

VIRGINIA DROUGHT MONITORING TASK FORCE

Drought Status Report

November 17 – December 1, 2011

Statewide precipitation for the current water year, October 1, 2011 to November 17, 2011 is within the normal range (104% of normal). All drought evaluation regions are now reporting normal precipitation for the current water year except for the Big Sandy Region which is at 124% of normal since October 1. Normal precipitation is defined as the mean precipitation for a thirty year period of record. Precipitation greater than 85% and less than 115% of normal is considered to be in the normal range. Statewide precipitation is in the normal range (106%) for the calendar year. Appendix A contains precipitation tables for periods dating from September 1, 2010 through November 17, 2011 provided by the Climatology Office of the University of Virginia.

As of December 1, 2011 the National Weather Service Climate Prediction Center 6-10 day climatologic outlooks call for above normal precipitation and normal temperatures for the entire Commonwealth. The 8-14 day outlooks call for above normal precipitation and above normal temperatures for the entire Commonwealth. The one month outlook calls for equal chances of below normal, normal and above normal precipitation for the entire Commonwealth, and above normal temperatures for the entire Commonwealth. The three month outlook calls for equal chances of below normal, normal and above normal precipitation and above normal temperatures statewide.

The November 22, 2011 NOAA U.S. Drought Monitor indicates that Virginia has no drought conditions (Appendix C). The Seasonal Drought Outlook for the United States from December 1, 2011 through February 29, 2012 forecasts “development” for the Chesapeake and Virginia Beach areas and “no drought posted or predicted” for the remainder of the state. (Appendix D).

The Virginia Department of Health (VDH) reports that 2 systems are under voluntary water conservation requirements and no systems are under mandatory water conservation requirements. The VDH report now excludes any systems that have non-drought related supply issues. Of the 42 systems listed in the VDH report, 3 are rated as having a “Better” overall water supply situation, 1 is rated as having a “Worse” overall water supply situation and all other systems are rated as being in a “Stable” situation (Appendix F).

Reports from the Climatology Office of the University of Virginia, the United States Geological Survey and the Virginia Department of Environmental Quality follow.

Report of the Climatology Office of the University of Virginia

November 18, 2011

Although there have been several storms bringing widespread rainfall to the Commonwealth during October and the first half of November, many areas did not receive substantial moisture from these events. Nonetheless, the period from late summer through fall has generally brought ample rainfall across all regions.

Since the beginning of August, all of the Drought Monitoring Regions have averaged above normal precipitation and more than half of those (primarily in the eastern portions of Virginia) received over 140% of normal. It should be noted that there are still some small areas scattered around the state that have been repeatedly missed by many of the summer and fall rainfall events.

The end of the growing season along with lower temperatures and less direct sunlight, all reduce the loss of moisture from the soil. Thus, the precipitation we receive during these colder months has much better opportunity to soak into deeper soil layers and help replenish moisture reserves. The Atlantic hurricane season is winding down and we are well into the time of year when non-tropical (winter season) storms will become our primary source of precipitation. These storms, usually linked to large frontal passages, tend to bring widespread precipitation and often help to provide recharge to much of the state at once, as well as wipe out lingering areas of deficit.

At this time, there is no good general guidance as to the precipitation outlook for the winter, and the number and tracks of these storms can vary considerably from one year to the next. But, with conditions as they stand now, an average (or near average) number of winter storms tracking through the Commonwealth should put most areas in good shape for the onset of spring.

United States Geological Survey Streamflow and Ground Water Levels

November 17, 2011

Abundant rainfall statewide since the last reporting period and the early season snowfall in the western parts of Virginia have caused streamflows to remain in the normal to above normal range. For the most part, streamflows are at normal conditions with well above normal conditions in the southwestern part of Virginia (Appendix G). Drought conditions for streamflow have improved and do not exist in any basins statewide (Appendix I).

Groundwater levels (Appendix H) have responded in a similar manner with water levels in wells in the normal to above normal range. Groundwater levels are expected to improve as long as precipitation occurs during the major groundwater recharge period in the winter months.

Virginia Department of Environmental Quality Conditions of Major Reservoirs

None of the large reservoirs statewide are at drought watch levels. 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. Lake Moomaw and Lake Anna, Kerr Reservoir and Smith Mountain Lake are all currently at levels above their Drought Watch stages. Below is a summary of large reservoir conditions:

- On December 1, Lake Moomaw on the Jackson River was at 1569.49 feet, and has risen at a approximately 4.34 ft over the preceding 48 hours. Approximately 51% of conservation storage remains. Lake Moomaw is 4.49 ft above its Drought Watch level (1565 feet MSL).

- On December 1, Kerr Reservoir was at 298.43 feet, approximately 2.86 ft above the Guide Curve, and was anticipated to rise to 298.50 ft by December 7, 2011. Drought Watch status is reached at greater than 3 ft below the Guide Curve.
- On December 1, Smith Mountain Lake was at elevation 794.58 ft, approximately 1.58 feet above Drought Watch level. The Drought Watch stage for Smith Mountain Lake is elevation 793 feet and below.
- On November 30, Lake Anna was at elevation 250.2 ft (2.2 ft above drought watch). The Drought Watch stage for Lake Anna Lake is elevation 248 feet and below.

APPENDIX A

Precipitation Departures by Drought Evaluation Region

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
11/18/11

DROUGHT REGION	OBSERVED	Nov 1, 2011 NORMAL	- Nov 17, 2011 DEPARTURE	% OF NORM.
1 Big Sandy	2.64	1.86	0.78	142%
2 New River	1.86	1.72	0.15	109%
3 Roanoke	2.57	1.90	0.67	135%
4 Upper James	1.02	1.90	-0.89	53%
5 Middle James	2.21	1.99	0.22	111%
6 Shenandoah	0.72	1.73	-1.01	42%
7 Northern Virginia	0.62	1.93	-1.31	32%
8 Northern Piedmont	0.95	2.15	-1.21	44%
9 Chowan	2.46	1.76	0.69	139%
10 Northern Coastal Plain	1.72	1.78	-0.06	97%
11 York-James	1.84	1.91	-0.07	96%
12 Southeast Virginia	1.11	1.74	-0.63	64%
13 Eastern Shore	1.40	1.67	-0.27	84%
Statewide	1.82	1.83	-0.01	100%

DROUGHT REGION	OBSERVED	Oct 1, 2011 NORMAL	- Nov 17, 2011 DEPARTURE	% OF NORM.
1 Big Sandy	5.89	4.74	1.15	124%
2 New River	4.84	4.89	-0.04	99%
3 Roanoke	6.41	5.61	0.79	114%
4 Upper James	4.40	5.15	-0.76	85%
5 Middle James	6.51	5.83	0.68	112%
6 Shenandoah	4.32	4.92	-0.60	88%
7 Northern Virginia	5.69	5.41	0.27	105%
8 Northern Piedmont	6.24	6.14	0.10	102%
9 Chowan	5.98	5.34	0.64	112%
10 Northern Coastal Plain	4.85	5.29	-0.44	92%
11 York-James	4.51	5.44	-0.93	83%
12 Southeast Virginia	3.70	5.40	-1.70	68%
13 Eastern Shore	4.37	4.88	-0.51	90%
Statewide	5.55	5.33	0.22	104%

DROUGHT REGION	OBSERVED	Sep 1, 2011 NORMAL	- Nov 17, 2011 DEPARTURE	% OF NORM.
1 Big Sandy	11.59	8.20	3.39	141%
2 New River	11.36	8.30	3.06	137%
3 Roanoke	13.20	9.84	3.35	134%
4 Upper James	9.86	8.65	1.20	114%
5 Middle James	14.25	9.96	4.29	143%
6 Shenandoah	10.59	8.59	2.00	123%
7 Northern Virginia	14.23	9.48	4.75	150%
8 Northern Piedmont	12.19	10.42	1.76	117%

9	Chowan	11.24	9.77	1.47	115%
10	Northern Coastal Plain	13.71	9.38	4.33	146%
11	York-James	11.76	10.34	1.42	114%
12	Southeast Virginia	11.17	9.83	1.34	114%
13	Eastern Shore	8.23	8.49	-0.26	97%
	Statewide	12.23	9.33	2.90	131%

DROUGHT		Aug 1, 2011		- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	14.13	12.03	2.10	117%
2	New River	13.70	11.61	2.10	118%
3	Roanoke	15.96	13.56	2.39	118%
4	Upper James	12.63	11.98	0.65	105%
5	Middle James	19.82	13.78	6.04	144%
6	Shenandoah	14.38	11.92	2.46	121%
7	Northern Virginia	18.92	13.33	5.59	142%
8	Northern Piedmont	17.16	14.24	2.91	120%
9	Chowan	20.14	14.08	6.06	143%
10	Northern Coastal Plain	22.79	13.24	9.55	172%
11	York-James	22.54	15.21	7.33	148%
12	Southeast Virginia	23.28	14.95	8.33	156%
13	Eastern Shore	17.82	12.36	5.46	144%
	Statewide	17.31	13.16	4.15	132%

DROUGHT		Jul 1, 2011		- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	19.56	16.51	3.05	118%
2	New River	17.53	15.40	2.13	114%
3	Roanoke	19.74	17.95	1.79	110%
4	Upper James	15.18	16.02	-0.84	95%
5	Middle James	24.86	18.19	6.67	137%
6	Shenandoah	17.09	15.68	1.41	109%
7	Northern Virginia	21.23	17.10	4.13	124%
8	Northern Piedmont	19.23	18.64	0.59	103%
9	Chowan	26.50	18.59	7.91	143%
10	Northern Coastal Plain	27.19	17.69	9.50	154%
11	York-James	31.18	20.31	10.87	154%
12	Southeast Virginia	31.63	20.02	11.61	158%
13	Eastern Shore	21.53	16.36	5.17	132%
	Statewide	21.63	17.50	4.13	124%

DROUGHT		Jun 1, 2011		- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	22.69	20.65	2.04	110%
2	New River	19.73	19.25	0.48	102%
3	Roanoke	22.41	21.84	0.57	103%
4	Upper James	17.58	19.73	-2.15	89%
5	Middle James	28.30	21.70	6.60	130%

6	Shenandoah	20.38	19.39	0.99	105%
7	Northern Virginia	23.20	20.96	2.24	111%
8	Northern Piedmont	21.96	22.65	-0.69	97%
9	Chowan	29.67	22.24	7.43	133%
10	Northern Coastal Plain	31.13	21.25	9.88	147%
11	York-James	36.88	23.72	13.16	155%
12	Southeast Virginia	35.54	23.63	11.91	150%
13	Eastern Shore	27.80	19.34	8.47	144%
	Statewide	24.73	21.29	3.44	116%

DROUGHT		May 1, 2011		- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	28.02	25.47	2.55	110%
2	New River	25.57	23.46	2.11	109%
3	Roanoke	27.10	26.17	0.93	104%
4	Upper James	22.67	24.01	-1.35	94%
5	Middle James	32.73	25.94	6.79	126%
6	Shenandoah	25.81	23.23	2.58	111%
7	Northern Virginia	27.20	25.30	1.89	107%
8	Northern Piedmont	27.05	26.87	0.17	101%
9	Chowan	32.40	26.33	6.07	123%
10	Northern Coastal Plain	33.53	25.41	8.12	132%
11	York-James	38.78	27.99	10.79	139%
12	Southeast Virginia	37.98	27.49	10.49	138%
13	Eastern Shore	28.90	22.86	6.05	126%
	Statewide	29.10	25.55	3.55	114%

DROUGHT		Apr 1, 2011		- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	33.93	29.23	4.70	116%
2	New River	31.26	27.01	4.25	116%
3	Roanoke	31.60	29.97	1.62	105%
4	Upper James	29.81	27.41	2.40	109%
5	Middle James	36.82	29.28	7.54	126%
6	Shenandoah	33.07	26.15	6.92	126%
7	Northern Virginia	32.44	28.60	3.83	113%
8	Northern Piedmont	32.55	30.16	2.39	108%
9	Chowan	34.48	29.76	4.72	116%
10	Northern Coastal Plain	36.53	28.50	8.03	128%
11	York-James	40.36	31.29	9.07	129%
12	Southeast Virginia	39.62	30.74	8.88	129%
13	Eastern Shore	30.43	25.78	4.65	118%
	Statewide	33.79	28.97	4.82	117%

DROUGHT		Mar 1, 2011		- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	40.60	33.48	7.12	121%
2	New River	37.68	30.68	7.00	123%

3	Roanoke	37.15	34.24	2.91	108%
4	Upper James	35.34	31.20	4.14	113%
5	Middle James	42.17	33.34	8.83	126%
6	Shenandoah	37.40	29.35	8.05	127%
7	Northern Virginia	37.32	32.26	5.06	116%
8	Northern Piedmont	38.06	33.97	4.09	112%
9	Chowan	38.79	34.13	4.66	114%
10	Northern Coastal Plain	41.49	32.78	8.71	127%
11	York-James	42.98	35.98	7.00	119%
12	Southeast Virginia	43.02	34.94	8.08	123%
13	Eastern Shore	33.67	30.09	3.59	112%
	Statewide	39.03	33.01	6.02	118%

DROUGHT REGION		OBSERVED	Feb 1, 2011 NORMAL	- Nov 17, 2011 DEPARTURE	% OF NORM.
1	Big Sandy	42.89	37.06	5.84	116%
2	New River	39.48	33.61	5.87	117%
3	Roanoke	38.64	37.55	1.08	103%
4	Upper James	36.83	34.05	2.78	108%
5	Middle James	43.50	36.46	7.04	119%
6	Shenandoah	39.05	31.76	7.29	123%
7	Northern Virginia	39.21	34.93	4.27	112%
8	Northern Piedmont	39.38	36.94	2.44	107%
9	Chowan	40.06	37.30	2.76	107%
10	Northern Coastal Plain	42.65	35.92	6.73	119%
11	York-James	44.25	39.51	4.74	112%
12	Southeast Virginia	44.63	38.44	6.19	116%
13	Eastern Shore	35.12	33.28	1.85	106%
	Statewide	40.58	36.14	4.44	112%

DROUGHT REGION		OBSERVED	Jan 1, 2011 NORMAL	- Nov 17, 2011 DEPARTURE	% OF NORM.
1	Big Sandy	44.68	40.79	3.89	110%
2	New River	40.40	36.82	3.58	110%
3	Roanoke	39.81	41.47	-1.66	96%
4	Upper James	37.74	37.33	0.41	101%
5	Middle James	44.97	40.12	4.85	112%
6	Shenandoah	40.07	34.61	5.46	116%
7	Northern Virginia	40.98	38.21	2.76	107%
8	Northern Piedmont	40.81	40.46	0.34	101%
9	Chowan	41.65	41.41	0.24	101%
10	Northern Coastal Plain	44.65	39.67	4.98	113%
11	York-James	46.79	43.65	3.14	107%
12	Southeast Virginia	47.71	42.60	5.11	112%
13	Eastern Shore	37.99	36.84	1.15	103%
	Statewide	42.08	39.78	2.30	106%

DROUGHT REGION		OBSERVED	Dec 1, 2010 NORMAL	- Nov 17, 2011 DEPARTURE	% OF NORM.
1	Big Sandy	49.65	44.43	5.22	112%
2	New River	44.31	39.53	4.79	112%

3	Roanoke	42.96	44.72	-1.77	96%
4	Upper James	40.73	40.28	0.45	101%
5	Middle James	47.73	43.29	4.44	110%
6	Shenandoah	42.31	37.20	5.11	114%
7	Northern Virginia	42.76	41.31	1.44	103%
8	Northern Piedmont	43.57	43.74	-0.17	100%
9	Chowan	45.08	44.43	0.65	101%
10	Northern Coastal Plain	46.64	42.95	3.69	109%
11	York-James	48.76	47.04	1.72	104%
12	Southeast Virginia	50.60	45.78	4.82	111%
13	Eastern Shore	41.12	40.08	1.04	103%
	Statewide	45.14	42.90	2.24	105%

DROUGHT			Nov 1, 2010	- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	52.51	47.71	4.80	110%
2	New River	46.15	42.56	3.59	108%
3	Roanoke	44.79	48.08	-3.30	93%
4	Upper James	43.05	43.64	-0.59	99%
5	Middle James	50.02	46.80	3.22	107%
6	Shenandoah	44.39	40.25	4.14	110%
7	Northern Virginia	45.23	44.72	0.51	101%
8	Northern Piedmont	46.27	47.54	-1.28	97%
9	Chowan	46.17	47.54	-1.38	97%
10	Northern Coastal Plain	48.16	46.09	2.07	104%
11	York-James	49.25	50.41	-1.16	98%
12	Southeast Virginia	51.14	48.85	2.29	105%
13	Eastern Shore	41.76	43.02	-1.26	97%
	Statewide	47.12	46.13	0.99	102%

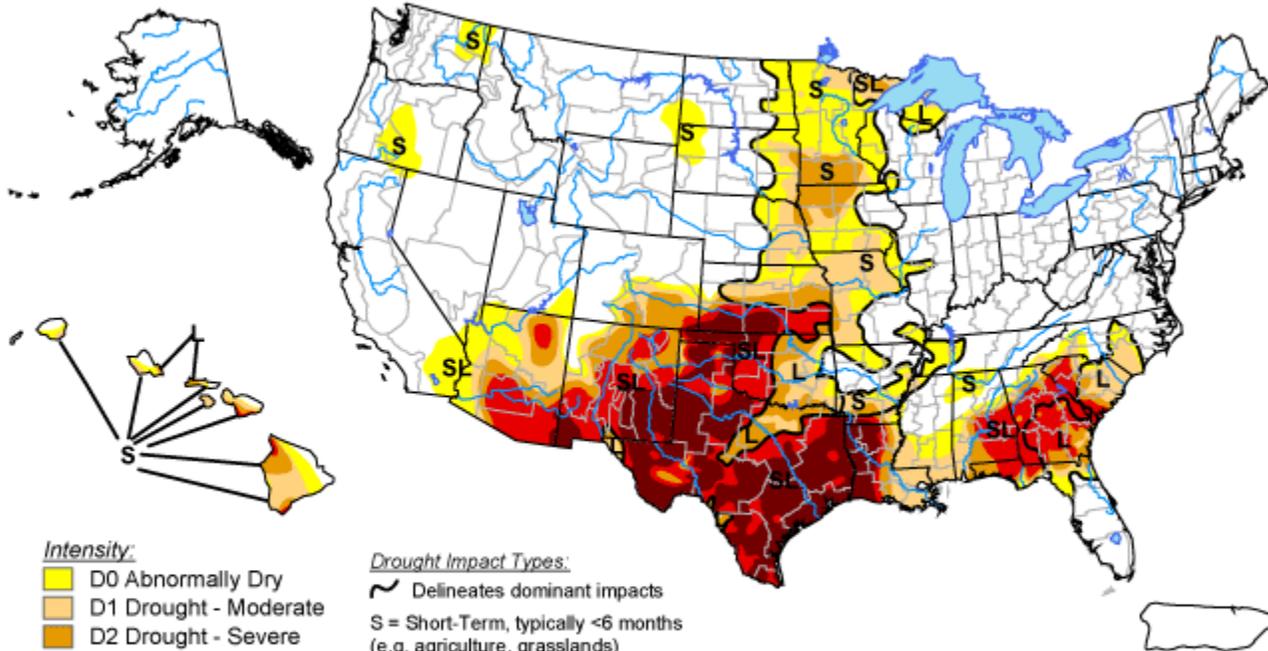
DROUGHT			Oct 1, 2010	- Nov 17, 2011	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	55.07	50.59	4.48	109%
2	New River	48.37	45.73	2.64	106%
3	Roanoke	48.57	51.79	-3.22	94%
4	Upper James	46.52	46.89	-0.37	99%
5	Middle James	53.83	50.64	3.19	106%
6	Shenandoah	47.62	43.44	4.18	110%
7	Northern Virginia	49.94	48.20	1.74	104%
8	Northern Piedmont	50.63	51.53	-0.90	98%
9	Chowan	50.18	51.12	-0.94	98%
10	Northern Coastal Plain	54.38	49.60	4.78	110%
11	York-James	51.52	53.94	-2.42	96%
12	Southeast Virginia	57.31	52.51	4.80	109%
13	Eastern Shore	46.69	46.23	0.46	101%
	Statewide	50.93	49.63	1.30	103%

DROUGHT			Sep 1, 2010	- Nov 17, 2011	
REGION		OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	57.50	54.05	3.45	106%
2	New River	52.23	49.14	3.10	106%
3	Roanoke	54.61	56.02	-1.42	97%
4	Upper James	50.62	50.39	0.22	100%
5	Middle James	58.98	54.77	4.21	108%
6	Shenandoah	51.28	47.11	4.17	109%
7	Northern Virginia	54.24	52.27	1.96	104%
8	Northern Piedmont	55.39	55.81	-0.42	99%
9	Chowan	57.54	55.55	1.99	104%
10	Northern Coastal Plain	60.73	53.69	7.04	113%
11	York-James	60.93	58.84	2.09	104%
12	Southeast Virginia	68.58	56.94	11.64	120%
13	Eastern Shore	50.23	49.84	0.39	101%
	Statewide	56.10	53.63	2.47	105%

APPENDIX B

U.S. Drought Monitor

November 22, 2011
Valid 7 a.m. EST



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 Wednesday, November 23, 2011
Author: Anthony Artusa, NOAA/NWS/NCEP/CPC

APPENDIX C

U.S. Drought Monitor Virginia

November 22, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week (11/15/2011 map)	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago (08/23/2011 map)	58.44	41.56	12.61	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	81.67	18.33	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 (11/16/2010 map)	63.20	36.80	3.37	0.00	0.00	0.00



Intensity:

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

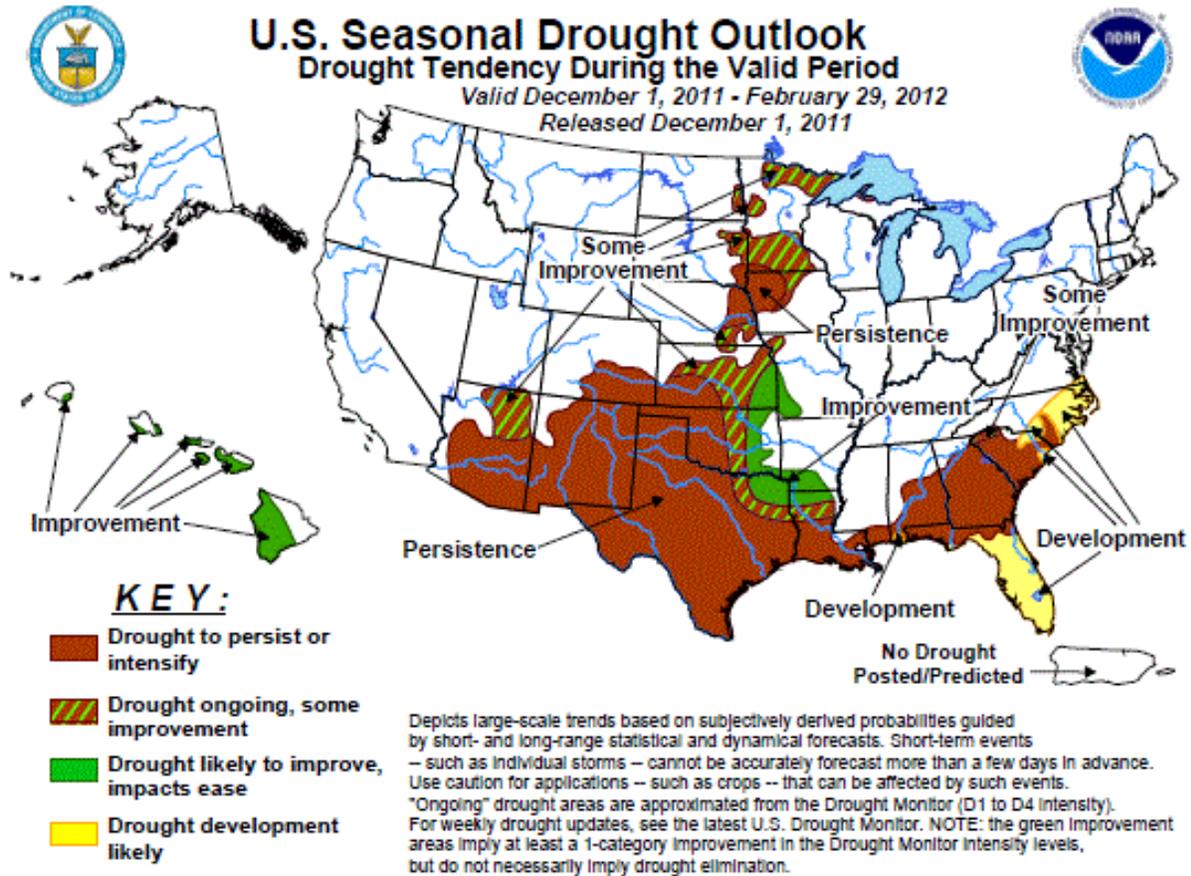
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<http://droughtmonitor.unl.edu>



Released Wednesday, November 23, 2011
Anthony Artusa, NOAA/NWS/CPC

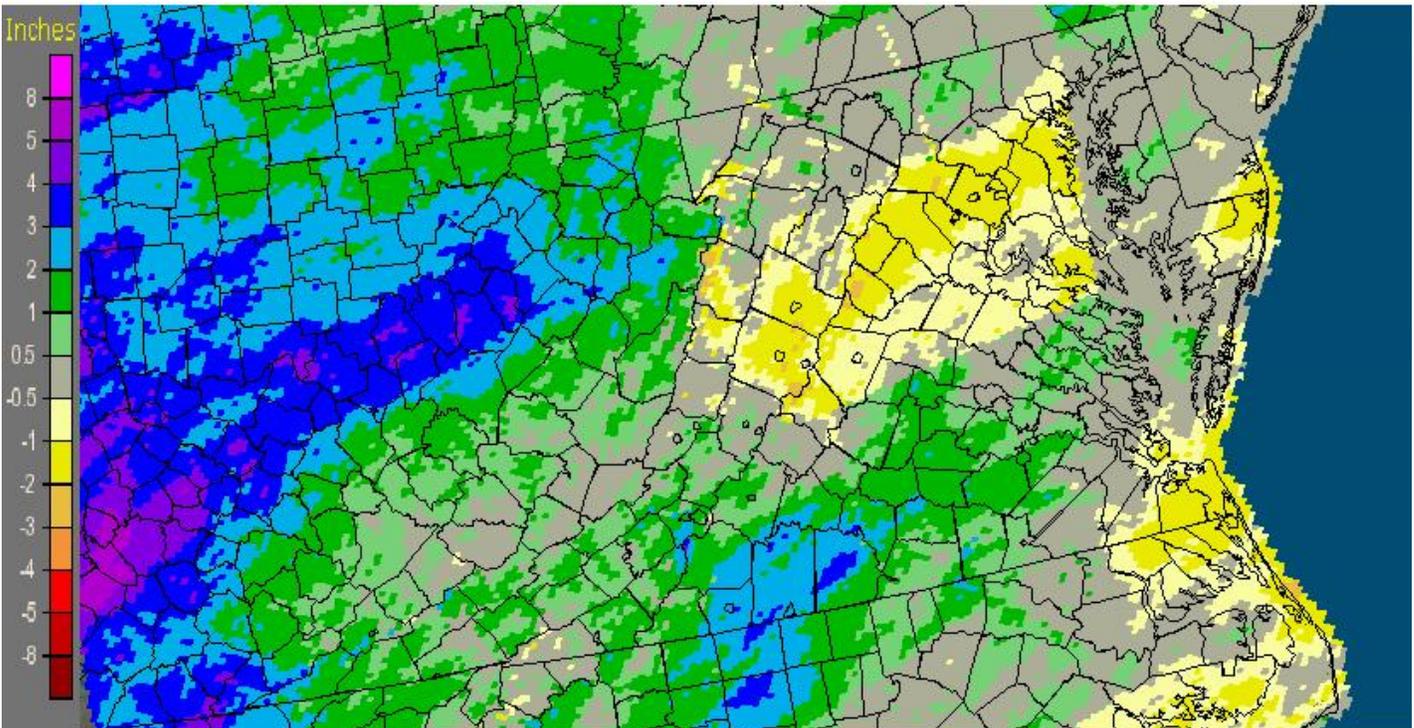
APPENDIX D



APPENDIX E

30-Day Departure from Normal Precipitation Valid November 30, 2011

Virginia: Current 30-Day Departure from Normal Precipitation
Valid at 11/30/2011 1200 UTC- Created 12/1/11 0:06 UTC



APPENDIX F

Condition of Public Water Supplies

November 17, 2011

ODW Drought Situation Report

Date: **11/17/11**

	Restriction totals	Population Totals
Mandatory	0	0
Voluntary	2	20,442
Total	2	20,442

3 systems are in Better Condition
1 system in Worse Condition

N-None
M-Mandatory
V-Voluntary
B-Better
S-Stable/Same
W-Worse

PWSID	Waterworks	Source Name	Restrictions	Situation	Population Served
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	N	S-11/14/2011 - Call for voluntary restrictions lifted as of 9/9/2011 due to increase in lake level.	6,800
3081550	GCWSA - Jarratt	Nottoway River	N	S - 11/14/2011 - River level sufficient to allow plant operation at 1.9 mgd. Gage at Stony Creek indicates 3.39 feet.	7,190
3149700	Puddledock Road	ARWA	N	S-11/14/2011 - Call for voluntary restrictions lifted as of 9/9/2011 due to increase in lake level.	9,723
3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	N	S -11/15/2011 Total rainfall for November 0.0 inches. The	108,657

				<p>water levels are back to normal. Chlorides are used as an indicator of drought, the higher the levels the more concentrated the contaminant in a lesser amount of surface water. The average for the month was 52 mg/L. Continuing to purchase raw water from Norfolk (7.0 MGD average).</p>	
35701 50	Colonial Heights	Purchased from Appomattox River Water Authority	V	S - 11/14/2011 - Consecutive system to ARWA - decided to go to Voluntary restriction on own. ARWA lifted call for restrictions based on increase in lake level.	17,286
35952 50	Emporia	Meherrin River	N	S - 11/14/2011 - Reservoir level sufficient for normal operation.	5,600
36708 00	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	S - 11/14/2011 - Level at intakes sufficient to supply plant. MIB (taste & odor) not detected in raw water and detected in finished water at less than 10 ng/l.	28000 - Primary / 45463 - Total

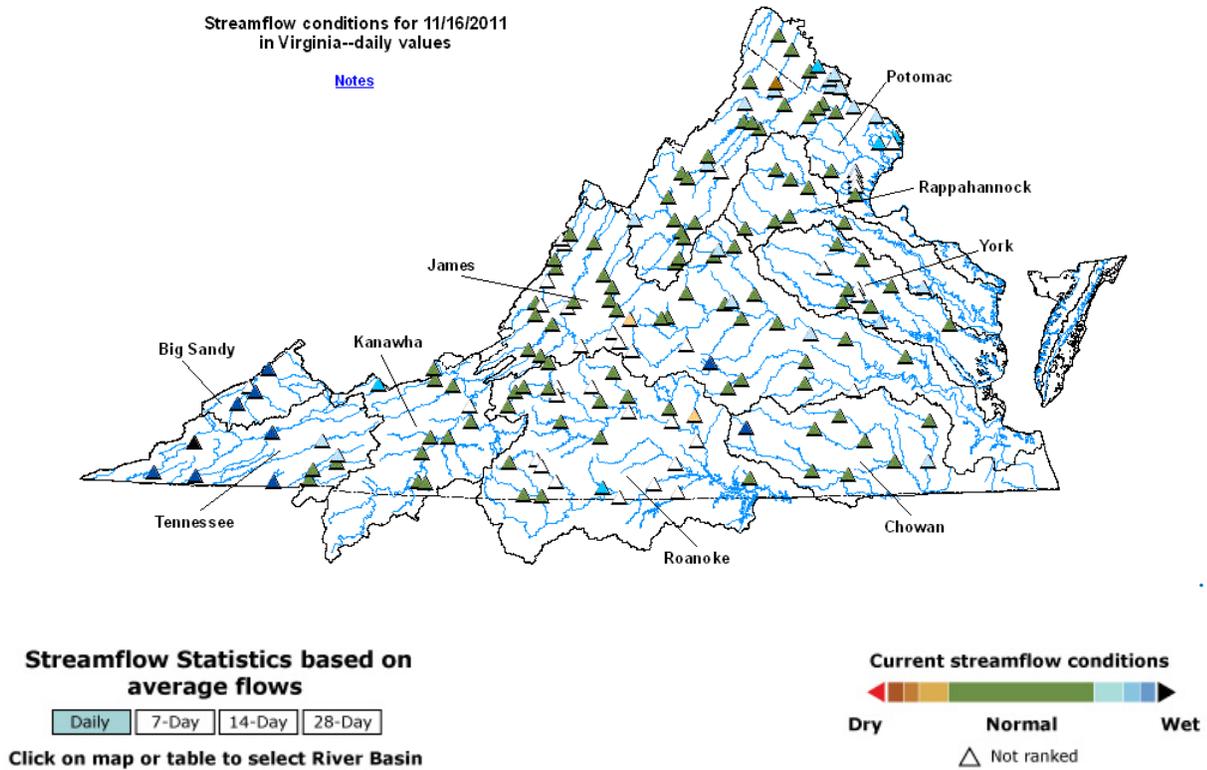
37005 00	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	W - 11/13/11 * Reservoir Status: 96.6 % Full * 33.7 Million Gallons Delivered	415,000
37101 00	Norfolk	Lake Prince, Lake Burnt Mills, Western Branch reservoir, Nottoway River, Blackwater River, 4 western wells; Little Creek reservoir, Lakes Smith, Lawson, Whitehurst, and Wright. Lake Gaston.	N	S - 10/31/2011 - Reservoirs at 97.9% storage capacity (from 100% on 09/19). Historical average is 82.3%. 7.8 MGD being pumped from Lake Gaston (from 7.8 MGD on 09/19) .	261,250 - Primary / 755,617 - Total
37307 50	Petersburg	ARWA	N	B - 11/15/2011 - Generally follow ARWA recommendations on restrictions. Call for voluntary restrictions in City has been lifted (date unknown).	33,740
37406 00	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	N	S - 11/04/11 - Reservoirs at 100% storage capacity (from 100% on 09/16). Historical average is 86%. Emergency wells are off.	100,400 - Primary / 120,400 - Total
38008 05	Suffolk	Lone Star Lakes, Cumps Mill Pond	N	S-11/14/2011 - Current lake levels Southern Lakes 83.75%, Lone Star 98.82% and Crumps Mill 85.71%. Total rainfall from 11/1/2011 through 11/13/2011 is 0.88 inches.	66,631

38308 50	Williamsburg	Waller Mill Reservoir	N	S - 97% - about the same as last report. 11/14/11	16,400
40410 35	Appomattox River Water Authority	Surface water; Lake Chesdin	N	S - 11/15/11	200,000
40418 45	Chesterfield Co Central Water System	Surface water; Swift Creek reservoir; purchases finished water	N	S - 11/15/11	286,000
40578 00	Tappahannock, Town Of	Groundwater wells	N	S - 11-15-2011	2,100
40733 11	Gloucester Co Water Treatment Plant	Surface water, Beaverdam reservoir; 2 deep groundwater wells	N	S - 11-15- 2011, Reservoir full.	12,000
40752 83	Eastern Goochland Central Water System	Purchased surface water	N	S - 11/15/11	2,500
40853 98	Hanover Suburban Water System	Surface water; North Anna River; some groundwater wells; purchases finished water	N	S- 11/14/11	71,000
40871 25	Henrico County Water System	Surface water; James River	N	S- 11/14/11	289,000
41019 00	West Point, Town Of	Groundwater wells	N	S - 11-15-2011	3,000
41271 10	Delmarva Properties	Groundwater wells	N	S - 11/15/11	7,700
41456 75	Powhatan Courthouse	Groundwater wells	N	S - 11/15/11	2,600
41932 80	Colonial Beach, Town Of	Groundwater wells	N	S - 11/14/11	3,300
47601 00	Richmond, City Of	Surface water; James River	N	S - 11/14/11	197,000
50090 50	Town of Amherst	Buffalo River	N	S-11/16/11 - 4.5" over check dam	5,076
50092 50	Amherst County Service Authority	Graham Creek Reservoir	N	S-11/16/11 - full reservoir	13,338
50110 50	Town of Appomattox	Wells	N	S- 11/16/11 - operator indicates normal well levels	1,761
51416 40	Town of Stuart	South Mayo River	N	S- 11/16/11	1,500
51431 14	Town of Chatham	Cherrystone Creek	N	B - Town has indicated they lifted voluntary conservation request around 9/1/2011	2,500
51432 10	Town of Gretna	Georges Creek Reservoir	N	S - reservoir full	2,500
56904 00	City of Martinsville	Beaver Creek Reservoir	N	B - reservoir not overflowing but improving - level was 1.2 feet down on	16,000

				10/25	
60330 85	Caroline Utility System	Groundwater wells	N	S -Restrictions lifted 9/14/11. (Updated 9/21/11)	3,600 Primary / 6,600 - Total
60475 00	Town of Culpeper	Surface water - Lake Pelham	N	S-11/16/11 Lake Pelham surface is 2.5" Above Overflow	14,200
60595 01	Fairfax Water	Surface Water - Potomac River and Occoquan Reservoir	N	S - 11/15/11 - Potomac River flow 5,000 cfs is above normal.	823,216 - Primary / 1.8M - Total
60616 00	Town of Warrenton	Surface (Cedar Run) and groundwater	N	S-11/16/11- Warrenton Reservoir Surface elevation is 445.4 ft.	11,225
61073 00	Town of Leesburg	Surface Water - Potomac River	N	Potomac River flow 5,000 cfs is above normal.	46,300
61076 00	Town of Purcellville	Surface water/groundwater	N	S - 11/15/11 - No source problems; reservoirs are full.	6,300
61076 50	Town of Round Hill	Groundwater	V	S - 11/15/11 - No source problems. Voluntary conservation is precautionary.	3,156
61375 00	Town of Orange	Surface: Rapidan River	N	11/16/11- 14-day runing avg of Rapidan River flow is 434 cfs	4,500
61379 99	Wilderness	Surface - Rapidan River	N	11/16/11- 14-day runing avg of Rapidan River flow is 434 cfs	11,681
66001 00	City of Fairfax	Surface Water	N	S - 11/15/11 - Adequate flow in Goose Creek	24,000

APPENDIX G

USGS Streamflow Conditions for November 16, 2011



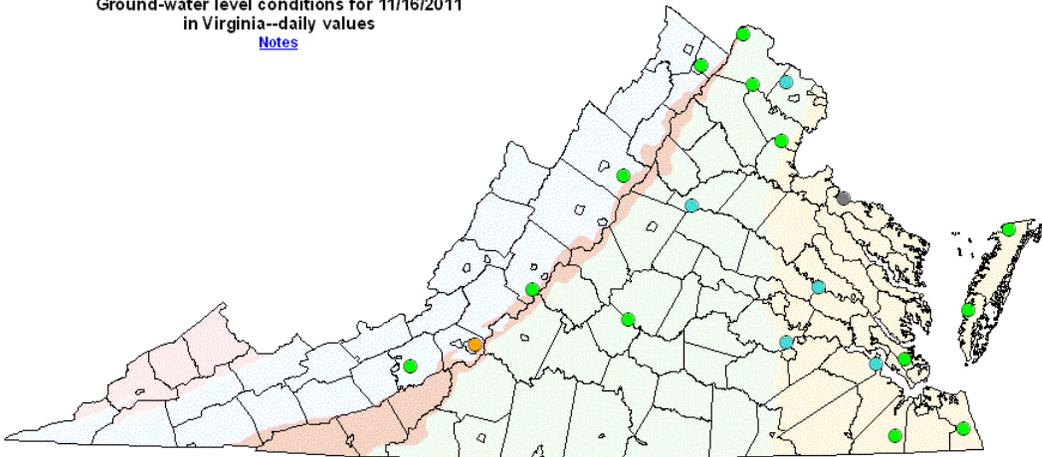
Streamflow conditions in Virginia for November 16, 2011

APPENDIX H

Groundwater Level Conditions November 16, 2011

Ground-water level conditions for 11/16/2011
in Virginia--daily values

[Notes](#)



Explanation - Percentile classes (symbol color based on most recent daily value.)										
New Low	<5	5-10	10-24	25-75	76-90	90-95	>95		New High	Not Ranked
	Well Below Normal		Below Normal	Normal	Above Normal	Well Above Normal				

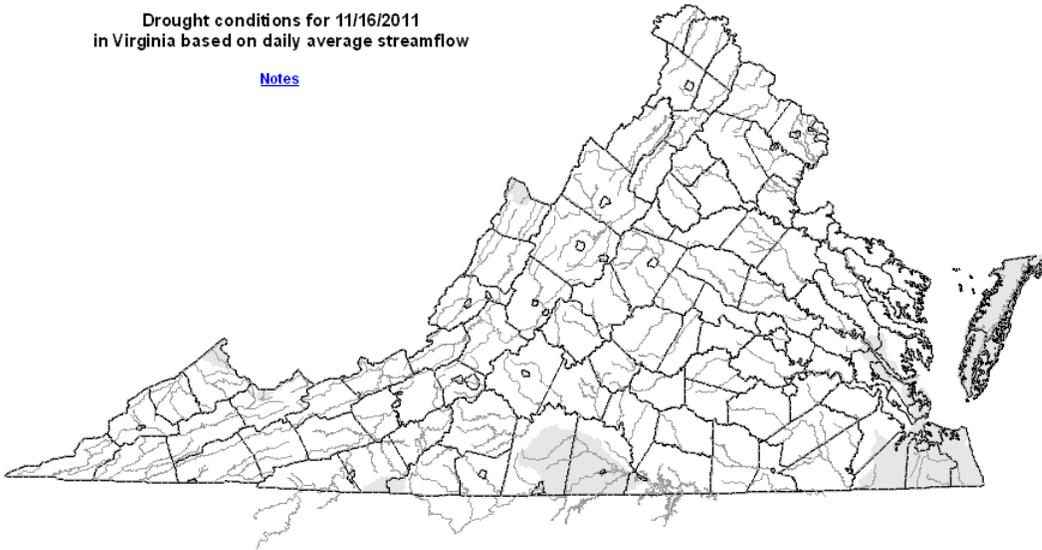
Groundwater-level conditions in Virginia for November 16, 2011

APPENDIX I

Drought Conditions Based on Daily Average Streamflow November 16, 2011

Drought conditions for 11/16/2011
in Virginia based on daily average streamflow

[Notes](#)



Streamflow Statistics based on average flows

EXPLANATION - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data
Extreme drought	Severe drought	Moderate drought	Below normal	

Drought conditions for November 16, 2011 in Virginia.