DROUGHT MONITORING TASK FORCE

Drought Status Report

April 22, 2008

Statewide precipitation for the previous water year (October 1, 2006 through September 30, 2007) was below normal (81% of normal). Statewide precipitation for the period from October 1, 2006 until April 18, 2008 was below normal (78% of normal). Statewide precipitation for the period from March 1, 2008 through April 18, 2008 is in the normal range (90% of normal). Precipitation greater than 85% of normal is considered to be in the normal range. The relatively wet period from February 1 until April 18 has had very little effect on accumulated precipitation deficits across the Commonwealth. The following drought evaluation regions are currently below normal for the period beginning October 1, 2006; Big Sandy (73%), New River (76%), Roanoke (76%), Upper James (80%), Middle James (80%), Shenandoah (81%), Northern Virginia (78%), Northern Piedmont (75%), Chowan (84%), Northern Coastal Plain (78%), and York-James (81%). Cumulative precipitation deficits across the Commonwealth remained relatively constant in most drought evaluation regions since the last report. All drought evaluation regions now have accumulated precipitation deficits that represent below normal conditions except Southeast Virginia (86%) and the Eastern Shore (91%). Appendix A contains precipitation tables for periods dating to October 1, 2006. The rainfall event of April 20 and 21 will likely reduce accumulated precipitation deficits in the eastern half of the Commonwealth but should be viewed as short-term improvement and will not end the current drought. The long-range monthly climatologic outlook calls for equal chances of below normal, normal and above normal precipitation and temperatures for the Commonwealth through May of 2008. The long-range seasonal outlook calls for equal chances of below normal, normal and above normal precipitation and temperatures for the Commonwealth through July 2008.

The latest NOAA drought monitor indicates the occurrence of drought conditions throughout the majority of the Commonwealth and is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. Drought conditions have remained stable over the Commonwealth during the last month. The NOAA seasonal drought outlook through July 2008 indicates that drought conditions may improve in the majority of the Commonwealth with the potential for improvement greater in the early portion of this time period. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows for April 20 are below normal (10^{th} to 24^{th} percentiles) in the majority of the Commonwealth. Streamflows in the middle Peninsula and upper Roanoke River basin are indicative of moderate hydrologic drought (6^{th} to 9^{th} percentiles). The rainfall event of April 20 and 21 will likely return stream flows to the normal range of flows, at least for the short term. While drought monitoring ground water levels data is scarce, ground water levels are generally in the lower range of expected water levels in areas east of Route 95 and are generally lower than normal in the area west of Route 95. Three dedicated drought monitoring wells are at levels indicative of normal ground water levels, seven are at levels indicative of moderate hydrologic drought (10^{th} to 24^{th} percentiles) and nine are at levels indicative of severe hydrologic drought ($< 10^{th}$ percentile). Ground water levels in 10 of 19 dedicated monitoring wells have shown increases in water levels in the last month indicating a short period of ground water recharge. While this period of ground water recharge is beneficial all indications are that ground water recharge will be below normal prior to the onset of the 2008 growing season. Levels of most large reservoirs have continued to rebound over the last month and are now full. There are two significant reservoirs that remain unusually low, Carvins Cove and Spring Hollow.

While the Virginia Department of Health has not reported any impacts to public water supplies that have compromised their ability to provide the needs of their customers' 31systems remain on voluntary water conservation requirements and 4 systems remain on mandatory water conservation requirements. Appendix E contains a table of waterworks that includes systems that have initiated water conservation requirements.

The Department of Forestry reports that wildfire conditions have generally seen modest improvements over the last month as the normal spring green-up helps to bring an end to the spring wildfire season. Several recent frontal passages, with generally light precipitation, have kept fuel moistures high in the short term and have helped to eliminate the threat of widespread wildfire activity. The higher elevations of western and southwestern Virginia have accounted for most of the significant wildfire activity over the last few weeks. Since January 1^{st}, The VDOF responded to more than 850 wildfires which have burned more than 20,000 acres, as well as damaging or destroying 13 homes and 37 other structures. On a positive note, the VDOF has saved or protected 442 homes and 316 other structures during this same period. These numbers are all well above 5 and 10 year averages for the period. Virginia's spring fire season will likely end by the first week of May. The next real threat for significant wildfire development will return later this fall.

The Department of Game and Inland Fisheries reports all boating access facilities are accessible and operating to support the beginning of the spring fishing season. Reservoirs are expected to be at normal levels for both recreation and the spring fish spawning period. Trout stocking is on schedule in the western part of the state, however the average size and the total number of fish is down due to the drought and reduced production during 2007. While river and stream flows increase to near normal levels during rainfall events, flows rapidly decrease due to depressed ground water levels. As the spring growing season begins significant precipitation events will be necessary to maintain stream flows and recreational opportunities. Periodic spring rains are necessary to recharge seasonal pools and wetlands that amphibians require for reproduction. Climate change, habitat fragmentation and recent drought have contributed to significant declines in many species of frogs and salamanders.

While the intensity of drought impacts has remained stable during the last month it is probable that drought impacts will intensify as the growing season progresses. Current moisture deficits will likely result in significant drought impacts across all socio-economic sectors during the 2008 growing season without significant additional precipitation during the summer of 2008. The significant rainfall event of April 20 and 21 will likely forestall the intensification of drought conditions, at least in the eastern half of the Commonwealth, for a period of several weeks.

Reports from the Climatology Office of the University of Virginia, the National Weather Service, the Virginia Department of Agriculture and Consumer Services, the Virginia Department of Environmental Quality, and the United States Geological Survey follow.

Report of the Climatology Office of the University of Virginia

Favorable upper-air circulation has continued to steer winter storm activity toward the Commonwealth over the past month and has led to precipitation in the normal to above normal range for most regions. The rainfall event of April 20 and 21 resulted in significant gains, especially in eastern portions of Virginia. Beyond this, short-range outlooks indicate little opportunity for rain for the remainder of April. The longer-range outlooks (for May and May–July) give little useful guidance at this point.

The critical period for moisture deficit reduction has now past and, unfortunately, most of Virginia has received significantly less than normal precipitation during this period. The current onset of the growing season begins the time of year when, even with normal rainfall, moisture loss from evaporation and plant uptake result in a net loss of water. In addition, the primary mechanism for rainfall will usually shift from widespread winter storms and frontal passages, to more scattered thunderstorm activity.

These factors combine to make it unlikely that any significant amount of moisture will penetrate past the topsoil before it is lost back to the atmosphere. Of note is the Atlantic hurricane season forecast recently issued by the team at Colorado State University. This forecast calls for a higher than average amount of tropical storm/hurricane activity and an increased likelihood that storms will cross the U.S. coastline. Given the long-term precipitation deficits across the Commonwealth, such tropical activity may bring some relief, albeit with its own set of risks.

Report of the National Weather Service

Substantial rainfall early in April improved moisture conditions to some extent, but little widespread rain occurred between April 6 and 18. The rainfall event of April 20 and 21 resulted in a broad area of significant precipitation that corresponded very closely with the area of severe drought in central Virginia. In this area, centered along Interstate 95, there are reports of more than five inches of precipitation in some locations with broad areas that received more than one inch of rainfall. This event should provide significant short term relief to the portion of Virginia that was experiencing the most severe drought impacts. The next opportunity for significant precipitation appears to be late on April 25 through April 26.

Virginia Department of Agriculture and Consumer Services
Status of Agricultural Drought

According to the USDA Crop Weather Report released on April 14, 2008, 86% of topsoil moisture was adequate or better during the previous week. The low temperatures hindered small grain progress and delayed corn planting in parts of the state. However, recent scattered showers have helped to improve hay and pasture crop conditions. Most crops are reported as being in fair to good condition throughout the state.

Disaster Designations

Due to the extreme agricultural drought, 93 Virginia counties and 34 independent cities received a Secretarial disaster designation in 2007 as a primary natural disaster area. York and Arlington counties and the independent cities of Alexandria, Bristol, Falls Church, Poquoson, and Norton were named contiguous disaster areas.

Waivers for Hauling of Emergency Supplies Extended

At the request of the Virginia Department of Agriculture and Consumer Services (VDACS), the Virginia Department of Emergency Management (VDEM) authorized motor carrier exemptions to hours worked, and the Virginia Departments of Transportation and Motor Vehicles granted temporary waivers of registration and license requirements along with normal weight and width restrictions for carriers transporting emergency supplies of hay or animal feed. The exemptions, which became effective at 6 a.m. August 11, 2007, have been extended through 6 a.m., June 15, 2008. The exemptions apply to the entire state since every Virginia locality has received either a primary or contiguous drought disaster designation from the United States Department of Agriculture.

Virginia Department of Environmental Quality
Condition of Major Reservoirs

Most major reservoirs have fully recharged and will be entering the low flow – high use season in good condition. Inflows, which normally peak in March and April, remain at very low levels for this time of year.

Kerr Reservoir is at 304.5 feet, 3.5 feet above guide curve. April rains have brought the reservoir to a level that is high enough to release extra water to augment flow in the lower Roanoke River to enhance the spawning of anadromous fish. By conserving water all last year the Corps has arrived at this point in time with enough water for spawning and enough water to start the all important summer season in excellent shape, when water is needed for multiple uses.

The other large Corps of Engineers Lake, Lake Philpott, still is two feet below the guide curve. SEPA is only making half of the normal release for hydropower in order to bring that lake back up to a more normal level. This is not a problem at this time of year, because the temperatures are still cool and water quality downstream is in good condition. The lake rose 3.5 feet in the last month.

Smith Mountain Lake is full. AEP and DGIF have initiated releases to accommodate the striped bass spawn in the Staunton River. Striper releases will continue for the next 4 to 6 weeks. It remains to be seen if the lake will still be full at the end of the striper release, because inflows are still marginal and striper releases require more water than the normal minimum release of 650 cfs.

The rainfall event of April 20 and 21 has resulted in the complete filling of Lake Anna.

Two large water supply reservoirs for the Western Virginia Water Authority that serve the Roanoke area remain a cause for concern. Carvins Cove Reservoir, the more important reservoir is at only 69% of capacity, up 10% from last month. Spring Hollow Reservoir is at 82% of capacity, up 13%. Both of these reservoirs have extremely small drainage areas. Spring Hollow Reservoir relies on a pump station on the Roanoke River for refill. That pump station is subject to minimum instream flowby protection and frequent precipitation events will be necessary to assure that stream flows are at levels that will accommodate pumping.

United States Geological Survey
Streamflow and Ground Water Levels

Streamflow throughout Virginia has remained in the normal to below normal ranges of flow except in southwest Virginia (New and Tennessee River basins), the Valley and Ridge Physiographic Province, and in portions of the Rappahannock and York River Basins where streamflow has fallen to the well below normal range. Conditions in the Shenandoah, Big Sandy, and western portion of the James River Basins are considerably better than the rest of the State. The rainfall event of April 20 and 21 has resulted in significantly increased stream flows in the eastern portion of the Commonwealth with the potential for minor flooding in some areas. This event will likely cause streamflows to remain near normal for the short term, however, expect rapid declines to well below normal within two weeks if additional precipitation does not arrive.

Ground-water levels are mixed with some levels in the normal range and others well below normal. Some recharge has occurred from the recent precipitation and additional minimal recharge is anticipated from precipitation on April 20 and 21. We are approaching the time of year where maximum ground water levels are observed.

Streamflow conditions based on daily values for April 20 are presented in Appendix F. Area summaries of 7-day average streamflows from the USGS drought watch web page show similar flow conditions and are presented in Appendix G. Current conditions are generally higher than depicted by seven day average stream flows as flows continue to increase due to the significant precipitation event of April 20 and 21. Ground water levels based on conditions on April 20 are presented in Appendix H.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared: 04/21/08

	DROUGHT REGION	OBSERVED	Apr 1, 2008 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	2.51	2.26	0.26	111%
2	New River	2.09	2.13	-0.04	98%
3	Roanoke	2.48	2.28	0.20	109%
4	Upper James	1.85	2.04	-0.19	91%
5	Middle James	2.28	2.00	0.28	114%
6	Shenandoah	1.58	1.75	-0.17	90%
7	Northern Virginia	1.65	1.98	-0.33	83%
8	Northern Piedmont	1.82	1.97	-0.15	92%
9	Chowan	2.46	2.06	0.40	120%
10	Northern Coastal Plain	2.10	1.85	0.25	113%
11	York-James	2.43	1.98	0.45	123%
12	Southeast Virginia	2.25	1.95	0.30	115%
13	Eastern Shore	2.50	1.75	0.75	143%
	Statewide	2.17	2.05	0.12	106%

	DROUGHT REGION	OBSERVED	Mar 1, 2008 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	6.28	6.51	-0.22	97%
2	New River	4.29	5.80	-1.51	74%
3	Roanoke	5.24	6.55	-1.31	80%
4	Upper James	4.37	5.83	-1.46	75%
5	Middle James	5.71	6.06	-0.36	94%
6	Shenandoah	4.46	4.95	-0.49	90%
7	Northern Virginia	5.39	5.64	-0.25	96%
8	Northern Piedmont	5.02	5.78	-0.76	87%
9	Chowan	6.49	6.43	0.07	101%
10	Northern Coastal Plain	5.82	6.13	-0.32	95%
11	York-James	8.37	6.67	1.70	125%
12	Southeast Virginia	6.76	6.15	0.61	110%
13	Eastern Shore	5.32	6.06	-0.75	88%
	Statewide	5.49	6.09	-0.60	90%

	DROUGHT REGION	OBSERVED	Feb 1, 2008 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	8.76	10.09	-1.32	87%
2	New River	6.04	8.73	-2.69	69%
3	Roanoke	7.45	9.86	-2.41	76%
4	Upper James	6.26	8.68	-2.42	72%
5	Middle James	8.31	9.18	-0.87	90%
6	Shenandoah	6.40	7.36	-0.96	87%
7	Northern Virginia	8.05	8.31	-0.26	97%
8	Northern Piedmont	7.43	8.75	-1.33	85%
9	Chowan	9.26	9.60	-0.34	96%
10	Northern Coastal Plain	8.32	9.27	-0.95	90%
11	York-James	12.06	10.20	1.86	118%
12	Southeast Virginia	10.38	9.65	0.73	108%
13	Eastern Shore	8.50	9.25	-0.75	92%
	Statewide	7.91	9.22	-1.31	86%

	DROUGHT REGION	OBSERVED	Jan 1, 2008 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	11.03	13.82	-2.79	80%
2	New River	7.28	11.94	-4.66	61%
3	Roanoke	8.34	13.78	-5.44	61%
4	Upper James	7.53	11.96	-4.43	63%
5	Middle James	9.28	12.84	-3.56	72%
6	Shenandoah	7.39	10.21	-2.82	72%
7	Northern Virginia	9.43	11.59	-2.16	81%
8	Northern Piedmont	10.32	12.27	-1.96	84%
9	Chowan	10.44	13.71	-3.26	76%
10	Northern Coastal Plain	9.54	13.02	-3.49	73%
11	York-James	13.47	14.34	-0.87	94%
12	Southeast Virginia	11.89	13.81	-1.92	86%
13	Eastern Shore	10.31	12.81	-2.51	80%
	Statewide	9.28	12.86	-3.58	72%

	DROUGHT REGION	OBSERVED	Dec 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	13.94	17.46	-3.52	80%
2	New River	9.73	14.65	-4.92	66%
3	Roanoke	11.56	17.03	-5.47	68%
4	Upper James	10.49	14.91	-4.42	70%
5	Middle James	11.96	16.01	-4.05	75%
6	Shenandoah	10.34	12.80	-2.47	81%
7	Northern Virginia	12.47	14.69	-2.22	85%
8	Northern Piedmont	13.22	15.55	-2.33	85%
9	Chowan	14.58	16.73	-2.14	87%
10	Northern Coastal Plain	12.28	16.30	-4.02	75%
11	York-James	17.58	17.73	-0.15	99%
12	Southeast Virginia	15.55	16.99	-1.44	92%
13	Eastern Shore	14.88	16.05	-1.18	93%
	Statewide	12.35	15.98	-3.63	77%

	DROUGHT REGION	OBSERVED	Nov 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	15.64	20.74	-5.10	75%
2	New River	10.18	17.68	-7.50	58%
3	Roanoke	12.04	20.39	-8.35	59%
4	Upper James	10.90	18.27	-7.37	60%
5	Middle James	12.48	19.52	-7.05	64%
6	Shenandoah	11.44	15.85	-4.41	72%
7	Northern Virginia	14.05	18.10	-4.05	78%
8	Northern Piedmont	14.09	19.35	-5.26	73%
9	Chowan	15.03	19.84	-4.80	76%
10	Northern Coastal Plain	13.39	19.44	-6.05	69%
11	York-James	18.40	21.10	-2.70	87%
12	Southeast Virginia	16.11	20.06	-3.95	80%
13	Eastern Shore	15.72	18.99	-3.28	83%
	Statewide	13.15	19.21	-6.06	68%

	DROUGHT REGION	OBSERVED	Oct 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	17.60	23.62	-6.02	75%
2	New River	13.89	20.85	-6.96	67%
3	Roanoke	15.66	24.10	-8.44	65%
4	Upper James	13.27	21.52	-8.25	62%
5	Middle James	16.10	23.36	-7.26	69%
6	Shenandoah	13.65	19.04	-5.39	72%
7	Northern Virginia	17.29	21.58	-4.29	80%
8	Northern Piedmont	17.10	23.34	-6.25	73%
9	Chowan	18.13	23.42	-5.29	77%
10	Northern Coastal Plain	18.77	22.95	-4.19	82%
11	York-James	22.24	24.63	-2.39	90%
12	Southeast Virginia	21.38	23.72	-2.34	90%
13	Eastern Shore	19.08	22.20	-3.12	86%
	Statewide	16.46	22.71	-6.25	72%

	DROUGHT REGION	OBSERVED	Sep 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	18.85	27.08	-8.23	70%
2	New River	15.53	24.26	-8.73	64%
3	Roanoke	17.74	28.33	-10.59	63%
4	Upper James	15.52	25.02	-9.50	62%
5	Middle James	16.91	27.49	-10.58	62%
6	Shenandoah	15.60	22.71	-7.12	69%
7	Northern Virginia	18.46	25.65	-7.19	72%
8	Northern Piedmont	18.09	27.62	-9.54	65%
9	Chowan	19.09	27.85	-8.75	69%
10	Northern Coastal Plain	20.01	27.04	-7.04	74%
11	York-James	24.14	29.53	-5.39	82%
12	Southeast Virginia	22.11	28.15	-6.04	79%
13	Eastern Shore	20.64	25.81	-5.17	80%
	Statewide	17.88	26.71	-8.83	67%

	DROUGHT REGION	OBSERVED	Aug 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	20.03	30.91	-10.87	65%
2	New River	16.72	27.57	-10.85	61%
3	Roanoke	18.57	32.05	-13.48	58%
4	Upper James	16.97	28.35	-11.38	60%
5	Middle James	19.63	31.31	-11.68	63%
6	Shenandoah	18.37	26.04	-7.67	71%
7	Northern Virginia	20.32	29.50	-9.18	69%
8	Northern Piedmont	20.47	31.44	-10.98	65%
9	Chowan	21.10	32.16	-11.06	66%
10	Northern Coastal Plain	21.46	30.90	-9.45	69%
11	York-James	26.47	34.40	-7.94	77%
12	Southeast Virginia	25.59	33.27	-7.68	77%
13	Eastern Shore	23.14	29.68	-6.55	78%
	Statewide	19.75	30.54	-10.79	65%

	DROUGHT REGION	OBSERVED	Jul 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	24.52	35.39	-10.86	69%
2	New River	19.65	31.36	-11.71	63%
3	Roanoke	21.84	36.44	-14.60	60%
4	Upper James	19.31	32.39	-13.08	60%
5	Middle James	21.99	35.72	-13.74	62%
6	Shenandoah	20.37	29.80	-9.44	68%
7	Northern Virginia	22.79	33.27	-10.48	68%
8	Northern Piedmont	22.00	35.84	-13.84	61%
9	Chowan	24.16	36.67	-12.51	66%
10	Northern Coastal Plain	22.88	35.35	-12.48	65%
11	York-James	29.91	39.50	-9.59	76%
12	Southeast Virginia	28.90	38.34	-9.44	75%
13	Eastern Shore	25.22	33.68	-8.46	75%
	Statewide	22.48	34.88	-12.40	64%

	DROUGHT REGION	OBSERVED	Jun 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	27.27	39.53	-12.26	69%
2	New River	22.69	35.21	-12.52	64%
3	Roanoke	24.77	40.33	-15.56	61%
4	Upper James	23.06	36.10	-13.04	64%
5	Middle James	25.34	39.23	-13.89	65%
6	Shenandoah	23.64	33.51	-9.87	71%
7	Northern Virginia	24.73	37.13	-12.40	67%
8	Northern Piedmont	24.15	39.85	-15.70	61%
9	Chowan	26.37	40.32	-13.94	65%
10	Northern Coastal Plain	24.73	38.91	-14.19	64%
11	York-James	32.10	42.91	-10.82	75%
12	Southeast Virginia	32.12	41.95	-9.83	77%
13	Eastern Shore	30.48	36.66	-6.18	83%
	Statewide	25.34	38.67	-13.33	66%

	DROUGHT REGION	OBSERVED	May 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	29.01	44.35	-15.33	65%
2	New River	24.47	39.42	-14.95	62%
3	Roanoke	26.74	44.66	-17.92	60%
4	Upper James	25.08	40.38	-15.30	62%
5	Middle James	27.80	43.47	-15.67	64%
6	Shenandoah	25.83	37.35	-11.52	69%
7	Northern Virginia	25.99	41.47	-15.48	63%
8	Northern Piedmont	26.24	44.07	-17.83	60%
9	Chowan	29.26	44.41	-15.15	66%
10	Northern Coastal Plain	25.97	43.07	-17.10	60%
11	York-James	33.65	47.18	-13.53	71%
12	Southeast Virginia	34.08	45.81	-11.73	74%
13	Eastern Shore	32.22	40.18	-7.96	80%
	Statewide	27.37	42.93	-15.56	64%

	DROUGHT REGION	OBSERVED	Apr 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	33.48	48.11	-14.62	70%
2	New River	27.58	42.97	-15.39	64%
3	Roanoke	29.95	48.46	-18.51	62%
4	Upper James	28.58	43.78	-15.20	65%
5	Middle James	31.04	46.81	-15.78	66%
6	Shenandoah	29.41	40.27	-10.86	73%
7	Northern Virginia	29.72	44.77	-15.05	66%
8	Northern Piedmont	29.33	47.36	-18.03	62%
9	Chowan	33.69	47.84	-14.14	70%
10	Northern Coastal Plain	29.68	46.16	-16.48	64%
11	York-James	37.69	50.48	-12.79	75%
12	Southeast Virginia	38.60	49.06	-10.46	79%
13	Eastern Shore	36.77	43.10	-6.33	85%
	Statewide	31.01	46.35	-15.34	67%

	DROUGHT REGION	OBSERVED	Mar 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	36.62	52.36	-15.74	70%
2	New River	31.62	46.64	-15.02	68%
3	Roanoke	33.64	52.73	-19.09	64%
4	Upper James	32.22	47.57	-15.35	68%
5	Middle James	34.09	50.87	-16.79	67%
6	Shenandoah	32.29	43.47	-11.19	74%
7	Northern Virginia	32.87	48.43	-15.56	68%
8	Northern Piedmont	31.76	51.17	-19.41	62%
9	Chowan	36.26	52.21	-15.95	69%
10	Northern Coastal Plain	32.49	50.44	-17.95	64%
11	York-James	39.41	55.17	-15.76	71%
12	Southeast Virginia	40.54	53.26	-12.72	76%
13	Eastern Shore	38.55	47.41	-8.86	81%
	Statewide	34.08	50.39	-16.31	68%

	DROUGHT REGION	OBSERVED	Feb 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	38.02	55.94	-17.92	68%
2	New River	33.27	49.57	-16.30	67%
3	Roanoke	35.69	56.04	-20.35	64%
4	Upper James	34.67	50.42	-15.75	69%
5	Middle James	36.06	53.99	-17.94	67%
6	Shenandoah	34.34	45.88	-11.54	75%
7	Northern Virginia	35.71	51.10	-15.39	70%
8	Northern Piedmont	34.21	54.14	-19.94	63%
9	Chowan	38.43	55.38	-16.95	69%
10	Northern Coastal Plain	35.00	53.58	-18.59	65%
11	York-James	41.16	58.70	-17.55	70%
12	Southeast Virginia	42.81	56.76	-13.95	75%
13	Eastern Shore	41.34	50.60	-9.27	82%
	Statewide	36.17	53.52	-17.35	68%

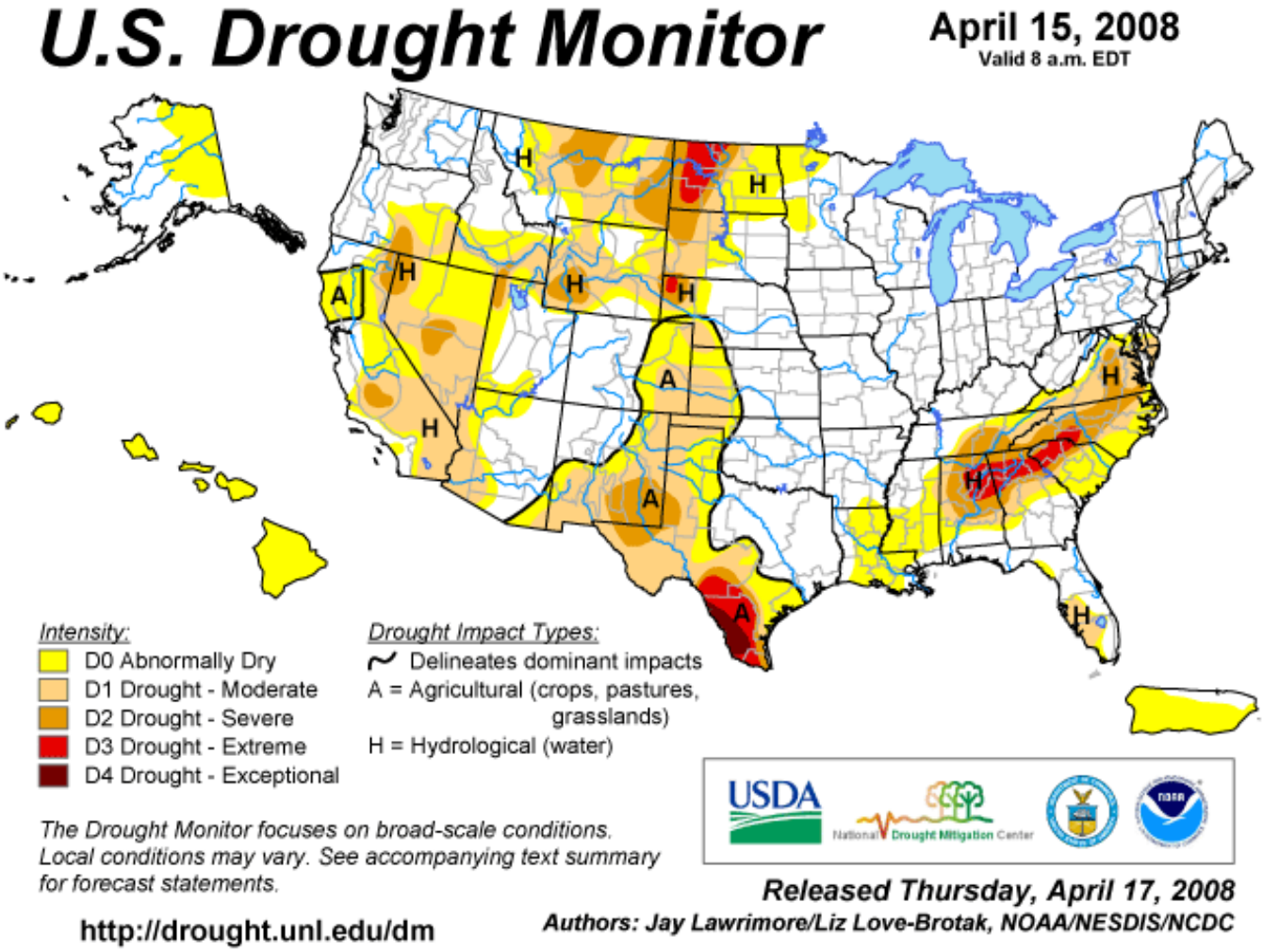
	DROUGHT REGION	OBSERVED	Jan 1, 2007 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	41.20	59.67	-18.47	69%
2	New River	36.23	52.78	-16.55	69%
3	Roanoke	39.57	59.96	-20.39	66%
4	Upper James	37.68	53.70	-16.02	70%
5	Middle James	39.63	57.65	-18.02	69%
6	Shenandoah	35.90	48.73	-12.83	74%
7	Northern Virginia	37.96	54.38	-16.42	70%
8	Northern Piedmont	36.72	57.66	-20.94	64%
9	Chowan	40.95	59.49	-18.54	69%
10	Northern Coastal Plain	39.24	57.33	-18.10	68%
11	York-James	43.77	62.84	-19.08	70%
12	Southeast Virginia	45.98	60.92	-14.94	75%
13	Eastern Shore	43.51	54.16	-10.66	80%
	Statewide	39.23	57.16	-17.93	69%

	DROUGHT REGION	OBSERVED	Dec 1, 2006 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	43.19	63.31	-20.11	68%
2	New River	38.02	55.49	-17.47	69%
3	Roanoke	41.75	63.21	-21.46	66%
4	Upper James	39.67	56.65	-16.98	70%
5	Middle James	41.22	60.82	-19.61	68%
6	Shenandoah	37.02	51.32	-14.30	72%
7	Northern Virginia	39.62	57.48	-17.86	69%
8	Northern Piedmont	38.48	60.94	-22.47	63%
9	Chowan	43.12	62.51	-19.39	69%
10	Northern Coastal Plain	40.94	60.61	-19.67	68%
11	York-James	45.59	66.23	-20.65	69%
12	Southeast Virginia	48.43	64.10	-15.67	76%
13	Eastern Shore	46.26	57.40	-11.15	81%
	Statewide	41.08	60.28	-19.20	68%

	DROUGHT REGION	OBSERVED	Nov 1, 2006 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	45.95	66.59	-20.64	69%
2	New River	41.97	58.52	-16.55	72%
3	Roanoke	47.14	66.57	-19.43	71%
4	Upper James	43.45	60.01	-16.56	72%
5	Middle James	46.95	64.33	-17.38	73%
6	Shenandoah	41.17	54.37	-13.20	76%
7	Northern Virginia	45.41	60.89	-15.48	75%
8	Northern Piedmont	44.78	64.74	-19.96	69%
9	Chowan	50.49	65.62	-15.13	77%
10	Northern Coastal Plain	46.24	63.75	-17.51	73%
11	York-James	51.25	69.60	-18.35	74%
12	Southeast Virginia	56.05	67.17	-11.12	83%
13	Eastern Shore	51.13	60.34	-9.21	85%
	Statewide	46.24	63.51	-17.27	73%

	DROUGHT REGION	OBSERVED	Oct 1, 2006 NORMAL	- Apr 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	50.92	69.47	-18.55	73%
2	New River	46.96	61.69	-14.73	76%
3	Roanoke	53.18	70.28	-17.10	76%
4	Upper James	50.38	63.26	-12.88	80%
5	Middle James	54.64	68.17	-13.53	80%
6	Shenandoah	46.41	57.56	-11.15	81%
7	Northern Virginia	50.20	64.37	-14.17	78%
8	Northern Piedmont	51.31	68.73	-17.42	75%
9	Chowan	58.19	69.20	-11.00	84%
10	Northern Coastal Plain	52.32	67.26	-14.94	78%
11	York-James	59.25	73.13	-13.88	81%
12	Southeast Virginia	61.11	70.83	-9.72	86%
13	Eastern Shore	58.07	63.55	-5.49	91%
	Statewide	52.48	67.01	-14.53	78%

APPENDIX B


U.S. Drought Monitor
April 15, 2008
Valid 8 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
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
http://drought.unl.edu/dm
USDA
National Drought Mitigation Center
Released Thursday, April 17, 2008
Authors: Jay Lawrimore/Liz Love-Brotak, NOAA/NESDIS/NCDC

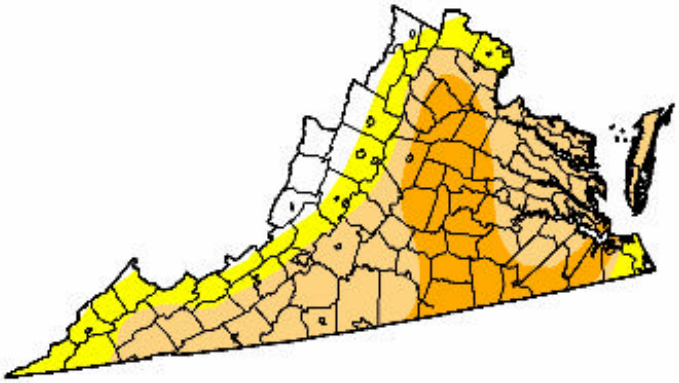
APPENDIX C

U.S. Drought Monitor
Virginia

April 15, 2008
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.7	91.3	70.2	24.1	0.0	0.0
Last Week (04/08/2008 map)	8.7	91.3	70.2	24.1	0.0	0.0
3 Months Ago (01/22/2008 map)	6.7	93.3	82.2	24.7	6.3	0.0
Start of Calendar Year (01/01/2008 map)	8.0	92.0	74.8	27.3	9.2	6.3
Start of Water Year (10/02/2007 map)	0.1	99.9	92.7	76.4	25.0	5.0
One Year Ago (04/17/2007 map)	88.6	11.4	0.0	0.0	0.0	0.0



Intensity:

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

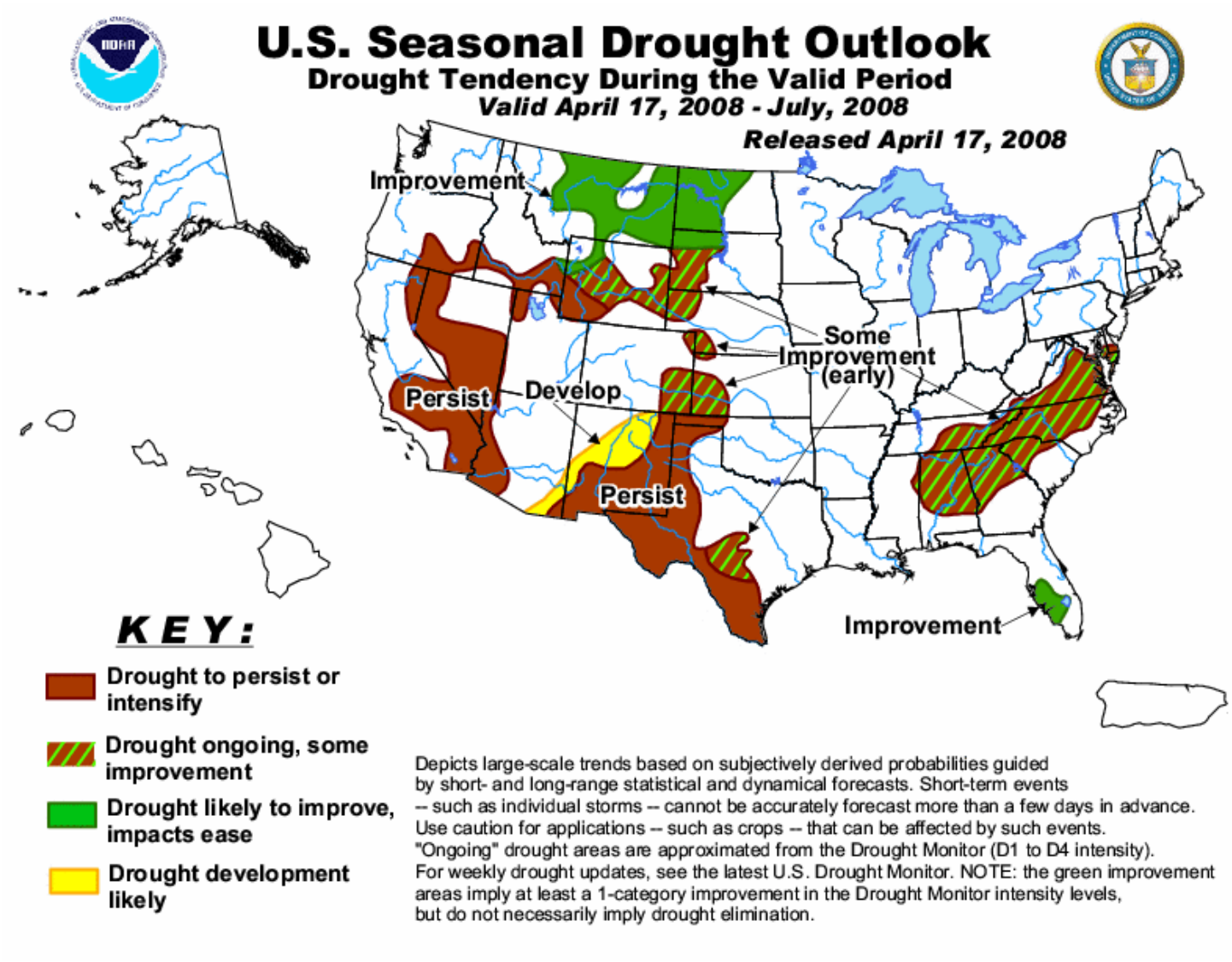
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm

Released Thursday, April 17, 2008

Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC

APPENDIX D


U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid April 17, 2008 - July, 2008
Released April 17, 2008
Improvement
Some Improvement (early)
Persist
Develop
Persist
Improvement
KEY:
Drought to persist or intensify
Drought ongoing, some improvement
Drought likely to improve, impacts ease
Drought development likely
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

APPENDIX E
Condition of Public Water Supplies
April 18, 2008

ODW Drought Situation Report

Date: **4/18/08**

	Restriction totals
Mandatory	4
Voluntary	31
Total	**35**

N-None
M-Mandatory
V-Voluntary

B-Better
S-Stable/Same
W-Worse

PWSID	Waterworks	Source Name	Restrictions	Situation	Popula Serv
1105400	Lee County PSA	KVS Quarry	N	**B** 04/14/08: Water level in quarry is rising; currently at 132 inches below catwalk . Level was 163 inches below catwalk on 03/18/08.	2,5(
1169725	Town of Nickelsville	Wells	V	**B** 04/16/08: Well production had dropped and voluntary conservation notice issued 8/31/07. Well production steady now. Well #1 pump was replaced and is now pumping at capacity. Well #3 drops to ~ 8 - 10 gpm (safe yield = 13 gpm). Well #6 starts out at ~15 gpm and then after about 3 - 4 hours will drop to ~5 - 8 gpm (safe yield=21 gpm). Well #4 & 5 no drop in output. Repairing leaks, but accountability is satisfactory. Have added two new wells: (1) Park well (the emergency well) is no longer being used. (2) New Tank well is now being used (safe yield = 28 gpm).	90(
1195050	Town of Appalachia	reservoir	**M**	**B** 04/14/08: down 4" from overflow. 98 MG left, 215 days ± 10 left. Not pumping from Powell River anymore.	3,2(
2003250	Albemarle County / Crozet	Beaver Creek Reservoir	V	**S -** Beaver Creek Reservoir is full. Drought Watch still in effect since 1/2/08	5,7(
2003600	Charlottesville/Albemarle County	Sugar Hollow and Ragged Mountain Reservoirs (Observatory WTP)	V	**B** - Sugar Hollow reservoir is full. Ragged Mountain reservoir is full. Drought Watch still in effect since 1/2/08	40,7
2003675	Albemarle County / Scottsville	Totier Creek Reservoir	V	**S -** Totier Creek reservoir is full. Drought Watch still in effect since 1/2/08	70(
2003725	Charlottesville/Albemarle County	South Fork Rivanna (South Rivanna WTP)	V	**S -** South Fork Rivanna reservoir is full. Drought Watch still in effect since 1/2/08	54,2
2023720	Town of Troutville	Five Drilled Wells	N	**S -** Town reported the pumping rate of their No. 3 well dropped from 123 gpm to 40 gpm. The pumping rates of the other four wells are the same.	50(

2023730	Dal-Nita Hills	Drilled Well	V	**S** - Well yield has dropped to 4 to 5 gpm. Owner is hauling water, as needed, to keep storage tank full. Letter provided to the customers advising them of the situation.	10(
2043125	Berryville, Town of	Shenandoah River	V	**S -** Voluntary conservation requested on 11 December 2007.	2,9(
2065250	Fluvanna Correctional Center for Women	Mechunk Creek and on-site Raw Water Reservoir	V	**S -** Reservoir is 3 feet below full (~35 MG stored). Moderate Drought Condition continues.	1,6!
2171750	Town of Strasburg	North Fork Shenandoah River	V	**S -** Voluntary conservation has been requested. Stream flow approx 487 cfs on 17 April 2008	4,5(
2560100	Town of Clifton Forge	Smith Creek	V	**S** - Voluntary conservation has been requested.	4,6'
2660345	City of Harrisonburg	North River, Dry River/Switzer Reservoir (Rawley Springs)	V	**S** - Voluntary conservation has been requested. This has not been implemented as a result of limited low source water quantity, but rather at the request of the Governor's letter requesting conservation.	44,5
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	N	**S** - Lifted restrictions on 12/27/07.	6,8(
3081550	GCWSA - Jarratt	Nottoway River	N	**S** - Waterworks production rate still reduced due to lower demand; river level lower than April 2007 but sufficient to allow plant operation at 2.0 mgd	7,1!
3093120	Isle of Wight County	Suffolk	V	**B** - follows Suffolk's lead on conservation.	1,2(
3095490	JCSA Central	wells	N	**S** - No restrictions at this time. 4/16 (lifted late fall)	44,7
3149700	Puddledock Road (Prince George County)	ARWA	N	**S** - Lifted restrictions on 12/28/07.	6,5(
3550050	Chesapeake - Western Branch system	City of Portsmouth	V	**S** -This portion of the city is consecutive to (receives water from) the city of Portsmouth. City Council voted to go to voluntary conservation city-wide - it took effect on 24 Oct 2007. Still following Portsmouth's lead on conservation.	36,4
3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	V	**S** - City Council voted to go to voluntary conservation city-wide - took effect on 24 Oct 2007. 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 chlorides have been average since the recent rains. City is still encouraging voluntary conservation measures.	101,1
3550052	Chesapeake - South Norfolk system	City of Norfolk	V	**S** - 4/17/08-This portion of the city is consecutive to (receives water from) the city of Norfolk. City Council voted to go to voluntary conservation city-wide - it took effect on 24 Oct 2007. Still following Norfolk's lead on conservation.	38,6
3570150	Colonial Heights	ARWA	N	**S** - Lifted restrictions on 12/1/07.	17,2
3595250	Emporia	Meherrin River	N	**S** - Water is going over the dam.	5,6(
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	**S** - Intake levels at mid-range and no current issues with increased salinity in raw water	25000 - P 42463 ' includ Consec System (I
3700500	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	**B -** reservoir levels are rising (4-16-08 at 99% full, up from 92). May not go higher. Likes to have some free board so that the water pumped into the reservoirs doesn't slosh over with the wind	406,(

3710100	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.	V	**S** - As of 04/14, reservoirs at 91.0% (down from 91.9% on 03/10). Historic reservoir capacity is 95.7%. Avg. pumping: Lake Gaston = 46.34 MGD; Blackwater River = 0 MGD; Nottoway River = 0 MGD; Deep wells = 0.44 MGD; Spillway elev.: Western Branch -2.1 ft; Lake Prince 0.2 ft; Burnt Mils -3.8 ft; Lake Wright 0.3 ft; Lake Smith 0.4 ft; Blackwater River 10.5 ft; Nottoway River 13.3 ft. Called for voluntary conservation 11/1/07.	261,2 Prima 755,617 includ consec system Beach + base
3730750	Petersburg	ARWA	N	**S** - Lifted restrictions on 1/8/08.	39,3
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	**S** - As of 04/11, reservoirs at 100% (same as on 03/14). Median reservoir capacity is 100%, average capacity is 99% (period of 1969-2006). Both emergency wells are OFF. Estimated 266 days of reservoir storage remaining at current pumpage and no rainfall, down from 269 days on 03/14. Called for voluntary conservation on 10/10/07.	100,4 Prima 120,400 includ consec systems base
3800805	Suffolk	Lone Star Lakes, Cumps Mill Pond	V	**B** - Will follow Portsmouth's lead and the region as far as conservation. As of 4/17/08-Reservoir levels look good. Southern Lakes at 55% capacity, for the Northern Lakes at 100% and Crumps Mill Pond at 81% The Southern Lakes are for emergency use only. Still purchasing water from Portsmouth per their contract, no drought measure taken to date.	62,5
3810900	Virginia Beach	Norfolk	V	**S** - obtains water from Norfolk. Called for voluntary conservation on 9/19/07.	423,7
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	N	Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Water level is normal.	200,0
4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	N	Purchases water from the City of Richmond and the Appomattox River Water Authority.	263,0
4057800	TAPPAHANNOCK, TOWN OF	Groundwater wells	N		2,10
4073311	GLOUCESTER CO WATER TREATMENT PLT	Surface water, Beaverdam reservoir; 2 deep groundwater wells	N	Reservoir at 100%.	8,87
4075283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	N	purchases water from Henrico County	2,50
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	N		9,30
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	N		71,0
4085770	SPRING MEADOWS-MEADOW GATE	Groundwater wells	N		2,30
4087125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	N	Similar to City of Richmond	289,0
4101900	WEST POINT, TOWN OF	Groundwater wells	N		3,00
4127110	DELMARVA PROPERTIES	Groundwater wells	V	New Kent Co. encourages conservation. Still in place.	7,70
4145675	POWHATAN COURTHOUSE	Groundwater wells	N		2,60
4193280	COLONIAL BEACH, TOWN OF	Groundwater wells	N		3,30

4760100	RICHMOND, CITY OF	Surface water; James River	N	Drop in water levels in the James River but still fairly normal; under James River Regional Flow Management Plan; counties of Henrico, Chesterfield, Goochland, and Hanover counties purchases water from the City.	197,(
5515050	City of Bedford	Stoney Creek Reservoir and Wells 1 to 5	N	**S - overflowing**	6,94
5143210	Town of Gretna	Georges Creek Res	N	**B - Town is moving forward on new supplemental source development**	2,5(
5029085	Buckingham County	Troublesome Creek Reservoir	N	**B**	5,75
5037300	Town of Keysville	Keysville Reservoir	N	**B**	80(
5083550	Town of Halifax	Bannister River Reservoir	N	**B**	1,38
5780600	Town of South Boston	Dan River	N	**B**	9,72
5141640	Town of Stuart	South Mayo River	N	**B**	1,5(
5147170	Town of Farmville	Appomattox River	N	**B**	7,01
5011050	Town of Appomattox	Wells	V	S - The Town has noted a significant water level drop in many of their wells. The town is actively looking for additional water sources.	1,7(
5031150	Campbell County Central System	Big Otter River	N	**B - no impact for the drought, can be removed from the list.**	20,0
5025450	Town of Lawrenceville	Great Creek (with upstream reservoir)	N	**B - no impact from the drought, can be removed from the list.**	4,8(
5135160	Town of Crewe	Crystal Lake	N	**B - overflowing**	3,5(
5111450	Town of Kenbridge	Flat Rock Creek and Offstream Reservoir	N	**S - good levels, plenty of rain**	1,4(
5067785	Ridgscrest	Wells	N	**B**	52
5067265	Hales Point	Wells	V	**B**	46
5067937	Stripers Landing	Wells	N	**B**	12
5680200	City of Lynchburg	Pedlar Reservoir	N	**Overflowing spillway**	76,0
6047070	Emerald Hill Elementary School	Groundwater	N	**S - Well EHS-3 is onstream at a reliable production rate of 12 gpm. Well 1 has been reworked for improved production. Water hauling is no longer needed.**	97
6047500	Town of Culpeper	Lake Pelham	N	**S - On Tuesday, April 15, 2008, the main reservoir, Lake Pelham, was reported to be at the overflow**	14,2
6059501	Fairfax County Water Authority	Potomac River and Occoquan Reservoir	V	**B** - 3/17/08 Fairfax Water has reduced withdrawals to about 75 MGD from Potomac River, limited by half of Corbalis WTP out of service (scheduled outages for construction of tie-ins), with the balance taken from Occoquan Reservoir. Potomac River flows have increased due to recent rains. Occoquan Reservoir is 100% full. Metro Washington area-wide voluntary conservation went into effect 10/3/07.	823,2
6061200	Marshall	Groundwater	**M**	**S** - Four loads of water were hauled in March. Water ditribution system repairs and line replacements are being done.	2,13

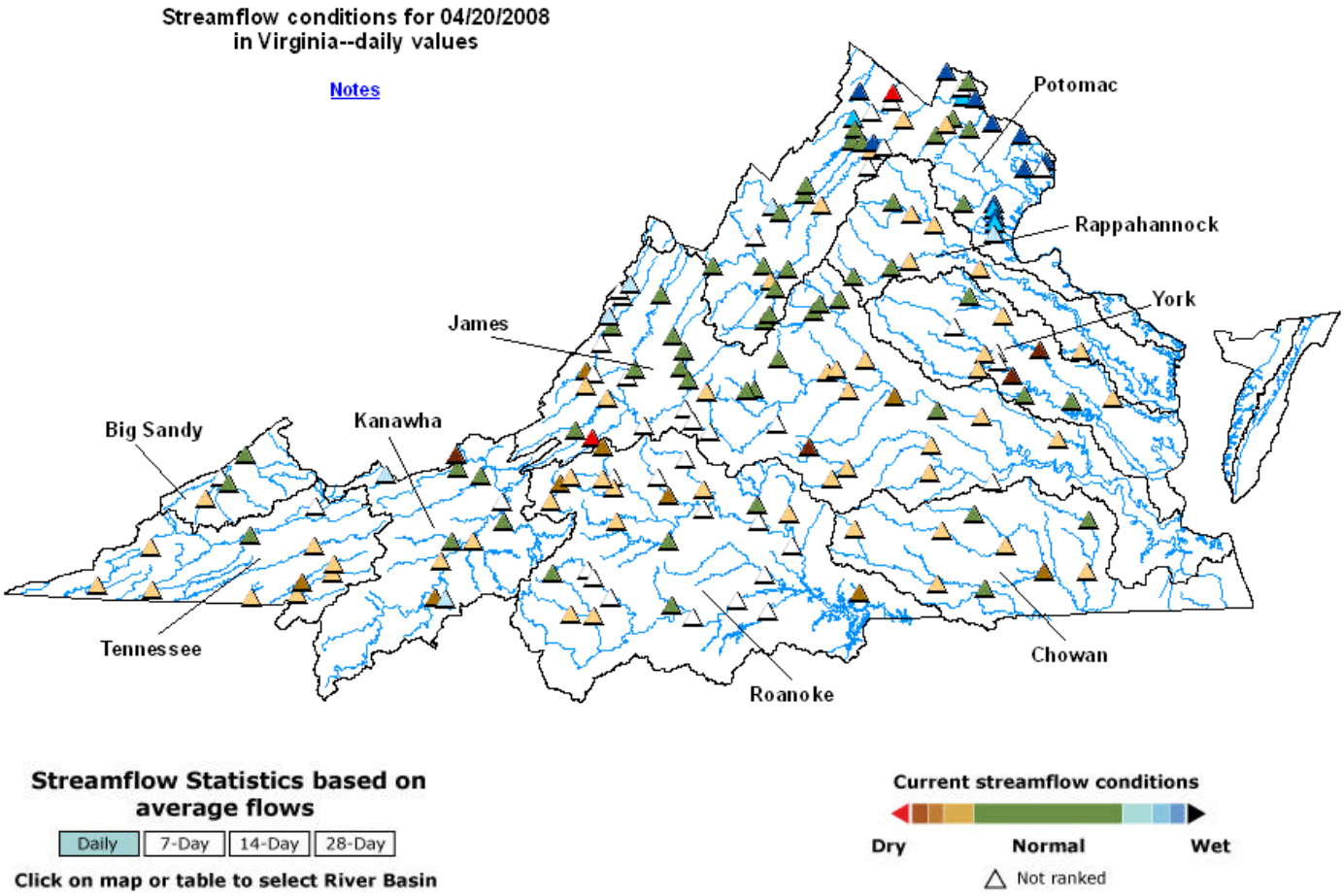
6061600	Town of Warrenton	Reservoir on Cedar Run and groundwater	N	**S - On Tuesday, 4/15, Warrenton Reservoir surface elevation is at 445.4 feet which is the full level. Airlie Reservoir is down about 2 feet below full.**	11,1
6107150	Town of Hamilton	Groundwater	**M**	**S - 4/17/08 Water levels in wells improving. Several problems with well controls. Town Council voted to maintain Mandatory water use restrictions until new Well 14 is placed in service.**	2,0(
6107200	Town of Hillsboro	Spring/Well	N	**B - 4/17/08 Increased flow from spring has been adequate to meet current demand. A leak survey revealed 10 potential leaks in the distribution system.**	58
6107221	LCSA Lenah Farms	Groundwater	V	**S**	81(
6107350	Loudoun County Sanitation Authority	Purchase treated surface water from FCWA (Potomac River) and City of Fairfax (Goose Creek Reservoir)	V	**S** - 4/17/08 Voluntary conservation in place beginning 3/11/08.	167,9
6107400	Town of Lovettsville	Groundwater	V	**S** - 4/17/08 Voluntary water use restrictions remain in place; however there is no problem with water supply.	1,28
6107450	Town of Middleburg	Groundwater	V	B - 4/17/08 - Voluntary water use restrictions replace mandatory water use restrictions on 4/10/08.	59(
6107600	Town of Purcellville	Hirst Reservoir and groundwater	V	B -- 4/17/08 Reservoir is full. Mandatory water conservation replaced with voluntary water conservation, 4/2/08.	6,3(
6107650	Town of Round Hill	Groundwater	V	B - 4/17/08 - Voluntary water use restrictions replace mandatory water use restrictions on 4/1/08.	3,15
6113200	Town of Madison	White Oak Run	N	**S** -- Stream flow remains adequate to meet normal demands.	778
6137300	Rapidan Service Authority - Rt. 15	Purchase treated surface water from Town of Orange (Rapidan River)	N	**S - 4/15/08 - Town of Orange raw water availability is well above minimum.**	27:
6137400	Town of Gordonsville	Purchase treated surface water from RSA and Town of Orange	N	**S**--No water use restrictions are in place.	1,8(
6137500	Town of Orange	Rapidan River	V	**S** - 4/15/08 **- Fourteen day running average of Rapidan River flow is 536 cfs (withdrawal restrictions are imposed below 44 cfs) Offstream raw water reservoir is full.**	4,5(
6137999	Rapidan Service Authority - Wilderness and Lake of the Woods	Rapidan River	N	Rapidan River flow has been steady at an adequate level.	11,3
6153260	Woodbridge Mobile Home Park	Groundwater	**M**	**S** -- 4/17/08 Waterworks continues to have episodes of low pressure due to inadequate sources and leaks in the distribution system. **This problem is indirectly related to drought as source problems existed previously.**	32(

6600100	City of Fairfax	Goose Creek Reservoir	N	**B** -- 4/17/08 Adequate flows coming down Goose Creek. Pumping into Beaver Dam Reservoir at approx 4.5 MGD, which has risen about ten feet due to pumping plus recent rains. Reservoir is still about 13 feet below full, or approximately 65% full. **Lifted voluntary water use restrictions on 4/7/08.**	45,0
6685100	City of Manassas	Lake Manassas	N	**B** -- 4/17/08 **Lake Manassas is full.**	37,0
6179100 and 6179775	Stafford County	Smith Lake and Abel Lake	V	**B** -- Both lakes are full. Mandatory restrictions went into effect 9/17/07, were increased 10/8/07, and were reduced 2/19/08. **Mandatory restrictions lifted 3/18/08**.	53,0

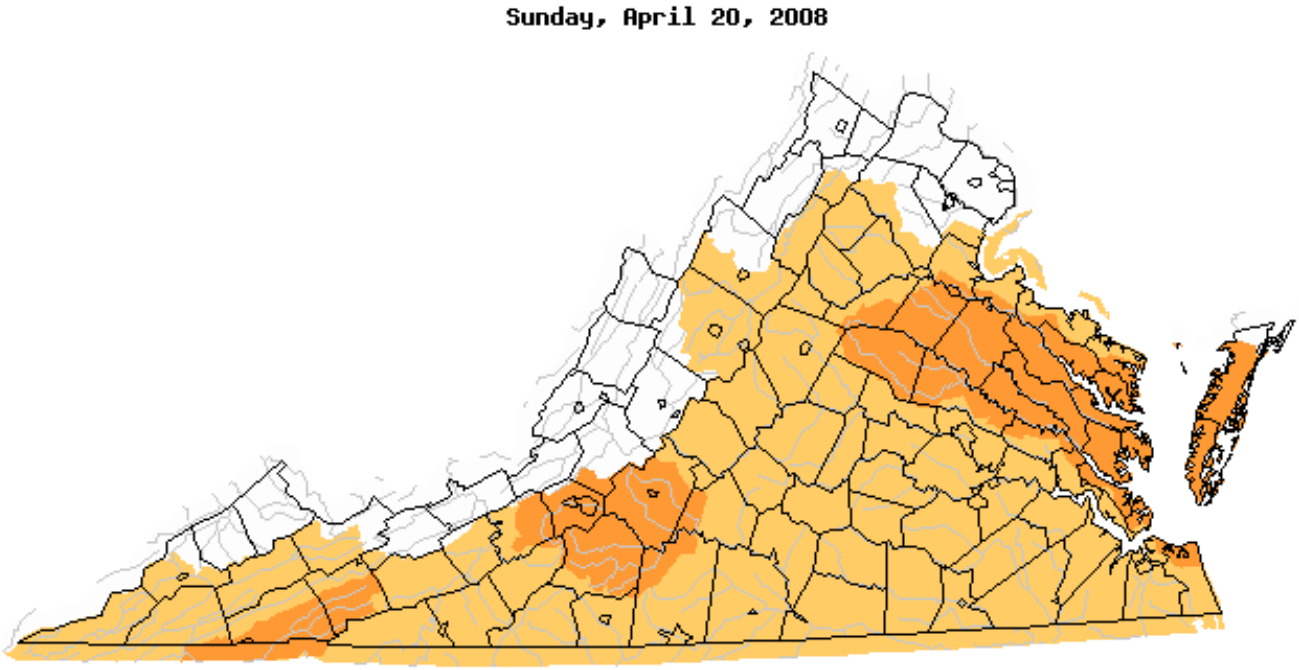
Notes of interest:
(1) Metropolitan Washington Council of Governments lifted the drought Watch, returning to Normal status, lifting a region-wide voluntary conservation advisory, or 4/1/08, covering DC, Maryland, and Northern Virginia.

(2) Interstate Commission on the Potomac River Basin (ICPRB) gathers meterological, drought, and water supply data from all of the major water suppliers in the Washington area and determines the need for upstream reservoir releases, if any, to augment the flow in the Potomac River for water supply withdrawal. ICPRB predicted that likelihood of releases from upstream reservoirs is slightly below normal.

APPENDIX F


Streamflow conditions for 04/20/2008
in Virginia--daily values
Notes
Potomac
Rappahannock
York
James
Big Sandy
Kanawha
Tennessee
Chowan
Roanoke
Streamflow Statistics based on average flows
Daily
7-Day
14-Day
28-Day
Click on map or table to select River Basin
Current streamflow conditions
Dry
Normal
Wet
Not ranked

APPENDIX G
Drought Watch -- USGS State Information on Drought
Map of below normal 7-day average streamflow

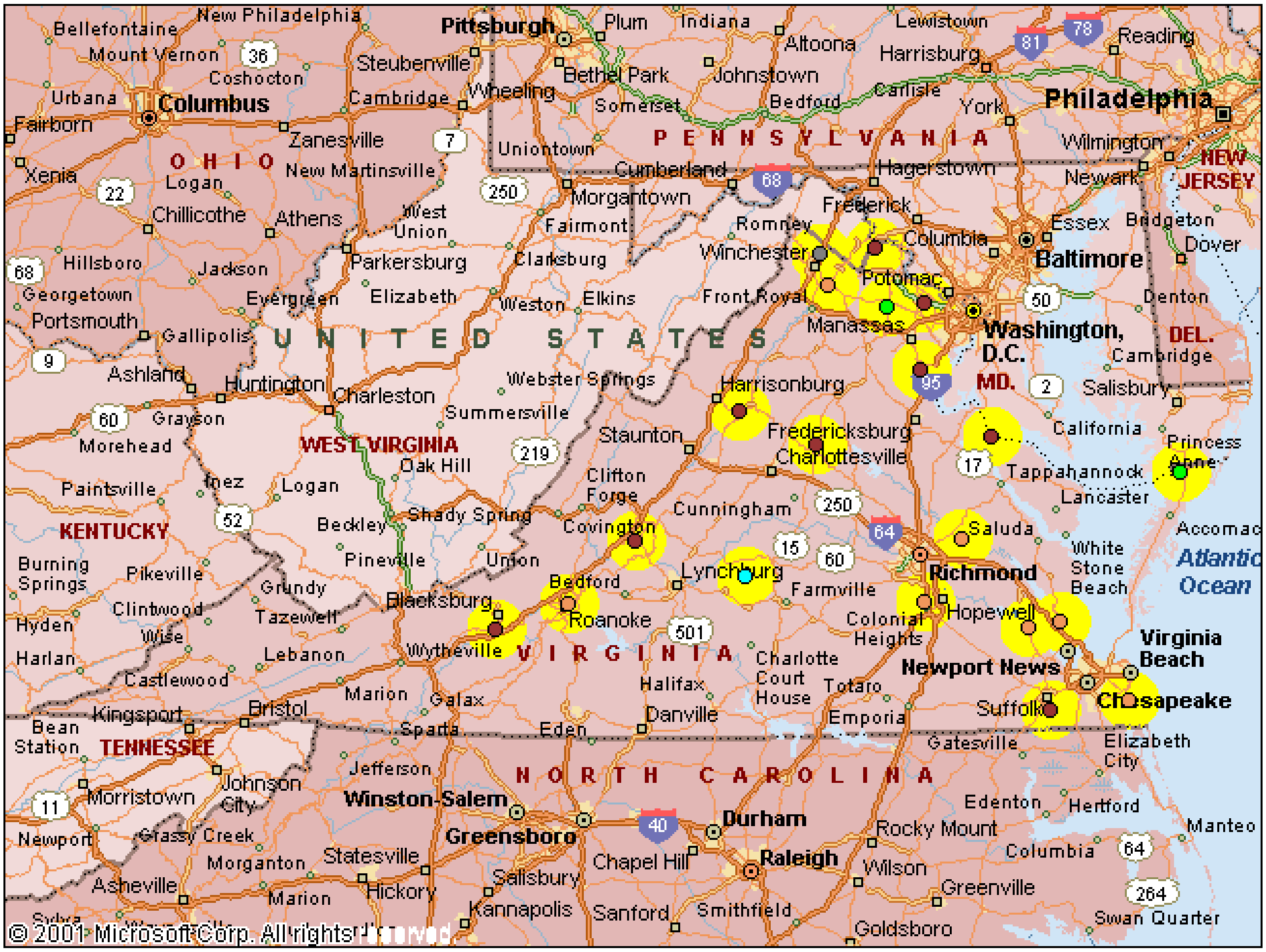


USGS

Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

APPENDIX H
Virginia Climate Response Network

April 20, 2008



Explanation - Percentile classes							
● (red)	● (dark red)	● (orange)	● (green)	● (turquoise)	● (blue)	● (black)	● (gray)
New Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	New High	Not Ranked