

VIRGINIA DROUGHT MONITORING TASK FORCE

Drought Status Report

May 4, 2012

Abnormally dry conditions persist across approximately the eastern half to two-thirds of Virginia. However, recent rains have raised stream flows at nearly all of the indicator gauges to within the normal range (above the 25th percentile). Statewide precipitation for the current water year, October 1, 2011 to April 30, 2012 is within the normal range (92% of normal). However, the number of drought evaluation regions where rainfall was below the normal range increased during April from five to seven:

- Northern Virginia (80%)
- Northern Piedmont (79%)
- Chowan (77% of normal)
- Northern Coastal Plain (75%)
- York-James (67%)
- Southeast Virginia (70%)
- Eastern Shore (77%)

The remaining regions (all within the western portion of Virginia except for the Middle James region) have received greater than 90% of normal precipitation over the current water year. Normal precipitation is defined as the mean precipitation for a thirty year period of record. Precipitation greater than 81.5% of the thirty-year mean is considered to be in the normal range for the October – April period with respect to drought response stages.

Appendix A contains precipitation tables for periods dating from January 1, 2011 through April 30, 2012 provided by the Climatology Office of the University of Virginia.

For the 2012 calendar year, precipitation has been below normal statewide at 78% of the normal amount. Only 4 of the 13 drought regions (Big Sandy, New River, Upper James, & Eastern Shore) received greater than 81.5% of normal precipitation for the January 1 – April 30, 2012 period. For the month of April, the statewide percent of normal precipitation was at 88%. However, the disparity in rainfall between the western and eastern regions continued, with percent of normal in the eastern regions (including Northern Virginia) ranging from 59% in Northern Piedmont to 110% in the Eastern Shore.

The May 1, 2012 U.S. Drought Monitor web pages indicate that abnormally dry (D0) conditions exist throughout southeastern Virginia, northern Accomack County, and most of the counties within northern Virginia and the Shenandoah Valley (Appendices B & C). The dryer-than-normal region has grown significantly over the past month and now encompasses approximately 71% of the Commonwealth. A large part of this region (approximately equal to the Chowan basin) has been mapped as within a moderate drought (D1) area.

As of May 3, 2012, the National Weather Service Climate Prediction Center 6-10 and 8-14 day climatologic outlooks both call for slightly below normal temperatures for the entire Commonwealth with equal chances of above normal, normal or below normal precipitation. The one-month outlook predicts no trend for both temperature and precipitation. The three-month outlook calls for a better than equal chance of above normal temperature, but no apparent trend in precipitation.

The Seasonal Drought Outlook for the United States for May 3 – July 31, 2012 forecasts that the ongoing drought condition in the southeastern portion of the Commonwealth will continue with some improvement (Appendix D).

The National Weather Service's Advanced Hydrologic Prediction Services (AHPS) web pages showing departures from normal rainfall over the past 30, 60 and 90 days indicate that rainfall deficits have lessened over the past month in the southeastern Virginia region, but they persist in the northern region. The southwestern regions have continued to receive normal or above-normal precipitation throughout the water year.

The Virginia Department of Health (VDH) reported that no public water systems are experiencing drought related supply issues at this time. Representatives of the Virginia Department of Agricultural & Consumer Services (VDACS) and the Department of Game and Inland Fisheries (DGIF) indicated that recreational and agricultural users are not reporting any negative issues regarding water supply.

Reports from the Climatology Office of the University of Virginia, the United States Geological Survey (USGS) and Virginia Department of Environmental Quality (DEQ) follow below. The latter is a listing of current conditions at the major drought indicator reservoirs.

Report from the Climatology Office of the University of Virginia

May 3, 2012

The total precipitation in April was below normal for most of the Commonwealth, but generally was more evenly distributed than in March. Overall, regions in the Tidewater and the Southwest (a total of five regions) received normal to above normal amounts. The driest regions for April were Northern Virginia and the Northern Piedmont—each about 60% of normal.

Early April was especially dry in most locations, some with near zero values. The latter half of the month raised totals considerably and brought noticeable improvements to the landscape across Virginia.

Temperatures in April have generally averaged slightly below normal. But, because of the very warm March, they tended to be nearly equal to those of last month. (In fact, some locations experienced an April that was a bit cooler than March.) In this regard, drying of the ground surface proceeded at near normal rates for April.

Considering the (usually) cooler part of the year, back to November, about half the Drought Regions have received less than 75% of normal precipitation for the six-month period. It remains to be seen what impact from these deficits may arise as we move into the warmer months with high rates of moisture loss. In addition, the transition to thunderstorm-derived precipitation will likely increase the spatial variation of moisture. This often brings moisture problems to many localities, even if widespread rainfall averages are normal.

U.S. Geological Survey

May 2, 2012

Stream flows have improved into the normal range across most of the Commonwealth. Above normal stream flow conditions continue to occur in the Kanawha and Tennessee River Basins, and are now evident in the upper James and Roanoke River Basins. Below normal flows are still occurring in the Potomac and Rappahannock River Basins (fig. 1). Drought conditions for stream flow have also improved across the Commonwealth, but below normal to moderate drought conditions continue to persist in the Potomac and Rappahannock River Basins (fig. 2).

Groundwater levels (fig. 3) from the Virginia Climate Response Network

(<http://groundwaterwatch.usgs.gov/crn/StateMaps/VA.html>)

continue to decline across the Commonwealth in response to the spring/summer recession and low recharge rates during the winter months (fig. 3). Groundwater levels are in the low normal (25 to 50-percentile class) to below normal classes (table 1) in 75 percent of the wells. Slightly over 50 percent of the wells have water levels less than the 25th percentile. The factors needed to improve the condition of groundwater levels diminish as the growing season continues. Prolonged and abundant precipitation associated with slow-moving fronts, tropical storms, and hurricanes is needed in order to improve groundwater conditions during the summer and fall.

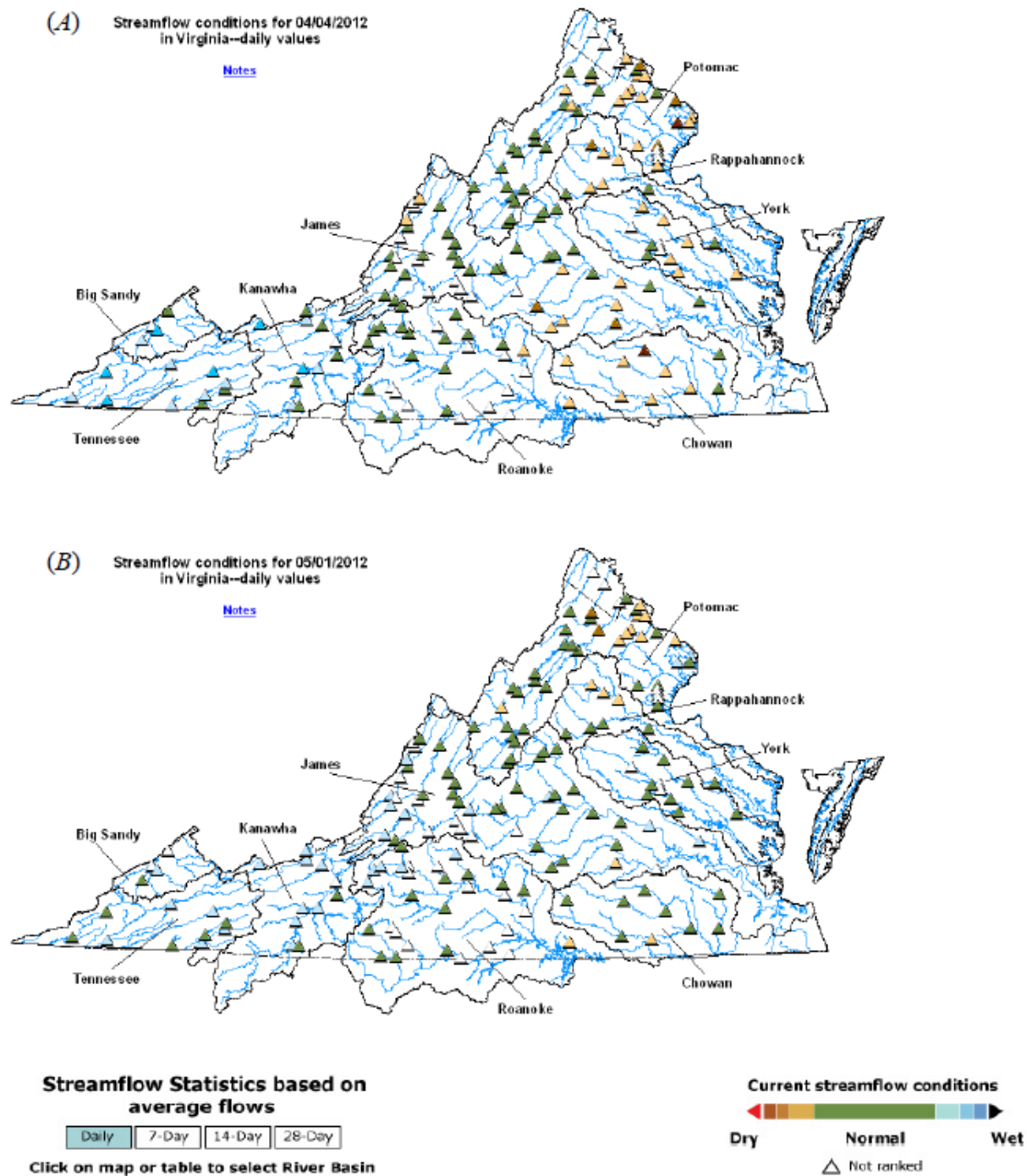
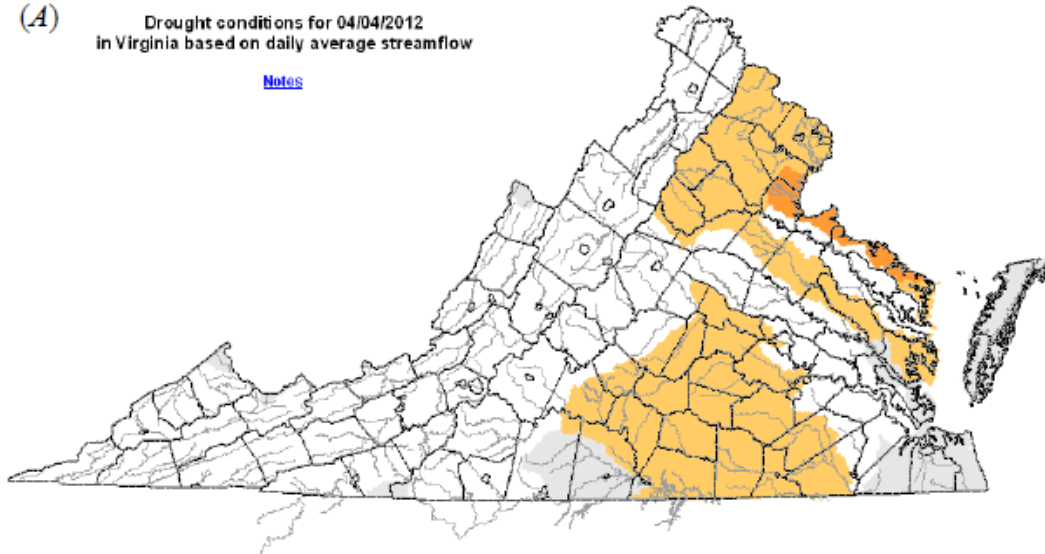


Figure 1. Streamflow conditions for (A) April 4, 2012 and (B) May 1, 2012 in Virginia.

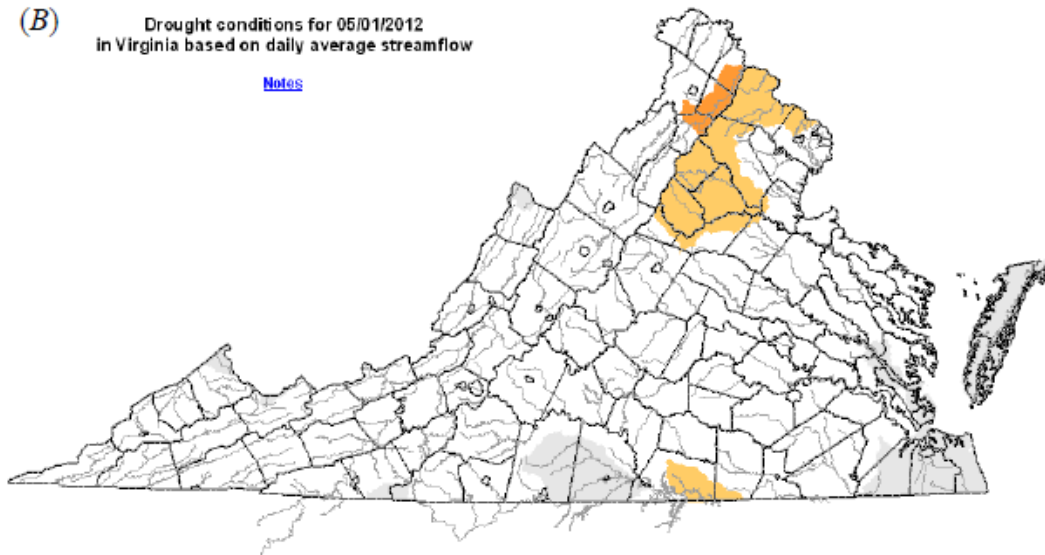
(A) Drought conditions for 04/04/2012
in Virginia based on daily average streamflow

[Notes](#)



(B) Drought conditions for 05/01/2012
in Virginia based on daily average streamflow

[Notes](#)



**Streamflow Statistics based on
average flows**

Daily 7-Day 14-Day 28-Day

EXPLANATION - Percentile classes				
LOW	≤5	6-9	10-24	Insufficient data
Extreme drought	Severe drought	Moderate drought	Below normal	

Figure 2. Drought conditions for (A) April 4, 2012 and (B) May 1, 2012 in Virginia.



Figure 3. Groundwater-level conditions from the Virginia Climate Response Network for May 1, 2012 in Virginia.

Table 1. Current percentile classes for groundwater levels in the Virginia Climate Response Network (VCRN).

[Light green shading indicates groundwater levels in the 25 to 50-percentile class. Dark green shading indicates groundwater levels in the 50 to 75-percentile class. Groundwater levels are classified as normal between the 25th and 75th percentiles.]

Map index	Site ID	Site name	VCRN Percentile class
<u>1</u>	<u>363928076332901</u>	58B 13	10-25
<u>2</u>	<u>364126076003501</u>	62B 1 SOW 098A	75-90
<u>3</u>	<u>370712076413203</u>	57E 13 SOW 094C	10-25
<u>4</u>	<u>370812080261901</u>	27F 2 SOW 019	50-75
<u>5</u>	<u>370841076275204</u>	59F 74 SOW 184C	10-25
<u>6</u>	<u>371644077244601</u>	51G 1	25-50
<u>7</u>	<u>371653079552101</u>	31G 1 SOW 008	0-10
<u>8</u>	<u>372608078404601</u>	41H 3	10-25
<u>9</u>	<u>372705075555903</u>	63H 6 SOW 103A	10-25
<u>10</u>	<u>373737077083201</u>	53K 19 SOW 080	50-75
<u>11</u>	<u>373758079271601</u>	35K 1 SOW 063	25-50
<u>12</u>	<u>375723075344404</u>	66M 19 SOW 110S	50-75
<u>13</u>	<u>381002078094201</u>	45P 1 SOW 030	10-25
<u>14</u>	<u>381132076551001</u>	55P 9	50-75
<u>15</u>	<u>382150078424001</u>	41Q 1	25-50
<u>16</u>	<u>383423077245901</u>	51S 7	0-10
<u>17</u>	<u>385607077381101</u>	49V 1	10-25
<u>18</u>	<u>385638077220101</u>	52V 2D	10-25
<u>19</u>	<u>390348078035501</u>	46W175	10-25
<u>20</u>	<u>391542077423801</u>	49Y 1 SOW 022	25-50

**Virginia Department of Environmental Quality
Conditions of Major Drought Indicator Reservoirs**

May 4, 2012:

Four large multi-purpose reservoirs are identified as drought indicators in the *Virginia Drought Assessment and Response Plan* (Plan); Smith Mountain Lake, Lake Moomaw, Lake Anna and Kerr Reservoir. All four of these reservoirs are currently at levels above their Drought Watch stages. Below is a summary of large reservoir conditions on May 4, 2012:

- Smith Mountain Lake was at elevation 792.86 ft, approximately 0.14 feet below Drought Watch level. The Drought Watch stage for Smith Mountain Lake is elevation 793 feet and below
- Lake Moomaw on the Jackson River was at 1581.90 feet, and dropped 0.15 ft over the preceding 24 hours. The lake was at approximately 99.6% of conservation storage level and 16.90 ft above its Drought Watch level (1565 feet MSL)
- Lake Anna was at elevation 250 ft (2 ft above drought watch). The Drought Watch stage for Lake Anna Lake is elevation 248 feet and below
- Kerr Reservoir was at 301.31 feet, approximately 0.69 ft below the Guide Curve for this time period, and was anticipated to drop to 301.00 ft by May 11, 2012. Drought Watch status is reached at greater than 3 ft below the Guide Curve.

Current water levels at Drought Indicator Reservoirs:

Reservoir Name	Date / Time	Reported Elevation (ft msl)	Drought Watch Range (ft msl)	Current Guide Curve Elevation) ft msl)
Smith Mt Lake	May 4 / 0905	792.86	793 – 791.5	
Lake Moomaw	May 4 / 1230	1581.90	1565 – 1562.5	
Lake Anna	May 4 /	250	248 - 246	
Kerr Reservoir	May 4 / 0800	301.31	3 – 6 ft below guide curve	301.67

APPENDIX A

Precipitation Departures by Drought Evaluation Region

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
05/03/12

DROUGHT		Apr 1, 2012 - Apr 30, 2012			% OF
REGION	OBSERVED	NORMAL	DEPARTURE	NORM.	
1 Big Sandy	4.55	3.76	0.79	121%	
2 New River	4.65	3.55	1.10	131%	
3 Roanoke	2.98	3.80	-0.82	78%	
4 Upper James	3.18	3.40	-0.23	93%	
5 Middle James	2.40	3.34	-0.94	72%	
6 Shenandoah	2.49	2.92	-0.43	85%	
7 Northern Virginia	1.99	3.30	-1.31	60%	
8 Northern Piedmont	1.93	3.29	-1.36	59%	
9 Chowan	2.74	3.43	-0.69	80%	
10 Northern Coastal Plain	2.67	3.09	-0.43	86%	
11 York-James	3.61	3.30	0.31	109%	
12 Southeast Virginia	3.27	3.25	0.02	101%	
13 Eastern Shore	3.21	2.92	0.29	110%	
Statewide	3.01	3.42	-0.41	88%	

DROUGHT		Mar 1, 2012 - Apr 30, 2012			% OF
REGION	OBSERVED	NORMAL	DEPARTURE	NORM.	
1 Big Sandy	9.25	8.01	1.24	116%	
2 New River	8.49	7.22	1.27	118%	
3 Roanoke	7.51	8.07	-0.56	93%	
4 Upper James	8.36	7.19	1.17	116%	
5 Middle James	6.43	7.40	-0.97	87%	
6 Shenandoah	6.02	6.12	-0.10	98%	
7 Northern Virginia	3.77	6.96	-3.19	54%	
8 Northern Piedmont	4.75	7.10	-2.35	67%	
9 Chowan	5.23	7.80	-2.57	67%	
10 Northern Coastal Plain	4.74	7.37	-2.64	64%	
11 York-James	6.11	7.99	-1.88	76%	
12 Southeast Virginia	6.53	7.45	-0.92	88%	
13 Eastern Shore	5.59	7.23	-1.64	77%	
Statewide	6.65	7.46	-0.81	89%	

DROUGHT

Feb 1, 2012 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	13.00	11.59	1.41	112%
2 New River	10.95	10.15	0.80	108%
3 Roanoke	9.66	11.38	-1.72	85%
4 Upper James	10.31	10.04	0.27	103%
5 Middle James	9.03	10.52	-1.49	86%
6 Shenandoah	7.36	8.53	-1.17	86%
7 Northern Virginia	5.36	9.63	-4.27	56%
8 Northern Piedmont	6.67	10.07	-3.40	66%
9 Chowan	7.66	10.97	-3.31	70%
10 Northern Coastal Plain	6.96	10.51	-3.55	66%
11 York-James	9.01	11.52	-2.51	78%
12 Southeast Virginia	9.02	10.95	-1.93	82%
13 Eastern Shore	9.24	10.42	-1.18	89%
Statewide	9.01	10.59	-1.58	85%

DROUGHT

Jan 1, 2012 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	16.13	15.32	0.81	105%
2 New River	13.36	13.36	0.00	100%
3 Roanoke	11.83	15.30	-3.47	77%
4 Upper James	13.02	13.32	-0.30	98%
5 Middle James	11.13	14.18	-3.05	79%
6 Shenandoah	8.97	11.38	-2.41	79%
7 Northern Virginia	7.13	12.91	-5.78	55%
8 Northern Piedmont	8.18	13.59	-5.41	60%
9 Chowan	9.17	15.08	-5.91	61%
10 Northern Coastal Plain	8.39	14.26	-5.87	59%
11 York-James	10.82	15.66	-4.84	69%
12 Southeast Virginia	10.93	15.11	-4.18	72%
13 Eastern Shore	11.53	13.98	-2.45	82%
Statewide	11.09	14.23	-3.14	78%

DROUGHT

Dec 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	20.57	18.96	1.61	109%
2 New River	17.41	16.07	1.34	108%
3 Roanoke	16.17	18.55	-2.38	87%
4 Upper James	17.72	16.27	1.45	109%
5 Middle James	15.08	17.35	-2.27	87%

12	Southeast Virginia	17.42	25.02	-7.61	70%
13	Eastern Shore	17.91	23.37	-5.46	77%
	Statewide	22.25	24.08	-1.83	92%

DROUGHT

Sep 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	35.33	28.58	6.75	124%
2 New River	31.15	25.68	5.47	121%
3 Roanoke	31.66	29.85	1.81	106%
4 Upper James	30.36	26.38	3.98	115%
5 Middle James	30.77	28.83	1.94	107%
6 Shenandoah	24.92	23.88	1.04	104%
7 Northern Virginia	26.16	26.97	-0.81	97%
8 Northern Piedmont	25.08	28.94	-3.86	87%
9 Chowan	24.43	29.22	-4.79	84%
10 Northern Coastal Plain	27.61	28.28	-0.67	98%
11 York-James	24.78	30.85	-6.07	80%
12 Southeast Virginia	25.59	29.45	-3.87	87%
13 Eastern Shore	21.77	26.98	-5.21	81%
Statewide	28.98	28.08	0.90	103%

DROUGHT

Aug 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	38.19	32.41	5.78	118%
2 New River	33.51	28.99	4.52	116%
3 Roanoke	34.47	33.57	0.90	103%
4 Upper James	33.34	29.71	3.63	112%
5 Middle James	36.30	32.65	3.65	111%
6 Shenandoah	28.47	27.21	1.26	105%
7 Northern Virginia	30.84	30.82	0.02	100%
8 Northern Piedmont	29.40	32.76	-3.36	90%
9 Chowan	33.83	33.53	0.30	101%
10 Northern Coastal Plain	39.48	32.14	7.34	123%
11 York-James	35.57	35.72	-0.15	100%
12 Southeast Virginia	37.98	34.57	3.41	110%
13 Eastern Shore	29.83	30.85	-1.02	97%
Statewide	34.28	31.91	2.37	107%

DROUGHT

Jul 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	43.47	36.89	6.58	118%
2 New River	37.14	32.78	4.36	113%
3 Roanoke	38.05	37.96	0.09	100%
4 Upper James	35.94	33.75	2.19	106%
5 Middle James	40.93	37.06	3.87	110%
6 Shenandoah	31.14	30.97	0.17	101%
7 Northern Virginia	33.43	34.59	-1.16	97%
8 Northern Piedmont	31.53	37.16	-5.63	85%
9 Chowan	40.39	38.04	2.35	106%
10 Northern Coastal Plain	43.65	36.59	7.06	119%
11 York-James	45.22	40.82	4.40	111%
12 Southeast Virginia	45.74	39.64	6.10	115%
13 Eastern Shore	33.53	34.85	-1.32	96%
Statewide	38.50	36.25	2.25	106%

DROUGHT

Jun 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	46.60	41.03	5.57	114%
2 New River	39.34	36.63	2.71	107%
3 Roanoke	40.72	41.85	-1.13	97%
4 Upper James	38.34	37.46	0.88	102%
5 Middle James	44.37	40.57	3.80	109%
6 Shenandoah	34.43	34.68	-0.25	99%
7 Northern Virginia	35.40	38.45	-3.05	92%
8 Northern Piedmont	34.25	41.17	-6.92	83%
9 Chowan	43.56	41.69	1.87	104%
10 Northern Coastal Plain	47.59	40.15	7.44	119%
11 York-James	50.92	44.23	6.69	115%
12 Southeast Virginia	49.65	43.25	6.40	115%
13 Eastern Shore	39.80	37.83	1.97	105%
Statewide	41.60	40.04	1.56	104%

DROUGHT

May 1,
2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	51.94	45.85	6.09	113%
2 New River	45.18	40.84	4.34	111%
3 Roanoke	45.42	46.18	-0.76	98%
4 Upper James	43.43	41.74	1.69	104%
5 Middle James	48.80	44.81	3.99	109%

6	Shenandoah	39.86	38.52	1.34	103%
7	Northern Virginia	39.40	42.79	-3.39	92%
8	Northern Piedmont	39.34	45.39	-6.05	87%
9	Chowan	46.29	45.78	0.51	101%
10	Northern Coastal Plain	49.99	44.31	5.68	113%
11	York-James	52.82	48.50	4.32	109%
12	Southeast Virginia	52.10	47.11	4.99	111%
13	Eastern Shore	40.90	41.35	-0.45	99%
	Statewide	45.97	44.30	1.67	104%

DROUGHT

Apr 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	57.84	49.61	8.23	117%
2 New River	50.87	44.39	6.48	115%
3 Roanoke	49.91	49.98	-0.07	100%
4 Upper James	50.57	45.14	5.43	112%
5 Middle James	52.89	48.15	4.74	110%
6 Shenandoah	47.12	41.44	5.68	114%
7 Northern Virginia	44.64	46.09	-1.45	97%
8 Northern Piedmont	44.84	48.68	-3.84	92%
9 Chowan	48.37	49.21	-0.84	98%
10 Northern Coastal Plain	52.99	47.40	5.59	112%
11 York-James	54.40	51.80	2.60	105%
12 Southeast Virginia	53.73	50.36	3.37	107%
13 Eastern Shore	42.43	44.27	-1.84	96%
Statewide	50.66	47.72	2.94	106%

DROUGHT

Mar 1, 2011 - Apr 30, 2012

REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1 Big Sandy	64.51	53.86	10.65	120%
2 New River	57.29	48.06	9.23	119%
3 Roanoke	55.46	54.25	1.21	102%
4 Upper James	56.10	48.93	7.17	115%
5 Middle James	58.24	52.21	6.03	112%
6 Shenandoah	51.45	44.64	6.81	115%
7 Northern Virginia	49.52	49.75	-0.23	100%
8 Northern Piedmont	50.35	52.49	-2.14	96%
9 Chowan	52.68	53.58	-0.90	98%
10 Northern Coastal Plain	57.95	51.68	6.27	112%
11 York-James	57.02	56.49	0.53	101%

12	Southeast Virginia	57.13	54.56	2.57	105%
13	Eastern Shore	45.67	48.58	-2.91	94%
	Statewide	55.90	51.76	4.14	108%

DROUGHT

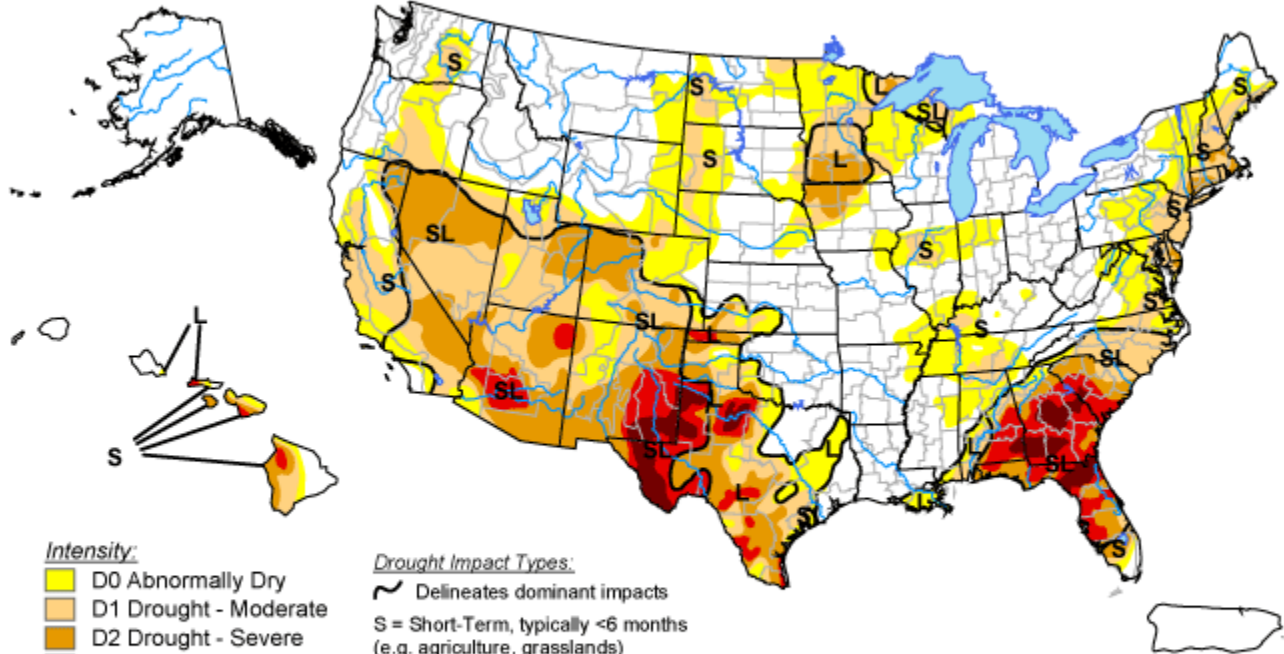
Feb 1, 2011 - Apr 30, 2012

	REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	66.81	57.44	9.37	116%
2	New River	59.09	50.99	8.10	116%
3	Roanoke	56.95	57.56	-0.61	99%
4	Upper James	57.59	51.78	5.81	111%
5	Middle James	59.57	55.33	4.24	108%
6	Shenandoah	53.11	47.05	6.06	113%
7	Northern Virginia	51.41	52.42	-1.01	98%
8	Northern Piedmont	51.67	55.46	-3.79	93%
9	Chowan	53.95	56.75	-2.80	95%
10	Northern Coastal Plain	59.12	54.82	4.30	108%
11	York-James	58.29	60.02	-1.73	97%
12	Southeast Virginia	58.74	58.06	0.68	101%
13	Eastern Shore	47.12	51.77	-4.65	91%
	Statewide	57.45	54.89	2.56	105%






APPENDIX B

U.S. Drought Monitor


May 1, 2012
Valid 7 a.m. EDT



Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



Released Thursday, May 3, 2012
Author: Matthew Rosencrans, NOAA/NWS/NCEP/CPC

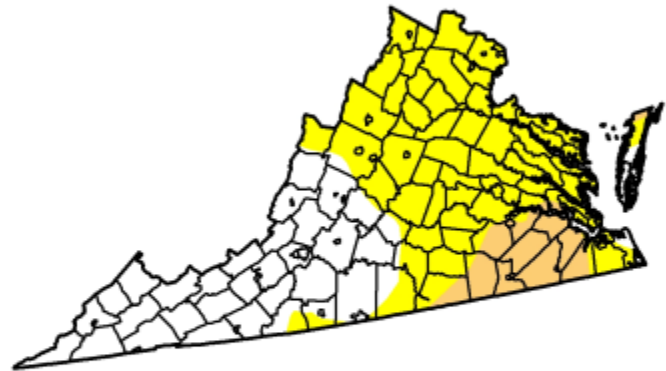
APPENDIX C

U.S. Drought Monitor Virginia

May 1, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	39.00	61.00	9.83	0.00	0.00	0.00
Last Week (04/24/2012 map)	38.50	61.50	9.83	0.00	0.00	0.00
3 Months Ago (01/31/2012 map)	73.77	26.23	0.00	0.00	0.00	0.00
Start of Calendar Year (12/27/2011 map)	98.44	1.56	0.00	0.00	0.00	0.00
Start of Water Year (09/27/2011 map)	95.83	4.17	0.00	0.00	0.00	0.00
One Year Ago (04/26/2011 map)	64.25	35.75	0.00	0.00	0.00	0.00



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

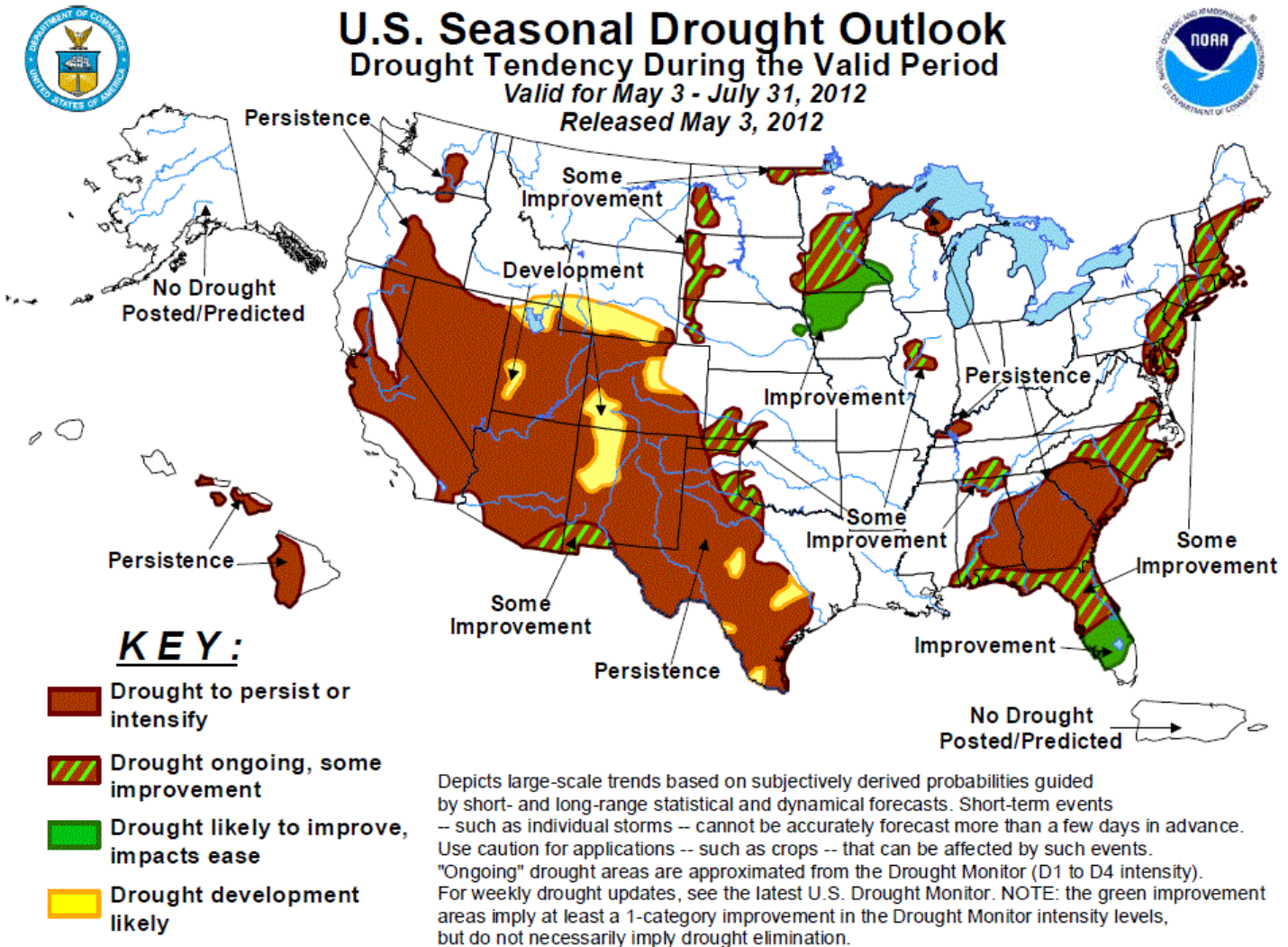
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu>

Released Thursday, May 3, 2012
Matthew Rosencrans, Climate Prediction Center/NCEP/NWS/NOAA

APPENDIX D

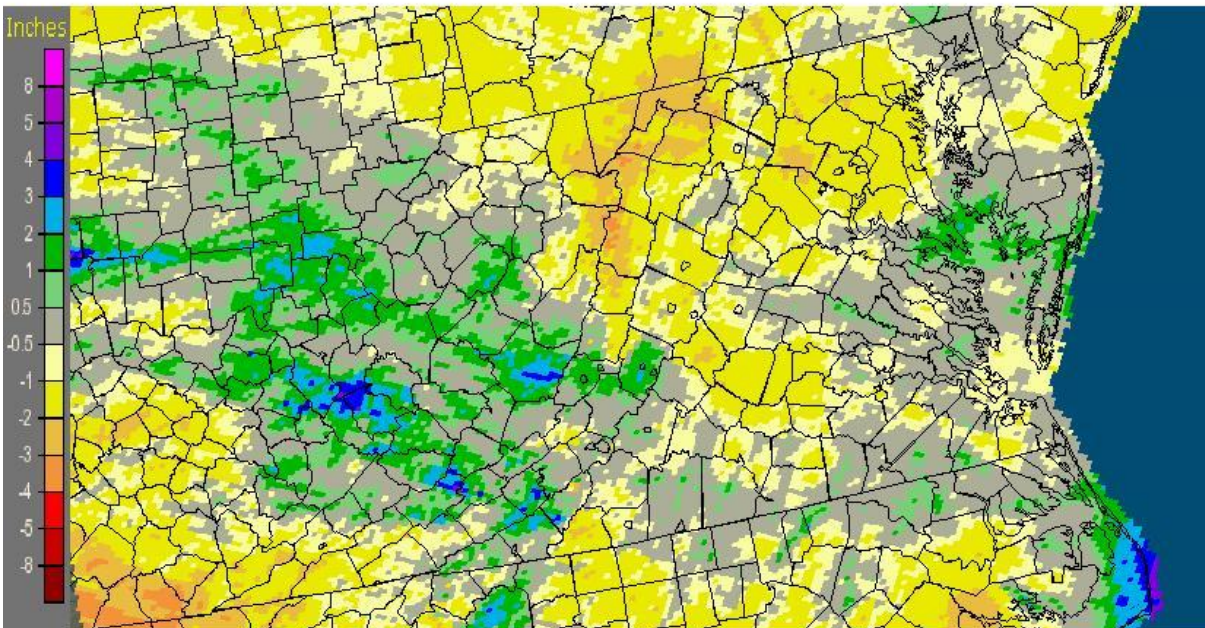


http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif

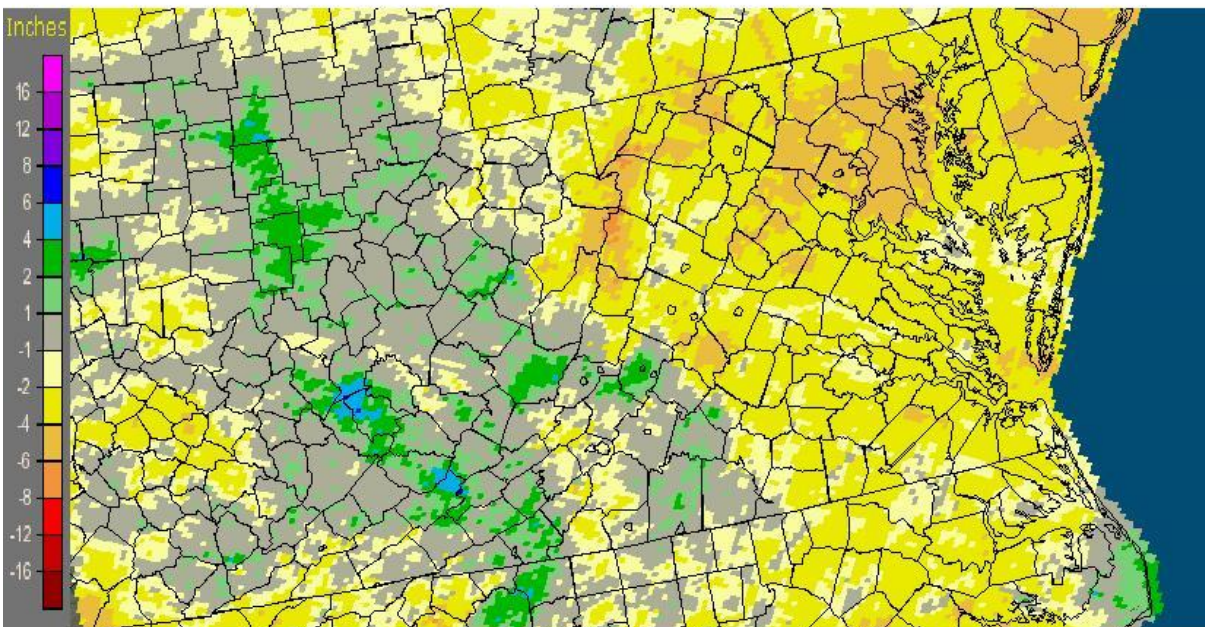
APPENDIX E

30 & 60-Day Departures from Normal Precipitation (accessed from <http://water.weather.gov/precip/>)

Virginia: Current 30-Day Departure from Normal Precipitation
Valid at 5/4/2012 1200 UTC- Created 5/4/12 16:07 UTC



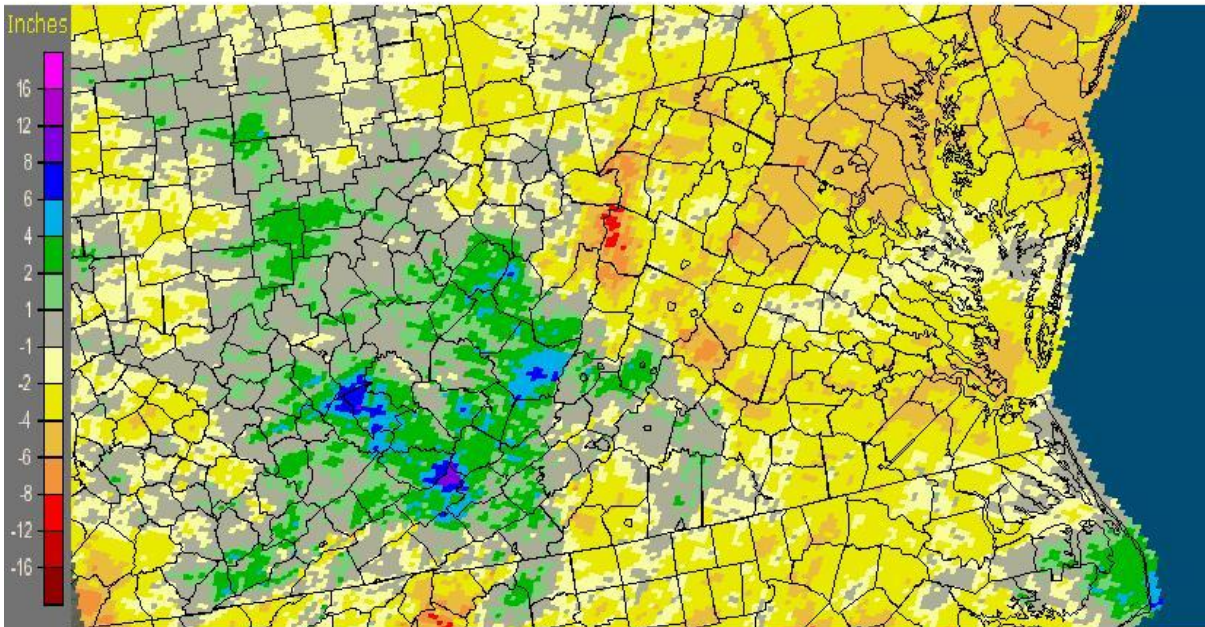
Virginia: Current 60-Day Departure from Normal Precipitation
Valid at 5/4/2012 1200 UTC- Created 5/4/12 16:12 UTC



APPENDIX E (continued)

90-Day and Water-Year Departures from Normal Precipitation (accessed from <http://water.weather.gov/precip/>)

Virginia: Current 90-Day Departure from Normal Precipitation
Valid at 5/4/2012 1200 UTC- Created 5/4/12 16:16 UTC



Virginia: Current Water-Year (Oct 1) Departure from Normal Precipitation
Valid at 5/4/2012 1200 UTC- Created 5/4/12 15:52 UTC

