

DROUGHT MONITORING TASK FORCE

Drought Status Report

August 20, 2007

While statewide precipitation for the current water year (beginning October 1, 2006) is in the normal range (>85% of normal), statewide precipitation in each successive shorter time period is below normal and the statewide precipitation for the last three week period is 46% of normal. The following drought evaluation regions are currently below normal for the water; Big Sandy (77%), New River (84%), Northern Virginia (82%), Northern Piedmont (81%), Northern Coastal Plain (82%) and York-James (82%). Appendix A contains precipitation tables for periods going back to the beginning of the current water year. The long-range monthly climatological outlook calls for equal chances of below average, average, and above average temperatures through September of 2007. The monthly climatological outlook calls for equal chances of below average, average, and above average precipitation for the western two thirds of the Commonwealth and above normal precipitation in southeast Virginia and on the Eastern Shore through September of 2007. The long-range seasonal outlook calls for equal chances of below average, average, and above average temperatures through November 2007. The seasonal outlook calls for equal chances of below average, average, and above average precipitation for the western half of the Commonwealth and above average precipitation for the eastern half of the Commonwealth through November 2007.

The latest NOAA drought monitor indicates the occurrence of drought conditions throughout the Commonwealth and is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. Drought conditions have remained relatively stable over the last month with the exception of the expansion of severe drought conditions into the Northern Piedmont and Northern Virginia areas. The NOAA seasonal drought outlook through November 2007 shows the potential for drought impacts to diminish in all areas currently identified as being impacted by drought in Virginia. The seasonal drought outlook is included as Appendix D.

Seven day average streamflows in the majority of the Commonwealth are in the below normal range of flows (10th to 24th percentiles) Seven day average streamflows in southwest Virginia reflect severe hydrologic drought conditions (<5th percentile) while streamflows in the Shenandoah and lower Potomac basins are near normal (> 25th percentile). Streamflows in the Commonwealth are generally higher than would be expected, primarily due to the occurrence of significant thunderstorms in various parts of the state over the last ten days. Streamflows will likely decline rapidly without periodic precipitation and this decline will be compounded by the effects of evapotranspiration demands of actively growing vegetation. While drought monitoring ground water levels data is scarce, ground water levels are generally in the lower range of expected water levels with two dedicated drought monitoring wells showing levels indicative of severe hydrologic drought (< 10th percentile). Levels of large reservoirs such as Lake Moomaw, Smith Mountain Lake, Kerr Reservoir, and Philpott Reservoir are slowly declining due to low inflows.

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 several systems in the Commonwealth have initiated voluntary and mandatory water conservation requirements. Examples of areas that have called for voluntary water conservation include the Appomattox River Water Authority service area, the Loudoun County PSA service area, and the Town of Manassas. Mandatory water restrictions have been imposed in the Rivanna Water and Sewer Authority service area (Charlottesville and portions of Albemarle county), the Town of Hamilton (small ground water based system) and the Town of Purcellville (small surface water reservoir system).

The Virginia Department of Forestry reports a significant increase in wildfire activity over the last month. During the period from June 1, 2007 through August 14, 2007 169 wildfires have burned 970 acres. During a similar period in the summer of 2006 55 fires burned 192 acres.

The Department of Game and Inland Fisheries reports that recent storm systems have improved conditions in many areas. All of the DGIF hatcheries are operating at or near normal capacity. Recreational canoe, raft and kayak activities are negatively impacted in river systems that have not been recharged by local storms. All of the Department's boat access sites are operational with the exception of those under scheduled maintenance or renovation. There are no reported impacts to fish and wildlife populations.

At the current time the only significant drought impacts are occurring in the agricultural sector. Absent widespread consistent precipitation it is likely that hydrologic impacts will intensify (lower streamflows and ground water levels) and the potential for impacts to water supplies will increase. It is likely that below normal precipitation for relatively short durations will result in rapid increase in drought impacts.

Reports from the State Climatologist and National Weather Service, the Virginia Department of Agriculture and Consumer Services, the Virginia Department of Environmental Quality, the United States Geological Survey, the Virginia Department of Forestry, and the Virginia Department of Health follow.

Report of the State Climatologist with additional information from the National Weather Service

Despite increased thunderstorm activity across most of Virginia over the last few days, large areas of the southern and western portions of the state still indicate a serious rainfall deficit for the month of August. Northern Virginia is also running well short of normal. On the other hand, six-inch-plus rainfall totals, centered in the vicinity of Richmond, have led to notable short term improvements in moisture deficits from there to the southeast.

As was the case last month, August rainfall at any given location has depended on the frequency, duration and intensity of thunderstorms, with the resulting moisture distribution showing wide variations over the drought evaluation regions. However, the recent increase in tropical activity may well result in beneficial widespread rainfall for Virginia.

The remnant moisture from Tropical Storm Erin is expected to follow a weak frontal boundary into and across the state over the next 24 to 48 hours, bringing fairly widespread thunderstorm activity. This should move rapidly enough that average rainfall amounts will stay below the one-inch mark, with the exception of isolated heavy downpours. Current indications are that areas likely to see the least rainfall from this event are the more southern and western parts of Virginia.

In the next five days, or so, there is a reasonable possibility that another area of pending tropical development will work its way toward us, with some additional moisture. It is doubtful that any of this tropical activity will result in sufficient rainfall in time to significantly improve yields for many crops. Otherwise, temperatures and resulting evaporation rates will likely remain seasonably high.

The National Weather Service reports that temperatures should generally be at or slightly above normal through the end of August. Precipitation over the next 6 to 14 days is also forecast to be at or slightly above normal. Recent showers and thunderstorms on Thursday August 16th and again on Sunday August 19th have produced 5 to 6 inches of rain in some locations across Central Virginia with other locations receiving significantly lesser amounts. Currently a semi-stationary front is draped over the area and is expected to remain in place through midweek. Impulses of energy along the front will continue the chance for rain over portions of Virginia for the next day or so. For the most part, the weather over the next several days will be characterized by seasonally warm conditions with some chance for afternoon and evening showers and thunderstorms. Although not enough to totally eliminate concerns, the showers and storms have the potential to lessen the widespread severity of drought across the Commonwealth.

Virginia Department of Agriculture and Consumer Services

STATUS OF AGRICULTURAL DROUGHT

Overview

According to the USDA crop weather report for the week ending August 12, 2007, much of the Commonwealth remained hot and dry with high temperatures in most areas. Pasture and hayfield conditions continued to deteriorate due to the blistering temperatures. Corn in many areas has begun to dry down. Soybeans are entering a stage where precipitation is critical. Recent spotty showers have helped significantly but the rain needs to continue consistently to ensure average yields. Cotton conditions have declined as well because of the extreme heat. Vegetable producers continue to irrigate and are harvesting watermelons, squash, tomatoes, peppers, and other summer vegetables.

The following 26 counties have requested the Governor's assistance in obtaining federal disaster designation due to the drought: Albemarle, Bland, Bedford, Brunswick, Caroline, Craig, Culpeper, Essex, Giles, Greensville, King George, Lancaster, Lee, Loudoun, Louisa, Northumberland, Orange, Rappahannock, Richmond, Russell, Scott, Smyth, Surry, Washington, Warren, and Wise. The disaster designation status report is attached as Appendix E.

Impact on Crops

- Tobacco: The tobacco crop has been negatively affected by the dry weather conditions and the extreme high temperatures of last week and will probably experience some reduction in yield and quality. However, tobacco is more drought tolerant than some crops and a significant percentage of the crop has been irrigated. Therefore, prospects for a reasonably good crop still exist particularly if there is widespread rainfall in the near future.
- Corn/Soybeans: Generally speaking, yields will be reduced drastically as compared to normal.
- Fruit and Vegetables: In Southwest Virginia, the continued high temperatures will greatly affect pumpkin yields and what is left of the apple crop in the region. Any grower not having the availability to irrigate will see extremely stressed plants and little fruit production. Vegetable crop production is suffering from the drought conditions, but it will be the end of the season before yield information is readily available.
- In the Piedmont area, both apple and grape growers worry that any prolonged and substantial amount of rain now (before harvest) would be bad for the crops as the fruit would swell and split, reducing the value of the crop.
- On the Eastern Shore, the corn crop is at 60 -70% of normal at best and some parts of all areas are much worse. Soybeans are getting much needed rain, but some are stunted to the point where the yield will be adversely affected. Vegetable crops are under irrigation and look good at this point. Irrigation ponds are holding up fairly well.
- Storms across Southeast Virginia brought much needed rainfall last Thursday and Friday afternoons. The amounts of rainfall varied from a few drops to over 2.5 inches with most areas receiving 1 to 2 inches. While this is much needed rain and should help sustain crops, it will not increase yields at this late date. Many farmers are getting their corn pickers ready for an early harvest since most stalks are drying up earlier than normal. Quite a few growers are having crop insurance adjusters come in to determine yields and then are being allowed to cut the corn for silage.
- Nursery/Horticulture Industry: The Virginia Nursery and Landscape Association reports that plant nurseries all across the state are now reporting extremely dry conditions. Some report getting sporadic, quick showers but they do little good since the water just runs off, and does not soak in to reach the plant's root system. Several nurseries in the Tidewater area have reported very low pond levels (their main source of water) and some are using a bare minimum of irrigation just to keep plants alive. This drought stress can have long lasting negative effects on a plant's health, even if they survive the drought. 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 being used. Garden centers are experiencing reduced sales to customers due to the recent extreme heat and ongoing dry weather. The prognosis of dying nursery stock and loss of customer sales does not point to a profitable summer season.

Impact on Livestock

- Recent rains have eased some mental anguish and given some green to the countryside. However, there is a need for sustained rain to spur some re-growth in pastures. Maybe with a late fall, a small but much needed late hay cutting will be made.
- Silage harvest has begun in areas of the Shenandoah Valley due to the low moisture of the corn crop.
- Producers have moved forward much of their feeder cattle marketing as the dry weather has reduced pasture growth, resulting in lower stocking rate per acre.
- There is also some culling of beef herds – older cows and less productive cows are the first to be marketed. Most producers are trying to retain replacement heifers. A positive factor in this situation is that prices for feeder cattle and slaughter cows are not depressed and there is a demand for Virginia cattle.

Impact on Dairy:

- The effects of the continuing drought are now widespread. While there are dairy farms that have received enough rain at just the right times or have access to bottom land for cropping, everyone is now suffering the effects of high heat and drought to one degree or another.
- Impact of daytime temperatures approaching and exceeding 100 degrees F over the past two weeks has caused many dairymen to begin chopping their corn silage two weeks earlier than normal. Because the corn plants have dried earlier than normal, the ear has not had as much time to mature and the overall quality and quantity of silage is reduced. Several dairymen are reporting yields of 50% compared to prior years and are harvesting only 6 to 8 tons to the acre.

- The second cutting of hay is severely reduced by the lack of moisture and high temperatures. One dairyman reports baling only 15 bales of hay from a thirty acre field. Several dairymen are already feeding hay because there is no pasture to graze. Without significant rain there will be no fall grazing.
- Due to the lack of hay and reduced corn harvest several dairymen are reported to be considering selling out their herds now while cattle prices are good rather than try to purchase enough feed and hay to get them through to next year.
- High temperatures have depressed milk yields with milk production down an additional 10% from already lower summer production. Losses in milk production can not be reversed during the current lactation. One milk marketing cooperative has taken three farm pickups off the road each day because of the reduced volume of milk being shipped.
- Most dairymen are having little or no success breeding back their cows during these times of high heat stress. The inability to breed back cows will extend the number of days open for these cows and translates into additional carrying cost for animals whose freshening will be delayed by weeks or months.
- Dairymen are disappointed that during this current market of excellent milk prices they are unable to profit because of the effects of the drought.

Waivers for Hauling of Emergency Supplies

At the request of VDACS, VDOT and DMV have jointly authorized a temporary waiver of registration and license requirements along with normal weight and width restrictions for the hauling of hay and feed to the counties that have been designated natural disaster areas by the U.S. Secretary of Agriculture. The waiver also pertains to the contiguous counties. In addition, VDEM has authorized appropriate motor carrier exemptions to hours worked as prescribed by the Code of Federal Regulations and corresponding state regulations throughout the Commonwealth for carriers transporting emergency supplies destined for the affected localities. Both waivers became effective at 6 a.m. on August 11 and will expire October 1, 2007. VDEM has request that the following list of states consider the issuance of similar waivers for motor carriers originating in or transiting through their state on the way to affected Virginia localities: Arkansas, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nebraska, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and West Virginia.

Virginia Department of Environmental Quality Condition of Major Reservoirs

The elevation of Kerr Reservoir is at 296.6 feet above msl, 2.9 feet below the guide curve. The elevation has fallen 2.1 feet in the past month. The project is still making the minimum amount of hydroelectric energy required by SEPA contract. The lake is projected to fall to 795 feet by September 1st. The Wilmington District of the Corps of Engineers is holding weekly conference calls to monitor the situation and provide a forum to consider any operational changes.

Lake Moomaw is currently at 1571 feet msl, 11 feet below full with 44% of its conservation storage depleted. Inflow is 69 cfs and outflow is 269 cfs. The lake is losing about 5 per cent of its conservation storage per week. The elevation is higher than it was at this time in 1999 when the conservation storage was completely depleted in the late fall. Water is being released to maintain water quality in the Jackson River which is the receiving stream for the large Meade Westvaco paper mill discharge at Covington. No action is contemplated in the short term, but DEQ staff will closely monitor the condition of the lake and work closely with the Norfolk District of the Corps of Engineers if changes in the release schedule will be beneficial.

Smith Mountain Lake is at 793.13 feet above msl, 1.87 feet below full and falling. The lake has fallen 1.1 feet since the last report. As predicted, stakeholders representing the interests of lake landowners requested a reduction of outflows. A conference call was held on August 13 with participation from American Electric Power, Dominion Virginia Power, the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, and representatives of lake landowners to reach consensus on a potential reduction in releases. The potential reductions were discussed with representatives of downstream Staunton river landowners and AEP requested a variance from scheduled releases. On August 15, 2007, DEQ granted the variance to the minimum release dropping it from 650 cfs to 500 cfs on the weekdays. Weekend releases remained unchanged to protect downstream recreation. The lake will continue to fall in the near term, but at a slower pace.

The system of reservoirs owned by Rivanna Water and Sewer Authority is currently 91.2 % full. This system had difficulty meeting demands in the 2002 drought when useable volume was depleted to the 50% level. Due to low inflows the Authority has asked for mandatory conservation to be implemented. The Authority uses a complex computer based risk assessment model and mandatory water use restrictions are triggered by a prediction that there is a 10% chance that combined reservoir capacity will drop to 70% full in the next ten weeks.

Last week Lake Anna was 248.2 feet msl, 1.8 feet below full. If the Lake drops a full two feet below full the minimum release will be cut in half from 40 cfs to 20 cfs. At the moment power production at the North Anna Nuclear Power Station is not considered to be at risk by the lower water levels.

United State Geological Survey Streamflow and Ground Water Levels

Streamflow conditions have declined slightly over the last month. Streamflow conditions (see Appendix F) based on daily values computed for August 20, 2007 show most of the State's rivers in the lower end of normal to below normal range of flow (green and tan markers). However, a significant number of smaller rivers in the Tennessee, Kanawha, upper Roanoke, upper James, and upper Rappahannock River Basins have flows that are at or below the 5th percentile (dark brown markers). There are isolated gages throughout the state that show similar low (<5th percentile), generally located in small watersheds.

Flow conditions are generally higher than expected considering other drought indicators. These conditions are probably caused by precipitation from scattered storms temporarily elevating streamflow. Streamflow conditions based on 7-day running averages (see Appendix G) indicated that long-term flow conditions are below normal across the State, and imply that without additional rainfall, daily streamflow could drop rapidly to well below normal (below the 10th percentile).

For the most part, ground-water conditions also are in the normal to just below normal water-level range based on levels presented in the Virginia Climate Response network (see Appendix H). However, it should be noted that only two wells show ground water levels below the 10th percentile (red markers).

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
8/20/07

DROUGHT REGION	OBSERVED	Aug 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1 Big Sandy	0.61	2.35	-1.74	26%
2 New River	0.25	2.03	-1.78	12%
3 Roanoke	0.30	2.28	-1.98	13%
4 Upper James	0.26	2.04	-1.78	13%
5 Middle James	1.90	2.34	-0.45	81%
6 Shenandoah	1.61	2.04	-0.43	79%
7 Northern Virginia	0.68	2.36	-1.68	29%
8 Northern Piedmont	1.08	2.34	-1.26	46%
9 Chowan	1.70	2.64	-0.94	64%
10 Northern Coastal Plain	1.06	2.37	-1.31	45%
11 York-James	1.54	2.98	-1.44	52%
12 Southeast Virginia	2.62	3.14	-0.52	84%
13 Eastern Shore	1.78	2.37	-0.59	75%
Statewide	1.07	2.35	-1.28	46%

DROUGHT REGION	OBSERVED	Jul 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1 Big Sandy	5.10	6.82	-1.72	75%
2 New River	3.18	5.82	-2.64	55%
3 Roanoke	3.57	6.67	-3.10	54%
4 Upper James	2.60	6.08	-3.48	43%
5 Middle James	4.25	6.75	-2.50	63%
6 Shenandoah	3.61	5.80	-2.19	62%
7 Northern Virginia	3.15	6.12	-2.97	51%
8 Northern Piedmont	2.61	6.74	-4.13	39%
9 Chowan	4.76	7.15	-2.40	67%
10 Northern Coastal Plain	2.48	6.82	-4.34	36%
11 York-James	4.99	8.08	-3.10	62%
12 Southeast Virginia	5.93	8.20	-2.27	72%
13 Eastern Shore	3.87	6.37	-2.50	61%
Statewide	3.80	6.69	-2.89	57%

DROUGHT REGION		OBSERVED	Jun 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	7.85	10.96	-3.12	72%
2	New River	6.21	9.67	-3.45	64%
3	Roanoke	6.50	10.56	-4.06	62%
4	Upper James	6.35	9.79	-3.44	65%
5	Middle James	7.61	10.26	-2.66	74%
6	Shenandoah	6.88	9.51	-2.62	72%
7	Northern Virginia	5.09	9.99	-4.90	51%
8	Northern Piedmont	4.76	10.74	-5.98	44%
9	Chowan	6.97	10.81	-3.83	65%
10	Northern Coastal Plain	4.33	10.38	-6.05	42%
11	York-James	7.17	11.49	-4.32	62%
12	Southeast Virginia	9.15	11.81	-2.66	77%
13	Eastern Shore	9.13	9.35	-0.23	98%
	Statewide	6.66	10.48	-3.82	64%

DROUGHT REGION		OBSERVED	May 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	9.59	15.79	-6.19	61%
2	New River	7.99	13.88	-5.88	58%
3	Roanoke	8.47	14.89	-6.43	57%
4	Upper James	8.38	14.07	-5.70	60%
5	Middle James	10.07	14.50	-4.43	69%
6	Shenandoah	9.07	13.35	-4.28	68%
7	Northern Virginia	6.35	14.33	-7.98	44%
8	Northern Piedmont	6.85	14.96	-8.11	46%
9	Chowan	9.86	14.89	-5.03	66%
10	Northern Coastal Plain	5.57	14.54	-8.97	38%
11	York-James	8.73	15.76	-7.04	55%
12	Southeast Virginia	11.12	15.67	-4.56	71%
13	Eastern Shore	10.87	12.87	-2.00	84%
	Statewide	8.69	14.74	-6.05	59%

DROUGHT REGION		OBSERVED	Apr 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	14.06	19.54	-5.48	72%
2	New River	11.11	17.43	-6.32	64%
3	Roanoke	11.68	18.70	-7.02	62%
4	Upper James	11.88	17.48	-5.60	68%
5	Middle James	13.30	17.85	-4.55	75%
6	Shenandoah	12.65	16.27	-3.62	78%
7	Northern Virginia	10.08	17.63	-7.55	57%
8	Northern Piedmont	9.94	18.25	-8.30	54%
9	Chowan	14.29	18.32	-4.03	78%
10	Northern Coastal Plain	9.28	17.63	-8.34	53%
11	York-James	12.77	19.06	-6.29	67%
12	Southeast Virginia	15.63	18.92	-3.29	83%
13	Eastern Shore	15.42	15.78	-0.37	98%
	Statewide	12.33	18.16	-5.83	68%

DROUGHT REGION		OBSERVED	Mar 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	17.20	23.79	-6.60	72%
2	New River	15.15	21.10	-5.95	72%
3	Roanoke	15.37	22.96	-7.59	67%
4	Upper James	15.51	21.26	-5.75	73%
5	Middle James	16.35	21.90	-5.55	75%
6	Shenandoah	15.53	19.47	-3.94	80%
7	Northern Virginia	13.23	21.28	-8.05	62%
8	Northern Piedmont	12.37	22.06	-9.68	56%
9	Chowan	16.86	22.69	-5.83	74%
10	Northern Coastal Plain	12.09	21.91	-9.81	55%
11	York-James	14.49	23.74	-9.26	61%
12	Southeast Virginia	17.58	23.12	-5.55	76%
13	Eastern Shore	17.20	20.10	-2.90	86%
	Statewide	15.40	22.20	-6.80	69%

DROUGHT REGION		OBSERVED	Feb 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	18.59	27.37	-8.77	68%
2	New River	16.80	24.03	-7.23	70%
3	Roanoke	17.42	26.27	-8.85	66%
4	Upper James	17.97	24.11	-6.15	75%
5	Middle James	18.32	25.03	-6.70	73%
6	Shenandoah	17.58	21.87	-4.29	80%
7	Northern Virginia	16.07	23.95	-7.88	67%
8	Northern Piedmont	14.82	25.03	-10.21	59%
9	Chowan	19.03	25.85	-6.83	74%
10	Northern Coastal Plain	14.60	25.04	-10.45	58%
11	York-James	16.23	27.27	-11.04	60%
12	Southeast Virginia	19.84	26.63	-6.78	75%
13	Eastern Shore	19.98	23.29	-3.31	86%
	Statewide	17.49	25.33	-7.84	69%

DROUGHT REGION		OBSERVED	Jan 1, 2007 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	21.77	31.10	-9.33	70%
2	New River	19.76	27.24	-7.48	73%
3	Roanoke	21.30	30.19	-8.89	71%
4	Upper James	20.97	27.39	-6.42	77%
5	Middle James	21.90	28.69	-6.79	76%
6	Shenandoah	19.14	24.73	-5.59	77%
7	Northern Virginia	18.32	27.23	-8.91	67%
8	Northern Piedmont	17.33	28.55	-11.21	61%
9	Chowan	21.55	29.97	-8.42	72%
10	Northern Coastal Plain	18.84	28.80	-9.96	65%
11	York-James	18.84	31.40	-12.56	60%
12	Southeast Virginia	23.01	30.79	-7.78	75%
13	Eastern Shore	22.15	26.85	-4.70	82%
	Statewide	20.55	28.97	-8.42	71%

DROUGHT REGION		OBSERVED	Dec 1, 2006 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	23.77	34.75	-10.98	68%
2	New River	21.55	29.95	-8.40	72%
3	Roanoke	23.48	33.44	-9.97	70%
4	Upper James	22.97	30.33	-7.37	76%
5	Middle James	23.48	31.86	-8.38	74%
6	Shenandoah	20.26	27.32	-7.06	74%
7	Northern Virginia	19.98	30.32	-10.34	66%
8	Northern Piedmont	19.09	31.82	-12.74	60%
9	Chowan	23.72	32.99	-9.27	72%
10	Northern Coastal Plain	20.54	32.07	-11.53	64%
11	York-James	20.66	34.79	-14.13	59%
12	Southeast Virginia	25.46	33.96	-8.50	75%
13	Eastern Shore	24.90	30.09	-5.19	83%
	Statewide	22.40	32.09	-9.69	70%

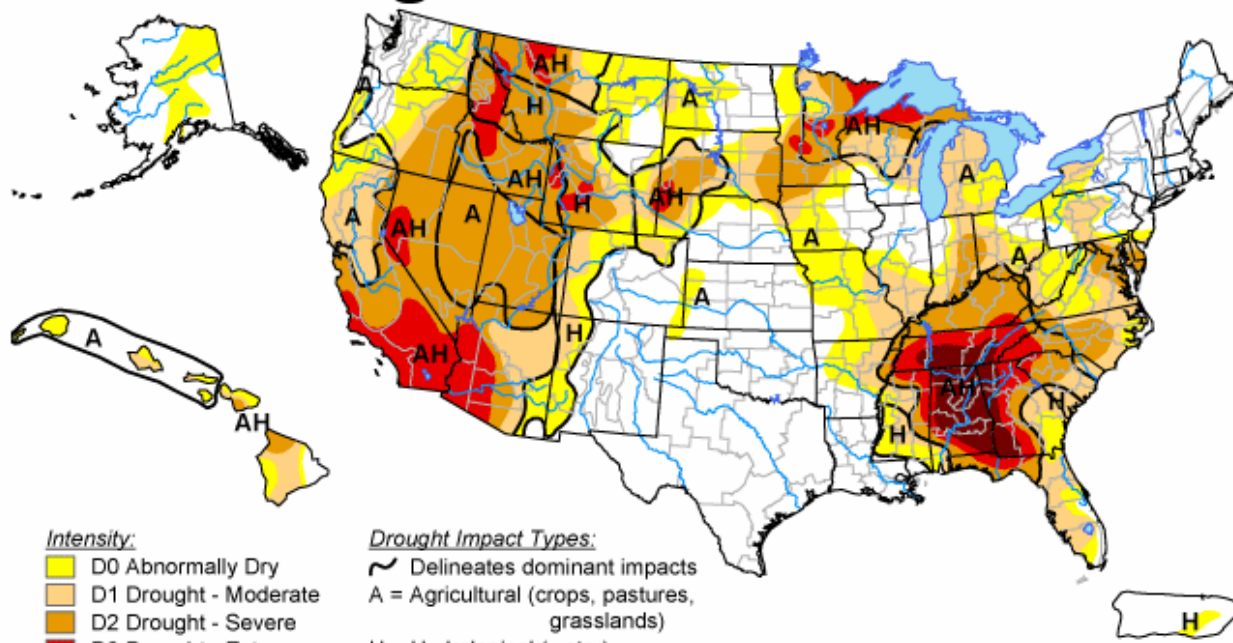
DROUGHT REGION		OBSERVED	Nov 1, 2006 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	26.52	38.03	-11.51	70%
2	New River	25.50	32.98	-7.48	77%
3	Roanoke	28.87	36.80	-7.93	78%
4	Upper James	26.75	33.69	-6.95	79%
5	Middle James	29.22	35.37	-6.15	83%
6	Shenandoah	24.41	30.37	-5.96	80%
7	Northern Virginia	25.78	33.73	-7.96	76%
8	Northern Piedmont	25.39	35.62	-10.23	71%
9	Chowan	31.09	36.10	-5.01	86%
10	Northern Coastal Plain	25.84	35.21	-9.37	73%
11	York-James	26.33	38.16	-11.83	69%
12	Southeast Virginia	33.08	37.03	-3.95	89%
13	Eastern Shore	29.78	33.03	-3.26	90%
	Statewide	27.56	35.32	-7.76	78%

DROUGHT REGION	OBSERVED	Oct 1, 2006 NORMAL	- Aug 19, 2007 DEPARTURE	% OF NORM.
1 Big Sandy	31.50	40.91	-9.42	77%
2 New River	30.48	36.15	-5.67	84%
3 Roanoke	34.91	40.52	-5.60	86%
4 Upper James	33.68	36.94	-3.27	91%
5 Middle James	36.91	39.21	-2.30	94%
6 Shenandoah	29.65	33.56	-3.90	88%
7 Northern Virginia	30.56	37.21	-6.65	82%
8 Northern Piedmont	31.92	39.61	-7.69	81%
9 Chowan	38.79	39.68	-0.89	98%
10 Northern Coastal Plain	31.92	38.72	-6.80	82%
11 York-James	34.32	41.69	-7.36	82%
12 Southeast Virginia	38.15	40.69	-2.54	94%
13 Eastern Shore	36.71	36.25	0.46	101%
Statewide	33.80	38.82	-5.02	87%

APPENDIX B

U.S. Drought Monitor

August 14, 2007
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.

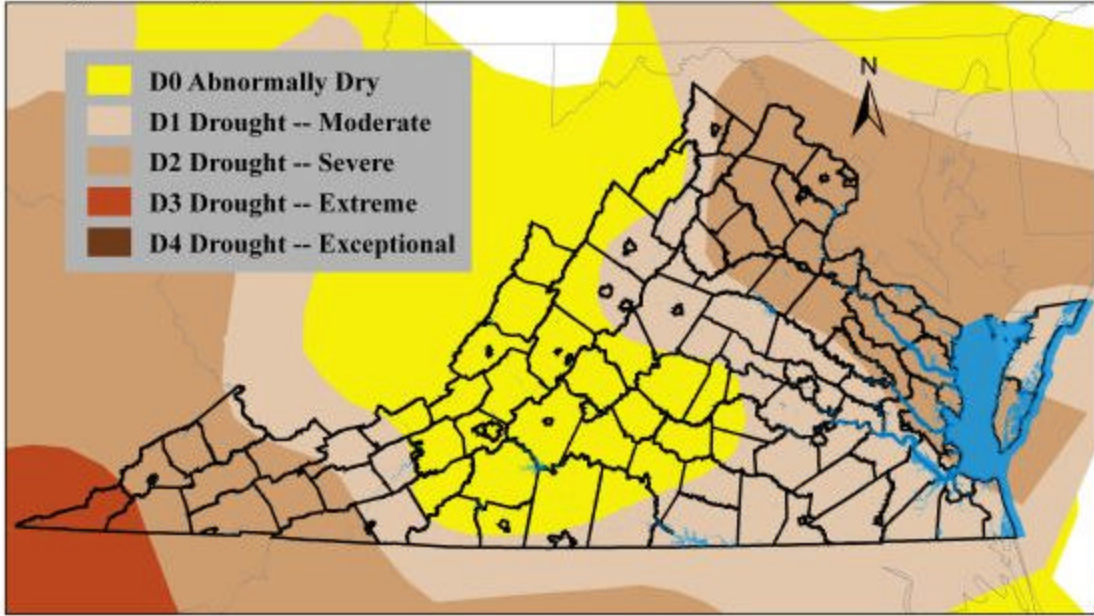
<http://drought.unl.edu/dm>



Released Thursday, August 16, 2007
Author: Brad Rippey, U.S. Department of Agriculture

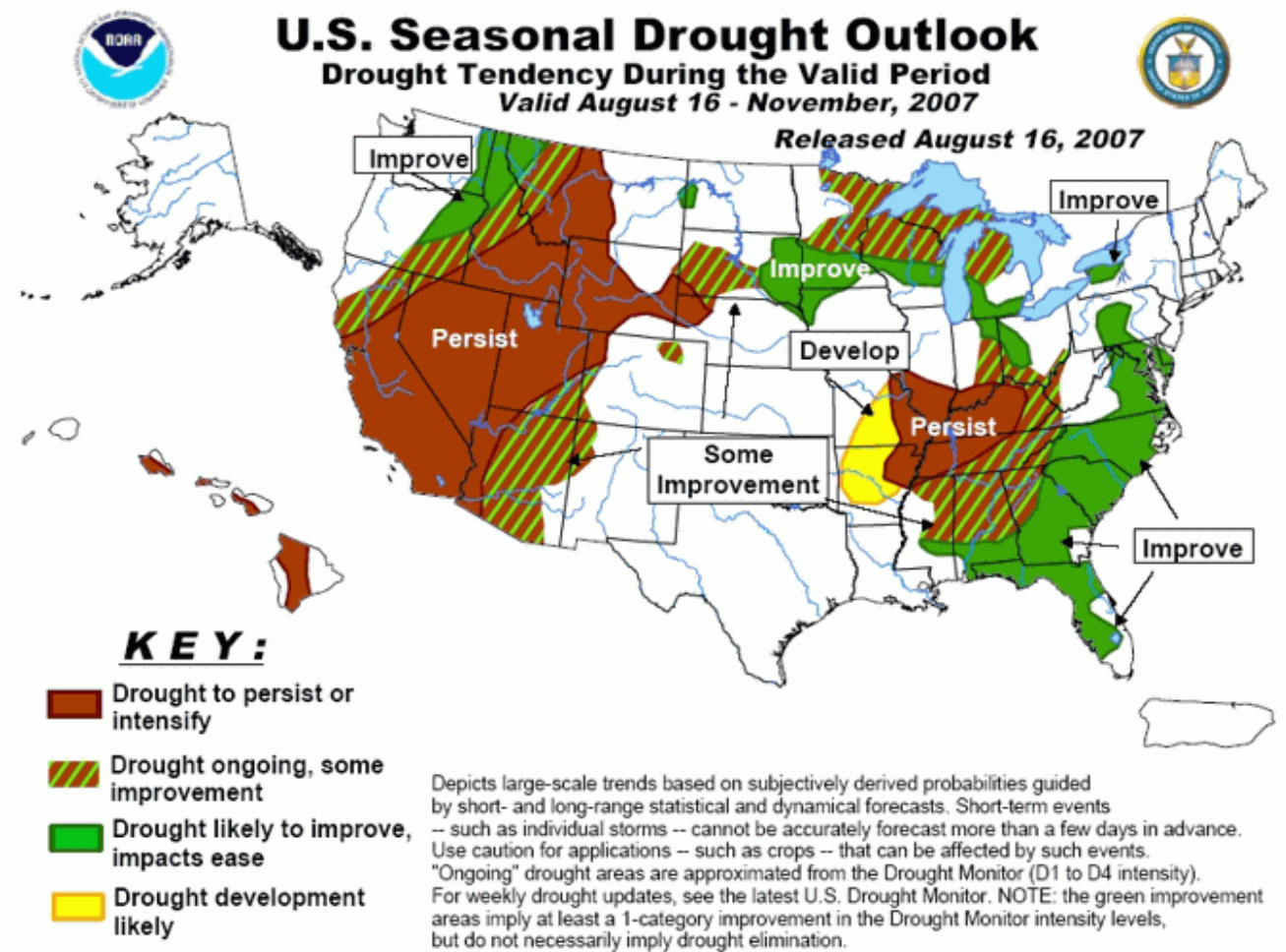
APPENDIX C

U.S. Drought Monitor - Virginia August 14, 2007



Note: The U.S. Drought Monitor focuses on broad-scale conditions. Local conditions may vary. Click on map to view complete U.S. Drought Monitor graphic.

APPENDIX D



APPENDIX E

2007 DISASTER DESIGNATION REQUESTS DUE TO DROUGHT STATUS REPORT (8/31/07)

- 7 Virginia localities have been designated a primary disaster area by the U.S. Secretary of Agriculture due to drought and high temperatures:

Culpeper County	Smyth County
Lee County	Washington County
Russell County	Wise County
Scott County	

- 15 Virginia localities have been designated a contiguous disaster area by the U.S. Secretary of Agriculture due to drought and high temperatures:

Bland County	Buchanan County	Dickenson County
Fauquier County	Giles County (result of West Virginia designation)	Grayson County
Madison County	Orange County	Rappahannock County
Spotsylvania County	Stafford County	Tazewell County
City of Bristol	City of Norton	Wythe County

- 8 requests for primary designation are awaiting response from the U.S. Secretary of Agriculture.

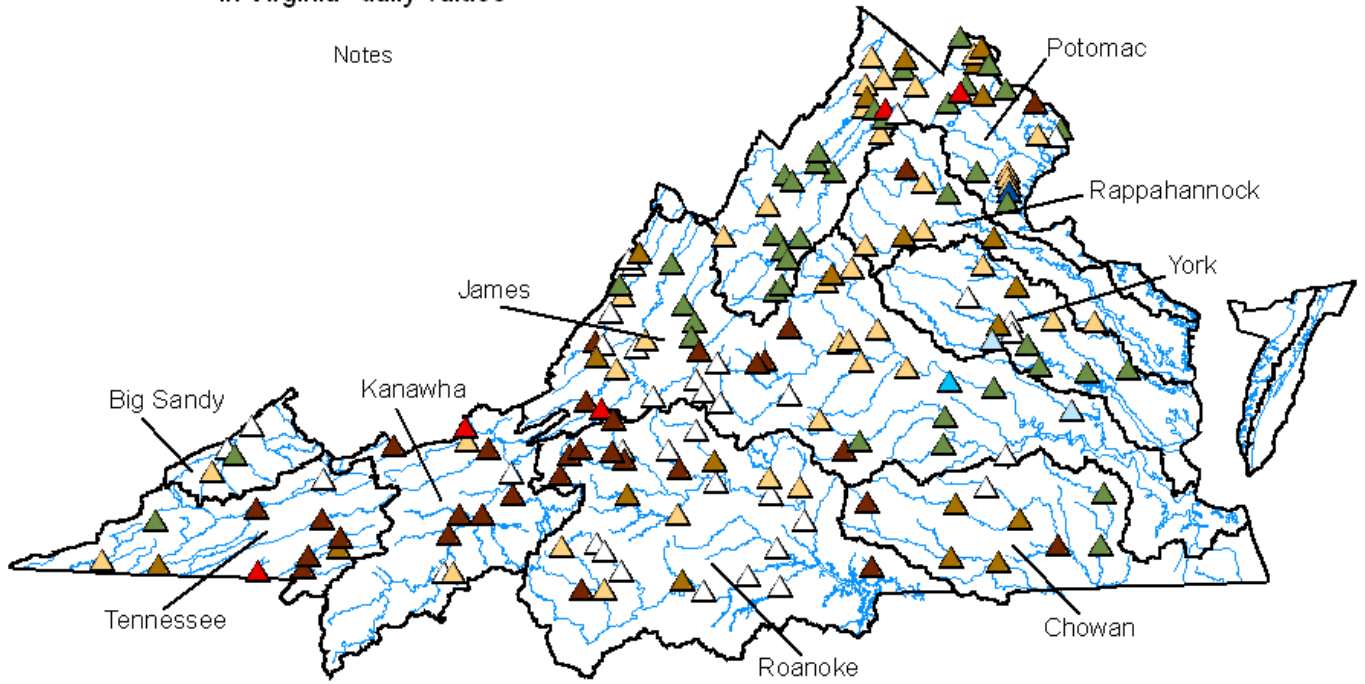
Bedford County	King George County
Brunswick County	Lancaster County
Bland County	Loudoun County
Caroline County	Orange County

- 11 loss assessment reports are pending from USDA/Farm Service Agency in Virginia.

Locality	Resolution Date
Albemarle County	8/1/07
Craig County	8/2/07
Essex County	8/8/07
Giles County	7/19/07
Greensville County	8/6/07
Louisa County	8/6/07
Northumberland County	8/9/07
Rappahannock County	8/6/07
Richmond County	7/12/07
Surry County	8/2/07
Warren County	8/7/07

APPENDIX F

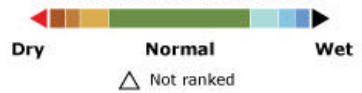
Streamflow conditions for 08/19/2007
in Virginia--daily values



Streamflow Statistics based on
average flows

Click on map or table to select River Basin

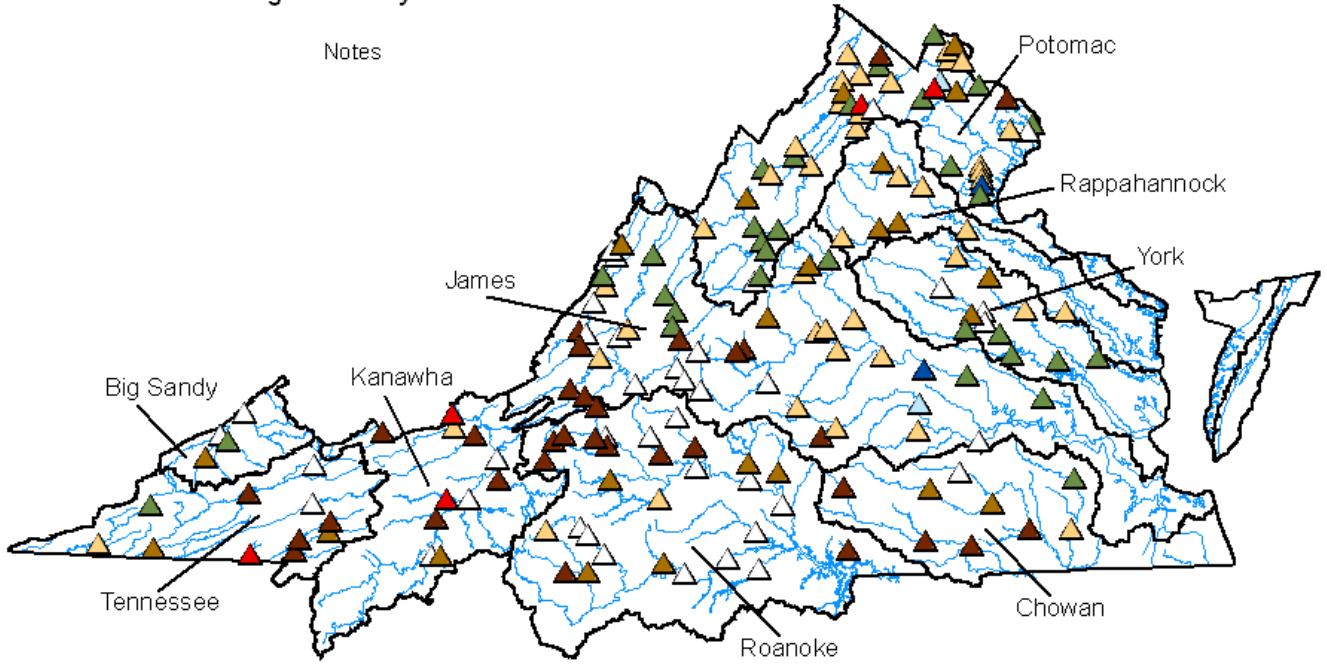
Current streamflow conditions



APPENDIX G

Streamflow conditions for 08/19/2007
in Virginia--7-day values

Notes



Streamflow Statistics based on
average flows

Daily 7-Day 14-Day 28-Day

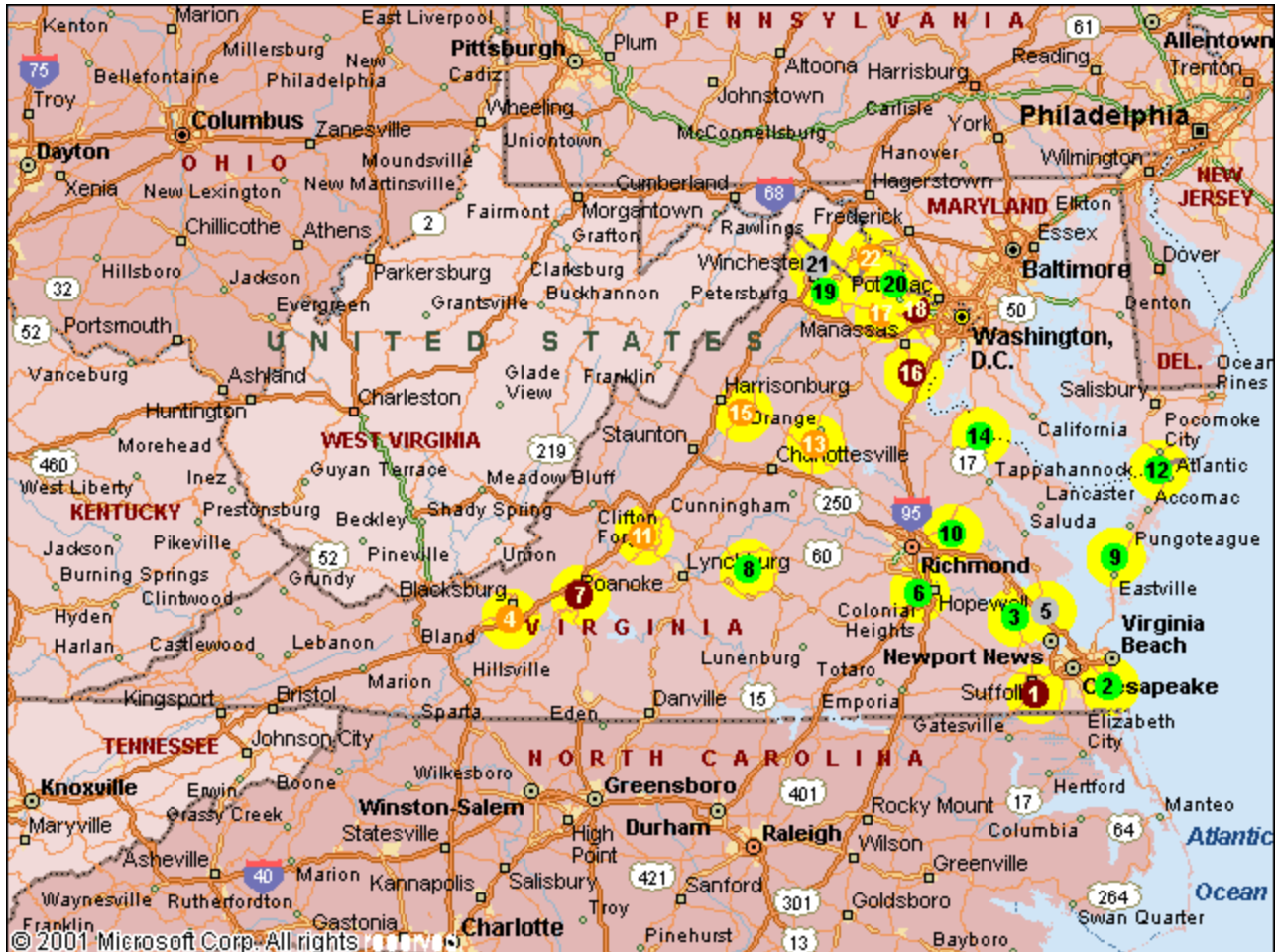
Click on map or table to select River Basin

Current streamflow conditions



APPENDIX H

Virginia Climate Response Network



Explanation - Percentile classes								
●	●	●	●	●	●	●	●	● Real Time
New	<10	10-24	25-75	76-90	>90	New	Insufficient	■ Continuous
Low	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal	High	Data	▲ Periodic Measurements