

DROUGHT MONITORING TASK FORCE

Drought Status Report

July 23, 2007

While statewide precipitation for the current water year (beginning October 1, 2006) is in the normal range, statewide precipitation in each successive shorter time period is below normal and the statewide precipitation for the last three week period is 47% of normal. The Big Sandy drought evaluation region in southwest Virginia is below normal for all precipitation evaluation periods. 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 precipitation and temperatures through August of 2007. The long-range seasonal outlook calls for equal chances of below average, average, and above average temperatures through October 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 October 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. The large area of D0 (abnormal dryness) and D1 (moderate drought) conditions that covers almost 85% of the state has developed rather quickly over the last two weeks. The NOAA seasonal drought outlook through October 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 southwest Virginia, the Northern Neck, the Middle Peninsula, the Eastern Shore, and portions of northern Virginia indicate below normal (19th to 24th percentile flows) and moderate (6th to 9th percentile flows) hydrologic drought conditions. The remainder of the Commonwealth is experiencing streamflows that are generally in the bottom end of the normal range of flows. 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. Ground water levels are generally in the lower range of expected water levels. 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, recent press reports indicate that the Rivanna Water and Sewage Authority has declared a drought watch for their service area and the City of Portsmouth is considering taking advantage of a contract with Norfolk that allows the sale of excess water to Portsmouth via the emergency inter-connect that was completed in 2002.

The Department of Game and Inland Fisheries has not reported any impacts to public boat ramps or DGIF lakes.

At the current time the only significant drought impacts are occurring in the agricultural sector. Absent widespread consistent precipitation during the next month it is likely that hydrologic impacts will intensify (lower stream flows 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 Geologic 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

All regions of the state have experienced a significant shortfall in precipitation thus far for the month of July. Even though precipitation amounts for June were generally more substantial, the normally high evaporation rates during the summer months have led to a deterioration of deep-soil moisture conditions, as evidenced by the Palmer Drought Index.

Thunderstorm activity, the primary source of rainfall during summer, has been very sporadic and widely scattered for the most part during July. The current southerly dip in the mid-latitude jet stream has not proven very effective in bringing moisture to the region, or in touching off convective activity. As a result, near-surface soil layers show significant drying over most of Virginia.

Eastern Virginia received some rainfall in early June from the remnants of Tropical Storm Barry, but there has been no significant tropical activity in the North Atlantic basin since. During years in which rainfall from thunderstorm activity has fallen short, tropical systems and their remnants can provide widespread relief from drought conditions. Even though the tropics have been relatively quiet, we have yet to enter the generally more active portion of the hurricane season in late summer and early fall. In addition, the available outlooks suggest a more active hurricane season than normal. Fortunately, topsoil moisture can be replenished as quickly as it is lost, given enough thunderstorm activity in an area. If it comes in time for a critical period in crop development, serious reductions in yield can often be averted. Unless a tropical system presents itself in the next two or three weeks, the normal spotty nature of thunderstorm precipitation, combined with high seasonal evaporation rates, will almost certainly lead to a further deterioration of moisture conditions for many (if not most) Virginians as the summer wears on.

The National Weather Service reports that temperatures should generally be at or slightly below normal for much of the week of July 22, with no excessive heat expected for the next 10 days at least. In addition, an unexpected upper level low pressure system developed over Virginia and North Carolina on July 21 and is expected to meander around the central Appalachians/Ohio Valley much of this week, providing several opportunities for showers and thunderstorms across the Commonwealth through the end of the week. This creates the potential for significant short-term relief from the recent dryness, especially in the western half Virginia, where the heaviest rain is currently anticipated. This development has the potential to prevent further intensification of drought conditions in the Commonwealth during the next two weeks.

Virginia Department of Agriculture and Consumer Services

Overview

According to the USDA National Agricultural Statistics Service's Weather and Crops Report for the week ending July 22, 2007, the Commonwealth received scattered showers, but dry weather continues to affect various parts of the state. Pasture conditions have declined and more than 80% of topsoil moisture was short to very short. As a result of the continuing dry weather conditions, several localities have submitted requests to the Governor for assistance in obtaining a federal disaster designation. The nine localities are Bland, Caroline, Culpeper, Lee, Russell, Scott, Smyth, Washington and Wise.

Impact on Crops:

- **Corn:** The corn crop across Virginia is in bad shape. Producers are probably looking at a 50% reduction in the normal crop. The Northern Neck and Southeast Virginia production areas are probably the most impacted. Some parts of Southeast Virginia received an inch to two inches of rain last week, but many areas still have received no more than a half inch of rainfall in six weeks. Early planted corn and the very late planted corn will make, at most, 30 to 40 bushels per acre rather than the 100 bushels expected earlier. In addition, the valley and southwest areas will probably have to chop more of the crop for silage as the drought has hurt the hay crop in those areas. The corn crops look a lot better in Accomack County than in neighboring Northampton County where corn has definitely been stressed.
- **Soybeans:** The full season beans are good for now but the double crop beans are struggling. They need some long term moisture to get them to begin to grow. If they do not get any rain over the next week, many fields will have to be abandoned.
- **Peanuts:** The peanut crop is holding on but needs rainfall. As the first blooms tried to peg (the peg makes the peanut), the ground was dry and very little pegging was able to take place. A second crop of blooms are coming on right now, which is late, but moist soil is needed to allow pegging. Without rainfall this week the crop will be extremely short.

- **Cotton:** Roughly 85 percent of Virginia's cotton crop was under extreme stress last week. The crop is short and topping out which will result in very little cotton to pick this fall. Estimates range from a 1 bale per acre crop, which is 480 pounds per acre, down to 200 pounds per acre.
- **Potatoes:** On the Eastern Shore the drought is not affecting the potatoes at this time since the tops have been killed and do not need any water. The heat will be more of a factor than the drought because potatoes do not have any foliage for protection from the sun. Also, ground pests will begin to feed on the potatoes in search of moisture and this will affect quality and yields.
- **Tomatoes:** The tomato growers irrigate all their tomatoes and usually do not like to see much rain. Usually if the plants get too much additional water the fruit begins to split and causes skin checks, which seriously affect the marketability of the tomato. Most growers on the Eastern Shore have the ability to irrigate from ponds or wells. Most of the growers did not seem too concerned about the conditions of the ponds or wells, but were concerned about the expense of having to run the tractors or generators to pump the water to the crop. Most say this has a huge impact and expense on the crop.
- **Nursery/Horticulture:** Nurseries, landscapers and homeowners across the state, particularly those in SW Virginia, report continuing plant stress due to lack of water. Those with access to adequate irrigation are able to keep the plants healthy. If dry conditions continue and water sources dry up or water restrictions are implemented, plants will begin to experience permanent damage. This damage manifests itself in foliage drop and small twigs and branches die back. However, the real damage occurs in the root system. First, there is a rapid loss of root hairs. If a substantial number of fibrous roots die, the plant will have difficulty resuming normal growth the following year. Sometimes the plant may put out a good spring flush of growth and then collapse and die. Ornamental plant sales by nurseries and landscapers have been down significantly due to the hot, dry weather. Homeowners are waiting for cooler temperatures and more moisture before investing in major plantings. Many nurseries and landscapers guarantee replacement of their woody ornamentals; therefore, even if sales were up they would have lower profits due to the cost of replacement plants.

Impact on Livestock:

- Lower available water supplies (creeks, springs, ponds) in severe drought areas will add to producer problems and spur the increased marketing of livestock.
- Numbers coming to market are higher than for the same period last year, especially in the Wytheville/Abingdon areas. Last Friday at Tri-State Auction in Abingdon, 275 cows were sold compared to 60 cows a year ago. Feeder cattle numbers at the same market were doubled compared to this same time last year.
- Pastures are severely dry with the usual August heat yet to come. Many beef producers are culling older cows and those that were overly stocked are selling back to better manage available feed. Higher than usual feeder cattle numbers are expected to be marketed in the near term. Producers will be mostly impacted because the cattle will be sold at lighter weights thereby not returning the higher potential dollars per head.
- While no reports of hay shipments to Virginia have been received, VDACS will begin the publication of the Hay Clearinghouse Newsletter the first of August. This newsletter will provide a mechanism to link those persons who need additional feed stocks with producers who have hay for sale.

Virginia Department of Environmental Quality Condition of Major Reservoirs

The elevation of Kerr Reservoir is at 298.7 feet above msl, 0.8 feet below guide curve. Outflow is exceeding inflow as the project is making hydroelectric energy and the project continues to operate near the guide curve. The lake is projected to fall to 297 feet by August 21st, still not a level that will adversely effect recreation.

Lake Moomaw is currently at 1576 feet above msl, six feet below full and has depleted 26 % of its conservation pool. Inflow is about 77 cfs and outflow is 276 cfs. The lake is losing about 5 per cent of its conservation storage per week. The 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. Due to the high amount of conservation pool remaining, no action is contemplated in the short term to adjust planned releases.

Smith Mountain Lake is at 794.23 feet above msl, 0.76 feet below full and falling. Although this level is not abnormal for this late in the summer, anytime the lake level approaches a foot below full, DEQ begins to receive complaints from lake front stakeholders urging us to reduce minimum releases. Inflow today is very low at 327 cfs and outflow is at 663 cfs which is required by AEP's FERC license. Absent precipitation during the next ten days lake levels could be a foot below full by the first week of August.

The system of reservoirs owned by Rivanna Water and Sewer Authority is currently 93.7 % 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 declared a drought watch on July 23.

United State Geologic Survey Streamflow and Ground Water Levels

Streamflow conditions (see Appendix E) based on daily values computed for July 22, 2007 show most of the State's rivers in the normal to just below normal range of flow (green and tan markers). However, a significant number of smaller rivers in the Tennessee, Kanawha, upper Roanoke, Chowan, York, and Rappahannock River Basins have flows that are below the 10th percentile (brown and dark brown markers). The five stations with red markers (indicating new record lows for the month) all have short periods of record.

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 F) 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 G). However, it should be noted that most of the well levels have been on a steady decline since the March-April timeframe when ground-water levels were at their peak. It is unusual that there has been almost no recharge to the ground-water system since April.

Virginia Department of Forestry Forest Conditions

Wildfire Conditions

Summertime wildfire activity continues at somewhat more elevated levels than what would be considered normal for Virginia. Over the last week, the Department of Forestry has responded to an average of roughly 5 wildfires daily which have burned about 7-8 acres on a daily basis. The leading cause of wildfire continues to be human carelessness although we have seen an upturn in lightning-caused fires related to the very dry conditions. The US Forest Service continues to monitor a 300+ acre lightning caused fire that is being managed for natural fire benefits in the James River Wilderness area.

Observed fire behavior over the last few weeks indicates that wildfire occurrence, rates of spread and fire intensity is much greater than would normally be expected during this time of the year. The low fuel moisture conditions overall make suppression operations more difficult and lead to increased long term monitoring which can place a drain on firefighter resources. This has not been a significant problem up to this point, however it can have significant problem if the drought conditions persist or increase over time.

Through July 20, 2007 the VDOF has responded to 1029 wildfires which have burned 8355 acres. Currently, four counties have enacted local burning bans: Essex, Northumberland, Richmond and Westmoreland.

The agency is becoming concerned about the potential for a significant fall fire season. Current long term predictions indicate that the fall season could reach wildfire activity levels similar to the historic fall 2001 season, although there are just too many variables and too much time remaining to make an accurate determination at this point in the year.

Forest Pest Conditions

Drought stresses in the Commonwealth's forests will typically lead to increasing problems with pest related outbreaks as opportunistic forest pests take advantage of the already stressed trees.

Gypsy moth, a pest impacting the foliage of deciduous trees, are now being recorded in the Winchester and Roanoke area and activity is expected to increase over the next two months causing significant defoliation on a local level. Southern Pine Beetle, a fatal pest of some conifers is expected to remain active through the summer in isolated areas. The Department of Forestry will continue to monitor these situations and will respond as appropriate.

Virginia Department of Health Public Water Supply Conditions

Though there are some decreases in spring flows in the Abingdon Field Office area there are no known water system drought issues at this time. VDH will continue to monitor those systems that historically have had problems during drought seasons.

APPENDIX A

Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
7/23/07

DROUGHT REGION	OBSERVED	JULY 1, 2006 NORMAL	- JULY 22, 2006 DEPARTURE	% OF NORM.
1 Big Sandy	1.73	3.18	-1.45	54%
2 New River	1.41	2.69	-1.28	52%
3 Roanoke	2.30	3.12	-0.82	74%
4 Upper James	1.55	2.87	-1.32	54%
5 Middle James	1.36	3.13	-1.77	44%
6 Shenandoah	1.37	2.67	-1.29	52%
7 Northern Virginia	0.99	2.67	-1.68	37%
8 Northern Piedmont	1.08	3.12	-2.04	35%
9 Chowan	1.63	3.20	-1.57	51%
10 Northern Coastal Plain	0.58	3.16	-2.58	18%
11 York-James	0.78	3.62	-2.84	22%
12 Southeast Virginia	0.87	3.60	-2.73	24%
13 Eastern Shore	1.11	2.84	-1.73	39%
Statewide	1.45	3.08	-1.63	47%

DROUGHT REGION	OBSERVED	JUNE 1, 2007 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1 Big Sandy	4.48	7.32	-2.84	61%
2 New River	4.45	6.54	-2.09	68%
3 Roanoke	5.22	7.01	-1.79	74%
4 Upper James	5.31	6.58	-1.27	81%
5 Middle James	4.72	6.64	-1.92	71%
6 Shenandoah	4.65	6.37	-1.72	73%
7 Northern Virginia	2.93	6.53	-3.60	45%
8 Northern Piedmont	3.23	7.13	-3.89	45%
9 Chowan	3.85	6.86	-3.01	56%
10 Northern Coastal Plain	2.43	6.72	-4.29	36%
11 York-James	2.97	7.03	-4.06	42%
12 Southeast Virginia	4.09	7.20	-3.11	57%
13 Eastern Shore	6.37	5.82	0.55	109%
Statewide	4.31	6.87	-2.56	63%

DROUGHT REGION		OBSERVED	MAY 1, 2007 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	6.22	12.14	-5.92	51%
2	New River	6.23	10.75	-4.52	58%
3	Roanoke	7.19	11.34	-4.15	63%
4	Upper James	7.33	10.86	-3.53	68%
5	Middle James	7.18	10.88	-3.70	66%
6	Shenandoah	6.84	10.21	-3.38	67%
7	Northern Virginia	4.19	10.87	-6.68	39%
8	Northern Piedmont	5.32	11.35	-6.02	47%
9	Chowan	6.73	10.94	-4.21	62%
10	Northern Coastal Plain	3.67	10.88	-7.21	34%
11	York-James	4.52	11.30	-6.78	40%
12	Southeast Virginia	6.06	11.07	-5.01	55%
13	Eastern Shore	8.11	9.33	-1.23	87%
	Statewide	6.34	11.13	-4.79	57%

DROUGHT REGION		OBSERVED	APR 1, 2007 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	10.69	15.90	-5.21	67%
2	New River	9.35	14.30	-4.95	65%
3	Roanoke	10.40	15.14	-4.74	69%
4	Upper James	10.83	14.26	-3.43	76%
5	Middle James	10.41	14.22	-3.81	73%
6	Shenandoah	10.42	13.14	-2.72	79%
7	Northern Virginia	7.92	14.18	-6.25	56%
8	Northern Piedmont	8.42	14.63	-6.22	58%
9	Chowan	11.17	14.37	-3.20	78%
10	Northern Coastal Plain	7.38	13.97	-6.58	53%
11	York-James	8.56	14.59	-6.03	59%
12	Southeast Virginia	10.57	14.31	-3.74	74%
13	Eastern Shore	12.66	12.25	0.41	103%
	Statewide	9.98	14.55	-4.57	69%

DROUGHT REGION		OBSERVED	MAR 1, 2007 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	13.83	20.15	-6.32	69%
2	New River	13.39	17.97	-4.59	74%
3	Roanoke	14.09	19.41	-5.32	73%
4	Upper James	14.47	18.05	-3.58	80%
5	Middle James	13.47	18.28	-4.81	74%
6	Shenandoah	13.29	16.33	-3.04	81%
7	Northern Virginia	11.08	17.83	-6.76	62%
8	Northern Piedmont	10.85	18.44	-7.59	59%
9	Chowan	13.73	18.74	-5.00	73%
10	Northern Coastal Plain	10.19	18.25	-8.05	56%
11	York-James	10.28	19.28	-9.00	53%
12	Southeast Virginia	12.51	18.52	-6.00	68%
13	Eastern Shore	14.44	16.56	-2.13	87%
	Statewide	13.05	18.59	-5.54	70%

DROUGHT REGION		OBSERVED	FEB 1, 2007 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	15.22	23.72	-8.50	64%
2	New River	15.04	20.90	-5.87	72%
3	Roanoke	16.14	22.72	-6.58	71%
4	Upper James	16.92	20.90	-3.98	81%
5	Middle James	15.44	21.40	-5.97	72%
6	Shenandoah	15.35	18.74	-3.39	82%
7	Northern Virginia	13.92	20.50	-6.59	68%
8	Northern Piedmont	13.29	21.41	-8.12	62%
9	Chowan	15.90	21.90	-6.00	73%
10	Northern Coastal Plain	12.70	21.38	-8.69	59%
11	York-James	12.03	22.80	-10.78	53%
12	Southeast Virginia	14.78	22.02	-7.24	67%
13	Eastern Shore	17.22	19.75	-2.53	87%
	Statewide	15.14	21.72	-6.58	70%

DROUGHT REGION		OBSERVED	JAN 1, 2007 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	18.41	27.46	-9.05	67%
2	New River	18.00	24.11	-6.12	75%
3	Roanoke	20.02	26.64	-6.61	75%
4	Upper James	19.93	24.17	-4.25	82%
5	Middle James	19.01	25.07	-6.05	76%
6	Shenandoah	16.91	21.60	-4.69	78%
7	Northern Virginia	16.16	23.78	-7.61	68%
8	Northern Piedmont	15.81	24.93	-9.13	63%
9	Chowan	18.42	26.02	-7.59	71%
10	Northern Coastal Plain	16.94	25.14	-8.20	67%
11	York-James	14.64	26.94	-12.30	54%
12	Southeast Virginia	17.95	26.18	-8.23	69%
13	Eastern Shore	19.39	23.32	-3.92	83%
	Statewide	18.20	25.36	-7.16	72%

DROUGHT REGION		OBSERVED	DEC 1, 2006 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	20.40	31.10	-10.70	66%
2	New River	19.78	26.82	-7.04	74%
3	Roanoke	22.20	29.89	-7.69	74%
4	Upper James	21.92	27.12	-5.20	81%
5	Middle James	20.60	28.24	-7.64	73%
6	Shenandoah	18.03	24.19	-6.16	75%
7	Northern Virginia	17.82	26.87	-9.05	66%
8	Northern Piedmont	17.56	28.21	-10.65	62%
9	Chowan	20.59	29.04	-8.45	71%
10	Northern Coastal Plain	18.64	28.41	-9.77	66%
11	York-James	16.46	30.32	-13.87	54%
12	Southeast Virginia	20.40	29.36	-8.96	69%
13	Eastern Shore	22.14	26.56	-4.41	83%
	Statewide	20.05	28.48	-8.43	70%

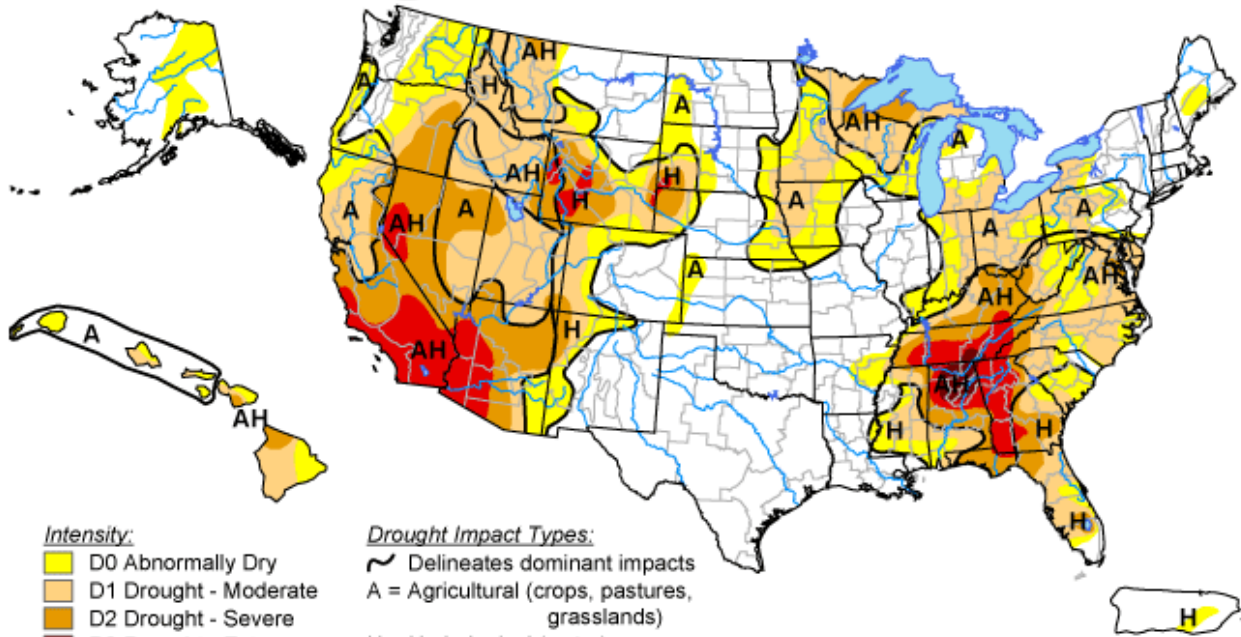
DROUGHT REGION		OBSERVED	NOV 1, 2006 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	23.15	34.38	-11.23	67%
2	New River	23.74	29.86	-6.12	80%
3	Roanoke	27.59	33.25	-5.66	83%
4	Upper James	25.70	30.48	-4.78	84%
5	Middle James	26.33	31.75	-5.42	83%
6	Shenandoah	22.18	27.23	-5.05	81%
7	Northern Virginia	23.62	30.28	-6.66	78%
8	Northern Piedmont	23.86	32.00	-8.14	75%
9	Chowan	27.96	32.15	-4.19	87%
10	Northern Coastal Plain	23.94	31.55	-7.61	76%
11	York-James	22.12	33.69	-11.57	66%
12	Southeast Virginia	28.02	32.43	-4.41	86%
13	Eastern Shore	27.02	29.50	-2.48	92%
	Statewide	25.21	31.71	-6.50	80%

DROUGHT REGION		OBSERVED	OCT 1, 2006 NORMAL	- JULY 22, 2007 DEPARTURE	% OF NORM.
1	Big Sandy	28.13	37.27	-9.14	75%
2	New River	28.72	33.02	-4.30	87%
3	Roanoke	33.63	36.96	-3.33	91%
4	Upper James	32.63	33.73	-1.10	97%
5	Middle James	34.02	35.59	-1.56	96%
6	Shenandoah	27.42	30.42	-3.00	90%
7	Northern Virginia	28.40	33.76	-5.35	84%
8	Northern Piedmont	30.39	36.00	-5.60	84%
9	Chowan	35.67	35.73	-0.06	100%
10	Northern Coastal Plain	30.02	35.06	-5.04	86%
11	York-James	30.12	37.22	-7.11	81%
12	Southeast Virginia	33.09	36.09	-3.00	92%
13	Eastern Shore	33.95	32.71	1.24	104%
	Statewide	31.45	35.21	-3.76	89%

APPENDIX B

U.S. Drought Monitor

July 17, 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.

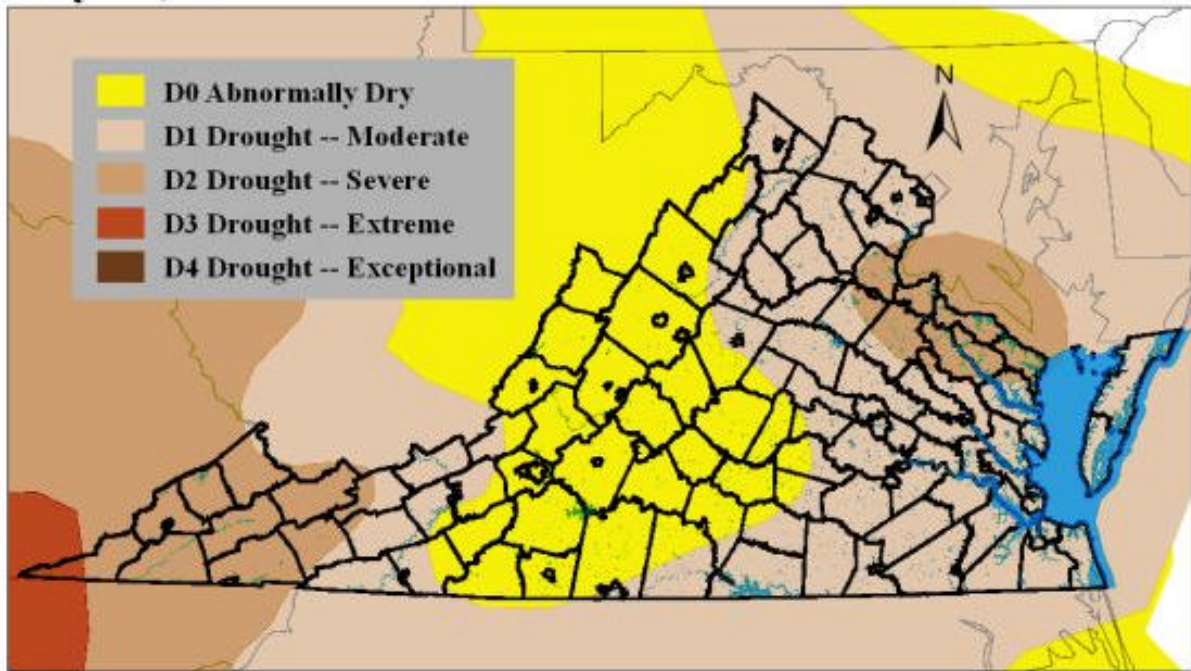
<http://drought.unl.edu/dm>



Released Thursday, July 19, 2007
Author: Brad Rippey, U.S. Department of Agriculture

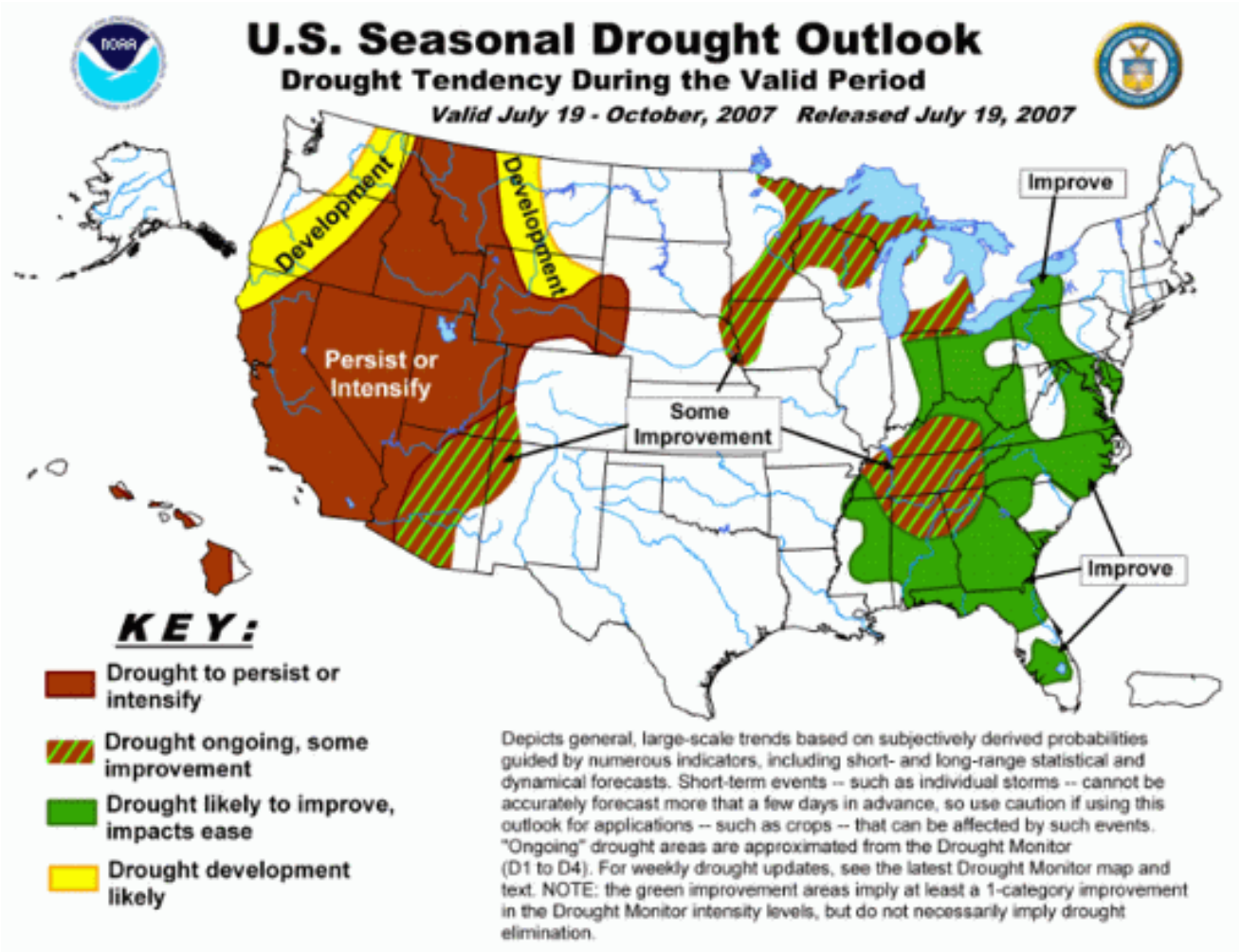
APPENDIX C

U.S. Drought Monitor - Virginia July 17, 2007

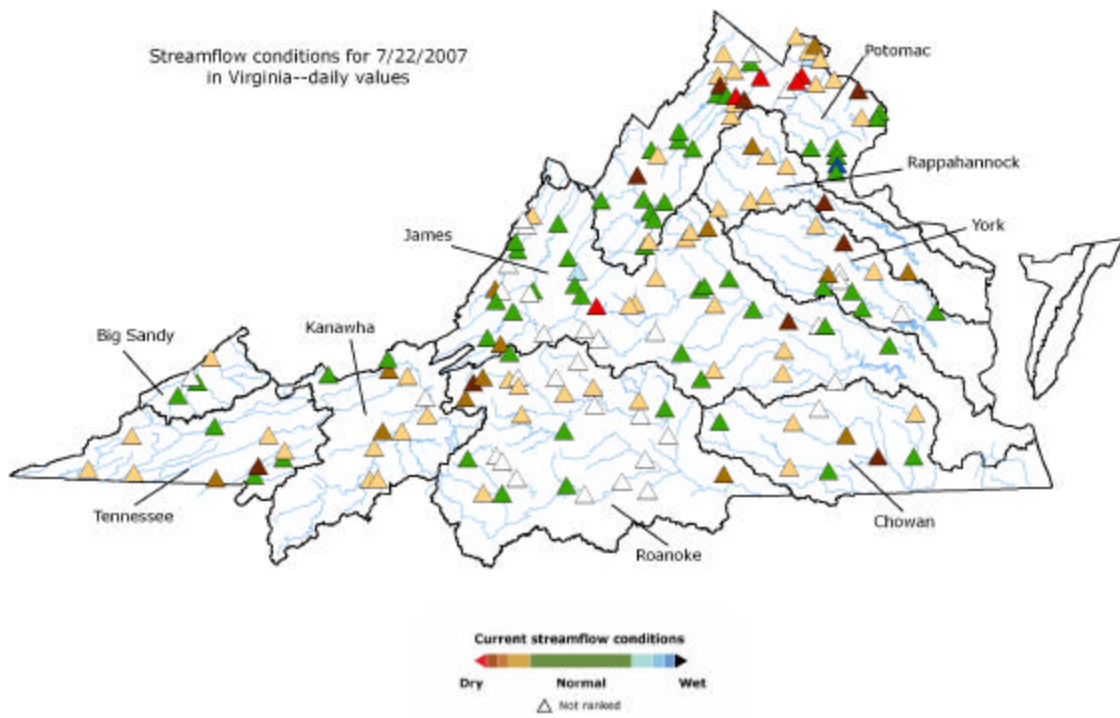


Note: The U.S. Drought Monitor focuses on broad-scale conditions. Local conditions may vary. Click on map to view complete U.S. Drought Monitor graphic.

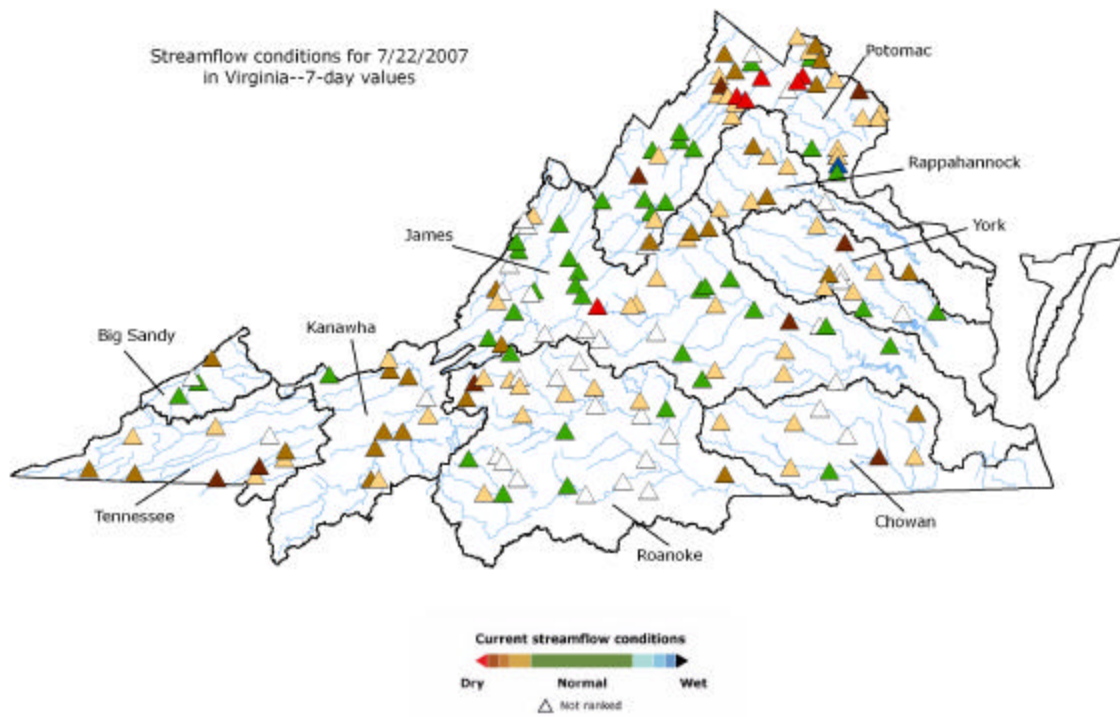
APPENDIX D



APPENDIX E



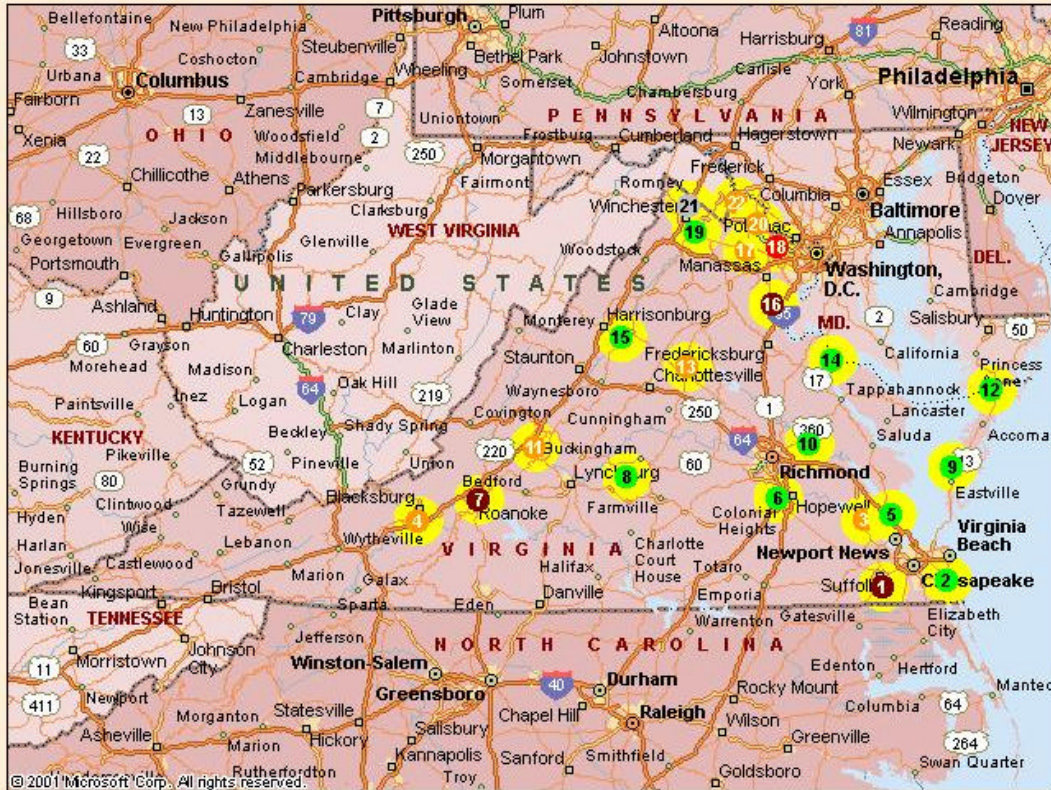
APPENDIX F



APPENDIX G

Virginia Climate Response Network

Hover mouse over site for information. Click site to open page with information and data.



Map generated 7/23/2007 6:48:24 AM

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

Filename: dmtfreportjuly07.doc
Directory: I:\elfoster\web\Drought
Template: C:\Documents and Settings\elfoster\Application
Data\Microsoft\Templates\Normal.dot
Title: Drought Monitoring Task Force
Subject: Drought Status Report July 20, 2007
Author: Virginia Department of Environmental Quality
Keywords: drought, ground, water
Comments:
Creation Date: 7/25/2007 7:51 AM
Change Number: 5
Last Saved On: 7/25/2007 1:05 PM
Last Saved By: Erich L Foster
Total Editing Time: 4 Minutes
Last Printed On: 7/25/2007 1:05 PM
As of Last Complete Printing
Number of Pages: 16
Number of Words: 3,770 (approx.)
Number of Characters: 21,493 (approx.)