

DROUGHT MONITORING TASK FORCE

Drought Status Report

September 23, 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 through September 18, 2008 was below normal (82% of normal). Statewide precipitation for the period from January 1, 2008 through September 18, 2008 was in the normal range of precipitation (87% of normal). Precipitation greater than 85% of normal is considered to be in the normal range. While statewide precipitation was normal (98%) for the period from September 1 through September 18, precipitation was below normal in the Big Sandy, New River, Upper James, Shenandoah, York-James, and Eastern Shore drought evaluation areas. Welcomed precipitation was received during the last month due to the passing of tropical systems Fay and Hanna, unfortunately the most drought stricken areas of western Virginia received very minor rainfall from these systems. The following drought evaluation regions are currently below normal for the period beginning October 1, 2006; Big Sandy (74%), New River (80%), Roanoke (80%), Upper James (82%), Northern Piedmont (84%), Northern Coastal Plain (81%) and York-James (76%). Cumulative precipitation deficits for the period beginning October 1, 2006 generally decreased one to five percentage points since the last report due to the passage of two tropical systems. The Middle James, Shenandoah, Northern Virginia, Chowan, Southeast Virginia and Eastern Shore drought evaluation areas currently are in the normal range of precipitation for this extended period. Appendix A contains precipitation tables for periods dating to October 1, 2006 provided by the Climatology Office of the University of Virginia. The long-range monthly climatologic outlook calls for equal chances of below normal, normal and above normal temperatures and precipitation for the Commonwealth through October of 2008. The long-range seasonal outlook calls for equal chances of below normal, normal and above normal temperatures and precipitation for the Commonwealth through December 2008.

The latest NOAA drought monitor indicates significant improvement in drought conditions in the Commonwealth since the last report. About one half of the Commonwealth is currently experiencing drought conditions that range from abnormally dry to severe drought. The western half of the Commonwealth as well as a narrow strip along the North Carolina border is currently experiencing these drought conditions. The drought monitor is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. The NOAA seasonal drought outlook through December 2008 indicates that drought conditions are likely to persist in the areas of western Virginia currently experiencing drought. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows for September 21 are generally below normal in the western half of the Commonwealth with conditions indicative of severe hydrologic drought (< 5th percentile) in the upper Roanoke River basin. While drought monitoring ground water levels data is scarce, ground water levels are generally well below normal levels in areas west of Interstate 95 and in the southern Coastal Plain. Ground water levels are in the range of normal levels on the Eastern Shore, the northern Coastal Plain, the northern Shenandoah Valley, and northern Virginia. Twelve dedicated drought monitoring wells are at levels indicative of normal ground water levels, three are at levels indicative of moderate hydrologic drought (10th to 24th percentiles), two are at levels indicative of severe hydrologic drought conditions (< 10th percentile), and three wells (two in the central area of the Coastal Plain and one in western Virginia) are at record low levels. Levels of large reservoirs in the eastern half of the Commonwealth have rebounded significantly during the last month but large reservoirs in the western portion of the Commonwealth continue to decline. Smith Mountain Lake is three feet below full pond despite active management of releases to slow the decline in reservoir levels and Lake Moomaw has less than 30% of the conservation pool storage remaining.

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', 46 systems have initiated voluntary water conservation requirements and 5 systems have initiated mandatory water conservation requirements. Water conservation requirements at public water supplies have decreased slightly since the last report when 46 systems were on voluntary restrictions and 9 systems required mandatory conservation. Appendix E contains a table of waterworks that includes systems that have initiated water conservation requirements.

The Virginia Department of Forestry reports very light fire activity over the last month due to precipitation related to the two tropical systems.

The Department of Game and Inland Fisheries reports limited access at boat ramps on several rivers across the Commonwealth. Some facilities on the Nottoway, James, South Anna, Pamunkey and Staunton rivers are above the water level. Boaters are advised to check the Department's web site at www.huntfishva.com prior to going out and for specific information on individual boat access points. Fortunately the primary recreational boating period ended with the Labor Day weekend. Spring flows that support operations at trout hatcheries remain fairly stable, however significant

rainfall is needed prior to any fall stocking of trout. Under normal conditions stocking would begin on October 1st. Currently very few streams have adequate flow to support stocking. Brook trout spawn during the fall months and require stable flows in headwater streams. Continued drought conditions will result in decreased natural reproduction in some streams. Almost all other species of fish and aquatic insects reproduce during the spring/summer periods limiting the impact of fall drought cycles. Fall hunting seasons are under way and hunters have been reminded to pay particular attention to fire safety in consideration of the dry conditions. The decreased moisture has caused lower water levels exposing mud flats where some insects, such as midges, breed. Midges carry hemorrhagic disease which can cause mortality to deer; the disease is not transmittable to humans. If a significant rainfall event does not occur within the next 14 days it is anticipated that downstream flow variances will be requested for Smith Mountain Lake and Lake Moomaw. Fortunately water temperatures have been falling and the impact of reduced downstream flows will be mitigated by these lower temperatures. Cold water is capable of holding more oxygen and is less stressful to the aquatic community.

The overall intensity of drought impacts and the area of the Commonwealth impacted by drought have decreased significantly during the last month due to the influence of two tropical weather systems. Due to the time of the year it is not likely, though possible, that significant water supply drought impacts will occur before environmental and human demands seasonally decrease. Significant drought impacts are beginning to become measurable in the agriculture sector with 19 localities requesting drought disaster designations. The longer range concern is that lower than normal precipitation during the fall and winter of 2008-2009 will deepen the existing accumulated precipitation deficits and set the stage for significant drought impacts across all socio-economic sectors in the spring of 2009. The long range precipitation outlooks give no indication of improved precipitation probabilities through the end of the calendar year. While there is no immediate tropical activity on the horizon, the National Hurricane Center continues to predict a high probability of above normal tropical activity through the remainder of the hurricane season that has the potential to positively impact the existing precipitation deficits.

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

Remnant moisture from tropical storm Fay brought a significant amount of rainfall to most of the Commonwealth in time to alleviate severe drying conditions and prevent this August from setting records at many observing stations as the all-time driest. Rainfall amounts varied considerably both across Virginia and across regions, with the highest totals west of the Blue Ridge and throughout much of the piedmont, and enhanced rainfall in many higher-elevation locations. Nonetheless, the totals were generally much lower in Tidewater and Northern Virginia. Decaying tropical storm Hanna left an additional contribution, primarily to piedmont and northern/northeastern Virginia.

With the exception of these two tropical systems, there has been little moisture over the last month. A persistent high-pressure system, centered over New England has suppressed thunderstorm development and has also brought cooler air from the northeast. In general, the current upper-air situation seems conducive to the continuation of this pattern, even if it is temporarily interrupted by a frontal passage. Although the hurricane season is far from over, the period of peak activity has essentially passed, and currently there is virtually no tropical activity.

On the plus side, much of the summer drying period is now over. In mid-September, the sun angle and day length are decreasing rapidly, leading to significant reductions in evaporation. As temperatures drop and the growing season draws to a close, water uptake by plants is also falling.

Model guidance suggests that additional rainfall over the next two weeks will be biased heavily toward eastern Virginia with little possibility for the southwest. The longer-range outlooks from NOAA give no clear indication of precipitation expectations through the end of the year.

Report of the National Weather Service

The rains from tropical systems Fay and Hanna and the passage of a frontal zone a couple weeks ago significantly improved the short-term water conditions across the eastern two thirds of the Commonwealth. However, the long term improvement in accumulated precipitation deficits and associated drought impacts was minimal. Fortunately, the maximum evaporation period has passed, and any increase in drought impacts should be much slower to occur through next spring.

From a short-term forecast perspective there is the potential for a wet period from late Wednesday into the upcoming weekend. There is still a lot of uncertainty regarding the details of this potential event which will begin as a coastal storm. While rain appears likely throughout the Commonwealth during this event there is the potential for some heavy rain, especially in the eastern portions of the Commonwealth.

The 6-10 day outlook calls for below normal temperatures and precipitation while the 8-14 day outlook calls for below normal temperatures with below normal precipitation in the western half of the state and normal precipitation in the eastern half of the state. While these predicted conditions will not result in any improvements in current drought impacts it is unlikely that drought impacts will intensify significantly in this short period.

Virginia Department of Agriculture and Consumer Services Status of Agricultural Drought

According to the USDA Crop Weather Report released on September 15, 2008, only 24% of topsoil moisture ranged from short to very short. Recent rainfall in most areas of the state from tropical systems Fay and Hanna has improved pasture and hay conditions around the state. The rainfall coupled with the cool nights has helped sustain many crops and pastures. However, staff reports that some areas of the state did not see significant rain from the recent storms, mainly the Emporia and Surry areas, and will likely have very poor crops this year.

While the recent rainfall has significantly improved crops and pastures, the lack of rain this summer has already impacted the agricultural community. As of September 22, 2008, nineteen localities have requested the Governor's assistance in obtaining federal disaster designation due to drought conditions. Those localities include: Amelia, Amherst, Bedford, Buckingham, Campbell, Caroline, Dinwiddie, Fluvanna, Goochland, Greene, Halifax, Lunenburg, Louisa, Nelson, Nottoway, Pittsylvania, Prince Edward, Scott, and Surry. The Cooperative Extension Service reports that as of September 18 Agricultural Extension agents in at least 30 counties have initiated efforts to have jurisdiction designated a disaster area due to drought conditions. The localities are in various stages of the process and include the nineteen localities that have already made formal requests.

Impact on Crops

Corn: VDACS staff reports that corn producers in Virginia have begun harvesting corn. Yields vary across the state. In some areas, fields will not be harvested because of the drought. While in other parts of the state, producers are finding average yields. Overall, the average yield could be slightly higher than last year. The recent rains will have little effect on the corn silage crop or corn yield raised for grain.

Soybeans: Tropical Storm Hanna brought much needed moisture relief to soybeans in Virginia. If producers continue to experience some rainfall through the first part of October, the crop will be in much better shape than prior to Tropical Storm Hanna. Basically, the beans in the pods need to continue to receive moisture to fill out normally.

Tobacco: Rainfall has been beneficial to tobacco and has improved both potential yields and quality. However, the summer's drought conditions and subsequent rainfall is resulting in a late maturing crop. The big concern now is the risk of frost affecting a significant amount of tobacco prior to harvest.

Water Levels

Growers are hoping for more rainfall heading into winter to help improve the water table.

Impact on Nursery/Horticulture

Recent rains appear to have alleviated dry conditions throughout the state for the nursery industry. At this time, the drought conditions do not appear to be a major concern.

Impact on Livestock

Pastures and grass have improved significantly which has allowed beef cattle producers to graze their livestock instead of feeding hay.

Impact on Dairy Industry

In general dairy farmers are harvesting less corn silage per acre and it is poorer quality than normal. Some areas report significantly reduced corn yields forcing dairymen to harvest all their corn for silage leaving none for grain. Many dairymen are looking to supplement their silage production by purchasing corn from other area farmers. This also means they will need to purchase corn grain to supplement their rations. Many dairymen are also short hay and will need to purchase some hay to get through the year.

Virginia Department of Environmental Quality Condition of Major Reservoirs

Water surface elevations of major reservoirs in eastern Virginia have largely recovered due to precipitation from tropical systems Fay and Hanna.

Smith Mountain Lake remains 3.0 feet below full pond even though tropical systems resulted in a one foot increase in elevation and the fact that releases are being actively managed by stakeholders through a FERC approved variance to stem the declines in lake elevations.

Philpott Lake has fallen 9 feet below the guide curve. The lake has a small drainage area and is used to make hydroelectric energy. Energy production is being transferred from Philpott to Kerr in order to recover the reservoir level.

The two tropical systems raised elevations at Kerr Reservoir five feet and back to near the guide curve. The Lake is currently at 298.8.

Lake Anna has returned to full pond as a result of rains from Hanna.

One reservoir of major concern is Lake Moomaw on the Jackson River. It now has only 30% of its conservation storage remaining, having lost 21% in the past month. The project is releasing 196 cfs more than is flowing into the reservoir. The reservoir is seriously low for this time of year and may require action by the DEQ and the Corps of Engineers to reduce releases should the drought continue. Due to downstream water quality concerns it is preferable to maintain existing releases until the onset of cooler temperatures. In 2007 releases were reduced to 100cfs on November 1st when 20% of the conservation pool remained. It is likely that 20% of storage will remain in the conservation on October 1, 2008 (a full month earlier than 2007) and discussions with stakeholders will likely be required to determine when it will be possible to reduce releases while having a minimum impact on downstream water quality.

United States Geological Survey Streamflow and Ground Water Levels

Streamgages throughout most of the Potomac, Rappahannock, York, lower James, Chowan, Big Sandy, and western Tennessee River Basins are recording streamflows in the normal range of flow based on September flow statistics. Streamgages in the upper Shenandoah, upper James, Roanoke, New, and eastern Tennessee River Basins are recording streamflows in the below normal to well below normal ranges of flow for September. The worst hydrologic drought conditions for the State are centered in the upper Roanoke Basin and extend along the Blue Ridge Physiographic Province from Harrisonburg, Va., to Bristol, Va. This area received minimal precipitation from the last two tropical storms to pass through Virginia.

Ground-water levels show similar drought conditions across the State with exceptions along the Atlantic Coast where the Suffolk well is recording water levels below normal while all other wells in southeast Virginia are recording well in the normal range. Both the surface-water and ground-water data mimic the U.S. Drought Monitor map.

Streamflow conditions based on daily values for September 21 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. Ground water levels based on conditions on September 21 are presented in Appendix H.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

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DROUGHT REGION	OBSERVED	Sep 1, 2008 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1 Big Sandy	1.18	2.08	-0.90	57%
2 New River	0.74	2.05	-1.31	36%
3 Roanoke	2.83	2.54	0.29	112%
4 Upper James	0.88	2.10	-1.22	42%
5 Middle James	3.25	2.48	0.77	131%
6 Shenandoah	1.23	2.20	-0.97	56%
7 Northern Virginia	4.17	2.44	1.73	171%
8 Northern Piedmont	2.97	2.57	0.40	116%
9 Chowan	3.55	2.66	0.89	133%
10 Northern Coastal Plain	2.47	2.45	0.01	100%
11 York-James	1.80	2.94	-1.14	61%
12 Southeast Virginia	3.05	2.66	0.39	115%
13 Eastern Shore	1.66	2.17	-0.51	77%
Statewide	2.35	2.40	-0.05	98%

DROUGHT REGION	OBSERVED	Aug 1, 2008 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1 Big Sandy	4.73	5.91	-1.18	80%
2 New River	4.85	5.36	-0.51	90%
3 Roanoke	7.58	6.26	1.32	121%
4 Upper James	4.63	5.43	-0.80	85%
5 Middle James	7.96	6.30	1.66	126%
6 Shenandoah	4.41	5.53	-1.13	80%
7 Northern Virginia	6.14	6.29	-0.16	98%
8 Northern Piedmont	6.83	6.39	0.44	107%
9 Chowan	6.76	6.97	-0.21	97%
10 Northern Coastal Plain	4.90	6.31	-1.42	78%
11 York-James	4.05	7.81	-3.76	52%
12 Southeast Virginia	5.08	7.78	-2.70	65%
13 Eastern Shore	3.42	6.04	-2.62	57%
Statewide	6.01	6.23	-0.22	96%

DROUGHT REGION		OBSERVED	Jul 1, 2008 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	8.40	10.39	-1.99	81%
2	New River	8.96	9.15	-0.19	98%
3	Roanoke	10.77	10.65	0.12	101%
4	Upper James	9.01	9.47	-0.46	95%
5	Middle James	11.49	10.71	0.78	107%
6	Shenandoah	8.76	9.29	-0.53	94%
7	Northern Virginia	9.46	10.06	-0.60	94%
8	Northern Piedmont	9.86	10.79	-0.93	91%
9	Chowan	9.88	11.48	-1.60	86%
10	Northern Coastal Plain	6.59	10.76	-4.18	61%
11	York-James	5.61	12.91	-7.30	43%
12	Southeast Virginia	9.70	12.85	-3.14	76%
13	Eastern Shore	7.21	10.04	-2.83	72%
	Statewide	9.47	10.57	-1.10	90%

DROUGHT REGION		OBSERVED	Jun 1, 2008 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	11.32	14.53	-3.20	78%
2	New River	11.79	13.00	-1.21	91%
3	Roanoke	13.31	14.54	-1.22	92%
4	Upper James	11.55	13.18	-1.63	88%
5	Middle James	13.41	14.22	-0.81	94%
6	Shenandoah	12.53	13.00	-0.48	96%
7	Northern Virginia	14.20	13.92	0.28	102%
8	Northern Piedmont	14.89	14.80	0.09	101%
9	Chowan	11.30	15.13	-3.83	75%
10	Northern Coastal Plain	10.06	14.32	-4.26	70%
11	York-James	7.48	16.32	-8.84	46%
12	Southeast Virginia	11.81	16.46	-4.65	72%
13	Eastern Shore	11.67	13.02	-1.34	90%
	Statewide	12.33	14.36	-2.03	86%

DROUGHT REGION		OBSERVED	May 1, 2008 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	13.77	19.35	-5.57	71%
2	New River	14.37	17.21	-2.84	83%
3	Roanoke	16.58	18.87	-2.28	88%
4	Upper James	14.23	17.46	-3.23	82%
5	Middle James	17.52	18.46	-0.94	95%
6	Shenandoah	16.77	16.84	-0.07	100%
7	Northern Virginia	22.46	18.26	4.20	123%
8	Northern Piedmont	20.50	19.02	1.48	108%
9	Chowan	14.88	19.22	-4.34	77%
10	Northern Coastal Plain	16.13	18.48	-2.36	87%
11	York-James	9.91	20.59	-10.68	48%
12	Southeast Virginia	15.82	20.32	-4.50	78%
13	Eastern Shore	15.82	16.54	-0.72	96%
	Statewide	16.29	18.62	-2.33	88%

DROUGHT		Apr 1, 2008 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	18.00	23.11	-5.11	78%
2	New River	19.07	20.76	-1.69	92%
3	Roanoke	21.82	22.67	-0.85	96%
4	Upper James	18.96	20.86	-1.90	91%
5	Middle James	23.43	21.80	1.63	107%
6	Shenandoah	21.86	19.76	2.10	111%
7	Northern Virginia	28.50	21.56	6.94	132%
8	Northern Piedmont	26.07	22.31	3.77	117%
9	Chowan	21.31	22.65	-1.33	94%
10	Northern Coastal Plain	20.39	21.57	-1.18	95%
11	York-James	16.65	23.89	-7.24	70%
12	Southeast Virginia	22.29	23.57	-1.28	95%
13	Eastern Shore	20.17	19.46	0.71	104%
	Statewide	21.60	22.04	-0.44	98%

DROUGHT		Mar 1, 2008 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	21.80	27.36	-5.56	80%
2	New River	21.61	24.43	-2.81	88%
3	Roanoke	24.85	26.94	-2.08	92%
4	Upper James	21.44	24.65	-3.21	87%
5	Middle James	26.53	25.86	0.67	103%
6	Shenandoah	24.38	22.96	1.41	106%
7	Northern Virginia	31.23	25.22	6.01	124%
8	Northern Piedmont	28.70	26.12	2.58	110%
9	Chowan	25.04	27.02	-1.98	93%
10	Northern Coastal Plain	23.70	25.85	-2.15	92%
11	York-James	21.33	28.58	-7.25	75%
12	Southeast Virginia	25.41	27.77	-2.35	92%
13	Eastern Shore	22.30	23.77	-1.47	94%
	Statewide	24.67	26.08	-1.41	95%

DROUGHT		Feb 1, 2008 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	24.28	30.94	-6.66	78%
2	New River	23.36	27.36	-3.99	85%
3	Roanoke	27.06	30.25	-3.19	89%
4	Upper James	23.33	27.50	-4.17	85%
5	Middle James	29.14	28.98	0.16	101%
6	Shenandoah	26.32	25.37	0.95	104%
7	Northern Virginia	33.89	27.89	6.00	122%
8	Northern Piedmont	31.10	29.09	2.01	107%
9	Chowan	27.81	30.19	-2.38	92%
10	Northern Coastal Plain	26.21	28.99	-2.78	90%
11	York-James	25.02	32.11	-7.09	78%
12	Southeast Virginia	29.04	31.27	-2.23	93%
13	Eastern Shore	25.48	26.96	-1.47	95%
	Statewide	27.09	29.21	-2.12	93%

DROUGHT			Jan 1, 2008	- Sep 18, 2008	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	26.54	34.67	-8.12	77%
2	New River	24.60	30.57	-5.96	80%
3	Roanoke	27.95	34.17	-6.21	82%
4	Upper James	24.59	30.78	-6.19	80%
5	Middle James	30.11	32.64	-2.53	92%
6	Shenandoah	27.30	28.22	-0.92	97%
7	Northern Virginia	35.27	31.17	4.10	113%
8	Northern Piedmont	33.99	32.61	1.38	104%
9	Chowan	28.99	34.30	-5.31	85%
10	Northern Coastal Plain	27.42	32.74	-5.32	84%
11	York-James	26.43	36.25	-9.82	73%
12	Southeast Virginia	30.55	35.43	-4.88	86%
13	Eastern Shore	27.29	30.52	-3.23	89%
	Statewide	28.46	32.85	-4.39	87%

DROUGHT			Dec 1, 2007	- Sep 18, 2008	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	29.46	38.31	-8.85	77%
2	New River	27.05	33.28	-6.22	81%
3	Roanoke	31.17	37.42	-6.24	83%
4	Upper James	27.56	33.73	-6.17	82%
5	Middle James	32.79	35.81	-3.02	92%
6	Shenandoah	30.25	30.81	-0.56	98%
7	Northern Virginia	38.31	34.27	4.04	112%
8	Northern Piedmont	36.90	35.89	1.01	103%
9	Chowan	33.13	37.32	-4.19	89%
10	Northern Coastal Plain	30.17	36.02	-5.85	84%
11	York-James	30.54	39.64	-9.10	77%
12	Southeast Virginia	34.21	38.61	-4.40	89%
13	Eastern Shore	31.86	33.76	-1.90	94%
	Statewide	31.53	35.97	-4.44	88%

DROUGHT			Nov 1, 2007	- Sep 18, 2008	
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	31.15	41.59	-10.43	75%
2	New River	27.50	36.31	-8.81	76%
3	Roanoke	31.65	40.78	-9.12	78%
4	Upper James	27.96	37.09	-9.13	75%
5	Middle James	33.30	39.32	-6.01	85%
6	Shenandoah	31.36	33.86	-2.50	93%
7	Northern Virginia	39.89	37.68	2.21	106%
8	Northern Piedmont	37.76	39.69	-1.93	95%
9	Chowan	33.58	40.43	-6.85	83%
10	Northern Coastal Plain	31.28	39.16	-7.89	80%
11	York-James	31.36	43.01	-11.65	73%
12	Southeast Virginia	34.77	41.68	-6.90	83%
13	Eastern Shore	32.70	36.70	-4.00	89%
	Statewide	32.33	39.20	-6.87	82%

DROUGHT			Oct 1, 2007	- Sep 18, 2008	
REGION		OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	33.11	44.47	-11.35	74%
2	New River	31.21	39.48	-8.27	79%
3	Roanoke	35.27	44.49	-9.22	79%
4	Upper James	30.33	40.34	-10.01	75%
5	Middle James	36.93	43.16	-6.23	86%
6	Shenandoah	33.57	37.05	-3.49	91%
7	Northern Virginia	43.13	41.16	1.97	105%
8	Northern Piedmont	40.77	43.68	-2.91	93%
9	Chowan	36.68	44.01	-7.33	83%
10	Northern Coastal Plain	36.65	42.67	-6.02	86%
11	York-James	35.20	46.54	-11.34	76%
12	Southeast Virginia	40.04	45.34	-5.29	88%
13	Eastern Shore	36.06	39.91	-3.84	90%
	Statewide	35.64	42.70	-7.06	83%

DROUGHT			Sep 1, 2007	- Sep 18, 2008	
REGION		OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	34.37	47.93	-13.56	72%
2	New River	32.85	42.89	-10.04	77%
3	Roanoke	37.35	48.72	-11.37	77%
4	Upper James	32.59	43.84	-11.25	74%
5	Middle James	37.74	47.29	-9.55	80%
6	Shenandoah	35.51	40.72	-5.21	87%
7	Northern Virginia	44.30	45.23	-0.93	98%
8	Northern Piedmont	41.76	47.96	-6.20	87%
9	Chowan	37.64	48.44	-10.80	78%
10	Northern Coastal Plain	37.89	46.76	-8.87	81%
11	York-James	37.10	51.44	-14.34	72%
12	Southeast Virginia	40.77	49.77	-9.00	82%
13	Eastern Shore	37.62	43.52	-5.89	86%
	Statewide	37.06	46.70	-9.64	79%

DROUGHT			Aug 1, 2007	- Sep 18, 2008	
REGION		OBSERVED	NORMAL	DEPARTURE	% OF NORM.
1	Big Sandy	35.55	51.76	-16.21	69%
2	New River	34.04	46.20	-12.15	74%
3	Roanoke	38.18	52.44	-14.26	73%
4	Upper James	34.03	47.17	-13.14	72%
5	Middle James	40.46	51.11	-10.65	79%
6	Shenandoah	38.28	44.05	-5.77	87%
7	Northern Virginia	46.16	49.08	-2.92	94%
8	Northern Piedmont	44.14	51.78	-7.64	85%
9	Chowan	39.65	52.75	-13.10	75%
10	Northern Coastal Plain	39.34	50.62	-11.28	78%
11	York-James	39.42	56.31	-16.89	70%
12	Southeast Virginia	44.25	54.89	-10.64	81%
13	Eastern Shore	40.12	47.39	-7.27	85%
	Statewide	38.93	50.53	-11.60	77%

DROUGHT REGION		OBSERVED	Jul 1, 2007 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	40.04	56.24	-16.20	71%
2	New River	36.97	49.99	-13.02	74%
3	Roanoke	41.46	56.83	-15.37	73%
4	Upper James	36.37	51.21	-14.84	71%
5	Middle James	42.81	55.52	-12.70	77%
6	Shenandoah	40.28	47.81	-7.53	84%
7	Northern Virginia	48.63	52.85	-4.22	92%
8	Northern Piedmont	45.67	56.18	-10.51	81%
9	Chowan	42.71	57.26	-14.55	75%
10	Northern Coastal Plain	40.76	55.07	-14.31	74%
11	York-James	42.87	61.41	-18.54	70%
12	Southeast Virginia	47.56	59.96	-12.40	79%
13	Eastern Shore	42.21	51.39	-9.18	82%
	Statewide	41.66	54.87	-13.21	76%

DROUGHT REGION		OBSERVED	Jun 1, 2007 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	42.79	60.38	-17.59	71%
2	New River	40.01	53.84	-13.83	74%
3	Roanoke	44.38	60.72	-16.34	73%
4	Upper James	40.12	54.92	-14.80	73%
5	Middle James	46.17	59.03	-12.86	78%
6	Shenandoah	43.56	51.52	-7.96	85%
7	Northern Virginia	50.57	56.71	-6.14	89%
8	Northern Piedmont	47.82	60.19	-12.37	79%
9	Chowan	44.92	60.91	-15.99	74%
10	Northern Coastal Plain	42.61	58.63	-16.02	73%
11	York-James	45.05	64.82	-19.77	70%
12	Southeast Virginia	50.78	63.57	-12.79	80%
13	Eastern Shore	47.46	54.37	-6.91	87%
	Statewide	44.52	58.66	-14.14	76%

DROUGHT REGION		OBSERVED	May 1, 2007 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	44.53	65.20	-20.67	68%
2	New River	41.79	58.05	-16.26	72%
3	Roanoke	46.35	65.05	-18.70	71%
4	Upper James	42.15	59.20	-17.05	71%
5	Middle James	48.63	63.27	-14.64	77%
6	Shenandoah	45.75	55.36	-9.62	83%
7	Northern Virginia	51.83	61.05	-9.22	85%
8	Northern Piedmont	49.91	64.41	-14.50	77%
9	Chowan	47.81	65.00	-17.19	74%
10	Northern Coastal Plain	43.86	62.79	-18.93	70%
11	York-James	46.61	69.09	-22.48	67%
12	Southeast Virginia	52.74	67.43	-14.68	78%
13	Eastern Shore	49.20	57.89	-8.69	85%
	Statewide	46.55	62.92	-16.37	74%

DROUGHT		Apr 1, 2007 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	49.00	68.96	-19.96	71%
2	New River	44.90	61.60	-16.69	73%
3	Roanoke	49.56	68.85	-19.28	72%
4	Upper James	45.65	62.60	-16.95	73%
5	Middle James	51.86	66.61	-14.75	78%
6	Shenandoah	49.32	58.28	-8.96	85%
7	Northern Virginia	55.56	64.35	-8.79	86%
8	Northern Piedmont	53.01	67.70	-14.69	78%
9	Chowan	52.24	68.43	-16.19	76%
10	Northern Coastal Plain	47.57	65.88	-18.31	72%
11	York-James	50.65	72.39	-21.74	70%
12	Southeast Virginia	57.26	70.68	-13.42	81%
13	Eastern Shore	53.75	60.81	-7.06	88%
	Statewide	50.19	66.34	-16.15	76%

DROUGHT		Mar 1, 2007 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	52.13	73.21	-21.07	71%
2	New River	48.94	65.27	-16.32	75%
3	Roanoke	53.25	73.12	-19.87	73%
4	Upper James	49.28	66.39	-17.11	74%
5	Middle James	54.91	70.67	-15.75	78%
6	Shenandoah	52.20	61.48	-9.28	85%
7	Northern Virginia	58.71	68.01	-9.30	86%
8	Northern Piedmont	55.44	71.51	-16.07	78%
9	Chowan	54.81	72.80	-17.99	75%
10	Northern Coastal Plain	50.38	70.16	-19.78	72%
11	York-James	52.37	77.08	-24.71	68%
12	Southeast Virginia	59.20	74.88	-15.68	79%
13	Eastern Shore	55.53	65.12	-9.59	85%
	Statewide	53.26	70.38	-17.12	76%

DROUGHT		Feb 1, 2007 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1	Big Sandy	53.53	76.79	-23.25	70%
2	New River	50.59	68.20	-17.60	74%
3	Roanoke	55.30	76.43	-21.12	72%
4	Upper James	51.74	69.24	-17.50	75%
5	Middle James	56.89	73.79	-16.90	77%
6	Shenandoah	54.26	63.89	-9.64	85%
7	Northern Virginia	61.55	70.68	-9.13	87%
8	Northern Piedmont	57.88	74.48	-16.60	78%
9	Chowan	56.98	75.97	-18.99	75%
10	Northern Coastal Plain	52.88	73.30	-20.42	72%
11	York-James	54.11	80.61	-26.50	67%
12	Southeast Virginia	61.47	78.38	-16.91	78%
13	Eastern Shore	58.32	68.31	-9.99	85%
	Statewide	55.35	73.51	-18.16	75%

DROUGHT		Jan 1, 2007 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	56.71	80.52	-23.80	70%	
2 New River	53.55	71.41	-17.85	75%	
3 Roanoke	59.18	80.35	-21.17	74%	
4 Upper James	54.74	72.52	-17.78	75%	
5 Middle James	60.46	77.45	-16.99	78%	
6 Shenandoah	55.82	66.74	-10.93	84%	
7 Northern Virginia	63.80	73.96	-10.17	86%	
8 Northern Piedmont	60.40	78.00	-17.60	77%	
9 Chowan	59.50	80.08	-20.58	74%	
10 Northern Coastal Plain	57.12	77.05	-19.93	74%	
11 York-James	56.72	84.75	-28.03	67%	
12 Southeast Virginia	64.64	82.54	-17.90	78%	
13 Eastern Shore	60.49	71.87	-11.38	84%	
Statewide	58.41	77.15	-18.74	76%	

DROUGHT		Dec 1, 2006 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	58.71	84.16	-25.45	70%	
2 New River	55.34	74.12	-18.78	75%	
3 Roanoke	61.36	83.60	-22.24	73%	
4 Upper James	56.74	75.47	-18.73	75%	
5 Middle James	62.05	80.62	-18.57	77%	
6 Shenandoah	56.94	69.33	-12.39	82%	
7 Northern Virginia	65.46	77.06	-11.60	85%	
8 Northern Piedmont	62.15	81.28	-19.13	76%	
9 Chowan	61.67	83.10	-21.43	74%	
10 Northern Coastal Plain	58.83	80.33	-21.51	73%	
11 York-James	58.54	88.14	-29.60	66%	
12 Southeast Virginia	67.09	85.72	-18.63	78%	
13 Eastern Shore	63.24	75.11	-11.87	84%	
Statewide	60.26	80.27	-20.01	75%	

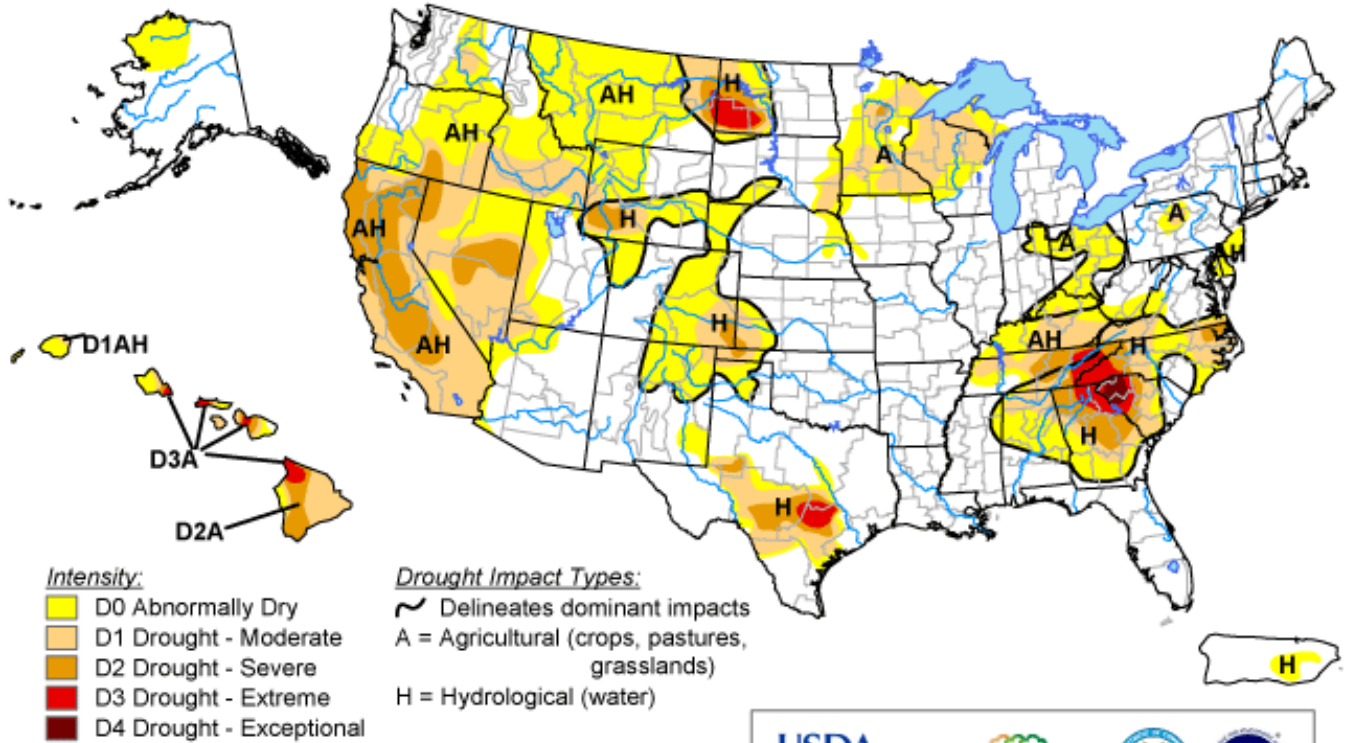
DROUGHT		Nov 1, 2006 - Sep 18, 2008			
REGION	OBSERVED	NORMAL	DEPARTURE	% OF NORM.	
1 Big Sandy	61.46	87.44	-25.97	70%	
2 New River	59.29	77.15	-17.85	77%	
3 Roanoke	66.75	86.96	-20.20	77%	
4 Upper James	60.52	78.83	-18.31	77%	
5 Middle James	67.78	84.13	-16.35	81%	
6 Shenandoah	61.08	72.38	-11.30	84%	
7 Northern Virginia	71.26	80.47	-9.22	89%	
8 Northern Piedmont	68.45	85.08	-16.62	80%	
9 Chowan	69.04	86.21	-17.17	80%	
10 Northern Coastal Plain	64.13	83.47	-19.35	77%	
11 York-James	64.21	91.51	-27.30	70%	
12 Southeast Virginia	74.70	88.79	-14.08	84%	
13 Eastern Shore	68.11	78.05	-9.93	87%	
Statewide	65.42	83.50	-18.08	78%	

DROUGHT REGION		OBSERVED	Oct 1, 2006 NORMAL	- Sep 18, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	66.44	90.32	-23.88	74%
2	New River	64.28	80.32	-16.04	80%
3	Roanoke	72.79	90.67	-17.88	80%
4	Upper James	67.45	82.08	-14.63	82%
5	Middle James	75.47	87.97	-12.50	86%
6	Shenandoah	66.33	75.57	-9.24	88%
7	Northern Virginia	76.04	83.95	-7.91	91%
8	Northern Piedmont	74.98	89.07	-14.08	84%
9	Chowan	76.74	89.79	-13.05	85%
10	Northern Coastal Plain	70.21	86.98	-16.78	81%
11	York-James	72.21	95.04	-22.84	76%
12	Southeast Virginia	79.77	92.45	-12.68	86%
13	Eastern Shore	75.05	81.26	-6.21	92%
	Statewide	71.66	87.00	-15.34	82%

APPENDIX B

U.S. Drought Monitor

September 16, 2008
Valid 8 a.m. EDT



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, September 18, 2008
Authors: Laura Edwards, WRCC, and Brian Fuchs, NDMC

APPENDIX C

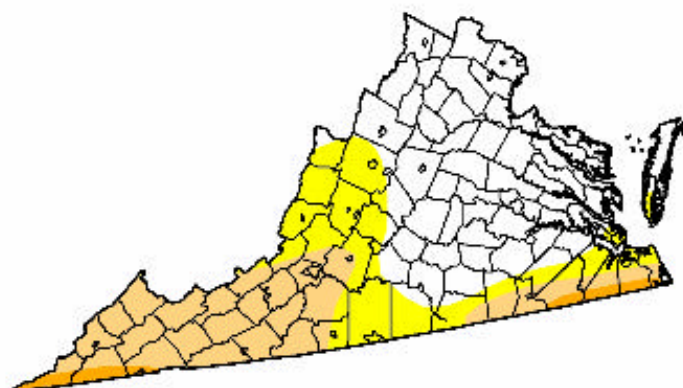
U.S. Drought Monitor Virginia

September 16, 2008

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	50.1	49.9	28.7	2.9	0.0	0.0
Last Week (09/09/2008 map)	50.1	49.9	28.7	2.9	0.0	0.0
3 Months Ago (06/24/2008 map)	50.8	49.2	25.7	2.1	0.0	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 (09/18/2007 map)	0.8	99.2	76.9	38.7	7.5	1.3



Intensity:

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

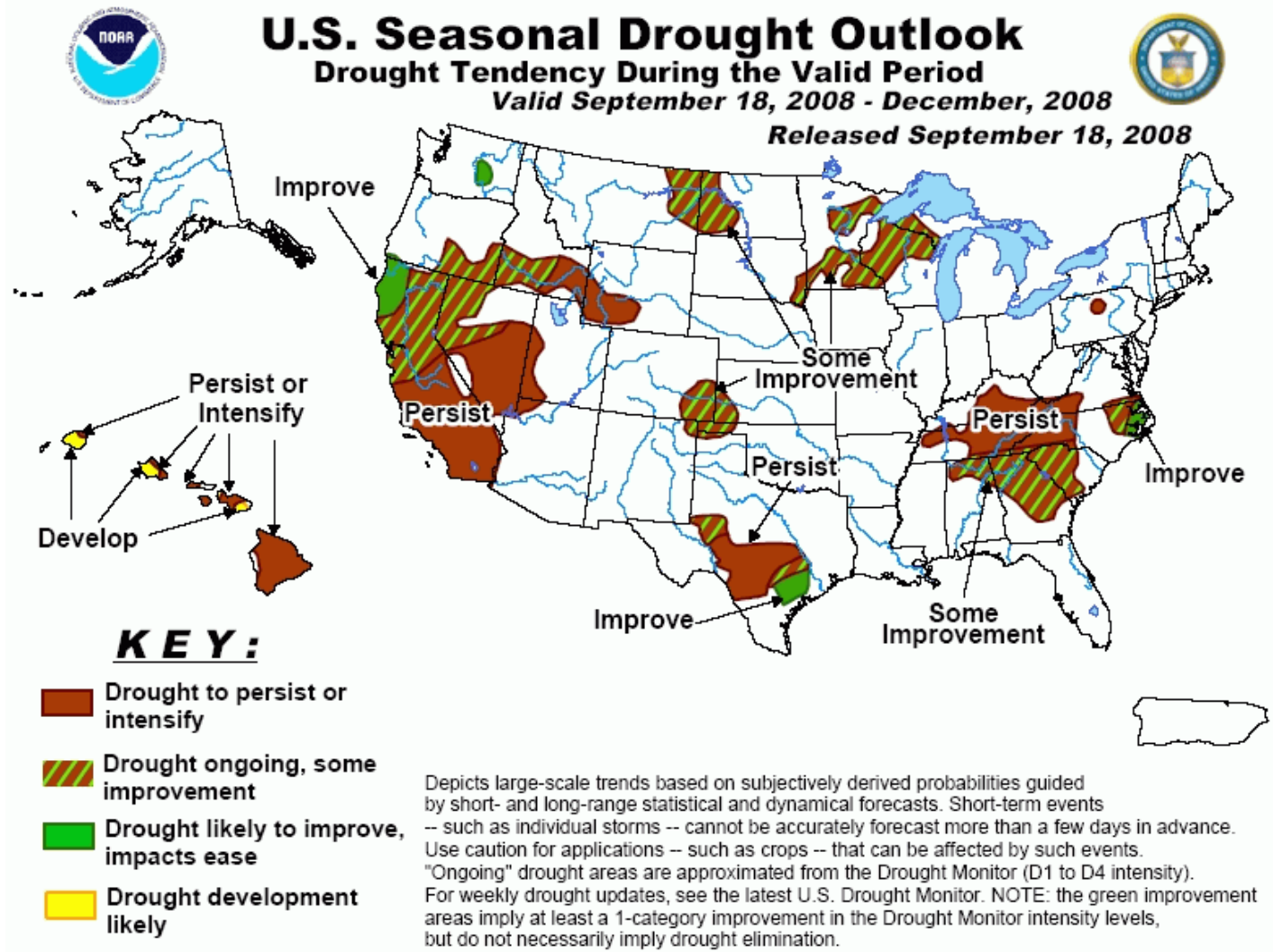
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, September 18, 2008
Author: Laura Edwards, WRCC, and Brian Fuchs, NDMC

APPENDIX D



APPENDIX E

Condition of Public Water Supplies

September 19, 2008

ODW Drought Situation Report

Date: **9/19/08**

	Restriction totals
Mandatory	5
Voluntary	46
Total	51

N-None
M-Mandatory
V-Voluntary

B-Better
S-Stable/Same
W-Worse

PWSID	Waterworks	Source Name	Restrictions	Situation	Population Served
1105400	Lee County PSA	Blue Springs	N	S 09/17/08 Raw water flow to WTP at about 200,000 gpd. There is still flowby at the source. NO WATER SUPPLY PROBLEMS.	
1105400	Lee County PSA	KVS Quarry	N	W 09/17/08: Water level in quarry is currently at 206 inches below catwalk . Level was 188 inches below catwalk on 08/19/08. The water level is much lower than this time last year. Last year they installed a floating raw water pump system to alleviate effects of lowering water level. NO WATER SUPPLY PROBLEMS.	
1195050	Town of Appalachia	reservoir	M	W 9/17/08: down 7.4' from overflow; 61 MG, 134 days ± 10 left. Level was 6.4 ft down on 8/19/08. Level 2 ft higher than on 09/19/07. Now using auxiliary river source. NO WATER SUPPLY PROBLEMS.	
1195100	Town of Big Stone Gap	Big Cherry Reservoir	M	W 9/17/08: Reservoir down 7 ft from overflow. 372 MG, 124days left. Reservoir down 4 ft from overf low on 8/20/08. 1.3 ft higher than 09/19/0707.	
1195950	Town of Wise	reservoir	N	W 09/18/08: Reservoir down 6'-8", 146 MG, 243 days left @ 0.6 MGD. Still using auxiliary mine well source daily. Down 5'-3.5" on 08/19/08. NO WATER SUPPLY PROBLEMS.	

1720076	City of Norton	reservoirs	N	W 09/17/08: Upper reservoir down 7 ft; 47.7 MG left. Lower reservoir down 15.5 ft; 27.6 MG left. Total: 75.3 MG left. 81.25 MG left on 08/14/08. 10 MG more than on 09/19/07. Buying water from Wise County PSA and Big Stone Gap. NO WATER SUPPLY PROBLEMS.	
2017095	Bath County Regional Water - BCSA	2 drilled wells	V	W - Voluntary conservation requested on 8/26/08. Well capacity has dropped 20%	1,420
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.	500
2043125	Berryville, Town of	Shenandoah River	V	S - Voluntary conservation requested on 11 December 2007.	2,965
2065250	Fluvanna Correctional Center for Women	Mechunk Creek and on-site Raw Water Reservoir	V	S - Reservoir is 83% full (~33 MG stored). Moderate Drought Condition continues to conserve water.	1,650
2125325	NCSA - Lovingston	Black Creek Reservoir	V	B - Voluntary conservation requested on 8/20/08. Reservoir is ~2 feet below overflow. Recent rains have helped	2,500
2125650	NCSA - Schuyler	Johnson's Branch	V	S - Voluntary conservation requested on 8/20/08. Spring fed branch flow is still below normal.	500
2125910	NCSA - Wintergreen	Lake Monacan	V	B - Voluntary conservation requested on 8/20/08. Lake is at 74% of full. Recent rains have helped	6,600
2187406	Front Royal, Town of	North Fork Shenandoah River	V	B - Voluntary conservation lifted on 25 August 2008. Under VWPP, voluntary conservation initiated when stream flow 14-day running average is less than 24% of mean stream flow -- as of 18 September 2008, 14-day average was 46.80%.	12,500
2560100	Town of Clifton Forge	Smith Creek	V	S - Voluntary conservation has been requested. This has not been implemented as a result of limited or low source water quantity, but rather at the request of the Governor's letter requesting conservation	4,679
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.	44,500
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	V	S - 9/18/08 - Voluntary restrictions began on 7/29/08.	6,800

3081550	GCWSA - Jarratt	Nottoway River	N	S - 9/17/08 - Waterworks production rate still reduced due to lower demand; river level higher than last month, sufficient to allow plant operation at 2.0 mgd	7,190
3093120	Isle of Wight County	Suffolk	V	B - 9/18/08 - allows Suffolk's lead on conservation.	1,284
3550050	Chesapeake - Western Branch system	City of Portsmouth	V	S -9/18/08 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.	36,444
3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	V	W - as of 9/18/08 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 are currently in the 500-600 mg/l range with a high value of 1456 mg/l. Immediately downstream at Panther's Landing, chloride levels have reached 1,700 mg/l in the past two weeks. Approximately 1.3 inches of rain was recorded at LGWTP and 1.85 at NWRWTP.	101,428
3550052	Chesapeake - South Norfolk system	City of Norfolk	V	S -9/18/08-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.	38,611
3570150	Colonial Heights	ARWA	V	S - Lifted mandatory restrictions on 12/1/07. Voluntary restrictions currently in place.	17,286
3595250	Emporia	Meherrin River	N	S - 9/17/08 - Water is going over the dam. Power plant on river has returned to operation.	5,600
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	S - 9/18/08 - Intake levels at plant are still sufficient to supply plant. Alkalinity and pH values decreased due to significant rain in September.	25000 - Primary / 42463 Total including Consecutive System (Ft Lee)
3700500	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	S-- 9/19/8 - Total reservoir capacity at 73.5% (about normal for this time of year) Little Creek is the main source that is low. Plans to refill that reservoir once the electrical rate move to the winter rates.	406,000

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 09/18, reservoirs at 82.5% (down from 85.1% on 08/18). Historic reservoir capacity is 85.7% at this time of year. Avg. pumping from Lake Gaston = 54.3 MGD. Called for voluntary conservation 11/1/07.	261,250 - Primary / 755,617 - Total including consecutive systems (V: Beach + military bases).
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	S - As of 09/15, reservoirs at 79% (down from 85% on 08/15). Median reservoir capacity is 95% for the month and historical average capacity is 88% (period of 1969-2006). One emergency well ON and pumping 3.3 MGD into reservoir. City was at 74% reservoir capacity during the drought at this time last year. Called for voluntary conservation on 10/10/07.	100,400 - Primary / 120,400 - Total including consecutive systems (military bases)
3800805	Suffolk	Lone Star Lakes, Cumps Mill Pond	V	B - Will follow Portsmouth's lead and the region as far as conservation. As of 9/18/08- Reservoir levels: Southern Lakes at 54.2% capacity, for the Northern Lakes at 88.2% and Crumps Mill Pond at 78.1% The Southern Lakes are for emergency use only. Still purchasing water from Portsmouth per their contract, no drought measure taken to date.	62,562
3810900	Virginia Beach	Norfolk	V	S - obtains water from Norfolk. Called for voluntary conservation on 9/19/07.	423,743
3830850	Williamsburg	Waller Mill Reservoir	N	S - Has the well discharging to the reservoir, but not worrying at the present time (normal for this time of year).	16,400
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	N	B - Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Reservoir is at full level.	200,000
4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	N	B - Purchases water from the City of Richmond and the Appomattox River Water Authority. Reservoir is at full level.	263,000
4057800	TAPPAHANNOCK, TOWN OF	Groundwater wells	N	S	2,100

4073311	GLOUCESTER CO WATER TREATMENT PLT	Surface water, Beaverdam reservoir; 2 deep groundwater wells	N	S -Reservoir at 100%.	8,870
4075283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	N	S -purchases water from Henrico County	2,500
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	V	B - Conservation at all DOC facilities	9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	N	B	71,000
4085770	SPRING MEADOWS-MEADOW GATE	Groundwater wells	N	S - A replacement well will be drilled shortly and other improvements are proposed in the PER.	2,300
4087125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	N	B - Similar to City of Richmond	289,000
4101900	WEST POINT, TOWN OF	Groundwater wells	N	S	3,000
4127110	DELMARVA PROPERTIES	Groundwater wells	V	S -New Kent Co. encourages conservation at all county owned waterworks.	7,700
4145675	POWHATAN COURTHOUSE	Groundwater wells	N	S	2,600
4193280	COLONIAL BEACH, TOWN OF	Groundwater wells	N	S	3,300
4760100	RICHMOND, CITY OF	Surface water; James River	N	B - water levels in the James River are normal; under James River Regional Flow Management Plan; counties of Henrico, Chesterfield, Goochland, and Hanover counties purchase water from the City.	197,000
5515050	City of Bedford	Stoney Creek Reservoir and Wells 1 to 5	N	S - good levels	6,946
5143210	Town of Gretna	Georges Creek Res	N	B - As result of recent rainfall, the reservoir level is full (to top of spillway) but flow over spillway below normal	2,500
5031150	CCUSA	Surface - Big Otter River	N	B - Current stream flow 21 cfs.	20,000
5025450	Town of Lawrenceville	Great Creek Reservoir	N	B - water is at the spillway	4,806
5025480	Lane View Subdivision	Wells	V	S	39
5025500	Brunswick Estates	Wells	V	S	70
5025550	Nottoway Acres Subdivision	Wells	V	S	58
5025570	Pleasant Grove Subdivision	Wells	V	S	85
5025625	Siouan Shores Subdivision	Wells	V	S	95

5025650	Sunnybrook Subdivision	Wells	V	S	53
5117096	Anchor Cove Subdivision	Wells	V	S	93
5117125	Buckhead Subdivision	Wells	V	S	66
5117350	Fox Run Subdivision	Wells	V	S	226
5117371	Great Creek Landing	Wells	V	S	270
5117375	Hawk's Nest Point	Wells	V	S	25
5117378	Hicks Hill Subdivision	Wells	V	S	35
5117379	Holly Grove Estates	Wells	V	S	25
5117390	Joyceville Subdivision	Wells	V	S	175
5117419	Long Branch Shores	Wells	V	S	85
5117450	Merrymount Subdivision	Wells	V	S	118
5117833	Tanglewood Shores	Wells	V	S	50
5117846	Timbuctu Subdivision	Wells	V	S	132
5029085	Buckingham County	Troublesome Creek Reservoir	N	B - water is 0.5 inches over spillway	5,751
5037300	Town of Keysville	Keysville Reservoir	N	B	800
5083550	Town of Halifax	Bannister River Reservoir	N	B	1,389
5780600	Town of South Boston	Dan River	N	B	9,726
5141640	Town of Stuart	South Mayo River	N	B	1,500
5147170	Town of Farmville	Appomattox River	N	B	7,011
5011050	Town of Appomattox	Wells	V	S - Operation reports show water levels rising in the wells. The town is actively looking for additional water sources. Well #15, a high production well, is off line for repairs.	1,708
5135160	Town of Crewe	Crystal Lake	N	s - good levels	3,500
5111450	Town of Kenbridge	Flat Rock Creek and Offstream Reservoir	N	S - good levels	1,400
5067785	Ridgcrest	Wells	N	B	52
5067265	Hales Point	Wells	N	B	46
5067937	Stripers Landing	Wells	N	B	125
5009050	Town of Amherst	Buffalo Creek	N	B - Creek is flowing over dam.	
5009250	ACSA	Graham Creek Reservoir	N	S - Switched from the Harris Creek to the Graham Creek Reservoir.	
5680200	City of Lynchburg	James River	N	S - Using the James River, Abert Intake.	76,000
6033425	Lake Caroline WTP	Lake Caroline	N	B - Lake is down 2 inches.	3,370
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.	977
6047500	Town of Culpeper	Lake Pelham	N	S - On Wednesday, September 17, 2008, Lake Pelham surface level was at the overflow.	14,200

6061200	Marshall	Groundwater	M	S - No water was hauled to the waterworks in August, 2008. The WSA Alert Messaging Service maintains the Water Use Restriction Notice as of 9/17/2008.	2,134
6061600	Town of Warrenton	Reservoir on Cedar Run and groundwater	N	S - On Wednesday, 9/17/08, Warrenton Reservoir is at a surface elevation of 441.6 ft. No water is being transferred from Airlie Reservoir, which is full.	11,160
6107150	Town of Hamilton	Groundwater	M	S -9/18/08 Water levels in wells satisfactory. No water supply problems. Town Council voted to maintain Mandatory water use restrictions until new Well 14 is placed in service.	2,000
6107200	Town of Hillsboro	Spring/Well	N	S - Flow from spring and new well have been adequate to meet current demand. A leak survey revealed 10 potential leaks in the distribution system.	58
6107601	LCSA Raspberry Falls Subdivision	Groundwater	V	W - 09/18/08 Well #1 taken out of service due to high Total Coliform levels. Voluntary conservation in place beginning 3/11/08 due to concerns about possible GUDI sources.	394
6107400	Town of Lovettsville	Groundwater	V	S -9/18/08 Voluntary water use restrictions remain in place; however there is no problem with water supply.	1,280
6107450	Town of Middleburg	Groundwater	V	S - 8/19/08 - Voluntary water use restrictions replace mandatory water use restrictions on 4/10/08.	590
6107600	Town of Purcellville	Hirst Reservoir and groundwater	V	S - 9/18/08 Reservoir level is within expected range. Voluntary water conservation in place.	6,300
6107650	Town of Round Hill	Groundwater	V	S - 9/18/08 - Voluntary water use restrictions replace mandatory water use restrictions on 4/1/08.	3,156
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 - Town of Orange raw water availability is well above minimum.	273
6137400	Town of Gordonsville	Purchase treated surface water from RSA and Town of Orange	N	S--No water use restrictions are in place.	1,800

6137500	Town of Orange	Rapidan River	V	S - 9/17/08 - Fourteen day running average of Rapidan River flow is 492 cfs (withdrawal restrictions are imposed below 44 cfs). Offstream raw water reservoir is full.	4,500
6137999	Rapidan Service Authority - Wilderness and Lake of the Woods	Rapidan River	N	Rapidan River flow has been steady at an adequate level.	11,331
6153260	Woodbridge Mobile Home Park	Groundwater	M	W -- 8/19/08 Well #3 pumping rate has reduced, episodes of low water pressure observed. Waterworks may continue to have low pressure due to inadequate sources and leaks in the distribution system. This problem is indirectly related to drought as source problems existed previously.	320
6177280 and 6177300	Spotsylvania County	Rappahanock River, Motts Reservoir, Hunting Run Reservoir, Ni Reservoir	N	S - River flow averaging 300cfs over past week and reservoirs are near full.	79,315
6179100 and 6179775	Stafford County	Smith Lake and Abel Lake	N	B - Smith Lake is full, Abel is close to full. In June 2008, water supply emergency from 2007 was rescinded with county wide conservation requested.	93,669

Notes of interest:

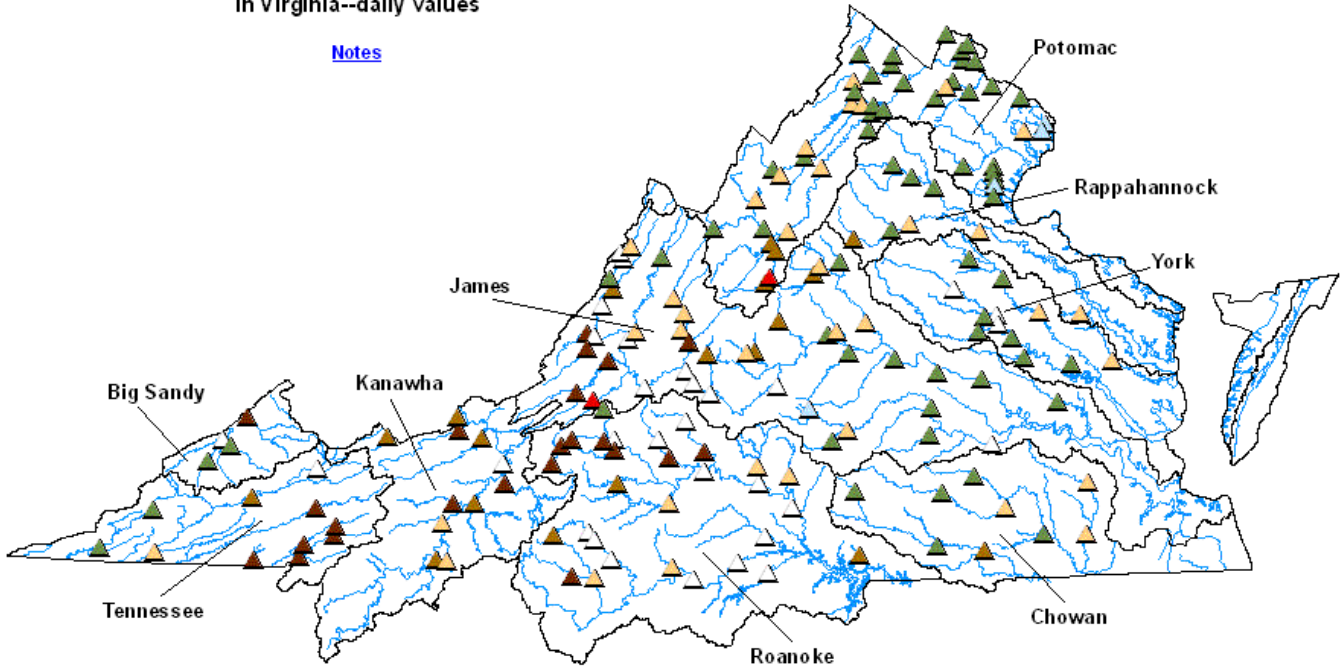
(1) Metropolitan Washington Council of Governments lifted the drought Watch, returning to Normal status, lifting a region-wide voluntary conservation advisory, on 4/1/08, covering DC, Maryland, and Northern Virginia.

(2) Interstate Commission on the Potomac River Basin (ICPRB) gathers meteorological, drought, and water supply data from all of the major water suppliers in the Metro 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 has predicted that likelihood of releases from upstream reservoirs is slightly below normal.

APPENDIX F

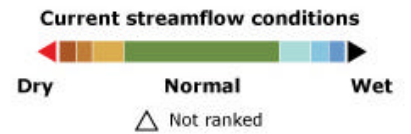
Streamflow conditions for 09/21/2008
in Virginia--daily values

[Notes](#)



**Streamflow Statistics based on
average flows**

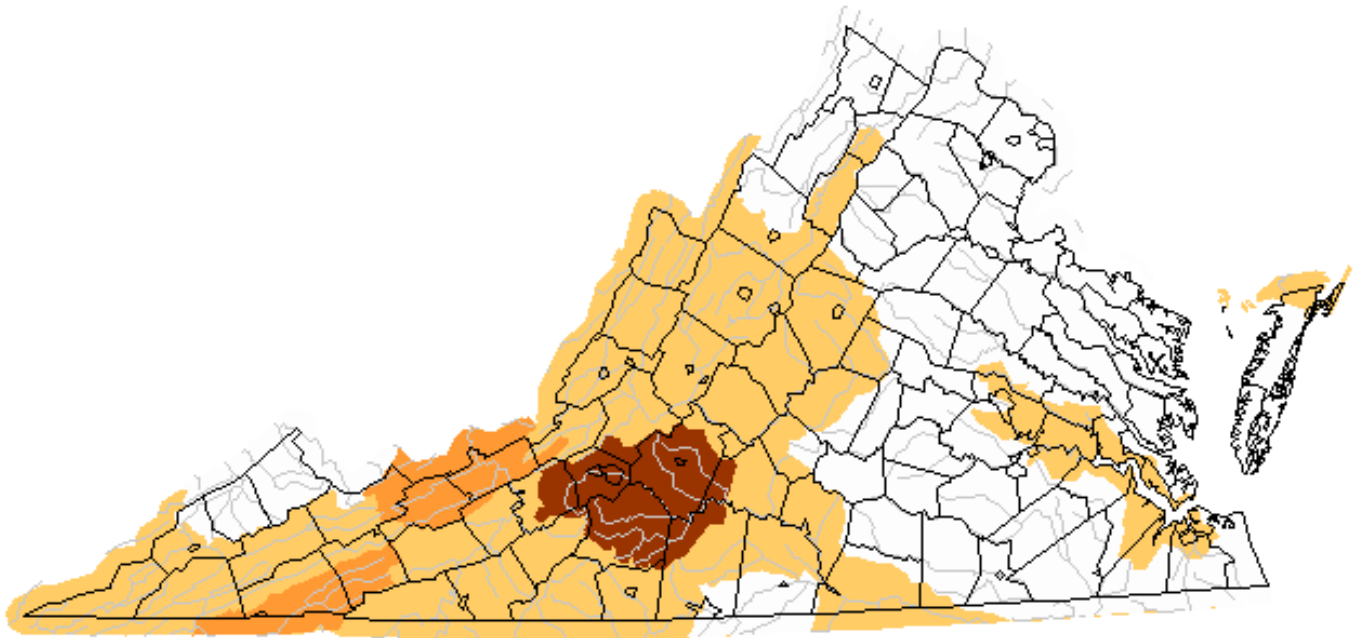
Click on map or table to select River Basin



APPENDIX G

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

Sunday, September 21, 2008

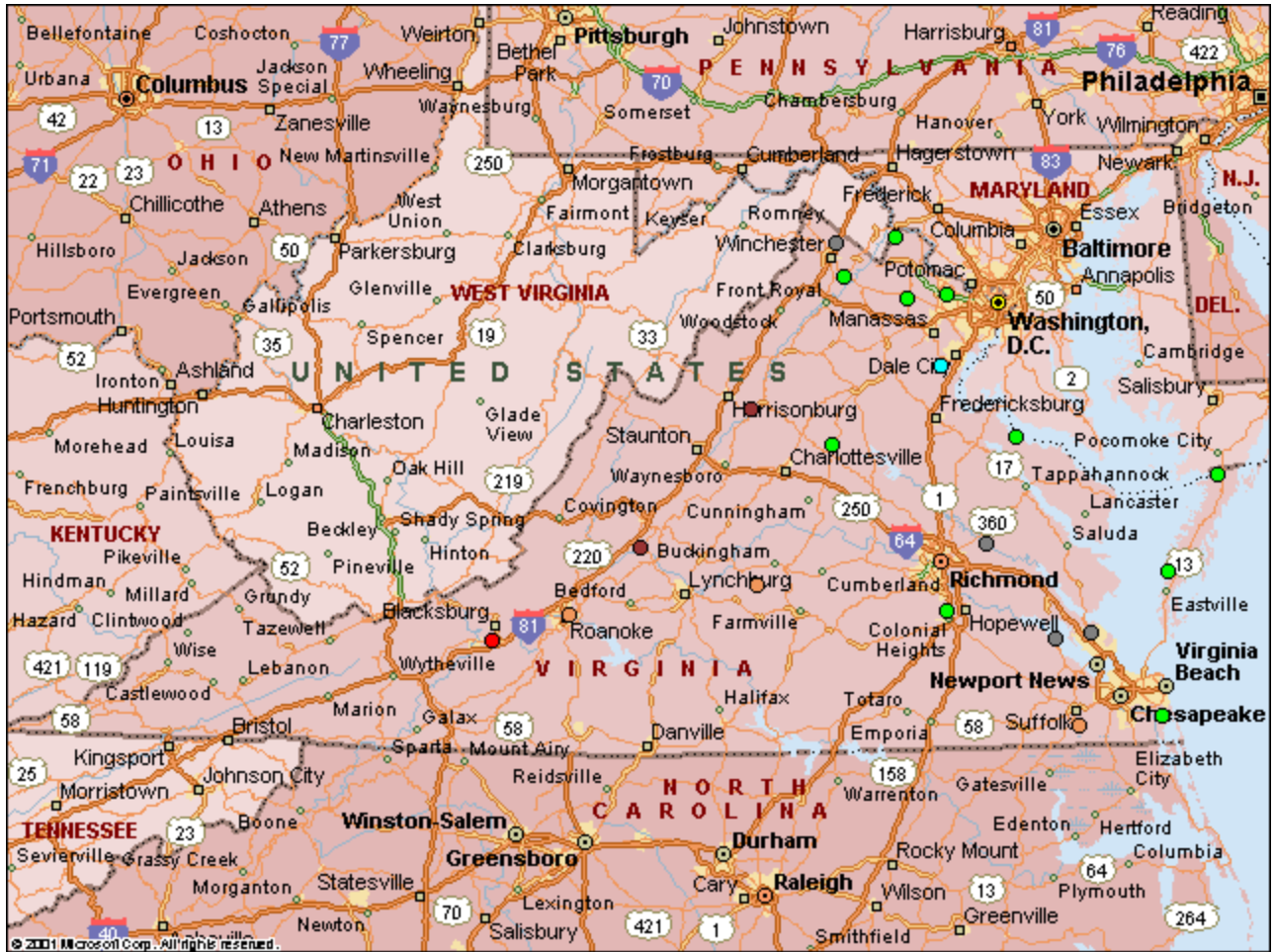


Explanation - Percentile classes				
LOW	≤5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

APPENDIX H

Virginia Climate Response Network

September 21, 2008



Explanation - Percentile classes							
●	●	●	●	●	●	●	●
New Low	<10	10-24	25-75	76-90	>90	New High	Not Ranked
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal		