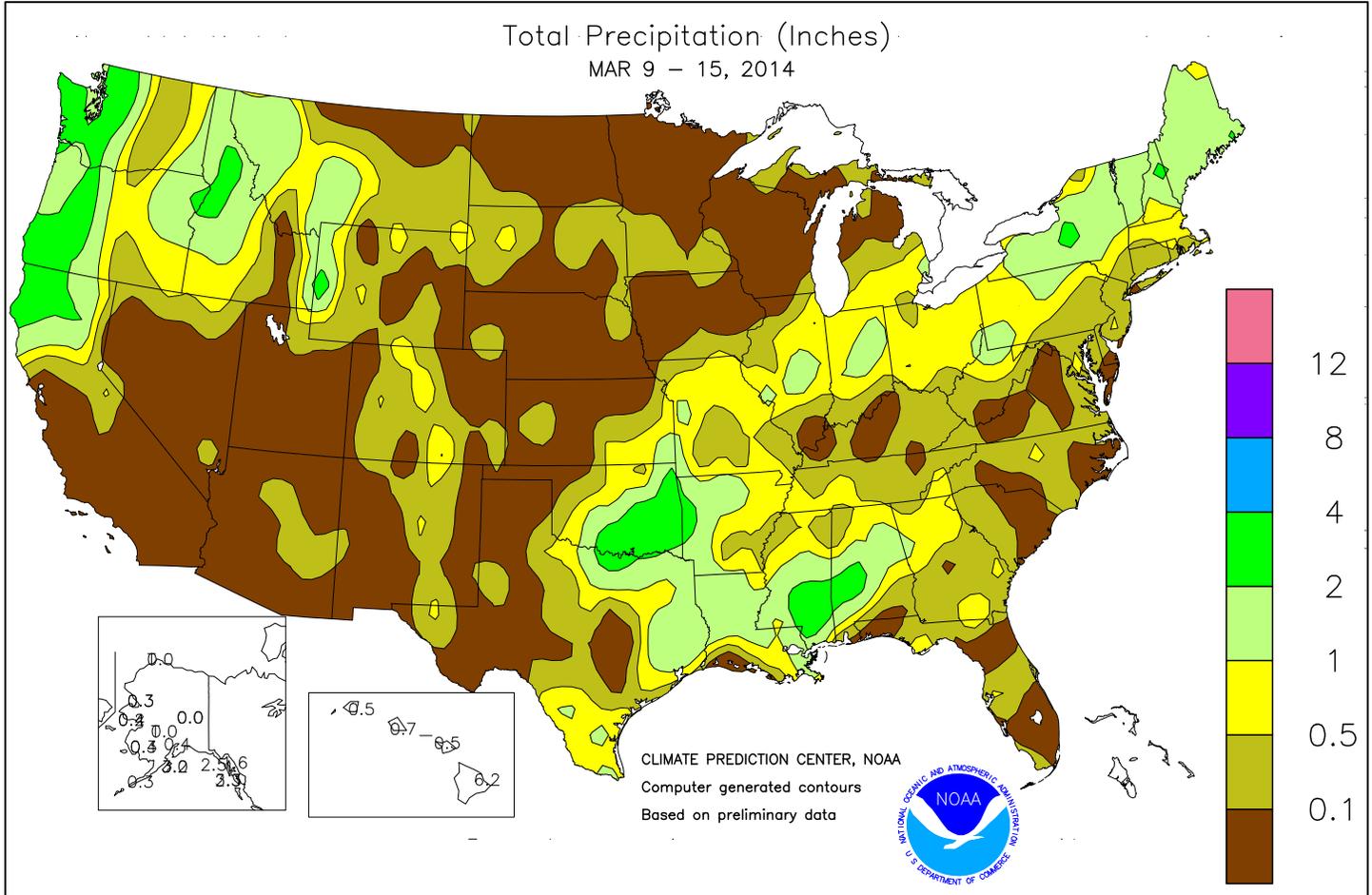


WEEKLY WEATHER AND CROP BULLETIN



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 9 – 15, 2014

Highlights provided by USDA/WAOB

Precipitation across the northern half of the West further improved water-supply prospects from the Pacific Northwest to the northern Rockies. Farther south, however, warm, mostly dry weather prevailed in California’s key watershed areas and much of the Southwest. Meanwhile, most areas east of the Rockies experienced a reprieve from harsh, wintry conditions. However, near- to below-normal temperatures persisted from the Great Lakes region into the Northeast, where significant snow fell. On March 12-13, a late-winter storm

(Continued on page)

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Water Supply Forecast for the Western United States

Highlights

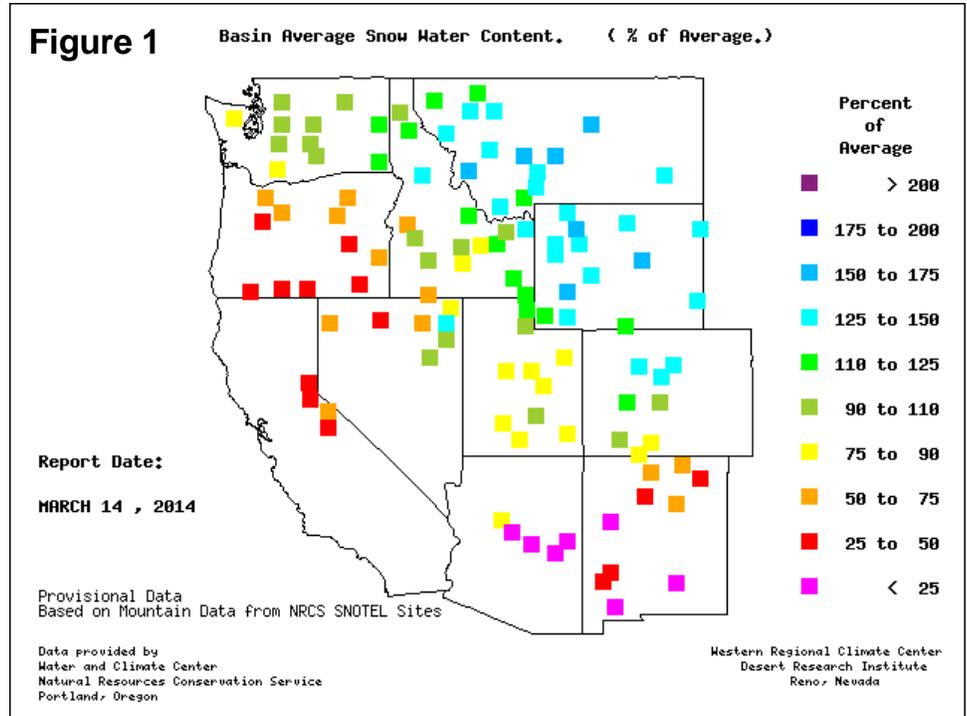
February exhibited weather extremes and variability, both day to day and compared to previous months. Monthly precipitation was significantly above normal across the northern half of the West, starkly different from earlier in the season. The southern half of the West remained mostly dry, except for a late-month storm that provided temporary drought relief.

February snowpack retained the sharp contrast between northern and eastern parts of the West, versus southern and western areas. The former had well-above-normal snowpack values, while the latter had well-below-normal numbers. End-of-month reservoir storage for all states, except Montana, was below normal for this time of year.

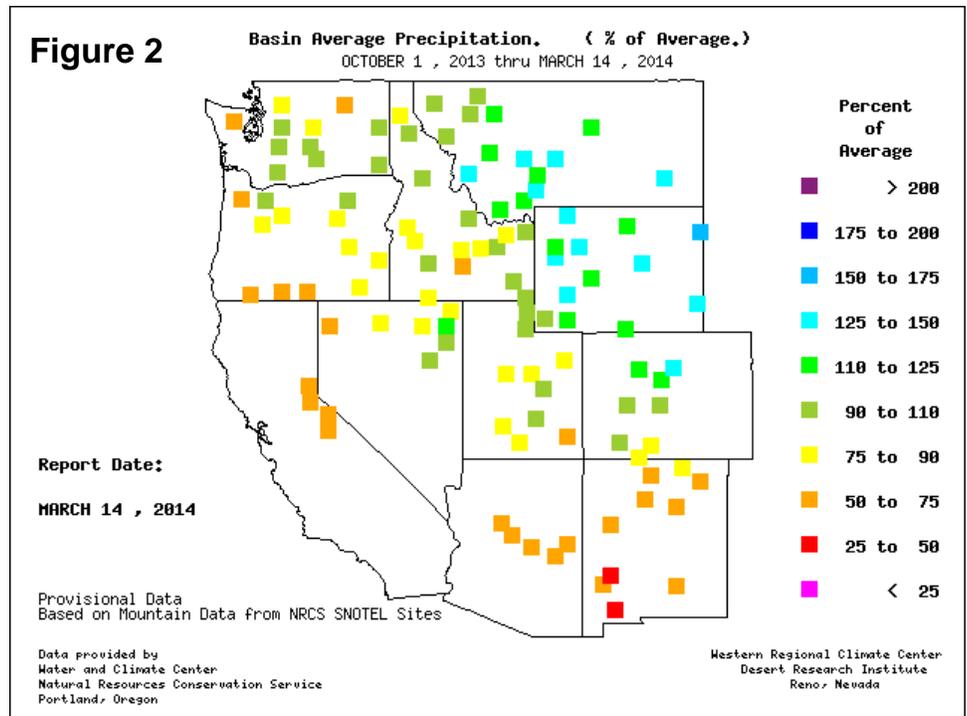
Snowpack and Precipitation

Snowpack increased during February from the northern Cascades to the northern and central Rockies. Very low snowpack values persisted, however, from the southern Cascades to the southern Rockies. By March 14, 2014, snow water content values were less than 75 percent of normal across a broad arc stretching from Oregon and California to New Mexico (figure 1). Utah and Idaho generally formed the dividing line between anemic snowpack to the southwest and abundant snowpack to the northeast. Colorado, Montana, and Wyoming were faring well, with many basins in each state reporting above-average snowpack.

SNOTEL – River Basin Snow Water Content



SNOTEL – River Basin Precipitation



Season-to-date precipitation (October 1, 2013 – March 14, 2014) was below normal in nearly all basins from Oregon and California to New Mexico; near normal across the Intermountain West; and above normal in the northern and central Rockies. Moisture has been especially scarce in southern New Mexico, where precipitation has averaged less than 50 percent of normal in a few basins (figure 2).

Spring and Summer Streamflow Forecasts

By March 1, 2014, projections for spring and summer streamflow were indicating the likelihood of below-normal runoff in most basins south and west of the northern and central Rockies. However, runoff prospects improved during February in Washington, including the northern Cascades. Meanwhile, less than half of the normal runoff can be expected in much of the Sierra Nevada, northern Great Basin, and Southwest (figure 3). In contrast, most basins in the northern and central Rockies—straddling the Continental Divide—can expect above-normal runoff.

Reservoir Storage

On March 1, 2014, reservoir storage as a percent of normal for the date was below average in all Western States except Montana (figure 4). Storage was substantially below average in California, Nevada, New Mexico, and Oregon. For California—nearing the end of a third consecutive year (2011-12, 2012-13, and 2013-14) of sub-par winter precipitation—storage in 154 intrastate reservoirs has been in general decline, relative to normal, since the spring of 2012. By February 28, 2014, California’s storage stood at 65 percent of the long-term average (figure 5).

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, 2014

Percent of 1981-2010 Average

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25

Prepared by:
USDA Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>
Created: 10 Mar 2014 10:45

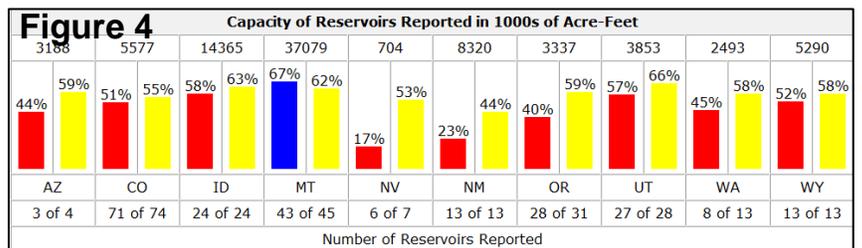
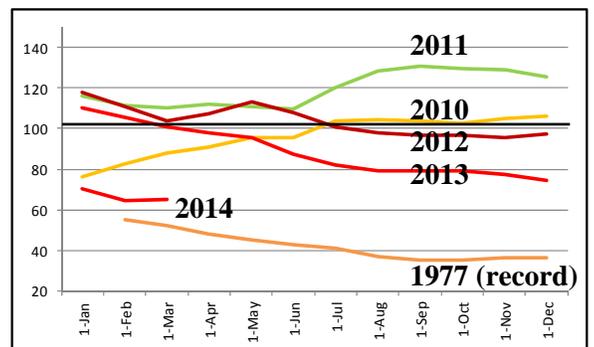
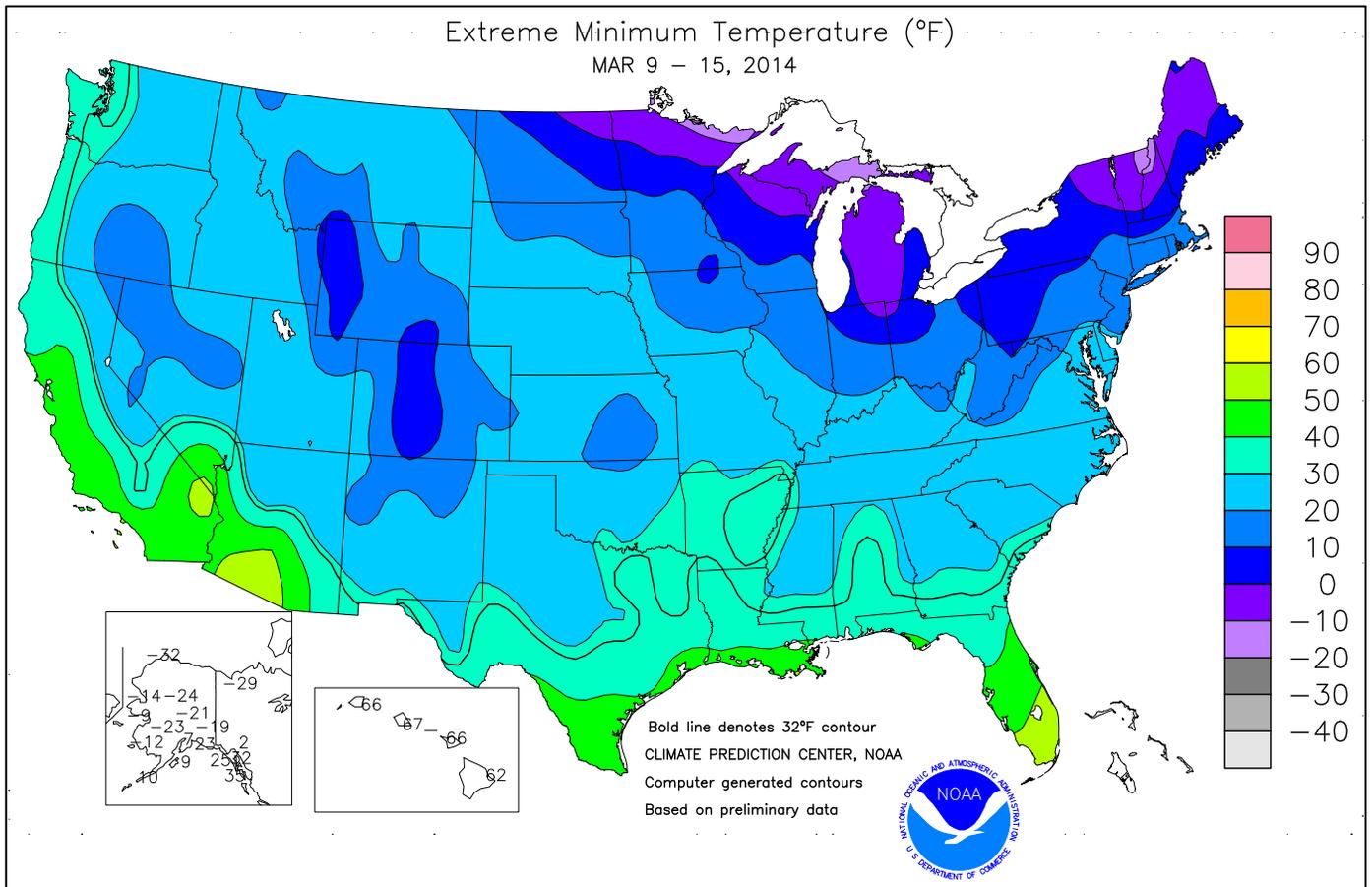
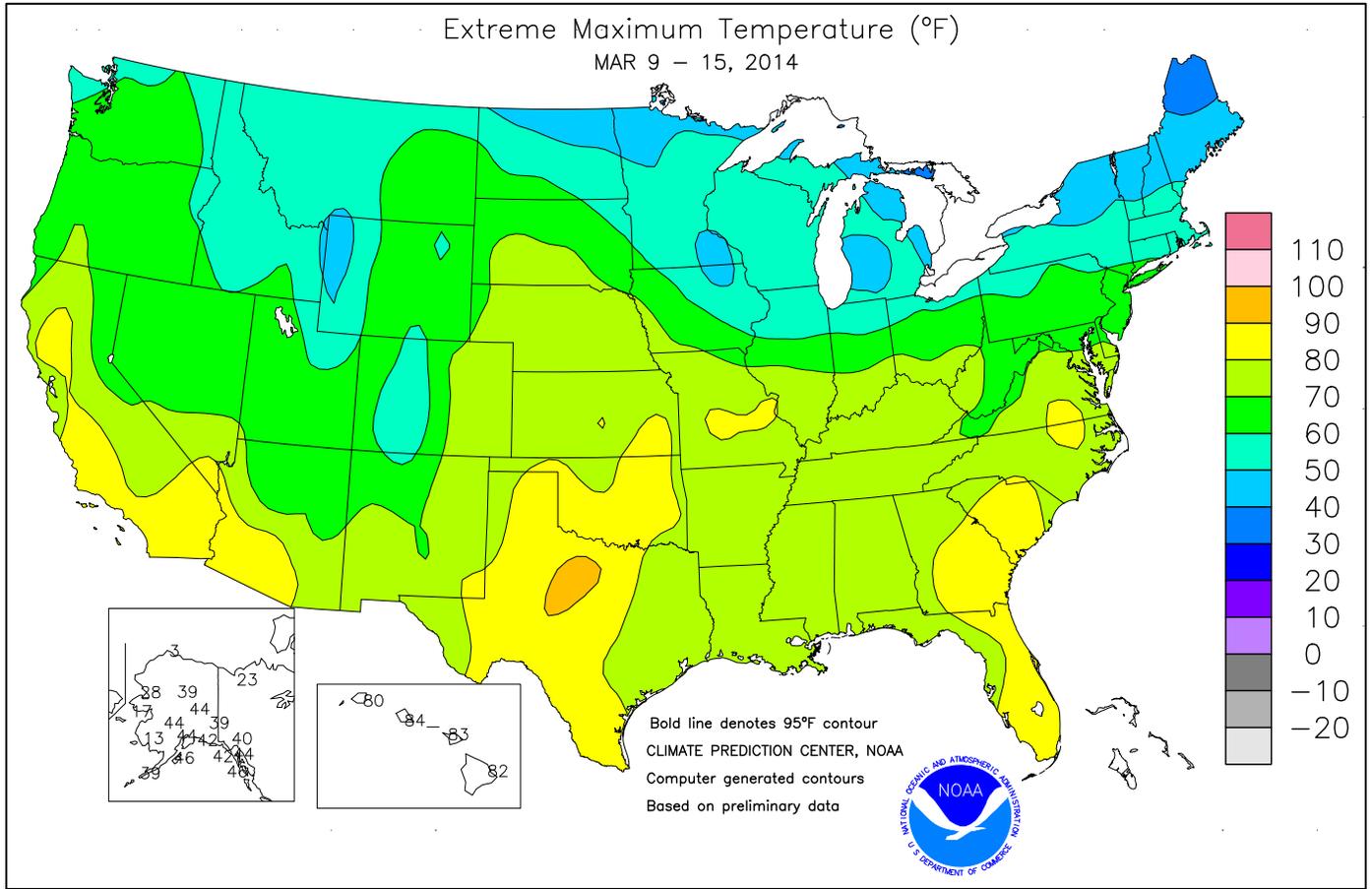


Figure 5

California reservoir storage as a percent of normal for 1977 (record low) and 2010-14.

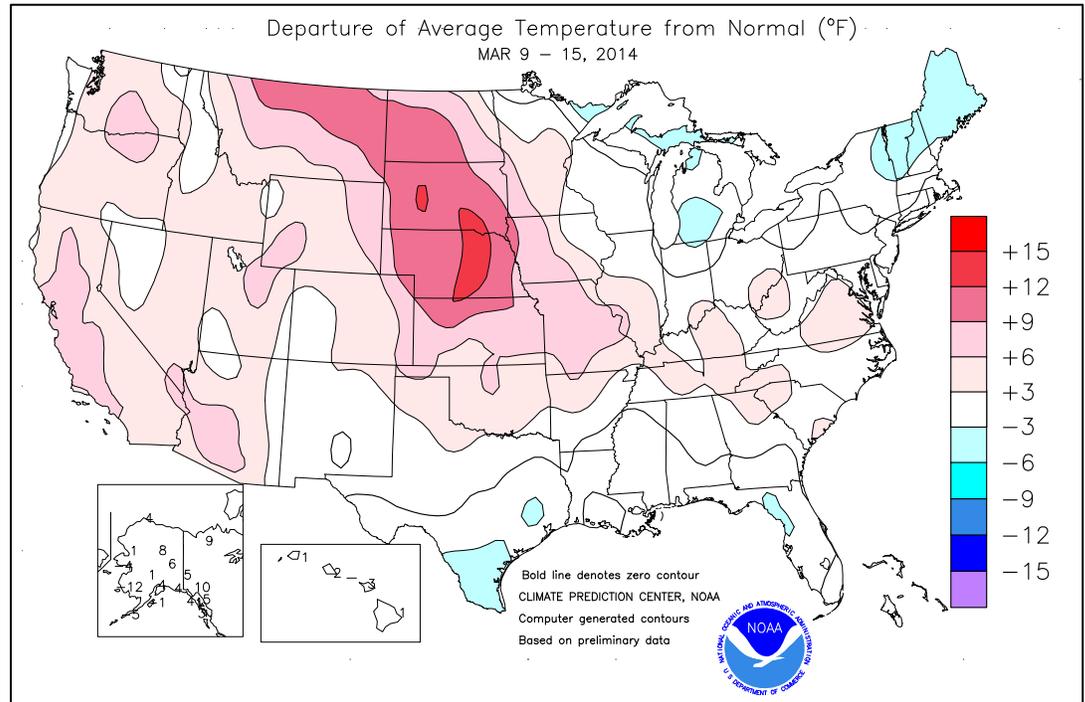




(Continued from front cover) produced heavy snow and gusty winds in **eastern Corn Belt** and the **Northeast**. Before reaching the **Midwest**, the storm also dropped some snow across the **northern Plains**. Later, heavy rain developed from the **southeastern Plains into parts of the South**. The late-week wetness contrasted with ongoing dryness on the **southern High Plains**, where conditions for rangeland, pastures, and winter wheat further declined. In addition, windy conditions resulted in a dust storm on March 11 in **western Texas** and neighboring areas. Elsewhere, only light showers dotted the **southern Atlantic States**, where a limited amount of spring fieldwork was getting underway.

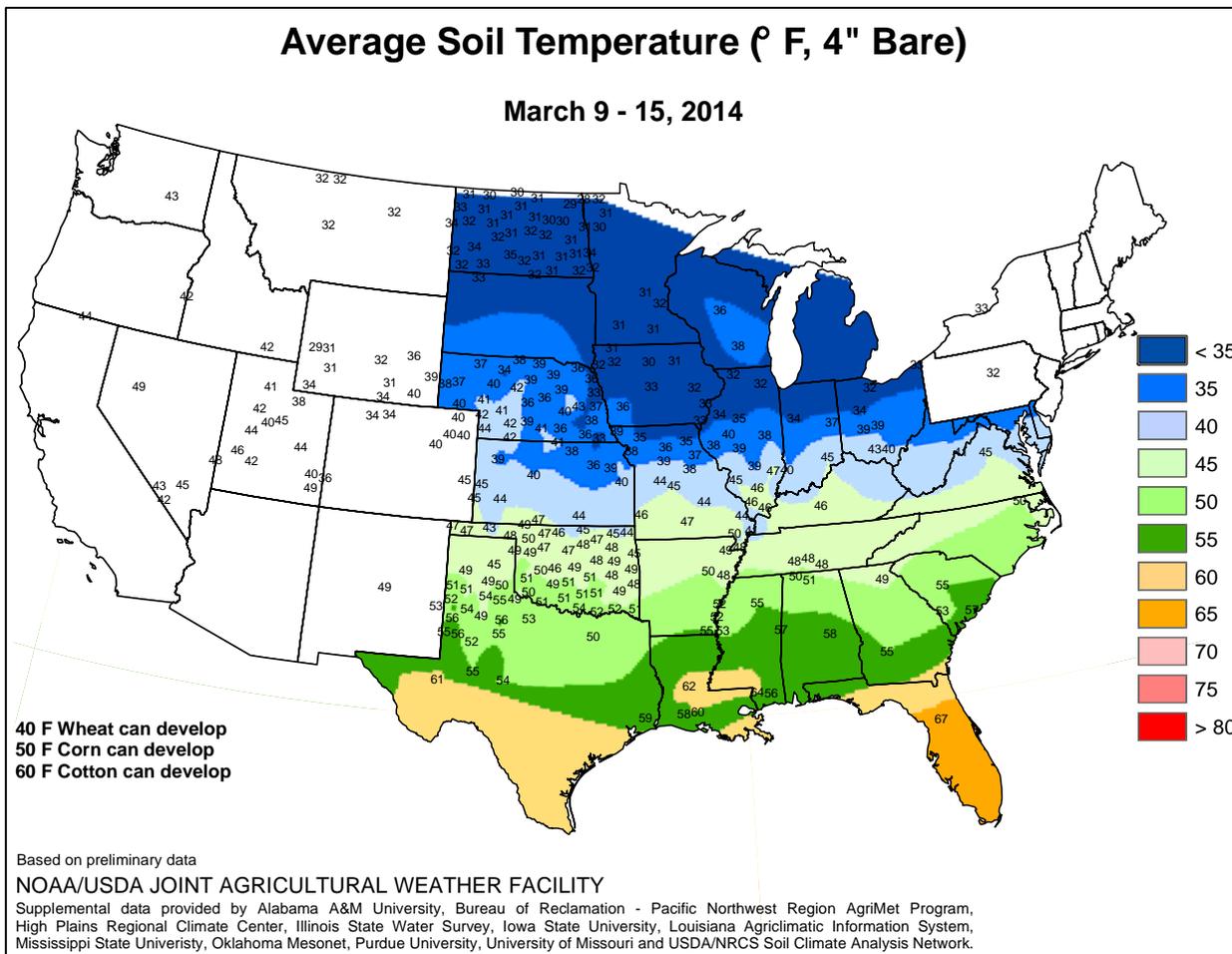
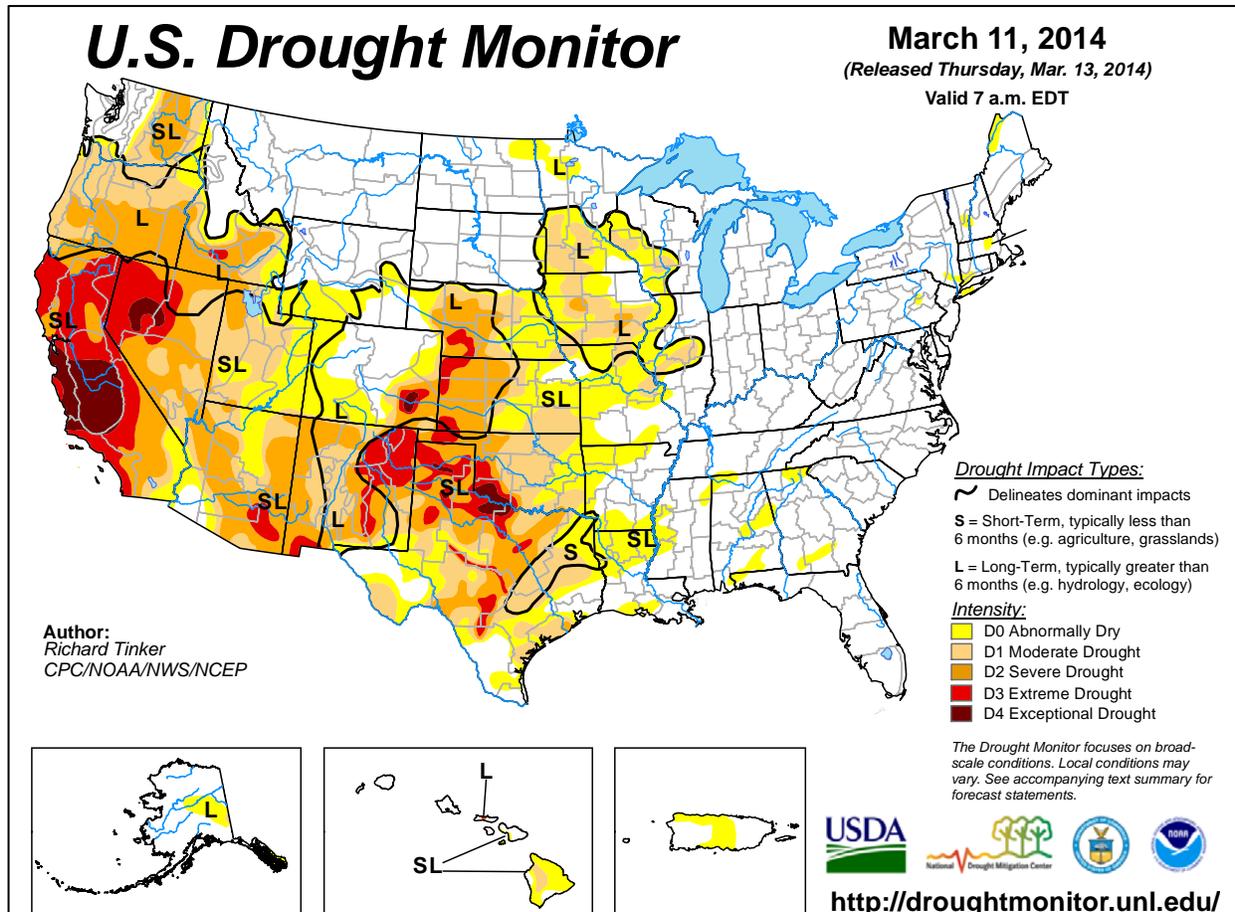
Early in the week, warmth briefly surged northward across the **Plains** and into the **Midwest**. Daily-record highs for March 9 soared to 70°F in **Pierre, SD**, and 72°F in **Broken Bow, NE**, and **Sioux City, IA**. With a high of 40°F on March 9, **Rochester, MN**, experienced its first 40-degree day since November 30. **Rochester's** 98-day spell without 40-degree warmth was its longest since a 122-day cold spell from November 19, 1985 – March 20, 1986. On March 10, **Eau Claire, WI**, and **Minneapolis-St. Paul, MN**, attained the 50-degree mark for the first time since November 16. **Sioux City** achieved another daily-record high (74°F) on March 10, while record-setting highs in **Nebraska** included 78°F in **Lincoln** and 77°F in **Norfolk**. Farther south, 90-degree heat arrived in **Texas**, where **Abilene** posted a record-setting high (92°F) for March 11. On the same date and elsewhere in **Texas**, northerly wind gusts were clocked to 54 mph in **Childress** and **Lubbock**—with widespread visibility reductions to one-half mile or less reported in blowing dust. During the mid-to late-week period, record-setting warmth arrived in **Florida** and the **Pacific Coast States**. **Miami, FL**, collected a daily-record high of 87°F on March 12. Three days later, record-breaking highs for March 15 reached 86°F in **Santa Maria, CA**, and 70°F in **Redmond, OR**. In contrast, frigid weather returned to the **Great Lakes and Northeastern States** in the wake of a departing storm. On March 13, daily-record lows plunged to -15°F in **Pellston, MI**; -4°F in **Toledo, OH**; and -1°F in **Fort Wayne, IN**. A day later, **Montpelier, VT**, posted a daily-record low of -8°F.

Heavy precipitation persisted early in the week across the **Pacific Northwest**, where daily-record amounts for March 9 climbed to 2.58 inches in **Eureka, CA**, and 1.38 inches in **Medford, OR**. Rain also fell in **Deep South Texas**, resulting in a daily-record amount (0.72 inch) for March 9 in **McAllen**. By March 10, snow began to overspread the **northern Plains**, where **Billings, MT**, set daily record for both precipitation (0.30 inch) and snowfall (2.7 inches). Two days later, a late-winter



storm unfolded across the **eastern Corn Belt**. Daily-record snowfall amounts for March 12 included 6.7 inches in **Fort Wayne, IN**, and 6.6 inches in **Detroit, MI**. **Detroit's** season-to-date snowfall climbed to 90.7 inches, second only to a 93.6-inch total in 1880-81. Similarly, **Flint, MI**, moved within 1.1 inches of its all-time seasonal snowfall record, which was set in 1974-75 with 82.9 inches. Elsewhere in **Michigan**, **Muskegon** tied an all-time record with its 57th consecutive day (January 18 – March 15) with at least a foot of snow on the ground (previously, 57 days from January 2 – February 27, 1979). Hefty snowfall totals also occurred in the **Northeast**, where daily-record amounts included 15.2 inches (on March 12) in **Burlington, VT**; 13.8 inches (on March 12) in **Buffalo, NY**; and 9.4 inches (on March 13) in **Caribou, ME**. **Caribou's** 3-day (March 11-13) sum reached 18.8 inches. At week's end, the focus for significant precipitation shifted to the **southeastern Plains**, where daily-record rainfall amounts in **Texas** for March 15 surged to 1.84 inches in **Wichita Falls** and 1.29 inches in **Dallas-Ft. Worth**.

In **Alaska**, widespread precipitation accompanied variable temperatures. Mild weather dominated **eastern Alaska**, while cold conditions overspread the western part of the state. Precipitation was especially heavy in **southeastern Alaska**, where daily-record totals for March 11 included 5.20 inches in **Ketchikan** and 3.97 inches in **Petersburg**. Weekly totals in those two locations climbed to 10.16 and 7.89 inches, respectively. On the **Alaskan mainland**, record-setting snowfall totals for March 14 included 7.1 inches in **Nome** and 5.7 inches in **Anchorage**. However, mostly dry weather covered **interior Alaska**, where **Bettles** notched a daily-record high of 39°F on March 14. Farther south, locally heavy rain fell in **Hawaii's** windward locations, especially early and late in the week. On the **Big Island**, **Hilo** received 3.68 inches of rain on March 9-10. Heavy showers returned toward week's end, when 24-hour totals included 3.81 inches (on March 14-15) at **Kilohana, Kauai**, and 4.96 inches (on March 15-16) at **Honokaa, on the Big Island**.



National Weather Data for Selected Cities

Weather Data for the Week Ending March 15, 2014

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				
																90 AND ABOVE	82 AND BELOW	.01 INCH OF MORE	.50 INCH OF MORE	
AL BIRMINGHAM	68	42	78	32	55	2	0.17	-1.21	0.11	0.90	32	7.83	63	83	37	0	1	3	0	
HUNTSVILLE	67	39	76	30	53	2	0.04	-1.53	0.04	0.82	25	10.69	78	80	49	0	1	1	0	
MOBILE	69	45	79	32	57	-2	0.69	-0.98	0.56	1.32	38	8.43	59	95	62	0	1	2	1	
AK MONTGOMERY	73	43	79	34	58	1	0.73	-0.78	0.64	1.58	49	9.25	67	91	37	0	0	2	1	
ANCHORAGE	35	21	44	7	28	4	0.40	0.25	0.16	0.46	139	2.48	142	80	62	0	7	4	0	
BARROW	-6	-17	3	-32	-12	3	0.02	0.02	0.01	0.02	200	0.86	358	83	70	0	7	2	0	
FAIRBANKS	29	-2	44	-21	14	6	0.00	-0.06	0.00	0.00	0	0.62	60	66	54	0	7	0	0	
JUNEAU	41	34	44	32	38	6	1.60	0.76	0.91	2.49	132	14.62	137	93	86	0	1	7	1	
KODIAK	38	24	46	9	31	-1	3.19	2.02	1.08	3.22	127	24.47	149	87	72	0	4	5	3	
NOME	10	-2	17	-9	4	-4	0.40	0.29	0.27	0.40	148	2.57	132	78	69	0	7	5	0	
AZ FLAGSTAFF	55	26	59	20	40	5	0.01	-0.64	0.01	1.24	87	1.84	30	69	20	0	7	1	0	
PHOENIX	82	57	86	54	70	8	0.00	-0.27	0.00	0.99	177	0.99	46	37	22	0	0	0	0	
PRESCOTT	65	35	67	28	50	7	0.00	-0.48	0.00	0.56	52	0.73	16	55	15	0	2	0	0	
TUCSON	77	52	82	47	64	6	0.00	-0.21	0.00	0.58	126	0.59	25	44	21	0	0	0	0	
AR FORT SMITH	69	39	81	30	54	3	1.20	0.32	1.20	2.25	124	4.02	59	85	39	0	1	1	1	
LITTLE ROCK	66	41	77	37	53	1	0.37	-0.66	0.37	2.66	127	8.22	91	84	39	0	0	1	1	
CA BAKERSFIELD	77	49	83	45	63	6	0.00	-0.33	0.00	0.04	6	0.48	15	55	34	0	0	0	0	
FRESNO	76	49	80	45	63	8	0.00	-0.53	0.00	0.02	2	2.69	49	67	43	0	0	0	0	
LOS ANGELES	75	56	85	53	66	8	0.00	-0.62	0.00	0.35	25	3.14	42	70	38	0	0	0	0	
REDDING	72	46	80	36	59	7	0.66	-0.59	0.43	3.39	125	11.89	81	75	47	0	0	2	0	
SACRAMENTO	74	50	81	45	62	8	0.12	-0.58	0.12	0.60	38	4.89	55	79	27	0	0	1	0	
SAN DIEGO	72	58	83	56	65	5	0.00	-0.55	0.00	1.27	110	2.28	42	64	45	0	0	0	0	
SAN FRANCISCO	71	55	76	51	63	9	0.00	-0.81	0.00	0.43	24	4.20	41	73	58	0	0	0	0	
STOCKTON	74	46	80	40	60	6	0.01	-0.54	0.01	0.60	50	3.68	58	80	52	0	0	1	0	
CO ALAMOSA	52	19	63	13	36	5	0.00	-0.08	0.00	0.40	235	0.52	83	83	35	0	7	0	0	
CO SPRINGS	60	27	73	16	43	7	0.00	-0.20	0.00	0.32	84	1.21	120	62	13	0	6	0	0	
DENVER INTL	61	29	73	20	45	8	0.01	-0.21	0.01	0.62	148	1.75	199	62	21	0	5	1	0	
GRAND JUNCTION	56	29	62	23	42	0	0.00	-0.22	0.00	0.07	16	1.45	95	61	30	0	6	0	0	
PUEBLO	64	30	77	20	47	7	0.00	-0.18	0.00	0.64	194	1.37	149	62	24	0	3	0	0	
CT BRIDGEPORT	47	29	64	19	38	0	0.34	-0.55	0.27	0.34	19	7.31	86	71	54	0	3	3	0	
HARTFORD	44	26	56	15	35	-1	0.33	-0.51	0.33	0.33	19	7.70	90	70	49	0	7	1	0	
DC WASHINGTON	60	36	72	23	48	3	0.04	-0.80	0.04	0.82	47	7.42	98	58	27	0	2	1	0	
DE WILMINGTON	55	31	69	21	43	2	0.24	-0.66	0.24	0.59	32	9.17	113	69	33	0	3	1	0	
FL DAYTONA BEACH	75	50	82	42	63	-1	0.16	-0.69	0.16	0.20	11	6.78	89	90	38	0	0	1	0	
JACKSONVILLE	75	45	82	35	60	0	0.26	-0.61	0.26	1.41	79	11.12	129	96	36	0	0	1	0	
KEY WEST	78	67	81	63	72	-1	1.15	0.77	1.15	2.04	262	9.64	214	86	63	0	0	1	1	
MIAMI	81	64	87	60	73	1	0.01	-0.49	0.01	0.49	47	3.56	71	80	47	0	0	1	0	
ORLANDO	77	52	82	45	65	-2	0.01	-0.78	0.01	0.38	24	5.41	85	83	38	0	0	1	0	
PENSACOLA	70	49	77	38	60	0	0.12	-1.36	0.07	1.43	47	12.76	98	84	57	0	0	2	0	
TALLAHASSEE	76	42	82	33	59	-1	0.30	-1.22	0.30	2.55	81	10.60	81	85	33	0	0	1	0	
TAMPA	74	55	77	48	65	-2	0.28	-0.39	0.28	1.47	101	6.42	100	84	48	0	0	1	0	
GA WEST PALM BEACH	79	62	86	57	70	0	0.18	-0.58	0.18	0.44	30	11.91	153	79	55	0	0	1	0	
ATHENS	71	41	80	28	56	4	0.40	-0.78	0.40	1.58	63	10.21	88	75	31	0	1	1	0	
ATLANTA	68	43	78	34	56	3	0.28	-0.99	0.17	0.93	35	8.09	65	75	41	0	0	3	0	
AUGUSTA	73	38	82	26	56	1	0.16	-0.91	0.16	0.71	31	6.92	64	84	33	0	2	1	0	
COLUMBUS	71	43	78	33	57	1	0.35	-1.00	0.22	0.68	24	9.00	75	85	33	0	0	2	0	
MACON	72	40	80	27	56	1	0.19	-0.96	0.12	0.75	30	8.58	71	91	31	0	2	2	0	
SAVANNAH	74	45	83	33	59	1	0.33	-0.43	0.33	1.56	99	5.67	67	85	37	0	0	1	0	
HI HILO	80	66	82	62	73	1	6.16	3.09	2.07	6.65	108	14.88	60	95	84	0	0	7	3	
HONOLULU	82	70	84	67	76	2	0.71	0.25	0.71	2.40	229	6.08	99	78	70	0	0	1	1	
KAHULUI	82	69	83	66	75	2	0.47	-0.04	0.31	2.02	189	8.67	121	88	80	0	0	6	0	
LIHUE	78	68	80	66	73	1	0.45	-0.36	0.31	1.10	64	11.49	120	89	81	0	0	4	0	
ID BOISE	55	36	59	30	46	3	0.36	0.06	0.23	1.27	202	4.30	136	85	58	0	2	3	0	
LEWISTON	59	38	62	31	49	5	0.31	0.09	0.13	0.61	130	3.02	118	74	54	0	1	3	0	
POCATELLO	55	30	61	23	42	6	0.12	-0.18	0.12	1.35	211	3.06	110	82	50	0	5	1	0	
IL CHICAGO/O'HARE	44	26	53	11	35	0	0.62	0.12	0.49	1.29	130	6.59	151	73	52	0	4	2	0	
MOLINE	49	26	58	19	38	2	0.09	-0.48	0.06	0.46	41	4.47	106	86	55	0	6	2	0	
PEORIA	51	29	60	19	40	3	0.57	-0.02	0.35	1.05	88	5.91	135	83	54	0	4	2	0	
ROCKFORD	43	25	50	13	34	0	0.08	-0.36	0.05	0.58	67	4.32	120	82	59	0	5	3	0	
SPRINGFIELD	58	30	73	22	44	5	1.07	0.39	0.56	1.22	89	6.65	139	85	43	0	4	2	2	
IN EVANSVILLE	62	33	75	24	48	4	0.15	-0.79	0.15	1.01	52	4.96	62	84	49	0	3	1	0	
FORT WAYNE	44	23	54	-1	33	-3	0.91	0.33	0.91	1.37	115	7.45	144	87	60	0	5	1	1	
INDIANAPOLIS	54	28	68	15	41	1	1.29	0.54	1.29	1.58	102	6.36	99	88	44	0	4	1	1	
SOUTH BEND	44	23	53	2	33	-2	0.49	-0.08	0.34	0.96	83	6.90	128	83	60	0	4	4	0	
IA BURLINGTON	51	29	59	21	40	2	0.38	-0.23	0.28	0.51	41	4.96	122	90	54	0	4	2	0	
CEDAR RAPIDS	48	27	58	16	38	4	0.00	-0.42	0.00	0.02	2	1.77	60	86	55	0	5	0	0	
DES MOINES	55	32	70	22	43	7	0.12	-0.29	0.12	0.26	33	2.60	86	76	51	0	4	1	0	
DUBUQUE	41	25	46	11																

Weather Data for the Week Ending March 15, 2014

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	
WICHITA	69	32	79	19	51	7	0.20	-0.39	0.20	0.40	34	1.39	46	68	39	0	3	1	0	
KY JACKSON	62	35	77	18	48	3	0.30	-0.72	0.30	2.91	133	10.52	112	68	29	0	3	1	0	
LEXINGTON	60	34	75	18	47	3	0.11	-0.91	0.11	1.55	72	8.59	98	74	50	0	2	1	0	
LOUISVILLE	63	35	77	22	49	4	0.06	-0.96	0.05	1.00	47	7.16	83	70	30	0	3	2	0	
PADUCAH	64	36	75	25	50	4	0.00	-0.94	0.00	1.57	77	6.75	72	83	38	0	3	0	0	
LA BATON ROUGE	72	49	79	36	61	2	0.66	-0.43	0.51	1.37	58	10.63	78	90	46	0	0	2	1	
LAKE CHARLES	70	50	73	38	60	0	0.68	-0.10	0.39	1.37	86	8.16	78	96	58	0	0	2	0	
NEW ORLEANS	70	52	77	42	61	0	0.25	-0.88	0.25	0.74	30	9.77	71	90	66	0	0	1	0	
SHREVEPORT	68	47	79	34	58	1	1.09	0.15	1.01	1.63	80	5.07	47	83	48	0	0	2	1	
ME CARIBOU	27	8	36	-5	18	-4	1.09	0.53	0.52	1.12	97	7.34	119	85	56	0	7	5	1	
PORTLAND	38	22	48	5	30	-2	1.05	0.17	0.88	1.12	62	9.44	104	80	51	0	6	4	1	
MD BALTIMORE	57	32	67	20	44	2	0.10	-0.81	0.10	1.02	53	8.31	99	56	37	0	3	1	0	
MA BOSTON	47	28	60	16	37	0	0.46	-0.37	0.41	0.46	26	7.83	87	76	38	0	4	4	0	
WORCESTER	41	22	52	9	32	0	0.62	-0.31	0.53	0.63	33	7.81	86	82	41	0	6	2	1	
MI ALPENA	40	11	54	-4	26	0	0.07	-0.37	0.07	0.27	30	2.80	70	85	46	0	7	1	0	
GRAND RAPIDS	41	20	51	3	30	-2	0.21	-0.28	0.18	0.52	54	6.27	139	80	49	0	5	2	0	
HOUGHTON LAKE	38	12	50	-6	25	-2	0.02	-0.39	0.02	0.24	30	3.24	88	84	56	0	7	1	0	
LANSING	40	17	50	-5	29	-3	0.59	0.16	0.51	0.95	112	4.87	125	81	54	0	5	2	1	
MUSKEGON	39	20	45	3	30	-2	0.00	-0.46	0.00	0.35	38	5.48	116	75	61	0	5	0	0	
MN TRVERSE CITY	39	15	53	-2	27	-2	0.10	-0.26	0.10	0.12	17	4.57	83	84	50	0	7	1	0	
DULUTH	38	17	52	5	27	4	0.07	-0.25	0.07	0.21	35	3.05	120	74	55	0	7	1	0	
INT'L FALLS	36	8	49	-12	22	1	0.01	-0.16	0.01	0.17	52	1.94	107	83	46	0	7	1	0	
MNNEAPOLIS	42	23	53	17	33	3	0.00	-0.35	0.00	0.02	3	2.85	114	78	61	0	7	0	0	
ROCHESTER	38	21	46	8	30	2	0.28	-0.05	0.28	0.90	148	3.66	159	77	67	0	6	1	0	
ST. CLOUD	41	20	48	13	30	4	0.00	-0.25	0.00	0.11	24	2.61	144	80	50	0	7	0	0	
MS JACKSON	69	42	75	31	55	-1	0.67	-0.55	0.56	1.42	56	8.47	67	92	44	0	1	2	1	
MERIDIAN	69	41	76	29	55	-1	0.51	-1.06	0.31	1.23	38	10.58	73	95	49	0	1	2	0	
TUPELO	68	39	76	30	54	3	0.07	-1.39	0.04	0.90	29	7.00	54	83	48	0	1	4	0	
MO COLUMBIA	66	34	81	24	50	8	0.50	-0.17	0.39	0.55	39	2.81	53	78	28	0	3	2	0	
KANSAS CITY	67	34	75	22	50	8	1.03	0.51	0.59	1.32	125	3.07	87	70	28	0	3	2	1	
SAINT LOUIS	68	37	83	29	52	8	1.02	0.24	0.66	1.34	84	4.49	75	69	37	0	2	2	1	
SPRINGFIELD	66	34	79	30	50	6	0.00	-0.78	0.00	0.51	32	2.30	39	77	45	0	3	0	0	
MT BILLINGS	52	34	64	29	43	7	0.35	0.14	0.25	0.40	98	3.48	194	75	39	0	4	2	0	
BUTTE	44	23	49	13	33	4	0.38	0.21	0.35	0.76	230	1.62	122	88	42	0	7	3	0	
CUT BANK	49	31	56	20	40	11	0.17	0.07	0.07	0.17	85	0.77	89	86	43	0	4	3	0	
GLASGOW	51	29	63	25	40	11	0.06	-0.02	0.06	0.30	176	0.65	83	84	55	0	6	1	0	
GREAT FALLS	51	30	61	21	41	9	0.73	0.53	0.56	0.84	210	3.25	204	87	39	0	6	3	1	
HAVRE	52	31	57	25	42	11	0.00	-0.14	0.00	0.26	93	0.92	83	77	55	0	5	0	0	
MISSOULA	50	31	55	23	41	5	0.45	0.26	0.40	1.10	268	4.45	199	88	67	0	4	3	0	
NE GRAND ISLAND	65	32	77	25	49	13	0.00	-0.41	0.00	0.01	1	0.66	33	70	31	0	4	0	0	
LINCOLN	66	28	78	21	47	10	0.02	-0.42	0.02	0.05	6	0.91	42	70	35	0	4	1	0	
NORFOLK	62	31	77	26	46	11	0.09	-0.30	0.09	0.23	31	0.79	38	72	40	0	5	1	0	
NORTH PLATTE	63	25	73	20	44	8	0.02	-0.22	0.02	0.06	13	1.11	80	83	26	0	7	1	0	
OMAHA	63	30	75	24	46	9	0.03	-0.40	0.02	0.08	10	0.94	39	77	41	0	5	2	0	
SCOTTSBLUFF	59	27	71	20	43	7	0.02	-0.20	0.01	0.30	68	1.90	122	80	41	0	6	2	0	
VALENTINE	59	29	74	24	44	11	0.00	-0.22	0.00	0.31	72	0.97	80	82	48	0	5	0	0	
NV ELY	55	22	61	15	38	3	0.00	-0.24	0.00	0.10	20	1.83	92	73	26	0	7	0	0	
LAS VEGAS	75	53	81	50	64	7	0.00	-0.15	0.00	0.00	0	0.30	19	25	15	0	0	0	0	
RENO	62	35	70	28	49	6	0.00	-0.21	0.00	0.08	17	1.15	44	51	29	0	3	0	0	
WINNEMUCCA	58	25	63	19	41	1	0.12	-0.05	0.12	0.52	144	2.13	118	77	42	0	6	1	0	
NH CONCORD	40	20	51	5	30	-1	1.04	0.39	0.81	1.06	79	8.45	126	83	46	0	7	3	1	
NJ NEWARK	53	31	67	19	42	2	0.26	-0.68	0.26	0.27	14	7.99	90	54	39	0	3	1	0	
NM ALBUQUERQUE	60	34	68	30	47	0	0.14	0.00	0.14	0.22	81	0.40	33	62	22	0	3	1	0	
NY ALBANY	39	22	52	11	31	-2	0.73	0.08	0.65	0.73	55	6.52	109	72	52	0	7	2	1	
BINGHAMTON	39	19	55	6	29	-2	1.01	0.39	0.97	1.04	79	6.73	106	75	62	0	6	4	1	
BUFFALO	40	19	54	5	30	-2	0.99	0.36	0.89	1.20	92	7.98	116	85	59	0	5	4	1	
ROCHESTER	43	22	55	8	33	1	0.18	-0.36	0.10	0.28	25	3.90	71	74	62	0	5	4	0	
SYRACUSE	39	20	50	7	29	-2	3.58	2.95	3.47	3.77	299	9.32	156	81	59	0	6	3	1	
NC ASHEVILLE	64	31	75	22	47	2	0.00	-1.05	0.00	0.78	35	6.13	61	78	40	0	4	0	0	
CHARLOTTE	69	36	78	26	53	2	0.05	-0.97	0.05	2.33	108	9.25	95	74	24	0	3	1	0	
GREENSBORO	65	35	76	25	50	3	0.30	-0.57	0.30	2.84	155	9.06	107	66	25	0	3	1	0	
HATTERAS	59	41	67	27	50	-1	0.02	-1.11	0.02	2.76	118	12.85	106	87	52	0	1	1	0	
RALEIGH	67	36	79	24	51	2	0.35	-0.61	0.35	2.98	147	7.94	83	73	30	0	2	1	0	
WILMINGTON	70	42	79	27	56	3	0.04	-0.95	0.04	2.22	106	7.69	75	83	26	0	2	1	0	
ND BISMARCK	50	28	62	18	39	12	0.04	-0.11	0.04	0.14	45	0.71	56	82	57	0	6	1	0	
DICKINSON	49	27	61	15	38	9	0.11	0.03	0.07	0.15	100	0.32	34	85	43	0	6	2	0	
FARGO	39	20	58	6	30	6	0.01	-0.22	0.01	0.06	13	0.94	52	85	62	0	6	1	0	
GRAND FORKS	36	16	48	1	26	3	0.00	-0.17	0.00	0.22	65	1.48	93	90	65	0	7	0	0	
JAMESTOWN	42	26	57	11	34	9	0.00	-0.17	0.00	0.00	0	0.39	27	91	61	0	5	0	0	
WILLISTON	49	28	61	20	38	12	0.06	-0.08	0.06	0.19	70	0.63	52	82	57	0	7	1	0	
OH AKRON-CANTON	49	24	65	7	36	0	0.48	-0.21	0.43	0.74	52	4.25	69	81	59	0	5	3	0	
CINCINNATI	58	32	74	17	45	3	0.37	-0.47	0.37	0.94	54	6.48	87	74	47	0	3	1	0	
CLEVELAND	48	26	63	14	37	1	0.60	-0.01	0.57	0.85	66	5.88	97	75	51	0	5	3	1	
COLUMBUS	54	30	69	14	42	2	0.73	0.11	0.71	0.95	74	5.74	96	69	53	0	4	2	1	
DAYTON	54	29	69	10	42	4	0.84	0.17	0.79	1.08	79	6.06	97	82	45	0	3	3	1	
MANSFIELD	48	23	64	3	35	0	0.67	0.00	0.65	0.94	70	5.27	86	85	52	0	5	3	1	

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending March 15, 2014

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	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	43	20	53	-4	32	-3	0.48	-0.04	0.48	0.88	82	8.06	165	87	60	0	5	1	0		
OK YOUNGSTOWN	47	21	63	4	34	-1	0.55	-0.09	0.51	0.75	58	5.44	96	78	56	0	5	2	1		
OK OKLAHOMA CITY	70	39	82	28	54	5	0.49	-0.17	0.49	0.85	63	1.28	30	71	25	0	2	1	0		
OR TULSA	70	40	82	26	55	5	0.27	-0.52	0.27	1.29	80	1.74	34	72	38	0	1	1	0		
OR ASTORIA	56	41	61	34	48	2	1.99	0.27	0.93	6.15	164	19.91	94	92	80	0	0	5	2		
OR BURNS	56	27	62	19	41	5	0.43	0.14	0.27	0.76	121	2.88	99	91	62	0	6	2	0		
OR EUGENE	62	38	68	30	50	4	1.12	-0.25	0.89	3.03	101	13.58	80	93	77	0	2	3	1		
OR MEDFORD	66	38	74	30	52	6	1.45	1.02	1.29	2.33	243	7.66	139	87	46	0	1	2	1		
OR PENDLETON	61	38	69	30	50	6	0.69	0.41	0.32	1.11	188	3.47	106	84	55	0	1	3	0		
OR PORTLAND	61	40	65	33	51	5	0.97	0.10	0.65	3.48	180	11.30	101	93	71	0	0	3	1		
OR SALEM	62	38	67	30	50	4	0.59	-0.41	0.36	3.98	178	12.87	98	90	74	0	2	3	0		
PA ALLENTOWN	48	26	60	15	37	0	0.45	-0.34	0.45	0.46	28	9.44	120	65	47	0	6	1	0		
PA ERIE	44	21	55	5	33	-1	0.86	0.21	0.66	1.33	100	7.32	119	77	62	0	5	4	1		
PA MIDDLETOWN	52	29	67	18	40	1	0.22	-0.52	0.22	0.33	21	7.04	96	70	34	0	5	1	0		
PA PHILADELPHIA	55	32	69	21	44	3	0.29	-0.56	0.28	0.66	38	9.33	117	59	32	0	3	2	0		
PA PITTSBURGH	51	25	67	10	38	0	0.68	-0.02	0.65	0.81	56	5.24	80	76	41	0	5	3	1		
PA WILKES-BARRE	46	24	62	12	35	-1	0.21	-0.35	0.21	0.21	18	5.08	89	70	40	0	6	1	0		
PA WILLIAMSPORT	48	24	65	14	36	0	0.71	0.03	0.70	0.71	50	4.51	66	77	51	0	7	2	1		
RI PROVIDENCE	49	28	62	12	39	2	0.56	-0.38	0.47	0.56	29	8.96	92	76	45	0	5	3	0		
SC BEAUFORT	72	45	83	34	58	2	0.33	-0.45	0.33	1.07	66	4.93	56	86	33	0	0	1	0		
SC CHARLESTON	74	46	84	33	60	4	0.18	-0.71	0.18	1.76	96	6.61	74	78	29	0	0	1	0		
SC COLUMBIA	74	40	84	28	57	3	0.01	-1.03	0.01	2.01	92	8.33	78	77	30	0	2	1	0		
SC GREENVILLE	70	39	78	28	54	4	0.10	-1.17	0.10	2.10	78	8.34	74	67	26	0	2	1	0		
SD ABERDEEN	47	25	60	14	36	8	0.04	-0.21	0.03	0.37	79	0.81	57	92	67	0	6	2	0		
SD HURON	53	28	65	20	41	11	0.16	-0.16	0.16	0.38	63	0.95	58	86	46	0	5	1	0		
SD RAPID CITY	58	27	73	22	42	9	0.22	0.03	0.19	0.50	135	0.97	81	80	38	0	6	2	0		
SD SIOUX FALLS	50	29	64	23	40	10	0.11	-0.22	0.08	0.29	48	1.28	79	86	68	0	6	2	0		
TN BRISTOL	62	30	71	21	46	1	0.06	-0.85	0.06	1.20	62	6.26	71	76	28	0	4	1	0		
TN CHATTANOOGA	69	38	78	30	53	3	0.00	-1.44	0.00	0.34	11	7.93	60	79	42	0	2	0	0		
TN KNOXVILLE	64	37	74	26	51	3	0.08	-1.12	0.08	1.02	40	9.08	82	77	36	0	3	1	0		
TN MEMPHIS	66	42	77	33	54	2	0.05	-1.17	0.05	2.45	96	10.57	95	81	42	0	0	1	0		
TN NASHVILLE	66	38	79	30	52	4	0.05	-1.08	0.05	2.46	104	10.16	101	75	33	0	1	1	0		
TX ABILENE	72	41	92	28	57	2	0.61	0.31	0.61	0.64	98	1.13	41	67	40	1	2	1	1		
TX AMARILLO	68	33	79	27	51	5	0.00	-0.22	0.00	0.09	20	0.48	30	57	15	0	3	0	0		
TX AUSTIN	70	45	79	35	58	-2	0.18	-0.33	0.12	1.36	120	2.45	49	82	54	0	0	3	0		
TX BEAUMONT	70	52	77	43	61	0	0.28	-0.53	0.28	1.05	63	7.77	73	93	53	0	0	1	0		
TX BROWNSVILLE	74	54	82	49	64	-4	0.70	0.55	0.52	1.29	391	2.05	71	96	72	0	0	2	1		
TX CORPUS CHRISTI	70	54	85	45	62	-3	0.57	0.18	0.48	1.43	163	2.34	54	88	66	0	0	2	0		
TX DEL RIO	73	51	86	42	62	0	0.20	0.01	0.19	0.22	50	0.44	22	79	43	0	0	2	0		
TX EL PASO	70	43	75	35	56	0	0.02	-0.04	0.02	0.18	129	0.18	18	46	18	0	0	1	0		
TX FORT WORTH	71	45	86	34	58	2	1.29	0.56	1.29	1.39	88	2.13	36	77	38	0	0	1	1		
TX GALVESTON	65	56	70	50	60	-3	0.15	-0.45	0.15	1.49	119	4.54	57	96	73	0	0	1	0		
TX HOUSTON	69	49	75	38	59	-2	1.00	0.28	0.56	2.23	145	5.58	68	83	63	0	0	2	1		
TX LUBBOCK	71	32	83	24	52	2	0.00	-0.14	0.00	0.01	3	0.17	11	55	19	0	4	0	0		
TX MIDLAND	72	40	85	31	56	1	0.09	-0.01	0.09	0.09	38	0.35	26	59	25	0	2	1	0		
TX SAN ANGELO	75	41	90	28	58	2	0.00	-0.22	0.00	0.02	4	0.08	3	68	36	1	2	0	0		
TX SAN ANTONIO	71	49	81	38	60	-1	0.32	-0.09	0.28	0.63	69	1.28	30	85	46	0	0	3	0		
TX VICTORIA	69	49	78	36	59	-3	0.20	-0.30	0.16	0.95	90	2.61	47	90	68	0	0	2	0		
TX WACO	70	42	80	26	56	-1	0.37	-0.22	0.36	0.42	32	1.18	21	86	49	0	1	2	0		
TX WICHITA FALLS	71	40	88	32	56	3	1.84	1.34	1.84	1.94	185	2.29	61	68	43	0	1	1	1		
UT SALT LAKE CITY	60	37	66	31	49	7	0.05	-0.36	0.04	0.39	46	3.16	89	69	26	0	1	2	0		
VT BURLINGTON	35	13	44	-6	24	-4	0.89	0.42	0.64	0.93	99	5.21	108	82	50	0	7	5	1		
VA LYNCHBURG	65	35	79	26	50	6	0.23	-0.64	0.23	1.23	67	8.31	98	53	22	0	2	1	0		
VA NORFOLK	64	38	78	25	51	4	0.20	-0.73	0.20	1.19	61	7.49	81	69	30	0	3	1	0		
VA RICHMOND	65	36	80	23	51	5	0.07	-0.87	0.07	0.81	41	7.12	84	61	36	0	3	1	0		
VA ROANOKE	63	37	75	24	50	5	0.01	-0.85	0.01	1.26	70	7.53	93	49	33	0	3	1	0		
WA WASH/DULLES	56	31	65	18	43	2	0.05	-0.75	0.04	0.93	56	7.43	99	61	38	0	4	2	0		
WA OLYMPIA	59	36	64	29	47	4	1.27	0.04	0.53	6.39	234	19.43	118	96	81	0	3	5	1		
WA QUILLAYUTE	53	38	60	31	46	3	3.40	0.78	1.87	10.10	173	32.67	103	100	85	0	1	5	2		
WA SEATTLE-TACOMA	59	44	67	38	51	5	1.60	0.73	0.80	6.55	345	16.36	146	90	72	0	0	4	1		
WA SPOKANE	52	33	56	29	43	5	0.71	0.36	0.37	2.48	326	5.30	130	87	52	0	4	3	0		
WA YAKIMA	63	34	66	24	48	7	0.00	-0.14	0.00	0.57	178	2.30	100	80	49	0	4	0	0		
WV BECKLEY	54	29	68	15	42	2	0.13	-0.70	0.13	5.25	298	13.15	165	65	48	0	4	1	0		
WV CHARLESTON	60	32	75	20	46	3	0.19	-0.72	0.19	1.33	69	8.39	100	76	33	0	5	1	0		
WV ELKINS	54	22	71	8	38	0	0.45	-0.45	0.39	1.32	69	7.58	89	79	34	0	6	4	0		
WV HUNTINGTON	59	33	74	20	46	2	0.23	-0.65	0.22	1.40	74	8.76	107	70	35	0	3	2	0		
WI EAU CLAIRE	40	19	50	9	29	1	0.00	-0.32	0.00	0.00	0	3.20	131	84	48	0	7	0	0		
WI GREEN BAY	40	17	53	4	28	-1	0.00	-0.39	0.00	0.17	23	2.96	100	83	56	0	6	0	0		
WI LA CROSSE	42	23	54	14	33	1	0.14	-0.20	0.13	0.45	71	2.81	100	82	52	0	5	2	0		
WI MADISON	43	24	57	13	34	3	0.04	-0.37	0.04	0.48	59	2.37	71	73	57	0	4	1	0		
WI MILWAUKEE	44	26	55	14	35	2	0.06	-0.41	0.06	0.43	46	3.17	72	68	55	0	4	1	0		
WY CASPER	53	29	63	23	41	7	0.09	-0.10	0.09	0.63	158	2.11	130	72	43	0	5	1	0		
WY CHEYENNE	53	27	63	15	40	7	0.02	-0.19	0.02	0.29	71	2.45	188	57	30	0	5	1	0		
WY LANDER	53	25	64	11	39	5	0.33	0.10	0.33	0.62	138	1.42	94	72	23	0	6	1	0		
WY SHERIDAN	50	25	60	14	37	3	0.55	0.37	0.43	0.74	211	2.59	153	78	45	0	6	2	0		

Based on 1971-2000 normals

*** Not Available

Winter Weather Review

Weather summary provided by USDA/WAOB

Highlights: The coldest winter since 1978-79 gripped Illinois, Indiana, Iowa, Minnesota, Missouri, and Wisconsin, while Michigan endured its coldest winter since 1976-77. The Midwest experienced not only bitter cold, but also abundant snowfall, which resulted in travel disruptions and stressful conditions for livestock.

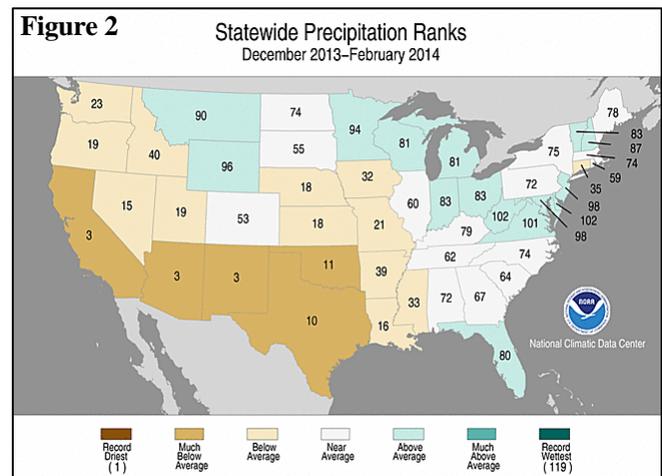
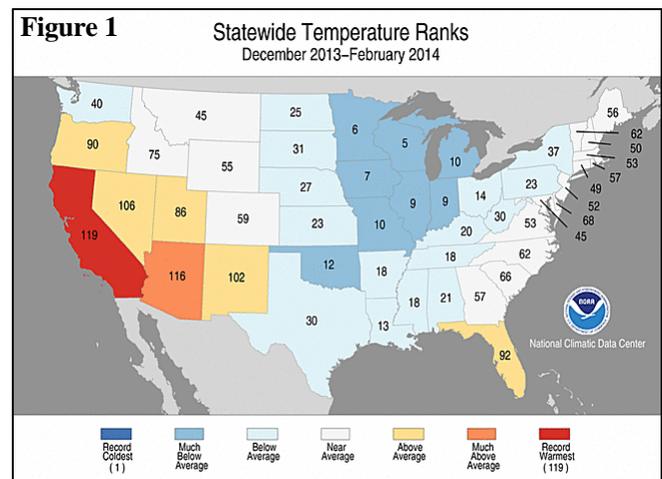
Meanwhile, drought persisted or intensified from California to the southern Plains under a mild, mostly dry weather regime. Arizona, New Mexico, and Texas endured near-record winter dryness. California, nearing the end of a third consecutive year of drought, noted its warmest, third-driest winter on record. Previously, California's warmest winter had occurred in 1980-81, while the only drier winters had been 1976-77 and 1990-91. Ironically, California's warm winter began with a December freeze that harmed crops, including citrus, in the Central Valley.

Between the extremes, the Plains were subjected to frequent and rapid temperature changes. Abundant precipitation, mostly snow, fell across the northern Plains, but generally dry, breezy conditions—along with the frequent lack of protective snow—led to declines in winter wheat condition across the central and southern Plains.

Elsewhere, the South and East endured periodic bouts of wintry weather and extreme cold, although conditions were not as chronically harsh as those observed in the Midwest. In addition, winter agricultural areas of Texas and Florida escaped without a significant freeze.

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 31.3°F was 1.0°F below the 20th century mean, while the average precipitation of 5.69 inches was 84 percent (%) of normal—marking the 34th-coldest, ninth-driest winter since 1895. The last drier winter occurred in 1980-81.

State temperature rankings were impressive, ranging from the warmest winter on record in California to the fifth-coldest winter in Wisconsin (figure 1). Arizona experienced its third-warmest winter, while top-ten rankings for winter coldness were also noted in Illinois, Indiana, Iowa, Michigan, Missouri, and Minnesota. Meanwhile, state precipitation rankings ranged from the third-driest winter in Arizona, California, and New Mexico to the 18th-wettest winter in Delaware and West Virginia (figure 2).



December: Winter got off to an early start across much of the nation, with very cold air settling into the western and central U.S. and snow covering more than half of the country for several days.

December storminess was widespread, except in the West, where a potential third consecutive winter of drought got underway in California and the Great Basin. In addition, an early-season cold wave gripped much of the West during the first half of the month, harming citrus in California's San Joaquin Valley and sending temperatures plummeting below -40°F at a few locations in Montana.

Meanwhile, several impressive storms affected the East, where multiple rain and snow events chipped away at autumn precipitation deficits. At times, snow also blanketed portions of the Plains and Midwest, with winter's chill deepening in those regions as the month progressed. By the end of December, temperatures across

the upper Great Lakes region rivaled those observed in the West a few weeks earlier.

However, the Southeast was spared from the cold weather, with temperatures regularly topping 80°F and remaining unusually high through month's end. In fact, several Southeastern locations set or tied monthly records for December warmth.

Elsewhere, most of the nation's winter wheat moved into its period of dormancy with few concerns. On the Great Plains, well over half of the wheat was rated in good to excellent condition at the end of December in states such as South Dakota (70% good to excellent), Nebraska (65%), Oklahoma (63%), Montana (60%), and Kansas (58%). However, drought concerns persisted on the southern High Plains, including Texas' northern panhandle.

The nation experienced its 21st-coldest, 54th-driest December during the 119-year period of record. The nation's average temperature of 30.9°F was 2.0°F below the 1901-2000 mean, while the average precipitation of 2.17 inches was 97% of normal.

Cold weather broadly covered the western and central U.S., with Minnesota (eighth-coldest December) and North Dakota (ninth) ranking in the top ten. Florida, in contrast, experienced its sixth-warmest December. Meanwhile, acute dryness in the Pacific Coast states led to the second-driest December in California, third driest in Oregon, and sixth driest in Washington. On the flip side, top-ten December wetness affected several states, including Alabama, Georgia, North Dakota, Ohio, Virginia, and West Virginia.

January: California's drought worsened, despite some late-month rain and snow. For much of the month, the West—California, in particular—endured warm, dry conditions. As a result, California, the Great Basin, and parts of the Southwest faced nearly insurmountable odds of overcoming huge season-to-date precipitation deficits by the end of winter—and the likelihood of completing a third consecutive dry winter. In addition to California's impending water-supply issues, drought impacts included poor rangeland conditions, severe stress on rain-fed winter grains, and depleted soil moisture reserves.

In stark contrast, colder-than-normal conditions accompanied occasional winter storms across the eastern half of the nation. Several periods of bitterly cold weather gripped the Midwest, South, and East, resulting in the lowest temperatures in a decade or more. Frigid conditions were especially persistent across the upper Midwest, maintaining stress on livestock in the wake of a cold December. An early-month blizzard in parts of the Midwest and a late-month snow and ice event across the Deep South were among several notable storms.

Between the Western warmth and Eastern chill, sharp temperature fluctuations affected the Plains. In addition, January precipitation was scarce across the nation's mid-section, leaving winter wheat exposed at times to bitterly cold conditions. Specifically, wheat in parts of Nebraska and environs was not insulated by snow when temperatures plunged below 0°F on January 6, 23, and 27-28. As a result of unfavorable weather, wheat conditions declined during January. For example, the portion of the wheat rated good to excellent fell from 70 to 60% in South Dakota; 65 to 46% in Nebraska; 60 to 46% in Montana; 63 to 36% in Oklahoma; and 58 to 35% in Kansas. Texas wheat, already stressed by drought, was rated 19% good to excellent and 41% very poor to poor by month's end.

The nation experienced its 53rd-coolest, fifth-driest January during the 120-year period of record. The nation's average temperature of 30.3°F was 0.1°F below the 1901-2000 mean, while precipitation averaged just 1.32 inches (59% of normal). It was the nation's driest January since 2003.

Of course, general warmth in the West counterbalanced cold conditions across the eastern half of the U.S. It was the fourth-coldest January in Alabama, behind 1940, 1977, and 1978, and among the ten coldest in eight other states from the Mississippi Valley eastward. In contrast, temperatures ranked among the ten highest January values on record in California, Arizona, and Nevada. Meanwhile, dryness was pervasive, with New Mexico experiencing its driest January on record. With precipitation averaging 0.58 inch (12% of normal), California experienced its third-driest January behind 1984 and 1976. Top-ten rankings for January dryness were also noted in Alabama, Arizona, Mississippi, Oklahoma, Oregon, and Texas. The wettest states, based on monthly rankings, were Michigan (22nd-wettest January) and Florida (27th wettest).

February: California experienced an unusual February, with record-setting warmth occurring between early- and late-month storminess. The rain and snow, while significant, failed to appreciably dent California's 3-year drought. However, the precipitation aided drought-stressed rangeland, pastures, and winter grains, and temporarily eased irrigation requirements. At month's end, beneficial precipitation also overspread other drought-affected areas, including the Great Basin and parts of the Southwest. Meanwhile, a sustained stretch of stormy weather improved water-supply prospects in the Northwest.

Farther east, snowy conditions on the northern High Plains contrasted with drier-than-normal weather on the southern Plains. During February, the Plains' winter wheat condition remained steady or declined due to a combination of drought, temperature extremes, occasional high winds, and exposure to bitter cold without the benefit of a protective snow cover. By month's end, nearly half

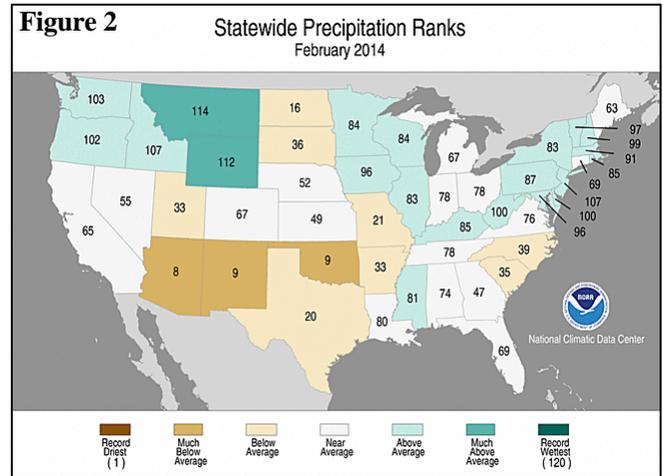
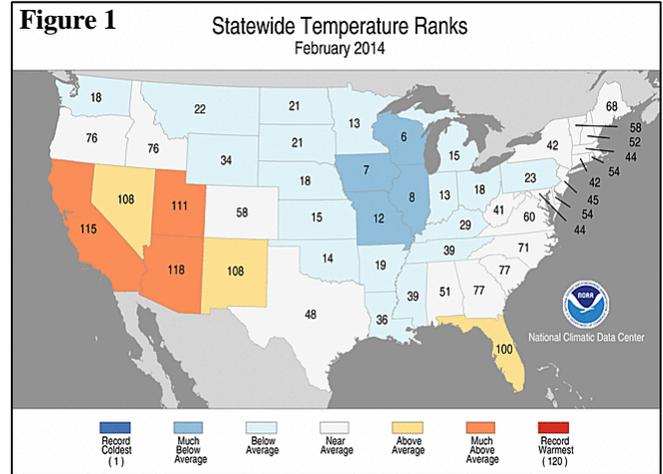
(46%) of the wheat was rated in very poor to poor condition in Texas, along with 31% in Oklahoma, 22% in Kansas, and 18% in Nebraska.

Meanwhile in the Corn Belt, bitterly cold, often snowy weather hampered rural travel and maintained stress on winter-weary livestock. Many individual station records for seasonal snowfall and days with sub-zero temperatures were approached, tied, or broken, especially in the Great Lakes States, as Midwestern communities experienced their harshest winter since at least the 1970s.

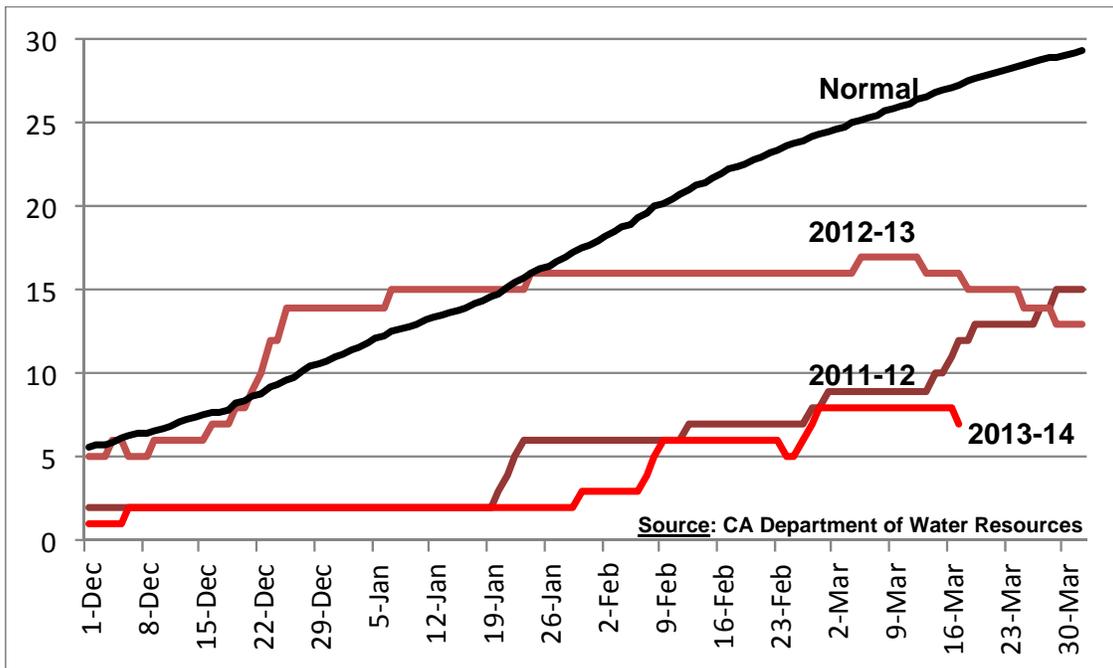
Elsewhere, much of the South and East were also exposed to periodic bouts of wintry weather and frigid conditions. However, winter agricultural regions of Deep South Texas and peninsular Florida continued to escape without a significant freeze.

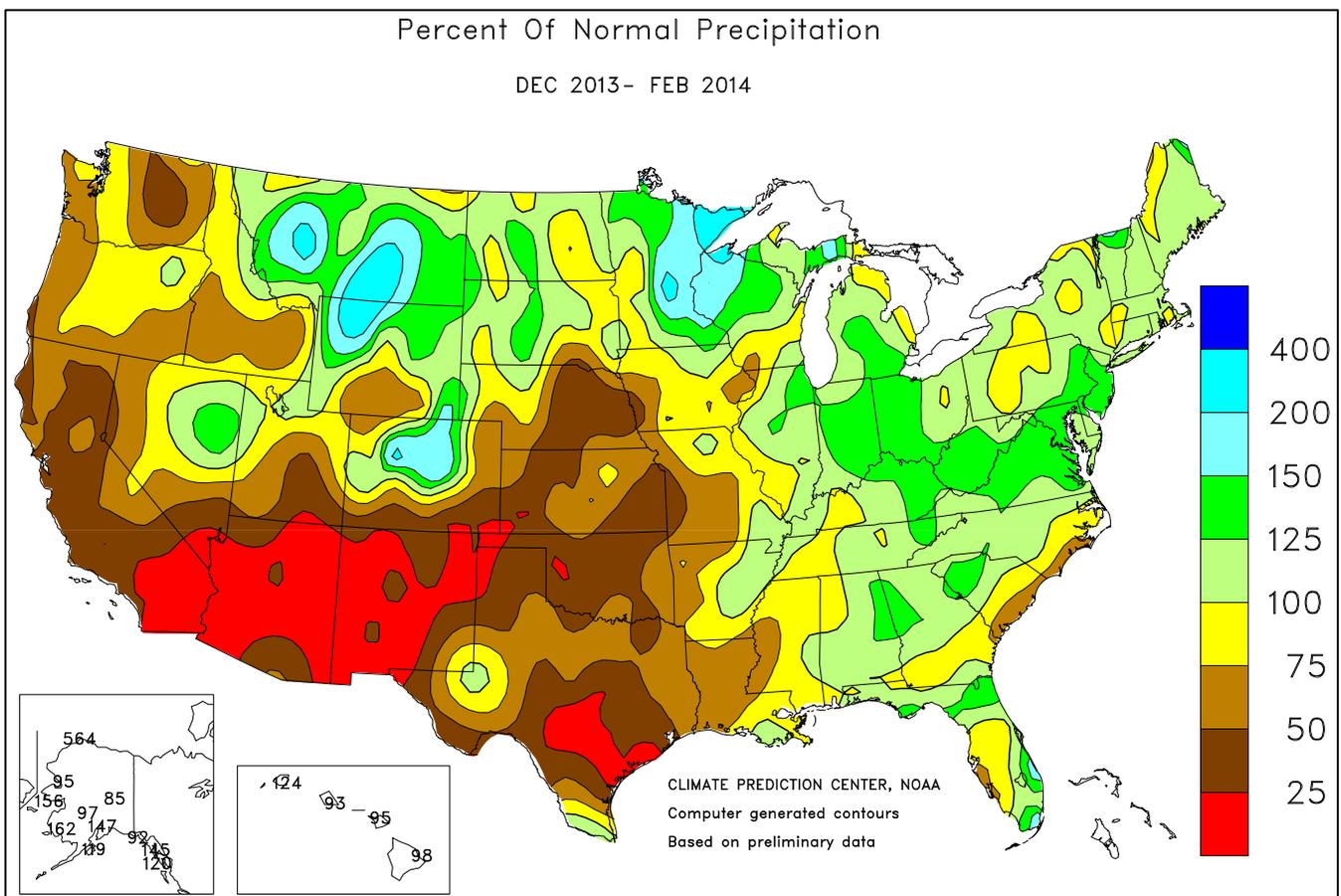
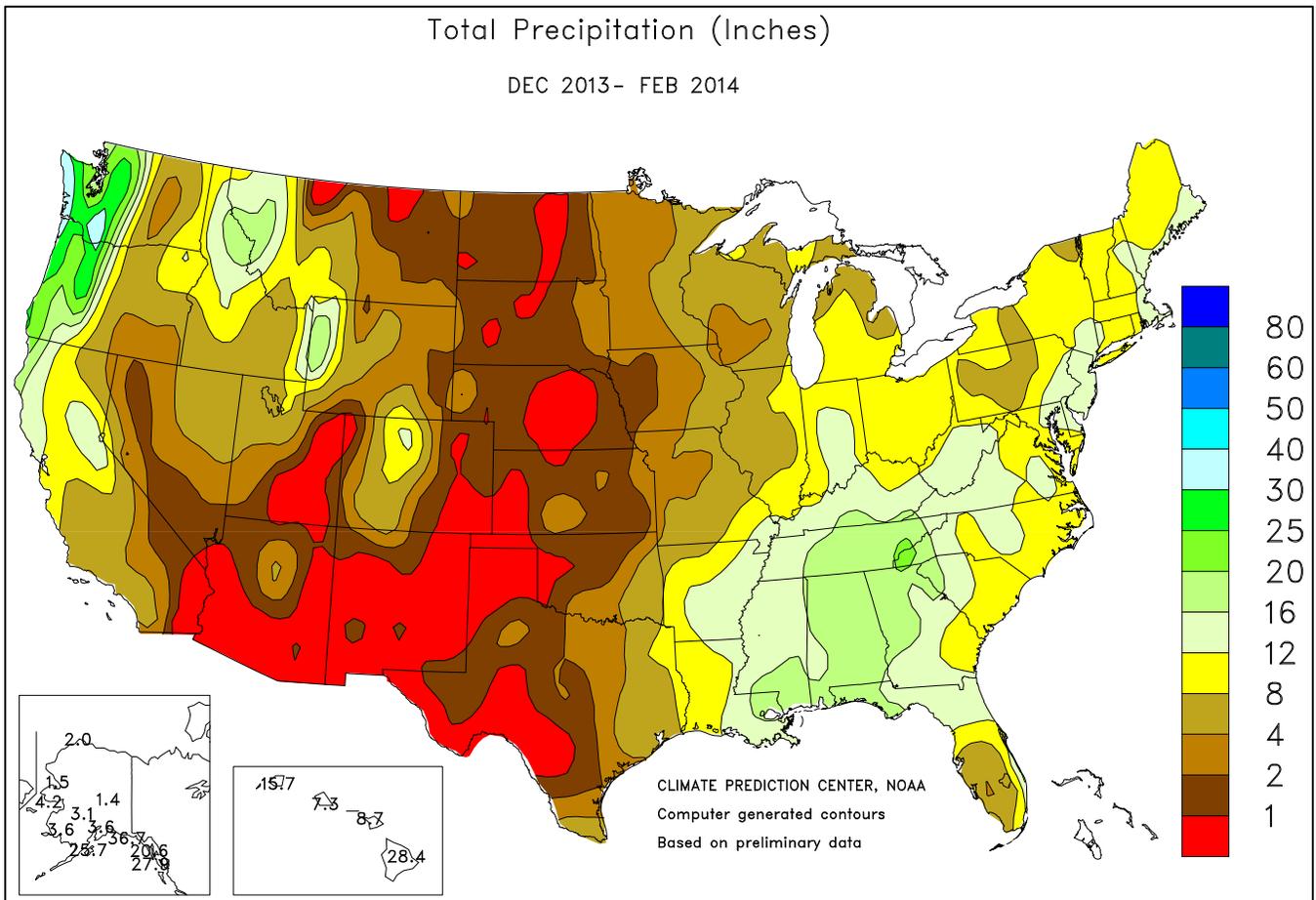
The nation experienced its 37th-coldest, 56th-wettest February during the 120-year period of record. The average temperature of 32.2°F was 1.6°F below the 1901-2000 mean, while precipitation averaged 2.12 inches—very close to normal. The nation’s only colder February during the last two decades occurred in 2010.

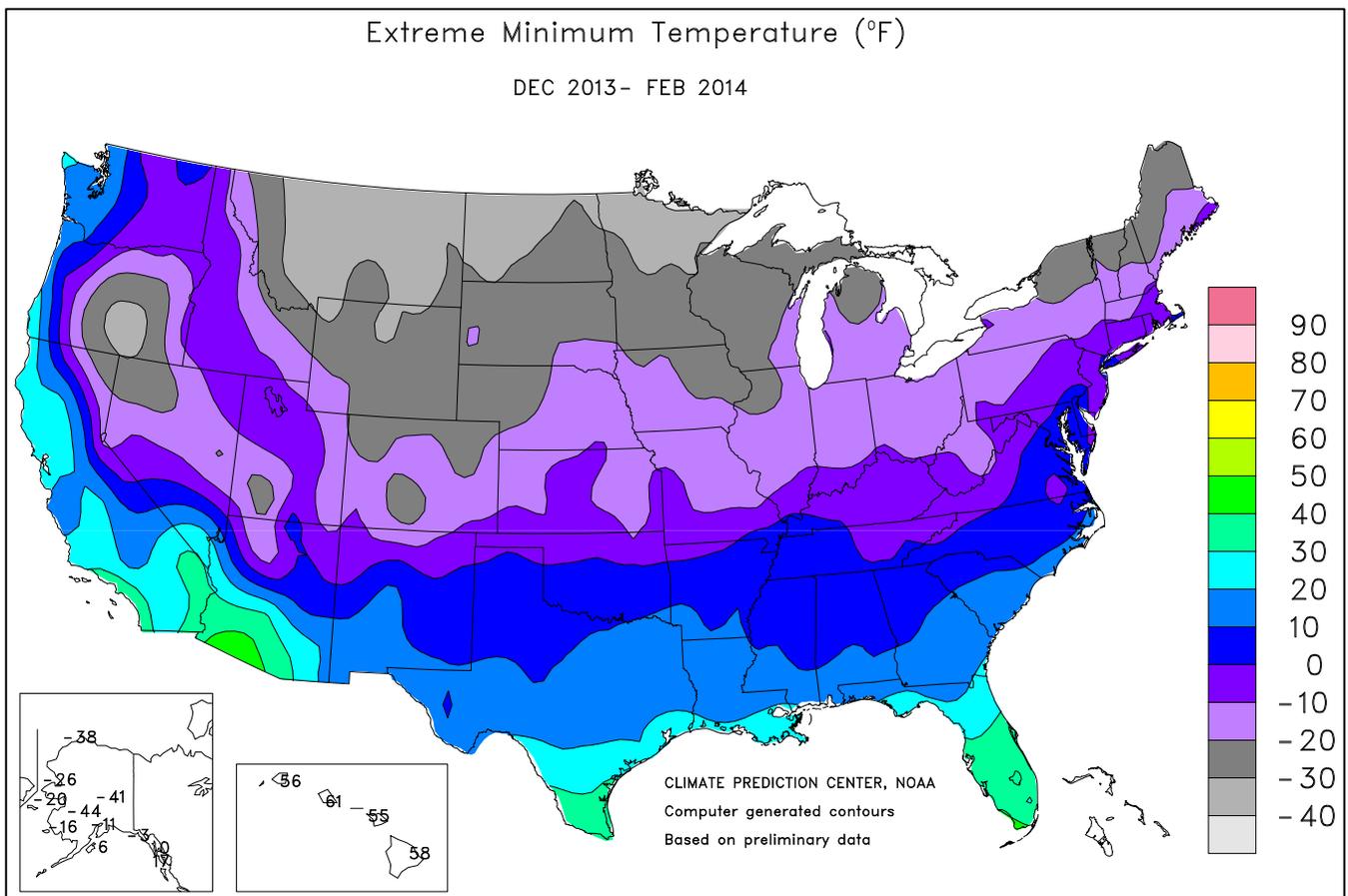
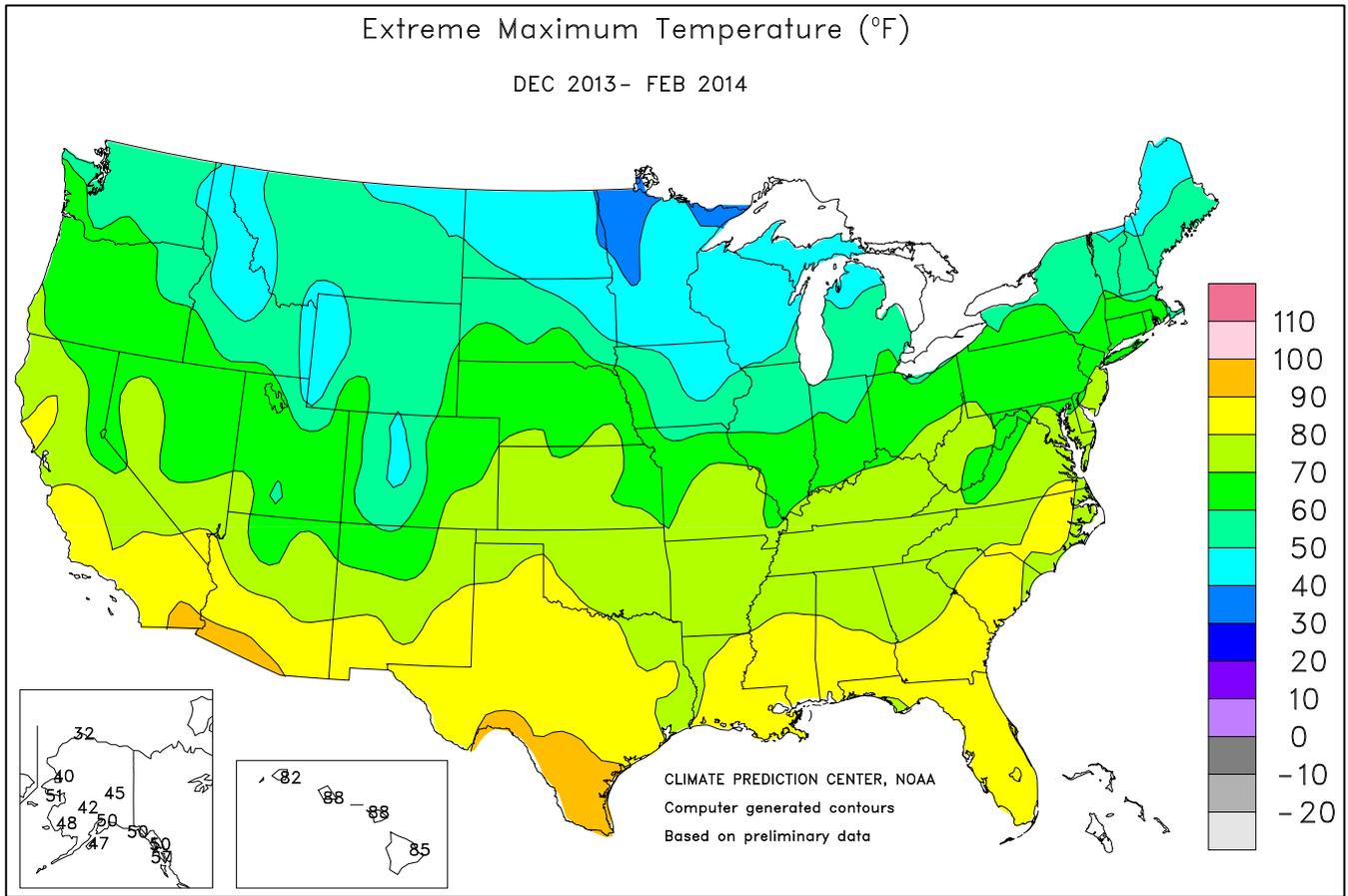
State temperature rankings ranged from top-ten February warmth in Arizona, California, and Utah to a top-ten chill in Illinois, Iowa, and Wisconsin (figure 3). Meanwhile, the nation’s precipitation distribution generally featured wet conditions across the North and dry weather in the South. State rankings ranged from top-ten February wetness in Montana and Wyoming to top-ten dryness in Arizona, New Mexico, and Oklahoma (figure 4).

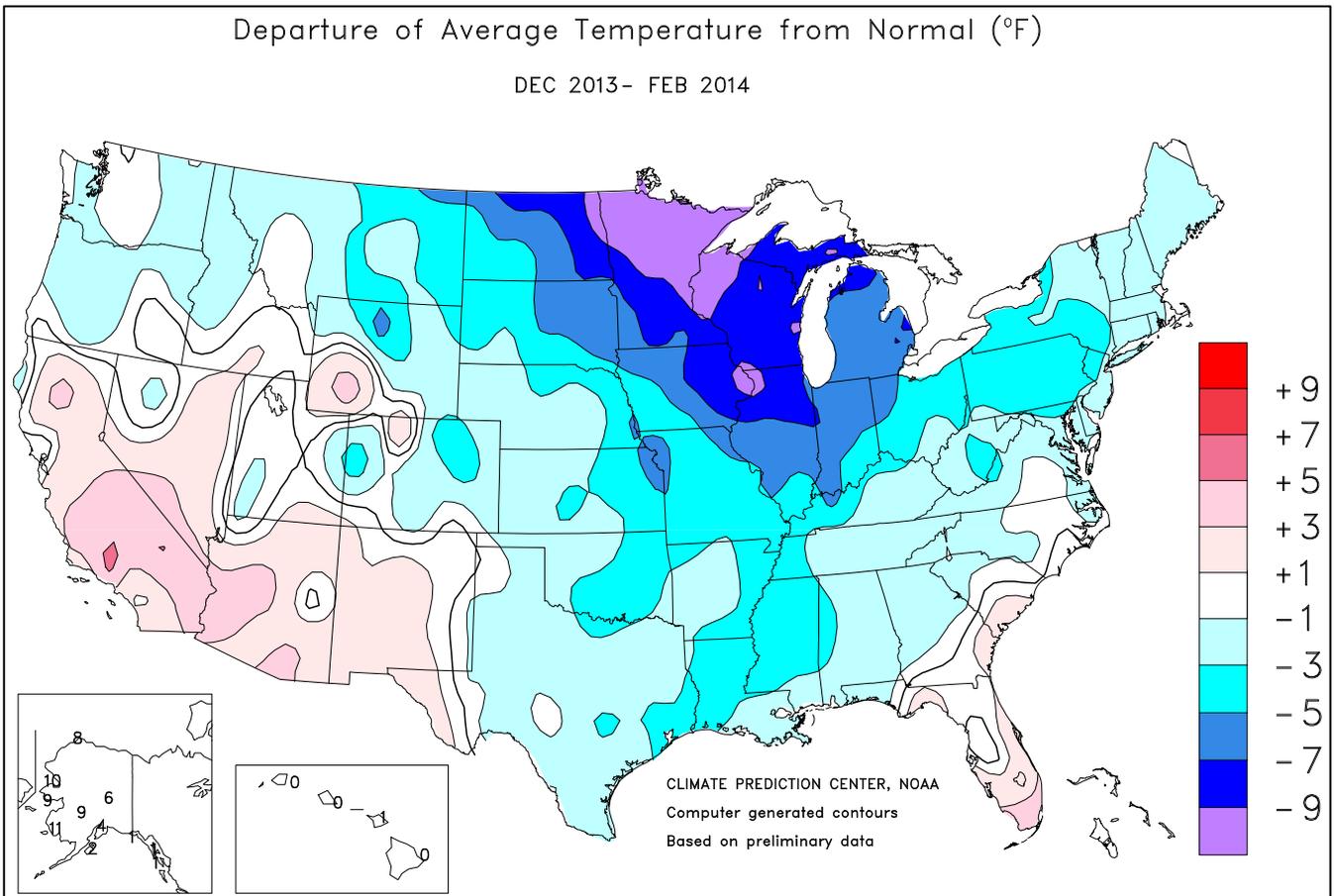
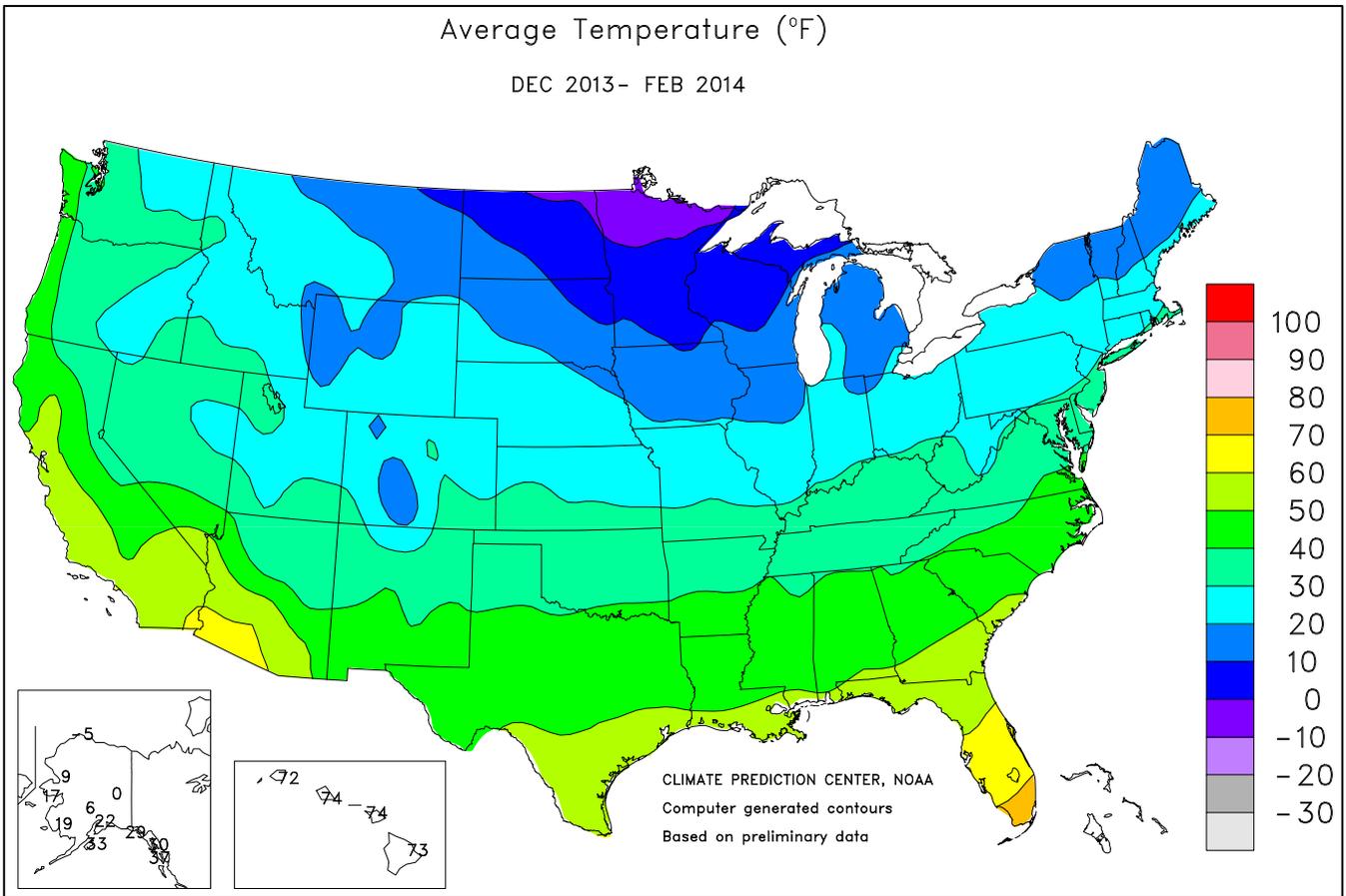


Daily Sierra Nevada Snowpack (Inches) vs. Normal:









National Weather Data for Selected Cities

Winter 2013-14

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	43	-2	13.99	-0.14	LEXINGTON	32	-3	12.62	1.98	COLUMBUS	28	-3	9.09	1.43
HUNTSVILLE	40	-2	16.44	0.38	LONDON-CORBIN	35	-2	12.95	0.91	DAYTON	26	-3	9.56	1.59
MOBILE	49	-3	14.48	-1.03	LOUISVILLE	33	-3	11.59	1.37	MANSFIELD	24	-3	8.40	0.34
MONTGOMERY	47	-2	16.63	1.17	PADUCAH	33	-3	13.32	1.54	TOLEDO	20	-7	10.25	3.80
AK ANCHORAGE	22	5	3.63	1.16	LA BATON ROUGE	50	-2	12.98	-3.57	YOUNGSTOWN	24	-4	8.21	0.88
BARROW	-5	8	2.00	1.65	LAKE CHARLES	50	-3	8.84	-4.56	OK OKLAHOMA CITY	38	-1	1.69	-3.04
COLD BAY	35	6	12.76	2.76	NEW ORLEANS	53	-1	12.24	-4.17	TULSA	36	-3	2.23	-3.75
FAIRBANKS	0	7	1.40	-0.26	SHREVEPORT	46	-3	8.42	-4.94	OR ASTORIA	42	-1	18.76	-9.13
JUNEAU	30	2	20.65	6.41	ME BANGOR	18	-3	8.50	-0.71	BURNS	28	2	2.33	-1.26
KING SALMON	27	11	2.94	-0.20	CARIBOU	13	0	9.80	1.58	EUGENE	38	-3	12.03	-10.26
KODIAK	33	3	25.69	4.16	PORTLAND	23	-2	12.67	1.20	MEDFORD	39	-1	5.69	-1.78
NOME	17	10	4.18	1.50	MD BALTIMORE	33	-2	12.56	2.72	PENDLETON	33	-2	3.16	-0.99
AZ FLAGSTAFF	33	2	1.95	-4.62	MA BOSTON	30	-2	11.99	1.04	PORTLAND	39	-2	9.44	-5.52
PHOENIX	60	5	0.39	-2.13	WORCESTER	24	-2	11.60	0.63	SALEM	40	-1	10.17	-7.22
TUCSON	57	4	0.84	-2.06	MI ALPENA	13	-7	4.67	-0.27	PA ALLENTOWN	26	-4	13.02	3.38
AR FORT SMITH	39	-2	5.87	-2.48	DETROIT	21	-6	8.16	1.86	ERIE	25	-4	11.95	3.41
LITTLE ROCK	40	-3	12.50	0.85	FLINT	19	-5	5.86	0.76	MIDDLETOWN	28	-3	10.45	1.44
CA BAKERSFIELD	53	4	0.54	-2.61	GRAND RAPIDS	21	-4	8.45	2.19	PHILADELPHIA	33	-2	13.87	4.30
EUREKA	46	-2	8.00	-9.83	Houghton Lake	14	-7	5.20	0.59	PITTSBURGH	27	-3	7.69	-0.24
FRESNO	52	5	2.82	-2.80	LANSING	19	-5	5.80	0.57	WILKES-BARRE	25	-4	8.21	1.12
LOS ANGELES	60	3	3.09	-4.79	MUSKEGON	22	-4	7.83	1.39	WILLIAMSPORT	25	-3	7.44	-0.96
REDDING	50	3	8.88	-7.78	TRAVERSE CITY	18	-5	7.04	-0.39	PR SAN JUAN	80	3	13.70	3.81
SACRAMENTO	50	2	4.72	-5.11	MN DULUTH	4	-8	5.72	2.83	RI PROVIDENCE	29	-2	13.22	1.26
SAN DIEGO	60	2	1.47	-4.16	INT'L FALLS	-3	-10	3.21	1.03	SC CHARLESTON	51	1	7.00	-3.40
SAN FRANCISCO	53	3	4.12	-7.23	MINNEAPOLIS	10	-7	4.29	1.46	COLUMBIA	47	1	12.20	0.32
STOCKTON	49	2	3.42	-3.57	ROCHESTER	9	-7	3.86	1.15	FLORENCE	46	-1	10.05	-0.53
CO ALAMOSA	15	-3	0.29	-0.50	ST. CLOUD	6	-7	4.27	2.23	GREENVILLE	43	0	12.91	0.40
CO SPRINGS	30	1	0.96	-0.09	MS JACKSON	45	-2	11.55	-3.96	MYRTLE BEACH	47	-1	6.01	-4.60
DENVER	29	-1	1.38	0.61	MERIDIAN	44	-4	16.70	0.12	SD ABERDEEN	8	-7	1.32	-0.02
GRAND JUNCTION	25	-4	2.34	0.72	TUPELO	40	-3	12.28	-3.66	HURON	13	-5	1.60	0.16
PUEBLO	31	0	0.76	-0.22	MO COLUMBIA	27	-4	3.97	-2.43	RAPID CITY	22	-3	1.03	-0.20
CT BRIDGEPORT	30	-2	11.30	1.18	JOPLIN	32	-4	2.22	-4.83	SIoux FALLS	12	-6	2.12	0.58
HARTFORD	26	-2	11.29	0.89	KANSAS CITY	26	-4	2.55	-1.55	TN BRISTOL	36	0	11.40	1.09
DC WASHINGTON	37	-1	12.13	3.24	SPRINGFIELD	31	-4	4.35	-3.21	CHATTANOOGA	40	-2	15.57	0.51
DE WILMINGTON	32	-2	13.80	4.16	ST JOSEPH	23	-7	1.56	-1.89	JACKSON	37	-4	12.96	-0.98
FL DAYTONA BEACH	61	1	8.27	-0.31	ST LOUIS	30	-3	5.11	-2.17	KNOXVILLE	38	-2	16.28	3.21
FT LAUDERDALE	71	3	6.71	-1.58	MT BILLINGS	24	-3	5.06	3.01	MEMPHIS	40	-3	12.94	-1.29
FT MYERS	68	2	3.94	-1.97	BUTTE	19	0	1.08	-0.45	NASHVILLE	37	-3	15.68	3.48
JACKSONVILLE	55	0	10.57	1.09	GLASGOW	12	-3	1.22	0.24	TX ABILENE	44	-2	1.60	-1.77
KEY WEST	73	2	8.69	2.82	GREAT FALLS	22	-2	3.35	1.49	AMARILLO	37	-1	0.71	-1.08
MELBOURNE	65	3	9.21	1.93	HELENA	24	1	2.82	1.46	AUSTIN	49	-3	1.95	-4.37
MIAMI	72	3	7.74	1.61	KALISPELL	22	-2	4.02	-0.25	BEAUMONT	52	-2	8.01	-6.28
ORLANDO	64	2	5.30	-1.79	MILES CITY	17	-4	0.86	-0.43	BROWNSVILLE	60	-1	4.28	0.63
PENSACOLA	53	-1	15.09	1.10	MISSOULA	24	-1	4.47	1.49	COLLEGE STATION	49	-3	2.94	-5.99
ST PETERSBURG	63	0	5.11	-3.12	NE GRAND ISLAND	25	0	0.76	-1.12	CORPUS CHRISTI	57	-1	1.20	-4.01
TALLAHASSEE	54	1	12.94	-1.15	HASTINGS	25	-2	0.85	-1.10	DALLAS/FT WORTH	45	-2	3.50	-3.34
TAMPA	63	1	5.76	-1.48	LINCOLN	22	-4	1.08	-1.11	DEL RIO	52	-1	0.70	-1.58
WEST PALM BEACH	71	4	15.81	6.37	MCCOOK	27	-2	0.71	-0.96	EL PASO	49	2	0.26	-1.35
GA ATHENS	44	0	16.25	3.46	NORFOLK	21	-2	0.70	-1.28	GALVESTON	53	-4	3.70	-6.52
ATLANTA	44	-1	14.96	1.44	NORTH PLATTE	24	-2	1.21	-0.09	HOUSTON	52	-2	5.01	-5.34
AUGUSTA	46	-1	13.11	1.36	OMAHA/EPPLEY	22	-3	1.06	-1.43	LUBBOCK	40	0	0.76	-1.12
COLUMBUS	47	-2	17.19	3.53	SCOTTSBLUFF	26	-1	2.23	0.55	MIDLAND	45	0	1.70	-0.06
MACON	46	-1	16.87	3.39	VALENTINE	21	-3	1.37	0.26	SAN ANGELO	47	0	1.21	-1.72
SAVANNAH	53	2	6.49	-3.19	NV ELKO	30	2	2.99	0.04	SAN ANTONIO	53	1	1.20	-4.17
HI HILO	73	1	28.43	-0.67	ELY	29	2	2.72	0.73	VICTORIA	54	-1	2.11	-4.84
HONOLULU	74	0	7.34	-0.59	LAS VEGAS	52	3	0.35	-1.33	WACO	46	-2	2.10	-4.99
KAHULUI	74	2	8.70	-0.48	RENO	37	2	1.48	-1.52	WICHITA FALLS	40	-3	1.64	-2.73
LIHUE	72	0	15.67	3.04	WINNEMUCCA	31	-1	2.22	-0.04	UT SALT LAKE CITY	32	1	4.44	0.51
ID BOISE	31	-1	3.69	-0.22	NH CONCORD	21	-2	10.78	2.49	VT BURLINGTON	21	0	6.82	0.70
LEWISTON	34	-1	3.14	0.00	NJ ATLANTIC CITY	33	-1	14.61	5.01	VA LYNCHBURG	36	-1	12.77	2.91
POCATELLO	28	2	2.14	-1.11	NEWARK	31	-3	12.34	1.83	NORFOLK	42	0	11.05	0.75
IL CHICAGO/O'HARE	19	-6	7.24	1.43	NM ALBUQUERQUE	40	2	0.58	-0.84	RICHMOND	39	0	12.42	2.77
MOLINE	17	-8	5.23	-0.06	NY ALBANY	23	-2	9.17	1.84	ROANOKE	37	-1	10.65	1.48
PEORIA	20	-6	6.35	0.78	BINGHAMTON	22	-2	9.13	1.06	WASH/DULLES	33	-1	12.08	3.19
ROCKFORD	15	-8	5.43	0.62	BUFFALO	23	-4	11.70	2.32	WA OLYMPIA	39	0	15.06	-6.54
SPRINGFIELD	23	-6	7.03	1.07	ROCHESTER	24	-2	6.61	-0.50	QUILLAYUTE	43	2	28.73	-11.77
EVANSVILLE	31	-3	11.28	1.73	SYRACUSE	23	-2	8.44	0.61	SEATTLE-TACOMA	42	0	11.47	-3.46
FORT WAYNE	21	-6	8.94	2.18	NC ASHEVILLE	37	-1	13.02	1.74	SPOKANE	28	-1	3.50	-2.08
INDIANAPOLIS	24	-6	9.22	1.30	CHARLOTTE	42	-2	14.05	3.32	YAKIMA	32	1	2.05	-1.30
SOUTH BEND	20	-6	8.27	0.93	GREENSBORO	40	0	11.41	1.71	WV BECKLEY	31	-2	14.26	4.98
IA BURLINGTON	19	-7	5.53	0.58	HATTERAS	48	0	13.99	-0.35	CHARLESTON	33	-3	13.30	3.54
CEDAR RAPIDS	14	-8	2.43	-1.20	RALEIGH	42	0	10.87	0.34	ELKINS	29	-2	12.53	2.46
DES MOINES	19	-5	3.15	-0.40	WILMINGTON	48	0	7.20	-4.76	HUNTINGTON	33	-3	12.91	3.24
DUBUQUE	12	-9	3.72	-0.67	ND BISMARCK	10	-4	1.83	0.43	WI EAU CLAIRE	8	-8	4.73	1.86
SIoux CITY	18	-4	0.95	-0.92	DICKINSON	13	-5	0.55	-0.59	GREEN BAY	11	-8	4.68	1.05
WATERLOO	12	-8	3.57	0.57	FARGO	4	-7	2.09	0.17	LA CROSSE	12	-8	3.88	0.47
KS CONCORDIA	27	-3	1.73	-0.52	GRAND FORKS	0	-10	2.08	0.27	MADISON	14	-7	3.51	-0.68
DODGE CITY	30	-3	1.32	-0.73	JAMESTOWN	6	-7	1.02	-0.56	MILWAUKEE	17	-7	4.53	-1.19
GOODLAND	29	-1	0.99	-0.28	MINOT	7	-7	1.34	-0.47	WAUSAU	8	-9	4.51	1.19
HILL CITY	29	-1	0.46	-1.08	WILLISTON	11	-1	1.51	0.01	WY CASPER	21	-3	2.68	0.84
TOPEKA	28	-3	2.22	-1.33	OH AKRON-CANTON	25	-3	7.00	-0.75	CHEYENNE	26	-1	2.66	1.31
WICHITA	31	-2	1.59	-1.62	CINCINNATI	29	-4	10.46	1.51	LANDER	22	0	1.49	-0.18
KY JACKSON	34	-3	14.70	3.19	CLEVELAND	26	-2	9.13	1.22	SHERIDAN	21	-2	2.97	0.95

National Agricultural Summary

March 10 - 16, 2014

Weekly National Agricultural Summary provided by USDA/NASS

Weekly temperatures across the nation were generally above normal. Exceptions to this trend occurred in New England, around the Great Lakes, and along Gulf Coast, where slightly below-normal temperatures prevailed. Temperatures averaged at least 10°F above normal in a band along the Missouri River on the northern Great Plains. Precipitation was limited in many parts of the country, although small pockets in Mississippi and Oklahoma recorded more than 3 inches for the week.

Warm, dry conditions prevailed across most of California. Treatments continued in alfalfa for weevils and aphids. Growers in Fresno had their first cutting last week. Irrigated alfalfa and winter grain fields in the Southern Central Valley continued to grow well due to warm weather. Growth of dryland grain, however, was stunted. Winter grains in Siskiyou County that received rain grew well, but grains that had not received rain were in poor condition. Oats were harvested in Stanislaus County and wheat began to head out. Peach, nectarine, plum, cherry, and apricot trees were all in bloom. Grape vines began to leaf out. Kiwi plantings were showing bud break. Pomegranate trees were coming out of dormancy due to warmer-than-normal weather. Olive trees were pruned. Blueberries were blooming and leafing out. Early bloom was noted in some citrus groves due to the warm weather. Nets were placed over mandarin trees to prevent pollination from bees. Young citrus trees were pruned. Pistachio growers began to see bud swell on trees. Walnut growers set out traps for codling moths, as early varieties of walnuts showed signs of bud swell. Nutlets continued to grow on almond trees, while trees continued to leaf out. Asparagus fields began to emerge. Onions, garlic and garbanzo beans continued to progress. Carrots were harvested in some fields and planted in others. Processing tomato beds received fumigation in preparation for spring transplant. Spring lettuce received insecticide applications. Producers prepared fields for summer vegetables. Asparagus harvest started in San Joaquin County. Range and pasture conditions were reported to be fair to good. The continued lack of precipitation in some regions of the state resulted in delayed grass development. Sheep and cattle grazed on idle fields, dryland grains, and alfalfa. Supplemental feeding of livestock continued. Mild, dry weather stimulated dairy production. Bees were active pollinating almond and stone fruit orchards.

Arizona's alfalfa condition was rated poor to excellent, depending on location. Harvesting occurred on more than three-quarters of the alfalfa acreage across the state. Sheep continued to graze on various alfalfa fields in many areas. Barley conditions were mostly fair to excellent. Durum Wheat conditions were fair to mostly excellent, with 100 percent planted—6 percentage points ahead of both last

year and the 5-year average. Winter wheat conditions were very poor to excellent, depending on location. Fifty-seven percent of the winter wheat crop was planted, 28 percentage points behind last year and 26 points behind the 5-year average. Range conditions continued to deteriorate throughout the state, as soil moisture was depleted. Range and pastures were rated very poor to good, depending on location.

Weather patterns remained unsettled in Texas. Warmer weather was followed by a cold front, which produced thunderstorms in some areas. Winter wheat in the Blacklands continued to suffer from the previous week's sub-freezing temperatures. Irrigated wheat remained in good condition. Oats were in good condition in South Texas, where most of the crop remained green. Recent rains have helped the germination of corn and sorghum in the Coastal Bend. Land preparation continued for corn in North East Texas. Corn planted in South East Texas has not emerged. Producers on the Plains fertilized and irrigated corn and cotton fields. Pecan orchards continued to be irrigated in the Trans-Pecos. Some varieties of peach trees in North East Texas began to bloom. Producers in South Texas irrigated spinach and cabbage. Vegetables in the Lower Valley progressed. Cattle remained in good condition in North East Texas, as supplemental feeding continued. On the Southern High Plains cattle were moved to graze out wheat pastures.

Some locations in the Florida Panhandle received over 2.50 inches of rain, but most Florida locations recorded under a half-inch of precipitation during the week. Most corn and watermelon planting was prevented in the north and Panhandle areas, as the fields were too wet to work. Field corn was being planted in Hamilton and Levy Counties. Sugarcane harvest was nearing completion. Flagler and Putnam County farmers were still planting potatoes and harvesting cabbage. Miami-Manatee farmers were harvesting strawberries, squash and watermelon. Rain was widespread, but light, in the citrus area. Daytime temperatures were unseasonably warm, topping 80°F in all citrus-producing counties. Grove activity included irrigating on several days during the week, hedging, topping, and spraying. Growers continued to plant new trees in existing groves. Full bloom was evident in all areas on both oranges and grapefruit. Some trees were already bearing very small fruit for next season's crop. Several processing plants have closed temporarily and are waiting for Valencia oranges to start coming in. A few plants were running grapefruit only. Warmer weather improved pasture quality; however, some pastures were underwater in the Panhandle from recent heavy rain. Hay supply was running short in Walton County. Pastures in the Southwest were aided by timely rains and warm weather. Cattle condition primarily ranged from fair to good, but the pasture condition was mostly fair.

International Weather and Crop Summary

March 9-15, 2014

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

HIGHLIGHTS

EUROPE: Dry, warmer-than-normal weather accelerated winter crop development and facilitated a rapid pace of fieldwork.

WESTERN FSU: Unseasonable warmth kept the region uncharacteristically devoid of snow cover and eased winter wheat out of dormancy in western growing areas.

MIDDLE EAST: Widespread rainfall provided much-needed moisture for vegetative winter grains in Turkey and along the Mediterranean Coast.

NORTHWEST AFRICA: Locally heavy rain maintained abundant soil moisture for vegetative to heading winter grains from northern Morocco into Tunisia.

EAST ASIA: Seasonably dry weather prevailed for winter wheat on the North China Plain, where irrigation supplies were adequate to meet moisture requirements.

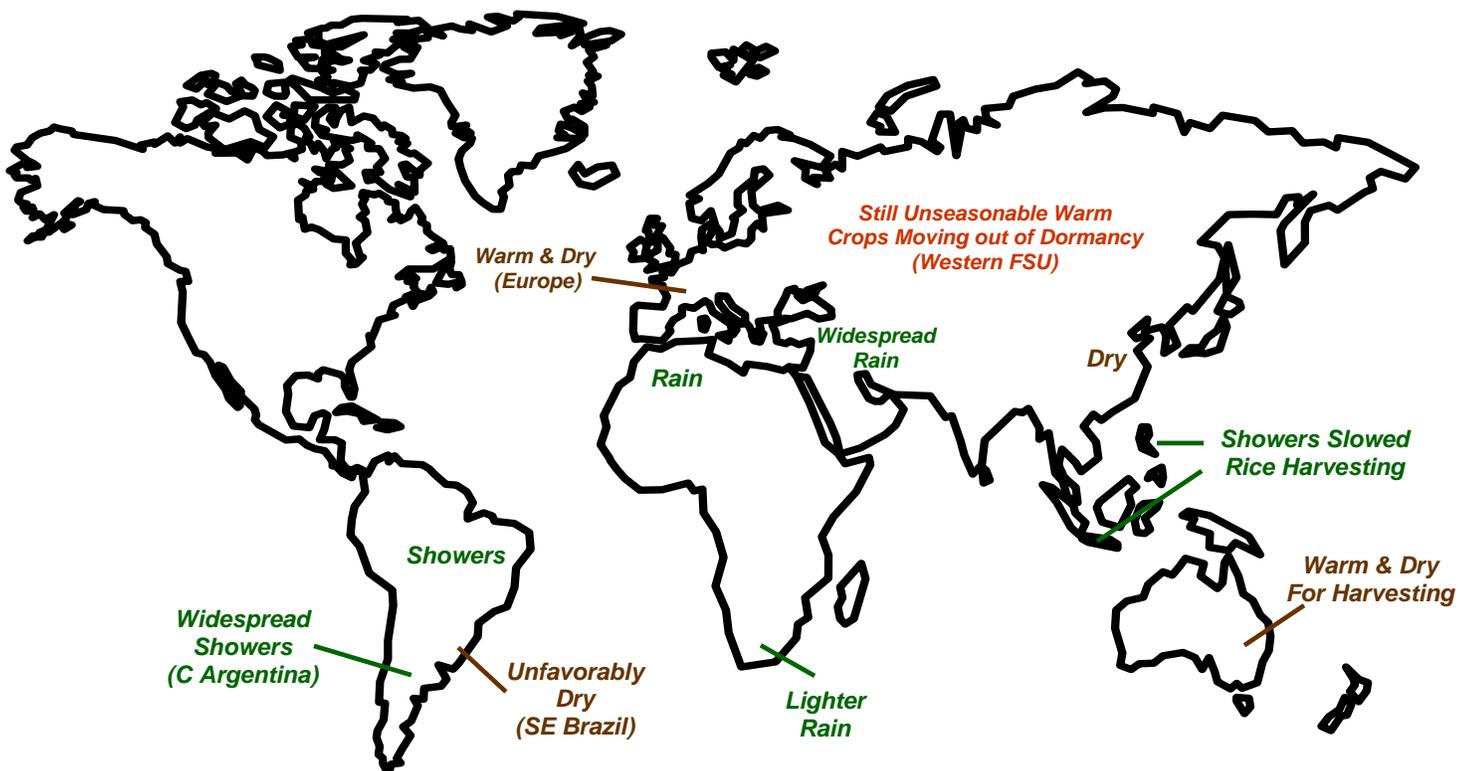
SOUTHEAST ASIA: Showers across the region slowed rice harvesting.

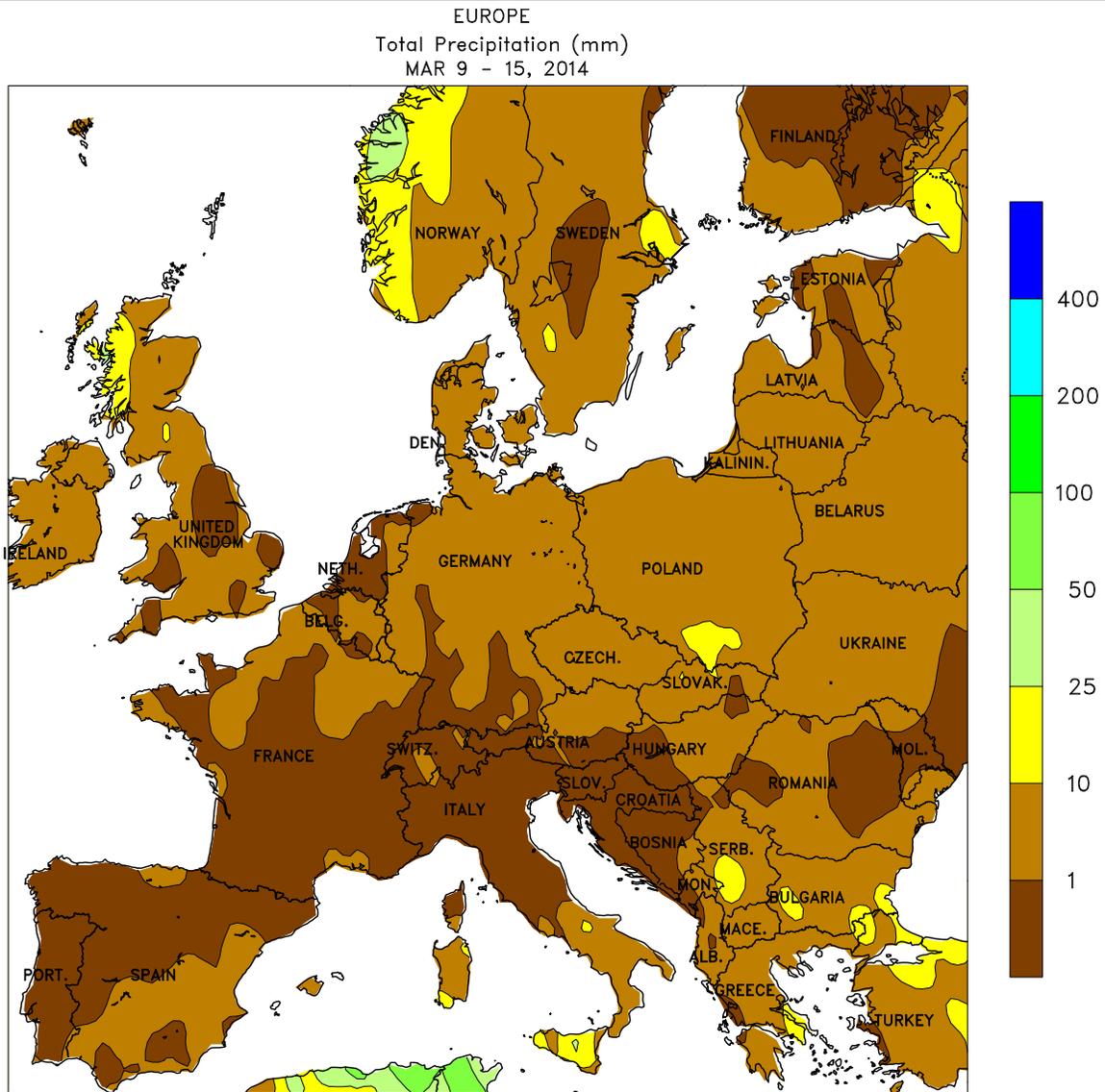
AUSTRALIA: Mostly dry, seasonably warm weather continued to spur summer crop maturation and harvesting in southern Queensland and northern New South Wales.

SOUTH AFRICA: Rainfall tapered off in most eastern farming areas, although beneficial rain continued in the western corn belt.

ARGENTINA: Beneficial rain returned to outlying corn and soybean areas of central Argentina.

BRAZIL: Showers benefited corn, soybeans, and sugarcane in southern Brazil, but unfavorable dryness returned to the southeastern coffee belt.





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Computer generated contours
Based on preliminary data

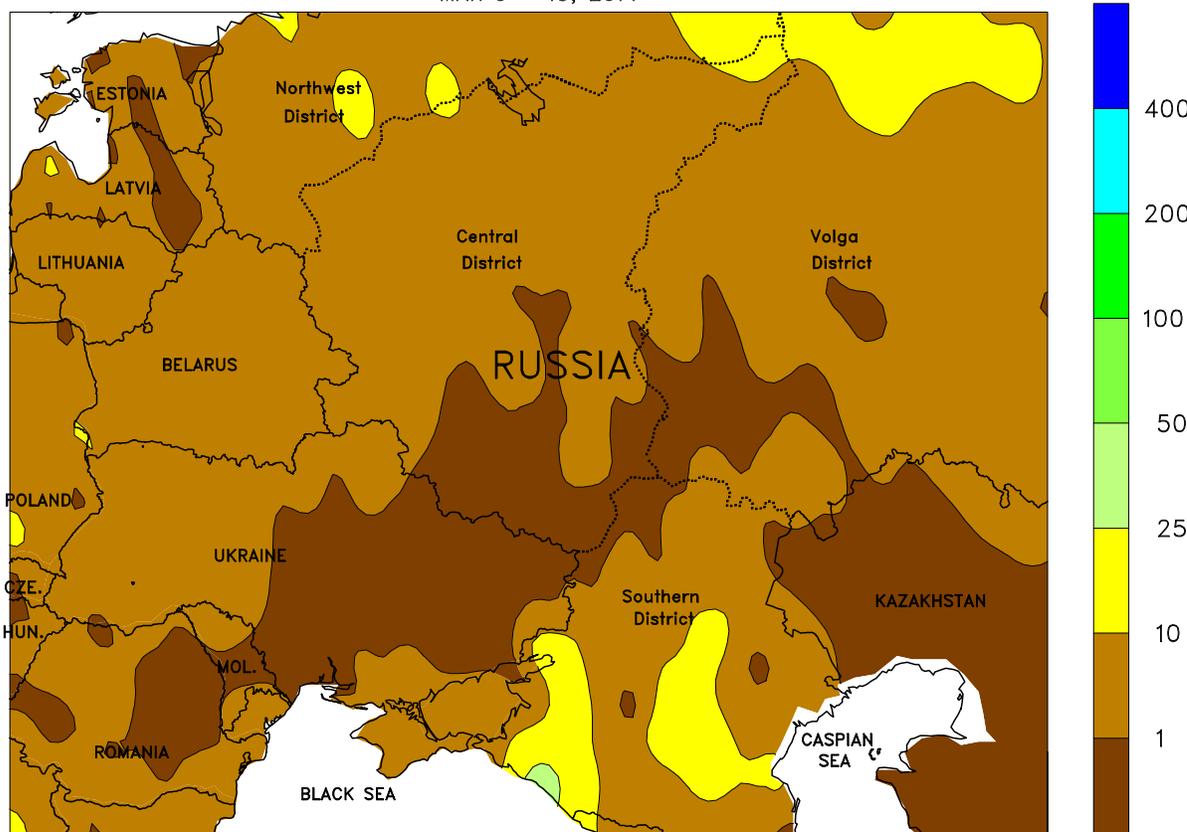


EUROPE

Dry, unseasonably warm weather expanded across the continent, encouraging fieldwork and crop development. After weeks of rain, a return of sunny skies allowed producers across western and southern Europe to commence sowing small grains, sugarbeets, and corn. Meanwhile, temperatures averaging up to 8°C above

normal ushered winter crops out of dormancy across Poland and accelerated winter wheat and rapeseed development across France, Germany, the Czech Republic, and the northern Balkans. Daytime highs topped 20°C in France and northwestern Germany, values typically observed in early May.

WESTERN FSU
Total Precipitation (mm)
MAR 9 - 15, 2014



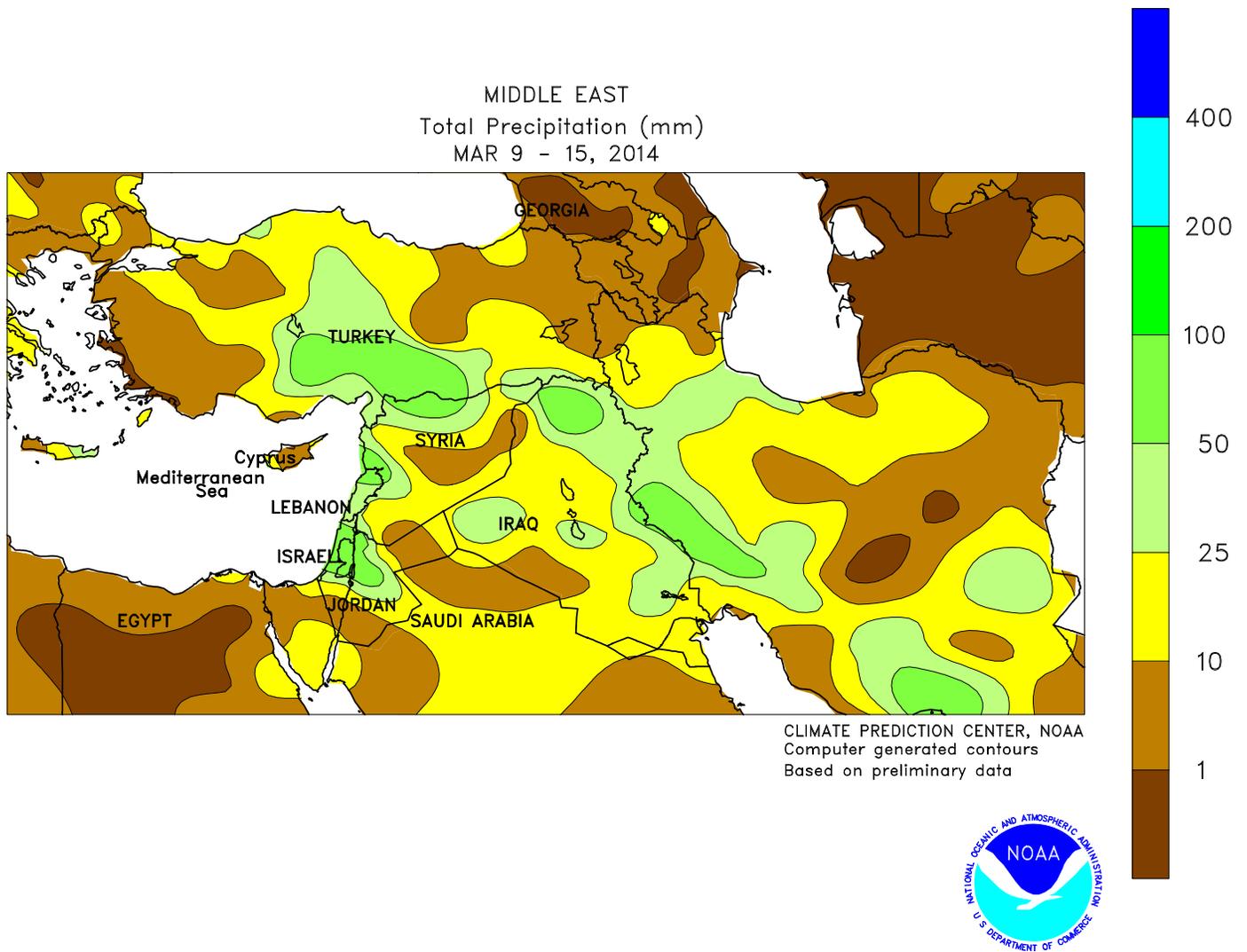
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data



WESTERN FSU

Unseasonably warm conditions persisted, with precipitation confined to southern growing areas. Temperatures averaged up to 8°C above normal for the week, causing winter crops to add vegetative growth across southern portions of the region and break dormancy from central Ukraine into Belarus. The region’s snowpack likewise continued to melt much earlier than normal, with snow — which typically remains in place into late March — confined to Russia’s Volga District.

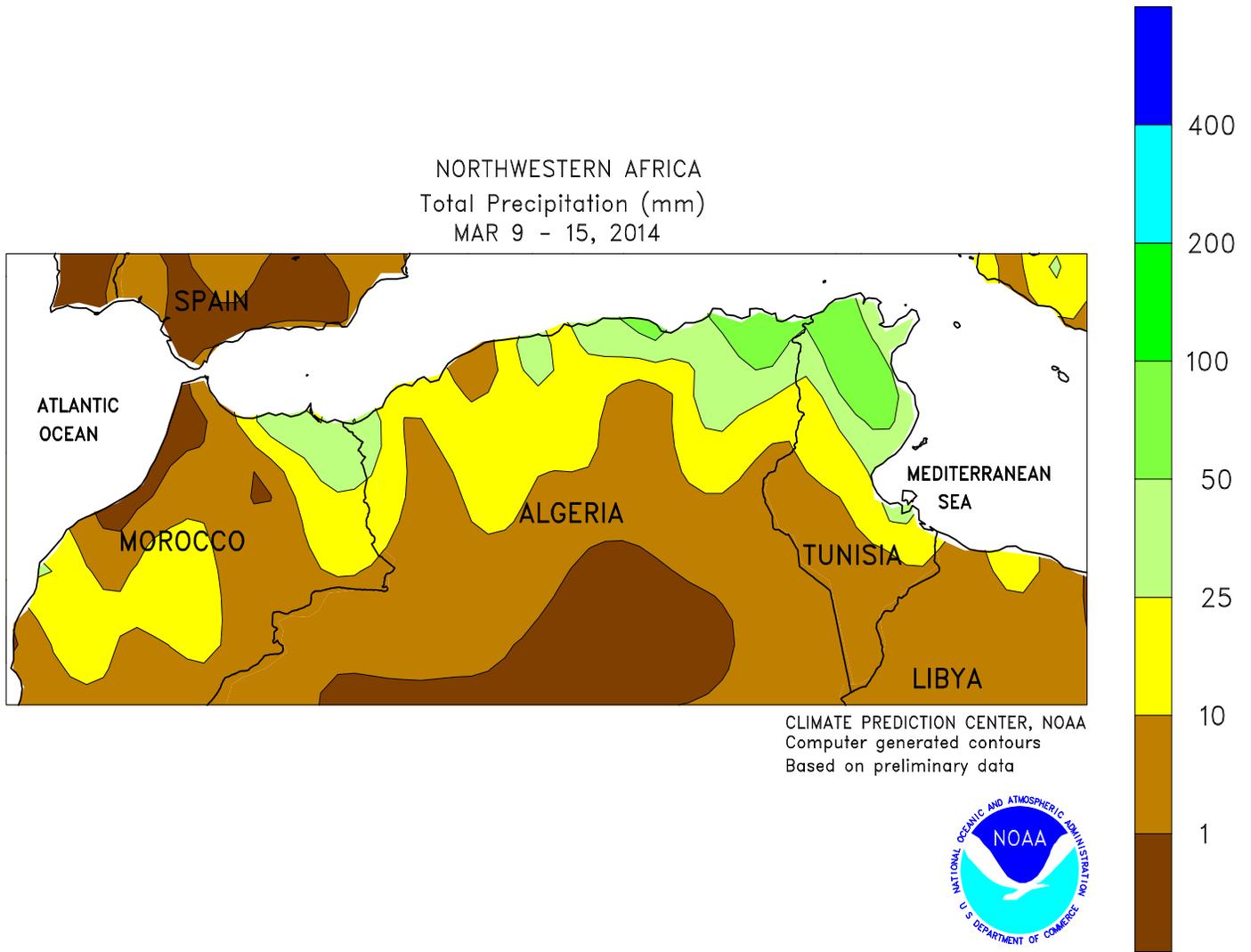
Daytime highs topped 10°C across most major winter wheat areas, and exceeded 15°C in Ukraine and southern Russia. However, Ukraine producers are in desperate need of moisture due to a dry spell which began in late October as well as the unusually early winter crop green up. In contrast, light to moderate rain (3-25 mm) benefited winter wheat in Russia’s Southern District, where crops varied from dormant in the north to vegetative in the far south.



MIDDLE EAST

Wet weather expanded across the region, providing producers with timely moisture for winter grains. A slow-moving Mediterranean storm generated moderate to heavy rain (10-70 mm, locally more) across Turkey, boosting soil moisture for vegetative winter wheat and barley. Prospects for Turkish winter grains remained uncertain, however, due to an abnormally dry autumn (which impacted crop establishment) and a hard freeze in December. Rainfall also overspread the eastern Mediterranean Coast, easing drought and improving soil

moisture for vegetative winter crops. Moderate to heavy rain (10-50 mm, locally more) in Iraq and western Iran maintained favorable yield prospects for vegetative wheat and barley, while lighter showers (10 mm or less) did little to ease drought concerns in northeastern Iran. Warmer-than-normal conditions persisted across much of the region, although cooler weather briefly settled over western-most portions of Turkey. Nevertheless, winter crops continued to develop up to a month ahead of normal due to the abnormally warm winter and early spring.

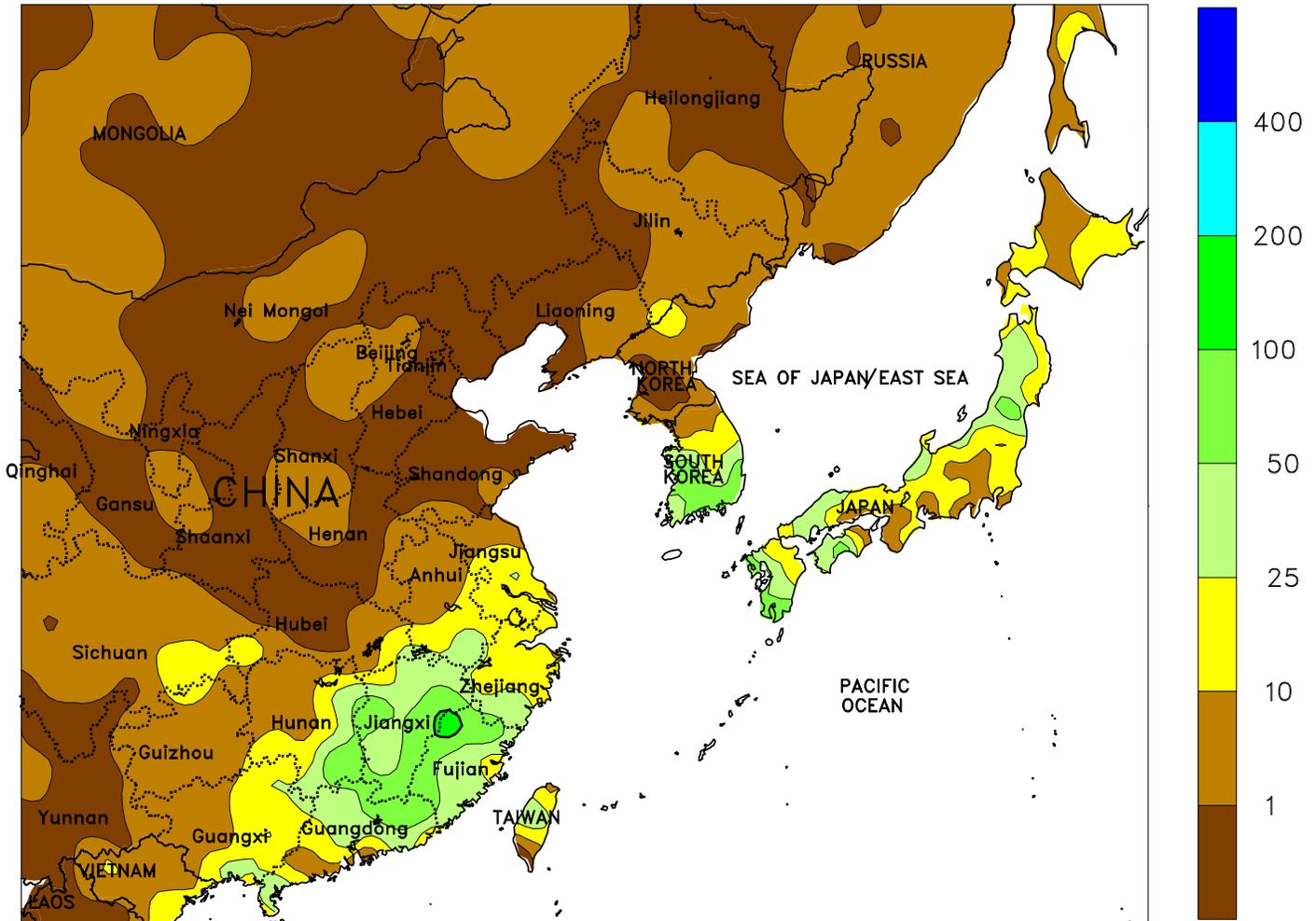


NORTHWESTERN AFRICA

The favorable winter crop growing campaign continued, with widespread rain and below-normal temperatures. An unusually strong, slow-moving storm over eastern portions of the region generated locally heavy downpours (25-75 mm, locally more) across Tunisia and eastern Algeria, sustaining abundant to excessive soil moisture for vegetative to heading winter grains. Somewhat lighter showers (5-25 mm) fell

across northern Morocco and western Algeria, maintaining favorable yield prospects for heading wheat and barley. Drier weather (10 mm or less) prevailed in southern Morocco, promoting fieldwork but increasing stress on heading winter crops. The stormy pattern kept temperatures up to 3°C below normal, which slowed crop development but minimized the risk for heat stress.

EASTERN ASIA
 Total Precipitation (mm)
 MAR 9 - 15, 2014



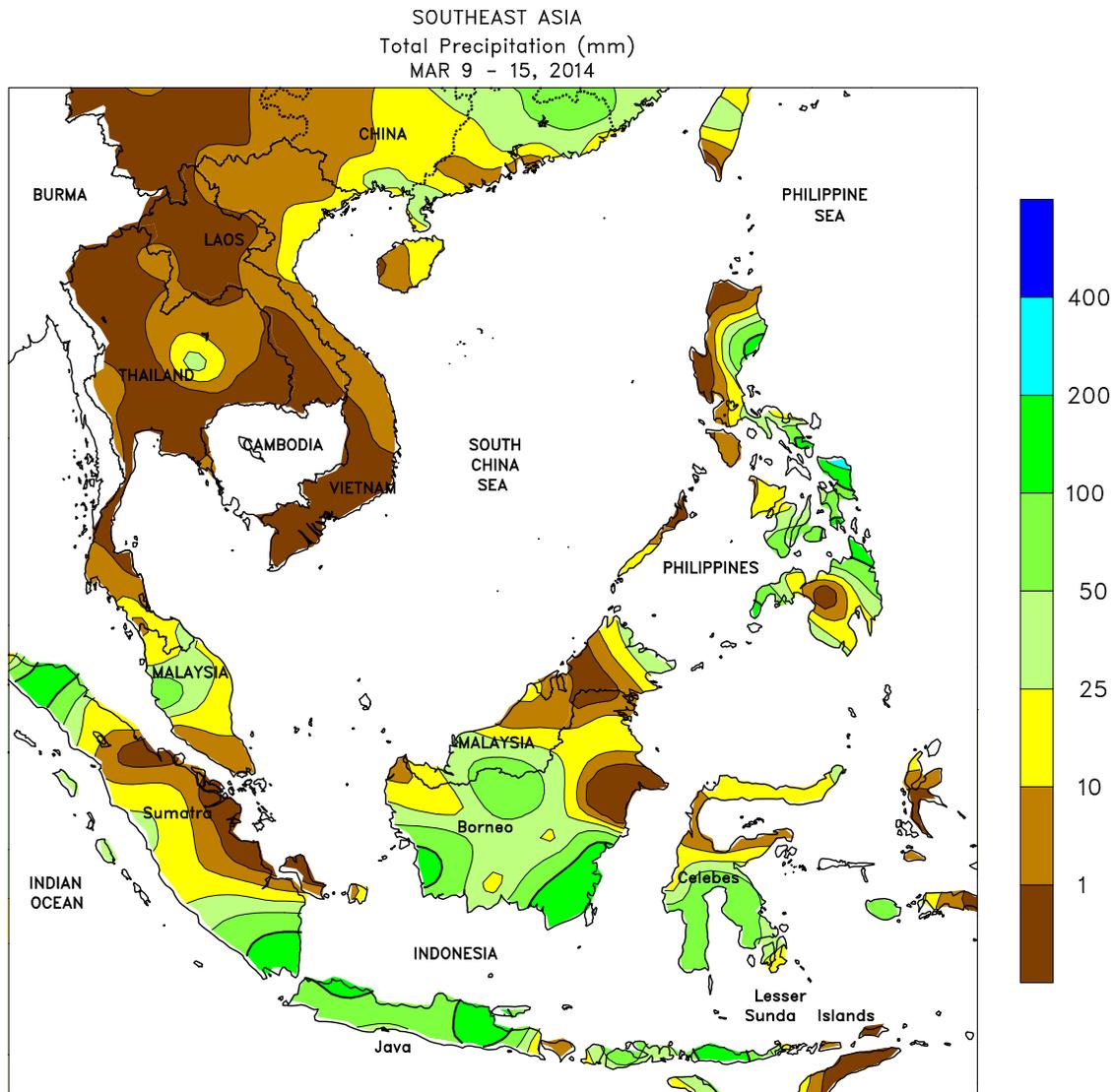
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 Computer generated contours
 Based on preliminary data



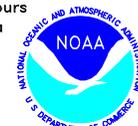
EASTERN ASIA

Dry weather prevailed across the North China Plain, where winter wheat was in late vegetative stages of development, slightly ahead of the normal pace due to prolonged mild weather during the winter. The northern winter wheat extents (Hebei and Shandong) typically receive little rainfall during the early spring, while rainfall is more prevalent in the southern areas (Henan, Anhui, and Jiangsu). In addition, adequate irrigation supplies were available to meet moisture requirements for the crop. In the Yangtze Valley, light (1-10 mm) to moderate (10-30 mm) showers provided favorable

moisture to a rapeseed crop that, like wheat to the north, was slightly farther along developmentally than usual. Winter rapeseed was likely nearing reproduction in some areas and more spring rainfall would be welcomed to reduce the need for supplemental irrigation. Farther south, early-crop rice transplanting was underway with favorable showers (35-100 mm) boosting soil moisture in most of the southeastern provinces. In many of the southern provinces (Guangdong, Guangxi, and Guizhou), however, more rainfall is needed to recover moisture supplies lost during an unusually dry winter.



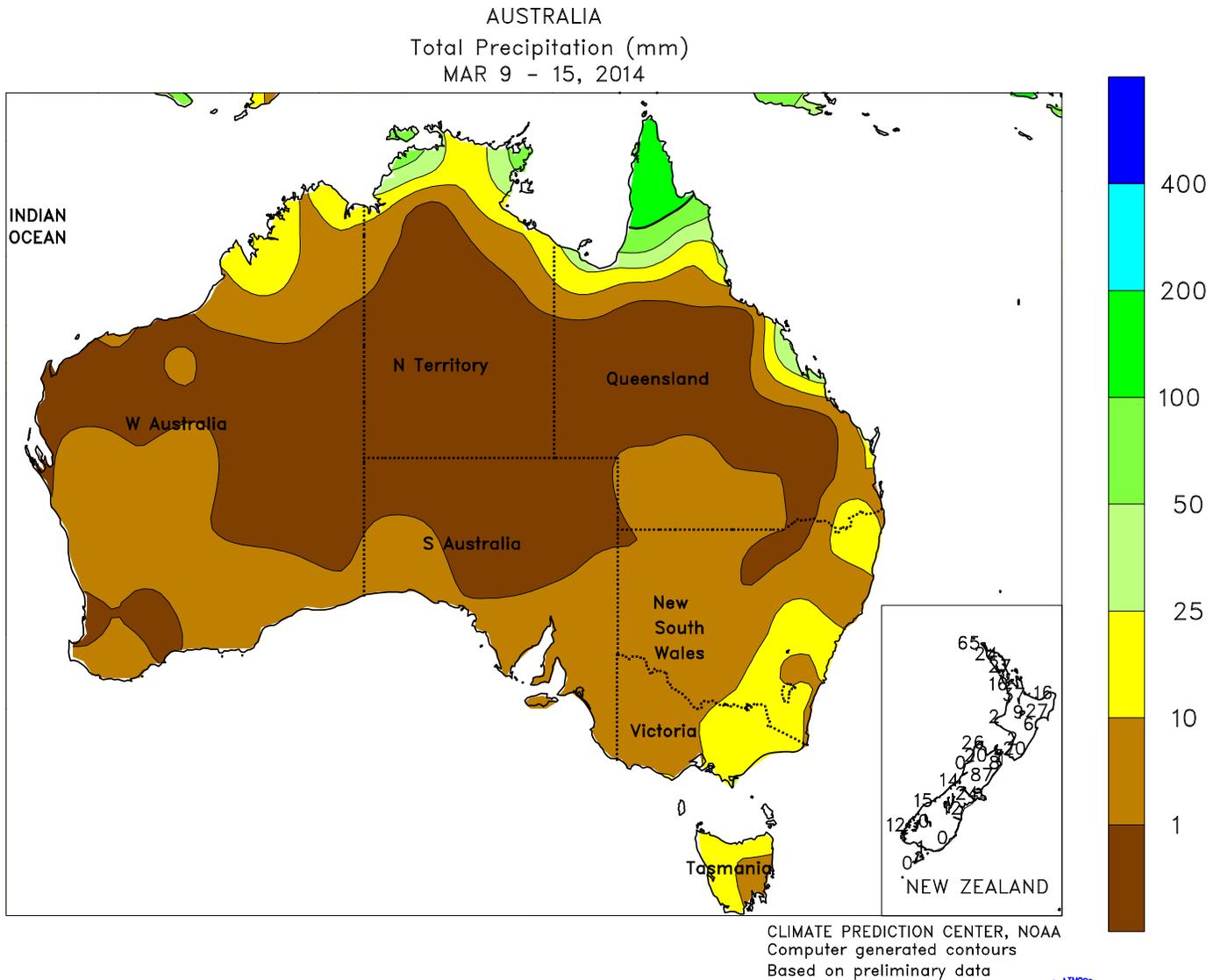
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data



SOUTHEAST ASIA

Rainfall was generally widespread across the region as rice (and corn in some areas) harvesting was well underway. In Java, Indonesia, rice harvesting continued in the west half of the island with occasional delays due to heavy mid-week showers. Showers (averaging 85 mm for the week) in eastern Java maintained abundant moisture supplies for rice that will be harvested in May. In oil palm areas, slightly wetter weather improved moisture conditions in Indonesia, while most of

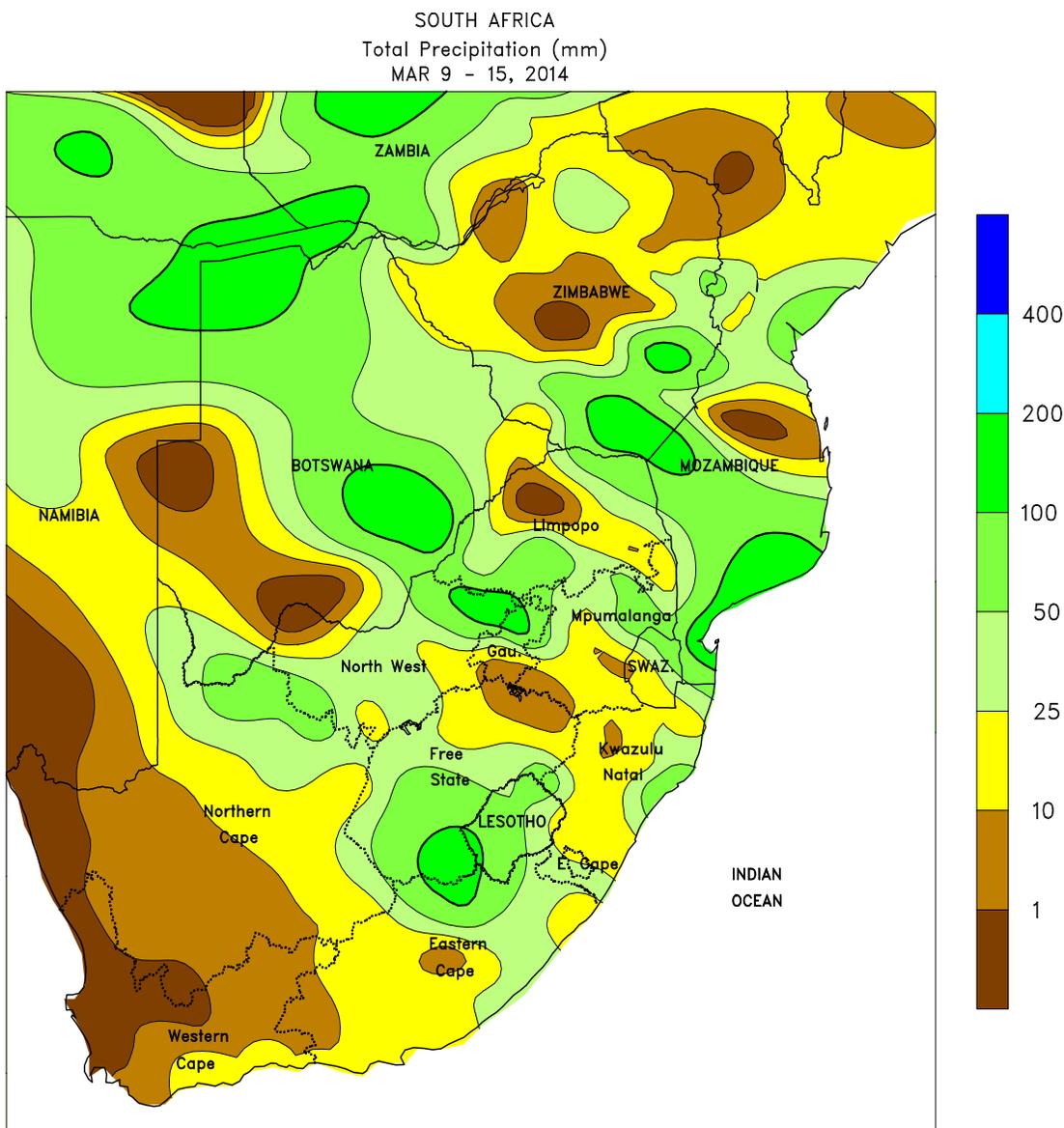
Malaysia remained too dry. Meanwhile in the Philippines, rice and corn harvesting experienced brief delays from intermittent, and at times, heavy showers (50-200 mm) during the week. The rainfall was, however, beneficial in maintaining abundant moisture supplies for summer crops planted in April and May. In Vietnam, warm, sunny weather continued to promote spring rice harvesting in the south, with showers (10-20 mm) in the north favoring spring rice harvested in June.



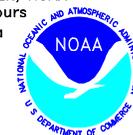
AUSTRALIA

Mostly dry, seasonably warm weather continued to spur summer crop maturation and harvesting in southern Queensland and northern New South Wales. Although prospects for dryland crops steadily declined throughout the growing season due to persistent heat and dryness,

this weather is now benefiting these crops by helping maintain crop quality. Temperatures in eastern Australia averaged within about 1°C of normal, with maximum temperatures generally in the upper 20s to lower 30s degrees C.



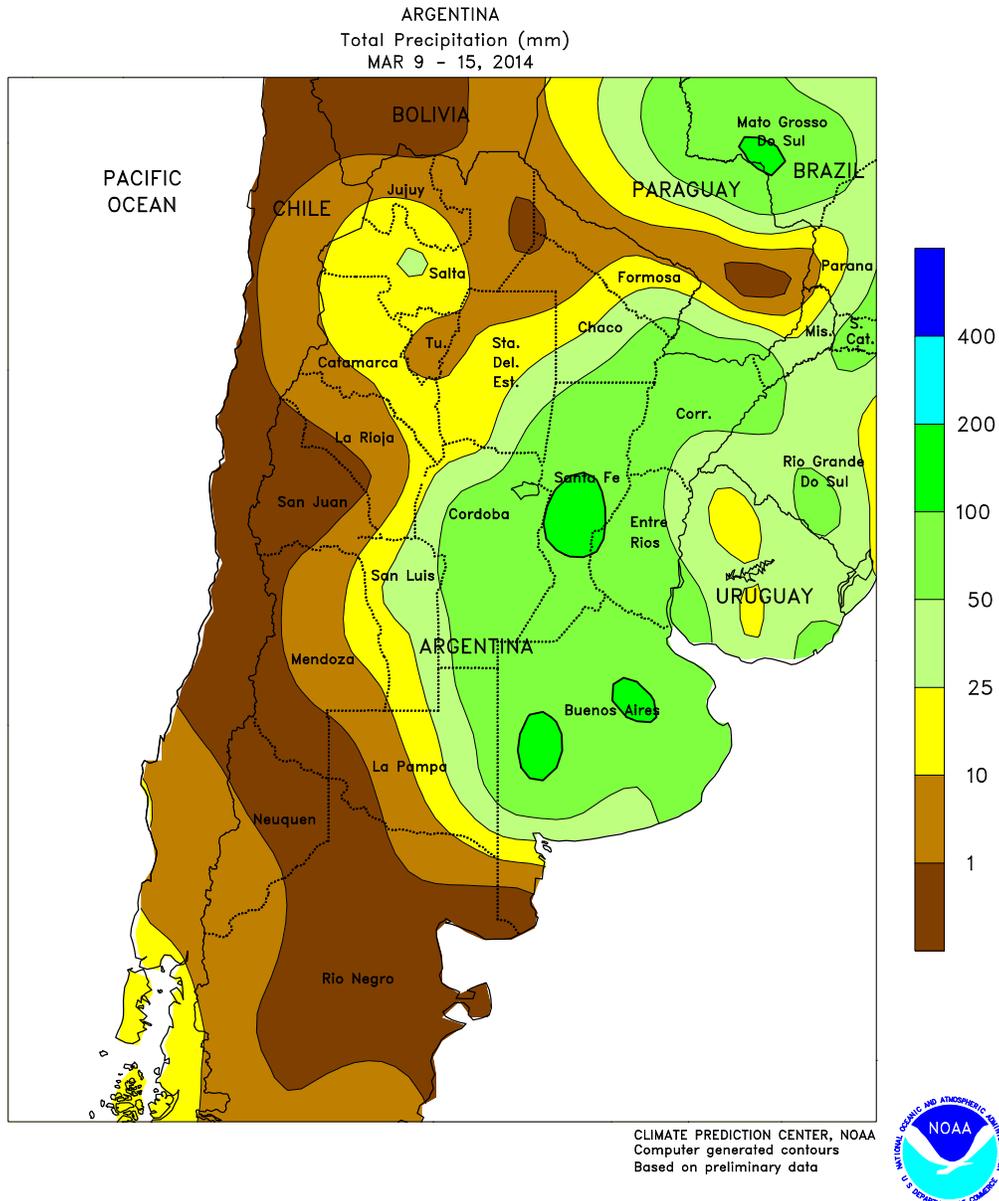
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data



SOUTH AFRICA

Rainfall declined throughout most major eastern production areas, though many locations continued to record beneficial amounts. Rainfall totaled less than 25 mm over a large portion of the central and eastern corn belt, in particular eastern Free State, southern Mpumalanga, and nearby sections of KwaZulu-Natal. In contrast, significant rainfall (25-100 mm) continued in western and northern commercial corn areas (central Free State and from North West to northern Mpumalanga), maintaining generally favorable levels of moisture for later-planted, immature corn. Weekly temperatures averaged 1°C

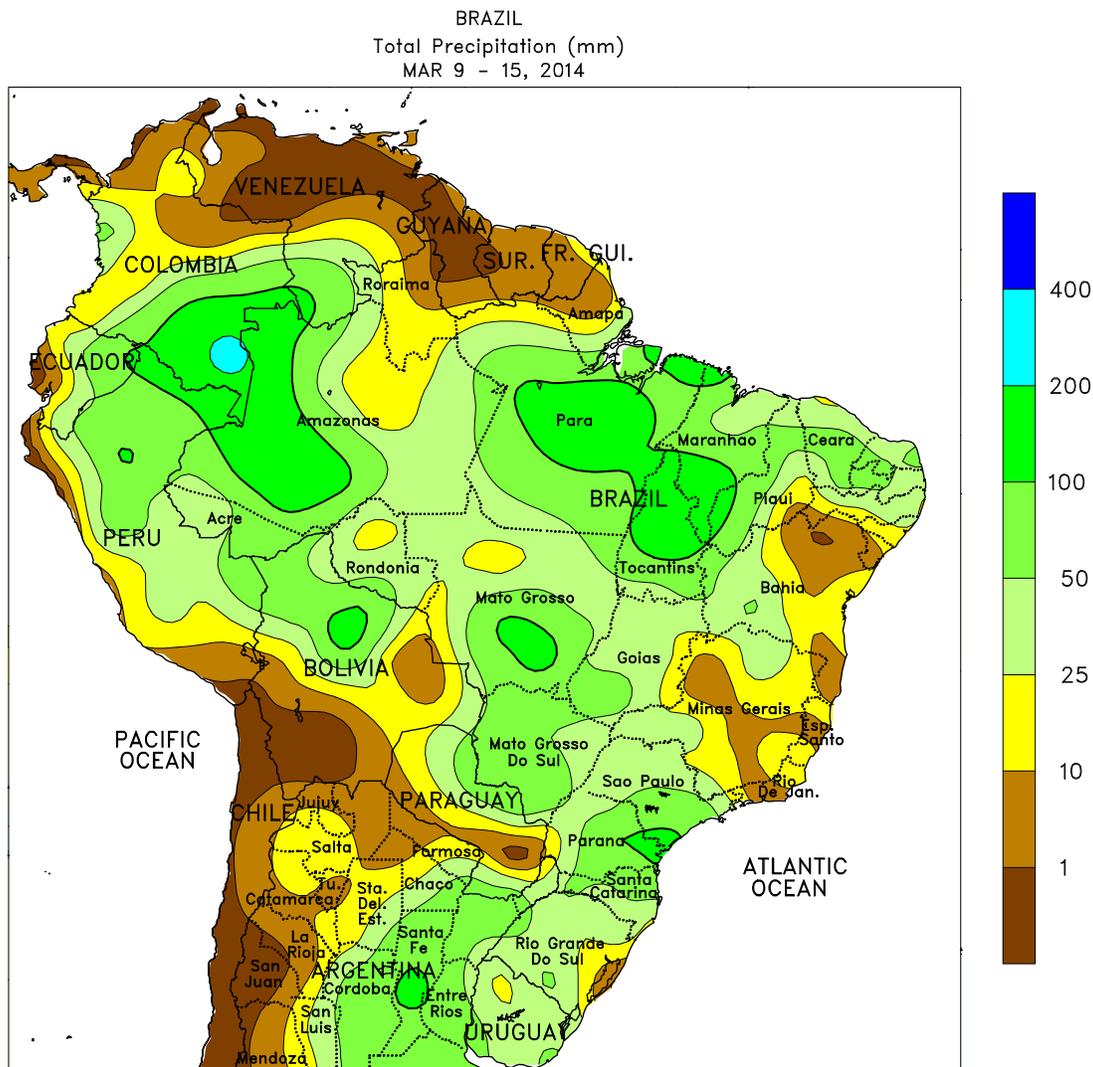
below normal across the corn belt; daytime highs were generally in the middle and upper 20s (degrees C), although temperatures failed to reach the 20s on several days in eastern production areas. Elsewhere, scattered, locally heavy showers (10-100 mm) boosted moisture for rain-fed sugarcane in southern KwaZulu-Natal and increased irrigation reserves for summer row crops in eastern sections of the Cape Provinces. Dry, albeit mild, weather (weekly temperatures averaging 1-2°C below normal) prevailed in Western Cape, supporting the final stages of fruit harvesting.



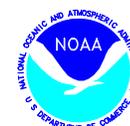
ARGENTINA

Widespread, locally heavy rain covered much of the region, boosting late-season moisture reserves for summer grains, oilseeds, and cotton. Rainfall totaled 50 to 150 mm over a large area stretching from northern La Pampa and central Buenos Aires northeastward to Corrientes, keeping immature summer crops well watered but renewing concerns for flooding in the Parana River Valley. Following several weeks of mostly dry, occasionally warm weather, showers (10-50 mm) returned to southwestern Buenos Aires and nearby locations in La Pampa, boosting moisture for lower-yielding corn and soybeans. Drier conditions (less than 25 mm) prevailed in the northwest, with near-normal temperatures

accompanying the dryness (daytime highs reaching the middle and upper 30s degrees C) spurring summer crop growth. Elsewhere, weekly temperatures averaged near to below normal, although daytime highs reached the upper 20s and lower 30s for several days prior to the onset of the heavy rain in the highest-yielding corn and soybean areas of central Argentina (central Cordoba to northeastern Buenos Aires). According to Argentina's Ministry of Agriculture, sunflowers were 48 percent harvested as of March 13, compared with 59 percent last year. In Buenos Aires, Argentina's largest producer of sunseed, harvesting was 26 percent complete versus 29 percent last year.



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Computer generated contours
Based on preliminary data

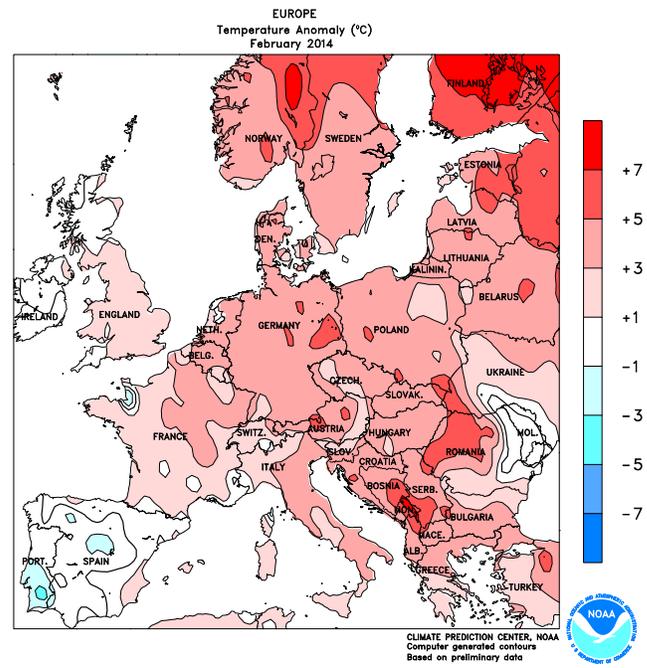
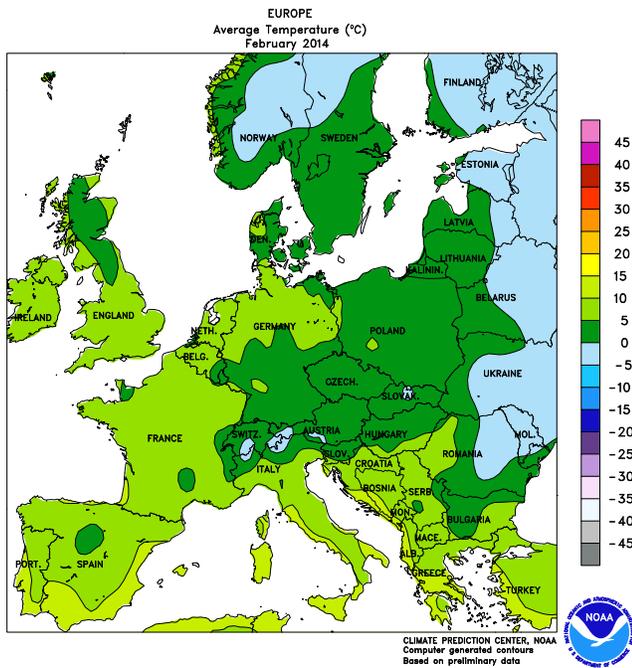
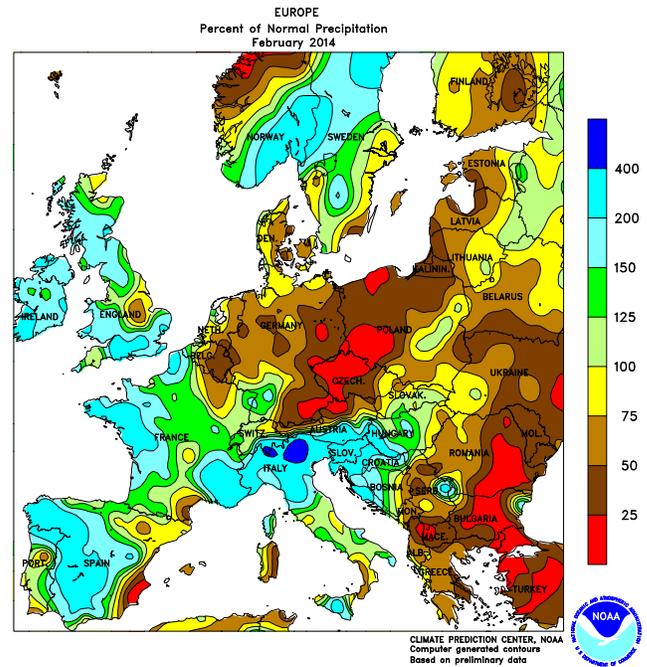
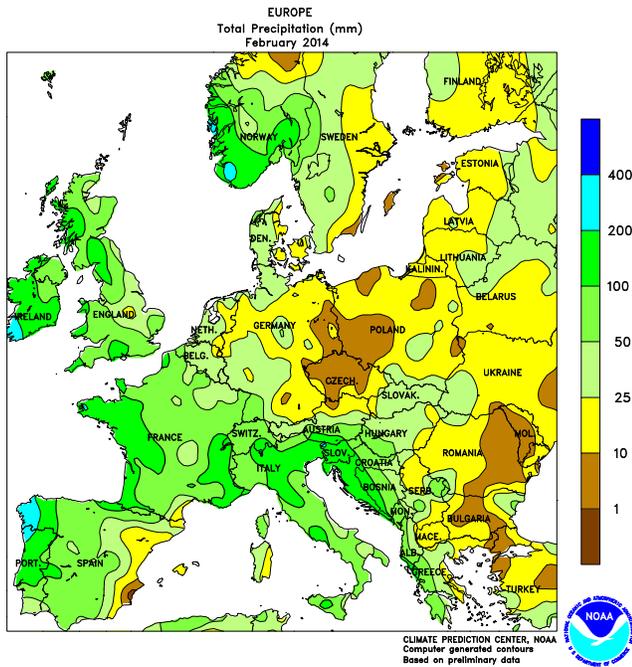


BRAZIL

Widespread, locally heavy rain continued to improve conditions for corn, immature soybeans, and sugarcane in key production areas of the south. Rainfall totaled 25 to 100 mm from Mato Grosso and Sao Paulo southward; although soybean harvesting was well underway, some later-planted crops in Rio Grande do Sul could still benefit from additional rainfall. The rain extended northward into western sections of Minas Gerais, but unseasonable warmth and dryness (rainfall totaling below 25 mm, accompanied by weekly temperatures averaging up to 3°C above normal) returned to key coffee production areas of

southern Minas Gerais and neighboring locations closer to the coast. Farther north, moderate to heavy rain (25-100 mm, locally higher) maintained abundant to locally excessive levels of moisture for second-crop (safrinha) corn and cotton from Mato Grosso to the northeastern interior (in and around western Bahia). However, the moisture was untimely for fieldwork, including soybean harvesting and treatment of pests and diseases. Despite the wetness, temperatures averaged near to above normal, with daytime highs reaching the middle 30s (degrees C) in Mato Grosso and Tocantins on several days.

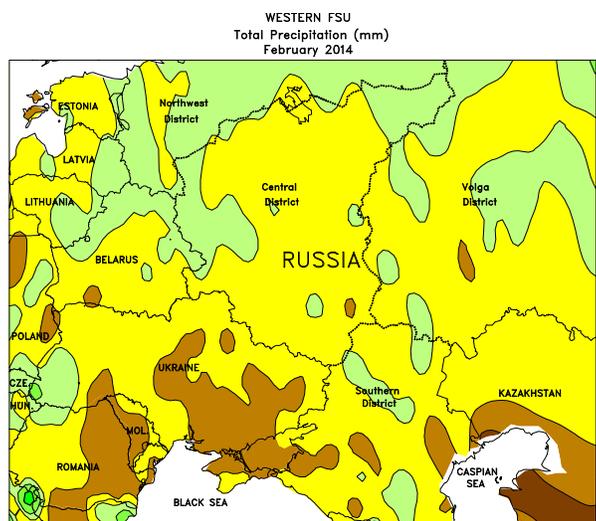
February International Temperature and Precipitation Maps



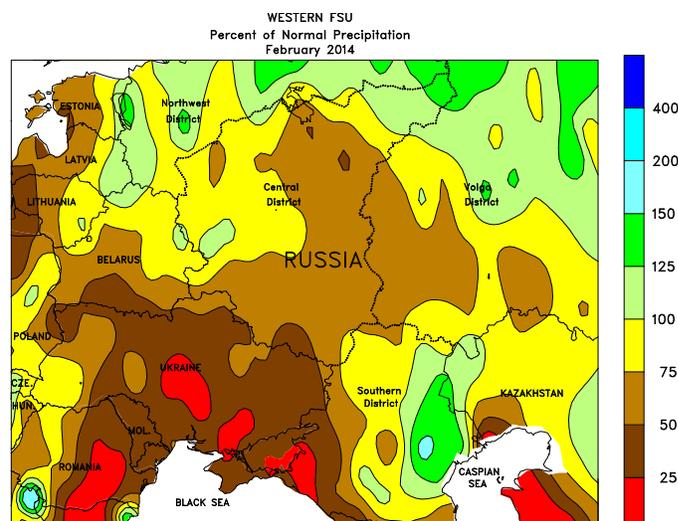
EUROPE

An unseasonably warm February ushered winter crops out of dormancy up to a month ahead of normal from Germany and western Poland southeastward into the Balkans, where temperatures averaged up to 6°C above normal. Additionally, the warm weather also encouraged rapid early-season growth of wheat and rapeseed in France. Meanwhile, a parade of storms maintained locally excessive soil moisture for vegetative winter wheat and barley from

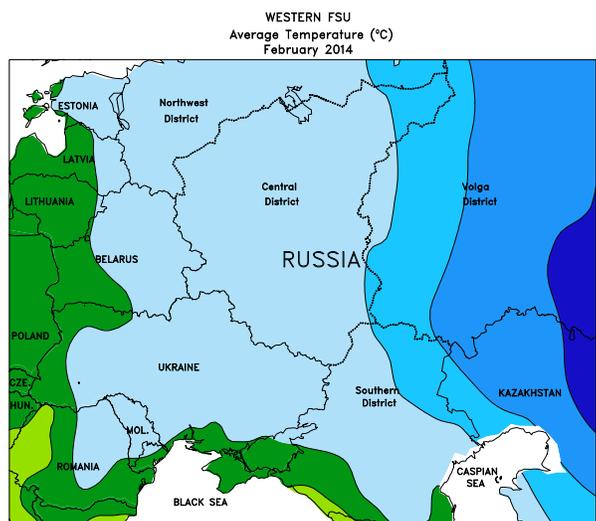
Spain into Italy and boosted water reserves for irrigated summer crops. Stormy weather also frequented the United Kingdom, causing localized flooding but providing adequate to abundant moisture for winter grains and oilseeds. In contrast, short-term dryness reduced soil moisture for early-greening winter crops in southwestern Poland, the Czech Republic, and lower portions of the Danube River Valley.



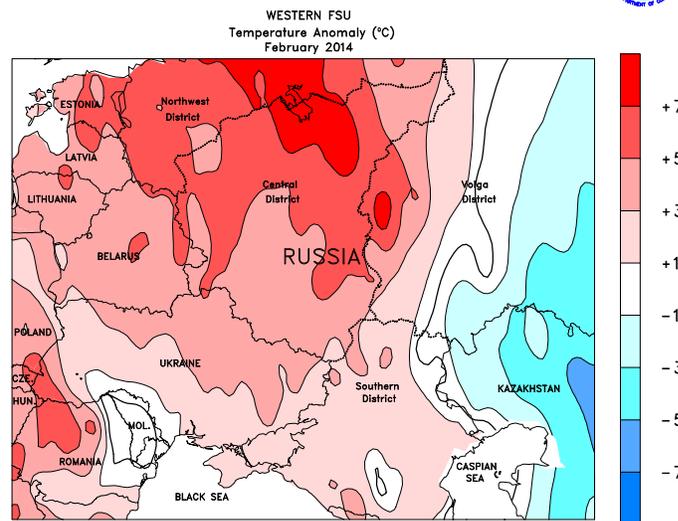
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Computer generated contours
Based on preliminary data



CLIMATE PREDICTION CENTER, NOAA
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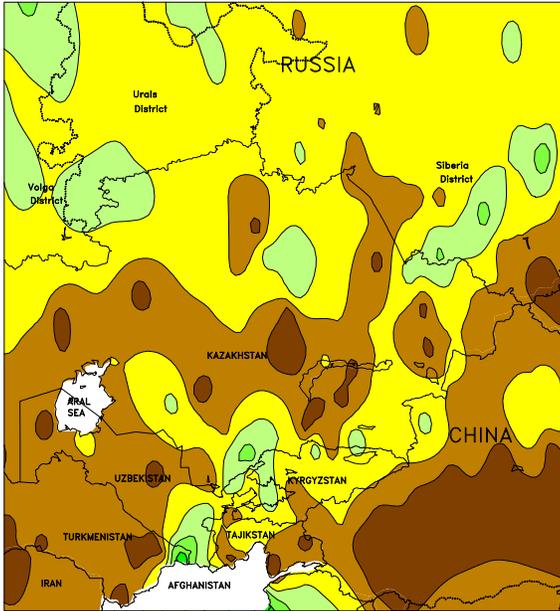


WESTERN FSU

Unseasonably warm, dry weather facilitated early spring grain planting and winter crop greening in southern-most growing areas. During February, temperatures averaged 3 to 6°C above normal across Belarus, Ukraine, and southern and western Russia, rapidly reducing winter crop cold hardiness. By month's end, the region's typically deep

snowpack had melted up to a month ahead of normal in central and western crop districts. Drier-than-normal conditions were most pronounced in Ukraine, where little if any precipitation (locally less than 10 percent of normal) reduced soil moisture reserves for winter crops that began breaking dormancy by early March.

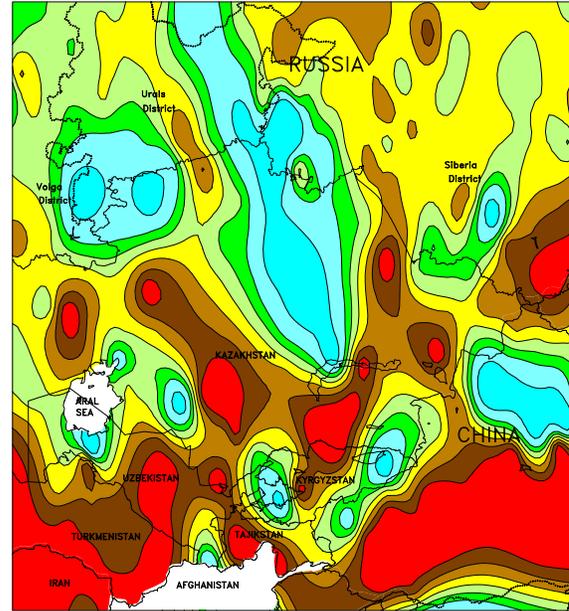
EASTERN FSU
Total Precipitation (mm)
February 2014



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



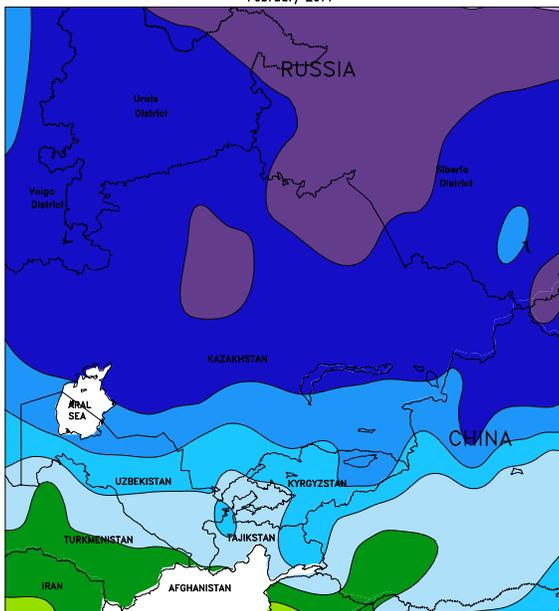
EASTERN FSU
Percent of Normal Precipitation
February 2014



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



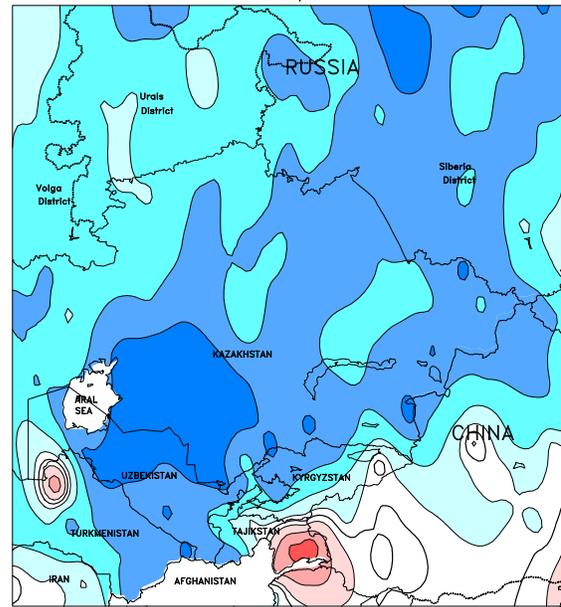
EASTERN FSU
Average Temperature (°C)
February 2014



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



EASTERN FSU
Temperature Anomaly (°C)
February 2014



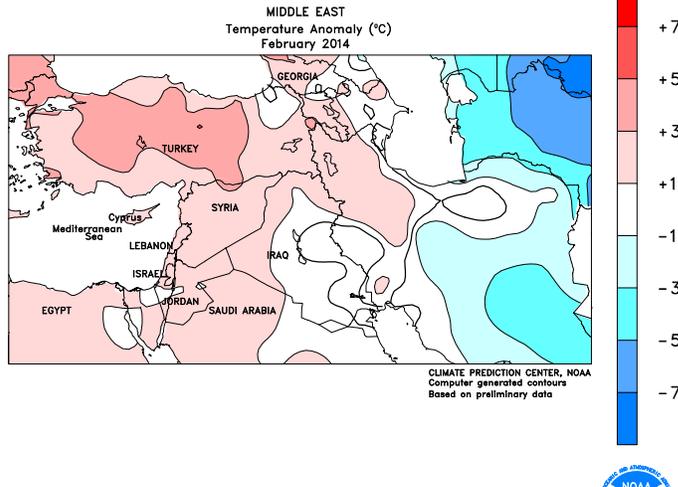
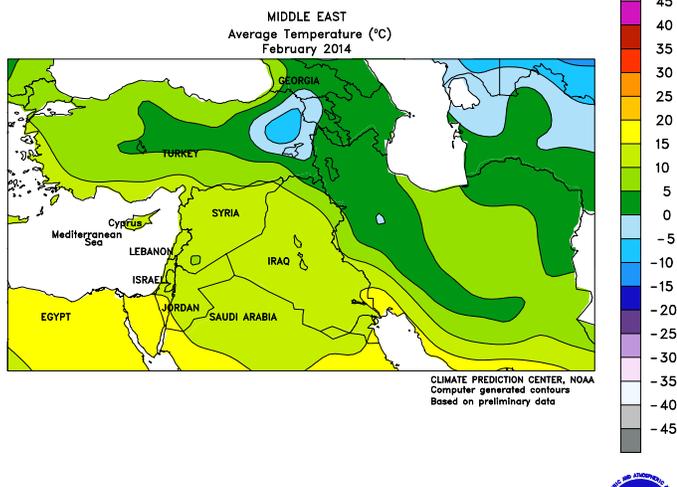
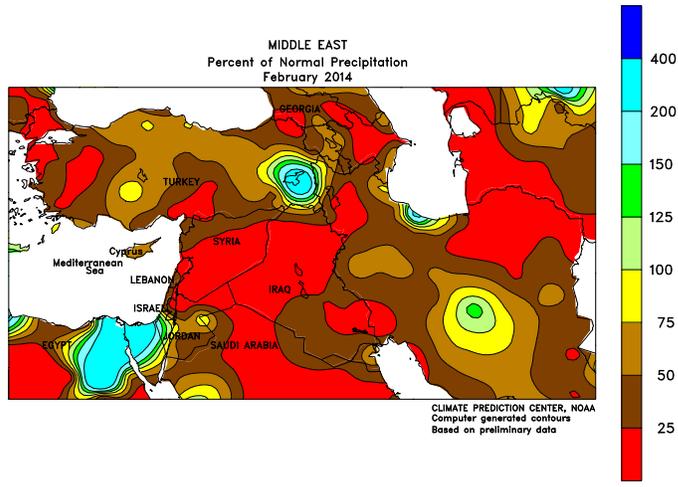
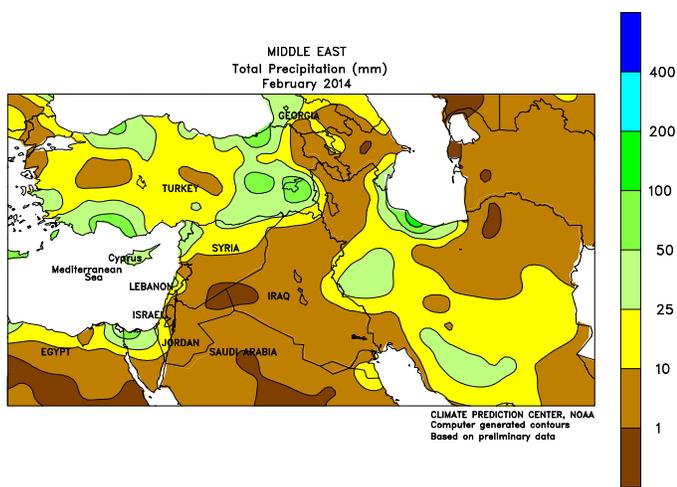
CLIMATE PREDICTION CENTER, NOAA
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Based on preliminary data



EASTERN FSU

During February, bitter cold prevailed over northern portions of the region. Temperatures reached -35°C (or lower) in Russia and northern portions of Kazakhstan, with daytime highs staying mostly below

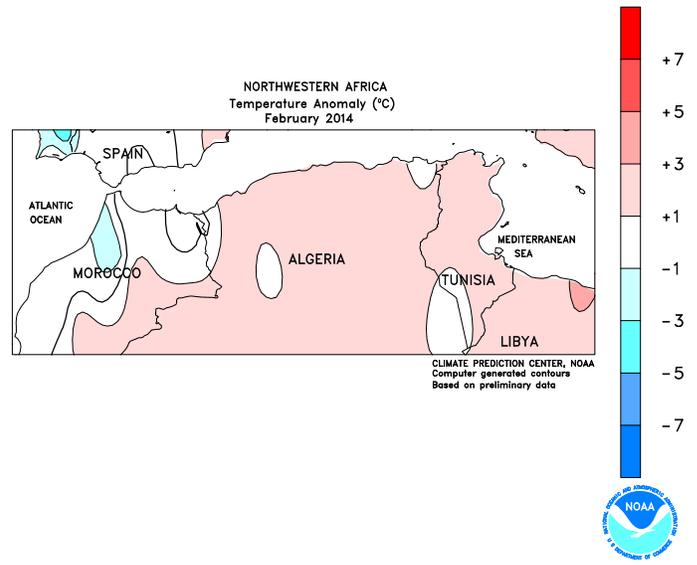
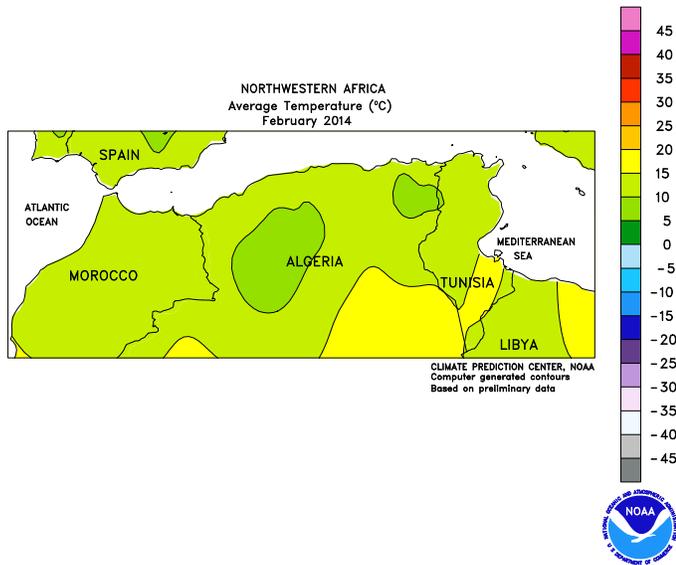
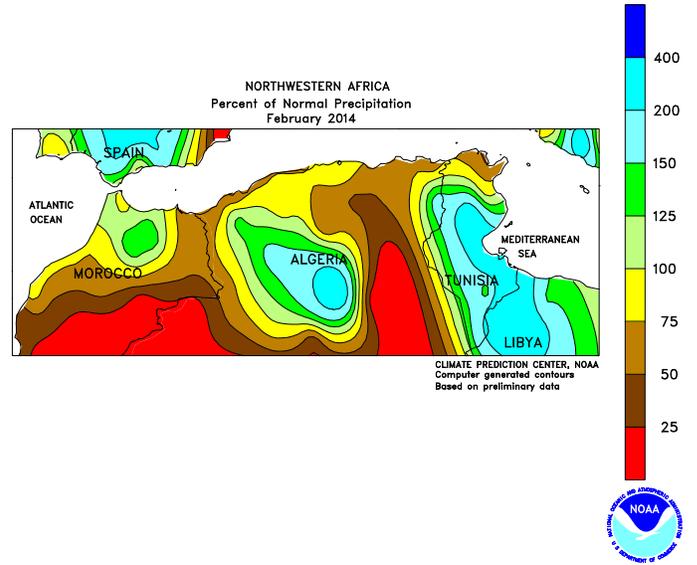
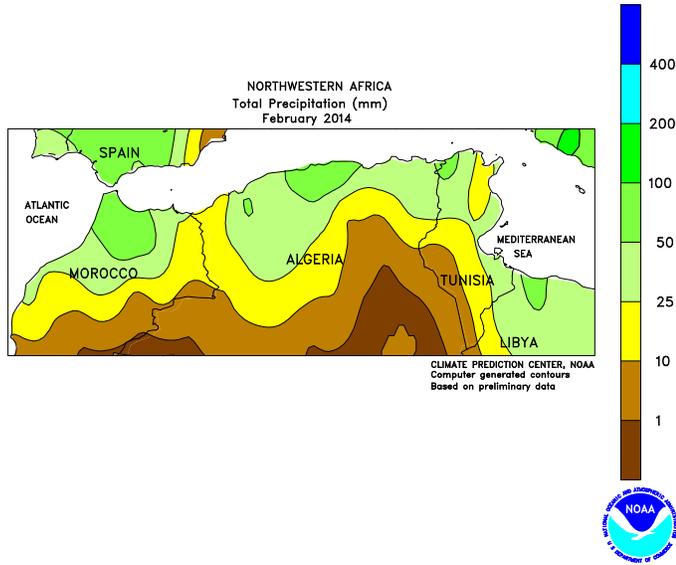
freezing. In the south, cold albeit dry weather maintained mountain snowpacks, which provide spring runoff for irrigation during the upcoming spring-summer growing season.



MIDDLE EAST

A drier- and warmer-than-normal February across most of the Middle East raised concerns for poorly-established winter crops, particularly in western and northern portions of the region. Unseasonably warm conditions in Turkey accelerated winter wheat out of dormancy up to a month ahead of normal, with a lack of appreciable rainfall (locally less than 25 percent of normal) further reducing prospects

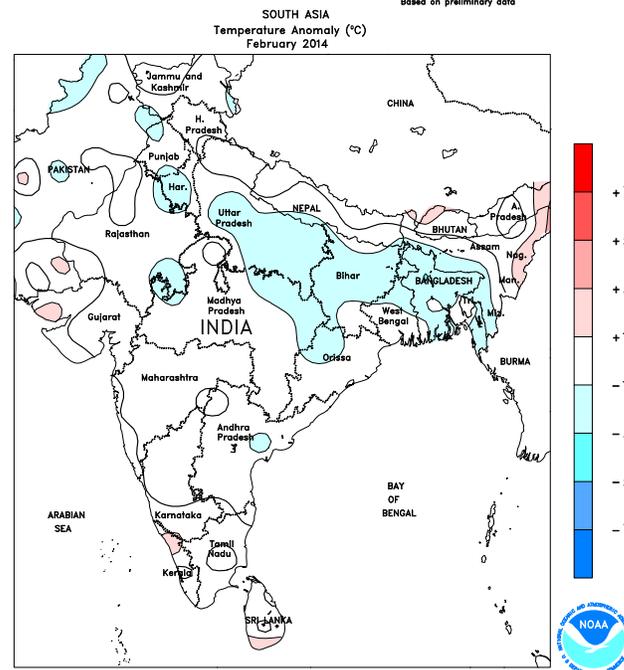
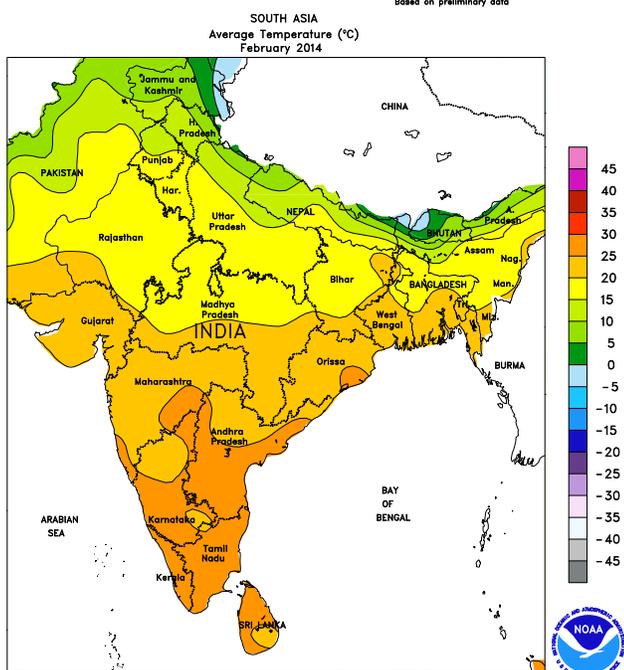
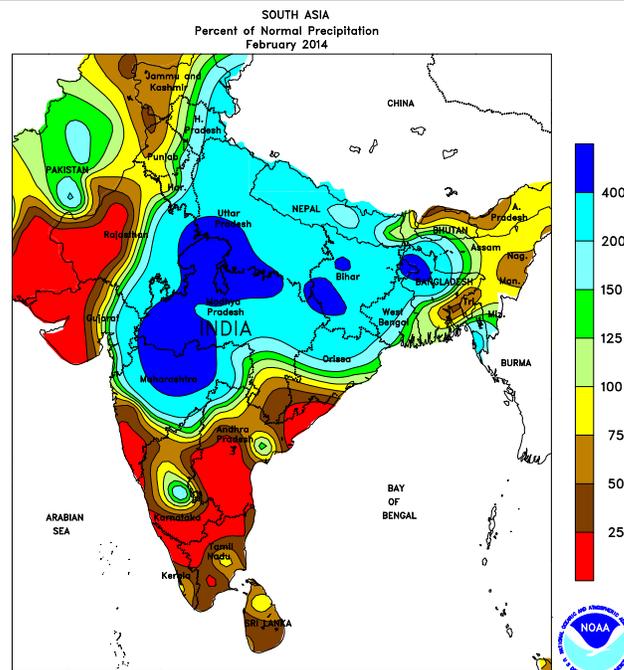
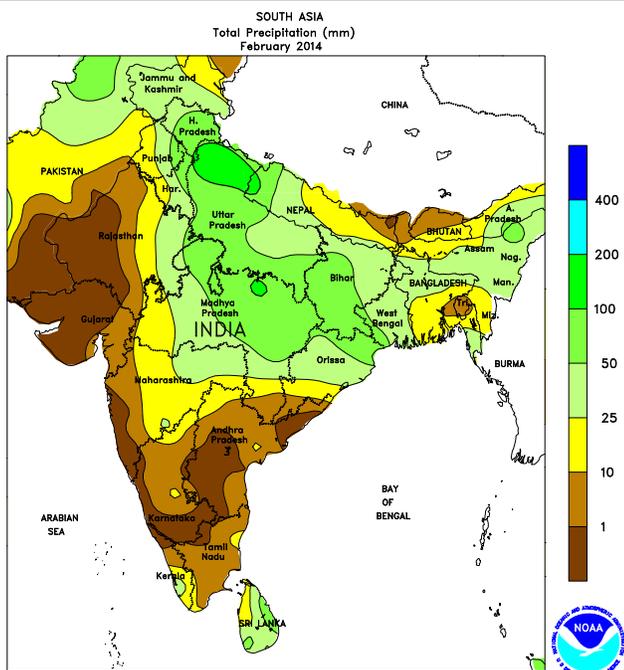
for poorly-established winter grains. The warmth and dryness also reduced moisture for vegetative winter crops along the eastern Mediterranean Coast. Elsewhere, dry weather prevailed, though winter grain prospects in Iraq and western Iran were overall favorable due to a wet winter; however, intensifying drought in northeastern Iran has adversely impacted vegetative wheat and barley.



NORTHWESTERN AFRICA

In February, occasional rainfall maintained excellent prospects for vegetative winter wheat and barley from northern Morocco into Algeria and Tunisia. In contrast,

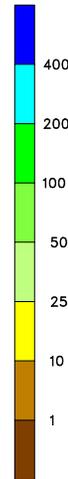
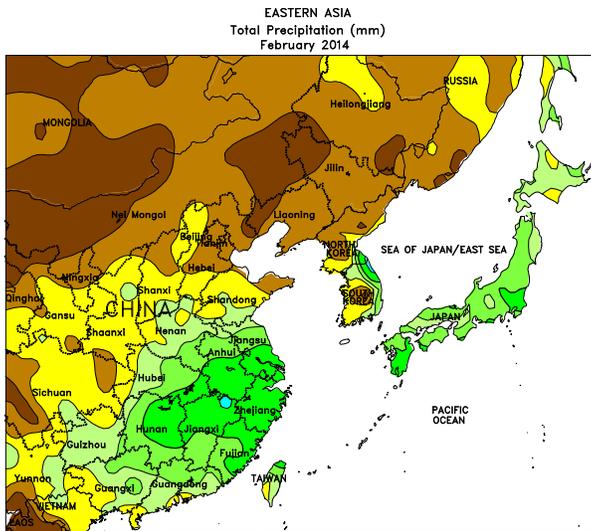
drier-than-normal conditions lingered over southern Morocco, reducing soil moisture for winter grain growth. Temperatures averaged near normal.



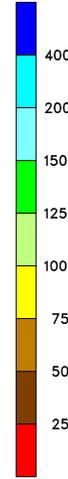
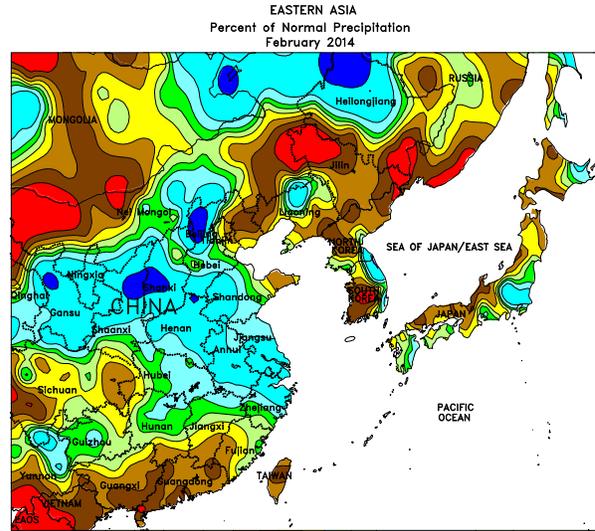
SOUTH ASIA

Above-normal February rainfall across northern growing areas of India came on heavy mid- to late-month rainfall. The rainfall occurring in the middle part of the month benefited filling wheat, but the rainfall in the latter part of the month raised concerns over the quality of wheat beginning to mature, while also negatively impacting maturing rapeseed grown in northern Madhya Pradesh. The remainder of India received seasonably dry weather, promoting continued cotton harvesting in the west and

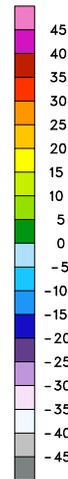
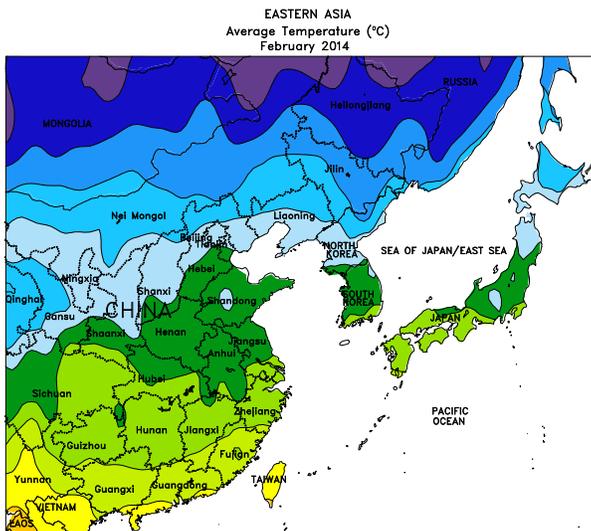
south as well as other fieldwork. Temperatures across India were generally below normal, which favored wheat and rapeseed development prior to the onset of maturation. Elsewhere in the region, late-month rainfall provided additional moisture to maha rice in Sri Lanka. Despite concerns over prolonged dryness in Sri Lanka, rainfall for much of the season has been near normal and consistent with recent years. Rainfall has, however, been well below last year's totals, which resulted in widespread flooding.



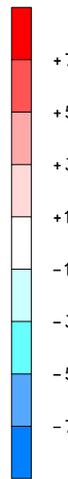
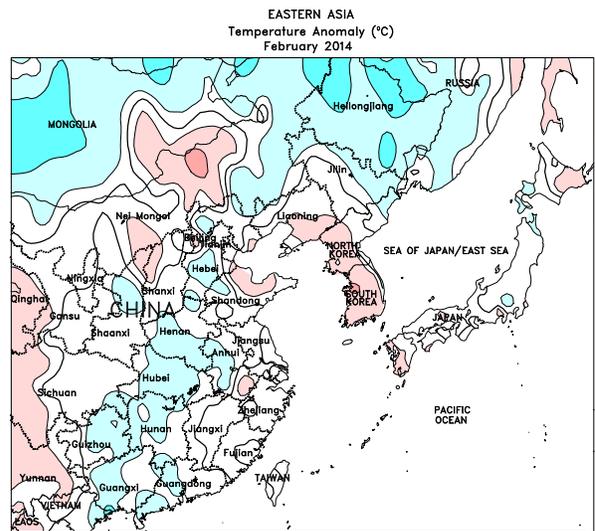
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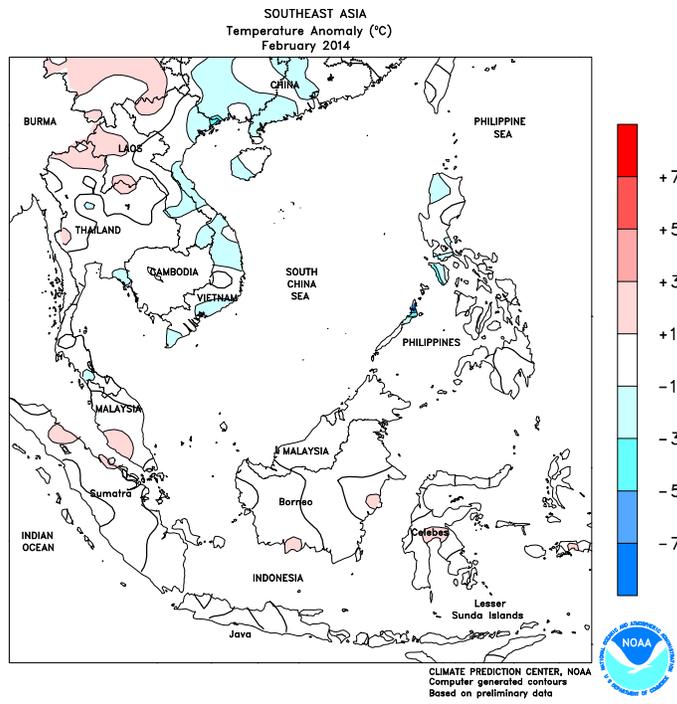
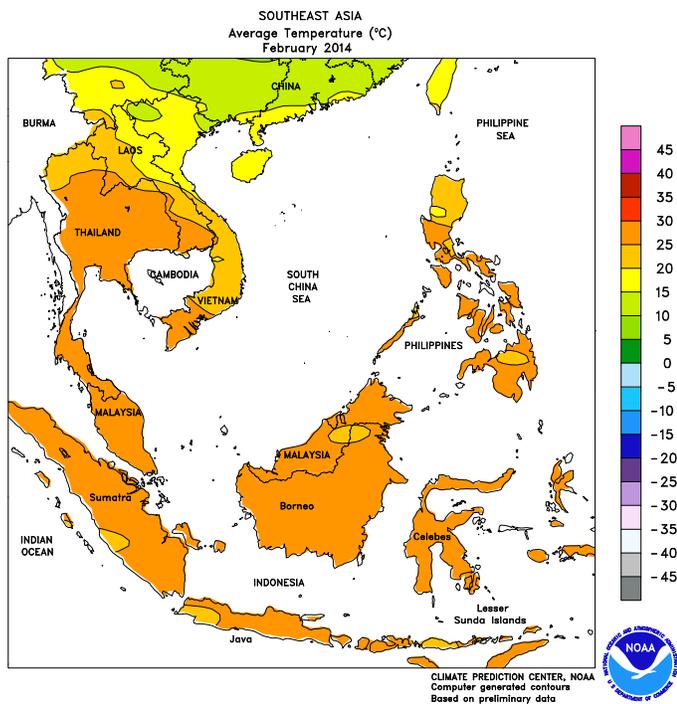
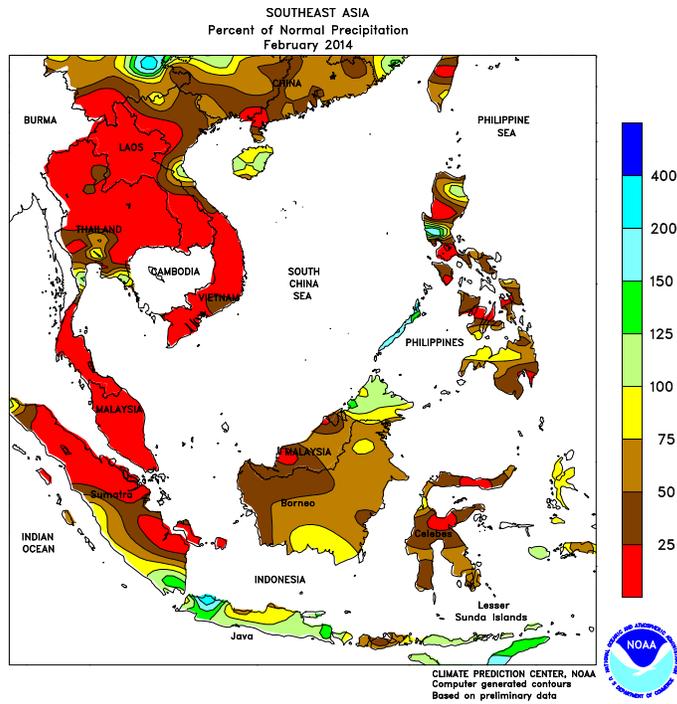
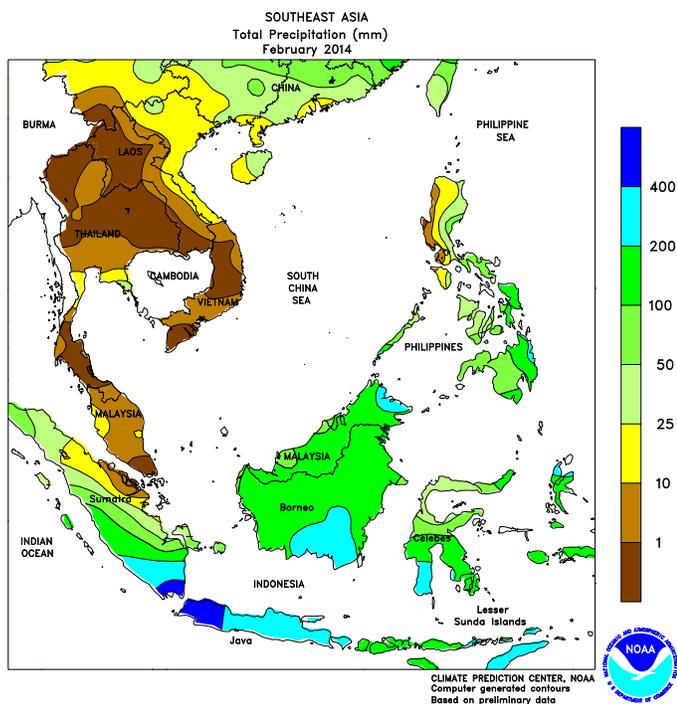
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EASTERN ASIA

In February, temperatures across winter crop areas were near normal. However, a mid-February cold snap exposed crops to potentially damaging temperatures after near-record warmth for much of the winter reduced cold hardiness. Warmer weather returned by the end of February, causing most crops to break dormancy in all but the far northern winter crop areas. Rainfall was above

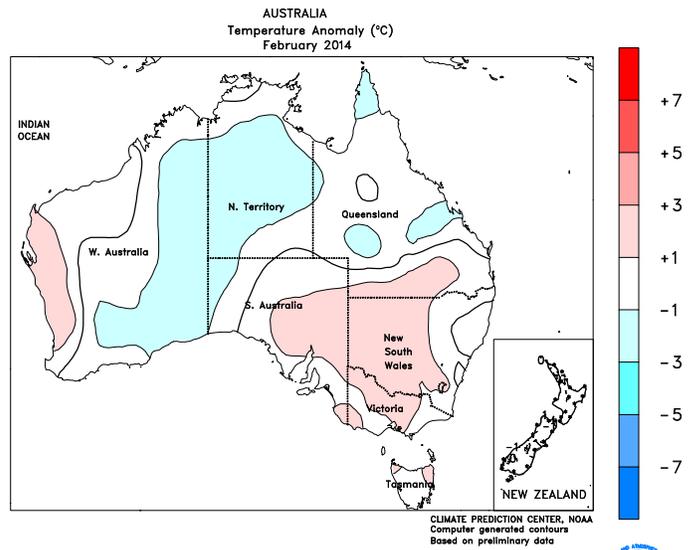
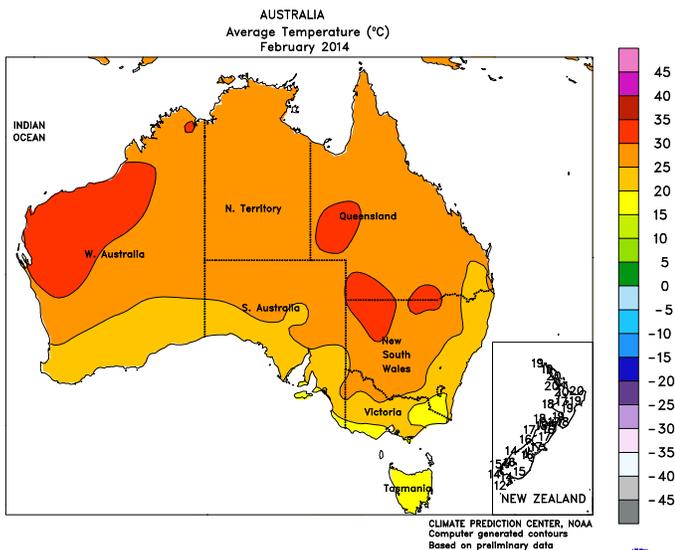
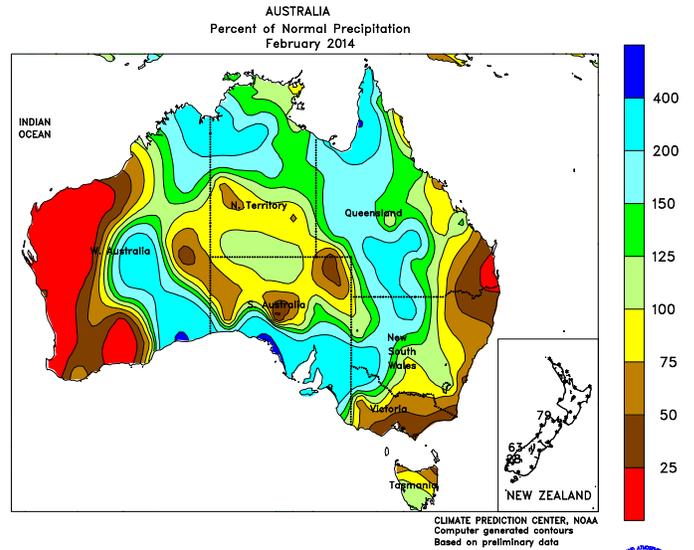
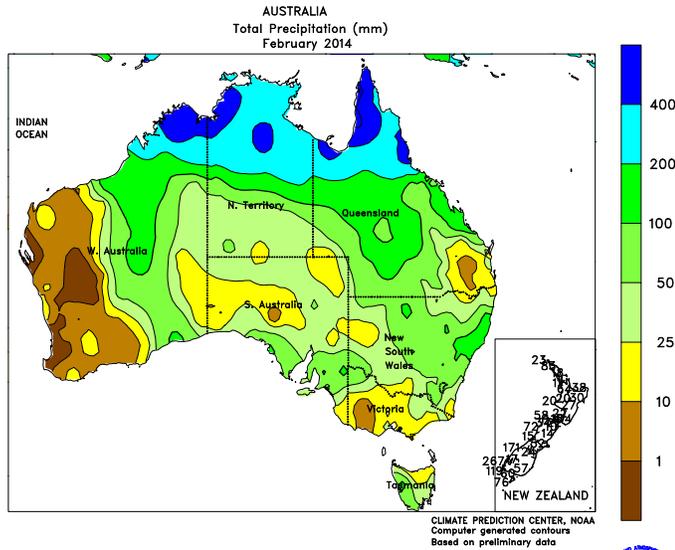
normal during the month, on periodic showers, in southern winter wheat areas and for winter rapeseed in the eastern half of the Yangtze Valley. The above-normal rainfall also boosted irrigation supplies for early-crop rice that will be transplanted in March. In contrast, recharge of irrigation supplies for rice in southern provinces was limited on unseasonably dry weather.



SOUTHEAST ASIA

In Java, Indonesia, excessive rainfall continued into February across western rice areas, where crops were maturing. The continuation of near-record rainfall in portions of Java diminished otherwise excellent rice prospects. In contrast, drier conditions in central Java promoted rice maturation, while continued seasonal

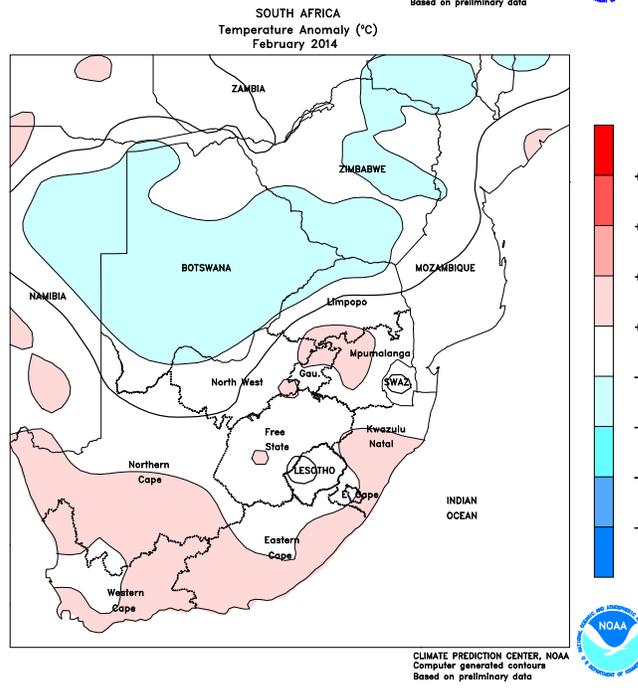
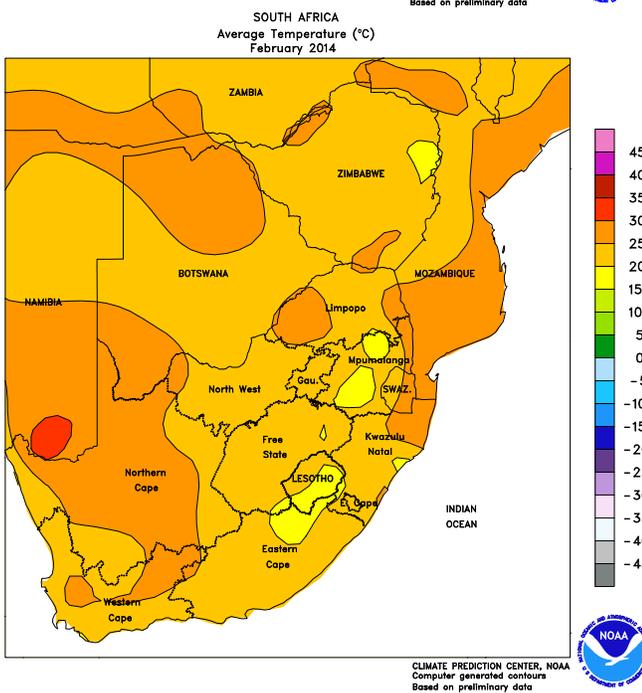
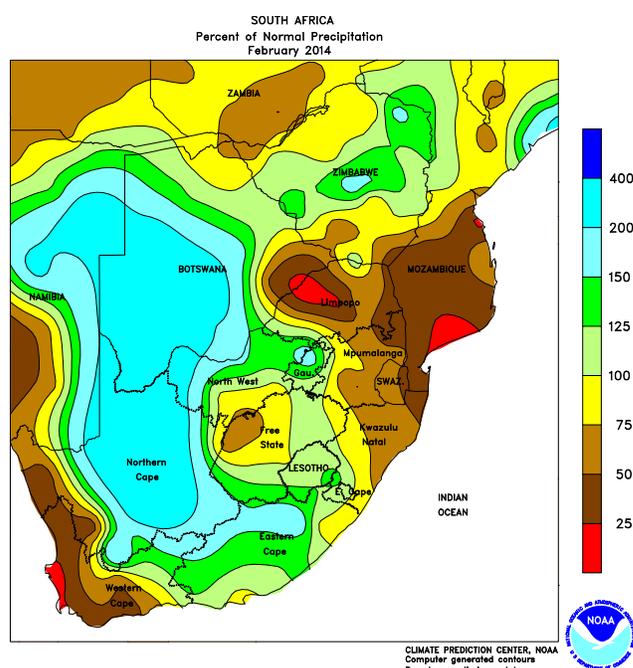
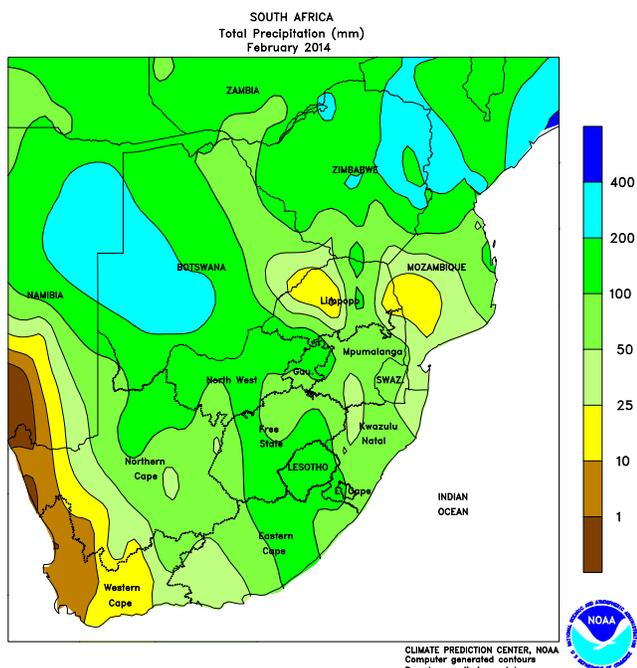
showers benefited filling rice in the east. In the Philippines, rice and corn were in various stages of development, with drier-than-usual weather promoting maturation of the more advanced crops. Moisture supplies remained adequate, however, for the remainder of Philippine crops.



AUSTRALIA

In southern Queensland and northern New South Wales, hot, mostly dry weather persisted in February, maintaining large irrigation demands for immature cotton while accelerating the maturation of dryland

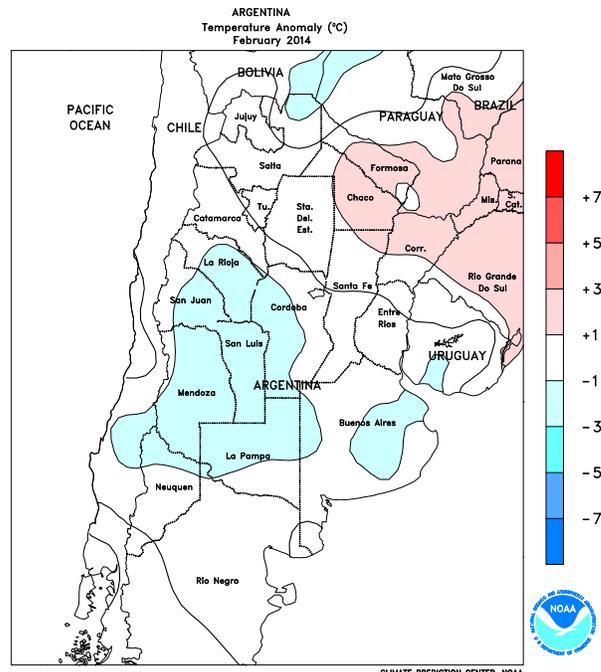
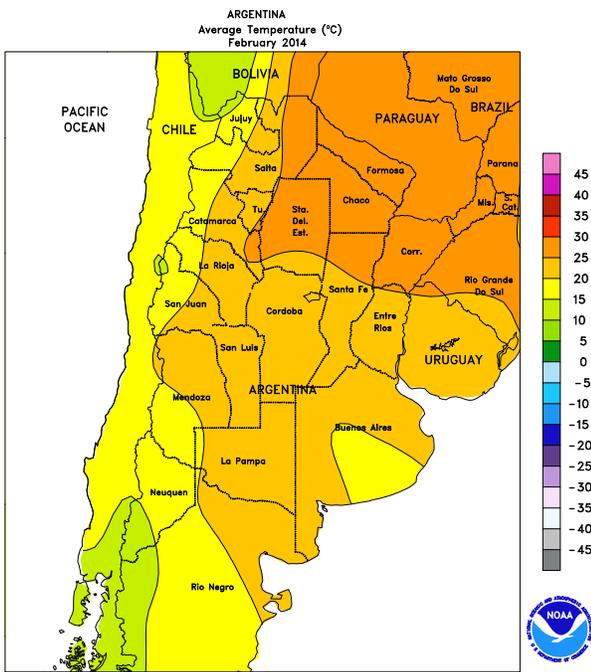
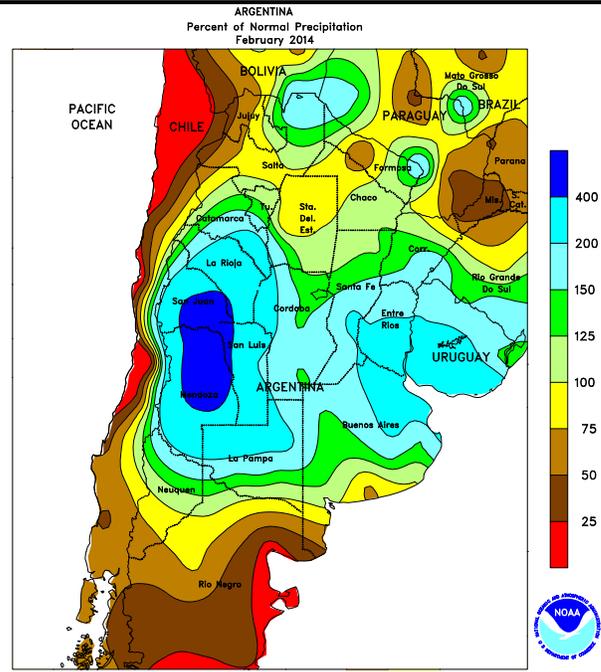
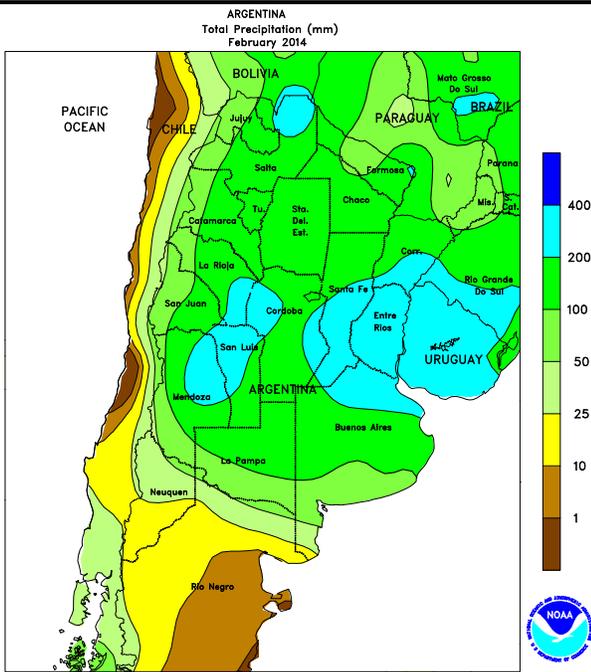
crops, such as sorghum. Unfavorably hot and dry weather has plagued the region since mid-December, causing a slow but steady decline in the yield potential of dryland crops.



SOUTH AFRICA

During February, warm, showery weather maintained generally favorable conditions for immature summer crops. Monthly rainfall was near to above normal across much of the corn belt (North West to southwestern Mpumalanga), with the heaviest rain falling during the early part of February. The rainfall was especially timely for white corn in key production areas of North West and Free State, where planting usually takes place later in the season and crops were in or approaching reproduction. In contrast, drier weather in eastern sections of the corn belt sped maturation of earlier-planted crops. In addition, periods of warm, sunny weather during the

middle part of the month favored crop growth, particularly in those areas recording significant rainfall. Monthly temperatures averaged 1°C above normal across the corn belt, with daytime highs occasionally reaching the middle 30s (degrees C) in the traditionally warmer locations in the west and north. Elsewhere, scattered showers benefited rain-fed sugarcane in southern KwaZulu-Natal, though monthly amounts were below normal. Heavier rain relative to normal boosted irrigation reserves for summer row crops in eastern sections of the Cape Provinces, while warm, mostly dry weather aided production of tree and vine crops in Western Cape.



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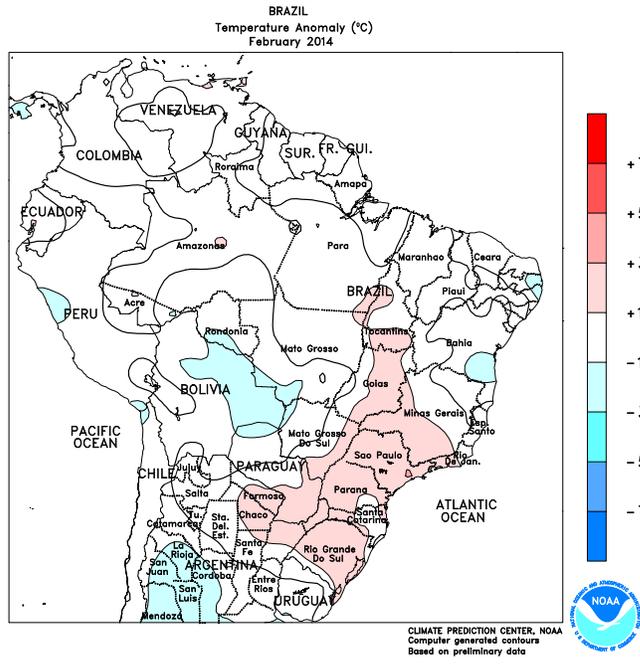
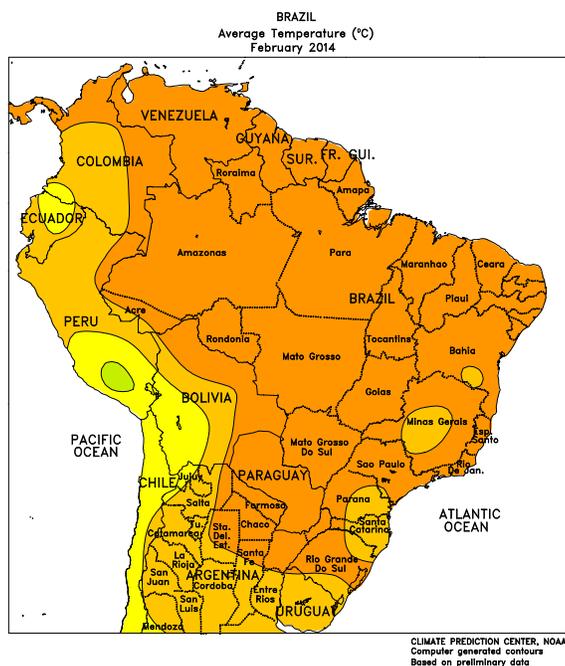
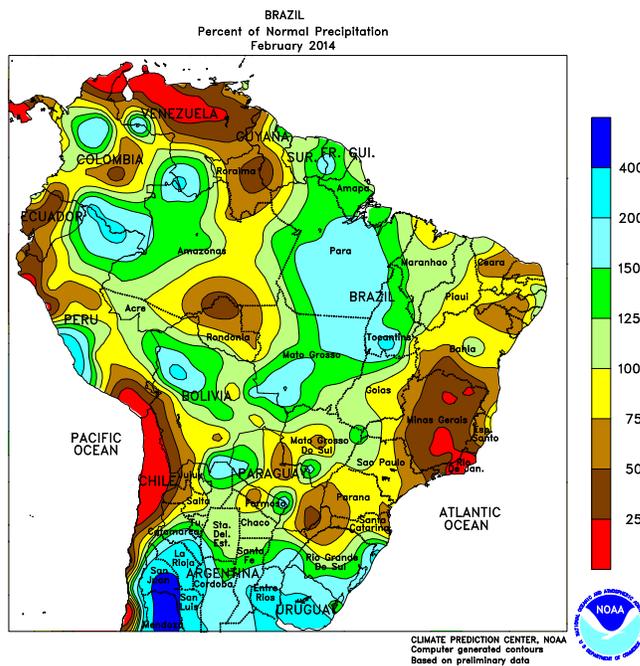
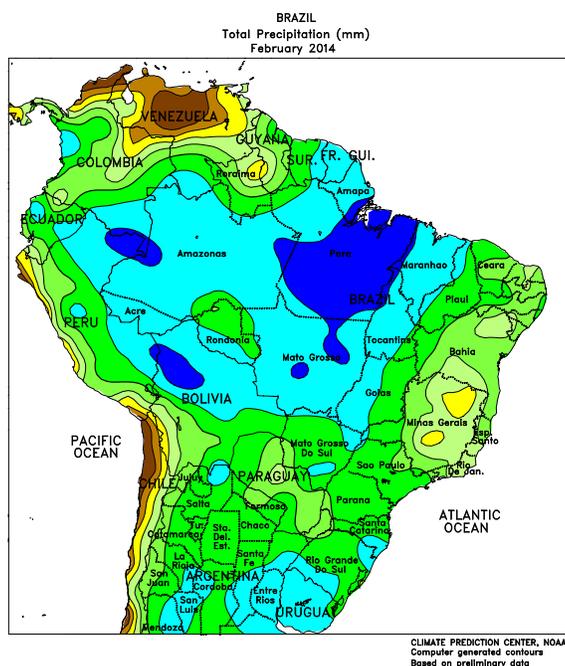
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ARGENTINA

During February, frequent, locally heavy rain greatly increased moisture levels for Argentina’s summer grains, oilseeds, and cotton, improving prospects of later-planted summer crops but causing localized flooding. Portions of the lower Parana River Valley (northern Buenos Aires and southern sections of Santa Fe and Entre Rios) recorded more than twice the normal monthly rainfall (total accumulations in excess of 200 mm). February average monthly temperatures were near to below

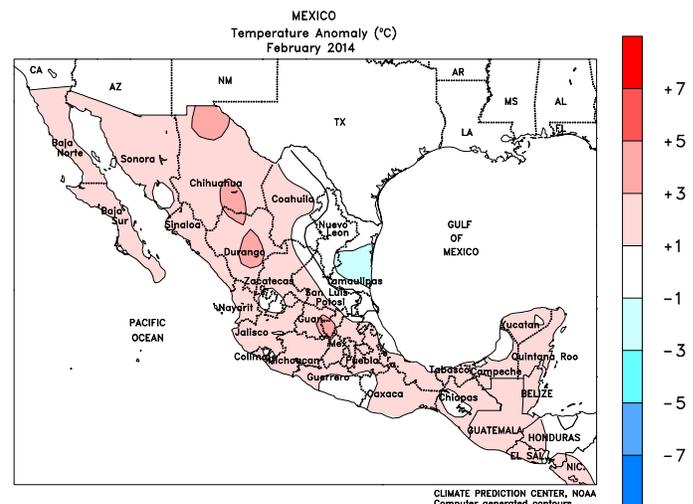
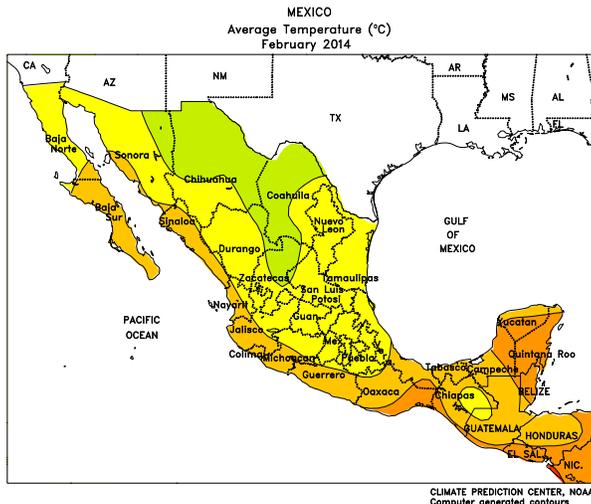
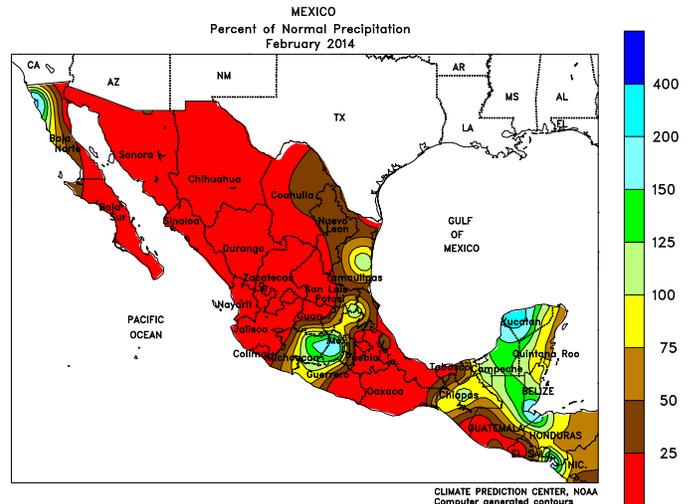
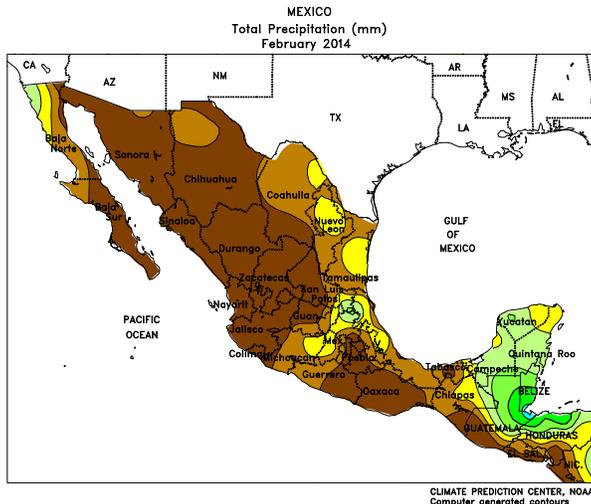
normal in central Argentina and up to 2°C above normal in the north. Periodic warmth (daytime highs reaching the middle 30s degrees C) in early February spurred development of reproductive to filling crops in central Argentina, which recorded cooler conditions during the latter half of the month. A similar pattern of early-month warmth occurred farther north, with daytime highs occasionally approaching 40°C in some traditionally warmer locations.



BRAZIL

In early February, periods of heat and dryness stressed soybeans in key production areas of Paraguay and southern Brazil. In the hardest hit locations, little to no rain fell during the first 10 days of the month and daytime highs approached 40°C in some of the warmest areas. Periodic showers during the remainder of the month helped to stabilize crop conditions, but soybeans — and to a lesser extent corn — had already sustained irreversible damage. Unseasonable warmth and dryness also affected coffee in the main growing region of southeastern Brazil, including Minas Gerais, the country’s largest producer. Dry weather also affected sugar production in the main production areas

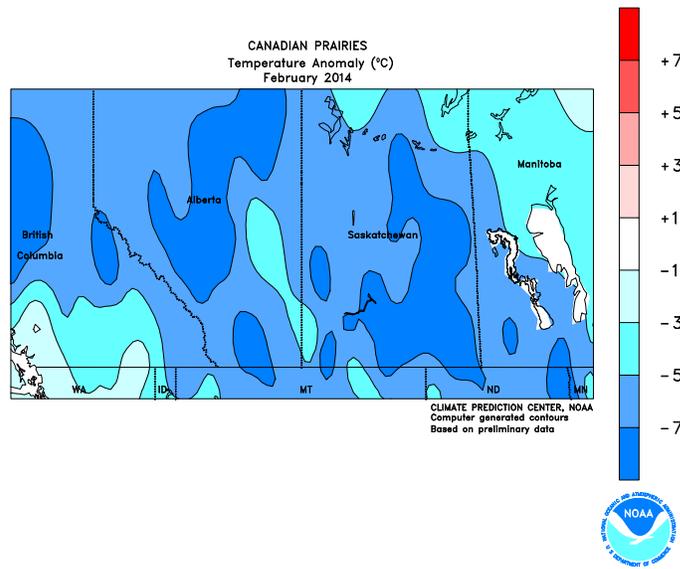
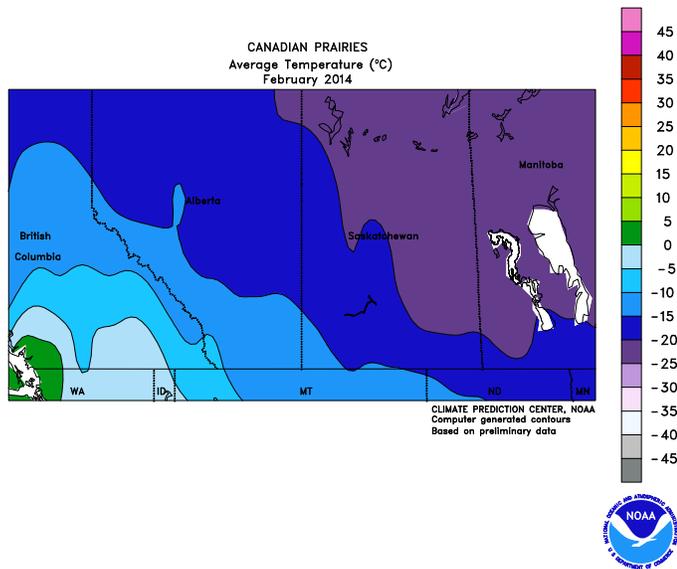
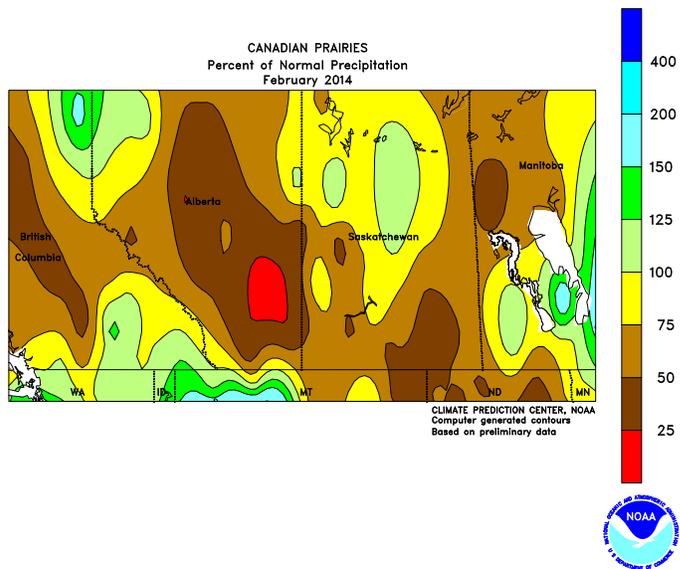
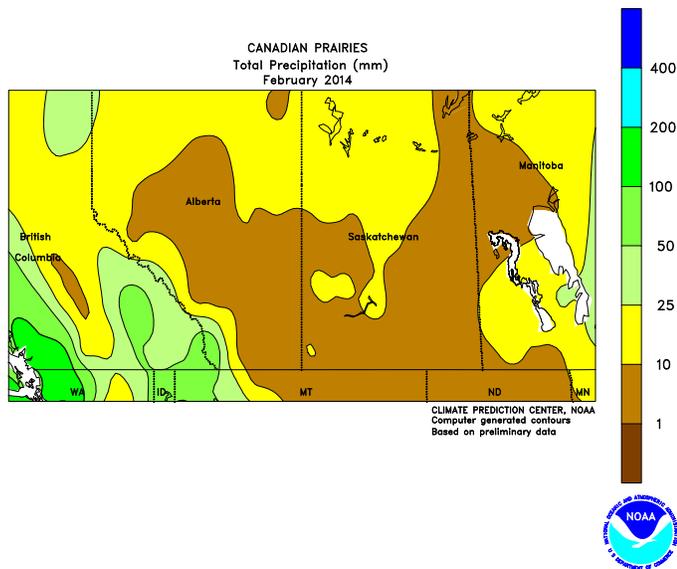
of Sao Paulo, although timely rain brought some relief during the middle part of February. In contrast, wet weather persisted in Mato Grosso and portions of northeastern Brazil, keeping immature corn and cotton abundantly watered but hampering fieldwork, including treatments for pests and diseases. Monthly totals exceeded 400 mm in parts of Mato Grosso, where soybean harvests and the subsequent second plantings of corn and cotton were reportedly delayed. After a dry start to the month, more normal levels of rain benefited crops in the northeastern interior (notably western Bahia), improving prospects of cotton and later-planted soybeans.



MEXICO

Seasonably drier conditions prevailed throughout the region during the month of February. Virtually no rain fell from the northwest to western sections of the southern plateau (Sonora and Chihuahua to Jalisco), where above-normal temperatures (monthly temperatures averaging 2-3°C) spurred growth of irrigated winter grains. Scattered showers (monthly totals below 25 mm) boosted topsoil moisture for rain-fed winter crops in the northeast (Nuevo Leon and Tamaulipas) but amounts were well below normal for this time of year. Elsewhere, scattered showers (locally exceeding 25 mm)

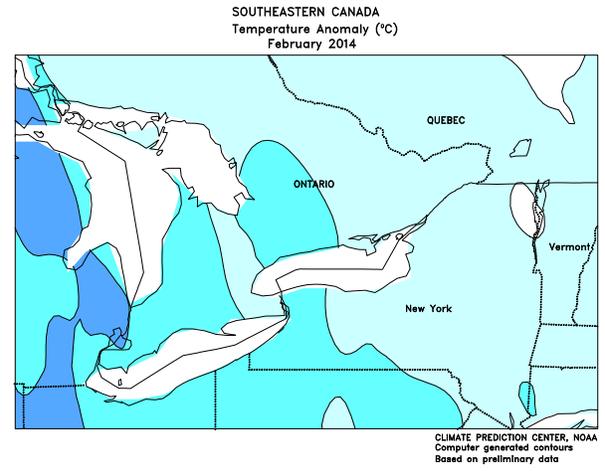
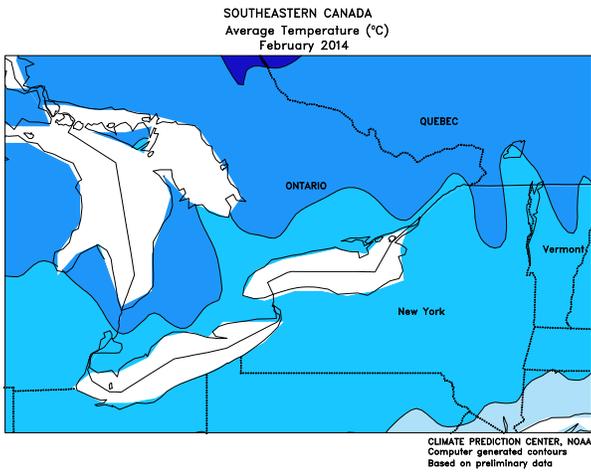
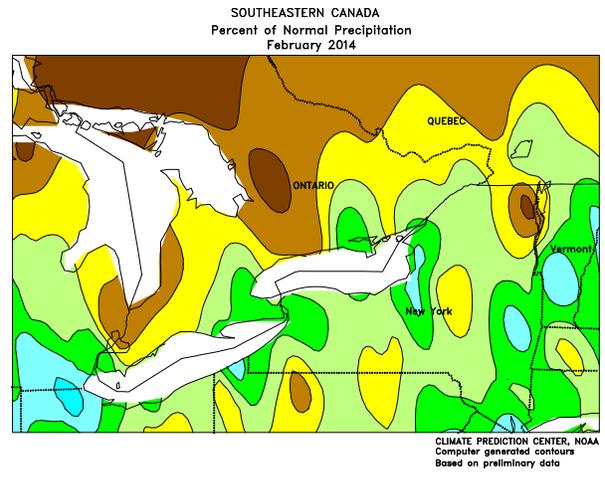
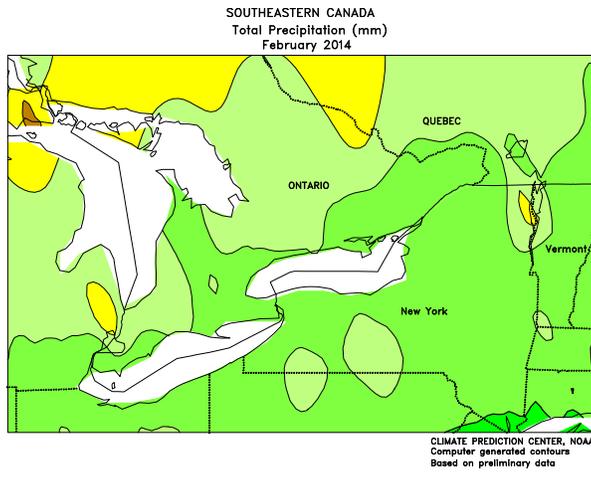
continued along the central and southern Gulf Coast (Veracruz to the Yucatan Peninsula), boosting local irrigation reserves, and light rain (5-25 mm) benefited winter grains on central sections of the southern Plateau (Michoacan to Hidalgo). According to the government of Mexico, total national reservoir capacity was at 45.7 percent as of February 28, compared with 40.0 percent last year and 49.3 percent in 2012. Northwestern reservoirs were reportedly at 33.8 percent capacity, ahead of both last year (30.3 percent) and 2012 (28.8 percent).



CANADIAN PRAIRIES

During February, colder- and drier-than-normal weather dominated the Prairies, though a few locations picked up some additional snow cover. Monthly average temperatures were 4 to 8°C below normal throughout the region, with nighttime lows occasionally falling below -30°C in nearly all locations. Most areas enjoyed a protective layer of snow during the coldest parts of February; according to satellite-based estimates, however, parts of southern Alberta and southwestern sections of Saskatchewan had only a light, patchy snow in

early February, raising the potential for damage to overwintering wheat and pastures. Significant precipitation (locally in excess of 10 mm, liquid equivalent) was generally confined to Alberta's Peace River Valley and the vicinity of Manitoba's lakes, as well as scattered locations in northern and western Saskatchewan. Warm weather (daytime highs above 0°C) during the middle part of the month eroded some of the region's snowpack but most areas — including the southwest — accumulated some additional snow afterwards.



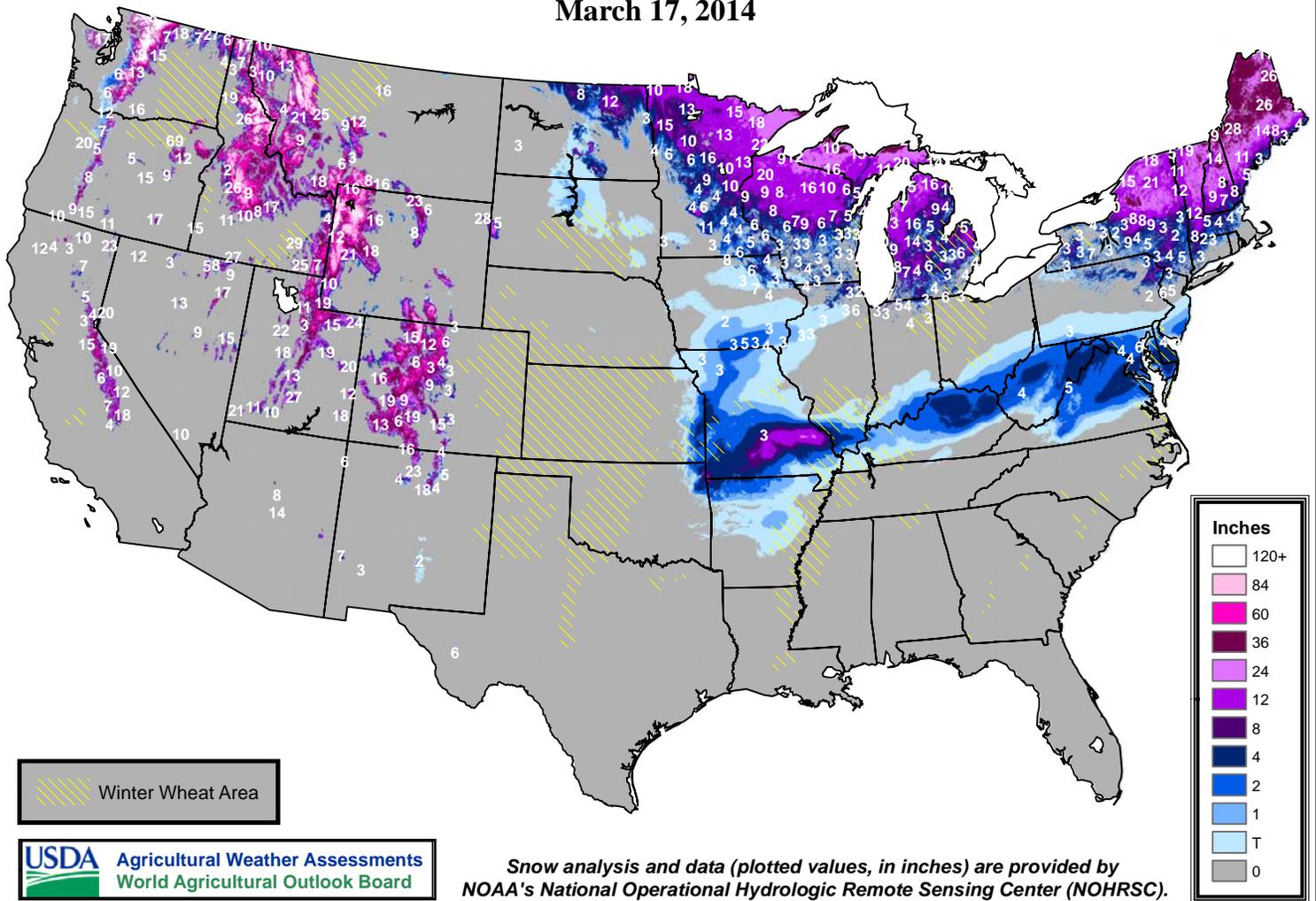
SOUTHEASTERN CANADA

Cold, occasionally wet weather prevailed during February, sustaining an ample snow cover that kept overwintering wheat and pastures protected from the cold. Monthly temperatures averaged 2 to 4°C below normal across Ontario, and near to slightly above normal in Quebec; nighttime lows frequently fell below -20°C in the agricultural districts of both provinces,

but most areas enjoyed a moderate to deep snowpack, offering protection from the bitter cold. February precipitation was near to above normal (monthly accumulations generally ranging from 25-100 mm, liquid equivalent) throughout much of the region, mostly coming as snow but falling as rain during a brief warm-up during the latter half of the month.

Snow Depth

March 17, 2014



USDA Agricultural Weather Assessments
World Agricultural Outlook Board

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

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