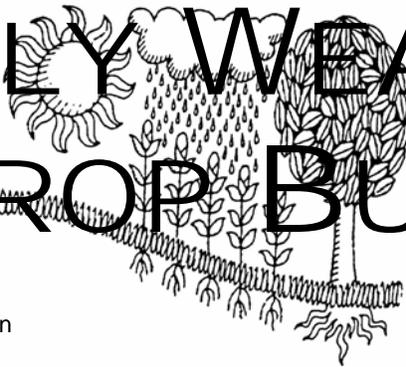
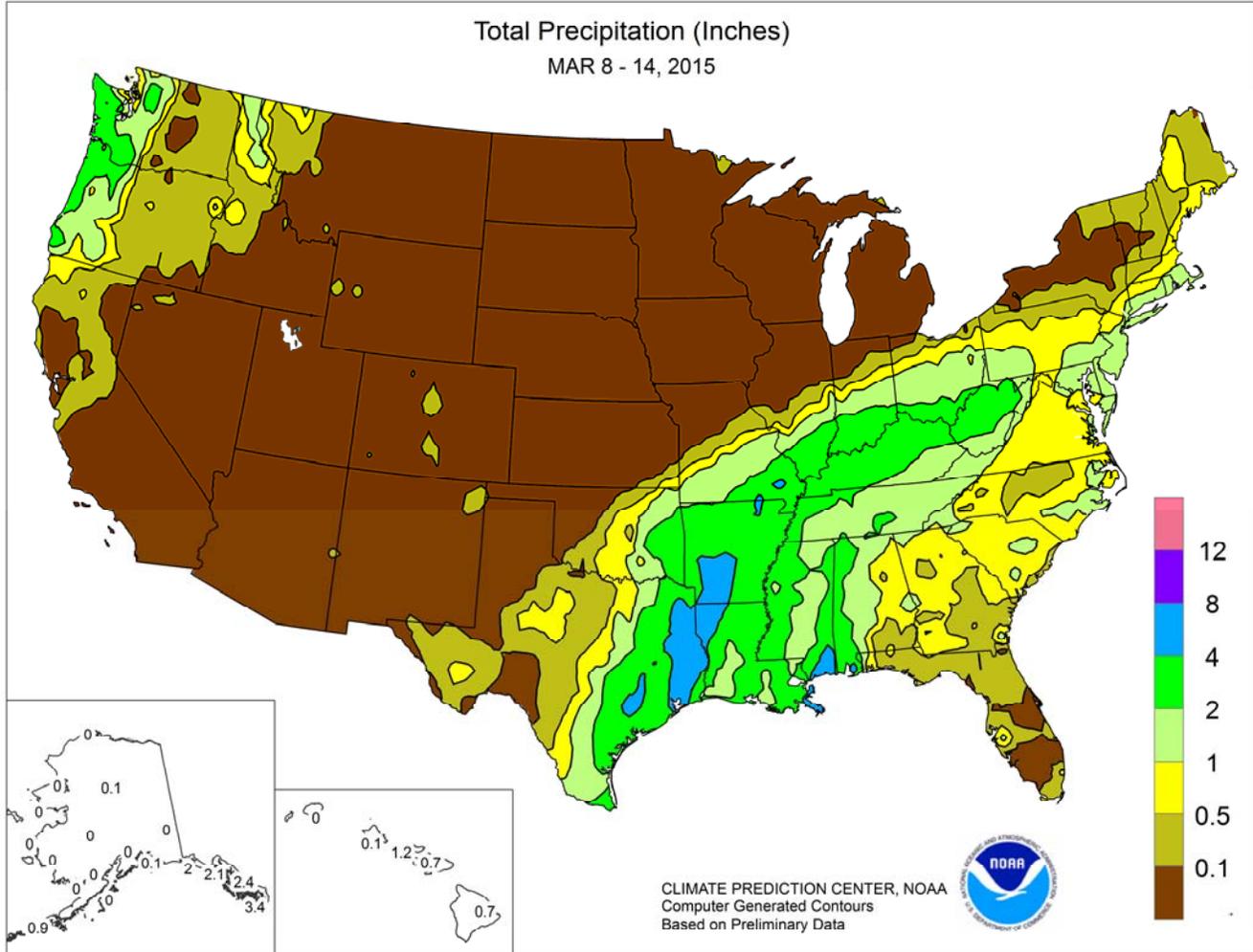


# WEEKLY WEATHER AND CROP BULLETIN



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

### March 8 – 14, 2015

*Highlights provided by USDA/WAOB*

**R**ain returned to the **Ohio Valley** and parts of the **South**, bringing a new round of flooding. The heaviest rain, locally 2 to 4 inches or more, fell from **eastern Texas into the lower Mississippi Valley**, as well as the **lower and middle Ohio Valley**. By week's end, the **Ohio River at Cincinnati, OH**, climbed to its highest level since 1997. Farther north, mild, mostly dry weather from the **lower Great Lakes region into the New England** led to an orderly start to the snow-melt season. Dry weather also prevailed in many other parts of the U.S., including the

*(Continued on page 5)*

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# Water Supply Forecast for the Western United States

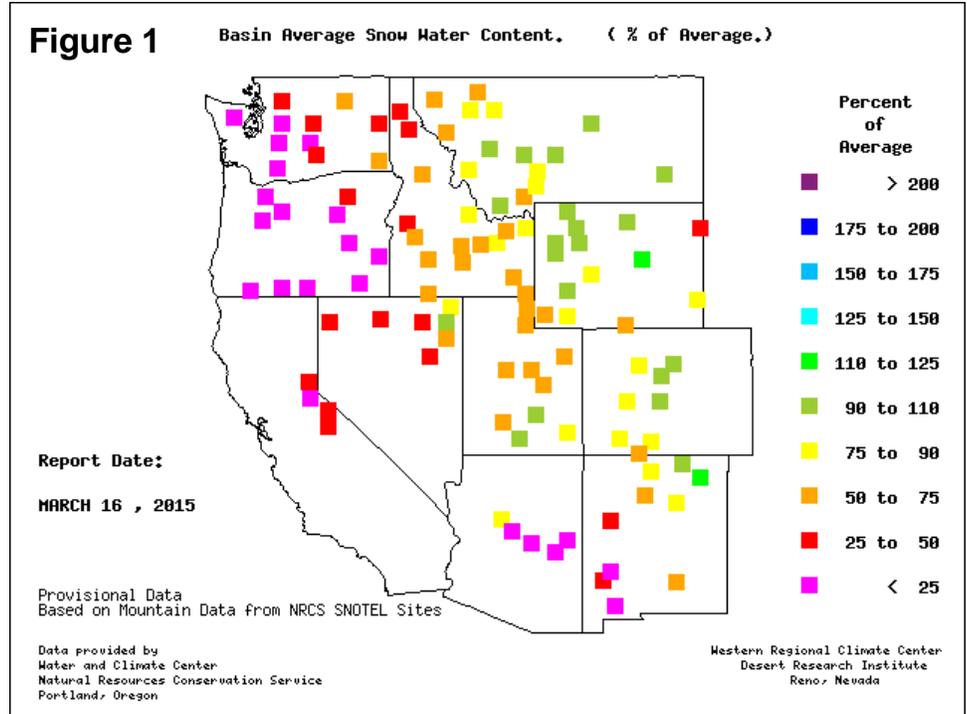
## Highlights

The phase of the El Niño-Southern Oscillation (ENSO) officially achieved El Niño status during February. The Climate Prediction Center of the NWS declared that “above-average sea surface temperatures across the western and central equatorial Pacific became weakly coupled to the tropical atmosphere.” However, with respect to western U.S. weather, factors other than the equatorial Pacific remained in play. One constant was warmth: five Western States (AZ, CA, NV, UT, and WA) had their warmest December-February period on record. The consistent warmth meant that very little snow fell in many key watersheds of the Pacific Coast States, the Great Basin, and the Southwest.

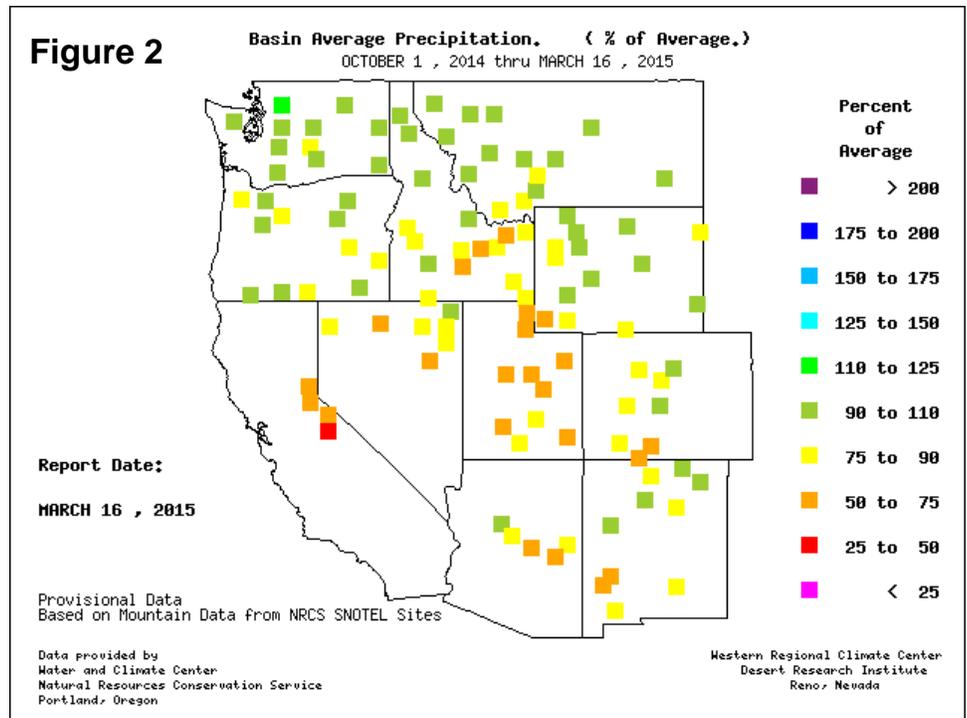
## Snowpack and Precipitation

By March 16, 2015, deficient snowpack remained a grave concern in California, the Great Basin, and parts of the Southwest. With a fourth year of drought looming, many of California’s key Sierra Nevada watersheds had less than one-quarter of the normal amount of water stored in the snowpack (figure 1). Similarly abysmal snowpack values were noted in parts of the Southwest. Notably, snowpack values were also exceedingly low in the Cascades and coastal ranges of the Pacific Northwest, despite near-normal season-to-date precipitation. Farther inland, however, snow water content values were nearly ideal along the eastern slopes of the Rockies.

## SNOTEL – River Basin Snow Water Content



## SNOTEL – River Basin Precipitation



Season-to-date precipitation (October 1, 2014 – March 16, 2015) showed a marked contrast between relatively dry conditions in California and the Four Corners States and near-normal totals in the Northwest (figure 2). Typically, such a pattern—wetter in the north, drier in the south—might be associated with La Niña, strongly suggesting that factors other than the equatorial Pacific Ocean influenced the Western winter weather regime.

### Spring and Summer Streamflow Forecasts

By March 1, 2015, projections for spring and summer streamflow were indicating the likelihood of significantly below-normal runoff in California and from the interior Northwest southeastward across the Great Basin, Intermountain West, and Southwest (figure 3). In contrast, mostly near- to above-normal runoff should occur on either side of the Continental Divide, from western Montana to northern New Mexico. Despite periods of heavy winter precipitation, sub-par snowpack in the Cascades is leading to expectations of below-normal runoff.

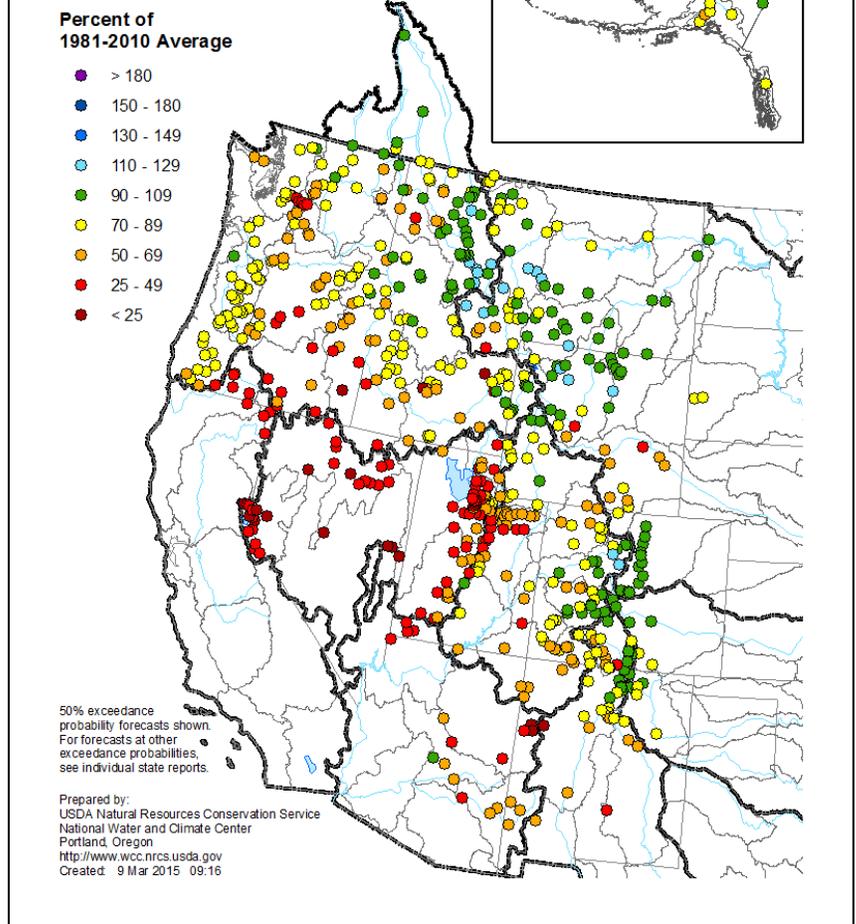
### Reservoir Storage

On March 1, 2015, reservoir storage as a percent of average for the date was substantially below average in Arizona, California, Nevada, and New Mexico (figure 4). Storage in California’s 154 reservoirs stood at 17.7 million acre-feet (71 percent of average) on March 1, about 1.5 million acre-feet higher than a year ago. However, with little snow in the mountains above California’s reservoirs, further inflow will be negligible. Meanwhile, near- to above-average storage was observed on March 1 in Colorado, Idaho, Montana, Utah, Washington, and Wyoming.

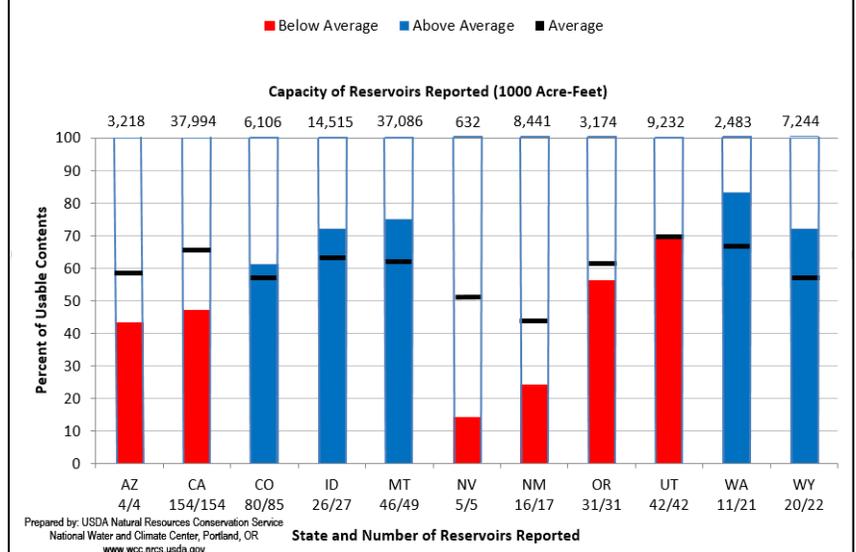
### For More Information

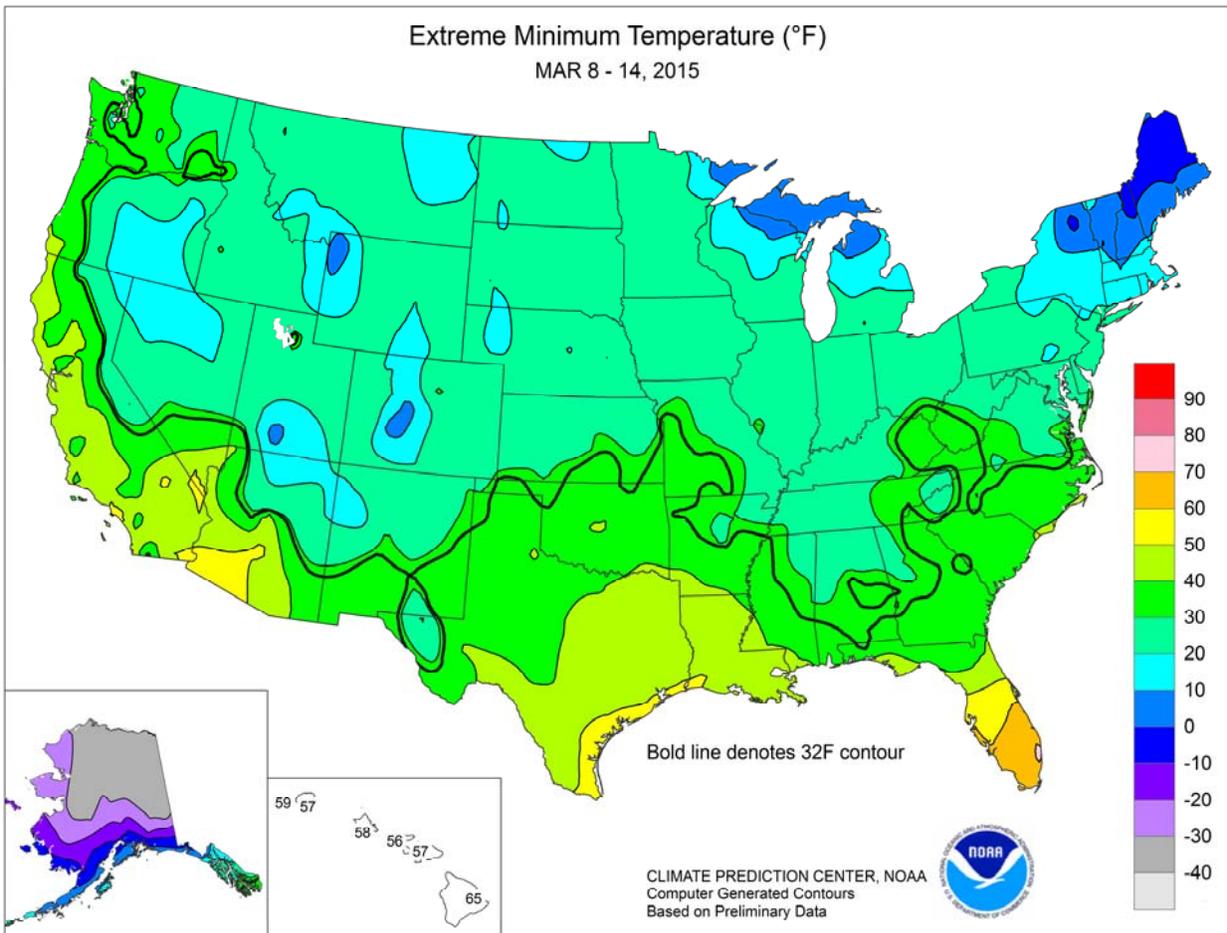
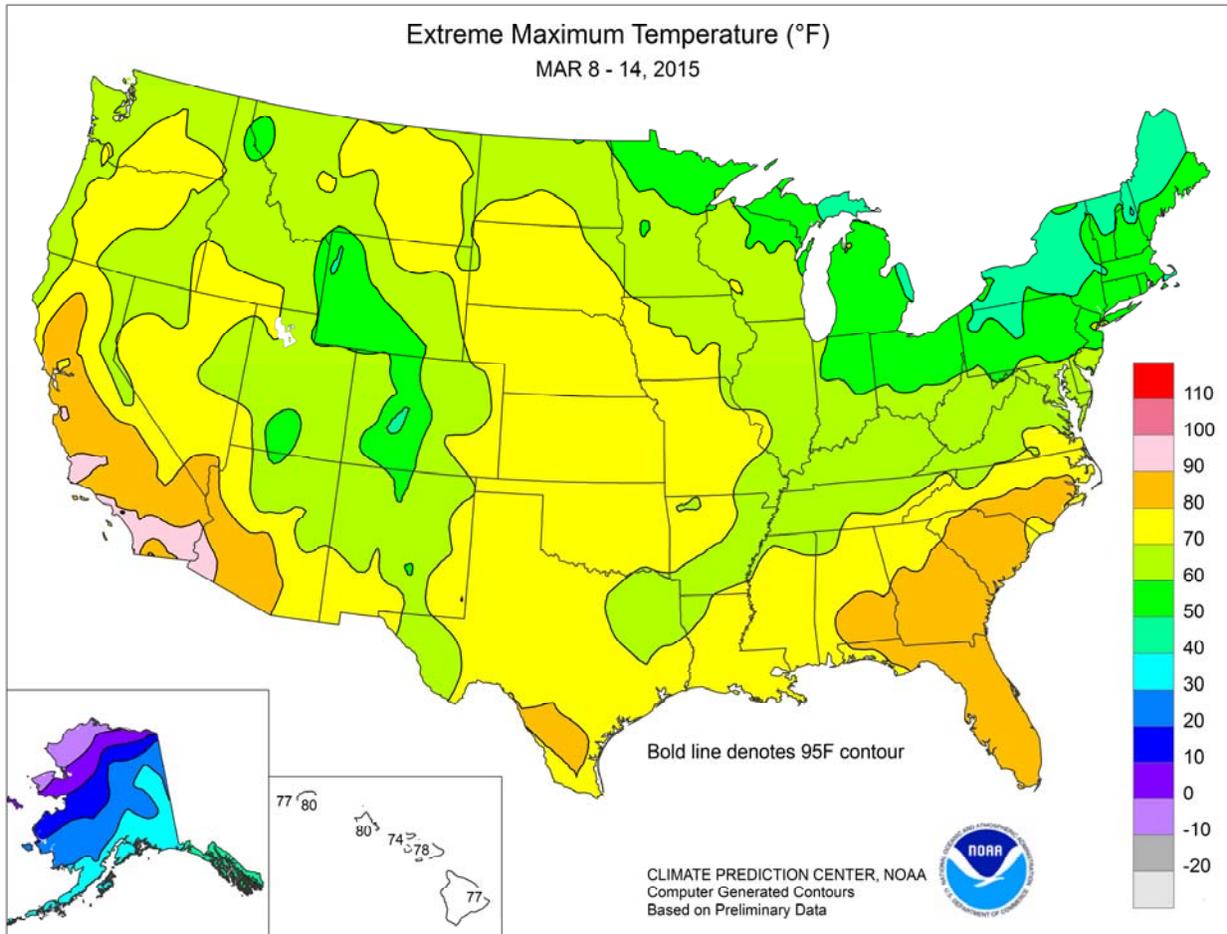
The National Water and Climate Center homepage provides the latest available snowpack and water supply information. Please visit: <http://www.wcc.nrcs.usda.gov>

**Figure 3**  
Spring and Summer Streamflow Forecasts as of March 1, 2015



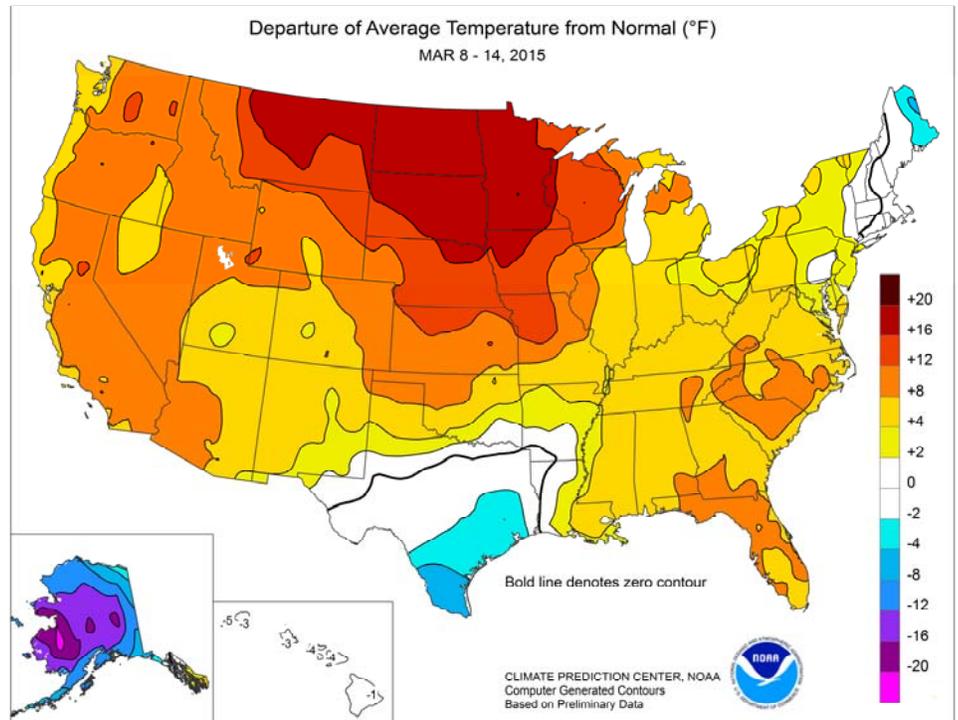
**Figure 4** Reservoir Storage as of March 1, 2015





(Continued from front cover)

**upper Midwest** and most areas from **California to the Great Plains**. Some mid- to late-week precipitation was noted from the **Pacific Northwest to the northern Rockies**, but meager snowpack remained a concern in the **Cascades**. Farther south, **California** and the **Great Basin** not only headed toward a certain fourth year of drought, but also saw some premature melting of already anemic snowpack. Weekly temperatures averaged 10 to 20°F above normal in a broad area covering the **northern half of the Plains** and the **upper Midwest**. Warm conditions also dominated the **West**, with temperatures averaging at least 10°F above normal in several locations. Lingering cool conditions were limited to **New England** and portions of the **south-central U.S.**

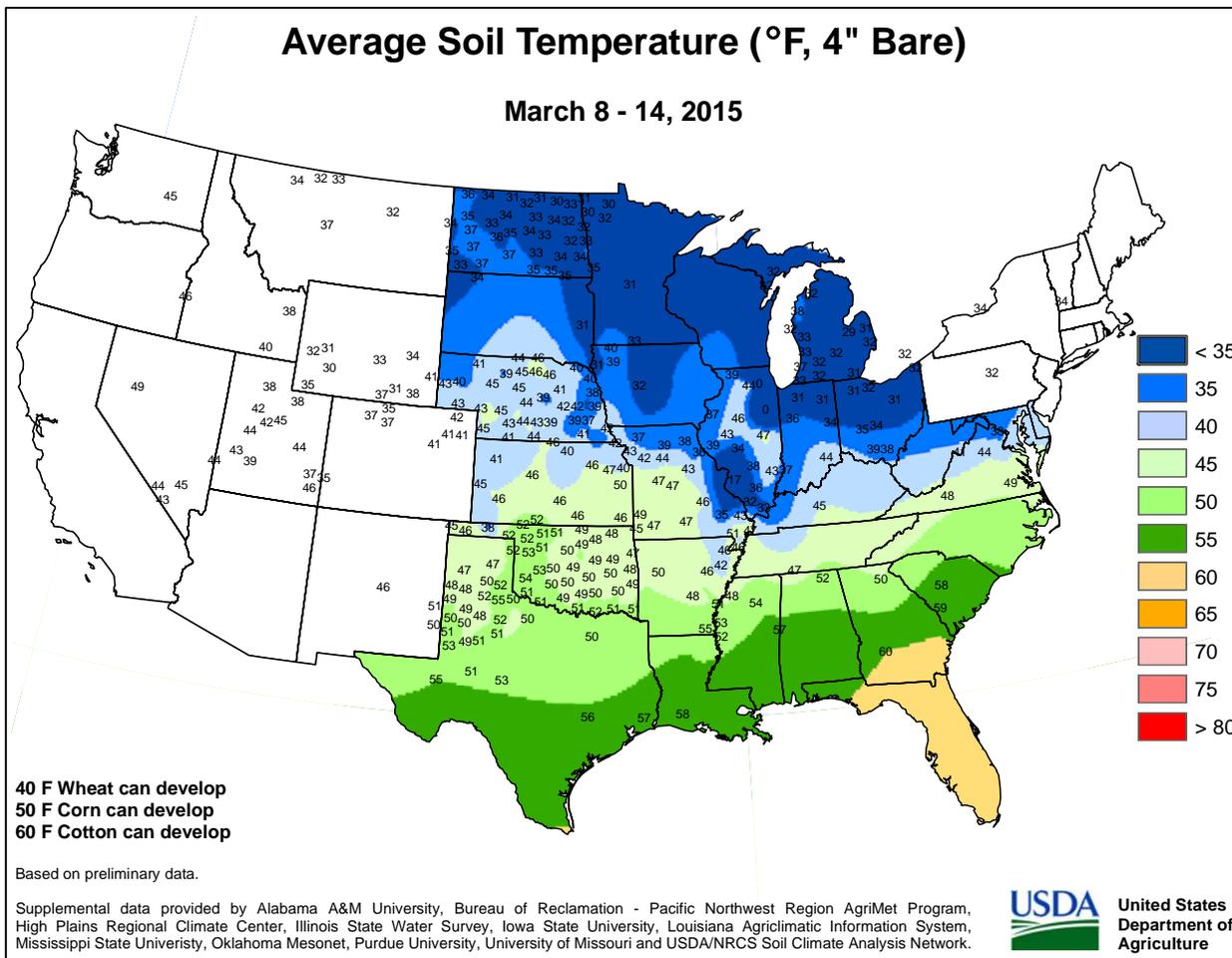
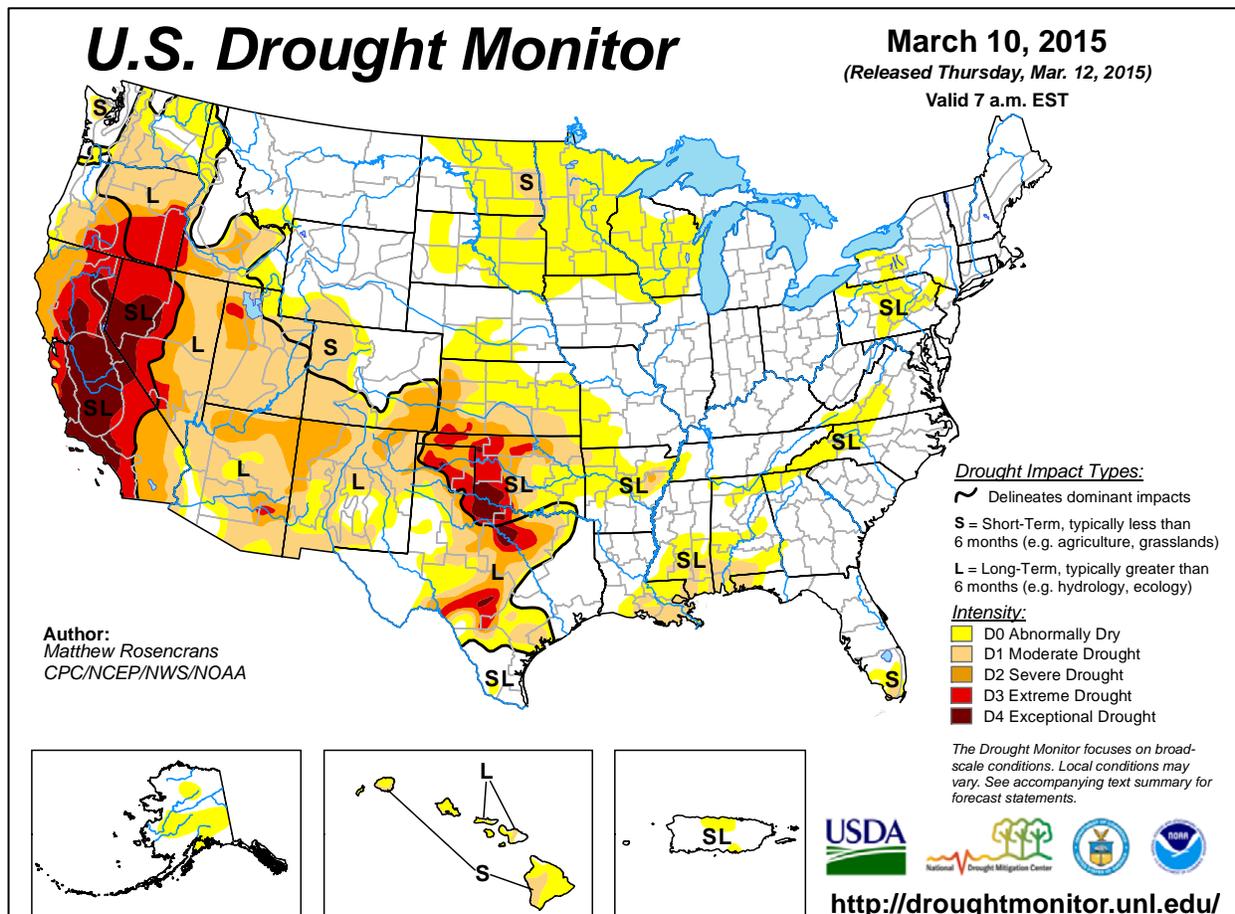


The week began with the first of two batches of rain affecting the **South**. In **Texas**, daily-record rainfall totals for March 8 included 1.22 inches in **Victoria** and 1.04 inches in **Corpus Christi**. **Brownsville, TX**, received 4.08 inches of rain from March 8-12, marking its fourth-wettest 5-day period on record in March. **Victoria** (2.90 inches), **Corpus Christi** (2.15 inches), and **Brownsville** (2.03 inches) all reported daily-record amounts on March 9. Elsewhere, record-setting totals for March 9 reached 3.09 inches in **College Station, TX**; 2.04 inches in **Texarkana, AR**; and 1.78 inches in **Hattiesburg, MS**. **New Orleans, LA**, netted a daily-record sum (2.27 inches) on the 10th, en route to a March 9-13 total of 4.07 inches. With a final surge of heavy rain on March 12, **Shreveport, LA**, collected a daily-record sum of 2.46 inches. The following day, record-setting values for March 13 totaled 3.31 inches in **Cape Girardeau, MO**, and 2.11 inches in **Paducah, KY**. By early March 15, the **Ohio River at Cincinnati, OH**, crested 5.72 feet above flood stage. That marked the highest level in that location since early-March 1997, when the river crested nearly 7 feet higher (12.70 feet above flood stage).

Record-breaking warmth dominated the **north-central U.S.**, where **Fargo, ND**, notched six daily-record highs in 7 days from March 9-15. **Fargo's** warmth peaked with highs of 68 and 75°F, respectively, on March 14-15. Warmth was equally persistent in the **West**, where **Yakima, WA**, posted daily-record highs on March 9, 10, 12, and 14. **Yakima's** highest reading during the warm spell was 74°F on March 9. During the second half of the week, warmth intensified from **California to the northern Plains**. Downtown **Los Angeles** notched four consecutive highs of 90°F or greater, starting on March 13—the longest such March streak on record in that location. The heat wave in **Los Angeles** peaked with a high of 93°F on March 14. On the same date, other daily-record highs in **southern California** included 95°F in **Santa Maria**; 94°F in **Santa Ana**

and **Long Beach**; 91°F in **Bakersfield**; and 90°F in **San Diego**. **Santa Ana** also collected a daily-record high (96°F) on March 13. In **central California**, monthly record highs were tied or broken on March 15 in locations such as **Salinas** (92°F; previously, 88°F on March 9, 1934) and **Gilroy** (90°F; tied 90°F on March 20, 1997). Dozens of additional daily records were established during the week in the **western and north-central U.S.**, while warmth also overspread the **lower Southeast**. Daily-record highs for March 11 climbed to 87°F in **Savannah, GA**, and 86°F in **Florence, SC**. On March 11-12, **Ft. Myers, FL**, registered consecutive daily-record highs (88 and 90°F). Elsewhere in **Florida**, **Naples** (90 and 89°F) and Tampa (88 and 86°F) logged consecutive daily-record highs on March 12-13. After mid-week, surges of warmth across the **northern Plains** and **upper Midwest** led to daily-record highs in numerous locations, including **Sioux City, IA** (78°F on March 12), and **Glasgow, MT** (75°F on March 14).

Suddenly colder conditions overspread **Alaska**, accompanied by widespread precipitation in the southeastern part of the state. **Fairbanks** reported minimum temperatures of -30°F or lower on 6 consecutive days from March 10-15. Meanwhile in **Juneau**, the weekly snowfall of 9.9 inches was aided by a 7.3-inch total on March 11. Similarly, **Yakutat's** weekly snowfall of 21.9 inches included a daily-record sum (9.2 inches) on March 12. Farther south, scattered **Hawaiian** showers diminished late in the week. On the strength of early-month rainfall, March 1-14 rainfall totals were significantly above normal in locations such as **Kahului, Maui** (6.16 inches, or 560 percent of normal), and **Hilo, on the Big Island** (7.61 inches, or 130 percent). Conditions in **Hawaii** were cool enough to result in several daily-record lows, including 57°F in **Lihue, Kauai**, and 58°F in **Honolulu, Oahu**—both occurring on March 10.



National Weather Data for Selected Cities

Weather Data for the Week Ending March 14, 2015

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 MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL, IN, SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	TEMP. °F		PRECIP		
																90 AND ABOVE	32 AND BELOW	.01 INCH OF MORE	.50 INCH OF MORE	
AL BIRMINGHAM	68	50	72	31	59	6	0.86	-0.51	0.37	2.35	90	11.05	90	94	62	0	1	7	0	
HUNTSVILLE	66	50	72	31	58	8	2.19	0.63	0.73	4.09	135	11.83	88	89	70	0	1	7	2	
MOBILE	72	58	76	38	65	6	2.85	1.19	1.19	3.16	99	9.21	66	93	74	0	0	5	2	
AK MONTGOMERY	74	54	86	32	64	8	0.68	-0.84	0.30	1.61	53	9.27	69	91	54	0	1	3	0	
ANCHORAGE	20	7	34	-2	14	-10	0.00	-0.15	0.00	0.76	245	1.86	108	54	40	0	7	0	0	
BARROW	-18	-30	-9	-35	-24	-9	0.00	0.00	0.00	0.16	1600	0.73	304	85	73	0	7	0	0	
FAIRBANKS	4	-21	28	-33	-8	-15	0.00	-0.06	0.00	0.00	0	0.63	61	82	72	0	7	0	0	
JUNEAU	39	28	47	20	34	2	2.08	1.23	0.69	3.01	170	18.61	176	92	77	0	5	7	1	
KODIAK	29	18	36	13	23	-9	0.01	-1.16	0.01	1.83	77	20.75	128	61	48	0	7	1	0	
NOME	-1	-19	1	-24	-10	-18	0.00	-0.11	0.00	0.70	280	2.34	122	86	78	0	7	0	0	
AZ FLAGSTAFF	57	27	60	20	42	7	0.04	-0.61	0.04	3.77	283	8.07	133	80	24	0	5	1	0	
PHOENIX	86	60	88	55	73	12	0.00	-0.27	0.00	0.30	58	1.11	52	39	20	0	0	0	0	
PRESCOTT	69	35	72	31	52	9	0.00	-0.49	0.00	1.50	150	4.71	106	65	14	0	2	0	0	
TUCSON	80	52	82	47	66	8	0.00	-0.21	0.00	0.34	79	3.27	142	42	20	0	0	0	0	
AR FORT SMITH	60	45	74	37	53	3	2.29	1.42	1.42	3.49	207	8.11	122	92	66	0	0	5	2	
LITTLE ROCK	59	49	69	33	54	2	3.67	2.66	1.31	6.38	329	13.19	149	93	70	0	0	6	3	
CA BAKERSFIELD	80	50	91	46	65	8	0.00	-0.33	0.00	0.30	45	1.89	62	73	41	1	0	0	0	
FRESNO	79	51	88	46	65	10	0.02	-0.52	0.02	0.07	6	1.41	26	80	51	0	0	1	0	
LOS ANGELES	76	56	90	51	66	8	0.00	-0.63	0.00	0.50	38	2.03	27	77	54	1	0	0	0	
REDDING	75	48	87	39	61	9	0.43	-0.83	0.23	0.43	17	4.08	28	86	57	0	0	2	0	
SACRAMENTO	76	50	84	44	63	9	0.20	-0.51	0.20	0.22	15	3.05	34	92	41	0	0	1	0	
SAN DIEGO	77	59	90	54	68	8	0.00	-0.55	0.00	0.93	87	1.63	30	65	42	1	0	0	0	
SAN FRANCISCO	70	53	83	48	61	7	0.02	-0.80	0.02	0.02	1	2.03	20	97	73	0	0	1	0	
STOCKTON	77	48	84	42	63	9	0.13	-0.42	0.13	0.14	12	1.62	26	87	64	0	0	1	0	
CO ALAMOSA	55	23	59	19	39	8	0.00	-0.08	0.00	0.07	47	1.42	233	82	35	0	6	0	0	
CO SPRINGS	59	32	65	25	46	10	0.00	-0.19	0.00	0.13	37	2.46	251	71	21	0	5	0	0	
DENVER INTL	62	35	69	30	49	12	0.00	-0.21	0.00	0.12	31	1.76	207	72	25	0	3	0	0	
GRAND JUNCTION	62	32	67	26	47	5	0.00	-0.21	0.00	0.23	59	1.08	72	63	31	0	4	0	0	
PUEBLO	64	31	71	26	48	8	0.00	-0.18	0.00	0.05	16	1.44	160	75	30	0	5	0	0	
CT BRIDGEPORT	45	28	56	21	36	-1	0.99	0.11	0.73	3.25	192	9.60	115	75	54	0	6	2	1	
HARTFORD	46	25	57	19	36	1	0.86	0.03	0.72	1.69	105	7.87	94	71	42	0	6	2	1	
DC WASHINGTON	59	40	67	32	49	5	1.05	0.22	0.58	2.81	175	8.23	110	77	38	0	1	3	1	
DE WILMINGTON	53	32	61	26	42	2	1.91	1.01	1.07	6.59	381	13.19	165	88	46	0	5	3	2	
FL DAYTONA BEACH	82	61	88	49	72	8	0.00	-0.85	0.00	0.09	6	5.52	74	96	51	0	0	0	0	
JACKSONVILLE	80	55	87	38	68	8	0.01	-0.85	0.01	0.32	19	6.72	79	100	54	0	0	1	0	
KEY WEST	82	75	83	73	79	6	0.05	-0.32	0.05	0.05	7	3.28	74	88	72	0	0	1	0	
MIAMI	83	73	87	69	78	7	0.25	-0.24	0.20	0.89	93	4.65	95	81	60	0	0	2	0	
ORLANDO	86	64	90	55	75	9	0.01	-0.77	0.01	0.36	24	8.46	135	94	50	1	0	1	0	
PENSACOLA	71	60	77	41	66	6	0.27	-1.19	0.26	0.35	12	10.76	84	94	76	0	0	2	0	
TALLAHASSEE	82	56	85	36	69	9	0.25	-1.27	0.24	1.05	36	10.23	79	90	56	0	0	2	0	
TAMPA	85	68	88	58	77	11	0.12	-0.55	0.09	0.14	10	8.44	134	85	49	0	0	2	0	
GA WEST PALM BEACH	84	74	86	71	79	9	0.06	-0.68	0.06	0.14	10	3.23	42	78	60	0	0	1	0	
ATHENS	70	48	80	33	59	7	0.56	-0.63	0.36	1.16	49	8.13	71	88	58	0	0	3	0	
ATLANTA	69	51	79	37	60	7	0.30	-0.97	0.15	0.95	38	9.46	77	80	61	0	0	4	0	
AUGUSTA	75	47	85	30	61	7	0.51	-0.56	0.34	0.80	38	7.58	71	91	51	0	1	2	0	
COLUMBUS	75	51	83	33	63	7	0.96	-0.38	0.88	1.49	57	8.95	75	90	46	0	0	2	1	
MACON	73	48	81	30	61	6	0.18	-0.97	0.10	0.45	20	7.25	61	98	55	0	1	3	0	
SAVANNAH	77	53	87	36	65	7	0.54	-0.21	0.35	0.82	57	8.38	101	93	52	0	0	2	0	
HI HILO	75	66	77	65	70	-2	0.74	-2.28	0.62	8.00	141	16.11	66	85	76	0	0	5	1	
HONOLULU	78	63	80	58	71	-3	0.10	-0.37	0.03	0.39	39	2.20	36	72	58	0	0	5	0	
KAHULUI	75	63	78	57	69	-4	0.65	0.15	0.32	7.64	764	11.95	168	76	63	0	0	5	0	
LIHUE	77	61	80	57	69	-3	0.00	-0.81	0.00	0.44	27	2.35	25	71	59	0	0	0	0	
ID BOISE	65	41	71	32	53	11	0.10	-0.20	0.10	0.10	17	2.28	73	56	39	0	1	1	0	
LEWISTON	66	41	71	34	54	11	0.04	-0.18	0.04	0.06	14	2.35	93	77	55	0	0	1	0	
POCATELLO	63	30	69	21	46	10	0.01	-0.29	0.01	0.17	29	1.27	46	75	38	0	5	1	0	
IL CHICAGO/O'HARE	53	32	65	25	42	7	0.00	-0.49	0.00	0.15	16	3.02	70	84	54	0	4	0	0	
MOLINE	59	29	67	22	44	8	0.00	-0.56	0.00	0.25	24	3.18	77	90	54	0	4	0	0	
PEORIA	60	35	68	27	48	11	0.00	-0.58	0.00	0.25	23	3.97	93	85	46	0	3	0	0	
ROCKFORD	52	28	62	21	40	7	0.00	-0.43	0.00	0.40	50	2.34	66	86	61	0	6	0	0	
SPRINGFIELD	59	34	68	25	47	8	0.06	-0.61	0.06	0.34	27	3.63	77	94	53	0	3	1	0	
IN EVANSVILLE	58	41	67	29	50	6	2.99	2.06	1.81	5.64	310	11.17	143	91	75	0	1	3	2	
FORT WAYNE	47	29	55	26	38	2	0.19	-0.38	0.19	0.62	56	4.38	86	97	66	0	7	1	0	
INDIANAPOLIS	55	35	64	27	45	6	1.35	0.61	0.56	2.16	150	5.31	84	91	61	0	3	3	1	
SOUTH BEND	51	30	58	24	40	5	0.00	-0.56	0.00	0.13	12	4.03	76	84	55	0	5	0	0	
IA BURLINGTON	60	33	68	27	47	10	0.00	-0.61	0.00	0.11	10	2.53	63	92	47	0	2	0	0	
CEDAR RAPIDS	58	31	70	25	45	11	0.00	-0.41	0.00	0.25	33	1.57	54	95	48	0	4	0	0	
DES MOINES	66	35	73	30	51	15	0.00	-0.39	0.00	0.01	1	2.03	69	80	38	0	2	0	0	
DUBUQUE	54	31	66	24	43	11	0.02	-0.48	0.02	0.10	11	2.41	66	87	63	0	5	1	0	
SIoux CITY	69	29	78	25	49	15	0.00	-0.37	0.00	0.00	0	0.96	51	81	36	0	6	0	0	
WATERLOO	59	30	69	26	44	12	0.01	-0.38	0.01	0.06	8	2.08	80	95	54	0	5	1	0	
KS CONCORDIA	71	36	76	27	53	13	0.00	-0.50	0.00	0.00	0	1.52	66	77	31	0	2	0	0	
DODGE CITY	70	36	75	29	53	11	0.00	-0.36	0.00	0.00	0	1.29	67	73	22	0	2	0	0	
GOODLAND	67	32	75	26	50	12	0.00	-0.26	0.00	0.03	6	1.10	81	72	29	0	5	0	0	
TOPEKA	71	35	76	31	53	11	0.00	-0.52	0.00	0.00	0	1.98	64	83	42	0	2	0	0	

Based on 1971-2000 normals

\*\*\* Not Available

Weather Data for the Week Ending March 14, 2015

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 MAR 1	PCT. NORMAL SINCE MAR 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	71	39	77	37	55	11	0.00	-0.58	0.00	0.14	13	1.80	61	80	36	0	0	0	0	
KY JACKSON	61	45	65	38	53	8	1.90	0.88	0.99	5.22	256	11.39	123	87	50	0	0	4	1	
KY LEXINGTON	59	42	65	31	50	7	3.01	1.99	1.36	6.07	304	10.91	127	88	62	0	1	3	3	
KY LOUISVILLE	60	44	68	32	52	7	3.32	2.31	1.44	11.38	575	14.49	170	87	55	0	1	3	3	
LA PADUCAH	59	42	70	26	50	5	4.24	3.30	2.11	7.95	421	15.24	164	96	66	0	1	5	2	
LA BATON ROUGE	72	58	77	42	65	6	1.26	0.17	0.64	2.84	129	12.59	93	95	62	0	0	5	1	
LA LAKE CHARLES	67	55	75	51	61	1	1.74	0.97	1.22	5.57	374	14.05	137	93	74	0	0	6	1	
LA NEW ORLEANS	73	58	78	44	65	4	4.07	2.94	2.27	5.21	228	12.93	95	90	79	0	0	5	2	
LA SHREVEPORT	59	52	67	46	56	-1	5.22	4.28	2.46	6.41	336	18.15	169	97	78	0	0	5	3	
ME CARIBOU	32	5	45	-6	18	-4	0.07	-0.48	0.05	0.38	36	4.50	74	77	44	0	7	2	0	
ME PORTLAND	44	24	56	12	34	3	0.84	-0.03	0.84	1.16	69	8.64	97	76	35	0	6	1	1	
MD BALTIMORE	55	33	63	28	44	2	1.26	0.35	0.67	3.29	185	9.42	114	82	46	0	4	3	2	
MA BOSTON	45	28	57	24	37	0	0.97	0.14	0.81	1.43	88	8.39	95	79	39	0	6	3	1	
MA WORCESTER	42	26	53	19	34	2	0.58	-0.34	0.53	1.46	83	9.77	109	80	35	0	6	2	1	
MI ALPENA	45	25	54	10	35	9	0.02	-0.42	0.02	0.37	45	2.15	55	83	45	0	6	1	0	
MI GRAND RAPIDS	48	28	57	21	38	6	0.00	-0.48	0.00	0.37	42	3.42	77	86	49	0	6	0	0	
MI HOUGHTON LAKE	46	23	56	12	35	8	0.00	-0.40	0.00	0.17	23	1.99	55	84	51	0	7	0	0	
MI LANSING	49	29	58	24	39	8	0.00	-0.42	0.00	0.29	37	2.55	66	81	53	0	5	0	0	
MI MUSKEGON	45	28	51	23	36	4	0.00	-0.45	0.00	0.45	53	3.75	81	79	59	0	6	0	0	
MI TRAVERSE CITY	50	25	61	9	38	10	0.00	-0.35	0.00	0.07	10	3.49	64	85	39	0	5	0	0	
MN DULUTH	52	30	58	21	41	18	0.00	-0.31	0.00	0.20	36	1.05	42	78	51	0	4	0	0	
MN INT'L FALLS	47	28	56	22	37	17	0.02	-0.15	0.02	0.10	32	2.14	120	84	49	0	7	1	0	
MN MINNEAPOLIS	59	34	66	29	47	18	0.00	-0.34	0.00	0.13	22	0.82	34	74	46	0	3	0	0	
MN ROCHESTER	55	33	62	27	44	16	0.00	-0.32	0.00	0.04	7	1.42	63	82	62	0	4	0	0	
MN ST. CLOUD	57	30	61	25	43	18	0.00	-0.24	0.00	0.14	33	0.73	41	89	40	0	5	0	0	
MS JACKSON	69	54	76	35	61	6	2.19	0.98	1.41	3.74	159	13.92	111	94	65	0	0	6	2	
MS MERIDIAN	70	52	77	30	61	5	2.22	0.65	1.39	3.47	114	14.31	100	96	69	0	1	5	2	
MS TUPELO	64	50	70	28	57	6	2.27	0.82	0.81	4.50	158	13.65	108	91	75	0	1	7	1	
MO COLUMBIA	66	41	74	29	53	11	0.20	-0.47	0.15	0.31	24	3.07	59	91	41	0	1	2	0	
MO KANSAS CITY	70	39	75	32	55	14	0.00	-0.52	0.00	0.00	0	2.19	64	79	28	0	1	0	0	
MO SAINT LOUIS	63	40	75	34	51	8	1.47	0.70	1.10	1.64	111	4.62	78	85	66	0	0	4	1	
MO SPRINGFIELD	62	40	73	33	51	7	1.76	0.99	1.29	1.88	130	4.50	77	87	63	0	0	5	1	
MT BILLINGS	66	38	71	26	52	17	0.00	-0.21	0.00	0.09	24	1.38	78	51	18	0	1	0	0	
MT BUTTE	57	24	63	17	41	12	0.00	-0.17	0.00	0.00	0	0.30	23	84	21	0	7	0	0	
MT CUT BANK	60	34	66	24	47	18	0.00	-0.10	0.00	0.00	0	0.72	85	68	24	0	2	0	0	
MT GLASGOW	64	30	75	22	47	19	0.00	-0.08	0.00	0.02	13	1.09	142	78	46	0	5	0	0	
MT GREAT FALLS	64	36	71	26	50	18	0.00	-0.20	0.00	0.01	3	1.42	91	68	20	0	3	0	0	
MT HAVRE	66	28	74	20	47	17	0.00	-0.14	0.00	0.00	0	1.61	148	81	38	0	6	0	0	
MT MISSOULA	61	28	66	23	44	8	0.00	-0.19	0.00	0.02	5	2.22	100	79	54	0	5	0	0	
NE GRAND ISLAND	69	31	77	24	50	14	0.00	-0.40	0.00	0.06	8	1.24	64	77	30	0	5	0	0	
NE LINCOLN	70	28	77	20	49	12	0.00	-0.43	0.00	0.03	4	1.88	90	80	34	0	5	0	0	
NE NORFOLK	70	31	79	24	50	16	0.00	-0.39	0.00	0.00	0	0.89	44	79	30	0	5	0	0	
NE NORTH PLATTE	69	25	75	20	47	11	0.00	-0.24	0.00	0.01	2	0.76	57	76	19	0	6	0	0	
NE OMAHA	68	33	76	27	50	14	0.00	-0.42	0.00	0.01	1	1.33	57	84	39	0	5	0	0	
NE SCOTTSBLUFF	67	26	74	23	47	12	0.00	-0.22	0.00	0.07	18	0.91	60	77	31	0	5	0	0	
NE VALENTINE	69	28	76	22	49	16	0.00	-0.21	0.00	0.03	8	0.68	58	78	25	0	6	0	0	
NV ELY	61	26	67	20	44	9	0.00	-0.24	0.00	0.31	67	0.82	42	75	34	0	5	0	0	
NV LAS VEGAS	78	55	82	50	67	10	0.00	-0.15	0.00	0.28	88	1.69	106	37	20	0	0	0	0	
NV RENO	69	37	74	30	53	11	0.00	-0.22	0.00	0.01	2	1.49	58	61	35	0	3	0	0	
NV WINNEMUCCA	62	28	69	17	45	5	0.05	-0.12	0.05	0.05	15	1.24	70	71	40	0	4	1	0	
NH CONCORD	42	18	51	8	30	-1	0.38	-0.27	0.31	0.61	48	6.68	101	84	35	0	7	2	0	
NJ NEWARK	51	34	63	28	43	3	1.30	0.37	0.86	3.45	196	9.92	114	67	47	0	3	3	1	
NM ALBUQUERQUE	66	41	68	36	53	7	0.00	-0.14	0.00	0.00	0	1.31	111	49	20	0	0	0	0	
NY ALBANY	43	25	49	18	34	2	0.13	-0.52	0.08	0.31	25	4.64	79	77	40	0	5	3	0	
NY BINGHAMTON	42	26	49	19	34	4	0.21	-0.40	0.11	0.96	79	4.90	78	79	47	0	6	3	0	
NY BUFFALO	42	29	51	25	35	3	0.02	-0.61	0.02	0.54	44	5.53	81	85	52	0	6	1	0	
NY ROCHESTER	44	29	50	23	36	4	0.12	-0.41	0.12	0.61	59	4.87	90	74	49	0	5	1	0	
NY SYRACUSE	43	25	50	19	34	3	0.08	-0.53	0.07	0.55	47	4.63	79	82	44	0	5	2	0	
NC ASHEVILLE	64	44	72	27	54	10	0.79	-0.26	0.21	0.99	48	6.83	69	91	59	0	1	4	0	
NC CHARLOTTE	70	47	83	32	58	7	0.70	-0.32	0.34	1.46	73	7.28	76	79	36	0	1	4	0	
NC GREENSBORO	65	45	73	31	55	8	0.38	-0.49	0.28	1.61	94	6.29	75	83	44	0	1	4	0	
NC HATTERAS	63	50	70	44	57	6	0.67	-0.45	0.49	0.99	46	12.94	108	88	57	0	0	4	0	
NC RALEIGH	67	47	76	35	57	8	0.43	-0.53	0.30	2.16	114	8.42	90	83	45	0	0	3	0	
NC WILMINGTON	71	50	84	40	60	7	0.64	-0.35	0.64	1.25	64	10.57	104	90	46	0	0	1	1	
ND BISMARCK	63	26	72	23	44	17	0.00	-0.15	0.00	0.00	0	1.15	92	88	38	0	7	0	0	
ND DICKINSON	64	29	70	20	46	18	0.00	-0.07	0.00	0.00	0	0.57	61	76	21	0	6	0	0	
ND FARGO	58	29	68	24	44	20	0.00	-0.23	0.00	0.01	2	1.00	57	83	37	0	6	0	0	
ND GRAND FORKS	56	27	65	22	41	18	0.00	-0.17	0.00	0.00	0	0.82	52	90	41	0	6	0	0	
ND JAMESTOWN	57	28	69	25	43	18	0.00	-0.16	0.00	0.00	0	0.42	29	90	40	0	7	0	0	
ND WILLISTON	61	27	66	22	44	18	0.00	-0.14	0.00	0.01	4	0.96	81	86	54	0	7	0	0	
OH AKRON-CANTON	48	32	54	24	40	5	1.26	0.58	0.67	1.86	140	7.32	120	78	60	0	3	3	1	
OH CINCINNATI	57	38	64	27	48	6	2.94	2.10	1.36	5.21	322	9.36	128	89	63	0	2	3	3	
OH CLEVELAND	48	32	56	29	40	5	0.58	-0.03	0.32	0.91	76	6.42	108	87	51	0	5	3	0	
OH COLUMBUS	52	32	59	27	42	2	1.58	0.97	0.56	3.50	294	8.06	136	90	60	0	4	3	2	
OH DAYTON	54	34	60	26	44	6	1.74	1.08	0.78	2.81	221	7.16	116	96	61	0	4	3	2	
OH MANSFIELD	48	31	52	25	39	5	1.23	0.57	0.49	1.77	142	6.93	115	97	55	0	5	3	0	

Based on 1971-2000 normals

\*\*\* Not Available

Weather Data for the Week Ending March 14, 2015

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 MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL IN., SINCE JAN 01	PCT. NORMAL SINCE JAN 01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	TEMP. °F		PRECIP	
																		01 INCH OR MORE	50 INCH OR MORE	01 INCH OR MORE	50 INCH OR MORE
OK TOLEDO	47	28	52	24	38	3	0.01	-0.50	0.01	0.33	33	3.96	83	91	55	0	6	1	0		
OK YOUNGSTOWN	47	30	52	27	39	5	0.74	0.11	0.31	1.47	123	6.72	121	82	56	0	6	3	0		
OK OKLAHOMA CITY	66	47	76	44	56	7	0.87	0.21	0.69	0.92	73	3.13	76	84	48	0	0	2	1		
OR TULSA	64	45	75	39	55	6	1.54	0.76	1.36	1.60	107	4.12	82	91	59	0	0	2	1		
OR ASTORIA	60	43	67	35	52	6	1.50	-0.23	1.32	1.60	46	17.08	81	91	78	0	0	3	1		
OR BURNS	63	27	69	17	45	9	0.18	-0.11	0.09	0.18	31	1.33	46	83	51	0	5	2	0		
OR EUGENE	64	42	70	31	53	8	1.06	-0.32	0.87	1.10	39	7.66	46	92	78	0	1	2	1		
OR MEDFORD	67	44	74	36	55	9	0.86	0.42	0.74	0.86	96	5.30	97	89	53	0	0	2	1		
OR PENDLETON	69	41	76	33	55	11	0.13	-0.15	0.09	0.13	24	1.68	52	71	47	0	0	2	0		
OR PORTLAND	66	44	69	36	55	9	1.36	0.48	1.24	1.36	76	8.39	76	94	72	0	0	2	1		
OR SALEM	65	44	71	34	55	9	1.20	0.19	1.12	1.22	58	8.76	67	87	72	0	0	2	1		
PA ALLENTOWN	47	29	53	25	38	2	1.27	0.49	0.89	3.06	201	7.63	98	72	44	0	5	3	1		
PA ERIE	44	30	54	23	37	3	0.09	-0.55	0.09	0.81	65	6.56	108	71	57	0	6	1	0		
PA MIDDLETOWN	50	28	59	19	39	0	1.33	0.59	0.56	2.70	181	6.29	87	94	42	0	5	3	2		
PA PHILADELPHIA	54	34	61	26	44	3	1.74	0.90	0.91	4.14	257	11.02	140	71	40	0	4	3	2		
PA PITTSBURGH	50	32	59	26	41	4	1.29	0.60	0.51	3.17	238	7.00	109	91	54	0	3	4	2		
PA WILKES-BARRE	47	30	55	23	39	3	0.60	0.05	0.32	1.08	102	4.09	73	77	40	0	5	2	0		
PA WILLIAMSPORT	48	28	54	21	38	3	0.64	-0.03	0.43	1.29	98	4.06	60	82	41	0	5	3	0		
RI PROVIDENCE	46	26	57	18	36	-1	1.36	0.42	1.09	2.96	164	9.29	96	77	48	0	6	3	1		
SC BEAUFORT	74	52	82	36	63	7	0.73	-0.04	0.40	1.20	81	8.53	98	98	56	0	0	2	0		
SC CHARLESTON	75	52	85	38	64	8	0.28	-0.60	0.27	0.60	35	8.53	96	94	48	0	0	2	0		
SC COLUMBIA	74	52	86	36	63	9	0.71	-0.33	0.51	1.30	64	8.66	82	85	45	0	0	2	1		
SC GREENVILLE	70	48	81	35	59	9	0.95	-0.32	0.51	1.38	55	8.70	78	87	43	0	0	4	1		
SD ABERDEEN	61	28	70	24	44	16	0.00	-0.24	0.00	0.08	19	1.15	83	86	52	0	6	0	0		
SD HURON	65	29	74	25	47	17	0.02	-0.29	0.02	0.13	24	0.76	48	86	31	0	6	1	0		
SD RAPID CITY	67	29	76	20	48	15	0.00	-0.19	0.00	0.02	6	0.44	38	69	20	0	6	0	0		
SD SIOUX FALLS	65	33	77	26	49	19	0.13	-0.19	0.13	0.23	42	1.47	94	82	45	0	3	1	0		
TN BRISTOL	63	42	71	25	52	8	1.33	0.42	0.73	3.22	177	8.55	98	95	52	0	1	4	1		
TN CHATTANOOGA	66	49	72	30	58	9	1.42	-0.01	0.48	2.84	102	9.83	75	92	70	0	1	6	0		
TN KNOXVILLE	64	46	70	32	55	7	1.46	0.26	0.66	3.06	130	10.20	93	91	65	0	1	5	1		
TN MEMPHIS	61	50	69	32	55	4	2.57	1.36	0.92	4.90	206	10.55	97	91	74	0	1	6	3		
TN NASHVILLE	63	46	69	31	55	7	1.42	0.29	0.55	3.96	180	10.78	109	94	69	0	1	5	1		
TX ABILENE	65	42	71	36	54	-1	0.57	0.27	0.54	1.01	166	4.51	166	90	64	0	0	2	1		
TX AMARILLO	68	37	71	33	52	6	0.00	-0.22	0.00	0.03	7	2.11	133	83	24	0	0	0	0		
TX AUSTIN	65	50	77	47	57	-3	2.12	1.61	1.59	2.42	228	8.21	166	91	71	0	0	3	2		
TX BEAUMONT	65	54	80	50	59	-2	1.15	0.35	0.33	1.92	123	8.90	84	97	75	0	0	5	0		
TX BROWNSVILLE	70	56	78	52	63	-4	4.09	3.95	2.03	4.13	1332	8.48	298	97	78	0	0	5	3		
TX CORPUS CHRISTI	68	55	79	53	61	-4	3.29	2.90	2.15	3.36	410	6.82	159	93	75	0	0	4	2		
TX DEL RIO	76	48	81	45	62	0	0.02	-0.17	0.02	0.28	68	1.29	66	86	55	0	0	1	0		
TX EL PASO	71	46	73	40	59	4	0.01	-0.05	0.01	0.13	100	1.02	105	58	23	0	0	1	0		
TX FORT WORTH	60	49	69	44	55	-1	1.07	0.34	0.65	1.99	134	8.56	149	96	68	0	0	3	1		
TX GALVESTON	62	55	70	53	59	-4	3.24	2.64	1.54	3.68	315	9.83	125	100	83	0	0	6	3		
TX HOUSTON	64	52	77	45	58	-3	4.24	3.52	2.01	4.63	322	8.47	105	95	86	0	0	5	2		
TX LUBBOCK	69	37	73	32	53	4	0.00	-0.14	0.00	0.18	60	2.46	163	86	40	0	1	0	0		
TX MIDLAND	68	39	73	36	54	0	0.01	-0.09	0.01	0.14	61	2.84	212	84	50	0	0	1	0		
TX SAN ANGELO	68	44	74	37	56	1	0.21	-0.02	0.19	0.30	61	2.57	104	91	59	0	0	2	0		
TX SAN ANTONIO	69	50	78	48	59	-1	1.30	0.89	0.86	1.61	189	5.79	136	89	57	0	0	2	1		
TX VICTORIA	68	53	79	50	60	-2	4.23	3.73	2.91	4.38	442	8.44	154	98	77	0	0	3	2		
TX WACO	62	48	73	45	55	-2	1.14	0.55	1.01	1.94	156	6.68	120	94	74	0	0	2	1		
TX WICHITA FALLS	65	44	73	36	55	3	0.38	-0.12	0.31	0.56	57	3.16	86	86	62	0	0	2	0		
UT SALT LAKE CITY	63	38	69	32	50	9	0.05	-0.36	0.05	0.49	61	1.66	47	69	30	0	2	1	0		
VT BURLINGTON	41	24	50	12	33	5	0.20	-0.26	0.16	0.28	32	3.27	69	76	38	0	6	3	0		
VA LYNCHBURG	60	38	65	32	49	5	0.97	0.10	0.48	2.11	124	6.49	78	87	53	0	1	4	0		
VA NORFOLK	64	42	73	36	53	6	0.80	-0.12	0.49	1.68	93	7.86	87	79	46	0	0	3	0		
VA RICHMOND	64	42	71	33	53	8	1.33	0.39	0.89	2.53	139	9.80	117	77	49	0	0	3	1		
VA ROANOKE	61	42	66	37	52	7	0.59	-0.26	0.31	2.49	148	6.40	80	82	50	0	0	4	0		
WA WASH/DULLES	55	32	62	25	44	3	1.20	0.40	0.53	2.73	175	7.76	105	88	47	0	5	4	2		
WA OLYMPIA	61	39	65	28	50	7	1.50	0.26	1.28	1.51	59	13.47	83	96	83	0	3	3	1		
WA QUILLAYUTE	59	41	65	32	50	7	2.28	-0.37	1.18	2.39	44	22.23	71	99	86	0	1	4	2		
WA SEATTLE-TACOMA	60	45	64	39	53	8	0.88	0.01	0.75	0.88	49	9.82	89	90	73	0	0	2	1		
WA SPOKANE	61	39	67	30	50	12	0.17	-0.19	0.17	0.21	29	3.18	79	81	40	0	1	1	0		
WA YAKIMA	70	38	74	31	54	13	0.01	-0.13	0.01	0.01	3	1.70	75	77	47	0	3	1	0		
WV BECKLEY	56	40	60	34	48	8	1.68	0.85	0.65	4.49	274	11.17	143	83	60	0	0	4	2		
WV CHARLESTON	61	39	63	33	50	7	1.85	0.94	1.01	4.94	276	10.16	123	93	48	0	0	4	1		
WV ELKINS	57	31	60	26	44	6	2.72	1.82	1.31	5.44	307	11.16	133	94	44	0	5	4	2		
WV HUNTINGTON	60	42	66	37	51	7	2.68	1.80	1.33	5.90	337	11.34	141	91	52	0	0	3	2		
WI EAU CLAIRE	57	29	66	23	43	15	0.00	-0.31	0.00	0.08	15	0.67	28	83	35	0	5	0	0		
WI GREEN BAY	54	31	63	24	43	14	0.00	-0.38	0.00	0.18	26	1.17	40	85	53	0	4	0	0		
WI LA CROSSE	61	33	71	26	47	15	0.00	-0.32	0.00	0.01	2	1.23	45	84	33	0	3	0	0		
WI MADISON	57	29	68	25	43	12	0.00	-0.40	0.00	0.11	15	1.52	46	82	48	0	6	0	0		
WI MILWAUKEE	53	32	65	29	42	9	0.00	-0.46	0.00	0.31	36	2.05	47	76	55	0	4	0	0		
WY CASPER	57	28	64	20	43	10	0.00	-0.19	0.00	0.53	143	1.84	116	71	37	0	6	0	0		
WY CHEYENNE	57	28	62	25	43	10	0.00	-0.20	0.00	0.07	19	0.88	70	64	29	0	6	0	0		
WY LANDER	52	30	59	23	41	8	0.00	-0.23	0.00	0.53	129	2.10	143	70	36	0	5	0	0		
WY SHERIDAN	64	29	77	23	46	13	0.00	-0.17	0.00	0.17	53	1.92	116	67	32	0	6	0	0		

Based on 1971-2000 normals

\*\*\* Not Available

# Winter Weather Review

*Weather summary provided by USDA/WAOB*

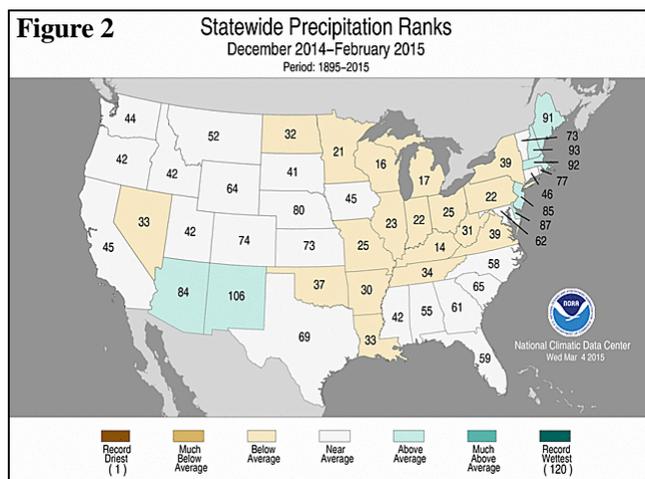
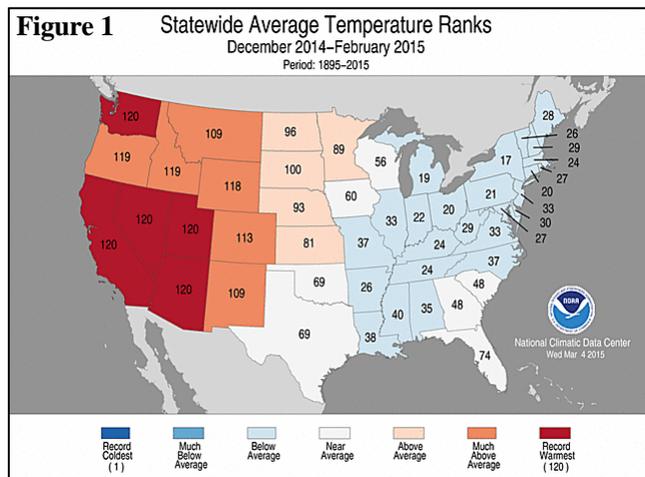
**Highlights:** The warmest winter on record covered Washington and four Southwestern States (AZ, CA, NV, and UT). In California, the previous warmest winter had occurred just last year. In addition, it was the second-warmest winter on record in Idaho and Oregon. In contrast, colder-than-normal weather dominated the eastern half of the U.S., despite a mild December. Conditions turned especially harsh in late winter, when the second-coldest February on record occurred in nine states from Ohio to New England. The Eastern cold wave peaked on February 20, when freezes were noted as far south as interior southern Florida.

Between the Western warmth and the Eastern chill, the Plains were subjected to frequent and rapid temperature changes. The winter temperatures extremes, some of which occurred without the benefit of a protective snow cover, caused general declines in crop condition for winter wheat. Outside of the hard red winter wheat belt, parts of the upper Midwest experienced a “snow drought,” with less precipitation than normal falling during the winter months.

Only two small areas, the northern Atlantic region and the Southwest, reported wetter-than-normal winter weather. In parts of the Northeast, extremely heavy snow fell from late January to mid-February. Elsewhere, most of California’s wet weather was compressed into two brief periods—the first 3 weeks of December and several days in early February.

**Historical Perspective:** According to preliminary data provided by the National Climatic Data Center, winter featured regionally contrasting temperatures and mostly drier-than-normal conditions. The nation’s average December-February temperature of 34.3°F was 2.1°F above the 20th century mean, while the average precipitation of 6.12 inches was 90 percent of normal—marking the 19th-warmest, 27th-driest winter since 1895-96.

State temperature rankings were impressive in the West, with record-setting warmth in California and four other states (figure 1). In contrast, top-twenty rankings for winter coldness were observed in Connecticut, Michigan, New York, and Ohio. Meanwhile, state precipitation rankings ranged from top-twenty winter dryness in Kentucky, Michigan, and Wisconsin to the 15th-wettest winter in New Mexico (figure 2).



**December:** Limited drought relief came to California in the form of several periods of heavy precipitation, highlighted by a potent, moisture-laden storm on December 11-12. Although the rain improved topsoil moisture, benefited winter grains, and helped to revive rangeland and pastures, significant effects from the 3-year drought persisted. For example, California’s reservoirs got a slight boost from runoff, but collectively remained at near-record low levels. And, since most of California’s storms were “warm” systems, high-elevation snowpack remained below one-half of average for this time of year.

Precipitation also spread into other areas of the West. Like California, however, snowpack in the Pacific Northwest languished due to warm conditions, despite an abundance of storms. Fewer storms reached the Southwest, where significantly below-average snowpack was also a concern.

Farther east, a very cold November was followed by a mostly mild December. Thawing, muddy fields led to delays in final corn harvest efforts in the Great Lakes region. Most other fieldwork across the South, East, and Midwest was eventually curtailed, as increasingly wet conditions developed as the month progressed. Just prior to the holidays, a sprawling storm system produced wet snow across the northern Plains and Midwest, along with torrential rainfall and locally severe thunderstorms in the Southeast.

Elsewhere, mid- to late-month precipitation (rain and snow) provided a little bit of beneficial moisture across winter wheat areas of the central and southern Plains. Heading into the overwintering period, wheat-related concerns included lingering drought (on the southern Plains); the effects of November's cold wave (on the central High Plains); and issues related to late planting and poor crop establishment (in the southern and eastern Corn Belt). From November 23 to the end of December, the portion of the winter wheat rated in good to excellent condition fell from 69 to 57 percent in Nebraska; 61 to 49 percent in Kansas; and 56 to 24 percent in Illinois.

The contiguous U.S. experienced its second-warmest, 51st-wettest December during the 120-year period of record. The average temperature of 37.2°F was nearly 4.5°F above the 20th century mean, and marked the nation's warmest December since 1939. Above-average temperatures were noted in every state, and temperatures were among the ten highest December values on record in Texas, four New England States (ME, MA, NH, and RI), and four Western States (CA, ID, OR, and WY). The "coolest" state, Nebraska, experienced its 35th-warmest December.

Meanwhile, state precipitation rankings ranged from the ninth-driest December in North Dakota to the seventh-wettest December in Maine. General wetness across New England, the Southeast, central portions of the Rockies and Plains, and an area stretching from California to Arizona contrasted with the aforementioned dry conditions in North Dakota, as well as parts of the south-central U.S. For the nation as a whole, the average precipitation of 2.51 inches was 107 percent of normal.

**January:** Mid-winter warmth dominated the western U.S., accompanied in most areas by unfavorably dry conditions. California's spell without meaningful precipitation stretched to 6 weeks by the end of January, increasing the odds that drought will continue through a fourth year. Among the most serious drought-related issues in California was the lack of snowpack in key watershed areas, including the Sierra Nevada. The snowpack concerns also extended northward into the Cascades, where season-to-date precipitation has been adequate but persistent warmth has resulted in melting of existing snow or precipitation falling as rain.

Farther east, beneficial precipitation fell across much of the nation's mid-section, including the High Plains. Some of the heaviest precipitation arrived at month's end, when a developing storm moved from the southern Rockies into the Midwest. Despite the January moisture, the statewide portion of hard red winter wheat rated in good to excellent condition decreased by 7 to 15 percentage points between November 23 and January 31 in each of the Plains' seven major production states from Montana to Texas. By month's end, wheat rated in the good to excellent categories ranged from 38 percent in Colorado to 61 percent in Nebraska.

Meanwhile, precipitation events were frequent but generally light across the Midwest, South, and East. Notable exceptions included a late-January blizzard along the northern Atlantic Coast and a snow storm that began to unfold at month's end across the Midwest. In the southernmost Corn Belt, a mid-month cold snap without the benefit of a protective snow cover threatened the poorly established soft red winter wheat crop. Elsewhere, areas being watched for developing dryness included the mid-South and the southern tip of Florida.

The contiguous U.S. experienced its 24th-warmest, 18th-driest January during the 1895-2015 period of record. The nation's average temperature of 33.0°F was 2.9°F above the 20th century mean, while the average precipitation of 1.75 inches was approximately three-quarters (76 percent) of normal.

Warmth continued to dominate the West, where monthly average temperatures were among the ten highest January values on record in California, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. New York (24th-coldest January) had the lowest monthly ranking. Meanwhile, January dryness covered the Pacific Coast States and much of the northern two-thirds of the nation. It was the fourth-driest January in drought-stricken California, along with the fifth driest in Oregon and eighth driest in Nebraska. Wetness was limited to the northern Atlantic Coast and the Southwest, where New Mexico experienced its 13th-wettest January.

**February:** A remarkably persistent weather regime—featuring a Western ridge and Eastern trough—led to record-setting February temperatures on both sides of the country. The West basked in spring-like warmth, while the Great Lakes and Northeastern States suffered through the coldest weather in decades—even colder than February 2014. At the height of the Eastern cold wave, on February 20, producers as far south as Florida had to take protective measures to help guard against freeze damage to tender crops such as blueberries, strawberries, and vegetables.

In between warm and cold regions, the Plains were the battleground for competing air masses and saw wildly

Fluctuating temperatures. In areas with patchy, shallow, or non-existent snow cover, the Plains' weather extremes were detrimental to the health of winter wheat. As a result, the portion of the wheat crop rated in good to excellent condition declined during February from 58 to 44 percent in Montana and 58 to 49 percent in South Dakota.

Like January, February was a rather dry month across the majority of the country. However, there were notable exceptions, including an early-month snow storm from the Midwest into the Northeast; occasional heavy snow on the High Plains; and several Southern storms. During the second half of the month, some of the Southern storms produced disruptive amounts of snow, sleet, and freezing rain.

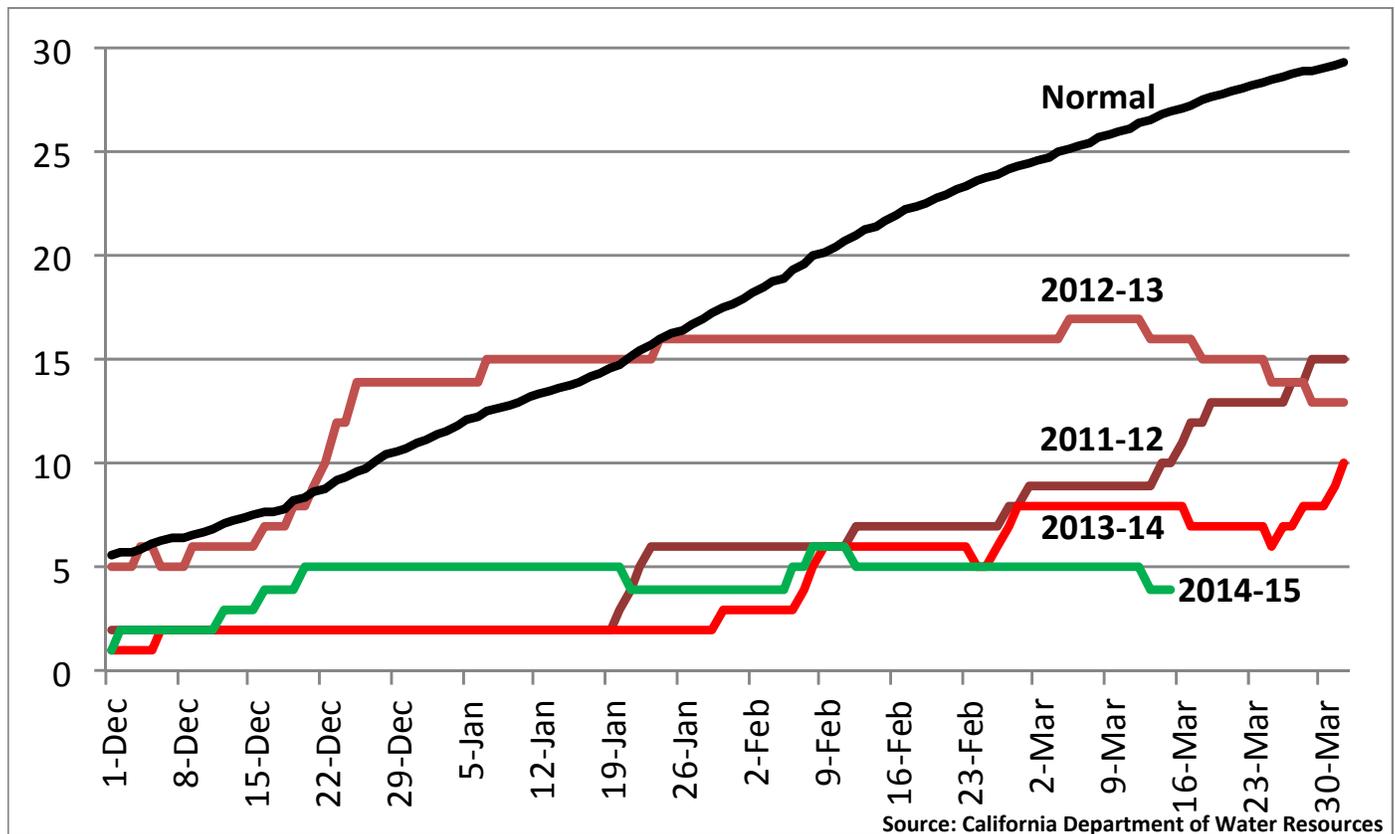
Meanwhile, California headed toward a fourth consecutive year of drought, despite a brief period of heavy precipitation from February 6-9. During February, conditions were especially dry in parts of the Great Basin, Intermountain West, and Desert Southwest, while snow-

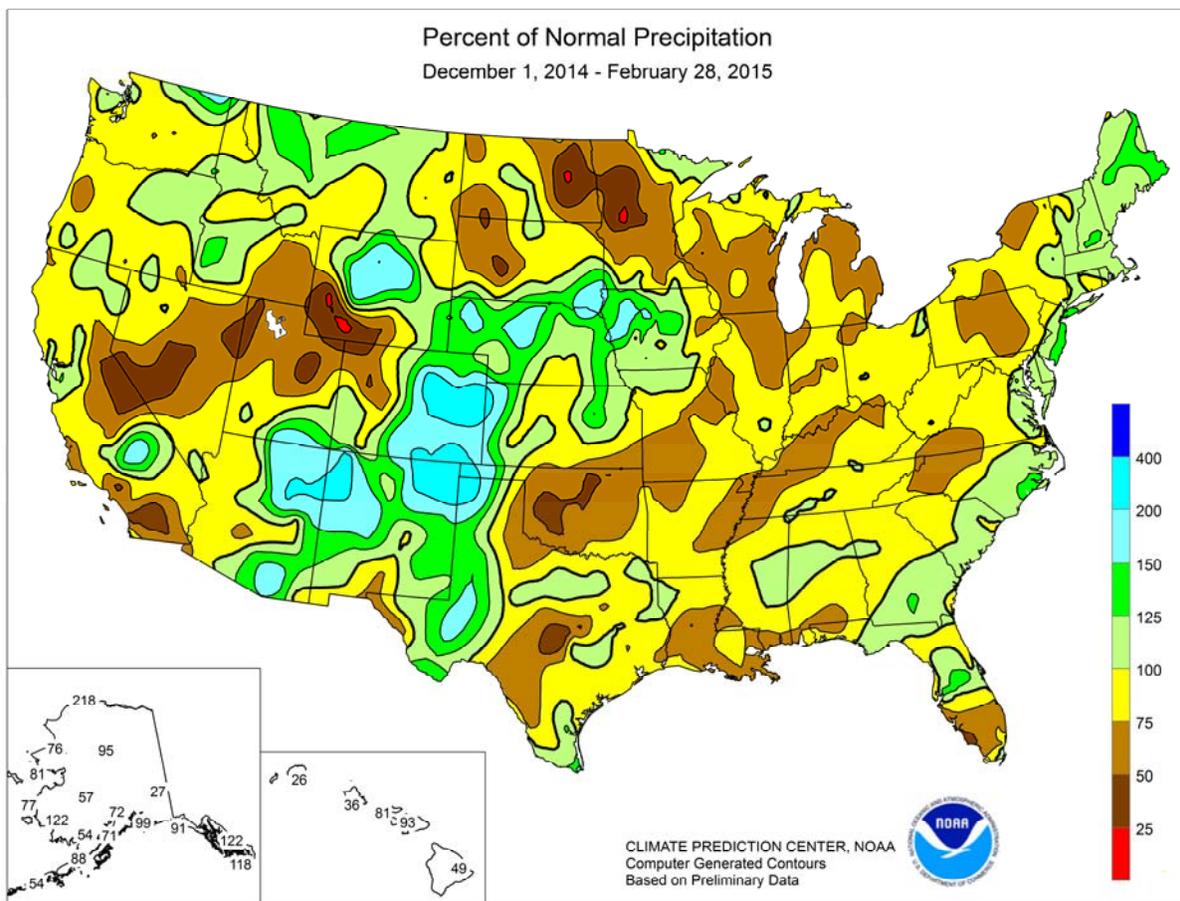
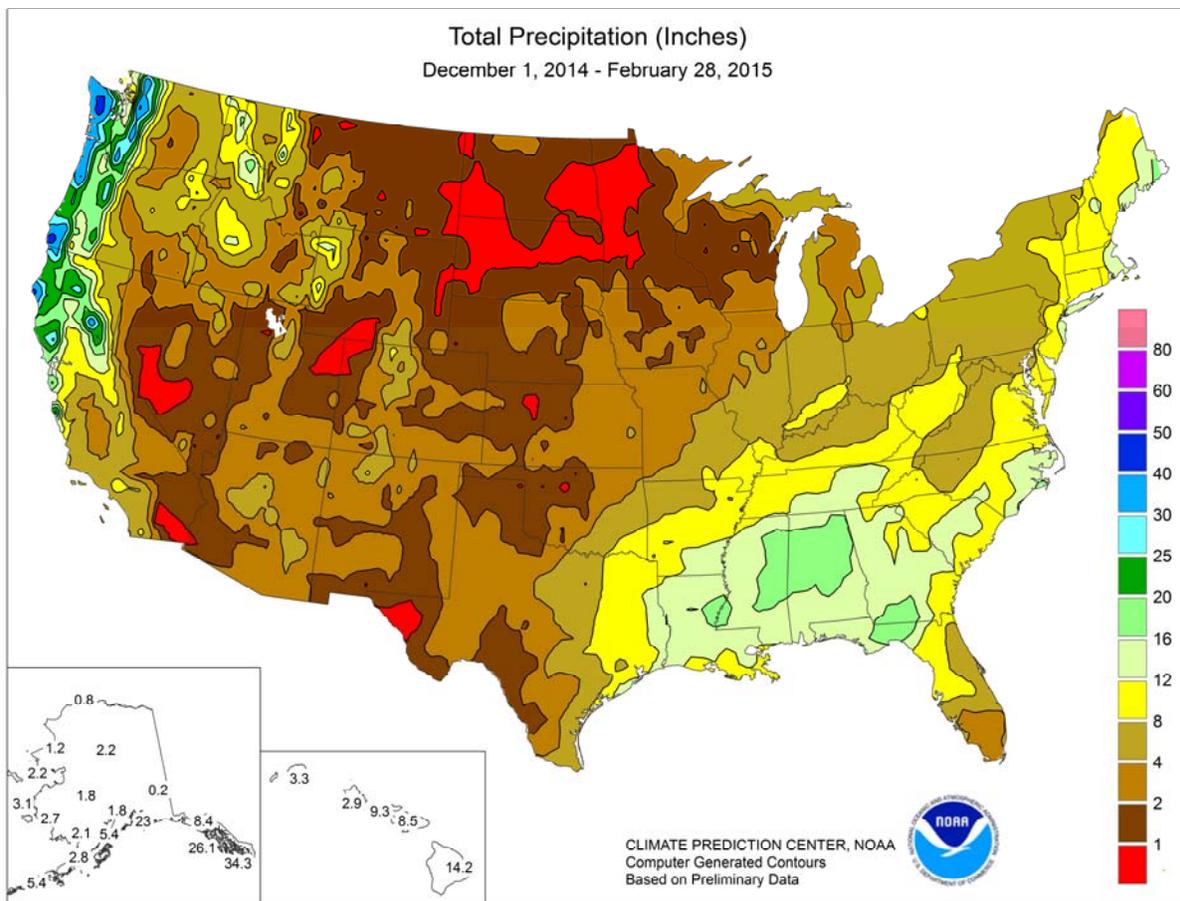
pack remained close to record-low levels in the Cascades and the Sierra Nevada.

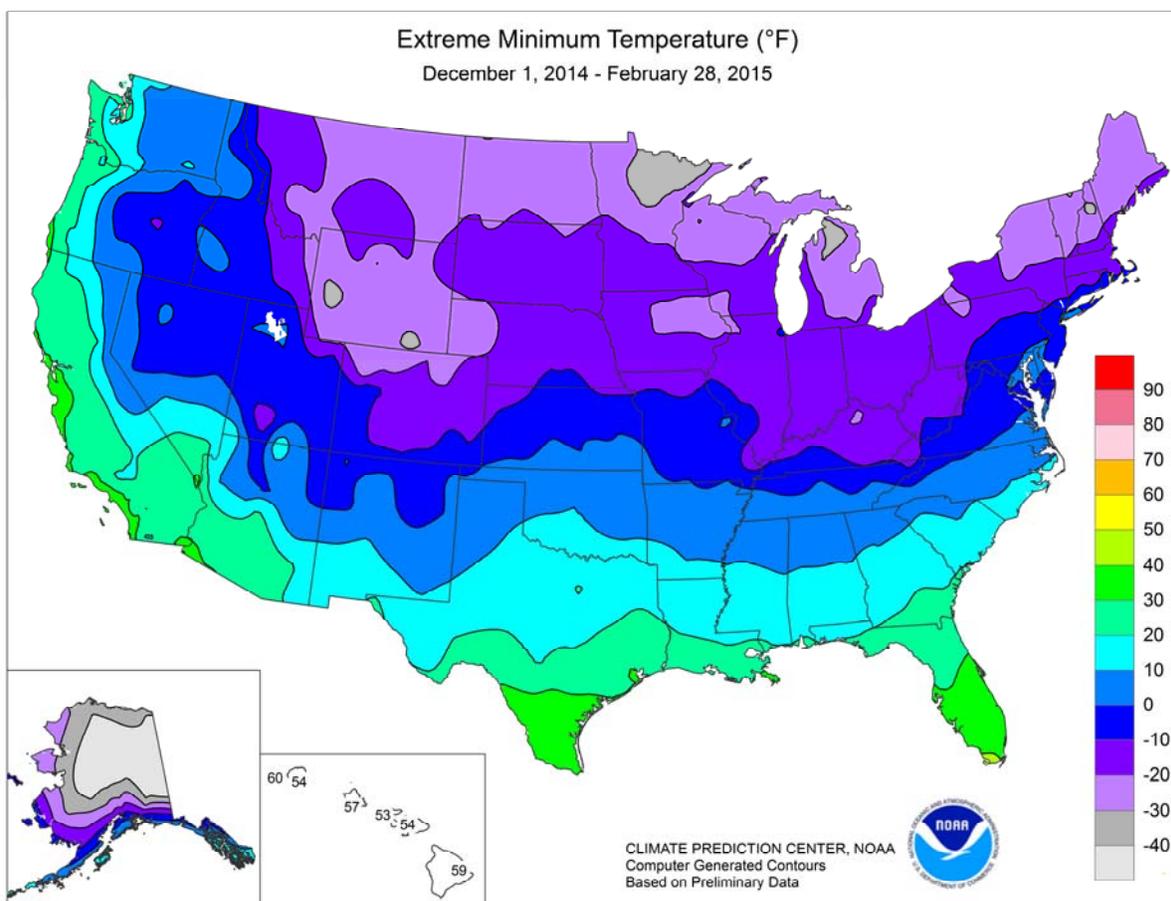
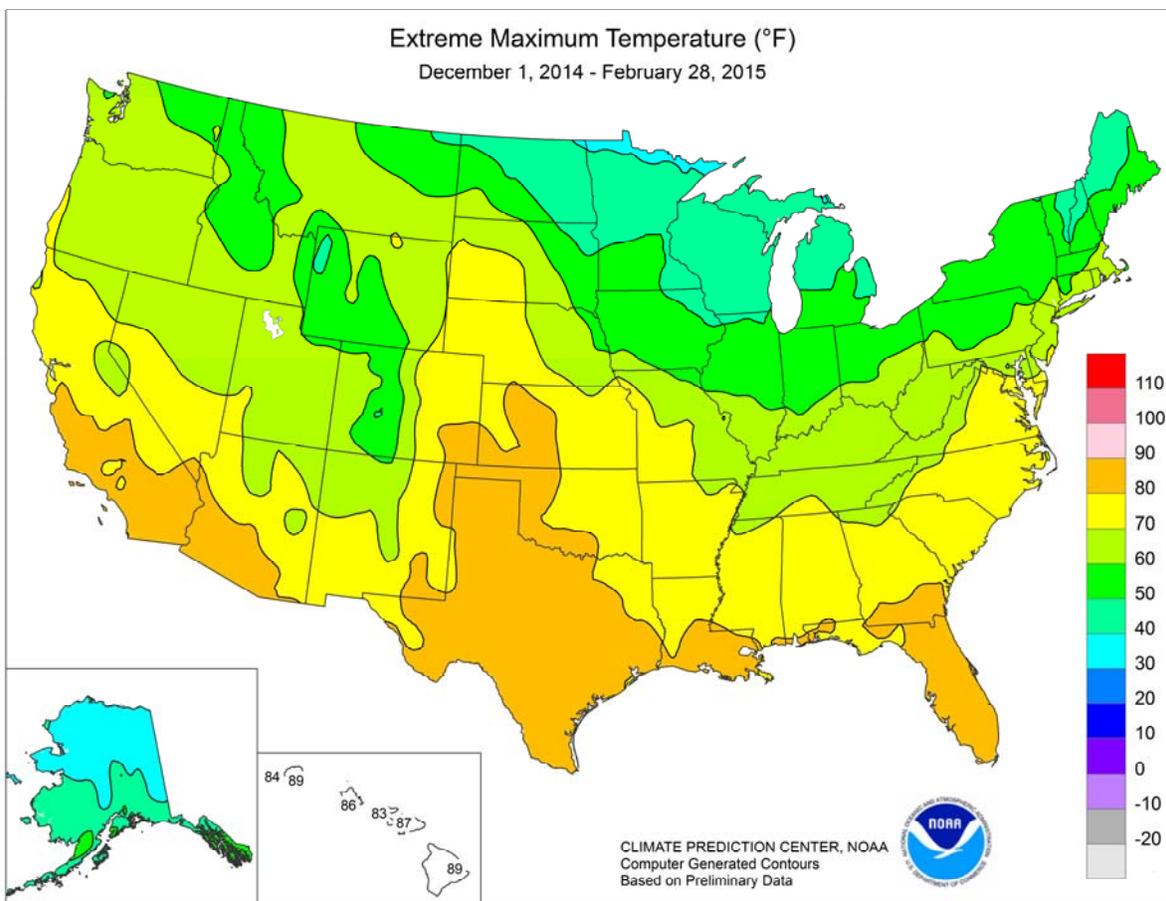
The contiguous U.S. experienced its 53rd-coldest, 20th-driest February during the 121-year period of record. Western warmth partially offset frigid Eastern conditions, leading to a monthly average temperature of 33.1°F—just 0.7°F below the 20th century mean. February precipitation averaged 1.70 inches, 80 percent of normal.

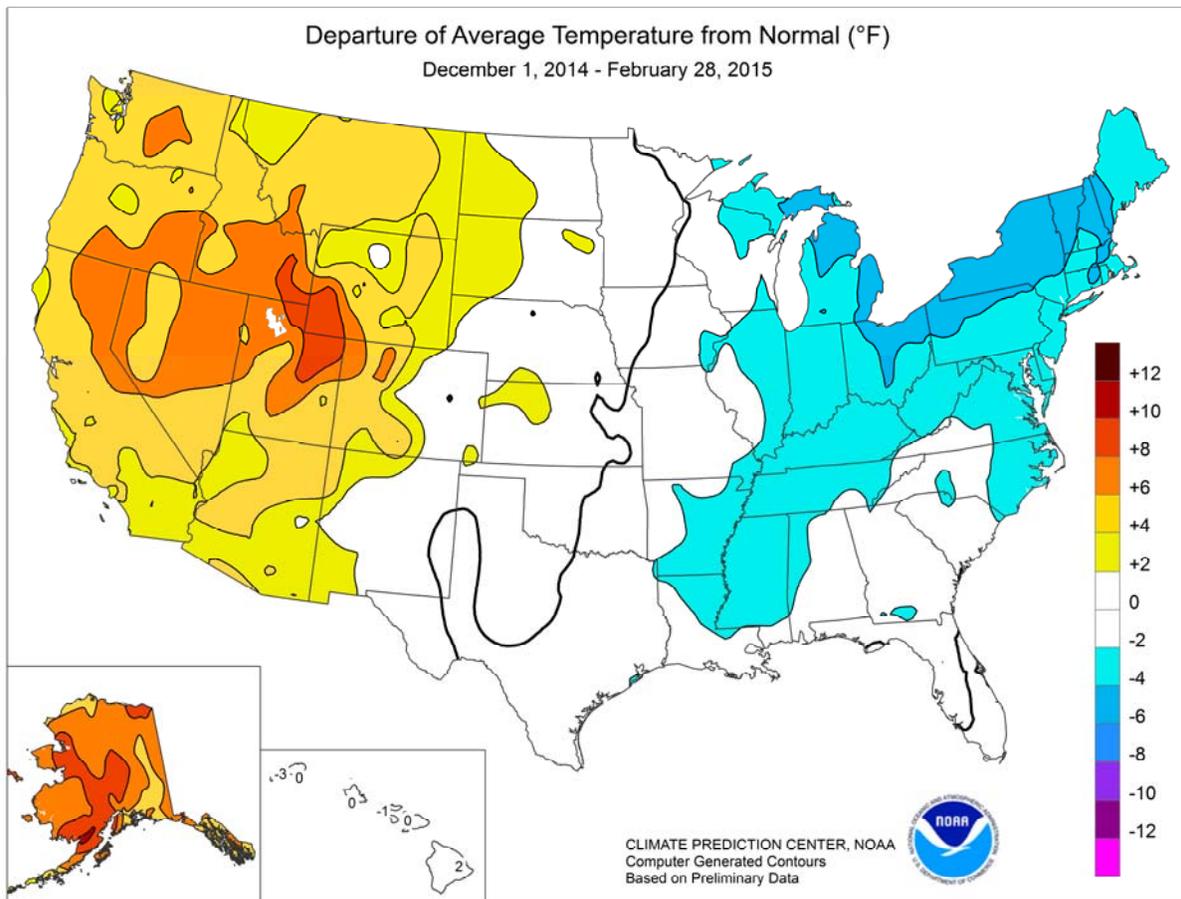
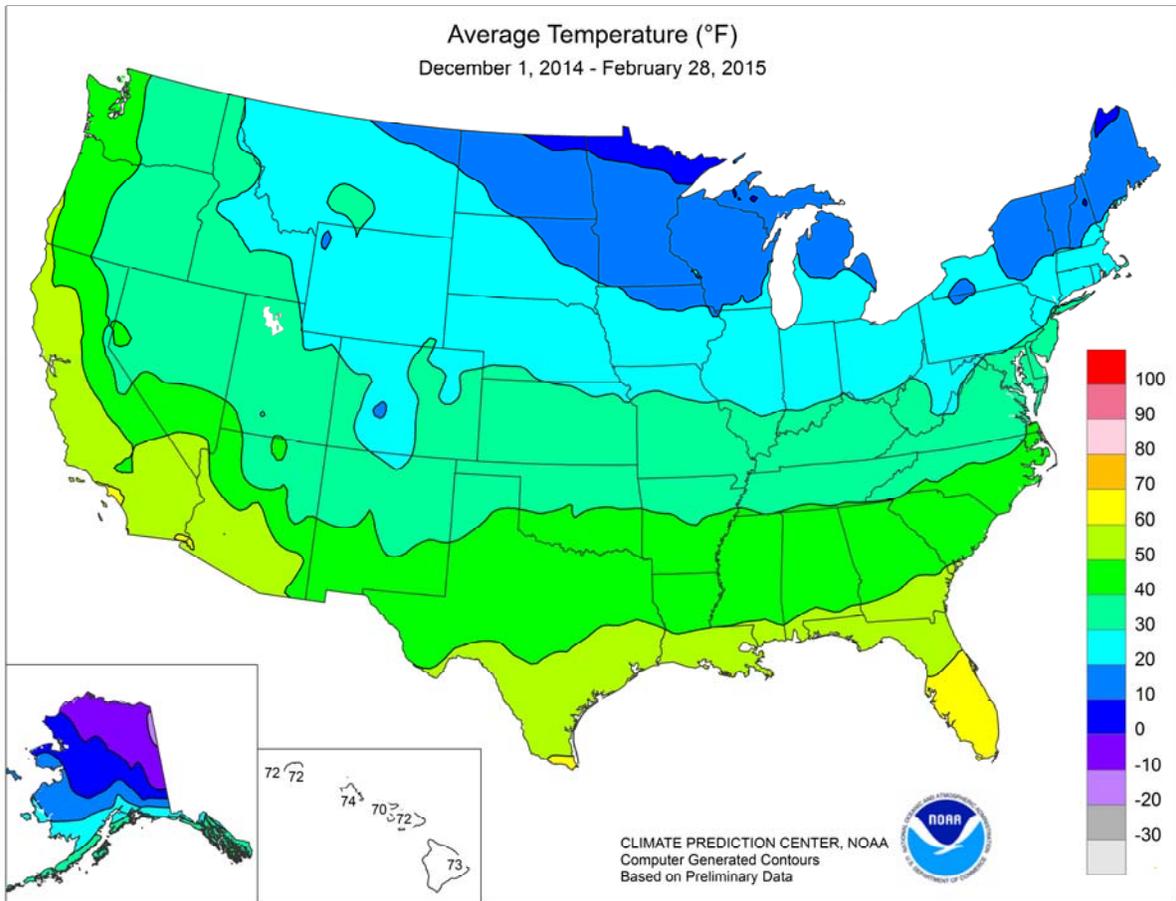
It was the warmest February on record in Arizona, California, Utah, and Washington, and among the ten warmest in Idaho, Nevada, Oregon, and Wyoming. Meanwhile, temperatures ranked among the ten lowest February values on record in Arkansas and 22 of the 26 states east of the Mississippi River. For New York, Pennsylvania, and the six New England States, it was the second-coldest February on record behind 1934. It was also the second-coldest February in Ohio—behind 1978. Meanwhile, monthly precipitation rankings ranged from the 11th-driest February in Connecticut to the 31st-wettest February in Colorado.

**Daily Sierra Nevada Snowpack (Inches) vs. Normal:**









National Weather Data for Selected Cities

Winter 2014-15

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	44	-1	15.85	1.72	LEXINGTON	32	-3	8.14	-2.50	COLUMBUS	28	-3	7.26	-0.40
HUNTSVILLE	42	0	13.47	-2.59	LONDON-CORBIN	35	-2	11.28	-0.76	DAYTON	28	-1	7.14	-0.83
MOBILE	50	-2	11.32	-4.19	LOUISVILLE	34	-2	6.69	-3.53	MANSFIELD	24	-3	7.02	-1.04
MONTGOMERY	48	-1	12.55	-2.91	PADUCAH	34	-2	10.18	-1.60	TOLEDO	22	-5	4.72	-1.73
AK ANCHORAGE	25	8	1.78	-0.69	LA BATON ROUGE	52	0	15.42	-1.13	YOUNGSTOWN	24	-4	7.57	0.24
BARROW	-8	5	0.77	0.42	LAKE CHARLES	52	-1	10.51	-2.89	OK OKLAHOMA CITY	41	2	2.91	-1.82
COLD BAY	33	4	5.43	-4.57	NEW ORLEANS	55	1	11.68	-4.73	TULSA	39	0	4.49	-1.49
FAIRBANKS	1	8	1.56	-0.10	SHREVEPORT	47	-2	15.49	2.13	OR ASTORIA	48	5	26.05	-1.84
JUNEAU	33	5	18.89	4.65	ME BANGOR	17	-4	10.12	0.91	BURNS	34	8	3.44	-0.15
KING SALMON	27	11	2.75	-0.39	CARIBOU	11	-2	10.00	1.78	EUGENE	45	4	13.63	-8.66
KODIAK	37	7	32.71	11.18	PORTLAND	23	-2	13.76	2.29	MEDFORD	45	5	6.75	-0.72
NOME	13	6	2.18	-0.50	MD BALTIMORE	32	-3	9.71	-0.13	PENDLETON	38	3	4.35	0.20
AZ FLAGSTAFF	36	5	7.74	1.17	MA BOSTON	28	-4	13.52	2.57	PORTLAND	46	5	13.08	-1.88
PHOENIX	60	5	1.72	-0.80	WORCESTER	23	-3	13.21	2.24	SALEM	46	5	14.41	-2.98
TUCSON	57	4	5.10	2.20	MI ALPENA	17	-3	3.47	-1.47	PA ALLENTOWN	28	-2	8.22	-1.42
AR FORT SMITH	40	-1	6.93	-1.42	DETROIT	23	-4	4.20	-2.10	ERIE	24	-5	8.20	-0.34
LITTLE ROCK	42	-1	9.97	-1.68	FLINT	22	-2	3.83	-1.27	MIDDLETOWN	28	-3	6.85	-2.16
CA BAKERSFIELD	54	5	3.61	0.46	GRAND RAPIDS	22	-3	4.62	-1.64	PHILADELPHIA	33	-2	10.15	0.58
EUREKA	51	3	16.15	-1.68	Houghton Lake	16	-5	3.25	-1.36	PITTSBURGH	27	-3	6.46	-1.47
FRESNO	53	6	3.63	-1.99	LANSING	21	-3	3.81	-1.42	WILKES-BARRE	26	-3	5.79	-1.30
LOS ANGELES	60	3	5.57	-2.31	MUSKEGON	24	-2	5.02	-1.42	WILLIAMSPORT	26	-2	5.37	-3.03
REDDING	53	6	14.04	-2.62	TRAVERSE CITY	20	-3	5.24	-2.19	PR SAN JUAN	79	2	13.89	4.00
SACRAMENTO	53	5	11.43	1.60	MN DULUTH	14	2	2.11	-0.78	RI PROVIDENCE	28	-3	12.59	0.63
SAN DIEGO	62	4	5.20	-0.43	INT'L FALLS	8	1	2.89	0.71	SC CHARLESTON	49	-1	11.33	0.93
SAN FRANCISCO	56	6	12.67	1.32	MINNEAPOLIS	19	2	1.55	-1.28	COLUMBIA	46	0	11.26	-0.62
STOCKTON	52	5	7.57	0.58	ROCHESTER	17	1	2.40	-0.31	FLORENCE	45	-2	10.13	-0.45
CO ALAMOSA	24	6	1.56	0.77	ST. CLOUD	17	4	1.35	-0.69	GREENVILLE	43	0	10.95	-1.56
CO SPRINGS	33	4	2.49	1.44	MS JACKSON	47	0	14.11	-1.40	MYRTLE BEACH	47	-1	10.22	-0.39
DENVER	33	3	2.22	1.45	MERIDIAN	46	-2	19.52	2.94	SD ABERDEEN	18	3	1.33	-0.01
GRAND JUNCTION	34	5	1.90	0.28	TUPELO	42	-1	14.23	-1.71	HURON	20	2	1.33	-0.11
PUEBLO	33	2	1.63	0.65	MO COLUMBIA	32	1	4.94	-1.46	RAPID CITY	28	3	0.84	-0.39
CT BRIDGEPORT	29	-3	12.00	1.88	JOPLIN	35	-1	3.66	-3.39	SIoux FALLS	20	2	2.57	1.03
HARTFORD	25	-3	10.73	0.33	KANSAS CITY	31	1	4.02	-0.08	TN BRISTOL	35	-1	8.36	-1.95
DC WASHINGTON	37	-1	8.92	0.03	SPRINGFIELD	34	-1	4.39	-3.17	CHATTANOOGA	41	-1	11.39	-3.67
DE WILMINGTON	32	-2	9.61	-0.03	ST JOSEPH	28	-2	3.27	-0.18	JACKSON	38	-3	8.97	-4.97
FL DAYTONA BEACH	61	1	8.26	-0.32	ST LOUIS	33	0	5.70	-1.58	KNOXVILLE	38	-2	11.37	-1.70
FT LAUDERDALE	69	1	9.53	1.24	MT BILLINGS	31	4	1.96	-0.09	MEMPHIS	41	-2	8.25	-5.98
FT MYERS	66	0	3.24	-2.67	BUTTE	26	7	0.86	-0.67	NASHVILLE	38	-2	10.03	-2.17
JACKSONVILLE	54	-1	10.14	0.66	GLASGOW	20	5	1.19	0.21	TX ABILENE	46	0	4.02	0.65
KEY WEST	71	0	5.48	-0.39	GREAT FALLS	29	5	2.50	0.64	AMARILLO	39	1	2.21	0.42
MELBOURNE	63	1	7.73	0.45	HELENA	28	5	1.85	0.49	AUSTIN	50	-2	7.90	1.58
MIAMI	70	1	5.08	-1.05	KALISPELL	27	3	5.86	1.59	BEAUMONT	54	0	10.12	-4.17
ORLANDO	62	0	9.69	2.60	MILES CITY	25	4	0.93	-0.36	BROWNSVILLE	61	0	5.78	2.13
PENSACOLA	53	-1	13.91	-0.08	MISSOULA	29	4	3.46	0.48	COLLEGE STATION	51	-1	9.98	1.05
ST PETERSBURG	62	-1	6.09	-2.14	NE GRAND ISLAND	27	2	1.94	0.06	CORPUS CHRISTI	57	-1	4.50	-0.71
TALLAHASSEE	54	1	17.96	3.87	HASTINGS	28	1	1.65	-0.30	DALLAS/FT WORTH	47	0	7.70	0.86
TAMPA	62	0	9.87	2.63	LINCOLN	27	1	3.07	0.88	DEL RIO	53	0	1.26	-1.02
WEST PALM BEACH	69	2	4.85	-4.59	MCCOOK	31	2	2.24	0.57	EL PASO	49	2	1.01	-0.60
GA ATHENS	44	0	11.66	-1.13	NORFOLK	25	2	2.09	0.11	GALVESTON	55	-2	10.02	-0.20
ATLANTA	45	0	14.02	0.50	NORTH PLATTE	27	1	1.79	0.49	HOUSTON	53	-1	9.44	-0.91
AUGUSTA	45	-2	10.99	-0.76	OMAHA/EPPLEY	27	2	3.00	0.51	LUBBOCK	42	2	2.67	0.79
COLUMBUS	47	-2	12.08	-1.58	SCOTTSBLUFF	28	1	2.31	0.63	MIDLAND	46	1	2.93	1.17
MACON	46	-1	12.69	-0.79	VALENTINE	26	2	1.55	0.44	SAN ANGELO	48	1	2.63	-0.30
SAVANNAH	51	0	11.58	1.90	NV ELKO	35	7	1.58	-1.37	SAN ANTONIO	53	1	5.42	0.05
HI HILO	73	1	14.21	-14.89	ELY	34	7	1.24	-0.75	VICTORIA	55	0	6.26	-0.69
HONOLULU	74	0	2.88	-5.05	LAS VEGAS	55	6	1.71	0.03	WACO	47	-1	5.28	-1.81
KAHULUI	72	0	8.54	-0.64	RENO	42	7	2.41	-0.59	WICHITA FALLS	43	0	3.55	-0.82
LIHUE	72	0	3.31	-9.32	WINNEMUCCA	37	5	2.35	0.09	UT SALT LAKE CITY	38	7	2.57	-1.36
ID BOISE	37	5	5.52	1.61	NH CONCORD	21	-2	11.23	2.94	VT BURLINGTON	18	-3	6.84	0.73
LEWISTON	40	5	4.13	0.99	NJ ATLANTIC CITY	32	-2	13.61	4.01	VA LYNCHBURG	35	-2	7.50	-2.37
POCATELLO	33	7	1.87	-1.38	NEWARK	31	-3	11.38	0.87	NORFOLK	39	-3	9.88	-0.42
IL CHICAGO/O'HARE	23	-2	3.66	-2.15	NM ALBUQUERQUE	40	2	2.45	1.03	RICHMOND	38	-1	10.41	0.76
MOLINE	23	-2	3.65	-1.64	NY ALBANY	22	-3	9.70	2.37	ROANOKE	36	-2	6.45	-2.72
PEORIA	26	0	4.94	-0.63	BINGHAMTON	20	-4	7.24	-0.83	WASH/DULLES	31	-3	8.29	-0.60
ROCKFORD	22	-1	2.87	-1.94	BUFFALO	22	-5	7.14	-2.24	WA OLYMPIA	43	4	17.96	-3.64
SPRINGFIELD	28	-1	5.24	-0.72	ROCHESTER	22	-4	6.57	-0.54	QUILLAYUTE	46	5	34.05	-6.45
EVANSVILLE	33	-1	8.96	-0.59	SYRACUSE	20	-5	7.10	-0.73	SEATTLE-TACOMA	46	4	13.73	-1.20
FORT WAYNE	24	-3	5.48	-1.28	NC ASHEVILLE	38	0	8.24	-3.04	SPOKANE	34	5	4.94	-0.64
INDIANAPOLIS	27	-3	5.70	-2.22	CHARLOTTE	41	-3	8.39	-2.34	YAKIMA	38	7	2.61	-0.74
SOUTH BEND	24	-2	5.37	-1.97	GREENSBORO	39	-1	6.89	-2.81	WV BECKLEY	30	-3	9.67	0.39
IA BURLINGTON	26	0	3.08	-1.87	HATTERAS	45	-3	14.40	0.06	CHARLESTON	33	-3	8.07	-1.69
CEDAR RAPIDS	21	-1	1.97	-1.66	RALEIGH	40	-2	11.22	0.69	ELKINS	29	-2	9.33	-0.74
DES MOINES	26	2	3.06	-0.49	WILMINGTON	45	-3	14.30	2.34	HUNTINGTON	32	-4	8.75	-0.92
DUBUQUE	20	-1	3.24	-1.15	ND BISMARCK	17	3	1.26	-0.14	WI EAU CLAIRE	16	0	1.27	-1.60
SIoux CITY	24	2	2.36	0.49	DICKINSON	22	4	0.64	-0.50	GREEN BAY	18	-1	2.67	-0.96
WATERLOO	20	0	3.67	0.67	FARGO	15	4	1.24	-0.68	LA CROSSE	20	0	2.32	-1.09
KS CONCORDIA	31	1	2.26	0.01	GRAND FORKS	12	2	1.04	-0.77	MADISON	20	-1	2.44	-1.75
DODGE CITY	34	1	2.29	0.24	JAMESTOWN	14	1	0.45	-1.13	MILWAUKEE	23	-1	2.77	-2.95
GOODLAND	32	2	2.53	1.26	MINOT	15	1	1.35	-0.46	WAUSAU	15	-2	2.15	-1.17
HILL CITY	32	2	1.24	-0.30	WILLISTON	17	5	0.98	-0.52	WY CASPER	29	5	2.56	0.72
TOPEKA	32	1	4.26	0.71	OH AKRON-CANTON	25	-3	7.77	0.02	CHEYENNE	31	4	1.48	0.13
WICHITA	35	2	2.95	-0.26	CINCINNATI	30	-3	7.75	-1.20	LANDER	25	3	3.39	1.72
KY JACKSON	34	-3	8.66	-2.85	CLEVELAND	25	-3	7.46	-0.45	SHERIDAN	27	4	2.49	0.47

## National Agricultural Summary

March 9 – 15, 2015

*Weekly National Agricultural Summary provided by USDA/NASS*

### HIGHLIGHTS

Conditions were generally dry across the nation, with virtually no measurable precipitation across most of the West, northern Great Plains, and northern Corn Belt. The major exception occurred in a band from eastern Texas to the Ohio River Valley, where some locations received weekly

totals up to 5 inches. Temperatures were above normal across most of the U.S., averaging more than 15°F above normal in the Dakotas, Minnesota, and Montana. Only portions of Texas and New England recorded below-normal weekly average temperatures.

Alfalfa conditions were mostly fair to excellent in **Arizona**. Harvesting occurred on three-fourths of the alfalfa acreage across the state. Sheep continued to graze on various alfalfa fields in many areas. Barley conditions were mostly fair and Durum Wheat conditions were mostly good. Rangeland conditions varied widely from very poor to good, depending on location. Central Arizona fruit and vegetable growers shipped Bok Choy, cabbage, cilantro, kale greens, and parsley. Western Arizona growers shipped anise, arugula, Bok Choy, broccoli, cabbage, cauliflower, celery, cilantro, endive, escarole, frisee, kale greens, lettuce, parsley, and spinach.

In **California**, wheat, oats, and other winter forage crops continued to grow well, with some heading out. Wheat fields were irrigated due to lack of rain. Alfalfa fields were cultivated and planted. Established alfalfa progressed well. Weed applications were mostly finished on wheat, alfalfa, and forage crops. Forage crops were chopped. Field preparations were underway for the spring planting of corn and cotton. The wheat crop was rated 80 percent good to excellent. Pasture and rangeland condition was 55 percent fair to good. Fungicides were applied to protect blooms and prevent brown rot and shot hole fungus in tree orchards and vineyards throughout the state. Apricots, nectarines, peaches, and prunes were all blooming. Cherry bloom was well underway, with many orchards in full bloom. Lemons, pomelos, and navel oranges were picked and packed for export. Some early citrus varieties were beginning to bloom. Overall navel orange quality has been very good this season. Carrot planting continued. Dehydrator onions were treated for downy mildew, while garlic was treated for rust. Spinach and broccoli fields were progressing well. Onions continued to grow well with the recent rains. Local and out-of-state bees continued to be placed around stone fruit and almond orchards for pollination. Sheep continued to graze along levees, in alfalfa fields, and fallow areas. Recent rains have sustained forage growth in the foothill rangelands. Mild weather conditions have been favorable for dairy production. Supplemental feeding for cattle and sheep continued.

Some corn was planted in Washington, Madison, and Suwannee Counties of **Florida**. Soil was being prepared for cotton and peanuts in Washington County. Sugarcane harvest continued in Glades and Hendry Counties. Harvesting of cabbage continued in Flagler, Putnam, and St. Lucie Counties. Potato planting was complete in Flagler and Putnam Counties, with potatoes looking

good. Some blueberries were coming to market in Glades County. Warmer weather and longer days boosted pasture growth in the Panhandle, as well as northern and central Florida. Southwest Florida pasture quality continued to decline due to dry conditions, and ranchers were feeding supplements as necessary. Statewide, the cattle condition was mostly good, while the winter forage and pasture condition was poor to good. Harvest of early and midseason oranges was nearly complete. Valencia harvest was picking up rapidly, but weekly totals were still lagging slightly behind last season. Colored grapefruit, Valencia oranges, and honey tangerines were the varieties with the largest quantities going to fresh market. Small amounts of white grapefruit and temple oranges were also going fresh. Most grove owners were irrigating two to three times a week; some were hedging and topping after harvest, applying herbicide, and removing brush. Citrus trees were in full bloom or had begun dropping un-pollinated flowers on all varieties.

In **Oklahoma**, winter wheat was rated 82 percent fair to good. Jointing of winter wheat reached 19 percent by week's end, up 16 percentage points from the previous week and 6 points above last year. Canola conditions were rated 66 percent fair to poor, with 11 percent rated very poor and 23 percent rated good. Sixty-nine percent of oats had been seeded by March 15, in line with the previous year but down 8 percentage points from the 5-year average. Conditions of pasture and rangeland continue to be rated mostly fair to good. Additional moisture was needed across the western half of the state. Livestock conditions were rated 86 percent good to fair. Livestock markets were holding strong. Producers continued to provide hay and supplemental feed to livestock.

Winter wheat progressed well throughout **Texas**. Parts of the Northern High Plains reported issues with army cut worms in some fields. Oats progressed well in the Cross Timbers. Corn and sorghum planting was delayed due to wet conditions in many parts of the state; however, South Texas continued planting corn. In South Central Texas and the Coastal Bend, sorghum planting continued. In South Texas, spring vegetable planting continued. Vegetable producers were preparing fields for planting in Southeast Texas. Supplemental feeding remained active, but began to slow as a result of warmer weather. Livestock condition was favorable throughout the state. Rangeland and pasture made favorable progress with warmer weather.

## International Weather and Crop Summary

March 8-14, 2015

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

### HIGHLIGHTS

**EUROPE:** Warm, mostly dry weather accelerated small grain planting and winter crop development over much of the continent.

**WESTERN FSU:** Wet weather in southern and western growing areas boosted moisture for winter crop development, while sunny, warm weather elsewhere accelerated small grain planting.

**MIDDLE EAST:** Moderate to heavy showers maintained good to excellent prospects for winter grains across western and southern portions of the region.

**NORTHWESTERN AFRICA:** Additional showers benefited vegetative to heading winter grains in Algeria and Tunisia, while sunny skies accelerated wheat development in Morocco.

**EAST ASIA:** Mild weather benefited vegetative winter crops in China, while showers promoted early-crop rice transplanting.

**SOUTHEAST ASIA:** Winter crop harvesting progressed throughout the region.

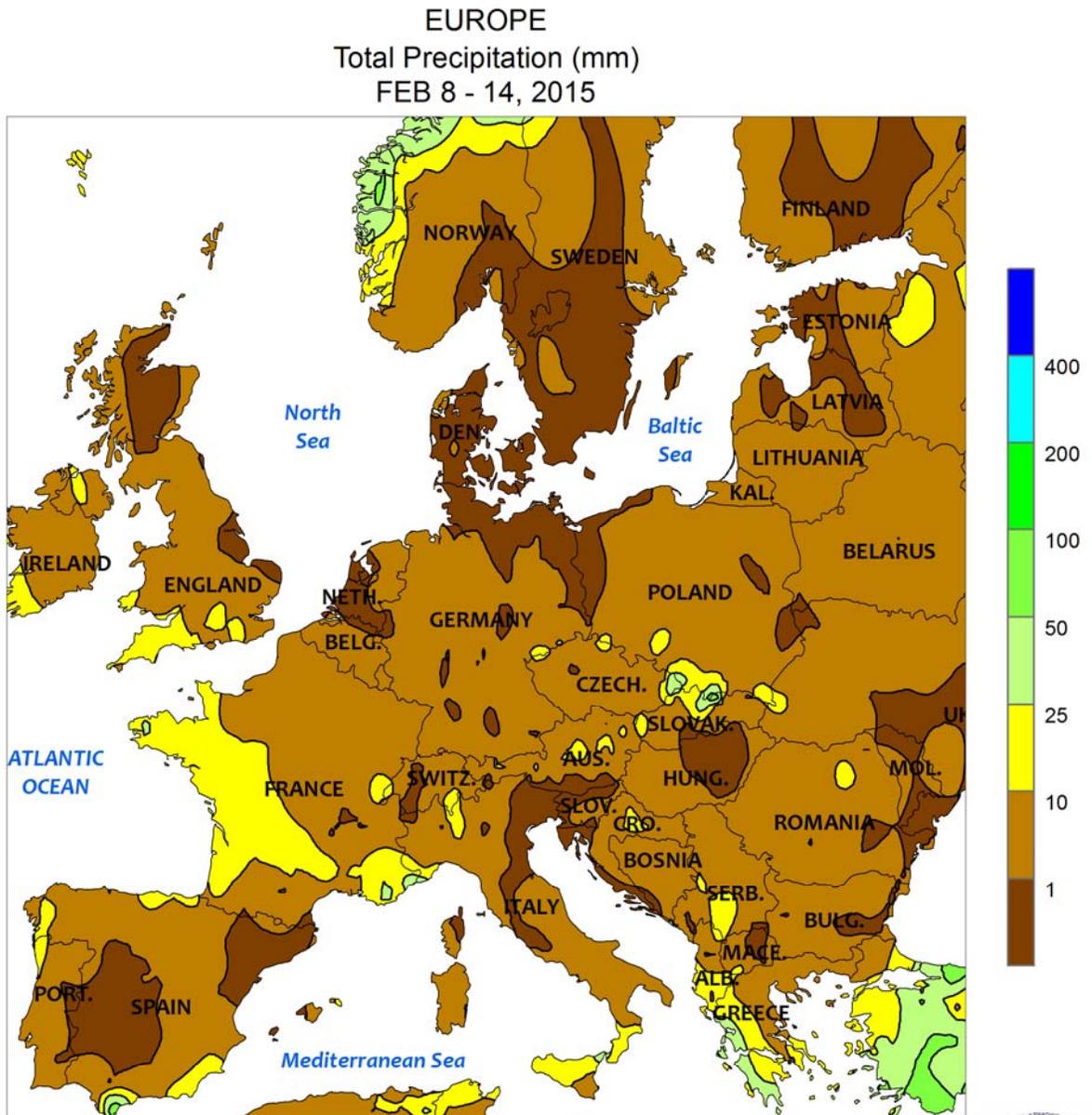
**AUSTRALIA:** Showery weather favored immature summer crops but slowed drydown and harvesting of mature cotton and sorghum.

**SOUTH AFRICA:** Scattered showers brought only localized relief from stressful warmth and dryness.

**ARGENTINA:** Dry weather dominated the region, helping to alleviate flooding but keeping some southern farming areas unfavorably dry.

**BRAZIL:** Locally heavy showers maintained overall favorable conditions for second-crop corn.





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Based on preliminary data

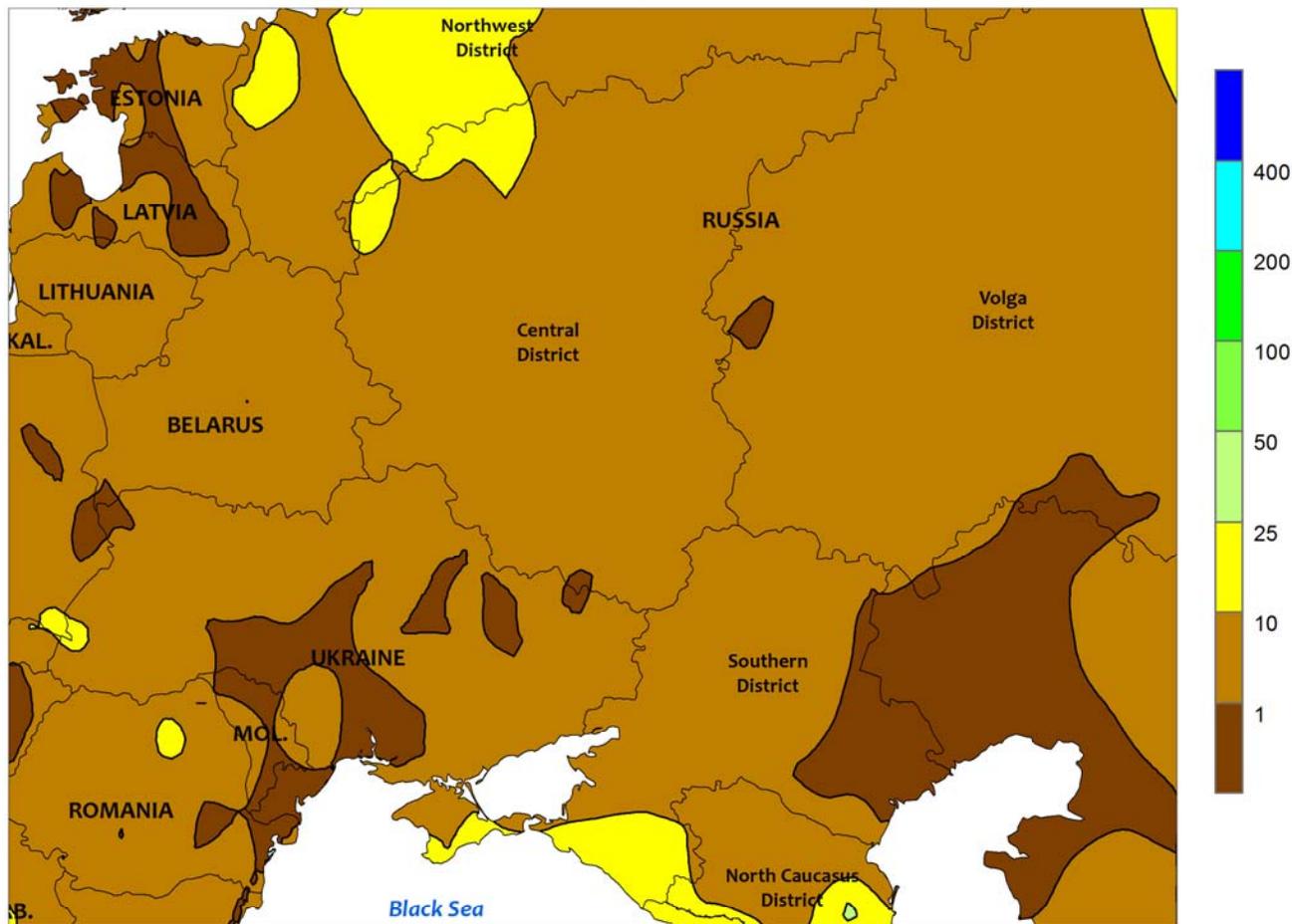


**EUROPE**

Warm, mostly dry weather over much of Europe accelerated fieldwork and winter crop development. An area of high pressure provided sunny, warm conditions (1-3°C above normal) from France and southern England into Poland and the Baltic States, further easing winter crops out of dormancy in the east while encouraging winter wheat development and

small grain planting in the west. Meanwhile, sunny skies and near-normal temperatures promoted winter grain development in Spain as well as corn planting and other seasonal fieldwork in northern Italy. Showery, somewhat cooler weather lingered over the Balkans, where winter crops remained dormant to semi-dormant.

WESTERN FSU  
Total Precipitation (mm)  
FEB 8 - 14, 2015



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

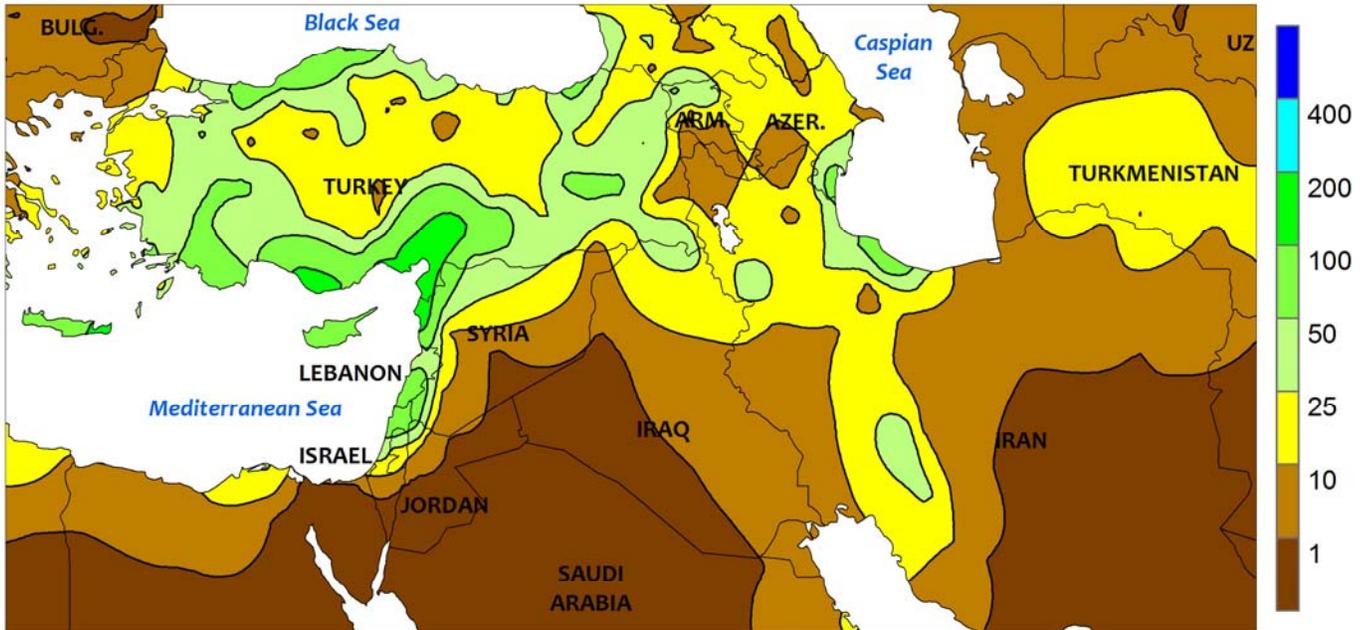


**WESTERN FSU**

Warm weather prevailed, with showers in the south and west contrasting with sunny skies in eastern and northern growing areas. A large, strengthening area of high pressure provided sunny skies along with much-above-normal temperatures (6-10°C above normal) from Belarus into central and northern Russia; the sunny, warm weather melted the remaining snow

cover, reduced winter crop cold hardiness, and encouraged early small grain planting. Farther south, widespread rain in Ukraine (10-35 mm) and southern Russia (1-10 mm) sustained favorable soil moisture for winter wheat, with crops continuing to break dormancy as weekly average temperatures topped 5°C across most southern growing areas.

MIDDLE EAST  
Total Precipitation (mm)  
FEB 8 - 14, 2015



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

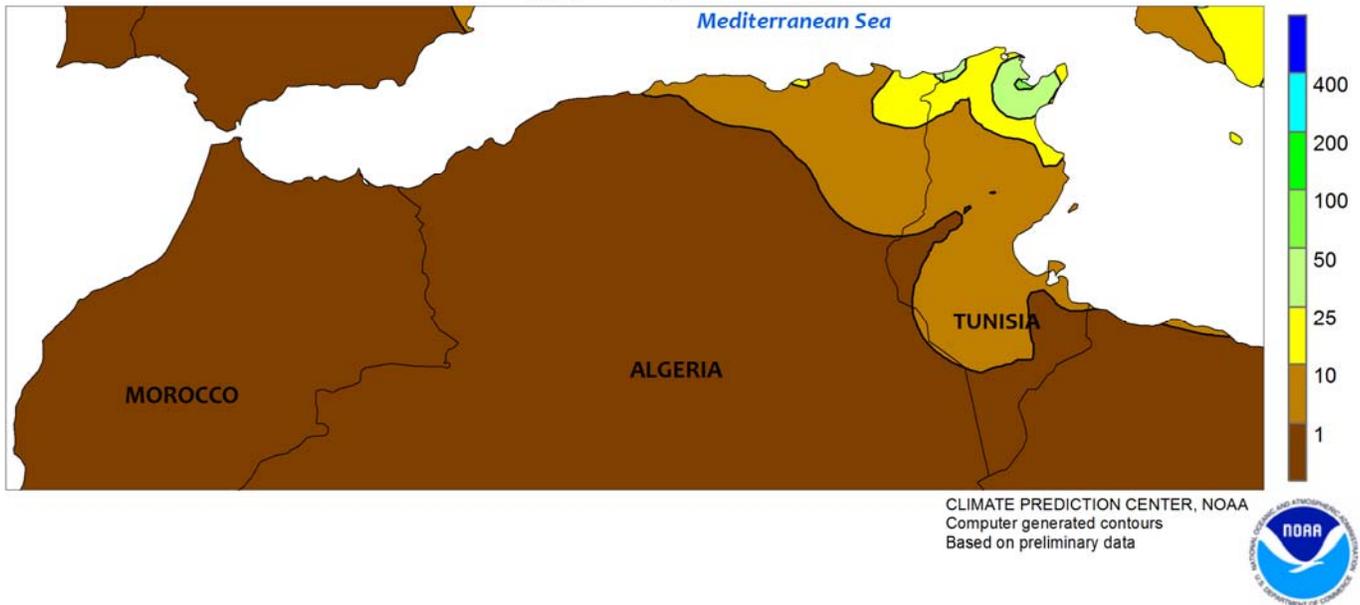


**MIDDLE EAST**

Stormy weather persisted across western and southern portions of the region, while somewhat drier conditions settled over central growing areas. A slow-moving Mediterranean storm system generated widespread rain (10-50 mm) over Turkey and Syria, while somewhat lighter showers (1-10 mm) fell in northern Iraq. The moisture maintained good to excellent prospects for winter wheat, which broke dormancy on Turkey's Anatolian Plateau (3-6°C above normal) and

accelerated through the vegetative stages of development in Syria and Iraq (3-5°C above normal). Drier conditions were noted in western and central Iran, though warmer conditions (3-7°C above normal) in the northwestern quarter of the country allowed wheat to break dormancy. Meanwhile, a departing storm system produced unseasonably heavy rain (10-35 mm) over southern and eastern Iran, providing supplemental moisture for irrigated wheat and barley.

NORTHWESTERN AFRICA  
Total Precipitation (mm)  
MAR 8 - 14, 2015

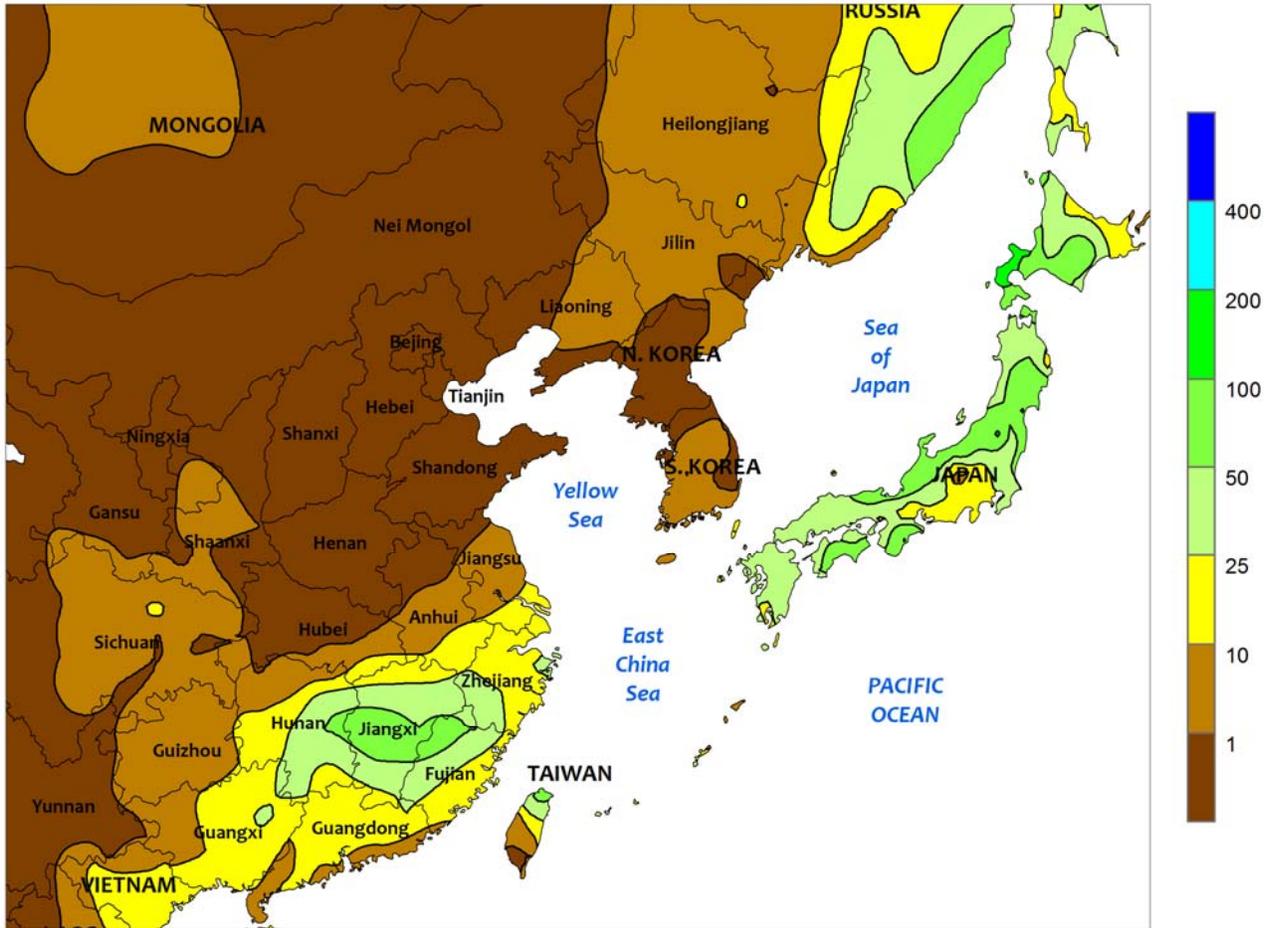


**NORTHWESTERN AFRICA**

Mostly favorable prospects continued for winter grains, with additional showers in the east contrasting with sunny weather in central and western growing areas. In Morocco, sunny skies and above-normal temperatures (1-5°C above normal) accelerated winter wheat into the heading stage of development, and rain will be needed soon in southern portions of the country where short-term dryness has reduced topsoil moisture. Nevertheless, good

to excellent yield prospects continued in major growing areas in northern and western Morocco due to adequate to abundant season-to-date rainfall. Despite a dry week in central and western Algeria, soil moisture remained sufficient following recent rainfall. Meanwhile, showers (10-50 mm) lingered in northeastern Algeria and northern Tunisia, sustaining favorable moisture supplies for vegetative to reproductive winter grains.

EASTERN ASIA  
Total Precipitation (mm)  
MAR 8 - 14, 2015



CLIMATE PREDICTION CENTER, NOAA  
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Based on preliminary data

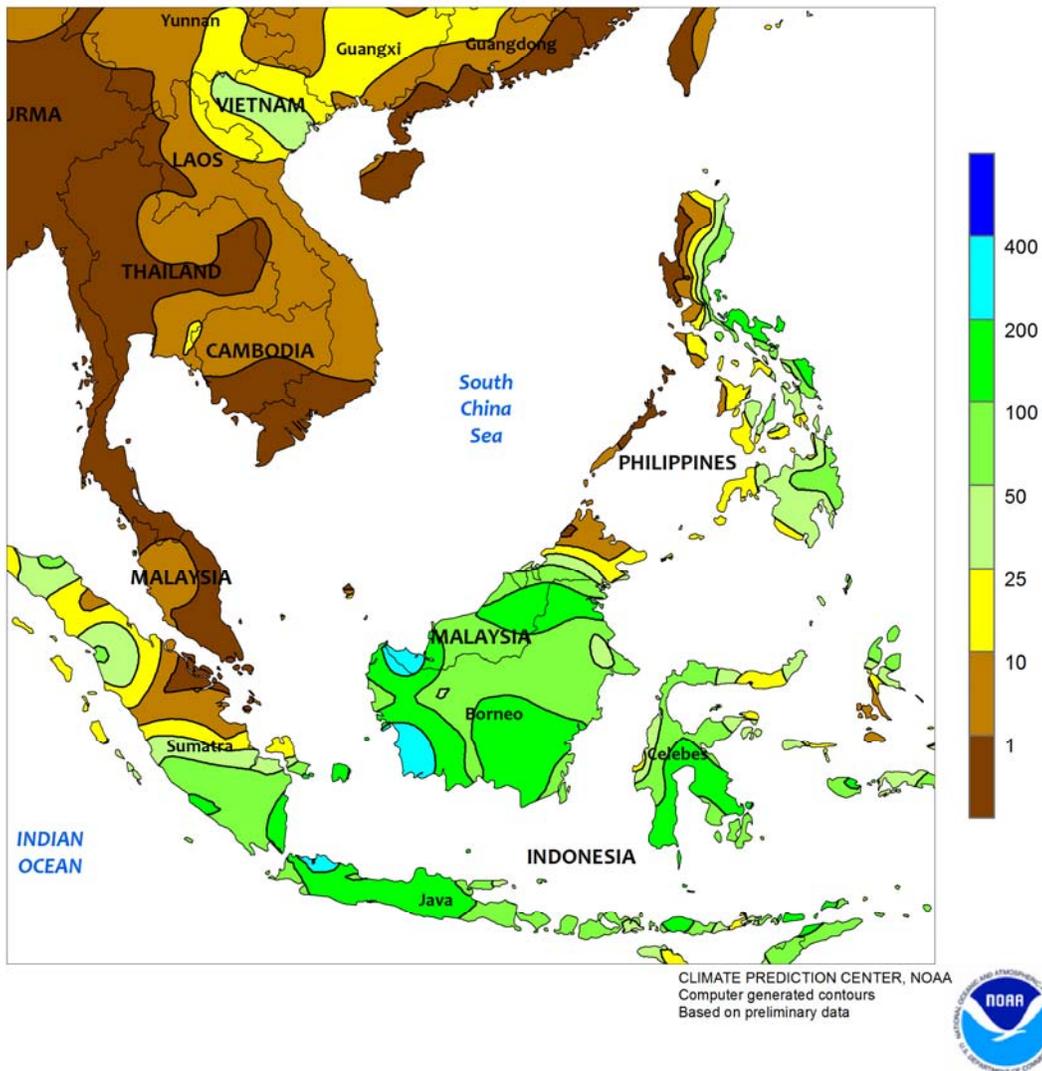


**EASTERN ASIA**

Mild weather across key eastern growing areas of China promoted winter wheat and rapeseed development as well as early-crop rice transplanting. However, on the North China Plain and within portions of the Yangtze Valley, the mild weather in conjunction

with dry conditions necessitated supplemental irrigation to maintain favorable crop conditions. Farther south, spring showers (20-75 mm) in early-crop rice areas increased moisture supplies for transplanting and establishment.

SOUTHEAST ASIA  
Total Precipitation (mm)  
FEB 8 - 14, 2015

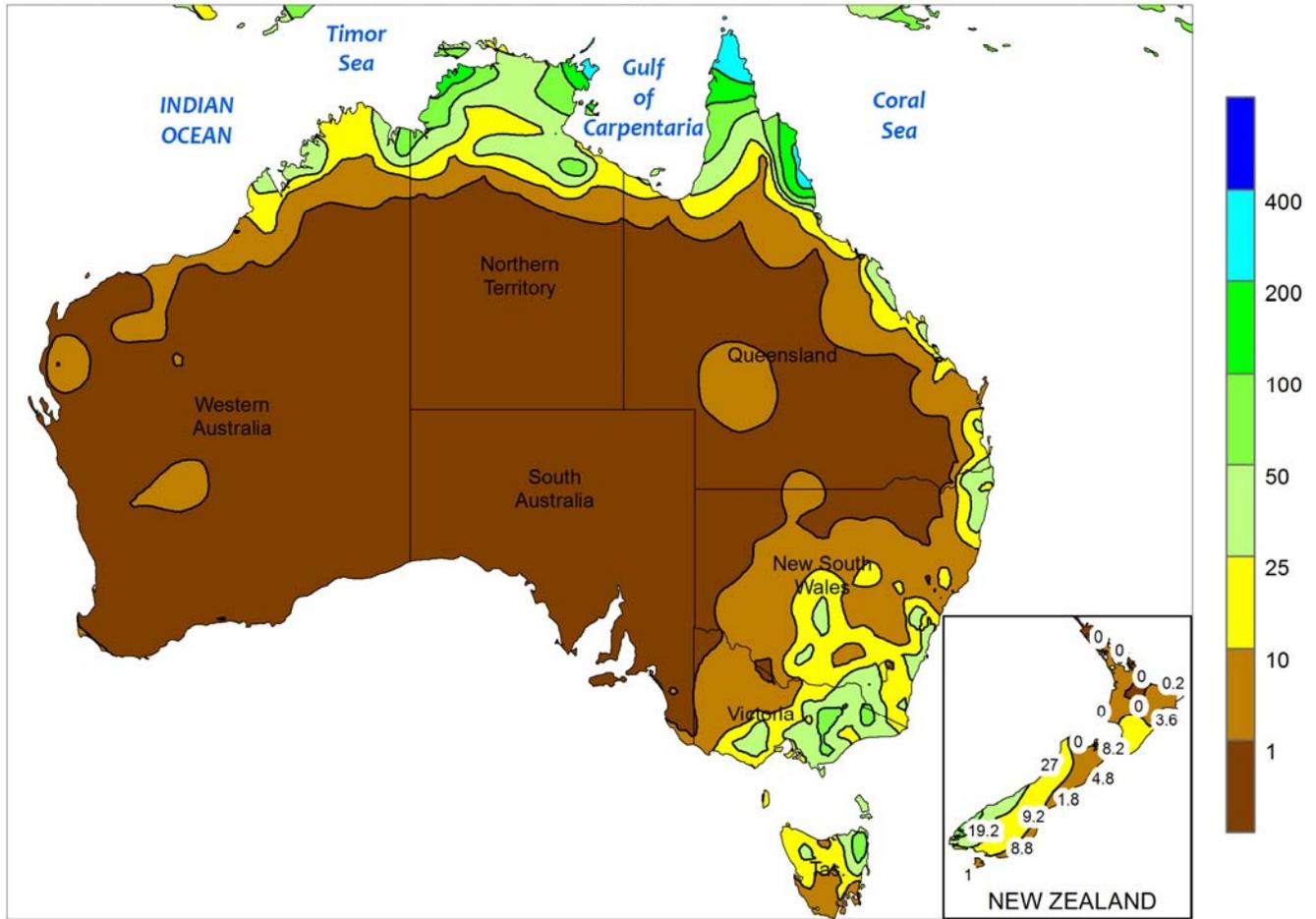


**SOUTHEAST ASIA**

Monsoon showers (50-100 mm) maintained favorable moisture conditions for rice across Java, Indonesia, but likely slowed the start of harvesting for the earliest planted portion of the crop. Rainfall since the start of the rainy season (beginning November 1) has been consistently near to above normal but lower than last year's amounts (a notably wetter-than-usual year). The wet season typically continues through April in western Java, while ending in March across eastern and central growing areas. In other parts of Indonesia and neighboring Malaysia, showers (30-80 mm) maintained good soil moisture for oil palm, with localized flooding in parts of Kalimantan where over 250 mm of rain was reported. In contrast, parts of Malaysia, including northern portions of the peninsula and

Sabah, experienced dry weather that aided harvesting. Meanwhile, mostly dry weather prevailed in the Philippines, with weekly rainfall amounts less than 20 mm in all but far northeastern Luzon (a single report of 120 mm). The dry weather benefited winter rice and corn harvesting that peaks during the first quarter of the year. In Indochina, showers (15-25 mm) in northern Vietnam benefited winter-spring rice, while seasonably dry weather in the south aided harvesting. Unseasonal showers (10-50 mm) in northeastern Thailand increased moisture reserves, as dry weather promoted dry-season rice harvesting along the Chao Phraya river basin, where low reservoir levels for the season reportedly reduced planted area.

AUSTRALIA  
Total Precipitation (mm)  
FEB 8 - 14, 2015



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

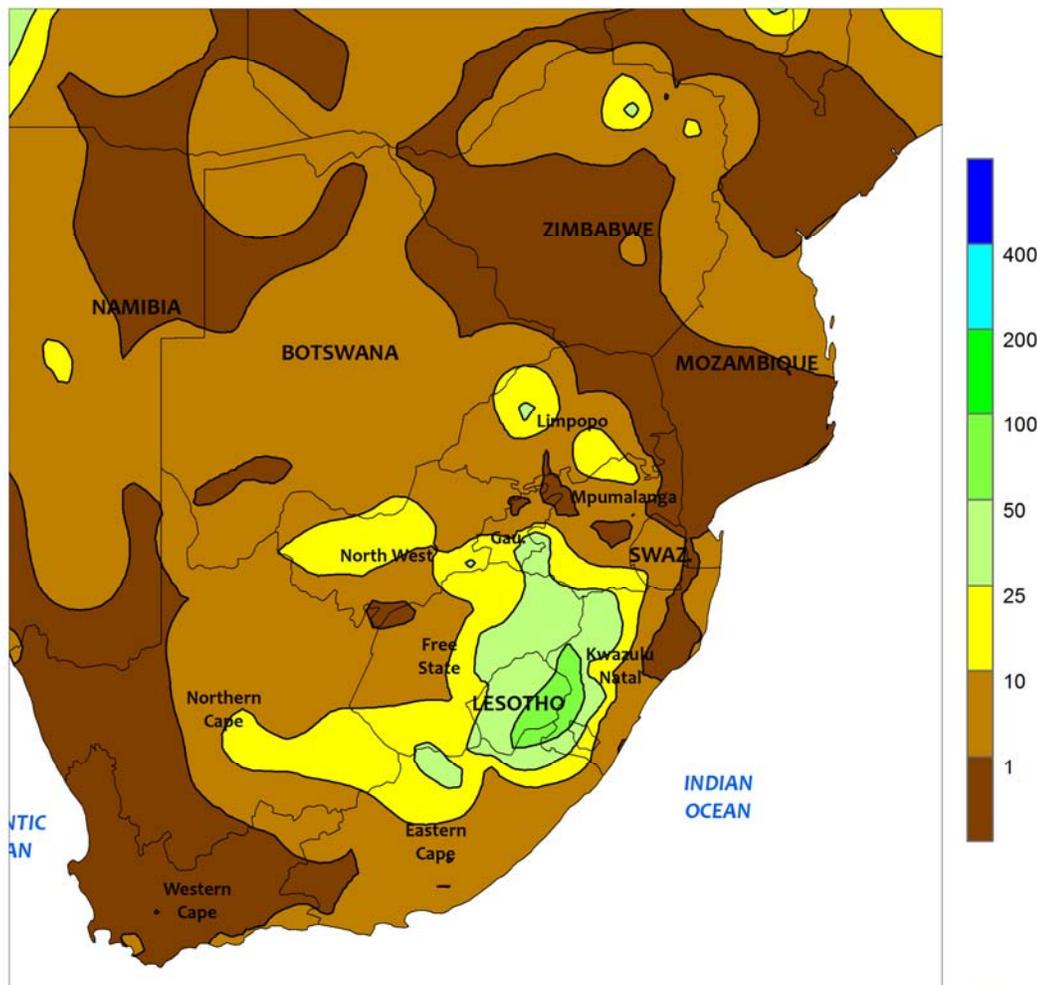


**AUSTRALIA**

In southern Queensland and northern New South Wales, frequent showers (5-25 mm, locally more) kept immature summer crops favorably moist. Many summer crops have matured, however, and harvesting is underway throughout the region. The showery weather slowed drydown of mature

cotton and sorghum and may have temporarily delayed local harvesting. Temperatures in major summer crop producing areas were warmer than normal, averaging about 1°C above normal with maximum temperatures generally in the 30s (degrees C).

SOUTH AFRICA  
Total Precipitation (mm)  
MAR 8 - 14, 2015



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

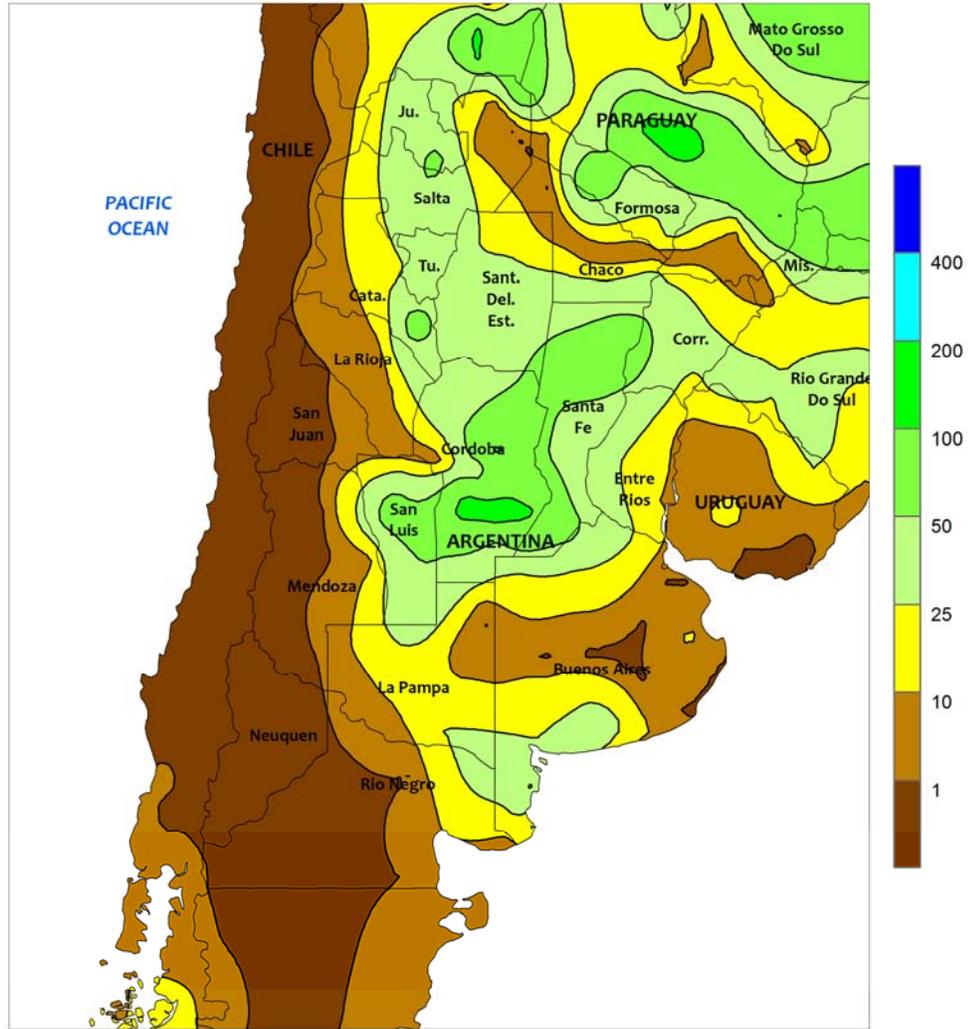


**SOUTH AFRICA**

Scattered showers brought only some relief from an extended period of unseasonable warmth and dryness. Rainfall totaled more than 25 mm in portions of the east, (southern Mpumalanga, eastern Free State, and neighboring locations in Gauteng and KwaZulu-Natal), with similar, more isolated totals in western and northern production areas. However, pockets of unseasonable warmth and dryness persisted in some commercial white corn areas of North West and Free State, as rainfall totaled below 10 mm and daytime highs reached the lower and middle 30s (degrees C). Warmer- and drier-than-

normal weather also prevailed in coastal sugarcane production areas of southern KwaZulu-Natal, though locally heavy rain (greater than 25 mm) fell farther inland. Warm, mostly dry weather (daytime highs approaching the middle 30s) spurred rapid growth of irrigated sugarcane in northern KwaZulu-Natal and eastern Mpumalanga. Similarly, dry, sunny weather spurred late-season development and harvesting of crops in Western Cape. Meanwhile, scattered showers (5-25 mm) boosted irrigation reserves in upper sections of the Orange River Valley.

ARGENTINA  
Total Precipitation (mm)  
FEB 8 - 14, 2015



CLIMATE PREDICTION CENTER, NOAA  
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Based on preliminary data

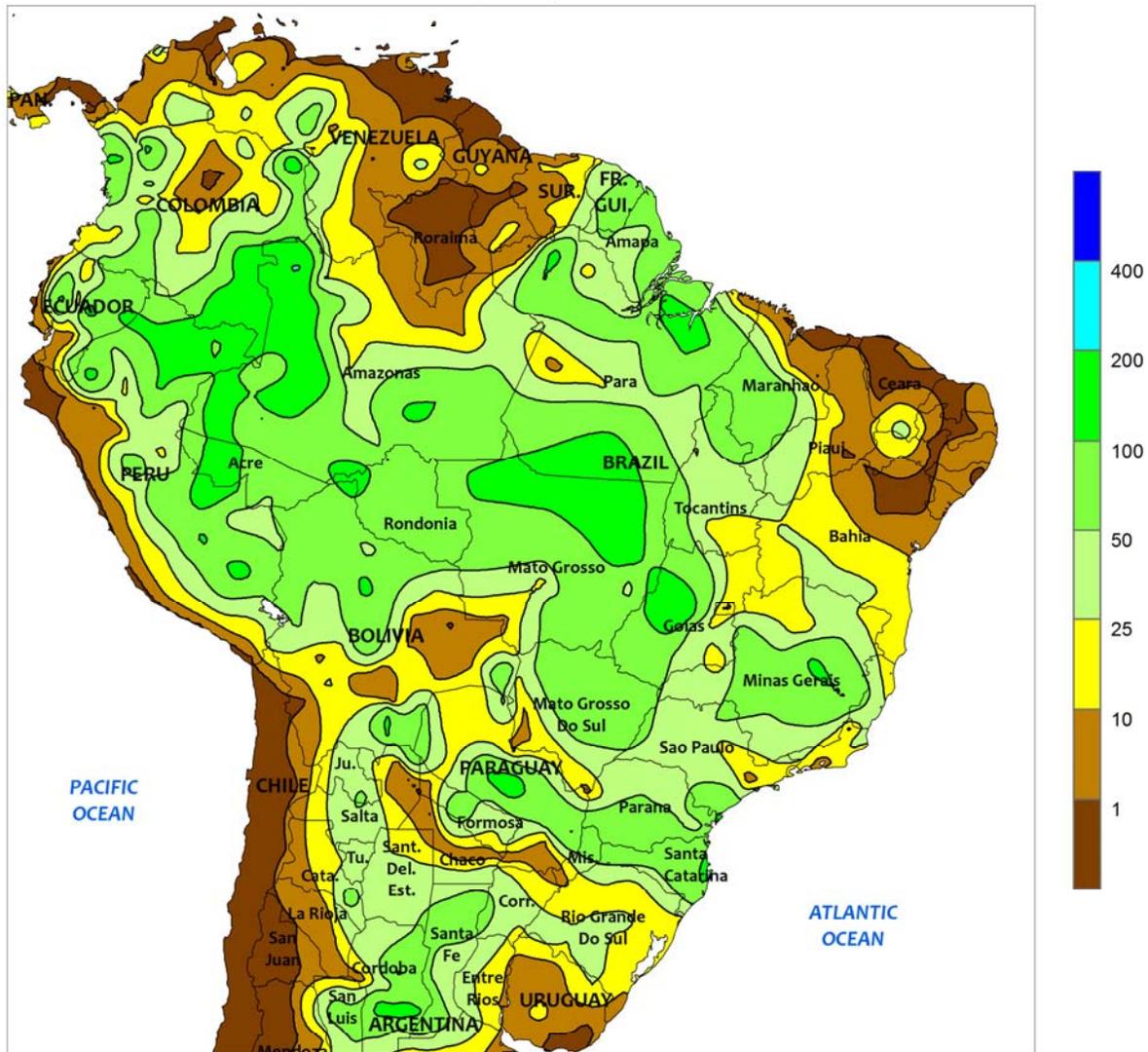


**ARGENTINA**

Dry weather dominated much of Argentina, helping to alleviate flooding but raising concern for unfavorable dryness in some southern agricultural areas. Little to no rain fell in major agricultural districts stretching from La Pampa and Buenos Aires northward to Formosa, with isolated showers (greater than 10 mm) confined to outlying farming areas. Weekly average temperatures were 3 to 6°C above normal in central Argentina, with daytime highs reaching the middle 30s (degrees C) in La Pampa and parts of Buenos Aires. Following weeks of excessive rainfall, the warmth and dryness were welcome

in Cordoba and Santa Fe; however, moisture had become limited in some of the region’s more southerly farming areas, and rain was needed to ensure proper development of later-planted corn and soybeans. Farther north, weekly temperatures averaged 2 to 4°C above normal, with daytime highs commonly in the lower and middle 30s. Unlike portions of the south, adequately watered northern summer crop areas were able to tolerate the warmth and dryness. According to Argentina’s Ministry of Agriculture, sunflowers were 44 percent harvested as of March 12, 5 points behind last year.

BRAZIL  
Total Precipitation (mm)  
FEB 8 - 14, 2015



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Based on preliminary data

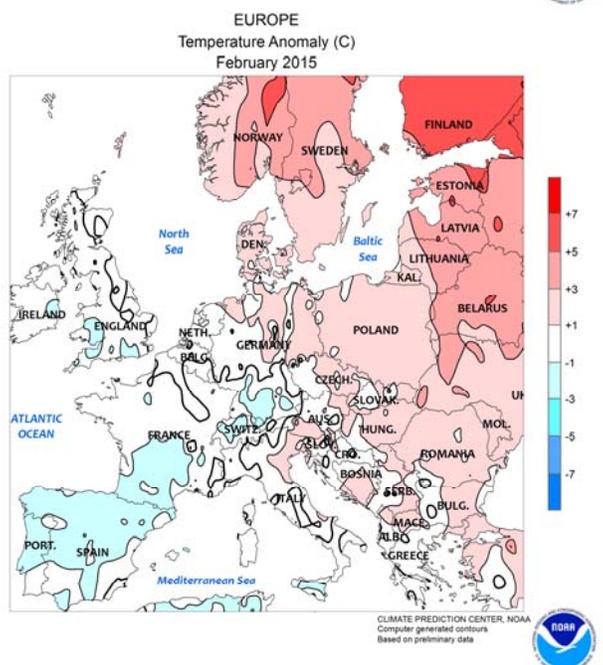
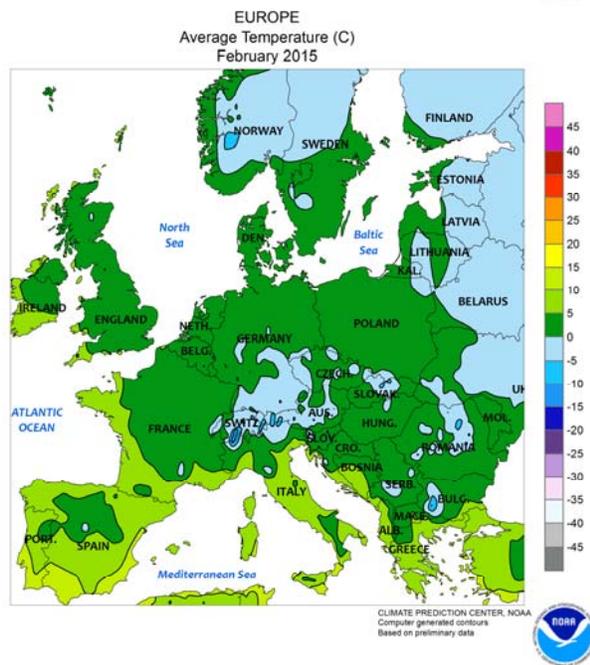
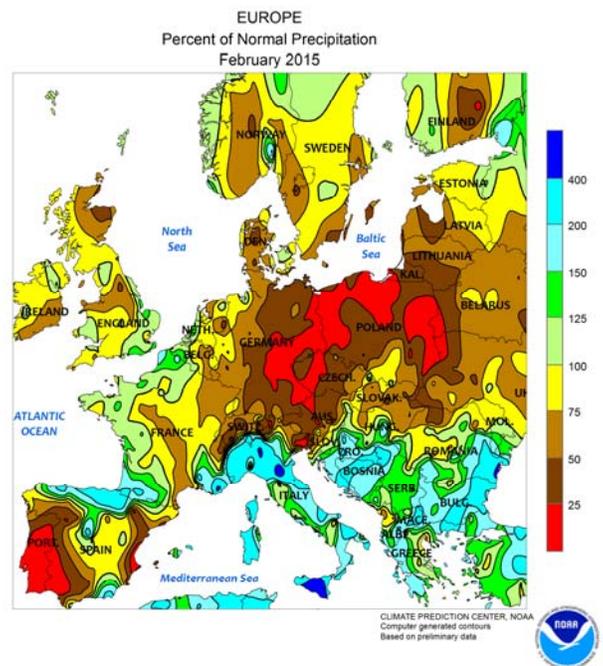
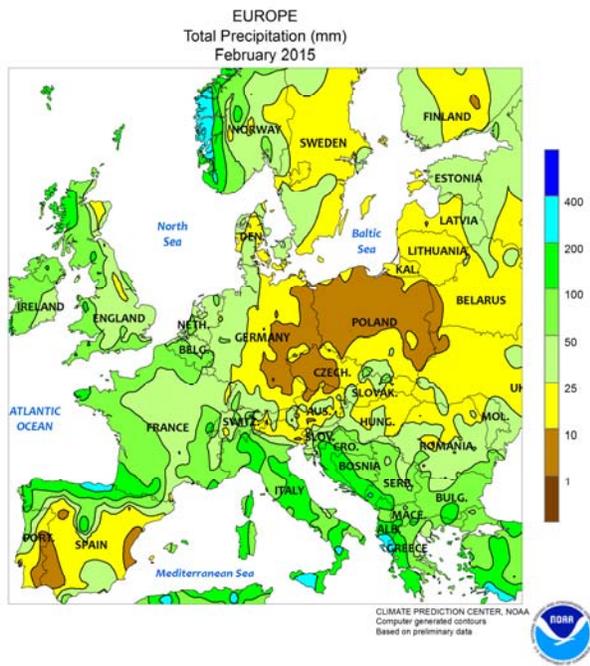


**BRAZIL**

Locally heavy showers maintained generally favorable levels of moisture for second-crop corn and other later-developing crops. The heaviest rain (more than 50 mm) was concentrated over eastern production areas stretching from Sao Paulo and Minas Gerais to Tocantins, further helping to recharge soil moisture following earlier periods of warmth and dryness. The rain also benefited sugarcane and coffee, which have received sporadic rain for much of the season. Lighter rain (10-50 mm) fell from Mato Grosso to Rio Grande do Sul, where conditions remained overall favorable for second-crop corn and — in

southern farming areas — immature soybeans. The somewhat drier conditions also allowed corn planting to progress, though reports emanating from Brazil depicted later-than-optimal planting in many locations. Near- to above-normal weekly average temperatures (daytime highs reaching the lower and middle 30s degrees C) promoted development of generally well-watered crops in the aforementioned areas. Elsewhere, scattered showers (locally greater than 25 mm) fell along the northeastern coast, boosting irrigation reserves ahead of the start of the rainy season.

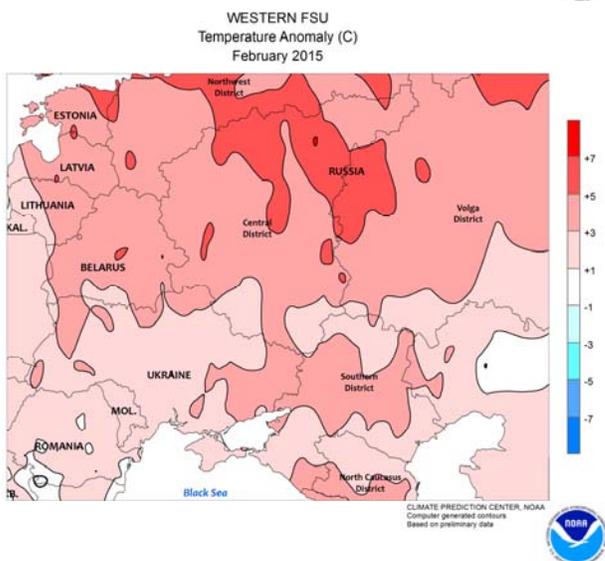
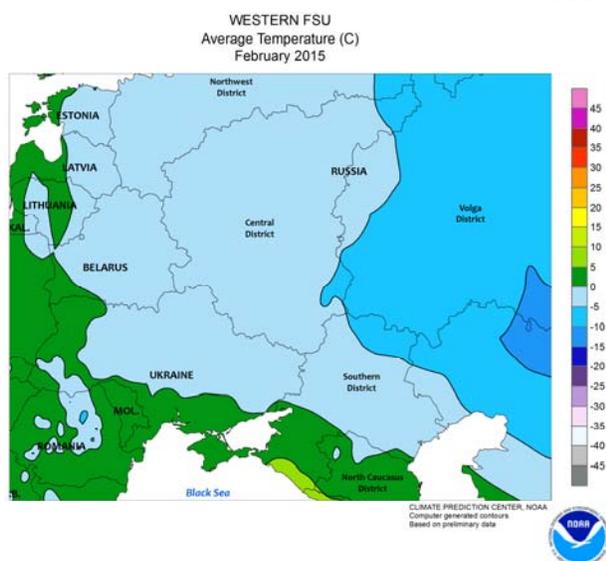
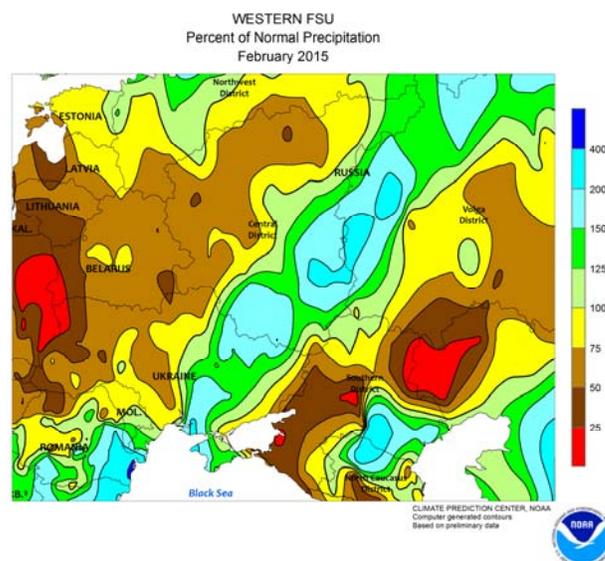
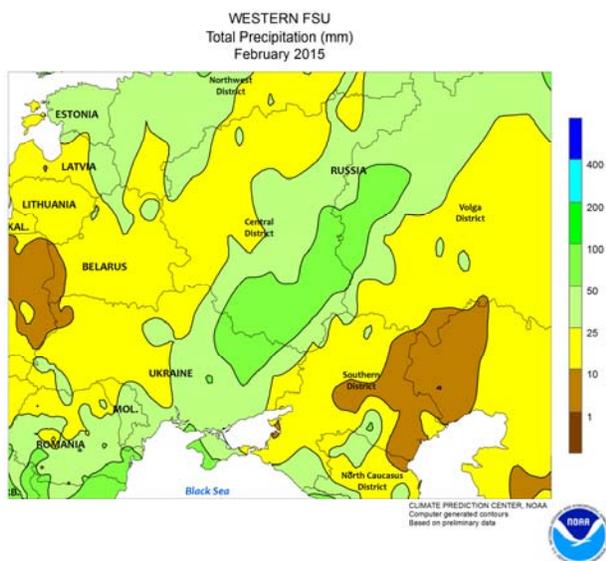
# February International Temperature and Precipitation Maps



## EUROPE

A wet, mild February benefited dormant winter crops from the United Kingdom southeastward into France, Italy, and the Balkans. In addition, locally heavy mountain snow boosted irrigation reserves and spring runoff prospects in northern Italy. Light to moderate showers (15-40 mm) on the Iberian Peninsula sustained favorable soil moisture for vegetative wheat and

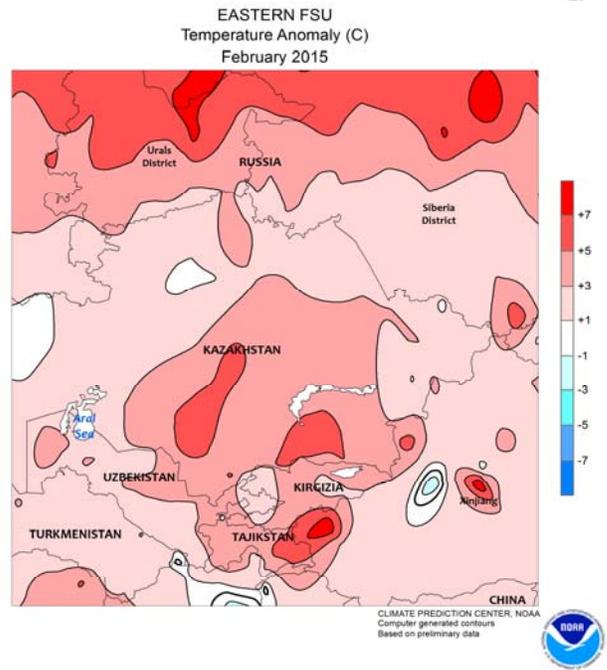
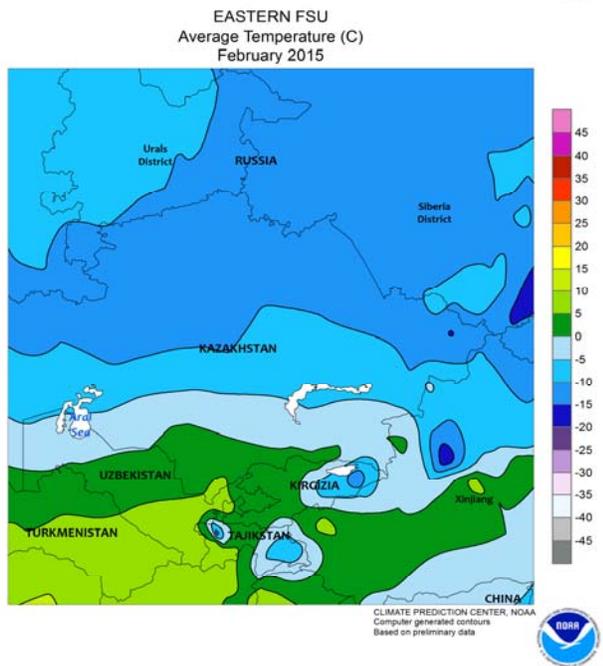
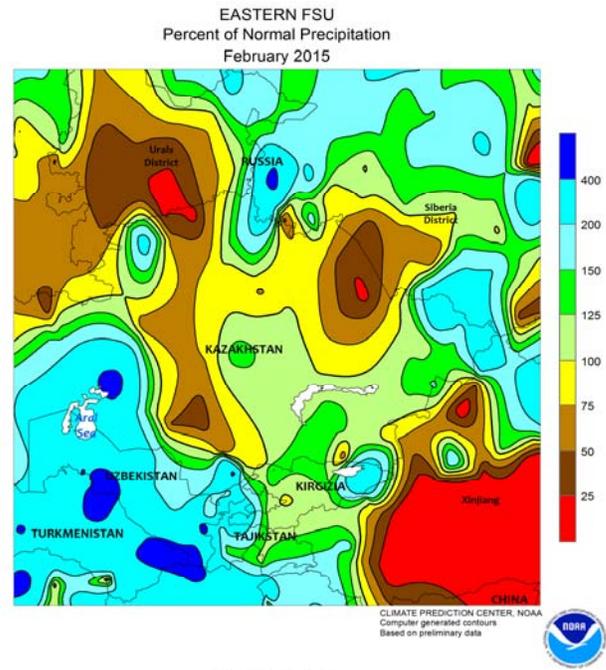
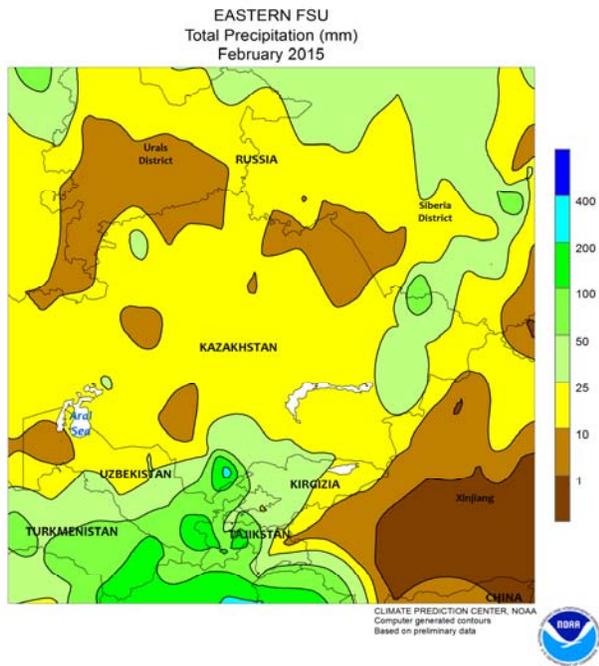
barley. In contrast, generally dry weather (less than 10 mm) settled over Germany and Poland, though moisture reserves remained favorable for spring growth. Despite a lack of snow cover over Europe's primary growing areas, mild weather (up to 3°C above normal) during February minimized the risk of winterkill or burnback.



**WESTERN FSU**

Unseasonably warm, mostly wet weather encouraged winter crop greening in southern-most growing areas and maintained overall favorable conditions for dormant winter crops elsewhere. Temperatures averaged 2 to 5°C above normal, with highs reaching the teens and lows 20s (degrees C) near the Black Sea Coast. Consequently, the region’s southern crop districts were devoid of snow cover by mid-month, and snow

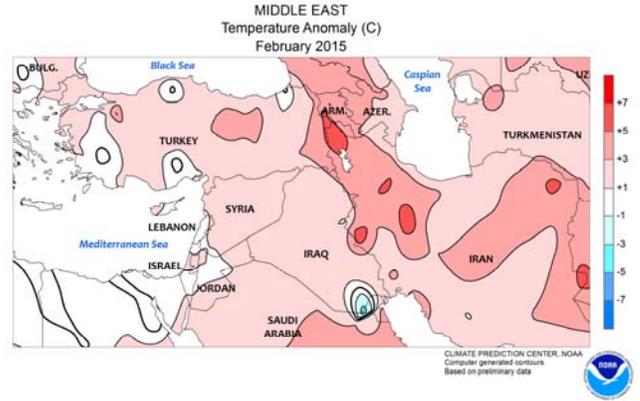
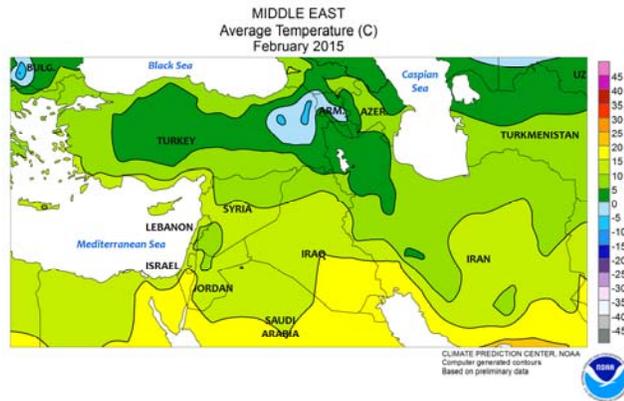
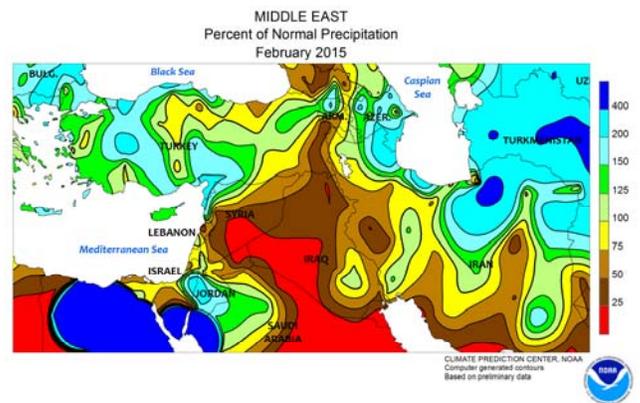
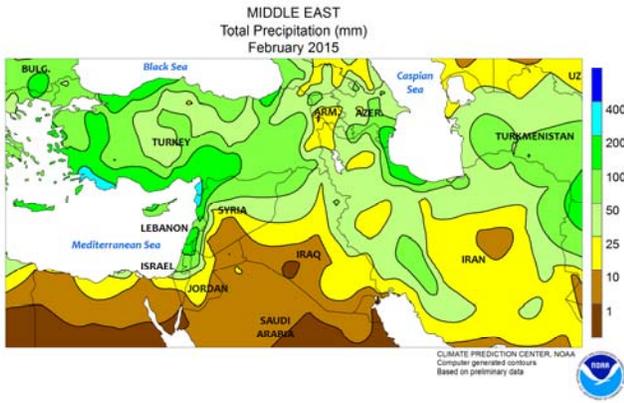
began to recede in the more northerly winter grain and oilseed areas by the end of February. Wet conditions (locally more than 200 percent of normal) further boosted soil moisture following autumn drought from central Ukraine into Russia’s Central District, while localized dryness (20-50 percent of normal) in the Southern District reduced moisture reserves for spring growth.



**EASTERN FSU**

Warmer-than-normal weather prevailed during February, with moderate to heavy rain in the south contrasting with below-normal precipitation over the north. Despite somewhat milder conditions (1-4°C above normal), northern spring wheat areas of Russia and Kazakhstan remained encased in a moderate to deep snowpack; consequently, there

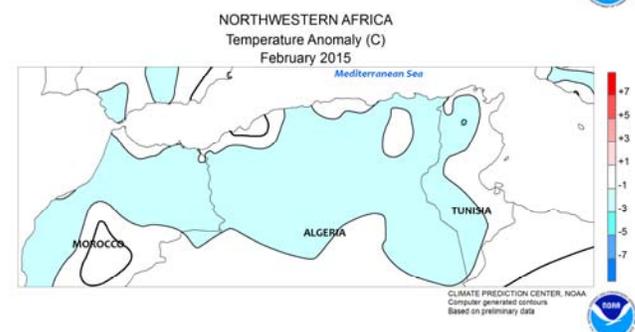
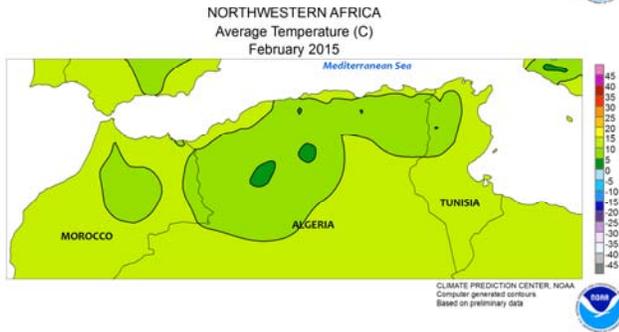
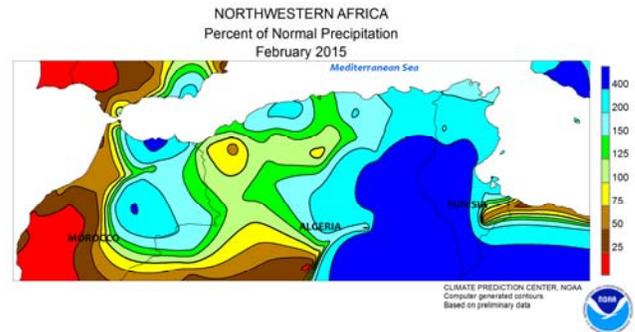
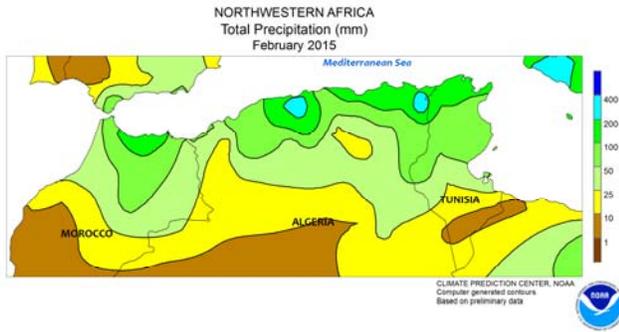
was little if any agricultural activity in these northerly growing areas. Meanwhile, locally heavy rain and mountain snow (25-190 mm liquid equivalent) over southern portions of the region improved soil moisture for winter crops and boosted mountain snowpacks and irrigation reserves for cotton and other summer crops.



MIDDLE EAST

Wet, warm weather during February sustained the favorable growing season for winter crops. Wetness was most pronounced in Turkey (90-280 percent of normal) and northern Iran (100-500 percent of normal, locally more), while rain (25-70 mm) in Iraq was more than sufficient to maintain the current excellent winter

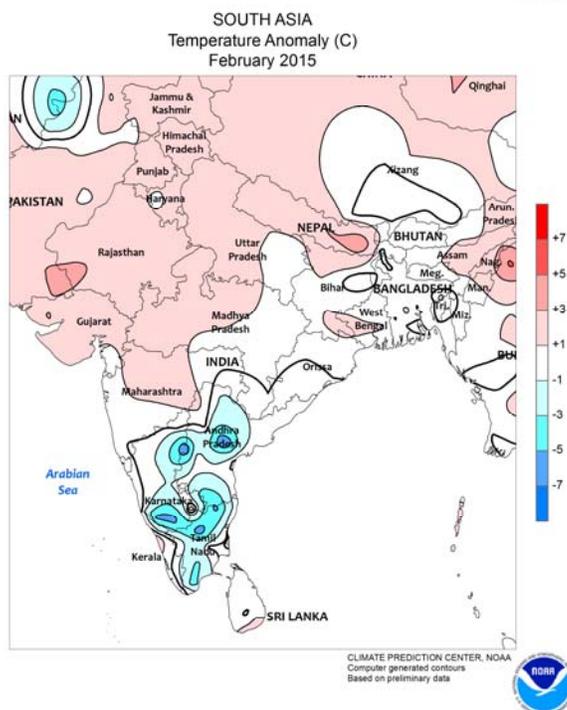
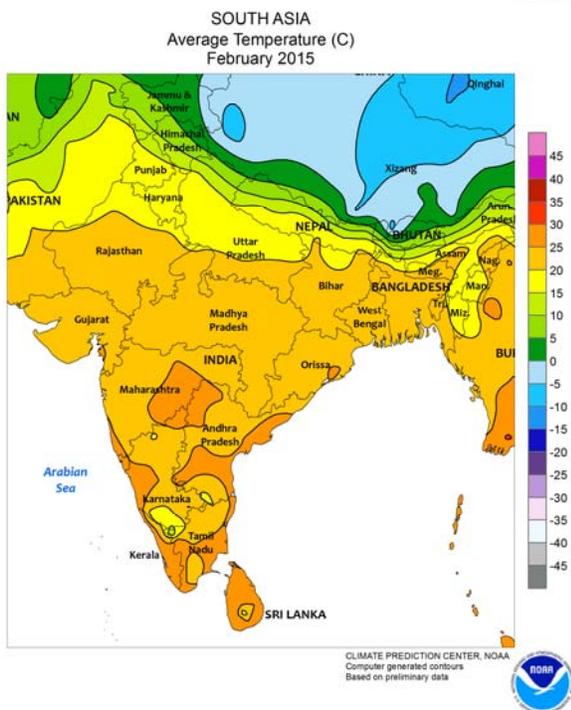
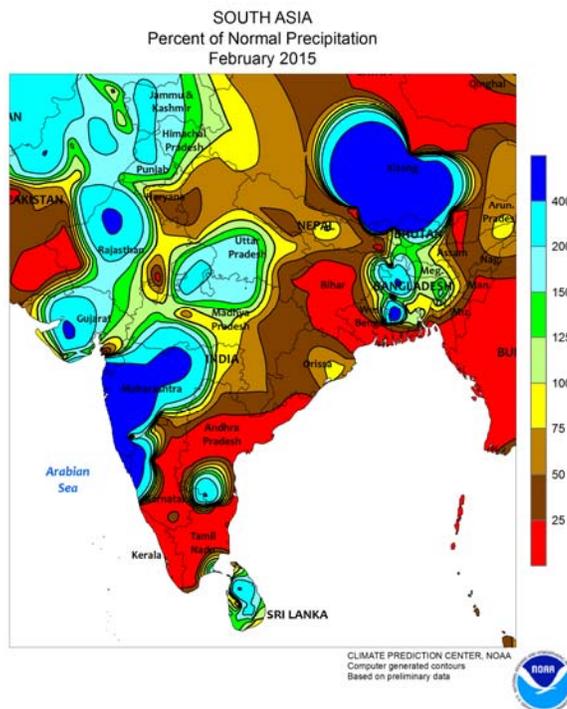
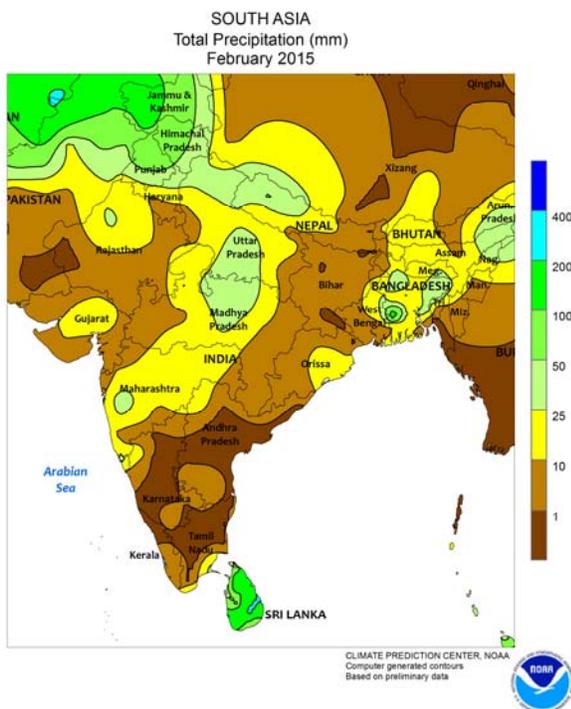
grain yield prospects. Unseasonably warm conditions (2-6°C above normal) eased winter wheat out of dormancy up to a month ahead of normal from Turkey into central Iran. In addition, the warmth kept the region devoid of snow cover and eliminated the risk of winterkill during the period.



**NORTHWESTERN AFRICA**

In February, occasional rainfall maintained good to excellent prospects for vegetative winter wheat and barley from northern Morocco into Algeria and Tunisia. Rain totaled 25 to 100 mm over central and northern Morocco, while heavy downpours (100-300 mm) in Algeria and

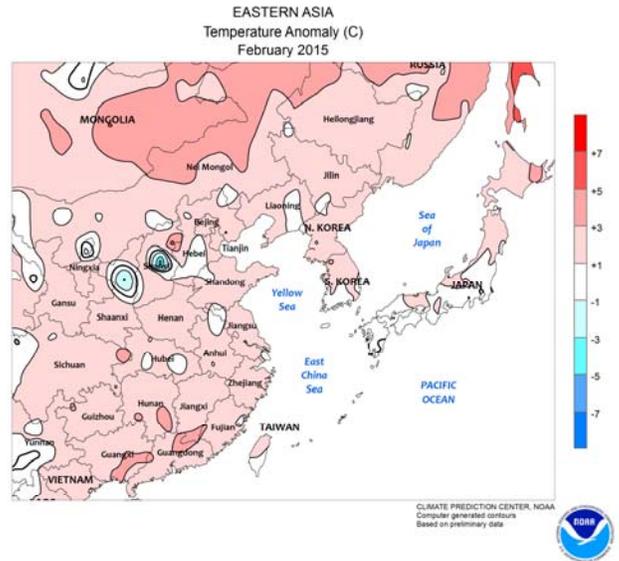
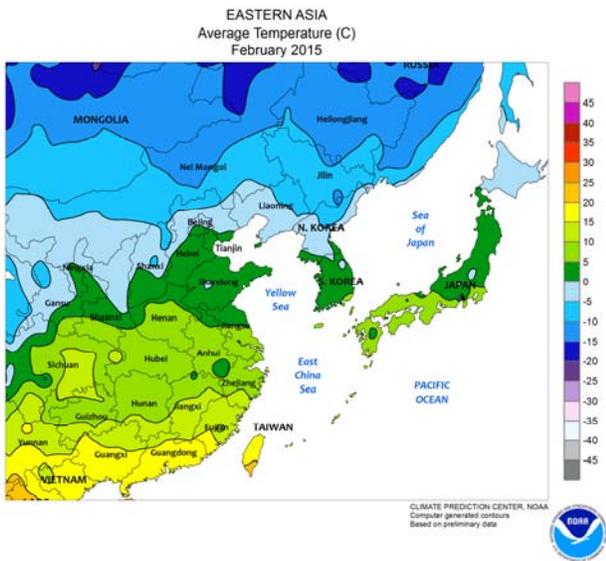
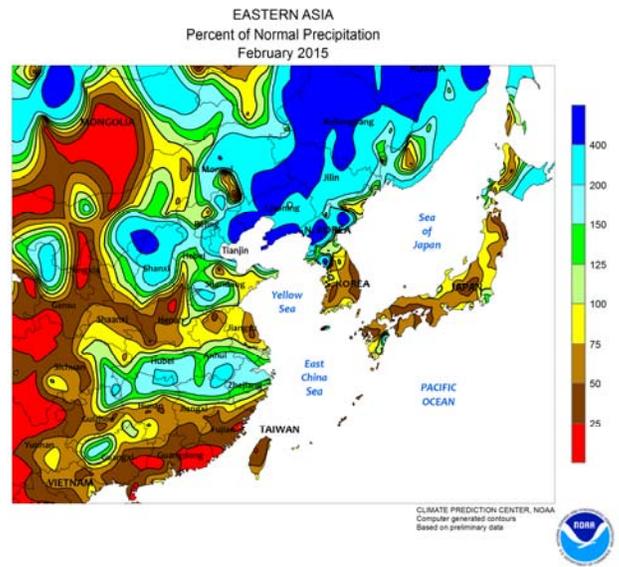
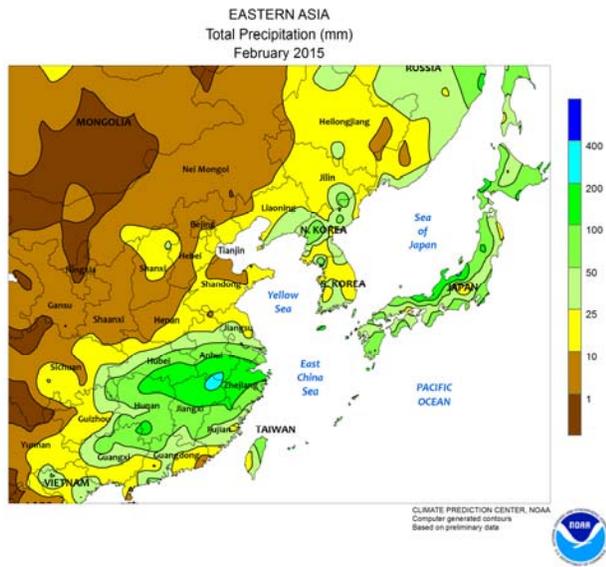
Tunisia eliminated lingering precipitation deficits from a dry autumn but caused localized flooding. In contrast, drier-than-normal conditions lingered over southern Morocco, though subsoil moisture remained sufficient following an excessively wet autumn.



**SOUTH ASIA**

Seasonably dry weather (less than 25 mm of rain) prevailed across much of India in February, and along with warmer-than-normal conditions, benefited wheat and rapeseed in the latter stages of development. Meanwhile, wheat in Punjab (India) experienced significantly wetter-than-normal conditions (approaching 100 mm of rain), particularly during the second half of the month, and was similar to conditions in 2013. As in 2013, the wetness was considered unfavorable as

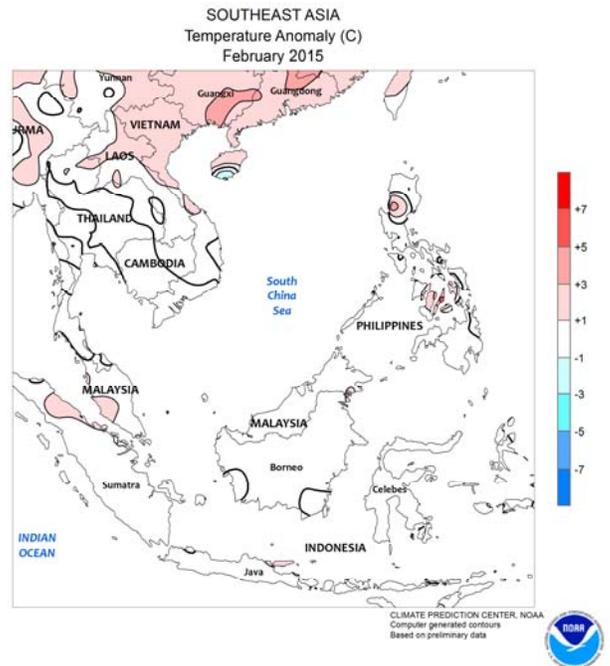
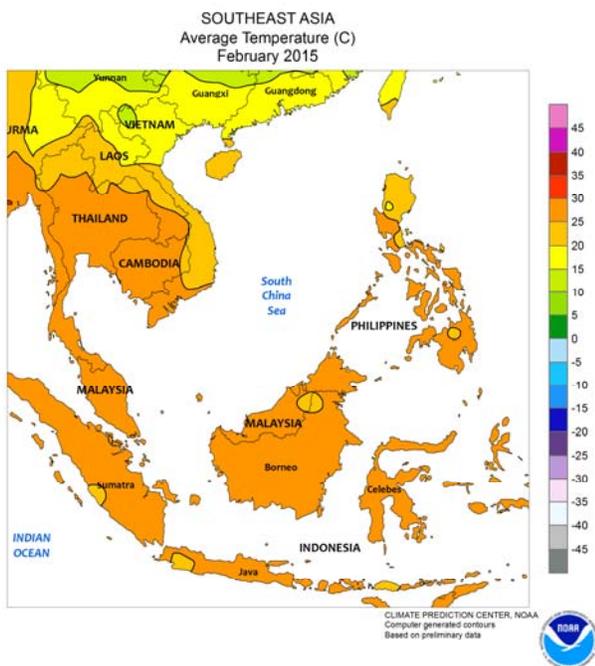
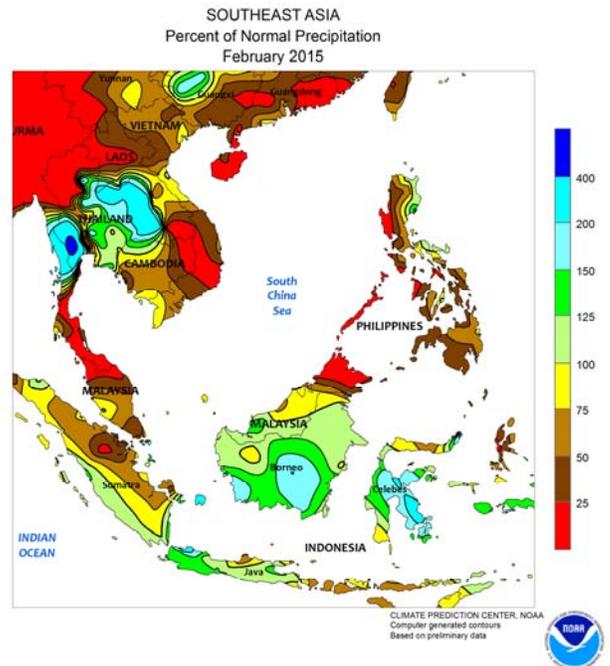
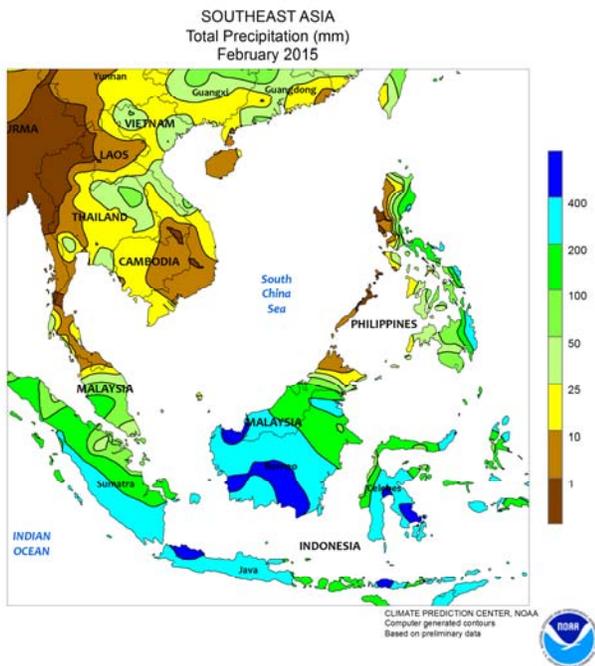
wheat in this area was likely beginning to mature by month's end and raised concerns regarding grain quality. Elsewhere in the region, similarly wet conditions occurred in neighboring wheat areas of Pakistan, with grain quality an issue here as well. In Sri Lanka, above-normal rainfall maintained abundant moisture supplies for rice, in contrast to last year's unfavorably dry weather, and reversed a drying trend from January.



**EASTERN ASIA**

Unseasonably warm weather continued across winter crops areas of China during February. The warmth forced winter wheat in southern portions of the North China Plain and rapeseed in the Yangtze Valley out of dormancy earlier than usual. And with seasonably dry weather (less than 25 mm for the month) occurring in wheat areas, supplemental irrigation

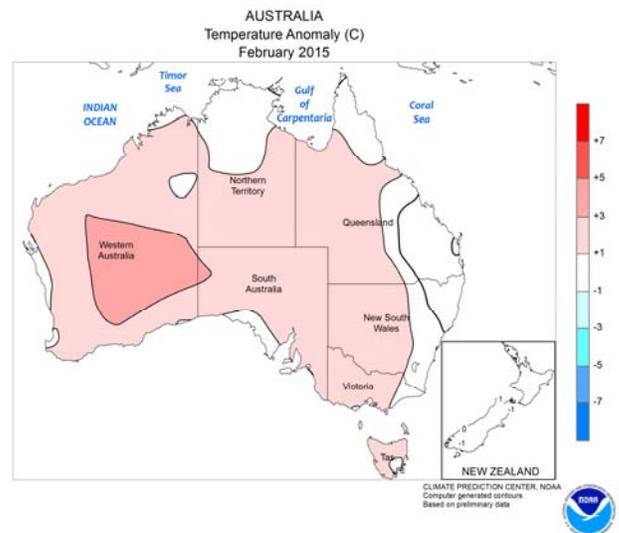
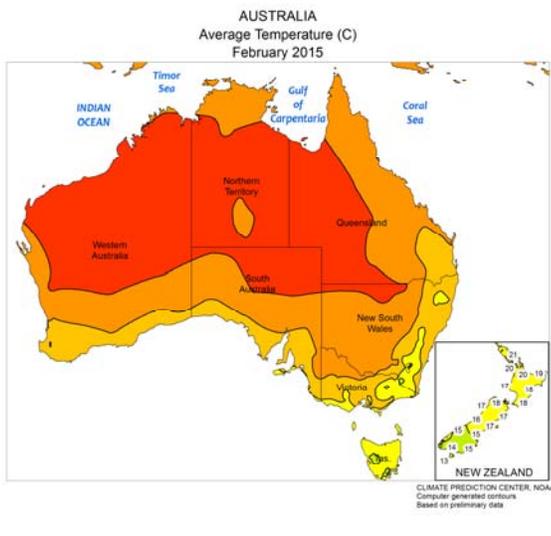
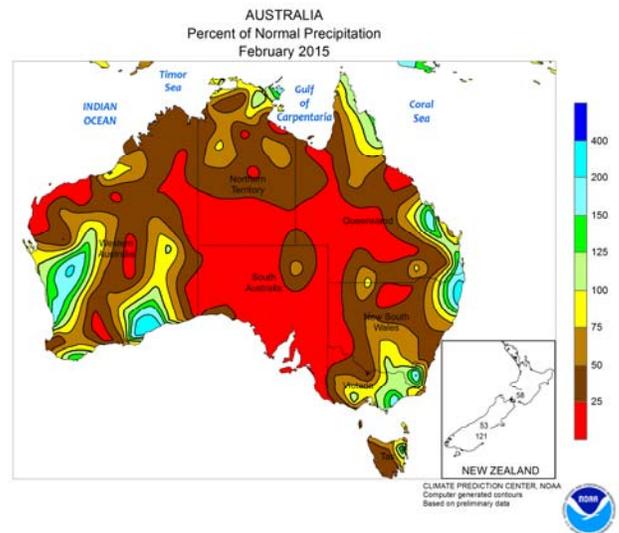
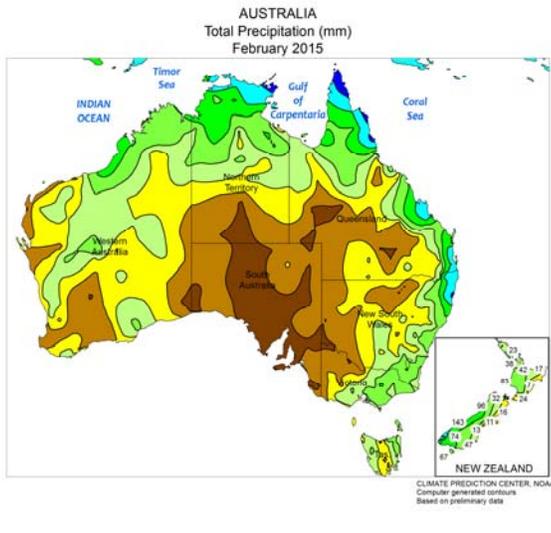
was necessary to maintain crop prospects. In rapeseed areas, less supplemental irrigation was needed as monthly rainfall exceeded 100 mm. Meanwhile, drier-than-normal weather occurred in early-crop rice areas of southern China, leaving parts of Fujian and Guangdong with lower-than-usual water supplies for March rice transplanting.



**SOUTHEAST ASIA**

In February, above-normal rainfall across Java, Indonesia, maintained beneficial moisture supplies for rice in various stages of development; the earliest transplanted rice was likely beginning to ripen. Meanwhile in neighboring oil palm areas of Indonesia and Malaysia, below-normal rainfall aided harvesting and eased lingering wetness from the previous month's localized flooding. The exception to the dryness was across the island of

Borneo, where consistent showers (exceeding 300 mm in many areas) slowed harvesting but boosted soil moisture for crops. In the Philippines, with the exception of brief mid-month showers, most of the month was unseasonably dry. The dryness was generally beneficial as the earliest planted rice and corn was ready for harvest. In addition, the drier-than-usual conditions had little impact on the favorable seasonal moisture situation.

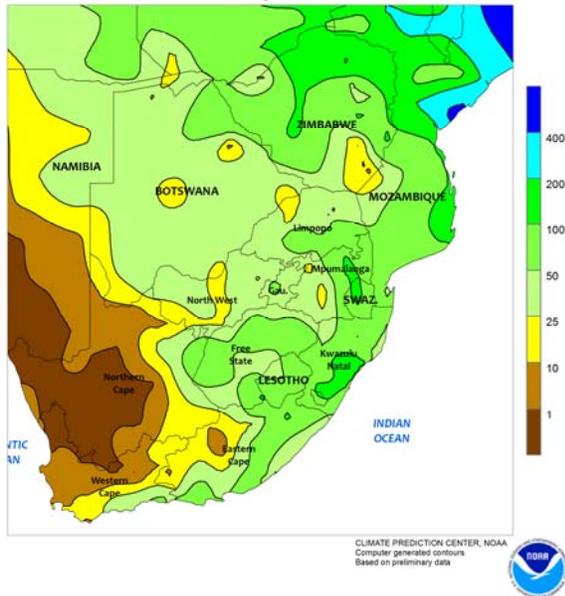


**AUSTRALIA**

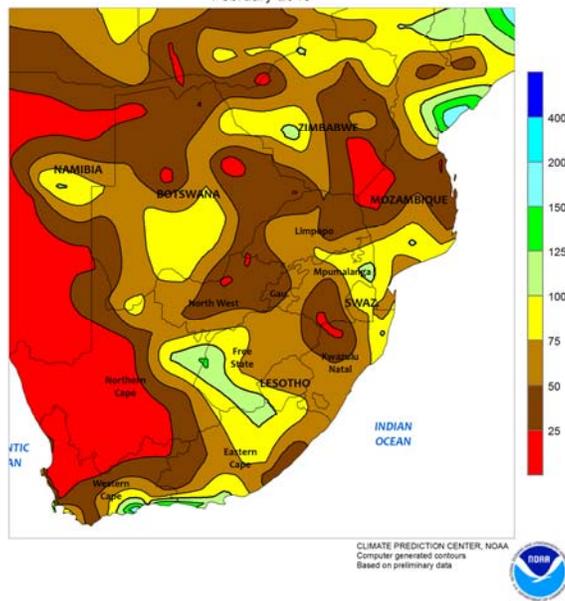
In the wake of January’s beneficial rain, drier weather overspread southern Queensland and northern New South Wales in early February. The combination of sunny skies and adequate moisture supplies favored immature summer crops,

maintaining good yield prospects. Intermittent showers during the latter half of the month continued to benefit immature cotton and sorghum, while periods of dry weather aided maturation of the earliest sown crops.

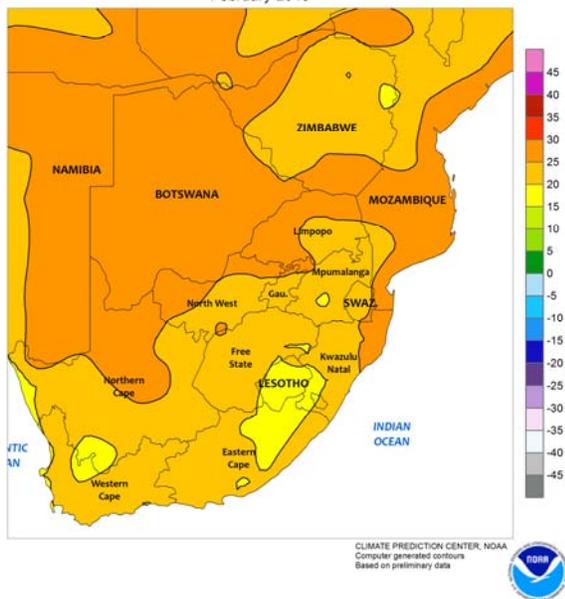
SOUTH AFRICA  
Total Precipitation (mm)  
February 2015



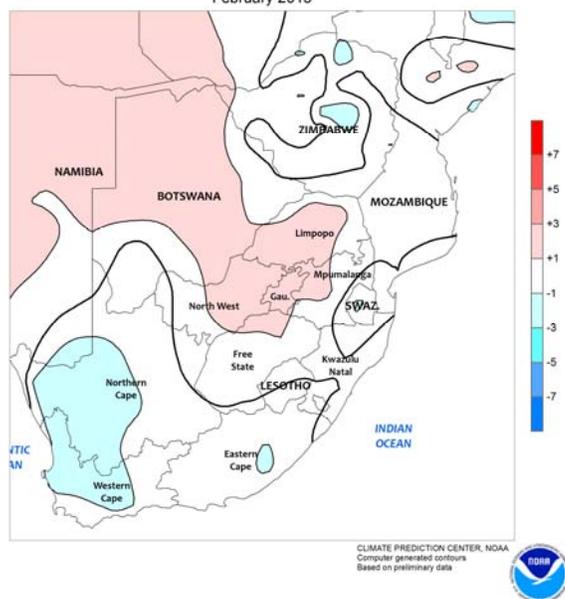
SOUTH AFRICA  
Percent of Normal Precipitation  
February 2015



SOUTH AFRICA  
Average Temperature (C)  
February 2015



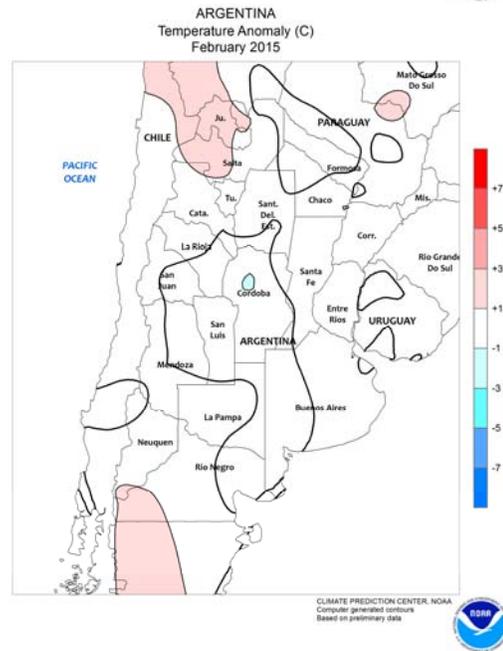
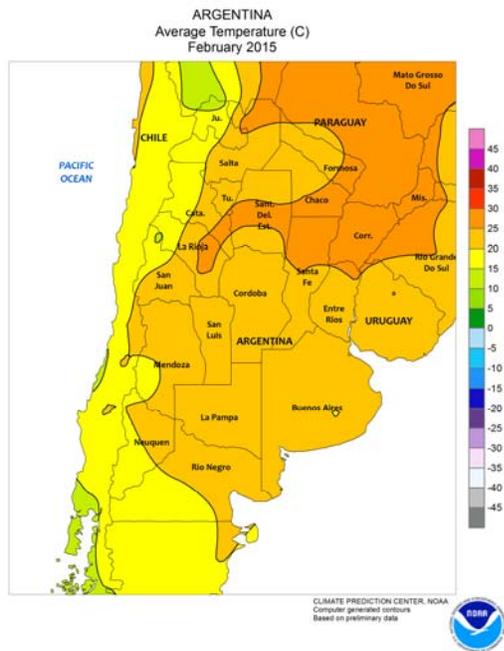
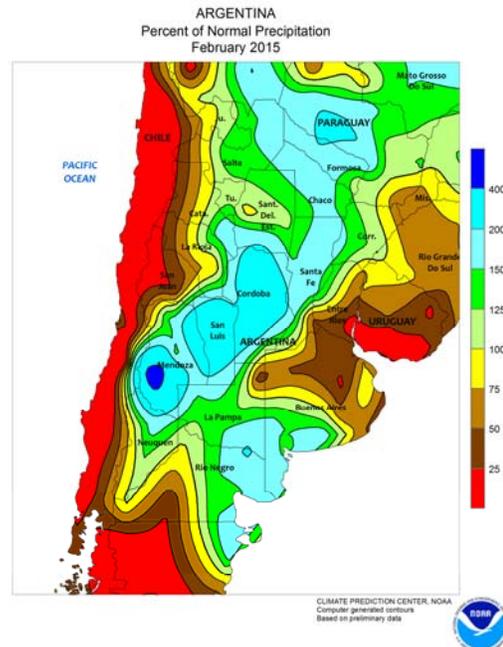
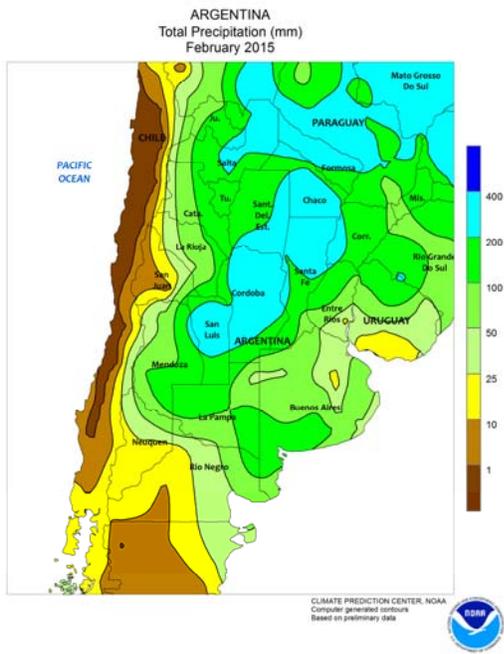
SOUTH AFRICA  
Temperature Anomaly (C)  
February 2015



**SOUTH AFRICA**

A February drying trend reduced moisture for reproductive to filling summer crops throughout the corn belt. Above-normal temperatures accompanied the dryness, exacerbating the stress on predominantly rain-fed crops. Daytime highs reached the middle and upper 30s (degrees C) on several days during the month in central and western sections of the corn belt (Free State to Limpopo), occasionally approaching 40°C in far western and northern production areas. The unfavorable conditions were particularly untimely for corn and other summer row crops advancing through reproduction in the west. Although temperatures averaged closer to normal in and

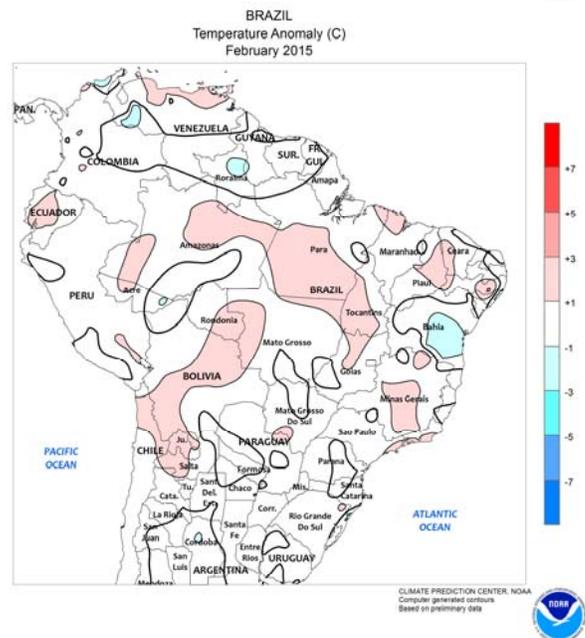
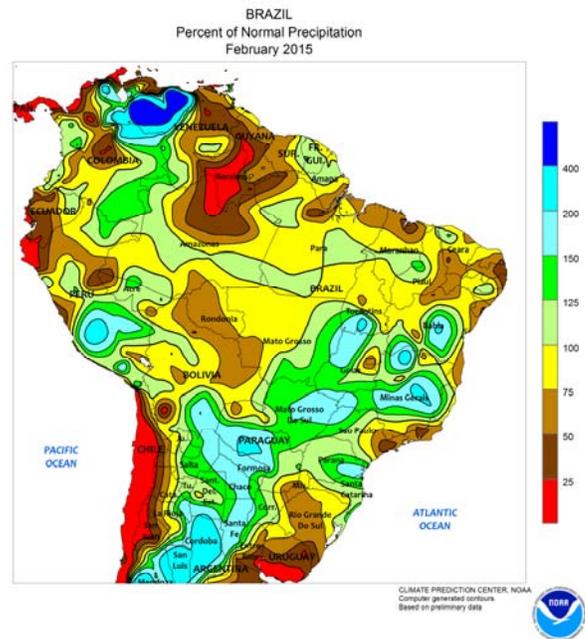
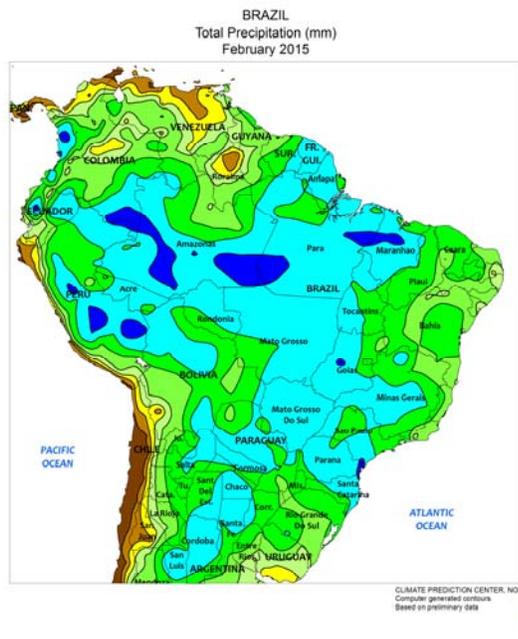
around Mpumalanga, the dryness eventually became severe enough to impact earlier-planted crops advancing through filling. Rainfall was also below normal in major sugarcane areas of eastern Mpumalanga and KwaZulu-Natal, although scattered showers brought periodic relief to rain-fed crops in key southern production areas. Similarly, occasional showers boosted irrigation reserves for summer row crops grown along the Orange River in Free State and Northern Cape. Meanwhile, seasonal dryness and summer warmth fostered rapid harvesting and late-season development of tree and vine crops in Western Cape.



**ARGENTINA**

Much wetter-than-normal weather prevailed during the month of February in sections of central and northeastern Argentina, raising concern for potential damage to summer crops affected by flooding of low-lying areas. Many locations in Cordoba — a key producer of corn and soybeans — recorded more than 200 mm, representing more than twice the normal monthly amounts. The wetness extended northeastward through Santa Fe and Chaco, though totals were not as high relative to normal. More reasonable amounts of rain fell in the northwest (notably Salta and northern Santiago del Estero). In contrast, drier conditions

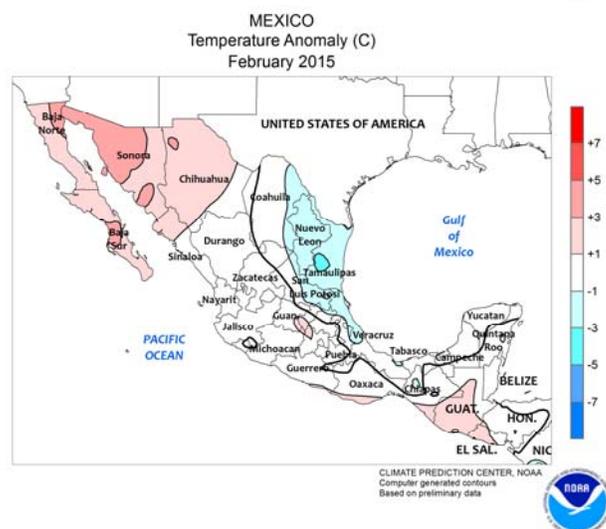
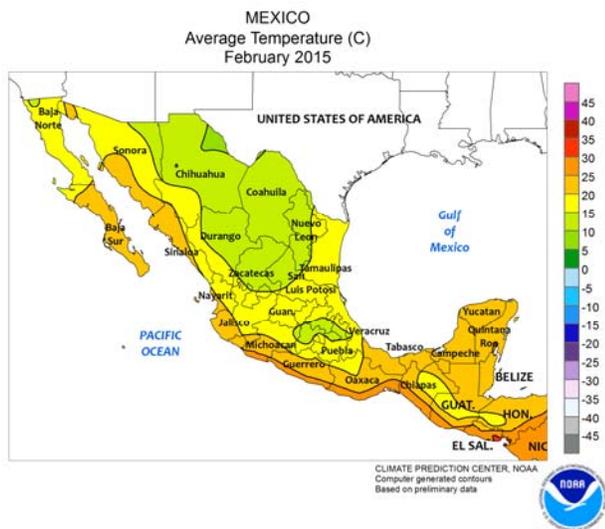
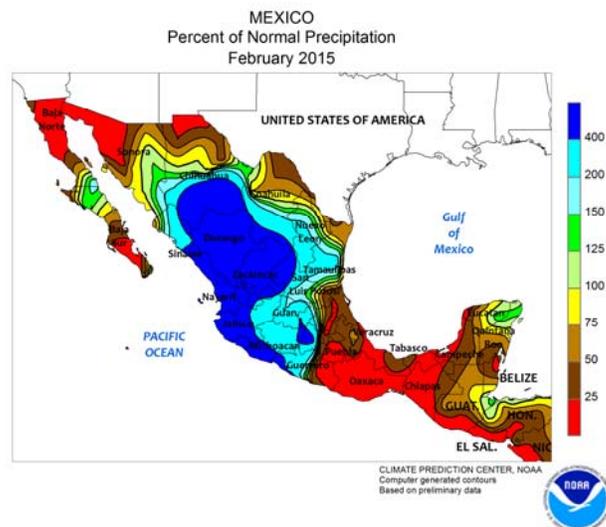
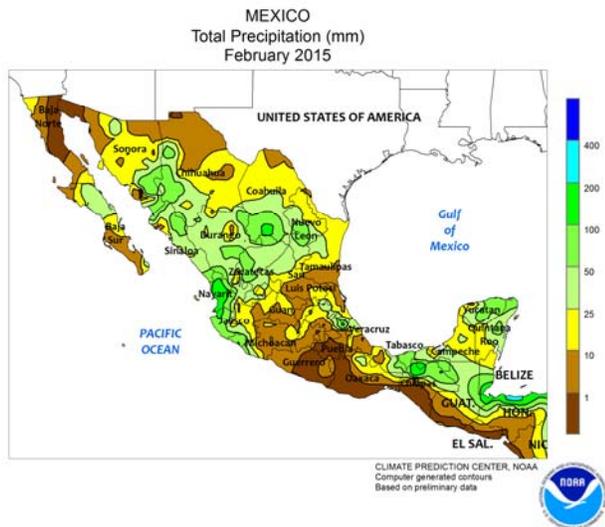
dominated farming areas in the lower Parana River Valley (northern Buenos Aires and nearby locations of Santa Fe and Entre Rios), which had benefited from above-normal rainfall earlier in the season. Periods of warmth and dryness also affected La Pampa and southern Buenos Aires, but rain brought occasional relief, resulting in near-normal monthly totals. Monthly temperatures averaged near normal in central Argentina and more than 1°C above normal across the north; highs reached the middle 30s (degrees C) for brief periods in central farming areas and infrequently reached the upper 30s farther north.



**BRAZIL**

In February, beneficial rain brought some relief from dryness to eastern farming areas impacted by a drier- and warmer-than-normal January. Rainfall totaled more than 100 mm from Piauí southward to Minas Gerais, including previously dry agricultural areas in Bahia, Tocantins, and northeastern Goiás, representing near- to below-normal monthly amounts. Heavier rain (mostly greater than 200 mm) covered a broad area stretching from Mato Grosso to Santa Catarina, maintaining generally favorable conditions for second-crop (safrinha) corn. The rain also helped to stabilize the condition of sugarcane and

coffee in Sao Paulo and Minas Gerais, affected by the previous month's warmth and dryness. In contrast, lighter-than-normal rainfall in Rio Grande do Sul was overall favorable for corn harvesting and maturation of early-planted soybeans, following January's wetness. Rainfall was also below normal along the northeastern coast, where seasonal showers should soon intensify. February average temperatures were near to slightly above normal in most major agricultural districts, with most regions recording daytime highs in the middle 30s (degrees C) on several days.

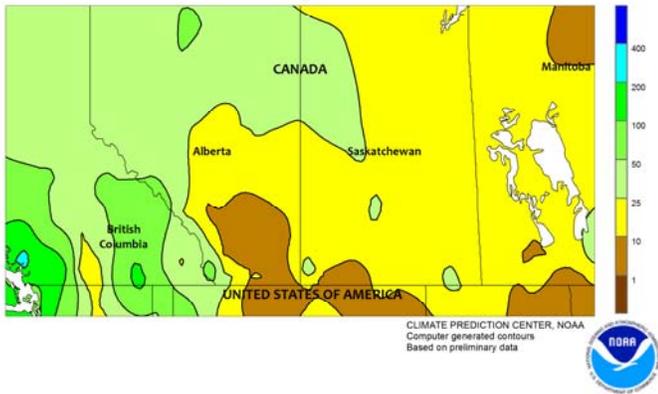


**MEXICO**

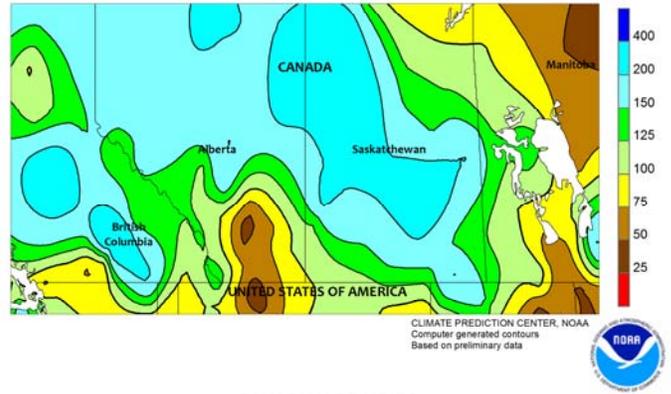
During February, unseasonable rainfall boosted local reservoirs across northern and central sections of Mexico. Much of the region from southern Sonora and Sinaloa eastward to northern Tamaulipas recorded monthly accumulations of 10 to 50 mm, with a few isolated locations receiving more than 100 mm. Above-normal temperatures accompanied the rain in the northwest, fostering winter wheat development. Temperatures were more variable in the northeast, with periods of unseasonable coolness slowing growth of winter sorghum. Locally heavy rain also fell along

the west-central coast (Nayarit to coastal Michoacan), boosting irrigation reserves for winter-grown vegetables and fruit. Light rain fell on the southern plateau, likely causing limited delays in fieldwork, including late planting of winter corn. Mostly dry weather prevailed along the southern Pacific Coast but scattered showers developed periodically in the southeast from the vicinity of northern Chiapas through the Yucatan Peninsula. According to the government of Mexico, total national reservoir levels were at 53.4 percent capacity as of February 28, compared with 51.8 percent at the end of January.

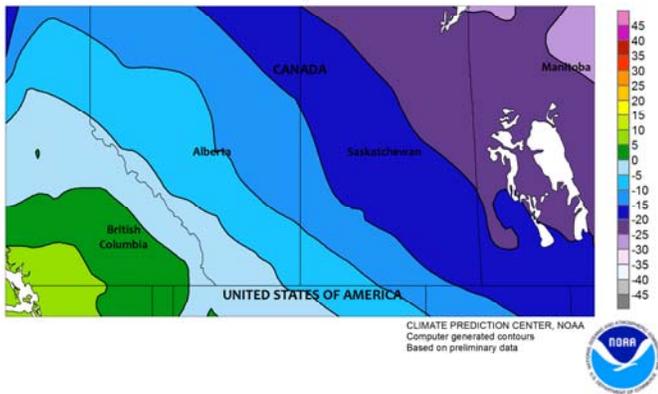
CANADIAN PRAIRIES  
Total Precipitation (mm)  
February 2015



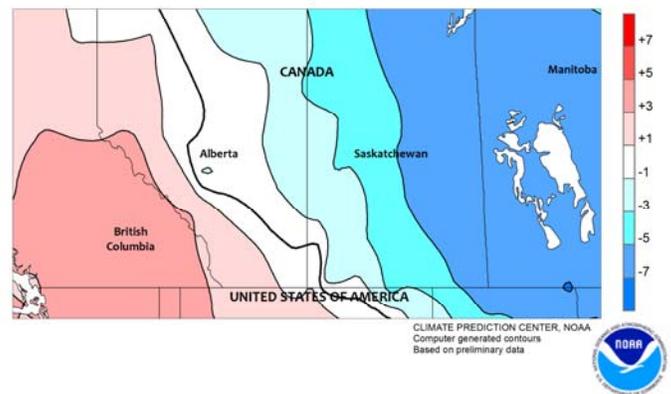
CANADIAN PRAIRIES  
Percent of Normal Precipitation  
February 2015



CANADIAN PRAIRIES  
Average Temperature (C)  
February 2015



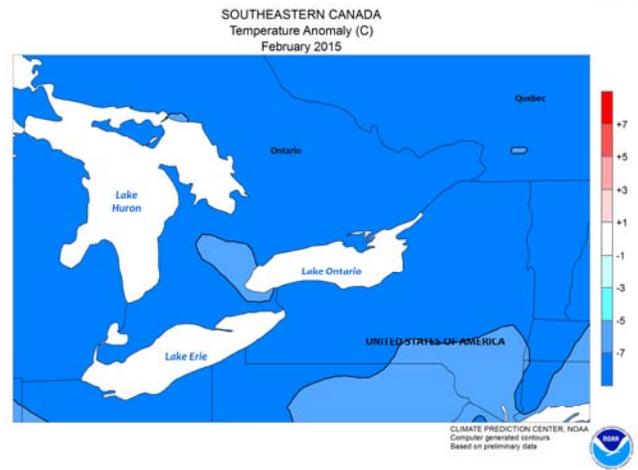
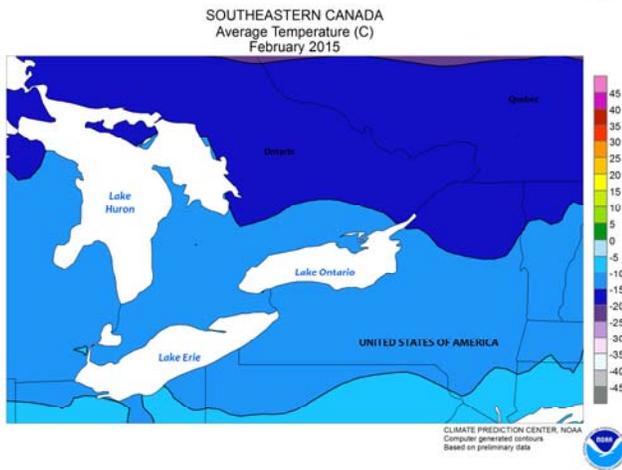
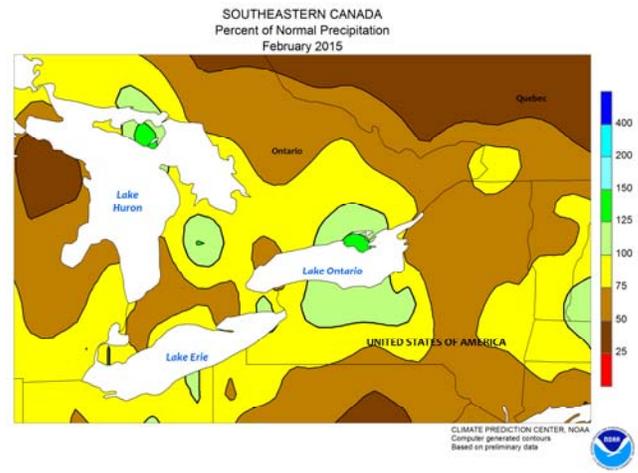
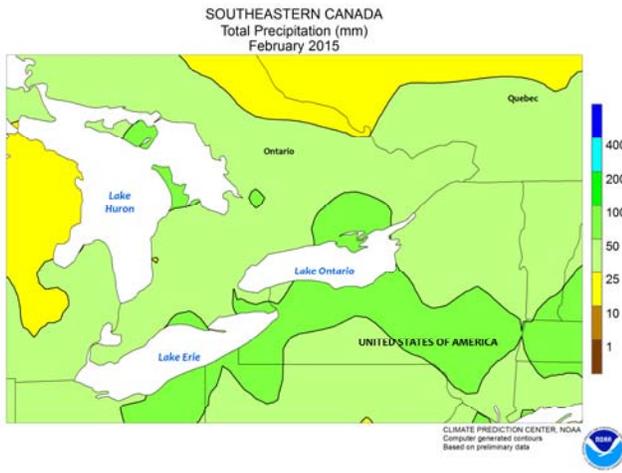
CANADIAN PRAIRIES  
Temperature Anomaly (C)  
February 2015



**CANADIAN PRAIRIES**

During February, periods of unseasonable warmth limited development of a protective layer of snow over the southwestern Prairies. While monthly temperatures averaged near to slightly above normal in Alberta and adjacent areas in Saskatchewan, several outbreaks of arctic air dropped nighttime lows below  $-20^{\circ}\text{C}$ , threatening overwintering grains and pastures in southern Alberta and adjacent locations in Saskatchewan. Other Prairie agricultural districts enjoyed moderate to deep snow cover

for most of the month, including Alberta's Peace River Valley. The snow was particularly important in the eastern Prairies, where monthly temperatures averaged  $2$  to  $5^{\circ}\text{C}$  below normal (nighttime lows falling below  $-30^{\circ}\text{C}$  at times). February precipitation ranged from  $10$  to  $50$  mm in most agricultural districts, an exception being the southwest, where mostly dry conditions combined with the aforementioned warm outbreaks to keep much of the region snow free.



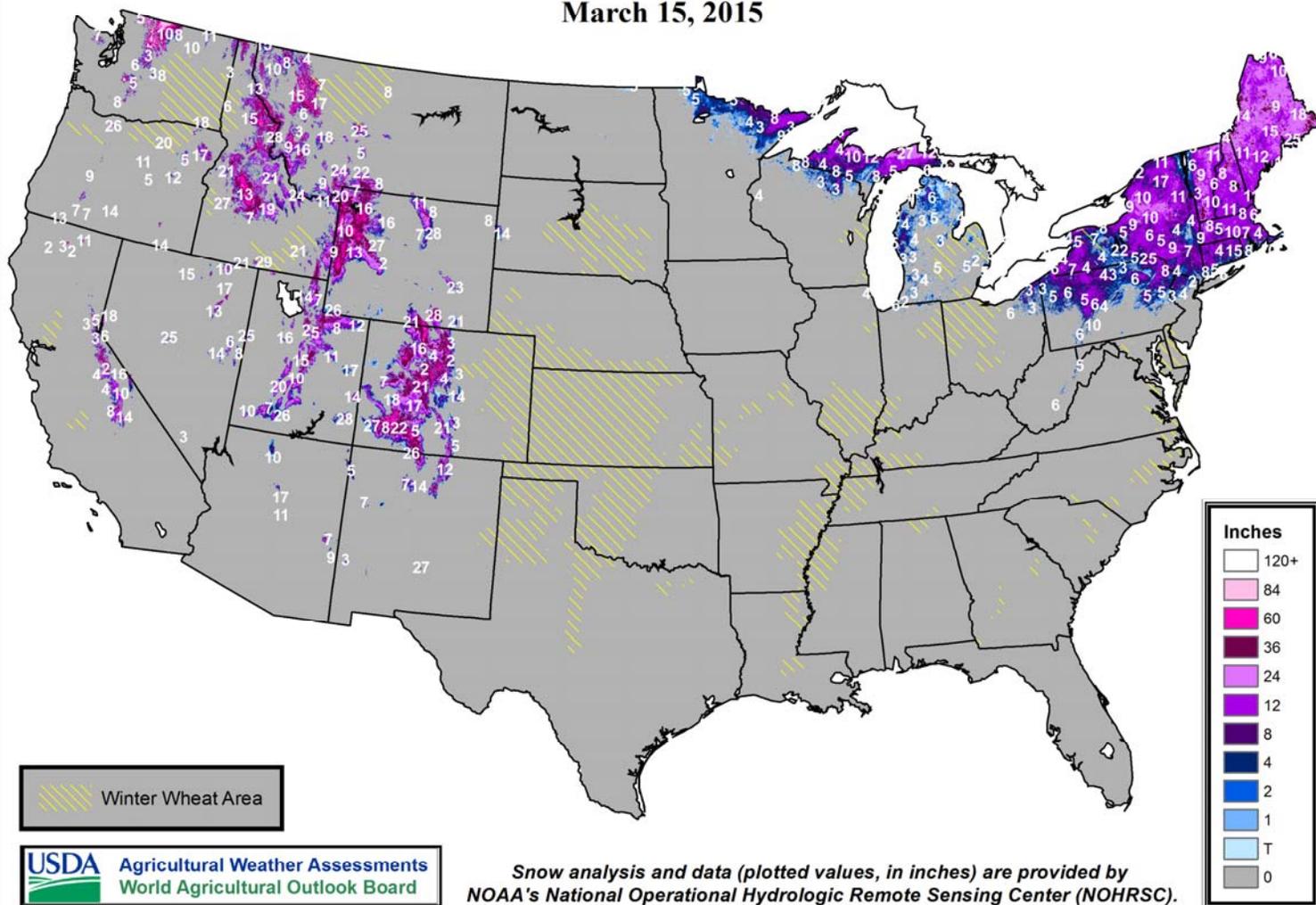
**SOUTHEASTERN CANADA**

Colder-than-normal weather dominated the region during February, with temperatures averaging more than 7°C below normal over a large part of the region. During the middle and latter parts of the month, nighttime lows commonly fell below -20°C, with lows reaching the -30s (degrees C) on several

nights. However, according to snow cover estimates, the region enjoyed a protective layer of snow during the coldest times of the month. Monthly precipitation was near to below normal, with most areas recording 25 to 50 mm. Due to the bitter cold, all of the precipitation was in the form of snow.

# Snow Depth

March 15, 2015



Snow analysis and data (plotted values, in inches) are provided by NOAA's National Operational Hydrologic Remote Sensing Center (NOHRSC).

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

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E-mail address: [brippey@oce.usda.gov](mailto:brippey@oce.usda.gov)

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