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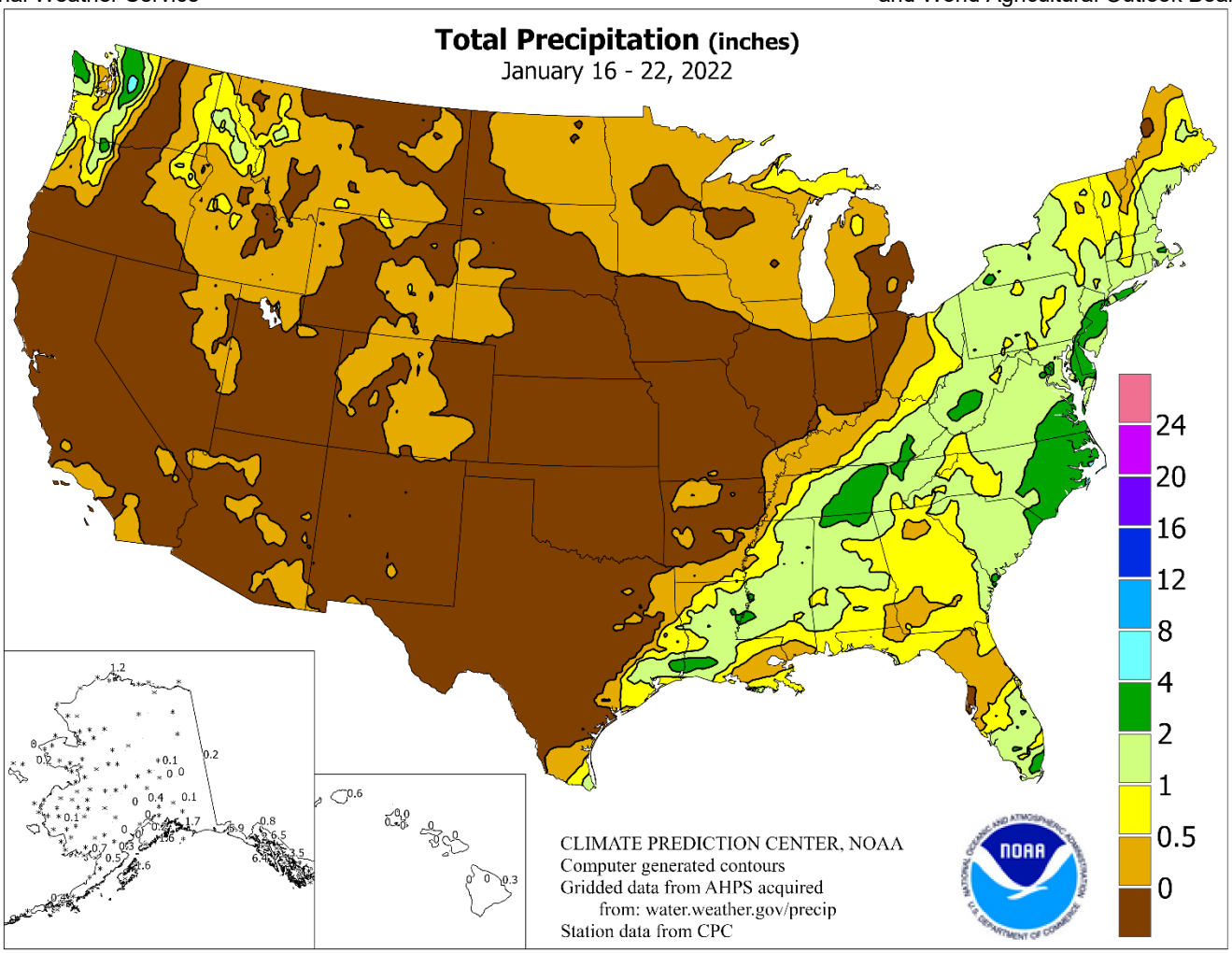
Weekly Weather and Crop Bulletin

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
January 16 – 22, 2022

Highlights provided by USDA/WAOB

A pair of storms crossing the **southern and eastern U.S.** delivered a variety of weather, including rain, freezing rain, sleet, and snow. The first system, which had produced snowy, windy weather at the end of the previous week from the **upper Midwest into the mid-South**, continued to create travel difficulties and other challenges on January 16-17 while sweeping across the **Appalachians** and **middle and northern Atlantic States**. The second storm delivered significant snow near the **middle Atlantic Coast**, including **eastern North**

(Continued on page 3)

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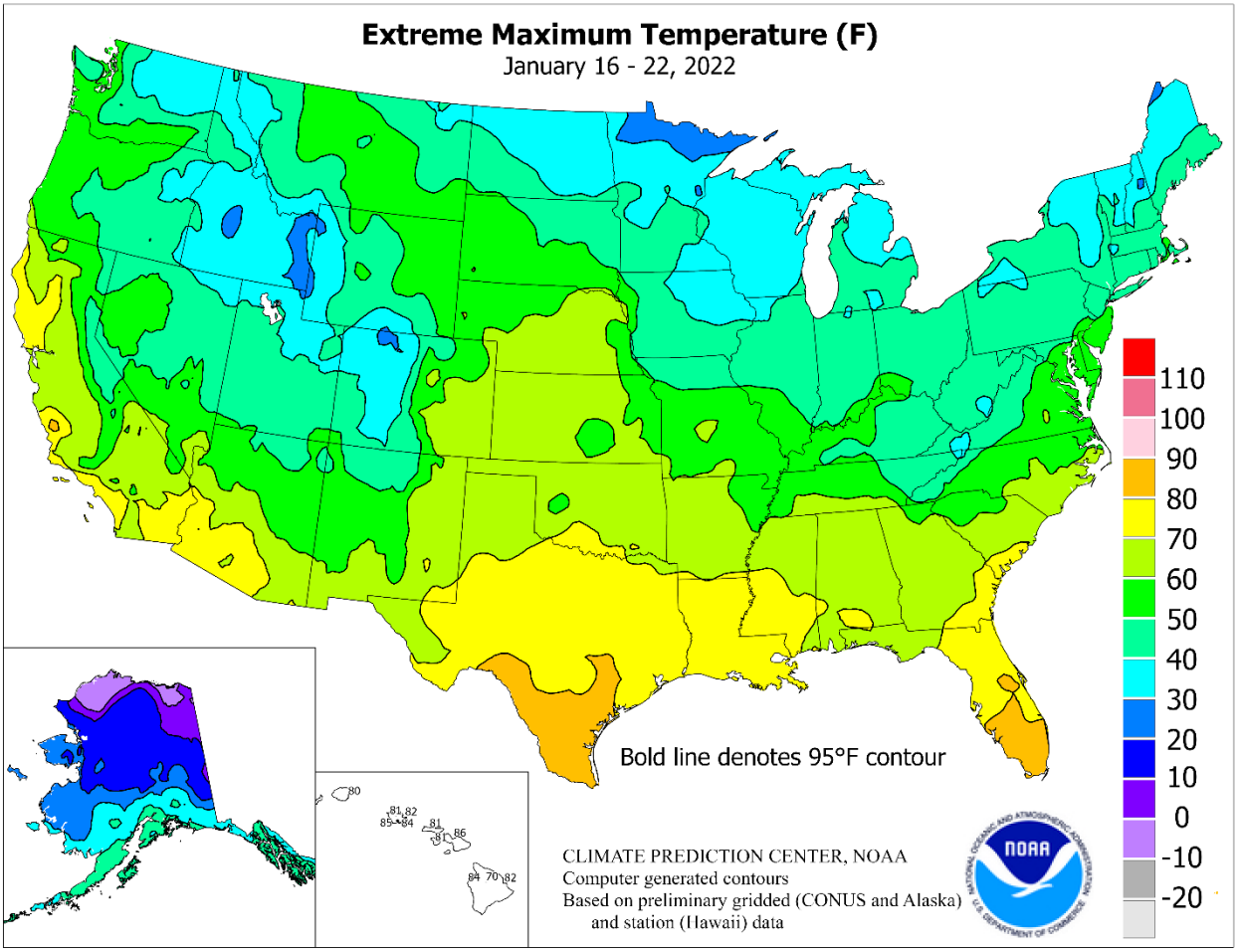
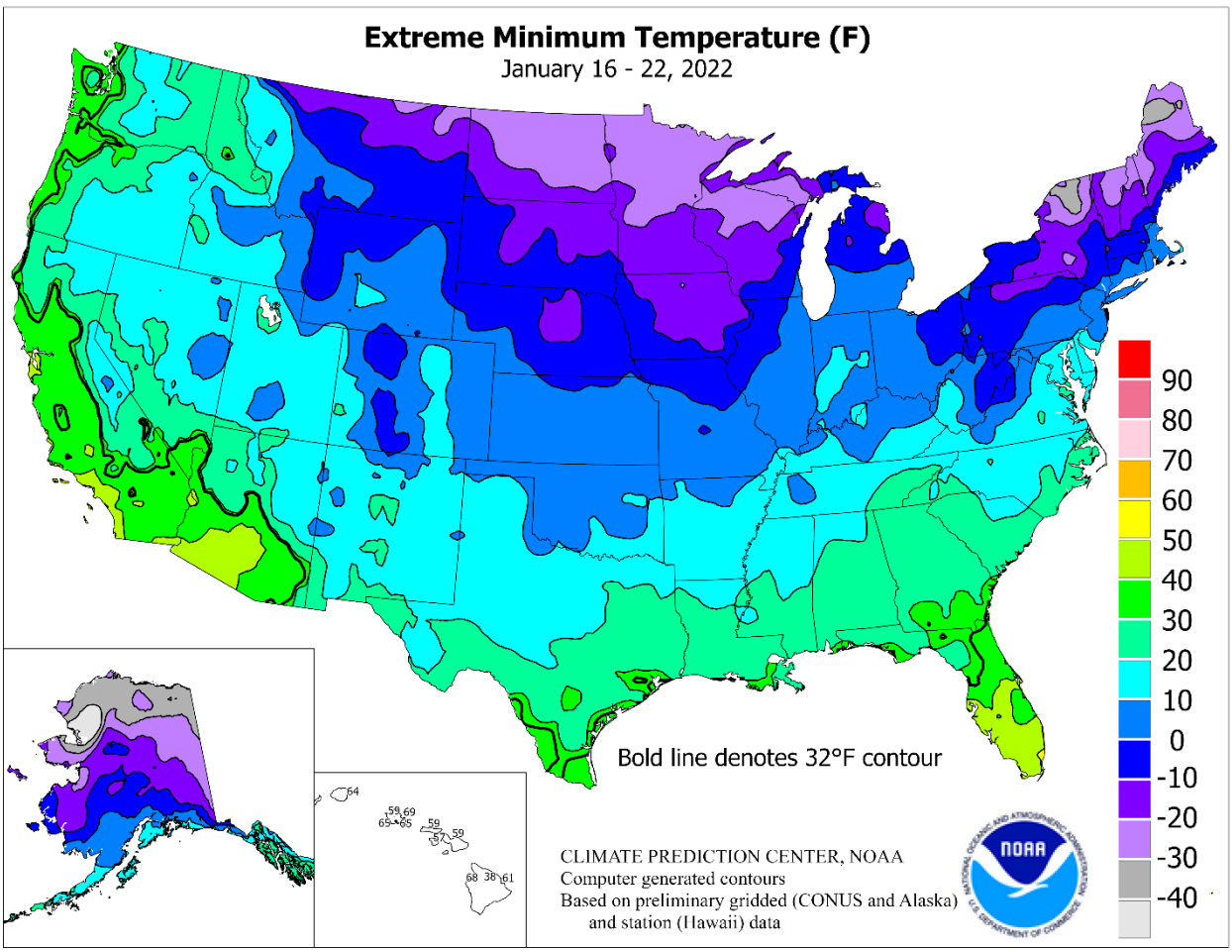
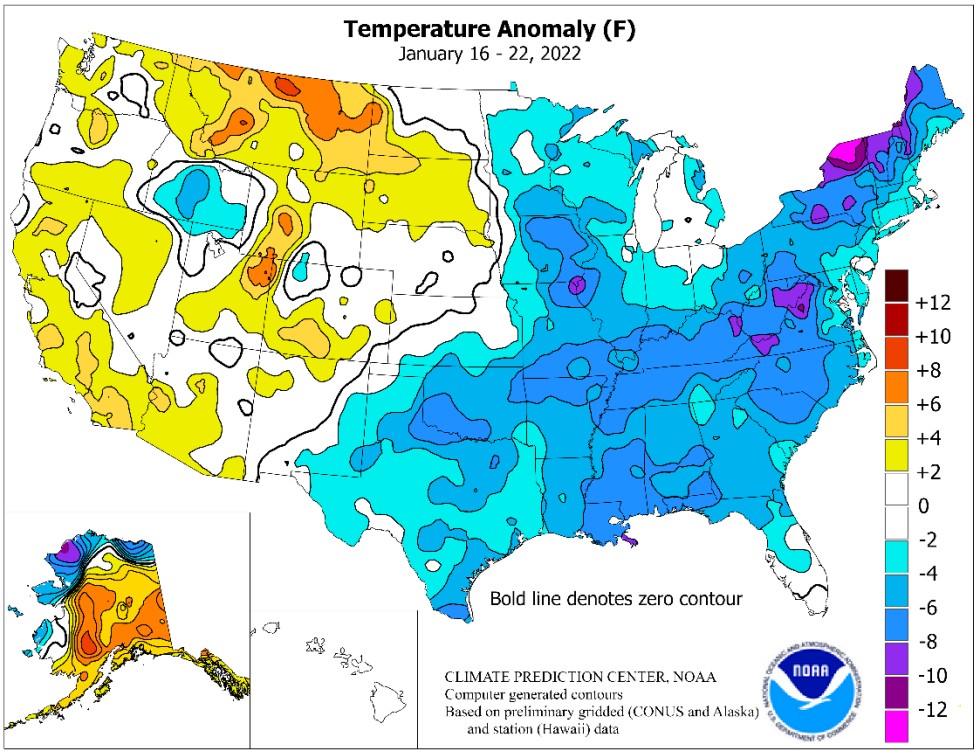

Extreme Maximum Temperature (F)
January 16 - 22, 2022
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
Bold line denotes 95°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA


Extreme Minimum Temperature (F)
January 16 - 22, 2022
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
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)

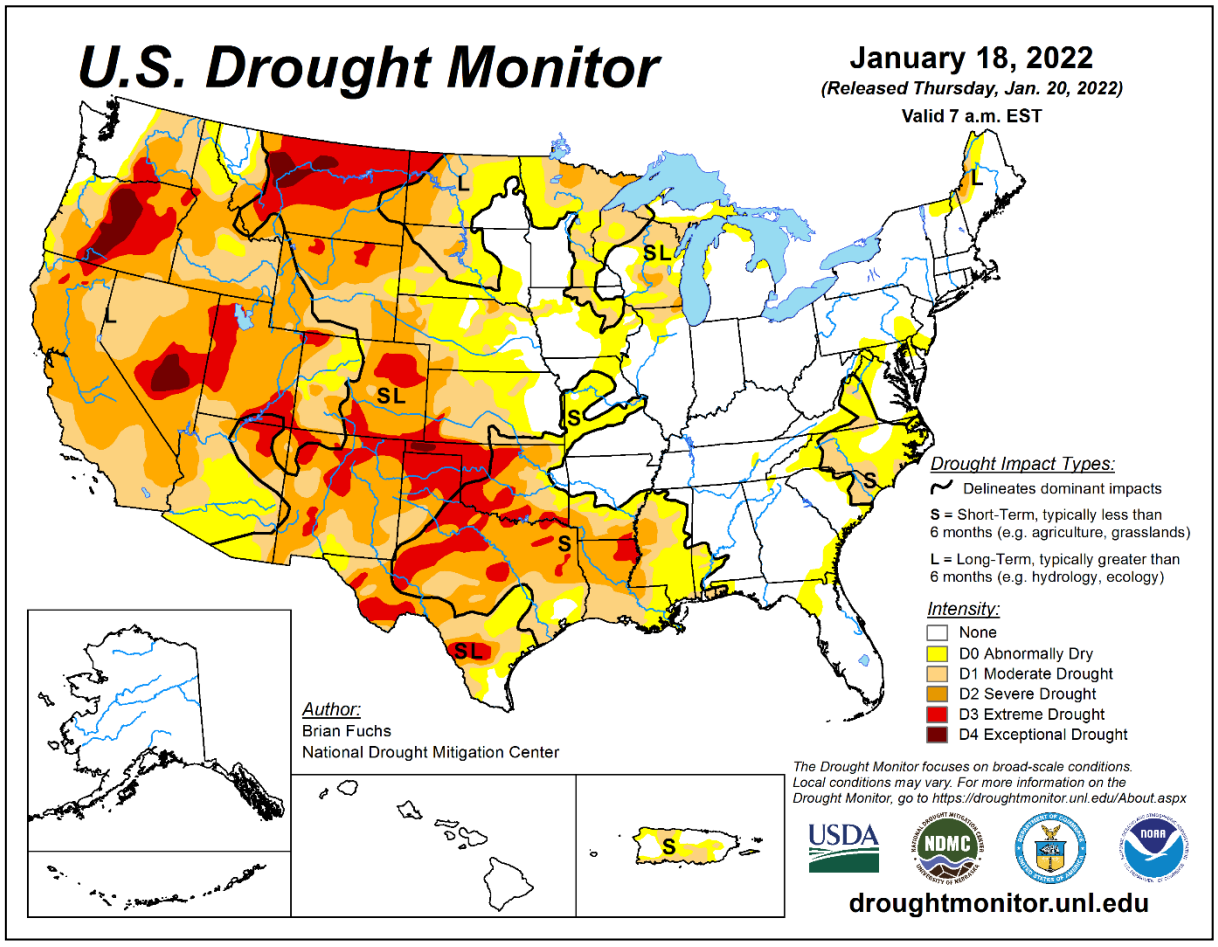
Carolina and **southeastern Virginia**, on January 21-22. Across the **Deep South**, both systems produced varying amounts of rain, while the second storm also resulted in pockets of wintry precipitation. Most of the remainder of the country experienced a dry week, aside from periods of generally light precipitation from the **Pacific Northwest to the Great Lakes States**. Isolated showers also dotted the **Southwest**. However, completely dry weather persisted in several areas, including the drought-affected **southern Plains**, where 71 percent of Texas' winter wheat was rated in very poor to poor condition by January 23. Elsewhere, chilly conditions across the **eastern half of the country** contrasted with near- or above-normal temperatures in most areas from the **Pacific Coast to the northern and central High Plains**. Weekly temperatures broadly averaged more than 5°F below normal from the **Mississippi Valley eastward**, as well as portions of the **southern Plains**, with readings averaging at least 10°F below normal in several locations across the **interior Northeast**. Temperatures averaged at least 5°F above normal in portions of **California** and **Montana**.

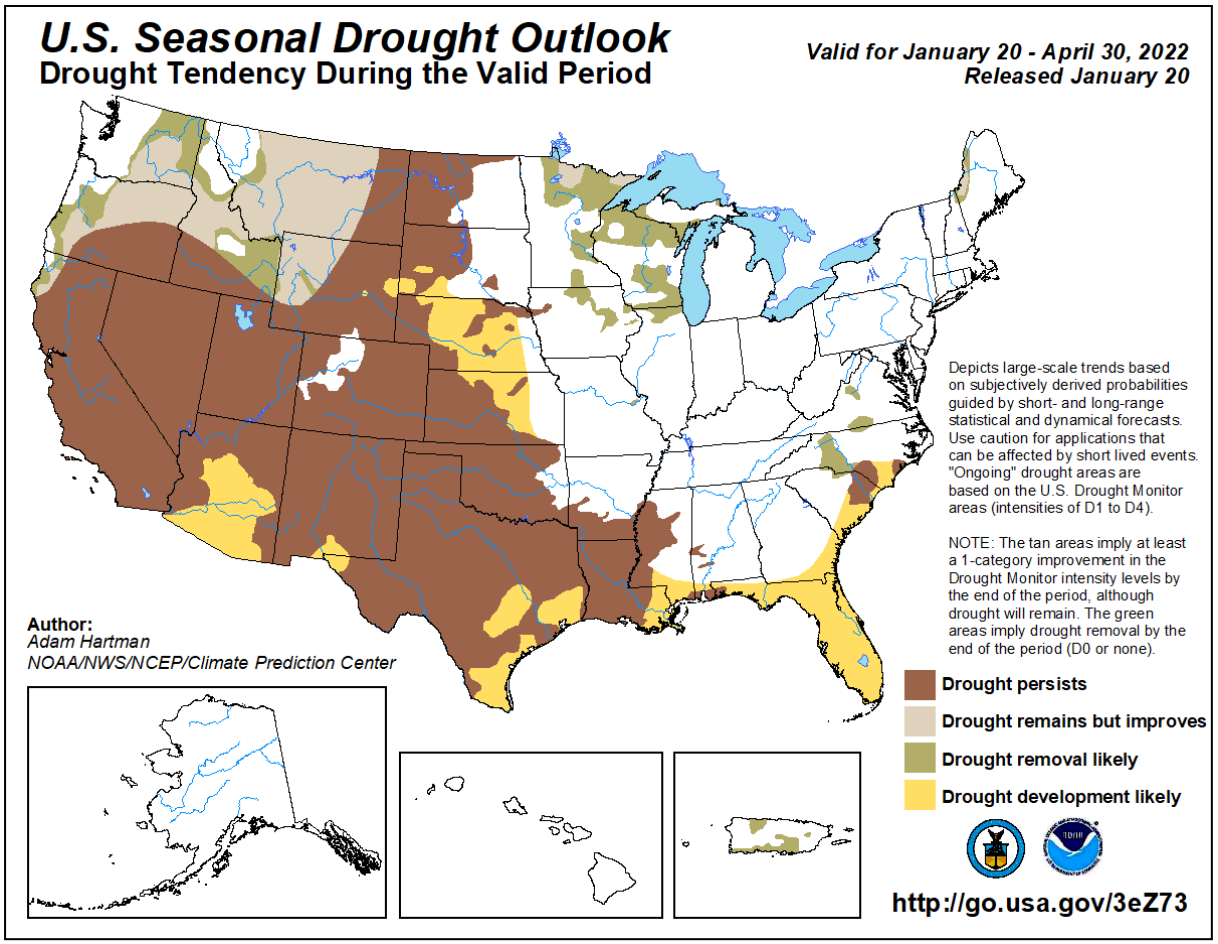


In mid-January, snow shifted from the **mid-South into the East**. In **Tennessee**, January 16 snowfall totaled 1.4 inches in **Nashville** and **Knoxville**. Where cold air lingered, east of the **Appalachians**, snow fell heavily on the 16th, totaling 10.4 inches in **Asheville, NC**, and 6.5 inches in **Greenville-Spartanburg, SC**. For **Asheville**, it was the snowiest day since January 22, 2016, when 13.4 inches fell. With 1.8 inches on the 16th, **Athens, GA**, experienced its snowiest day in more than 11 years. (On January 9-10, 2011, **Athens** reported 8.8 inches.) **Washington, DC**, measured a daily-record snowfall of 2.6 inches on the 16th, prior to a changeover to rain. Meanwhile, several tornadoes struck **Florida** during the morning of January 16. Elsewhere in **Florida**, **Jacksonville** clocked a wind gust to 59 mph, the second-highest January gust in that location behind 63 mph on January 25, 2010. By January 17, heavy snow shifted across the **interior Northeast**. In **New York**, record-setting snowfall totals for the 17th included 17.6 inches in **Buffalo** and 10.4 inches in **Rochester**. Closer to the coast, precipitation fell as snow before changing to rain, with daily-record totals for January 17 set in **Worcester, MA** (1.36 inches, including 5.5 inches of snow), and **Providence, RI** (1.18 inches, including an inch of snow). For the remainder of the week, precipitation was limited to a few areas. For example, **International Falls, MN**, collected a daily-record sum (0.47 inch, in the form of 4.8 inches of snow) on January 18. Locally heavy showers across **southern Florida** led to a record-setting total (4.96 inches) for January 20 in **Fort Lauderdale**. **Miami, FL**, registered a daily-record sum (2.39 inches) for January 21. **Casper, WY**, received daily-record totals for precipitation (0.44 inch) and snowfall (6.8 inches) on January 21. Late in the week, precipitation returned across the **Southeast**. **Norfolk, VA**, measured consecutive daily-record snowfall amounts (3.2 and 3.5 inches, respectively) on January 21-22. Other record-setting totals for January 21 included 1.5 inches in **Raleigh-Durham, NC**, and 0.2 inch in **Athens, GA**.

Early-week temperatures briefly rose across the **Plains** and **Midwest** in advance of a cold front. Record-setting highs for January 18 included 79°F in **Wichita Falls, TX**; 66°F in **Hastings, NE**; and 62°F in **Sioux City, IA**. In the **western Gulf Coast region**, warmth lingered through January 19, when **Galveston** tallied a daily-record high of 76°F. Thereafter, cold air settled across most areas **east of the Rockies**. In **McAllen, TX**, the temperature plunged from 87 to 33°F between the afternoon of January 19 and the morning of January 21. Similarly, the temperature in **Sioux City, IA**, dipped from 62 to -6°F in a 41-hour period from January 18-20. During the second half of the week, record-setting warmth and gusty winds developed in parts of the **Pacific Coast States**. In **Oregon**, daily-record highs for January 20 rose to 61°F in **Troutdale** and 60°F in **Portland**. **Kentfield, CA**, closed the week with consecutive daily-record highs of 69°F on January 21-22. Additional daily-record highs in **California** on January 22 reached 78°F in **Ukiah**, 76°F in **Santa Rosa**, and 71°F in **Sacramento**. Along the **central California coast** near **Big Sur**, a rare January wildfire—the Colorado Fire—torched some 700 acres of vegetation, starting on Friday. Elsewhere, bitterly cold air swept across the **Great Lakes and Northeastern States**. On January 22, **Youngstown, OH**, reported a daily-record low of -9°F. On January 21-22 in **New York**, **Saranac Lake** (-31°F both days) and **Massena** (-30°F both days) closed the week with consecutive daily-record lows. Farther south, January 22 highs of 40°F in **Alma, GA**, and 41°F in **Jacksonville, FL**, were the lowest maxima in those locations since January 3, 2018.

Frigid conditions lingered across **northern Alaska**, while the remainder of the state experienced relatively mild weather. **Kotzebue** reported lows of -44°F—but no records—on January 18 and 19. Late in the week, record-setting warmth developed in parts of **southern Alaska**. On January 21-22, **Anchorage** logged a pair of daily-record highs (47 and 44°F, respectively). Meanwhile, heavy, late-week precipitation fell in **southeastern Alaska**, where **Sitka** netted consecutive daily-record totals (4.09 and 2.50 inches, respectively) on January 21-22. On the same dates, **Juneau** also received daily-record amounts (3.48 and 2.20 inches). Farther south, the **western half of Hawaii** remained mostly dry for the second consecutive week. Dryness has lasted longer in **Maui and Hawaii Counties**, where little rain has fallen since late December. On the **Big Island**, **Hilo's** month-to-date rainfall through January 22 totaled 1.00 inch (19 percent of normal). However, January dryness followed **Hilo's** 24.99-inch December rainfall.


U.S. Drought Monitor
January 18, 2022
(Released Thursday, Jan. 20, 2022)
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:
Brian Fuchs
National Drought Mitigation 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
USDA
NDMC
NOAA
droughtmonitor.unl.edu


U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for January 20 - April 30, 2022
Released January 20
Author:
Adam Hartman
NOAA/NWS/NCEP/Climate Prediction Center
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).
Drought persists
Drought remains but improves
Drought removal likely
Drought development likely
http://go.usa.gov/3eZ73

National Weather Data for Selected Cities

Weather Data for the Week Ending January 22, 2022

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	32	21	47	12	27	10	0.23	0.08	0.15	1.59	97	0.66	127	83	64	0	6	3	0
	BARROW	-10	-21	-2	-28	-16	0	1.18	1.14	0.35	2.76	900	1.66	900	76	67	0	7	6	0
	FAIRBANKS	11	-7	21	-18	2	0	0.07	-0.06	0.07	6.62	620	0.18	42	80	68	0	7	1	0
	JUNEAU	37	29	44	20	33	5	6.46	5.22	3.32	12.33	127	9.59	250	90	81	0	3	5	3
	KODIAK	38	28	45	19	33	2	1.59	-0.33	0.67	4.56	30	3.29	54	90	73	0	5	5	2
	NOME	8	-7	26	-23	1	-4	0.20	0.01	0.12	4.16	232	0.26	36	81	67	0	7	3	0
AL	BIRMINGHAM	50	31	68	25	40	-4	0.77	-0.39	0.47	0.77	9	0.77	22	92	60	0	5	2	0
	HUNTSVILLE	44	27	64	18	36	-6	2.11	0.99	1.32	10.48	112	5.81	165	93	66	0	6	3	2
	MOBILE	54	33	67	26	44	-7	0.79	-0.52	0.64	6.39	70	1.70	42	95	53	0	4	3	1
	MONTGOMERY	53	32	69	27	42	-4	1.08	0.00	0.56	8.48	105	4.02	127	86	58	0	4	2	2
AR	FORT SMITH	46	24	65	16	35	-5	0.00	-0.65	0.00	6.14	117	1.70	86	80	44	0	7	0	0
	LITTLE ROCK	49	27	66	17	38	-3	0.07	-0.69	0.06	8.38	111	4.31	169	74	37	0	5	2	0
AZ	FLAGSTAFF	43	19	50	11	31	1	0.05	-0.39	0.04	4.68	139	0.24	16	92	43	0	7	2	0
	PHOENIX	71	48	74	45	60	3	0.05	-0.16	0.04	1.64	102	0.13	18	61	21	0	0	2	0
	PRESCOTT	53	28	60	21	40	1	0.27	0.02	0.17	2.40	132	0.58	70	85	33	0	6	2	0
	TUCSON	69	42	76	38	55	3	0.04	-0.18	0.04	1.56	94	0.27	38	73	26	0	0	1	0
CA	BAKERSFIELD	62	44	64	41	53	6	0.01	-0.24	0.01	2.57	138	0.01	1	94	55	0	0	1	0
	EUREKA	55	39	74	34	47	-2	0.00	-1.42	0.00	7.06	54	1.98	41	95	81	0	0	0	0
	FRESNO	62	43	64	40	52	5	0.00	-0.47	0.00	3.58	107	0.00	0	98	54	0	0	0	0
	LOS ANGELES	69	55	74	50	62	5	0.08	-0.51	0.08	8.31	208	0.09	4	75	38	0	0	1	0
	REDDING	66	39	72	32	52	6	0.00	-1.33	0.00	6.49	61	1.15	26	81	32	0	1	0	0
	SACRAMENTO	61	38	64	35	49	3	0.00	-0.80	0.00	7.05	121	0.05	2	100	52	0	0	0	0
	SAN DIEGO	65	51	69	46	58	1	0.13	-0.30	0.12	2.72	92	0.16	11	96	52	0	0	2	0
	SAN FRANCISCO	60	47	66	45	54	3	0.00	-0.89	0.00	10.13	143	0.41	13	88	57	0	0	0	0
	STOCKTON	62	38	67	36	50	4	0.00	-0.60	0.00	3.82	93	0.00	0	97	52	0	0	0	0
CO	ALAMOSA	42	1	48	-4	22	6	0.02	-0.05	0.02	0.21	34	0.18	83	88	27	0	7	1	0
	CO SPRINGS	47	22	61	16	35	4	0.02	-0.07	0.01	0.26	39	0.19	73	74	33	0	7	2	0
	DENVER INTL	46	19	62	16	33	2	0.02	-0.08	0.02	0.53	74	0.38	120	83	40	0	7	1	0
	GRAND JUNCTION	39	20	45	17	30	3	0.11	-0.02	0.11	2.19	216	0.14	33	89	50	0	7	1	0
	PUEBLO	50	16	66	10	33	3	0.24	0.15	0.17	0.56	80	0.44	154	79	31	0	7	3	0
CT	BRIDGEPORT	37	17	46	6	27	-3	1.17	0.49	0.77	4.23	76	2.53	112	81	44	0	7	3	1
	HARTFORD	34	12	46	0	23	-3	0.59	-0.15	0.50	4.50	79	1.57	69	78	40	0	7	3	1
DC	WASHINGTON	41	25	55	16	33	-3	1.22	0.58	0.92	4.07	80	3.44	172	77	38	0	6	3	1
DE	WILMINGTON	42	20	51	11	31	-1	0.86	0.19	0.53	4.34	77	2.04	96	76	39	0	6	3	1
FL	DAYTONA BEACH	67	46	78	37	56	-1	0.61	0.02	0.59	4.26	94	0.61	31	92	52	0	0	2	1
	JACKSONVILLE	60	37	76	30	49	-4	0.77	0.00	0.75	2.61	51	1.02	45	96	55	0	2	3	1
	KEY WEST	76	66	79	62	71	2	1.31	0.82	0.83	2.41	65	1.48	101	90	69	0	0	3	1
	MIAMI	77	61	82	53	69	1	4.31	3.93	2.39	6.96	218	5.81	512	93	58	0	0	4	2
	ORLANDO	70	49	80	40	59	-1	0.51	0.00	0.46	2.59	61	0.52	31	91	50	0	0	2	0
	PENSACOLA	56	37	67	32	47	-5	0.37	-0.70	0.28	3.23	41	1.59	50	92	60	0	1	2	0
	TALLAHASSEE	59	35	67	27	47	-4	1.77	0.74	1.26	4.85	71	4.07	138	92	56	0	2	3	1
	TAMPA	70	52	78	42	61	0	0.03	-0.44	0.02	0.37	9	0.05	3	80	50	0	0	2	0
	WEST PALM BEACH	74	57	81	48	66	0	0.57	-0.09	0.39	4.35	77	2.23	97	94	60	0	0	4	0
GA	ATHENS	48	32	63	28	40	-3	1.39	0.46	0.98	6.80	105	3.12	112	91	54	0	4	3	1
	ATLANTA	47	32	62	29	40	-4	0.93	-0.04	0.62	9.38	139	3.30	116	86	58	0	4	3	1
	AUGUSTA	52	31	65	24	42	-3	1.37	0.50	0.97	9.11	149	3.59	132	91	51	0	3	3	1
	COLUMBUS	51	32	64	27	42	-6	1.03	0.20	0.72	7.83	113	3.01	115	91	55	0	3	3	1
	MACON	52	33	63	26	42	-4	1.09	0.12	0.92	8.11	116	3.11	105	93	57	0	3	3	1
	SAVANNAH	58	35	72	30	47	-3	2.15	1.28	1.73	3.99	72	2.85	112	94	50	0	3	4	1
HI	HILO	81	66	82	61	73	2	0.25	-1.87	0.19	25.54	143	1.00	16	87	59	0	0	4	0
	HONOLULU	81	67	84	65	74	1	0.00	-0.45	0.00	17.50	352	6.86	394	87	57	0	0	0	0
	KAHULUI	83	63	86	59	73	1	0.00	-0.63	0.00	7.48	138	0.08	4	86	54	0	0	0	0
	LIHUE	79	67	80	64	73	1	0.56	-0.23	0.38	14.00	176	7.43	275	99	73	0	0	4	0
IA	BURLINGTON	25	6	41	-6	15	-10	0.00	-0.27	0.00	0.84	28	0.19	20	87	68	0	6	0	0
	CEDAR RAPIDS	23	4	37	-15	13	-6	0.00	-0.20	0.00	1.23	59	0.07	10	93	73	0	7	0	0
	DES MOINES	30	8	44	-9	19	-4	0.00	-0.22	0.00	4.14	194	3.38	474	83	59	0	7	0	0
	DUBUQUE	22	4	37	-10	13	-6	0.03	-0.22	0.03	1.74	65	0.22	27	85	67	0	7	1	0
	SIOUX CITY	39	7	62	-6	23	3	0.02	-0.11	0.01	0.76	60	0.10	22	81	39	0	7	2	0
	WATERLOO	23	1	40	-18	12	-6	0.06	-0.11	0.04	1.79	99	0.51	87	81	64	0	7	2	0
ID	BOISE	35	27	39	23	31	-1	0.20	-0.07	0.20	2.67	106	1.09	117	88	73	0	7	1	0
	LEWISTON	44	33	51	30	39	3	0.21	-0.04	0.20	3.04	168	1.26	158	86	65	0	4	2	0
	POCATELLO	30	18	37	14	24	-1	0.21	-0.01	0.20	1.76	88	0.48	63	93	74	0	7	2	0
IL	CHICAGO/O_HARE	31	13	44	6	22	-1	0.04	-0.33	0.03	2.63	74	0.34	26	79	51	0	7	2	0
	MOLINE	29	6	43	-7	18	-5	0.00	-0.32	0.00	3.19	97	1.95	178	81	58	0	7	0	0
	PEORIA	29	10	43	0	20	-5	0.00	-0.39	0.00	2.06	55	0.53	40	79	55	0	7	0	0
	ROCKFORD	29	8	41	-2	19	-3	0.07	-0.22	0.06	2.67	89	0.29	28	79	55	0	7	2	0
	SPRINGFIELD	31	13	46	3	22	-5	0.00	-0.40	0.00	2.41	62	0.46	34	85	59	0	7	0	0
IN	EVANSVILLE	37	17	51	11	27	-5	0.27	-0.41	0.23	7.78	132	3.75	175	87	54	0	7	2	0
	FORT WAYNE	31	16	41	8	24	-1	0.01	-0.47	0.01	4.74	107	0.50	30	82	52	0	7	1	0
	INDIANAPOLIS	34	17	45	11	25	-3	0.00	-0.56	0.00	5.15	101	1.01	52	80	52	0	7	0	0
	SOUTH BEND	31	16	42	9	24	-1	0.04	-0.46	0.01	4.41	102	0.56	33	81	54	0	7	3	0
KS	CONCORDIA	44	15	64	1	30	1	0.00	-0.14	0.00	0.47	37	0.30	77	76	35	0	7	0	0
	DODGE CITY	49	14	67	1	31	-1	0.01	-0.11	0.01	0.18	14	0.18	46	76	27	0	7	1	0
	GOODLAND	49	15	67	1	32	2	0.00	-0.10	0.00	0.31	40	0.26	87	91	35	0	7	0	0
	TOPEKA	43	16	60	2	29	0	0.00	-0.20	0.00	0.63	32	0.52	92	78	39	0	7	0	0

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

Weather Data for the Week Ending January 22, 2022

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	46	16	59	6	31	-1	0.00	-0.20	0.00	0.11	6	0.10	18	77	32	0	7	0	0
KY	LEXINGTON	32	19	46	4	25	-7	0.63	-0.07	0.31	9.66	157	5.02	224	86	61	0	7	4	0
	LOUISVILLE	37	23	53	14	30	-5	0.28	-0.42	0.23	7.93	130	4.36	191	83	49	0	7	3	0
	PADUCAH	41	19	53	10	30	-4	0.02	-0.79	0.01	9.27	129	5.31	206	81	45	0	7	2	0
LA	BATON ROUGE	58	33	74	23	46	-9	0.37	-0.85	0.37	4.85	60	1.36	38	86	46	0	3	1	0
	LAKE CHARLES	60	35	77	27	48	-4	1.06	-0.14	1.06	3.65	42	1.44	37	88	41	0	3	1	1
	NEW ORLEANS	57	38	73	33	47	-6	0.21	-0.95	0.18	3.97	44	0.93	25	85	49	0	0	2	0
	SHREVEPORT	57	32	76	22	44	-3	0.24	-0.73	0.24	2.77	36	0.48	16	74	32	0	4	1	0
MA	BOSTON	37	17	49	5	27	-2	0.87	0.12	0.73	4.08	66	1.77	73	76	41	0	7	2	1
	WORCESTER	31	10	41	1	21	-3	1.41	0.61	1.36	6.13	97	2.53	102	79	42	0	7	2	1
MD	BALTIMORE	42	22	55	15	32	-1	1.58	0.89	1.15	4.68	85	3.88	180	79	39	0	6	4	1
ME	CARIBOU	18	-12	37	-27	3	-6	0.55	-0.07	0.43	4.63	89	1.30	66	80	50	0	7	3	0
	PORTLAND	32	6	47	-4	19	-3	1.04	0.28	1.04	5.46	84	1.76	72	78	42	0	7	1	1
MI	ALPENA	25	1	38	-13	13	-6	0.15	-0.24	0.09	3.03	101	0.56	44	89	61	0	7	3	0
	GRAND RAPIDS	30	14	42	2	22	-2	0.02	-0.43	0.02	2.80	69	0.57	36	85	58	0	7	1	0
	HOUGHTON LAKE	25	8	38	-9	17	-1	0.10	-0.22	0.05	2.81	101	0.28	25	83	60	0	7	3	0
	LANSING	31	17	42	4	24	1	0.01	-0.35	0.01	2.43	78	0.34	27	74	52	0	7	1	0
	MUSKEGON	31	18	42	2	24	-1	0.06	-0.37	0.05	3.03	75	0.80	53	77	57	0	7	2	0
	TRAVERSE CITY	29	15	41	-2	22	1	0.07	-0.56	0.04	1.70	37	0.14	6	81	58	0	7	3	0
MN	DULUTH	19	-3	33	-19	8	-2	0.17	-0.04	0.11	3.20	164	0.50	67	84	59	0	7	4	0
	INT_L FALLS	15	-8	25	-30	3	-1	0.62	0.48	0.46	2.65	201	0.84	175	86	62	0	7	3	0
	MINNEAPOLIS	23	2	42	-11	12	-3	0.16	-0.05	0.10	2.43	131	0.52	75	80	56	0	7	2	0
	ROCHESTER	20	0	36	-15	10	0	0.26	0.05	0.24	2.11	111	0.72	113	84	67	0	7	2	0
	ST. CLOUD	24	-3	42	-20	10	-1	0.14	0.00	0.07	2.57	192	0.56	112	83	60	0	7	2	0
MO	COLUMBIA	37	15	56	1	26	-4	0.00	-0.43	0.00	3.14	82	1.11	82	81	52	0	7	0	0
	KANSAS CITY	38	17	55	3	27	-1	0.00	-0.25	0.00	1.28	56	0.78	107	77	48	0	6	0	0
	SAINT LOUIS	38	16	57	5	27	-5	0.01	-0.52	0.01	4.07	89	1.34	77	79	51	0	7	1	0
	SPRINGFIELD	38	17	57	3	28	-5	0.00	-0.54	0.00	2.57	53	1.28	71	84	49	0	6	0	0
MS	JACKSON	51	30	73	21	40	-5	1.55	0.39	0.91	5.94	69	2.94	86	90	49	0	6	3	2
	MERIDIAN	53	30	71	22	41	-3	1.45	0.22	0.79	7.64	89	4.40	126	87	50	0	6	3	1
	TUPELO	48	28	69	18	38	-3	2.13	1.13	1.38	10.04	106	5.39	168	85	50	0	6	2	2
MT	BILLINGS	40	19	57	1	29	2	0.08	-0.03	0.07	1.31	151	0.36	102	75	43	0	6	2	0
	BUTTE	36	13	40	3	24	4	0.03	-0.07	0.03	0.90	102	0.54	153	83	58	0	7	1	0
	CUT BANK	41	16	56	-13	28	6	0.00	-0.06	0.00	0.21	47	0.00	2	78	48	0	5	0	0
	GLASGOW	34	8	44	-16	21	8	0.02	-0.07	0.02	1.06	141	0.13	41	85	64	0	7	1	0
	GREAT FALLS	43	20	56	-4	31	6	0.14	0.02	0.14	1.47	157	0.56	149	75	48	0	6	1	0
	HAVRE	39	14	51	-12	27	9	0.03	-0.04	0.03	0.85	118	0.09	33	84	58	0	5	1	0
	MISSOULA	37	21	42	10	29	3	0.08	-0.11	0.08	2.26	131	1.15	175	92	69	0	7	1	0
NC	ASHEVILLE	40	24	51	22	32	-5	1.28	0.43	1.24	4.20	68	3.28	128	89	54	0	7	2	1
	CHARLOTTE	44	26	59	18	35	-5	1.00	0.23	0.67	5.67	99	3.57	145	88	45	0	6	3	1
	GREENSBORO	39	23	52	15	31	-8	1.20	0.52	0.85	6.11	119	4.65	213	84	43	0	7	3	1
	HATTERAS	53	36	66	28	44	-1	4.74	3.55	3.24	9.70	120	6.52	174	90	63	0	2	4	2
	RALEIGH	44	25	60	18	35	-6	1.76	0.96	1.22	7.48	135	5.90	238	90	45	0	7	4	1
	WILMINGTON	54	31	68	24	42	-4	2.44	1.60	2.06	6.36	102	3.95	150	91	56	0	4	4	1
ND	BISMARCK	30	2	41	-18	16	3	0.23	0.13	0.16	1.41	166	0.38	112	90	63	0	7	2	0
	DICKINSON	34	9	48	-9	21	5	0.01	-0.07	0.01	0.28	50	0.04	16	82	53	0	7	1	0
	FARGO	19	-4	34	-21	8	-1	0.22	0.06	0.13	2.20	157	0.59	110	81	66	0	7	3	0
	GRAND FORKS	16	-7	32	-26	4	-2	0.15	0.03	0.08	1.72	171	0.36	90	92	76	0	7	3	0
	JAMESTOWN	21	1	37	-22	11	1	0.09	-0.02	0.04	0.72	90	0.16	45	83	67	0	7	3	0
NE	GRAND ISLAND	43	12	62	-6	28	3	0.00	-0.12	0.00	0.29	28	0.07	19	76	32	0	7	0	0
	LINCOLN	42	9	61	-2	25	1	0.00	-0.14	0.00	0.41	29	0.17	39	78	36	0	7	0	0
	NORFOLK	40	9	62	-7	25	2	0.02	-0.11	0.02	0.54	46	0.04	10	79	34	0	7	1	0
	NORTH PLATTE	44	12	62	-2	28	3	0.01	-0.07	0.01	0.69	95	0.28	102	83	36	0	7	1	0
	OMAHA	35	10	49	-2	22	-1	0.00	-0.16	0.00	0.69	44	0.32	64	82	52	0	7	0	0
	SCOTTSBLUFF	44	16	60	1	30	3	0.23	0.13	0.19	0.93	110	0.67	213	84	46	0	7	2	0
	VALENTINE	42	12	53	5	27	3	0.00	-0.06	0.00	0.74	117	0.03	14	81	38	0	3	0	0
NH	CONCORD	32	2	45	-10	17	-3	1.00	0.39	1.00	5.53	108	1.70	88	79	41	0	7	1	1
NJ	ATLANTIC_CITY	43	19	52	9	31	-2	1.24	0.54	0.71	4.07	68	3.43	149	84	43	0	6	3	1
	NEWARK	38	18	49	6	28	-3	2.07	1.29	1.08	4.79	75	3.42	134	79	42	0	7	3	2
NM	ALBUQUERQUE	50	28	55	23	39	3	0.00	-0.09	0.00	0.22	27	0.10	32	66	28	0	5	0	0
NV	ELY	41	14	49	4	28	2	0.11	-0.04	0.11	2.12	193	0.12	24	88	41	0	7	1	0
	LAS VEGAS	60	43	62	38	51	3	0.06	-0.06	0.06	0.33	36	0.06	15	54	23	0	0	1	0
	RENO	51	26	54	24	38	3	0.00	-0.22	0.00	2.90	158	0.00	0	83	36	0	7	0	0
	WINNEMUCCA	47	22	52	19	35	4	0.00	-0.20	0.00	2.33	141	0.00	0	91	46	0	7	0	0
NY	ALBANY	28	3	40	-6	16	-6	0.64	0.04	0.52	3.73	78	1.12	61	82	48	0	7	2	1
	BINGHAMTON	27	4	40	-10	15	-6	1.17	0.62	0.56	4.45	98	1.64	95	90	53	0	7	3	2
	BUFFALO	30	12	41	1	21	-4	1.28	0.59	0.96	5.03	81	2.72	116	83	49	0	7	3	1
	ROCHESTER	29	8	42	-7	18	-6	2.54	2.00	2.22	5.16	118	3.22	184	86	52	0	7	5	1
	SYRACUSE	30	6	44	-9	18	-5	0.80	0.25	0.62	3.78	75	1.66	90	75	44	0	7	2	1
OH	AKRON-CANTON	29	15	44	-1	22	-4	1.17	0.58	0.68	5.90	125	2.30	122	78	57	0	7	5	1
	CINCINNATI	34	20	52	9	27	-4	0.14	-0.51	0.14	5.53	101	2.11	99	77	50	0	7	1	0
	CLEVELAND	30	14	42	-3	22	-6	0.87	0.29	0.48	4.70	92	1.91	96	83	56	0	7	4	0
	COLUMBUS	31	18	47	8	24	-5	0.27	-0.34	0.24	6.80	137	2.31	117	82	53	0	7	2	0
	DAYTON	33	18	50	9	25	-2	0.08	-0.49	0.07	6.34	125	1.89	95	74	47	0	7	2	0
	MANSFIELD	29	14	43	3	21	-4	0.38	-0.25	0.29	8.11	151	1.68	80	85	58	0	7	2	0

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

Weather Data for the Week Ending January 22, 2022

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	32	16	43	9	24	-1	0.00	-0.43	0.00	3.76	90	0.32	21	73	46	0	7	0	0
	YOUNGSTOWN	29	13	42	-9	21	-5	1.22	0.66	0.76	5.38	111	2.35	126	84	53	0	7	3	1
OK	OKLAHOMA CITY	47	19	66	10	33	-6	0.00	-0.35	0.00	0.57	20	0.39	41	70	25	0	7	0	0
	TULSA	46	20	63	8	33	-5	0.00	-0.38	0.00	2.19	60	0.54	46	85	36	0	6	0	0
OR	ASTORIA	50	41	54	35	46	2	1.06	-1.28	0.61	24.83	142	12.34	164	95	80	0	0	4	1
	BURNS	35	23	43	16	29	4	0.04	-0.20	0.04	2.40	97	0.80	90	90	73	0	7	1	0
	EUGENE	48	37	56	32	43	2	0.29	-1.22	0.26	14.83	114	3.84	75	99	82	0	1	3	0
	MEDFORD	54	32	59	27	43	3	0.00	-0.51	0.00	4.56	86	0.61	33	97	54	0	4	0	0
	PENDLETON	44	30	58	26	37	1	0.11	-0.21	0.11	3.43	133	1.46	135	98	73	0	5	1	0
	PORTLAND	48	40	59	36	44	2	0.57	-0.50	0.31	11.76	129	4.82	134	92	73	0	0	3	0
	SALEM	50	39	58	34	44	3	0.27	-1.04	0.20	13.93	124	4.12	94	96	77	0	0	3	0
PA	ALLENTOWN	34	13	44	2	24	-4	1.17	0.48	0.54	3.40	59	2.14	101	83	44	0	7	3	1
	ERIE	30	16	43	3	23	-4	2.39	1.74	1.49	7.29	123	3.65	166	76	50	0	7	3	2
	MIDDLETOWN	36	18	45	9	27	-3	1.34	0.69	0.88	3.64	69	2.78	134	79	41	0	7	3	1
	PHILADELPHIA	43	22	52	12	32	0	1.52	0.85	0.81	4.23	74	2.59	122	73	35	0	6	3	1
	PITTSBURGH	30	14	45	-2	22	-6	0.95	0.34	0.62	5.44	114	2.46	127	86	52	0	7	3	1
	WILKES-BARRE	34	9	47	-3	22	-4	0.71	0.17	0.40	2.76	64	1.43	86	78	42	0	7	3	0
	WILLIAMSPORT	34	11	43	-3	22	-4	0.72	0.09	0.61	2.75	57	1.40	73	81	41	0	7	2	1
RI	PROVIDENCE	37	17	49	5	27	-2	1.28	0.40	1.17	4.13	59	2.42	88	83	38	0	7	2	1
SC	CHARLESTON	55	33	73	26	44	-4	1.54	0.69	1.11	4.96	87	2.01	77	93	51	0	4	4	1
	COLUMBIA	48	31	62	25	39	-5	1.73	0.92	1.23	7.87	138	3.96	158	88	51	0	5	3	1
	FLORENCE	49	29	62	20	39	-6	1.72	1.00	1.24	5.90	111	3.93	171	85	46	0	5	4	1
	GREENVILLE	43	27	53	22	35	-8	1.80	0.94	1.52	7.32	107	4.47	165	82	52	0	6	2	1
SD	ABERDEEN	29	4	44	-12	17	5	0.14	0.04	0.10	1.15	129	0.37	101	83	60	0	7	2	0
	HURON	34	5	51	-10	20	3	0.04	-0.06	0.04	0.40	44	0.19	51	83	53	0	7	1	0
	RAPID CITY	42	12	59	-6	27	2	0.03	-0.04	0.02	0.63	88	0.03	12	79	38	0	7	2	0
	SIOUX FALLS	33	7	52	-6	20	4	0.01	-0.11	0.01	1.45	131	0.14	35	81	51	0	7	1	0
TN	BRISTOL	37	25	41	22	31	-4	0.70	-0.07	0.36	5.86	102	4.03	171	89	61	0	7	5	0
	CHATTANOOGA	46	30	62	25	38	-3	1.39	0.24	1.17	9.10	108	4.46	127	87	56	0	5	3	1
	KNOXVILLE	38	28	44	24	33	-5	1.11	0.10	0.73	9.03	118	5.52	178	95	74	0	7	3	1
	MEMPHIS	45	25	60	17	35	-6	0.71	-0.15	0.37	8.29	96	3.78	134	82	49	0	7	2	0
	NASHVILLE	41	25	58	14	33	-5	2.24	1.37	1.11	9.62	140	6.34	243	81	54	0	7	3	2
TX	ABILENE	60	26	79	16	43	-2	0.00	-0.24	0.00	0.22	11	0.18	25	53	18	0	6	0	0
	AMARILLO	51	18	66	12	34	-3	0.07	-0.11	0.07	0.11	9	0.11	23	68	29	0	6	1	0
	AUSTIN	62	35	81	28	48	-3	0.00	-0.51	0.00	1.82	45	0.13	8	67	25	0	3	0	0
	BEAUMONT	62	38	78	28	50	-3	0.46	-0.72	0.28	2.40	26	0.99	25	87	41	0	3	2	0
	BROWNSVILLE	69	44	83	34	56	-5	0.76	0.46	0.56	2.52	125	1.22	143	89	44	0	0	2	1
	CORPUS CHRISTI	67	40	85	31	53	-4	0.05	-0.29	0.03	0.80	27	0.15	13	77	34	0	1	2	0
	DEL RIO	68	39	87	30	54	1	0.00	-0.16	0.00	0.26	22	0.01	2	51	17	0	2	0	0
	EL PASO	58	33	67	26	46	0	0.01	-0.08	0.01	0.60	54	0.03	10	62	27	0	4	1	0
	FORT WORTH	56	30	75	20	43	-3	0.00	-0.50	0.00	0.52	13	0.07	4	68	27	0	5	0	0
	GALVESTON	63	46	76	35	54	-1	0.59	0.00	0.35	1.86	0	0.66	0	77	46	0	0	3	0
	HOUSTON	62	37	80	30	50	-3	1.99	1.20	1.94	10.37	170	8.29	351	85	38	0	2	3	1
	LUBBOCK	53	22	71	16	38	-3	0.00	-0.15	0.00	0.40	33	0.17	40	63	23	0	6	0	0
	MIDLAND	56	27	73	17	42	-2	0.00	-0.14	0.00	0.07	7	0.04	10	52	20	0	6	0	0
	SAN ANGELO	62	26	79	14	44	-2	0.00	-0.22	0.00	0.09	6	0.06	9	51	17	0	5	0	0
	SAN ANTONIO	63	35	77	31	49	-3	0.00	-0.41	0.00	1.06	34	0.17	14	64	25	0	5	0	0
	VICTORIA	66	35	82	27	51	-3	0.00	-0.59	0.00	0.80	19	0.24	13	87	30	0	4	0	0
	WACO	60	28	77	19	44	-3	0.00	-0.48	0.00	0.11	2	0.06	4	73	27	0	5	0	0
	WICHITA FALLS	53	21	79	11	37	-5	0.00	-0.27	0.00	0.62	25	0.33	42	66	21	0	6	0	0
UT	SALT LAKE CITY	38	24	41	22	31	2	0.05	-0.22	0.04	2.04	87	0.44	48	94	66	0	7	2	0
VA	LYNCHBURG	38	22	48	11	30	-5	1.11	0.38	0.82	4.62	85	3.74	168	79	40	0	7	2	1
	NORFOLK	46	27	57	18	37	-4	1.67	0.91	1.42	5.90	104	4.13	172	96	51	0	6	4	1
	RICHMOND	43	25	58	20	34	-4	1.77	1.09	1.28	5.44	101	4.37	204	86	44	0	7	4	1
	ROANOKE	39	21	47	10	30	-6	1.41	0.74	1.37	4.28	85	3.59	174	76	44	0	7	2	1
	WASH/DULLES	39	21	53	12	30	-3	1.68	1.07	1.15	4.11	85	3.67	197	82	41	0	7	4	1
VT	BURLINGTON	25	-5	38	-14	10	-8	0.56	0.09	0.56	3.46	89	0.87	59	80	47	0	7	1	1
WA	OLYMPIA	50	40	53	36	45	5	0.33	-1.51	0.31	19.24	145	10.33	179	92	73	0	0	3	0
	QUILLAYUTE	49	39	51	33	44	3	2.53	-0.87	1.50	28.33	119	15.04	141	100	88	0	0	5	1
	SEATTLE-TACOMA	47	40	52	34	43	1	0.22	-1.07	0.17	10.93	115	6.67	162	98	76	0	0	2	0
	SPOKANE	36	29	39	23	32	2	0.48	0.09	0.43	3.07	84	1.74	130	96	82	0	6	2	0
	YAKIMA	38	25	51	14	32	0	0.01	-0.23	0.01	1.73	71	1.39	161	95	71	0	7	1	0
WI	EAU CLAIRE	21	0	39	-21	11	-3	0.00	-0.22	0.00	0.33	19	0.01	1	79	54	0	7	0	0
	GREEN BAY	25	6	37	-10	15	-1	0.04	-0.21	0.04	1.89	80	0.23	27	78	57	0	7	1	0
	LA CROSSE	23	5	39	-12	14	-3	0.22	-0.04	0.16	2.14	99	0.43	54	81	55	0	7	3	0
	MADISON	25	7	36	-9	16	-3	0.15	-0.12	0.15	1.92	73	0.24	27	85	57	0	7	1	0
	MILWAUKEE	31	14	43	5	22	0	0.04	-0.34	0.04	2.56	77	0.22	17	71	46	0	7	1	0
WV	BECKLEY	31	18	42	6	25	-6	1.06	0.42	0.41	7.33	146	4.90	243	95	68	0	7	4	0
	CHARLESTON	32	21	46	16	26	-8	1.57	0.90	0.62	8.75	163	5.71	272	94	68	0	7	4	1
	ELKINS	33	8	48	-5	21	-8	0.77	0.04	0.23	7.24	131	4.92	216	84	49	0	7	4	0
	HUNTINGTON	32	20	44	7	26	-7	1.28	0.62	0.70	7.89	146	4.48	215	93	61	0	7	4	1
WY	CASPER	38	16	53	5	27	2	0.51	0.39	0.46	1.38	157	0.76	205	77	44	0	7	3	0
	CHEYENNE	41	19	51	2	29	1	0.03	-0.05	0.03	0.86	111	0.46	170	85	40	0	7	1	0
	LANDER	40	18	52	11	29	8	0.03	-0.07	0.03	0.78	86	0.41	125	87	47	0	7	1	0
	SHERIDAN	43	15	60	-2	29	5	0.12	-0.01	0.06	1.24	130	0.23	59	81	45	0	7	3	0

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

2021 U.S. Weather Review

Annual "Weather Review" provided by USDA/WAOB; rankings provided by National Centers for Environmental Information.

One of the year's early highlights was an historic, late-winter cold snap, which drove southward across the Plains to Texas and other parts of the South, delivering the coldest weather in more than 3 decades. Back-to-back Southern snowstorms accompanied the blast of frigid air, further delaying a return to normalcy. In Texas and portions of neighboring states, widespread power outages struck as the cold wave peaked, leading to frozen and burst pipes. Agriculturally, the bitterly cold weather caused significant harm to citrus and other sensitive crops in Deep South Texas and severely affected ornamentals and nursery stock, especially in areas where electrical outages limited freeze-mitigation strategies. Where insulating snow cover was lacking, sub-zero temperatures damaged some crops, including oats and winter wheat. Ironically, the February cold blast was embedded in an otherwise relatively mild winter.

Meanwhile, the entire year was spent with more than 40 percent of the contiguous U.S. in drought, according to the *U.S. Drought Monitor*. By January 4, 2022, the country had endured 67 consecutive weeks with drought coverage greater than 40 percent, second only to a 68-week such streak from June 19, 2012 – October 1, 2013. Starting in late-November and continuing through year's end, national drought coverage topped 50 percent for the first time since September 2013. During the 2021 growing season, the most consequential drought stretched from the Pacific Coast into the upper Midwest, resulting in a variety of adverse impacts on rangeland, pastures, winter wheat and spring-sown crops, including barley, oats, durum wheat, and spring wheat.

In the West, water shortages were a growing concern, as drought carried through a second consecutive year. During the 2-year period ending June 30, 2021, storage in California's 154 major intrastate reservoirs decreased by nearly half, from 34.1 to 17.5 million acre-feet (from 120 to 62 percent of average). Even a robust Southwestern monsoon failed to significantly improve water-supply prospects, despite short-term benefit in the form of a boost in topsoil moisture and improved rangeland and pasture conditions. However, the monsoon-related downpours also sparked Southwestern flash flooding and debris flows, especially in burn-scarred areas.

While wildfire activity was not as expansive as the previous year, when the national burned acreage totaled more than 10.1 million acres, mid- to late-summer blazes were still prominent on the Western landscape. With a preliminary 2021 burned acreage of nearly 2.6 million acres, California accounted for roughly one-third of the U.S. total of fewer than 8.0 million acres. In addition, the Dixie Fire (963,309 acres) became California's second-largest wildfire in modern history, behind only 2020's August Complex (1,032,648 acres). Improbably, one of the year's most destructive fires occurred near Broomfield, CO, on December 30. Driven by hurricane-force winds, the Marshall Fire tore across more than 6,200 acres of parched vegetation and destroyed at least 1,000 structures, including more than 550 homes and other buildings in the community of Louisville, CO.

Periods of extreme heat accompanied the Northern and Western drought, aggravating the effects of persistently below-normal precipitation. In late June, a truly historic Northwestern hot spell sent readings to 110°F or higher in typically temperate areas along the northern Pacific Coast. Farther inland, the stunning Northwestern heat—with temperatures approaching 120°F—damaged small grains and fruit crops. Frequent rounds of triple-digit heat (100°F or higher) extended eastward across the northern Plains and far upper Midwest—but did not reach the heart of the Corn Belt. As a result, Midwestern corn and soybeans fared reasonably well, with major heat- and drought-related impacts largely limited to Minnesota and the Dakotas.

By the end of October 2021, at least 39 percent of the rangeland and pastures were rated in very poor to poor condition in eleven states along and northwest of a line from California to Minnesota—led by Montana (95 percent very poor to poor). Around the same time, dryness shifted southward, in part due to the return of La Niña for a second consecutive winter. The sudden Southern dryness, which occurred during the winter wheat establishment season, left a portion of the crop poorly established and potentially vulnerable to winter weather extremes. By November 28, nearly one-half (45 percent) of the winter wheat in Texas was rated in very poor to poor condition, along with 33 percent in Colorado. Farther north, lingering drought effects left roughly one-half of the wheat rated very poor to poor on that date in Montana (56 percent) and Oregon (48 percent). Nationally, 23 percent of the winter wheat was rated in very poor to poor condition on November 28—the greatest amount in those two categories at the end of the autumn establishment season since 2012.

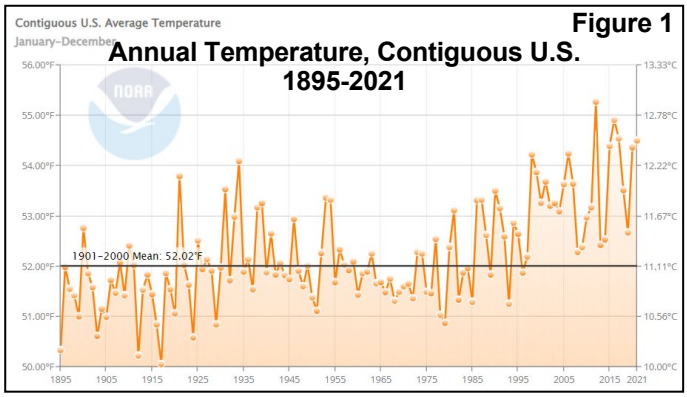
Farther east, eight named Atlantic tropical cyclones made landfall in 2021 along the Gulf or Atlantic Coast. On August 29, Category 4 Hurricane Ida—with sustained winds near 150 mph—became the strongest hurricane on record to cross the Louisiana coast, tied with Laura (2020) and the Last Island Hurricane (1856). Catastrophic infrastructural damage occurred where Ida moved ashore in southeastern Louisiana, near Port Fourchon. In early September, Ida's remnants contributed to historic flooding in portions of the middle Atlantic States. The only other 2021 hurricane to strike the U.S. mainland was Nicholas, which made landfall on the middle Texas coast on September 14. Six tropical storms made a U.S. landfall: Claudette, Danny, Elsa, Fred, Henri, and Mindy. Despite the large number of 2021 Atlantic tropical cyclones, only one system (Tropical Storm Wanda) formed during the last 2 months of the official hurricane season, which ended on November 30.

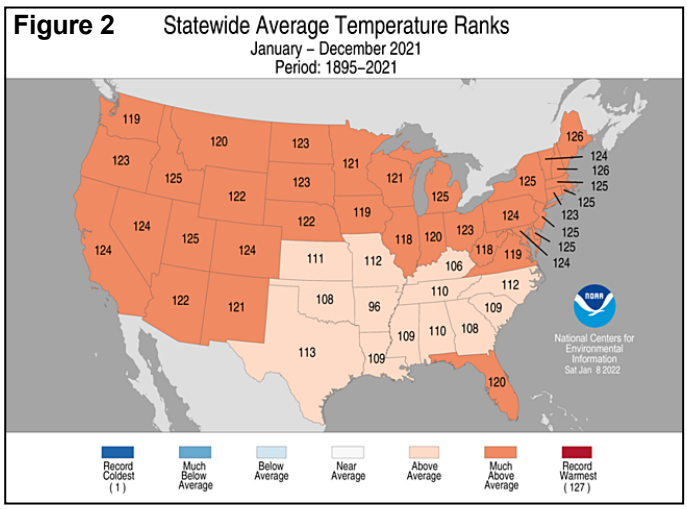
The last 3 months of the year featured several notable weather and climate events, starting with a powerful, late-October Western storm and continuing through an extended November period of warmth and dryness across much of the western and central U.S. In December, a barrage of extreme events battered various parts of the country, while record-setting winter warmth stretched from the southern Plains into the Southeast. Tornado outbreaks across the interior Southeast and lower Midwest on December 5-6 and 10-11 were followed by additional severe weather late in the month. On the 15th, high winds raised dust across the central Plains, while an exceedingly rare winter derecho swept across hundreds of miles from the east-central Plains into the upper Midwest, spawning unprecedented December tornadoes as far north as Minnesota. On December 30, another round of high winds fanned damaging wildfires across thousands of acres southeast of Boulder, CO.

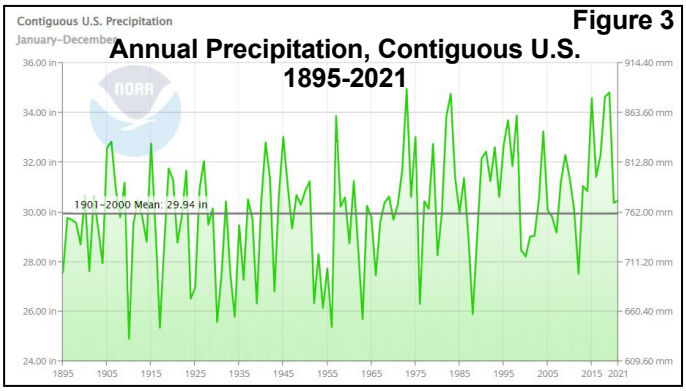
According to the National Centers for Environmental Information (NCEI), December warmth helped to propel the contiguous U.S. to its fourth-warmest year on record, behind only 2012, 2016, and 2017 (figure 1). The nation's annual average temperature of 54.5°F was 2.5°F above the 20th century mean. The country's warmest year for more than 6 decades, 1934, has slipped into ninth place amid dramatic warming since the late 20th century. During 2021, all states ranked in the warmest one-third of the historical

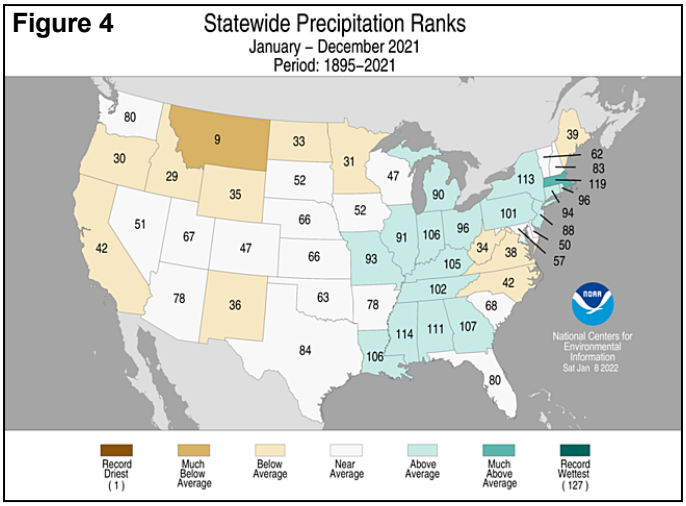
distribution; Arkansas, with its 32nd-warmest year, was the "coolest" state (figure 2). Top-ten rankings for annual warmth covered 35 states: all eleven in the West; ten in the Midwest, including Nebraska and the Dakotas; Florida, Vermont, and West Virginia; and all Atlantic Coast States from Virginia to Maine.

Meanwhile, annual precipitation across the Lower 48 States averaged 30.48 inches (102 percent of normal), representing the 56th-wettest year during the 1895-2021 period of record (figure 3). State precipitation rankings ranged from the ninth-driest year in Montana to the ninth-wettest year in Massachusetts (figure 4).









Winter (December 2020 – February 2021)

Historically cold weather struck the nation's mid-section for 2 weeks in February, resulting in the lowest temperatures in many communities since at least December 1989—and in a few cases, tying or breaking all-time records. The sudden Arctic outbreak, which followed a generally mild November-January period, damaged some winter wheat on the Plains that did not have an adequate protective snow cover. Deep South Texas was disproportionately affected, as citrus and winter vegetables suffered extensive damage. Producers monitored sugarcane in Texas and Louisiana for potential impacts on the next harvest. Cold-related impacts extended far beyond crops, dairies, livestock, greenhouses, and nurseries, as extended power outages led to cascading effects that included potable water shortages and frozen or broken water lines.

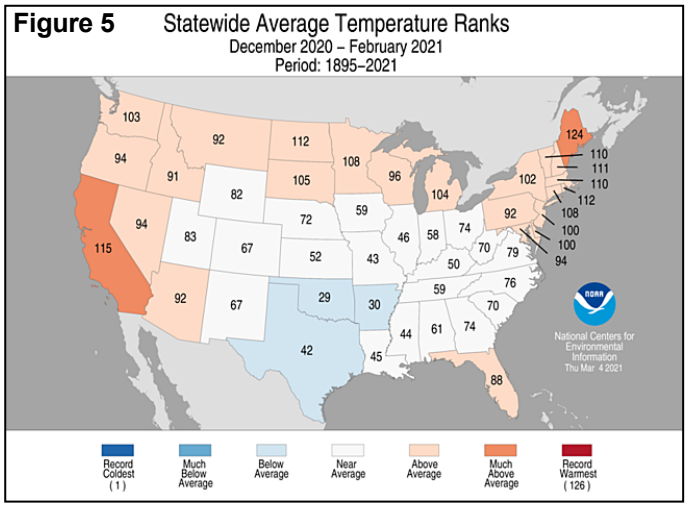
Across portions of the Great Plains, autumn and winter drought--along with potential impacts from February's extreme cold—left one-fifth to one-third of the winter wheat rated in very poor to poor condition by late February in several states, including Texas, Colorado, Kansas, and Nebraska. Some of the most significant exposure of wheat to sub-zero temperatures occurred across the central Plains, along with minor production areas in northeastern Montana and parts of the western Dakotas.

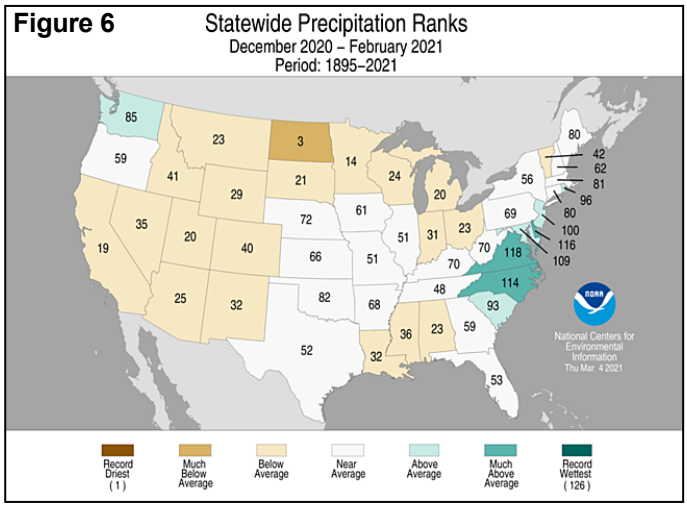
During the first 2 months of 2021, drought coverage remained nearly steady at 45 to 47 percent of the Lower 48 States, according to the *U.S. Drought Monitor*, down slightly from a December 2020 peak of 49.6 percent. Significant, late-winter improvement in the drought situation was mostly limited to a swath stretching from the Northwest to the central Rockies, while portions of the northern Plains and Southwest noted worsening drought. As winter ended, excessive rainfall in the Kentucky River basin and environs contributed to moderate to major flooding, while a much broader region stretching from northeastern Texas into the central Appalachians and Ohio Valley experienced minor flooding.

Despite the country experiencing its coldest February in 32 years, winter overall was relatively mild. In fact, above-normal December-February temperatures were common across the North and West, while pockets of below-normal temperatures were mostly limited to the south-central U.S. Winter warmth was especially prominent in northern New England, including Maine, where December-February temperatures averaged nearly 7°F above normal.

According to NCEI, the contiguous U.S. experienced its 29th-warmest, 26th-driest winter during the 126-year period of record.

Across the Lower 48 States, the December-February average temperature of 33.6°F was 1.4°F above the 20th century mean, while precipitation averaged 6.10 inches—90 percent of normal). The "warm" winter ranking occurred despite the country experiencing its coldest February since 1989, as December and January were rather mild. Winter warmth was most prominent in the North and Far West, while wetness was largely focused across the middle Atlantic States. However, only a handful of states strayed into top-ten territory for winter rankings. It was the third-warmest winter in Maine (figure 5) and the third-driest winter in North Dakota (figure 6). Virginia cracked the top ten for winter wetness, ranking ninth.





Spring (March-May)

Producers across the northern and western U.S. faced several weather challenges, including ongoing drought and episodic cold snaps. Even into late May, frost and freezes across portions of the northern Plains and upper Midwest necessitated replanting of some spring-sown crops, including soybeans. Due to punishing drought and temperature extremes, a variety of commodities—including rangeland/pastures, spring wheat, and barley—started the growing season with the lowest spring crop conditions, per USDA/NASS, of the 21st century. By May 30, more than one-third (39 percent) of the nation's rangeland and pastures; 20 percent of the spring wheat; and 13 percent of the barley were rated in very poor to poor condition.

Crops in other parts of the country fared better. Midwestern planting quickly advanced, with 95 percent of the nation's corn and 84 percent of the soybeans sown by May 30; five-year averages for that date were 87 and 67 percent, respectively. Meanwhile, winter wheat across the central and southern Plains benefited from frequent spring precipitation, although early-season harvest efforts were slowed by delayed maturation and wet conditions. Farther north, winter wheat conditions faded amid drought; by May 30, nearly two-thirds (63 percent) of Oregon's crop was rated in very poor to poor condition. In contrast, spring wetness from the southern Plains to the Mississippi Delta hampered fieldwork, including hay cutting and late-season planting.

During the first 5 months of 2021, drought coverage remained nearly steady at 43 to 48 percent of the Lower 48 States, according to the *U.S. Drought Monitor*. Large-scale improvement in the drought situation was mostly limited to the central and southern Plains and the eastern slopes of the central Rockies. Meanwhile, the drought picture worsened in the West, particularly in the Pacific Coast States, as well as portions of the northern Plains and northern Corn Belt. Short-term dryness developed in portions of the Atlantic Coast States. In contrast, excessive wetness plagued the Mississippi Delta and portions of neighboring regions.

Following frigid February weather, a sudden end to widespread wintry conditions helped propel the country to a relatively warm spring. All states except Arkansas ended up on the "warm side" of the historical distribution. However, widespread spring temperatures averaging at least 2°F above normal were confined to the North—an area stretching from parts of the Dakotas to New England.

According to NCEI, the contiguous U.S. experienced its 21st-warmest, 42nd-driest spring during the 1895-2021 period of record. Across the Lower 48 States, the March-May aver-age temperature of 52.6°F was 1.7°F above the 20th century mean, while precipitation averaged 7.53 inches—95 percent of normal). It was the nation's driest spring since 2006. Spring warmth was most prominent in the North and West, while wetness was largely focused on an area stretching from the central and southern Plains into the lower Mississippi Valley. Top-ten rankings for spring warmth were confined to Michigan and four Atlantic Coast States from Delaware to Maine (figure 7). Meanwhile, state precipitation rankings ranged from the second-driest spring in Idaho, Oregon, and Washington to the fourth-wettest spring in Louisiana (figure 8). California and Michigan also experienced a top-ten ranking for spring dryness.

Summer (June-August)

The drought situation took a turn for the worse across the Pacific Coast States and the Northwest, as a hot, dry summer led to another active wildfire season and severe stress on rangeland, pastures, and rain-fed summer crops. In the hardest-hit drought areas, surface water storage continued to dwindle; California's 154 primary intrastate reservoirs held less than 60 percent of their normal volume by August 31, compared with 93 percent a year earlier—a loss of 7.8 million acre-feet of water reserves, statewide, in 12 months. By summer's end, statewide storage was also less than one-half of average in Nevada and Oregon. Farther south, however, a robust North American monsoon circulation delivered drought relief, starting in July. Arizona, New Mexico, southern Utah, and southwestern Colorado experienced some of the heaviest rain, which vanquished short-term drought but caused local flooding and landslides. Even with the summer downpours, New Mexico's statewide reservoir storage stood at just 41 percent of average on August 31, reflecting lingering long-term drought impacts.

Figure 7 Statewide Average Temperature Ranks
March – May 2021
Period: 1895–2021

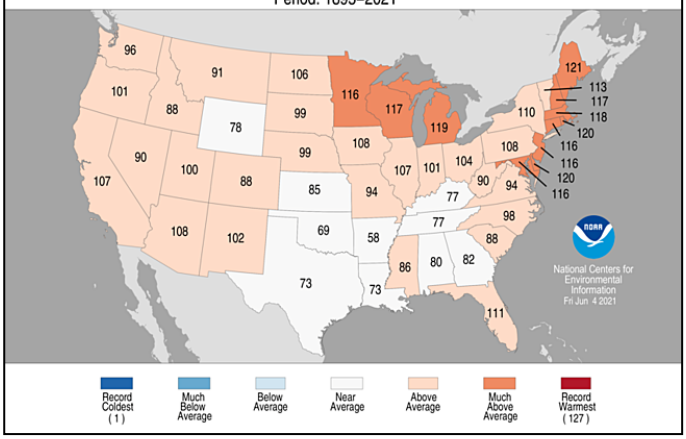
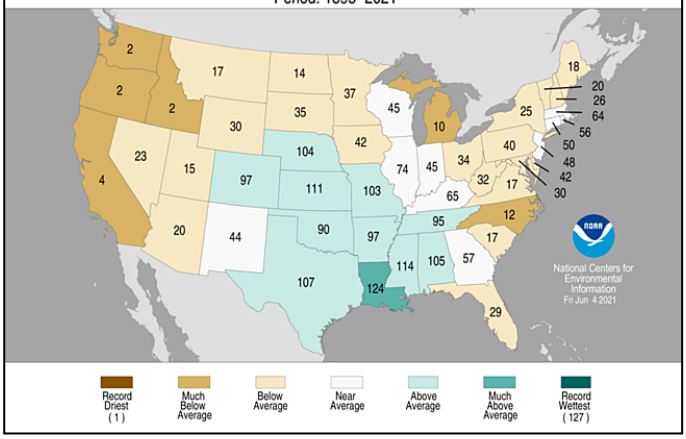


Figure 8 Statewide Precipitation Ranks
March – May 2021
Period: 1895–2021



Regarding Western wildfires, four of northern California's blazes made the statewide top-20 list for acreage burned. Those wildfires were the Dixie Fire (more than 963,000 acres), second only to last year's 1.03 million-acre August Complex; the 224,000-acre Monument Fire; the 222,000-acre Caldor Fire; and the 199,000-acre River Complex. Among them, the Dixie Fire (1,329 structures burned) and the Caldor Fire (1,003 structures) made California's all-time, top-20 list for property destruction. Rampant Western fires, which shifted northward as monsoon-related rainfall aided Southwestern containment efforts, also resulted in widespread air-quality degradation, with hazy conditions occasionally extending into the central and eastern U.S.

The delineation between favorable growing conditions (to the southeast) and major drought impacts (to the northwest) extended from the Pacific Coast into the upper Midwest. On August 29, rangeland and pastures were rated more than one-half very poor to poor in every state along and northwest of a line from California to Minnesota, led by Washington (92 percent very poor to poor) and Montana (90 percent). Northwestern small grains, including winter wheat, spring wheat, and barley, were severely affected by drought. Significant crop stress reached into the upper Midwest, where corn and soybeans in Minnesota and the Dakotas were adversely affected by heat and drought.

In contrast, abundant summer rainfall and relatively cool conditions across the South led to mostly favorable growing conditions, albeit at a slower-than-normal pace, for crops such as cotton, peanuts, and rice. Tropical rainfall contributed to the cloudy, damp pattern; storms making a U.S. landfall included Category 4 Hurricane Ida (southeastern Louisiana on August 29) and Tropical Storms Claudette (June 19), Danny (June 28), Elsa (July 7), Fred (August 15), and Henri (August 22). Ida's storm surge and winds were tremendously destructive to infrastructure across southeastern Louisiana; the remnant circulation later sparked catastrophic flooding in the mid-Atlantic. However, the five tropical storms mainly delivered rain. Claudette moved ashore in Louisiana, while two tropical storms (Elsa and Fred made landfall on Florida's Gulf coast. Danny crossed the coast in South Carolina; Henri came ashore in Rhode Island. Abundant summer rainfall extended into much of the Midwest, particularly the central and eastern Corn Belt. However, high humidity levels and unusually warm nights contributed to an increase in disease pressure in some Midwestern fields.

During the summer of 2021, drought coverage remained nearly steady at 44 to 48 percent of the Lower 48 States, according to the *U.S. Drought Monitor*. Large-scale improvement in the drought situation was mostly limited to the Southwest and an area stretching from the lower Great Lakes region into the Northeast. Early signs of drought development were generally vanquished in the middle and southern Atlantic States. Late in the summer, however, hotter, drier weather led to pockets of drought development across the southern half of the Plains.

According to NCEI, the contiguous U.S. experienced its hottest summer during the 127-year period of record, with a national average temperature of 74.01°F (2.61°F above the 20th century mean). This value narrowly edged the Dust Bowl-era, summer of 1936 standard of 74.00°F. That brutally hot summer had withstood recent challenges from 2012 (73.70°F), 2011 (73.65°F), and 2020 (73.55°F). Meanwhile, it was the nation's eighth-wettest summer, with an average of 9.48 inches—114 percent of normal—falling across the Lower 48 States. The only wetter summers since the mid-20th century occurred in 1992, 1993, and 2004. Only a few Southern States ranked in the lower half of the historical temperature distribution; Texas, with its 50th-coolest summer, was one. In contrast, it was the hottest summer on record in five Western States: California, Idaho, Nevada, Oregon, and Utah (figure 9). Top-ten rankings for summer warmth were prevalent, covering every state bordering Canada by land or water, except Ohio; New England; South Dakota; and seven additional states in the mid-Atlantic and West. Elsewhere, state precipitation rankings ranged from the seventh-driest summer in Minnesota to the wettest on record in Mississippi (figure 10). Montana also ranked in the top ten for summer dryness, while eleven Southern and Eastern States, stretching from Arizona to Georgia, northward to Michigan, New York, and New Hampshire, had one of their ten wettest summers.

Autumn (September-November)

The active Atlantic tropical season remained in full swing through September, with the year's 20th named storm (Tropical Storm Victor) forming over the open ocean late in the month. Category 1 Hurricane Nicholas became the season's eighth and final named storm to make a U.S. landfall, moving ashore in Texas on September 14. Subsequently, tropical activity waned, with only one system (Tropical Storm Wanda) forming during the last one-third of the 6-month hurricane season.

Meanwhile, an active and stormy regime in much of the U.S. during October contrasted with a mostly warm, dry November.

Figure 9 Statewide Average Temperature Ranks
June – August 2021
Period: 1895–2021

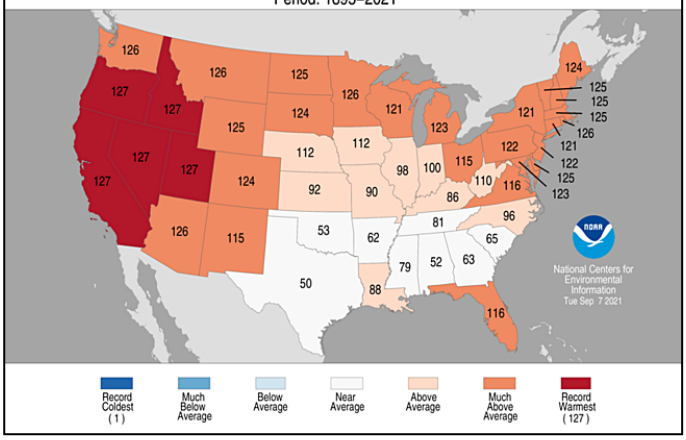
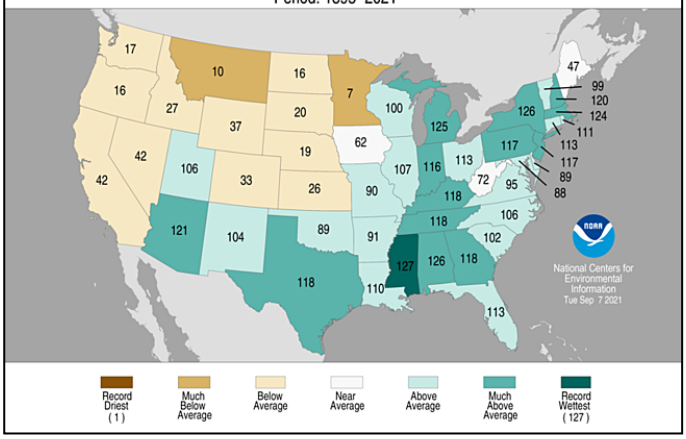


Figure 10 Statewide Precipitation Ranks
June – August 2021
Period: 1895–2021



Multiple October storms followed a favored path into northern California or the Northwest, eastward across the northern Plains, easing drought but leaving some long-term impacts—such as low reservoir levels and poor rangeland and pasture conditions—nearly untouched. Despite an October bump in California's reservoir levels, storage in the state's 154 primary intrastate reservoirs stood at 13.2 million acre-feet on November 30, just 66 percent of the long-term average.

Periodic wildfires continued to plague drier areas of the West, especially the southern Sierra Nevada. In California, two lightning-sparked September wildfires—the Windy Fire and the KNP Complex—scorched nearly 100,000 acres apiece, with the latter incident smoldering for weeks. With the return of warm, dry, windy weather in November, additional fires flared in unexpected places such as Colorado and Montana. Near Denton, Montana, the wind-whipped West Wind Fire—sparked on November 30 by a downed powerline—tore across 10,644 acres and later raced into town, destroying more than two dozen homes. Nationally, wildfires burned nearly 7.7 million acres of vegetation by mid-December, about 105 percent of the 10-year average.

Despite a wet October in parts of the Midwest, corn and soybean harvest activities generally remained ahead of the average pace, in part due to earlier-than-normal crop maturation. However, as the harvest season progressed, parts of the eastern Corn Belt began to experience some wetness-related harvest delays. In contrast, harvest wrapped up early in much of the upper Midwest, especially where drought had accelerated maturation and favored a rapid pace of fieldwork.

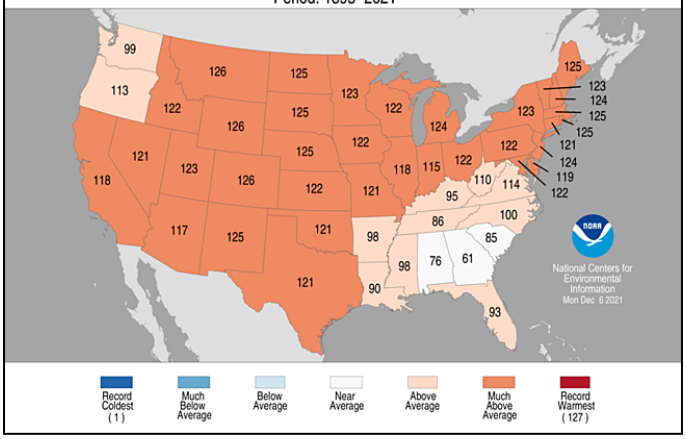
Meanwhile, fieldwork delays were apparent early in the harvest season across much of the South, as earlier developmental delays—related to a cool, cloudy, damp summer—led to late maturation for crops such as cotton and peanuts. During November, however, a sudden dry spell resulted in an acceleration of harvest activities, allowing autumn fieldwork to reach completion roughly on schedule.

Elsewhere, winter wheat seeding proceeded mostly on schedule during the autumn, although planting was delayed in a few drier spots. Similarly, wheat emergence was locally slowed by late planting or topsoil moisture shortages. By the end of November, areas of greatest concern with respect to drought-affected winter wheat establishment included Oregon, Montana, and the High Plains from Colorado to Texas.

For much of autumn 2021, drought coverage remained nearly steady between 44 to 48 percent of the Lower 48 States, according to the *U.S. Drought Monitor*. By November 23, however, U.S. drought coverage crept above the 50-percent mark for the first time since September 10, 2013. Indeed, drought coverage has been significantly elevated for more than a year—and was last below 40 percent in September 2020. Since the beginning of the 21st century, the only other periods when national drought coverage continuously exceeded 40 percent for more than a year were March 12, 2002 – June 3, 2003, and June 19, 2012 – October 1, 2013.

According to NCEI, the contiguous U.S. experienced its third-warmest autumn during the 127-year period of record, with a national average temperature of 56.7°F (3.1°F above the 20th century mean). This value stood behind only 57.6°F in 2016 and 56.8°F in 2015. Meanwhile, it was the nation's 57th-driest autumn, with an average of 6.81 inches—99 percent of normal. State temperature rankings ranged from the 61st-coolest autumn on record in Georgia to the second warmest in Colorado, Montana, and Wyoming (figure 11). It was among the ten warmest autumns in 29 additional states—covering nearly all regions except the Southeast and Pacific Northwest. Meanwhile, state precipitation rankings ranged from the 11th-driest autumn in Wisconsin to the sixth-wettest such period in Washington State (figure 12). New York State experienced its tenth-wettest autumn.

Figure 11 Statewide Average Temperature Ranks
September – November 2021
Period: 1895–2021



(Continued on back cover)

National Weather Data for Selected Cities

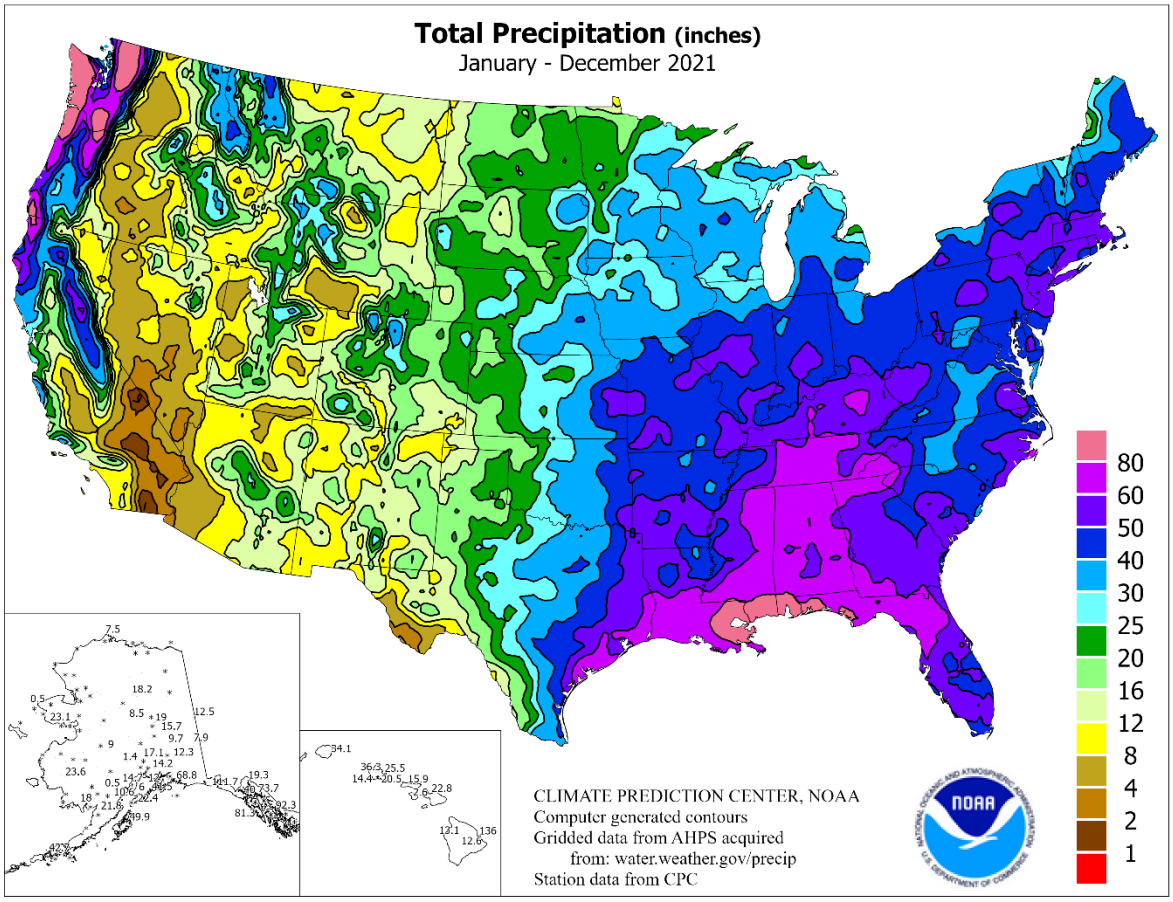
2021

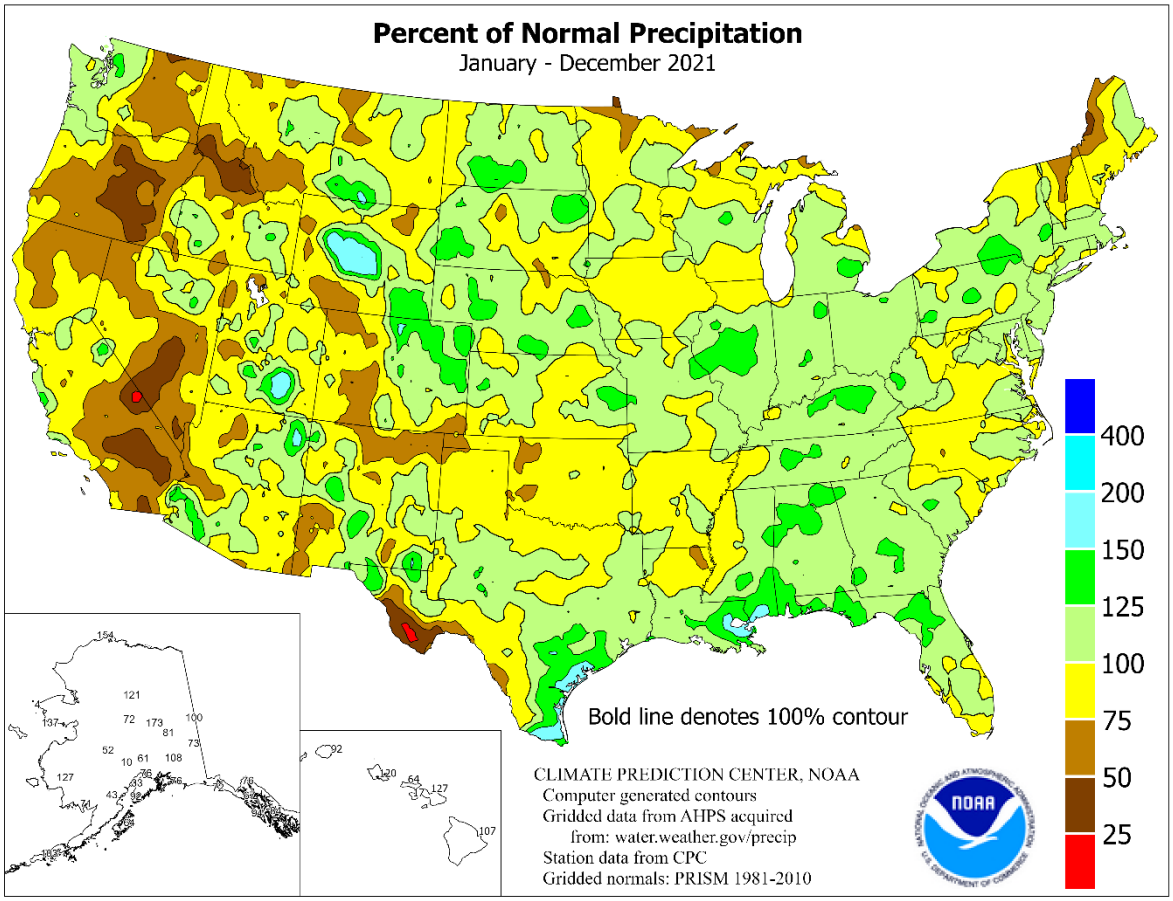
Data Provided by Climate Prediction Center

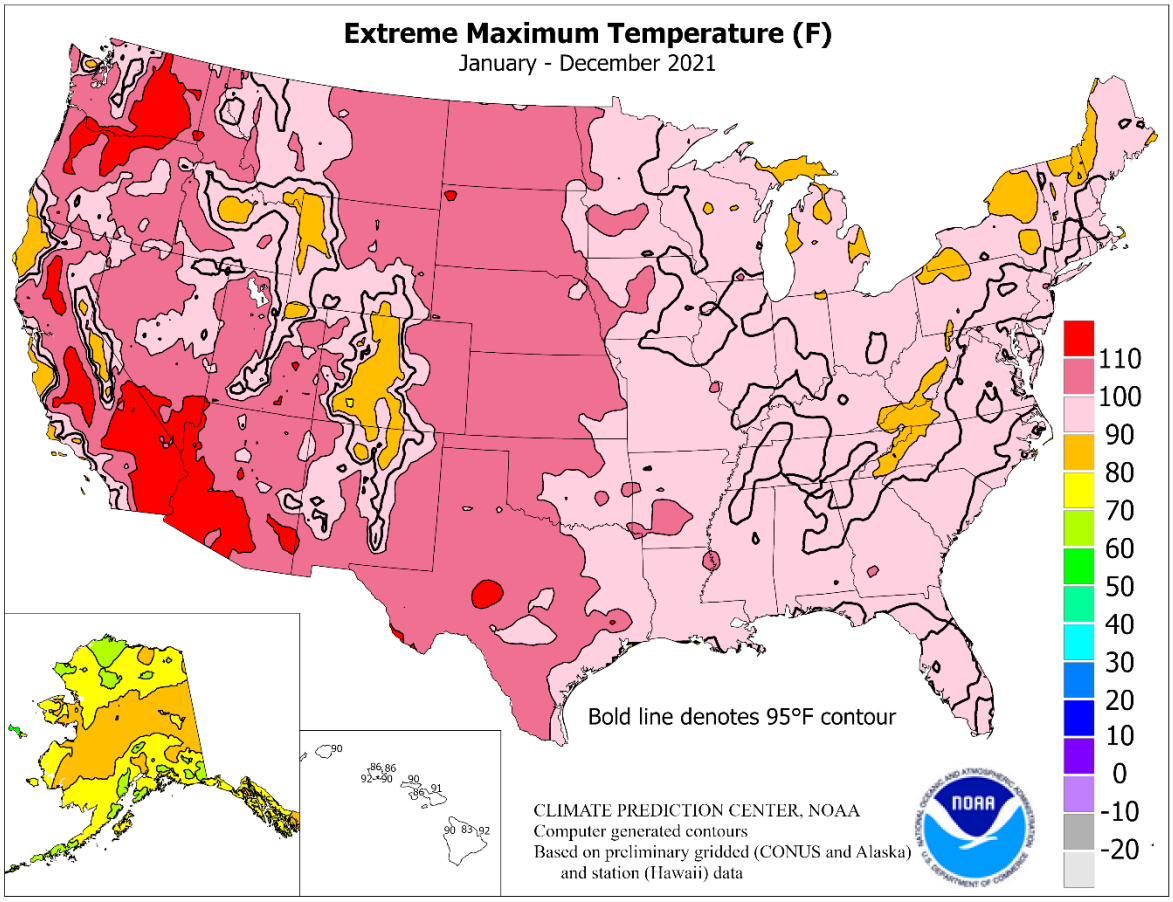
STATES AND STATIONS	TEMP, °F		PRECIP.		STATES AND STATIONS	TEMP, °F		PRECIP.		STATES AND STATIONS	TEMP, °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AK ANCHORAGE	36	-1	14.74	-1.87	WICHITA	58	1	30.08	-2.51	TOLEDO	54	4	42.00	7.96
BARROW	14	-13	7.50	2.64	KY LEXINGTON	56	0	56.60	11.53	YOUNGSTOWN	52	3	44.37	5.61
FAIRBANKS	29	-10	19.04	8.06	LOUISVILLE	60	2	46.99	2.16	OK OKLAHOMA CITY	61	-1	28.35	-8.15
JUNEAU	42	0	73.74	11.50	PADUCAH	60	2	47.33	-1.78	TULSA	62	2	37.28	-3.59
KODIAK	42	1	49.87	-28.20	LA BATON ROUGE	69	-1	77.17	17.79	OR ASTORIA	51	0	76.72	9.43
NOME	27	-1	23.13	6.19	LAKE CHARLES	70	1	69.71	12.20	BURNS	48	4	10.05	-1.11
AL BIRMINGHAM	65	1	61.73	7.90	NEW ORLEANS	72	2	82.56	20.02	EUGENE	55	3	35.73	-10.44
HUNTSVILLE	62	0	62.72	8.35	SHREVEPORT	68	2	45.15	-6.33	MEDFORD	58	2	15.42	-3.03
MOBILE	67	0	81.03	14.87	MA BOSTON	54	3	49.50	5.87	PENDLETON	54	2	9.17	-3.65
MONTGOMERY	67	2	53.33	0.32	WORCESTER	51	3	61.70	13.63	PORTLAND	57	2	35.37	-0.65
AR FORT SMITH	63	1	49.21	3.76	MD BALTIMORE	59	4	40.28	-1.42	SALEM	56	3	39.64	-0.11
LITTLE ROCK	63	0	41.95	-7.81	ME CARIBOU	43	4	35.52	-2.75	PA ALLENTOWN	53	2	40.31	-4.93
AZ FLAGSTAFF	48	1	25.04	3.18	PORTLAND	49	2	43.82	-3.39	ERIE	54	4	41.48	-0.50
PHOENIX	76	1	6.80	-1.42	MI ALPENA	47	3	26.48	-1.57	MIDDLETOWN	57	3	45.50	4.97
PRESCOTT	57	1	13.43	-0.74	GRAND RAPIDS	51	2	36.81	-1.29	PHILADELPHIA	58	2	43.19	1.87
TUCSON	72	2	13.01	1.19	HOUGHTON LAKE	46	3	28.55	0.91	PITTSBURGH	53	2	37.29	-0.79
CA BAKERSFIELD	68	3	5.48	-1.15	LANSING	51	3	34.31	2.67	WILKES-BARRE	53	3	43.60	6.24
EUREKA	51	-2	26.62	-13.81	MUSKEGON	51	2	30.52	-2.82	WILLIAMSPORT	53	3	44.24	3.05
FRESNO	67	3	10.25	-1.44	TRAVERSE CITY	49	4	27.38	-5.48	RI PROVIDENCE	54	2	46.11	-1.01
LOS ANGELES	62	0	12.02	-0.92	MN DULUTH	43	3	25.33	-5.61	SC CHARLESTON	66	1	56.78	5.93
REDDING	65	3	23.11	-11.15	INT_L FALLS	41	4	19.83	-4.38	COLUMBIA	65	1	47.46	2.97
SACRAMENTO	62	1	18.93	0.39	MINNEAPOLIS	50	3	25.67	-4.95	FLORENCE	65	1	40.91	-1.87
SAN DIEGO	65	1	7.78	-2.67	ROCHESTER	47	0	27.20	-5.89	GREENVILLE	61	0	43.24	-3.57
SAN FRANCISCO	59	1	21.56	0.78	ST. CLOUD	46	3	25.66	-2.06	SD ABERDEEN	48	5	18.89	-2.82
STOCKTON	62	1	14.03	-0.11	MO COLUMBIA	58	3	50.17	7.57	HURON	49	3	18.80	-4.14
CO ALAMOSA	44	3	5.59	-1.88	KANSAS CITY	57	2	40.39	1.54	RAPID CITY	48	1	15.74	-0.68
CO SPRINGS	52	3	14.49	-2.24	SAINT LOUIS	59	2	40.43	-0.44	SIOUX FALLS	50	4	26.69	0.36
DENVER INTL	53	2	11.49	-3.00	SPRINGFIELD	58	1	46.48	0.95	TN BRISTOL	58	2	39.87	-0.99
GRAND JUNCTION	55	2	9.65	0.05	MS JACKSON	66	2	48.51	-5.72	CHATTANOOGA	63	2	62.40	9.85
PUEBLO	54	2	16.17	3.39	MERIDIAN	65	2	67.34	11.14	KNOXVILLE	60	1	45.60	-2.31
CT BRIDGEPORT	55	2	44.43	1.83	TUPELO	65	2	69.91	14.89	MEMPHIS	64	1	52.18	-1.48
HARTFORD	53	2	54.30	8.57	MT BILLINGS	50	2	10.03	-3.73	NASHVILLE	62	2	57.36	10.21
DC WASHINGTON	60	2	42.35	2.76	BUTTE	42	2	6.14	-6.73	TX ABILENE	66	2	20.70	-4.07
DE WILMINGTON	57	2	44.62	1.67	CUT BANK	43	0	5.36	-5.76	AMARILLO	59	2	14.36	-6.00
FL DAYTONA BEACH	72	2	47.23	-2.31	GLASGOW	47	4	6.13	-5.77	AUSTIN	70	1	34.56	1.09
JACKSONVILLE	69	0	50.81	-1.49	GREAT FALLS	46	1	11.24	-3.53	BEAUMONT	70	1	65.41	4.95
KEY WEST	79	1	29.37	-10.46	HAVRE	45	2	7.57	-3.85	BROWNSVILLE	76	2	36.54	9.08
MIAMI	78	1	55.69	-6.19	MISSOULA	48	2	10.91	-3.39	CORPUS CHRISTI	73	1	43.39	11.70
ORLANDO	75	2	44.88	-5.77	NC ASHEVILLE	57	2	54.26	8.73	DEL RIO	75	4	14.20	-5.02
PENSACOLA	70	2	86.62	21.24	CHARLOTTE	63	3	35.01	-6.43	EL PASO	67	2	12.11	2.20
TALLAHASSEE	69	1	47.68	-11.47	GREENSBORO	60	1	38.68	-3.26	FORT WORTH	68	1	33.05	-3.05
TAMPA	76	3	48.39	2.07	HATTERAS	65	2	59.84	1.74	GALVESTON	73	2	41.94	0.00
WEST PALM BEACH	77	2	51.44	-10.88	RALEIGH	62	1	43.53	0.35	HOUSTON	71	1	50.13	0.46
GA ATHENS	64	2	48.53	2.27	WILMINGTON	66	2	59.77	2.22	LUBBOCK	62	1	20.15	0.98
ATLANTA	64	2	53.45	3.79	ND BISMARCK	47	4	12.24	-5.67	MIDLAND	64	0	13.62	-1.00
AUGUSTA	66	2	54.30	10.79	DICKINSON	46	3	13.00	-3.01	SAN ANGELO	67	1	22.96	1.64
COLUMBUS	66	0	57.08	10.42	FARGO	45	3	18.19	-4.40	SAN ANTONIO	70	1	33.48	1.26
MACON	66	1	50.44	4.77	GRAND FORKS	43	3	19.16	-1.68	VICTORIA	71	1	54.90	13.73
SAVANNAH	67	1	48.80	0.98	JAMESTOWN	45	4	11.82	-7.02	WACO	68	1	28.60	-6.00
HI HILO	75	1	136.03	9.32	NE GRAND ISLAND	54	3	26.66	-0.03	WICHITA FALLS	64	1	25.04	-3.82
HONOLULU	78	1	20.50	3.35	LINCOLN	54	2	25.95	-3.00	UT SALT LAKE CITY	56	3	14.70	-1.52
KAHULUI	77	1	22.79	4.85	NORFOLK	52	3	24.96	-2.46	VA LYNCHBURG	59	3	32.95	-8.40
LIHUE	77	1	34.05	-2.98	NORTH PLATTE	52	3	22.40	2.06	NORFOLK	62	2	37.03	-9.38
IA BURLINGTON	53	0	37.58	-0.90	OMAHA	54	3	32.58	1.96	RICHMOND	60	1	46.94	3.43
CEDAR RAPIDS	49	1	21.86	-12.80	SCOTTSBLUFF	52	3	9.88	-5.96	ROANOKE	59	2	37.45	-3.62
DES MOINES	53	2	27.30	-8.77	VALENTINE	52	4	21.30	1.24	WASH/DULLES	58	2	34.33	-7.02
DUBUQUE	49	2	28.98	-7.30	NH CONCORD	49	3	41.82	1.40	VT BURLINGTON	49	3	34.64	-2.07
SIOUX CITY	51	2	22.16	-5.51	NJ ATLANTIC_CITY	56	2	45.54	3.95	WA OLYMPIA	51	1	56.41	6.36
WATERLOO	50	2	24.37	-10.33	NEWARK	58	3	53.78	7.64	QUILLAYUTE	49	0	109.94	10.40
ID BOISE	55	3	11.82	-0.09	NM ALBUQUERQUE	59	2	5.28	-4.30	SEATTLE-TACOMA	54	1	42.81	5.37
LEWISTON	56	3	8.54	-3.93	NV ELY	47	2	8.09	-1.94	SPOKANE	51	3	11.19	-5.45
POCATELLO	49	3	10.96	-1.29	LAS VEGAS	72	2	1.60	-2.93	YAKIMA	53	4	5.79	-2.71
IL CHICAGO/O_HARE	53	4	28.95	-7.75	RENO	56	2	7.92	0.28	WI EAU CLAIRE	47	2	22.37	-8.62
MOLINE	53	2	34.12	-3.82	WINNEMUCCA	52	3	10.33	1.80	GREEN BAY	48	4	28.11	-1.31
PEORIA	54	2	43.32	7.00	NY ALBANY	49	1	44.20	5.05	LA CROSSE	51	3	35.81	2.74
ROCKFORD	52	3	23.73	-12.47	BINGHAMTON	48	1	49.28	10.66	MADISON	49	2	22.54	-11.84
SPRINGFIELD	55	2	45.05	7.72	BUFFALO	52	4	36.59	-3.71	MILWAUKEE	52	4	19.57	-15.06
IN EVANSVILLE	58	2	44.77	-0.44	ROCHESTER	51	2	33.95	-0.12	WV BECKLEY	54	2	38.12	-2.94
FORT WAYNE	52	2	43.40	5.12	SYRACUSE	52	4	45.16	6.93	CHARLESTON	57	1	37.73	-6.18
INDIANAPOLIS	55	2	48.51	6.20	OH AKRON-CANTON	54	4	40.67	1.21	ELKINS	52	2	37.54	-8.28
SOUTH BEND	52	3	41.80	4.00	CINCINNATI	56	2	48.75	6.39	HUNTINGTON	57	1	48.20	5.76
KS CONCORDIA	57	3	22.84	-5.13	CLEVELAND	53	2	40.51	1.63	WY CASPER	47	1	14.71	2.08
DODGE CITY	57	2	18.59	-2.98	COLUMBUS	55	2	39.96	0.78	CHEYENNE	48	2	10.81	-5.26
GOODLAND	53	2	12.21	-7.07	DAYTON	55	3	40.29	-0.64	LANDER	48	3	14.84	2.01
TOPEKA	57	2	36.37	-0.11	MANSFIELD	53	4	40.60	-3.61	SHERIDAN	48	2	12.66	-1.54

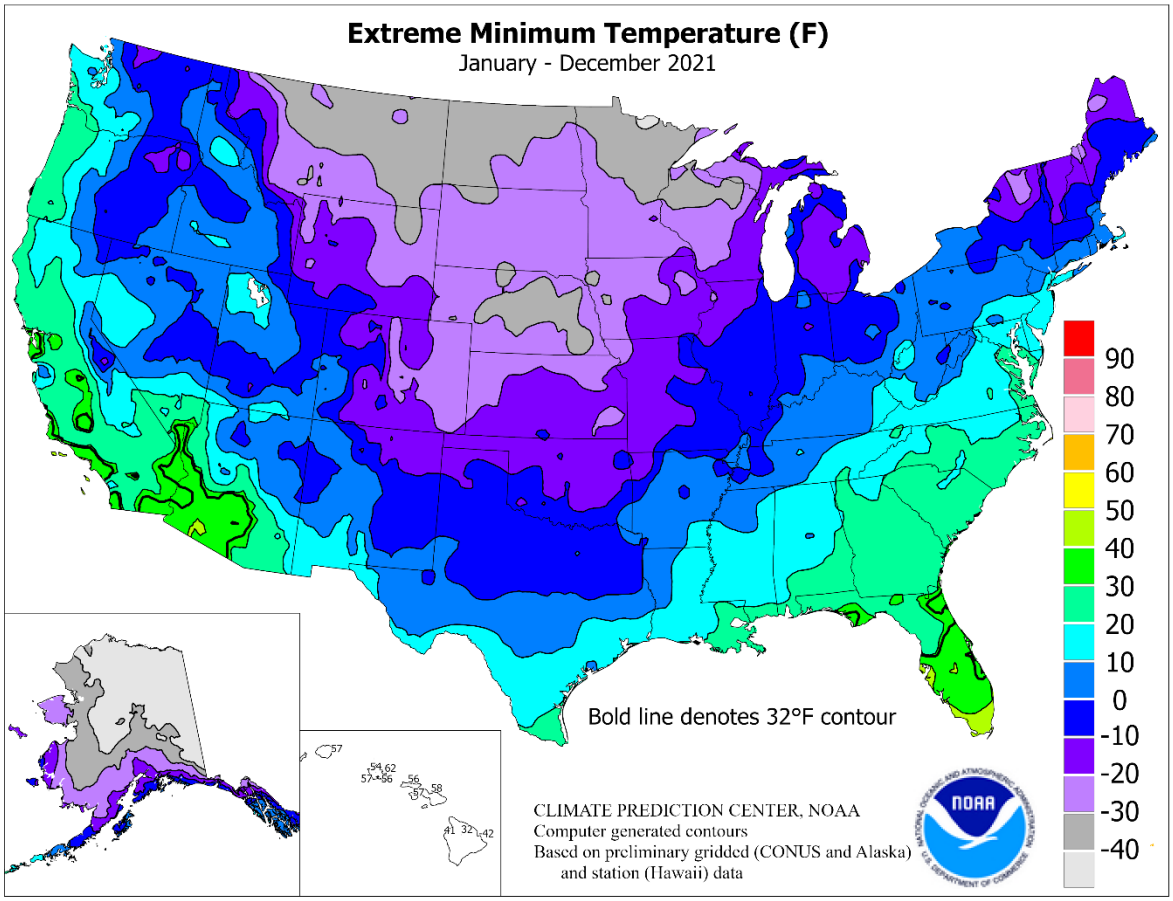
Based on 1981-2010 normals

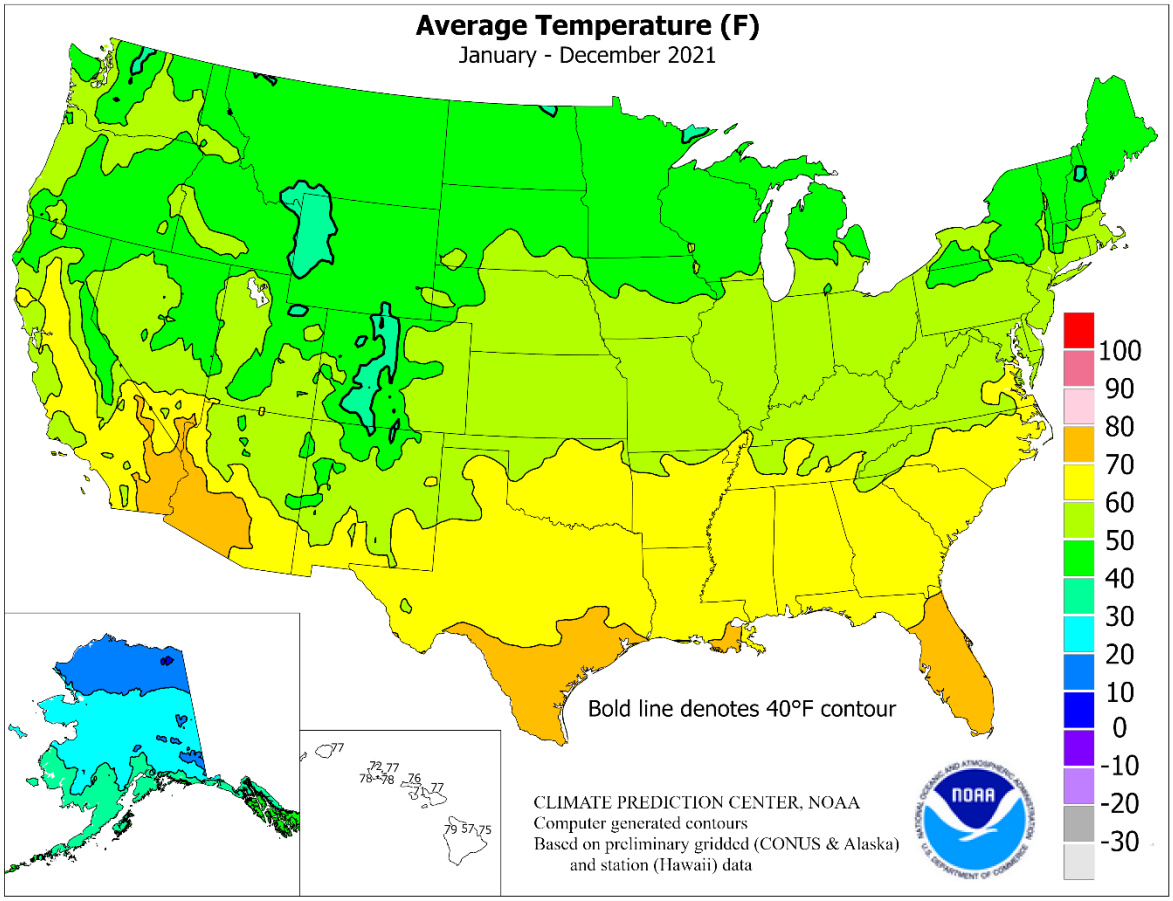
***** Not Available**

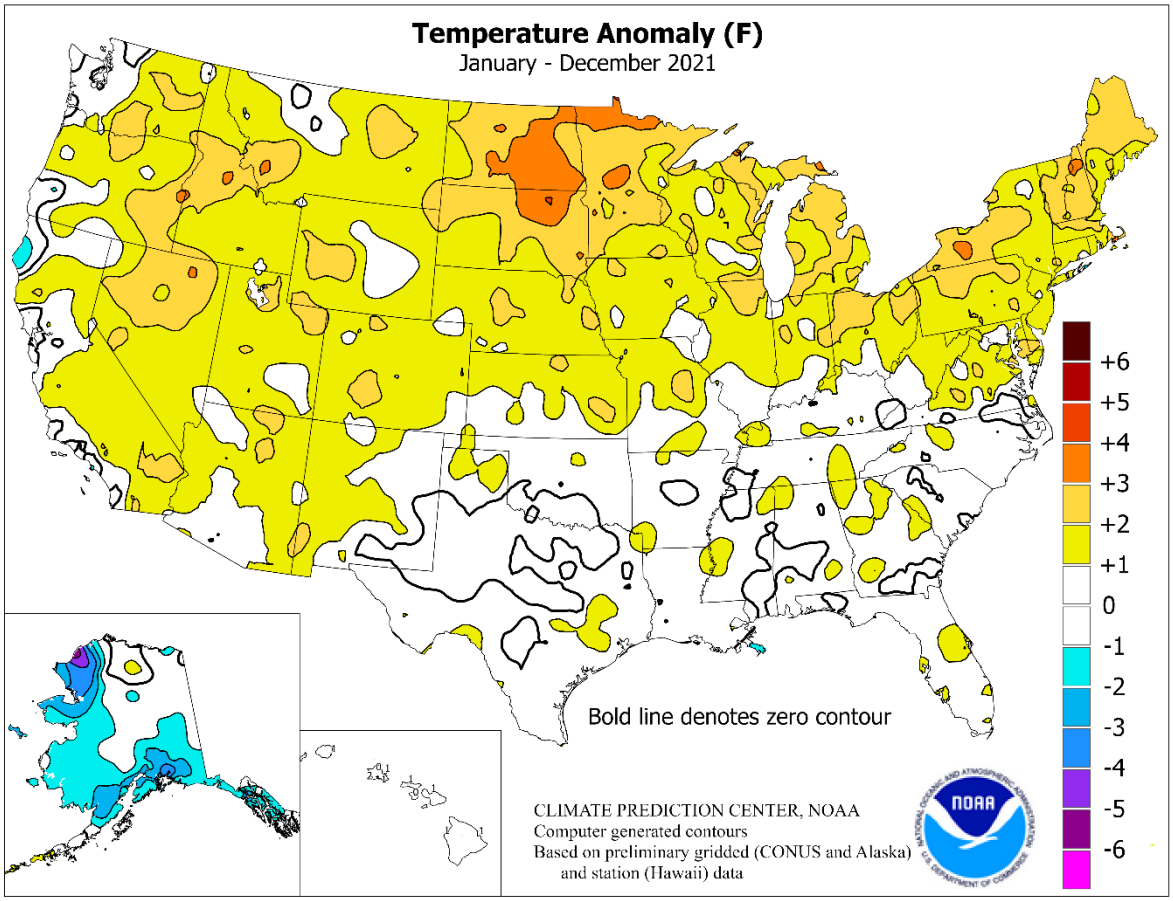

Total Precipitation (inches)
January - December 2021
80
60
50
40
30
25
20
16
12
8
4
2
1
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Gridded data from AHPS acquired
from: water.weather.gov/precip
Station data from CPC
NOAA


Percent of Normal Precipitation
January - December 2021
400
200
150
125
100
75
50
25
Bold line denotes 100% contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Gridded data from AHPS acquired
from: water.weather.gov/precip
Station data from CPC
Gridded normals: PRISM 1981-2010
NOAA


Extreme Maximum Temperature (F)
January - December 2021
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
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)
January - December 2021
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
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


Average Temperature (F)
January - December 2021
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
Bold line denotes 40°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS & Alaska)
and station (Hawaii) data
NOAA


Temperature Anomaly (F)
January - December 2021
+6
+5
+4
+3
+2
+1
0
-1
-2
-3
-4
-5
-6
Bold line denotes zero contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary gridded (CONUS and Alaska)
and station (Hawaii) data
NOAA

2021 U.S. Fieldwork Highlights

Highlights, released on January 12, 2022, were provided by USDA/NASS.

April: Cooler-than-normal weather prevailed for most of the Great Plains, Mississippi Valley, Rockies, Southeast, and Texas, with temperatures averaging 2°F or more below normal in many areas. In contrast, above-normal temperatures covered most of California, the Great Lakes, Northeast, Pacific Northwest, and Southwest. Large parts of these areas recorded temperatures 2°F or more above normal for the month. Meanwhile, most of the country was drier than normal, although above-normal precipitation was recorded in parts of Florida, New Mexico, the Great Lakes region, southern Plains, Deep South, and Texas. The most significant amounts of rain fell along the Gulf Coast, where parts of Alabama, Louisiana, and Mississippi received 10 inches or more of rain for the month.

By April 11, producers had planted 4 percent of the nation's corn crop, 1 percentage point ahead of both last year and the 5-year average. By April 25, producers had planted 17 percent of the nation's corn, 7 percentage points behind last year and 3 points behind the 5-year average. By April 25, twelve percent of the cotton acreage was planted, 1 percentage point behind the previous year but 1 point ahead of the 5-year average.

May: During May, cooler-than-normal weather covered most of the central and eastern U.S. Large parts of the Mississippi Valley, Ohio Valley, and southern Plains recorded temperatures 2°F or more below normal. The northern Rockies also reported below-normal temperatures, while most of the western one-third of the nation was warmer than average. Portions of California recorded temperatures 2°F or more above normal. Meanwhile, most of the eastern and western sections of the U.S. were drier than normal, while twice the normal amount of rain was recorded in parts of Colorado, Kansas, Louisiana, and Texas. Some areas of the western Gulf Coast region received monthly rainfall totaling 12 inches or more.

By May 16, producers had planted 80 percent of the nation's corn crop, 2 percentage points ahead of last year and 12 points ahead of the 5-year average. Forty-one percent of the nation's corn acreage had emerged by May 16, one percentage point ahead of the previous year and 6 points ahead of the 5-year average. Nationwide, 38 percent of the cotton crop was planted by May 16, four percentage points behind the previous year and 2 percentage points behind the 5-year average. Twenty-seven percent of the nation's sorghum acreage was planted by May 16, four percentage points behind the previous year and 5 points behind the 5-year average. Eighty-three percent of the nation's barley crop was planted by May 16, thirteen percentage points ahead of last year and 7 points ahead of the 5-year average. Eighty-four percent of the nation's soybean acreage was planted by May 30, ten percentage points ahead of last year and 17 points ahead of the 5-year average. By May 30, ninety-seven percent of the nation's spring wheat crop had been seeded, 7 percentage points ahead of last year and 4 points ahead of the 5-year average.

June: Above-normal temperatures prevailed in most areas during June. In fact, large parts of California, Nevada, the Pacific Northwest, northern Plains, and northern Rockies recorded temperatures 6°F or more above normal for the month. In contrast, modestly cooler-than-normal weather occurred in much of the lower Mississippi Valley, Southeast, and southern Plains. Meanwhile, most of California, Nevada, New England, the Pacific Northwest, central and northern Plains, and northern Rockies were drier than normal during June. In contrast, parts of the Great Lakes, Mississippi Valley, southern Plains, Southeast, and Southwest received at least twice the normal amount of precipitation.

By May 30, producers had planted 95 percent of the nation's corn crop, 3 percentage points ahead of last year and 8 points ahead of the 5-year average. Ninety-five percent of the nation's barley crop was planted by May 30, three percentage points ahead of last year and 1 point ahead of the 5-year average. Nationally, producers had planted 92 percent of the 2021 peanut acreage by June 13, two percentage points behind the previous year and 3 points behind the 5-year average. By June 13, ninety-six percent of the nation's spring wheat crop had emerged, 3 percentage points ahead of the previous year and 1 point ahead of the 5-year average. By June 13, ninety-six percent of the nation's rice acreage had emerged, 4 percentage points ahead of last year but equal to the 5-year average. Ninety-six percent of the nation's corn acreage had emerged by June 13, two percentage points ahead of the previous year and 5 points ahead of the 5-year average. Ninety-six percent of the nation's barley crop had emerged by June 13, three percentage points ahead of both the previous year and the 5-year average. Nationwide, 90 percent of the cotton crop was planted by June 13, three percentage points ahead of the previous year and 1 point ahead of the 5-year average. Ninety-four percent of the nation's soybean acreage was planted by June 13, two percentage points ahead of last year and 6 points ahead of the 5-year average. Ninety-five percent of the nation's soybean acreage had emerged by June 28, fifteen percentage points ahead of the previous year and 4 points ahead of the 5-year average. Ninety-five percent of the nation's sorghum acreage was planted by June 27, equal to both the previous year and the 5-year average.

July: Warmer-than-normal weather prevailed during July across most of the northern and western U.S. Parts of California, Nevada, the Pacific Northwest, northern Plains, and Rockies recorded monthly temperatures 6°F or more above normal. In contrast, most of the East and South were cooler than normal. Portions of the southern Great Plains and New England recorded temperatures 2°F or more below normal. Meanwhile, large sections of the central and northern Plains, Pacific Northwest, and northern Rockies were drier than normal during. In contrast, most of the eastern and southern sections of the nation received above-normal rainfall. More than twice the normal amount of precipitation was recorded in parts of the Northeast, Southwest, and Texas.

Eighty-eight percent of the nation's oat acreage had headed by July 4, five percentage points ahead of both last year and the 5-year average. Fifty-nine percent of the nation's barley acreage had reached the headed stage by July 4, two percentage points ahead of last year but equal to the 5-year average. By July 4, sixty-nine percent of the nation's spring wheat crop had reached the headed stage, 10 percentage points ahead of the previous year and 7 points ahead of the 5-year average. By July 18, sixty-three percent of the nation's soybean acreage had reached the blooming stage, 1 percentage point ahead of last year and 6 points ahead of the 5-year average. By July 18, thirty percent of the nation's rice acreage had reached the headed stage, 1 percentage point behind the previous year and 6 points behind the 5-year average. Nationally, 23 percent of the nation's soybean acreage had begun setting pods by July 18, equal to last year but 2 percentage points ahead of the 5-year average. Eighty-two percent of the nation's cotton acreage had reached the squaring stage by August 1, eight percentage points behind both last year and the 5-year average. By August 1, fifty percent of the nation's cotton acreage had begun setting bolls, 2 percentage points behind last year and 3 points behind the 5-year average. By August 1, ninety-one percent of the nation's corn acreage had reached the silking stage, equal to last year but 5 percentage points ahead of the 5-year average. By August 1, fifty-seven percent of the nation's sorghum acreage had reached the headed stage, 4 percentage points ahead of last year and 3 points ahead of the 5-year average. By August 1, eighty-eight percent of the nation's peanut crop had reached the pegging stage, 1 percentage point behind both the previous year and the 5-year average.

August: The last month of summer was warmer than average for much of the nation. Large areas of the Great Lakes, mid-Atlantic, Northeast, Pacific Northwest, and the Plains recorded temperatures 2°F or more above normal for the month. In contrast, large parts of the Rockies, Southwest, and Texas were cooler than normal. Meanwhile, most of California, Nevada, and the Pacific Northwest were drier than normal, but at least twice the normal amount of precipitation fell in much of the Rockies. Parts of the Great Lakes, mid-Atlantic, Midwest, South, and Southwest also recorded above-normal August precipitation.

By August 1, ninety-one percent of the nation's corn had reached the silking stage, equal to last year but 5 percentage points ahead of the 5-year average. By August 1, thirty-eight percent of the corn acreage was at or beyond the dough stage, 1 percentage point ahead of last year and 5 points ahead of the 5-year average. By August 15, producers had harvested 54 percent of the nation's barley crop, 23 percentage points ahead of last year and 10 points ahead of the 5-year average. On August 15, twenty-three percent of the nation's barley acreage was rated in good to excellent condition, 54 percentage points below the same time in 2020. By August 15, fifty-eight percent of the nation's spring wheat had been harvested, 30 percentage points ahead of the previous year and 22 points ahead of the 5-year average. Harvest progress was ahead of the 5-year average in all six estimating States. On August 15, eleven percent of the nation's spring wheat was rated in good to excellent condition, 59 percentage points below the same time in 2020. By August 15, eighty-two percent of the nation's sorghum acreage had reached the headed stage, 1 percentage point ahead of last year and 3 points ahead of the 5-year average. By August 15, eighty-six percent of the nation's rice acreage had reached the headed stage, 2 percentage points ahead of the previous year but 3 points behind the 5-year average. Seventy-five percent of the nation's oat acreage had been harvested by August 15, two percentage points ahead of last year and 5 points ahead of the 5-year average. By August 15, ninety-four percent of the nation's soybean acreage had reached the blooming stage, 1 percentage point behind last year but equal to the 5-year average. By August 29, ninety-three percent of the nation's soybean acreage had begun setting pods, 2 percentage points behind last year but 1 point ahead of the 5-year average. By August 29, eighty-six percent of the nation's cotton acreage had begun setting bolls, 6 percentage points behind last year and 8 points behind the 5-year average.

September: September was warmer than normal for most of the nation. Large sections of the Great Plains recorded temperatures 4°F or more above normal for the month. In contrast, most of the Gulf Coast, lower Mississippi Valley, and Southeast were slightly cooler than normal, along with parts of the Northwest. Meanwhile, much of the eastern one-third of the nation received above-average precipitation for the month. Due to Hurricanes Ida and Nicholas, parts of the Gulf Coast, mid-Atlantic, and Northeast recorded monthly rainfall totaling 10 inches or more. The nation's mid-section was mostly drier than normal, but some locations in Kansas, Nebraska, and South Dakota recorded twice the normal amount of precipitation. In the West, some locations in Arizona and large parts of the Pacific Northwest also recorded twice the normal amount of monthly precipitation.

By September 6, seventy-nine percent of this year's corn acreage was denting, 28 percentage points ahead of the previous year and 8 points ahead of the 5-year average. Fifty-seven percent of the nation's corn acreage was mature by September 19, one percentage point ahead of last year and 10 points ahead of average. By September 5, producers had harvested 92 percent of the nation's barley crop, 9 percentage points ahead of last year and 5 points ahead of the 5-year average. By September 5, ninety-five percent of the nation's spring wheat had been harvested, 15 percentage points ahead of the previous year and 12 points ahead of the 5-year average. Ninety-seven percent of the nation's oat acreage had been harvested by September 5, two percentage points ahead of last year and 3 points ahead of the 5-year average. Nationally, 51 percent of the rice acreage was harvested by September 19, six percentage points ahead of last year but 5 points behind the 5-year average. On September 19, seventy-six percent of the nation's rice acreage was rated in good to excellent condition, 2 percentage points above the same time in 2020. Nationally, soybeans dropping leaves advanced to 58 percent complete by September 19, two percentage points ahead of last year and 10 points ahead of the 5-year average. Ninety-two percent of the nation's sorghum acreage was at or beyond the coloring stage by September 19, one percentage point ahead of last year and 4 points ahead of the 5-year average. Nationwide, producers had sown 34 percent of the intended 2022 winter wheat acreage by September 26, one percentage point ahead of last year and 2 points ahead of the 5-year average. By September 26, sixty percent of the nation's cotton had open bolls, 5 percentage points behind last year and 4 points behind the 5-year average.

October: October was warmer than normal for most of the nation. Parts of the Great Lakes, mid-Atlantic, Northeast, and northern Plains recorded temperatures 6°F or more above normal for the month. In contrast, much of the Pacific Northwest, southern Rockies, and Southwest were cooler than normal. Meanwhile, much of the nation received above-normal precipitation. Large parts of California, Nevada, the Midwest, northern Plains, Rockies, and Southeast recorded at least twice the normal amount of precipitation. Parts of the Pacific Northwest, southward into northern California, recorded more than 12 inches or more of precipitation.

Soybean harvest across the nation was 60 percent complete by October 17, thirteen percentage points behind the previous year but 5 points ahead of the 5-year average. Thirty-eight percent of the nation's peanut acreage was harvested as of October 17, one percentage point behind last year and 14 points behind average. As of October 24, seventy-three percent of the nation's peanut acreage was rated in good to excellent condition, 9 percentage points above the same time in 2020. Nationally, 92 percent of the rice acreage was harvested by October 17, two percentage points ahead of last year and 1 point ahead of average. Fifty-two percent of the 2021 corn acreage had been harvested by October 17, five percentage points behind last year but 11 points ahead of average. As of October 17, sixty percent of the nation's corn acreage was rated in good to excellent condition, 1 percentage point below the same time in 2020. Fifty-nine percent of the 2021 sorghum acreage had been harvested by October 17, two percentage points behind the previous year but 9 points ahead of average. Nationwide, producers had sown 70 percent of the intended 2022 winter wheat acreage by October 17, six percentage points behind the previous year and 1 point behind average. By October 31, forty-five percent of the nation's cotton acreage had been harvested, 6 percentage points behind last year and 3 points behind the 5-year average. As of October 31, sixty-two percent of the 2021 cotton acreage was rated in good to excellent condition, 25 percentage points above the same time in 2020. By October 17, sugarbeet producers had harvested 40 percent of the nation's crop, 41 percentage points behind last year and 21 points behind the 5-year average.

November: Most of the western half of the country recorded above-normal temperatures during November. Parts of the Great Plains, Rockies, and Southwest recorded temperatures 6°F or more above normal. In contrast, most of the eastern half of the nation was cooler than normal. Some locations in the Delta and Southeast recorded temperatures 4°F or more below normal. Meanwhile, most of the nation was drier than normal during November, although twice the normal amount of precipitation was recorded in much of Florida, coastal Georgia, the upper Midwest, southern Texas, and Washington. A few locations in coastal Washington received more than 30 inches of precipitation during the month.

Nationwide, producers had sown 94 percent of the intended 2022 winter wheat acreage by November 14, two percentage points behind last year but equal to the 5-year average. Nationwide, 81 percent of the winter wheat acreage had emerged by November 14, three percentage points behind last year and 2 points behind average. As of November 29, forty-six percent of the 2021 winter wheat acreage was reported in good to excellent condition, 2 percentage points below the same time in 2020. By November 7, sugarbeet producers had harvested 96 percent of the nation's crop, 2 percentage points behind last year but 4 points ahead of the 5-year average. Soybean harvest across the nation was 92 percent complete by November 14, three percentage points behind last year and 1 point behind average. Eighty-six percent of the nation's peanut acreage was harvested as of November 14, two percentage points ahead of last year but 3 points behind average. Ninety-one percent of the 2021 corn acreage had been harvested by November 14, three percentage points behind last year but 5 points ahead of average. Ninety-seven percent of the 2021 sorghum acreage had been harvested by November 28, two percentage points behind the previous year but 1 point ahead of average. By November 29, eighty-four percent of the nation's cotton acreage had been harvested, 2 percentage points ahead of last year and 5 points ahead of average. By November 28, ninety-four percent of the nation's sunflower crop had been harvested, 2 percentage points behind the previous year but 8 points ahead of the 5-year average.

2021 U.S. Crop Production Highlights

Highlights, released on January 12, 2022, were provided by USDA/NASS.

Corn: Corn for grain production in the United States was estimated at 15.1 billion bushels, up 7 percent from the 2020 estimate. The average U.S. yield was estimated at a record-high 177.0 bushels per acre, 5.6 bushels above the 2020 yield of 171.4 bushels per acre.

Estimated yields in 2021 were up from the previous year across most of the eastern Corn Belt, Northeast, and much of the Southeast. Record-high yields were estimated in Florida, Georgia, Indiana, Iowa, Kentucky, Maryland, Michigan, Nebraska, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Washington, and Wisconsin.

Corn planted area, at 93.4 million acres, was up 3 percent from the 2020 estimate. Area harvested for grain was estimated at 85.4 million acres, up 4 percent from the 2020 estimate.

The 2021 corn objective yield data indicated the third-highest number of ears per acre, since 2012, for the combined ten objective yield states (Iowa, Illinois, Indiana, Kansas, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin).

Corn silage production was estimated at 130 million tons for 2021, down 5 percent from the 2020 estimate. The U.S. silage yield was estimated at 20.1 tons per acre, down 0.4 ton from 2020. Area harvested for silage was estimated at 6.48 million acres, down 3 percent from the 2020 estimate.

Sorghum: Grain production in 2021 was estimated at 448 million bushels, up 20 percent from the 2020 total. Planted area for 2021 was estimated at 7.31 million acres, up 24 percent from 2020. Area harvested for grain, at 6.49 million acres, was up 27 percent from 2020. Grain yield was estimated at 69.0 bushels per acre, down 4.2 bushels from 2020.

Silage production was estimated at 5.08 million tons, up 63 percent from 2020. Area harvested for silage was estimated at 331,000 acres, up 39 percent from the previous year. Silage yield averaged 15.4 tons per acre, up 2.3 tons per acre from 2020.

Oats: Production in 2021 was estimated at record-low 39.8 million bushels, down 39 percent from 2020. Yield was estimated at 61.3 bushels per acre, down 3.8 bushels from the previous year. Harvested area, at a record-low 650 thousand acres, was 36 percent below 2020.

Record-low acres were planted in Oregon and Wisconsin. Record-low acres were harvested in Maine, Michigan, Minnesota, Montana, and New York. Record-low production was estimated in Michigan, Montana, Oregon, and Wisconsin.

Barley: Production was estimated at 118 million bushels, down 31 percent from the 2020 total of 171 million bushels. The average yield, 60.4 bushels per acre, was down 16.8 bushels from the previous year. Producers seeded 2.66 million acres in 2021, down 2 percent from 2020. Harvested area, at 1.95 million acres, was down 12 percent from 2020.

Record-low planted acres were estimated in California, Oregon, Minnesota, New York, Utah, and Wisconsin, while record-low harvested acres were estimated in California and Wisconsin. Record-high yields were estimated in Alaska, Kansas, and New York, while record-low production was estimated in California and South Dakota.

All wheat: Production totaled 1.65 billion bushels in 2021, down 10 percent from the 2020 total of 1.83 billion bushels. Area harvested for grain totaled 37.2 million acres, up 1 percent from the previous year. The U.S. yield was estimated at 44.3 bushels per acre, down 5.4 bushels from the previous year. The levels of production and changes from 2020 by type were: winter wheat, 1.28 billion bushels, up 9 percent; other spring wheat, 331 million bushels, down 44 percent; and Durum wheat, 37.3 million bushels, down 46 percent.

Winter wheat: Winter wheat production for 2021 totaled 1.28 billion bushels, up 9 percent from the 2020 total of 1.17 billion bushels. The U.S. yield, at 50.2 bushels per acre, was down 0.7 bushel from 2020. Area harvested for grain was estimated at 25.5 million acres, up 11 percent from the previous year.

Record-low acres were estimated for 2021 in Utah. Record-high yields were estimated for 2021 in Alabama, Illinois, Indiana, New Jersey, New York, Ohio, Pennsylvania, and Texas.

Compared with 2020, harvested acreage was up 10 percent in the major Hard Red Winter (HRW) growing states, the primary winter wheat-producing area. HRW production totaled 749 million bushels, up 14 percent from 2020.

In the Soft Red Winter (SRW) growing area, planted and harvested acreage increased from 2020. SRW production totaled 361 million bushels, up 35 percent from 2020.

White winter wheat production totaled 167 million bushels, down 32 percent from the previous year. Harvested acreage in the Pacific Northwest (Idaho, Oregon, and Washington) was up slightly from 2020.

Other spring wheat: Production for 2021 was estimated at 331 million bushels, down 44 percent from the 2020 total of 588 million bushels. Harvested area totaled 10.2 million acres, down 16 percent from 2020. The U.S. yield was estimated at 32.6 bushels per acre, down 16.0 bushels from the record high of 48.6 bushels per acre in 2020. Of the total production, 297 million bushels were Hard Red Spring wheat, down 44 percent from the 2020 total.

Durum wheat: Production for 2021 was estimated at 37.3 million bushels, down 46 percent from the 2020 total of 69.1 million bushels. Area harvested for grain totaled 1.53 million acres, down 8 percent from the previous year. The U.S. yield was estimated at 24.3 bushels per acre, down 17.2 bushels from the 2020 yield. Production in North Dakota, the largest Durum wheat-producing state, was down 44 percent from 2020. The decrease in production is a result of dry conditions in the major Durum wheat-growing states.

Rice: Production in 2021 totaled 192 million cwt, down 16 percent from 2020. Planted area for 2021 was estimated at 2.53 million acres, down 17 percent from the previous year. Area harvested, at 2.49 million acres, was down 17 percent from 2020. The average yield for all U.S. rice was estimated at a record-high 7,709 pounds per acre, up 90 pounds from the 2020 average yield of 7,619 pounds per acre.

Yield estimates increased from the previous year in all states except Texas. Record-high yields were estimated for Arkansas, California, Missouri, and Mississippi.

All hay: Production of all dry hay for 2021 was estimated at 120.2 million tons, down 5 percent from the 2020 total. Area harvested was estimated at 50.7 million acres, down 3 percent from 2020. The average yield, at 2.37 tons per acre, was down 0.06 ton from 2020.

Record-low harvested acres were estimated in Connecticut, Delaware, Minnesota, North Dakota, Oregon, Vermont, and Wisconsin. Record-high yields were seen in Alabama, California, Georgia, and Nevada. Record-low production was estimated in Delaware, Massachusetts, Minnesota, New Hampshire, and Vermont.

Alfalfa and alfalfa mixtures: Production in 2021 was estimated at 49.2 million tons, down 7 percent from the 2020 total. Harvested area, at 15.2 million acres, was 6 percent below 2020. Average yield was estimated at 3.23 tons per acre, down 0.04 ton from 2020.

Record-high yields were estimated in California and Idaho. A record-low yield was estimated in Massachusetts.

All other hay: Production in 2021 totaled 71.0 million tons, down 4 percent from the 2020 total. Harvested area, at 35.5 million acres, was down 1 percent from 2020. Average yield was estimated at 2.00 tons per acre, down 0.05 ton from 2020.

Record-low harvested acres were estimated in California, Connecticut, Illinois, and Oregon, while record-high harvested acres were estimates in Texas and Utah. Record-high yields were estimated in Alabama, California, Georgia, Iowa, and New York. Record-low production was estimated in Massachusetts, Minnesota, and New Hampshire.

Forage: In 2021, seventeen states were included in the forage estimation program, which measures annual production of forage crops. Haylage and greenchop production was converted to 13 percent moisture and combined with dry hay production to derive the total forage production. The total 2021 all haylage and greenchop production was 29.9 million tons, of which 20.2 million tons were from alfalfa and alfalfa mixtures. The 17-state total for all forage production was 81.6 million tons. Of this total, 42.0 million tons were produced from alfalfa and alfalfa mixtures.

Peanuts: Production was estimated at 6.39 billion pounds, up 4 percent from 2020. Planted area was estimated at 1.59 million acres, down 5 percent from 2020. Harvested area was estimated at 1.55 million acres, down 4 percent from 2020. The average yield was estimated at 4,135 pounds per acre, up 322 pounds from 2020.

Record high yields were estimated in Oklahoma, South Carolina, and Virginia.

Canola: Production in 2021 was estimated at 2.72 billion pounds, down 21 percent from 2020 but still representing the seventh-largest U.S. total on record. The average yield, at 1,302 pounds per acre, is down 629 pounds from last year's average and is the lowest since 2007. Planted area was estimated at 2.15 million acres, 18 percent above the previous year's acreage. Harvested area, at 2.09 million acres, was up 17 percent from 2020. Both planted and harvested area are the highest on record for the nation.

Production in North Dakota, the leading canola-producing state, was estimated at 2.30 billion pounds. This was a decline of 21 percent from the previous year but still represented the seventh-largest production on record for North Dakota. Planted and harvested area in North Dakota were up 16 and 15 percent, respectively, from 2020; both were record highs.

Planted area for 2021 in Montana and Washington were record highs. A record-high yield was estimated in Oklahoma, while a record-low yield was estimated in Washington.

Sunflower: The 2021 sunflower production totaled 1.90 billion pounds, down 36 percent from 2020—and was the lowest production since 1989. The U.S. average yield of 1,530 pounds per acre decreased 260 pounds from 2020. Planted area, at 1.29 million acres, was 25 percent below the previous year and was the lowest since 1976. Area harvested decreased 25 percent from 2020 to 1.24 million acres.

South Dakota, the leading sunflower-producing state during 2020, produced 818 million pounds, a decrease of 30 percent from 2020. Compared with 2020, planted area in South Dakota decreased 16 percent and yield decreased 278 pounds to 1,632 pounds per acre. Meanwhile, production in North Dakota decreased 43 percent from 2020 to 762 million pounds. Planted acreage in North Dakota, 494 thousand acres, decreased 33 percent from the previous year. The average yield in North Dakota decreased 291 pounds from 2020 to 1,581 pounds per acre.

U.S. production of oil-type sunflower varieties, at 1.74 billion pounds, decreased 34 percent from 2020. Compared with the previous year, harvested acres were down 22 percent and the average yield decreased by 279 pounds to 1,523 pounds per acre.

Production of non-oil sunflower varieties was estimated at 167 million pounds—a decrease of 54 percent from 2020—representing the lowest production on record for the nation. Area harvested, at 104,300 acres, was down 51 percent from 2020. The average yield decreased by 109 pounds from 2020 to 1,602 pounds per acre.

Soybeans: Production in 2021 totaled a record-high 4.44 billion bushels, up 5 percent from 2020. The average yield was estimated at 51.4 bushels per acre, 0.4 bushel above 2020. Planted area for the nation, at 87.2 million acres, was up 5 percent from the 2020 acreage. Soybean growers harvested 86.3 million acres, up 5 percent from 2020.

Record-high yields occurred in Alabama, Delaware, Georgia, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Mississippi, Nebraska, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and Wisconsin.

The 2021 soybean objective yield survey data indicated that final average pod counts were lower than 2020 in the combined eleven objective-yield states. Compared with final counts for 2020, pod counts were down in six of the eleven published states. A decrease of more than 100 pods per 18 square feet from 2020's final count occurred in Indiana, Kansas, Minnesota, and South Dakota, and a decrease of more than 400 pods per 18 square feet occurred in North Dakota.

Cotton: Upland cotton production was estimated at 17.3 million 480-pound bales, up 23 percent from the previous year. The U.S. yield for Upland cotton is estimated at 841 pounds per acre, up 6 pounds from 2020. Upland planted area, estimated at 11.1 million acres, was down 7 percent from the previous year. Harvested area, at 9.84 million acres, was up 22 percent from the previous year.

In Louisiana and California, planted and harvested area for Upland cotton were at record lows. New Mexico noted record lows for harvested acres and production for Upland cotton. If realized, the forecasted yield for all cotton in Arkansas, California, and South Carolina will be a record high.

In the Southeast States (Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia), planting was completed by late June. Excess moisture in the South slowed crop progress. The crop was rated in mostly fair to good condition throughout the growing season.

In the Delta region, a rainy planting season was complete by the end of June. Some areas within the region struggled with excessive moisture from hurricanes and tropical storms throughout the season. A few Arkansas cotton gins were impacted by December tornados.

In Texas, dry conditions followed by rain and cooler weather slowed planting and crop progress. However, good weather helped advance the harvest and, subsequently, ginning activity. Overall, many growers reported both good yields and quality on the crop gathered to date.

American Pima producers planted 126,500 acres in 2021, down 37 percent from 2020. Harvested area, at 123,800 acres, was down 36 percent from the previous year. Production was estimated at 367 thousand 480-pound bales, down 33 percent from 2020. The U.S. yield was estimated at 1,423 pounds per acre, up 71 pounds from the previous year.

Ginnings totaled 14,650,800 running bales prior to January 1.

Sugarbeets: Production for 2021 was estimated at 36.8 million tons, up 9 percent from the previous year's revised production. Growers in the eleven major sugarbeet-producing states planted 1.16 million acres, down slightly from the 2020 revised area. Harvested area, at 1.11 million acres, was down 3 percent from the previous year. Estimated yield, at 33.2 tons per acre, was up 3.8 tons from last year.

Sugarcane: Production of sugarcane for sugar and seed in 2021 was estimated at 33.0 million tons, of which 31.2 million tons were utilized for sugar and 1.80 million tons for seed. Total production for sugar and seed was down 9 percent from 2020. Sugarcane producers harvested 937,500 acres for sugar and seed in 2021, down 1 percent from the previous year. Yield for sugar and seed was estimated at 35.2 tons per acre, up 2.9 tons from 2020.

January State Agricultural Summaries

These summaries, issued weekly through the summer growing season, provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Crop Progress and Condition Reports published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service. The crop reports are available on the Internet through the NASS Home Page on the World Wide Web at http://www.nass.usda.gov.

ALABAMA: January temperatures were generally on par with historic averages. Total rainfall for the month ranged from 1.7 inches in Mobile County to 7.8 inches in Walker County. According to the U.S. Drought Monitor, 17 percent of the State had abnormally dry conditions by month's end, compared to 23 percent at the month's beginning. Freezing temperatures, snowfall and rain events occurred frequently across the State in January. Winter pastures and cool season forages were in mostly fair condition, although freezing temperatures caused a decrease in overall condition. In some areas, excessive rainfall depleted nitrogen in wheat and fields were too wet for producers to apply nitrogen. Cattle have remained in fair to good condition as producers continued to supplement winter grazing with hay and feed when needed. Strawberry conditions were mostly good, however some producers reported damage due to freezing temperatures. Farmers continued field activities in preparation for spring planting.

ALASKA: DATA NOT AVAILABLE

ARIZONA: This report for Arizona is for the entire month of January 2022. By the end of the month, 63 percent of barley has been planted and 50 percent has emerged, according to the Mountain Regional Field Office of the National Agricultural Statistics Service, USDA. Eighty-one percent of Durum wheat has been planted and 33 percent has emerged. Alfalfa conditions were rated mostly excellent to good, depending on location last month with harvesting taking place on more than three-quarters of the alfalfa acreage across the State. For the entire State, pasture and range conditions were rated mostly fair to good. In the south-central part of the State, abnormal dryness was reported, but it was not affecting forage growth. No exceptional dryness was reported in the entire State. Severe to extreme dryness was affecting stream water and stock tanks in the northwestern part of the State. Some rain was received in the north-central, eastern, and southwestern parts of the State.

ARKANSAS: For the week ending January 23, 2022, topsoil moisture 10% short, 66% adequate, 24% surplus. Subsoil moisture 5% very short, 10% short, 70% adequate, 15% surplus. Days suitable for fieldwork during the month of January were 18.0 days. January brought slightly above average rainfall at 4.15 inches along with slightly above average temperatures at 49.4. The State experienced a few cold snaps this month affecting some parts more than others. Huge temperature swings are making it tough on livestock. The cold temperatures caused the forage to turn brown and the calves to quit grazing it. Livestock producers are feeding hay to take care of their herds. Preparations are being made for the upcoming growing season. Row crop producers are repairing equipment, hauling grain and preparing for 2022 production season.

CALIFORNIA: Days suitable for fieldwork 7.0. Topsoil moisture 95% adequate, 5% surplus. Subsoil moisture 5% short, 90% adequate, 5% surplus. Pasture and range condition 10% poor, 20% fair, 40% good, 30% excellent. Winter wheat condition 95% good, 5% excellent. Temperatures for the month averaged 50.3 degrees, 3.4 degrees above normal. Statewide average precipitation was 2.77 inches. From the State Department of Water Resources, Shasta Lake is at 35% capacity compared to 46% this date last year, Lake Oroville is at 45% capacity compared to 34% this date last year, and Trinity Lake is at 31% capacity comparted to 51% this date last year. Statewide snowpack is 16.20 inches, compared to 6.00 inches this date last year. CA DWR CIMIS stations have recorded 747 chill hours at Holt, 920 chill hours at Merced, 768 chill hours at Fresno State, and 640 chill hours at Arvin-Edison. Wet fields began to dry out. Cotton ginning continued. In the Central Valley, fields were sprayed with herbicides to control broadleaf weeds. Dairies harvested winter forage such as ryegrass haylage. In the Imperial Valley, producers took advantage of dry weather to cut alfalfa for hay. In the Central Valley, almond buds were starting to swell. Beehives were moved into almond orchards in preparation for bloom. Gypsum was applied to orchards and various trees were pruned. Mummy nuts were shaken from almond trees. Citrus was harvested.

COLORADO: This report for Colorado is for the entire month of January 2022. Topsoil moisture 32% very short, 50% short, 16% adequate, 2% surplus. Subsoil moisture 31% very short, 38% short, 30% adequate, 1% surplus. Winter wheat condition 14% very poor, 26% poor, 40% fair, 20% good. Livestock condition 6% poor, 14% fair, 70% good, 10% excellent. Pasture and range condition 16% very poor, 19% poor, 45% fair, 17% good, 3% excellent. Precipitation during January remained below average in several areas and seasonal snowfall was mostly confined to the high country. In northeastern and east central counties, limited moisture was received and varied significantly. Drought conditions did not improve in eastern counties. County reports noted excessive winds damaged native pasture and winter wheat. Concerns remained for fall-seeded crops and pasture conditions due to severe lack of precipitation. Several counties were eligible for emergency grazing of CRP due to drought. Southwestern counties received varying amounts of rain and snow in January. Some locales reported snow and deep mud remained due to precipitation. Other areas were much drier and county reports noted snowpack during January was lower than December. The San Luis Valley received minimal moisture during January and conditions remained dry. According to county reports, livestock remained in good condition. Mild weather and lack of snow allowed livestock to remain pastured longer than normal. As of January 24, 2022, snowpack was 111 percent measured as percent of median snowfall.

DELAWARE: Rain and snow in January has helped replenish soil water levels. Cold temperatures appear to have killed forage radish cover crops in the region and will hopefully have reduced insect pest populations going into 2022. Farmers are securing all the manure and stockpiling in fields in the area rather than exporting out of the area to low phosphorus fields due to commercial nitrogen supply and high nitrogen prices. Purchase of new equipment will be delayed due to high prices and availability.

FLORIDA: January temperatures were on average 3.4 degrees cooler to 6.5 degrees warmer than historical values depending

on location. Total rainfall for the month ranged from little rain in multiple locations to 9.3 inches at the Lake Linder Regional Airport in Polk County. According to the U.S. Drought Monitor, 15 percent of the State was moderately dry in January and no areas experienced drought conditions. Cattle and pasture conditions remained mostly fair to good. Substantial frost was reported in January which caused some damage to cover crops, fruits, and vegetables. Sugarcane planting and harvest progressed well with few complications. Some producers began field preparations for spring planting. Crops marketed included tomatoes, peppers, eggplant, sweet corn, green beans, yellow squash, zucchini, bitter melons, herbs, and avocados. Grove activities included mowing, fertilizing, maintenance hedging, spraying and general grove maintenance. Citrus fruit harvested included white and red grapefruit, early and midseason oranges, tangerines, and tangelos.

GEORGIA: January temperatures were generally on par with historic averages. Total rainfall for the month ranged from 1.8 inches in Glynn County to 6.4 inches in Rabun County. According to the U.S. Drought Monitor, 11 percent of the State had abnormally dry conditions by month's end, compared to 3 percent at the month's beginning. Georgia experienced two snow and ice events during January. Pastures and cool season annuals slowed down considerably as well as winter annual weeds due to cold weather conditions. Livestock conditions were mostly fair, however hay supplies continued to run low. Armyworm issues from the summer caused hay quality issues which, in turn, affected the supply. Cold nights and warm day temperature swings caused some respiratory issues in cattle. The growth of wheat, rye and oats have slowed down due to cooler temps. Some small grains were exhibiting nutrient deficiency due to soil leaching. The small grains that have started to turn yellow were getting ready to be side dressed with nitrogen. Spring vegetable fields were prepared with mulch and harvest of winter vegetables continued as land prep for row crops started. Strawberry transplanting progressed well as cool temperatures during January slowed down growth.

HAWAII: DATA NOT AVAILABLE

IDAHO: The Idaho snowpack looked good for mid-January. Most all the basins were near to above normal for snowpack. Average temperatures in Idaho for the month of January varied from below normal to near normal in most parts of the State. Accumulated precipitation in most of the State also remained above average for the water year. While early winter snowpack levels were encouraging, there was the need for continued snowpack to help alleviate the drought and low soil moisture levels observed in 2021. In northern Idaho, Benewah County reported an inch of rain since January 7. Temperatures were reported in the mid 20's at night, with daytime temperatures rising to above freezing. In Latah and Nez Perce Counties, temperatures above freezing and regional rainfall reduced or eliminated snow cover on several of the farm fields. In Lewis County, snow covered fields remained the norm, with soil conditions set for good moisture retention. Snowpack looked good in southwest Idaho. Calving started in some areas and was proceeding well. Hay stocks were reported very short. Culling rates were running above normal due to high feed prices. In south-central Idaho, most farms remained under snow cover for most of the month. Most of the region remained cold for the month. Dairies used large amounts of straw for bedding cows. Supplies of straw and hay were also reported as tight. In southeastern Idaho, crop producers were cautiously optimistic about current snowpack levels. Most fields remained covered with snow, and hay was shipped. Calving was underway. Bear Lake experienced moderate winter temperatures. No major or new snow accumulation was reported. Current snow accumulations on the ground had a soft base with crusty top which made travel for animals through the fields difficult. Cattle were on full feed rations with majority of those rations being comprised of grass, alfalfa, or mixed hay. Less than one percent of the Bear Lake County herd had calved. Calving and lambing progressed in Bannock and Bingham Counties.

ILLINOIS: For the week ending January 23, 2022. Topsoil moisture 2% very short, 17% short, 70% adequate, 11% surplus. Subsoil moisture 6% very short, 16% short, 70% adequate, 8% surplus. Statewide, the average temperature in January was 22.1 degrees, 2.4 degrees below normal. Precipitation averaged 1.12 inches, 0.34 inch below normal.

INDIANA: Topsoil moisture for the month of January was 1% very short, 6% short, 77% adequate, and 16% surplus. Subsoil moisture for the month was 1% very short, 6% short, 78% adequate, and 15% surplus. Winter wheat condition was rated 3% very poor, 6% poor, 27% fair, 52% good, and 12% excellent. Statewide temperatures averaged 25.7 degrees, 0.1 degree below normal for the month of January. Statewide average precipitation was 1.66 inches, 0.19 inch below normal. January started off with higher than normal precipitation before cold, dry weather took hold in the latter half of the month. The frigid temperatures and lack of significant snow cover caused some concerns for winter wheat conditions. Livestock were reported in good condition despite the cold temperatures. Activities for the month included hauling grain, spreading lime and fertilizer, equipment maintenance, and attending winter Extension programs.

IOWA: Weather conditions were mild until the middle of January, when a winter storm brought snow and frigid temperatures to much of the State. Fluctuating temperatures caused respiratory problems in some cattle, but overall cattle were reported in good condition, handling the cold snap well. Prior to mid-month, open fields were being utilized for cattle grazing; however, producers have started feeding hay. Calving and lambing have begun and sheep producers were being challenged by cold weather. There has been quite a bit of grain movement with recent strength in grain markets, and open roads in the first half of the month made it easy to move grain from farms to plants and elevators. There were reports of manure being hauled and spread. Dry winter conditions are a concern for replenishing soil moisture going into the spring. Farmers have seen wind erosion of topsoil from lack of moisture and snow cover.

KANSAS: For the week ending January 23, 2022, topsoil moisture supplies rated 39% very short, 38% short, 22% adequate, 1% surplus. Subsoil moisture supplies rated 31% very short, 41% short, 28% adequate, 0% surplus. Winter wheat condition rated 8% very poor, 23% poor, 39% fair, 29% good, 1% excellent.

KENTUCKY: For the month of January, Kentucky saw near normal temperatures and much above normal precipitation. The State experienced a very wet January thus far. Much of the heavy rain occurred at the beginning of the month and has tapered off some as of late. There was yet another tornadic outbreak, however much less severe than the one that took place in December. There were also multiple snow events leading to moderately heavy accumulation in areas of the State. Temperatures for the period averaged 33 degrees across the

State, near the normal. Precipitation (liq. equ.) for the period totaled 5.03 inches Statewide, which was 2.2 inches above normal and 178% of normal. The frigid temperatures have stunted pasture regrowth and caused farmers to feed hay. For the month, hay supplies 1% very short, 6% short, 80% adequate, 13% surplus. Livestock conditions 1% very poor, 3% poor, 16% fair, 70% good, 10% excellent. Several wide swings in temperature along with precipitation has put some stress on livestock. Condition of winter wheat 1% very poor, 2% poor, 12% fair, 73% good, 12% excellent. Tobacco stripping 92% complete.

LOUISIANA: For the week ending January 23, 2022, topsoil moisture 2% very short, 8% short, 85% adequate, 5% surplus. Subsoil moisture 2% very short, 14% short, 81% adequate, 3% surplus. Temperatures for the month averaged 43.7 degrees, 4.7 degrees below normal. Statewide average rainfall was 2.22 inches, 2.6 inches below average. Days suitable for fieldwork during the month of January was 19.0 days. Dry conditions allowed for some fieldwork across the State. Dry pastures allowed cattle and livestock to graze. Crawfish producers have begun harvesting.

MARYLAND: The region has had temperatures lower than the last several years, moisture has fallen as rain and snow, and has not remained in most areas to act as an insulator for the soil and winter crops, which may lead to some damage. Farmers took into consideration shelter for livestock due to excessive wind chill conditions, as well as secured livestock water systems due to low temperatures.

MICHIGAN: Topsoil moisture 1% short, 79% adequate and 20% surplus. Subsoil moisture 4% short, 83% adequate, and 13% surplus. Winter wheat condition rated 3% very poor, 23% poor, 35% fair, 37% good, and 2% excellent. Precipitation for the month of January averaged 0.88 inch throughout the State, 0.60 inch below normal. Temperature for the month of January averaged 17.3 degrees, 1.8 degrees below normal. Approximately 26 percent of the State is experiencing abnormally dry conditions or worse, with 7 percent experiencing moderate drought conditions, according to the US Drought Monitor. The driest areas include the southwestern counties of Upper Peninsula. Soil moisture in the majority of the Lower Peninsula remained high. Significantly colder temperatures throughout January caused winter wheat condition to decline. Other activities for the month included shop work, purchasing seed, and tending to livestock.

MINNESOTA: January experienced the coldest temperatures of the season. Despite subzero temperatures and windchills, most reports indicate livestock are doing well. A few reports indicated the large temperature swings some areas experienced could have negative effects on livestock health. Snowfall amounts were reported as average for most of the State. Snow cover is reported as near normal for most of the State. Some grain hauling was reported during the month.

MISSISSIPPI: For the week ending January 23, 2022, topsoil moisture supplies were 4% short, 65% adequate, and 31% surplus. Subsoil moisture supplies were 4% short, 77% adequate, and 19% surplus. Days suitable for fieldwork during the month of January were 16.0 days. Conditions for January were very wet and seasonably cold. The rainfall has resulted in wet and muddy field conditions halting field work. Producers are feeding more hay to livestock and trying to keep from rutting fields due to excess moisture. Colder temperatures have been a factor on livestock losses. The State average temperature was 39.59 degrees for the month of January. Overall, average rainfall for the State has been above normal for this time of year, and average temperatures have been slightly below normal for January.

MISSOURI: For the week ending January 23, 2022. Topsoil moisture 5% very short, 28% short, 63% adequate, and 4% surplus. Subsoil moisture 5% very short, 29% short, 63% adequate, and 3% surplus. Winter wheat condition 5% poor, 46% fair, 43% good, and 6% excellent. Statewide, precipitation averaged 1.79 inches for the month of January, 0.38 inch above average. Temperatures averaged 27.3 degrees, 1.0 degree below normal.

MONTANA: This report for Montana is for the entire month of January 2022. Topsoil moisture 55% very short, 30% short, 14% adequate, 1% surplus. Subsoil moisture 60% very short, 25% short, 15% adequate. Winter wheat - condition 19% very poor, 46% poor, 21% fair, 14% good. Winter wheat – wind damage 76% none, 17% light, 6% moderate, 1% heavy. Winter wheat – freeze and drought damage 64% none, 20% light, 14% moderate, 2% heavy. Winter wheat – protectiveness of snow cover 7% very poor, 48% poor, 35% fair, 9% good, 1% excellent. Pasture and range - condition 68% very poor, 25% poor, 6% fair, 1% good. Livestock grazing accessibility – 51% open, 24% difficult, 25% closed. Livestock receiving supplemental feed – cattle and calves 96% fed. Livestock receiving supplemental feed – sheep and lambs 100% fed. The month of January was windy and relatively dry for the State of Montana, according to the Mountain Regional Field Office of the National Agricultural Statistics Service, USDA. Minimal precipitation for the season worsened drought conditions slightly. According to the US Drought Monitor, 7.5 percent of the State was drought free and 3.3 percent of the State was abnormally dry. Moderate drought was found in 3.3 percent of the State, up slightly from 3.0 percent at the end of December. Severe drought was found in 37.8 percent of the State, up from 26.6 percent last month. Extreme drought was found in 40.9 percent of the State, up from 39.6 percent last month. Exceptional drought was found in 7.1 percent of the State, down from 20.2 percent at the end of December.

NEBRASKA: For the week ending January 23, 2022, topsoil moisture supplies rated 21% very short, 52% short, 27% adequate, and 0% surplus. Subsoil moisture supplies rated 18% very short, 49% short, 33% adequate, and 0% surplus. Winter wheat condition rated 8% very poor, 11% poor, 45% fair, 33% good, and 3% excellent.

NEVADA: For the week ending January 23, 2022, Days suitable for fieldwork 6.0. Topsoil moisture 5% very short, 60% short, 30% adequate, 5% surplus. Subsoil moisture 60% very short, 15% short, 25% adequate. Pasture and range condition 10% very poor, 70% poor, 15% fair, 5% good. Temperatures for the month averaged 29.2 degrees, 2.6 degrees below normal. Statewide average precipitation was 0.62 inch. There has been minimal precipitation, but cooler temperatures have helped retain soil moisture. In northern parts of the State, the ground is frozen and covered in snow. Some cattle are pastured in alfalfa fields and some are receiving supplemental feed.

NEW ENGLAND: New England States experienced more days of cold temperatures than normal, with some stretches of rain and above average snow and ice for the month. The average monthly precipitation is about 3.17 inches throughout the region. In Connecticut, some producers have begun to tap maple trees.

In New Hampshire, orchardists with cold storage were marketing local apples and some with farm stands were making apple cider. Some winter farms offered carrots, potatoes, watermelon radishes, parsnips, and rutabagas. Most cranberry growers in Massachusetts put on their winter floods in early January to help protect the plants from desiccation once the soil has frozen. In Maine, wide temperature fluctuations from -18 degrees F to +25 degrees F have put stress on livestock and livestock watering systems. Rhode Island received approximately 5 to 8 inches of snow. In Vermont, a good snowstorm in the beginning of the month provided great cover and has remained throughout. Farm activities in January included finishing record keeping for the 2021 growing season, attending meetings, repairing equipment and buildings, pruning apple trees and blueberry bushes, and planning for the 2022 growing season.

NEW JERSEY: By January 23, Temperatures had turned colder, but at this point it does not appear to be affecting overwinter crops. Growers are seeding spring crops in greenhouses for transplanting.

NEW MEXICO: This report for New Mexico is for the month of January 2022, through January 23. Topsoil moisture 40% very short, 47% short, 13% adequate. Subsoil moisture 41% very short, 48% short, 11% adequate. Pecans harvested 82%, 95% last year. Winter wheat condition 14% very poor, 33% poor, 26% fair, 19% good, 8% excellent. Cows calved 7%, 4% last year. Cattle receiving supplemental feed 85%, 94% last year. Cattle condition 1% very poor, 12% poor, 40% fair, 42% good, 5% excellent. Ewes lambed 12%, 9% last year. Sheep receiving supplemental feed 86%, 92% last year. Sheep and lambs condition 5% very poor, 24% poor, 45% fair, 25% good, 1% excellent. Hay and roughage supplies 7% very short, 21% short, 70% adequate, 2% surplus. Stock water supplies 20% very short, 29% short, 50% adequate, 1% surplus. The first three weeks of January brought moisture for some areas, but warmer than normal temperatures and dry weather for others, according to the Mountain Regional Field Office of the National Agricultural Statistics Service, USDA. Reports from several counties noted extremely dry conditions due to very limited precipitation. As a result, most pasture grasses and winter wheat stands showed increasing signs of drought and grazing stress. Some livestock producers opted to move their herds off of wheat, so supplemental feeding needs were increasing. Comments from Curry County indicated that several trucks had been seen hauling hay, as ranchers tried to bolster their stocks amid the lack of natural grazing sources. Calving and lambing were underway across much of the State. Pecan growers continued to make headway harvesting the 2021 crop, although progress lagged last year. Since January 1, converted moisture totals – accounting for any precipitation received as snow – ranged from approximately 3 inches to merely a trace, with well over half of the State accumulating less than 0.5 inch. The heavier precipitation was relegated to portions of Rio Arriba and San Juan Counties. According to the United States Drought Monitor for January 18, drought, in some form, was once again present across the entire State. Extreme drought (D3) covered 19.9 percent of New Mexico, severe drought (D2) was categorized across 57.2 percent, and moderate drought (D1) was present on 20.1 percent. Another 2.9 percent of the State was abnormally dry (D0).

NEW YORK: Wide temperature variance continues through the month of January but overall reports indicate a “colder than normal” January. Ground temperatures dropped low enough to allow accumulation of snow with most significant snowfall occurring late in the week ending January 16. Concerns have been reported over rising grain prices as well as price and availability of fertilizer.

NORTH CAROLINA: For the week ending January 23, 2022 - Subsoil moisture 5% short, 82% adequate and 13% surplus. Topsoil moisture 3% short, 72% adequate and 25% surplus. Barley condition 1% poor, 20% fair, 76% good and 3% excellent. Hay and roughage supplies 1% very short, 17% short, 81% adequate and 1% surplus. Oats condition 1% poor, 49% fair, 46% good and 4% excellent. Pasture and range condition 1% very poor, 18% poor, 55% fair, 24% good and 2% excellent. Winter wheat condition 3% poor, 23% fair, 66% good and 8% excellent. Throughout January, rainfall and winter storms have added to soil moistures substantially. This has brought field preparations to a halt as many areas are too wet for work.

NORTH DAKOTA: For the week ending January 23, 2022, topsoil moisture supplies rated 18% very short, 23% short, 54% adequate, 5% surplus. Subsoil moisture supplies rated 23% very short, 32% short, 40% adequate, 5% surplus. Winter wheat condition rated 0% very poor, 17% poor, 67% fair, 15% good, 1% excellent. Cattle and calf conditions, 1% very poor, 4% poor, 41% fair, 48% good, 6% excellent. Cattle and calf death loss, 1% heavy, 70% average, 29% light. Calving progress 3%, near 2% last year. Sheep and lamb conditions, 1% very poor, 6% poor, 42% fair, 44% good, 7% excellent. Sheep and lamb death loss, 1% heavy, 65% average, 34% light. Lambing progress 7%, near 5% last year. Shearing progress was 17%, ahead of 11% last year. Hay and roughage supplies, 24% very short, 38% short, 37% adequate, 1% surplus. Stock water supplies, 14% very short, 36% short, 49% adequate, 1% surplus.

OHIO: Topsoil moisture for the month was 2% short, 67% adequate, and 31% surplus. Subsoil moisture for the month was 2% short, 70% adequate, and 28% surplus. Winter wheat condition was rated 5% very poor, 7% poor, 31% fair, 49% good, and 8% excellent. The Statewide average temperature was 26.0 degrees, 0.3 degree below normal. Precipitation averaged 2.17 inches Statewide, 0.21 inch above normal for January. Snow and below freezing temperatures occurred during the month. Growers believed that temperatures were remaining cold enough to keep diseases in check. Winter wheat remained in predominately good to fair condition and there were no reports of issues with livestock.

OKLAHOMA: For the month of January, rainfall totals averaged 0.48 inch throughout the State, with the Southeast district recording the highest precipitation at 1.28 inches and the Panhandle and North Central district recording the lowest precipitation at 0.10 inch. According to the January 18th US Drought Monitor Report, 95 percent of the State was in the abnormally dry to exceptional drought category, up 63 points from the previous year. Additionally, 88 percent of the State was in the moderate drought to exceptional drought category, up 76 percent from the previous year. Statewide temperatures averaged in the mid to low 30’s, with the lowest recording of -5 degrees at Kenton on Sunday, January 2nd and the highest recording of 78 degrees at Waurika on Tuesday, January 18th. Topsoil and subsoil moisture conditions were rated mostly short to adequate.

OREGON: Temperatures in Oregon varied from below normal to above normal in the western and south-central parts of the State. In northwest Oregon, conditions dried out with the break in the weather. Previous rain events produced erosion in areas where

cover was not established. Above average rainfall replenished the subsoil. Field operations were also possible with the break in the rain. In Polk County, 36 percent of the county was in moderate drought, and some fields were left fallow due to drier conditions. In Clatsop and Tillamook Counties, there was significant rain and forage crops were in dormancy. In Benton and Lincoln Counties, it was wet and cool. A few big storms knocked out power and caused flood advisories in low-lying areas. In north-central Oregon, the weather was mild. The snow melted slowly into the ground. Most grounds, except north slopes at a higher elevation, were snow-free. Crops were good and cattle were calving well. In Baker County, there was an inversion with cold, stagnant air. In Lake County, precipitation was above the median, and snow water equivalent was below the median. Spring calving was underway in portions of the County. It was unseasonably warm this month in the area.

PENNSYLVANIA: The State officially entered its winter season and temperatures have been below freezing this month. Some very windy days helped keep temperatures colder. There was snowfall and ice and rain throughout January. One storm had about 7 inches of snow and others 2-3 inches of snow. The soil moisture level was adequate, and some ponds were recharging from the snowfall and rains. Crops were dormant but come spring we will be able to tell better how crops are going to do for 2022. Farmers were caring for livestock, planning for spring, attending meetings, and pruning fruit trees for the 2022 crop year.

SOUTH CAROLINA: January temperatures were 1.2 to 4.7 degrees cooler than historic averages depending on location. Total rainfall during the month ranged from little precipitation to 5.2 inches. According to the U.S. Drought Monitor, 43 percent of the State was experiencing abnormally dry conditions by month's end, compared to 81 percent at the beginning of the month. Cold temperatures throughout January brought substantial snowfall to some regions with little reported damage. Topsoil moisture was reported to be excessive due to recent precipitation events. Wheat was noted to be in mostly good condition. Strawberries remained behind in development but in good condition. Diminishing forages and snowfall caused some farmers to begin feeding hay.

SOUTH DAKOTA: For the week ending January 23, 2022, topsoil moisture supplies rated 12% very short, 35% short, 52% adequate, 1% surplus. Subsoil moisture supplies rated 15% very short, 38% short, 46% adequate, 1% surplus. Winter wheat condition rated 3% very poor, 6% poor, 60% fair, 30% good, and 1% excellent.

TENNESSEE: For the week ending January 23, Days suitable 1.8. Topsoil moisture 1% short, 56% adequate, 43% surplus. Subsoil moisture 3% short, 60% adequate, 37% surplus. Winter wheat condition 1% very poor, 4% poor 25% fair, 60% good, 10% excellent. Pasture and Range condition 4% very poor, 14% poor, 45% fair, 33% good, 4% excellent. Cattle condition 3% poor, 30% fair, 57% good, 10% excellent. Hay and roughage supplies 1% very short, 14% short, 73% adequate, 12% surplus. Tennessee experienced increased precipitation and snow in January. Many fields are flooded and muddy. Pastures are reported as mostly fair. Winter wheat is reported as mostly good despite the challenging weather. Hay and roughage supplies appear adequate for the winter season. There is some concern about supplies due to the recent impacts on pastures from wet weather.

TEXAS: During the month of January, precipitation mostly ranged from trace amounts to upwards of 2 inches, with isolated areas of the Upper Coast receiving upwards of 10 inches of rain. Cotton and peanut harvesting are complete throughout the State. Winter wheat progress has slowed due to a lack of moisture. Supplemental feeding continued in most areas of the State. Pasture and range conditions were rated poor to fair.

UTAH: This report for Utah is for the entire month of January 2022. Topsoil moisture 10% short, 90% adequate. Subsoil moisture 16% short, 84% adequate. Pasture and range condition 2% very poor, 21% poor, 49% fair, 28% good. Winter wheat condition 11% poor, 64% fair, 25% good. Hay and roughage supplies 55% very short, 30% short, 15% adequate. Stock water supplies 1% very short, 19% short, 79% adequate, 1% surplus. Cattle and calves condition 3% poor, 34% fair, 60% good, 3% excellent. Sheep and lambs condition 3% poor, 42% fair, 52% good, 3% excellent. Livestock receiving supplemental feed for cattle 72%. Livestock receiving supplemental feed for sheep 57%. Cows calved 4%. Ewes lambed-farm flock 4%. Ewes lambed-range flock 1%. Mild temperatures along with isolated snowstorms occurred throughout the State for the month of January. As of January 23, 2022, snowpack in Utah was 112 percent measured as percent of median snowfall. Box Elder County reports livestock producers were feeding cattle and treating cattle for parasites. Beaver County reports livestock are doing well, but it has been a mild January.

VIRGINIA: For the week ending January 23 - Topsoil moisture 1% very short, 8% short, 75% adequate and 16% surplus. Subsoil moisture 1% very short, 19% short, 73% adequate and 7% surplus. Winter wheat condition 7% poor, 33% fair, 56% good and 4% excellent. Barley condition 61% fair, 39% good. Livestock condition 4% poor, 39% fair, 50% good, 7% excellent. Pasture and Range condition 13% very poor, 20% poor, 44% fair, 22% good and 1% excellent. Hay supplies 9% very short, 31% short, 58% adequate and 2% surplus. Percent of feed obtained from pastures 10%. Virginia experienced much needed precipitation in January, but temperatures were unseasonably low. Snow and ice have been persisting in many areas making it difficult for livestock to access any forage. Hay and roughage supplies are mostly adequate to short, showing decreases from last year. Farming activities for January included feeding and moving hay. Grain marketing continues as trucking allows. Burley and dark tobacco being marketed as final sale days approach.

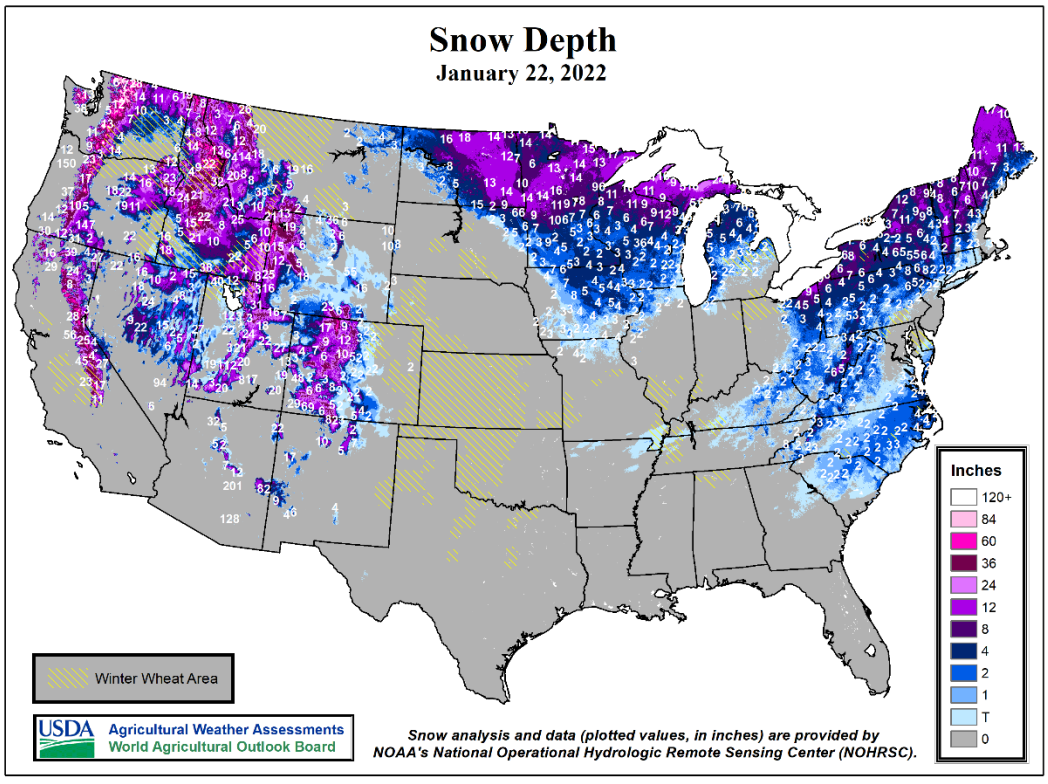
WASHINGTON: Statewide temperatures in Washington for the month of January were below normal. In western Washington, early January was cold with snow and freezing temperatures. Late January transitioned back to heavy rainfall throughout the district. In San Juan County, vine and tree fruit pruning had started on days without massive storm events and rain. Most other crops planted for fall into winter harvest were hit badly. Some high tunnels successfully carried crops over, but some crops were lost to frigid temperatures. In Whatcom County, farmers were still trying to assess the damage left from the floods late last year. Many portions of fields were under water as excessive moisture continued into December and January. Some berries had been under water for over two months. The floods resulted in the need for replanting of grass and berries. Streams and ditches were inundated with silt and debris, which backed up water flow. In central Washington, additional amounts of freezing rain and light snow occurred. In Chelan County, snowpack across the region was in good shape. Warmer temperatures during this time of year helped settle and melt

snow on the ground. Farmers were excited about the prospects of finally coming out of the drought. In Yakima County, there was some orchard pruning and tree training completed. Livestock were on feed only and ranchers were preparing to start calving. In east-central Washington, farmers spent most of the month doing repairs and preparing for the upcoming season. In Adams County, conditions were overall favorable for winter wheat. Moisture and temperatures were near average but above average precipitation was needed. In southeast Washington, most conditions were normal for the month of January. Cold temperatures, snow, and fog remained throughout the area. Some flooding was received in late January, but there were no effects on livestock or cropping systems.

WEST VIRGINIA: For the week ending January 23, Topsoil moisture 5% short, 88% adequate, and 7% surplus. Subsoil moisture 8% short, 90% adequate, and 2% surplus. Hay and roughage supplies 10% short, 73% adequate, and 17% surplus. Feed grain supplies 11% short, 74% adequate, and 15% surplus. Winter wheat condition 28% fair and 72% good. Cattle and calves condition 1% poor, 35% fair, 60% good, and 4% excellent. Sheep and lambs condition 2% poor, 37% fair, 57% good, and 4% excellent. Weather conditions for the month have been mostly cold with periods of rain and snow. Farming activities for the month included planning for the next growing season.

WISCONSIN: Dry conditions continued across the State. Farmers had hoped for moisture to relieve the dry conditions, but typical January weather was reported. Northern areas have good snow cover, but central and southern areas are still hoping for a thicker snow blanket to protect alfalfa and fall seedings. Very little field work occurred thus far in the month, aside from isolated manure hauling. Livestock producers have been busy caring for livestock and keeping water systems functioning. There are some concerns about hay supplies. Farmers are making plans, looking into costs for fertilizer and agricultural chemicals, and getting machinery ready for spring.

WYOMING: This report for Wyoming is for the entire month of January 2022. Topsoil moisture 23% very short, 37% short, 39% adequate, 1% surplus. Subsoil moisture 24% very short, 48% short, 27% adequate, 1% surplus. Winter wheat condition 7% very poor, 26% poor, 49% fair, 17% good, 1% excellent. Calving progress 1% cows calved. Sheep and lamb progress 2% ewes lambed. Hay and roughage supplies 13% very short, 42% short, 44% adequate, 1% surplus. Livestock condition 3% poor, 13% fair, 81% good, 3% excellent. Stock water supplies 11% very short, 28% short, 60% adequate, 1% surplus. Pasture and range condition 25% very poor, 24% poor, 31% fair, 19% good, 1% excellent. January brought minimal precipitation to Wyoming, with total monthly precipitation measuring less than 1 inch for most of the State. Overall, however, precipitation totals are around average for the month, with totals ranging from 0.45 inch below average to 0.45 inch above average. Temperatures for the month of January were 1 to 4 degrees above average for most of the State. Reports from Washakie and Hot Springs Counties indicated persisting drought conditions. Dry conditions were reported in Platte County, with comments that high winds are drying out topsoil quickly when moisture is received. Comments in Lincoln County indicated snowfall received in early January has now given way to dry conditions. In Goshen County, there are reports that the warm, dry conditions are helping cattle and livestock conditions. According to the United States Drought Monitor for January 20, 2022, the amount of land rated as abnormally dry was 2.8 percent, a slight decrease from 3.3 percent on December 30. Moderate drought was present across 31.5 percent of the State, compared to 35.4 percent on December 30. Severe drought increased from 47.1 percent on December 30 to 61.1 percent of the State. Extreme drought conditions covered 4.6 percent of the State, a decrease of 9.6 percentage points from 14.2 percent on December 30.



International Weather and Crop Summary

January 16-22, 2022

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

HIGHLIGHTS

EUROPE: Dry weather in the west contrasted with rain and snow over eastern Europe.

MIDDLE EAST: Heavy rain and snow blanketed the region, boosting moisture reserves for dormant (north) to vegetative (south) winter grains.

NORTHWESTERN AFRICA: Dry weather exacerbated drought in Morocco and central Tunisia but favored crop development elsewhere.

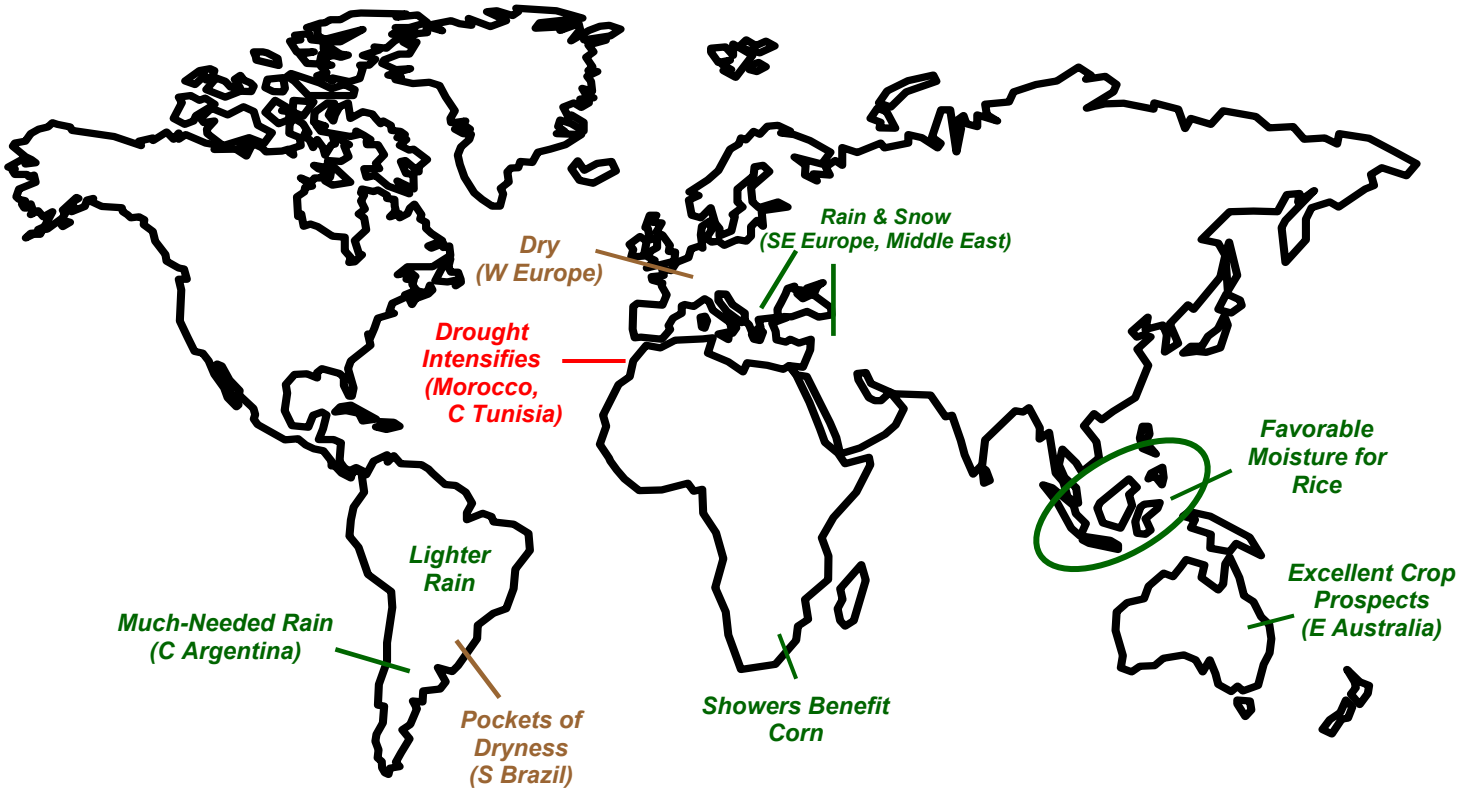
SOUTHEAST ASIA: Widespread rainfall maintained or boosted moisture supplies for seasonal rice across the region.

AUSTRALIA: Rain sustained good to excellent summer crop prospects.

SOUTH AFRICA: Mild, showery weather favored corn and other rain-fed summer crops.

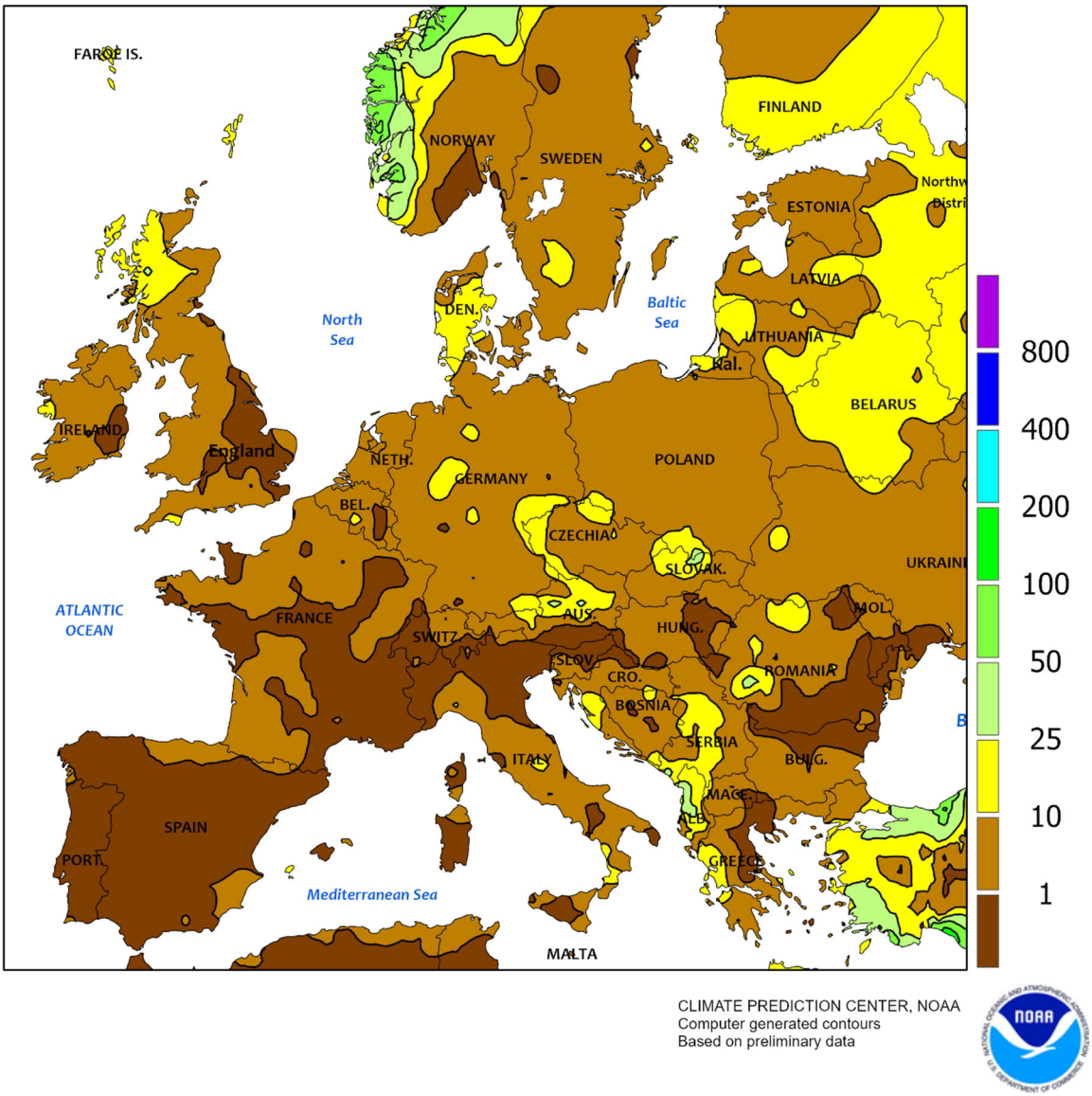
ARGENTINA: Showers brought much-needed relief from heat and dryness.

BRAZIL: Pockets of warmth and dryness persisted in the south.



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

EUROPE
Total Precipitation(mm)
January 16 - 22, 2022



EUROPE

Dry weather over western Europe contrasted with rain and snow in the east. Little to no precipitation (5 mm or less) was reported from England southward into France and Spain. Winter crops remained dormant in the north and semi-dormant to vegetative on the Iberian Peninsula, though near- to below-normal temperatures (up to 3°C below normal) minimized wheat and barley growth in the climatologically warmer southern growing areas. Sunny skies over Italy promoted the development of vegetative wheat and barley following a favorably wet November and December. Meanwhile, pockets of light to moderate rain and snow (2-25 mm liquid equivalent) over the eastern half of the continent maintained favorable moisture reserves for dormant winter crops. A shallow to moderate snowpack (2-15 cm) was in place by week's end over northeastern Europe and from Serbia into western and northern Romania. Even with the snow, minimum temperatures (-11 to -2°C) remained well above the threshold for potential winterkill.

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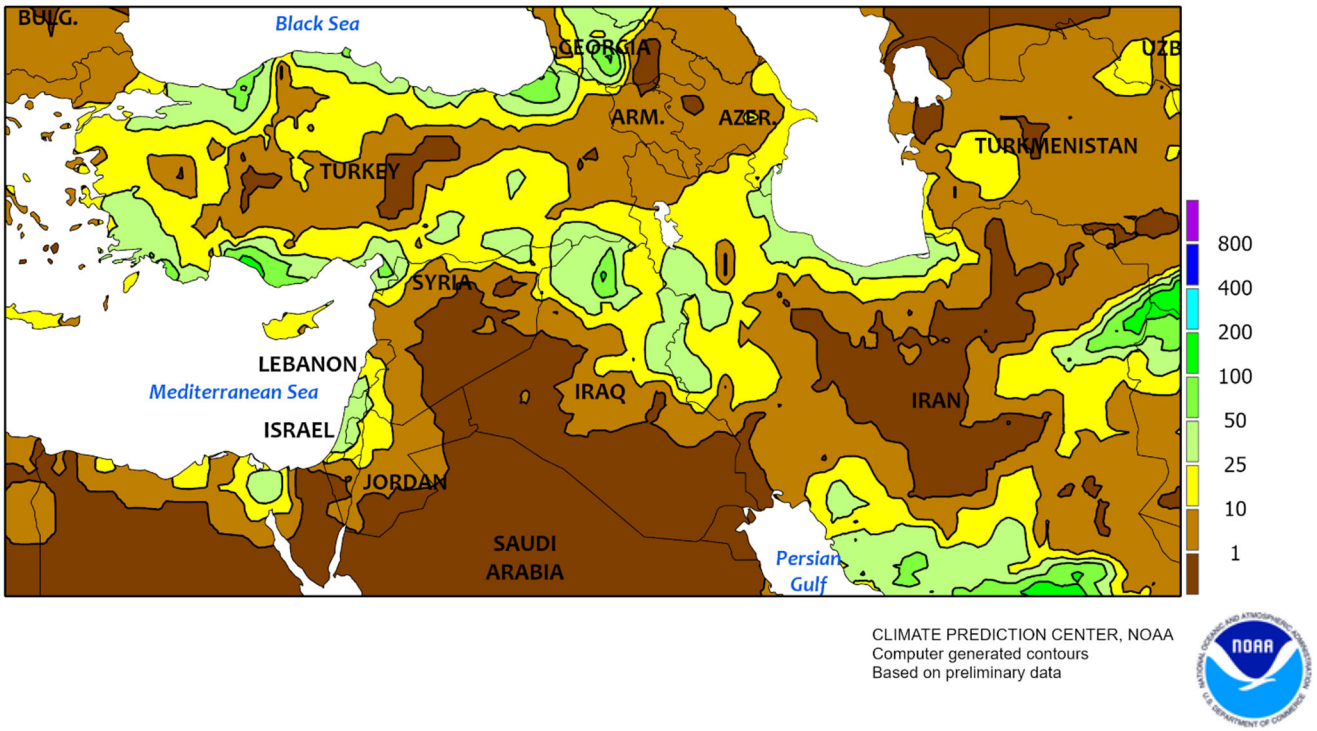
MIDDLE EAST
Total Precipitation(mm)
January 16 - 22, 2022



MIDDLE EAST

Cold and stormy weather prevailed across the region. A southward plunge of very cold air (3-8°C below normal) over Turkey and neighboring environs set the stage for a potent winter storm, which brought widespread heavy rain and snow (10-100 mm liquid equivalent, locally more). Snow blanketed nearly all of Turkey by week's end, with depths ranging from: 2 to 10 cm in the west away from the coast; 5 to 30 cm on the Anatolian Plateau; 30 to 100 cm in the north; 50 to nearly 200 cm in the Taurus Mountains of eastern Turkey. The cold snap (3-10°C below normal) also encompassed eastern Syria, Iraq, and most of Iran, which resulted in much of the precipitation (5-60 mm liquid equivalent) in colder northern and central growing areas also falling as snow. By week's end, snow depths ranged from 10 cm in lower elevations to more than 100 cm over the higher terrain of western and northern Iran. Adjacent the Persian Gulf in southern Iran, heavy to excessive rain (25-185 mm) caused local flooding but boosted moisture supplies for vegetative winter grains. As of January 24, season-to-date rainfall (since November 1) in southern Iran (Khuzestan into Fars) has totaled nearly 250 mm, approximately 135 percent of average for the date and more than two-thirds the normal water year total.

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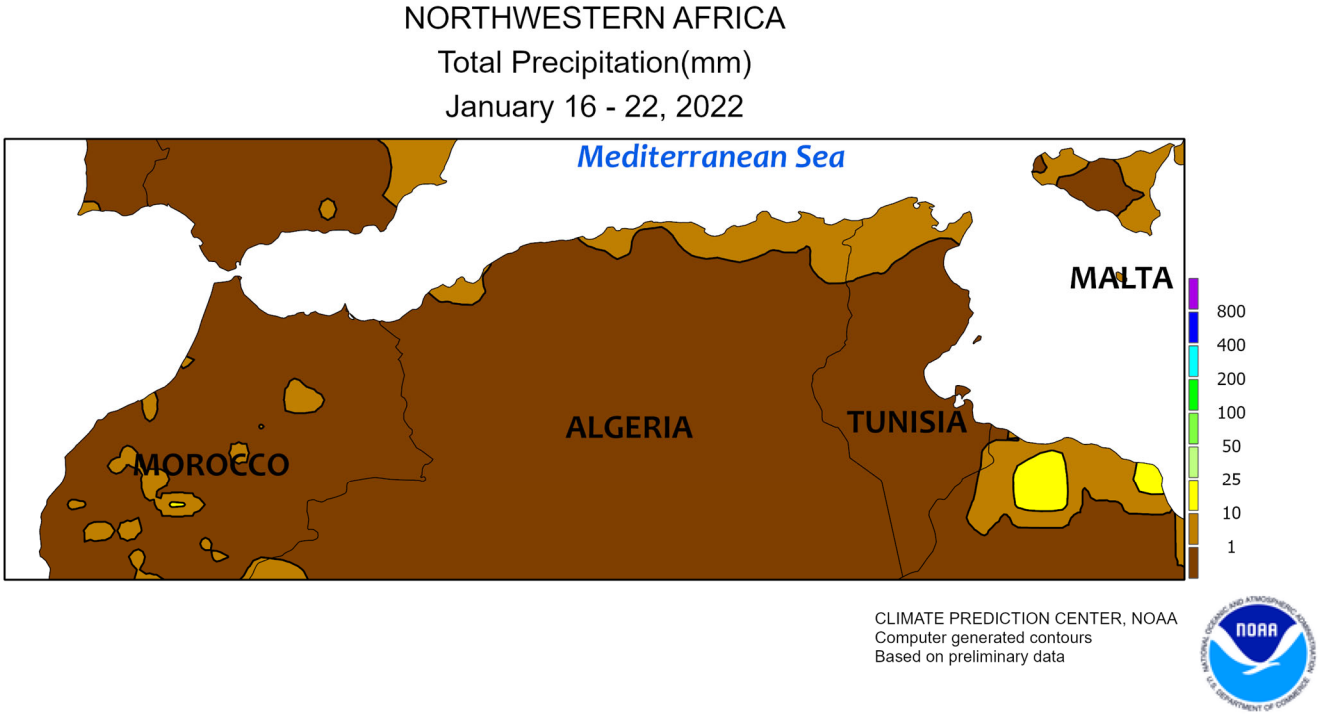

NORTHWESTERN AFRICA

Dry weather exacerbated drought in Morocco and central Tunisia but favored winter grain development elsewhere. Morocco slipped further into extreme drought, with the country's central and southern growing areas reporting the driest first half to the winter crop growing campaign (September – May) over the past 30 years. Regional-average rainfall deficits since September were approaching 200 mm (33 percent of normal) across Morocco's primary croplands between the central Atlantic Coast and Atlas Mountains. The country's southwestern growing areas have fared even worse, with season-to-date rainfall yet to reach 25 mm (less than 20 percent of normal). Cumulative growing degree day data suggested Morocco's winter wheat was entering the jointing stage of development in areas with sufficient moisture for growth, and time is quickly running out to stave off significant yield losses. Dry weather extended eastward across Algeria and Tunisia, with most crop areas from north-central Algeria into northern Tunisia benefiting from heavy rains during the first half of December and the first two weeks of January. In sharp contrast, the Steppe Region of central Tunisia (primarily a barley area) continued to wrestle with severe to extreme drought (season-to-date precipitation deficits near 100 mm, or 33 percent of normal).

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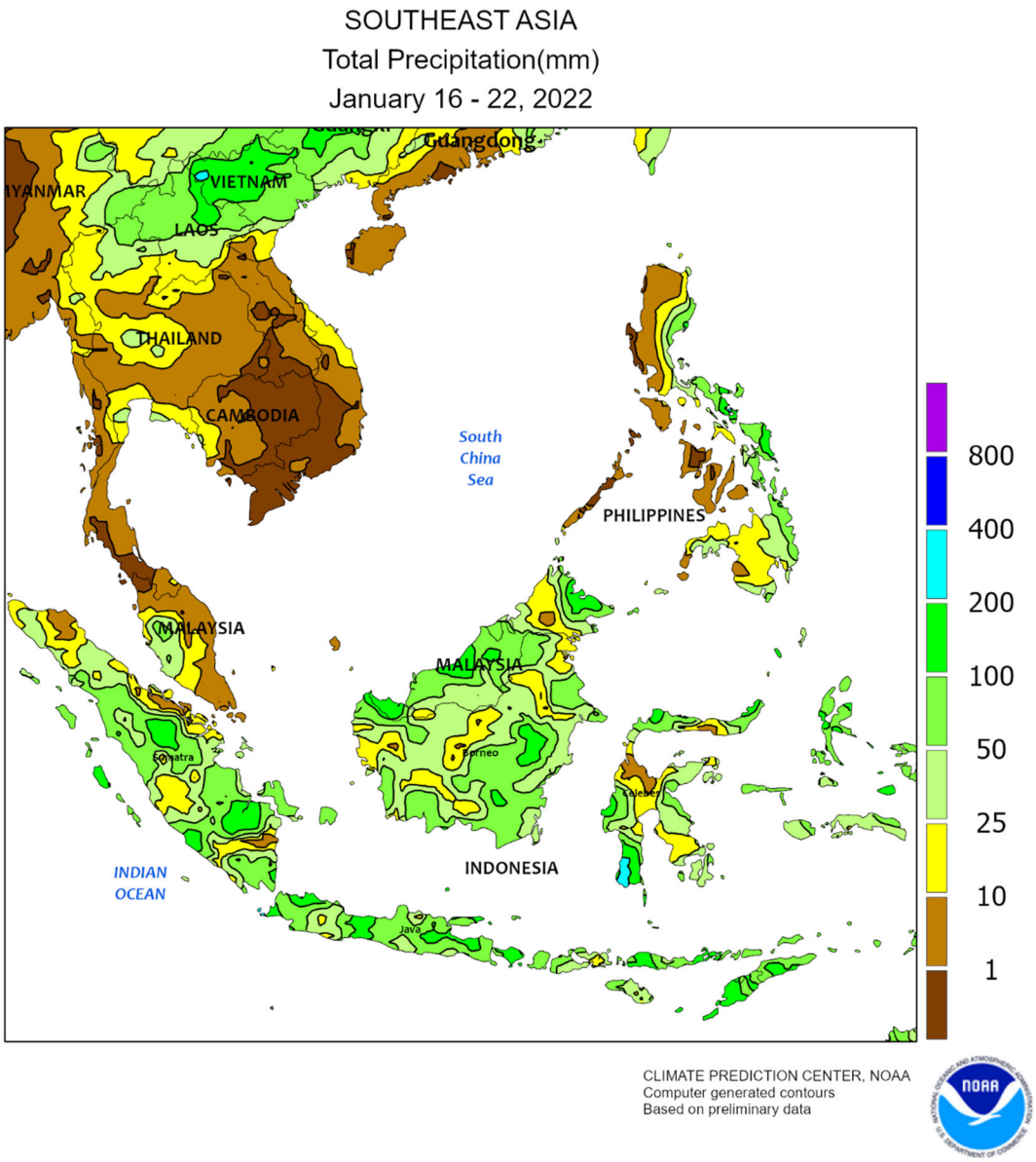

SOUTHEAST ASIA

Widespread showers continued across Indonesia and Malaysia, benefiting oil palm and rice. Rainfall totals were generally between 50 and 150 mm, with some pockets of lesser amounts. Southern Indonesia (Java) continued to report above-average rainfall and record (30-year period) totals, sustaining ample water reserves for second- and third-crop rice sown in the coming months. However, drier conditions will soon be needed as first-crop rice matures. Meanwhile, showers (25-150 mm or more) returned to the eastern Philippines after a short period (2-3 weeks) of drier-than-normal weather and were particularly welcome in key northeastern rice and corn areas where seasonal dryness (rainfall less than 50 percent of normal) has been pervasive. Elsewhere, unseasonably wet weather (upwards of 200 mm) in northern Vietnam boosted moisture supplies for spring rice, while lesser amounts extending into the surrounding reaches of Indochina and Thailand benefited dry-season rice.

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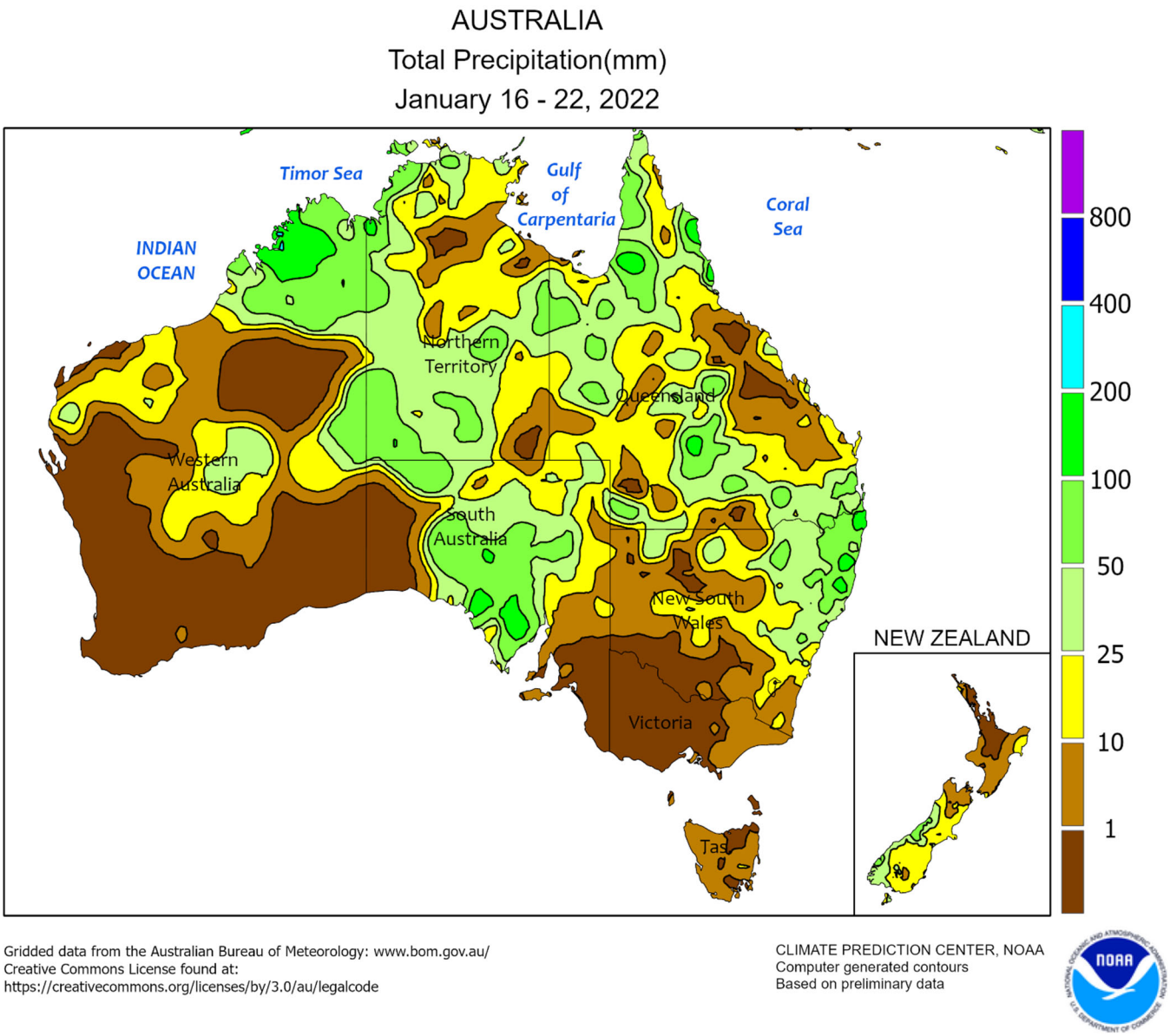

AUSTRALIA

In southern Queensland and most of New South Wales, periodic showers (10-50 mm or more) maintained abundant moisture supplies for cotton, sorghum, and other summer crops. The rain helped sustain good to excellent prospects for dryland crops, such as sorghum, and limited the supplemental water demands of irrigated crops, such as cotton. Sorghum planting has continued in some areas, while harvesting of the earliest sown sorghum has reportedly begun. The occasional rain likely slowed this fieldwork at times. Temperatures averaged near normal in southern Queensland and 2 to 4ºC below normal in New South Wales, with maximum temperatures mostly in the 30s (degrees C). Elsewhere in the wheat belt, the winter crop harvest has reportedly concluded in all but a few pockets of South Australia and Victoria. Predominantly dry weather allowed harvesting to proceed, except at the end of the week when soaking rain (near 50 mm) overspread parts of South Australia, likely halting any late-season fieldwork.

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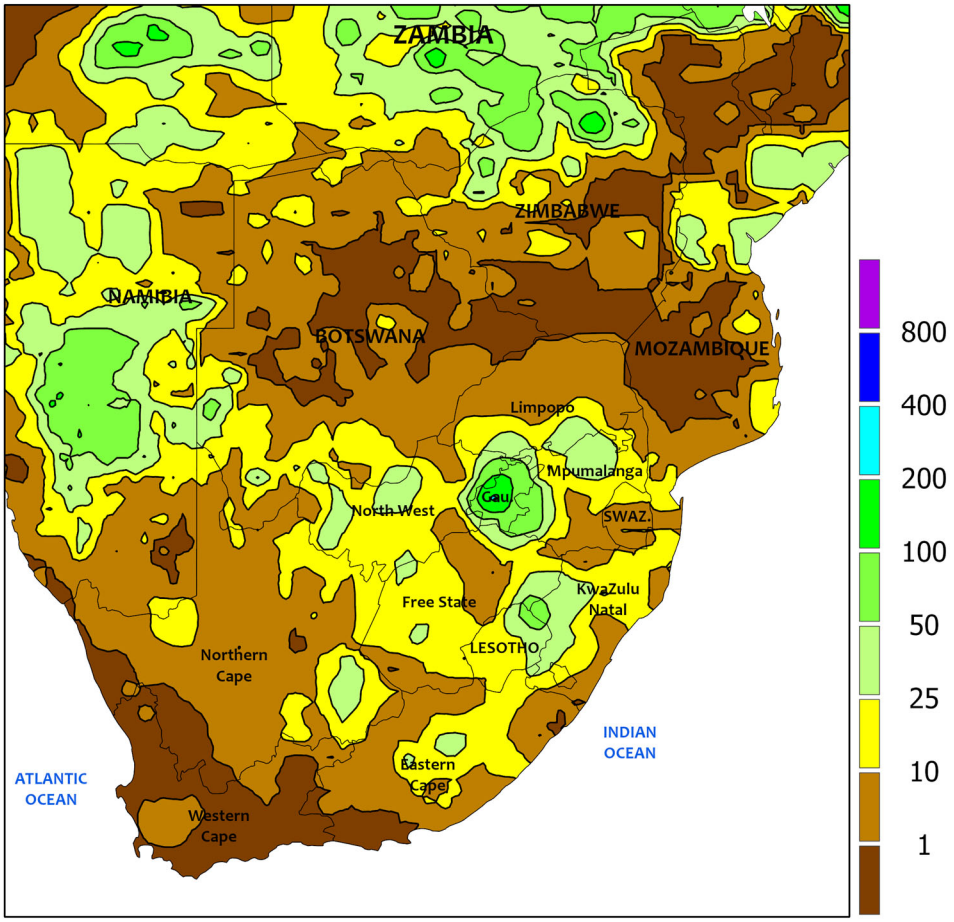
SOUTH AFRICA
Total Precipitation(mm)
January 16 - 22, 2022



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

SOUTH AFRICA

Mild, showery weather maintained overall favorable conditions for corn and other rain-fed summer crops in major commercial production areas. Much of the corn belt (North West and Free State eastward) recorded rainfall totaling 25 to 50 mm. As in recent weeks, however, pockets of dryness lingered, with unseasonably light rain (less than 25 mm) falling in sugarcane areas of KwaZulu-Natal and eastern Mpumalanga. Weekly temperatures averaged up to 2°C below normal in the aforementioned areas, where daytime highs in the upper 20s and lower 30s (degrees C) lowered evaporative losses and promoted growth of vegetative to reproductive corn under overall favorable conditions. Farther west, scattered showers (locally more than 25 mm) continued over the Orange River Valley – sustaining irrigation levels for corn and cotton – as sunny, hot weather (daytime highs reaching the lower 40s) spurred rapid development of irrigated tree and vine crops in Western Cape.

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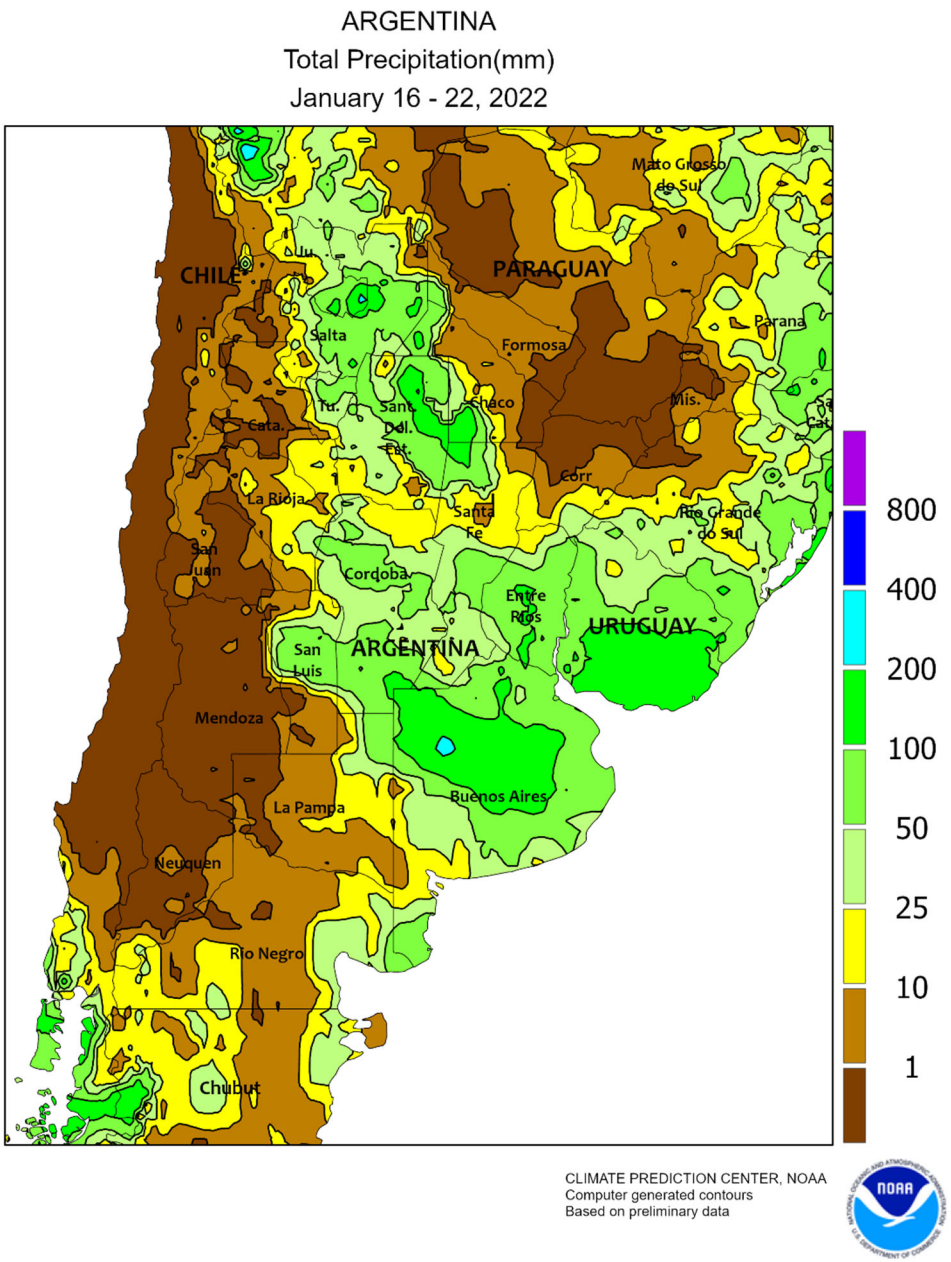

ARGENTINA

Following last week's searing heat wave, locally heavy showers brought much-needed drought relief to central Argentina. Most locations from Cordoba and La Pampa eastward through Uruguay reported rainfall totaling 25 to 150 mm, making this the wettest week thus far in the growing season. The rainfall ushered seasonably cooler weather into the region as well, although daytime highs reached 40°C again in northern farming areas of Cordoba, Santa Fe, and Entre Rios at week's end. Similarly, mid-week showers (25-100 mm) provided a brief respite from dryness and heat in the northwest (notably Salta and Santiago del Estero), with highs reaching the 40s (degrees C) before and after the rainfall. Meanwhile, heat and dryness dominated the northeast, including much of the cotton belt (Chaco and environs), as well as major farming areas of Paraguay, where daytime highs commonly reached the lower 40s. According to the government of Argentina, corn and soybeans were 87 and 97 percent planted, respectively, as of January 20.

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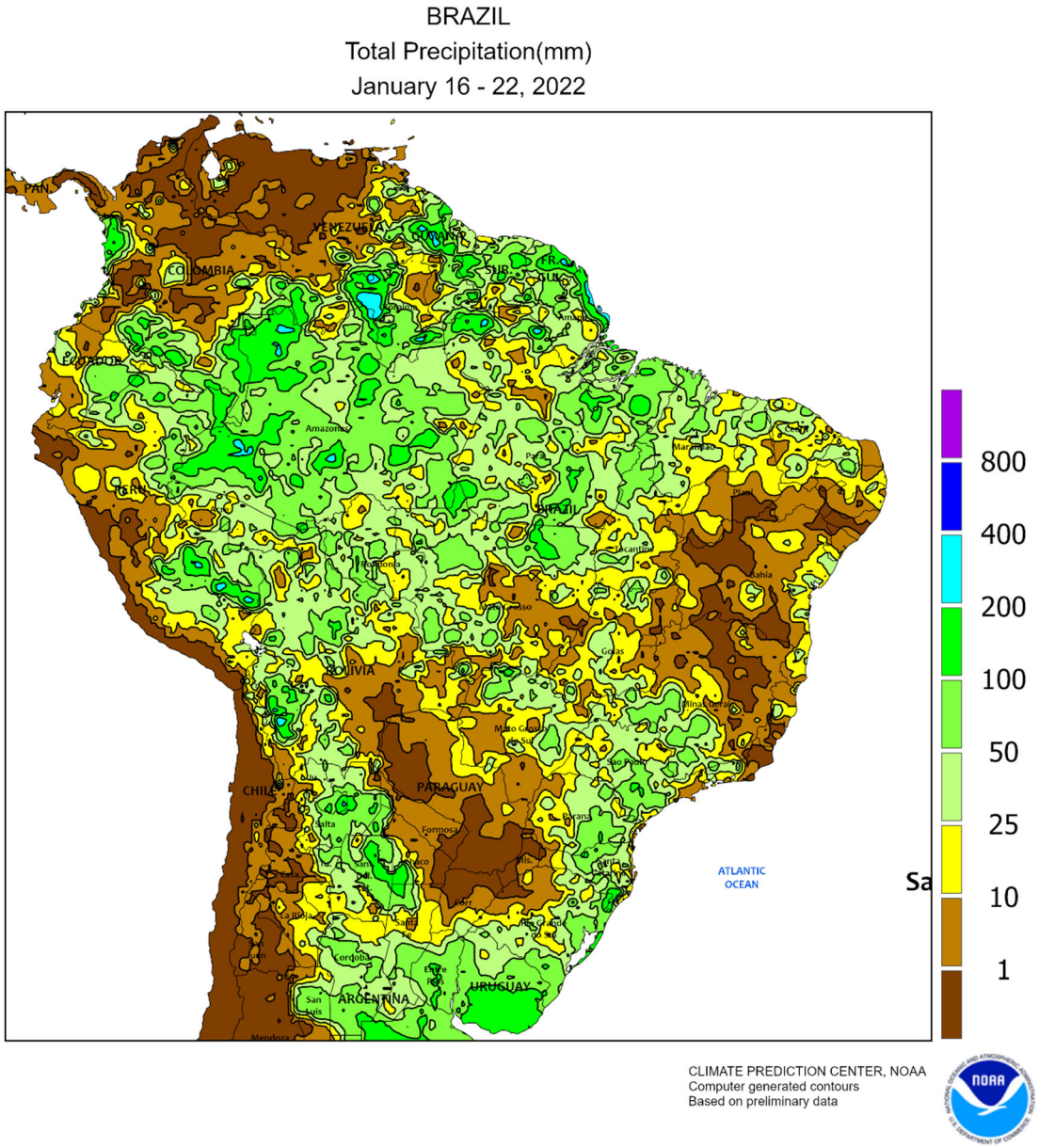

BRAZIL

Pockets of dryness persisted in Brazil's southern farming areas, where moisture supplies remained limited for immature main-season crops and for germination of second-crop corn. Rainfall totaled 10 to 50 mm in northern Mato Grosso do Sul, eastern Paraná, and southern and eastern section of Rio Grande do Sul; however, drier conditions prevailed to the west of these areas, where temperatures reached the upper 30s (degrees C) on several days. According to the government of Paraná, soybeans and first-crop corn were 4 and 1 percent harvested, respectively, as of January 17, with more than 50 percent of each in filling stages of development; meanwhile, second-crop corn was 2 percent planted. In Rio Grande do Sul, corn was 96 percent planted as of January 20, with 34 percent of the emerged crop ranging from flowering to mature (52 percent mature or harvested); soybeans were 97 percent planted, with 37 percent of the crop having reached flowering. Elsewhere, pockets of unseasonable dryness (rainfall totaling below 25 mm) also limited moisture for sugarcane and other crops in São Paulo, but heavier rain (25-50 mm) benefited coffee in southern Minas Gerais. Farther north, rainfall tapered off from the previous week from Mato Grosso eastward, with much of the region centered around Goiás receiving less than 10 mm. Unlike southern Brazil, consistent rainfall had been favorable for summer crops thus far and the dryness was timely for seasonal fieldwork. According to the government of Mato Grosso, soybeans were 13 percent harvested as of January 21, equal to the 5-year average pace; corn and cotton were 10 and 40 percent planted, respectively.

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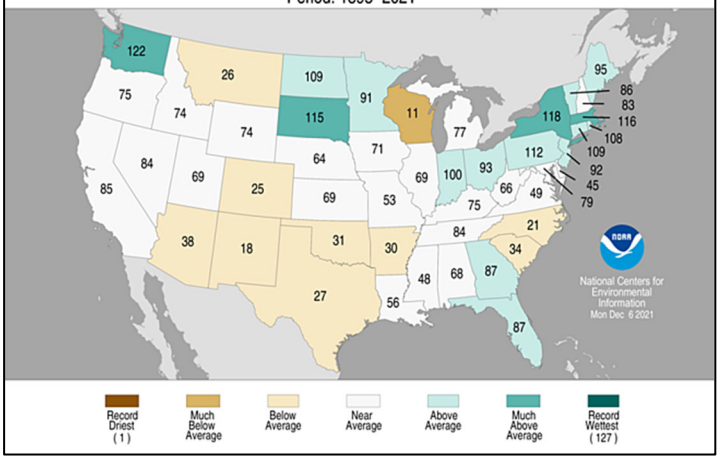
(Continued from page 12)

Figure 12 Statewide Precipitation Ranks
September – November 2021
Period: 1895–2021



December

The last month of 2021 featured some notable weather extremes. In fact, monthly temperatures averaged at least 10°F above normal at numerous locations from the southern Plains to the Mississippi Delta, setting records for the warmest-ever December. That warmth, along with frigid conditions from the Pacific Northwest to the northern Plains, fueled an active storm track and periods of severe weather and heavy precipitation. The month's first significant severe-weather outbreak occurred across the mid-South and lower Midwest on December 5-6. Less than a week later, on the 10th, the deadliest December tornado in the Nation's history traveled nearly 166 miles, starting in Obion County, TN, and devastating the Kentucky communities of Mayfield and Dawson Springs. Nearly five dozen deaths occurred during that tornado's rampage, according to preliminary reports, while dozens of additional tornadoes—some with fatalities—swarmed other parts of the mid-South and lower Midwest.

A mid-December wind and dust storm, which raked the central and southern Plains with wind gusts of 75 to 100 mph or higher, heightened concerns regarding the overwintering wheat crop. By the end of December, only 33 percent of Kansas' winter wheat was rated in good to excellent condition, down from 62 percent in late-November 2021. Similarly, the portion of Nebraska's wheat rated good to excellent dropped from 64 to 39 percent. Across the southern High Plains, Texas communities such as Amarillo and Borger ended the year on an 80-day streak (October 13 – December 31) without any precipitation—not even a trace. Lingering drought across the northern High Plains maintained stress on winter wheat; in Montana, 71 percent of the crop was rated very poor to poor at year's end. The Plains' drought was also reflected in moisture shortages; at the end of December, among reporting states, topsoil moisture was rated more than one-half very short to short in Colorado (84 percent), New Mexico (80 percent), Montana (77 percent), Kansas (72 percent), and Nebraska (68 percent). Toward month's end, a wind-driven wildfire near Boulder, CO—the 6,219-acre Marshall Fire—swept through portions of the communities of Louisville and Superior, destroying as many as 1,000 structures.

In contrast, consistent and widespread storminess delivered December drought relief—in the form of improvements in soil moisture and mountain snowpack—west of the Rockies. Although drought coverage in the 11-state Western region decreased only 5 percentage points (from 94 to 89 percent) between November 30, 2021, and January 4, 2022, there was a substantial decrease in the higher drought categories. For example, Western coverage of extreme to exceptional drought (D3 to D4) during that 5-week period decreased from 44 to 24 percent, according to the *U.S. Drought Monitor*.

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