

DROUGHT MONITORING TASK FORCE

Drought Status Report

June 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 June 20, 2008 was below normal (82% of normal). Statewide precipitation for the period from January 1, 2008 through June 20, 2008 is in the normal range (88% of normal). Precipitation greater than 85% of normal is considered to be in the normal range. The period from June 1 through June 20 was characterized by very dry conditions in areas in the southern portion of the Commonwealth (south of Interstate 64) and resulted in below normal statewide precipitation (76% of normal). The following drought evaluation regions are currently below normal for the period beginning October 1, 2006; Big Sandy (73%), New River (78%), Roanoke (78%), Upper James (81%), Northern Piedmont (81%), Northern Coastal Plain (83%) and York-James (84%). Cumulative precipitation deficits for the period beginning October 1, 2006 increased slightly percentage points across the Commonwealth since the last report. 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. The long-range monthly climatologic outlook calls for equal chances of below normal, normal and above normal precipitation and temperatures for the Commonwealth through July of 2008. The long-range seasonal outlook calls for equal chances of below normal, normal and above normal precipitation for the Commonwealth through September 2008. The long range seasonal outlooks calls for above normal temperatures in the eastern two thirds of the Commonwealth and for equal chances of below normal, normal and above normal temperatures for the western third of the Commonwealth through September 2008.

The latest NOAA drought monitor indicates intensification of drought conditions in the western and southern portions of the Commonwealth during the last month and is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. Currently almost 25% of the Commonwealth is experiencing drought conditions, a three fold increase since May 19. The NOAA seasonal drought outlook through September 2008 indicates that drought conditions are likely to persist in southwest Virginia. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows for June 21 are below normal in the majority of the Commonwealth. Areas in the New, upper Roanoke, and Chowan river basins are exhibiting flows indicative of severe drought conditions (< 5th percentile). While drought monitoring ground water levels data is scarce, ground water levels are generally in the lower range of expected water levels in areas east of Route 95 and are generally lower than normal in the area west of Route 95. Ten dedicated drought monitoring wells are at levels indicative of normal ground water levels, seven are at levels indicative of moderate hydrologic drought (10th to 24th percentiles), and two are at levels indicative of severe hydrologic drought conditions (< 10th percentile). Ground water levels in the vast majority of dedicated monitoring wells have shown decreases in water levels in the last month due to a relatively short period of very high temperatures and low precipitation. Levels of most large reservoirs have remained near normal over the last month but inflows have dropped significantly, especially for those reservoirs located in the western half of the Commonwealth.

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' 22 systems remain on voluntary water conservation requirements and 4 systems remain on mandatory water conservation requirements. Appendix E contains a table of waterworks that includes systems that have initiated water conservation requirements.

The Department of Forestry reports that increasing drought intensity has resulted in an increase in the number of lightning caused wildfires over the last two weeks. Since the beginning of the second week of June, the agency has responded to 34 wildfires which have burned just over 900 acres. The agency has also provided assistance to 7 other significant fires on federal lands in Virginia, all caused by lightning. Although lightning is normally only responsible for around 1 % of the wildfires in Virginia in a given year, dry forest fuel conditions caused by an extended period of less than normal rainfall makes conditions much more favorable for lightning caused wildfires. The agency expects this trend to continue until significant rainfall can return fuel moisture levels into the normal ranges. Statewide, Keetch-Byram drought indices (KBDI) as measured at the agency's six regional offices range from 277 to 530. The normal range for this time of year is in the 100 - 200 range. In rough terms, it takes about one inch of rainfall to lower the index by 100 points. The agency is fully prepared to respond to the developing summertime fire situation in the Commonwealth and is not expecting a significant change in the current situation anytime in the near future.

The Virginia Department of Game and Inland Fisheries reports that all boating access facilities are open with the exception of those where maintenance and repairs are underway (check web-site at www.dgif.virginia.gov). River flows

across the Commonwealth are varied however the larger rivers remain available for recreational users and reservoir levels remain stable. The trout stocking program suffered from low flows in 2007 that resulted in smaller and fewer fish produced at the Department's hatcheries. The spring 2008 rainfall events provided good flows for stocking and fishing, and the hatcheries are in full production with next years fish (Coursey Springs Hatchery is closed for renovations through 2008). Additional rainfall events in the near future are needed to insure continued recreation and fish production through the summer. Current stream flows in several river basins are slightly below normal with rivers in the far southwestern part of the Commonwealth particularly impacted. Many boaters and anglers are choosing to stay closer to home for their recreation this summer, and areas near population centers are being heavily utilized while recreation is down in rural areas and "destination" locations.

The intensity of drought impacts has increased during the last month due to a relatively short period of record high temperatures coupled with below normal rainfall. The lower than normal ground water levels, especially in the western portions of the Commonwealth, have resulted in very rapid decreases in streamflows. These below normal streamflows raise concerns regarding future reservoir conditions, especially in the western half of the Commonwealth. It should also be noted that the areas that are currently experiencing drought conditions in western Virginia are the same areas that experienced the greatest agricultural drought impacts last year. It is important to remember that localized drought impacts, particularly agricultural drought impacts, are a normal occurrence in an "average" Virginia summer.

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

As expected for this time of year, the last thirty days have seen widely varying amounts of precipitation across the Commonwealth. This is the nature of rainfall from thunderstorm activity, which usually proves to be the most common rainfall source during the summer. Even in cases where the thunderstorm activity is formed into organized lines (as has been experienced earlier this month), these rarely sweep across the entire state and rainfall totals from embedded storms can cover a large range of values.

Coupling this uncertain rainfall pattern with the seasonally high rates of evaporation and transpiration (water consumption by plants), a complex pattern of rainfall deficit or surplus can emerge even within a given Drought Evaluation Region. If rainfall amounts and temperatures were both normal across all regions, a considerable net loss of moisture would still occur during the summer. As such, the prospects of sufficient rainfall to penetrate past topsoil layers before being lost are poor. Groundwater reserves are not be expected to receive widespread replenishment until the end of the growing season.

Early June was marked by a period of high temperatures rarely seen so early in the year. This contributed to increased evapo-transpiration. Although not necessarily linked by identifiable atmospheric processes, there is a statistical tendency for such early extremes to be reflected in temperature averages for the remainder of the summer. The longer-range outlooks (through September) from NOAA suggest temperatures somewhat above normal, but give little useful guidance regarding precipitation.

As the summer progresses, there is an increasing likelihood that tropical cyclone activity will bring precipitation to the Commonwealth. Since this hurricane season is forecast to be more active than average, tropical systems (or their remnants) may yet be an important factor in summer water availability.

Report of the National Weather Service

The 6-10 day and 8-14 day outlooks both suggest the potential for above normal precipitation. Any potential benefits from additional precipitation will probably be counteracted by predicted above normal temperatures in the same time periods. During the last 30 days areas along and north of Interstate 64 have fared much better than areas south of this region. Several areas of thunderstorms have moved across this area, providing enough rain to at least maintain the status quo from May. However, the southern 1/3 to 1/4 of VA has missed much of this rainfall, and conditions have dried significantly. At present, the mid and long term forecast do not suggest a trend toward wetter conditions, with the 30 to 90 day outlooks showing no trend toward either drier than, wetter than or near normal conditions. Should the trends of the last 3-4 weeks persist, conditions in southern Virginia are expected to deteriorate significantly over the next 30 days, as even normal rainfall would result in a moisture deficit due to high seasonal evapo-transpiration rates. It should be noted that longer term precipitation forecasts tend to have very high errors, so an error on the wet side is certainly possible, especially if any tropical influence occurs.

Virginia Department of Agriculture and Consumer Services
Status of Agricultural Drought

According to the USDA Crop Weather Report released on June 16, 2008, 92% of topsoil moisture ranged from adequate to surplus. Despite scattered showers this week, most of Virginia continued to suffer from drought stress. Early May produced adequate rainfall for planting and establishment of new crops. However, the unusually warm weather near the end of May and the extreme heat over the last few weeks have caused considerable concern for the new crops. Corn is perhaps the crop most in need of rainfall. The corn crop improved slightly in areas that experienced the recent light showers. However, twisting and drought stress has slowed growth. Pastures in the Southeastern portions of the state are also very dry. While recent weather has been perfect for wheat harvesting, many growers are very concerned that without rainfall in the next few days we could see another year of significant agricultural drought issues. The quality of hay not yet cut diminished due to the heat and lack of water. Most of the full season soybeans are planted.

Impact on the Dairy Industry

Many dairymen did not fertilize hay crops as much as usual because of the very high prices for nitrogen and potash. In cases where adequate fertilizer was used, spring hay crop yield was above normal.

Impact on Crops

South Central Virginia: Even though there have been some scattered thundershowers in the region during the past few days, the overall soil moisture condition is dry. Crop conditions have not been negatively affected to a great degree to this point. The tobacco crop is probably in average condition for this time of year, although a few growers have started to irrigate. The spring hay crop yielded well. Wheat harvest is underway with good yields being reported. Planting of double crop soybeans following wheat harvest could be negatively affected if reasonable rainfall is not received. Southwest Virginia: The recent rains in Southwestern Virginia have helped ease the current situation but producers are hopeful that cooler temperatures and more moisture is on the way. The first cuttings of hay have been of good quality and yields.

Wheat crops: The wheat crop looks very good as harvest has just begun. Dry conditions throughout harvest would be ideal as the test weight would remain high. Rainy conditions now could drive test weights down leading to price discounts for producers.

Impact on Streams and Wells

Recent rains temporarily swelled small streams, creeks and rivers, but water levels quickly returned to below normal indicating low ground water levels. Southwest Virginia producers report that creeks and rivers are lower than they were late last summer.

Waivers for Hauling of Emergency Supplies Extended

Temporary waivers of registration and license requirements along with normal weight and width restrictions for carriers transporting emergency supplies of hay or animal feed expired on June 15, 2008

Virginia Department of Environmental Quality
Condition of Major Reservoirs

Although overall most major reservoirs are full or near full, inflows are declining precipitously in the south central and south west part of the state. Water levels are starting to fall at rates that are cause for concern this early in the summer. The watershed of Smith Mountain Lake is probably the driest basin in the state at the current time. Although the lake is only 10 inches below full pond, it is falling at a rate of half a foot every 10 days. A stakeholder's conference call on lake and river levels was held on June 19, 2008 to discuss the situation. No action was taken other than to set a meeting again on June 30, 2008. Further upstream in the very dry Roanoke River watershed, Carvins Cove and Spring Hollow Reservoirs, the water supply for much of the Roanoke area, are at 84 and 87 per cent of useable storage capacity, respectively, which is adequate for this time of year but represents a notable decrease in storage over the last thirty days. Philpott Lake, also in the driest part of the State, is 1.4 feet below the guide curve at the start of the recreation season. This lake will continue to Fall below the guide curve unless the Corps of Engineers decides to intervene and reduce power production from this project. Kerr Reservoir has fallen two feet so far this month but is still about 0.4 feet above guide curve. The release decision is made on a weekly basis following discussions with a drought monitoring work group. Further north in the State things are better, Lake Anna is full. The Lake Moomaw project in the headwaters of the James is 93% full. The often vulnerable Rivanna Water and Sewer Authority system is 99% full.

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

Stream gages in the northeast portion of the State (Shenandoah, Potomac, Rappahannock, and York River Basins) are recording flow the normal range for statistics based on historic June flows. Above normal precipitation in May and continued precipitation from thunderstorms associated with frontal passages in the northern half of the State in June have kept streamflows in the normal to above normal range for most of the month.

Stream gages in the remainder of the State are recording flows in the below normal and well below normal ranges. Streamflows are statistically lowest in the Roanoke and Kanawha River Basins. Graphs of current flow conditions plotted over flow-duration statistics show flow recessions that are steeper than normal at gages in these two basins. The rapid recessions of streamflow indicate that ground-water storage in these areas is low. Precipitation from thunderstorms in these areas has been scattered.

Ground-water wells in the southern half of the State generally show levels well below normal while wells in the northern half of the State generally show levels in the normal range.

Streamflow conditions based on daily values for June 22 are presented in Appendix F. Area summaries of 7-day average streamflows from the USGS drought watch web page show similar flow conditions and are presented in Appendix G. Current conditions are generally higher than depicted by seven day average stream flows as flows continue to increase due to the recent significant precipitation events. Ground water levels based on conditions on June 22 are presented in Appendix H.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
06/22/08

DROUGHT REGION	OBSERVED	Jun 1, 2008 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1 Big Sandy	1.68	2.76	-1.08	61%
2 New River	1.21	2.57	-1.35	47%
3 Roanoke	0.91	2.59	-1.69	35%
4 Upper James	1.49	2.47	-0.98	60%
5 Middle James	1.34	2.34	-1.00	57%
6 Shenandoah	2.78	2.47	0.30	112%
7 Northern Virginia	4.15	2.57	1.58	161%
8 Northern Piedmont	4.62	2.67	1.95	173%
9 Chowan	0.63	2.43	-1.80	26%
10 Northern Coastal Plain	3.45	2.37	1.08	145%
11 York-James	1.25	2.27	-1.03	55%
12 Southeast Virginia	1.53	2.41	-0.88	63%
13 Eastern Shore	3.34	1.99	1.36	168%
Statewide	1.93	2.53	-0.60	76%

DROUGHT REGION	OBSERVED	May 1, 2008 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1 Big Sandy	4.93	7.58	-2.65	65%
2 New River	4.32	6.78	-2.45	64%
3 Roanoke	5.47	6.92	-1.45	79%
4 Upper James	4.57	6.75	-2.18	68%
5 Middle James	6.72	6.58	0.14	102%
6 Shenandoah	6.19	6.31	-0.12	98%
7 Northern Virginia	10.92	6.91	4.01	158%
8 Northern Piedmont	8.02	6.89	1.12	116%
9 Chowan	6.34	6.52	-0.18	97%
10 Northern Coastal Plain	8.57	6.53	2.04	131%
11 York-James	6.11	6.54	-0.43	93%
12 Southeast Virginia	7.64	6.27	1.37	122%
13 Eastern Shore	7.33	5.51	1.83	133%
Statewide	6.38	6.79	-0.41	94%

DROUGHT REGION		OBSERVED	Apr 1, 2008 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	9.15	11.34	-2.19	81%
2	New River	9.02	10.33	-1.30	87%
3	Roanoke	10.71	10.72	-0.02	100%
4	Upper James	9.30	10.15	-0.86	92%
5	Middle James	12.63	9.92	2.71	127%
6	Shenandoah	11.28	9.23	2.04	122%
7	Northern Virginia	16.96	10.21	6.74	166%
8	Northern Piedmont	13.59	10.18	3.40	133%
9	Chowan	12.78	9.95	2.82	128%
10	Northern Coastal Plain	12.84	9.62	3.22	133%
11	York-James	12.85	9.84	3.01	131%
12	Southeast Virginia	14.11	9.52	4.59	148%
13	Eastern Shore	11.68	8.43	3.25	139%
	Statewide	11.69	10.21	1.48	115%

DROUGHT REGION		OBSERVED	Mar 1, 2008 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	12.95	15.59	-2.64	83%
2	New River	11.57	14.00	-2.43	83%
3	Roanoke	13.74	14.99	-1.25	92%
4	Upper James	11.78	13.94	-2.17	84%
5	Middle James	15.73	13.98	1.75	113%
6	Shenandoah	13.79	12.43	1.36	111%
7	Northern Virginia	19.69	13.87	5.81	142%
8	Northern Piedmont	16.21	13.99	2.22	116%
9	Chowan	16.51	14.32	2.18	115%
10	Northern Coastal Plain	16.15	13.90	2.25	116%
11	York-James	17.53	14.53	3.00	121%
12	Southeast Virginia	17.24	13.72	3.52	126%
13	Eastern Shore	13.81	12.74	1.07	108%
	Statewide	14.76	14.25	0.51	104%

DROUGHT REGION		OBSERVED	Feb 1, 2008 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	15.43	19.17	-3.74	81%
2	New River	13.32	16.93	-3.61	79%
3	Roanoke	15.95	18.30	-2.36	87%
4	Upper James	13.67	16.79	-3.13	81%
5	Middle James	18.33	17.10	1.23	107%
6	Shenandoah	15.74	14.84	0.89	106%
7	Northern Virginia	22.35	16.54	5.80	135%
8	Northern Piedmont	18.61	16.96	1.65	110%
9	Chowan	19.27	17.49	1.78	110%
10	Northern Coastal Plain	18.66	17.04	1.61	109%
11	York-James	21.22	18.06	3.16	117%
12	Southeast Virginia	20.86	17.22	3.65	121%
13	Eastern Shore	16.99	15.93	1.07	107%
	Statewide	17.18	17.38	-0.20	99%

DROUGHT REGION		OBSERVED	Jan 1, 2008 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	17.70	22.90	-5.20	77%
2	New River	14.56	20.14	-5.58	72%
3	Roanoke	16.84	22.22	-5.38	76%
4	Upper James	14.93	20.07	-5.14	74%
5	Middle James	19.30	20.76	-1.46	93%
6	Shenandoah	16.72	17.69	-0.97	95%
7	Northern Virginia	23.73	19.82	3.90	120%
8	Northern Piedmont	21.50	20.48	1.02	105%
9	Chowan	20.46	21.60	-1.15	95%
10	Northern Coastal Plain	19.87	20.79	-0.92	96%
11	York-James	22.63	22.20	0.43	102%
12	Southeast Virginia	22.37	21.38	1.00	105%
13	Eastern Shore	18.80	19.49	-0.69	96%
	Statewide	18.55	21.02	-2.47	88%

DROUGHT REGION		OBSERVED	Dec 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	20.61	26.54	-5.93	78%
2	New River	17.01	22.85	-5.84	74%
3	Roanoke	20.06	25.47	-5.41	79%
4	Upper James	17.90	23.02	-5.13	78%
5	Middle James	21.98	23.93	-1.95	92%
6	Shenandoah	19.67	20.28	-0.61	97%
7	Northern Virginia	26.76	22.92	3.84	117%
8	Northern Piedmont	24.41	23.76	0.65	103%
9	Chowan	24.60	24.62	-0.03	100%
10	Northern Coastal Plain	22.62	24.07	-1.46	94%
11	York-James	26.74	25.59	1.15	104%
12	Southeast Virginia	26.03	24.56	1.47	106%
13	Eastern Shore	23.37	22.73	0.64	103%
	Statewide	21.62	24.14	-2.52	90%

DROUGHT REGION		OBSERVED	Nov 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	22.31	29.82	-7.51	75%
2	New River	17.46	25.88	-8.42	67%
3	Roanoke	20.54	28.83	-8.29	71%
4	Upper James	18.30	26.38	-8.08	69%
5	Middle James	22.50	27.44	-4.94	82%
6	Shenandoah	20.78	23.33	-2.56	89%
7	Northern Virginia	28.34	26.33	2.01	108%
8	Northern Piedmont	25.28	27.56	-2.29	92%
9	Chowan	25.05	27.73	-2.69	90%
10	Northern Coastal Plain	23.72	27.21	-3.49	87%
11	York-James	27.56	28.96	-1.40	95%
12	Southeast Virginia	26.59	27.63	-1.03	96%
13	Eastern Shore	24.21	25.67	-1.46	94%
	Statewide	22.42	27.37	-4.95	82%

DROUGHT REGION		OBSERVED	Oct 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	24.27	32.70	-8.43	74%
2	New River	21.17	29.05	-7.88	73%
3	Roanoke	24.16	32.54	-8.38	74%
4	Upper James	20.67	29.63	-8.96	70%
5	Middle James	26.12	31.28	-5.16	84%
6	Shenandoah	22.98	26.52	-3.54	87%
7	Northern Virginia	31.59	29.81	1.78	106%
8	Northern Piedmont	28.28	31.55	-3.27	90%
9	Chowan	28.14	31.31	-3.17	90%
10	Northern Coastal Plain	29.10	30.72	-1.63	95%
11	York-James	31.40	32.49	-1.09	97%
12	Southeast Virginia	31.86	31.29	0.58	102%
13	Eastern Shore	27.57	28.88	-1.30	95%
	Statewide	25.73	30.87	-5.14	83%

DROUGHT REGION		OBSERVED	Sep 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	25.52	36.16	-10.64	71%
2	New River	22.81	32.46	-9.65	70%
3	Roanoke	26.24	36.77	-10.53	71%
4	Upper James	22.93	33.13	-10.21	69%
5	Middle James	26.94	35.41	-8.47	76%
6	Shenandoah	24.93	30.19	-5.26	83%
7	Northern Virginia	32.76	33.88	-1.13	97%
8	Northern Piedmont	29.27	35.83	-6.56	82%
9	Chowan	29.11	35.74	-6.64	81%
10	Northern Coastal Plain	30.34	34.81	-4.47	87%
11	York-James	33.30	37.39	-4.09	89%
12	Southeast Virginia	32.59	35.72	-3.13	91%
13	Eastern Shore	29.13	32.49	-3.35	90%
	Statewide	27.15	34.87	-7.72	78%

DROUGHT REGION		OBSERVED	Aug 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	26.70	39.99	-13.29	67%
2	New River	24.00	35.77	-11.77	67%
3	Roanoke	27.07	40.49	-13.42	67%
4	Upper James	24.37	36.46	-12.09	67%
5	Middle James	29.65	39.23	-9.58	76%
6	Shenandoah	27.70	33.52	-5.82	83%
7	Northern Virginia	34.62	37.73	-3.12	92%
8	Northern Piedmont	31.65	39.65	-8.00	80%
9	Chowan	31.11	40.05	-8.94	78%
10	Northern Coastal Plain	31.79	38.67	-6.89	82%
11	York-James	35.63	42.26	-6.64	84%
12	Southeast Virginia	36.07	40.84	-4.77	88%
13	Eastern Shore	31.63	36.36	-4.73	87%
	Statewide	29.02	38.70	-9.68	75%

DROUGHT REGION		OBSERVED	Jul 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	31.19	44.47	-13.28	70%
2	New River	26.93	39.56	-12.63	68%
3	Roanoke	30.35	44.88	-14.54	68%
4	Upper James	26.71	40.50	-13.79	66%
5	Middle James	32.01	43.64	-11.63	73%
6	Shenandoah	29.70	37.28	-7.58	80%
7	Northern Virginia	37.08	41.50	-4.42	89%
8	Northern Piedmont	33.19	44.05	-10.87	75%
9	Chowan	34.17	44.56	-10.39	77%
10	Northern Coastal Plain	33.21	43.12	-9.92	77%
11	York-James	39.07	47.36	-8.29	82%
12	Southeast Virginia	39.38	45.91	-6.53	86%
13	Eastern Shore	33.72	40.36	-6.64	84%
	Statewide	31.75	43.04	-11.29	74%

DROUGHT REGION		OBSERVED	Jun 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	33.94	48.61	-14.67	70%
2	New River	29.96	43.41	-13.44	69%
3	Roanoke	33.27	48.77	-15.51	68%
4	Upper James	30.46	44.21	-13.75	69%
5	Middle James	35.37	47.15	-11.78	75%
6	Shenandoah	32.97	40.99	-8.02	80%
7	Northern Virginia	39.02	45.36	-6.34	86%
8	Northern Piedmont	35.34	48.06	-12.73	74%
9	Chowan	36.39	48.21	-11.83	75%
10	Northern Coastal Plain	35.06	46.68	-11.62	75%
11	York-James	41.26	50.77	-9.51	81%
12	Southeast Virginia	42.60	49.52	-6.92	86%
13	Eastern Shore	38.97	43.34	-4.37	90%
	Statewide	34.61	46.83	-12.22	74%

DROUGHT REGION		OBSERVED	May 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	35.69	53.43	-17.74	67%
2	New River	31.74	47.62	-15.87	67%
3	Roanoke	35.24	53.10	-17.86	66%
4	Upper James	32.49	48.49	-16.01	67%
5	Middle James	37.83	51.39	-13.56	74%
6	Shenandoah	35.16	44.83	-9.67	78%
7	Northern Virginia	40.28	49.70	-9.42	81%
8	Northern Piedmont	37.43	52.28	-14.86	72%
9	Chowan	39.27	52.30	-13.03	75%
10	Northern Coastal Plain	36.31	50.84	-14.54	71%
11	York-James	42.81	55.04	-12.23	78%
12	Southeast Virginia	44.56	53.38	-8.81	83%
13	Eastern Shore	40.71	46.86	-6.15	87%
	Statewide	36.64	51.09	-14.45	72%

DROUGHT REGION		OBSERVED	Apr 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	40.15	57.19	-17.04	70%
2	New River	34.86	51.17	-16.31	68%
3	Roanoke	38.45	56.90	-18.45	68%
4	Upper James	35.99	51.89	-15.91	69%
5	Middle James	41.06	54.73	-13.67	75%
6	Shenandoah	38.74	47.75	-9.01	81%
7	Northern Virginia	44.01	53.00	-8.99	83%
8	Northern Piedmont	40.52	55.57	-15.05	73%
9	Chowan	43.71	55.73	-12.03	78%
10	Northern Coastal Plain	40.02	53.93	-13.92	74%
11	York-James	46.85	58.34	-11.49	80%
12	Southeast Virginia	49.08	56.63	-7.55	87%
13	Eastern Shore	45.26	49.78	-4.52	91%
	Statewide	40.28	54.51	-14.23	74%

DROUGHT REGION		OBSERVED	Mar 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	43.29	61.44	-18.15	70%
2	New River	38.90	54.84	-15.94	71%
3	Roanoke	42.14	61.17	-19.03	69%
4	Upper James	39.62	55.68	-16.06	71%
5	Middle James	44.11	58.79	-14.68	75%
6	Shenandoah	41.62	50.95	-9.34	82%
7	Northern Virginia	47.17	56.66	-9.50	83%
8	Northern Piedmont	42.95	59.38	-16.43	72%
9	Chowan	46.27	60.10	-13.83	77%
10	Northern Coastal Plain	42.83	58.21	-15.39	74%
11	York-James	48.57	63.03	-14.46	77%
12	Southeast Virginia	51.02	60.83	-9.81	84%
13	Eastern Shore	47.04	54.09	-7.05	87%
	Statewide	43.35	58.55	-15.20	74%

DROUGHT REGION		OBSERVED	Feb 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	44.69	65.02	-20.33	69%
2	New River	40.55	57.77	-17.22	70%
3	Roanoke	44.19	64.48	-20.29	69%
4	Upper James	42.08	58.53	-16.46	72%
5	Middle James	46.08	61.91	-15.83	74%
6	Shenandoah	43.67	53.36	-9.69	82%
7	Northern Virginia	50.01	59.33	-9.33	84%
8	Northern Piedmont	45.39	62.35	-16.96	73%
9	Chowan	48.44	63.27	-14.83	77%
10	Northern Coastal Plain	45.33	61.35	-16.02	74%
11	York-James	50.32	66.56	-16.25	76%
12	Southeast Virginia	53.29	64.33	-11.04	83%
13	Eastern Shore	49.83	57.28	-7.45	87%
	Statewide	45.44	61.68	-16.24	74%

DROUGHT REGION		OBSERVED	Jan 1, 2007 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	47.87	68.75	-20.88	70%
2	New River	43.51	60.98	-17.47	71%
3	Roanoke	48.07	68.40	-20.33	70%
4	Upper James	45.08	61.81	-16.73	73%
5	Middle James	49.66	65.57	-15.91	76%
6	Shenandoah	45.23	56.21	-10.98	80%
7	Northern Virginia	52.25	62.61	-10.36	83%
8	Northern Piedmont	47.91	65.87	-17.96	73%
9	Chowan	50.96	67.38	-16.42	76%
10	Northern Coastal Plain	49.57	65.10	-15.53	76%
11	York-James	52.93	70.70	-17.78	75%
12	Southeast Virginia	56.46	68.49	-12.03	82%
13	Eastern Shore	52.00	60.84	-8.84	85%
	Statewide	48.50	65.32	-16.82	74%

DROUGHT REGION		OBSERVED	Dec 1, 2006 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	49.86	72.39	-22.53	69%
2	New River	45.29	63.69	-18.39	71%
3	Roanoke	50.25	71.65	-21.40	70%
4	Upper James	47.08	64.76	-17.69	73%
5	Middle James	51.24	68.74	-17.50	75%
6	Shenandoah	46.35	58.80	-12.45	79%
7	Northern Virginia	53.91	65.71	-11.80	82%
8	Northern Piedmont	49.66	69.15	-19.49	72%
9	Chowan	53.13	70.40	-17.27	75%
10	Northern Coastal Plain	51.27	68.38	-17.11	75%
11	York-James	54.75	74.09	-19.35	74%
12	Southeast Virginia	58.91	71.67	-12.76	82%
13	Eastern Shore	54.75	64.08	-9.33	85%
	Statewide	50.35	68.44	-18.09	74%

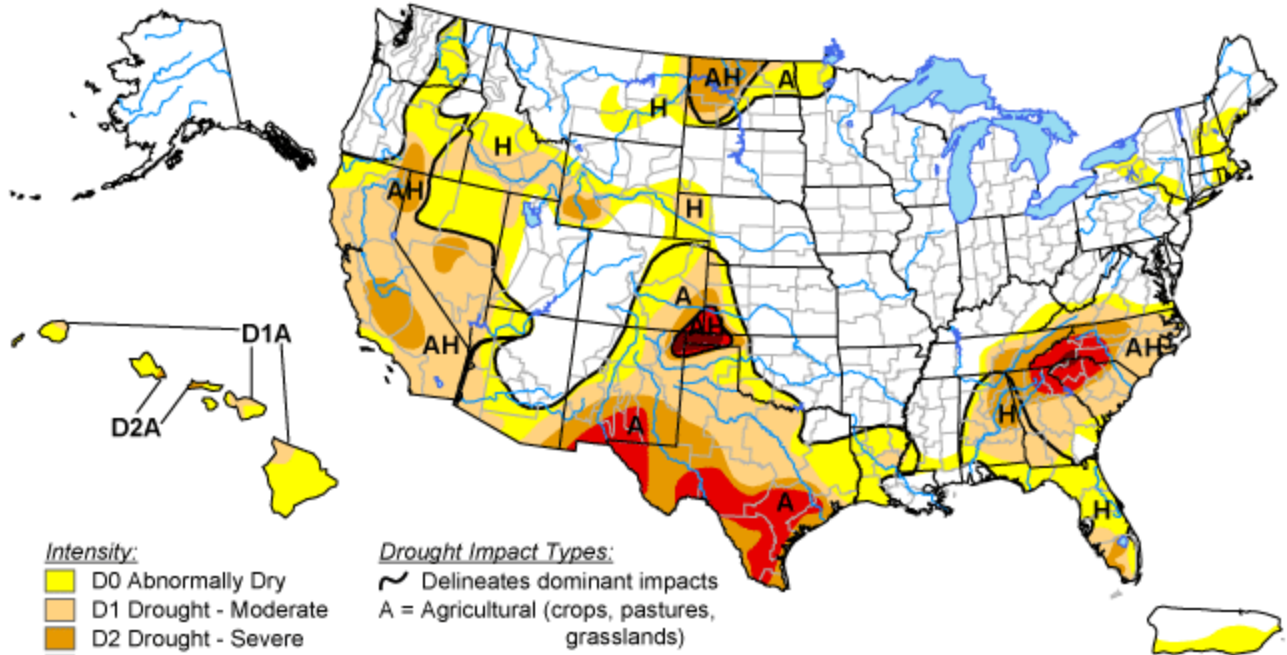
DROUGHT REGION		OBSERVED	Nov 1, 2006 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	52.62	75.67	-23.05	70%
2	New River	49.25	66.72	-17.47	74%
3	Roanoke	55.64	75.01	-19.37	74%
4	Upper James	50.86	68.12	-17.27	75%
5	Middle James	56.98	72.25	-15.27	79%
6	Shenandoah	50.50	61.85	-11.35	82%
7	Northern Virginia	59.71	69.12	-9.41	86%
8	Northern Piedmont	55.97	72.95	-16.99	77%
9	Chowan	60.50	73.51	-13.01	82%
10	Northern Coastal Plain	56.57	71.52	-14.95	79%
11	York-James	60.42	77.46	-17.05	78%
12	Southeast Virginia	66.53	74.74	-8.21	89%
13	Eastern Shore	59.63	67.02	-7.39	89%
	Statewide	55.51	71.67	-16.16	77%

DROUGHT REGION		OBSERVED	Oct 1, 2006 NORMAL	- Jun 20, 2008 DEPARTURE	% OF NORM.
1	Big Sandy	57.59	78.55	-20.96	73%
2	New River	54.23	69.89	-15.65	78%
3	Roanoke	61.68	78.72	-17.04	78%
4	Upper James	57.79	71.37	-13.59	81%
5	Middle James	64.67	76.09	-11.42	85%
6	Shenandoah	55.75	65.04	-9.30	86%
7	Northern Virginia	64.49	72.60	-8.11	89%
8	Northern Piedmont	62.50	76.94	-14.45	81%
9	Chowan	68.21	77.09	-8.89	88%
10	Northern Coastal Plain	62.65	75.03	-12.38	83%
11	York-James	68.41	80.99	-12.58	84%
12	Southeast Virginia	71.59	78.40	-6.80	91%
13	Eastern Shore	66.56	70.23	-3.67	95%
	Statewide	61.75	75.17	-13.42	82%

APPENDIX B

U.S. Drought Monitor

June 17, 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, June 19, 2008
Author: Rich Tinker, CPC/NOAA

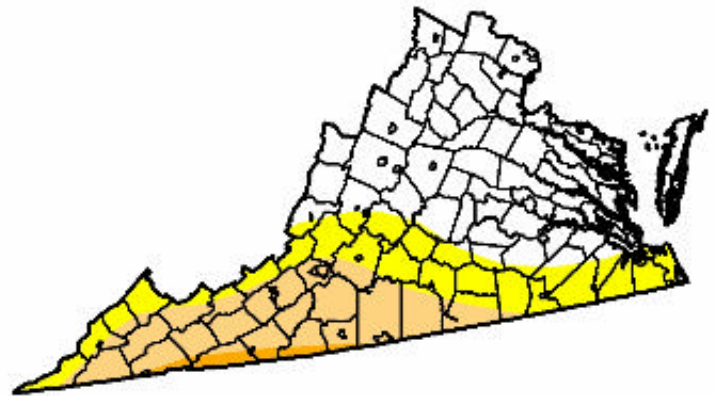
APPENDIX C

U.S. Drought Monitor Virginia

June 17, 2008
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	50.8	49.2	25.7	2.1	0.0	0.0
Last Week (06/10/2008 map)	55.9	44.1	23.9	1.8	0.0	0.0
3 Months Ago (03/25/2008 map)	13.5	86.5	67.1	23.5	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 (06/19/2007 map)	40.6	59.4	13.3	5.8	0.0	0.0



Intensity:

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

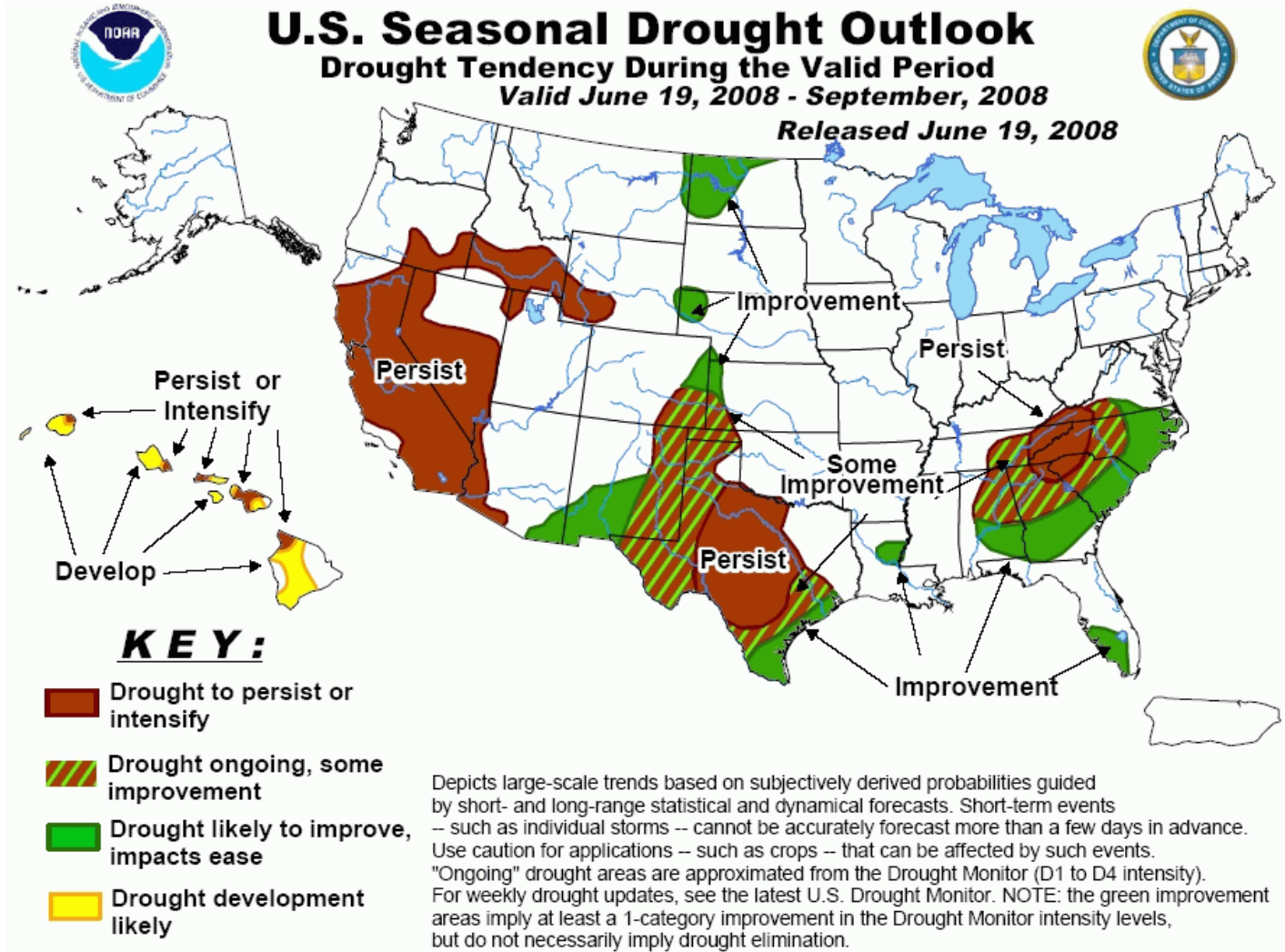
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

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



Released Thursday, June 19, 2008
Author: Rich Tinker, CPC/NOAA

APPENDIX D



APPENDIX E

Condition of Public Water Supplies

June 19, 2008

ODW Drought Situation Report

Date: **6/19/08**

	Restriction totals
Mandatory	4
Voluntary	22
Total	26

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

PWSID	Waterworks	Source Name	Restrictions	Situation	Population Served
1195050	Town of Appalachia	reservoir	M	W 6/19/08: down 2'-4" from overflow. 85 MG left, 187 days ± 10 left. Level was 9.5" down on 5/12/08. Our concern about this source is low due to their ability, achieved last year, to pump from the Powell River into the reservoir. Not currently pumping from river.	
1195100	Town of Big Stone Gap	Big Cherry Reservoir	M	W 6/19/08: Reservoir down 1.25 ft from overflow. 570 MG, 198 days left. Reservoir was full on 04/14/08 and removed from drought report at that time.	
2003250	Albemarle County / Crozet	Beaver Creek Reservoir	N	B - Beaver Creek Reservoir is full. Drought Watch lifted 5/13/08	5,900
2003600	Charlottesville/Albemarle County	Sugar Hollow and Ragged Mountain Reservoirs (Observatory WTP)	N	B - Sugar Hollow reservoir is full. Drought Watch lifted 5/13/08	40,743
2003675	Albemarle County / Scottsville	Totier Creek Reservoir	N	B - Totier Creek reservoir is full. Drought Watch lifted 5/13/08	700
2003725	Charlottesville/Albemarle County	South Fork Rivanna (South Rivanna WTP)	N	B - South Fork Rivanna reservoir is full. Drought Watch lifted 5/13/08	54,400
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 90% full (~36 MG stored). Moderate Drought Condition continues to conserve water.	1,650
2171750	Town of Strasburg	North Fork Shenandoah River	V	S - Voluntary conservation has been requested. Stream flow approx 487 cfs on 17 April 2008	4,500

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
3081550	GCWSA - Jarratt	Nottoway River	N	S - 6/18/08 - 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 -6/17/08 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 - City Council voted to go to voluntary conservation city-wide - took effect on 24 Oct 2007. Chlorides are used as an indicator of drought, the higher the levels the more concentrated the contaminant in a lesser amount of surface water. The chlorides have been average (46 mg/l) since the recent rains. City is still encouraging voluntary conservation measures.	101,428
3550052	Chesapeake - South Norfolk system	City of Norfolk	V	S - 6/17/08-This portion of the city is consecutive to (receives water from) the city of Norfolk. City Council voted to go to voluntary conservation city-wide - it took effect on 24 Oct 2007. Still following Norfolk's lead on conservation.	38,611
3595250	Emporia	Meherrin River	N	S - 6/18/08 - Water is going over the dam. River discharge levels less than historic low and power production stopped for 2 days as a preventative measure to maintain acceptable reservoir level.	5,600

3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	B - 6/18/08 - Intake levels are at mid-range or higher. The turbidity levels have not gone up considerably, but alkalinity values have decreased significantly.	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 06/17, reservoirs at 86.1% (down from 95.8% on 05/12). Historic reservoir capacity is 92.0%. Avg. pumping: Lake Gaston = 48.2 MGD; Spillway elev.: Western Branch -3.5 ft; Lake Prince 0.2 ft; Burnt Mills -3.8 ft; Lake Wright - 0.5 ft; Lake Smith 0.2 ft. 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 06/13, reservoirs at 97% (down from 100% on 05/12). Median reservoir capacity is 98%, average capacity is 96% (period of 1969-2006). Both emergency wells are OFF. Estimated 205 days of reservoir storage remaining at current pumpage and no rainfall. 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 6/17/08- Reservoir levels look good. Southern Lakes at 79.97% capacity, for the Northern Lakes at 105.09% and Crumps Mill Pond at 87.48% 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	N	S - Wholesaler to Chesterfield County, Prince George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. Water level is normal.	200,000
4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	N	S - Purchases water from the City of Richmond and the Appomattox River Water Authority. Reservoir is normal.	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	N	S	9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	N	S	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	S- 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	S-water levels in the James River are back to 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	S- Town indicated on 6/18 recent dry weather has had no impact so far	2,500
5031150	CCUSA	Surface - Big Otter River	N	W - Current stream flow 55 cfs	20,000
5029085	Buckingham County	Troublesome Creek Reservoir	N	W- water is only trickling over spillway	5,751
5037300	Town of Keysville	Keysville Reservoir	N	S	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	S	7,011
5011050	Town of Appomattox	Wells	V	B - Operation reports show water levels rising in the wells. The town is actively looking for additional water sources.	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
5680200	City of Lynchburg	Pedlar Reservoir	N	B - Overflowing spillway	76,000
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 Tuesday, June 17, 2008, Lake Pelham continued to be full.	14,200
6061200	Marshall	Groundwater	M	S - No water was hauled in May. Water distribution system repairs and line replacements are being done.	2,134
6061600	Town of Warrenton	Reservoir on Cedar Run and groundwater	N	S - On Wednesday, 6/18/08, Warrenton Reservoir is full. Airlie Reservoir is full.	11,160
6107150	Town of Hamilton	Groundwater	M	S - 6/18/08 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 - Increased flow from spring has been adequate to meet current demand. A leak survey revealed 10 potential leaks in the distribution system.	58
6107221	LCSA Lenah Farms	Groundwater	V	S - 6/18/08 Voluntary conservation in place beginning 3/11/08 due to one well out of service.	810
6107400	Town of Lovettsville	Groundwater	V	S - 6/18/08 Voluntary water use restrictions remain in place; however there is no problem with water supply.	1,280
6107450	Town of Middleburg	Groundwater	V	B - 6/18/08 - Voluntary water use restrictions replace mandatory water use restrictions on 4/10/08.	590
6107600	Town of Purcellville	Hirst Reservoir and groundwater	V	B -- 6/18/08 Reservoir is full. Mandatory water conservation replaced with voluntary water conservation, 4/2/08.	6,300
6107650	Town of Round Hill	Groundwater	V	B - 6/18/08 - 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 - 6/17/08 - Fourteen day running average of Rapidan River flow is 1369 cfs (withdrawal restrictions are imposed below 44 cfs).	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	S -- 6/18/08 Waterworks continues 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
6179100 and 6179775	Stafford County	Smith Lake and Abel Lake	V	S -- Both lakes are full. Mandatory restrictions went into effect 9/17/07, were increased 10/8/07, and were reduced 2/19/08. Mandatory restrictions lifted 3/18/08.	53,086

Notes of interest:

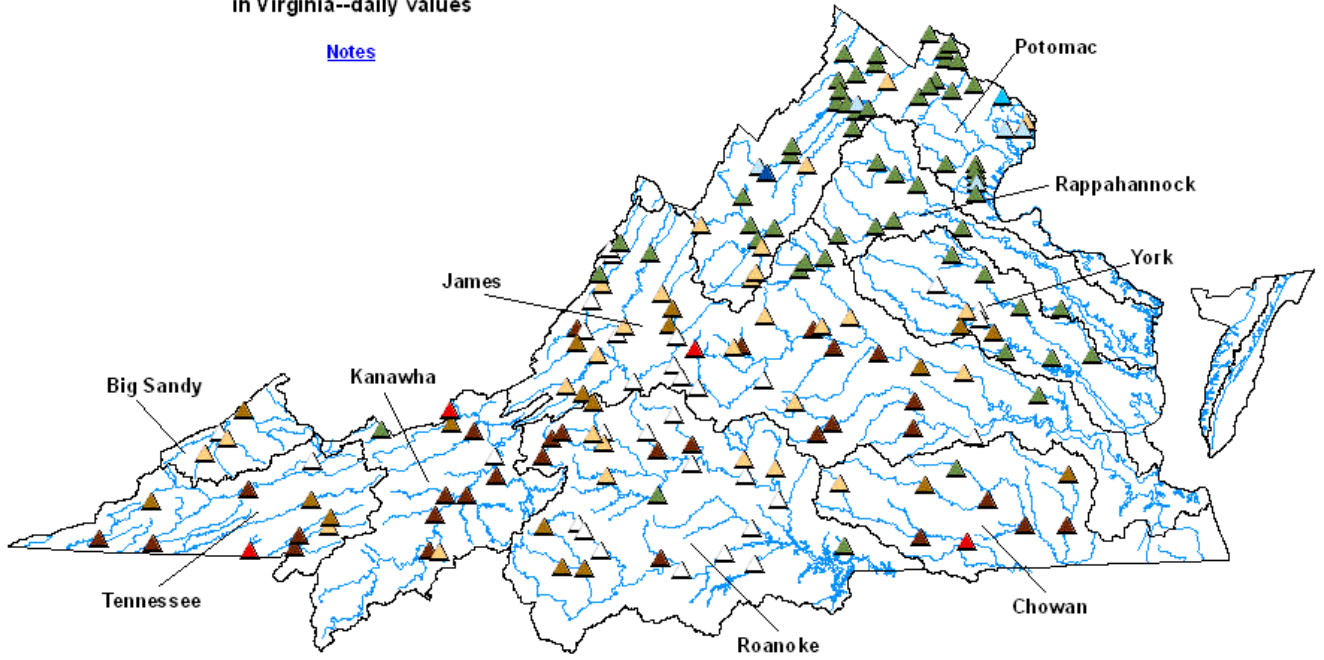
(1) Metropolitan Washington Council of Governments lifted the drought Watch, returning to Normal status, lifting a region-wide voluntary conservation advisory, on 4/1/08, covering DC, Maryland, and Northern Virginia.

(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 06/22/2008
in Virginia--daily values

[Notes](#)



**Streamflow Statistics based on
average flows**

Daily 7-Day 14-Day 28-Day

Click on map or table to select River Basin

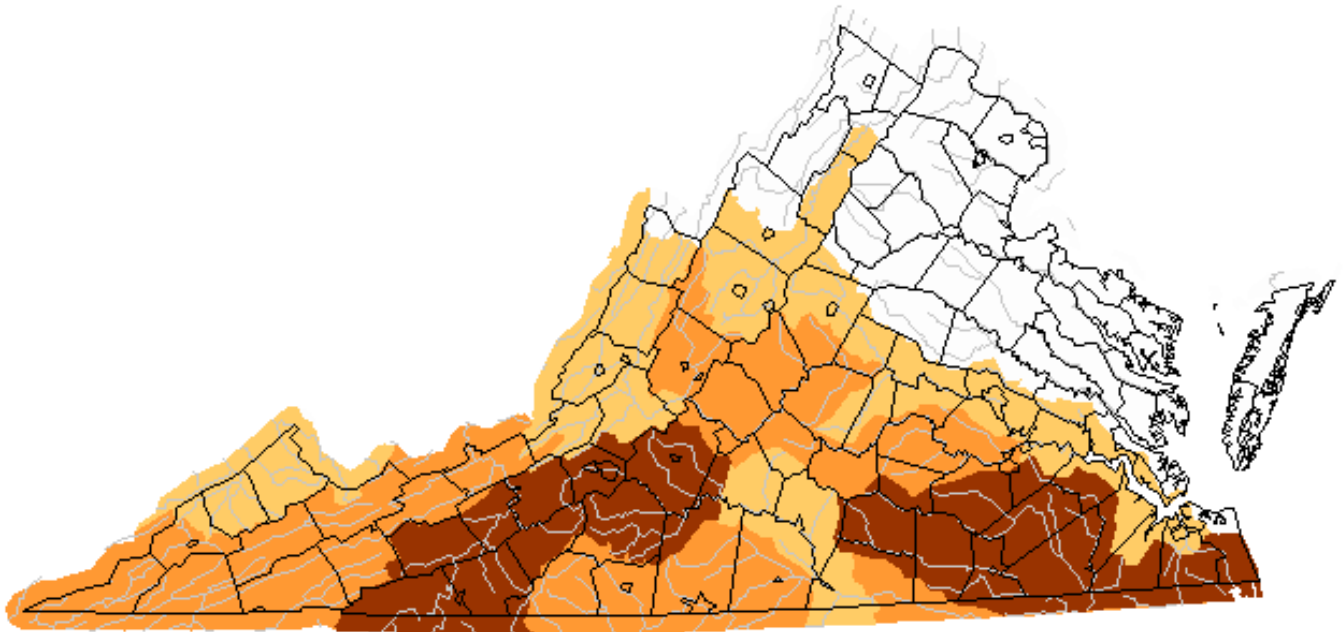


APPENDIX G

Drought Watch -- USGS State Information on Drought

Map of below normal 7-day average streamflow

Sunday, June 22, 2008

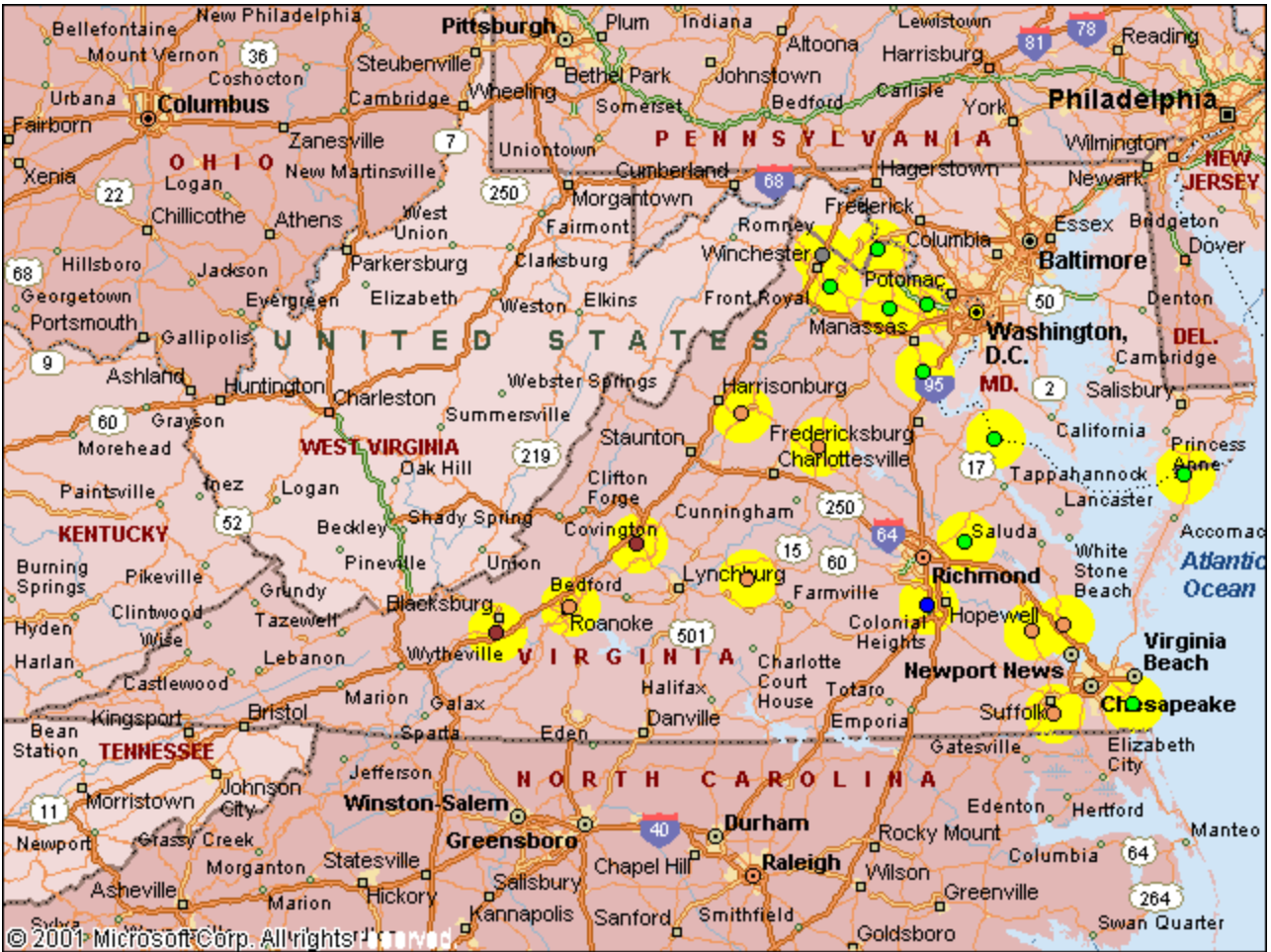


Explanation - Percentile classes				
Low	≤5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

APPENDIX H

Virginia Climate Response Network

June 22, 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		