	97	83	57	0	7	1	0
	ERIE	44	34	57	30	39	5	0.16	-0.71	0.16	14.99	106	39.69	99	75	57	0	3	1	0
	MIDDLETOWN	47	30	57	26	38	3	0.00	-0.80	0.00	7.78	65	33.78	87	76	51	0	6	0	0
	PHILADELPHIA	48	31	61	27	40	0	0.00	-0.87	0.00	14.40	126	47.13	120	80	48	0	5	0	0
	PITTSBURGH	44	31	61	26	37	3	0.03	-0.65	0.03	6.63	67	34.46	94	80	55	0	6	1	0
	WILKES-BARRE	43	29	59	26	36	3	0.30	-0.37	0.30	9.33	80	47.59	129	81	55	0	6	1	0
	WILLIAMSPORT	44	27	52	24	36	3	0.03	-0.75	0.02	6.83	53	32.79	82	79	51	0	7	2	0
RI	PROVIDENCE	42	27	53	20	34	-2	0.54	-0.50	0.54	17.01	120	40.97	91	88	60	0	6	1	1
SC	CHARLESTON	63	38	73	30	51	-1	0.10	-0.54	0.10	12.57	94	51.98	106	94	44	0	2	1	0
	COLUMBIA	61	34	69	27	47	-1	0.31	-0.38	0.28	9.84	92	52.29	123	93	43	0	3	2	0
	FLORENCE	60	34	69	27	47	-2	0.20	-0.44	0.20	12.74	121	56.13	137	95	46	0	3	1	0
	GREENVILLE	59	33	67	26	46	1	0.01	-0.96	0.01	17.76	145	70.75	158	83	37	0	3	1	0
SD	ABERDEEN	46	21	62	14	33	16	0.00	-0.12	0.00	3.22	62	15.34	71	84	49	0	7	0	0
	HURON	45	23	56	17	34	13	0.00	-0.12	0.00	2.00	37	16.74	74	90	51	0	7	0	0
	RAPID CITY	53	24	70	17	38	13	0.00	-0.10	0.00	2.29	66	12.64	78	69	34	0	7	0	0
	SIOUX FALLS	46	27	58	22	37	16	0.00	-0.19	0.00	2.56	38	17.02	65	82	50	0	5	0	0
TN	BRISTOL	53	28	67	22	40	1	0.19	-0.61	0.15	11.33	118	53.54	137	97	50	0	6	2	0
	CHATTANOOGA	59	34	67	28	47	3	0.31	-0.87	0.31	16.98	118	64.98	130	92	47	0	3	1	0
	KNOXVILLE	55	32	66	25	43	1	0.08	-1.00	0.04	12.27	105	63.35	140	96	53	0	5	2	0
	MEMPHIS	62	39	73	35	51	6	0.23	-1.17	0.20	8.81	59	49.98	99	88	44	0	0	2	0
	NASHVILLE	59	34	71	29	47	5	0.11	-0.97	0.10	9.39	74	48.94	109	82	43	0	4	2	0
TX	ABILENE	68	36	82	30	52	6	0.06	-0.22	0.04	1.94	27	18.43	76	75	28	0	3	2	0
	AMARILLO	60	28	70	23	44	6	0.00	-0.16	0.00	3.28	70	13.43	67	71	26	0	7	0	0
	AUSTIN	73	46	82	41	60	6	0.06	-0.49	0.06	5.69	53	29.25	89	77	32	0	0	1	0
	BEAUMONT	70	46	77	36	58	3	0.16	-0.99	0.13	14.91	83	52.66	92	99	47	0	0	2	0
	BROWNSVILLE	78	52	84	43	65	2	0.04	-0.24	0.03	7.17	59	17.70	66	90	38	0	0	2	0
	CORPUS CHRISTI	76	45	81	36	60	1	0.03	-0.36	0.03	7.10	63	22.85	74	96	39	0	0	1	0
	DEL RIO	78	41	82	37	60	7	0.00	-0.13	0.00	3.44	61	11.63	61	75	20	0	0	0	0
	EL PASO	62	36	66	27	49	4	0.02	-0.17	0.02	0.82	27	5.99	63	52	19	0	2	1	0
	FORT WORTH	68	40	79	37	54	6	0.13	-0.48	0.12	6.87	65	40.46	117	82	33	0	0	2	0
	GALVESTON	69	55	74	48	62	4	0.14	0.00	0.09	10.09	0	37.21	0	87	53	0	0	2	0
	HOUSTON	73	46	79	39	59	4	0.57	-0.31	0.55	14.77	93	42.28	89	93	40	0	0	2	1
	LUBBOCK	66	28	77	24	47	5	0.03	-0.15	0.03	1.52	26	10.01	53	73	20	0	6	1	0
	MIDLAND	68	34	79	29	51	6	0.27	0.13	0.24	1.62	35	7.74	54	71	20	0	3	2	0
	SAN ANGELO	72	35	83	29	53	6	0.02	-0.17	0.02	5.47	82	17.93	86	76	20	0	3	1	0
	SAN ANTONIO	74	43	80	38	58	5	0.01	-0.42	0.01	4.69	46	19.90	64	83	31	0	0	1	0
	VICTORIA	74	44	80	37	59	3	0.02	-0.48	0.02	8.19	63	27.97	70	95	41	0	0	1	0
	WACO	70	37	80	32	53	4	0.15	-0.49	0.15	10.68	98	41.59	126	86	33	0	2	1	0
	WICHITA FALLS	67	35	78	32	51	7	0.12	-0.27	0.12	6.57	80	34.91	125	79	29	0	1	1	0
UT	SALT LAKE CITY	38	19	42	18	29	-2	0.10	-0.22	0.10	1.30	26	8.95	58	90	48	0	7	1	0
VA	LYNCHBURG	55	30	65	22	42	3	0.00	-0.79	0.00	23.02	196	64.52	163	86	41	0	5	0	0
	NORFOLK	55	37	70	28	46	0	0.15	-0.57	0.14	18.75	149	53.31	120	87	47	0	2	2	0
	RICHMOND	52	31	64	24	42	-1	0.10	-0.66	0.10	19.90	170	60.24	144	93	49	0	5	1	0
	ROANOKE	54	34	68	29	44	4	0.04	-0.67	0.04	17.19	150	60.97	154	79	40	0	3	1	0
	WASH/DULLES	51	29	65	24	40	2	0.00	-0.75	0.00	10.61	89	45.44	114	83	47	0	6	0	0
VT	BURLINGTON	35	27	47	22	31	3	0.18	-0.41	0.12	8.35	73	30.39	86	82	65	0	6	3	0
WA	OLYMPIA	49	36	54	29	42	4	0.55	-1.19	0.35	17.29	95	46.12	100	100	68	0	2	5	0
	QUILLAYUTE	48	38	52	28	43	3	3.02	0.02	1.06	30.95	88	89.40	99	83	59	0	2	6	2
	SEATTLE-TACOMA	49	40	53	32	45	4	0.98	-0.24	0.70	11.39	82	36.07	105	96	68	0	1	4	1
	SPOKANE	35	27	49	20	31	3	0.25	-0.30	0.17	3.94	77	13.38	87	94	75	0	7	2	0
	YAKIMA	37	26	44	20	31	2	0.00	-0.33	0.00	1.48	56	4.29	56	91	72	0	7	0	0
WI	EAU CLAIRE	40	24	54	14	32	11	0.00	-0.25	0.00	5.31	64	27.00	88	86	58	0	7	0	0
	GREEN BAY	40	29	51	26	34	11	0.02	-0.36	0.02	9.20	111	33.14	115	82	62	0	7	1	0
	LA CROSSE	42	27	54	19	35	11	0.00	-0.37	0.00	7.63	91	29.65	91	85	57	0	6	0	0
	MADISON	40	26	52	21	33	8	0.54	0.08	0.31	9.40	108	38.83	116	94	65	0	7	2	0
	MILWAUKEE	44	31	56	26	38	9	1.59	1.07	0.91	7.19	76	36.51	109	85	59	0	3	3	2
WV	BECKLEY	47	29	63	21	38	3	0.28	-0.43	0.16	7.83	81	48.93	124	91	55	0	5	2	0
	CHARLESTON	50	31	66	28	41	2	0.08	-0.70	0.06	8.81	80	47.55	113	94	50	0	6	2	0
	ELKINS	47	24	66	21	36	2	0.06	-0.72	0.05	9.68	86	54.80	124	85	47	0	7	2	0
	HUNTINGTON	50	32	66	25	41	3	0.03	-0.76	0.03	8.61	83	42.14	104	85	50	0	5	1	0
WY	CASPER	40	21	53	6	31	7	0.06	-0.05	0.05	1.07	33	5.44	44	66	37	0	6	2	0
	CHEYENNE	49	20	64	2	34	7	0.32	0.20	0.18	1.33	40	9.02	57	59	28	0	7	3	0
	LANDER	35	13	45	4	24	3	0.17	0.02	0.15	1.77	50	6.60	52	88	56	0	7	2	0
	SHERIDAN	53	21	72	11	37	14	0.15	0.02	0.11	4.28	112	11.00	79	77	38	0	7	3	0

Based on 1981-2010 normals ***** Not Available**

Record-Low U.S. Snow Coverage for Early December

U.S. snow coverage (in the Lower 48 States) remained below 20 percent on each of the first 12 days of December, a modern-day record. In addition, only 2014, 2015, and 2020 featured U.S. snow coverage below 20 percent on December 9, based on nearly two decades of satellite and observational data from the National Weather Service's National Operational Hydrologic Remote Sensing Center (figure 1).

Compared to this year, instantaneous snow coverage on the morning of December 9 was slightly lower (10.0 percent) in 2015, although a Western storm system that year quickly boosted U.S. coverage to 20.8 percent by December 12 and to more than 37 percent by the middle of the month.

Though many areas of the country have already received snow this season, including record-high October totals across portions of the northern Plains and upper Midwest, periods of record-setting warmth have resulted in mostly short-lived accumulations.

If lack of snow cover persists, there are several potential agricultural implications. For example, many U.S. winter wheat production areas depend upon occasional snow for insulation during extreme cold waves, as well as moisture to help maintain favorable crop conditions, reduce wind erosion, and ease the risk of winterkill during dormancy.

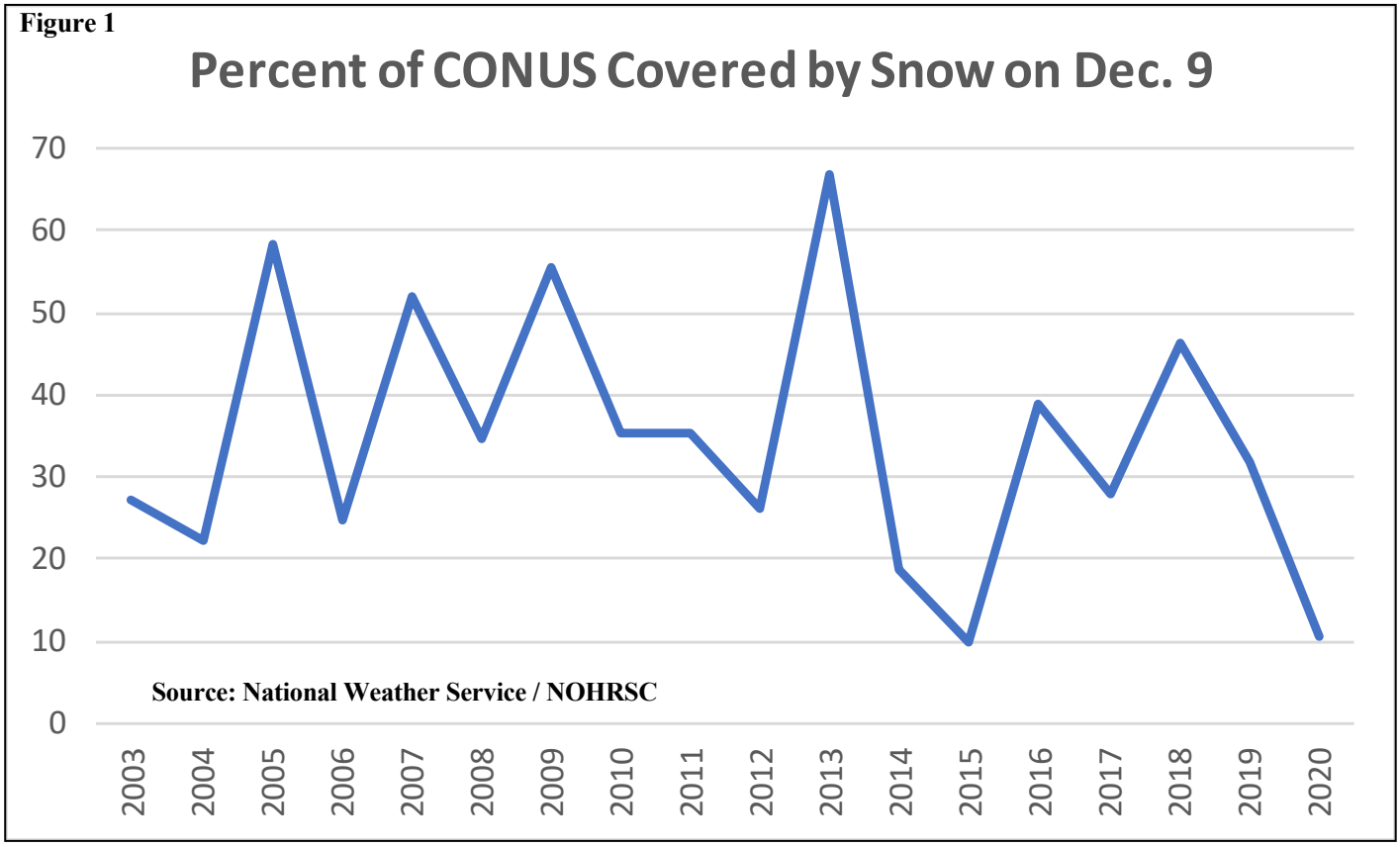
In addition, Western snowpack is a key component of spring and summer runoff, which helps to fill reservoirs used for irrigation, recreation, wildlife conservation, hydroelectric power generation, municipal water supplies, and more.

Given the current scope and severity of U.S. drought, which on December 8 covered 78.5 percent of the 11-state Western region and 49.1 percent of the Lower 48 States, significant snow will be needed across the western half of the U.S. during the winter of 2020-21 to avoid hydrological drought issues next year.

During La Niña, which is expected to peak in intensity during the winter of 2020-21, odds are tilted toward drier-than-normal conditions across the nation's southwestern quadrant, stretching from southern California to the southern half of the Great Plains. With extremely dry conditions already in place across much of the Southwest, there could be sub-par accumulation of high-elevation snowpack and further drought intensification.

In contrast, La Niña could fuel wetter-than-normal winter conditions across much of the northern U.S., including the eastern Corn Belt, possibly translating into abundant cold-season snowfall across the northern Plains and Northwest, as well as the Great Lakes region and environs.

Figure 1



December 10 ENSO Diagnostic Discussion

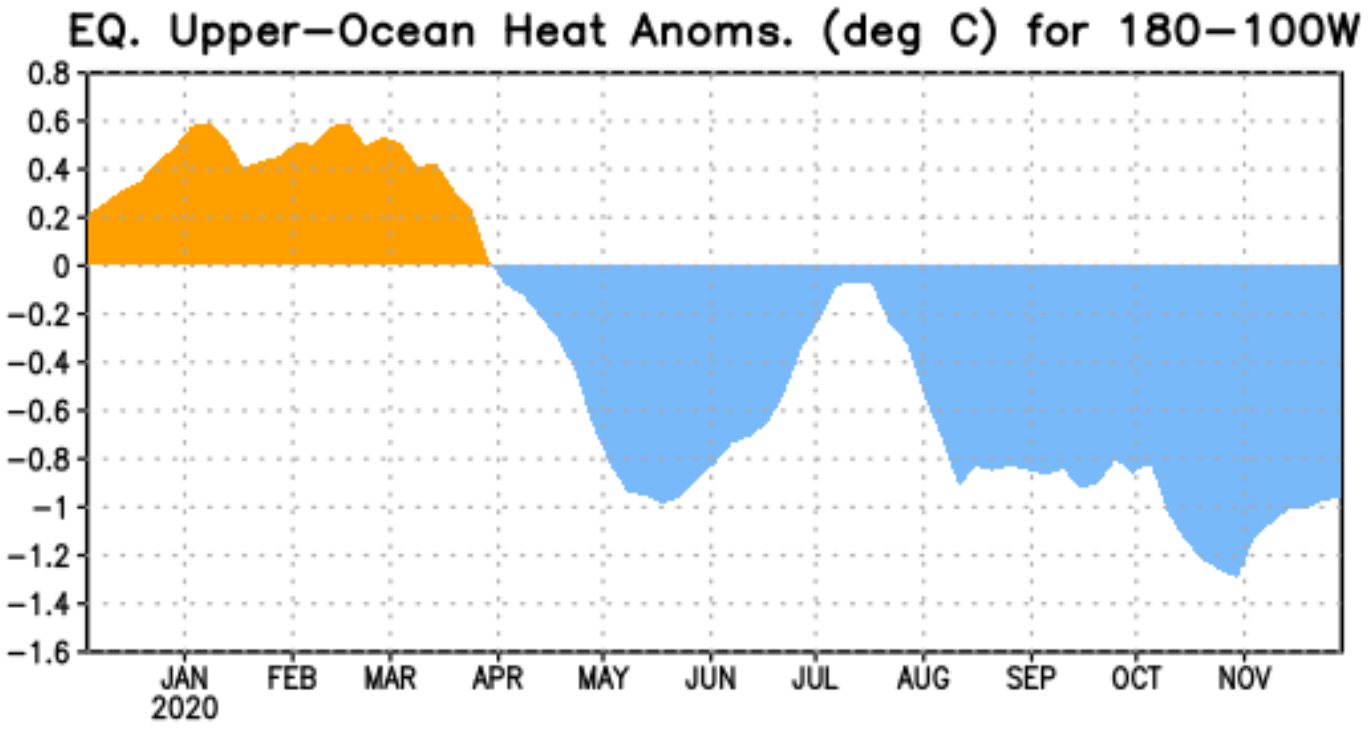


Figure 1: Area-averaged upper-ocean heat content anomaly (°C) in the equatorial Pacific (5°N-5°S, 180º-100ºW). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

ENSO Alert System Status: La Niña Advisory

Synopsis: La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March), with a potential transition during the spring 2021 (~50% chance of Neutral during April-June).

La Niña persisted during November, as indicated by well below-average sea surface temperatures (SSTs) extending from the Date Line to the eastern Pacific Ocean. Most of the weekly indices fluctuated through the month, with the westernmost Niño regions Niño-4 and Niño-3.4 ending up around -1.0ºC. The negative equatorial subsurface temperature anomalies (averaged from 180°-100°W) weakened slightly last month (Fig. 1) but continued to reflect below-average temperatures from the surface to 200m depth in the eastern Pacific Ocean. The atmospheric circulation over the tropical Pacific Ocean remained consistent with La Niña. Over the western and central tropical Pacific Ocean, low-level wind anomalies were easterly and upper-level wind anomalies were westerly. Tropical convection continued to be suppressed from the western Pacific to the Date Line. Also, both the Southern Oscillation and Equatorial Southern Oscillation indices were positive. Overall, the coupled ocean-atmosphere system indicates the continuation of La Niña.

A majority of the models in the IRI/CPC plume predict La Niña (Niño-3.4 index less than -0.5°C) to persist through the Northern Hemisphere winter 2020-21 and to weaken through the spring. Supported by the latest forecasts from several models, the forecaster consensus is for a moderate strength La Niña (Niño-3.4 index values between -1.0ºC and -1.5ºC) during the peak November-January season. In summary, La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance for January-March), with a potential transition during the spring 2021 (~50% chance of Neutral during Apr-Jun; click CPC/IRI consensus forecast for the chances in each 3-month period).

La Niña is anticipated to affect climate across the United States during the upcoming months. The 3-month seasonal temperature and precipitation outlooks will be updated on **Thursday December 17th**.

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Additional perspectives and analysis are also available in an ENSO blog. A probabilistic strength forecast is available here. The next ENSO Diagnostics Discussion is scheduled for **14 January 2021**. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

International Weather and Crop Summary

December 6-12, 2020

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

HIGHLIGHTS

EUROPE: Wet weather across western and southern Europe contrasted with increasingly dry conditions in northeastern crop areas.

MIDDLE EAST: Much-needed showers in central Turkey eased drought, while rain and snow continued in Iran.

NORTHWESTERN AFRICA: Sunny skies facilitated winter grain development in Morocco after recent sorely-needed rain, while wet weather continued in eastern growing areas.

SOUTHEAST ASIA: More downpours in the Philippines exacerbated waterlogged portions of the east and northeast.

AUSTRALIA: Scattered showers and cooler weather benefited summer crops in the east.

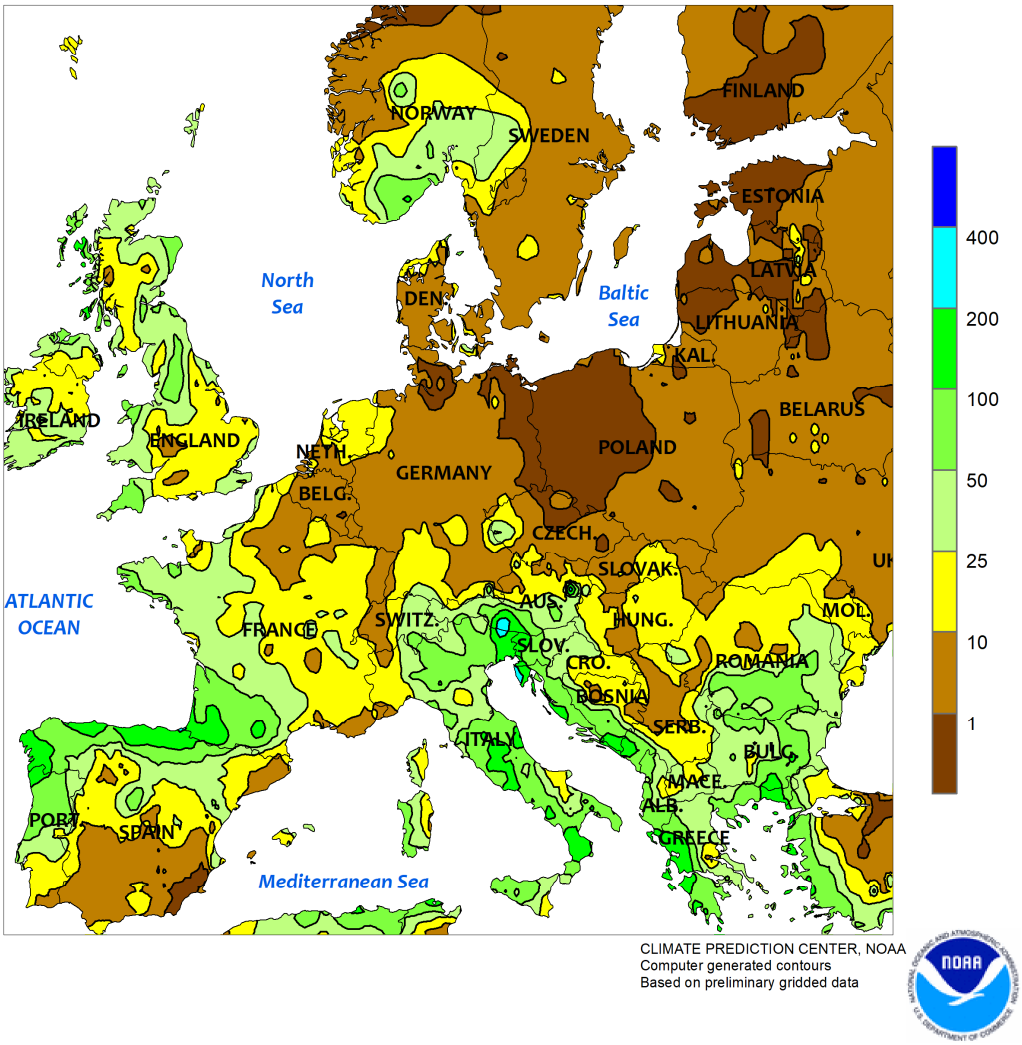
SOUTH AFRICA: Conditions remained favorable for corn and other rain-fed summer crops.

ARGENTINA: Warmth and dryness advanced development of summer grains, oilseeds, and cotton.

BRAZIL: Much-needed rain fell in northern soybeans areas, as drier weather returned to much of the south.

For additional information contact: mark.brusberg@usda.gov

EUROPE
Total Precipitation (mm)
December 6 - 12, 2020



EUROPE

Wet weather across western and southern Europe contrasted with increasingly dry conditions in northeastern growing areas. A series of storm systems continued to rotate across the western half of the continent, producing 5 to 75 mm of rain and mountain snow (liquid equivalent) from England southeastward across much of western and southern portions of the continent. The precipitation maintained overall favorable moisture supplies for vegetative (Spain and Italy) to dormant winter crops. However, over south-central Europe — where Mediterranean moisture interacted with the mountains of Italy and the western Balkans — heavy to excessive rain and mountain snow (100 mm or more liquid equivalent) boosted spring runoff prospects but caused localized flooding and shut down travel. In particular, historic rain and mountain snow have been reported over the past two weeks in northeastern Italy and environs, with 15-day precipitation totals topping 500 mm (locally more than 700 mm) in the Alps. In contrast, an expansive area of high pressure maintained dry weather across the continent's northeastern quadrant, where 30-day precipitation has tallied a meager 25 percent of normal or less. However, the acute short-term dryness arrived on the heels of heavy October rainfall, so the dryness has been overall beneficial; furthermore, winter crops are now dormant, further mitigating the impacts of the recent dry weather. Cooler-than-normal conditions (up to 2°C below normal) over England, France, and Germany contrasted with the return of warmer weather (2-5°C above normal) in southeastern growing areas.

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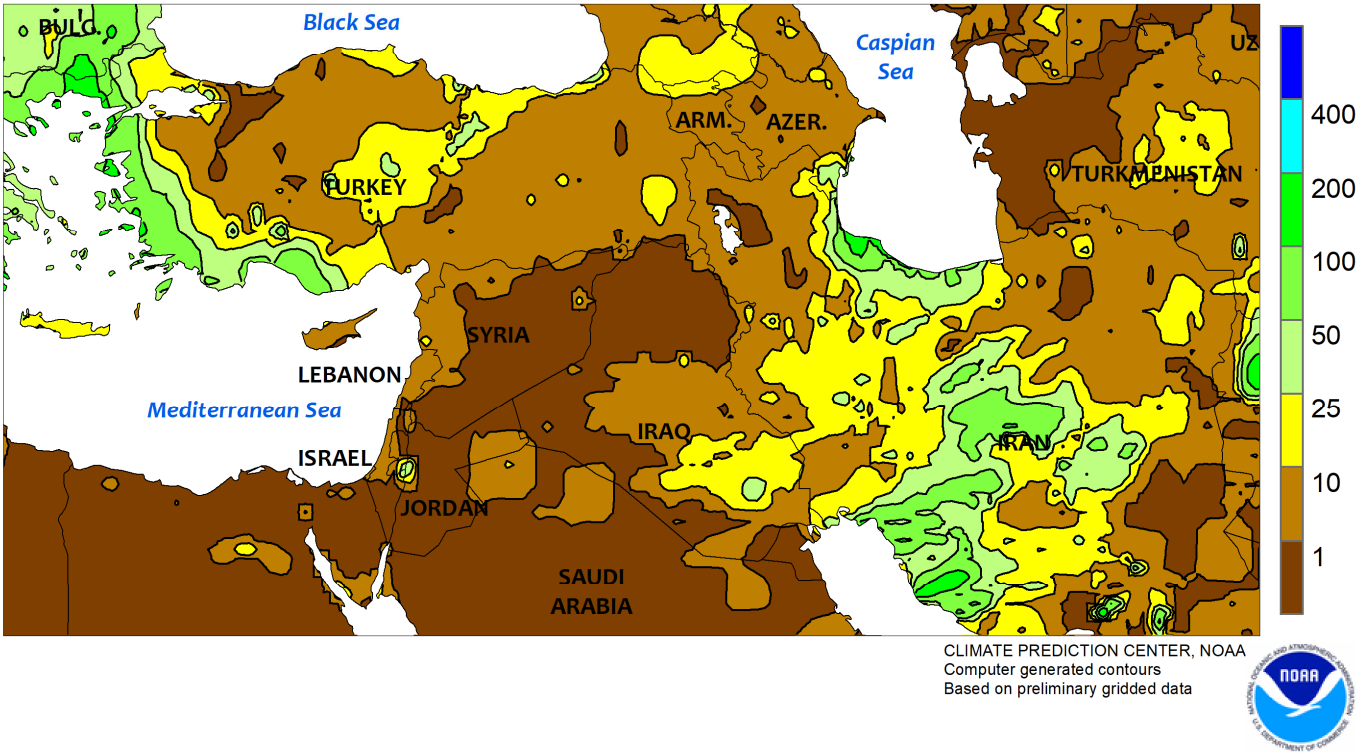
MIDDLE EAST
Total Precipitation (mm)
December 6 - 12, 2020



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

MIDDLE EAST

Rain and snow continued in Iran, while much-needed showers returned to central Turkey. A pair of disturbances triggered rain and snow showers (2-20 mm liquid equivalent, locally more) across central Turkey, providing sorely-needed soil moisture for winter grains on the drought-stricken Anatolian Plateau. However, a recent spell of colder-than-normal weather ushered wheat and barley into dormancy approximately one week ahead of average; subsequently, crops will be reliant on winter and spring precipitation to recover from poor autumn establishment. Furthermore, much more rain and snow will be needed to end the region's drought, with season-to-date (since September 1) precipitation mired at 50 percent of normal even with this week's precipitation. Late in the period, showers (10-50 mm, locally more) overspread the eastern Mediterranean Coast and environs, boosting moisture supplies for vegetative winter grains. Meanwhile, wet weather persisted in Iran and southern Iraq, with another 5 to 50 mm (locally more than 100 mm near the Persian Gulf) maintaining abundant moisture supplies for dormant (north) to vegetative (central and south) winter wheat and barley. Above-normal temperatures (1-4°C above normal) across central and western growing areas contrasted with chilly conditions (up to 5°C below normal) in central and eastern Iran.

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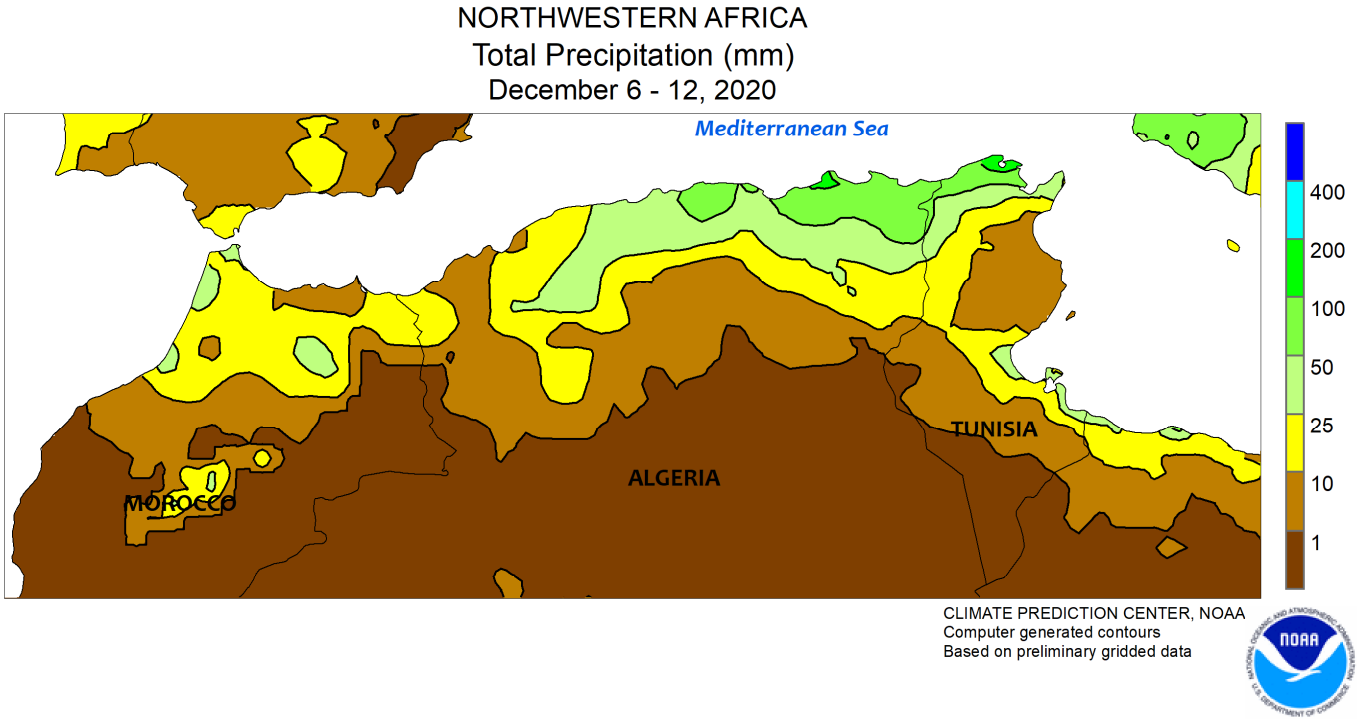

NORTHWESTERN AFRICA

Dry weather returned to western crop areas, while showers continued in central and eastern portions of the region. After last week's sorely-needed rain in Morocco's primary crop areas near the middle Atlantic Coast, sunny skies promoted winter wheat and barley development. Even with the recent rainfall, precipitation since October 1 in these main croplands has averaged half of normal, and more rain will be needed to fully erase the long-term severe drought that has gripped much of Morocco for nearly one year. However, light to moderate showers (5-35 mm) were noted in northeastern Morocco and western Algeria, areas which have mostly missed the recent rainfall. Meanwhile, moderate to heavy rain (10-100 mm, locally more near the coast) from central Algeria into northern Tunisia maintained adequate to abundant moisture supplies for emerging to vegetative winter grains.

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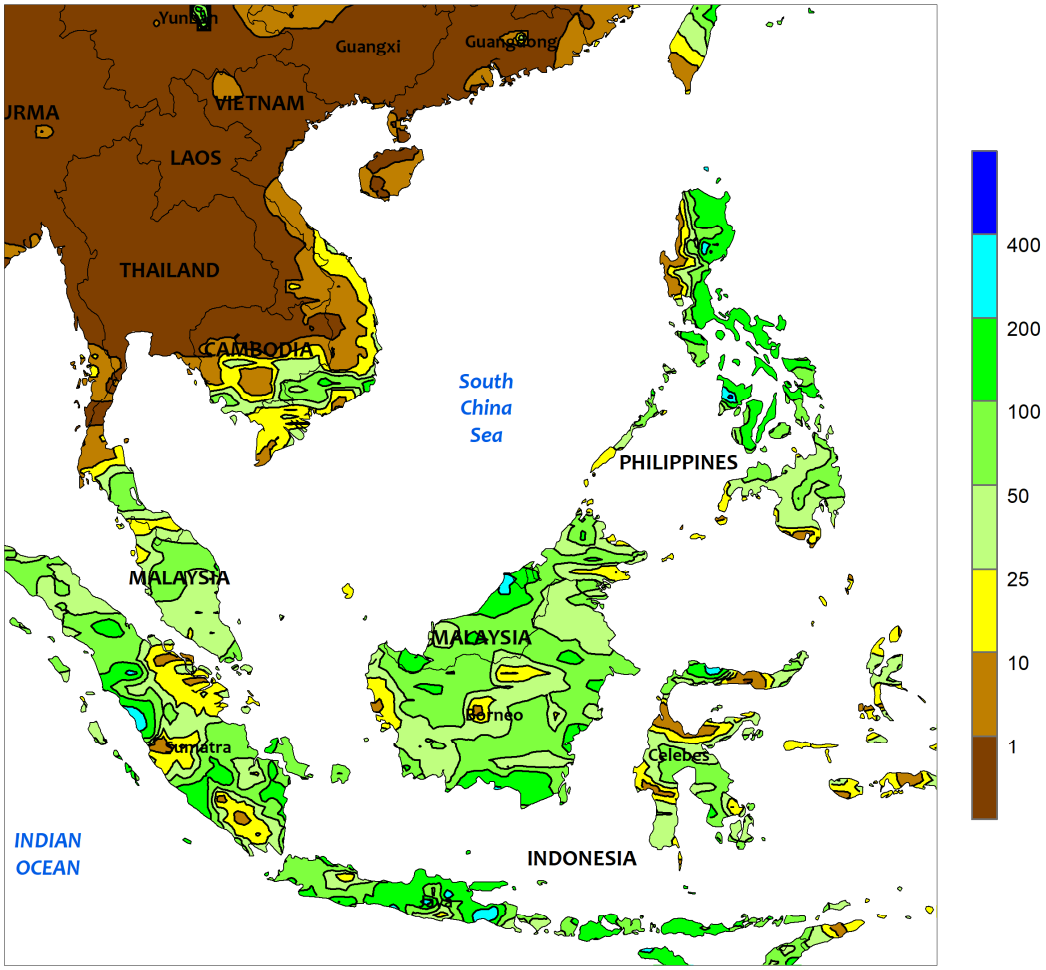
SOUTHEAST ASIA
Total Precipitation (mm)
December 6 - 12, 2020



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

SOUTHEAST ASIA

More wet weather continued in waterlogged parts of the Philippines, with over 100 mm of rain reported along eastern and northeastern portions of the country. Since October 1, eight tropical cyclones have impacted the Philippines, including one super typhoon. Rainfall totals over that period have approached 2,000 mm in some areas, over 150 percent of normal and more than 1,500 mm above last year during the same time. The wetness lowered prospects of summer rice and corn while making sowing of the winter crop difficult. Meanwhile, consistently heavy showers in Malaysia and Indonesia supported higher year-over-year prospects for oil palm and rice. Most locales recorded 25 to 100 mm or more, particularly in southern Indonesia (Java), where rainfall has routinely been above average since the earlier-than-normal start of the wet season in late October.

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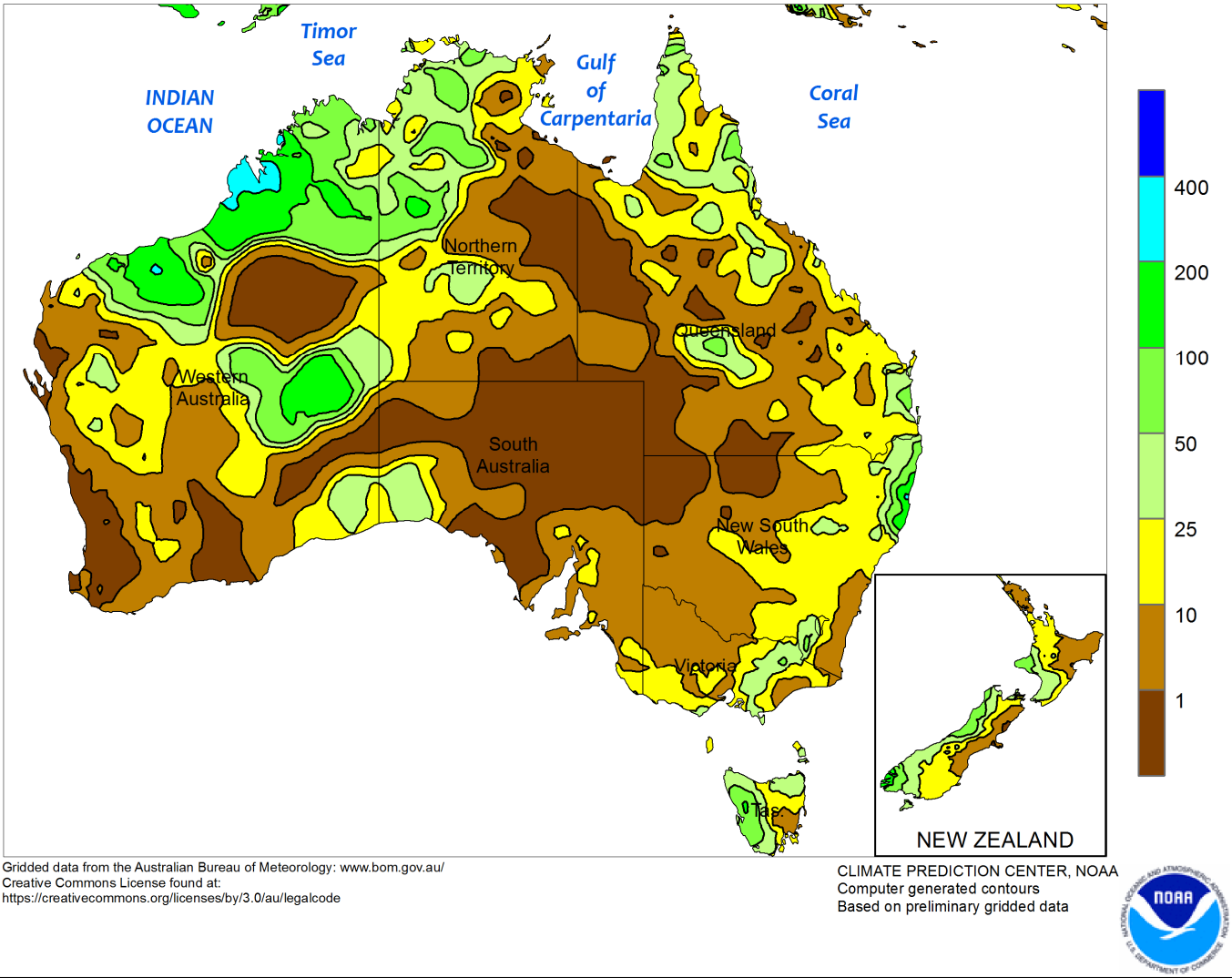
AUSTRALIA
Total Precipitation (mm)
December 6 - 12, 2020



Gridded data from the Australian Bureau of Meteorology: www.bom.gov.au/
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CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded data

AUSTRALIA

In southern Queensland and New South Wales, scattered showers (5-30 mm) and cooler weather improved growing conditions for cotton, sorghum, and other vegetative summer crops, but the heavier showers may have temporarily interrupted local winter crop harvesting. Cooler weather overspread northern Victoria and South Australia as well, but somewhat drier weather favored wheat, barley, and canola harvesting. Mostly dry, warmer-than-normal weather prevailed in Western Australia, promoting winter crop drydown and harvesting. Temperatures averaged 1 to 2ºC above normal in Western Australia and 2 to 5ºC below normal in South Australia, Victoria, and New South Wales.

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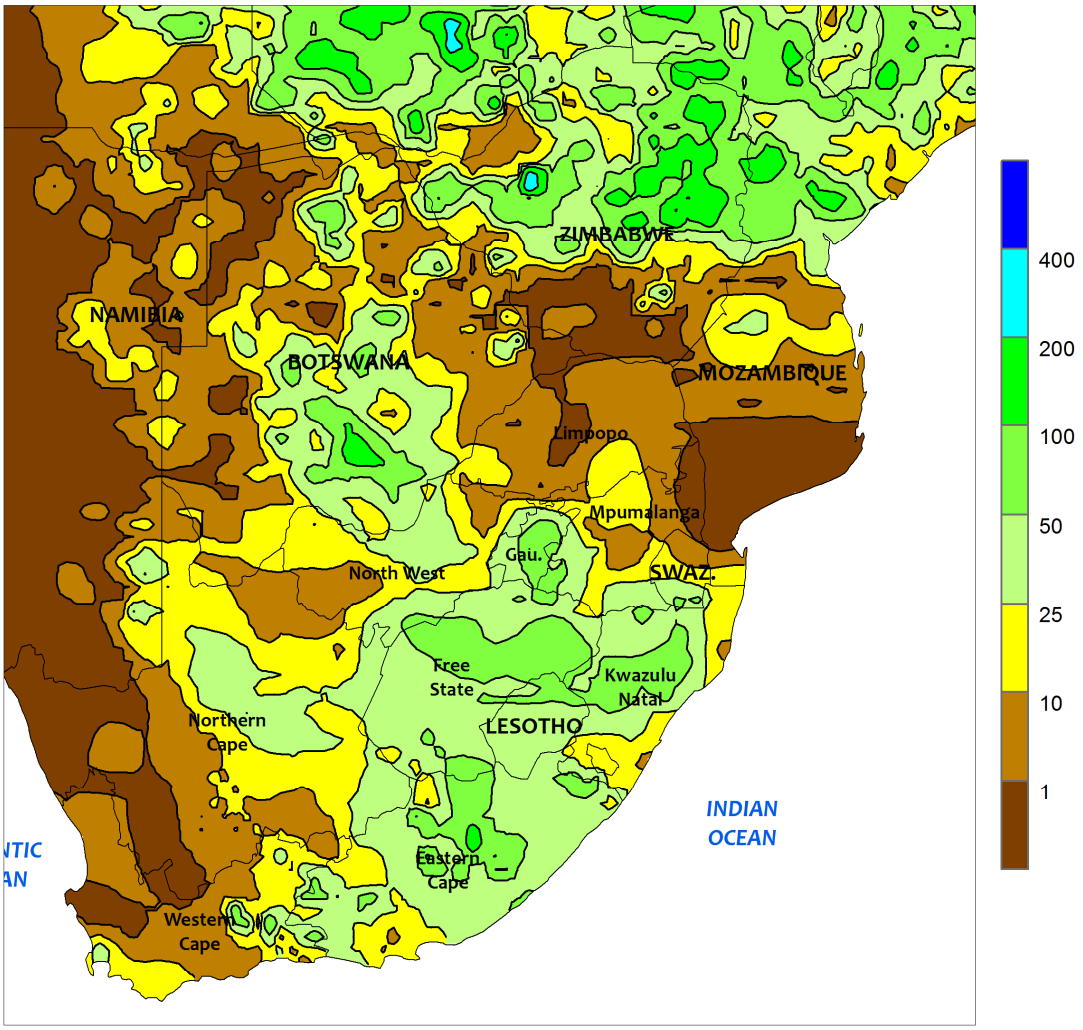
SOUTH AFRICA
Total Precipitation (mm)
December 6 - 12, 2020



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

SOUTH AFRICA

Moderate to heavy showers maintained favorable summer crop prospects in nearly all major farming areas. Rainfall totaling 10 to 50 mm stretched from North West and Mpumalanga southward through Eastern Cape and KwaZulu-Natal; white corn areas in western Free State and several other locations in the corn belt reported amounts up to 85 mm. The continuation of rain promoted additional planting in western sections of the corn belt while also increasing irrigation reserves for corn, cotton, and other crops grown commercially in the Orange River Valley of Free State and Northern Cape. Weekly temperatures averaged near to slightly above normal in the aforementioned areas, with daytime highs reaching the upper 20s and lower to middle 30s (degrees C). Hotter weather (daytime highs nearing 40°C) was recorded at the northern and western edges of the corn belt (North West and Limpopo) and in irrigated sugarcane regions of eastern Mpumalanga and northern KwaZulu-Natal. Meanwhile, mild weather (daytime highs reaching the lower 30s) promoted growth of tree and vine crops in Western Cape, with light rain (5-25 mm) falling in the east and along the southwest coast.

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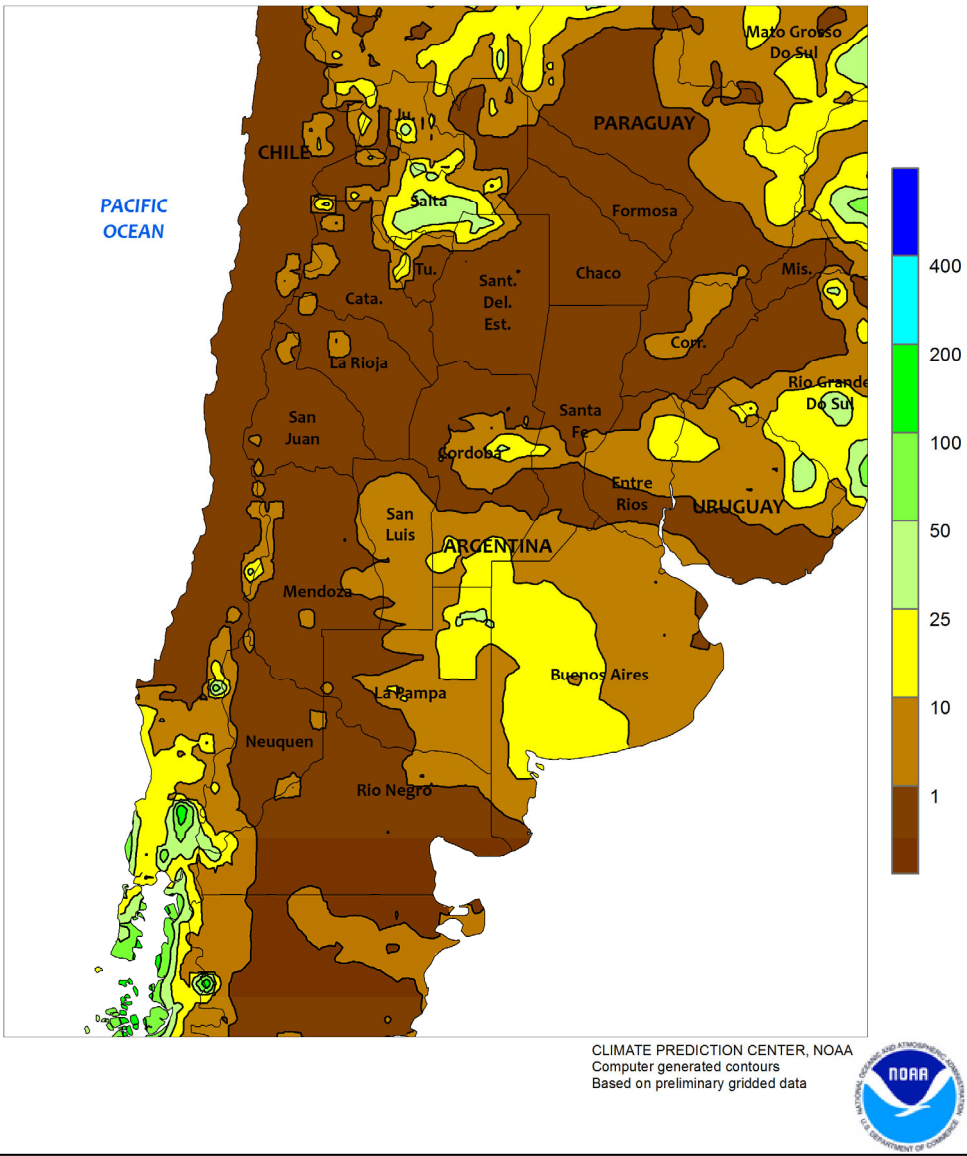
ARGENTINA
Total Precipitation (mm)
December 6 - 12, 2020



ARGENTINA

Dry, unseasonably warm weather dominated the region for much of the week, fostering rapid development of summer crops and advancing maturation and harvesting of winter grains. Weekly temperatures averaged 2°C or more above normal over most western farming areas, with daytime highs building to 40°C as far south as La Pampa. At week's end, showers (rainfall totaling 5-25 mm) returned to La Pampa and western Buenos Aires but were widely scattered and light elsewhere. The southwestern rainfall ended the brief period of extreme heat and provided an additional boost in moisture to immature winter grains, though most crops had reached maturation. According to the government of Argentina, corn and soybeans were 63 and 62 percent planted, respectively, as of December 10, similar to last year's pace for both crops. Cotton planting advanced 13 points to reach 56 percent complete, though progress still lagged that of last year by 11 points. Meanwhile, wheat was 57 percent harvested, 3 points behind last year's pace.

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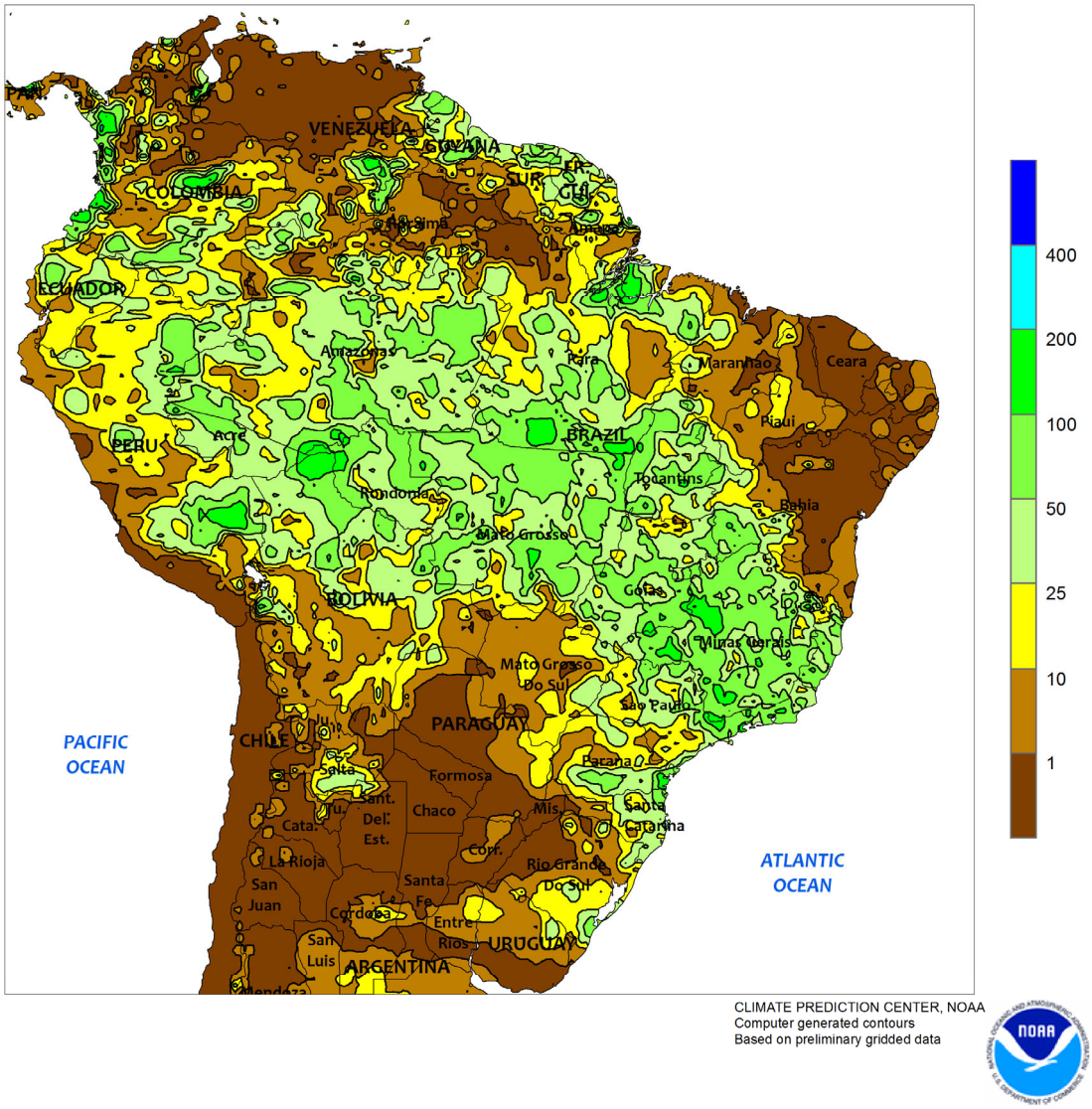
BRAZIL
Total Precipitation (mm)
December 6 - 12, 2020



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

BRAZIL

In a reversal from last week, locally heavy showers covered a broad area of central and southeastern Brazil, as drier conditions returned to the south. Rainfall totaled 10 to 50 mm – locally approaching 100 mm – from Mato Grosso and Tocantins southeastward through Minas Gerais. The moisture was welcome for soybeans, first-crop corn, and other crops including sugarcane and coffee, particularly in previously-dry farming areas in Mato Grosso. Meanwhile, mostly dry weather returned to much of the region stretching from Mato Grosso do Sul to northern Rio Grande do Sul following last week's beneficial rain, with most locations receiving less than 10 mm. Summer warmth maintained high crop moisture demands in all locations, with daytime highs reaching the middle and upper 30s (degrees C) from Mato Grosso and Tocantins southward to western Parana and Paraguay. According to the government of Parana, 49 percent of corn was in flowering to filling stages as of December 7, compared with soybeans at 23 percent. In Rio Grande do Sul, corn and soybeans were 87 and 80 percent planted, respectively, as of December 10, with 64 percent of the emerged corn crop in reproductive to filling stages of development.

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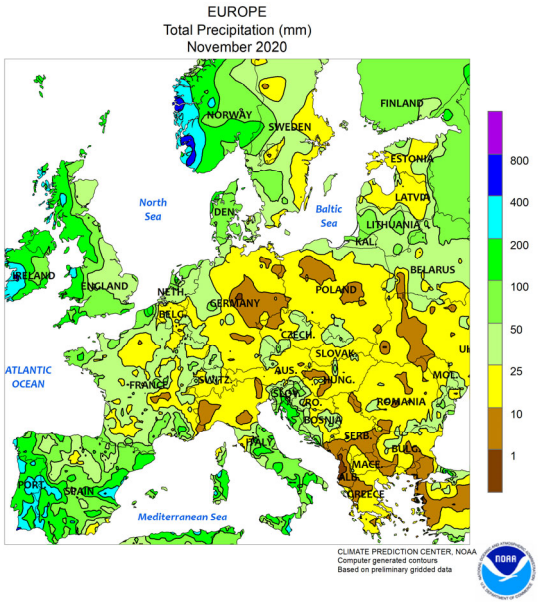
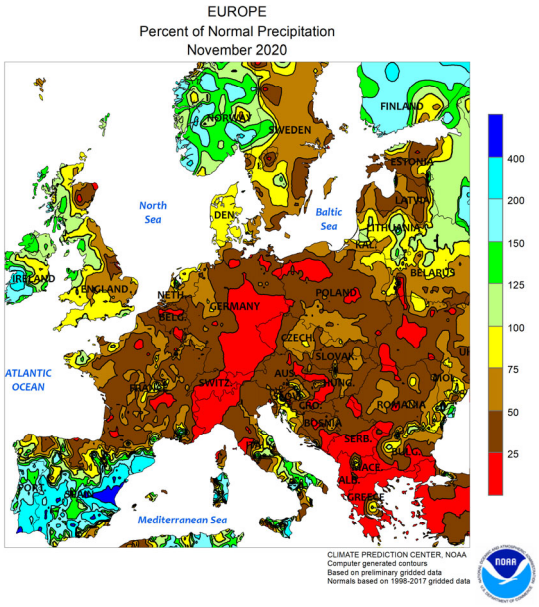
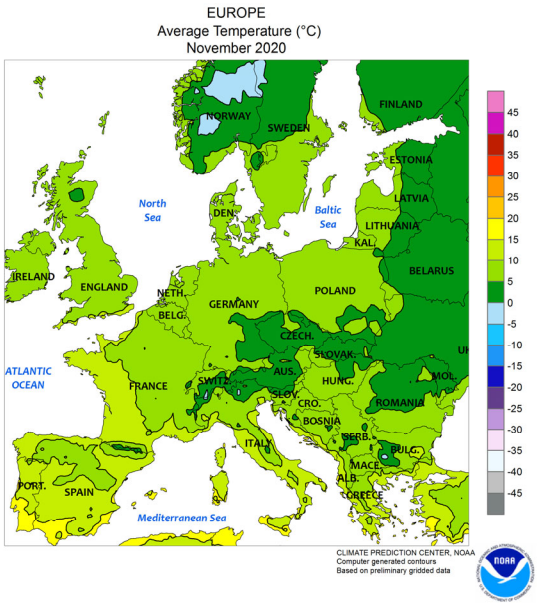
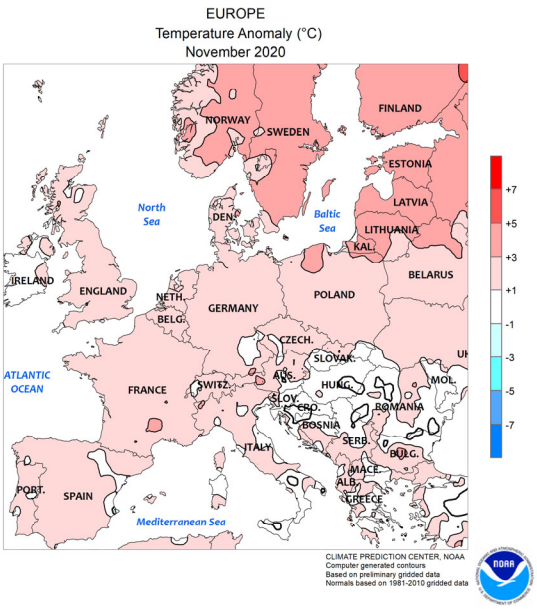
November International Temperature and Precipitation Maps









EUROPE

During November, much drier- and warmer-than-normal weather settled over most of the continent. Precipitation for the month tallied less than 50 percent of normal from France eastward, with little to no rainfall (25 percent of normal or less) reported over many central and southeastern croplands. The dryness was welcome for late winter crop planting and emergence, particularly in eastern growing areas hit by heavy rains during late September and much of October. Conversely, the cool wet season got off to a good start on the Iberian Peninsula (75-200 percent of normal), favoring winter wheat and barley establishment. However, dry weather in Italy limited soil moisture for winter grain establishment before heavy rain and mountain snow returned in early December. While much of Europe was dry, a parade of Atlantic storm systems produced heavy rainfall in areas bordering the northern Atlantic Ocean and North Sea, with some western-facing locales reporting more than 200 percent of normal precipitation for the month. Temperatures averaged 2 to 5°C above normal, save for near-normal temperatures in southeastern Europe; the warmth extended the window for winter crop establishment, especially in areas beset by excessive mid-autumn rains.

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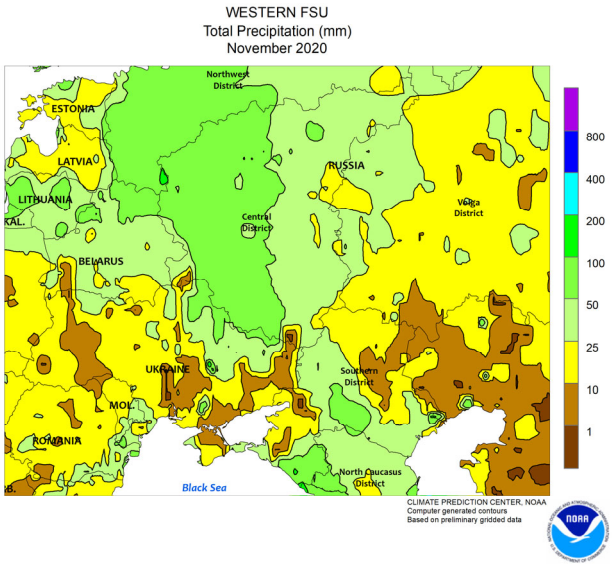
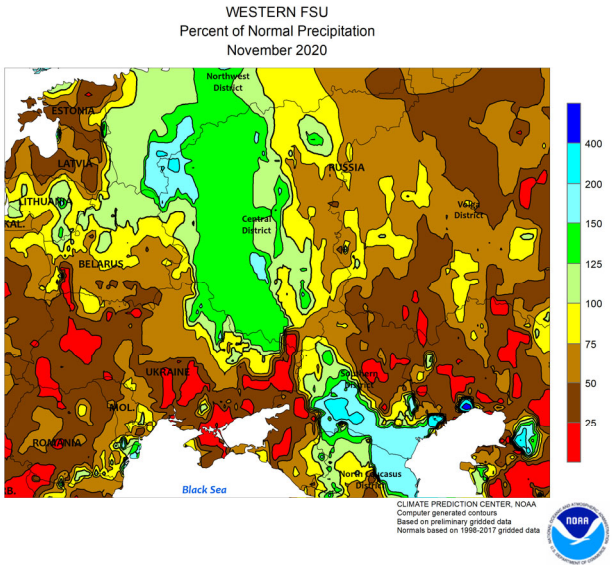
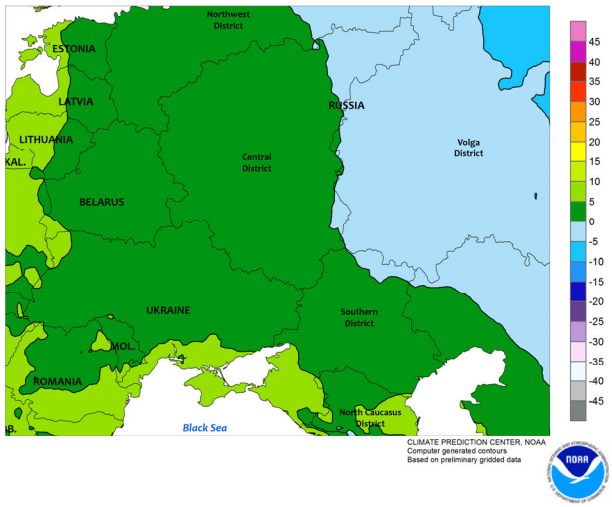
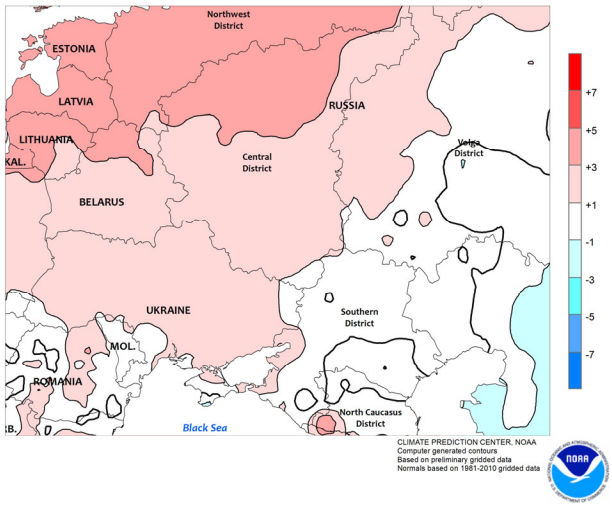




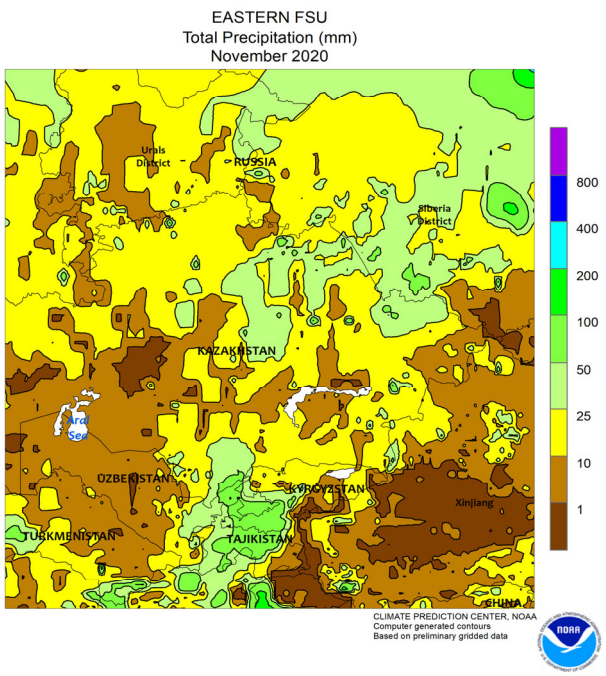


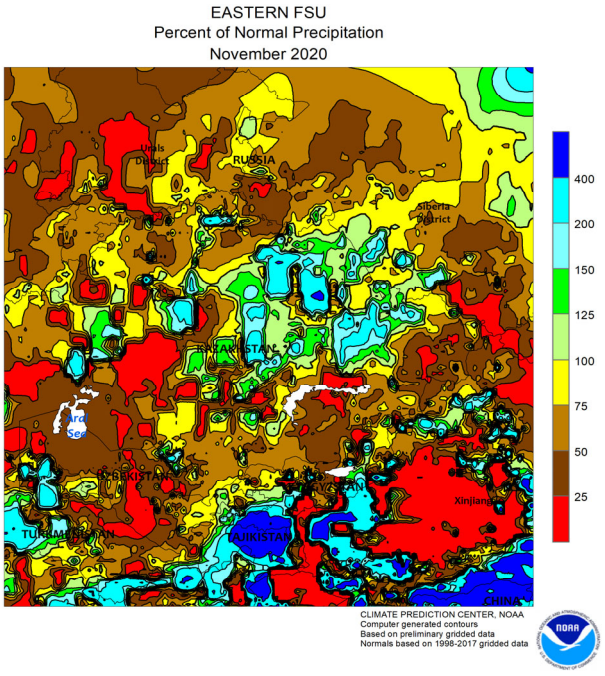


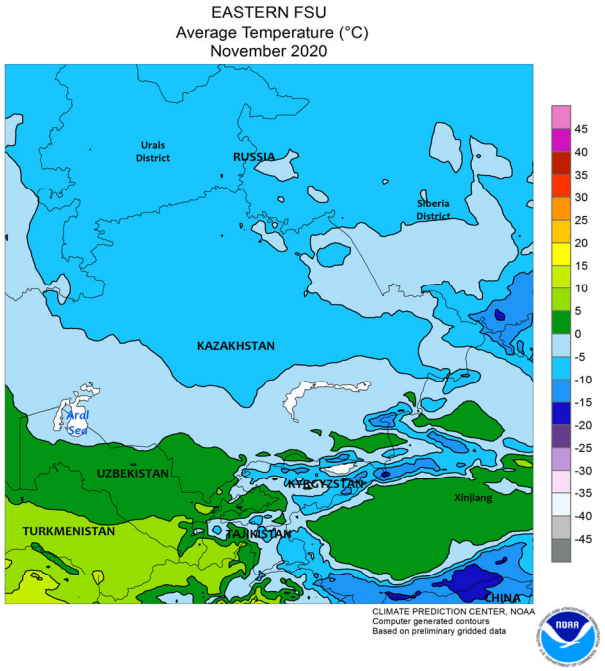
WESTERN FSU

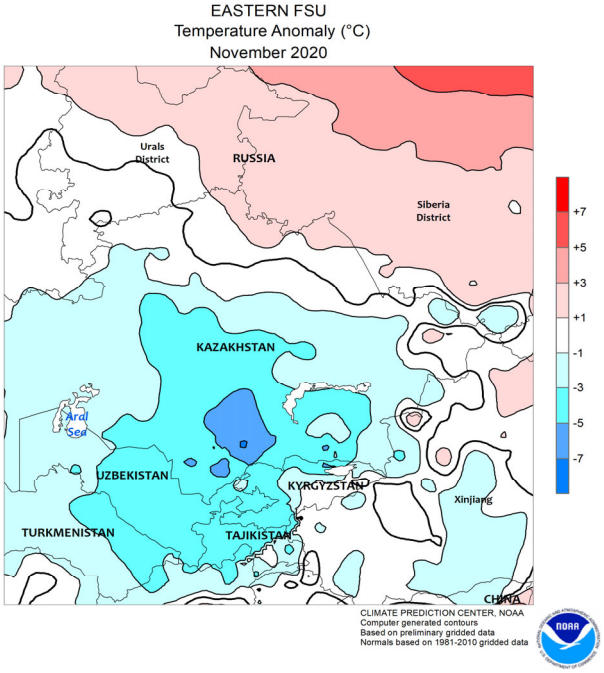
Similar to October, conditions were again highly variable during November across the region. In Ukraine, the return of dry weather (10-60 percent of normal) across much of the country benefited winter grains and oilseeds following locally heavy rains in October (especially in central and western portions of the country). However, Ukraine's eastern-most crop areas remained mired in drought, and this past month's rain (15-40 mm, 35-75 percent of normal) did little to improve prospects for winter wheat establishment. In Russia, near- to above-normal rainfall (100-250 percent of normal) from the northern North Caucasus District northwestward into the western Central District eased severe drought and provided a late-season boost to winter wheat establishment prospects. In contrast, dry weather (less than 50 percent of normal) in Krasnodar Krai (southwestern Southern District) and from the Volga District into the northern Southern District exacerbated drought and left many winter wheat stands in poor shape. Protracted warmth (2-4°C above normal) across western and northern crop areas extended the window for winter crop establishment, while an acute late-month cold snap in southern Russia more than offset early-month warmth and ushered winter wheat into dormancy roughly one week ahead of average.

For additional information contact: mark.brusberg@usda.gov









EASTERN FSU

During November, seasonable bitter cold (minimum temperatures at or below -20°C) settled over central Russia and northern Kazakhstan after a warm start to the month. By early December, the aforementioned crop areas were covered in snow, signaling an end to the 2020 spring grain campaign; agricultural activity is virtually non-existent during the winter months due to the extreme cold. Farther south, the new water year got off to a dry start in western and central Uzbekistan, while near- to above-normal precipitation (70-200 percent of normal) in eastern Uzbekistan and environs indicated a favorable onset of the region's wet season (November 1 – June 1). Snowpack recharge and subsequent spring runoff for irrigation are vital for the region's cotton crop, which is grown in the ensuing spring and summer.

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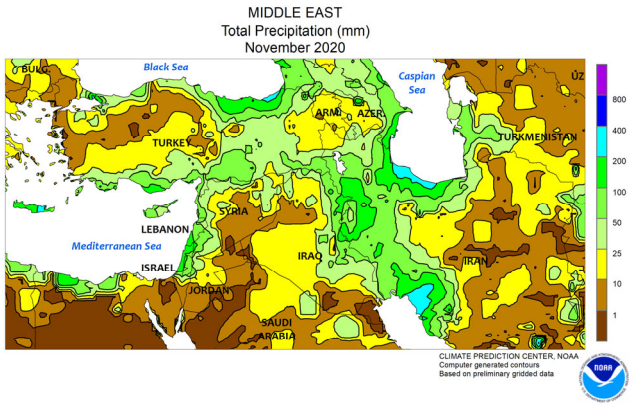
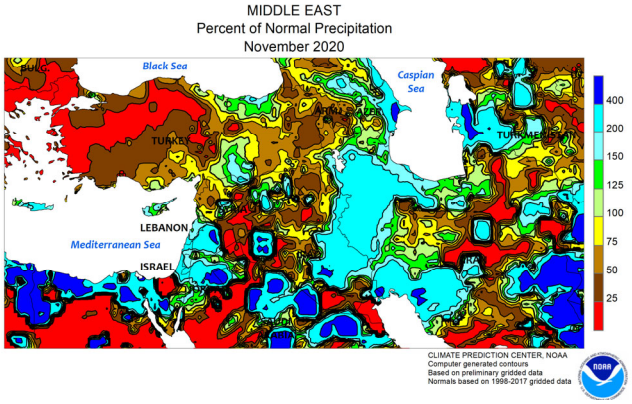
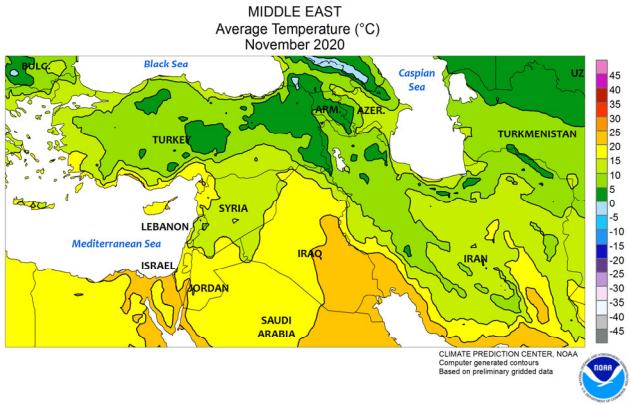
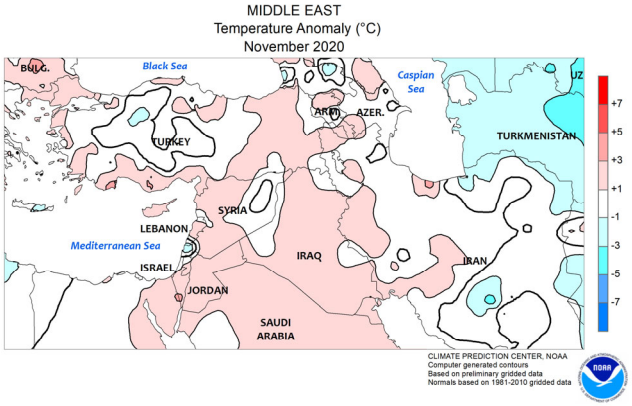




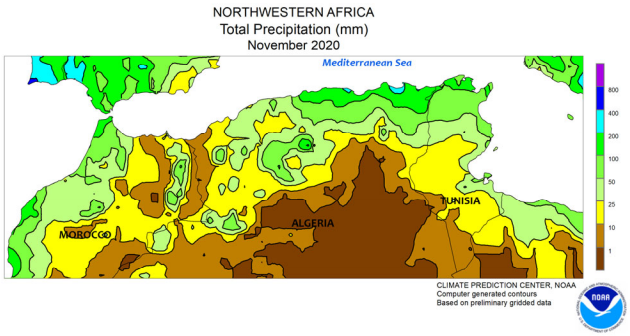


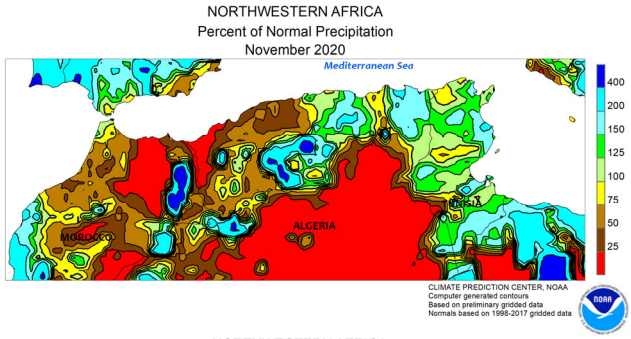


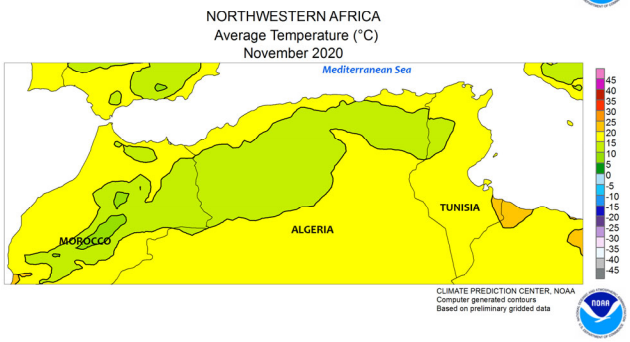
MIDDLE EAST

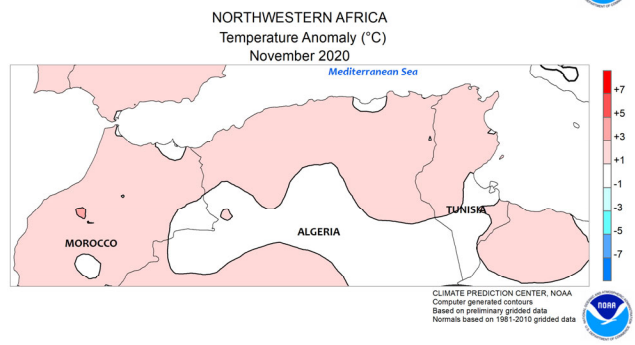
During November, heavy rain in central and eastern portions of the region contrasted with intensifying short-term drought in central Turkey. After a dry start to the cool wet season, widespread moderate to heavy rain (25-300 mm, locally more than 400 percent of normal) soaked croplands from the Mediterranean Coast eastward into western and northern Iran, though rain largely bypassed interior portions of Iraq. Similar rainfall totals were also observed along the Black Sea Coast, while amounts topped 300 mm on the Caspian Sea Coast. Consequently, moisture supplies have improved considerably for winter grain planting and establishment over central and eastern portions of the region. Conversely, short-term drought intensified on central Turkey's Anatolian Plateau, where precipitation averaged less than half of normal. Temperatures across the region averaged within 1 to 2°C of normal for the month, with early-month warmth giving way to colder conditions at month's end.

For additional information contact: mark.brusberg@usda.gov





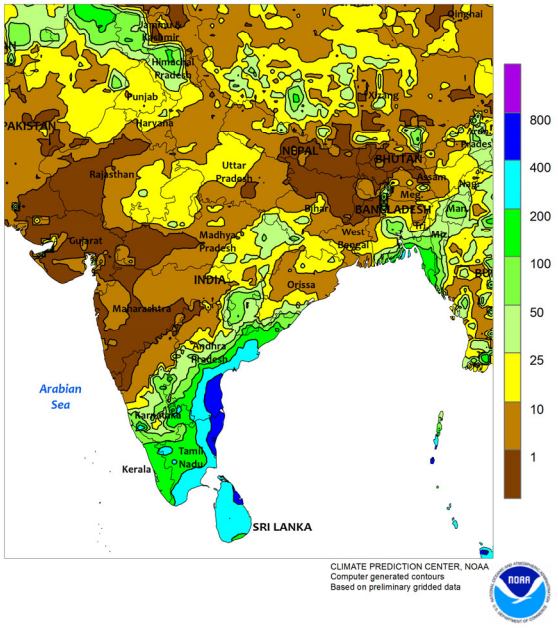




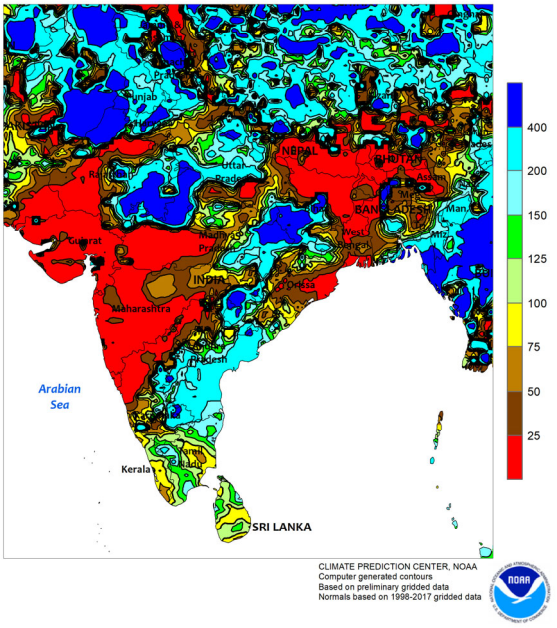
NORTHWESTERN AFRICA

Wet weather continued in the east, while late-month rain began to ease long-term drought in Morocco and western Algeria. The favorable start to the winter grain growing campaign continued across the eastern half of the region, with 50 to 150 mm of rain (locally more than 200 percent of normal) reported from north-central Algeria into northern Tunisia. Meanwhile, drought remained entrenched across the western half of the region before late-month showers (25-50 mm, locally more near the coast) signaled a welcome change in the weather pattern. The rainfall at the end of November improved planting and establishment prospects for winter wheat and barley, though long-term deficits lingered from central Morocco into western Algeria.

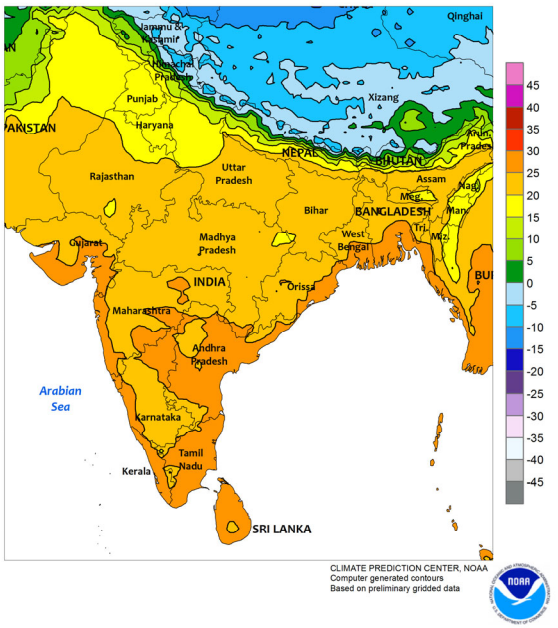
SOUTH ASIA
Total Precipitation (mm)
November 2020



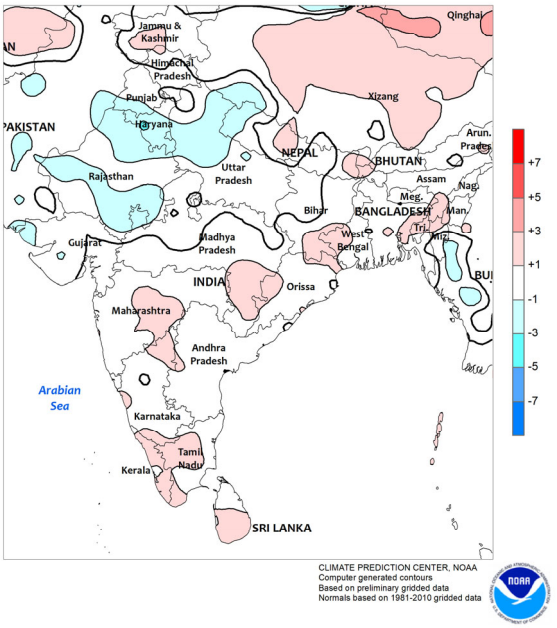
SOUTH ASIA
Percent of Normal Precipitation
November 2020



SOUTH ASIA
Average Temperature (°C)
November 2020



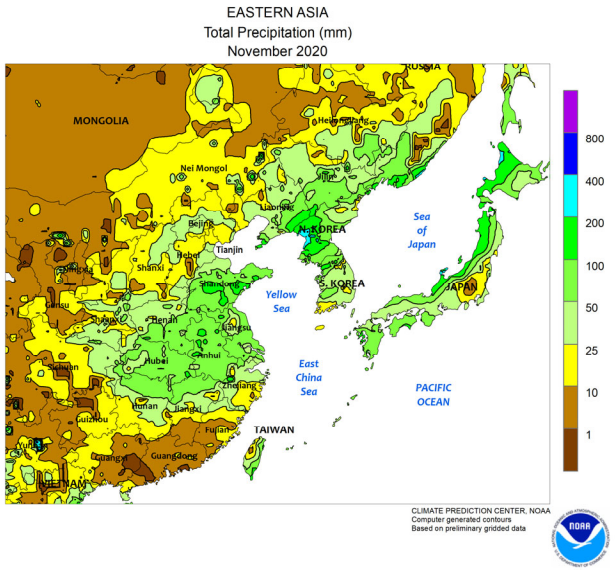
SOUTH ASIA
Temperature Anomaly (°C)
November 2020

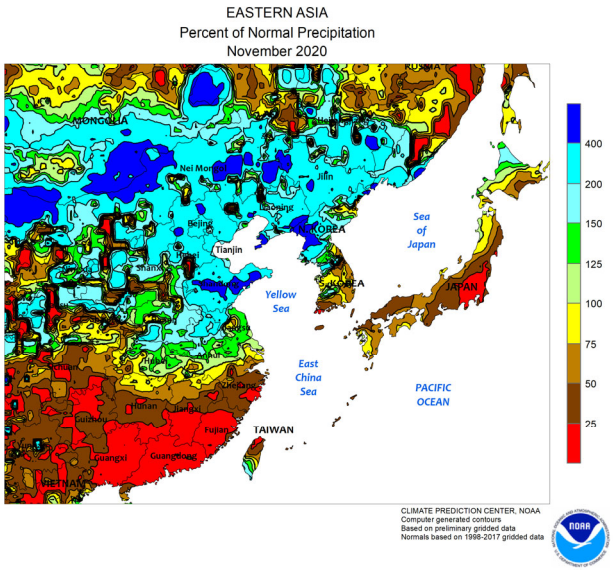


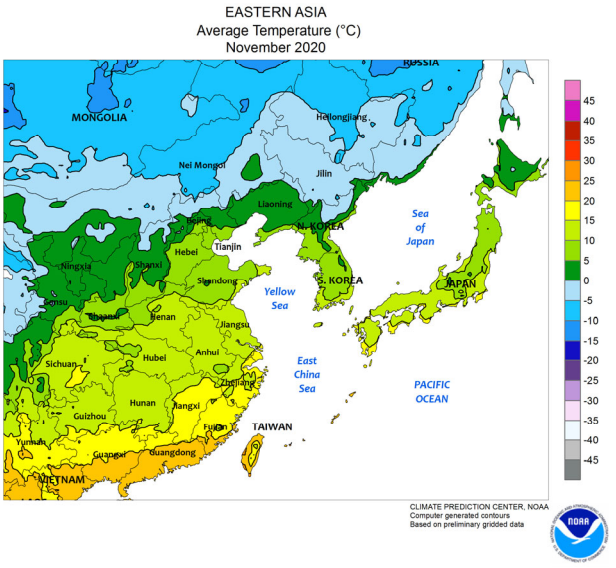
SOUTH ASIA

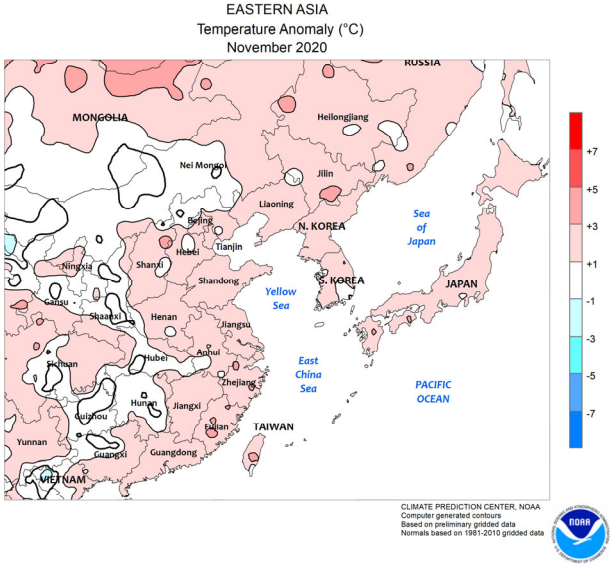
Seasonably dry weather continued across the majority of the region in November, aiding rabi crop sowing in India and Pakistan. A notable exception to the dryness was in southeastern India where a late-month tropical cyclone (Nivar) brought heavy showers, pushing monthly totals above 100 mm (upwards of 250 percent of normal). The wet weather occurred as late-season cotton was being harvested and likely reduced crop prospects.

For additional information contact: mark.brusberg@usda.gov



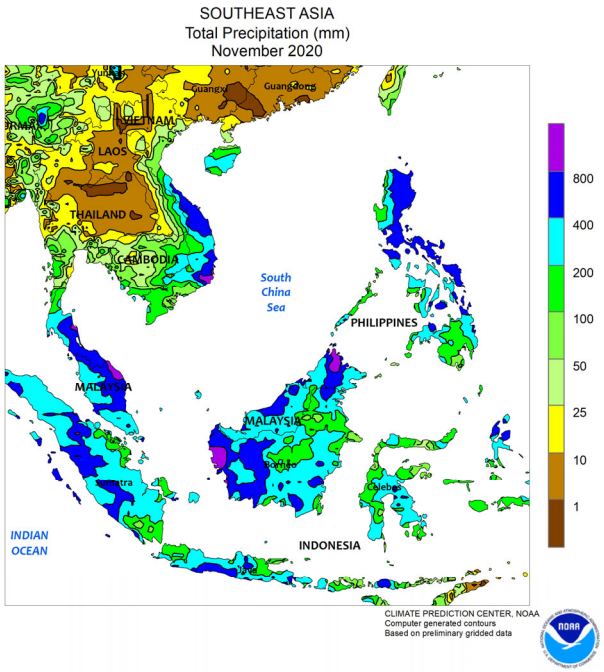


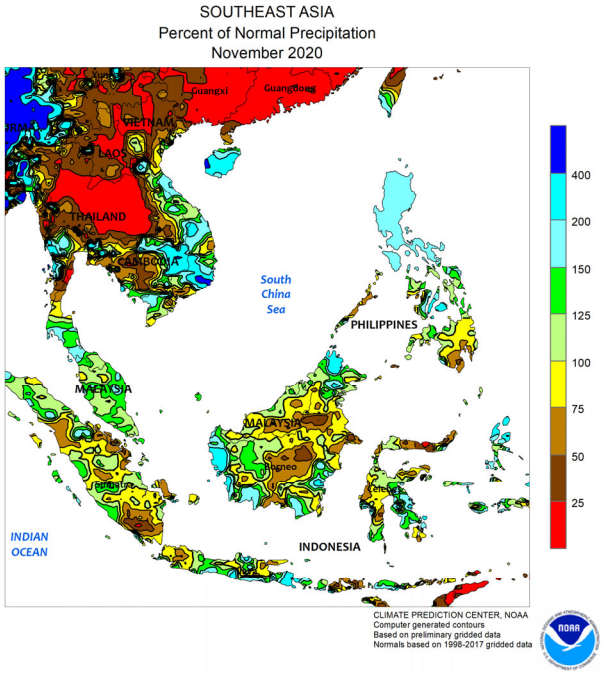


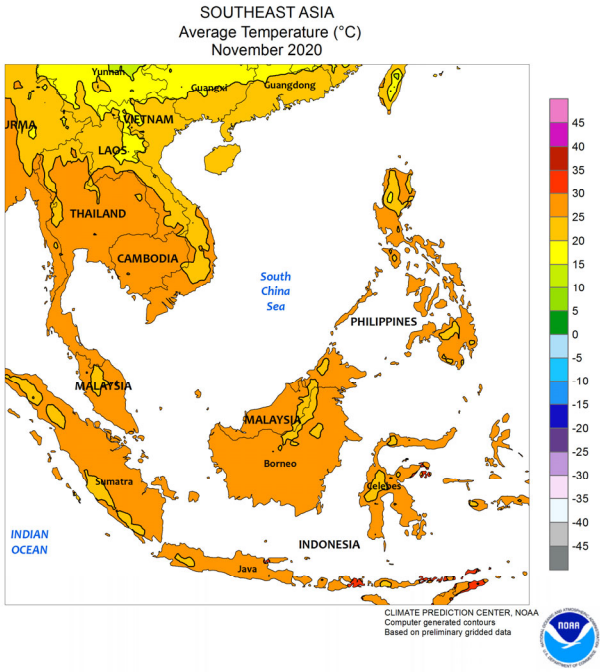


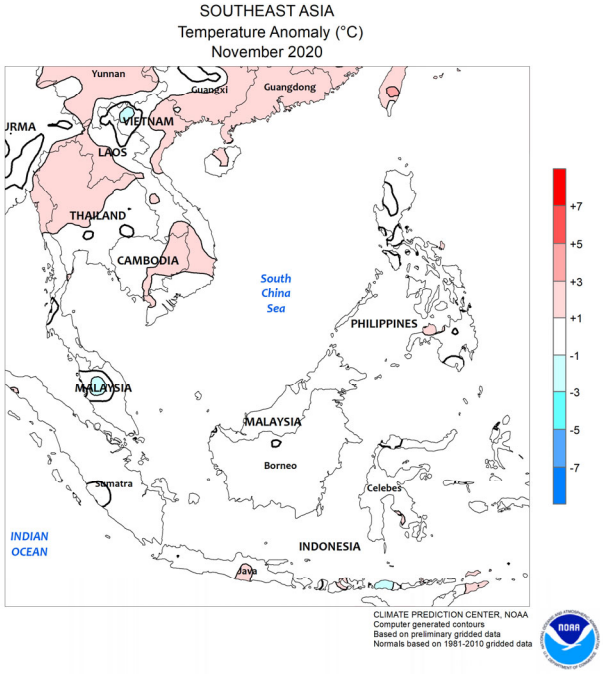
EASTERN ASIA

Wetter-than-normal weather prevailed across much of eastern China in November. Rainfall totals exceeded 100 mm (over 200 percent of normal) in eastern sections of the Yangtze Valley and on southern portions of the North China Plain, while lesser amounts (25-100 mm) occurred in the surrounding areas. The moisture maintained already abundant supplies for rapeseed in the Yangtze Valley and was particularly welcome for wheat on the North China Plain after experiencing poor moisture conditions in October. Meanwhile, temperatures 1 to 3°C above normal promoted good crop development, although colder weather by month's end ushered wheat into dormancy.





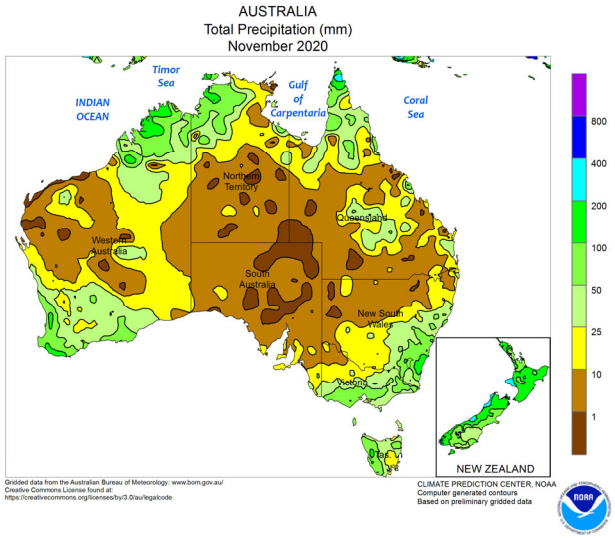


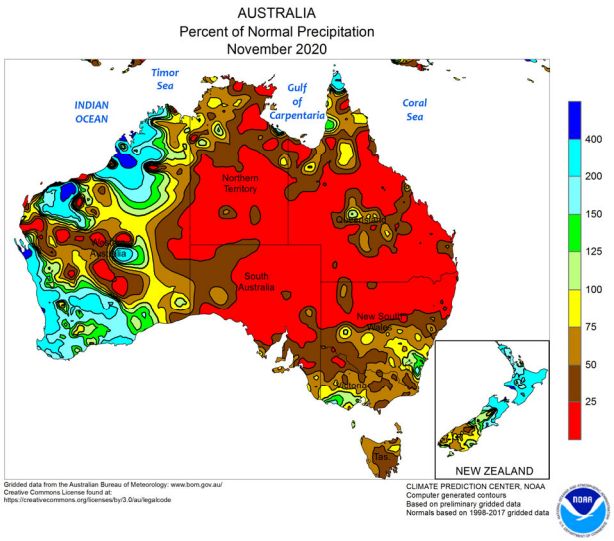


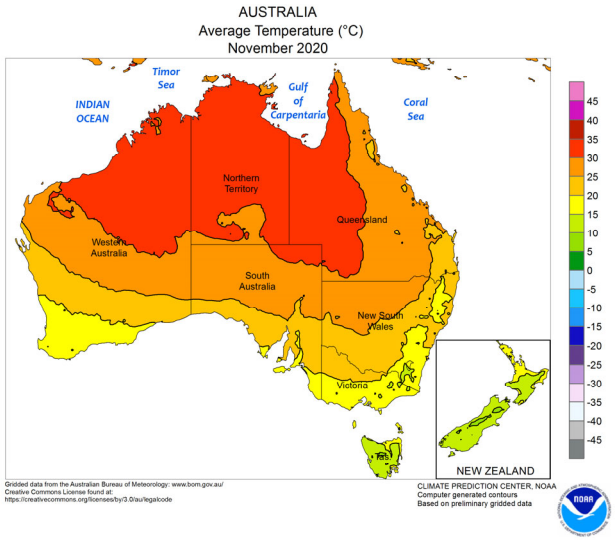
SOUTHEAST ASIA

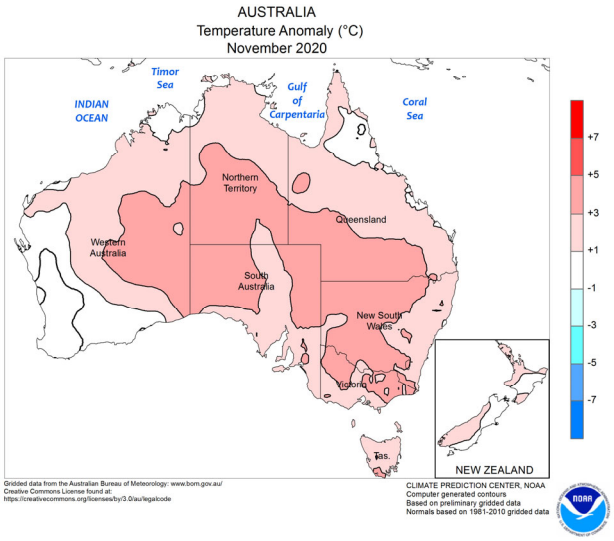
The barrage of tropical cyclones continued during the early half of November, further inundating the northern Philippines and central Vietnam. Super Typhoon Goni weakened substantially after crossing the northern Philippines in late October (wind speeds diminished from 170 knots to 55 knots within a 24-hour period) and moved into central Vietnam early in November. Goni was followed by a weak tropical cyclone (Etau) and a moderately strong typhoon (Vamco). In all, monthly rainfall totals were locally in excess of 600 mm (over 200 percent of normal) across the affected portions of the Philippines and Vietnam, with 60-day totals approaching 2,000 mm in some areas. The persistent wetness lowered corn and rice prospects in the Philippines but occurred in minor agricultural areas of Vietnam. The remainder of the northern sections of the region (Thailand and environs) experienced seasonably dry conditions, facilitating dry-season rice sowing. Farther south, seasonably wet weather (200-400 mm, 100-150 percent of normal) continued in Malaysia and Indonesia, maintaining ample soil moisture for oil palm and rice. In particular, consistently above-average rainfall in southern Indonesia (Java) sustained good to excellent prospects for rice.

For additional information contact: mark.brusberg@usda.gov









AUSTRALIA

In November, mostly dry, occasionally hot weather in southern Queensland and northern New South Wales aided winter wheat harvesting. However, the heat and dryness caused some stress on recently-emerged dryland summer crops and elevated the water requirements of irrigated cotton. In South Australia, Victoria, and southern New South Wales, near- to below-normal rainfall favored wheat, barley, and canola drydown and harvesting. In contrast, wet weather during the first half of November slowed winter crop harvesting in Western Australia, but drier weather during the second half of the month allowed harvesting to gain momentum.

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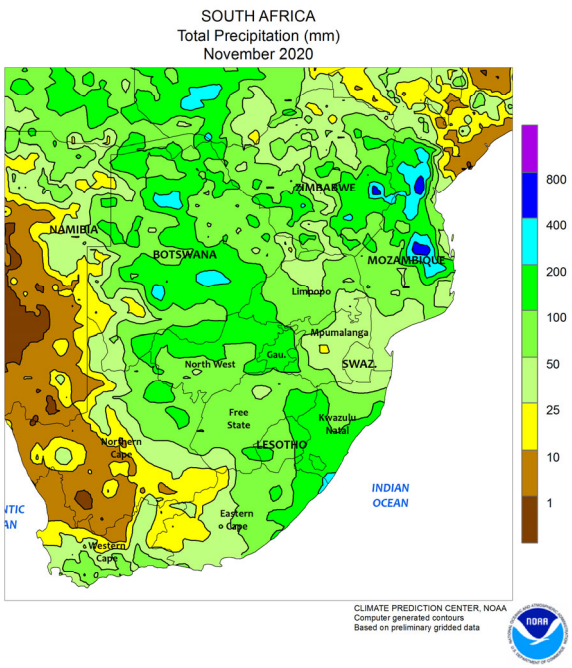

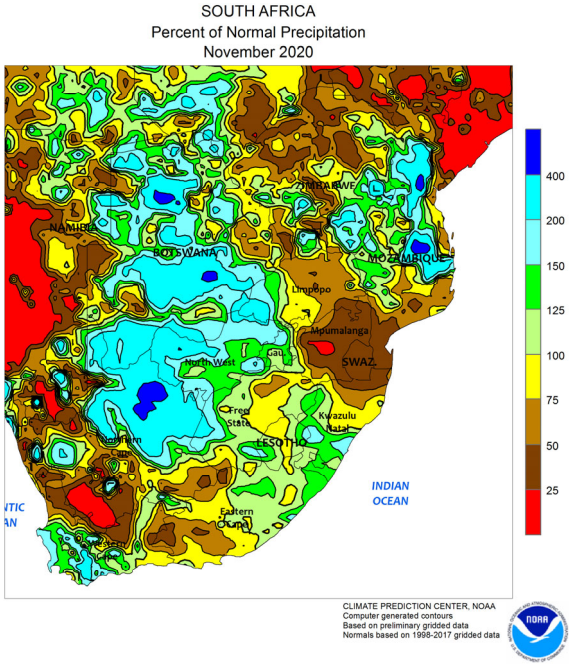

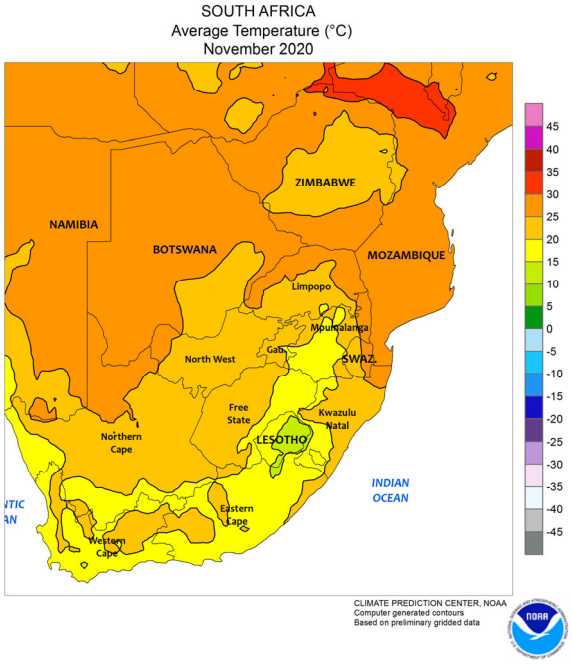

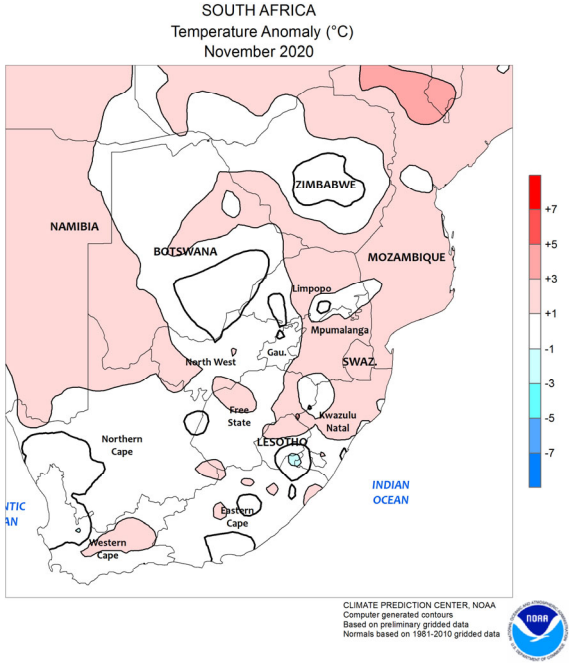

SOUTH AFRICA

November showers maintained overall favorable prospects for corn and other rain-fed summer crops. Monthly rainfall was above normal from the western and central corn belt (Northwest to Gauteng) southeastward through southern KwaZulu-Natal and neighboring locations in Eastern Cape. The moisture allowed planting of corn to occur in a timely manner in central portions of the main production areas, generally within the optimal planting period, and helped to condition fields for planting activities in the far west. Rainfall was lighter from eastern Limpopo southward to northern KwaZulu-Natal, including much of Mpumalanga. Monthly temperatures averaged 1 to 2°C above normal in the aforementioned farming areas, spurring rapid development of emerging to vegetative crops without excessive heat. Hotter weather (daytime highs reaching the 40s degrees C) was recorded in irrigated sugarcane areas of eastern Mpumalanga and northern KwaZulu-Natal. Elsewhere, near- to above-normal rainfall increased irrigation reserves for corn and other summer row crops in the Orange River Valley and related watersheds. In Western Cape, showers, interspersed with periods of warm, sunny weather, favored developing tree and vine crops but likely had only temporary impacts on the wheat harvest.

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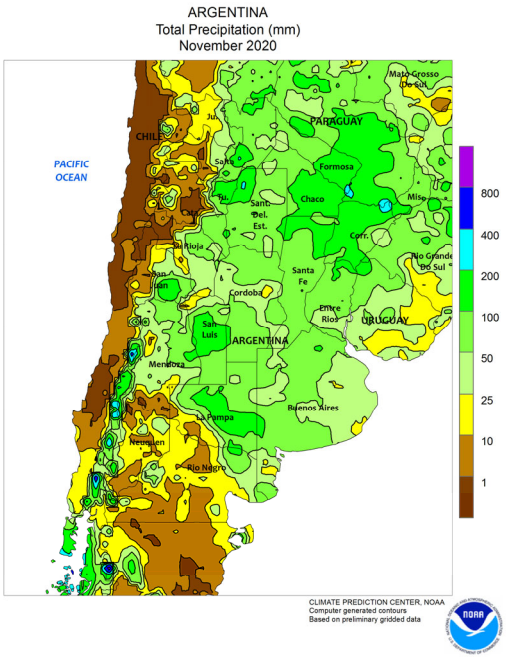
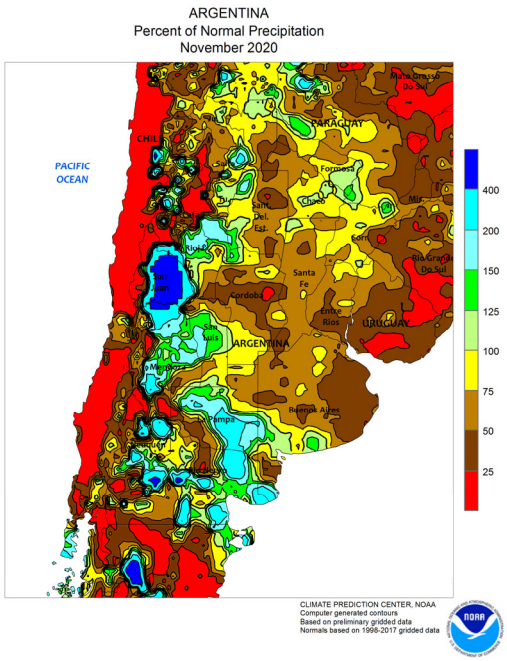
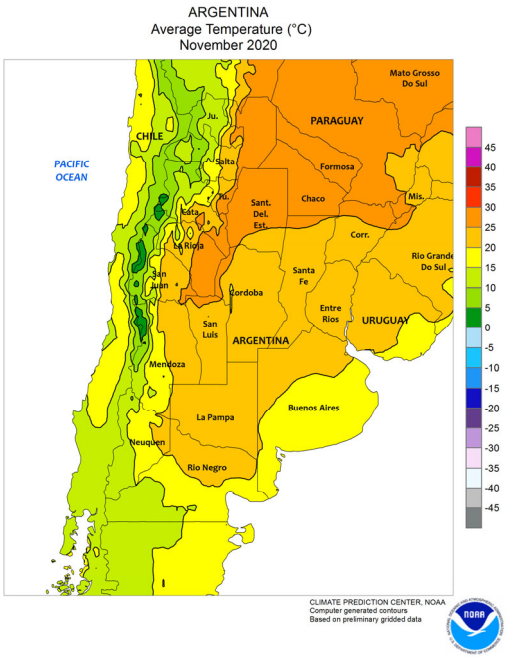
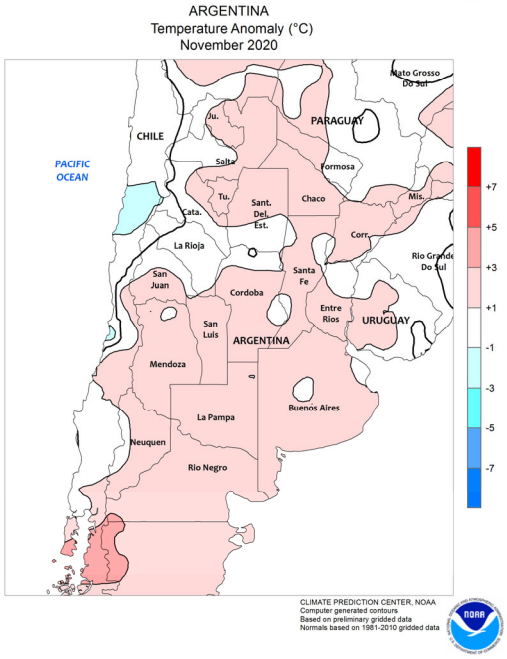


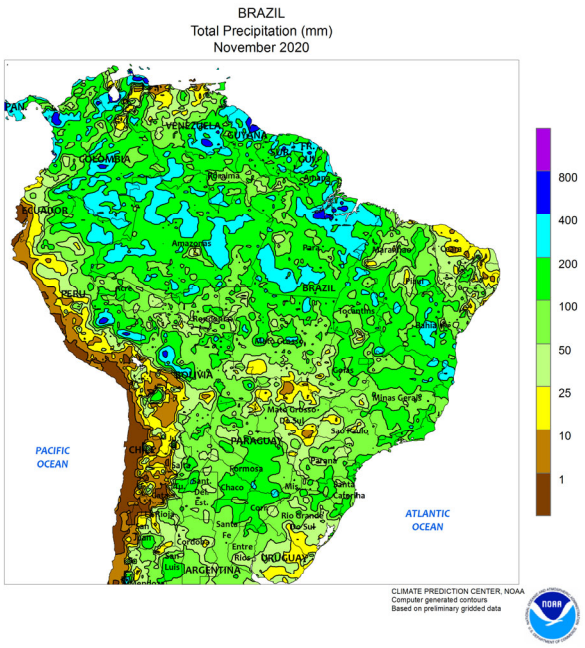


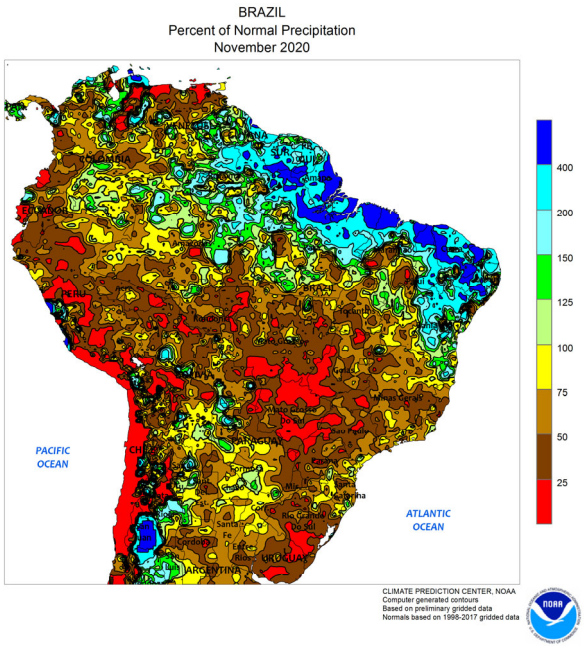


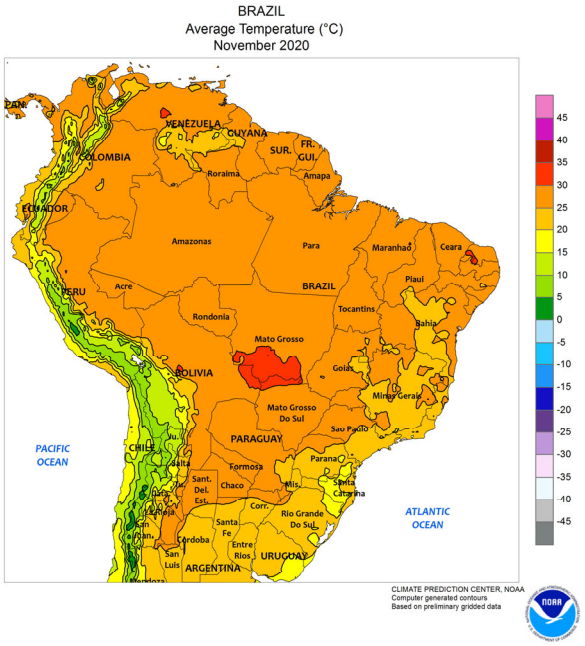


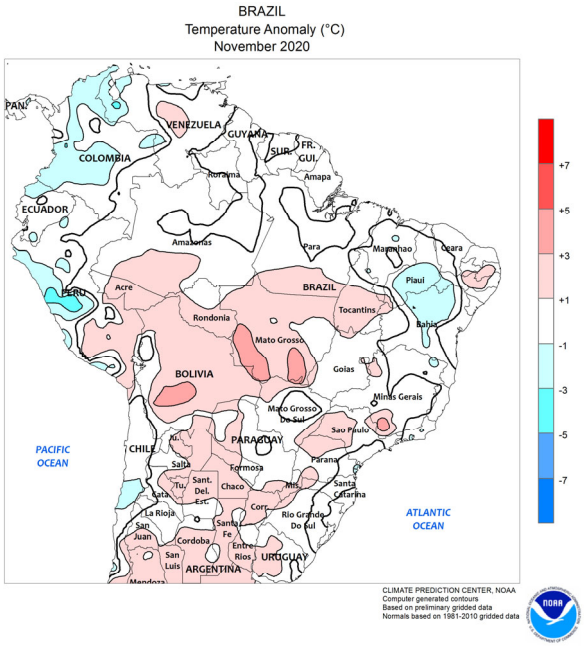
ARGENTINA

November rainfall improved prospects for summer crop harvesting, while helping to stabilize the condition of filling winter grains. Although monthly accumulations were below normal in many major production areas, the rain fell on multiple occasions and the events were separated by periods of dryness that allowed fieldwork to progress; the moisture was particularly timely in northeastern cotton areas, where the pace of planting lagged for much of the season due to limited soil moisture. Meanwhile, unseasonable warmth (November temperature averaging 1-2°C above normal) and ample sunshine favored development of reproductive to filling winter grains in Buenos Aires, where favorable moisture conditions prevailed for much of the season. Monthly average temperatures also averaged up to 2°C above normal in the far north, with daytime highs reaching the 40s (degrees C) as far south as northern Cordoba.





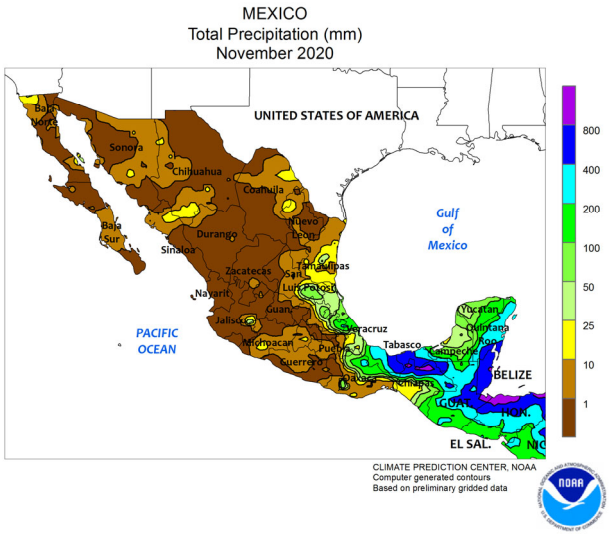


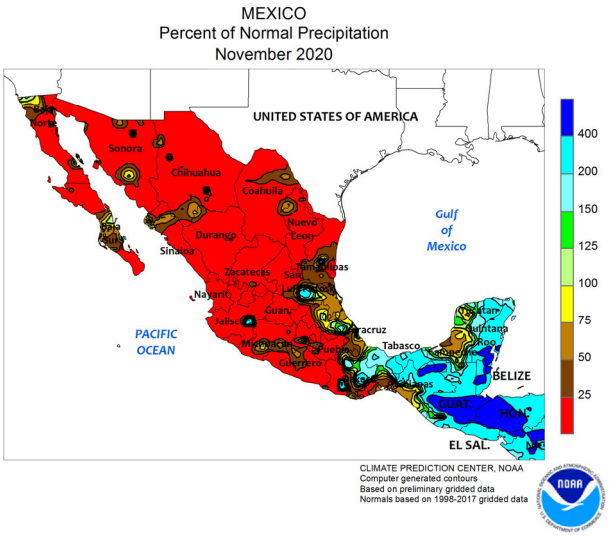


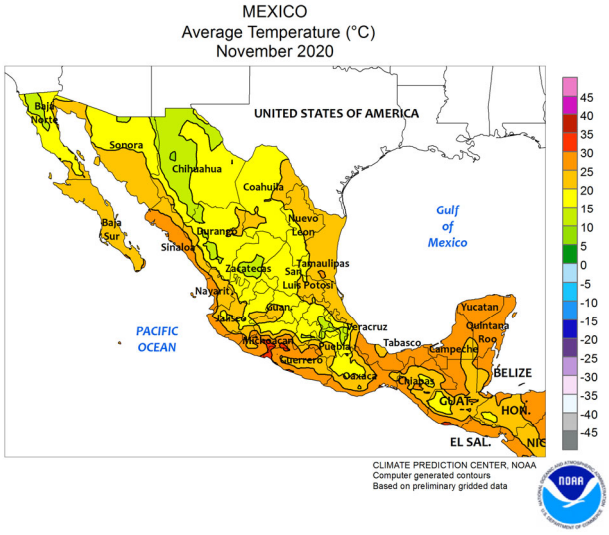
BRAZIL

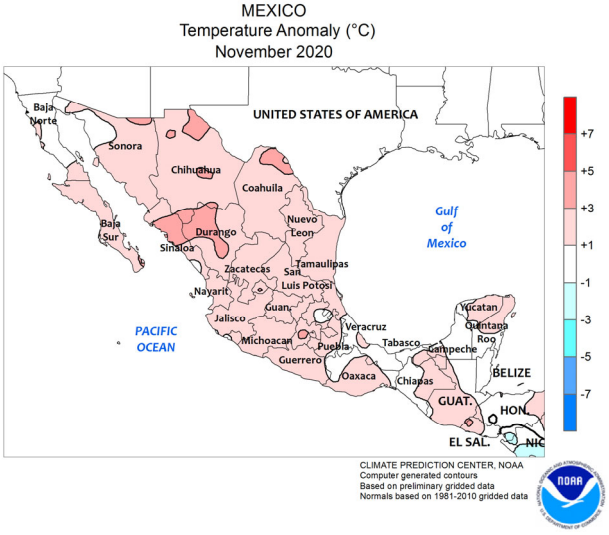
Warmer- and drier-than-normal weather dominated major agricultural areas of central and southern Brazil during November, marking a second month of largely unfavorable growing conditions for summer crops. Total accumulations ranged from 25 to 100 mm from Mato Grosso southward through Rio Grande do Sul, though many locations recorded less than 50 mm. While favoring a rapid pace in fieldwork, some of the earlier-planted soybeans and first-crop corn had reached reproduction before month's end and were in need of moisture. The dryness was exacerbated by daytime highs often reaching the lower and middle 30s (degrees C), and sometimes approaching 40°C. In contrast to the occasionally stressful conditions in central and southern Brazil, heavier, more frequent rain fell in eastern agricultural areas, including soybean and cotton areas of the northeastern interior (Tocantins, western Bahia, and environs), row crop areas in central and eastern Goias, and coffee regions of Minas Gerais. Due to the overall wetter conditions, monthly average temperatures were closer to normal though daytime highs still occasionally reached the middle and upper 30s.

For additional information contact: mark.brusberg@usda.gov





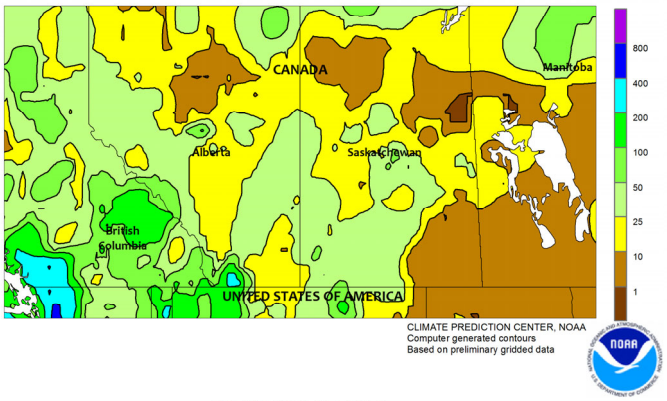




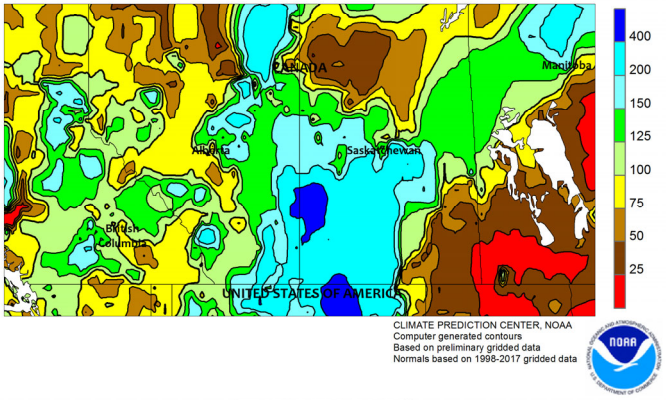
MEXICO

Periods of inundating rain engendered flooding in southeastern Mexico throughout much of November. Monthly accumulations of 100 to more than 400 mm were recorded in and around Tabasco due to recurring periods of heavy showers. Similar amounts were recorded over sections of the Yucatan Peninsula, partly from showers generated by Hurricanes Eta and Iota following their devastating impacts on Central America. Rain (25-100 mm) returned to Veracruz during the latter half of the month, otherwise showers were generally widely scattered and light over the remainder of the county. According to the government of Mexico, reservoir levels were at 64 percent capacity nationwide as of November 30; in the northwest, reservoirs were at 53 percent capacity in Sonora; 40 percent in Sinaloa; and 30 percent in Chihuahua.

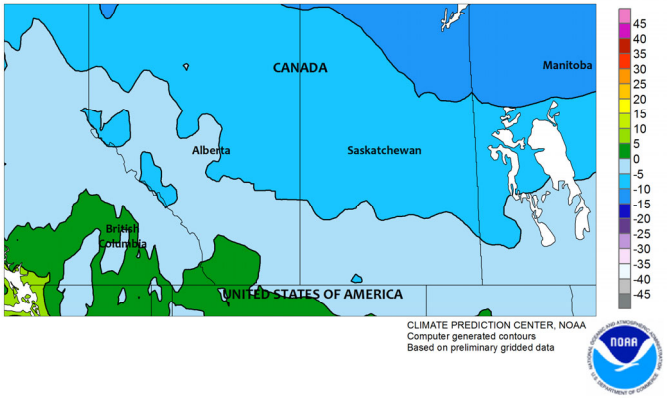
CANADIAN PRAIRIES
Total Precipitation (mm)
November 2020



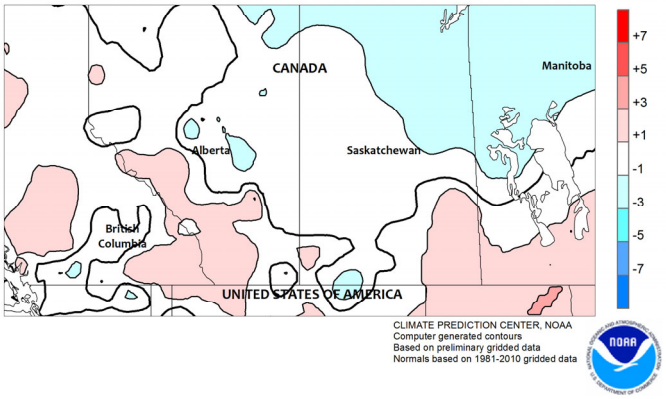
CANADIAN PRAIRIES
Percent of Normal Precipitation
November 2020



CANADIAN PRAIRIES
Average Temperature (°C)
November 2020



CANADIAN PRAIRIES
Temperature Anomaly (°C)
November 2020



CANADIAN PRAIRIES

Near- to above-normal November precipitation helped to increase moisture reserves for overwintering grains and pastures in Alberta and Saskatchewan. Additionally, the precipitation fell as snow prior to several outbreaks of bitter cold (-17°C or lower), offering protection for dormant vegetation from winterkill. Drier conditions prevailed in Manitoba, however, where monthly accumulations were below 10 mm; unlike the more westerly farming areas, fields recorded only patchy, light snow cover in the main agricultural districts, including the Red River Valley. On average, November temperatures were generally within 1°C of normal, as the cold outbreaks were offset by occasionally warmer conditions. At month's end, southern agricultural areas were without a protective snow cover across the region.

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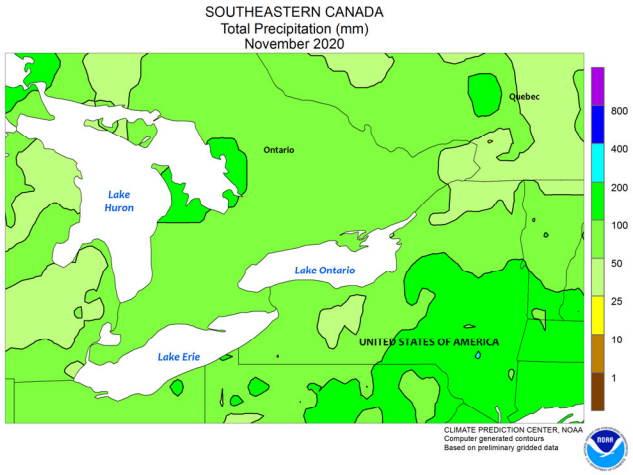

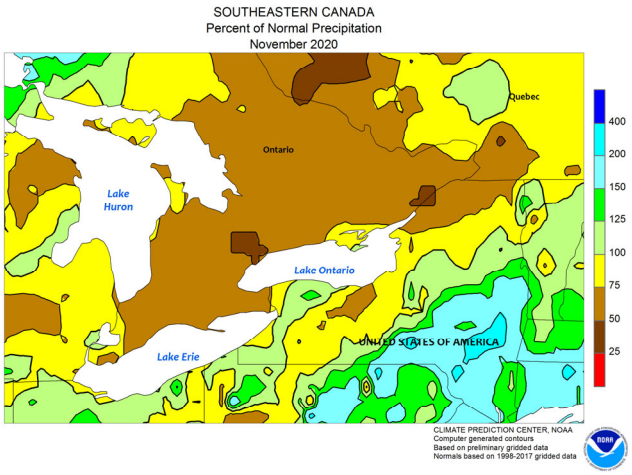

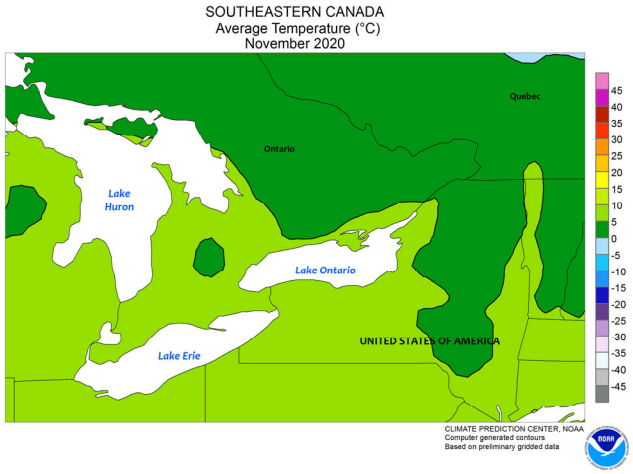

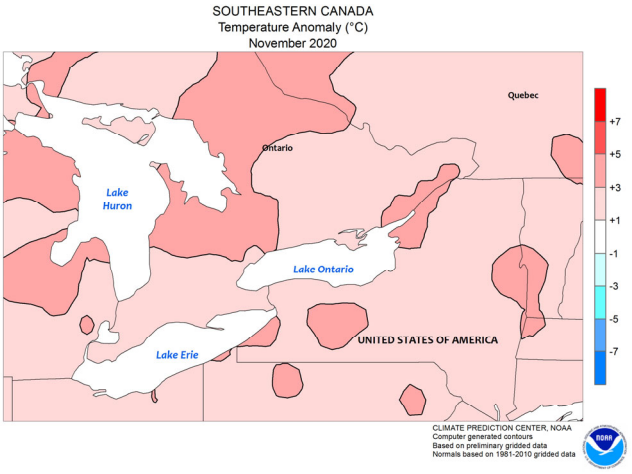

SOUTHEASTERN CANADA

During November, warm, occasionally showery weather prevailed across the region, maintaining overall favorable conditions for overwintering wheat and pastures. Despite seasonal cooling, monthly average temperatures were 2 to 4°C above normal, with Ontario wheat likely not entering dormancy until month's end. However, temperatures stayed well above the threshold for potential damage to wheat owing to the unseasonable warmth. Precipitation was below normal in most agricultural districts, with much of the precipitation falling as rain. Southern agricultural districts of both Ontario and Quebec were void of snow at month's end.

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U.S. Crop Production Highlights

The following information was released by USDA's Agricultural Statistics Board on Dec. 10, 2020. Forecasts refer to Dec. 1.

All cotton production is forecast at 15.9 million 480-pound bales, down 7 percent from the previous forecast and down 20 percent from 2019. Yields are expected to average 850 pounds per harvested acre, down 61 pounds from the previous forecast but up 27 pounds from 2019. Upland cotton production is forecast at 15.4 million 480-pound bales, down 7 percent from the previous forecast and down 20 percent from 2019. Pima cotton production is forecast at 554,000 bales, down 1 percent from the previous forecast and down 19 percent from 2019. All cotton area harvested is forecast at 9.01 million acres, unchanged from the previous forecast but down 22 percent from 2019.

The **U.S. all orange** forecast for the 2020-2021 season is 4.60 million tons, down 1 percent from the previous forecast and down 12 percent from the 2019-2020 final utilization. The Florida all orange forecast, at 56.0 million boxes (2.52 million tons), is down 2 percent from the previous forecast and down 17 percent from last season's final utilization. In Florida, early, midseason, and Navel varieties are forecast at 22.0 million boxes (990,000 tons), down 4 percent from the previous forecast and down 26 percent from last season. The Florida Valencia orange forecast, at 34.0 million boxes (1.53 million tons), is unchanged from the previous forecast but down 10 percent from last season.

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