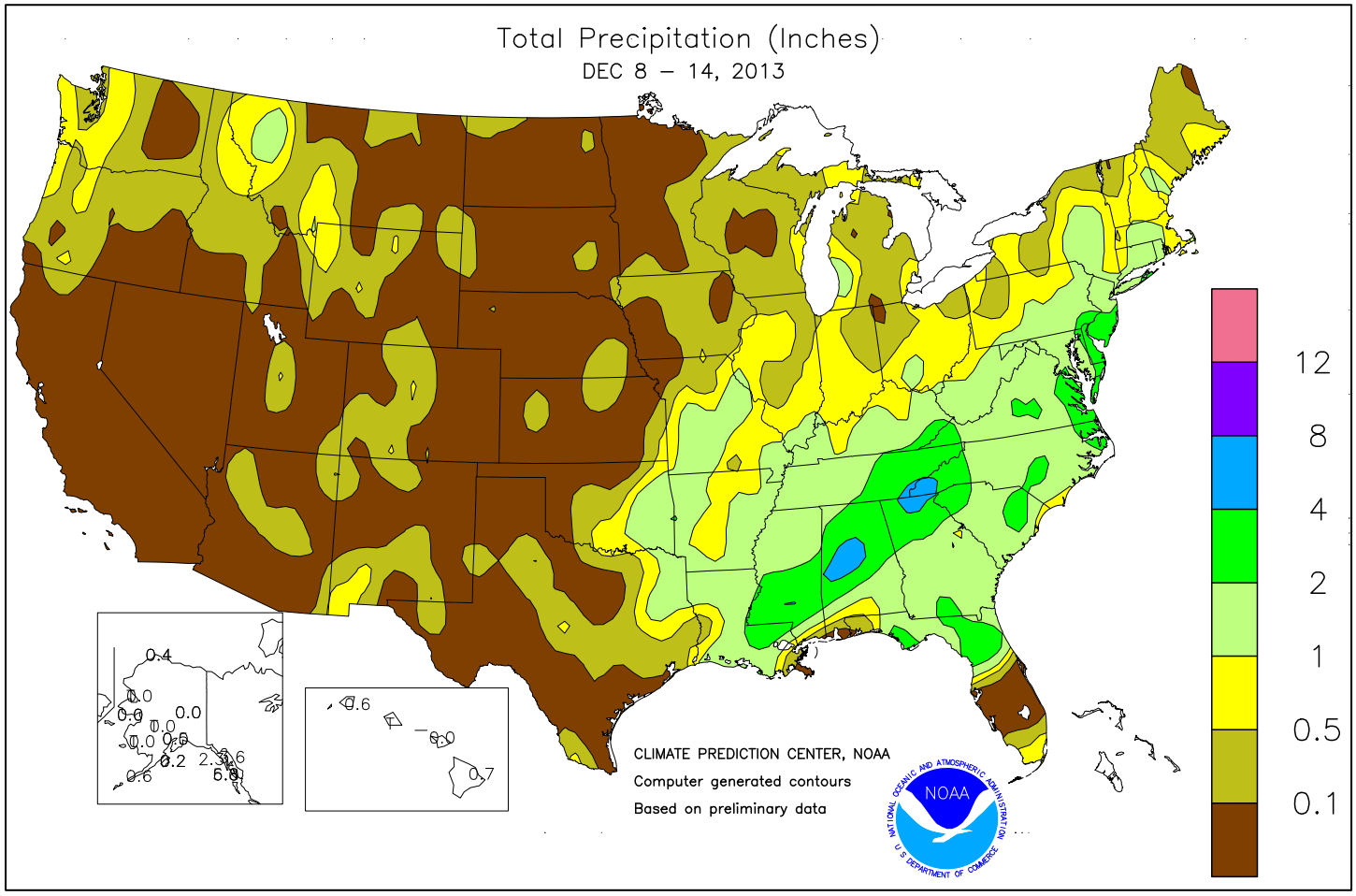
Volume 100, No. 51 http://www.usda.gov/oce/weather December 17, 2013

WEEKLY WEATHER AND CROP BULLETIN

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

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



HIGHLIGHTS
December 8 – 14, 2013

Highlights provided by USDA/WAOB

For the second week in a row, very cold weather prevailed nationwide, except in **Florida**. Weekly temperatures averaged more than 20°F below normal across parts of the **Intermountain West**, while much of **California's San Joaquin Valley** continued to experience daily freezes through December 13. As the week progressed and milder weather slowly arrived, **California's** citrus producers began to shift from freeze-protection efforts to freeze-damage assessments. Frigid conditions also persisted for

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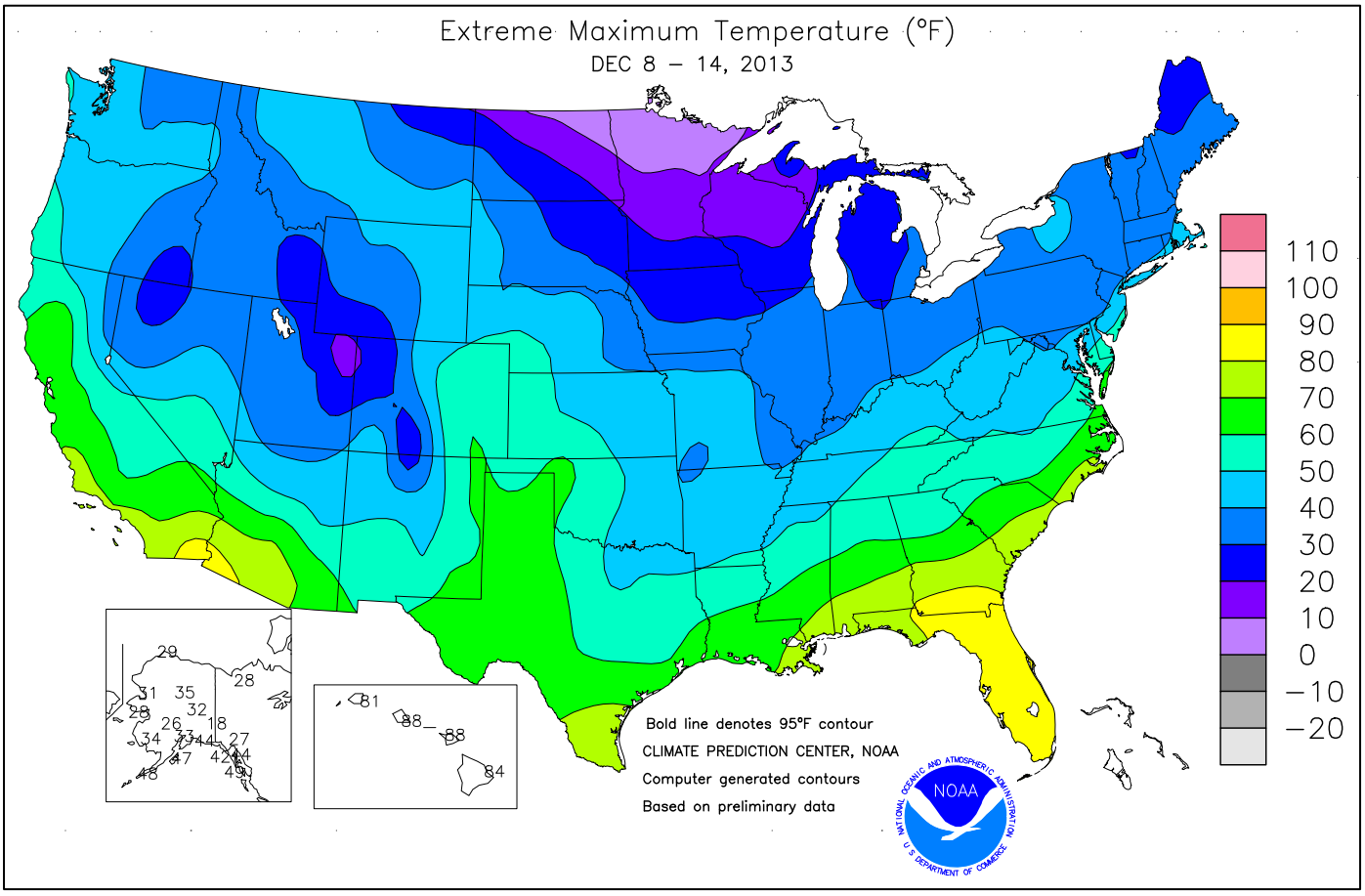
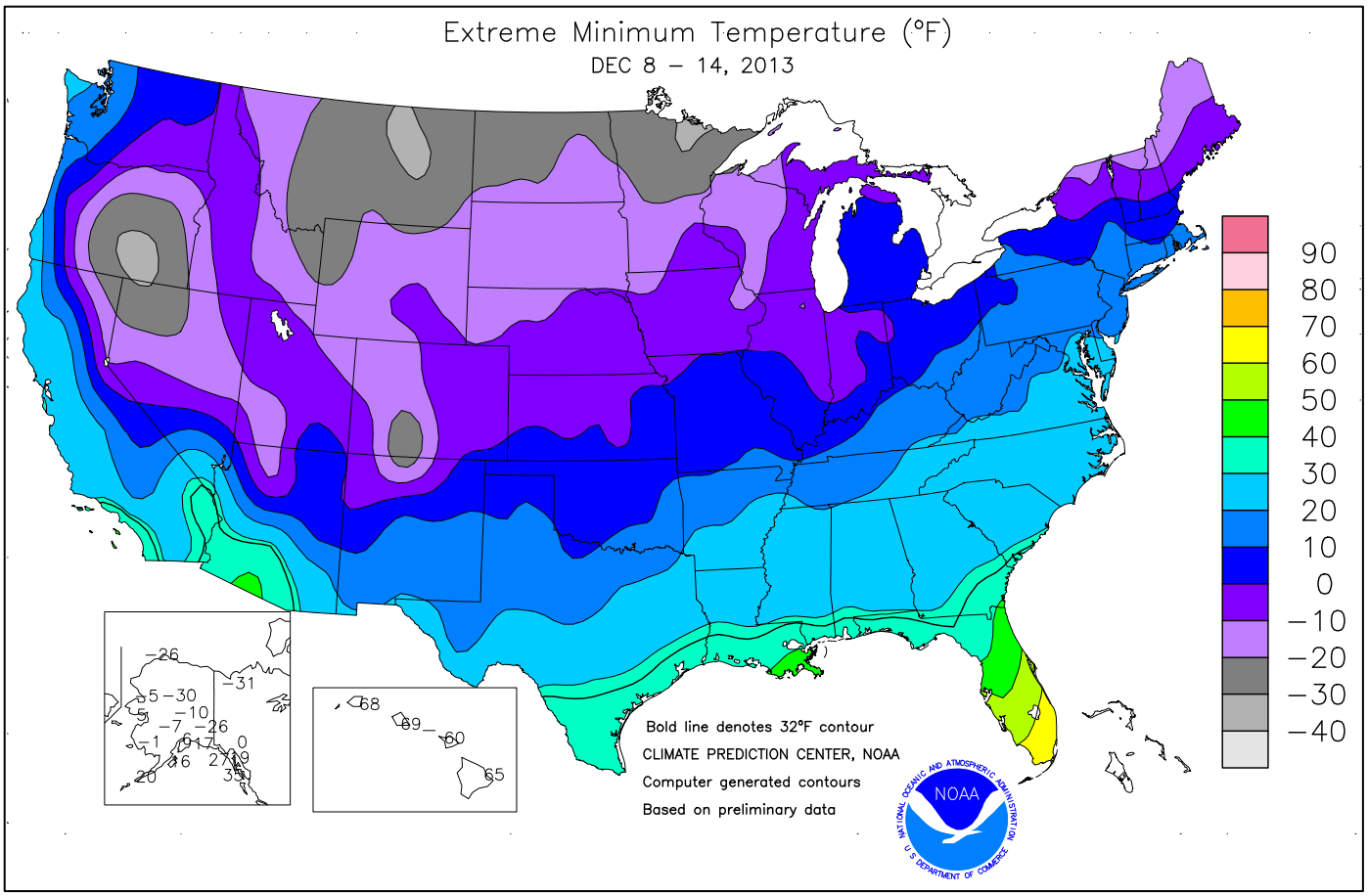
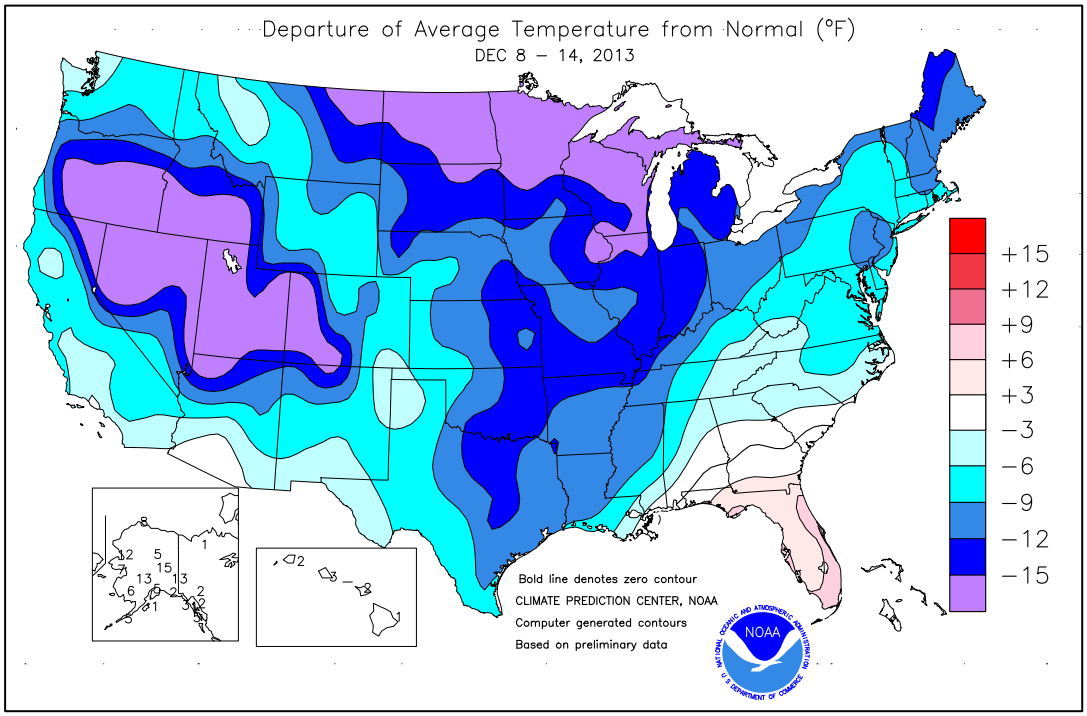

Extreme Maximum Temperature (°F)
DEC 8 – 14, 2013
110
100
90
80
70
60
50
40
30
20
10
0
−10
−20
29
28
31
35
32
28
26
18
34
27
48
81
88
88
84
Bold line denotes 95°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE


Extreme Minimum Temperature (°F)
DEC 8 – 14, 2013
90
80
70
60
50
40
30
20
10
0
−10
−20
−30
−40
−26
−31
−30
−10
−7
−26
0
−20
68
89
60
65
Bold line denotes 32°F contour
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

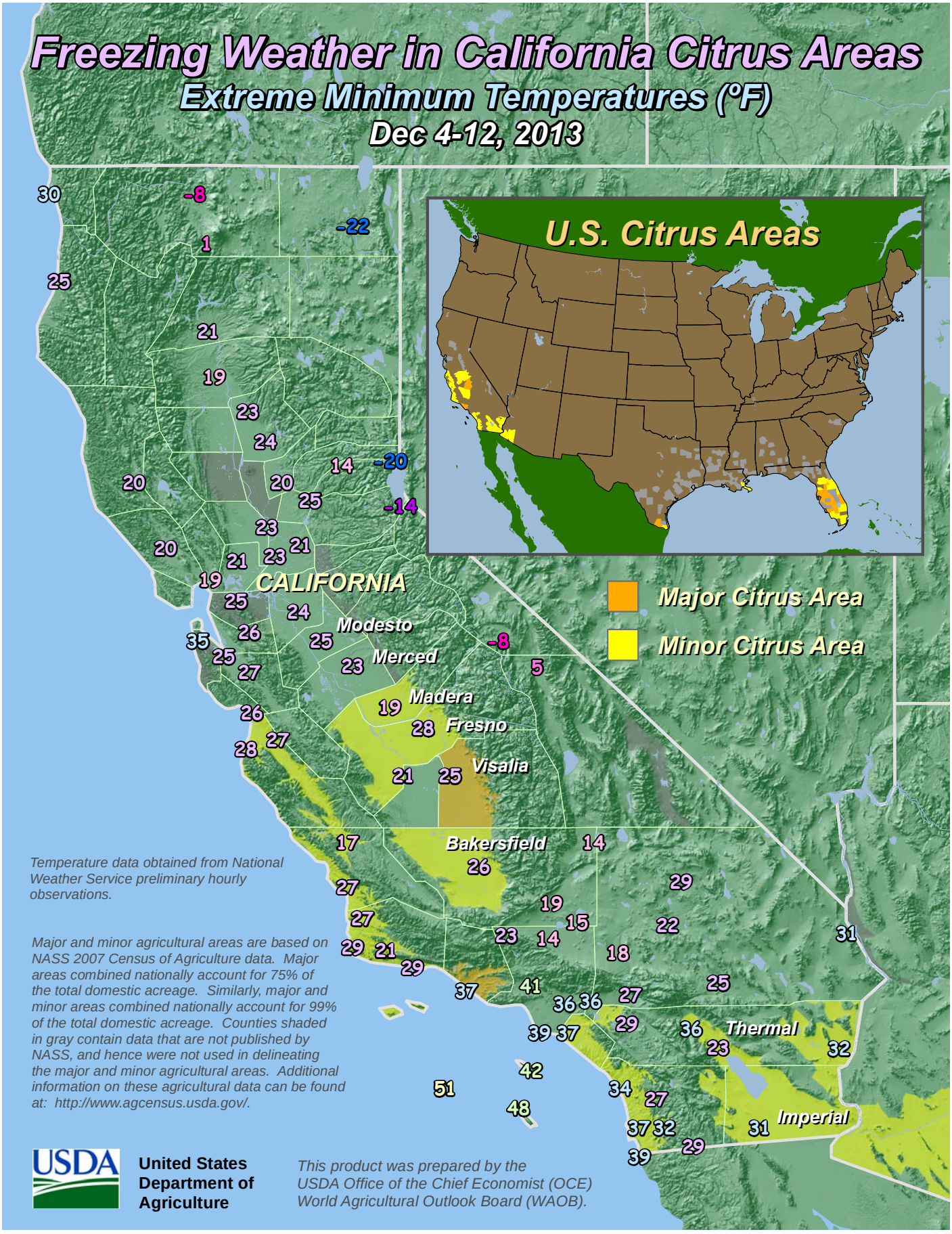


(Continued from front cover) much of the week across the **northern Plains** and the **Midwest**, holding temperatures at least 10 to 20°F below normal. Early-week temperatures plunged below -30°F in parts of **Montana**, but the late-week development of chinook winds led to erosion of winter wheat's protective snow cover on the **northern High Plains**. At the height of the cold wave on December 9, snow covered two-thirds of the contiguous U.S. Frigid conditions were stressful to livestock, particularly across the **northern Plains** and **upper Midwest**. Meanwhile, active weather across the **South** and **East** continued to reverse the effects of a dry autumn. However, snow, sleet, and freezing rain caused some travel and electrical disruptions from the **southeastern Plains and the Mid-South into the Ohio Valley and Northeast**. Rainfall totaled 2 to 4 inches, with locally higher amounts, from the **lower Mississippi Valley to the Mid-Atlantic coastal plain**. Once again, however, significant rainfall bypassed **Florida's peninsula**. Dry weather also remained a concern in several other areas, including the **southern High Plains** (with respect to rangeland and winter wheat) and **California** (with respect to rangeland and next year's water supplies).

The week opened in the midst of a severe, early-season cold wave. On December 8, temperatures in **Montana** plunged to daily-record levels in **Havre** (-37°F) and **Miles City** (-29°F). Farther west, **Eugene, OR** (-10°F on December 8), experienced its second-coldest reading at any time of year, behind only -12°F on December 8, 1972. Elsewhere in **Oregon**, all-time-record lows were established on December 8 in **Burns** (-30°F; previously, -28°F on February 4, 1985, and December 22, 1990) and **Lakeview** (-27°F; previously, -22°F on February 7 and 10, 1933, and January 7 and 21, 1937). Record-setting cold was noted as far south as the **northern Texas**, where December 8 lows dipped to 3°F in **Amarillo** and 5°F in **Borger**. The Plains' cold wave persisted for several days, with **Dalhart, TX** (3°F), and **McAlester, OK** (6°F), collecting daily-record lows for December 10. Meanwhile in **California's Central Valley**, **Stockton** posted consecutive daily-record lows (22 and 24°F, respectively) on December 9-10. Closer to **California's coast**, **Paso Robles** dipped below 20°F on December 5-6 and 9-10, resulting in daily-record lows on each of those days but the 9th. During the mid- to late-week period, the focus for the coldest weather shifted to the **Midwest**. On December 11, daily-record lows in **South Dakota** included -20°F in **Watertown** and -18°F in **Huron**. **South Bend, IN**, collected a daily-record low (-3°F) on December 12. In contrast, record-setting warmth prevailed in **Florida**, especially early in the week. On December 9, **Jacksonville, FL**, tied a monthly record with a high of 84°F. Elsewhere in **Florida**, **Melbourne's** high of 85°F set a record for December 10.

The week began with snow, sleet, and freezing rain falling in the **northern Mid-Atlantic States**. **Wilmington, DE**, measured a daily-record snowfall of 6.0 inches for December 8. The following day, frozen precipitation overspread the **Mid-South**, where **Springfield, MO**, collected a daily-record snowfall (4.3 inches) for December 9. Precipitation quickly returned to the **northern Mid-Atlantic region** on December 10, resulting in daily-record snowfall values in locations such as **Wilmington, DE** (2.9 inches); **Allentown, PA** (2.7 inches); and **Newark, NJ** (2.3 inches). Farther west, enough **Pacific** moisture reached **western Montana** to produce daily-record snowfall amounts in **Missoula** (3.8 inches on December 9) and **Kalispell** (6.0 inches on December 10). At week's end, precipitation again developed in the **Northeast**, bringing daily-record snowfall totals for December 14 to **Bridgeport, CT** (5.0 inches), and **Newark, NJ** (4.3 inches). Farther inland, a sustained period of heavy lake-effect snowfall led to 4-day totals of locally 3 to 5 feet. Downwind of **Lake Ontario** in **western New York**, December 10-13 snowfall totaled 56.2 inches in **Highmarket**.

Mild, mostly dry weather covered the **Alaskan mainland**, while stormy conditions affected parts of **southern Alaska**. Weekly temperatures averaged more than 10°F above normal across portions of **interior Alaska**, where **Bettles** posted a daily-record high of 35°F on December 8. Meanwhile in the **Aleutians**, **Cold Bay** notched seven consecutive daily-record highs from December 3-9. Later, heavy precipitation fell in **southeastern Alaska**, where **Valdez** received 21.5 inches of snow from December 12-15. Weekly snowfall reached 11.8 inches in **Anchorage**, aided by a daily-record total of 8.5 inches on December 14. Farther south, **Hawaii** experienced quiet weather for much of the week. On December 9, **Kahului, Maui**, posted a daily record-tying high of 88°F. At until week's end, however, heavy rain developed across **Kauai**. During a 24-hour period ending around daybreak on December 15, totals on **Kauai** reached 3.72 inches in **Mana** and 3.59 inches in **Kokee**.



Temperature data obtained from National Weather Service preliminary hourly observations.

Major and minor agricultural areas are based on NASS 2007 Census of Agriculture data. Major areas combined nationally account for 75% of the total domestic acreage. Similarly, major and minor areas combined nationally account for 99% of the total domestic acreage. Counties shaded in gray contain data that are not published by NASS, and hence were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/.

United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB).


Freezing Weather in California Citrus Areas
Number of Days Individual Stations Reported
Temperatures ≤ 28ºF for at least 4 Consecutive Hours
Dec 4-12, 2013
U.S. Citrus Areas
Major Citrus Area
Minor Citrus Area
CALIFORNIA
Modesto
Merced
Madera
Fresno
Visalia
Bakersfield
Thermal
Imperial
Temperature data obtained from National Weather Service preliminary hourly observations.
Major and minor agricultural areas are based on NASS 2007 Census of Agriculture data. Major areas combined nationally account for 75% of the total domestic acreage. Similarly, major and minor areas combined nationally account for 99% of the total domestic acreage. Counties shaded in gray contain data that are not published by NASS, and hence were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/.
USDA
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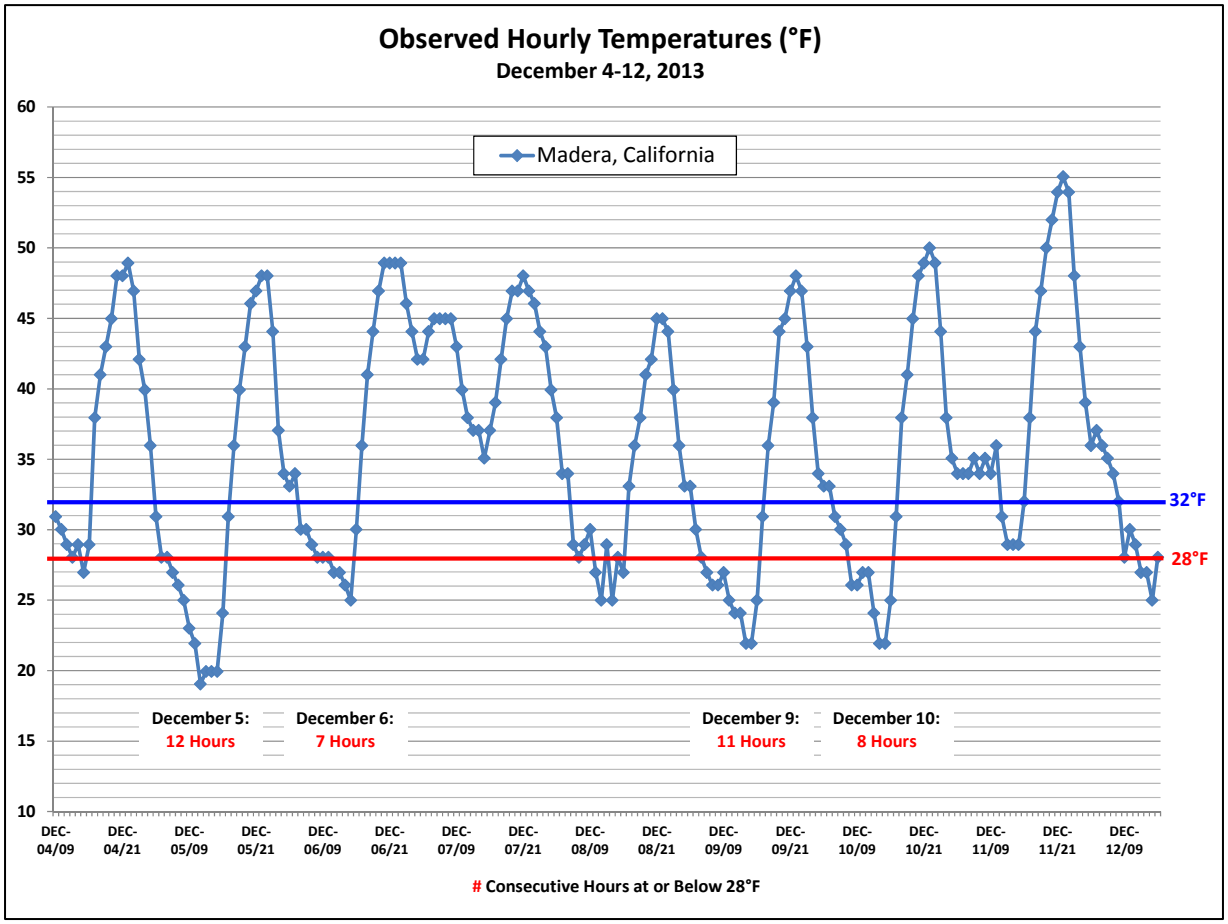

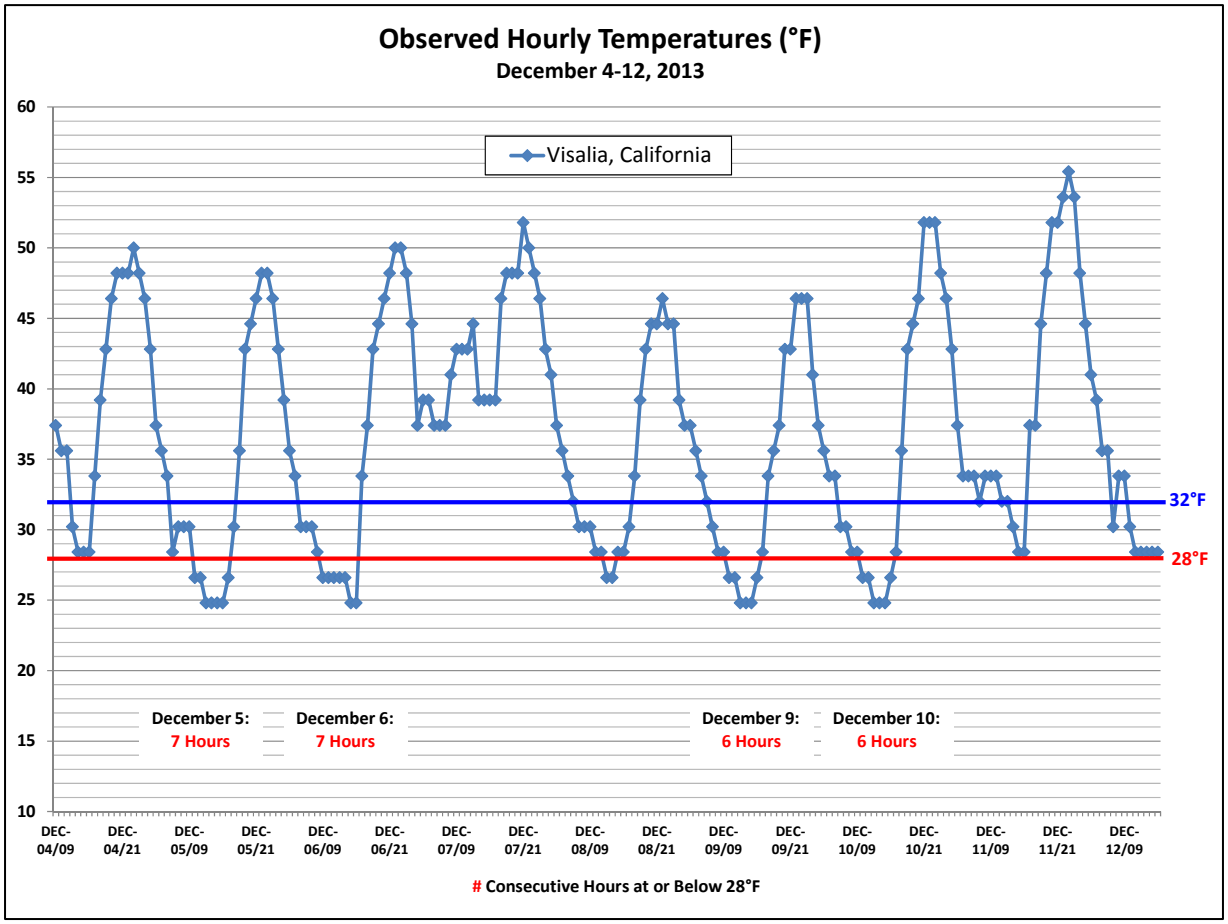

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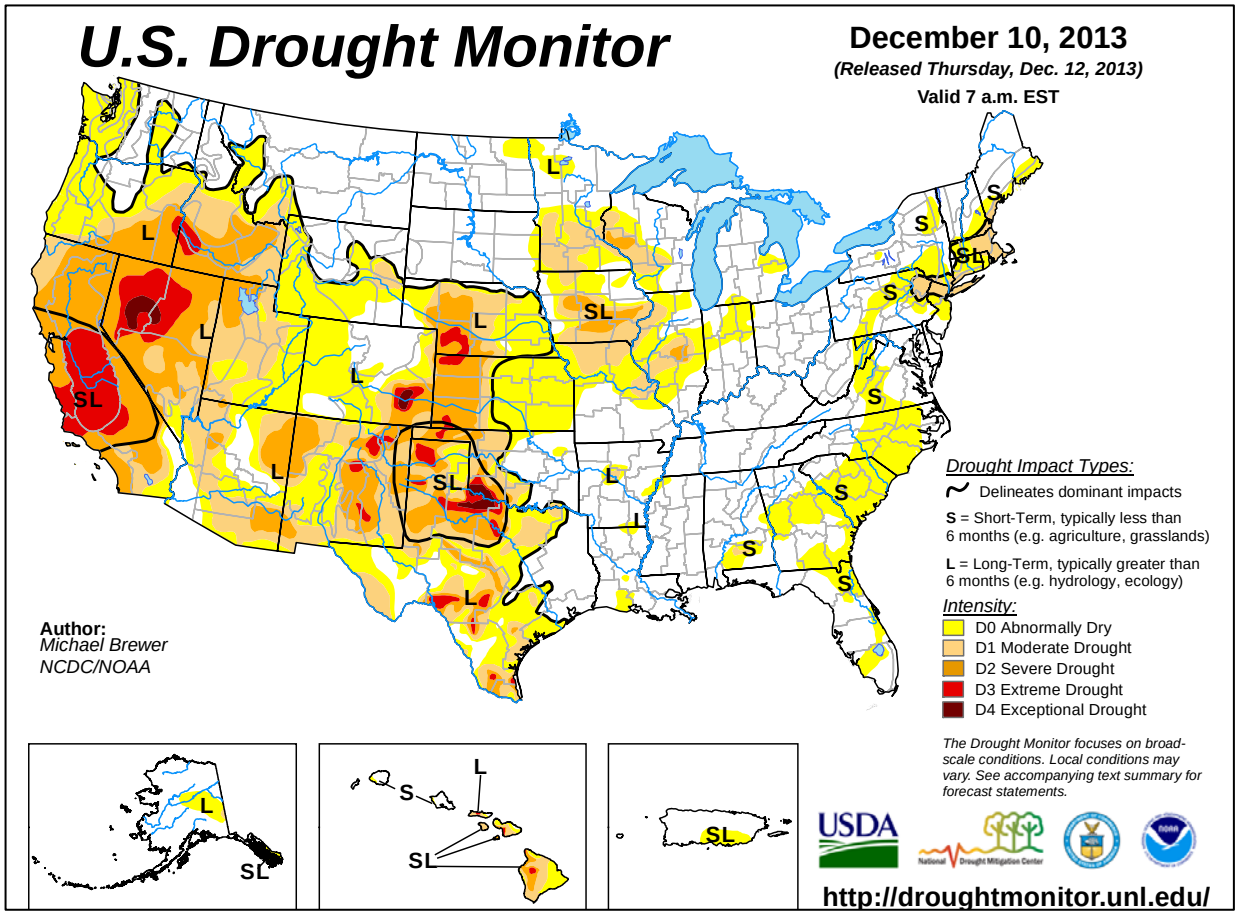
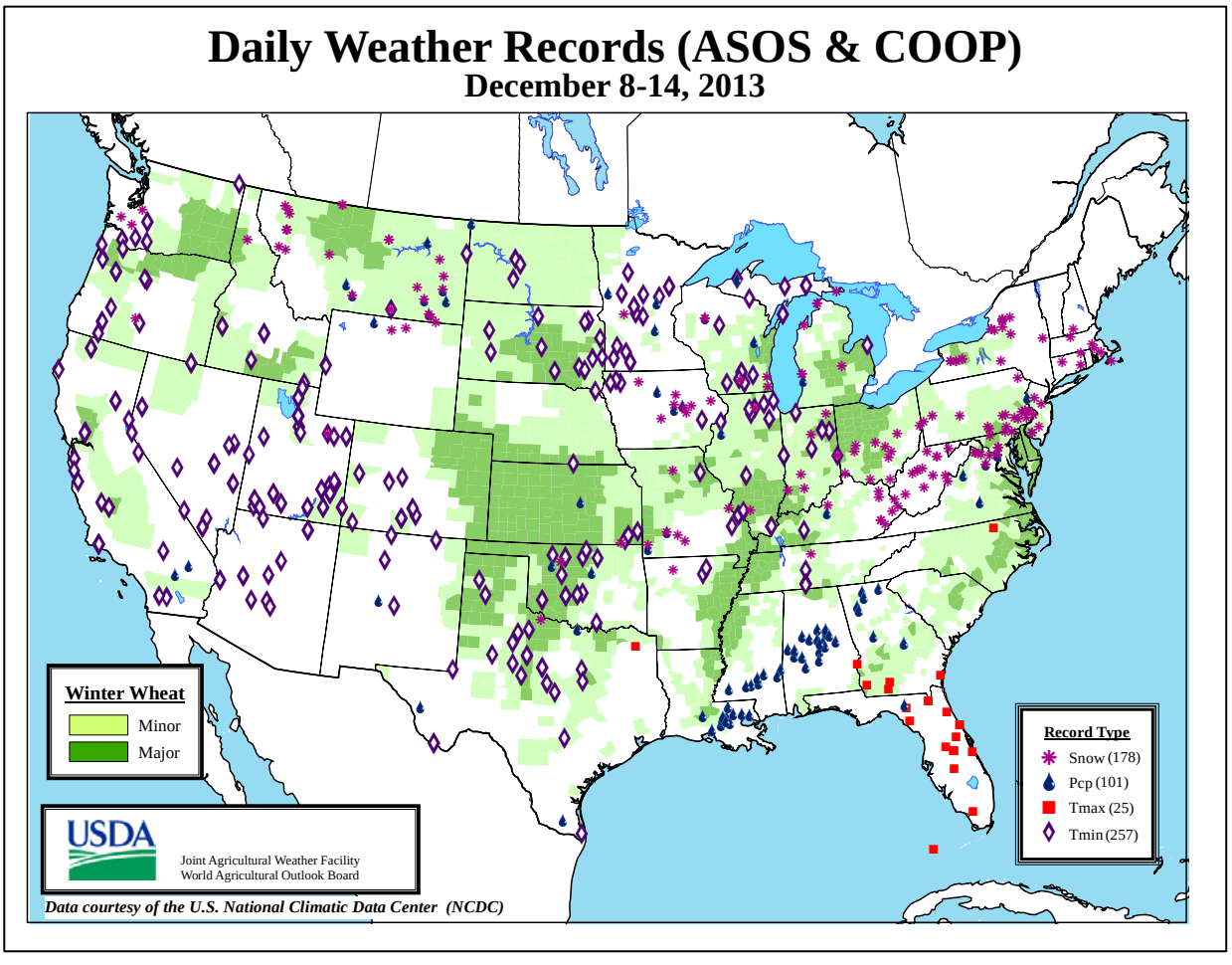

U.S. Drought Monitor
December 10, 2013
(Released Thursday, Dec. 12, 2013)
Valid 7 a.m. EST
Author:
Michael Brewer
NCDC/NOAA
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
USDA
http://droughtmonitor.unl.edu/


Daily Weather Records (ASOS & COOP)
December 8-14, 2013
Winter Wheat
Minor
Major
Record Type
Snow (178)
Pcp (101)
Tmax (25)
Tmin (257)
USDA
Joint Agricultural Weather Facility
World Agricultural Outlook Board
Data courtesy of the U.S. National Climatic Data Center (NCDC)

National Weather Data for Selected Cities

Weather Data for the Week Ending December 14, 2013

Data Provided by Climate Prediction Center

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	54	33	58	25	43	-4	3.93	2.96	2.57	4.46	222	65.27	127	92	48	0	4	4	3
	HUNTSVILLE	48	29	54	21	39	-6	2.83	1.57	1.54	4.29	167	56.01	103	89	63	0	4	4	2
	MOBILE	64	41	76	32	53	0	0.23	-0.83	0.14	1.14	51	63.03	99	87	66	0	1	4	0
	MONTGOMERY	62	38	70	26	50	0	1.23	0.06	0.79	2.02	85	49.27	94	87	52	0	4	4	1
AK	ANCHORAGE	26	20	33	6	23	5	0.53	0.29	0.45	0.62	135	25.02	162	88	74	0	7	2	0
	BARROW	6	-10	29	-26	-2	7	0.45	0.45	0.33	1.03	9999	8.59	213	86	76	0	7	4	0
	FAIRBANKS	16	4	32	-10	10	15	0.00	-0.15	0.00	0.00	0	9.86	100	73	66	0	7	0	0
	JUNEAU	36	28	44	19	32	2	3.59	2.39	1.39	3.59	151	71.56	129	93	83	0	6	7	3
	KODIAK	38	26	47	16	32	1	0.21	-1.42	0.15	0.45	14	61.43	87	85	73	0	5	2	0
	NOME	21	12	28	5	16	6	0.00	-0.23	0.00	1.45	302	21.76	136	73	61	0	7	0	0
AZ	FLAGSTAFF	34	4	45	-10	19	-12	0.13	-0.26	0.13	0.65	82	24.10	110	84	37	0	7	1	0
	PHOENIX	65	44	74	36	55	0	0.00	-0.19	0.00	0.00	0	8.03	104	46	29	0	0	0	0
	PRESCOTT	47	19	56	11	33	-5	0.00	-0.28	0.00	0.13	24	13.18	71	74	27	0	7	0	0
	TUCSON	64	39	74	31	51	-2	0.00	-0.20	0.00	0.43	116	8.13	71	66	35	0	1	0	0
AR	FORT SMITH	36	25	42	19	31	-12	0.34	-0.52	0.32	1.95	105	44.89	106	93	73	0	7	2	0
	LITTLE ROCK	42	27	47	22	34	-11	0.63	-0.53	0.57	2.21	91	48.04	99	89	53	0	6	4	1
CA	BAKERSFIELD	55	30	63	26	42	-6	0.00	-0.14	0.00	0.10	36	3.43	57	80	60	0	5	0	0
	FRESNO	55	30	61	27	43	-3	0.00	-0.25	0.00	0.15	30	3.01	29	82	62	0	7	0	0
	LOS ANGELES	65	43	73	39	54	-4	0.00	-0.34	0.00	0.26	39	3.61	30	46	35	0	0	0	0
	REDDING	58	27	66	21	42	-4	0.00	-0.94	0.00	0.38	20	12.80	42	79	60	0	7	0	0
	SACRAMENTO	54	27	61	22	41	-6	0.00	-0.50	0.00	0.43	43	5.80	35	93	37	0	7	0	0
	SAN DIEGO	65	47	72	44	56	-2	0.00	-0.23	0.00	0.12	27	5.23	53	67	30	0	0	0	0
	SAN FRANCISCO	54	37	61	34	46	-4	0.00	-0.58	0.00	0.36	31	3.39	18	73	50	0	0	0	0
	STOCKTON	52	26	57	22	39	-7	0.00	-0.37	0.00	0.35	46	4.63	36	88	74	0	7	0	0
CO	ALAMOSA	17	-16	26	-23	1	-18	0.02	-0.04	0.02	0.03	23	10.05	143	82	65	0	7	1	0
	CO SPRINGS	38	12	57	1	25	-5	0.00	-0.07	0.00	0.07	54	19.23	112	70	33	0	7	0	0
	DENVER INTL	39	9	56	-5	24	-6	0.02	-0.04	0.02	0.14	117	17.49	130	74	36	0	7	1	0
	GRAND JUNCTION	18	-6	24	-10	6	-24	0.04	-0.04	0.04	0.93	489	12.38	143	88	78	0	7	1	0
	PUEBLO	44	7	61	-4	25	-6	0.00	-0.06	0.00	0.02	14	9.67	80	71	53	0	7	0	0
CT	BRIDGEPORT	34	24	39	18	29	-8	0.70	-0.05	0.40	1.50	99	33.81	80	76	62	0	7	4	0
	HARTFORD	30	18	34	13	24	-9	0.70	-0.09	0.44	1.37	84	49.16	111	79	64	0	7	3	0
DC	WASHINGTON	40	29	45	25	34	-7	2.33	1.67	0.97	3.13	235	41.86	111	80	52	0	5	4	2
DE	WILMINGTON	35	23	38	16	29	-9	2.27	1.53	0.86	3.16	209	46.29	113	90	56	0	7	4	2
FL	DAYTONA BEACH	78	58	84	45	68	6	0.17	-0.41	0.12	0.17	15	46.53	97	93	55	0	0	2	0
	JACKSONVILLE	72	49	84	39	61	5	0.55	0.00	0.42	0.55	50	44.90	88	96	62	0	0	2	0
	KEY WEST	81	73	83	70	77	4	0.78	0.34	0.52	0.87	98	46.47	123	89	72	0	0	2	1
	MIAMI	82	71	84	65	77	6	0.12	-0.39	0.06	0.46	43	66.20	115	86	64	0	0	4	0
	ORLANDO	81	58	86	48	70	6	0.01	-0.51	0.01	0.01	1	42.45	90	93	56	0	0	1	0
	PENSACOLA	69	46	78	38	58	3	0.35	-0.48	0.27	1.30	75	72.13	116	82	56	0	0	3	0
	TALLAHASSEE	72	48	81	31	60	5	2.24	1.41	1.87	2.40	143	64.28	106	85	57	0	1	3	1
	TAMPA	79	62	83	50	71	7	0.00	-0.52	0.00	0.00	0	51.66	119	90	53	0	0	0	0
	WEST PALM BEACH	82	71	84	67	77	8	0.09	-0.67	0.06	4.12	238	64.75	108	84	62	0	0	2	0
GA	ATHENS	52	32	56	23	42	-4	1.34	0.56	0.61	2.51	159	54.77	120	90	60	0	4	4	1
	ATLANTA	52	36	57	28	44	-3	1.86	1.02	1.00	3.00	171	61.21	127	85	62	0	4	4	2
	AUGUSTA	58	34	68	24	46	-2	1.81	1.20	0.96	3.04	260	51.64	121	96	65	0	3	4	2
	COLUMBUS	60	39	71	26	50	0	1.20	0.22	0.91	2.35	119	56.12	122	89	51	0	3	4	1
	MACON	61	35	68	24	48	-1	1.79	0.96	0.89	2.45	148	66.34	155	98	57	0	4	4	2
	SAVANNAH	66	43	76	32	55	2	0.75	0.21	0.63	1.22	117	52.91	111	89	65	0	1	3	1
HI	HILO	81	67	84	65	74	2	0.73	-1.91	0.23	1.44	25	83.24	68	94	84	0	0	5	0
	HONOLULU	84	72	88	69	78	3	0.02	-0.59	0.01	1.47	125	14.01	84	80	71	0	0	2	0
	KAHULUI	86	66	88	60	76	2	0.00	-0.62	0.00	0.00	0	13.58	80	87	74	0	0	0	0
	LIHUE	81	71	81	68	76	2	0.55	-0.50	0.37	4.20	199	35.07	95	90	83	0	0	5	0
ID	BOISE	22	6	36	-7	14	-18	0.00	-0.31	0.00	0.39	61	9.30	81	85	71	0	7	0	0
	LEWISTON	34	21	46	0	27	-8	0.02	-0.20	0.01	0.36	77	9.12	75	75	63	0	7	2	0
	POCATELLO	20	-2	28	-11	9	-17	0.02	-0.20	0.02	0.33	70	6.07	51	85	75	0	7	1	0
IL	CHICAGO/O'HARE	26	6	32	-6	16	-14	0.53	-0.06	0.24	0.64	52	40.78	116	80	65	0	7	4	0
	MOLINE	24	4	31	-4	14	-15	2.10	1.58	1.84	2.14	200	40.16	109	81	63	0	7	5	1
	PEORIA	29	9	39	1	19	-11	0.73	0.12	0.33	0.74	58	42.81	123	84	56	0	7	3	0
	ROCKFORD	23	1	30	-9	12	-15	0.37	-0.14	0.21	0.52	49	39.40	111	83	67	0	7	4	0
	SPRINGFIELD	31	12	39	1	21	-11	0.77	0.16	0.41	0.77	61	37.52	109	88	53	0	7	3	0
IN	EVANSVILLE	34	18	39	5	26	-12	0.79	-0.08	0.61	4.69	256	50.95	120	80	62	0	6	4	1
	FORT WAYNE	27	10	32	-4	19	-12	0.67	0.01	0.45	0.73	54	40.07	114	86	63	0	7	4	0
	INDIANAPOLIS	29	14	36	2	22	-12	0.53	-0.19	0.35	0.93	61	42.43	108	89	63	0	7	4	0
	SOUTH BEND	25	9	31	-3	17	-14	0.66	-0.08	0.40	0.78	51	38.93	102	76	63	0	7	4	0
IA	BURLINGTON	27	7	39	1	17	-13	0.04	-0.48	0.04	0.04	4	32.42	88	89	56	0	7	1	0
	CEDAR RAPIDS	20	-1	25	-11	10	-16	0.10	-0.27	0.07	0.16	20	37.28	114	87	63	0	7	2	0
	DES MOINES	25	7	32	0	16	-11	0.20	-0.12	0.19	0.21	31	31.37	92	75	59	0	7	2	0
	DUBUQUE	19	-1	26	-11	9	-16	0.23	-0.18	0.11	0.34	38	37.16	107	90	69	0	7	5	0
	SIOUX CITY	23	3	32	-4	13	-11	0.16	0.01	0.13	0.16	48	26.71	104	82	70	0	7	2	0
	WATERLOO	20	1	28	-9	11	-13	0.30	0.02	0.16	0.33	54	40.29	123	86	63	0	7	4	0
KS	CONCORDIA	32	10	42	-3	21	-11	0.15	-0.04	0.15	0.19	45	26.84	96	78	64	0	7	1	0
	DODGE CITY	37	13	50	1	25	-9	0.00	-0.17	0.00	0.05	15	20.29	93	81	48	0	7	0	0
	GOODLAND	40	8	56	-6	24	-7	0.01	-0.06	0.01	0.02	13	16.71	86	79	57	0	7	1	0
	TOPEKA	33	14	48	8	24	-9	0.06	-0.29	0.04	0.10	13	33.55	96	77	64	0	7	3	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending December 14, 2013

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	36	15	47	6	25	-10	0.00	-0.31	0.00	0.00	0	40.19	135	79	60	0	7	0	0
KY	JACKSON	41	26	49	19	33	-7	1.19	0.18	0.66	4.64	225	54.27	115	85	50	0	6	4	1
	LEXINGTON	38	23	46	13	31	-7	0.86	-0.05	0.46	2.94	162	56.89	130	84	74	0	6	4	0
	LOUISVILLE	36	23	44	12	30	-9	0.74	-0.12	0.49	2.12	120	50.29	118	90	61	0	6	4	0
	PADUCAH	36	19	41	9	28	-11	0.95	-0.13	0.85	2.49	112	54.68	116	90	59	0	6	3	1
LA	BATON ROUGE	55	37	68	32	46	-7	2.77	1.61	2.05	3.07	133	68.21	113	93	64	0	1	4	2
	LAKE CHARLES	54	38	66	35	46	-8	1.37	0.38	0.83	1.40	69	56.80	104	93	68	0	0	4	1
	NEW ORLEANS	58	45	72	40	52	-4	0.32	-0.87	0.13	0.70	29	63.86	104	85	73	0	0	4	0
	SHREVEPORT	45	31	53	25	38	-12	1.96	0.93	1.75	2.22	107	50.70	104	91	64	0	4	4	1
ME	CARIBOU	15	-1	29	-14	7	-12	0.11	-0.58	0.08	0.59	42	48.89	137	80	51	0	7	3	0
	PORTLAND	27	14	35	3	21	-9	0.48	-0.47	0.25	1.21	62	40.62	93	77	48	0	7	4	0
MD	BALTIMORE	36	26	41	22	31	-7	2.00	1.28	0.68	3.07	210	40.73	102	83	61	0	7	4	2
MA	BOSTON	34	21	48	11	28	-9	0.78	-0.05	0.43	1.45	86	37.19	92	74	49	0	7	4	0
	WORCESTER	25	15	33	8	20	-11	0.89	0.06	0.51	1.56	92	42.84	91	89	58	0	7	4	1
MI	ALPENA	21	6	30	2	13	-13	0.47	0.07	0.28	1.06	131	30.54	112	86	65	0	7	5	0
	GRAND RAPIDS	24	14	30	10	19	-11	0.53	-0.14	0.16	1.20	85	43.99	123	82	67	0	7	6	0
	HOUGHTON LAKE	19	5	26	2	12	-14	0.38	-0.01	0.16	1.14	139	29.64	108	84	68	0	7	6	0
	LANSING	23	11	28	2	17	-12	0.40	-0.14	0.27	0.49	43	40.06	131	82	63	0	7	4	0
	MUSKEGON	25	16	31	13	20	-10	0.36	-0.26	0.17	0.83	64	41.89	133	77	65	0	7	6	0
	TRAVERSE CITY	20	10	28	8	15	-13	0.09	-0.49	0.05	0.40	34	41.87	131	86	63	0	7	3	0
MN	DULUTH	5	-10	11	-18	-2	-19	0.21	-0.02	0.09	2.30	411	29.89	98	76	66	0	7	5	0
	INT'L FALLS	0	-24	3	-33	-12	-23	0.11	-0.05	0.06	1.05	292	31.45	133	75	62	0	7	3	0
	MINNEAPOLIS	14	0	19	-8	7	-14	0.29	0.06	0.13	1.01	198	32.32	112	81	68	0	7	4	0
	ROCHESTER	16	1	21	-8	9	-11	0.27	0.02	0.17	0.61	107	41.27	133	79	70	0	7	3	0
	ST. CLOUD	8	-8	16	-16	0	-17	0.22	0.07	0.12	1.07	324	28.13	105	85	66	0	7	6	0
MS	JACKSON	51	31	61	24	41	-8	1.83	0.64	0.80	2.03	84	61.90	117	93	58	0	4	5	2
	MERIDIAN	52	31	65	24	42	-8	4.05	2.86	3.10	4.70	195	64.63	116	96	62	0	4	4	1
	TUPELO	45	28	50	21	37	-8	1.58	0.18	0.78	4.02	145	50.89	97	90	63	0	5	6	1
MO	COLUMBIA	33	15	44	7	24	-10	1.07	0.44	0.91	1.07	80	40.88	104	85	53	0	7	3	1
	KANSAS CITY	31	12	44	4	21	-12	0.23	-0.18	0.12	0.32	37	33.97	91	84	55	0	7	3	0
	SAINT LOUIS	34	18	40	11	26	-10	0.82	0.11	0.41	0.93	61	41.63	111	73	56	0	7	3	0
	SPRINGFIELD	31	14	37	1	23	-14	1.13	0.29	0.61	1.48	82	50.76	116	88	69	0	7	3	1
MT	BILLINGS	29	12	44	-17	20	-7	0.08	-0.04	0.08	1.41	588	16.12	112	77	57	0	7	1	0
	BUTTE	25	-1	39	-26	12	-7	0.03	-0.08	0.03	0.13	59	11.22	90	87	59	0	7	1	0
	CUT BANK	31	7	44	-23	19	-4	0.00	-0.06	0.00	0.02	18	13.07	106	76	54	0	7	0	0
	GLASGOW	16	-10	31	-27	3	-15	0.08	0.02	0.04	0.34	309	15.35	140	86	75	0	7	2	0
	GREAT FALLS	31	9	42	-23	20	-5	0.26	0.14	0.16	0.80	348	11.63	80	81	56	0	6	3	0
	HAVRE	27	-6	40	-36	11	-10	0.07	-0.03	0.04	0.55	306	18.42	165	81	73	0	7	2	0
	MISSOULA	23	9	37	-14	16	-8	0.20	-0.05	0.10	0.52	108	8.86	67	90	85	0	7	3	0
NE	GRAND ISLAND	30	7	46	-7	18	-9	0.07	-0.09	0.07	0.10	27	26.91	105	80	65	0	7	1	0
	LINCOLN	26	3	33	-10	14	-14	0.19	-0.01	0.19	0.20	43	26.66	95	80	66	0	7	1	0
	NORFOLK	26	5	41	-6	15	-10	0.17	0.01	0.16	0.18	49	24.96	95	80	65	0	7	2	0
	NORTH PLATTE	37	3	52	-8	20	-7	0.00	-0.08	0.00	0.06	35	21.67	112	85	44	0	7	0	0
	OMAHA	25	8	34	-2	17	-11	0.13	-0.10	0.11	0.14	26	28.92	97	77	60	0	7	2	0
	SCOTTSBLUFF	34	6	44	-14	20	-7	0.00	-0.12	0.00	0.55	212	13.72	86	81	61	0	7	0	0
	VALENTINE	26	-3	37	-16	12	-13	0.04	-0.03	0.03	0.69	406	23.60	122	80	70	0	7	2	0
NV	ELY	33	-5	44	-19	14	-13	0.00	-0.08	0.00	0.32	188	7.87	82	83	66	0	7	0	0
	LAS VEGAS	50	32	59	26	41	-7	0.00	-0.07	0.00	0.05	38	2.96	70	43	26	0	5	0	0
	RENO	31	5	42	-2	18	-16	0.00	-0.19	0.00	0.39	100	3.99	57	86	77	0	7	0	0
	WINNEMUCCA	20	-15	29	-26	2	-29	0.00	-0.17	0.00	0.55	167	5.66	72	90	74	0	7	0	0
NH	CONCORD	26	9	32	1	17	-11	0.56	-0.11	0.29	0.82	59	38.23	106	90	52	0	7	5	0
NJ	NEWARK	34	23	38	17	29	-9	1.35	0.56	0.64	2.31	141	40.63	92	78	63	0	7	4	1
NM	ALBUQUERQUE	40	22	49	13	31	-6	0.01	-0.07	0.01	0.26	153	9.18	100	66	36	0	7	1	0
NY	ALBANY	28	17	36	7	22	-9	0.78	0.17	0.64	1.17	91	41.62	113	81	56	0	7	6	1
	BINGHAMTON	26	15	36	8	20	-9	0.54	-0.18	0.43	1.11	74	40.62	109	86	68	0	7	5	0
	BUFFALO	27	17	38	11	22	-10	0.80	-0.09	0.47	0.92	51	42.01	109	80	62	0	7	6	0
	ROCHESTER	29	15	41	9	22	-10	0.79	0.15	0.50	1.08	83	34.85	107	75	61	0	7	7	1
	SYRACUSE	29	17	45	7	23	-8	0.41	-0.35	0.26	0.85	53	38.37	100	83	56	0	7	4	0
NC	ASHEVILLE	46	28	53	20	37	-3	2.02	1.28	0.85	2.98	194	70.56	156	89	57	0	4	4	2
	CHARLOTTE	50	28	57	18	39	-7	1.48	0.82	0.99	1.93	144	44.42	107	94	49	0	4	4	1
	GREENSBORO	45	27	50	22	36	-6	1.59	0.93	0.83	2.31	172	47.55	115	84	49	0	6	4	1
	HATTERAS	57	38	68	27	47	-4	1.73	0.81	1.38	2.24	120	51.67	94	95	61	0	2	3	1
	RALEIGH	47	29	52	23	38	-6	1.54	0.91	0.85	1.68	131	46.46	113	90	60	0	4	4	1
	WILMINGTON	60	35	75	27	48	-2	0.64	-0.17	0.53	1.15	70	50.84	93	90	52	0	3	3	1
ND	BISMARCK	16	-9	29	-22	4	-14	0.04	-0.04	0.02	0.57	317	26.06	157	78	70	0	7	3	0
	DICKINSON	16	-8	32	-21	4	-16	0.01	-0.06	0.01	0.18	113	21.16	131	84	61	0	7	1	0
	FARGO	5	-11	14	-18	-3	-18	0.15	0.04	0.04	0.72	327	31.60	152	79	66	0	7	6	0
	GRAND FORKS	1	-17	9	-23	-8	-22	0.17	0.06	0.06	0.51	222	19.34	100	82	66	0	7	6	0
	JAMESTOWN	9	-9	22	-17	0	-16	0.02	-0.06	0.02	0.18	106	16.07	88	86	71	0	7	1	0
	WILLISTON	14	-10	31	-23	2	-13	0.08	-0.03	0.05	0.59	246	20.80	150	81	70	0	7	3	0
OH	AKRON-CANTON	29	18	35	9	23	-10	0.60	-0.10	0.49	0.96	67	39.50	107	78	64	0	7	5	0
	CINCINNATI	33	18	39	3	25	-11	0.48	-0.26	0.12	2.08	137	46.65	114	87	67	0	7	3	0
	CLEVELAND	29	19	35	8	24	-9	0.63	-0.13	0.46	0.84	53	38.57	104	77	56	0	7	2	0
	COLUMBUS	31	19	38	11	25	-10	0.87	0.18	0.55	1.71	119	38.96	105	77	63	0	7	4	1
	DAYTON	30	15	36	1	23	-10	0.71	-0.01	0.43	1.36	93	33.30	88	89	65	0	7	4	0
	MANSFIELD	28	15	34	5	22	-10	0.38	-0.40	0.36	0.71	44	39.60	95	91	57	0	7	2	0

Based on 1971-2000 normals

***** Not Available**

Weather Data for the Week Ending December 14, 2013

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE DEC 1	PCT. NORMAL SINCE DEC 1	TOTAL, IN., SINCE JAN01	PCT. NORMAL SINCE JAN01	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	26	12	31	3	19	-12	0.63	0.00	0.53	0.63	48	34.38	108	79	64	0	7	4	1
	YOUNGSTOWN	28	17	35	5	23	-9	0.66	-0.06	0.46	1.12	76	36.72	100	84	63	0	7	5	0
OK	OKLAHOMA CITY	39	20	53	5	30	-11	0.01	-0.40	0.01	0.23	28	51.75	149	83	57	0	6	1	0
	TULSA	36	20	42	13	28	-13	0.32	-0.29	0.28	0.58	45	31.88	77	84	63	0	6	1	0
OR	ASTORIA	40	27	47	13	33	-10	0.72	-1.72	0.37	2.68	54	56.89	92	93	86	0	5	4	0
	BURNS	22	-10	33	-30	6	-20	0.00	-0.28	0.00	0.17	31	6.86	70	89	79	0	7	0	0
	EUGENE	34	11	51	-10	23	-17	0.13	-1.83	0.12	1.36	34	21.08	45	97	88	0	7	2	0
	MEDFORD	32	14	48	2	23	-15	0.00	-0.69	0.00	0.34	24	8.97	53	91	78	0	7	0	0
	PENDLETON	33	14	47	-6	24	-11	0.01	-0.32	0.01	0.45	65	8.91	74	85	72	0	7	1	0
	PORTLAND	37	26	45	12	31	-10	0.16	-1.18	0.12	1.19	43	26.29	77	92	78	0	5	2	0
	SALEM	39	22	52	8	30	-11	0.13	-1.41	0.10	1.00	32	23.33	64	92	86	0	5	2	0
PA	ALLENTOWN	31	19	34	13	25	-9	1.22	0.46	0.70	2.10	134	44.02	102	79	64	0	7	5	1
	ERIE	29	20	37	14	25	-10	1.76	0.86	1.36	2.02	110	50.50	124	78	62	0	7	6	1
	MIDDLETOWN	33	24	36	22	28	-8	1.11	0.34	0.60	2.24	140	41.13	106	84	53	0	7	4	1
	PHILADELPHIA	35	26	38	21	31	-8	2.59	1.87	1.02	3.43	232	54.10	135	78	59	0	7	4	3
	PITTSBURGH	32	21	38	10	26	-8	0.60	-0.07	0.46	1.52	111	34.90	96	85	54	0	7	4	0
	WILKES-BARRE	29	19	36	14	24	-9	0.64	0.03	0.59	1.84	144	26.07	72	82	59	0	7	4	1
	WILLIAMSPORT	30	20	36	15	25	-8	0.91	0.21	0.81	2.02	136	31.06	77	77	58	0	7	4	1
RI	PROVIDENCE	33	20	40	14	26	-10	0.76	-0.16	0.35	2.04	109	42.68	97	75	58	0	7	4	0
SC	BEAUFORT	63	42	74	32	53	1	0.99	0.38	0.69	1.18	99	46.89	98	92	58	0	1	3	1
	CHARLESTON	64	40	76	30	52	0	1.05	0.40	0.92	1.38	107	57.34	116	90	56	0	1	3	1
	COLUMBIA	57	35	68	25	46	-2	1.72	1.05	1.06	3.10	238	52.69	114	94	59	0	3	4	1
	GREENVILLE	50	32	57	25	41	-4	2.32	1.49	1.32	2.92	177	65.80	137	87	55	0	3	4	2
SD	ABERDEEN	14	-8	26	-20	3	-15	0.10	0.04	0.05	0.42	382	21.41	107	82	72	0	7	3	0
	HURON	18	-4	31	-18	7	-14	0.16	0.09	0.07	0.48	282	24.63	119	81	63	0	7	3	0
	RAPID CITY	30	1	45	-15	15	-11	0.07	0.01	0.02	0.17	142	21.30	130	85	55	0	7	2	0
	SIOUX FALLS	18	-2	29	-14	8	-13	0.20	0.08	0.12	0.81	289	25.47	104	84	70	0	7	2	0
TN	BRISTOL	46	28	50	18	37	-2	1.90	1.14	0.70	3.13	202	54.46	138	88	51	0	4	4	1
	CHATTANOOGA	48	32	55	23	40	-4	2.75	1.67	1.12	4.35	194	65.11	125	88	62	0	4	4	2
	KNOXVILLE	47	31	52	22	39	-3	2.63	1.63	0.83	4.65	230	65.76	144	87	58	0	4	4	3
	MEMPHIS	42	28	49	23	35	-10	1.46	0.06	0.66	2.65	92	57.26	110	87	58	0	6	4	2
	NASHVILLE	44	26	50	18	35	-7	1.25	0.19	0.58	5.66	260	52.55	115	87	52	0	6	5	2
TX	ABILENE	45	25	61	14	35	-11	0.00	-0.26	0.00	0.21	42	22.28	97	79	67	0	6	0	0
	AMARILLO	47	18	62	8	33	-5	0.00	-0.10	0.00	0.02	11	14.91	77	77	35	0	7	0	0
	AUSTIN	49	30	57	25	40	-13	0.19	-0.35	0.13	0.27	25	36.45	113	80	55	0	6	2	0
	BEAUMONT	55	39	66	35	47	-8	0.59	-0.54	0.41	0.59	26	55.41	97	93	63	0	0	4	0
	BROWNSVILLE	62	47	77	37	54	-8	0.10	-0.15	0.04	0.11	20	25.60	95	87	73	0	0	4	0
	CORPUS CHRISTI	59	44	73	35	51	-8	0.02	-0.36	0.02	0.02	3	23.17	74	73	58	0	0	1	0
	DEL RIO	56	33	63	27	44	-9	0.01	-0.16	0.01	0.01	3	15.00	84	83	50	0	3	1	0
	EL PASO	54	31	58	26	43	-3	0.03	-0.14	0.03	0.23	74	9.48	106	70	26	0	4	1	0
	FORT WORTH	41	28	48	19	35	-13	0.01	-0.55	0.01	1.27	118	27.90	84	89	60	0	6	1	0
	GALVESTON	54	43	64	38	48	-11	0.09	-0.69	0.06	0.16	10	38.75	92	93	74	0	0	2	0
	HOUSTON	52	37	58	32	45	-10	0.13	-0.70	0.07	0.14	8	37.32	81	89	69	0	1	2	0
	LUBBOCK	49	20	63	10	35	-6	0.02	-0.12	0.02	0.09	32	12.10	66	81	54	0	6	1	0
	MIDLAND	49	28	64	21	38	-8	0.00	-0.14	0.00	0.31	119	7.37	51	87	62	0	6	0	0
	SAN ANGELO	50	29	65	23	39	-8	0.00	-0.20	0.00	0.64	164	19.29	95	85	64	0	6	0	0
	SAN ANTONIO	55	37	64	31	46	-7	0.05	-0.39	0.03	0.06	7	31.51	99	83	47	0	3	2	0
	VICTORIA	55	38	66	33	47	-9	0.11	-0.44	0.11	0.11	10	25.21	65	87	62	0	0	1	0
	WACO	45	28	53	21	36	-14	0.10	-0.53	0.10	0.34	27	36.88	116	90	72	0	6	1	0
	WICHITA FALLS	42	22	55	12	32	-12	0.20	-0.18	0.20	0.40	55	20.44	73	88	63	0	6	1	0
UT	SALT LAKE CITY	25	9	36	4	17	-14	0.15	-0.11	0.10	0.60	113	10.57	67	77	56	0	7	2	0
VT	BURLINGTON	26	13	37	-2	20	-7	0.27	-0.25	0.20	0.74	67	43.18	124	69	49	0	7	4	0
VA	LYNCHBURG	41	26	46	20	34	-6	2.26	1.56	0.94	3.17	223	43.05	104	83	53	0	7	4	2
	NORFOLK	48	31	61	25	40	-6	2.32	1.71	0.93	2.83	230	43.72	99	85	57	0	3	4	2
	RICHMOND	42	29	48	23	36	-6	2.56	1.91	0.98	3.03	233	50.64	120	82	60	0	5	4	2
	ROANOKE	43	29	52	26	36	-4	1.20	0.56	0.37	2.21	166	50.93	124	75	58	0	6	4	0
	WASH/DULLES	36	23	41	17	29	-9	1.82	1.13	0.89	2.98	213	42.75	107	84	61	0	7	4	1
WA	OLYMPIA	48	27	50	13	38	0	0.35	-1.50	0.28	1.43	38	40.86	87	86	68	0	5	3	0
	QUILLAYUTE	44	34	50	15	39	-2	1.10	-2.28	0.59	2.34	34	84.82	90	86	81	0	3	5	1
	SEATTLE-TACOMA	43	32	49	20	37	-4	0.29	-1.04	0.21	0.62	23	31.52	92	79	72	0	4	2	0
	SPOKANE	28	16	38	-2	22	-6	0.02	-0.51	0.02	0.24	22	10.92	70	83	65	0	7	1	0
	YAKIMA	32	10	44	-2	21	-9	0.00	-0.30	0.00	0.32	54	5.49	73	80	65	0	7	0	0
WV	BECKLEY	36	23	43	13	29	-8	1.92	1.23	0.69	3.43	249	39.91	100	81	65	0	6	5	1
	CHARLESTON	39	25	48	19	32	-7	1.17	0.40	0.67	4.04	251	45.02	106	92	58	0	6	4	1
	ELKINS	36	21	42	13	28	-6	1.59	0.81	0.79	4.09	256	43.82	99	88	55	0	7	4	1
	HUNTINGTON	38	25	45	17	31	-8	1.24	0.48	0.85	3.78	247	43.13	107	87	56	0	6	5	1
WI	EAU CLAIRE	13	-1	18	-9	6	-14	0.10	-0.14	0.05	0.58	105	34.95	110	85	62	0	7	3	0
	GREEN BAY	16	2	22	-6	9	-15	0.40	0.06	0.20	0.97	128	34.23	120	83	64	0	7	6	0
	LA CROSSE	18	3	24	-3	11	-13	0.24	-0.06	0.16	0.74	109	35.10	110	82	57	0	7	3	0
	MADISON	20	4	24	-3	12	-13	0.25	-0.16	0.21	0.54	62	44.30	138	79	64	0	7	4	0
	MILWAUKEE	24	6	29	-4	15	-14	0.37	-0.17	0.27	0.68	61	38.91	115	79	62	0	7	2	0
WY	CASPER	28	7	39	-9	17	-8	0.00	-0.14	0.00	0.39	139	14.33	113	72	54	0	7	0	0
	CHEYENNE	34	13	53	-8	23	-5	0.00	-0.10	0.00	0.20	95	18.00	118	70	49	0	7	0	0
	LANDER	26	2	39	-16	14	-8	0.00	-0.14	0.00	0.24	80	15.09	115	80	53	0	7	0	0
	SHERIDAN	26	0	42	-21	13	-10	0.11	-0.03	0.11	0.67	239	17.56	123	80	67	0	7	1	0

Based on 1971-2000 normals ***** Not Available**

Autumn Weather Review

Weather summary provided by USDA/WAOB

Highlights: Autumn began with inundating rains in Colorado and record-setting precipitation in parts of the Northwest. Colorado's flood event, which lasted about a week and extended to portions of several other states, came at the tail end of an active Southwestern monsoon season. Nearly forgotten amid the Western wetness was the Midwestern warmth that pushed late-developing corn and soybeans toward maturity. In addition, generally dry weather promoted a rapid pace of fieldwork across the eastern half of the nation.

Winter-like conditions arrived in October across the north-central U.S., where an early-month snow storm slammed the Black Hills and neighboring areas. Farther east, however, Midwestern producers made excellent progress in harvesting corn and soybeans during October, despite occasional rain. As autumn progressed, producers also made good progress planting winter wheat, with the only large-scale area of concern being a lack of soil moisture on the southern High Plains. By autumn's end, wheat had slipped into dormancy in all but the nation's southern production areas.

Cold weather expanded during November to encompass the Midwest, South, and East. The cold weather had little effect on late-season harvest activities, although some high moisture content corn remained in the field across the northern Corn Belt as autumn drew to a close. Meanwhile, the Southeast's overall dry autumn ended on a wet note, with a pre-Thanksgiving storm halting fieldwork but boosting topsoil moisture. Farther west, however, water-supply concerns began to mount, as California moved deeper into a potential third consecutive year of sub-par, cold-season precipitation.

Historical Perspective: According to preliminary data provided by the National Climatic Data Center, autumn featured overall mild, wet conditions. The nation's average September-November temperature of 54.1°F was 0.5°F above the 20th century mean, while the average precipitation of 7.23 inches was 108 percent of normal. It was the 44th-warmest, 34th-wettest summer since 1895. However, due to a recent and ongoing string of warm autumns, it was the coolest September-November period since 2006.

Cool weather was a little more persistent in much of the East, where Kentucky experienced its 29th-coolest fall (figure 1). However, Florida largely escaped the cool air intrusions, resulting in its 16th-warmest autumn. General warmth also covered the West, resulting in the 40th-warmest autumn in Colorado and Idaho.

Meanwhile, state precipitation rankings ranged from the 10th-driest autumn in California to the second-wettest autumn in Colorado, North Dakota, and Wyoming (figure 2). Top-ten rankings for autumn wetness also occurred in New Mexico and South Dakota. In contrast, autumn dryness prevailed in portions of the Midwest and East. For example, top-25 rankings for autumn dryness were noted in Connecticut, Delaware, Georgia, Massachusetts, and South Carolina.

Figure 1

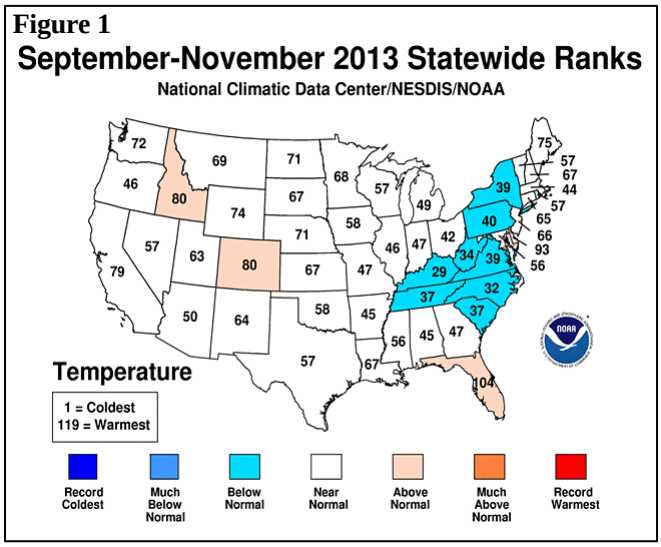
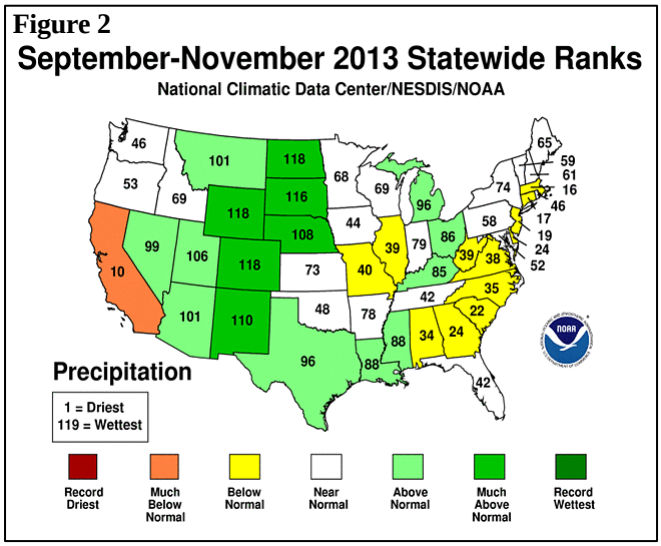


Figure 2



September: Heavy to record-setting rainfall soaked much of the western half of the nation, providing substantial drought relief but triggering historic flooding. The most

dramatic event unfolded prior to mid-month in Colorado, when the interaction between the monsoon circulation and a cold front led to unprecedented rainfall and deadly flooding. During the week-long flood event, rainfall totaled 6 to 18 inches or more at several locations along the eastern slopes of the central Rockies.

Later, precipitation intensified across the Northwest, leading to record-setting September rainfall totals west of the Cascades. Throughout the West, excluding parts of central and southern California and neighboring areas, rainfall aided drought-stressed rangeland and pastures. In addition, Northwestern rain provided beneficial moisture for newly planted winter grains.

In contrast, broad areas across the eastern half of the U.S. received only light rain. The combination of September warmth and dryness allowed Midwestern corn and soybeans to approach or reach maturity, lessening the frost risk. In parts of the western Corn Belt, monthly temperatures averaged more than 5°F above normal, while rainfall totaled less than half of normal.

Unusually dry weather also prevailed in the Atlantic Coast States, excluding Florida's peninsula and New England. In addition to those two areas, exceptions to the dry pattern included parts of the Dakotas and the western and central Gulf Coast regions.

October: An early-month Black Hills blizzard—devastating to livestock—headlined an active weather pattern across the north-central U.S. The October 3-5 storm, which affected a multi-state area but hit hardest and killed thousands of animals in the higher elevations of western South Dakota, was followed by two additional storms that hampered recovery efforts due to heavy rain and a little more snow.

Farther east, however, Midwestern producers had enough time between storms to harvest nearly half (47 percent) of the U.S. corn and about two-thirds (66 percent) of the soybeans during the 4-week period ending October 27. Overall U.S. harvest progress by October 27 was 59 percent for corn and 77 percent for soybeans. Toward month's end, the soybean harvest was nearing completion in upper Midwestern States such as Nebraska (94 percent) and Minnesota (91 percent), despite wetter-than-normal October conditions.

Most of the Plains received enough autumn moisture to promote winter wheat emergence and establishment, leading to favorable early-season crop conditions. Nearly two-thirds (61%) of the U.S. wheat was rated in good to excellent condition on October 27, although pockets of dryness were a concern on the southern High Plains.

Meanwhile, dry weather returned across much of the West during October, following the previous month's exceptional rainfall. Flood recovery efforts proceeded in Colorado, while mild, dry conditions fostered Northwestern winter wheat growth. In addition, dry weather favored fieldwork, including cotton harvesting, in California and the Southwest.

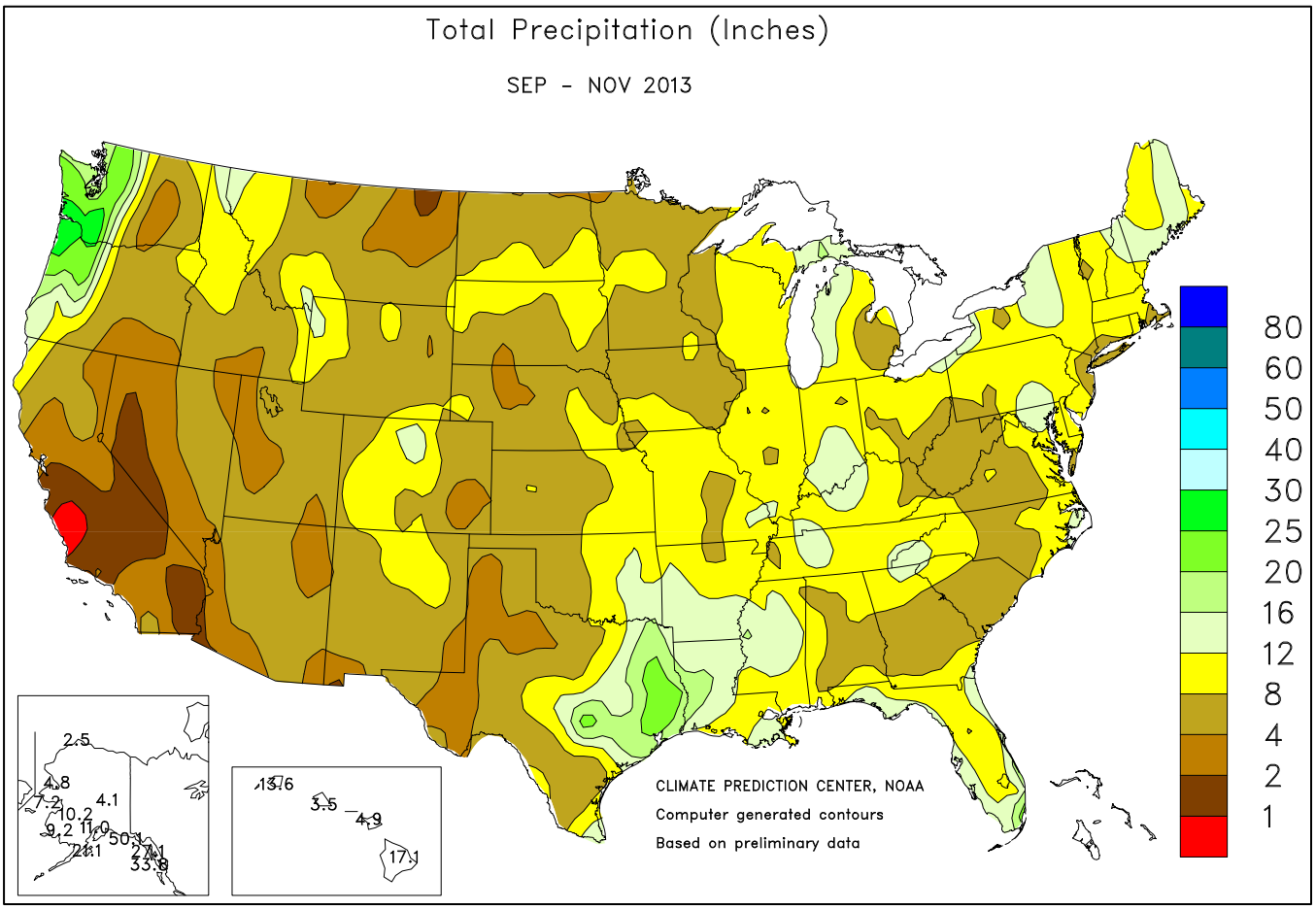
Elsewhere, generally dry weather accompanied near- to above-normal temperatures in the Southeastern and North Atlantic States, while a single, slow-moving storm—prior to mid-month—triggered heavy rain in the Mid-Atlantic region. Southeastern fieldwork included winter wheat planting and cotton, peanut, and soybean harvesting.

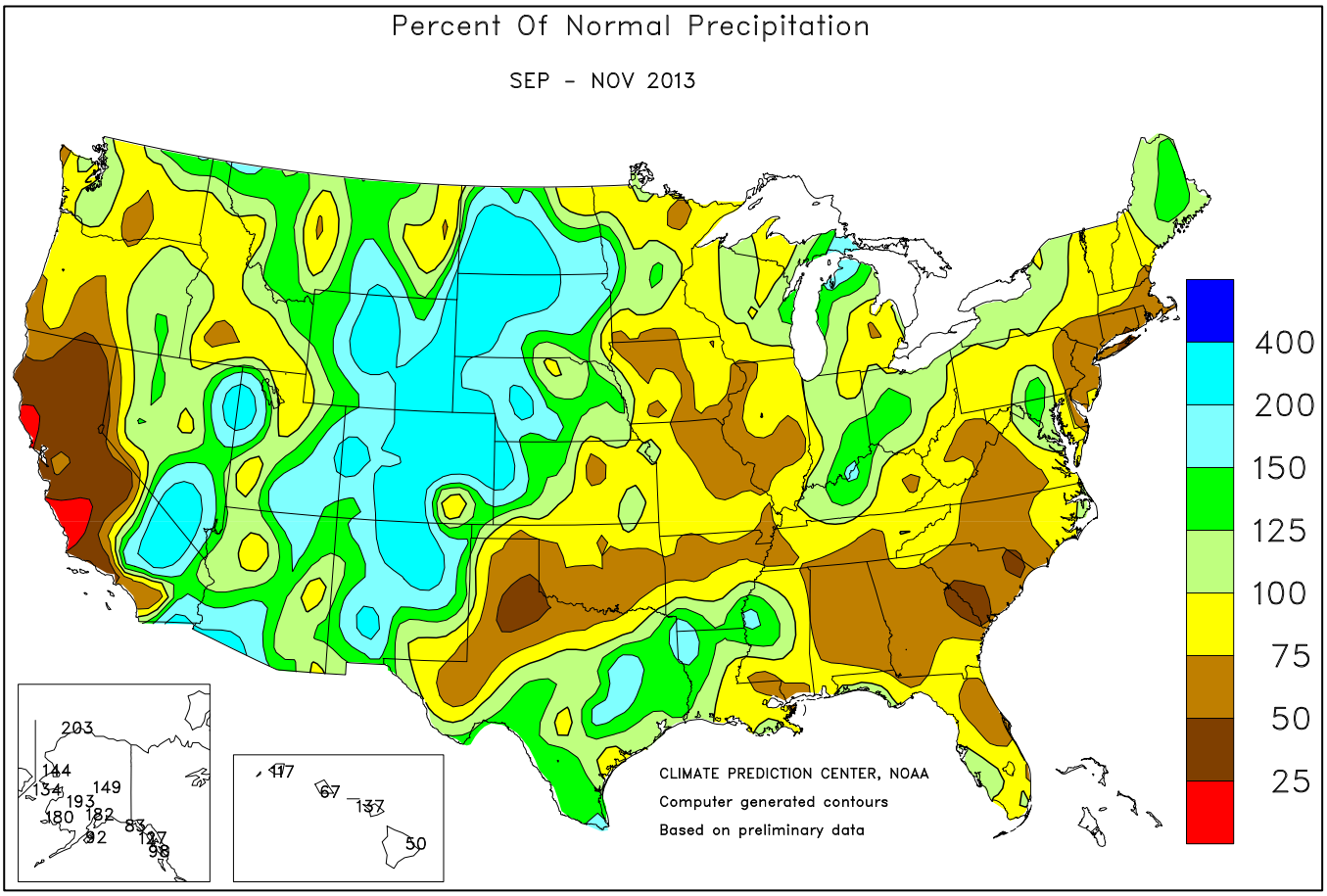
November: Mild, late-autumn weather across Florida's peninsula and much of the West contrasted with persistently chilly conditions across the majority of the Midwest, South, and East. The Western warmth, accompanied by a dearth of storminess, led to a sluggish start to the snow-accumulation season in high-elevation areas from the Cascades and the Sierra Nevada to the Intermountain West. However, mid-month storminess in the Southwest produced heavy mountain snowfall and provided some relief from long-term drought.

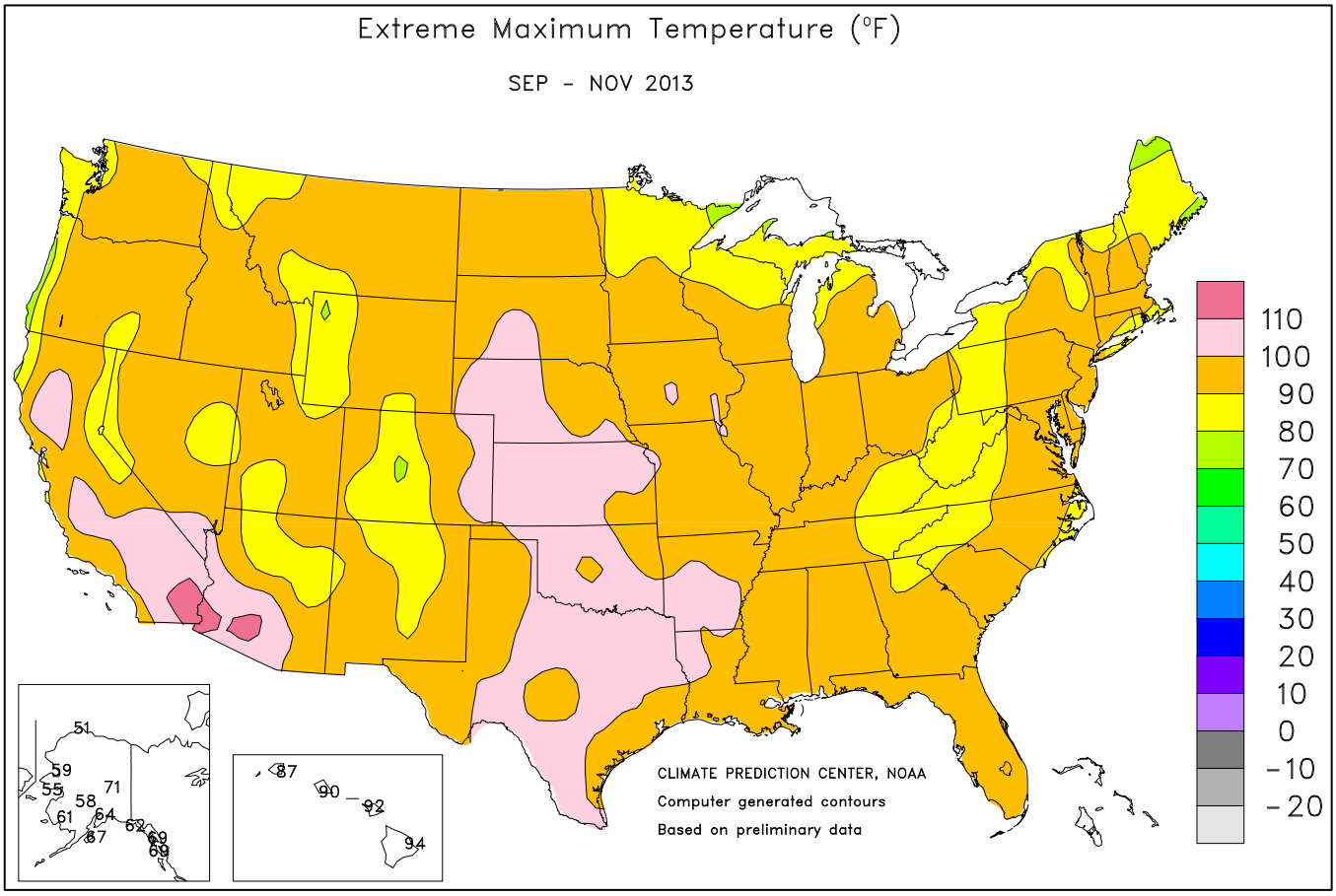
Meanwhile, abundant precipitation allowed the northern Plains' winter wheat to slip into dormancy under favorable conditions. On the southern High Plains, however, drought led to deteriorating conditions for winter wheat, with more than one-quarter (28 percent) of the crop in Texas rated in very poor to poor condition by November 24.

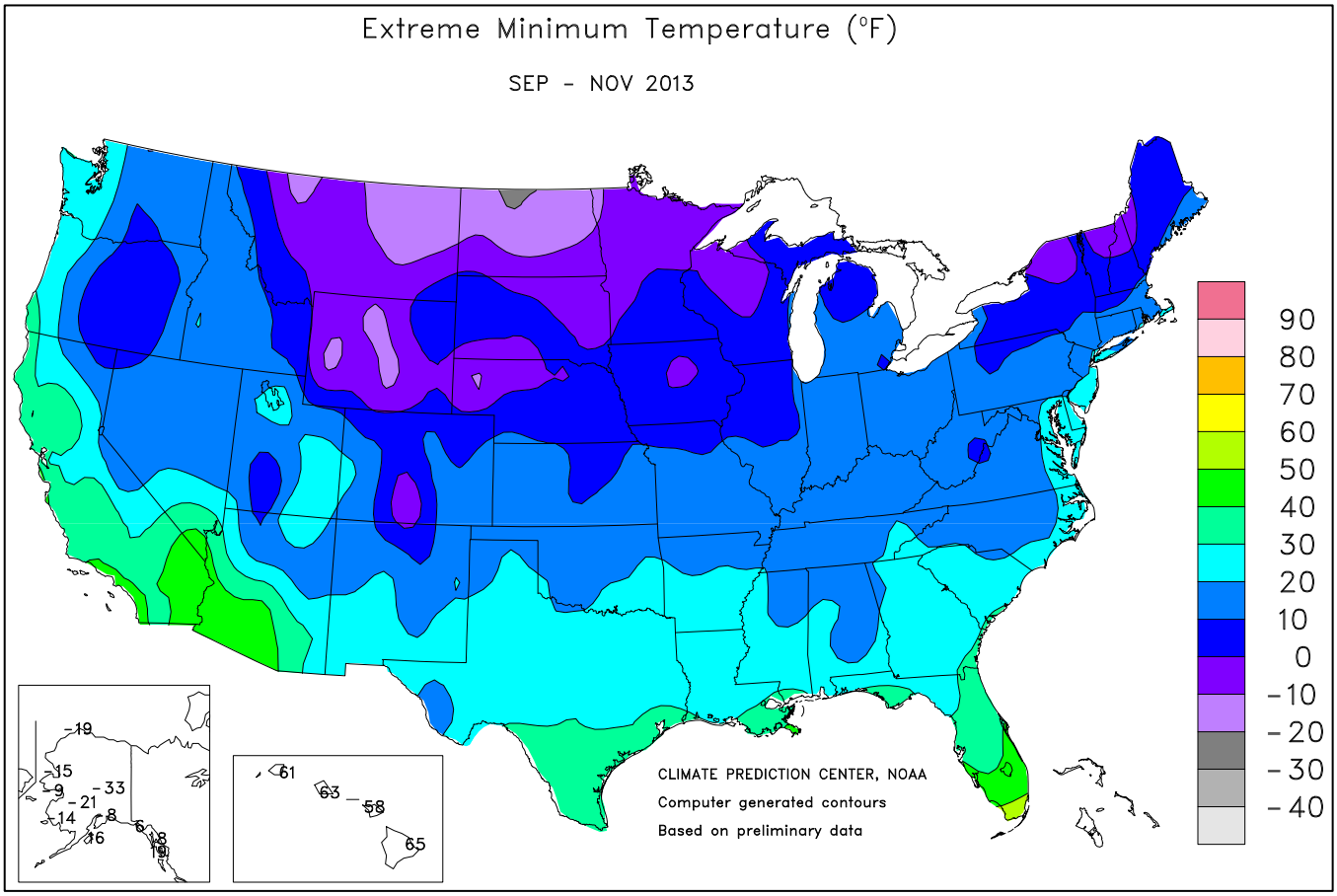
Farther east, there was enough dry weather during the first half of November to allow Midwestern corn and soybean harvesting to near completion. However, some corn was still drying down when mid- to late-month storminess slowed or halted fieldwork. By November 24, only Wisconsin (82 percent harvested), Michigan (84 percent), and North Dakota (86 percent) had more than one-tenth of their corn left in the field.

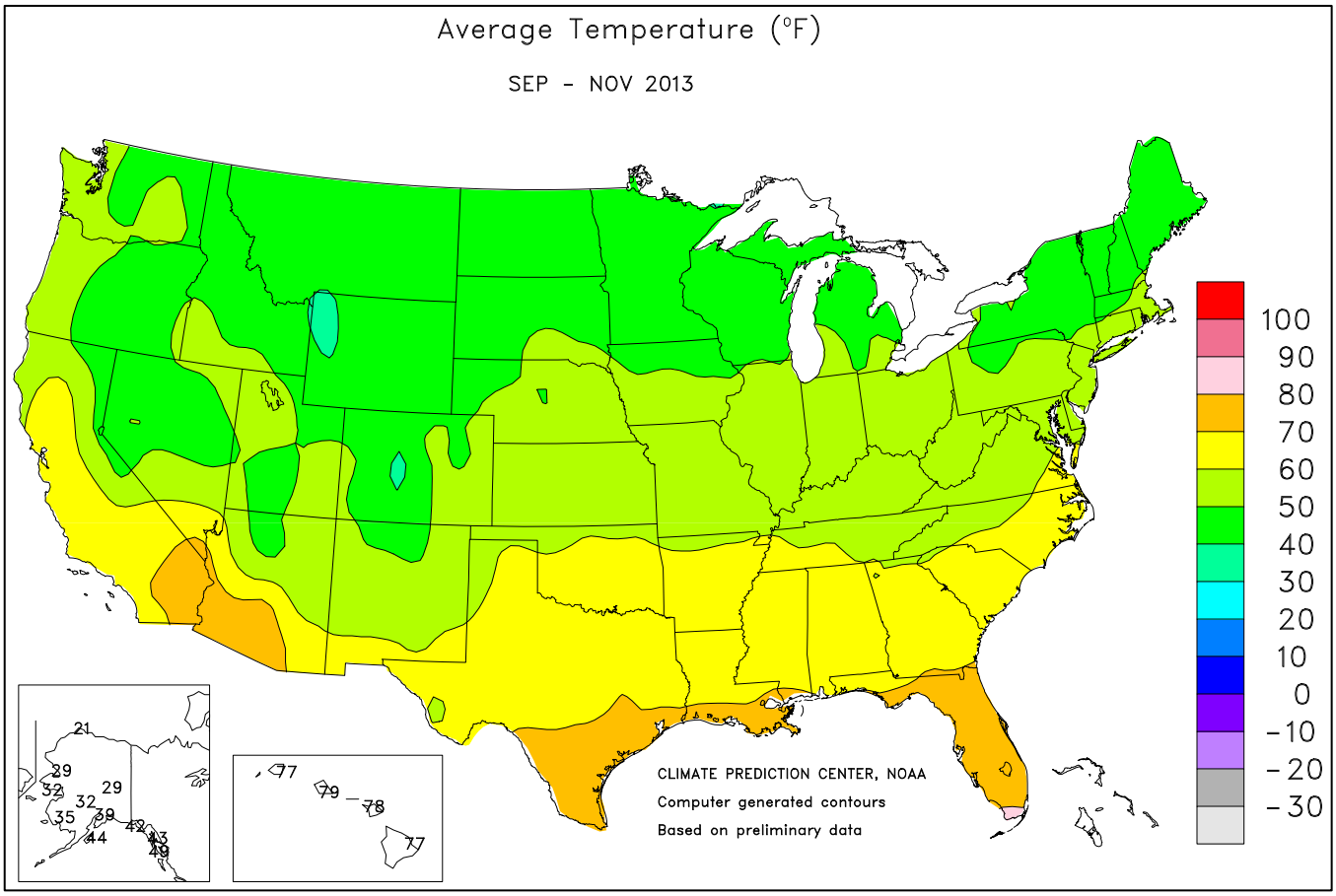
Elsewhere, cool, dry weather for much of the month favored late-season fieldwork—including winter wheat planting and cotton and soybean harvesting—in the Southeast. However, a pre-Thanksgiving storm slowed or halted fieldwork in the East, but provided relief from short-term dryness. The same pre-holiday storm also caused a variety of travel disruptions, particularly due to ice and snow in the south-central U.S.

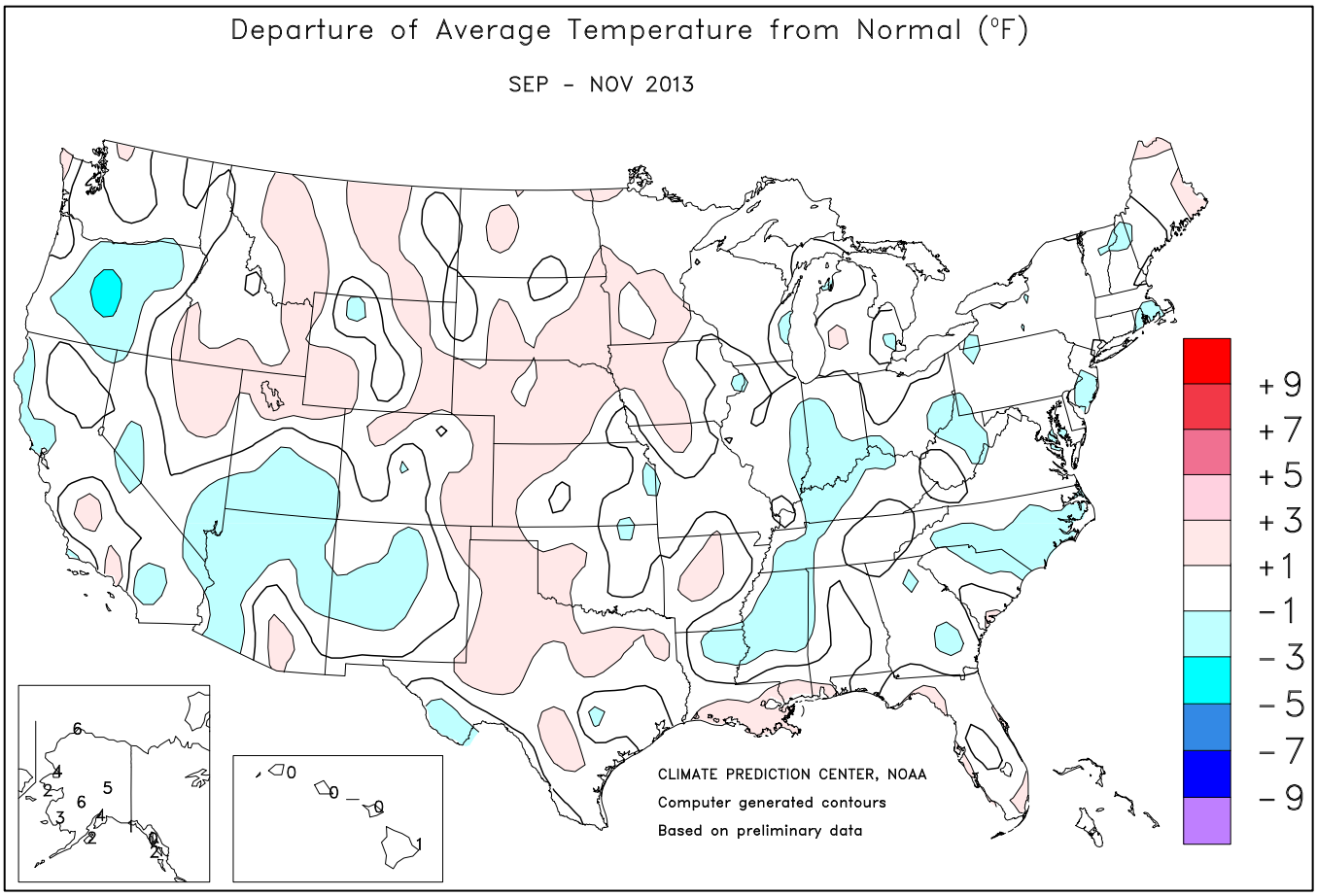

Total Precipitation (Inches)
SEP - NOV 2013
80
60
50
40
30
25
20
16
12
8
4
2
1
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Percent Of Normal Precipitation
SEP - NOV 2013
400
200
150
125
100
75
50
25
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Extreme Maximum Temperature (°F)
SEP - NOV 2013
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
51
59
55
71
58
61
64
67
87
90
92
94
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Extreme Minimum Temperature (°F)
SEP - NOV 2013
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-19
15
-9
-33
-21
14
8
16
61
63
58
65
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Average Temperature (°F)
SEP - NOV 2013
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data


Departure of Average Temperature from Normal (°F)
SEP - NOV 2013
+9
+7
+5
+3
+1
-1
-3
-5
-7
-9
CLIMATE PREDICTION CENTER, NOAA
Computer generated contours
Based on preliminary data

National Weather Data for Selected Cities

Autumn 2013

Data Provided by Climate Prediction Center

	STATES AND STATIONS	TEMP, °F		PRECIP.	
		AVERAGE	DEPARTURE	TOTAL	DEPARTURE
AL	BIRMINGHAM	64	1	8.55	-3.36
	HUNTSVILLE	62	0	8.10	-4.95
	MOBILE	69	1	10.21	-4.46
	MONTGOMERY	67	1	4.25	-7.08
AK	ANCHORAGE	39	4	11.01	4.97
	BARROW	21	6	2.52	1.28
	COLD BAY	45	4	15.20	1.36
	FAIRBANKS	29	6	4.06	1.34
	JUNEAU	43	1	27.06	5.79
	KING SALMON	38	3	9.32	2.88
	KODIAK	44	3	21.10	-1.73
	NOME	32	3	7.21	1.84
AZ	FLAGSTAFF	46	-1	5.76	-0.15
	PHOENIX	77	3	3.29	1.02
	TUCSON	72	2	2.85	-0.48
AR	FORT SMITH	64	2	8.07	-4.28
	LITTLE ROCK	64	1	11.23	-2.46
CA	BAKERSFIELD	67	1	0.97	-0.07
	EUREKA	52	-2	4.48	-4.52
	FRESNO	67	3	0.58	-1.43
	LOS ANGELES	67	1	0.71	-1.04
	REDDING	63	0	3.12	-3.57
	SACRAMENTO	63	0	1.46	-1.98
	SAN DIEGO	67	0	1.73	0.01
	SAN FRANCISCO	61	1	1.14	-2.59
	STOCKTON	63	-1	1.37	-1.55
CO	ALAMOSA	43	1	5.13	3.09
	CO SPRINGS	51	3	5.49	2.88
	DENVER	52	3	6.60	4.09
	GRAND JUNCTION	52	0	5.49	2.87
	PUEBLO	54	2	1.85	-0.21
CT	BRIDGEPORT	55	0	5.55	-5.22
	HARTFORD	52	0	9.79	-2.34
DC	WASHINGTON	60	1	10.39	0.35
DE	WILMINGTON	56	0	6.80	-3.48
FL	DAYTONA BEACH	75	1	11.14	-2.98
	FT LAUDERDALE	79	1	18.22	-1.05
	FT MYERS	77	0	13.69	1.53
	JACKSONVILLE	70	0	8.00	-6.10
	KEY WEST	80	0	10.09	-2.34
	MELBOURNE	77	2	9.49	-5.59
	MIAMI	80	1	23.07	5.07
	ORLANDO	76	1	6.85	-3.96
	PENSACOLA	71	1	14.40	0.06
	ST PETERSBURG	77	1	11.68	-0.59
	TALLAHASSEE	71	2	8.59	-3.53
	TAMPA	76	0	9.15	-1.30
	WEST PALM BEACH	79	1	13.02	-6.09
GA	ATHENS	62	0	6.11	-4.60
	ATLANTA	63	0	7.18	-4.12
	AUGUSTA	64	0	3.30	-6.17
	COLUMBUS	67	1	3.40	-5.97
	MACON	64	0	5.75	-3.10
	SAVANNAH	68	1	4.52	-6.08
HI	HILO	77	2	17.10	-17.26
	HONOLULU	79	-1	3.46	-1.72
	KAHULUI	78	0	4.93	1.32
	LIHUE	77	-1	13.65	2.01
ID	BOISE	52	0	4.00	1.10
	LEWISTON	52	0	2.37	-0.60
	POCATELLO	48	1	1.71	-1.28
IL	CHICAGO/O'HARE	53	1	7.77	-1.22
	MOLINE	52	0	5.41	-3.28
	PEORIA	54	1	10.24	1.37
	ROCKFORD	51	1	6.87	-1.80
	SPRINGFIELD	54	-1	6.08	-2.24
IN	EVANSVILLE	58	1	10.92	0.97
	FORT WAYNE	52	0	7.01	-1.41
	INDIANAPOLIS	54	-1	11.55	2.30
	SOUTH BEND	52	0	11.17	0.72
IA	BURLINGTON	54	0	5.33	-3.90
	CEDAR RAPIDS	51	0	7.73	0.01
	DES MOINES	54	2	7.62	-0.25
	DUBUQUE	49	0	6.11	-2.44
	SIOUX CITY	51	1	6.42	0.61
	WATERLOO	49	0	5.68	-1.86
KS	CONCORDIA	56	1	3.08	-2.71
	DODGE CITY	56	0	4.76	0.60
	GOODLAND	53	2	7.90	4.91
	HILL CITY	55	1	4.61	0.36
	TOPEKA	57	1	8.98	-0.03
	WICHITA	59	1	5.68	-1.55
KY	JACKSON	57	-1	6.41	-4.74
	LEXINGTON	57	0	10.31	1.06
	LONDON-CORBIN	57	0	8.94	-1.13
	LOUISVILLE	59	0	16.35	6.71
	PADUCAH	59	1	11.43	-0.11
LA	BATON ROUGE	69	1	12.48	-0.93
	LAKE CHARLES	70	1	16.40	1.90
	NEW ORLEANS	71	1	12.86	-0.83
	SHREVEPORT	67	0	21.51	9.17
ME	BANGOR	48	0	11.95	1.39
	CARIBOU	44	2	13.56	4.18
	PORTLAND	49	1	11.21	-1.28
MD	BALTIMORE	56	0	12.09	1.83
MA	BOSTON	55	0	5.54	-5.70
	WORCESTER	50	0	8.28	-5.00
MI	ALPENA	46	0	7.40	0.19
	DETROIT	51	-1	6.50	-1.66
	FLINT	50	1	5.19	-3.56
	GRAND RAPIDS	51	1	10.46	0.03
	HOUGHTON LAKE	46	0	8.40	0.89
	LANSING	50	1	6.66	-1.77
	MUSKEGON	52	2	9.80	0.25
	TRAVERSE CITY	49	0	15.57	6.38
MN	DULUTH	44	2	6.01	-2.70
	INT'L FALLS	41	1	5.29	-1.08
	MINNEAPOLIS	50	3	4.87	-1.87
	ROCHESTER	48	2	5.96	-1.37
	ST. CLOUD	46	2	6.73	0.02
MS	JACKSON	66	1	16.09	4.40
	MERIDIAN	64	-2	10.40	-1.47
	TUPELO	63	1	9.59	-2.15
MO	COLUMBIA	56	1	6.72	-3.35
	JOPLIN	58	-1	9.15	-4.07
	KANSAS CITY	56	0	11.00	0.73
	SPRINGFIELD	57	-1	11.13	-1.63
	ST JOSEPH	54	-2	11.15	1.80
	ST LOUIS	59	1	6.10	-3.33
MT	BILLINGS	49	2	6.54	3.19
	BUTTE	41	1	3.81	1.33
	GLASGOW	45	2	2.42	0.34
	GREAT FALLS	46	2	1.95	-0.80
	HELENA	46	2	2.17	-0.02
	KALISPELL	43	1	5.28	1.67
	MILES CITY	48	1	2.66	-0.18
	MISSOULA	46	2	2.02	-0.85
NE	GRAND ISLAND	53	2	7.40	2.05
	HASTINGS	53	1	7.01	1.14
	LINCOLN	53	0	6.04	-0.40
	MCCOOK	54	2	3.43	-0.31
	NORFOLK	51	1	6.37	0.96
	NORTH PLATTE	50	1	7.25	3.93
	OMAHA/EPPLEY	54	2	7.55	0.35
	SCOTTSBLUFF	50	3	4.85	1.82
	VALENTINE	49	1	5.28	1.73
NV	ELKO	49	2	2.48	0.04
	ELY	46	1	3.40	0.83
	LAS VEGAS	68	0	1.72	0.86
	RENO	54	2	0.57	-1.10
	WINNEMUCCA	49	0	2.70	0.71
NH	CONCORD	48	0	9.11	-1.08
NJ	ATLANTIC CITY	55	-1	8.63	-0.63
	NEWARK	57	0	5.02	-6.04
NM	ALBUQUERQUE	57	0	5.03	2.34
NY	ALBANY	50	0	8.94	-0.86
	BINGHAMTON	48	0	9.22	-0.71
	BUFFALO	51	0	13.46	2.51
	ROCHESTER	50	0	8.54	-0.35
	SYRACUSE	51	1	10.95	-0.17
NC	ASHEVILLE	56	0	8.79	-1.92
	CHARLOTTE	61	-1	7.17	-3.68
	GREENSBORO	59	0	6.85	-3.67
	HATTERAS	66	0	18.22	2.30
	RALEIGH	60	-1	7.31	-3.10
	WILMINGTON	65	0	6.98	-6.28
ND	BISMARCK	44	0	9.18	5.59
	DICKINSON	45	1	7.82	4.27
	FARGO	46	3	8.96	3.75
	GRAND FORKS	43	1	4.60	-0.05
	JAMESTOWN	44	1	6.66	2.81
	MINOT	43	0	4.63	0.71
	WILLISTON	43	1	4.32	1.45
OH	AKRON-CANTON	52	0	11.47	2.47
	CINCINNATI	55	-1	11.52	2.28
	CLEVELAND	53	1	9.53	-0.35
	COLUMBUS	55	0	10.61	2.19
	DAYTON	54	0	9.57	0.90
	MANSFIELD	51	0	9.95	0.07
	TOLEDO	51	-1	6.98	-0.99
	YOUNGSTOWN	51	0	8.39	-1.03
OK	OKLAHOMA CITY	62	1	6.33	-3.40
	TULSA	62	0	7.93	-4.35
OR	ASTORIA	53	0	17.87	-0.85
	BURNS	44	0	2.77	0.44
	EUGENE	53	0	9.80	-3.53
	MEDFORD	55	0	4.08	-0.94
	PENDLETON	51	-1	3.19	-0.06
	PORTLAND	55	0	9.82	-0.32
	SALEM	54	1	10.37	-0.48
PA	ALLENTOWN	53	1	7.07	-4.33
	ERIE	53	0	14.63	2.02
	MIDDLETOWN	55	0	14.62	4.66
	PHILADELPHIA	58	0	8.44	-1.35
	PITTSBURGH	53	0	7.62	-0.86
	WILKES-BARRE	52	0	5.88	-4.12
	WILLIAMSPORT	52	0	7.43	-3.36
PR	SAN JUAN	83	2	19.87	3.04
RI	PROVIDENCE	53	-1	9.83	-1.96
SC	CHARLESTON	67	0	9.90	-1.83
	COLUMBIA	65	1	6.08	-3.63
	FLORENCE	64	-1	3.91	-5.29
	GREENVILLE	61	0	8.54	-3.09
	MYRTLE BEACH	64	-1	4.01	-7.77
SD	ABERDEEN	44	-1	7.25	3.06
	HURON	49	2	6.94	2.66
	RAPID CITY	48	1	7.07	3.99
	SIOUX FALLS	49	2	4.24	-1.63
TN	BRISTOL	56	0	6.47	-1.99
	CHATTANOOGA	62	1	6.57	-5.88
	JACKSON	59	-2	8.48	-3.67
	KNOXVILLE	60	0	9.74	0.07
	MEMPHIS	64	0	8.66	-3.72
	NASHVILLE	60	0	9.38	-1.53
TX	ABILENE	66	1	5.74	-1.37
	AMARILLO	59	1	2.52	-1.54
	AUSTIN	69	-1	16.96	7.40
	BEAUMONT	71	1	19.62	4.10
	BROWNSVILLE	76	1	15.44	4.60
	COLLEGE STATION	70	0	18.86	7.55
	CORPUS CHRISTI	75	2	12.15	1.44
	DALLAS/FT WORTH	68	1	7.96	-1.14
	DEL RIO	71	1	6.50	1.48
	EL PASO	65	1	3.95	1.11
	GALVESTON	73	-1	14.36	1.47
	HOUSTON	71	1	15.98	2.96
	LUBBOCK	62	2	2.23	-2.75
	MIDLAND	65	1	2.50	-2.23
	SAN ANGELO	65	0	6.89	0.27
	SAN ANTONIO	72	2	8.01	-1.43
	VICTORIA	73	1	10.18	-1.72
	WACO	67	-1	15.12	5.96
	WICHITA FALLS	65	1	4.56	-3.42
UT	SALT LAKE CITY	56	4	2.52	-1.78
VT	BURLINGTON	49	1	9.75	-0.26
VA	LYNCHBURG	56	-1	6.16	-4.29
	NORFOLK	62	0	7.63	-2.88
	RICHMOND	60	1	8.70	-1.94
	ROANOKE	57	0	6.41	-3.80
	WASH/DULLES	56	0	11.91	1.41
WA	OLYMPIA	51	1	16.17	1.82
	QUILLAYUTE	54	4	20.66	-8.12
	SEATTLE-TACOMA	54	1	11.50	0.78
	SPOKANE	48	1	3.21	-0.85
	YAKIMA	51	2	0.81	-1.16
WV	BECKLEY	53	0	6.51	-2.24
	CHARLESTON	56	0	6.93	-2.85
	ELKINS	51	0	6.82	-3.28
	HUNTINGTON	56	0	6.93	-1.92
WI	EAU CLAIRE	47	1	6.73	-1.17
	GREEN BAY	48	1	9.28	1.73
	LA CROSSE	51	1	7.22	-0.44
	MADISON	49	1	7.28	-0.29
	MILWAUKEE	51	0	8.10	-0.39
	WAUSAU	46	0	9.32	0.41
WY	CASPER	45	0	4.74	1.80
	CHEYENNE	47	2	9.31	6.49
	LANDER	45	0	6.99	3.49
	SHERIDAN	46	2	6.90	3.31

Based on 1971-2000 normals

***** Not Available**

National Agricultural Summary

December 9 – 15, 2013

Weekly National Agricultural Summary provided by USDA/NASS

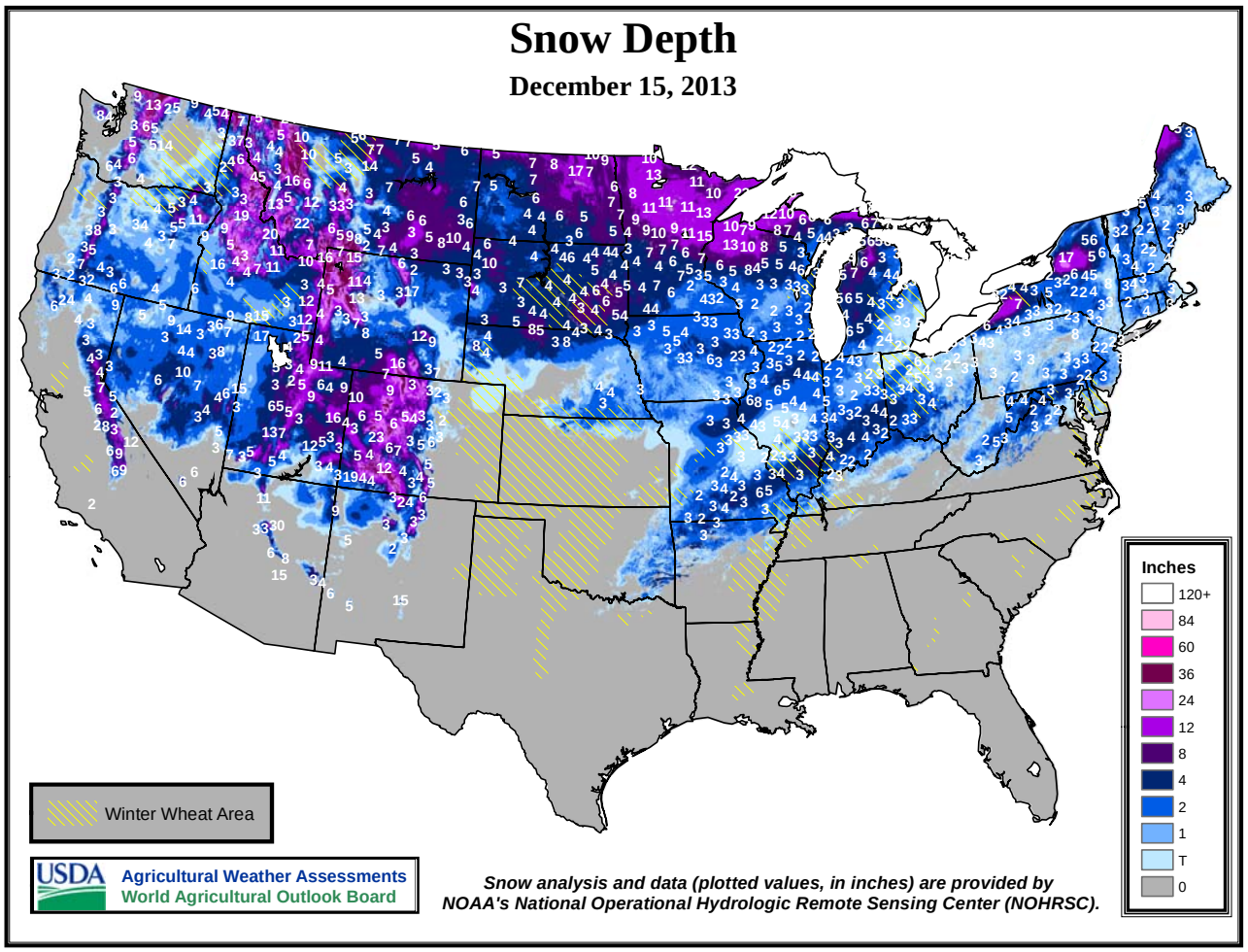
Cold and dry weather was the trend across the United States. Virtually all areas in the Great Plains and western United States recorded no precipitation for the week and only a small area in Mississippi, Alabama and Georgia recording over 2.5 inches of rainfall. Florida and the Southeast were the only parts of the country recording above-average temperatures, with the entire Corn Belt recording average temperatures over 10°F below normal. Continued dry conditions in the hard red winter wheat growing area may start having impacts on the now dormant winter wheat crop.

Dry north wind flow and a high pressure center brought cold conditions and very dry weather across California for the week. Reporters were concerned about frost damage on newly emerged winter wheat. Damage will be assessed in the near future. About two-thirds of the crop was emerged by week's end. Three-quarters of the winter wheat crop conditions were rated good to excellent. The hard freeze stopped any further alfalfa production. Citrus harvest was delayed due to freezing temperatures. Navel oranges and mandarins sustained some freeze damage. Stone fruit trees continued to be pruned. Harvested nut orchards were pruned, irrigated and fertilized. Tree removals were ongoing and land was prepared for tree planting. Vegetable harvest proceeded in many parts of the State. Growers were also cultivating vegetable seed crops. Range and non-irrigated pasture conditions improved slightly due to recent rains. Dairy cattle were moved off irrigated pasture to reduce soil compaction. Dairy corrals were cleaned in preparation for winter. Livestock supplemental feeding of hay and grain continued. Calving season continued and lambing was underway across the State.

In Arizona, cotton harvest was 85 percent complete, 1 percentage point ahead of last year and the same as the five-year average. Arizona's alfalfa condition was rated in fair to excellent condition, depending on location. Harvesting occurred on over three-quarters of the alfalfa acreage across the State. Recent storms brought additional moisture for the week across the State along with cold weather. Range and pastures were rated in very poor to good condition, depending on location.

The majority of Florida received one inch or less of rain for the week and most of the State recorded temperatures in the 80s °F. Farmers in the northern part of the State were finishing up the harvest of cotton and soybeans. Planting of oats, wheat, and winter grazing was still on-going. Sugarcane harvest was proceeding as scheduled in Hendry and Glades counties. Above-average temperatures accelerated the growth of many vegetables. Rain this week was heavy in places, but not widespread in the citrus growing region. Growers and caretakers continued to irrigate due to dry conditions. Field workers were reporting small sizes on all varieties of fruit. Grove activity included resetting of new trees, pushing of dead groves and replanting new citrus, mowing, fertilizing and psyllid control. Thirty-eight of 43 packinghouses had opened and begun shipping small quantities of fruit. Sixteen of nineteen processing plants were open so far this season. The cattle condition across the State was primarily good. The majority of the pasture condition ranged from fair to good in the State. Cattlemen were feeding hay and supplements across the State to their cattle. Drought was the main contributing factor for the decline in pasture condition.

In North Carolina, the continued rainfall for another week slowed harvest in most areas limiting the amount of cotton and soybean progress. The third cutting of hay made a little progress this week and hay supply is rated at 78% adequate. Statewide soil moisture levels were rated at 3% short, 71% adequate and 26% surplus.



International Weather and Crop Summary

December 8-14, 2013

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

HIGHLIGHTS

EUROPE: Generally dry, quiet weather prevailed across the region, although developing short-term dryness in the south increased concerns for winter wheat and barley.

WESTERN FSU: Seasonably cold conditions settled over the region, with the season's first snowfall insulating dormant winter crops from the elements.

MIDDLE EAST: An abrupt arrival of cold, snowy weather in northern growing areas hastened winter grains into dormancy.

NORTHWEST AFRICA: Sunny skies promoted winter grain planting and development.

EASTERN ASIA: Seasonably cold weather eased winter wheat into dormancy across the majority of the North China Plain, while drier-than-usual conditions necessitated more irrigation for winter rapeseed that had yet to enter dormancy in the Yangtze Valley.

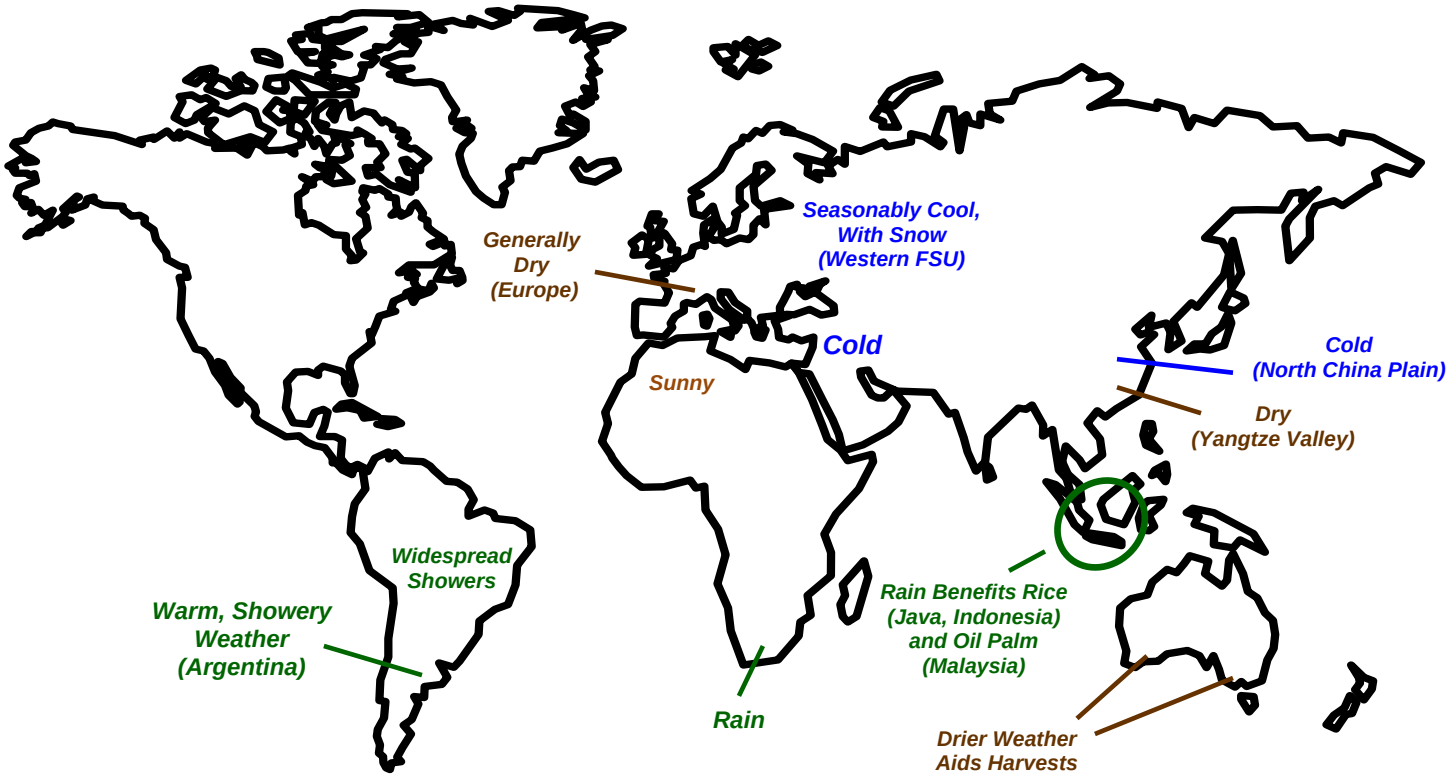
SOUTHEAST ASIA: Rainfall maintained favorable moisture conditions for rice across Java, Indonesia, while more seasonable rainfall returned to oil palm areas in Malaysia.

AUSTRALIA: Drier weather allowed winter crop harvesting to regain momentum in the west and southeast.

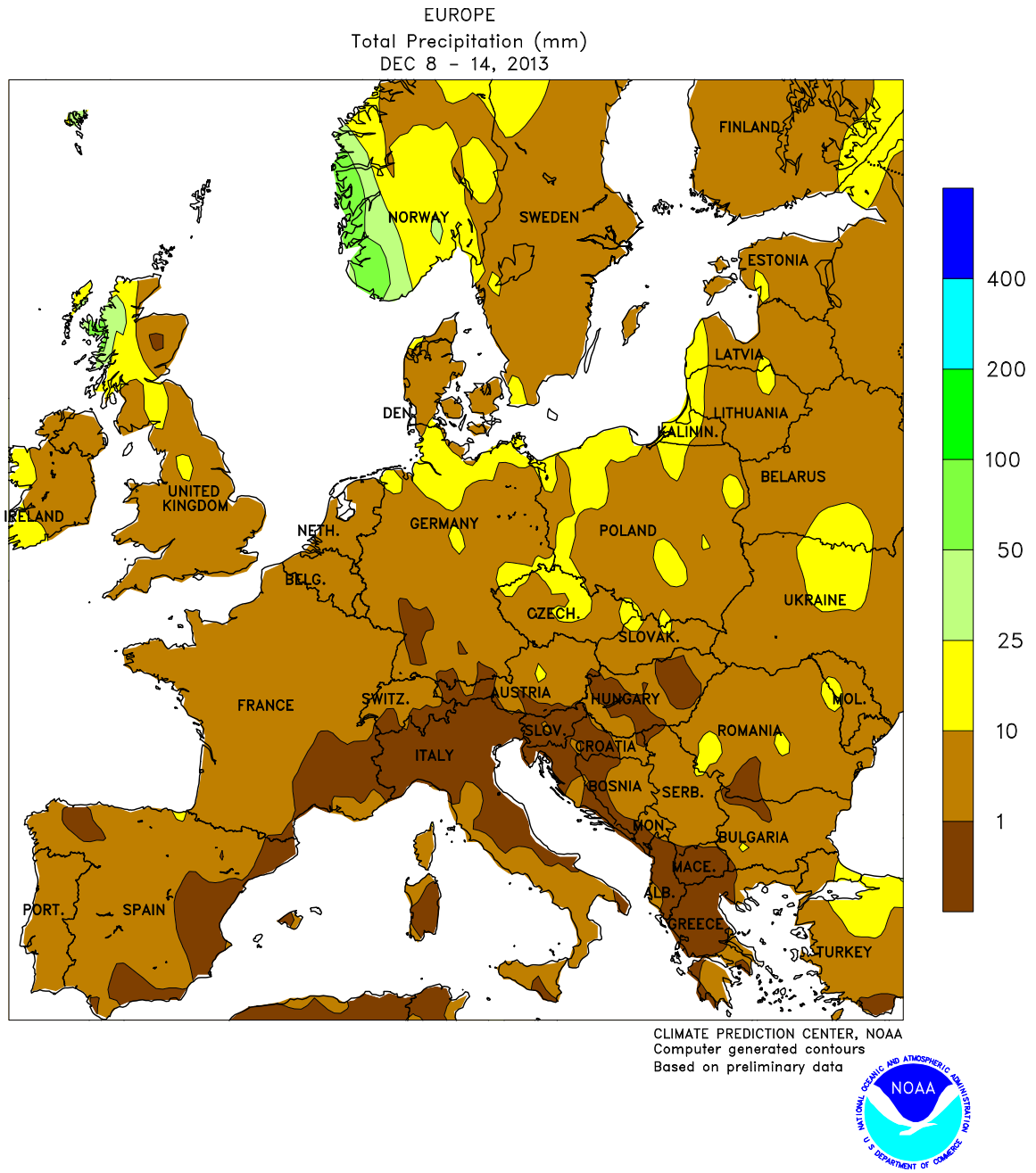
SOUTH AFRICA: Locally heavy rain maintained mostly favorable conditions for corn and other rain-fed summer crops.

ARGENTINA: Warm, showery weather spurred rapid development of vegetative summer grains, oilseeds, and cotton.

BRAZIL: Showers benefited soybeans and other summer row crops in most major production areas.



For additional information contact: mbrusberg@oce.usda.gov



EUROPE

Generally tranquil weather prevailed across the continent, although concerns increased over short-term dryness in southern portions of the region. An area of high pressure stretching from France and Spain into the Balkans maintained dry weather and seasonable temperatures over most major winter crop districts, promoting fieldwork — including late summer crop harvesting in France. However, an early-week cold front triggered rain and snow (2-15 mm liquid equivalent) from eastern Germany into Poland and the Baltic States. Winter crops are mostly dormant except in the United Kingdom, Spain, and Italy. The ongoing dry weather increased concerns over developing short-term drought in Spain, where little — if any — rain has fallen since the end of October for winter grain planting and establishment. Several weeks of dry weather (since November 23) in Italy have likewise increased irrigation demands and reduced soil moisture for winter wheat.

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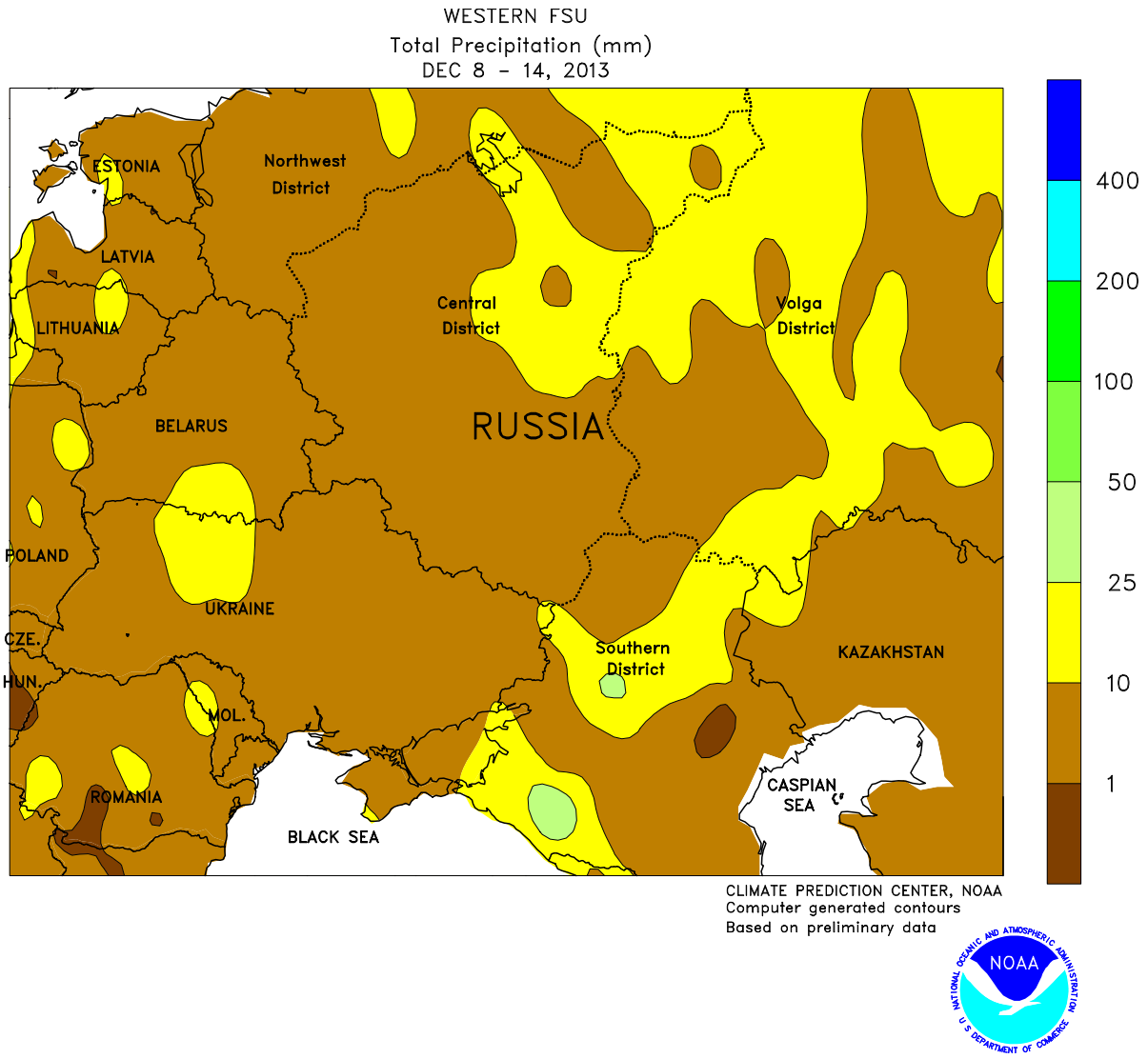

WESTERN FSU

Seasonably cold weather settled over the region, as the season's first widespread snowfall insulated dormant winter crops from the elements. A slow-moving winter storm generated widespread snow (3-30 mm liquid equivalent) from Belarus and northern Ukraine into Russia. At week's end, snow depths averaged 2 to 15 cm over most major winter wheat areas, providing adequate protection against potential incursions of bitter cold. Temperatures averaged up to 7°C below normal, though the coldest readings (locally below -20°C) occurred in areas with a moderate to deep snowpack.

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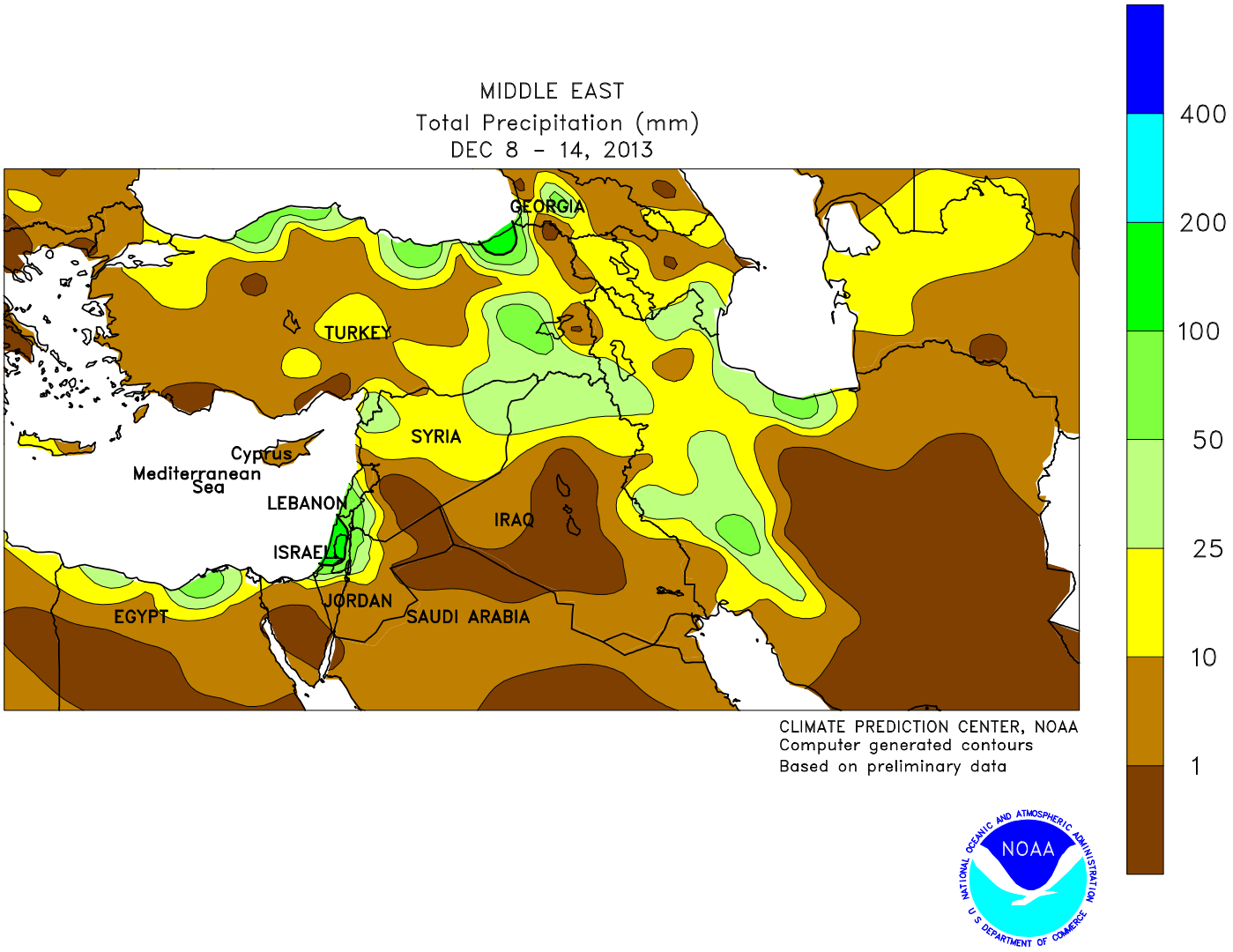

MIDDLE EAST

The sudden arrival of wintry weather in the north hastened winter grains into dormancy, while unseasonably wet conditions prevailed across southern growing areas. After an unusually dry, mild autumn, sharply colder weather (up to 10°C below normal) arrived in Turkey. In addition, the season's first snowfall (5-30 cm, locally more) blanketed much of central and eastern Turkey's wheat areas. The combination of sharply colder weather (nighttime readings of -15 to -10°C) and snow hastened winter wheat into dormancy, and likely left crops on the Anatolian Plateau poorly established. Snow was also reported in typically colder portions of northern Iraq and northern and western Iran, while even low-lying areas in Syria reported the first snow of the season. Precipitation fell as heavy rain and high-elevation snow across the southern tier of the region, with amounts totaling locally more than 50 mm. The continuation of wet weather in the south boosted soil moisture for winter wheat and barley establishment but likely caused additional planting delays.

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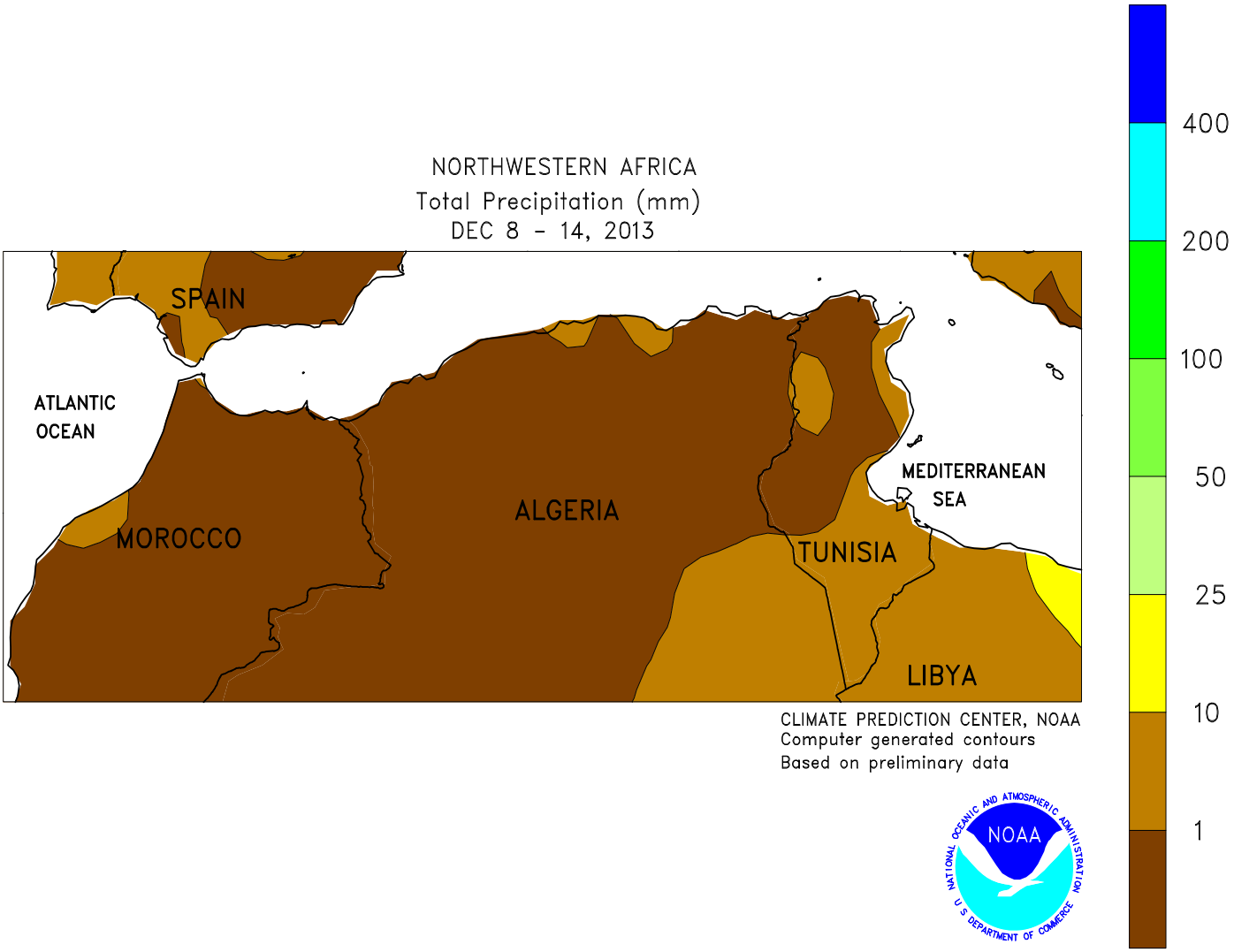

NORTHWESTERN AFRICA

Sunny skies returned to the region, promoting fieldwork and crop development. After a favorably wet start to the winter growing season, a return to dry, milder weather facilitated late winter wheat and barley planting and encouraged crop growth. However, short-term dryness has become a concern in Morocco's southern-most growing areas, where additional rain would be welcomed for winter crop establishment.

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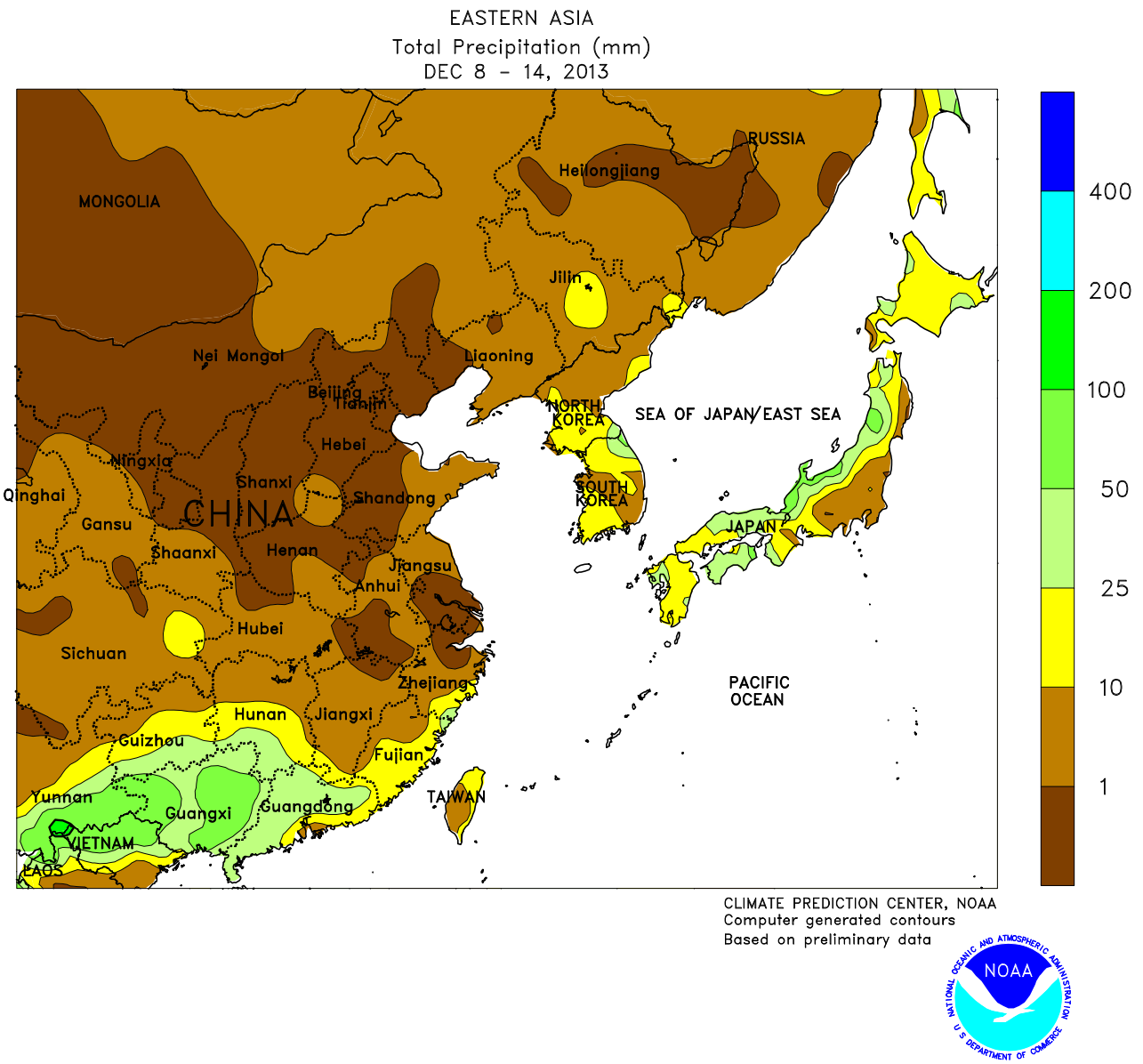

EASTERN ASIA

The dry season was well established across the North China Plain with little, if any, rainfall occurring for the period. Seasonally (since October 1), rainfall has been below normal as deficits of 25 to 50 mm necessitated irrigation to help establish winter wheat. Recently, temperatures have been low enough (averaging below 5°C) to ease wheat into dormancy and build some cold hardiness; at full cold hardiness, wheat can withstand temperatures of -20°C. Farther south, light showers (less than 10 mm) provided some additional moisture to winter rapeseed in the Yangtze Valley but did little to alleviate rainfall deficits that occurred during the autumn. As on the North China Plain, increased irrigation was needed for rapeseed establishment, particularly in Hubei, Anhui, and Jiangsu, where moisture deficits are greatest and crops had yet to enter dormancy. Nighttime temperatures below freezing have slowed development, however. Moisture conditions were more favorable in Sichuan and Hunan, where seasonal rainfall has been near normal. Rainfall remained concentrated in far southern provinces, where 25 to 60 mm benefited sugarcane and vegetables.

This is the final weekly summary for the season. Summaries will resume with spring planting in March. Monthly summaries will continue through the winter and weekly highlights will still be available at http://www.usda.gov/oce/weather/pubs/Weekly/FCW.pdf.

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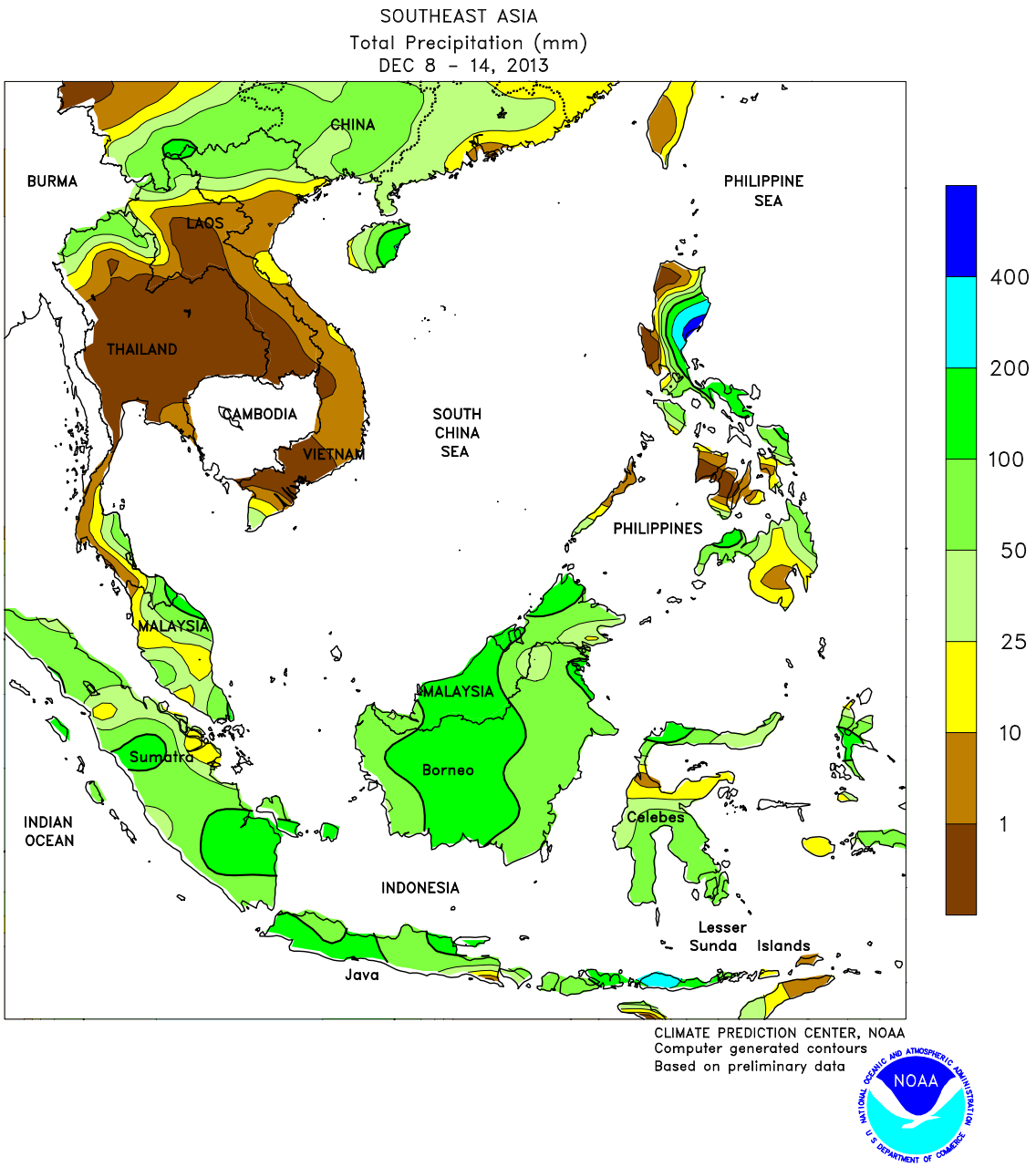

SOUTHEAST ASIA

Favorable moisture conditions continued for rice in Java, Indonesia, with rainfall totals averaging around 100 mm for the week. In particular, rainfall has increased dramatically in eastern Java after a slow start to the rainy season. In oil palm areas of Indonesia and Malaysia, rainfall eased somewhat after torrential showers brought nearly 1,000 mm in 10 days across portions of the Malaysian peninsula. Weekly rainfall totals returned to more seasonable amounts of 100 to 150 mm, still slowing harvest activities but proving more manageable. Meanwhile, flooding rainfall continued in the northeastern Philippines, where upwards of 525 mm was reported. The highest amounts were mainly along the coast and in higher elevations and did not impact key rice areas farther inland. In Vietnam, spring rice benefited from warm, sunny weather as the dry season became established across the country.

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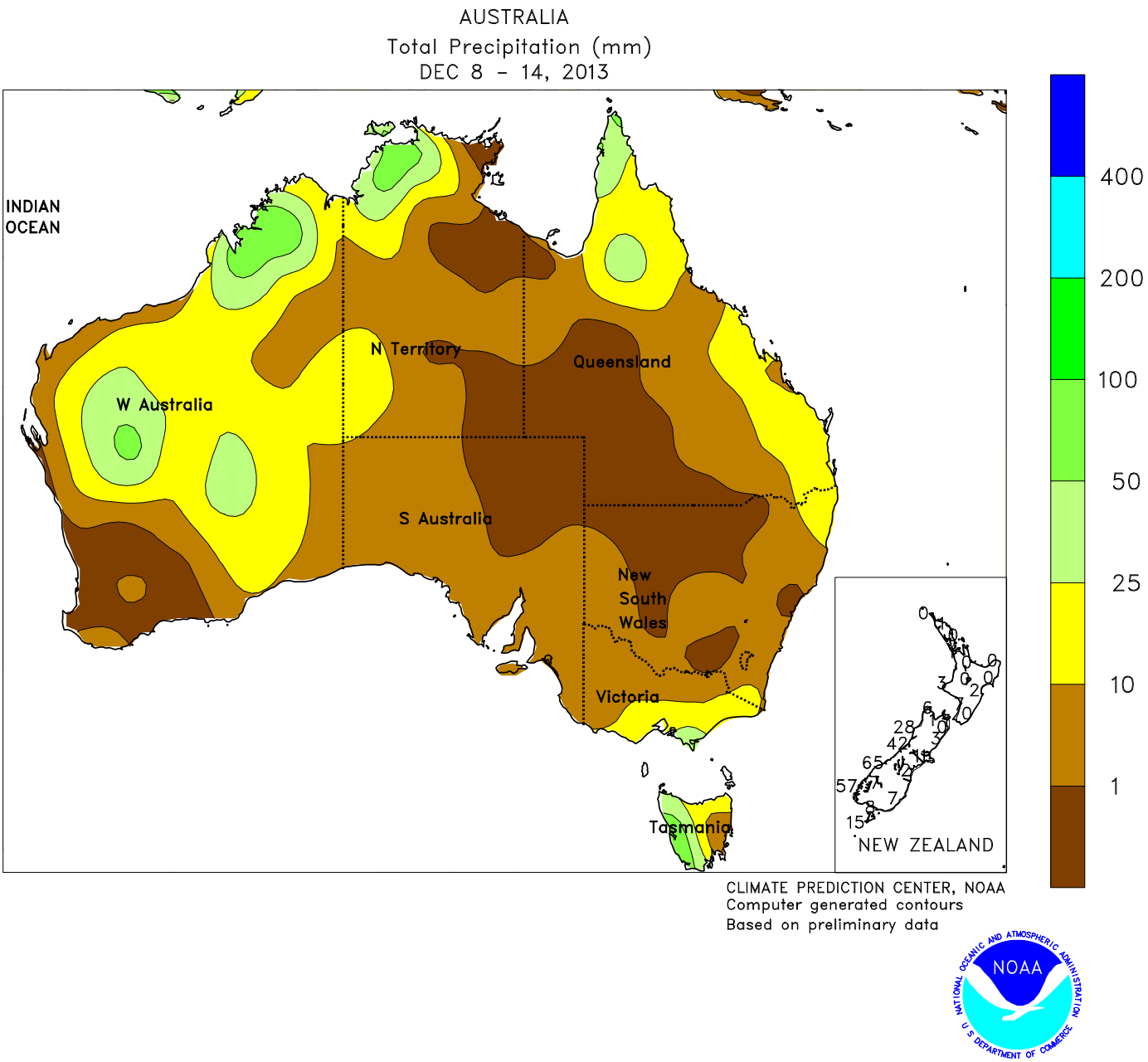

AUSTRALIA

In the wake of last week's widespread rainfall, scattered light showers (less than 10 mm) lingered in South Australia, prolonging local fieldwork delays. Elsewhere, generally dry weather allowed winter crop harvesting to regain momentum in western and southeastern portions of Australia's wheat belt. In northern New South Wales, sunny, seasonably warm weather spurred cotton and sorghum development. In Queensland, widespread showers (5-25 mm, locally near 50 mm) eased irrigation requirements for vegetative summer crops. Temperatures in major summer crop areas averaged near normal, with maximum temperatures in the lower to middle 30s degrees C.

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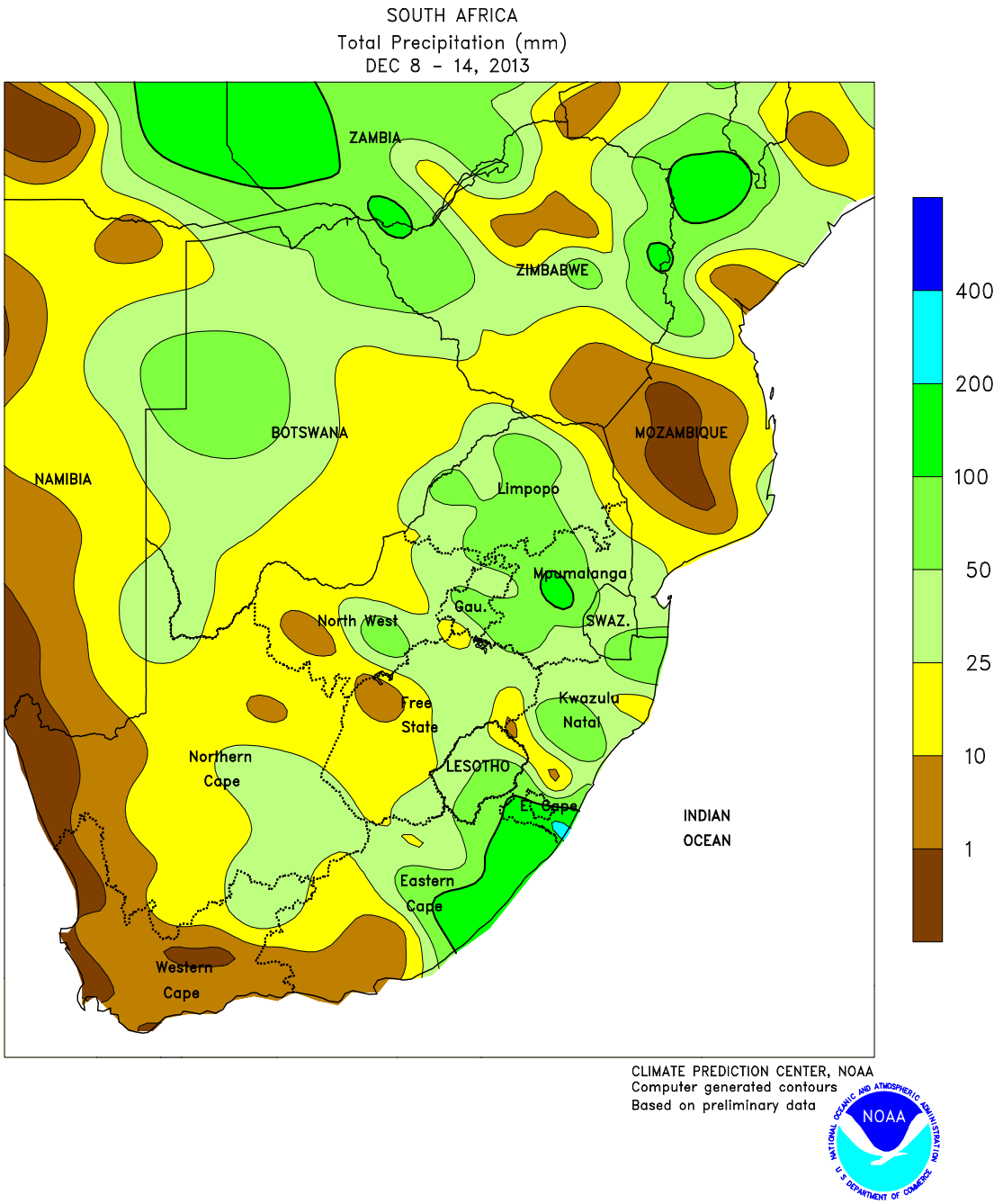

SOUTH AFRICA

Widespread, locally heavy rain maintained generally favorable conditions for rain-fed summer crops. Rainfall totaled more than 25 mm throughout the corn belt, with amounts in excess of 50 mm over large sections of Mpumalanga, Limpopo, and North West. Similar amounts were recorded in KwaZulu-Natal and eastern production areas of both Northern and Eastern Cape Province, benefiting rain-fed sugarcane and boosting irrigation reserves for corn, cotton, and other agriculture. Mild weather accompanied the rain, with weekly temperatures averaging up to 2°C below normal. Drier weather developed at week's end, however, allowing daytime temperatures to rise to normal levels (lower 30s degrees C in western sections of the corn belt and Northern Cape and the upper 20s elsewhere). Meanwhile, warmth and dryness spurred development of irrigated crops — including tree and vine crops — in Western Cape, as daytime highs reached the middle 30s in some interior farming areas.

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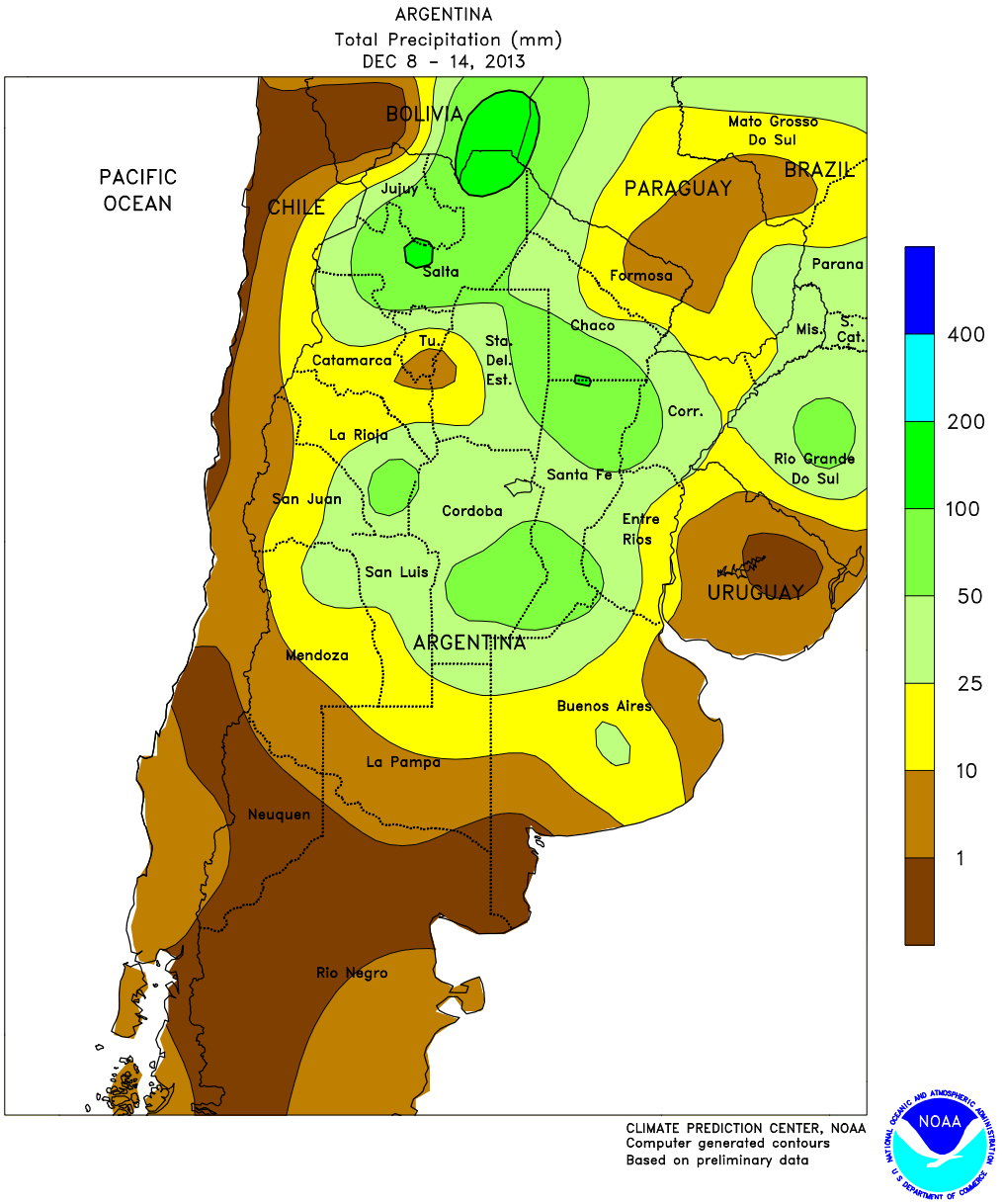

ARGENTINA

Beneficial rain returned to much of central Argentina, increasing moisture for germination and establishment of summer grains and oilseeds. Rainfall totaled 25 to 70 mm over the region's high-yielding farming areas (northern sections of La Pampa and Buenos Aires and southern production areas of Cordoba, Santa Fe, and Entre Rios), with lighter amounts recorded in the more southerly agricultural districts (southern sections of La Pampa and Buenos Aires). Most of the rain fell during the first half of the week, briefly bringing temperatures down to seasonable levels; however, warmer weather returned at week's end, with daytime highs again reaching the middle and upper 30s (degrees C). As a result, weekly temperatures averaged 1 to 3°C above normal, with the highest departures from normal in the drier southern farming areas. While moisture was limited in southern production areas for corn and soybean establishment, conditions favored drydown and harvesting of winter grains. A similar pattern prevailed across northern Argentina (Salta to Corrientes), with rainfall totaling 25 to 100 mm in most areas and weekly temperatures averaging 1 to 2°C above normal (daytime highs occasionally reaching the upper 30s). According to Argentina's Ministry of Agriculture, soybeans were 68 percent planted as of December 12, down slightly from last season. Corn was 61 percent planted, 8 points behind last year. In addition, wheat was 45 percent harvested, similar to last year's pace, with most of the remaining acreage in key production areas of La Pampa and Buenos Aires.

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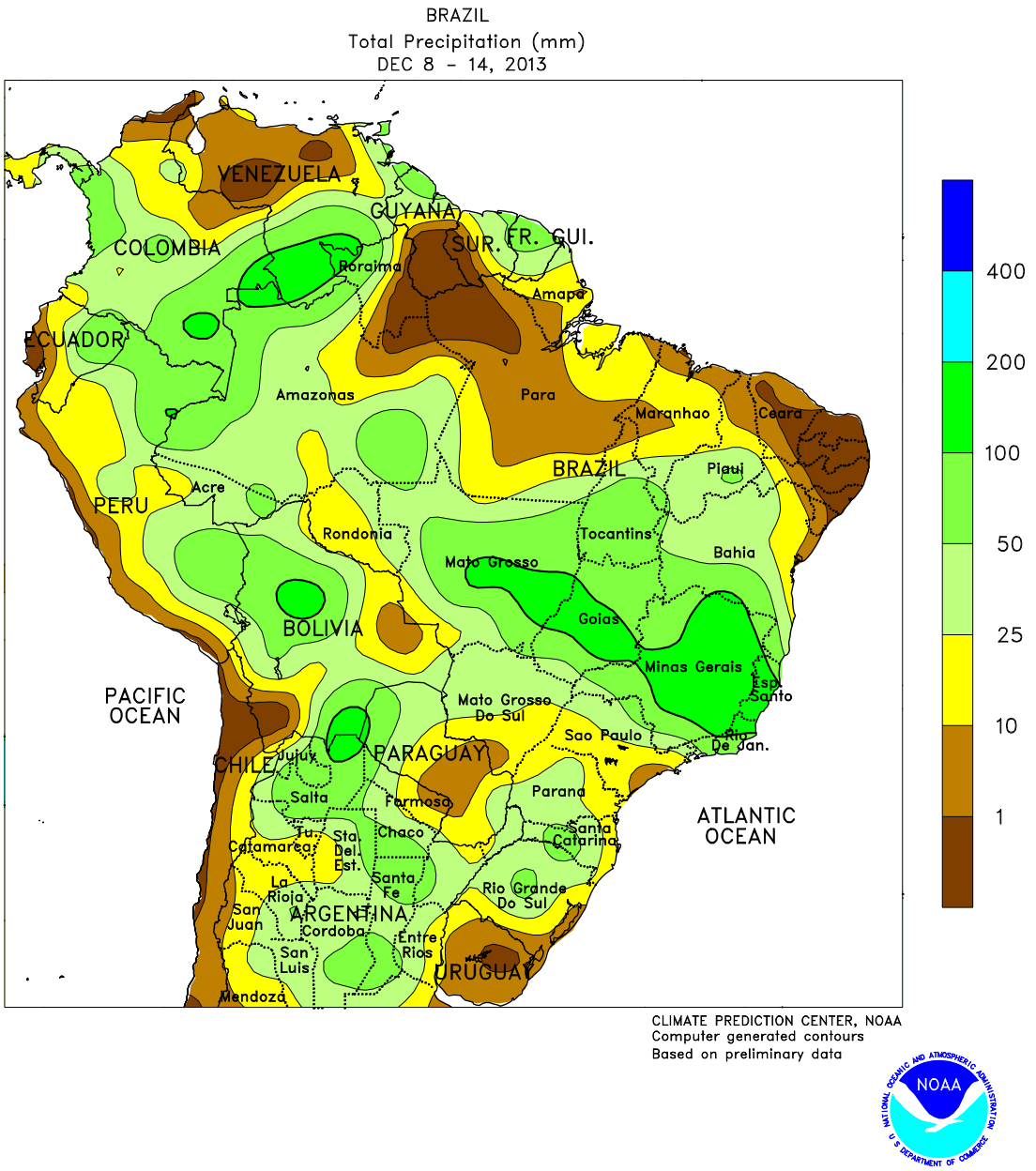
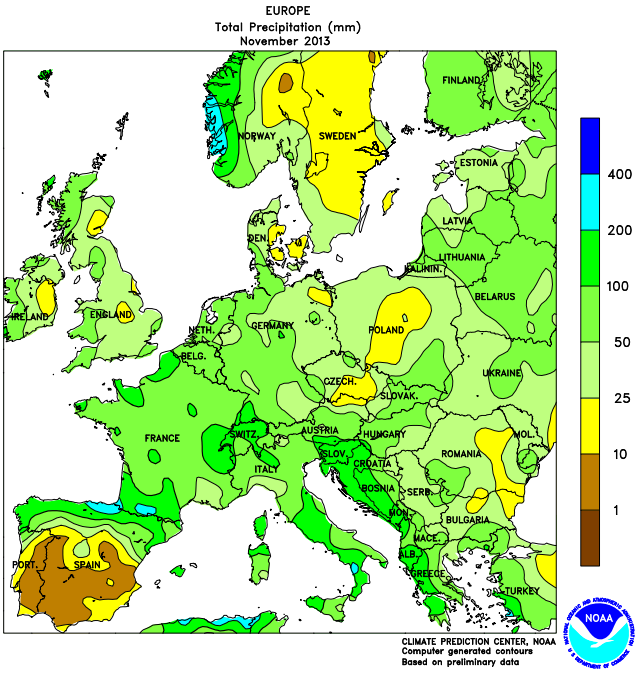


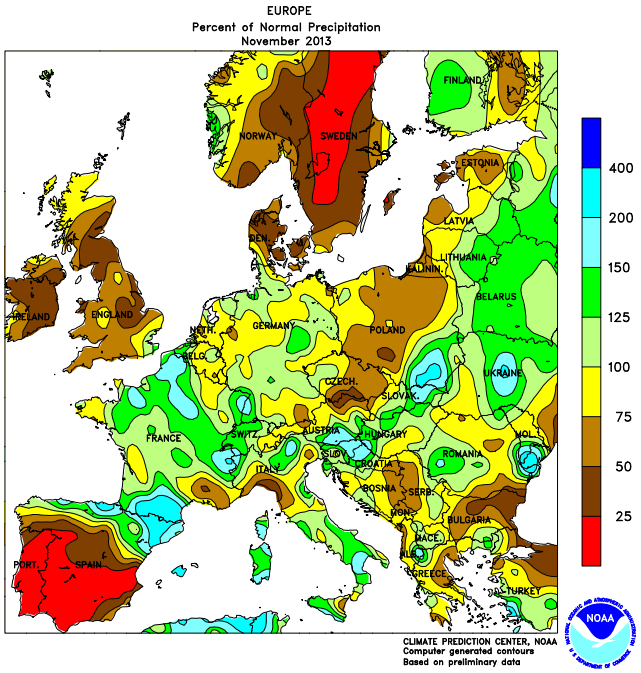
BRAZIL

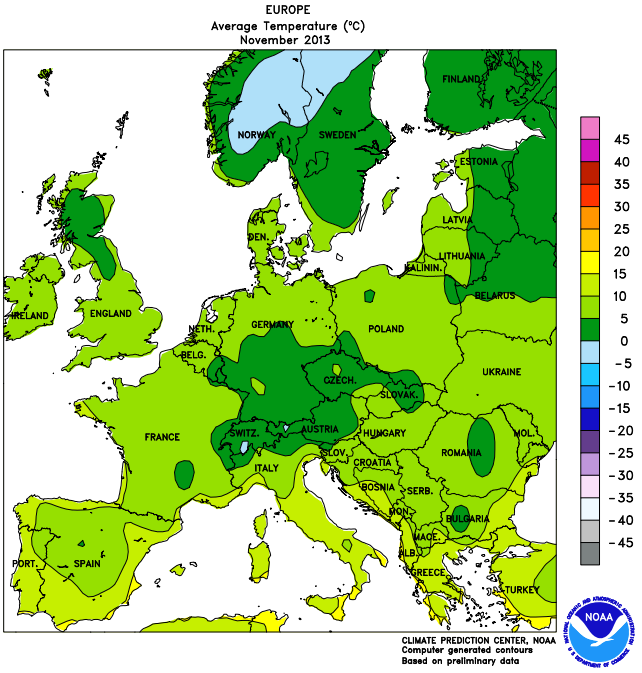
Warm, showery weather maintained mostly favorable conditions for soybeans and other summer row crops. The heaviest rain continued to be concentrated from Mato Grosso to Minas Gerais and Espirito Santo, with rainfall well in excess of 100 mm in some areas. Unlike last week, however, the showers extended into western Bahia, which recorded more than 50 mm. The moisture kept soybeans and other crops — including coffee — well watered. Lighter rain (10-50 mm) fell in Sao Paulo's sugarcane areas, where additional rainfall would be welcome for production of the new sugar crop. Farther south, moderate showers (25-50 mm) benefited soybeans and corn from Parana to Rio Grande do Sul, although amounts were below normal. Weekly temperatures averaged 1 to 2°C above normal in the main agricultural areas of southern and central Brazil, with daytime highs generally ranging in the lower and middle 30s (degrees C). Meanwhile, seasonable warmth and dryness prevailed along the northeastern coast, spurring growth of sugarcane and cocoa.

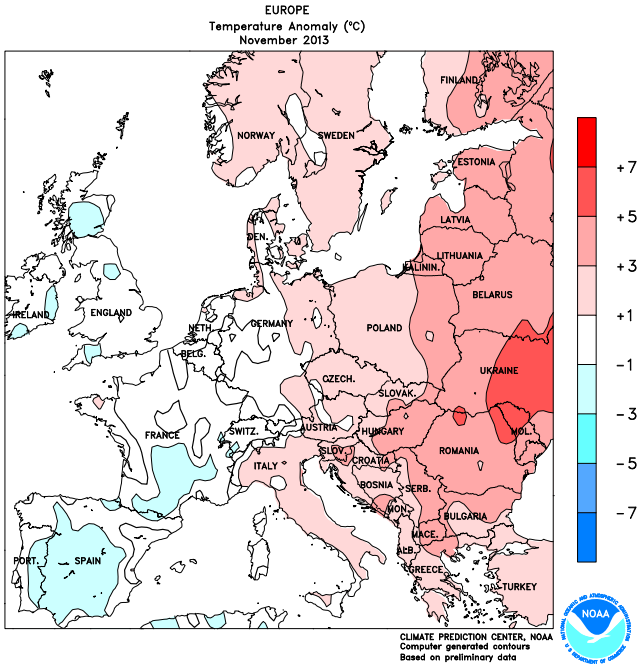
For additional information contact: mbrusberg@oce.usda.gov

November International Temperature and Precipitation Maps





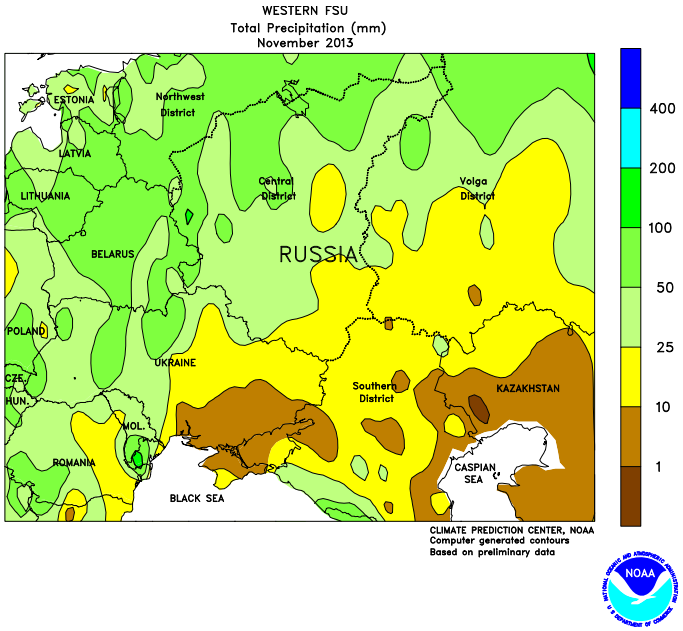


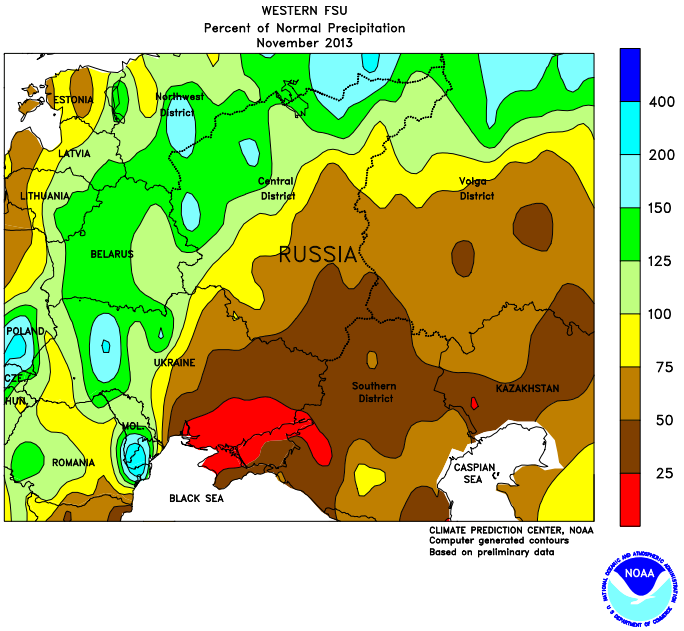


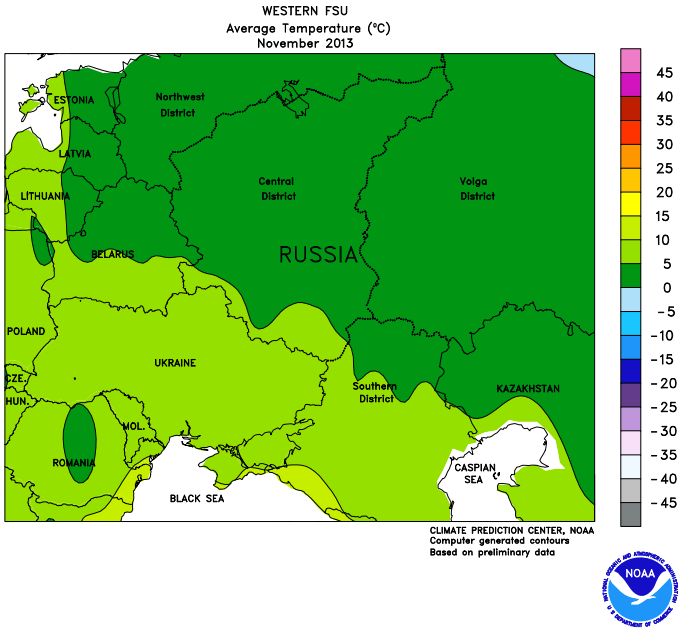
EUROPE

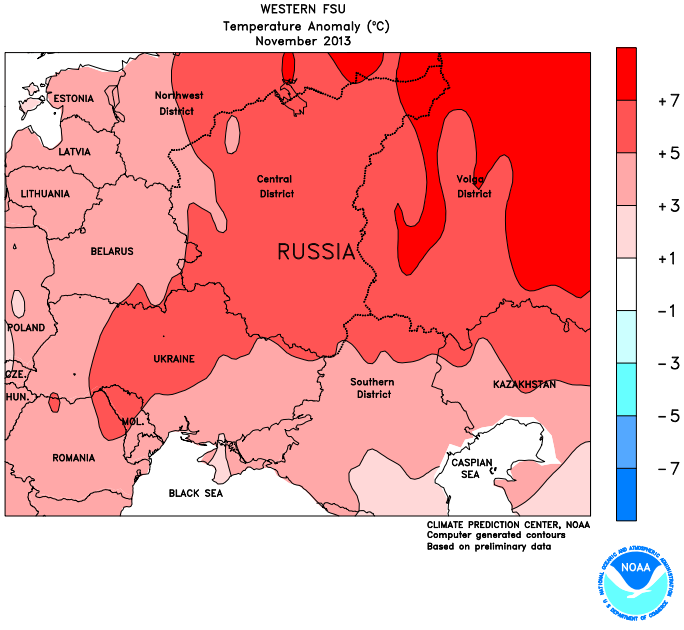
During November, near- to above-normal rainfall maintained adequate to abundant soil moisture for winter crop establishment in most growing areas. However, the persistent rainfall in France (locally more than 100 mm) hampered late summer crop harvesting and winter grain planting. Despite the overall wet weather pattern, short-term dryness in Spain (25 percent of normal or less) reduced soil moisture for wheat and barley establishment and raised concerns over developing drought. Monthly average temperatures up to 5°C above normal in eastern Europe contrasted with cooler-than-normal weather (1-2°C below normal) in western portions of the continent. At month's end, crops were easing into dormancy from France into Poland.

For additional information contact: mbrusberg@oce.usda.gov









WESTERN FSU

In November, drier-than-normal weather promoted late summer crop harvesting and winter wheat planting. In addition, unseasonable warmth (3-7°C above normal) extended the growing season, affording producers additional time for winter wheat establishment before the arrival of bitter cold winter weather. Soil moisture was limited, however, for later-planted crops in eastern Ukraine and southern Russia.

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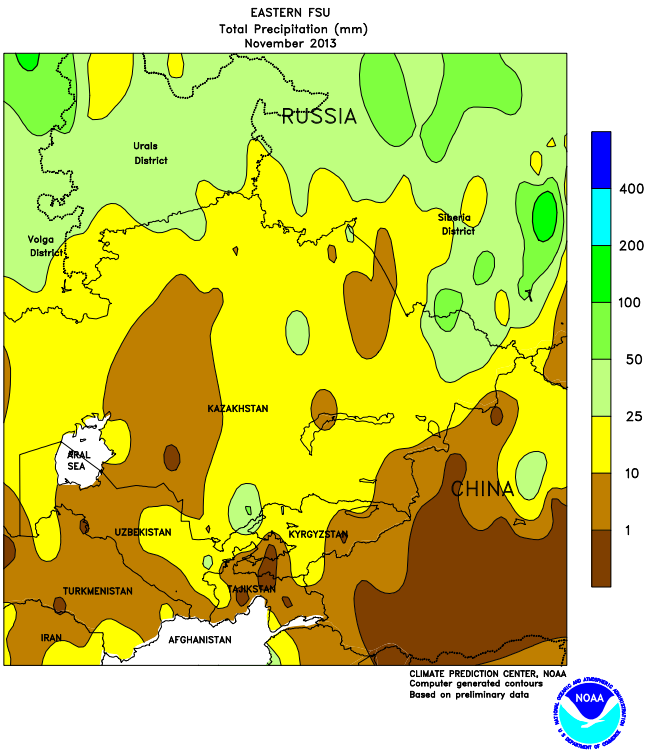
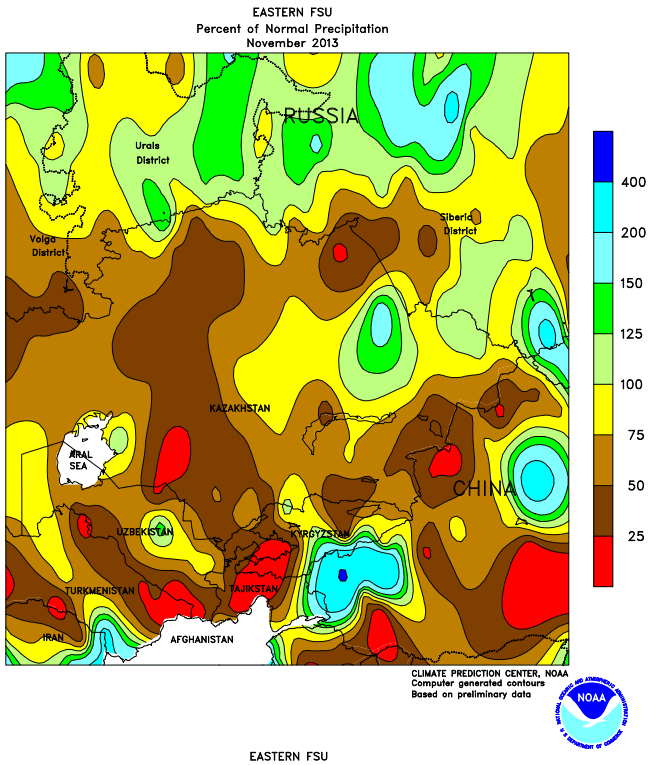
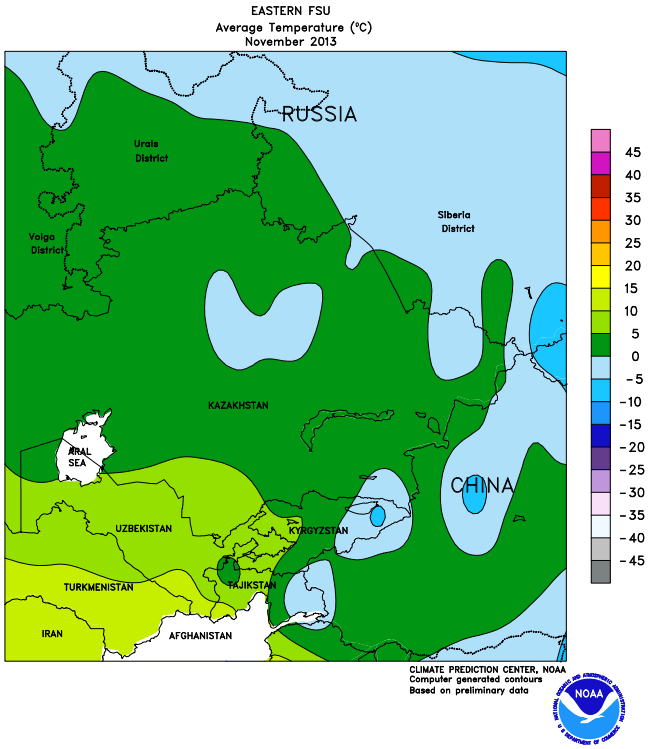
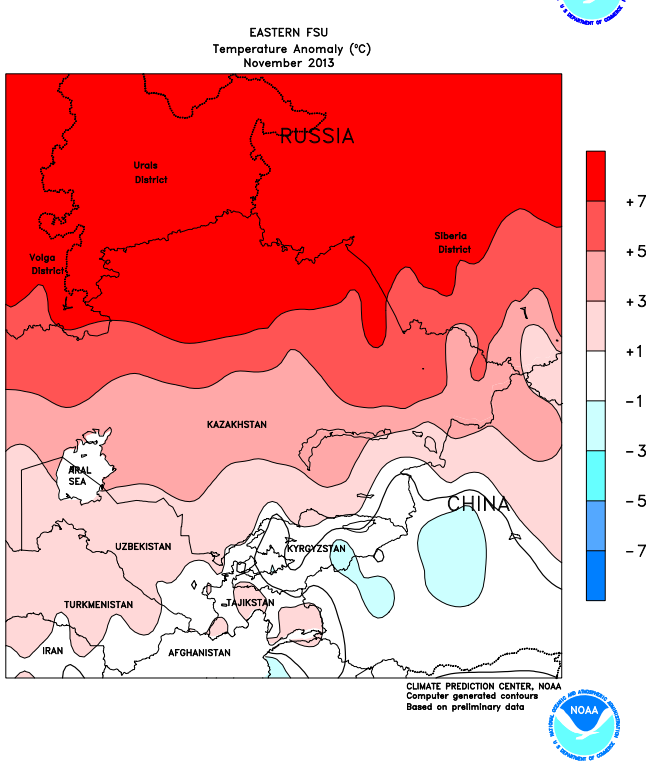


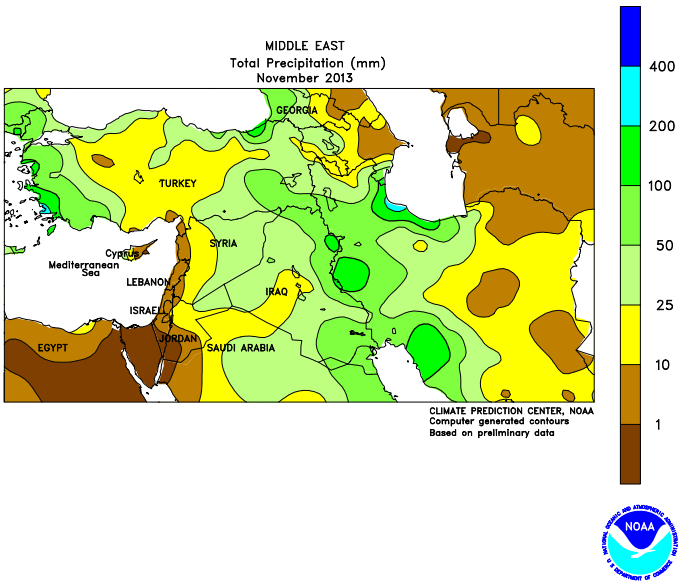


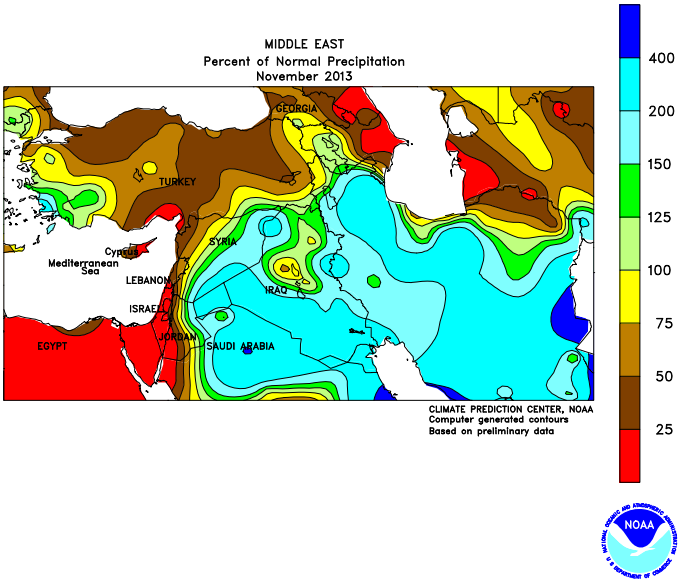


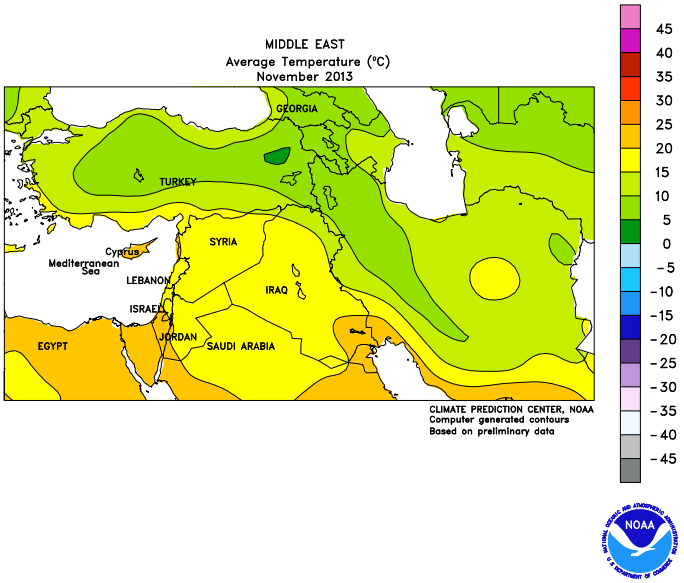


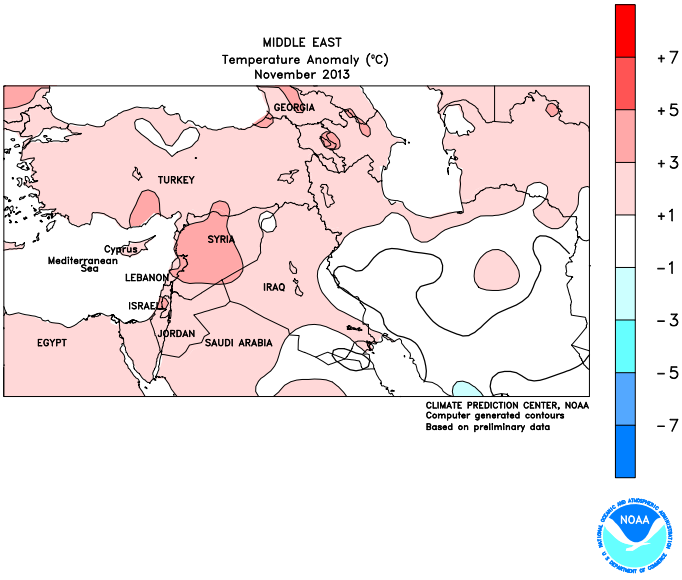
EASTERN FSU

During November, unseasonably warm weather developed over northern portions of the region. Temperatures averaged 8 to 9°C above normal in Russia and northern Kazakhstan, with highs in excess of 10°C keeping most growing areas devoid of snow cover. In the south, seasonably dry weather favored late cotton harvesting and other fieldwork.



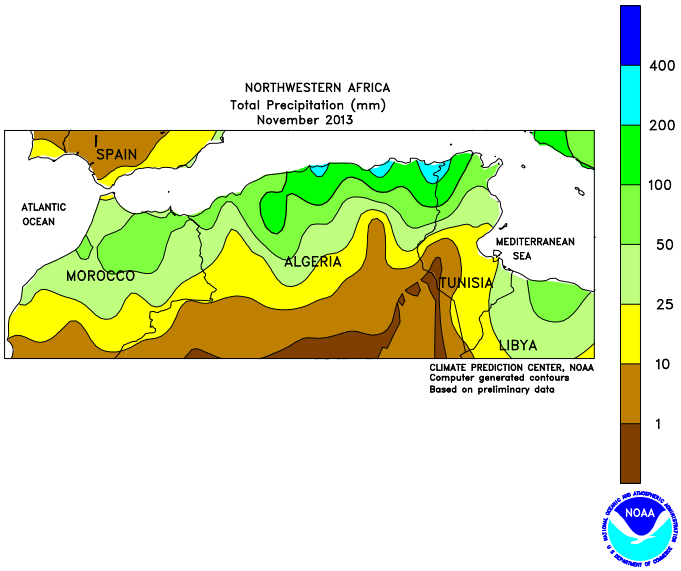


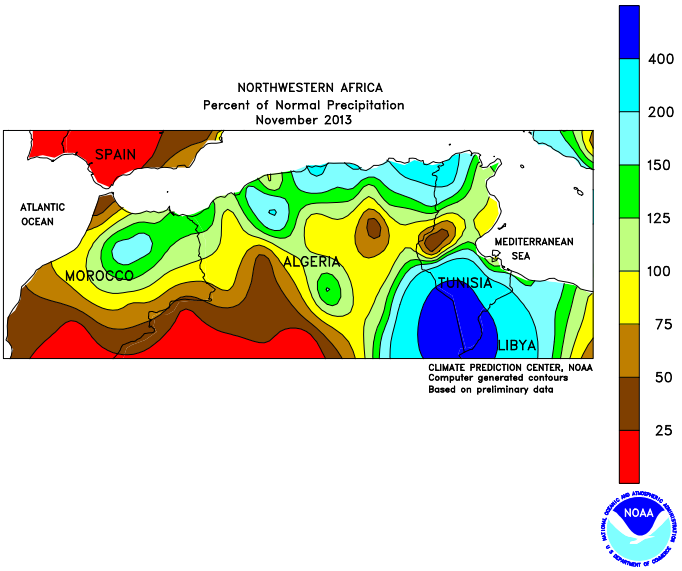


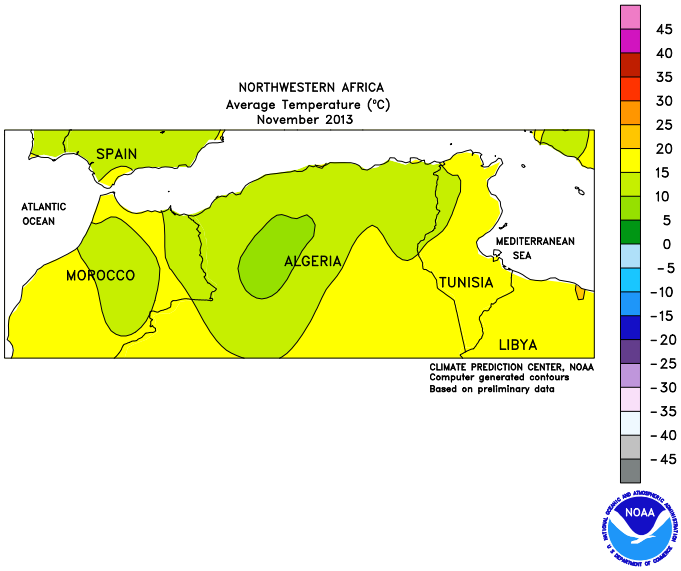


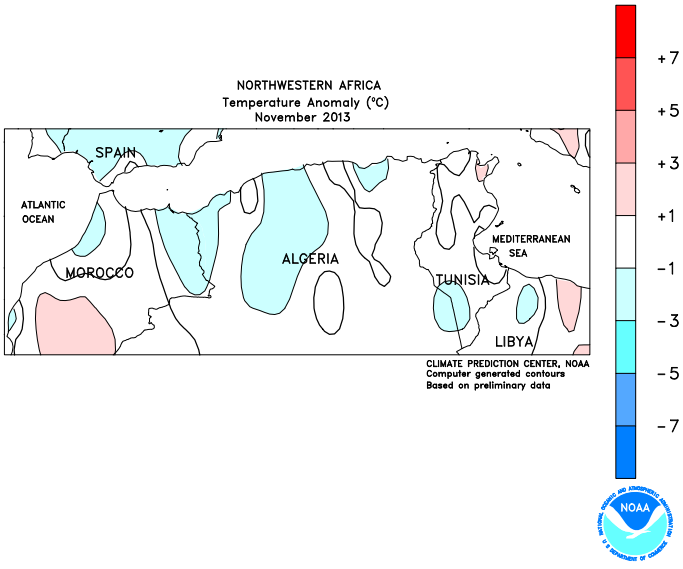
MIDDLE EAST

Mostly drier-than-normal November weather in the north contrasted with much wetter-than-normal conditions in the south. In Turkey, a lack of rain (less than 25 mm) reduced soil moisture for winter grain establishment. However, beneficial showers arrived in Turkey in early December, improving prospects for winter crop establishment. In contrast, unseasonably heavy rain (locally more than 100 mm) in eastern Syria, Iraq, and much of western and southern Iran boosted moisture reserves for winter wheat and barley but hampered planting operations.



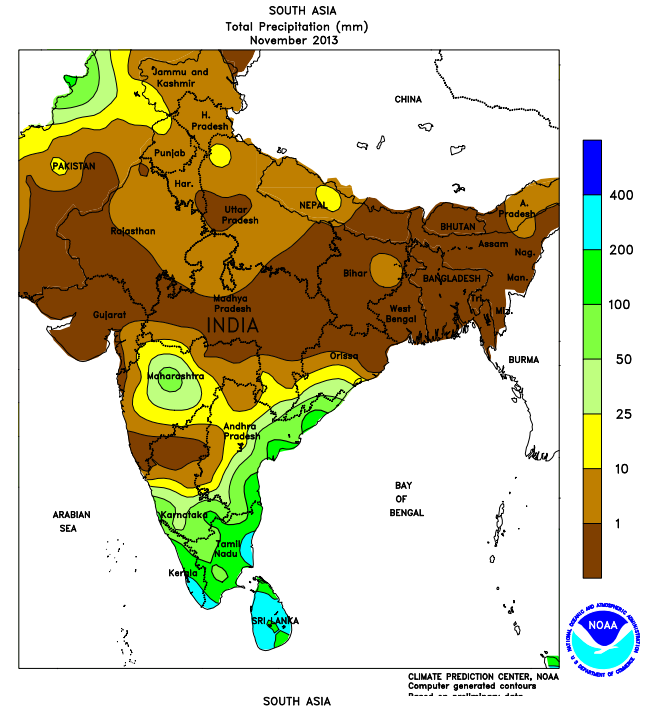


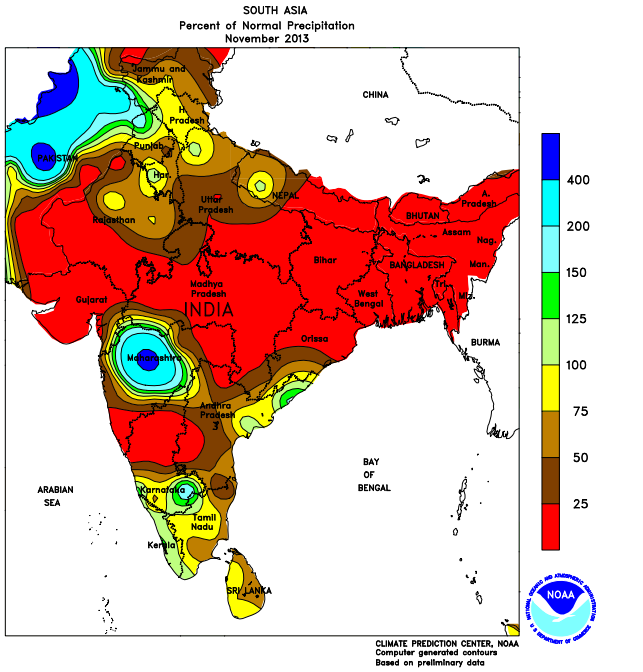


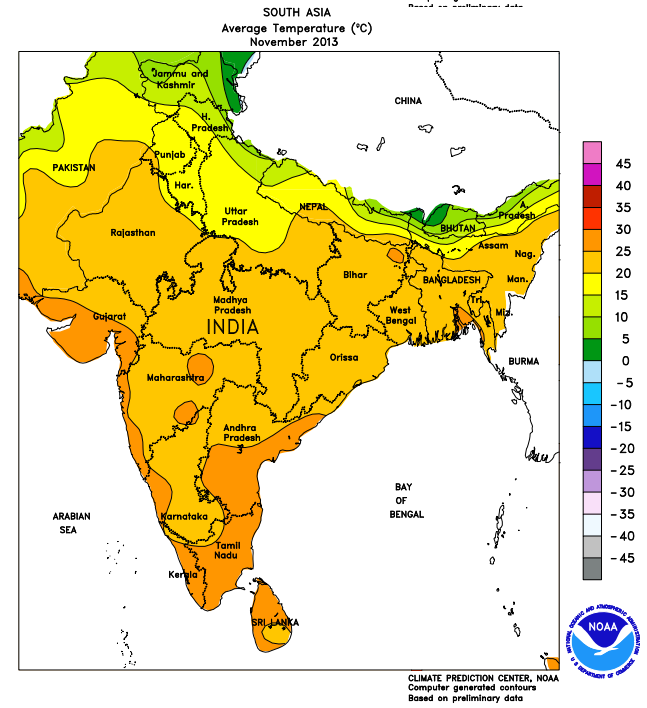


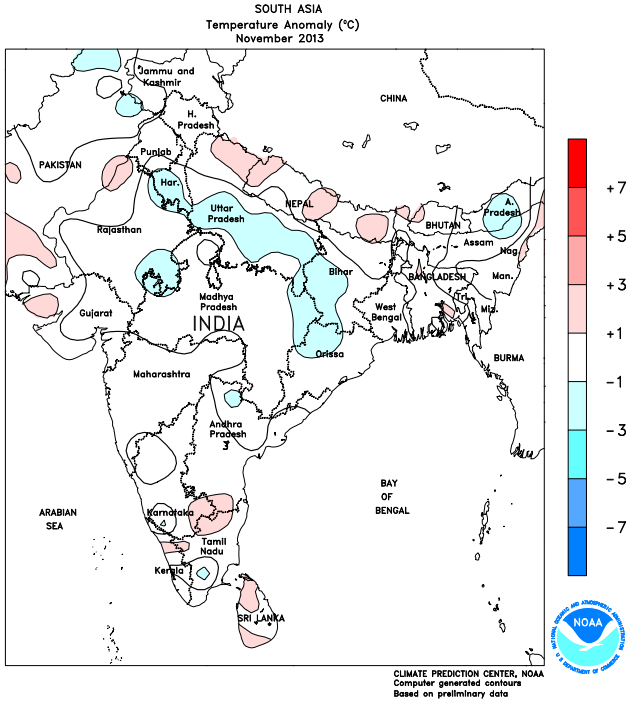
NORTHWESTERN AFRICA

During November, persistent rainfall over Algeria and Tunisia maintained abundant soil moisture for winter grain establishment but slowed fieldwork. For the month, 100 to 200 mm fell in many key central and eastern growing areas, with locally more than 300 mm reported. Much-needed rain (50-120 mm) arrived in Morocco, providing soil moisture for wheat and barley. The cloudy, rainy weather held monthly average temperatures up to 2°C below normal, although there were no hard freezes.



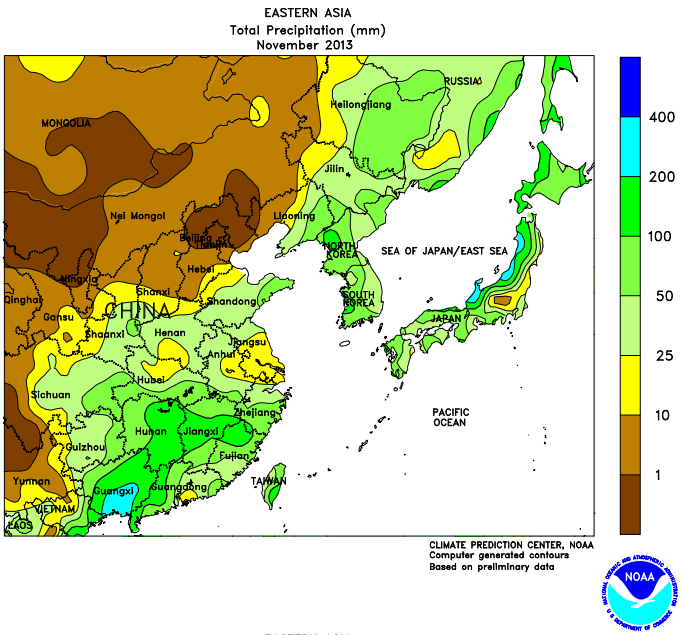


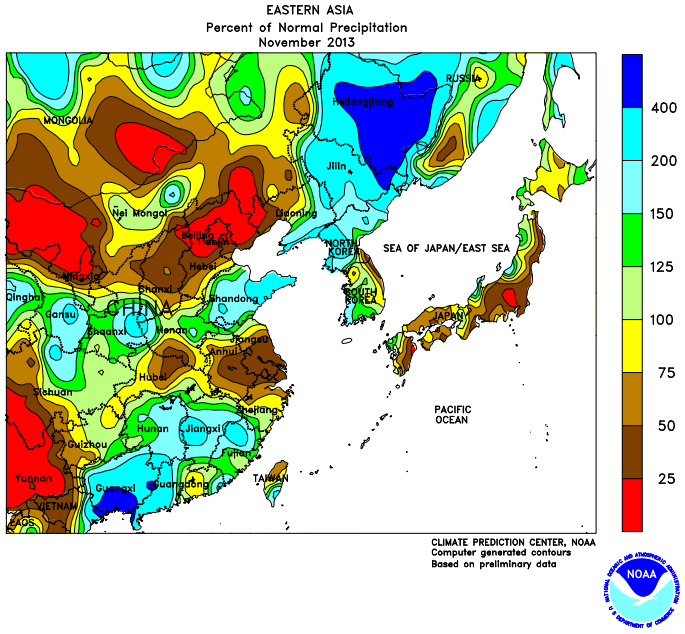


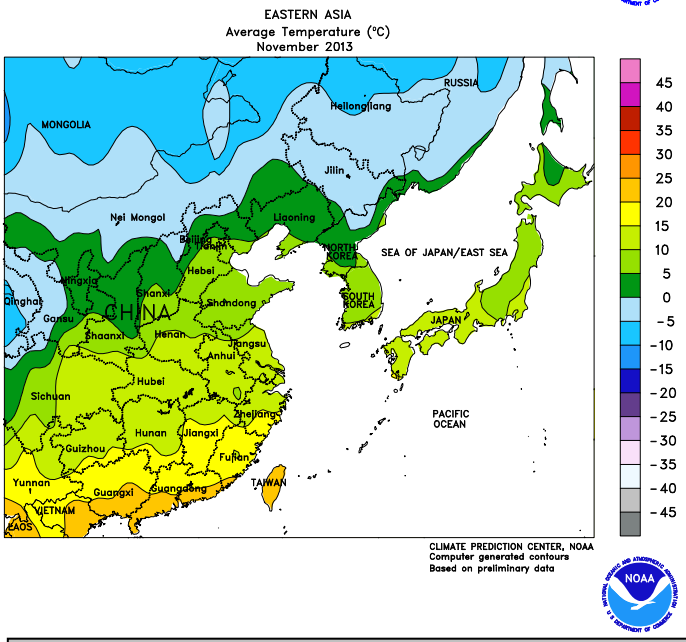


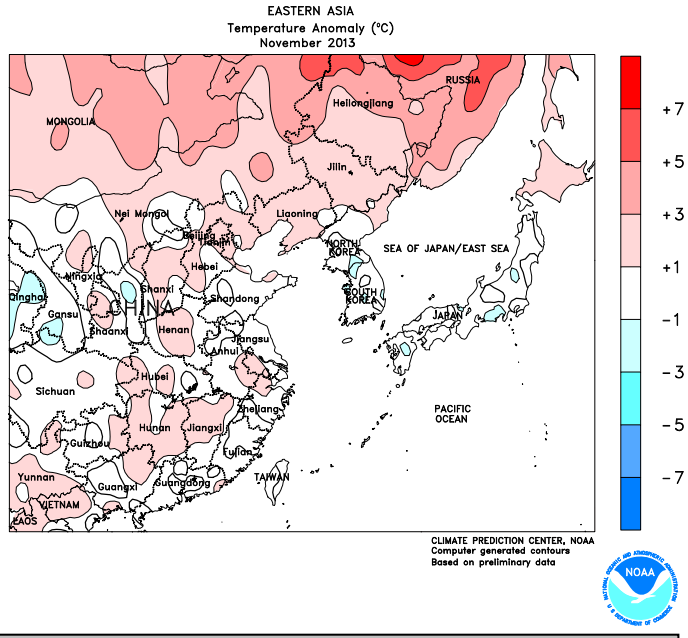
SOUTH ASIA

During November, seasonably warm, dry weather promoted cotton harvesting across western India. Similar conditions also facilitated wheat and rapeseed planting in northern India and into Pakistan. An unnamed tropical cyclone brought heavy showers and some flooding to Tamil Nadu, but the moisture was overall favorable for winter (rabi) rice, groundnuts, and cotton. Two other tropical cyclones (Helen and Lehar) dissipated prior to making landfall in eastern India and had little if any impact on agriculture.



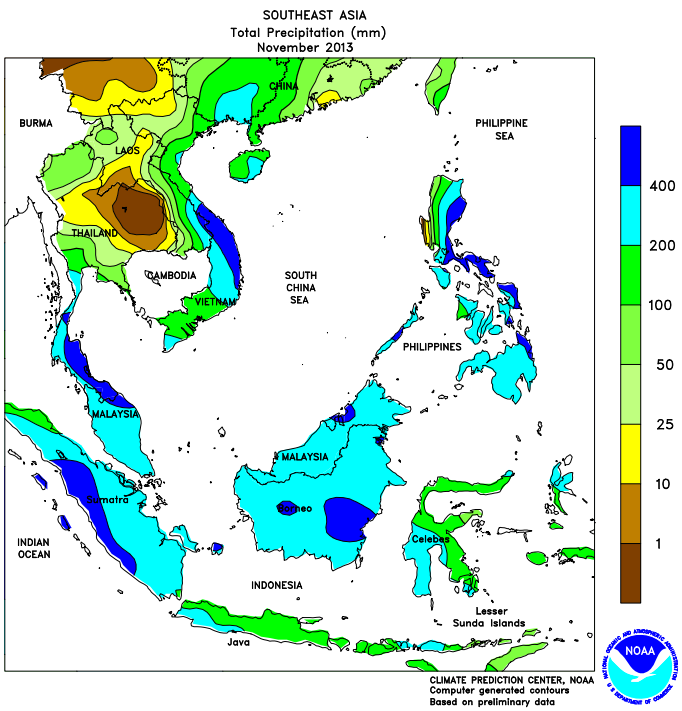


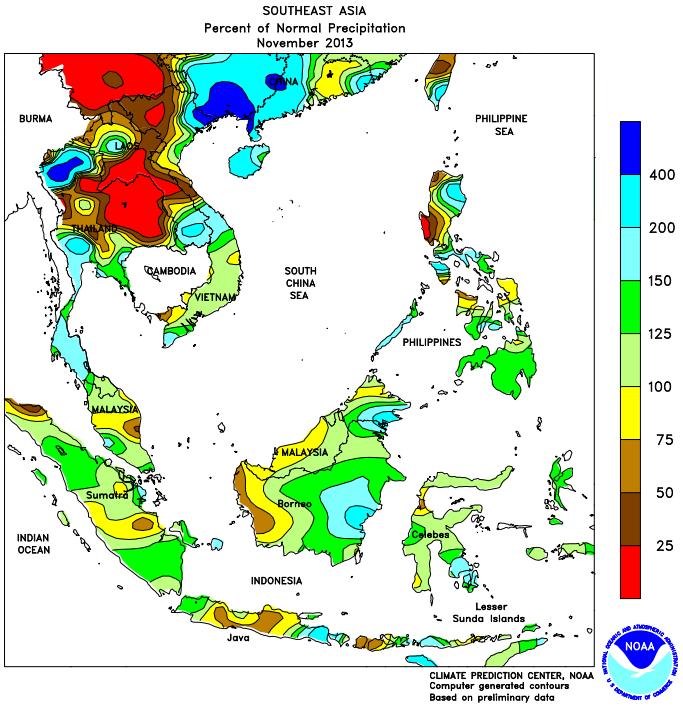


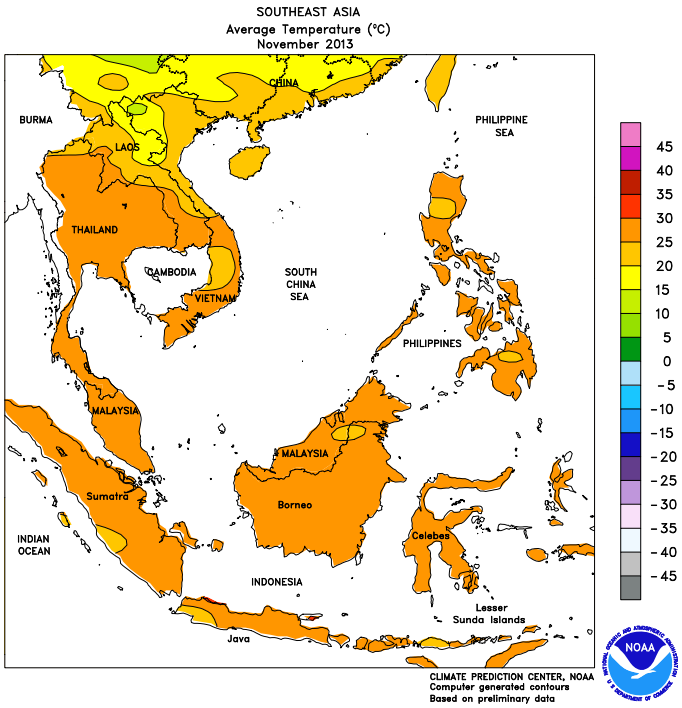


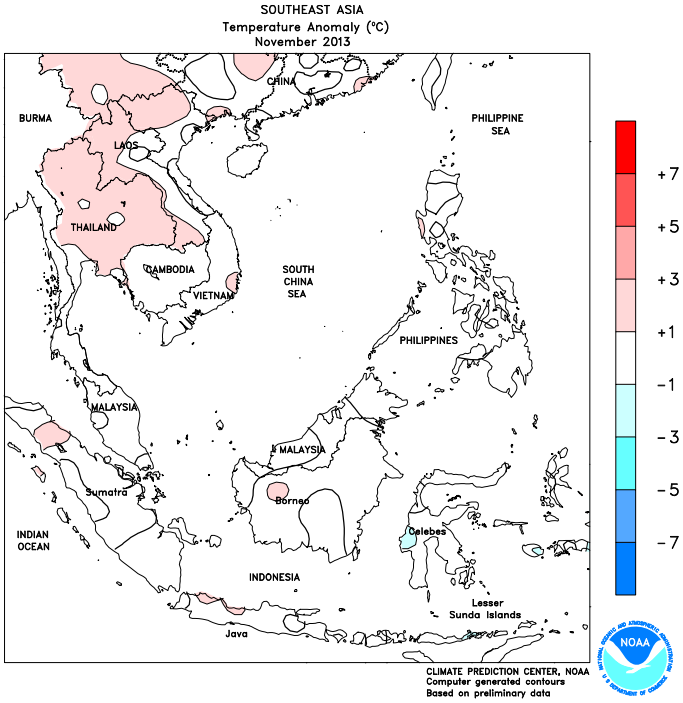
EASTERN ASIA

In November, periodic showers provided favorable moisture to emerging winter wheat on the North China Plain. Near- to above-normal rainfall in Shandong and Henan ensured good establishment of wheat. However, below-normal rainfall in Hebei necessitated more irrigation to provide sufficient moisture for wheat development. Below-normal monthly rainfall was also observed in Hubei, Anhui, and Jiangsu, extending rainfall deficits incurred since October. As with wheat in Hebei, more irrigation was needed to promote good winter rapeseed establishment. In contrast, favorable moisture conditions continued for rapeseed in Sichuan and Hunan, where rainfall was near normal. Meanwhile in southern China, the remnants of Super Typhoon Haiyan caused some localized flooding in Guanxi, but the moisture benefited winter crops elsewhere.



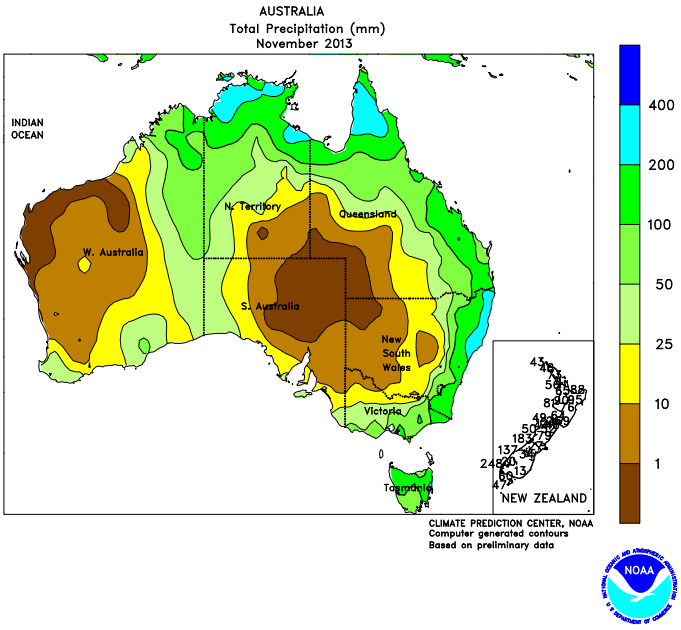


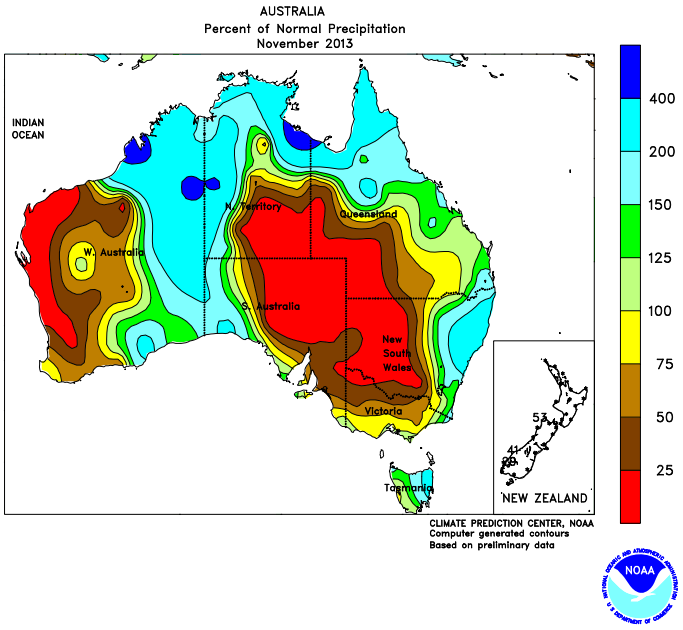


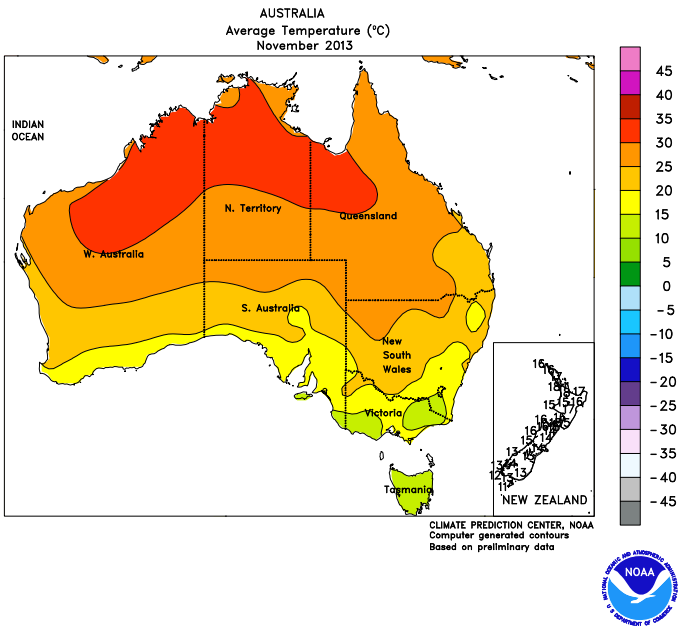


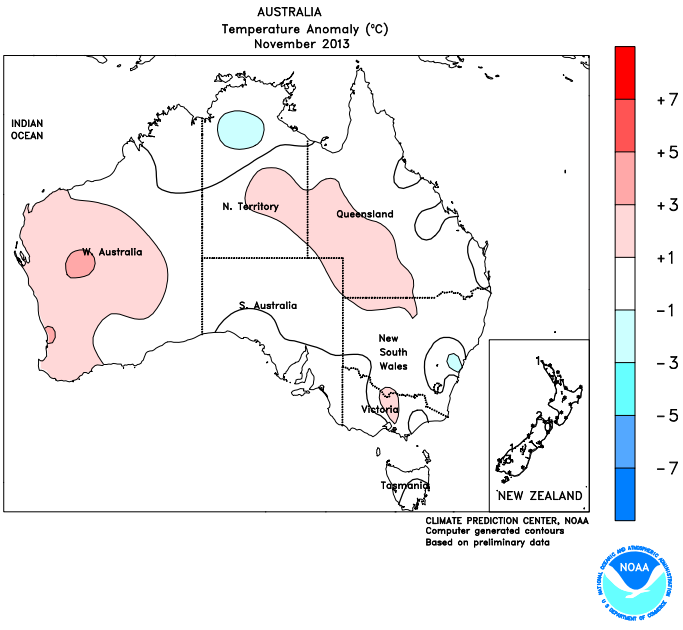
SOUTHEAST ASIA

Multiple tropical cyclones moved through the region in November, primarily impacting the Philippines. Typhoon Krosa grazed the northern Philippines at the beginning of the month, bringing heavy rainfall to mature rice and delaying harvesting. Krosa was followed by Super Typhoon Haiyan, which cut a path of devastation across the central Philippines with winds in excess of 195 mph and was labelled the strongest tropical cyclone ever recorded. While causing significant loss to life and infrastructure, Haiyan had little impact on national agricultural production as the storm moved through a minor producing area. An unnamed tropical cyclone immediately followed Haiyan, taking a more southerly path and bringing unwelcomed heavy rainfall that hampered relief efforts in the central Philippines. Elsewhere in the region, the rainy season was well underway in western and central Java, Indonesia, providing beneficial moisture to newly transplanted rice. The rainy season had officially yet to begin in eastern Java, although rainfall had increased substantially by month's end.



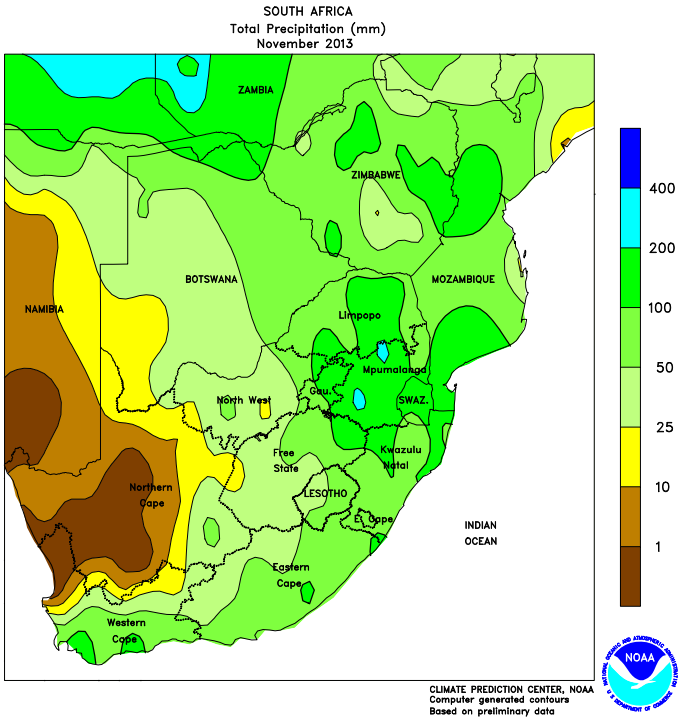


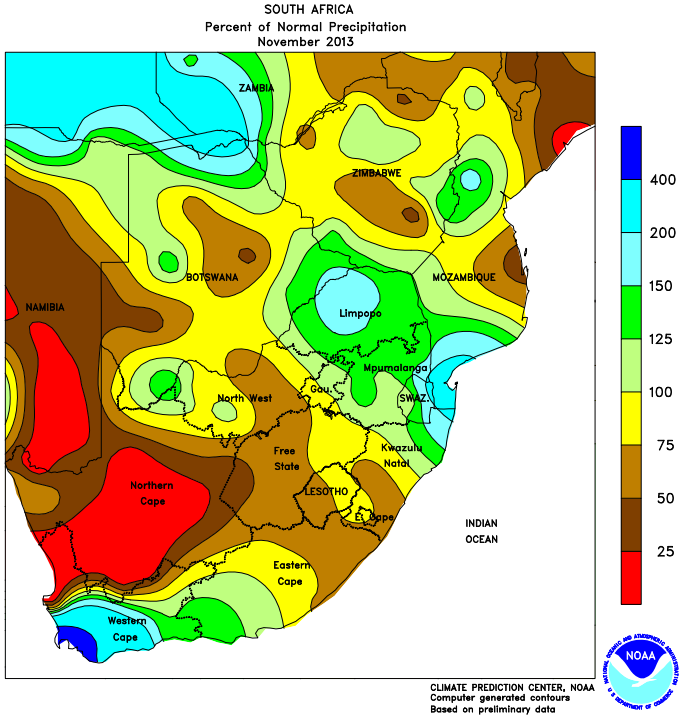


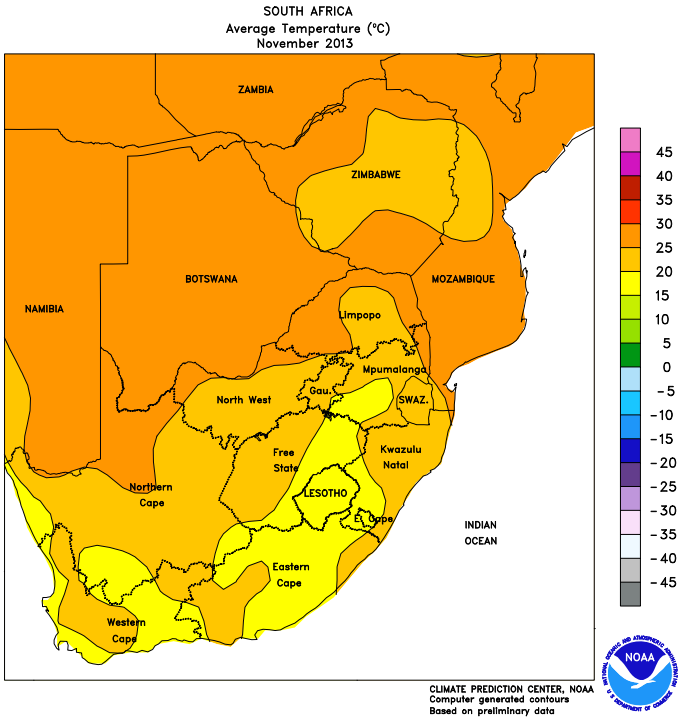


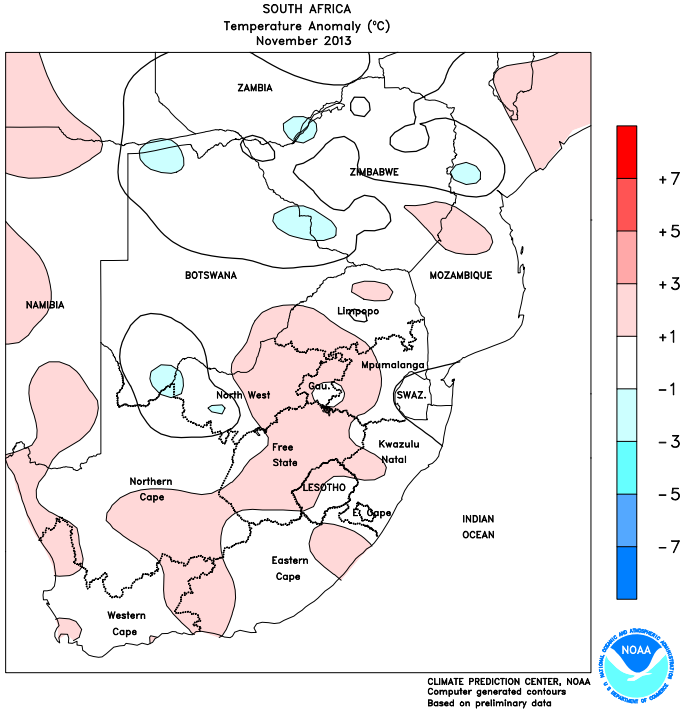
AUSTRALIA

In November, below-normal rainfall in western and southeastern Australia maintained good to excellent yield prospects, favoring wheat, barley, and canola maturation and harvesting. Following roughly 3 months of unseasonably dry weather, near-normal rainfall overspread northern New South Wales and Queensland during November, increasing topsoil moisture for vegetative summer crops.



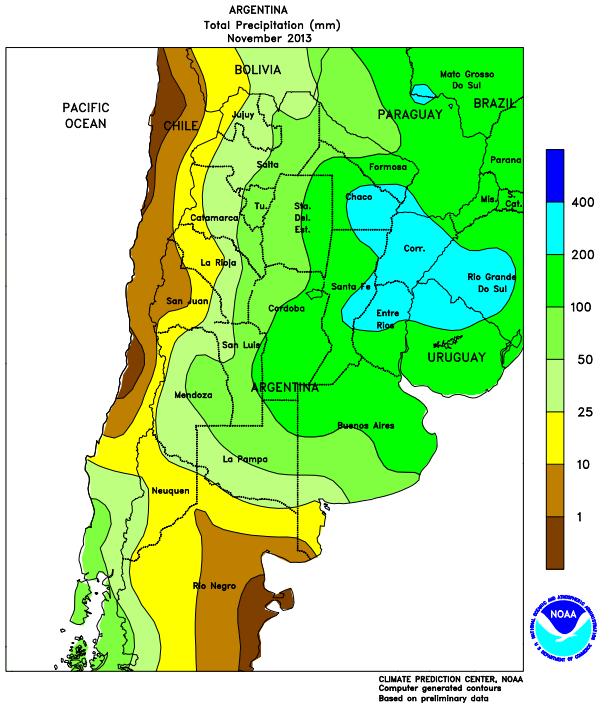


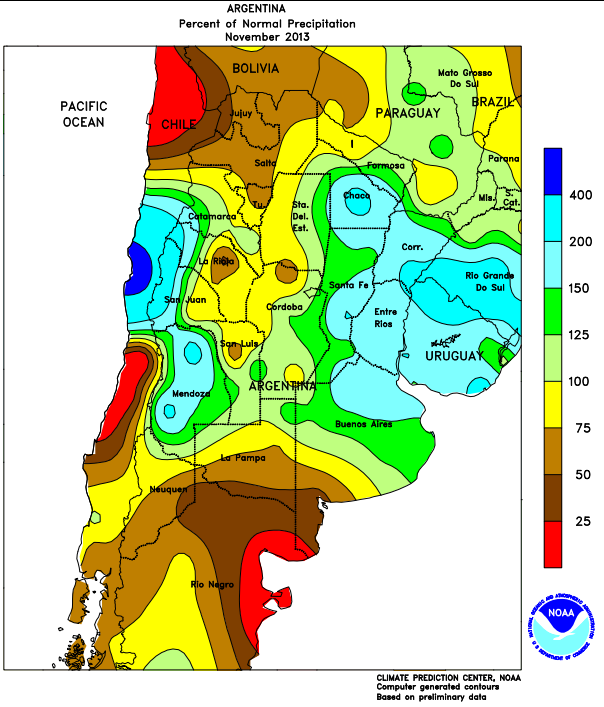


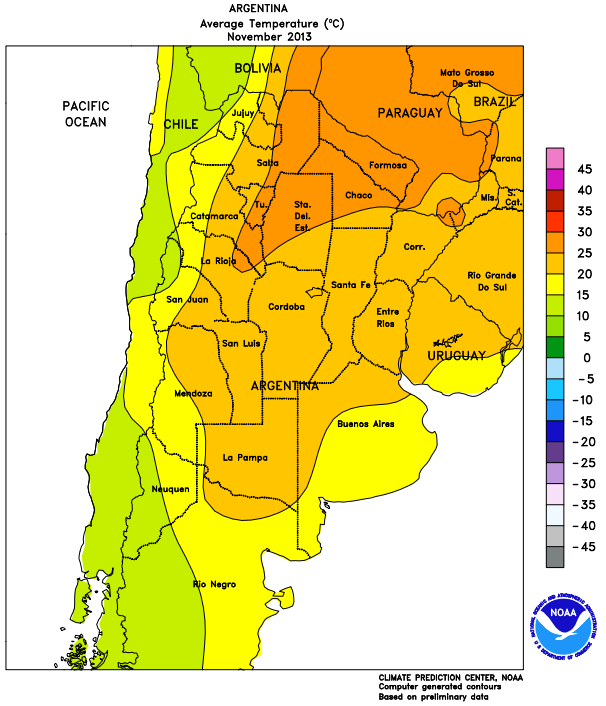


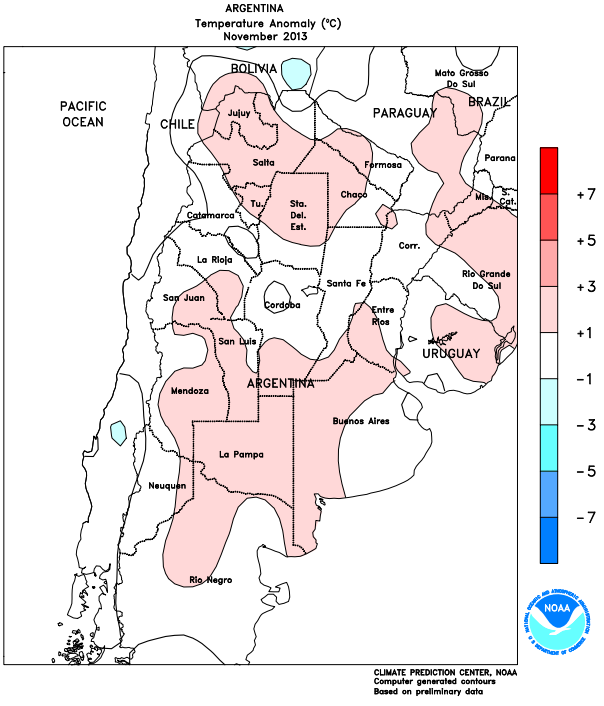
SOUTH AFRICA

During November, warm, showery weather improved early prospects for corn and other rain-fed summer crops. Monthly rainfall totaled more than 100 mm over eastern sections of the corn belt (Limpopo to northern KwaZulu-Natal, reaching westward into Gauteng and Free State), although periodic dryness during the first half of November allowed planting and other fieldwork to progress. Drier conditions prevailed farther west (North West and western farming areas of Free State), although rain began falling on a more consistent basis toward month's end, helping to condition fields for planting. Elsewhere, frequent, moderate to heavy showers maintained mostly favorable conditions for rain-fed sugarcane in KwaZulu-Natal's southern production areas. A strong coastal storm brought unseasonably heavy rain to the Cape Provinces, providing a significant boost in irrigation reserves but likely causing localized flooding and disrupting seasonal fieldwork.



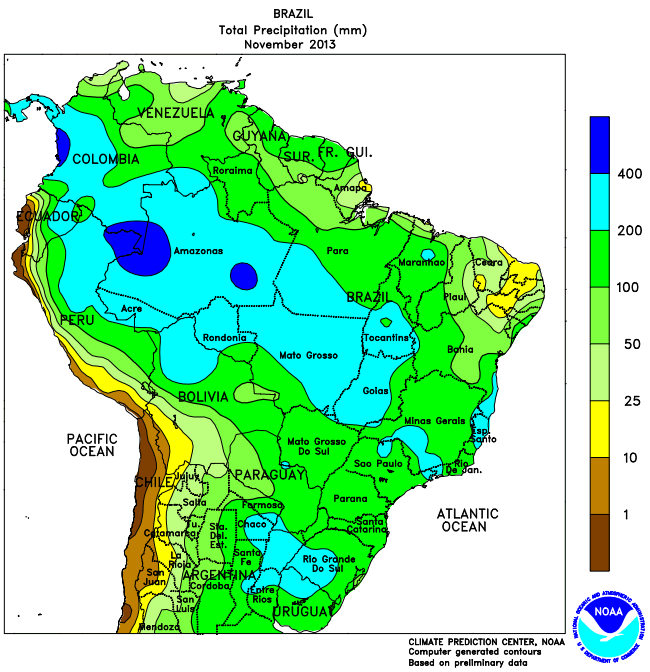


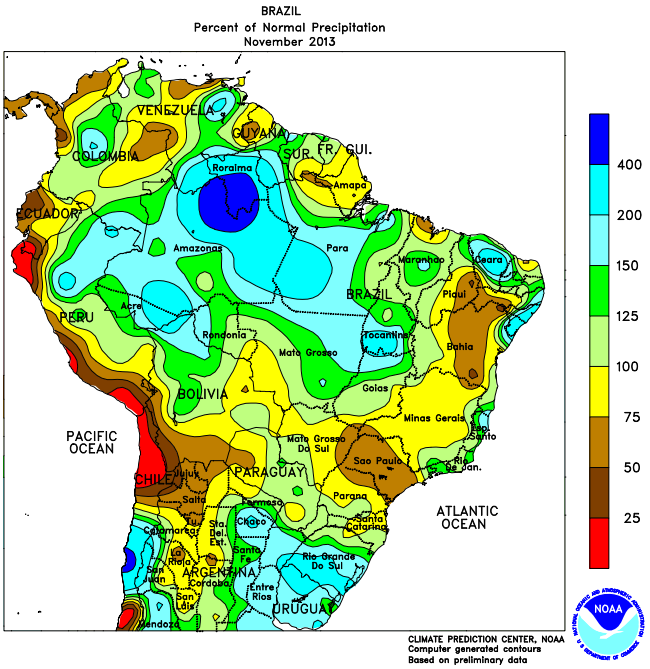


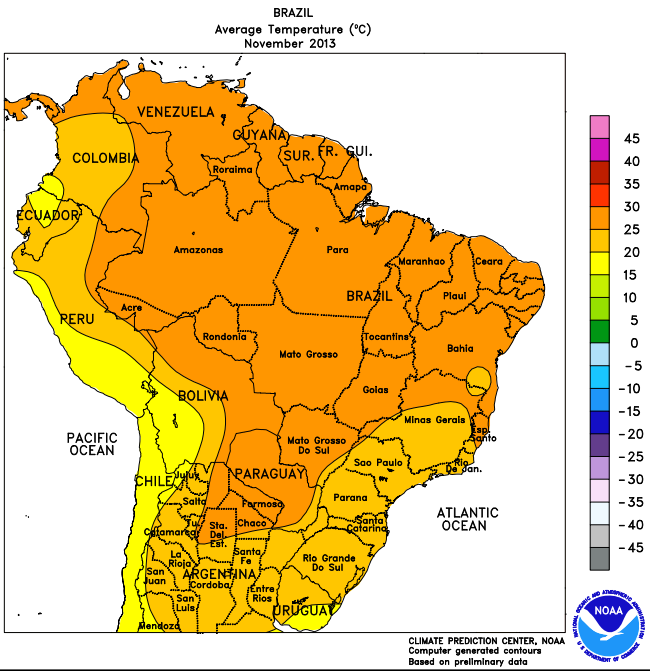


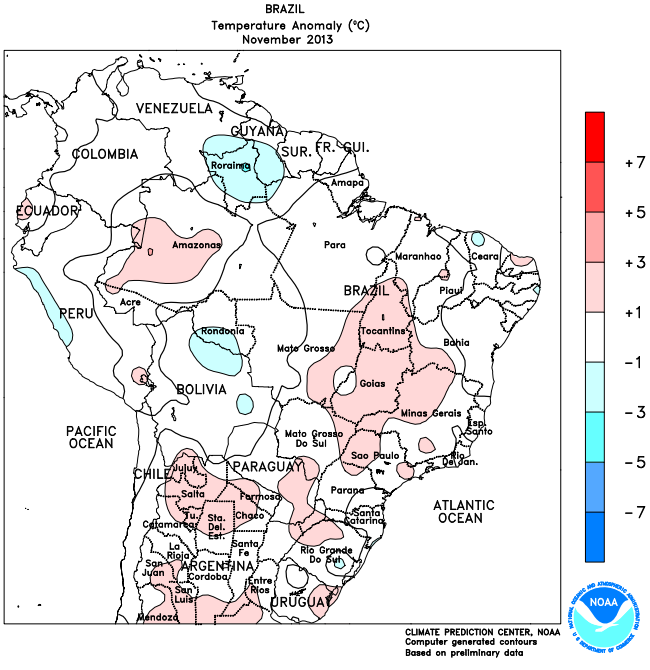
ARGENTINA

In November, frequent, occasionally heavy rain improved summer grain and oilseed prospects in key production areas of central and northern Argentina. Monthly accumulations exceeded 200 mm (more than twice the normal amount for some locations) from northern Buenos Aires and eastern Cordoba northeastward through Corrientes; most other major producers of summer grains, oilseeds, and cotton received more than 100 mm, with outlying production areas recording at least 50 mm. Monthly average temperatures were 1°C above normal, hastening winter grain development while maintaining high losses to evaporation. During November, daytime highs occasionally reached 40°C in traditionally warmer northwestern production areas (northern Cordoba to Salta and western Formosa) and the lower and middle 30s (degrees C) in western farming areas of central Argentina (notably La Pampa, Cordoba, and western sections of Buenos Aires).



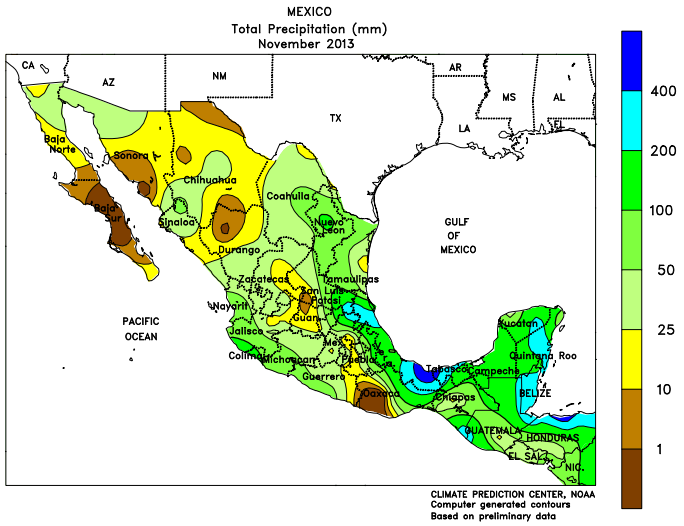


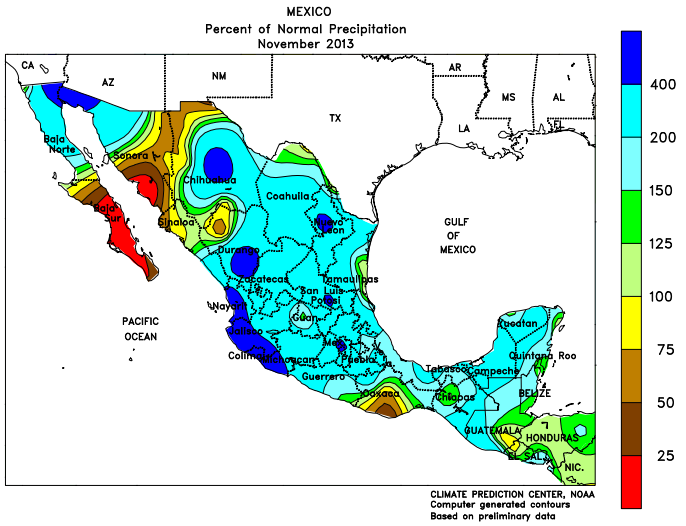


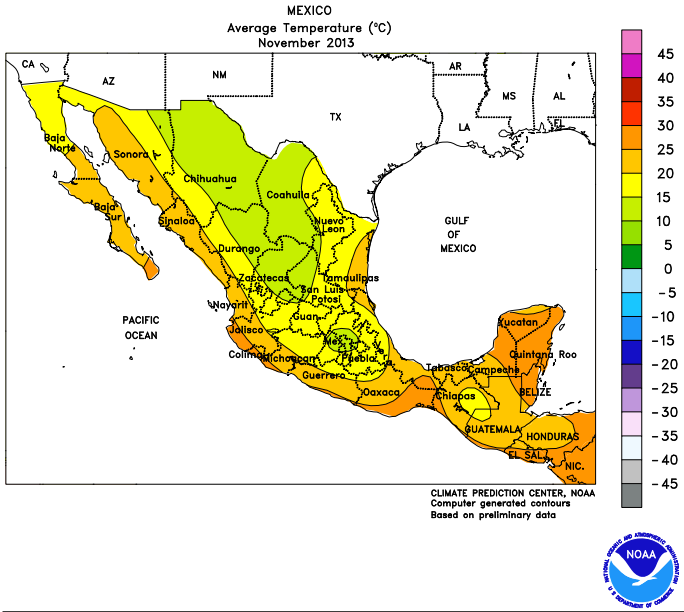


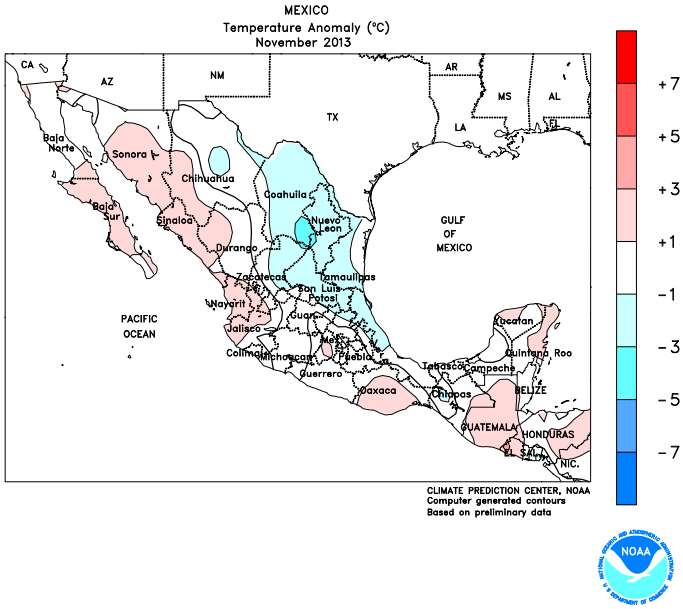
BRAZIL

Warm, showery weather prevailed throughout major farming areas of southern and central Brazil during the month of November. Frequent, near- to above-normal rainfall maintained overall favorable conditions for soybeans and cotton in the main production areas of the Center-West Region (Mato Grosso, Goias, and Mato Grosso do Sul), even though warm conditions sustained high crop moisture demands. Elsewhere, rainfall was less frequent in sections of the northeastern interior (notably western Bahia), although periods of heavy rain helped to stabilize conditions for early soybean and cotton development. Southern corn and soybean areas (southern Mato Grosso do Sul to Rio Grande do Sul) also experienced periods of dryness, although moisture was generally favorable for summer crop development. The dry spells aided late sugarcane planting in the main production areas of Sao Paulo. Seasonably drier conditions prevailed along the northeastern coast, although unseasonable periods of heavy rain (weekly totals exceeding 100 mm) increased moisture for coffee and cocoa in southern Bahia. November temperatures averaged near to slightly above normal throughout the region, with daytime highs often reaching the middle and upper 30s (degrees C) in the traditionally warmer locations of the Center-West and northeastern interior regions (Mato Grosso to Tocantins).



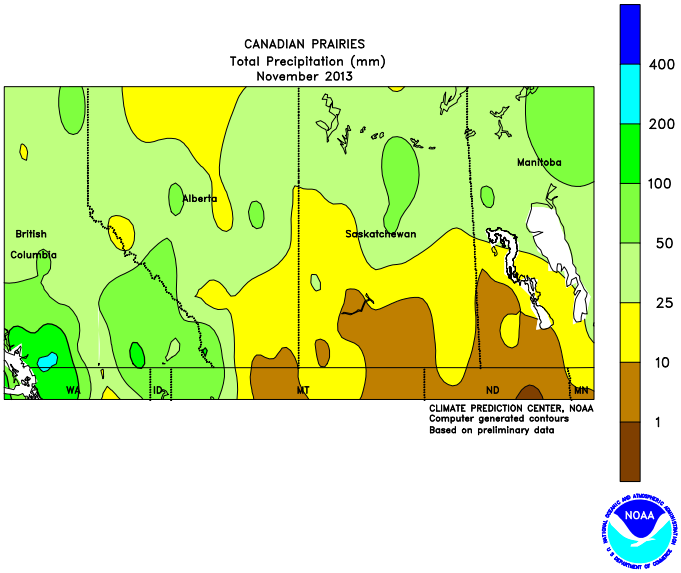


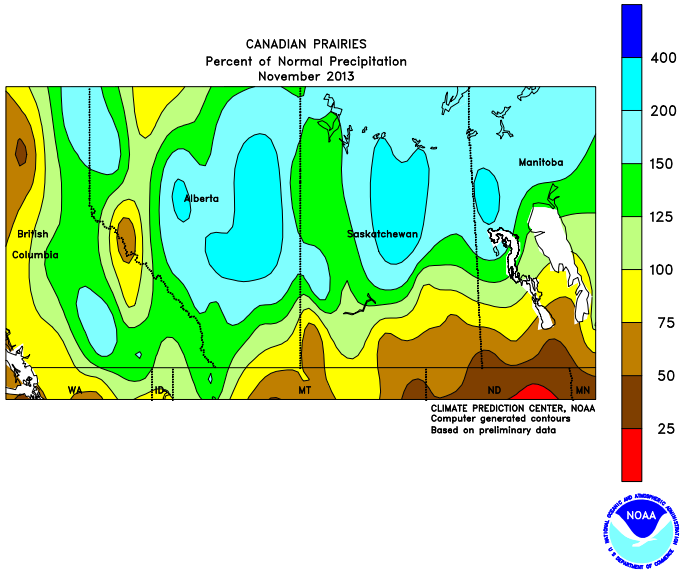


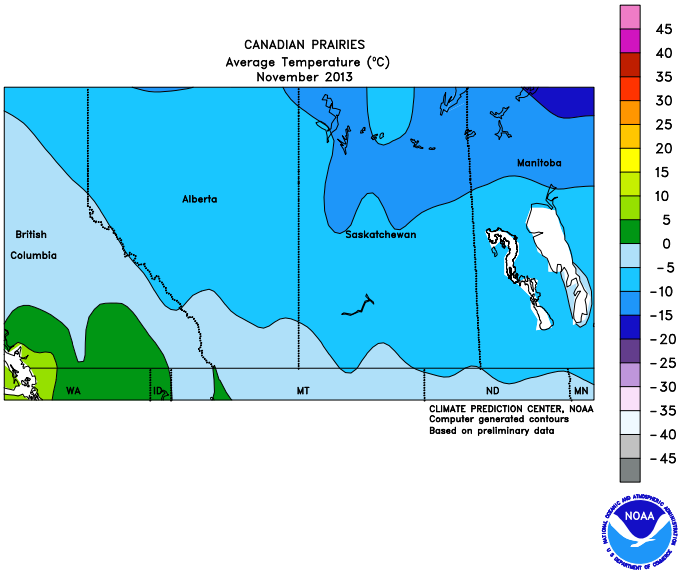


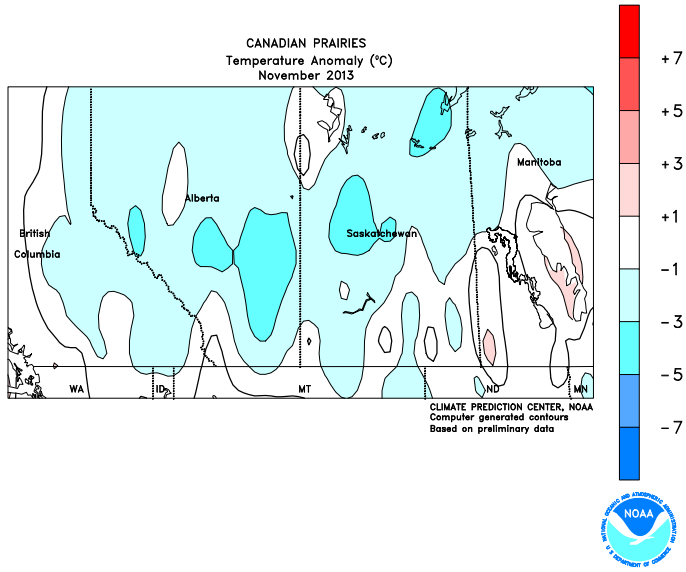
MEXICO

During November, the rainy season began to wind down in most regions, though periods of heavy rain gave a late-season boost to reservoirs. Tropical Storm Sonia brought unseasonably heavy showers to the northwest, including watersheds in Sinaloa. Scattered showers also developed throughout the month in the northeast, boosting local reservoir levels from Coahuila to Tamaulipas. Meanwhile, unseasonably heavy rain (monthly accumulations in excess of 100 mm) lingered along the southern Gulf Coast (Veracruz to western Campeche), increasing moisture reserves for the upcoming winter crop season. Monthly rainfall was also above normal on the southern plateau, although amounts generally totaled below 50 mm. According to the government of Mexico, total national reservoir capacity was at 65.3 percent as of November 30, compared with 50.3 percent last year and 55.5 percent in 2011.



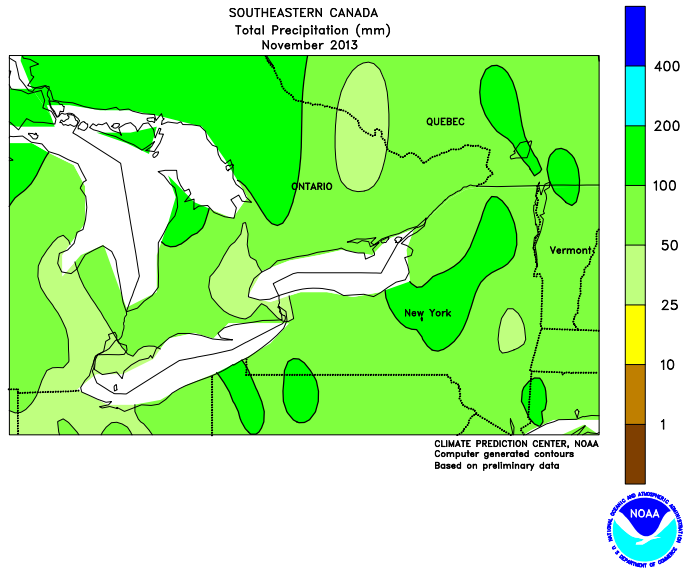


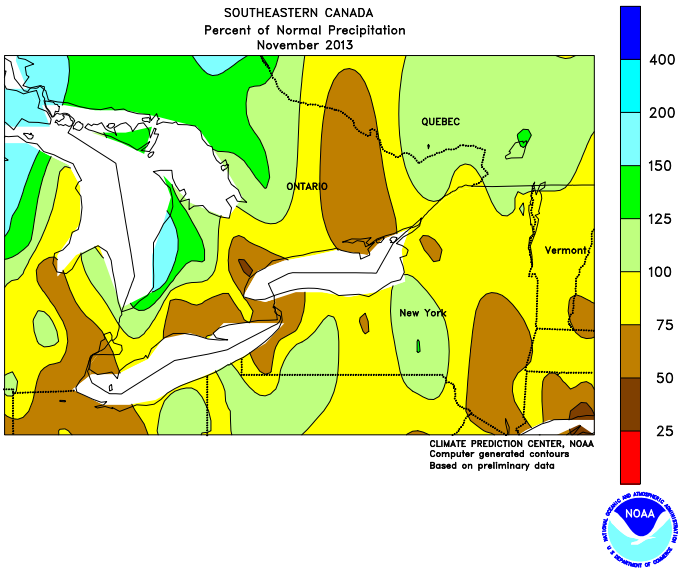


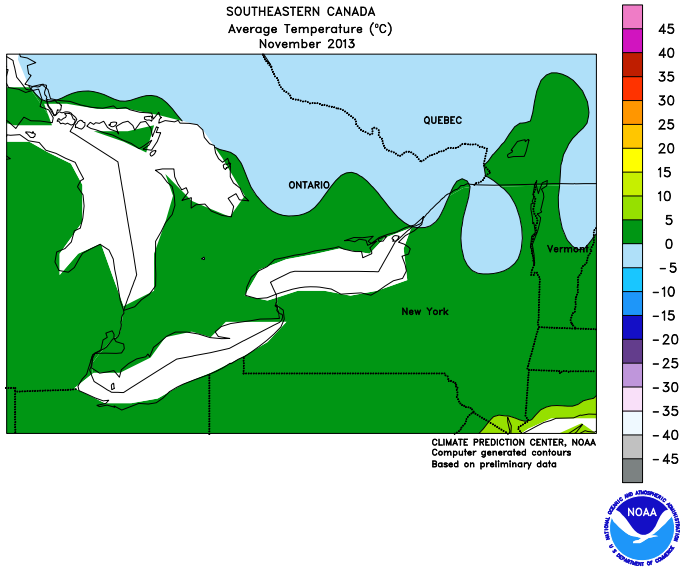


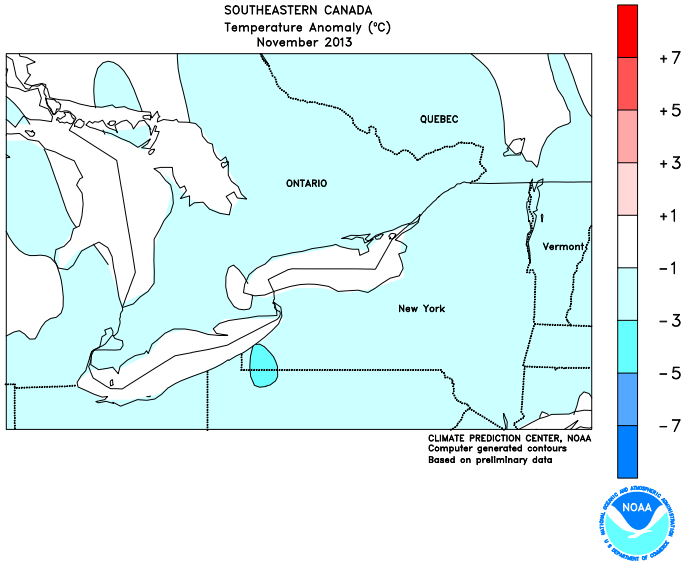
CANADIAN PRAIRIES

Much of the Prairies experienced several outbreaks of bitter cold weather during the month of November, and many locations recorded temperatures below -30°C. As a result, monthly average temperatures were up to 3°C below normal in the northern farming areas of Alberta and Saskatchewan, and near to slightly below normal elsewhere. Monthly precipitation was near to below normal across the southern Prairies and wetter than normal farther north, with some of the more northerly agricultural districts in Alberta, Saskatchewan, and Manitoba recording more than 25 mm (liquid equivalent). Although snow preceded the cold outbreaks, snow cover in southern areas was patchy and light, increasing the potential for winterkill on wheat. This was especially true from November 20 to 24, when temperatures reached their lowest levels for the month (-35°C in some spots).



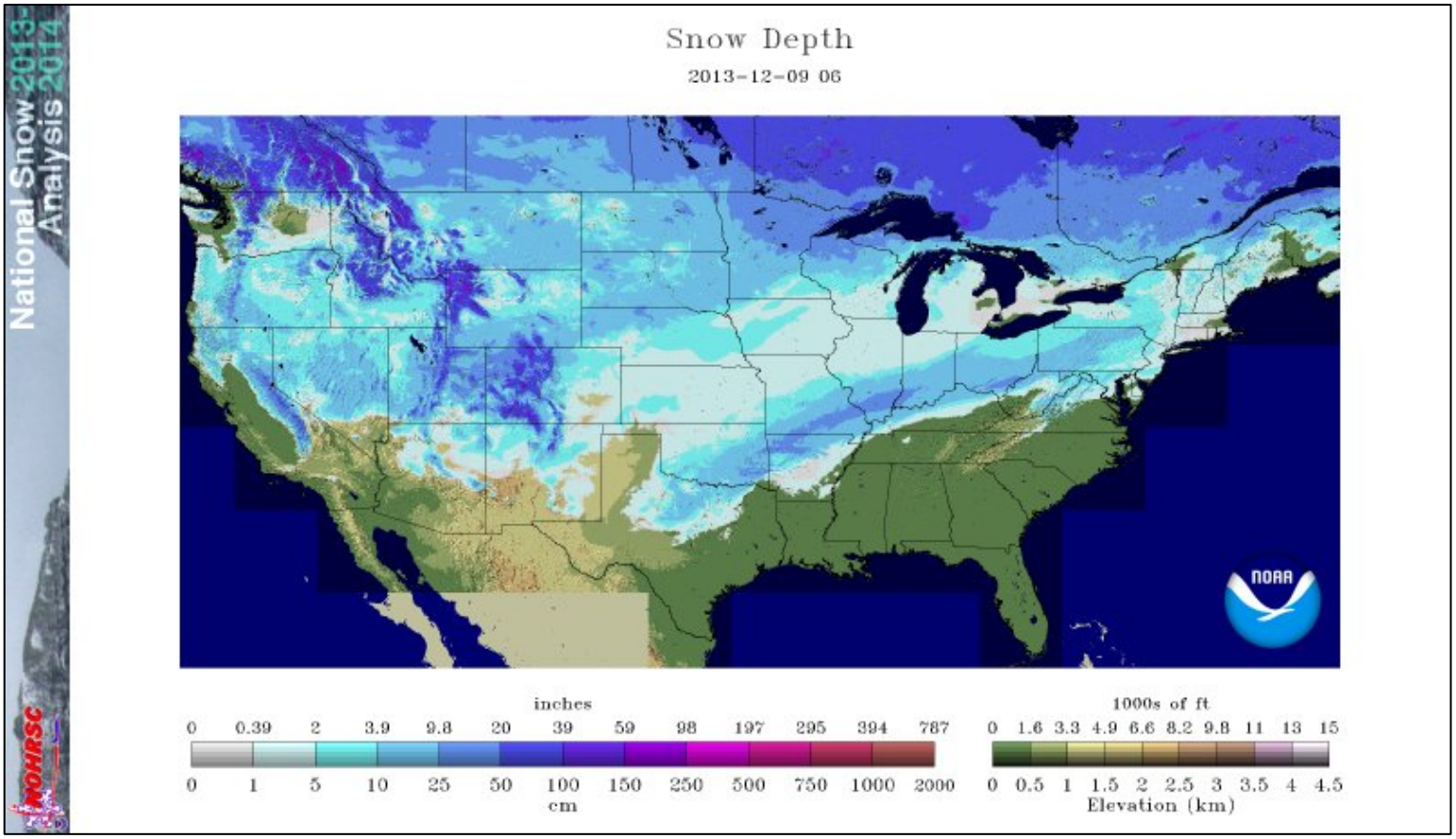






SOUTHEASTERN CANADA

In November, cool, wet weather prevailed across the region. Precipitation was above normal in Quebec and southwestern Ontario, where monthly accumulations exceeded 50 mm (liquid equivalent). Lower precipitation (monthly accumulations of 25-50 mm, liquid equivalent) was recorded in southeastern Ontario near — and to the north of — Lake Ontario. Monthly average temperatures were 1 to 2°C below normal due to frequent outbreaks of unseasonable cold that accompanied the autumn cooling. Nighttime lows fell below -20°C on several days toward the end of November; some snow fell in advance of the cold, offering winter wheat some protection from the cold. However, according to satellite-derived estimates of snow cover, protection was patchy in nature in some areas.



From December 7-15, snow covered more than half of the contiguous U.S., according to the NWS' National Operational Hydrologic Remote Sensing Center. Coverage peaked on December 9 (above), with more than two-thirds (66.9%) of the Lower 48 States blanketed with snow. In the last 10 years, more than half of the country was covered by snow on December 9 only three other times: 2005 (58.2%), 2009 (55.5%), and 2007 (51.9%). Coverage was below 30% on December 9 in 2003, 2004, 2006, and 2012.

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