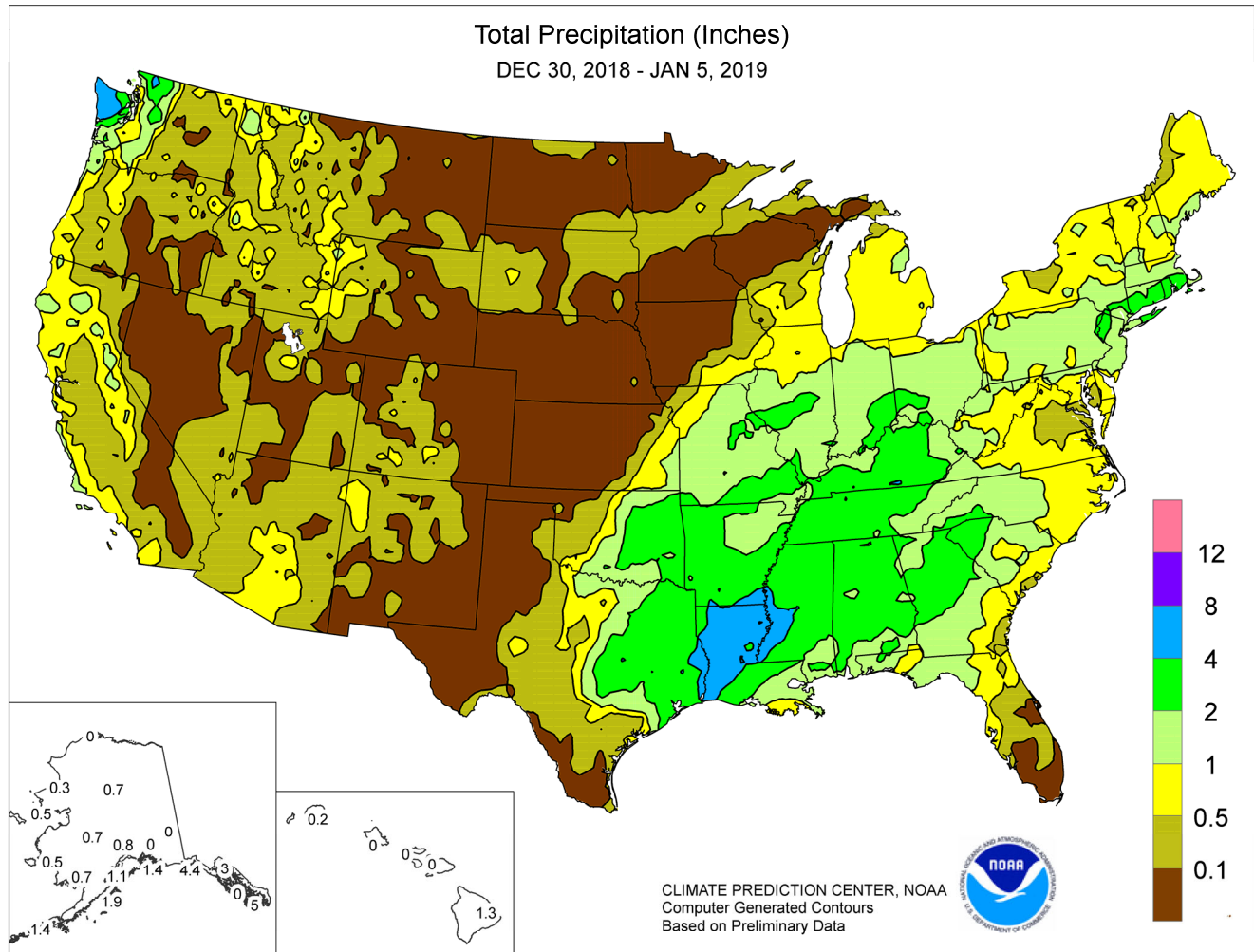


WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

December 30, 2018 – January 5, 2019

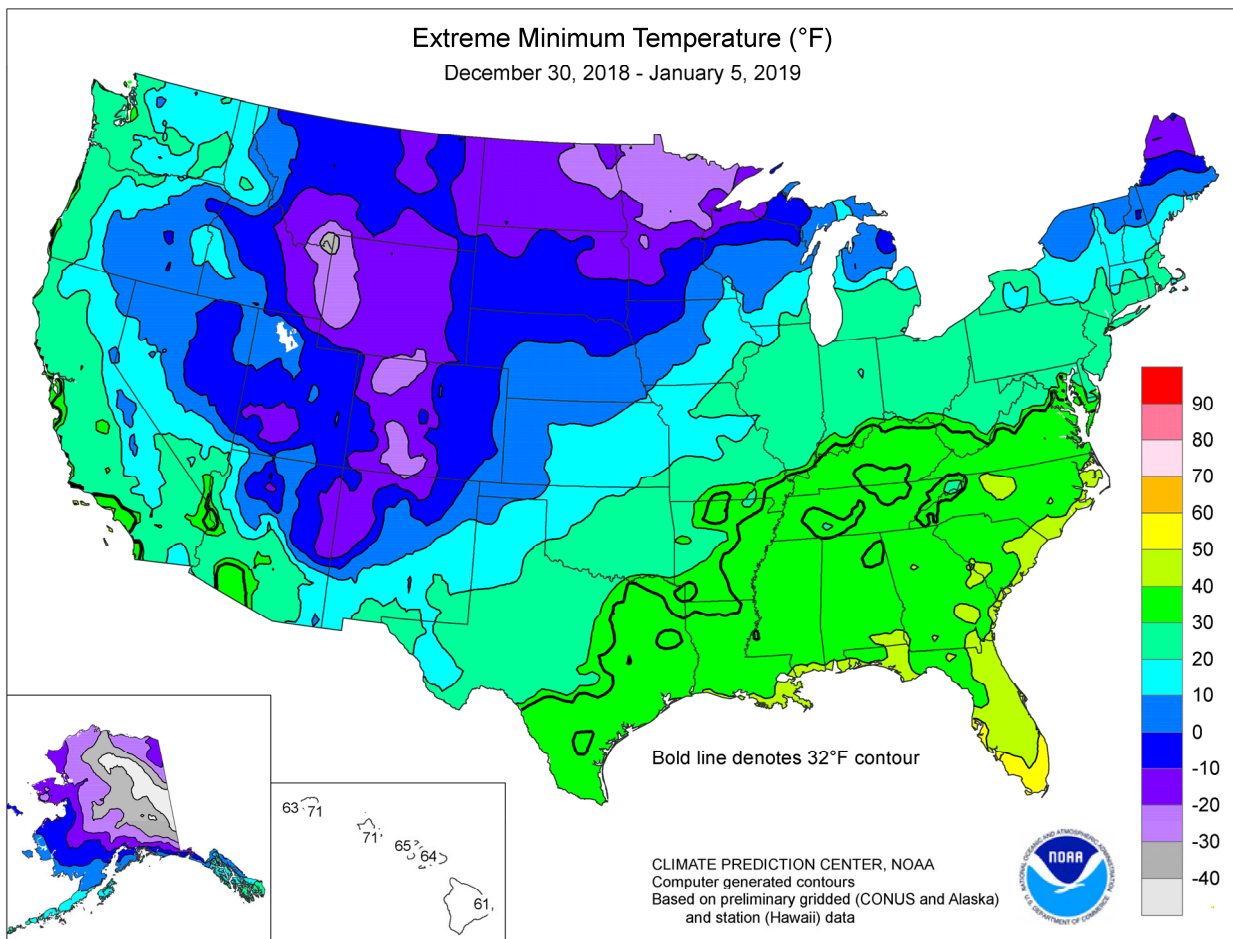
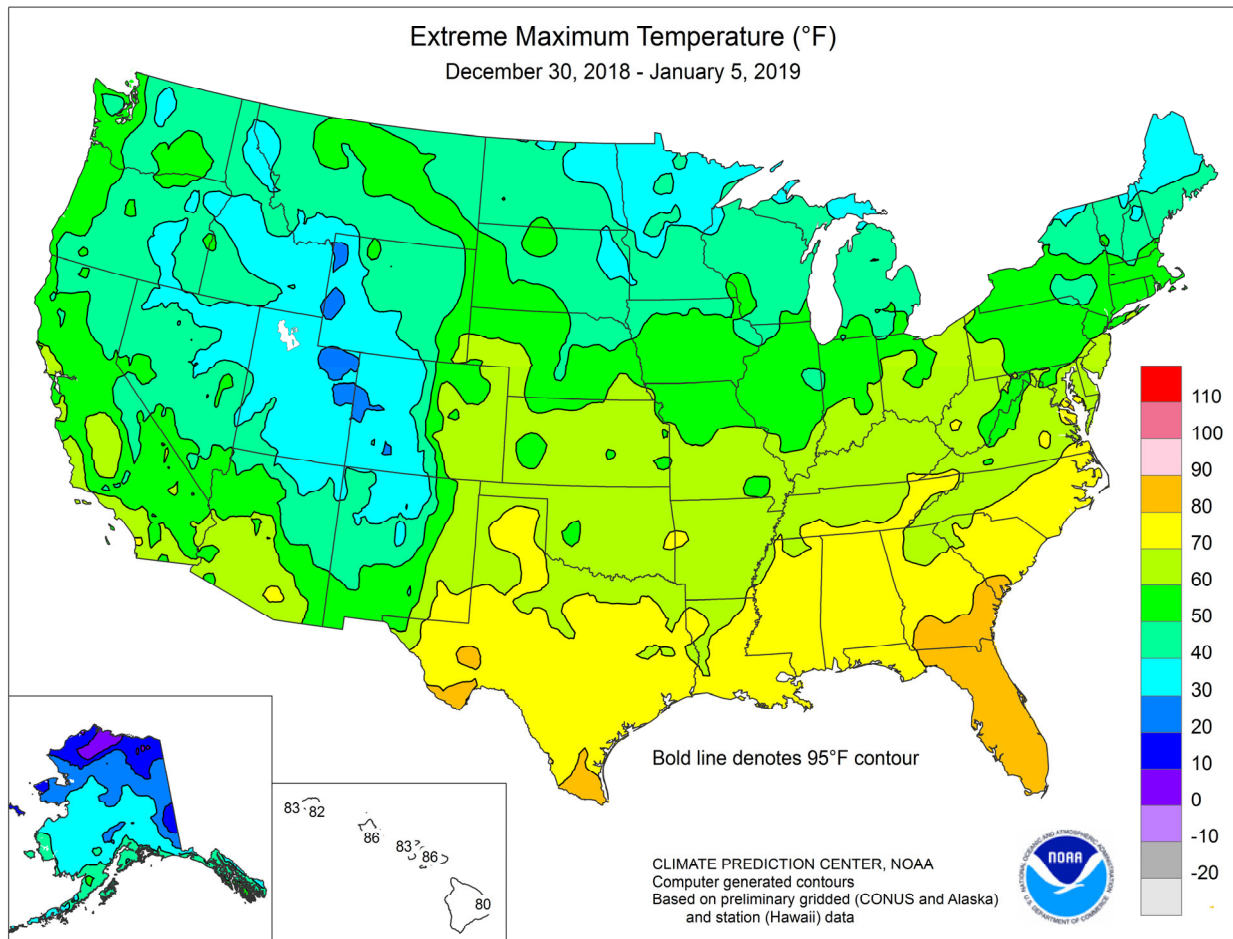
Highlights provided by USDA/WAOB

Additional rounds of heavy **Southeastern** rain put off-season fieldwork on indefinite hold across a broad swath stretching from the **central Gulf Coast States** northward into the **Ohio Valley** and eastward into the **southern Appalachians**. A final wave of annual rainfall records was broken on December 31, mainly in the **Ohio and Tennessee Valleys**. Days later, from January 2-4, soaking rains returned to the **South**, leading to extensive lowland flooding from **eastern Texas into portions of Georgia and South Carolina**. Record-setting warmth preceded

Contents

Extreme Maximum & Minimum Temperature Maps	2
Temperature Departure Map	3
National Weather Data for Selected Cities	4
December Weather Summary	7
December Precipitation & Temperature Maps	10
December Weather Data for Selected Cities	13
International Weather and Crop Summary	14
Bulletin Information & Snow Cover Map	22

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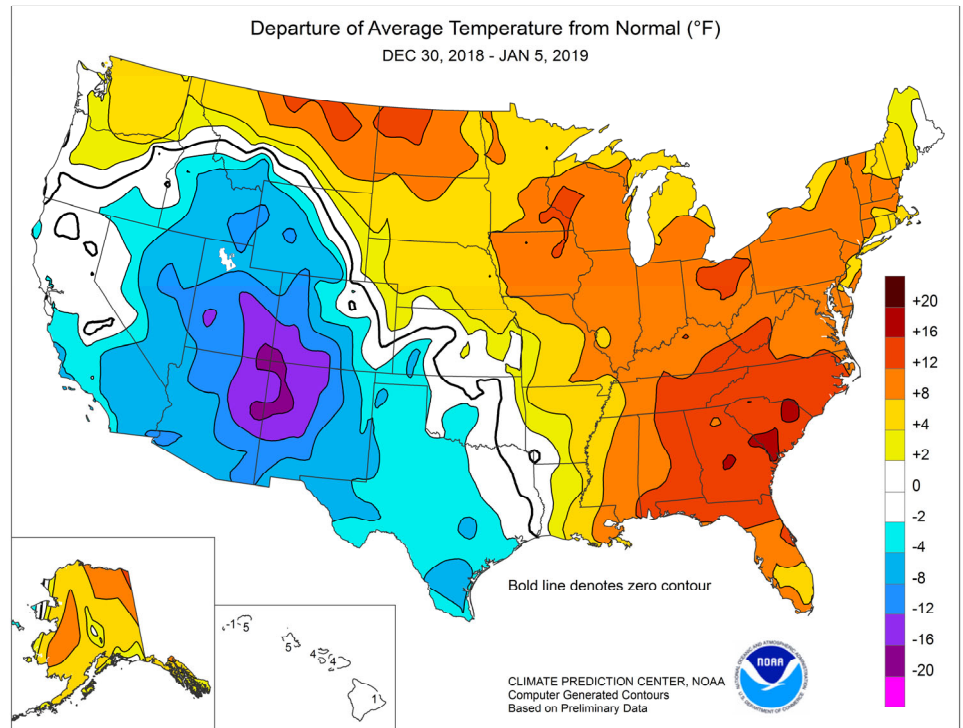


(Continued from front cover)

and accompanied the storminess in the **Ohio Valley** and the **Southeast**, boosting weekly temperatures at least 10 to 15°F above normal. In contrast, cold air dominated the **West** for much of the week, holding temperatures more than 5°F below normal in large sections of the **Four Corners States**. Aside from the **South**, **East**, and **lower Midwest**, significant precipitation was confined to the **Pacific Northwest** and parts of the **Southwest**. Generally dry weather prevailed in **southern Florida** and from the **High Plains into the upper Midwest**. During the second half of the week, cold air quickly eroded across the **nation's northern tier**, particularly from **Montana into the Great Lakes region**, in part due to downslope winds. The mild, windy weather eroded or eliminated winter wheat's protective snow cover, especially on the **northern High Plains**.

A batch of heavy rain moved through parts of the **East** on December 30, where daily-record totals included 1.31 inches at **New York's LaGuardia Airport** and 1.29 inches in **Newark, NJ**. On New Year's Eve and New Year's Day, another large area of rain swept across the **Corn Belt** and **Southeast**, while snow blanketed portions of the **northern Plains** and **upper Midwest**. Precipitation on December 31 pushed annual precipitation to record-high levels in locations such as **Columbus, OH**, and **Pittsburgh, PA**. **Columbus**, with 55.18 inches, edged its 2011 standard of 54.96 inches. **Pittsburgh's** annual total climbed to 57.83 inches, clipping its 2004 mark of 57.41 inches. It was the wettest New Year's Day on record in a host of communities, including **Springfield, IL** (2.08 inches); **Columbia, MO** (2.06 inches); **Jackson, MS** (1.67 inches); **London, KY** (1.63 inches); and **Dayton, OH** (1.47 inches). A trio of tornadoes was spotted on New Year's Eve—two in **southern Indiana** and one in **western Kentucky**. Meanwhile in **Wyoming**, snowfall on December 31 totaled 4.2 inches in **Lander** and 3.0 inches in **Riverton**. **Duluth, MN**, with a sum of 4.3 inches on the 31st, experienced its snowiest New Year's Eve on record. Similarly, 8.1 inches of snow blanketed **Gaylord, MI**, on December 31. Starting in late December and continuing into the new year, significant snow fell in the **southern Rockies** and environs. Following a 3.0-inch snowfall from December 26-28, **Albuquerque, NM**, netted 2.0 inches of snow on New Year's Day. During the late-December event, snowfall had totaled 1 to 2 feet or more in parts of **New Mexico**, including mountainous areas near **Ruidoso**. Farther east, heavy rain again fell across the **South** from January 2-4. Record-setting rainfall totals for January 2 included 2.52 inches in **Waco, TX**, and 2.16 inches in **Alexandria, LA**. A day later, stormy weather across portions of the **southern Plains** set precipitation and snowfall records for January 3 in **Oklahoma City, OK** (1.29 inches and 4.5 inches of snow), and **Wichita Falls, TX** (0.75 inch and 2.5 inches of snow). Later, daily-record rainfall totals included 2.14 inches (on January 3) in **New Iberia, LA**, and 2.33 inches (on January 4) in **Columbus, GA**.

With consecutive lows of -21°F on December 31 and January 1, **Lake Yellowstone, WY**, reported its lowest readings since February 21, 2018. Elsewhere in **Wyoming**, **Big Piney** posted a daily-record low of -23°F on January 2. Meanwhile in **California**, daily-record lows



dipped to 19°F (on January 2) in **Barstow-Daggett** and 25°F (on January 4) in **Ramona**. In contrast, chinook winds contributed to rapid warming across the **nation's northern tier**. **Great Falls, MT**, clocked a wind gust to 64 mph on January 3. The following day, **Cut Bank, MT**, reported a peak gust to 69 mph. Elsewhere in **Montana**, daily-record highs for January 3 included 56°F in **Havre** and 50°F in **Glasgow**. On January 4-5, locations such as **Minneapolis-St. Paul** (47°F both days) and **Rhineland, WI** (45 and 43°F, respectively) closed the week with consecutive daily-record highs. Other daily-record highs in **Wisconsin** on January 5 included 56°F in **Milwaukee** and 47°F in **Green Bay**. Farther south, spring-like warmth prevailed. It was the warmest New Year's Eve on record in locations such as **Alma, GA** (79°F), and **Bristol, TN** (75°F). Similarly, it was the warmest New Year's Day on record in **Alma** (82°F), along with locations in the **Atlantic Coast States** such as **Jacksonville, FL** (83°F); **Elizabeth City, NC** (75°F); and **Georgetown, DE** (68°F). In **Georgia**, **Savannah** logged consecutive daily-record highs (83 and 79°F, respectively) on January 1-2. In **Florida**, daily-record highs included 87°F (on January 2) in **Naples** and 86°F (on January 4) in **Melbourne**.

Colder air gradually settled across much of the **Alaskan mainland**, accompanied by mostly dry weather. Prior to the arrival of cold weather, **King Salmon** collected a daily-record high of 53°F on December 30. Meanwhile, wet conditions affected **southeastern Alaska** as the new year began. January 1 featured a rainfall total of 1.73 inches, a record for the date, in **Juneau**, and 3.14 inches in **Ketchikan**. **Juneau** also logged a daily-record high (46°F) on New Year's Day. Farther south, most of **Hawaii** experienced warm, dry weather in early January, following some late-December rainfall. Nevertheless, most **Hawaiian** locations noted below-normal December totals. In fact, many leeward locations were quite dry, with December rainfall totaling 0.54 inch (16 percent of normal) in **Kahului, Maui**, and 0.60 inch (19 percent) in **Honolulu, Oahu**. On the **Big Island**, **Hilo's** December rainfall totaled 9.97 inches (86 percent of normal). **Honolulu** collected daily-record highs (86 and 85°F, respectively) on December 31 and January 2.

National Weather Data for Selected Cities

Weather Data for the Week Ending January 5, 2019

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS				
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE 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	PRECIP			
																			.01 INCH OR MORE	.50 INCH OR MORE		
AL	BIRMINGHAM	61	49	75	39	55	15	2.49	1.68	1.08	12.76	257	1.41	282	96	74	0	0	5	2		
	HUNTSVILLE	60	46	74	37	53	15	2.19	1.29	0.84	11.50	187	1.69	307	94	78	0	0	4	2		
	MOBILE	71	56	76	43	64	19	2.49	1.69	1.28	11.49	223	2.03	406	95	79	0	0	4	2		
AK	MONTGOMERY	66	55	77	42	60	18	2.34	1.59	1.12	11.91	219	1.88	409	97	77	0	0	6	1		
	ANCHORAGE	32	19	44	2	26	5	0.19	0.05	0.12	3.48	305	0.05	56	83	69	0	7	4	0		
	BARROW	3	-13	12	-28	-5	-5	0.01	0.00	0.00	0.35	269	0.01	100	88	78	0	7	1	0		
AZ	FAIRBANKS	12	-11	34	-34	0	-3	0.00	-0.11	0.00	0.00	0	0.00	0	77	70	0	7	0	0		
	JUNEAU	36	28	46	14	32	4	2.98	2.12	1.72	7.69	130	1.98	381	94	90	0	4	4	2		
	KODIAK	39	26	45	18	32	1	1.85	0.51	1.26	8.22	97	0.55	68	84	71	0	6	3	2		
AR	NOME	18	-6	31	-18	6	-8	0.45	0.30	0.24	1.05	95	0.08	89	93	79	0	7	4	0		
	FLAGSTAFF	35	7	52	-3	21	-9	0.21	-0.10	0.21	0.96	48	0.00	0	86	40	0	7	1	0		
	PHOENIX	58	36	67	30	47	0	0.15	-0.02	0.14	0.20	20	0.01	10	69	37	0	1	2	0		
CA	PRESCOTT	46	14	59	6	30	-5	0.19	-0.03	0.15	0.21	15	0.04	29	84	31	0	7	2	0		
	TUCSON	57	33	71	27	45	0	0.41	0.22	0.24	1.77	154	0.29	242	86	51	0	3	4	0		
	FORT SMITH	47	33	65	29	40	4	2.72	2.31	1.68	7.39	203	1.87	748	89	72	0	3	5	2		
CO	LITTLE ROCK	49	37	62	32	43	5	2.24	1.62	0.78	11.28	222	0.95	257	97	69	0	1	5	3		
	BAKERSFIELD	57	34	65	31	46	4	0.10	-0.06	0.10	0.72	83	0.10	91	73	55	0	3	1	0		
	FRESNO	56	35	64	33	45	4	0.30	0.01	0.30	0.86	56	0.30	158	88	70	0	0	1	0		
CT	LOS ANGELES	62	44	66	39	53	3	0.56	0.18	0.56	2.01	99	0.56	233	55	34	0	0	1	1		
	REDDING	55	34	58	29	45	4	1.11	0.19	1.11	5.43	104	1.11	195	73	58	0	5	1	1		
	SACRAMENTO	54	33	56	29	44	3	0.22	-0.27	0.22	2.59	94	0.22	71	91	48	0	3	1	0		
DE	SAN DIEGO	62	45	64	41	54	4	0.24	-0.06	0.24	3.09	206	0.00	0	57	35	0	0	1	0		
	SAN FRANCISCO	57	43	63	38	50	6	0.20	-0.38	0.20	1.89	58	0.20	56	75	57	0	0	1	0		
	STOCKTON	56	33	58	29	44	3	0.15	-0.20	0.15	2.50	123	0.15	68	84	64	0	4	1	0		
FL	ALAMOSA	18	-17	23	-24	1	-18	0.47	0.42	0.37	0.64	173	0.37	925	85	74	0	7	2	0		
	CO SPRINGS	45	13	63	0	29	0	0.01	-0.06	0.01	0.10	21	0.01	20	71	31	0	7	1	0		
	DENVER INTL	45	14	62	-5	30	1	0.03	-0.03	0.03	0.03	8	0.00	0	66	33	0	6	1	0		
GA	GRAND JUNCTION	26	6	31	-4	16	-11	0.21	0.11	0.21	0.94	159	0.00	0	86	70	0	7	1	0		
	PUEBLO	45	8	66	-6	26	-4	0.09	0.02	0.06	0.12	27	0.03	60	82	66	0	7	2	0		
	BRIDGEPORT	45	33	58	31	39	7	2.12	1.53	1.28	6.95	181	0.84	227	89	58	0	4	3	2		
HI	HARTFORD	43	27	56	24	35	7	1.93	1.33	1.03	6.19	156	1.16	314	89	58	0	7	3	2		
	WASHINGTON	52	40	64	36	46	11	0.56	0.03	0.48	5.91	175	0.08	24	85	61	0	0	3	0		
	WILMINGTON	48	33	60	27	41	9	1.18	0.61	0.76	7.35	196	0.42	120	94	63	0	4	4	1		
ID	DAYTONA BEACH	80	61	83	48	70	19	0.43	-0.05	0.43	5.32	177	0.43	143	100	61	0	0	1	0		
	JACKSONVILLE	78	57	83	45	67	20	0.55	0.04	0.55	5.40	182	0.55	172	97	60	0	0	1	1		
	KEY WEST	82	75	83	71	79	19	0.06	-0.32	0.05	1.96	82	0.06	25	84	71	0	0	2	0		
IL	MIAMI	82	70	84	60	76	18	0.01	-0.29	0.01	1.60	68	0.01	6	95	65	0	0	1	0		
	ORLANDO	81	63	84	52	72	19	0.13	-0.24	0.13	6.95	274	0.13	57	96	59	0	0	1	0		
	PENSACOLA	71	60	75	47	66	20	1.44	0.69	0.49	17.56	395	1.01	215	91	77	0	0	6	0		
IA	TALLAHASSEE	73	58	81	42	66	20	1.31	0.51	1.19	17.12	372	1.31	262	98	79	0	0	2	1		
	TAMPA	79	65	83	53	72	19	0.84	0.49	0.84	9.56	381	0.84	400	91	61	0	0	1	1		
	WEST PALM BEACH	81	66	84	57	73	16	0.01	-0.47	0.01	1.45	42	0.01	3	95	65	0	0	1	0		
KS	ATHENS	61	50	67	45	56	17	2.74	2.06	1.46	13.01	315	2.14	510	93	80	0	0	6	3		
	ATLANTA	62	50	71	44	56	16	2.85	2.17	1.44	14.15	333	2.23	519	91	80	0	0	6	2		
	AUGUSTA	67	55	76	41	61	20	1.72	1.07	0.97	7.43	210	1.49	373	97	80	0	0	6	1		
LA	COLUMBUS	67	55	73	44	61	18	2.94	2.21	2.21	10.61	219	2.65	589	96	73	0	0	6	1		
	MACON	67	55	74	45	61	19	3.12	2.40	1.93	9.33	214	3.01	684	97	79	0	0	6	2		
	SAVANNAH	73	58	83	45	65	21	0.67	0.09	0.40	8.62	272	0.47	131	98	79	0	0	3	0		
MT	HILO	80	65	80	61	73	13	1.31	-0.12	0.59	10.50	92	0.45	52	92	80	0	0	7	1		
	HONOLULU	84	74	86	71	79	17	0.00	-0.47	0.00	0.69	22	0.00	0	67	61	0	0	0	0		
	KAHULUI	84	68	86	64	76	15	0.01	-0.58	0.01	0.61	18	0.01	3	79	71	0	0	1	0		
ND	LIHUE	81	72	82	71	77	16	0.22	-0.57	0.08	4.26	81	0.11	23	77	72	0	0	5	0		
	BOISE	37	21	46	14	29	-1	0.07	-0.15	0.07	1.31	86	0.00	0	76	62	0	7	1	0		
	LEWISTON	43	31	48	21	37	4	0.03	-0.14	0.03	0.80	69	0.00	0	62	53	0	3	1	0		
NE	POCATELLO	27	3	41	-11	15	-11	0.01	-0.18	0.01	0.80	66	0.00	0	84	70	0	7	1	0		
	CHICAGO/O'HARE	40	27	52	19	33	7	0.88	0.57	0.86	3.21	123	0.02	11	89	70	0	7	3	1		
	MOLINE	41	26	54	19	34	9	0.90	0.60	0.90	2.96	124	0.00	0	89	71	0	6	1	1		
NM	PEORIA	42	26	56	16	34	8	0.86	0.57	0.86	3.21	125	0.00	0	94	64	0	6	1	1		
	ROCKFORD	38	23	50	18	31	7	0.61	0.35	0.61	2.67	121	0.00	0	89	73	0	7	1	1		
	SPRINGFIELD	43	27	55	17	35	7	2.09	1.76	2.09	4.91	179	0.00	0	95	67	0	6	1	1		
OK	EVANSVILLE	47	34	64	28	41	9	1.53	1.06	0.78	6.37	167	0.75	268	95	78	0	4	2	2		
	FORT WAYNE	46	30	59	25	38	11	1.27	0.90	1.26	2.97	99	0.01	5	91	73	0	5	2	1		
	INDIANAPOLIS	46	30	60	25	38	9	1.32	0.90	1.30	3.96	120	0.02	8	93	66	0	5	2	1		
OR	SOUTH BEND	40	26	50	20	33	6	1.23	0.82	1.23	2.75	82	0.00	0	92	72	0	7	1	1		
	BURLINGTON	41	25	54	18	33	7	1.03	0.77	1.03	2.39	106	0.00	0	87	63	0	6	1	1		
	CEDAR RAPIDS	38	21	51	14	30	7	0.33	0.15	0.33	2.11	133	0.00	0	97	71	0	7	1	0		
SD	DES MOINES	41	20	57	10	31	7	0.11	-0.06	0.11	2.90	201	0.00	0	83	66	0	7	1	0		
	DUBUQUE	36	22	48	15	29	7	0.41	0.20	0.41	2.07	114	0.00	0	90	80	0	7	1	0		
	SIOUX CITY	36	14	49	-2	25	2	0.00	-0.10	0.00	1.83	251	0.00	0	89	74	0					

Weather Data for the Week Ending January 5, 2019

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION								RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS			
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.		
																	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
KY	WICHITA	43	20	61	17	31	0	0.00	-0.19	0.00	1.81	123	0.00	0	85	66	0	7	0	0	
	JACKSON	54	39	68	33	47	13	1.96	1.35	1.38	8.06	174	0.58	157	95	67	0	0	4	1	
	LEXINGTON	51	37	65	31	44	11	2.55	1.94	1.36	7.25	165	1.19	322	86	74	0	1	2	2	
	LOUISVILLE	52	38	65	33	45	12	2.16	1.61	1.48	6.60	164	0.68	206	85	63	0	0	2	2	
LA	PADUCAH	50	36	68	30	43	10	1.91	1.35	1.01	6.71	142	1.01	306	85	75	0	1	3	2	
	BATON ROUGE	65	50	79	37	58	13	2.92	2.01	2.31	12.17	209	2.53	452	98	75	0	0	4	1	
	LAKE CHARLES	62	47	71	40	55	9	5.25	4.42	2.13	10.68	209	3.88	746	99	89	0	0	4	3	
	NEW ORLEANS	70	56	78	42	63	16	1.84	1.05	1.31	7.04	127	1.69	352	97	86	0	0	4	1	
ME	SHREVEPORT	54	40	68	32	47	5	3.15	2.43	1.02	13.15	264	1.83	416	99	68	0	1	4	3	
	CARIBOU	23	4	34	-15	13	-4	0.82	0.30	0.65	4.60	131	0.82	256	83	69	0	7	3	1	
	PORTLAND	38	24	50	20	31	5	1.36	0.68	0.68	4.81	103	1.06	259	89	54	0	7	4	1	
	BALTIMORE	50	34	61	28	42	9	0.78	0.21	0.71	6.58	178	0.07	20	91	65	0	4	4	1	
MA	BOSTON	45	32	59	26	38	7	1.34	0.73	0.53	3.65	89	0.81	213	81	48	0	4	4	2	
	WORCESTER	39	26	51	22	32	5	1.53	0.88	0.70	5.57	133	0.83	208	91	57	0	6	4	2	
	ALPENA	35	14	46	-8	25	1	0.81	0.50	0.71	2.35	116	0.10	53	91	70	0	7	3	1	
	GRAND RAPIDS	38	27	48	24	33	7	0.60	0.25	0.56	1.95	67	0.04	19	92	67	0	7	2	1	
MI	HOUGHTON LAKE	34	17	40	6	25	2	0.83	0.56	0.75	2.11	110	0.07	41	87	77	0	7	3	1	
	LANSING	39	26	50	24	33	7	0.85	0.58	0.79	2.42	103	0.06	35	93	73	0	7	3	1	
	MUSKEGON	39	26	46	23	33	6	0.75	0.36	0.55	2.36	82	0.20	83	78	71	0	7	2	1	
	TRAVERSE CITY	37	21	43	10	29	4	0.63	0.17	0.60	1.83	62	0.03	11	94	70	0	7	3	1	
MN	DULUTH	27	8	40	-12	17	1	0.36	0.23	0.34	1.89	183	0.01	11	82	75	0	7	3	0	
	INT'L FALLS	23	0	39	-31	12	0	0.02	-0.09	0.02	0.85	110	0.02	29	91	65	0	7	1	0	
	MINNEAPOLIS	34	15	47	0	24	5	0.01	-0.14	0.01	1.50	136	0.00	0	86	69	0	7	1	0	
	ROCHESTER	32	16	44	3	24	6	0.00	-0.13	0.00	2.11	192	0.00	0	92	78	0	7	0	0	
MS	ST. CLOUD	29	5	42	-13	17	1	0.16	0.05	0.09	0.90	118	0.00	0	92	65	0	7	2	0	
	JACKSON	61	47	74	38	54	13	4.10	3.21	2.19	11.68	199	3.64	674	95	80	0	0	5	2	
	MERIDIAN	64	50	75	38	57	15	2.52	1.63	1.68	12.48	213	2.17	395	90	77	0	0	5	1	
	TUPELO	56	44	71	38	50	12	3.37	2.43	1.10	9.57	143	2.00	357	90	81	0	0	5	3	
MO	COLUMBIA	44	27	61	19	36	6	2.10	1.81	2.06	4.31	163	0.00	0	90	63	0	5	2	1	
	KANSAS CITY	42	21	58	17	32	3	0.80	0.59	0.80	3.06	173	0.00	0	85	53	0	7	1	1	
	SAINT LOUIS	46	30	61	24	38	7	1.15	0.79	1.03	4.02	131	0.00	0	86	72	0	5	2	1	
	SPRINGFIELD	45	30	64	21	37	5	1.53	1.19	1.17	2.37	70	0.35	175	86	73	0	5	4	1	
MT	BILLINGS	33	17	47	-5	25	-1	0.30	0.17	0.25	0.69	92	0.00	0	73	55	0	6	2	0	
	BUTTE	32	0	47	-21	16	-5	0.06	-0.03	0.06	0.33	56	0.00	0	82	49	0	7	1	0	
	CUT BANK	37	17	52	-6	27	4	0.05	-0.01	0.05	0.11	29	0.00	0	80	57	0	5	1	0	
	GLASGOW	38	16	50	-9	27	10	0.07	0.00	0.05	0.78	186	0.00	0	76	65	0	5	2	0	
NE	GREAT FALLS	40	20	53	1	30	5	0.09	-0.04	0.09	0.34	45	0.00	0	75	49	0	5	1	0	
	HAVRE	42	16	56	-5	29	9	0.04	-0.05	0.04	0.19	33	0.00	0	72	56	0	5	1	0	
	MISSOULA	33	14	45	2	24	-1	0.06	-0.13	0.06	0.83	65	0.00	0	83	71	0	7	1	0	
	GRAND ISLAND	38	17	54	4	27	2	0.00	-0.09	0.00	3.22	447	0.00	0	83	60	0	7	0	0	
NV	LINCOLN	42	17	61	4	30	4	0.00	-0.12	0.00	2.80	298	0.00	0	83	65	0	7	0	0	
	NORFOLK	36	15	49	-2	25	1	0.00	-0.08	0.00	2.67	376	0.00	0	87	69	0	7	0	0	
	NORTH PLATTE	44	14	60	6	29	3	0.00	-0.07	0.00	1.19	264	0.00	0	84	45	0	7	0	0	
	OMAHA	42	18	56	5	30	5	0.01	-0.11	0.00	2.87	287	0.00	0	79	63	0	7	1	0	
NH	SCOTTSBLUFF	44	11	62	-5	28	2	0.01	-0.08	0.01	0.24	39	0.01	17	80	49	0	7	1	0	
	VALENTINE	43	14	58	-9	29	5	0.04	-0.01	0.04	0.91	246	0.00	0	79	55	0	7	1	0	
	ELY	36	8	53	-4	22	-5	0.05	-0.06	0.03	0.24	42	0.03	43	78	60	0	7	3	0	
	LAS VEGAS	50	33	55	28	42	0	0.23	0.15	0.23	0.40	87	0.23	383	42	29	0	2	1	0	
NJ	RENO	46	22	58	16	34	2	0.01	-0.14	0.01	1.09	112	0.01	11	69	55	0	7	1	0	
	WINNEMUCCA	35	15	45	5	25	-5	0.00	-0.14	0.00	1.88	209	0.00	0	79	64	0	7	0	0	
	CONCORD	39	23	47	19	31	6	0.86	0.39	0.50	3.37	104	0.36	124	88	58	0	7	4	1	
	NEWARK	46	34	58	29	40	8	1.98	1.37	1.33	7.79	197	0.65	171	86	58	0	3	4	2	
NM	ALBUQUERQUE	34	13	42	7	23	-11	0.06	-0.03	0.06	0.56	102	0.06	100	83	54	0	7	1	0	
	ALBANY	41	27	53	20	34	8	1.03	0.62	0.57	3.57	122	0.45	180	80	58	0	7	4	1	
	BINGHAMTON	39	26	48	24	32	6	0.83	0.41	0.57	2.94	90	0.21	84	90	76	0	7	5	1	
	BUFFALO	44	27	57	23	35	7	0.76	0.21	0.54	3.48	84	0.11	33	89	71	0	7	5	1	
NY	ROCHESTER	43	26	55	21	34	6	0.50	0.11	0.35	2.56	86	0.10	42	91	79	0	7	5	0	
	SYRACUSE	42	22	53	18	32	5	0.56	0.13	0.41	3.39	100	0.11	42	89	67	0	7	4	0	
	ASHEVILLE	56	44	63	40	50	15	1.96	1.38	0.81	12.53	334	1.65	458	89	76	0	0	5	2	
	CHARLOTTE	62	49	71	40	55	16	1.71	1.12	0.87	8.43	237	1.46	395	96	74	0	0	6	1	
NC	GREENSBORO	59	46	66	44	53	17	1.23	0.69	0.53	8.83	260	1.03	312	98	71	0	0	6	1	
	HATTERAS	63	53	68	51	58	15	0.30	-0.60	0.16	11.12	217	0.24	43	96	75	0	0	5	0	
	RALEIGH	61	47	71	44	54	16	0.93	0.35	0.54	7.03	207	0.79	219	95	73	0	0	6	1	
	WILMINGTON	66	55	77	49	61	19	0.75	0.08	0.54	7.70	183	0.61	145	92	71	0	0	3	1	
ND	BISMARCK	33	10	48	-18	21	4	0.03	-0.04	0.02	0.70	143	0.02	40	83	64	0	7	2	0	
	DICKINSON	34	13	50	-12	24	4	0.00	-0.05	0.00	0.11	29	0.00	0	81	58	0	6	0	0	
	FARGO	27	4	40	-19	16	1	0.05	-0.07	0.02	0.95	146	0.02	25	91	74	0	7	3	0	
	GRAND FORKS	22	1	38	-25	12	-2	0.10	0.00	0.07	0.67	108	0.03	43	95	78	0	7	2	0	
OH	JAMESTOWN	29	10	46	-16																

Weather Data for the Week Ending January 5, 2019

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS				
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP.		
																	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE	
OK	TOLEDO	45	30	53	27	38	11	0.82	0.47	0.80	2.84	100	0.02	10	83	66	0	7	3	1	
	YOUNGSTOWN	47	30	61	28	39	11	1.05	0.65	0.99	3.40	106	0.06	25	87	76	0	7	3	1	
	OKLAHOMA CITY	40	26	59	22	33	-2	1.69	1.41	1.29	5.49	267	1.31	771	91	69	0	7	4	1	
OR	TULSA	44	28	64	23	36	1	2.48	2.18	1.33	5.23	200	1.61	894	90	69	0	6	4	2	
	ASTORIA	48	36	54	29	42	3	0.76	-0.80	0.29	10.68	94	0.61	66	95	87	0	3	4	0	
	BURNS	33	10	39	0	22	-4	0.00	-0.21	0.00	1.12	78	0.00	0	84	72	0	7	0	0	
	EUGENE	50	34	56	25	42	5	0.12	-1.10	0.06	5.92	66	0.07	10	89	84	0	3	3	0	
	MEDFORD	43	28	54	25	35	-1	0.06	-0.35	0.05	3.29	104	0.01	4	96	78	0	6	2	0	
	PENDLETON	46	29	53	22	37	4	0.05	-0.18	0.02	1.71	106	0.04	29	72	55	0	4	3	0	
	PORTLAND	49	36	55	29	42	5	0.18	-0.66	0.05	5.26	85	0.14	27	91	80	0	3	4	0	
	SALEM	49	35	54	25	42	5	0.25	-0.69	0.17	6.44	92	0.20	35	88	79	0	3	4	0	
	PA	ALLENTOWN	46	31	57	25	38	8	1.84	1.28	1.05	7.04	189	0.79	232	87	63	0	4	4	2
	ERIE	46	31	63	28	39	9	0.77	0.29	0.69	3.16	79	0.07	24	80	71	0	5	4	1	
	MIDDLETOWN	46	32	55	26	39	8	1.04	0.59	0.89	5.85	167	0.15	56	92	62	0	4	3	1	
	PHILADELPHIA	48	36	61	31	42	9	1.33	0.77	0.72	7.04	193	0.61	179	88	60	0	2	4	1	
	PITTSBURGH	47	31	61	27	39	9	1.11	0.68	0.75	5.33	171	0.36	138	96	68	0	4	3	1	
	WILKES-BARRE	42	31	52	28	36	7	1.14	0.77	0.58	3.79	137	0.55	250	93	68	0	5	5	1	
	WILLIAMSPORT	45	30	54	25	37	9	1.65	1.22	0.84	7.00	219	0.81	312	87	68	0	5	4	2	
RI	PROVIDENCE	45	29	58	25	37	6	2.03	1.34	1.04	6.33	139	1.42	338	83	55	0	5	4	2	
	CHARLESTON	69	57	78	47	63	19	0.49	-0.13	0.27	10.25	282	0.49	126	96	75	0	0	2	0	
	COLUMBIA	65	53	75	40	59	18	1.04	0.36	0.64	8.02	211	0.70	167	99	87	0	0	5	1	
SC	FLORENCE	66	57	74	48	61	20	1.11	0.43	0.74	7.39	190	0.77	183	96	74	0	0	4	1	
	GREENVILLE	60	48	68	42	54	16	3.03	2.34	1.41	13.89	325	2.43	579	98	74	0	0	5	2	
	ABERDEEN	29	7	42	-9	18	0	0.17	0.09	0.16	0.87	198	0.00	0	87	73	0	7	2	0	
	HURON	32	7	43	-11	20	0	0.08	0.01	0.06	1.06	241	0.00	0	86	67	0	7	2	0	
	RAPID CITY	38	15	50	-5	27	2	0.25	0.18	0.16	1.07	238	0.00	0	81	62	0	7	2	0	
	SIOUX FALLS	33	11	45	-4	22	2	0.00	-0.07	0.00	1.01	177	0.00	0	86	67	0	7	0	0	
TN	BRISTOL	59	41	75	34	50	16	1.18	0.64	0.54	7.19	193	1.10	333	100	69	0	0	5	1	
	CHATTANOOGA	59	45	72	39	52	14	1.94	1.14	0.71	10.59	200	1.59	324	92	74	0	0	4	1	
	KNOXVILLE	58	44	73	39	51	15	1.62	0.88	0.50	8.65	175	1.12	249	98	72	0	0	6	2	
	MEMPHIS	53	39	70	36	46	8	4.11	3.37	2.12	9.70	158	0.85	193	99	80	0	0	5	3	
	NASHVILLE	57	42	68	36	50	14	2.98	2.31	1.99	6.21	126	0.80	200	88	67	0	0	5	1	
	TX	ABILENE	50	32	70	27	41	1	0.55	0.35	0.22	3.91	281	0.27	225	89	73	0	4	4	0
	AMARILLO	48	19	74	11	33	-1	0.01	-0.12	0.01	0.60	87	0.01	13	78	41	0	7	1	0	
	AUSTIN	55	34	73	29	45	0	2.67	2.30	2.15	8.77	330	2.38	1082	89	75	0	3	4	1	
	BEAUMONT	62	44	70	38	53	7	4.30	3.37	2.46	11.96	205	4.00	702	92	73	0	0	4	2	
	BROWNSVILLE	67	46	77	39	57	5	0.22	0.05	0.12	0.87	71	0.20	182	97	79	0	0	5	0	
	CORPUS CHRISTI	62	40	78	33	51	2	0.18	-0.10	0.08	0.96	50	0.15	88	92	73	0	0	4	0	
	DEL RIO	59	34	73	30	47	2	0.04	-0.05	0.03	1.30	160	0.03	50	93	62	0	2	2	0	
	EL PASO	49	26	58	24	38	-3	0.00	-0.11	0.00	0.43	51	0.00	0	78	37	0	6	0	0	
	FORT WORTH	50	35	70	32	42	1	1.59	1.20	0.70	5.24	186	1.13	471	91	57	0	1	4	1	
	GALVESTON	59	46	63	41	53	4	2.71	2.10	1.50	5.46	140	2.37	624	99	75	0	0	5	2	
	HOUSTON	60	42	72	36	51	5	2.00	1.41	1.41	9.33	230	1.65	446	100	76	0	0	4	1	
	LUBBOCK	49	24	68	20	37	1	0.00	-0.09	0.00	0.94	129	0.00	0	79	55	0	7	0	0	
	MIDLAND	51	29	69	25	40	0	0.00	-0.10	0.00	1.06	149	0.00	0	82	57	0	5	0	0	
	SAN ANGELO	53	30	72	28	42	1	0.35	0.21	0.31	2.49	244	0.01	13	83	68	0	5	3	0	
	SAN ANTONIO	58	37	72	34	48	3	0.88	0.58	0.63	3.08	144	0.71	394	90	51	0	0	4	1	
	VICTORIA	61	38	75	34	50	3	0.45	0.04	0.19	5.30	195	0.35	140	93	72	0	0	3	0	
	WACO	52	35	72	30	43	1	3.87	3.50	2.52	8.10	272	3.37	1532	92	77	0	3	4	2	
	WICHITA FALLS	45	30	66	26	37	-1	1.36	1.12	0.75	4.68	257	0.87	621	95	71	0	5	4	1	
	UT	SALT LAKE CITY	28	14	34	6	21	-9	0.02	-0.19	0.02	1.22	90	0.00	0	85	55	0	7	1	0
VT	BURLINGTON	36	22	44	14	29	5	0.50	0.16	0.33	3.10	128	0.17	81	85	65	0	7	3	0	
	VA	LYNCHBURG	54	38	63	34	46	12	0.56	0.01	0.19	7.56	212	0.42	124	98	66	0	0	4	0
		NORFOLK	60	45	73	43	53	14	0.49	-0.09	0.27	4.35	128	0.45	125	96	72	0	0	5	0
	RICHMOND	57	41	68	39	49	13	0.51	-0.06	0.18	3.79	109	0.33	94	90	73	0	0	5	0	
	ROANOKE	53	40	62	36	47	12	0.51	0.03	0.29	5.83	184	0.45	150	87	63	0	0	5	0	
		WASH/DULLES	50	33	62	28	42	10	0.67	0.18	0.53	5.91	175	0.14	47	89	72	0	4	3	1
OLYMPIA		47	33	52	24	40	4	1.34	0.15	0.77	8.41	98	1.32	186	96	86	0	4	4	2	
QUILLAYUTE		47	36	51	27	42	4	7.89	5.70	5.48	27.42	173	7.68	586	91	79	0	3	5	3	
	SEATTLE-TACOMA	49	38	56	32	44	6	1.00	0.17	0.71	7.02	115	0.92	184	87	70	0	1	4	1	
	SPOKANE	38	29	45	21	33	5	0.09	-0.22	0.05	2.66	109	0.04	21	81	60	0	4	2	0	
	WV	YAKIMA	45	27	53	18	36	7	0.01	-0.21	0.01	0.70	46	0.01	8	83	71	0	6	1	0
BECKLEY		52	37	65	33	45	13	1.04	0.53	0.37	5.11	150	0.67	216	93	74	0	0	5	0	
CHARLESTON		55	36	71	31	46	12	0.79	0.29	0.49	5.84	161	0.30	97	94	68	0	2	3	0	
	ELKINS	51	31	63	25	41	11	0.56	0.02	0.28	4.37	116	0.31	94	88	69	0	4	4	0	
	HUNTINGTON	53	36	67	30	45	12	0.91	0.38	0.62	5.73	155	0.29	91	89	64	0	3	3	1	
	WI	EAU CLAIRE	33	16	47	4	25	7	0.00	-0.15	0.00	0.80	71	0.00	0	89	59	0	7	0	0
GREEN BAY		34	17																		

December Weather Summary

Weather

Weather summary provided by USDA/WAOB

Highlights: A parade of storms provided plenty of precipitation in most parts of the country. Precipitation surpluses were most apparent across the Plains and the Southeast; both areas contended with multiple major weather systems. In the latter region, a mid-month deluge followed an early-season snowfall. Additional Southeastern storms during the second half of December pushed annual precipitation totals into record-setting territory and led to several rounds of mostly minor to moderate flooding. Acute wetness—for both December and 2018—extended as far north as the Ohio Valley and the mid-Atlantic.

Meanwhile, wintry conditions across the nation's mid-section peaked amid the holiday season, particularly during a post-Christmas storm that delivered wind-driven snow from the southern High Plains into the upper Great Lakes region. Late-December precipitation eased short-term dryness on the southern Plains—one of the few regions east of the Rockies with drought-related concerns. The Great Lakes region and Deep South Texas were among a handful of areas east of the Rockies reporting pockets of below-normal monthly temperatures.

Warmth dominated the central and eastern U.S., with December temperatures averaging at least 5°F above normal across large sections of the northern Plains and upper Midwest. In fact, warmth also extended across much of the West, excluding portions of the northern Intermountain region.

December precipitation was highly variable across the West. Relative to normal, monthly precipitation was greatest in the Northwest, northern Great Basin, and the southern Rockies. By early January, some of the lowest snowpack values, compared to typical amounts, were noted in southern Idaho.

Historical Perspective: Due to a delay in data processing associated with the partial federal government shutdown that began on December 22, 2018, preliminary historical statistics from the National Centers for Environmental Information were not available for this article.

Summary: As December began, heavy precipitation and severe thunderstorms erupted across parts of the central Plains, Midwest, and Southeast. Illinois' third-largest tornado outbreak occurred on December 1, when—based on preliminary reports—26 tornadoes were observed. Larger Illinois outbreaks had occurred with 39 tornadoes on April 19, 1996, and 36 tornadoes on April 2, 2006, but the state's largest December outbreak had been a 21-tornado swarm on December 18-19, 1957. Elsewhere in Illinois on the 1st, straight-line winds gusted to 75 mph in Springfield—a station record for December and the highest gust at any time of year in that location since November 29, 1975 (76 mph). Farther west, daily-record snowfall amounts for December 1 totaled 6.2 inches in Rapid City, SD, and 4.4 inches in Concordia, KS. On the same date, daily precipitation records included 4.28 inches in Pensacola, FL; 1.84 inches in Cincinnati, OH; and 1.51 inches in Grand Island, NE. By December 2, severe weather shifted into the Southeast, where an EF-3 tornado sliced 7.5 miles across Camden County, Georgia. (An

EF-3 tornado had also been reported the previous day in Illinois, cutting a 12.7-mile path through Christian County.) The Georgia twister struck a docked Coast Guard vessel, on which a peak gust to 144 mph was clocked, at the Naval Submarine Base Kings Bay. Elsewhere in Georgia, daily-record rainfall totals for December 2 included 2.92 inches in Savannah and 2.05 inches on Saint Simons Island. December 1-3 rainfall on Saint Simons Island totaled 4.78 inches.

During the first full week of December, rare, early-season snow fell across the South. In advance of the storminess, Vero Beach, FL, notched a monthly record high of 89°F on December 2. Vero Beach's previous record of 87°F had been set most recently on December 1, 2016. Daily-record highs for December 2 rose to 83°F in New Orleans, LA; 81°F in Mobile, AL; 75°F in Athens, GA; and 74°F in Chattanooga, TN. On December 3 in Florida, monthly record highs were tied in Melbourne (90°F; previously achieved on December 6, 1942) and Vero Beach (89°F; attained the previous day).

Meanwhile, the first of two storm systems emerged from the West. Daily-record snowfall totals for December 2 included 5.9 inches in Salt Lake City, UT, and 3.4 inches in Boise, ID. Later, the same system produced a daily-record snowfall (0.9 inch on December 4) in Evansville, IN, and 4.8 inches of snow (not a record for December 5) in Atlantic City, NJ. By December 6, a new storm arrived in southern California, where daily-record rainfall totals reached 3.24 inches at Santa Ana's John Wayne Airport; 1.97 inches in Oceanside; 1.91 inches in downtown Los Angeles; and 1.46 inches in Lancaster. Farther east, heavy rain erupted in the western Gulf Coast region, where record-breaking rainfall amounts for December 7 topped the 4-inch mark in Texas locations such as Lufkin (4.83 inches) and College Station (4.01 inches). Elsewhere on the 7th, daily-record amounts included 3.58 inches in Victoria, TX; 2.95 inches in Shreveport, LA; and 2.60 inches in El Dorado, AR. Another daily record, 2.02 inches, was set in El Dorado on December 8. Daily rainfall records were set on the 8th in Monroe, LA (4.01 inches); Mobile, AL (3.46 inches); and Vicksburg, MS (2.37 inches).

In Texas, snowfall on December 8 totaled 10.0 inches in Lubbock and 3.0 inches in Abilene. It was Lubbock's greatest single-day snowfall since December 27, 2015, when 11.0 inches fell. Snow soon spread from the southern High Plains to the southern Appalachians. Along the eastern slopes of the latter region, trapped cold air led to some freezing rain, damaged trees, and downed power lines. From December 8-10, storm-total snowfall reached 1 to 2 feet in an area centered across southwestern Virginia and northwestern North Carolina. In southwestern Virginia, December 9-10 snowfall totaled 15.2 inches in Danville and Roanoke. For Danville, it was the second-greatest December event total behind 22.5 inches on December 17-18, 1930. It was Roanoke's highest single-storm total in December since December 18-19, 2009, when 17.8 inches fell. Elsewhere, the entirety of the storm's snow fell on December 9 (and resulted in daily-record totals) in locations such as Beckley, WV (13.5 inches), and Richmond, VA (11.5 inches). In North Carolina, December 9-10 snowfall reached 12.8 inches in Greensboro and 8.9 inches in Raleigh-Durham. Asheville, NC, received 11.4 inches of snow from December 8-10, while Greenville-Spartanburg, SC, collected 4.3 inches.

Courtesy of sustained wetness, annual precipitation records began to fall as early as mid-November from the Ohio Valley into the Mid-Atlantic States. With each new storm in late November and early December, a few more annual records were broken. Then, in mid-December, a moisture-laden storm pushed 2018 precipitation totals into record territory at several more locations, including Frankfort, KY, and Washington, DC. Heavy rain erupted across the mid-South on December 13-14, totaling 5.77 inches in Little Rock, AR. Daily-record rainfall totals for December 14 included 3.12 inches in Gainesville, FL; 2.95 inches in Charleston, SC; 1.65 inches in Evansville, IN; and 1.46 inches in Cape Girardeau, MO. The following day, record-setting rainfall totals for December 15 reached 2.55 inches in Washington, DC, and 2.24 inches in Baltimore, MD. In Kentucky, rainfall on December 15 pushed Frankfort's year-to-date precipitation total to 65.99 inches. Previously, Frankfort's annual record of 65.58 inches had been set in 2011. Similarly, year-to-date precipitation in Washington, DC, climbed to 63.62 inches, surpassing its 1889 annual mark of 61.33 inches. Northeastern rain lingered into December 16, when daily-record totals were set in Mount Pocono, PA (1.89 inches); Wilmington, DE (1.53 inches); and Newark, NJ (1.47 inches). Farther north, Bangor, ME, received 6.7 inches of snow on December 17-18, aided by a daily-record sum of 6.0 inches on the former date.

A few days later, on December 21-22, heavy precipitation returned to Bangor, totaling 1.92 inches—all rain. Other areas of the East were also deluged with heavy rain, mainly on December 20-21. On the 20th, daily-record totals in Florida included 4.18 inches in Sarasota-Bradenton; 3.65 inches in Orlando and 3.52 inches in Tampa. Severe weather accompanied Florida's heavy rain, with isolated tornadoes reported in Charlotte, Manatee, and Polk Counties. Elsewhere on December 20, daily-record totals reached 1.63 inches in Lynchburg, VA, and 1.55 inches in Huntington, WV. The following day, record-setting precipitation totals for December 21 included 2.96 inches in Mount Pocono, PA; 2.03 inches in Millinocket, ME; and 1.73 inches at JFK Airport in New York. Annual precipitation records were broken on December 21 in locations such as Greensboro, NC, and Scranton, PA. Greensboro ended the year with 64.11 inches (152 percent of normal), eclipsing its 2003 standard of 62.32 inches. Scranton netted an annual sum of 61.08 inches (160 percent of normal), toppling its 2011 mark of 60.00 inches. As a low-pressure system crossed the Southeast on the 21st, December barometric pressure records were broken in locations such as Jacksonville, FL (29.41 inches, or 995.9 millibars), and Alma, GA (29.31 inches, or 992.6 millibars). The previous record in Jacksonville had been 29.45 inches (997.3 millibars) on December 7, 1875, while the record in Alma had been 29.43 inches (996.6 millibars) on December 18, 2009. Jacksonville also clocked a wind gust to 41 mph on December 21.

Pacific Northwestern wetness peaked prior to mid-month, when Quillayute, WA, netted 8.46 inches of rain from December 11-13. Ultimately, Quillayute's monthly rainfall climbed to 22.92 inches, or 176 percent of normal. Farther east, downslope (chinook) winds contributed to warmth on Montana's high plains, where Cut Bank reported gusts to 50 mph or higher each day from December 9-15. Cut Bank's wind gusts peaked at 61 and 68 mph, respectively, on December 9 and 13. Periodic high winds also affected the Pacific Northwest. In western Washington, peak gusts on December 14 reached 52 mph in Hoquiam and 54 mph in Seattle. Hoquiam also posted a daily record-tying high of 57°F on December 14, while daily-record highs climbed to 63°F in

Astoria, OR, and Bellingham, WA. By mid-December, warmth expanded eastward across the nation's northern tier. Record-setting highs for December 15 rose to 48°F in Ashland, WI, and Brainerd, MN. In northern Maine, both Caribou and Houlton experienced a temperature rebound from -13 to 39°F between December 13 and 15.

As the second half of December got underway, wetness spread southward into California and continued in the Northwest. On the 16th, Red Bluff (1.77 inches) and downtown Sacramento (1.17 inches) collected daily-record totals. Two days later, Eugene, OR, netted a daily-record rainfall (1.52 inches) for December 18. Warmth accompanied the Western precipitation, with daily-record highs for December 16 reaching 62°F in Medford, OR, and 59°F in Bellingham, WA. On December 18, Northwestern daily-record highs climbed to 59°F in Portland, OR, and 54°F in Seattle, WA. A few days later, Waterloo, IA, notched a daily-record high (52°F) for December 19. By the 20th, widespread Western warmth resulted in daily-record highs in locations such as Campo, CA (84°F); Prescott, AZ (67°F); and Reno, NV (66°F). Warmth also prevailed in Florida, where daily-record highs for December 20 surged to 85°F in Fort Pierce and Vero Beach. Warm air more broadly covered the East on December 21, when readings of 65°F in Boston, MA; Scranton, PA; and Syracuse, NY, were among dozens of daily-record highs. In Maine, lingering warmth on the 22nd produced daily-record highs in Bangor (56°F) and Houlton (53°F). Many other areas of the country also remained warm, with December 22 featuring daily-record highs in Waco, TX (77°F), and Douglas, AZ (73°F). With the warmth, snow covered just under 20 percent of the contiguous U.S. by the morning of December 22, according to the National Weather Service.

The nation's mild regime soon began to fade. Still, some warmth lingered past Christmas. For example, Madison, WI, notched a record-tying high (50°F) for December 27. In Florida, daily-record highs for December 28 included 85°F in Sarasota-Bradenton and 84°F in Vero Beach. Florida's warmth lingered through the 29th, when daily-record highs surged to 85°F in Vero Beach and Fort Pierce. Farther west, however, cold air accompanied a holiday storm system. On December 24, the storm delivered daily-record precipitation totals in locations such as Reno, NV (0.73 inch), and Klamath Falls, OR (0.67 inch). All of Reno's Christmas Eve precipitation fell as rain. Elsewhere in Nevada, however, Elko received 8.2 inches of snow from December 23-26. In California, post-storm daily-record lows dipped to 25°F (on December 29) in Ramona and 32°F (on December 28) in Eureka. Mild conditions quickly returned, however, across Montana's high plains, due to chinook winds. On December 29, Cut Bank, MT, reported an average wind speed of 30.9 mph and clocked a peak gust to 60 mph. On the same date, a gust to 85 mph (and an average wind speed of 44.2 mph) was recorded in Livingston, MT. Farther east, heavy precipitation erupted across the nation's mid-section on December 26, when daily-record totals in Oklahoma reached 3.97 inches in Lawton and 2.72 inches in Oklahoma City. On the same date, daily-record amounts topped an inch in locations such as Dallas-Fort Worth, TX (2.45 inches); Wichita, KS (1.72 inches); and Grand Island, NE (1.42 inches). In northern Texas, tornadoes were spotted on the 26th—one apiece in Dickens and Donley Counties—followed by 2.3 inches of snow in Borger, Hutchinson County, from December 27-29. On December 26-27, Guymon, OK, received 2.31 inches of precipitation and clocked a peak wind gust to 45 mph, along with reports of as much as 10 inches of snow. Farther north, December 26-28 snowfall totals in South Dakota included

11.4 inches in Mitchell; 10.0 inches in Watertown; and 8.3 inches in Aberdeen, accompanied by northerly wind gusts that peaked at 50 to 55 mph on the 27th. Duluth, MN, netted a daily-record snowfall of 12.2 inches on December 27, and Marquette, MI, collected a record-setting total of 8.2 inches for the 28th. Coverage of snow across the Lower 48 States, which stood at just under 25 percent by December 25, increased to 40 percent by the morning of the 29th.

Meanwhile, torrential rain fell across parts of the South. Record-setting rainfall totals for the 27th reached 5.82 inches in Hattiesburg, MS; 3.04 inches in College Station, TX; and 2.70 inches in Lafayette, LA. For Hattiesburg, it was the wettest December day on record (previously, 5.33 inches on December 23, 1941) and the wettest day since January 30, 1999, when 9.85 inches fell. The rain swept into the East on December 28, resulting in another wave of broken annual precipitation records. By year's end, precipitation rose to 79.48 inches in Asheville, NC (previously, 75.22 inches in 2013), and 66.74 inches at Virginia's Dulles Airport (previously, 65.67 inches in 2003). Late-month rainfall was particularly impressive in Asheville, where 5.19 inches fell on December 27-28. Asheville also set record for its wettest December day (4.17 inches on the 28th; previously, 2.90 inches on December 29, 1901) and wettest December (10.87 inches; previously, 9.16 inches in 2009). In Florida, Tallahassee (15.77 inches) and Apalachicola (12.08 inches) also reported record-high December totals.

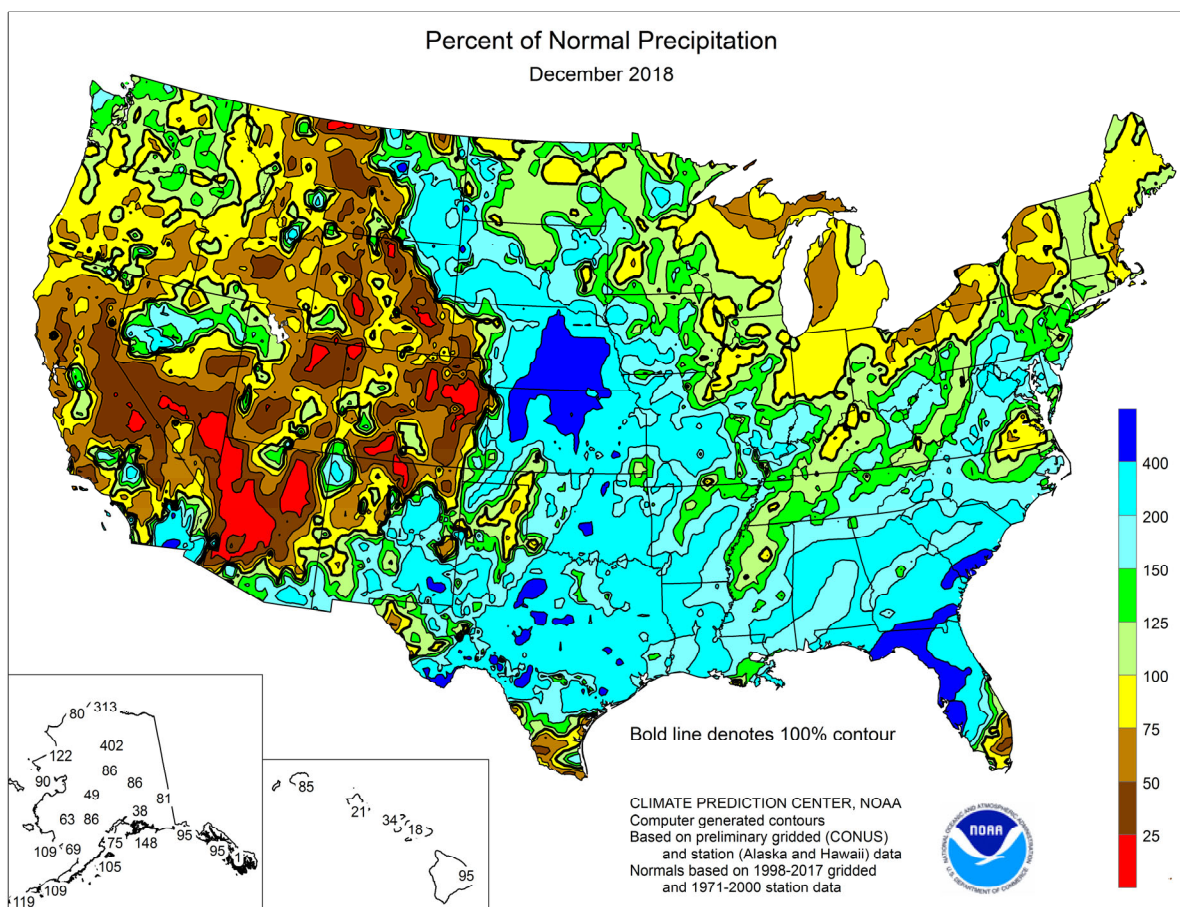
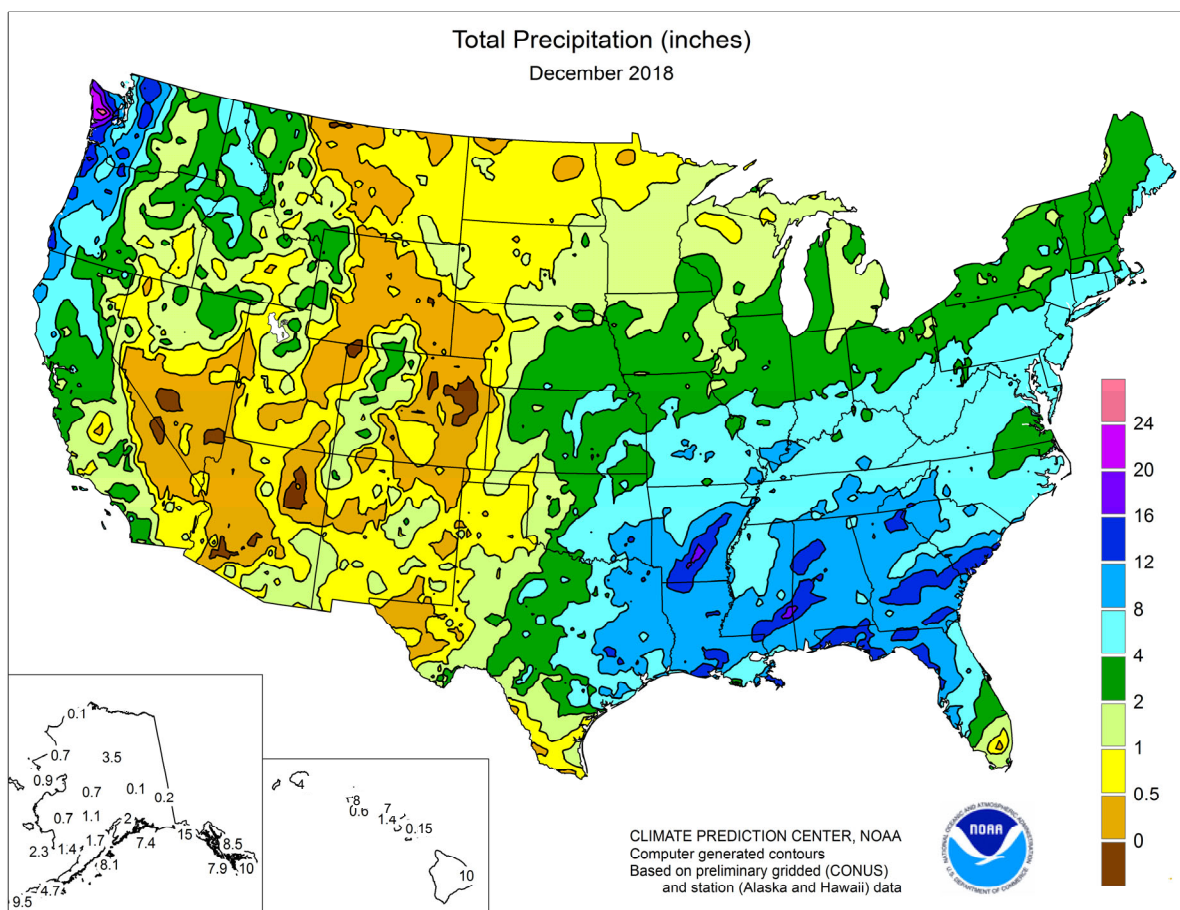
During 2018, no single storm—except Hurricanes Florence and Michael—was extraordinarily noteworthy. However, taken as a whole, the storms that regularly swept across the South, East, and Midwest led to some truly remarkable annual precipitation totals. The spate of storms literally continued through year's end. Indeed, a batch of heavy rain moved through parts of the East on December 30, when daily-record totals included 1.31 inches at New York's LaGuardia Airport and 1.29 inches in Newark, NJ. On New Year's Eve and New Year's Day, another large area of rain swept across the Corn Belt and Southeast, while snow blanketed portions of the northern Plains and upper Midwest. Precipitation on December 31 pushed annual precipitation to record-high levels in locations such as Louisville, KY; Columbus, OH, and Pittsburgh, PA. Louisville's 2018 total rose to 68.83 inches, clipping its 2011 mark of 68.02 inches. Columbus, with 55.18 inches, also topped its 2011 standard (54.96 inches). Pittsburgh's annual total climbed to 57.83 inches, edging its 2004 mark of 57.41 inches. A trio of tornadoes was spotted on New Year's Eve—two in southern Indiana and one in western Kentucky. Meanwhile in Wyoming, snowfall on December 31 totaled 4.2 inches in Lander and 3.0 inches in Riverton. Duluth, MN, with a sum of 4.3 inches on the 31st, experienced its snowiest New Year's Eve on record. Similarly, 8.1 inches of snow blanketed Gaylord, MI, on December 31. Starting in late December and continuing into early January, significant snow fell in the southern Rockies and environs. Following a 3.0-inch snowfall from December 26-28, Albuquerque, NM, netted 2.0 inches of snow on New Year's Day. During the late-December event, snowfall had totaled 1 to 2 feet or more in parts of New Mexico, including mountainous areas near Ruidoso. In an era of frequent Southern floods, the late-2018 rainfall sparked some early-January flooding—but barely registered in the modern historical record. For example, the Trinity River at Liberty, TX, crested 3.39 feet above flood stage on January 5, 2019. Although it was the 12th-highest water level during the last century in that location, it was only the eighth-highest crest of the decade.

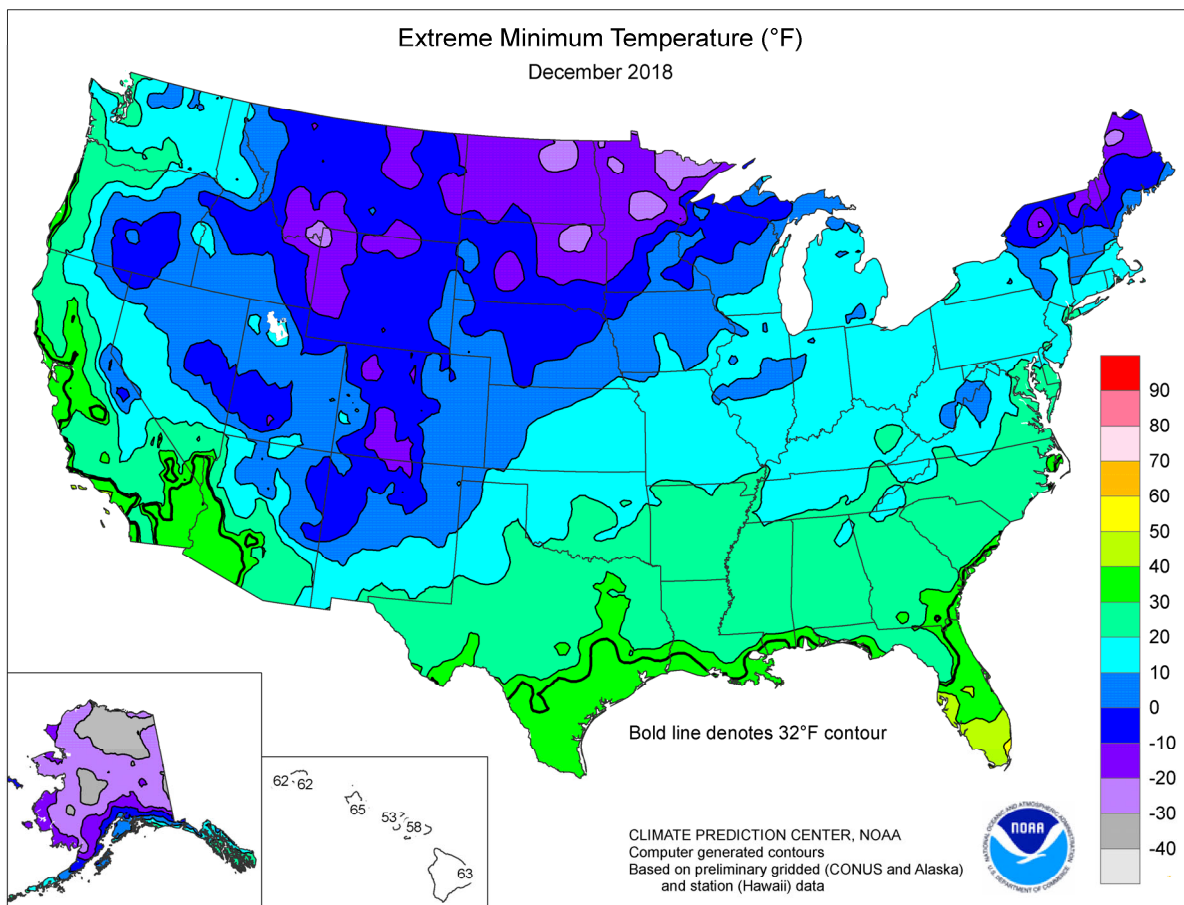
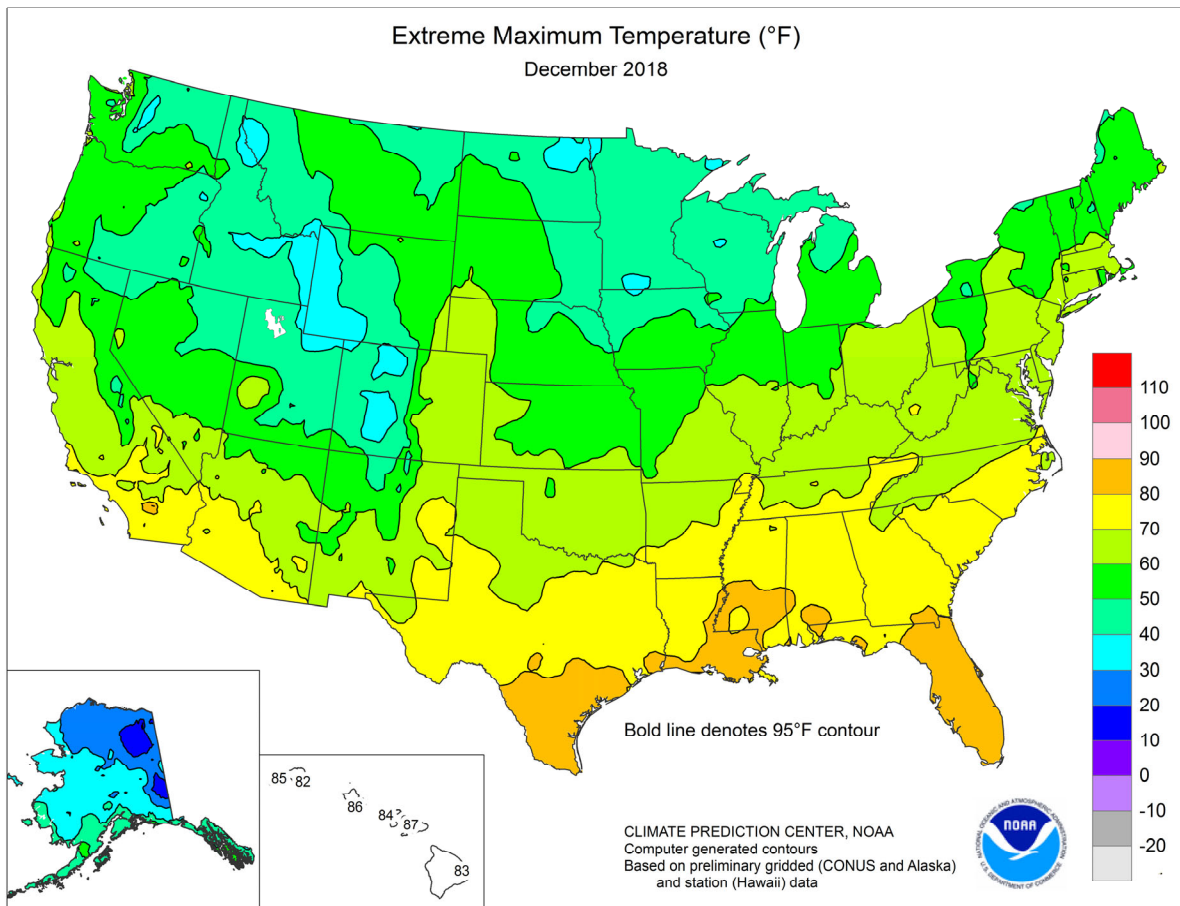
Similarly, the Sabine River near Bon Wier, TX, achieved its 15th-highest crest (6.19 feet above flood stage on January 7), but the river in that location had been higher as recently as September 2017 and March 2016.

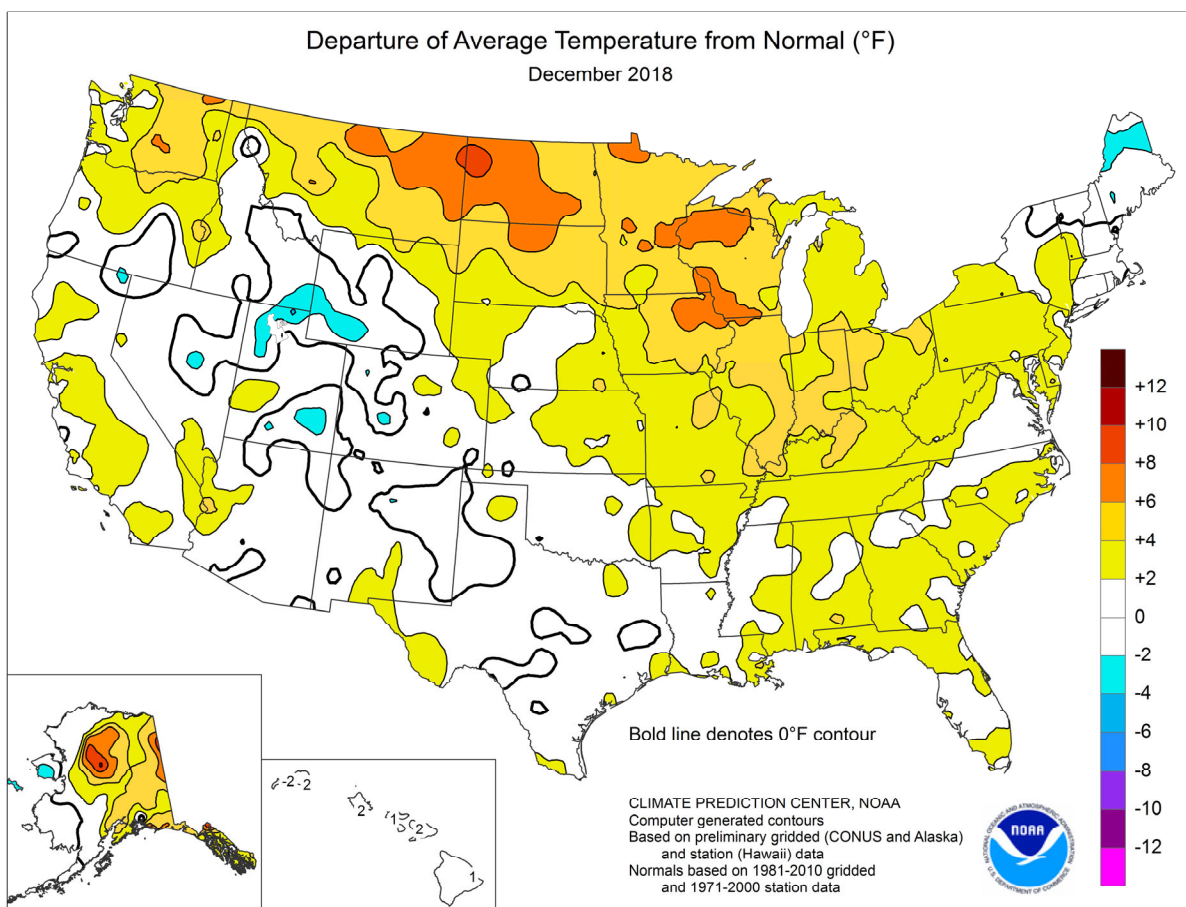
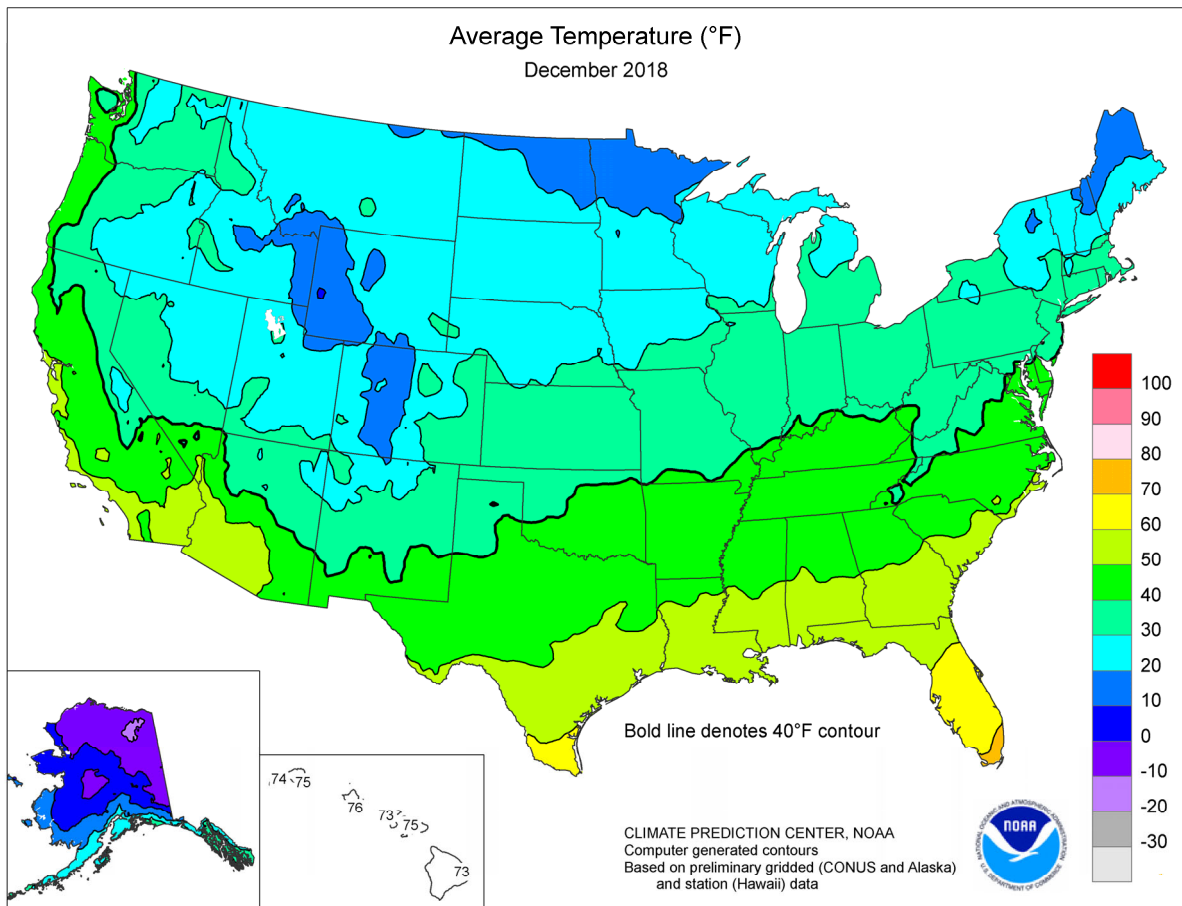
Baltimore, MD, was one of the first major cities—on November 15—to achieve an annual precipitation record, ending year with nearly six feet (71.82 inches). That total was 171 percent of normal, smashing Baltimore's 2003 record by 9.16 inches. Washington, DC, which topped its annual record on December 15, finished the year with 66.28 inches. Washington's former record of 61.33 inches had stood since 1889. Annual precipitation records from 1996 were bettered in Raleigh-Durham, NC (60.29 inches); Lynchburg, VA (65.70 inches); and Reading, PA (68.08 inches). Standards from 2003 fell by the wayside in Greensboro, NC (64.11 inches), and Charleston, WV (67.05 inches). And, 2011 marks were smashed in locations such as Columbus, OH (55.18 inches); Scranton, PA (61.08 inches); and Lexington, KY (71.98 inches). Even some Midwestern locations, such as Waterloo, IA (54.05 inches); Green Bay, WI (39.21 inches); and Sioux Falls, SD (39.17 inches), achieved annual precipitation records. All three Midwestern records were broken during the post-Christmas storm of December 26-27. Waterloo's former record of 53.07 inches had been set during the flood year of 1993.

Despite a mid- to late-month cold spell, most of Alaska experienced above-normal December temperatures. A selected of early-month, daily-record highs included 37°F (on December 2) in McGrath and 47°F (on December 6) in Yakutat. Kotzebue posted consecutive daily-record highs of 32°F on December 2-3. Across interior Alaska, McGrath received 9.5 inches of snow during the first 8 days of the month, and reported a daily-record precipitation total (0.31 inch, melted from 3.4 inches of snow) on December 5. Later, Anchorage experienced a stormy period from December 11-21, when snowfall totaled 22.7 inches. Elsewhere, Bettles endured an exceptionally snowy month (56.7 inches, or 363 percent of normal), breaking records for December and any time of year. Previous monthly snowfall records in Bettles had been 45.5 inches in December 2011 and 55.8 inches in January 1973. Aided by an 11.3-inch snowfall on December 30-31, Bettles' snow depth peaked at 35 inches on New Year's Eve. During the cold spell, McGrath recorded lows of -20°F on 13 consecutive days from December 13-25, including a reading of -35°F on the 21st. Meanwhile, brief periods of stormy weather affected southeastern Alaska, leading to mostly near-normal monthly precipitation totals. For example, December precipitation in Yakutat totaled 14.80 inches, 91 percent of normal. Mild weather returned across much of Alaska in late December. King Salmon notched a daily record-tying high of 43°F on Christmas Day, followed by consecutive daily-record highs of 49°F on December 27-28 and another record (53°F) on December 30.

Drier-than-normal weather dominated Hawaii during December. On December 7-8, winds associated with a cold front gusted to 53 mph at the Lanai Airport and 58 mph on the Big Island at Kohala Ranch. Elsewhere on the Big Island, Hilo's 1.74-inch total on December 19 marked the wettest day in that location since November 3, when 2.59 inches fell. Later, December 25 featured 1.44 inches of rain in Lihue, Kauai—the wettest day in that location since October 30, when 3.27 inches fell. In leeward areas, however, December rainfall totaled just 0.54 inch (16 percent of normal) in Kahului, Maui, and 0.60 inch (19 percent) in Honolulu, Oahu. Late-month warmth led to daily-record highs (85 and 86°F, respectively) in Honolulu on December 29 and 31.







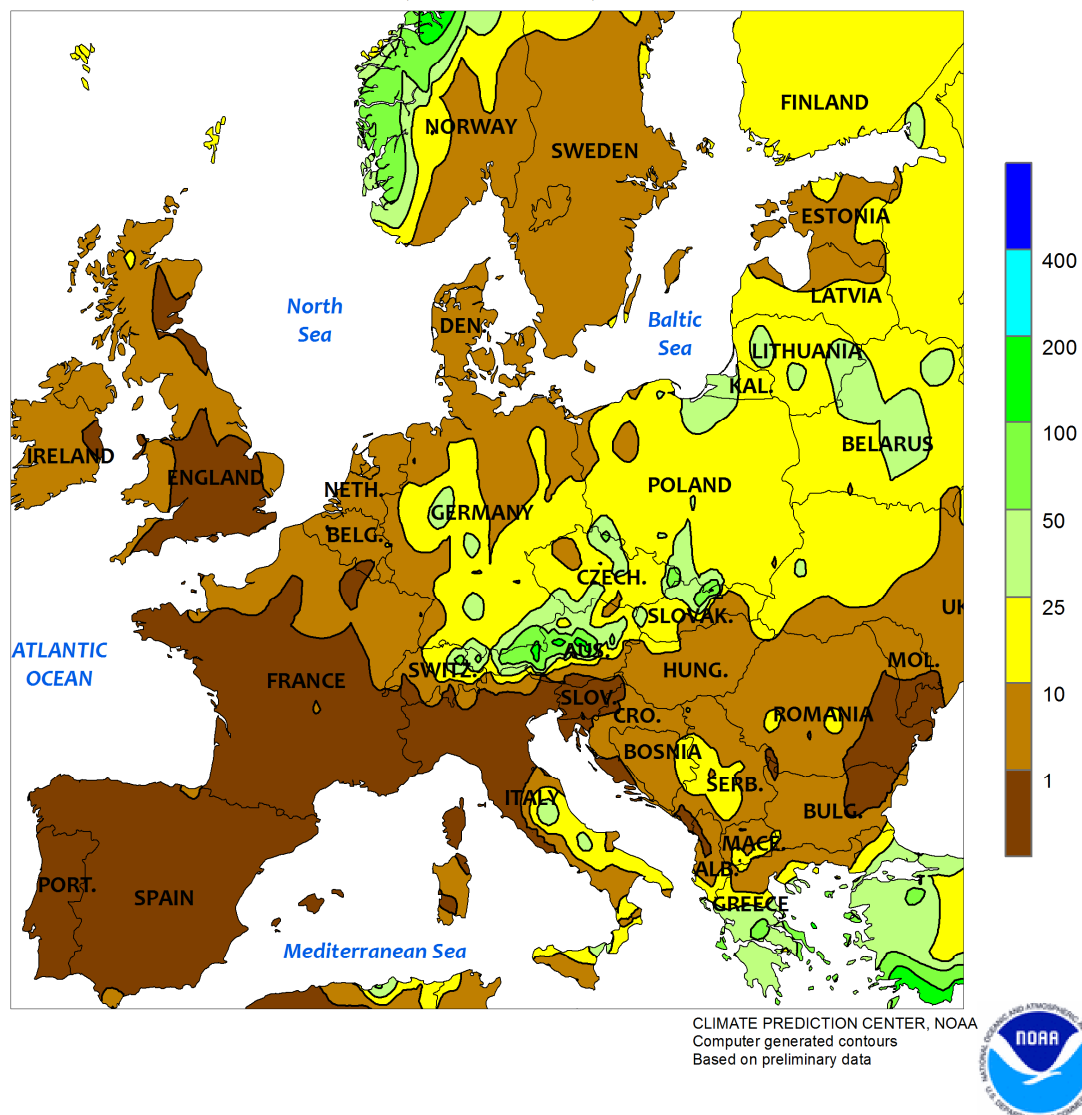
National Weather Data for Selected Cities

December 2018

Data Provided by Climate Prediction Center

STATES AND STATIONS	TEMP., °F		PRECIP.		STATES AND STATIONS	TEMP., °F		PRECIP.		STATES AND STATIONS	TEMP., °F		PRECIP.	
	AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL BIRMINGHAM	48	2	11.34	6.87	LEXINGTON	41	5	6.06	2.03	COLUMBUS	37	4	3.87	0.94
HUNTSVILLE	47	4	10.00	4.41	LONDON-CORBIN	41	3	7.69	3.38	DAYTON	37	6	4.63	1.55
MOBILE	55	3	9.45	4.79	LOUISVILLE	43	5	5.90	2.21	MANSFIELD	34	4	3.76	0.50
MONTGOMERY	52	3	9.99	5.02	PADUCAH	42	5	5.59	1.21	TOLEDO	35	6	2.82	0.18
AK ANCHORAGE	26	9	2.43	1.38	LA BATON ROUGE	54	2	9.64	4.38	YOUNGSTOWN	35	5	3.73	0.77
BARROW	-6	5	0.37	0.25	LAKE CHARLES	56	3	7.04	2.44	OK OKLAHOMA CITY	40	0	4.16	2.27
COLD BAY	30	-1	4.71	0.38	NEW ORLEANS	58	3	5.33	0.26	TULSA	41	1	3.58	1.15
FAIRBANKS	0	6	0.42	-0.32	SHREVEPORT	49	1	11.27	6.72	OR ASTORIA	45	2	9.83	-0.57
JUNEAU	33	4	5.63	0.22	ME BANGOR	24	0	4.23	0.90	BURNS	24	-1	1.04	-0.26
KING SALMON	19	2	1.73	0.34	CARIBOU	17	1	3.77	0.58	EUGENE	42	2	5.69	-2.60
KODIAK	32	1	8.05	0.41	PORTLAND	30	2	3.65	-0.59	MEDFORD	39	1	3.21	0.31
NOME	5	-3	0.91	-0.10	MD BALTIMORE	40	3	6.54	3.19	PENDLETON	37	3	1.66	0.18
AZ FLAGSTAFF	30	0	0.95	-0.88	MA BOSTON	37	2	3.02	-0.71	PORTLAND	44	4	5.08	-0.63
PHOENIX	56	2	0.19	-0.73	WORCESTER	31	2	4.65	0.85	SALEM	43	3	6.04	-0.42
TUCSON	53	1	1.50	0.47	MI ALPENA	29	5	2.67	0.84	PA ALLENTOWN	37	5	6.24	2.85
AR FORT SMITH	44	3	5.51	2.12	DETROIT	34	4	2.66	0.15	ERIE	37	4	2.93	-0.80
LITTLE ROCK	45	2	10.32	5.61	FLINT	31	4	2.10	-0.08	MIDDLETOWN	37	3	5.70	2.46
CA BAKERSFIELD	51	4	0.62	-0.14	GRAND RAPIDS	32	4	1.99	-0.71	PHILADELPHIA	40	3	6.38	3.07
EUREKA	48	0	4.94	-1.41	HOUGHTON LAKE	28	4	2.16	0.41	PITTSBURGH	35	2	5.54	2.68
FRESNO	50	5	0.56	-0.78	LANSING	32	5	2.33	0.16	WILKES-BARRE	35	4	3.19	0.64
LOS ANGELES	58	0	1.45	-0.34	MUSKEGON	33	4	2.89	0.25	WILLIAMSPORT	36	5	6.19	3.25
REDDING	48	3	4.32	-0.35	TRAVERSE CITY	32	6	2.79	0.13	PR SAN JUAN	79	1	2.25	-2.32
SACRAMENTO	49	3	2.36	-0.09	MN DULUTH	22	8	1.97	1.03	RI PROVIDENCE	36	2	5.27	1.13
SAN DIEGO	60	2	3.02	1.71	INT'L FALLS	16	8	0.83	0.13	SC CHARLESTON	53	2	9.75	6.51
SAN FRANCISCO	52	3	1.65	-1.24	MINNEAPOLIS	26	7	1.73	0.73	COLUMBIA	49	2	7.25	3.87
STOCKTON	50	5	2.34	0.52	ROCHESTER	24	7	2.09	1.07	FLORENCE	51	4	6.91	3.44
CO ALAMOSA	20	3	0.32	-0.01	ST. CLOUD	22	8	1.33	0.64	GREENVILLE	45	1	11.46	7.60
CO SPRINGS	31	2	0.09	-0.33	MS JACKSON	50	2	8.03	2.69	MYRTLE BEACH	51	2	7.07	3.62
DENVER	32	3	0.03	-0.28	MERIDIAN	52	3	10.26	4.95	SD ABERDEEN	22	6	1.31	0.93
GRAND JUNCTION	30	2	0.94	0.42	TUPELO	46	3	7.55	1.43	HURON	24	5	1.17	0.78
PUEBLO	32	2	0.09	-0.30	MO COLUMBIA	37	5	4.30	1.83	RAPID CITY	27	2	1.24	0.84
CT BRIDGEPORT	38	3	6.33	2.86	JOPLIN	39	2	2.69	-0.27	SIOUX FALLS	26	8	1.23	0.71
HARTFORD	33	2	4.96	1.36	KANSAS CITY	35	4	3.04	1.40	TN BRISTOL	41	4	5.85	2.46
DC WASHINGTON	43	3	5.82	2.77	SPRINGFIELD	39	3	4.23	1.06	CHATTANOOGA	45	3	9.00	4.19
DE WILMINGTON	39	3	6.85	3.45	ST JOSEPH	33	2	2.65	1.21	JACKSON	43	1	5.31	-0.05
FL DAYTONA BEACH	62	1	4.88	2.17	ST LOUIS	39	5	3.98	1.12	KNOXVILLE	44	3	7.50	3.01
FT LAUDERDALE	71	2	1.77	-0.88	MT BILLINGS	31	5	0.69	0.02	MEMPHIS	46	3	8.84	3.16
FT MYERS	68	2	1.91	0.33	BUTTE	19	1	0.32	-0.21	NASHVILLE	45	5	5.81	1.27
JACKSONVILLE	58	3	4.96	2.32	GLASGOW	23	7	0.70	0.33	TX ABILENE	46	1	3.64	2.37
KEY WEST	75	3	1.90	-0.24	GREAT FALLS	29	5	0.33	-0.34	AMARILLO	39	2	0.58	-0.03
MELBOURNE	66	3	1.63	-0.68	HELENA	28	7	0.36	-0.10	AUSTIN	52	0	6.37	3.93
MIAMI	72	2	1.58	-0.60	KALISPELL	28	5	0.78	-0.87	BEAUMONT	57	3	8.96	3.71
ORLANDO	64	1	6.80	4.49	MILES CITY	25	4	0.67	0.22	BROWNSVILLE	64	3	0.65	-0.46
PENSACOLA	56	2	16.54	12.57	MISSOULA	26	3	0.85	-0.30	COLLEGE STATION	53	1	9.60	6.37
ST PETERSBURG	65	1	8.10	5.50	NE GRAND ISLAND	30	4	3.44	2.78	CORPUS CHRISTI	60	2	0.81	-0.94
TALLAHASSEE	56	2	15.77	11.67	HASTINGS	31	4	3.13	2.40	DALLAS/FT WORTH	48	1	4.55	1.98
TAMPA	65	2	8.68	6.38	LINCOLN	30	4	3.32	2.46	DEL RIO	53	1	1.26	0.51
WEST PALM BEACH	69	1	1.44	-1.70	MCCOOK	28	-1	1.92	1.39	EL PASO	47	2	0.43	-0.34
GA ATHENS	47	2	10.89	7.18	NORFOLK	26	2	2.89	2.24	GALVESTON	58	0	4.71	1.18
ATLANTA	49	4	11.83	8.01	NORTH PLATTE	27	1	1.40	1.00	HOUSTON	55	1	7.62	3.93
AUGUSTA	51	4	5.94	2.80	OMAHA/EPPEL	30	4	2.95	2.03	LUBBOCK	40	0	1.44	0.77
COLUMBUS	52	3	7.93	3.53	SCOTTSBLUFF	30	4	0.32	-0.24	MIDLAND	46	1	1.02	0.37
MACON	51	3	6.26	2.33	VALENTINE	27	3	0.89	0.56	SAN ANGELO	47	1	2.47	1.53
SAVANNAH	55	4	8.14	5.33	NV ELKO	26	0	0.90	-0.03	SAN ANTONIO	54	2	2.34	0.38
HI HILO	73	1	9.97	-0.53	ELY	26	0	0.39	-0.11	VICTORIA	57	2	4.94	2.47
HONOLULU	76	1	0.60	-2.25	LAS VEGAS	50	3	0.17	-0.23	WACO	49	1	4.73	1.97
KAHULUI	75	2	0.54	-2.54	RENO	37	3	1.09	0.21	WICHITA FALLS	43	0	3.95	2.27
LIHUE	75	2	4.04	-0.74	WINNEMUCCA	29	-1	2.02	1.21	UT SALT LAKE CITY	32	2	1.28	0.05
ID BOISE	33	2	1.40	0.02	NH CONCORD	28	2	3.26	0.30	VT BURLINGTON	27	2	2.93	0.71
LEWISTON	37	3	0.80	-0.25	NJ ATLANTIC CITY	40	3	6.66	3.51	VA LYNCHBURG	39	1	7.14	3.91
POCATELLO	24	-1	0.78	-0.32	NEWARK	39	3	7.09	3.52	NORFOLK	47	3	4.09	1.06
IL CHICAGO/O'HARE	33	6	3.32	0.89	NM ALBUQUERQUE	37	1	0.79	0.30	RICHMOND	42	2	3.45	0.33
MOLINE	33	7	2.95	0.75	NY ALBANY	32	4	3.43	0.76	ROANOKE	41	2	6.24	3.38
PEORIA	34	6	4.19	1.79	BINGHAMTON	30	3	2.71	-0.32	WASH/DULLES	39	3	5.76	2.69
ROCKFORD	31	7	2.96	0.90	BUFFALO	33	3	3.36	-0.44	WA OLYMPIA	40	2	7.50	-0.39
SPRINGFIELD	35	5	4.91	2.37	ROCHESTER	34	5	2.60	-0.13	QUILLAYUTE	42	1	22.92	8.42
EVANSVILLE	40	4	6.15	2.61	SYRACUSE	31	2	3.27	0.15	SEATTLE-TACOMA	44	3	6.08	0.46
FORT WAYNE	36	7	2.94	0.17	NC ASHEVILLE	42	3	10.87	7.48	SPOKANE	32	5	2.62	0.37
INDIANAPOLIS	37	5	3.79	0.76	CHARLOTTE	46	2	6.98	3.80	YAKIMA	34	5	0.68	-0.70
SOUTH BEND	33	4	2.75	-0.34	GREENSBORO	43	2	6.99	3.93	WV BECKLEY	38	3	5.24	2.15
BURLINGTON	33	5	2.38	0.28	HATTERAS	53	3	10.92	6.36	CHARLESTON	40	2	5.93	2.61
CEDAR RAPIDS	29	5	2.09	0.61	RALEIGH	45	2	6.23	3.19	ELKINS	36	3	4.02	0.58
DES MOINES	31	6	2.90	1.57	WILMINGTON	51	2	7.08	3.30	HUNTINGTON	40	3	6.10	2.73
DUBUQUE	29	7	2.07	0.38	ND BISMARCK	24	9	0.67	0.23	WI EAU CLAIRE	24	6	2.05	1.02
SIOUX CITY	26	4	1.89	1.23	DICKINSON	25	7	0.63	0.29	GREEN BAY	29	8	2.02	0.61
WATERLOO	29	7	2.60	1.49	FARGO	20	7	1.13	0.56	LA CROSSE	29	7	2.91	1.68
KS CONCORDIA	33	3	2.63	1.77	GRAND FORKS	15	4	0.83	0.28	MADISON	29	6	2.39	0.73
DODGE CITY	34	1	1.20	0.43	JAMESTOWN	21	7	0.35	-0.09	MILWAUKEE	32	6	2.41	0.19
GOODLAND	33	3	0.42	0.02	MINOT	23	8	0.81	0.18	WAUSAU	24	5	1.61	0.28
HILL CITY	32	1	1.68	1.21	WILLISTON	24	11	0.75	0.18	WY CASPER	25	1	0.40	-0.22
TOPEKA	36	5	3.06	1.64	OH AKRON-CANTON	36	5	3.38	0.40	CHEYENNE	29	2	0.38	-0.08
WICHITA	37	3	1.80	0.45	CINCINNATI	38	3	5.56	2.28	LANDER	22	1	0.78	0.17
KY JACKSON	41	3	7.47	3.20	CLEVELAND	37	6	3.05	-0.09	SHERIDAN	28	6	0.72	0.04

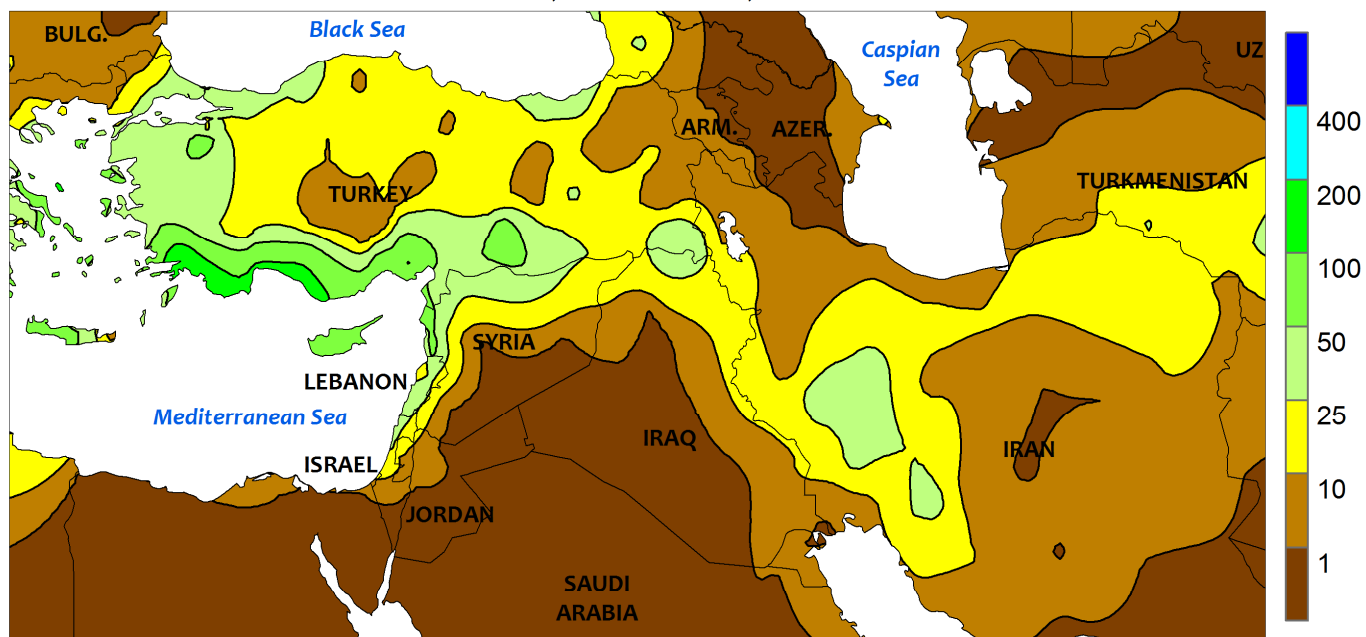
EUROPE
Total Precipitation (mm)
DEC 30, 2018 - JAN 5, 2019



EUROPE

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MIDDLE EAST
Total Precipitation (mm)
DEC 30, 2018 - JAN 5, 2019



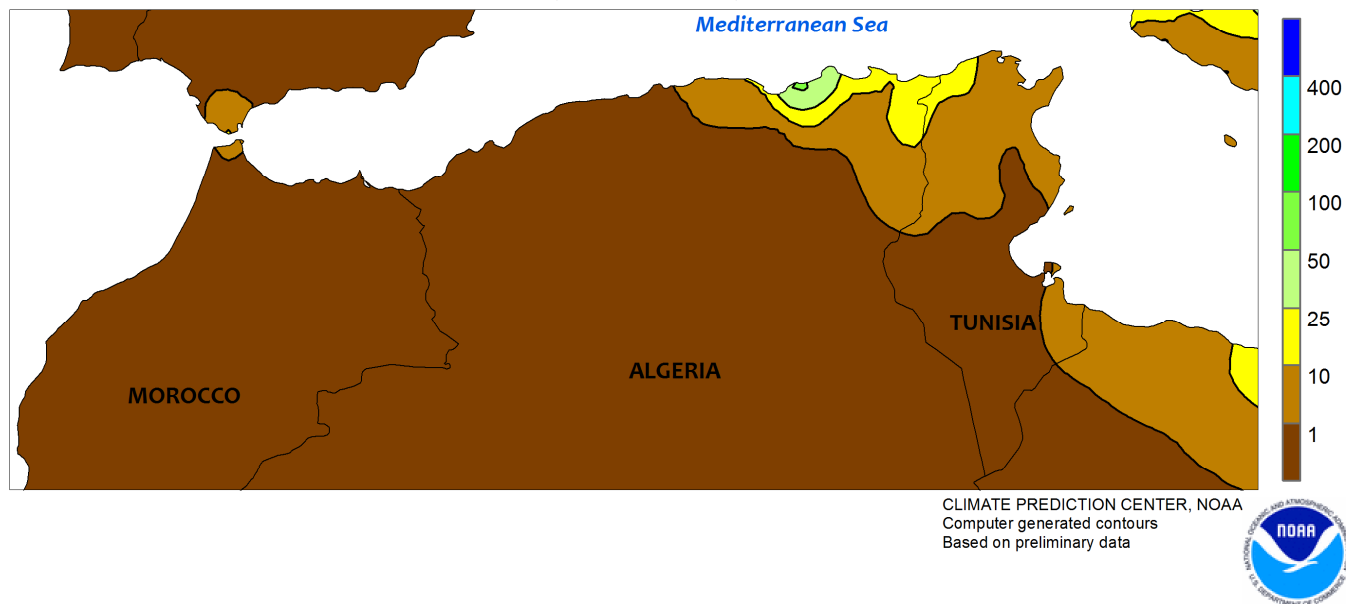
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data



MIDDLE EAST

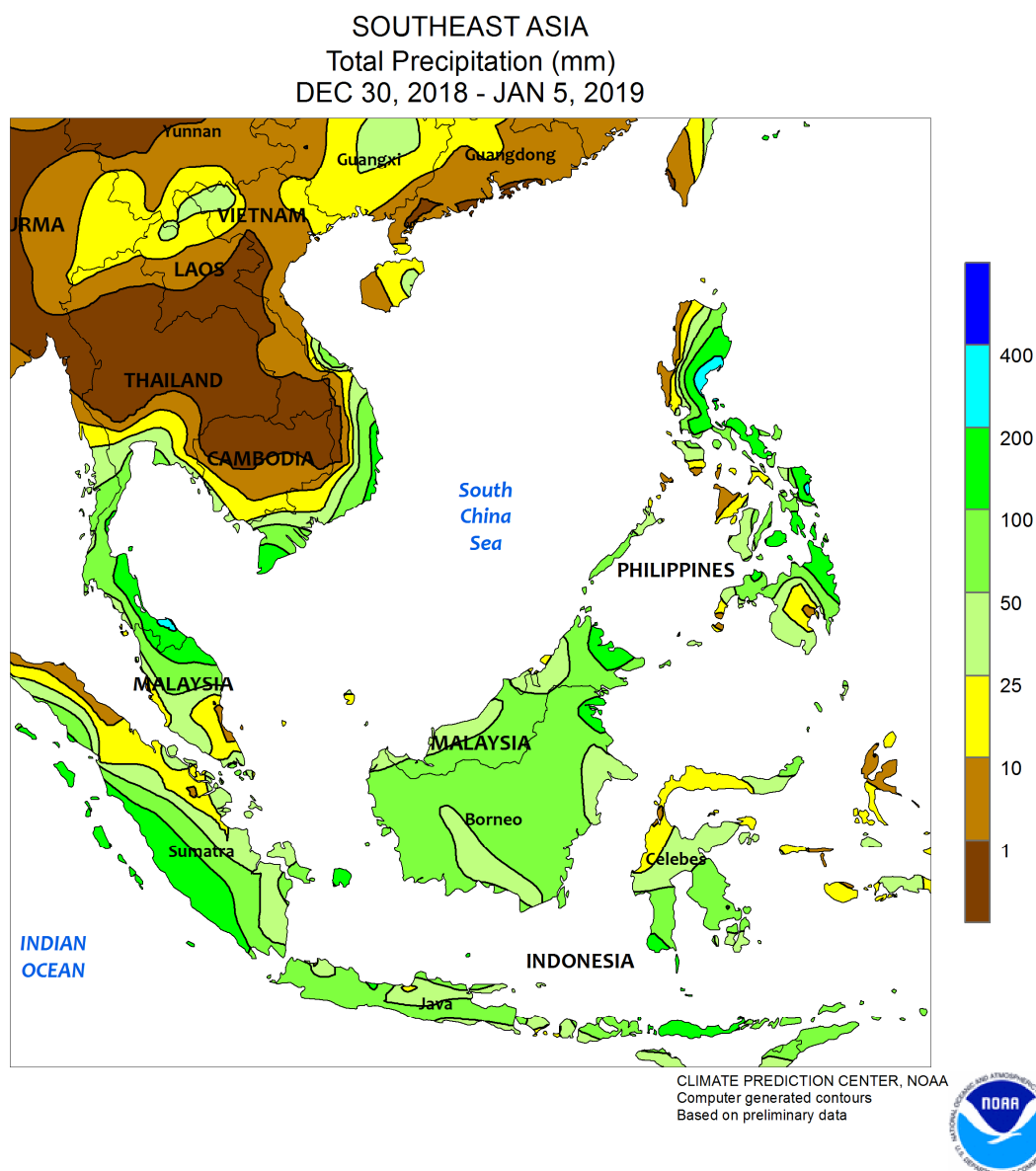
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NORTHWESTERN AFRICA
Total Precipitation (mm)
DEC 30, 2018 - JAN 5, 2019

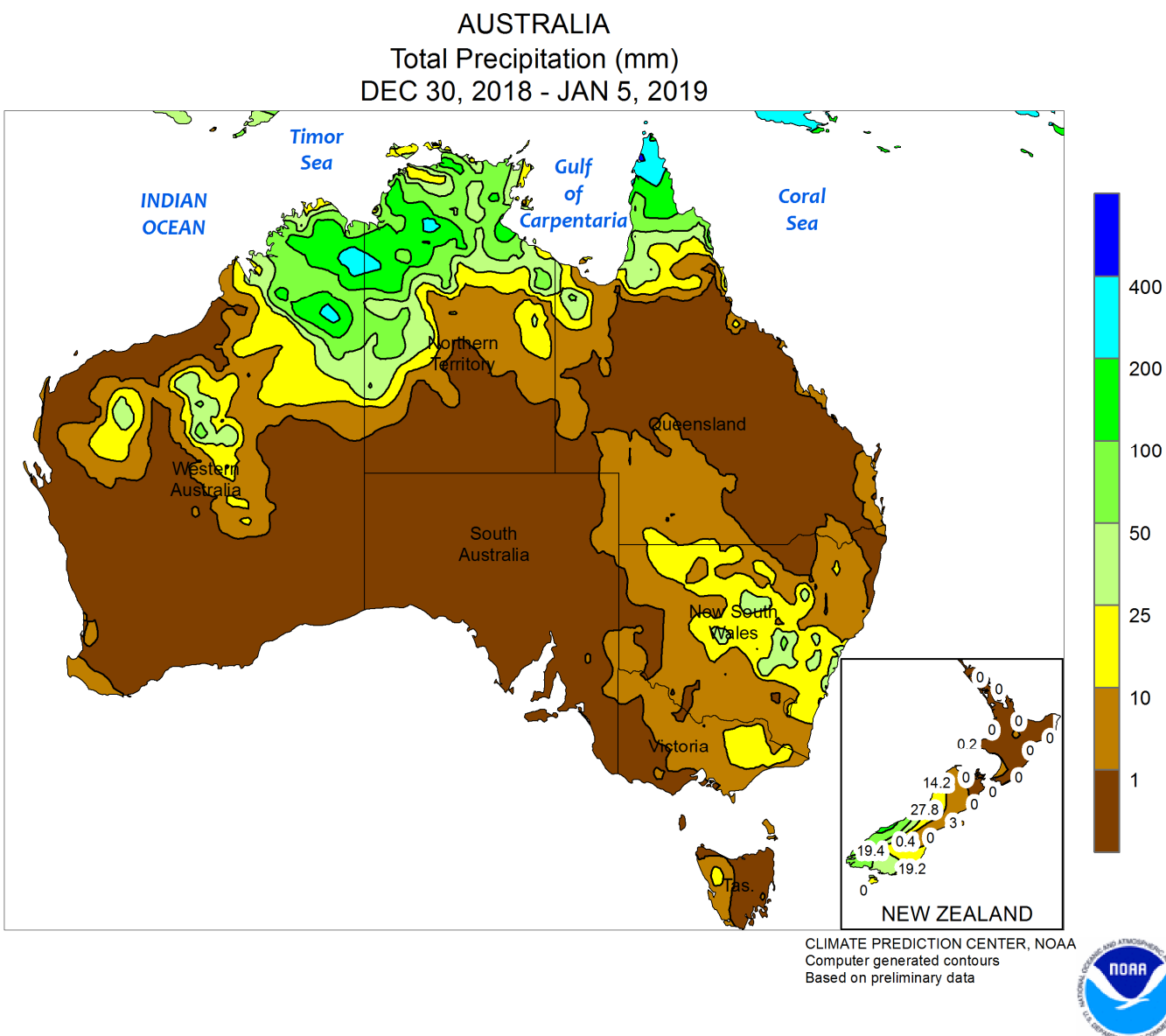


NORTHWESTERN AFRICA

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**SOUTHEAST ASIA**

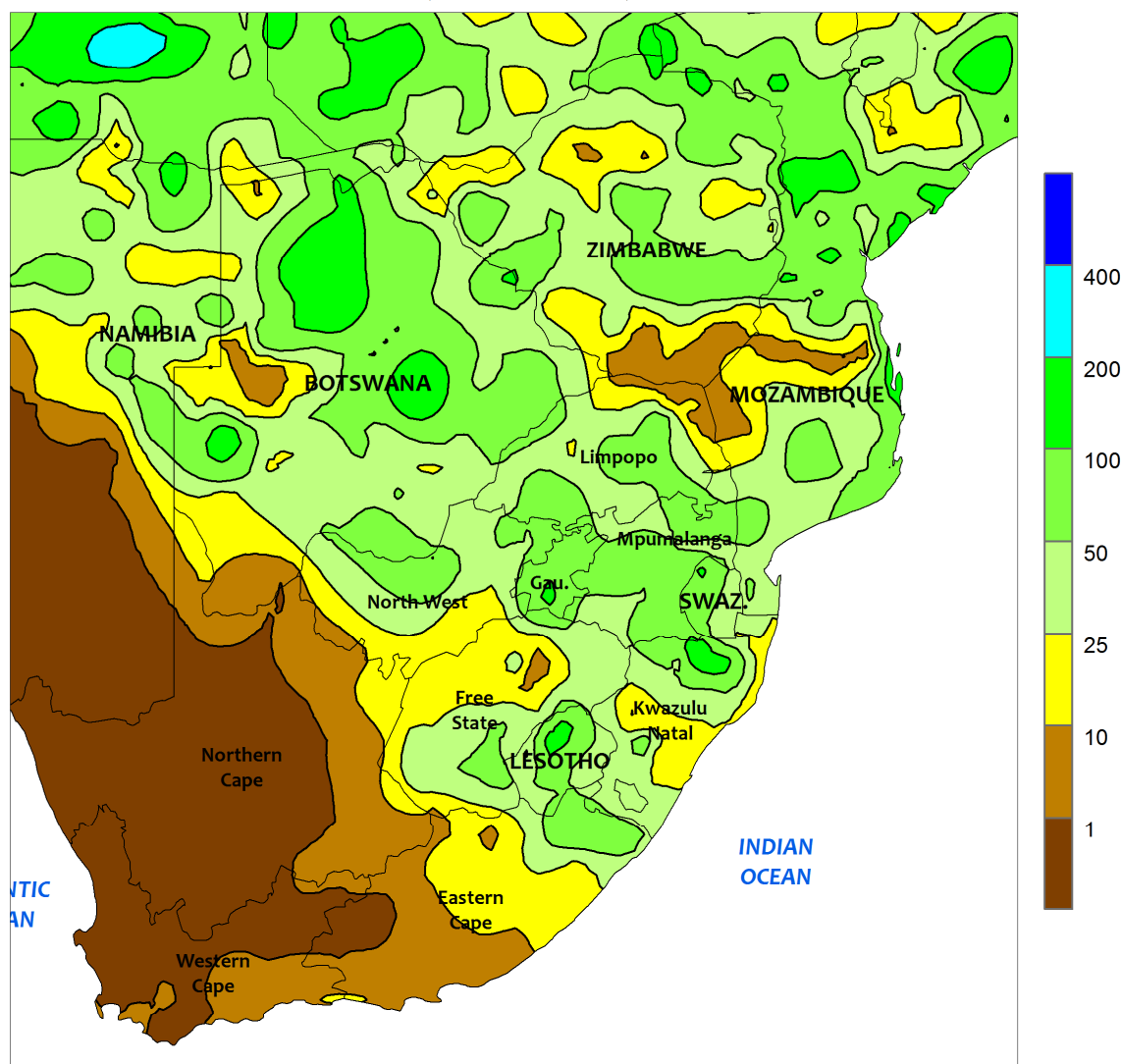
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AUSTRALIA

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SOUTH AFRICA
Total Precipitation (mm)
DEC 30, 2018 - JAN 5, 2019

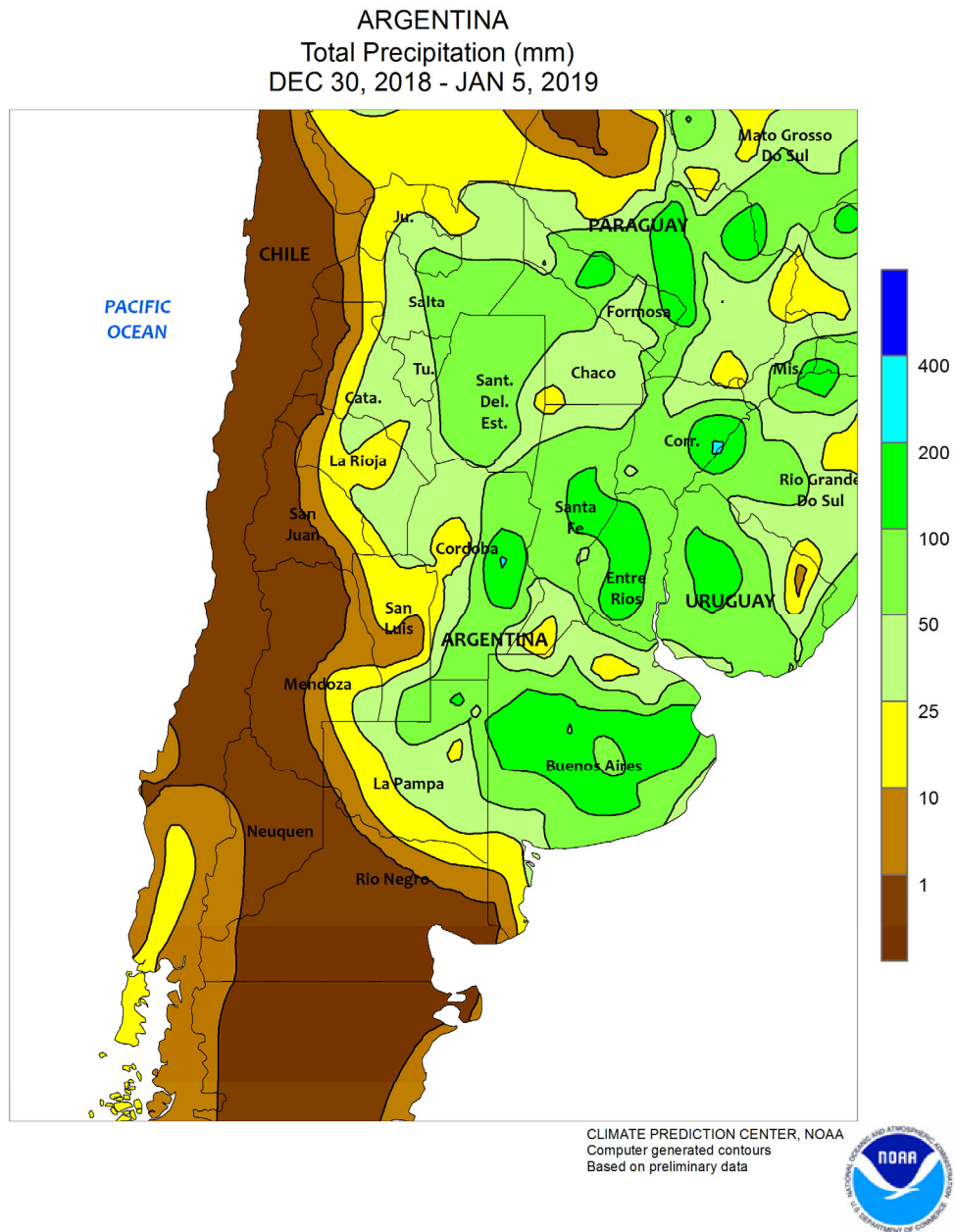


CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data



SOUTH AFRICA

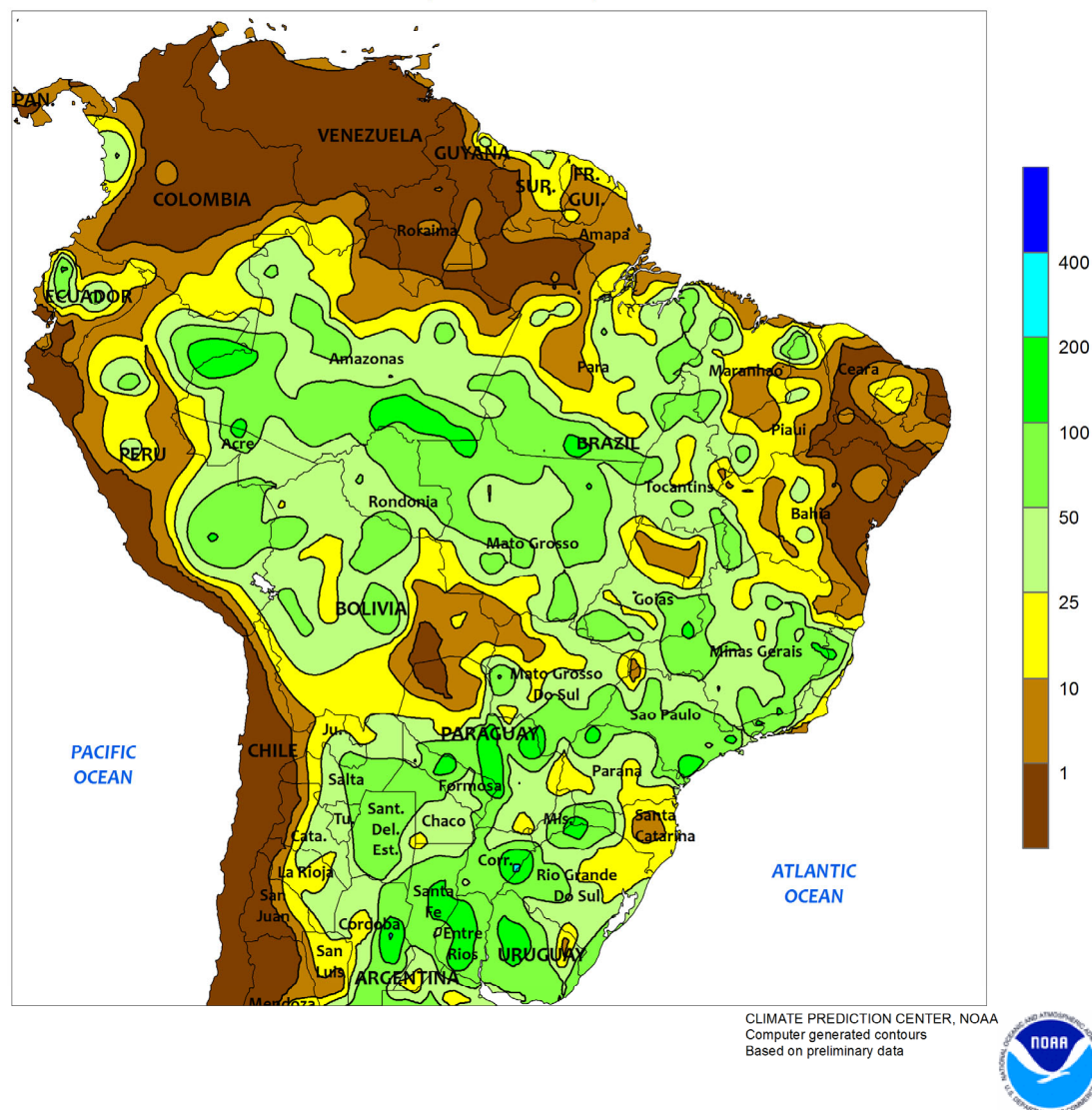
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ARGENTINA

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BRAZIL
Total Precipitation (mm)
DEC 30, 2018 - JAN 5, 2019

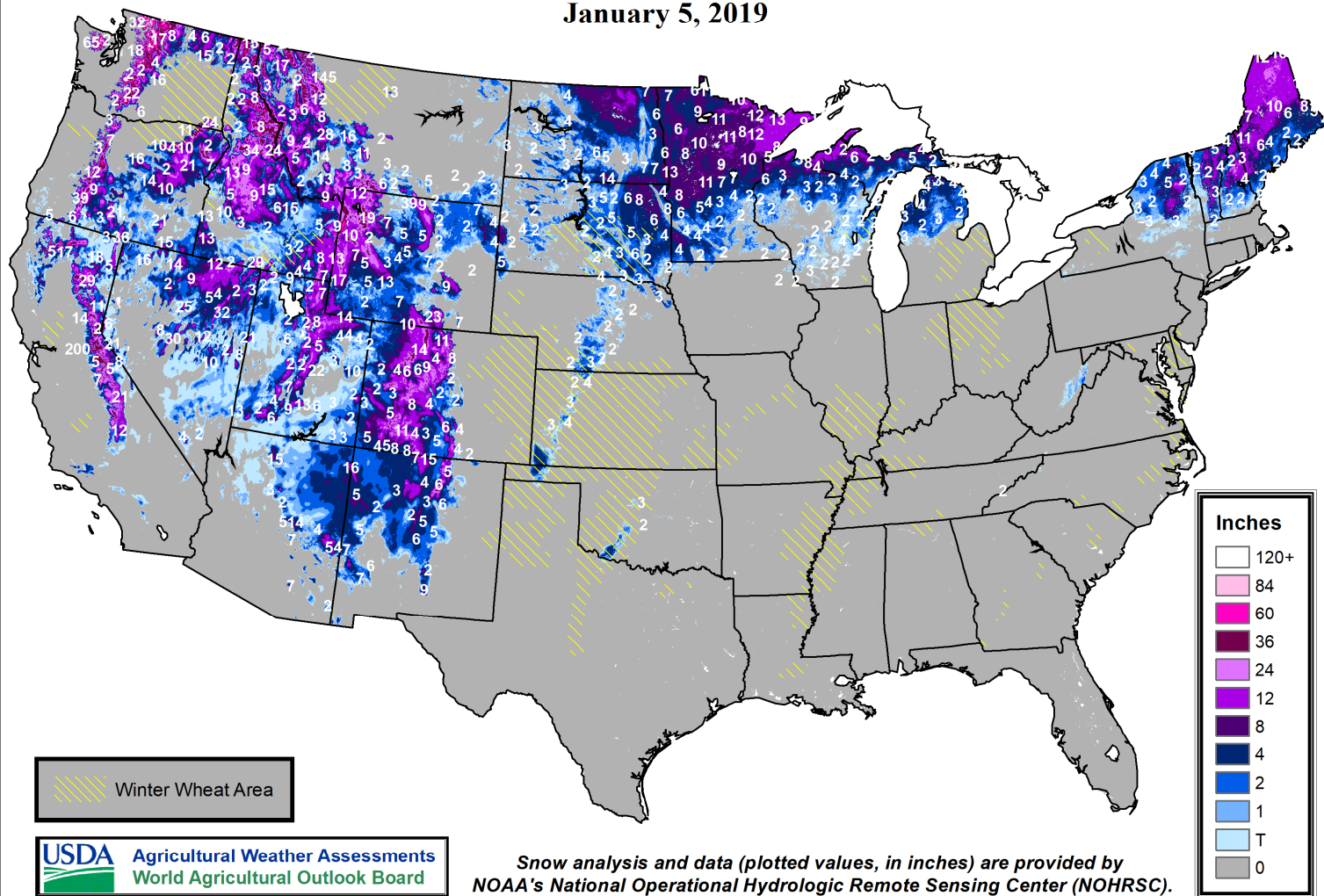


BRAZIL

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Snow Depth

January 5, 2019



The *Weekly Weather and Crop Bulletin* (ISSN 0043-1974) is jointly prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA). Publication began in 1872 as the *Weekly Weather Chronicle*. It is issued under general authority of the Act of January 12, 1895 (44-USC 213), 53rd Congress, 3rd Session. The contents may be redistributed freely with proper credit.

Correspondence to the meteorologists should be directed to:
Weekly Weather and Crop Bulletin, NOAA/USDA, Joint Agricultural Weather Facility, USDA South Building, Room 4443B, Washington, DC 20250.

Internet URL: <http://www.usda.gov/oce/weather>

E-mail address: brippey@oce.usda.gov

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