

DROUGHT MONITORING TASK FORCE

Drought Status Report

August 25, 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 August 20, 2008 was below normal (80% of normal). Statewide precipitation for the period from January 1, 2008 through August 20, 2008 was below normal (80% of normal). Precipitation greater than 85% of normal is considered to be in the normal range. Precipitation for the period from August 1 through August 20 was below normal in all drought evaluation regions except the Eastern Shore. Many drought evaluation regions were well below normal for this period, as an example, the Middle James region only received 10% of normal precipitation during this period. The following drought evaluation regions are currently below normal for the period beginning October 1, 2006; Big Sandy (73%), New River (79%), Roanoke (76%), Upper James (81%), Middle James (81%), Northern Piedmont (81%), Chowan (82%), Northern Coastal Plain (80%) and York-James (77%). Cumulative precipitation deficits for the period beginning October 1, 2006 have generally increased since the last report due to the very dry conditions in August. The Shenandoah, Northern Virginia, 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 for the Commonwealth through September of 2008. The monthly outlook calls for the potential for above normal precipitation in the Coastal Plain of Virginia with equal chances of below normal, normal, and above normal precipitation elsewhere. The long-range seasonal outlook calls for equal chances of below normal, normal and above normal temperatures and precipitation for the Commonwealth through November 2008. .

The latest NOAA drought monitor indicates significant intensification of drought conditions in the Commonwealth since the last report. The entire Commonwealth, with the exception of the northern Shenandoah Valley, is currently experiencing drought conditions that range from abnormally dry conditions in the north to severe drought conditions in the south. 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 November 2008 indicates that drought conditions are likely to improve in all areas of Virginia currently experiencing drought. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows for August 24 are well below normal throughout the Commonwealth. In the majority of the area south of Interstate 64 stream flows are indicative of severe hydrologic drought conditions (< 5th percentile). Streamflows in the remainder of the state range from flows indicative of below normal conditions (10th to 24th percentiles) to moderate hydrologic drought (5th to 10th percentiles). 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 and the northern Shenandoah Valley. Nine dedicated drought monitoring wells are at levels indicative of normal ground water levels, five are at levels indicative of moderate hydrologic drought (10th to 24th percentiles), three are at levels indicative of severe hydrologic drought conditions (< 10th percentile), and 2 wells in the southern Coastal Plain are at record low levels. Levels of large reservoirs have declined precipitously during the last month and generally are at levels well below normal for this time of the year.

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 customers³, 46 systems have initiated voluntary water conservation requirements and 9 systems have initiated mandatory water conservation requirements. Water conservation requirements at public water supplies has increased significantly since the last report when 21 systems were on voluntary restrictions and 4 systems required mandatory conservation. Appendix E contains a table of waterworks that includes systems that have initiated water conservation requirements (note that after the completion of the table Richmond, Henrico, Hanover, and Goochland moved from voluntary to mandatory status).

The Department of Forestry reports continuing summertime fire activity as increasing drought conditions across the state favor the start and spread of wildfire. Since July 1st, the agency has responded to 113 wildfires which have burned 892 acres. This is well above average for this time of year and very similar to the late summer of 2007. The agency's regional offices are reporting Keetch Byram Drought Indices (KBDI) ranging from the mid 400's to the low 700's, on a scale of 0 to 800. These measurements reflect the very high moisture deficits across the state. Numerous agency personnel have noted that conditions seem much worse in certain areas than currently reflected in the weekly drought monitor maps. The dry conditions are already forcing grasses and deciduous vegetation into dormancy as a natural response, and this is likely to result in an earlier than normal fall fire season unless significant precipitation falls within the next 3 or 4 weeks. The good news is that smaller amounts of rainfall can make a significant reduction in wildfire potential in the short term;

however, the long term prognosis going into the fall is not good without significant wetting rain events to help reverse the long standing moisture deficits.

The Department of Game and Inland Fisheries reports falling stream and river flows throughout the state are making boating access problematic in some areas. The streams in the southeastern quadrant are particularly impacted with access on the Nottoway, Chowan and Blackwater Rivers very limited. Most of the reservoirs remain accessible with Lake Chesdin being the exception having less than one foot of water on the public ramp. Boaters should check the Department's web site (www.huntfishva.com) for closures and warnings on specific water bodies. Spring flows are near average flow providing adequate water in the near term for Department trout production facilities, however significant precipitation is needed prior to the scheduled October stocking period for the program to be implemented. Summer and fall drought events are rarely significant in impacting fish populations as the annual reproductive cycle is complete for most species. Fish populations in small headwater streams can be negatively impacted, the most notable of these being the native brook trout populations in watersheds not supported by spring flows. The first of the fall hunting seasons is scheduled to open with the dove and early goose seasons on September first. Hunters are reminded to use extra caution in the field regarding fire safety in consideration of the worsening conditions. Summer and fall drought events such as those currently occurring in Virginia usually lead to a higher incidence of hemorrhagic disease in deer. This disease is carried by midges that breed in exposed mudflats, and while not always fatal results in high mortality and reports of dead deer. The disease is not transmitted to humans.

The intensity of drought impacts has increased significantly during the last month. The relatively brief period of below normal rainfall coupled with the accumulated precipitation deficits has resulted in increased drought impacts across all sectors. 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 still possible in other sectors such as agriculture and forestry, there is a distinct possibility of an above average fall wildfire season without significant precipitation in the next six to eight weeks. 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 National Hurricane Center continues to predict a high probability of above normal tropical activity through 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

With the absence of moisture from tropical systems or significant frontal passages in recent weeks, thunderstorm activity has continued to determine the amount and distribution of moisture across the Commonwealth. An unusually dry air mass associated with a very persistent high-pressure system has suppressed thunderstorm development. This combination has led to an extremely dry month of August. At many observing stations across Virginia, the lack of rainfall is at record levels, and some locations report no measurable precipitation at all for the three-week period.

Fortunately, temperatures have held close to normal in most areas, despite the tendency for them to rise appreciably during protracted dry spells. Nonetheless, the last month marked the normal annual peak for potential evaporation. This has caused severe drying of the topsoil layers in most regions along with further depletion of ground water reserves.

In the immediate future, it is likely that the remnant moisture from tropical storm Fay will make an appearance over Virginia. Depending on the speed of its passage and atmospheric conditions at the time, the rainfall could bring some significant (though short-lived) relief. Topsoil moisture could improve rapidly, but the impact to ground water would probably be slight.

The longer-range outlooks (through November) from NOAA give a general hint of above normal precipitation, primarily in eastern portions of the state. We are entering what is usually the most active part of the hurricane season and tropical cyclone activity will play a large role in determining our moisture status as the summer progresses into early autumn.

Report of the National Weather Service

August has been quite dry across most of Virginia with many areas receiving less than one-half inch of rain. While temperatures have not been excessively hot, the lack of rain, combined with a drier than normal air mass, has caused a significant increase in drought severity. Moisture from Tropical Storm Fay will be slow to make its way toward Virginia, but that will change as during the next week. A significant rainfall event appears likely from late Tuesday into Thursday as the remnants of Fay and the associated moisture move northeastward into the mid Atlantic region. While estimates of rainfall cannot be made at this time, a widespread rain in excess of an inch across the Commonwealth with this type of system is quite possible. If this precipitation event occurs it would have the potential to mitigate the short term water issues currently occurring in Virginia. Longer term, the height of the hurricane season will occur in the next 30 days and while there is no way to predict the number, intensity, and track of future tropical systems, the NOAA hurricane season outlook continues to indicate a high probability of an above normal activity.

Virginia Department of Agriculture and Consumer Services Status of Agricultural Drought

According to the USDA Crop Weather Report released on August 18, 2008, 70% of topsoil moisture ranged from short to very short. Due to poor pasture conditions, some livestock producers are already feeding winter hay supplies. In the south-central region of the state, ponds and streams are below average due to the dry conditions. Corn growth has been stunted with most plants setting only one ear. Only 42 percent of the soybean crop is setting pods, down 21 percent from the 5 year average. The Governor has received a request for drought disaster assistance from Dinwiddie County, which VDACS is processing. The Virginia Cooperative Extension Service reports that during August at least 14 Virginia Cooperative Extension Agriculture and Natural Resource Agents report have initiated the process to inform local officials of the current drought damages and losses to agriculture. Cooperative Extension and local USDA officials are meeting with Food and Agriculture committees and reporting the conditions to local Board of Supervisors. Once reported, most localities are expected to move ahead with resolutions asking Governor Kaine to request that their county be declared a disaster area due to prolonged drought. Localities in Southside, Southwest, Central Virginia, Northern Piedmont, and Southeast are currently considering making requests for drought disaster designation. It is expected that the number of disaster assistance requests from localities in the southern regions of the state will rise sharply over the next few weeks.

Impact on Crops

Corn: The corn crop in Virginia has been severely damaged by the hot and dry conditions that have prevailed over the Commonwealth. There are some locations around the state that received some timely rainfall and the crop looks good. However, some producers are contemplating whether they will see enough yield to warrant picking some fields, especially considering the cost of diesel fuel. In the drier parts of the state, corn growers anticipate corn yield to be 20 to 50 percent lower than normal. Some counties are preparing to adopt resolutions requesting drought disaster assistance. **Soybeans:** The conventionally produced soybeans have matured fairly well and have successfully put pods on the plants. However, growers need to experience some timely rainfalls, so the beans in the pods can fill out appropriately and growers will be able to enjoy some average to above average yields. The double crop soybeans have been really stressed by the hot and dry weather. Some of the fields have just gotten above the wheat stubble while other fields are turning brown from the lack of water. If the double crop soybeans do not receive rain over the next 5-10 days, yields will be significantly reduced.

Tobacco: It is extremely dry across the south-central region. Tobacco yields and quality have been negatively affected by the dry weather. A good percentage of the tobacco crop has been irrigated. Some producers have pumped their ponds dry and will not be able to continue irrigating.

Impact on Nursery/Horticulture

Virginia's horticulture industry is reporting that sales of plants are dramatically down this summer. Some areas report getting ample water from frequent isolated thunderstorms, but others report severe dry conditions developing from lack of rain. At this time, most nurseries are reporting adequate pond levels (their main source of water). The potential implementation of water use restrictions will further damage plant sales to the public. Landscape contractors are dealing with difficult planting conditions in extremely dry ground. They expect a high rate of plant death if an irrigation system is not used or if the homeowner fails to diligently provide ample water to newly installed plants.

Impact on Livestock

Pastures are in poor condition and feeding of hay to livestock is increasing. Water flows in creeks and streams have been reduced. There are reports of some creeks, which had been the primary source of water for cattle, drying up.

**Virginia Department of Environmental Quality
Condition of Major Reservoirs**

Water surface elevations of major reservoirs dropped markedly over the past month. Smith Mountain Lake is 3.0 feet below full pond and has dropped 1.73 feet in the past 31 days. DEQ, based on stakeholder conference calls has made two reductions to minimum releases. The lake is still falling, but at a slower rate than before the reductions were initiated. The current variance expires on September 11th. AEP and DEQ will petition FERC to allow some form of variance to continue. Inflows are about 120 cfs outflows are about 480 cfs and will probably be reduced again on August 26th. Carvins Cove and Spring Hollow Reservoirs, are holding at 79% and 70% per cent of useable storage capacity, respectively, which is fair for this time of year. Philpott Lake has fallen 5 feet in the past month and is now 8 feet below the guide curve. The lake has a small drainage area and is used to make hydroelectric energy. Inflows have dropped to only 10% of the median inflow for this time of year. Kerr Reservoir fell 3.5 feet this month compared to 0.75 feet last month and is now below 294.67 feet, 4.33 feet below the guide curve. The project is making the minimum amount of energy necessary to meet its contractual obligations but inflows are running at only 24% of median flows for this time of year. Swimming beaches close at 295 feet. The lake has fallen 11 feet from its peak in mid May. The Wilmington District stored the high inflow of April and May in the flood pool and slowly released the water so that it was not until the beginning of July that the lake dropped below the guide curve. Inflows are about 1000 cfs; outflows are about 3300 cfs. Based on past performance, the South East Power Administration may begin to stop using Kerr to generate energy and instead have to purchase electricity on the open market to meet its contractual obligations. Lake Anna has dropped 0.6 feet below full pond, all in the past month. The project is currently releasing 40 cfs through the skimmer gates. They are using the skimmer gates instead of the hydroelectric turbine in order to stay as close to possible to the minimum 40 cfs release. The Lake Moomaw project on the Jackson River is 51% full, having fallen 26% in the past month. The project is releasing 220 cfs more than current inflows. This low flow augmentation currently accounts for 21% of the flow of the James River at Richmond. 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. Ideally, for water quality reasons we would prefer not to reduce releases in the warm months. The often vulnerable Rivanna Water and Sewer Authority system is 78% full down from 96% full in the last report.

**United States Geological Survey
Streamflow and Ground Water Levels**

Stream gages throughout most of the State are recording streamflows well below normal. Smaller gages along the central and southern Blue Ridge and Valley and Ridge Physiographic Provinces are recording record lows for the month. The majority of gages in the eastern Tennessee, New, Roanoke, York, Rappahannock, Chowan, and most of the James River Basins are showing flows below the 5th percentile based on August flow statistics. Only gages in the Potomac and Cowpasture and Calfpasture Rivers in the upper James River Basins show streamflows in the normal range of flow. Gages in the western Tennessee and Big Sandy River Basins show streamflows in the normal to just below normal range of flow.

Ground-water levels show similar drought conditions in the lower two thirds of the State with exceptions along the Atlantic Coast where a few wells show water levels in the normal range for August. Both the surface-water and ground-water data mimic the U.S. Drought Monitor map except for Craig and Alleghany Counties in the western James River Basin where streamflow data indicate more severe drought conditions.

Streamflow conditions based on daily values for August 24 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 August 24 are presented in Appendix H.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
08/24/08

DROUGHT REGION	OBSERVED	Aug 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1 Big Sandy	1.80	2.47	-0.67	73%
2 New River	1.31	2.14	-0.82	61%
3 Roanoke	0.65	2.40	-1.75	27%
4 Upper James	0.67	2.15	-1.48	31%
5 Middle James	0.24	2.46	-2.23	10%
6 Shenandoah	1.16	2.15	-0.99	54%
7 Northern Virginia	0.53	2.48	-1.95	21%
8 Northern Piedmont	0.57	2.46	-1.89	23%
9 Chowan	0.58	2.78	-2.20	21%
10 Northern Coastal Plain	1.25	2.49	-1.24	50%
11 York-James	1.25	3.14	-1.89	40%
12 Southeast Virginia	1.53	3.30	-1.77	46%
13 Eastern Shore	2.64	2.50	0.14	106%
Statewide	0.90	2.47	-1.57	37%

DROUGHT REGION	OBSERVED	Jul 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1 Big Sandy	5.47	6.95	-1.48	79%
2 New River	5.42	5.93	-0.50	92%
3 Roanoke	3.84	6.79	-2.95	57%
4 Upper James	5.06	6.19	-1.13	82%
5 Middle James	3.77	6.87	-3.11	55%
6 Shenandoah	5.51	5.91	-0.39	93%
7 Northern Virginia	3.86	6.25	-2.40	62%
8 Northern Piedmont	3.60	6.86	-3.27	52%
9 Chowan	3.70	7.29	-3.59	51%
10 Northern Coastal Plain	2.94	6.94	-4.00	42%
11 York-James	2.81	8.24	-5.43	34%
12 Southeast Virginia	6.16	8.37	-2.22	74%
13 Eastern Shore	6.43	6.50	-0.07	99%
Statewide	4.37	6.81	-2.44	64%

DROUGHT REGION		OBSERVED	Jun 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	8.39	11.09	-2.70	76%
2	New River	8.26	9.78	-1.52	84%
3	Roanoke	6.39	10.68	-4.29	60%
4	Upper James	7.60	9.90	-2.30	77%
5	Middle James	5.69	10.38	-4.69	55%
6	Shenandoah	9.28	9.62	-0.34	96%
7	Northern Virginia	8.60	10.11	-1.51	85%
8	Northern Piedmont	8.63	10.87	-2.24	79%
9	Chowan	5.13	10.94	-5.81	47%
10	Northern Coastal Plain	6.42	10.50	-4.08	61%
11	York-James	4.68	11.65	-6.97	40%
12	Southeast Virginia	8.26	11.98	-3.72	69%
13	Eastern Shore	10.89	9.48	1.42	115%
	Statewide	7.23	10.60	-3.37	68%

DROUGHT REGION		OBSERVED	May 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	10.84	15.91	-5.07	68%
2	New River	10.83	13.99	-3.15	77%
3	Roanoke	9.66	15.01	-5.35	64%
4	Upper James	10.28	14.18	-3.90	73%
5	Middle James	9.80	14.62	-4.82	67%
6	Shenandoah	13.52	13.46	0.07	100%
7	Northern Virginia	16.86	14.45	2.41	117%
8	Northern Piedmont	14.24	15.09	-0.85	94%
9	Chowan	8.70	15.03	-6.33	58%
10	Northern Coastal Plain	12.48	14.66	-2.18	85%
11	York-James	7.11	15.92	-8.82	45%
12	Southeast Virginia	12.27	15.84	-3.57	77%
13	Eastern Shore	15.04	13.00	2.04	116%
	Statewide	11.19	14.86	-3.67	75%

DROUGHT REGION		OBSERVED	Apr 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	15.06	19.67	-4.61	77%
2	New River	15.53	17.54	-2.00	89%
3	Roanoke	14.89	18.81	-3.92	79%
4	Upper James	15.00	17.58	-2.58	85%
5	Middle James	15.71	17.96	-2.25	87%
6	Shenandoah	18.61	16.38	2.23	114%
7	Northern Virginia	22.90	17.75	5.14	129%
8	Northern Piedmont	19.82	18.38	1.43	108%
9	Chowan	15.14	18.46	-3.32	82%
10	Northern Coastal Plain	16.75	17.75	-1.00	94%
11	York-James	13.85	19.22	-5.38	72%
12	Southeast Virginia	18.74	19.09	-0.35	98%
13	Eastern Shore	19.39	15.92	3.47	122%
	Statewide	16.50	18.28	-1.78	90%

DROUGHT REGION		OBSERVED	Mar 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	18.87	23.92	-5.05	79%
2	New River	18.08	21.21	-3.12	85%
3	Roanoke	17.93	23.08	-5.15	78%
4	Upper James	17.48	21.37	-3.89	82%
5	Middle James	18.81	22.02	-3.21	85%
6	Shenandoah	21.13	19.58	1.55	108%
7	Northern Virginia	25.63	21.41	4.21	120%
8	Northern Piedmont	22.44	22.19	0.24	101%
9	Chowan	18.87	22.83	-3.97	83%
10	Northern Coastal Plain	20.06	22.03	-1.97	91%
11	York-James	18.53	23.91	-5.39	77%
12	Southeast Virginia	21.87	23.29	-1.43	94%
13	Eastern Shore	21.52	20.23	1.29	106%
	Statewide	19.57	22.32	-2.75	88%

DROUGHT REGION		OBSERVED	Feb 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	21.35	27.50	-6.15	78%
2	New River	19.83	24.14	-4.31	82%
3	Roanoke	20.13	26.39	-6.26	76%
4	Upper James	19.37	24.22	-4.85	80%
5	Middle James	21.42	25.14	-3.73	85%
6	Shenandoah	23.07	21.99	1.08	105%
7	Northern Virginia	28.29	24.08	4.20	117%
8	Northern Piedmont	24.84	25.16	-0.33	99%
9	Chowan	21.63	26.00	-4.37	83%
10	Northern Coastal Plain	22.57	25.17	-2.61	90%
11	York-James	22.22	27.44	-5.23	81%
12	Southeast Virginia	25.49	26.79	-1.30	95%
13	Eastern Shore	24.70	23.42	1.28	105%
	Statewide	21.99	25.45	-3.46	86%

DROUGHT REGION		OBSERVED	Jan 1, 2008 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	23.61	31.23	-7.62	76%
2	New River	21.07	27.35	-6.28	77%
3	Roanoke	21.03	30.31	-9.28	69%
4	Upper James	20.64	27.50	-6.86	75%
5	Middle James	22.39	28.80	-6.41	78%
6	Shenandoah	24.06	24.84	-0.78	97%
7	Northern Virginia	29.67	27.36	2.30	108%
8	Northern Piedmont	27.73	28.68	-0.95	97%
9	Chowan	22.82	30.11	-7.30	76%
10	Northern Coastal Plain	23.78	28.92	-5.14	82%
11	York-James	23.63	31.58	-7.96	75%
12	Southeast Virginia	27.00	30.95	-3.95	87%
13	Eastern Shore	26.51	26.98	-0.47	98%
	Statewide	23.36	29.09	-5.73	80%

DROUGHT REGION		OBSERVED	Dec 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	26.52	34.87	-8.35	76%
2	New River	23.52	30.06	-6.54	78%
3	Roanoke	24.25	33.56	-9.31	72%
4	Upper James	23.60	30.45	-6.85	78%
5	Middle James	25.07	31.97	-6.90	78%
6	Shenandoah	27.00	27.43	-0.43	98%
7	Northern Virginia	32.70	30.46	2.24	107%
8	Northern Piedmont	30.64	31.96	-1.33	96%
9	Chowan	26.96	33.13	-6.18	81%
10	Northern Coastal Plain	26.53	32.20	-5.68	82%
11	York-James	27.74	34.97	-7.24	79%
12	Southeast Virginia	30.66	34.13	-3.47	90%
13	Eastern Shore	31.08	30.22	0.86	103%
	Statewide	26.43	32.21	-5.78	82%

DROUGHT REGION		OBSERVED	Nov 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	28.22	38.15	-9.93	74%
2	New River	23.97	33.09	-9.12	72%
3	Roanoke	24.73	36.92	-12.19	67%
4	Upper James	24.01	33.81	-9.80	71%
5	Middle James	25.59	35.48	-9.90	72%
6	Shenandoah	28.11	30.48	-2.37	92%
7	Northern Virginia	34.29	33.87	0.41	101%
8	Northern Piedmont	31.50	35.76	-4.26	88%
9	Chowan	27.41	36.24	-8.84	76%
10	Northern Coastal Plain	27.63	35.34	-7.71	78%
11	York-James	28.56	38.34	-9.79	74%
12	Southeast Virginia	31.23	37.20	-5.98	84%
13	Eastern Shore	31.92	33.16	-1.24	96%
	Statewide	27.23	35.44	-8.21	77%

DROUGHT REGION		OBSERVED	Oct 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	30.18	41.03	-10.85	74%
2	New River	27.68	36.26	-8.58	76%
3	Roanoke	28.34	40.63	-12.29	70%
4	Upper James	26.38	37.06	-10.68	71%
5	Middle James	29.21	39.32	-10.12	74%
6	Shenandoah	30.32	33.67	-3.35	90%
7	Northern Virginia	37.53	37.35	0.18	100%
8	Northern Piedmont	34.51	39.75	-5.24	87%
9	Chowan	30.50	39.82	-9.32	77%
10	Northern Coastal Plain	33.01	38.85	-5.84	85%
11	York-James	32.40	41.87	-9.48	77%
12	Southeast Virginia	36.50	40.86	-4.37	89%
13	Eastern Shore	35.28	36.37	-1.09	97%
	Statewide	30.54	38.94	-8.40	78%

DROUGHT REGION		OBSERVED	Sep 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	31.44	44.49	-13.06	71%
2	New River	29.32	39.67	-10.35	74%
3	Roanoke	30.42	44.86	-14.44	68%
4	Upper James	28.63	40.56	-11.93	71%
5	Middle James	30.02	43.45	-13.43	69%
6	Shenandoah	32.26	37.34	-5.08	86%
7	Northern Virginia	38.70	41.42	-2.73	93%
8	Northern Piedmont	35.50	44.03	-8.53	81%
9	Chowan	31.47	44.25	-12.79	71%
10	Northern Coastal Plain	34.25	42.94	-8.69	80%
11	York-James	34.30	46.77	-12.48	73%
12	Southeast Virginia	37.22	45.29	-8.07	82%
13	Eastern Shore	36.84	39.98	-3.14	92%
	Statewide	31.96	42.94	-10.98	74%

DROUGHT REGION		OBSERVED	Aug 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	32.62	48.32	-15.70	68%
2	New River	30.51	42.98	-12.47	71%
3	Roanoke	31.25	48.58	-17.33	64%
4	Upper James	30.08	43.89	-13.81	69%
5	Middle James	32.74	47.27	-14.53	69%
6	Shenandoah	35.04	40.67	-5.63	86%
7	Northern Virginia	40.56	45.27	-4.72	90%
8	Northern Piedmont	37.88	47.85	-9.97	79%
9	Chowan	33.47	48.56	-15.09	69%
10	Northern Coastal Plain	35.70	46.80	-11.10	76%
11	York-James	36.62	51.64	-15.02	71%
12	Southeast Virginia	40.70	50.41	-9.71	81%
13	Eastern Shore	39.34	43.85	-4.51	90%
	Statewide	33.83	46.77	-12.94	72%

DROUGHT REGION		OBSERVED	Jul 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	37.11	52.80	-15.69	70%
2	New River	33.44	46.77	-13.33	71%
3	Roanoke	34.53	52.97	-18.44	65%
4	Upper James	32.42	47.93	-15.51	68%
5	Middle James	35.09	51.68	-16.59	68%
6	Shenandoah	37.03	44.43	-7.40	83%
7	Northern Virginia	43.02	49.04	-6.02	88%
8	Northern Piedmont	39.41	52.25	-12.84	75%
9	Chowan	36.53	53.07	-16.54	69%
10	Northern Coastal Plain	37.12	51.25	-14.13	72%
11	York-James	40.07	56.74	-16.68	71%
12	Southeast Virginia	44.01	55.48	-11.47	79%
13	Eastern Shore	41.43	47.85	-6.42	87%
	Statewide	36.56	51.11	-14.55	72%

DROUGHT REGION		OBSERVED	Jun 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	39.85	56.94	-17.09	70%
2	New River	36.47	50.62	-14.14	72%
3	Roanoke	37.45	56.86	-19.41	66%
4	Upper James	36.17	51.64	-15.47	70%
5	Middle James	38.45	55.19	-16.74	70%
6	Shenandoah	40.31	48.14	-7.83	84%
7	Northern Virginia	44.96	52.90	-7.94	85%
8	Northern Piedmont	41.56	56.26	-14.70	74%
9	Chowan	38.75	56.72	-17.98	68%
10	Northern Coastal Plain	38.97	54.81	-15.84	71%
11	York-James	42.25	60.15	-17.90	70%
12	Southeast Virginia	47.23	59.09	-11.86	80%
13	Eastern Shore	46.68	50.83	-4.15	92%
	Statewide	39.42	54.90	-15.48	72%

DROUGHT REGION		OBSERVED	May 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	41.60	61.76	-20.16	67%
2	New River	38.25	54.83	-16.57	70%
3	Roanoke	39.42	61.19	-21.77	64%
4	Upper James	38.19	55.92	-17.72	68%
5	Middle James	40.91	59.43	-18.52	69%
6	Shenandoah	42.50	51.98	-9.48	82%
7	Northern Virginia	46.23	57.24	-11.02	81%
8	Northern Piedmont	43.65	60.48	-16.83	72%
9	Chowan	41.63	60.81	-19.18	68%
10	Northern Coastal Plain	40.22	58.97	-18.76	68%
11	York-James	43.81	64.42	-20.62	68%
12	Southeast Virginia	49.20	62.95	-13.76	78%
13	Eastern Shore	48.42	54.35	-5.93	89%
	Statewide	41.45	59.16	-17.71	70%

DROUGHT REGION		OBSERVED	Apr 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	46.07	65.52	-19.45	70%
2	New River	41.37	58.38	-17.00	71%
3	Roanoke	42.64	64.99	-22.35	66%
4	Upper James	41.69	59.32	-17.62	70%
5	Middle James	44.14	62.77	-18.63	70%
6	Shenandoah	46.07	54.90	-8.83	84%
7	Northern Virginia	49.95	60.54	-10.59	83%
8	Northern Piedmont	46.75	63.77	-17.03	73%
9	Chowan	46.07	64.24	-18.18	72%
10	Northern Coastal Plain	43.93	62.06	-18.14	71%
11	York-James	47.85	67.72	-19.88	71%
12	Southeast Virginia	53.71	66.20	-12.49	81%
13	Eastern Shore	52.97	57.27	-4.30	92%
	Statewide	45.09	62.58	-17.49	72%

DROUGHT REGION		OBSERVED	Mar 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	49.20	69.77	-20.57	71%
2	New River	45.41	62.05	-16.64	73%
3	Roanoke	46.33	69.26	-22.93	67%
4	Upper James	45.33	63.11	-17.78	72%
5	Middle James	47.20	66.83	-19.64	71%
6	Shenandoah	48.95	58.10	-9.15	84%
7	Northern Virginia	53.11	64.20	-11.10	83%
8	Northern Piedmont	49.18	67.58	-18.41	73%
9	Chowan	48.63	68.61	-19.98	71%
10	Northern Coastal Plain	46.74	66.34	-19.61	70%
11	York-James	49.57	72.41	-22.85	68%
12	Southeast Virginia	55.65	70.40	-14.75	79%
13	Eastern Shore	54.75	61.58	-6.83	89%
	Statewide	48.16	66.62	-18.46	72%

DROUGHT REGION		OBSERVED	Feb 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	50.60	73.35	-22.75	69%
2	New River	47.06	64.98	-17.91	72%
3	Roanoke	48.38	72.57	-24.19	67%
4	Upper James	47.78	65.96	-18.18	72%
5	Middle James	49.17	69.95	-20.79	70%
6	Shenandoah	51.01	60.51	-9.50	84%
7	Northern Virginia	55.95	66.87	-10.93	84%
8	Northern Piedmont	51.62	70.55	-18.93	73%
9	Chowan	50.80	71.78	-20.98	71%
10	Northern Coastal Plain	49.24	69.48	-20.24	71%
11	York-James	51.31	75.94	-24.63	68%
12	Southeast Virginia	57.92	73.90	-15.98	78%
13	Eastern Shore	57.54	64.77	-7.23	89%
	Statewide	50.25	69.75	-19.50	72%

DROUGHT REGION		OBSERVED	Jan 1, 2007 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	53.78	77.08	-23.30	70%
2	New River	50.02	68.19	-18.16	73%
3	Roanoke	52.26	76.49	-24.23	68%
4	Upper James	50.79	69.24	-18.45	73%
5	Middle James	52.74	73.61	-20.87	72%
6	Shenandoah	52.57	63.36	-10.79	83%
7	Northern Virginia	58.19	70.15	-11.96	83%
8	Northern Piedmont	54.14	74.07	-19.94	73%
9	Chowan	53.32	75.89	-22.57	70%
10	Northern Coastal Plain	53.48	73.23	-19.75	73%
11	York-James	53.92	80.08	-26.16	67%
12	Southeast Virginia	61.09	78.06	-16.97	78%
13	Eastern Shore	59.71	68.33	-8.62	87%
	Statewide	53.31	73.39	-20.08	73%

DROUGHT REGION		OBSERVED	Dec 1, 2006 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	55.78	80.72	-24.94	69%
2	New River	51.80	70.90	-19.09	73%
3	Roanoke	54.43	79.74	-25.31	68%
4	Upper James	52.78	72.19	-19.41	73%
5	Middle James	54.33	76.78	-22.46	71%
6	Shenandoah	53.69	65.95	-12.26	81%
7	Northern Virginia	59.86	73.25	-13.40	82%
8	Northern Piedmont	55.89	77.35	-21.46	72%
9	Chowan	55.49	78.91	-23.42	70%
10	Northern Coastal Plain	55.18	76.51	-21.33	72%
11	York-James	55.74	83.47	-27.73	67%
12	Southeast Virginia	63.54	81.24	-17.70	78%
13	Eastern Shore	62.46	71.57	-9.11	87%
	Statewide	55.16	76.51	-21.35	72%

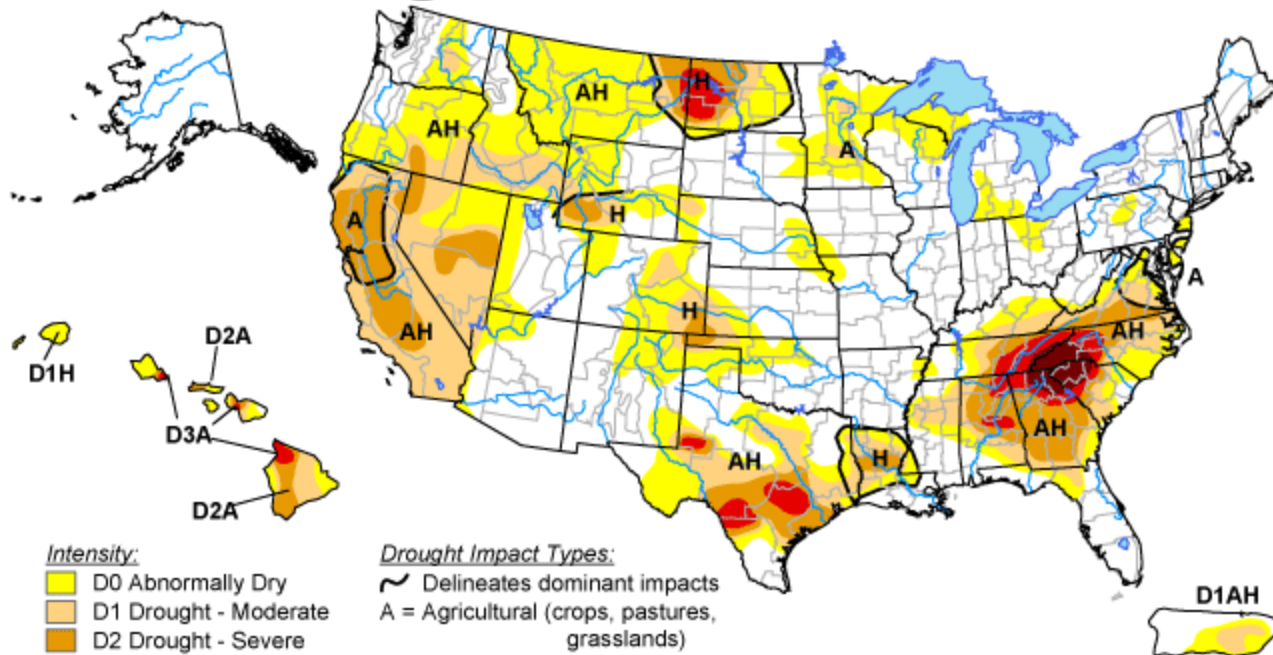
DROUGHT REGION		OBSERVED	Nov 1, 2006 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	58.53	84.00	-25.47	70%
2	New River	55.76	73.93	-18.17	75%
3	Roanoke	59.83	83.10	-23.27	72%
4	Upper James	56.56	75.55	-18.98	75%
5	Middle James	60.06	80.29	-20.23	75%
6	Shenandoah	57.84	69.00	-11.16	84%
7	Northern Virginia	65.65	76.66	-11.01	86%
8	Northern Piedmont	62.19	81.15	-18.96	77%
9	Chowan	62.86	82.02	-19.16	77%
10	Northern Coastal Plain	60.48	79.65	-19.17	76%
11	York-James	61.41	86.84	-25.43	71%
12	Southeast Virginia	71.16	84.31	-13.16	84%
13	Eastern Shore	67.33	74.51	-7.17	90%
	Statewide	60.32	79.74	-19.42	76%

DROUGHT REGION		OBSERVED	Oct 1, 2006 NORMAL	- Aug 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	63.51	86.88	-23.38	73%
2	New River	60.74	77.10	-16.35	79%
3	Roanoke	65.87	86.81	-20.94	76%
4	Upper James	63.49	78.80	-15.31	81%
5	Middle James	67.75	84.13	-16.38	81%
6	Shenandoah	63.08	72.19	-9.11	87%
7	Northern Virginia	70.44	80.14	-9.71	88%
8	Northern Piedmont	68.72	85.14	-16.42	81%
9	Chowan	70.57	85.60	-15.03	82%
10	Northern Coastal Plain	66.56	83.16	-16.60	80%
11	York-James	69.41	90.37	-20.97	77%
12	Southeast Virginia	76.23	87.97	-11.75	87%
13	Eastern Shore	74.27	77.72	-3.45	96%
	Statewide	66.56	83.24	-16.68	80%

APPENDIX B

U.S. Drought Monitor

August 19, 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>



Released Thursday, August 21, 2008

Author: Eric Luebehusen, U.S. Department of Agriculture

APPENDIX C

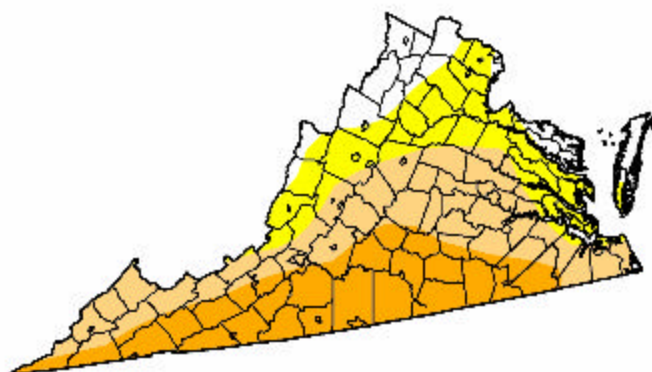
U.S. Drought Monitor Virginia

August 19, 2008

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.4	88.6	65.3	31.2	0.0	0.0
Last Week (08/12/2008 map)	27.4	72.6	39.9	9.7	0.0	0.0
3 Months Ago (05/27/2008 map)	66.9	33.1	7.6	0.0	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 (08/21/2007 map)	0.0	100.0	80.6	15.6	5.2	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

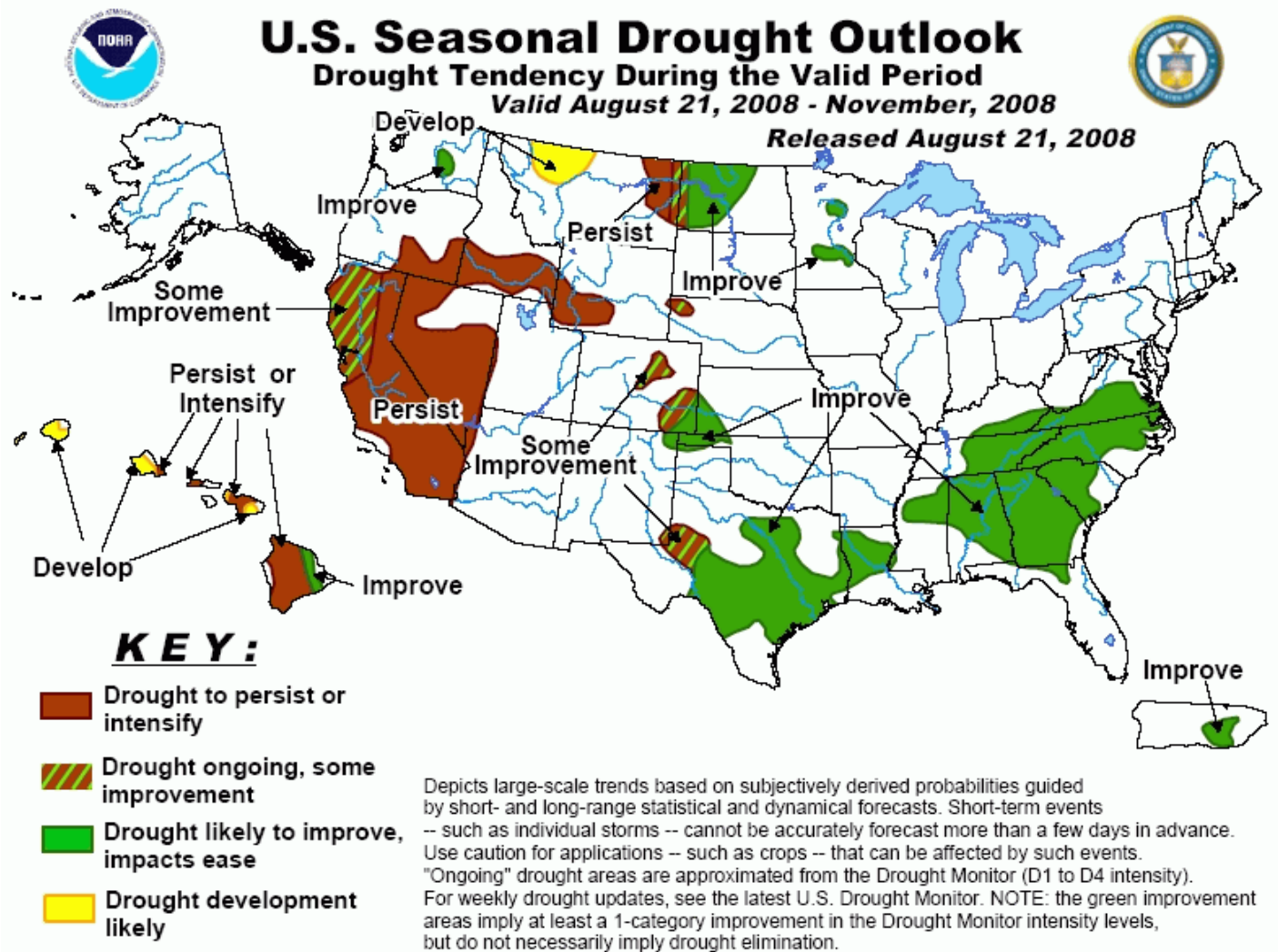
<http://drought.unl.edu/dm>



Released Thursday, August 21, 2008

Author: Eric Luebehusen, U.S. Department of Agriculture

APPENDIX D



APPENDIX E

Condition of Public Water Supplies

August 20, 2008

ODW Drought Situation Report

Date: **8/20/08**

	Restriction totals
Mandatory	5
Voluntary	50
Total	55

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	KVS Quarry	N	W 08/19/08: Water level in quarry is currently at 188 inches below catwalk . Level was 173 inches below catwalk on 07/16/08. 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.	
1195050	Town of Appalachia	reservoir	M	W 8/19/08: down 6.4' from overflow; 65 MG, 143 days ± 10 left. Level was 4'-4.5" down on 7/14/08. Essentially at same level as 08/17/07, but now have auxiliary river source. May start pumping from river today.	
1195100	Town of Big Stone Gap	Big Cherry Reservoir	M	W 8/20/08: Reservoir down 4 ft from overflow. 483 MG, 154 days left. Slightly better than August 07. Reservoir down 2 ft on 7/16/08. Essentially at same level as 08/17/07.	
1195950	Town of Wise	reservoir	N	W 08/19/08: Reservoir down 5'-3.5", 163 MG left, 272 days left @ 0.6 MGD. Using auxiliary mine well source daily now. Down 4'-1.5" on 07/16/08. 1.5 ft lower than on 08/17/07.	
1720076	City of Norton	reservoirs	N	W 08/14/08: Upper reservoir down 8 ft 45.4 MG left. Lower reservoir down 10.5 ft, 35.85 MG left. from overflow. Total: 81.25 MG left. 4 MG more than on 08/17/07. Buying water from Wise County PSA and Big Stone Gap.	
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 85% full, 4 feet below overflow (~34 MG stored). Moderate Drought Condition continues to conserve water.	1,650
2125325	NCSA - Lovingston	Black Creek Reservoir	V	W - Voluntary conservation requested on 8/20/08. Reservoir is 2.5 feet below full.	2,500
2125650	NCSA - Schuyler	Johnson's Branch	V	W - Voluntary conservation requested on 8/20/08. Spring fed branch flow has slowed considerably.	500
2125910	NCSA - Wintergreen	Lake Monacan	V	W - Voluntary conservation requested on 8/20/08. Lake is at 67% of full.	6,600
2187406	Front Royal, Town of	North Fork Shenandoah River	V	S - Voluntary conservation requested on 9 August 2008. Under VWPP voluntary conservation initiated when stream flow 14-day running average is less than 24% mean stream flow -- as of 18 August 14-day average was 22.97%.	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	W - Voluntary restrictions on 7/29/08.	6,800
3081550	GCWSA - Jarratt	Nottoway River	N	S - 8/21/08 - Waterworks production rate still reduced due to lower demand; river level and discharge less than last month, sufficient to allow plant operation at 2.0 mgd	7,190
3093120	Isle of Wight County	Suffolk	V	B - follows Suffolk's lead on conservation.	1,284
3550050	Chesapeake - Western Branch system	City of Portsmouth	V	S - 8/19/08 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	S - as of 8/19/08 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 have began a steady increase from a range of 175-246 mg/l with an average value of 199 mg/l. Approximately 10.7 inches of rain was recorded in July, this created a surplus of 4.43 inches for the year to date tally.	101,428
3550052	Chesapeake - South Norfolk system	City of Norfolk	V	S -8/19/08-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 - 8/21/08 - Water is going over the dam. Power plant on river has been asked to shutdown temporarily to increase storage level in reservoir.	5,600
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	S - 8/21/08 - River levels decreased but, intake levels at plant are still sufficient to supply plant. Alkalinity and pH values increased during a dry July and early August.	25000 - Primary / 42463 Total including Consecutive System (Ft. Lee)
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 08/18, reservoirs at 85.1% (slightly down from 86.4% on 07/15). Historic reservoir capacity is 86.7% at this time of year. Avg. pumping from Lake Gaston = 55.4 MGD. Called for voluntary conservation 11/1/07.	261,250 - Primary / 755,617 - Total including consecutive systems (Va Beach + military bases).
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	V	S - As of 08/15, reservoirs at 85% (down from 93% on 07/15). Median reservoir capacity is 94% for the month and historical average capacity is 90% (period of 1969-2006). Both emergency wells are OFF. 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 8/19/08-Reservoir levels: Southern Lakes at 52.9% capacity, for the Northern Lakes at 87.02% and Crumps Mill Pond at 78.96% 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
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	V	S - Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Water level getting lower.	200,000
4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	V	S - Purchases water from the City of Richmond and the Appomattox River Water Authority. Reservoir levels getting lower.	263,000
4057800	TAPPAHANNOCK, TOWN OF	Groundwaterwells	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	V	S -purchases water from Henrico County	2,500
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	N	S	9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	V	S	71,000
4085770	SPRING MEADOWS-MEADOW GATE	Groundwaterwells	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	V	S - Similar to City of Richmond	289,000
4101900	WEST POINT, TOWN OF	Groundwaterwells	N	S	3,000
4127110	DELMARVA PROPERTIES	Groundwaterwells	V	S -New Kent Co. encourages conservation at all county owned waterworks.	7,700
4145675	POWHATAN COURTHOUSE	Groundwaterwells	N	S	2,600
4193280	COLONIAL BEACH, TOWN OF	Groundwaterwells	N	S	3,300

4760100	RICHMOND, CITY OF	Surface water; James River	V	S-water levels in the James River are getting lower than 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	W- Observation of reservoir on 8/18 indicated level down ~1 foot below spillway; Operator asked to confirm status of construction of emergency raw water line approved by VDH from Bennett Farm pond previously used during drought emergency in 2002; Town proceeding with source water monitoring of Whitethorn Creek source being evaluated to supplement source capacity	2,500
5031150	CCUSA	Surface - Big Otter River	N	W - Current stream flow 5 cfs, plan to open emergency connection with City of Lynchburg at 3 cfs.	20,000
5025450	Town of Lawrenceville	Great Creek Reservoir	N	W- water is 12- inches below spillway	4,806
5025480	Lane View Subdivision	Wells	V	W	39
5025500	Brunswick Estates	Wells	V	W	70
5025550	Nottoway Acres Subdivision	Wells	V	W	58
5025570	Pleasant Grove Subdivision	Wells	V	W	85
5025625	Siouan Shores Subdivision	Wells	V	W	95
5025650	Sunnybrook Subdivision	Wells	V	W	53
5117096	Anchor Cove Subdivision	Wells	V	W	93
5117125	Buckhead Subdivision	Wells	V	W	66
5117350	Fox Run Subdivision	Wells	V	W	226
5117371	Great Creek Landing	Wells	V	W	270
5117375	Hawk's Nest Point	Wells	V	W	25
5117378	Hicks Hill Subdivision	Wells	V	W	35
5117379	Holly Grove Estates	Wells	V	W	25
5117390	Joyceville Subdivision	Wells	V	W	175
5117419	Long Branch Shores	Wells	V	W	85
5117450	Merrymount Subdivision	Wells	V	W	118
5117833	Tanglewood Shores	Wells	V	W	50
5117846	Timbuctu Subdivision	Wells	V	W	132
5029085	Buckingham County	Troublesome Creek Reservoir	N	W- water is 13-1/4 inches below spillway	5,751
5037300	Town of Keysville	Keysville Reservoir	N	W-visual observation, down but not way down.	800
5083550	Town of Halifax	Bannister River Reservoir	N	S	1,389
5780600	Town of South Boston	Dan River	N	S	9,726
5141640	Town of Stuart	South Mayo River	N	S	1,500
5147170	Town of Farmville	Appomattox River	N	W-sandbagged river ~7 days ago to insure water is forced into intake. Can maintain current production	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	B - good levels	3,500
5111450	Town of Kenbridge	Flat Rock Creek and Offstream Reservoir	N	S - good levels	1,400
5067785	Ridgscrest	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	W - Creek is not flowing over dam.	
5009250	ACSA	Graham Creek Reservoir	N	W - Switched from the Harris Creek to the Graham Creek Reservoir.	
5680200	City of Lynchburg	James River	N	W - Using the James River, Abert Intake.	76,000
6033425	Lake Caroline WTP	Lake Caroline	N	W - Lake is down 9 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 Thursday, August 14, 2008, Lake Pelham surface level was about 6-1/2 inches below the overflow.	14,200
6061200	Marshall	Groundwater	M	S - No water was hauled to the waterworks in July, 2008. The WSA Alert Messaging Service maintains the Water Use Restriction Notice as of 8/18/2008.	2,134
6061600	Town of Warrenton	Reservoir on Cedar Run and groundwater	N	S - On Thursday, 8/14/08, Warrenton Reservoir is at a surface elevation of 443.5 ft (full). No water is being transferred from Airlie Reservoir.	11,160
6107150	Town of Hamilton	Groundwater	M	S - 8/19/08 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	S - 08/19/08 Voluntary conservation in place beginning 3/11/08 due to concerns about possible GUDI sources. Both wells in service.	394
6107400	Town of Lovettsville	Groundwater	V	S - 8/19/08 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 - 8/19/08 Reservoir level is within expected range. Voluntary water conservation in place.	6,300
6107650	Town of Round Hill	Groundwater	V	S - 8/19/08 - 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 - 8/14/08 - Fourteen day running average of Rapidan River flow is 65 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	B -- 8/19/08 Well #3 pumping rate increased to approx 15 gpm, pressure has improved. 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 is lower than last month (92cfs) but Reservoirs are near full.	79,315
6179100 and 6179775	Stafford County	Smith Lake and Abel Lake	N	W - Smith down 6 inches, Abel down 1 foot. In June 2008, water supply emergency from 2007 was rescinded with county wide conservation requested.	93,669

Notes of interest:

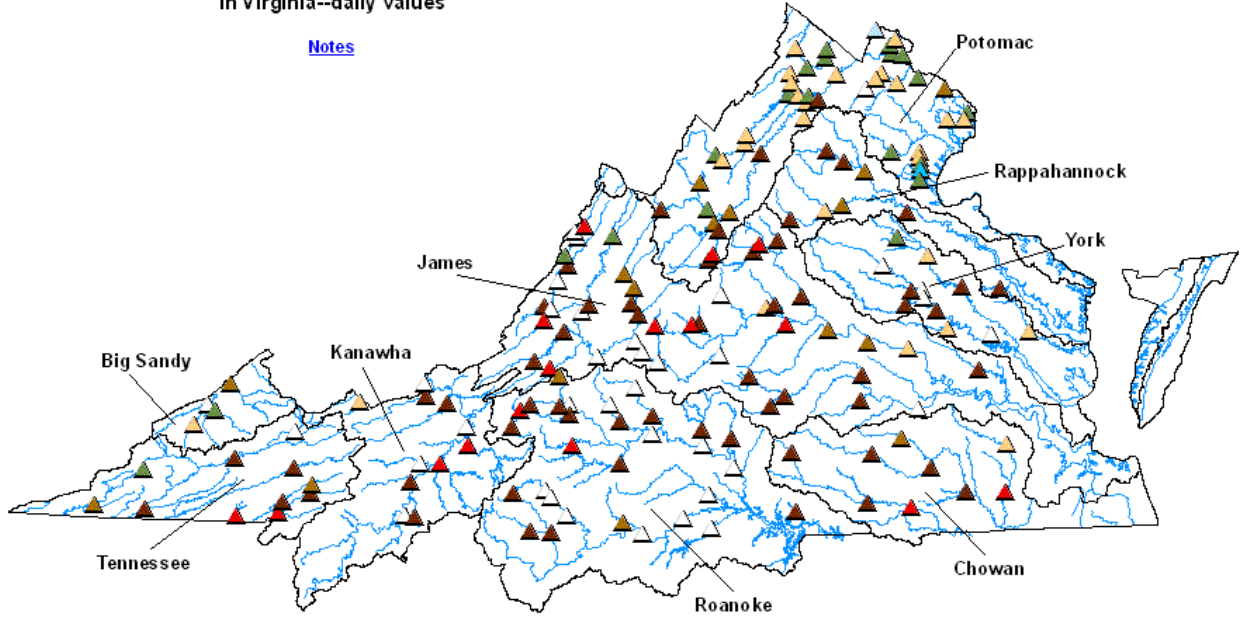
(1) Metropolitan Washington Council of Governments lifted the drought Watch, returning to Normal status, lifting a region-wide voluntary conservation advisory, on 4/1/08, covering DC, Maryland, and Northern Virginia.

(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

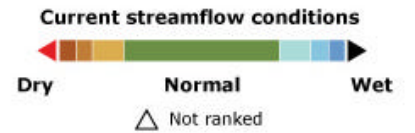
Streamflow conditions for 08/24/2008
in Virginia--daily values

[Notes](#)



**Streamflow Statistics based on
average flows**

Click on map or table to select River Basin

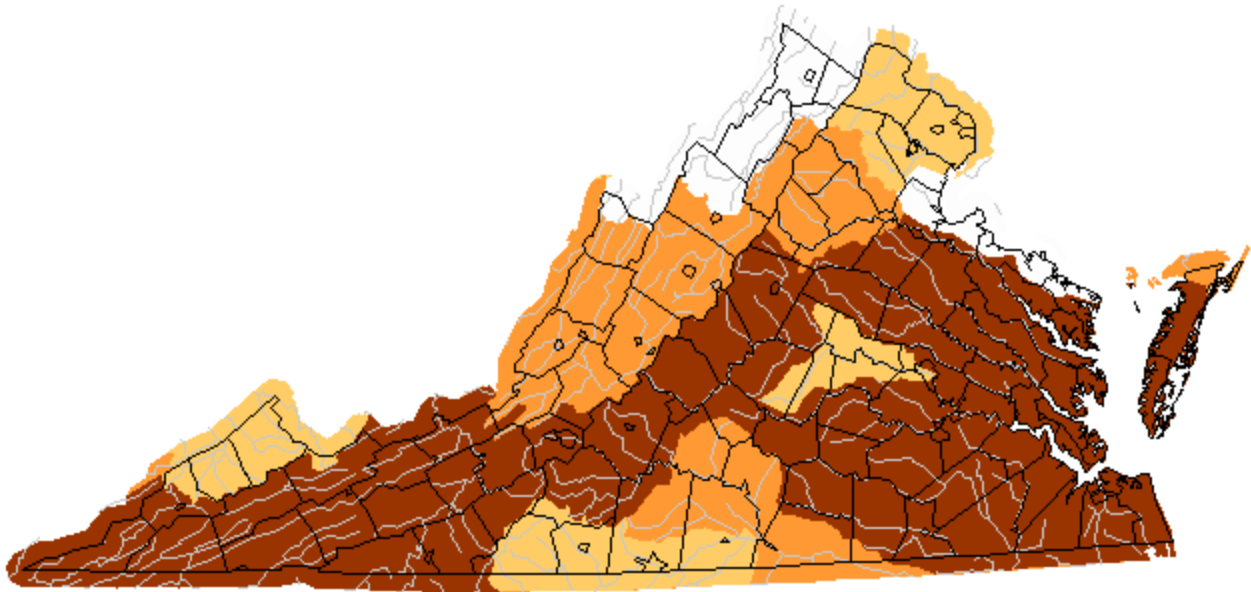


APPENDIX G

Drought Watch -- USGS State Information on Drought

Map of below normal 7-day average streamflow

Sunday, August 24, 2008

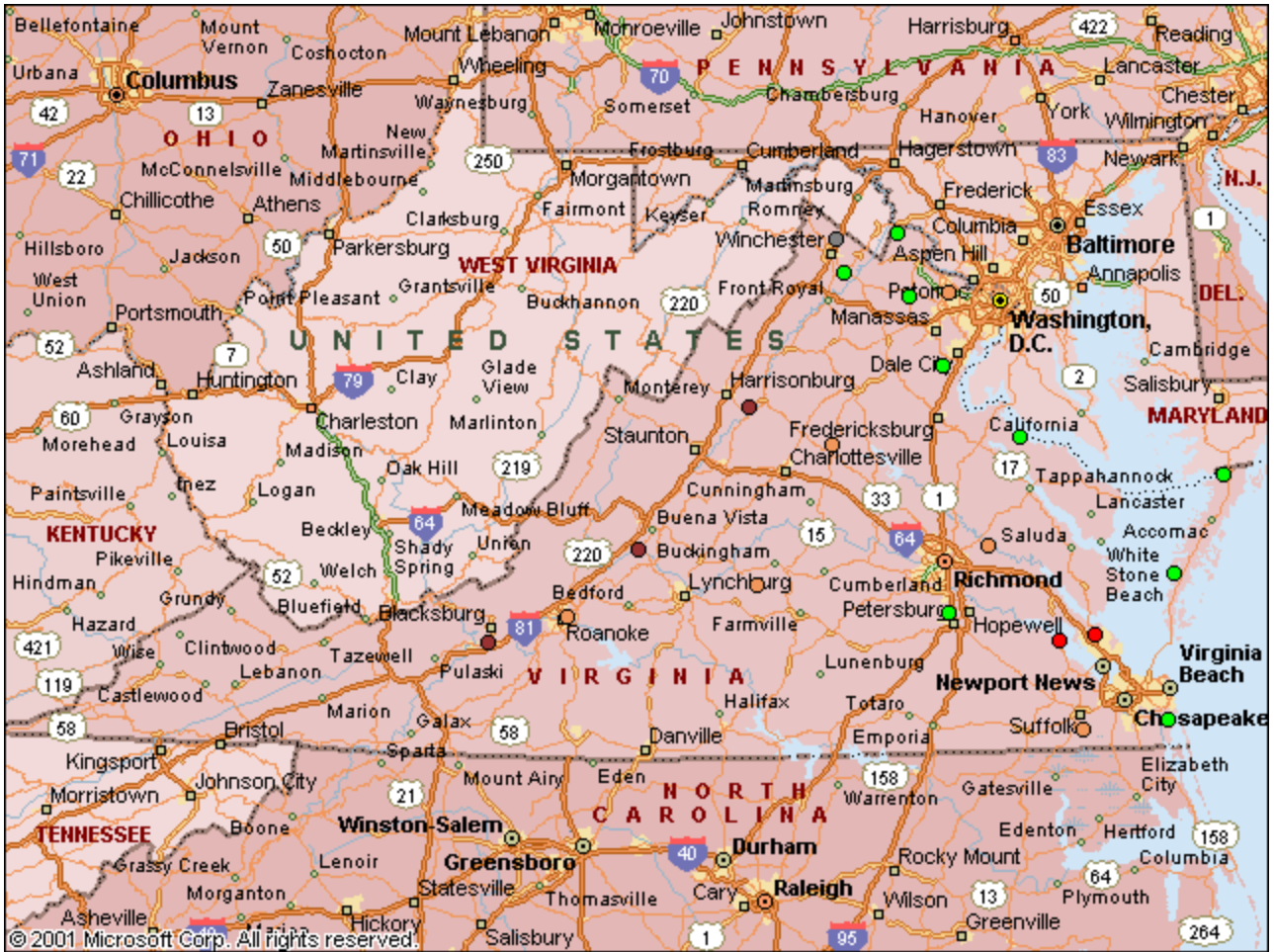


Explanation - Percentile classes				
LOW	≤5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

APPENDIX H

Virginia Climate Response Network

August 24, 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		