

VIRGINIA DROUGHT MONITORING TASK FORCE

Drought Status Report

February 10, 2011

Statewide precipitation for the current water year, October 1, 2010 to February 14, 2011 was in the below normal range (66% of normal) with all drought evaluation regions reporting below normal precipitation. Normal precipitation is defined as the mean precipitation for a thirty year period of record. Precipitation greater than 85% and less than 115% of normal is considered to be in the normal range. Statewide precipitation is below the normal range (41%) for the calendar year. Appendix A contains precipitation tables for periods dating from December 1, 2009 through February 1, 2011 provided by the Climatology Office of the University of Virginia.

As of February 2011 the National Weather Service Climate Prediction Center 6-10 day climatologic outlooks call for below normal precipitation for the eastern half of the state and above normal temperatures for the entire Commonwealth. The 8-14 day outlooks call for below normal precipitation for Suffolk, Chesapeake, and Virginia Beach and normal precipitation for the remainder of the state. Above normal temperatures are anticipated for the entire state over the 8-14 day period. The one month outlook calls for equal chances of below normal, normal and above normal temperature for the entire Commonwealth, and equal chances of below normal, normal and above normal precipitation for all but the southeastern portion of the state which is predicted to have below normal precipitation. The three month outlook calls for equal chances of below normal, normal and above normal precipitation and temperature statewide.

The February 8th, 2011 NOAA U.S. National Drought Monitor indicates “moderate drought” conditions exist in approximately 57% of the state, concentrated in the central portion of the Commonwealth, and “abnormally dry” drought conditions exist in approximately 35% of the Commonwealth. Only the Tidewater region and the Eastern Shore are reported as having no drought conditions. The Seasonal Drought Outlook for the United States from now through April 2011 forecasts “drought ongoing, some improvement” for the entire central portion of the Commonwealth and “no drought posted or predicted” for the rest of the state. (Appendix D).

The Virginia Department of Health (VDH) reports that 9 systems are under voluntary water conservation requirements and 1 system is under mandatory water conservation requirements. Of the 39 systems listed in the VDH report, 7 are rated as having a “Better” overall water supply situation, none are rated as having a “Worse” overall water supply situation and all other systems are rated as being in a “Stable” situation (Appendix F).

Reports from the Climatology Office of the University of Virginia, the National Oceanic and Atmospheric Administration’s National Weather Service, the Virginia Department of Environmental Quality, the United States Geological Survey, the Virginia Department of Emergency Management and the Virginia Department of Agriculture and Consumer Services, follow.

Report of the Climatology Office of the University of Virginia

The colder winter months mark a distinct decline in the rate of moisture loss to evaporation, and allow precipitation an opportunity to penetrate the soil layers and replenish long-term reserves. Thus, storm activity from late fall to early spring is crucial to water supplies. A season with relatively few such systems often leads to a summer with long-term moisture difficulties.

The relatively dry beginning of this critical period is unfortunate, given the depletion of moisture reserves during the past growing season. Long-range outlooks for this winter, thus far, inspire little optimism for making up deficits.

Report of NOAA's National Weather Service

Most of the Commonwealth has been dry the last 2-3 months, although there has been more precipitation than would normally occur during a typical LaNina winter. Temperatures have warmed this week and, when combined with dry air, breezy to windy conditions, and dry fuels, have caused hazardous fire weather conditions. Fire weather concern will continue high through Saturday, when fire weather warnings could be issued. For the next couple of weeks, temperatures are forecast to be near to above normal. The next threat for precipitation will be late Monday and Tuesday next week. However, there is some uncertainty with regard to that event, and whether it will impact the entire Commonwealth, or just the northern half to 2/3rds of Virginia.

Virginia Department of Emergency Management Wildfire Report

Summary: On 14 February, low relative humidity, 15 to 25 percent range, combined with 15-25 mph sustained winds with gusts up to 50 mph and low fuel moisture produced explosive fire growth conditions across the Commonwealth. High winds across the Commonwealth contributed to multiple power outages.

Low relative humidity combined with dry conditions and gusty winds, 25-40 mph, will continue to produce an increased fire threat across the Commonwealth of Virginia through Saturday, 19 February. No significant rain is forecast through the weekend.

No significant Virginia wildfires reported active at this time. U.S. Forest Service reports burn-out operations are complete on the fire in the Jefferson National Forest in Craig County on Nutter Mountain. Fire burned a total of 702 acres. Demobilization of resources initiated on 17 February. All state and local resources have been released.

Emergency Declarations: 1

- Orange County – terminated on 15 February
- Madison County

Local Emergency Operations Centers Open: None

Casualties:

- No new casualties
- Injuries – 4 on 14 February; all treated and released

Resource Requests:

- Virginia Department of Forestry; 15 Feb. 2011; request 2 specific Virginia Department of Transportation qualified fire suppression personnel to assist with fire operations in Carroll County; Working

Power Outages: No significant power outages

Localities:

- Localities report no unmet needs
- Local Burn Bans/Restrictions – [VDOF Local Burn Bans/Restrictions](#)
 - Arlington County
 - Fairfax County
 - Frederick County
 - King William County
 - King and Queen County
 - Rockbridge County
 - City of Newport News
 - Town of Middleton

State Agencies:

Virginia Department of Forestry

- Wildfire Activity Report for 16 February
 - 22 wildfires burned 102 acres
 - 1 structure damaged
- Wildfire Activity since 14 February
 - 138 wildfires burned 1,131 acres
 - 3 homes and 9 structures damaged
- Statewide Burn Ban/Restriction – Prohibits burning before 1600 each day if the fire is in, or within 300 feet of, woodland, brushland or fields containing dry grass or other flammable materials [Code of Virginia 10.1-1142; Regulating the burning of woods, brush, etc.; penalties](#)
- Forestry Command Center in Charlottesville staffed and operational

VDEM/VEOC

- Increased Readiness with limited additional staffing
- Facilitating Conference Call with State Agencies and Local Emergency Managers reference wildfire potential on Friday and Saturday, 18 and 19 February
- Maintaining situational awareness
- Responding to request for assistance
- WebEOC Incident, 2011-02-14 Wildfires, created
- Next Spot Report to be issued around 1200, 18 February

Weather Conditions:

- Thursday – 17 February: Mostly sunny skies with high temperatures in low to upper 60s; winds 10-15 mph, with gusts up to 25 mph
- Friday – 18 February: Mostly cloudy with a 40 percent chance of showers after 1300 across Southwest and West Central Virginia. Mostly sunny for rest of the Commonwealth. High temperatures in mid 60s to mid 70s. Winds generally 5-15 mph with gusts up to 25 mph across Southwest and West Central Virginia
- Saturday – 19 February: Mostly sunny with high temperatures in mid 50s to mid 60s. Winds generally 10-20 mph with gusts between 30-40 mph

United States Geological Survey Streamflow and Ground Water Levels

Streamflows are in the below normal range across the Commonwealth except in for much of the Potomac and some of the Tennessee River Basins where streamflows are generally in the normal range of flow based on February flow statistics (fig. 1). Figure 2 shows the severity of drought conditions for each major river basin in the State.

Well levels in the Climate Response Network range from well below normal to above normal. Well levels in Northern Virginia and along the Atlantic Coast have increased the most because of greater precipitation in those areas. Well levels across the rest of the State have remained level or increased slightly; the result of less precipitation (fig. 3).

There have been numerous precipitation events across the State during the winter months, but there was little total precipitation except in northern Virginia and along the Atlantic Coast. Precipitation, especially snowfall, during the prime recharge period in the winter and early spring months will determine streamflow conditions next summer.

Virginia Department of Environmental Quality Conditions of Major Reservoirs

Levels of large reservoirs statewide are at or above normal levels. Four large multi-purpose reservoirs are identified as drought indicators in the *Virginia Drought Assessment and Response Plan (Plan)*; Smith Mountain Lake, Lake Moomaw, Lake Anna and Kerr Reservoir. All four of these reservoirs are currently at levels above their Drought Watch stages. Below is a summary of large reservoir conditions:

- As of February 10, Lake Moomaw on the Jackson River is at 1566.55 feet, and is dropping at a rate of approximately 0.08 ft per day. Approximately 40.7% of conservation storage remains. Lake Moomaw is 1.55ft above the Drought Watch level (1565 feet MSL).
- As of January 25, Kerr Reservoir was approximately 1.23 ft above the Guide Curve and was anticipated to drop 0.73 ft by February 1, 2011. Drought Watch status is reached at greater than 3 ft below the Guide Curve.
- As of January 25, Smith Mountain Lake was at elevation 793.58 ft. The Drought Watch stage for Smith Mountain Lake is elevation 793 feet and below.
- As of February 10, Lake Anna was at elevation 249.2 feet (0.8 feet below full). The Drought Watch stage for Lake Anna Lake is elevation 248 feet and below.

Virginia Department of Agriculture and Consumer Services Status of Agricultural Drought

Seventy Virginia localities formally requested the Governor's assistance in obtaining federal agricultural disaster designation due to drought conditions and have received this designation. On November 4, 2010, U.S. Secretary of Agriculture Thomas J. Vilsack named sixty of the localities primary disaster areas due to losses caused by drought and related disasters that occurred in 2010: Accomack, Albemarle, Amelia, Amherst, Appomattox, Bedford, Brunswick, Buckingham, Campbell, Caroline, Carroll, Charlotte, Clarke, Culpeper, Cumberland, Dinwiddie, Essex, Fauquier, Fluvanna, Franklin, Frederick, Goochland, Greene, Greensville, Halifax, Hanover, Isle of Wight, James City, King and Queen, King George, King William, Lancaster, Louisa, Lunenburg, Mecklenburg, Middlesex, Montgomery, Nelson, Northampton, Northumberland, Nottoway, Orange, Page, Patrick, Pittsylvania, Powhatan, Prince Edward, Pulaski,

Rappahannock, Richmond (County), Rockbridge, Shenandoah, Southampton, Spotsylvania, Stafford, Suffolk (City), Surry, Warren, Westmoreland and York. On December 27, 2010, Secretary Vilsack named the remaining nine localities primary disaster areas due to losses caused by drought and related disasters that occurred in 2010: Botetourt, Charles City, Craig, Gloucester, Henrico, Mathews, New Kent, Prince George and Sussex.

In late December 2010, Grayson County formally requested the Governor's assistance in obtaining a federal disaster designation due to drought conditions in 2010. VDACS requested that the USDA/Farm Service Agency (FSA) prepare an official loss assessment report (LAR) for this locality. Under USDA rules and procedures concerning the submission of gubernatorial requests for secretarial disaster designations, the last day that Secretary Vilsack could receive the Governor's request for the 2010 drought was January 1, 2011. Unfortunately, Grayson County's request was not received in time and VDACS' request that FSA prepare an LAR was denied.

APPENDIX A

Precipitation Departures by Drought Evaluation Region

PRELIMINARY PRECIPITATION SUMMARY

Prepared:
2/15/11

DROUGHT REGION	OBSERVED	Feb 1, 2011 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	0.42	1.79	-1.37	23%
New River	0.41	1.47	-1.06	28%
Roanoke	0.55	1.66	-1.11	33%
Upper James	0.56	1.43	-0.86	39%
Middle James	0.68	1.56	-0.88	43%
Shenandoah	0.68	1.21	-0.53	56%
Northern Virginia	1.07	1.34	-0.27	80%
Northern Piedmont	0.78	1.49	-0.71	52%
Chowan	0.68	1.59	-0.91	43%
Northern Coastal Plain	0.48	1.57	-1.09	31%
York-James	0.68	1.77	-1.08	39%
Southeast Virginia	1.19	1.75	-0.56	68%
Eastern Shore	0.79	1.60	-0.81	49%
Statewide	0.63	1.57	-0.93	40%

DROUGHT REGION	OBSERVED	Jan 1, 2011 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	2.20	5.52	-3.32	40%
New River	1.33	4.68	-3.35	28%
Roanoke	1.72	5.58	-3.85	31%
Upper James	1.47	4.71	-3.23	31%
Middle James	2.22	5.22	-3.00	42%
Shenandoah	1.70	4.06	-2.36	42%
Northern Virginia	2.84	4.62	-1.78	61%
Northern Piedmont	2.26	5.01	-2.75	45%
Chowan	2.27	5.70	-3.42	40%
Northern Coastal Plain	2.04	5.32	-3.28	38%
York-James	3.14	5.91	-2.76	53%
Southeast Virginia	4.27	5.91	-1.64	72%
Eastern Shore	3.65	5.16	-1.51	71%
Statewide	2.11	5.21	-3.10	41%

DROUGHT REGION	OBSERVED	Dec 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	6.75	9.16	-2.41	74%
New River	5.09	7.39	-2.29	69%
Roanoke	4.92	8.83	-3.91	56%
Upper James	4.43	7.66	-3.23	58%
Middle James	4.91	8.39	-3.48	59%
Shenandoah	4.18	6.65	-2.47	63%
Northern Virginia	4.63	7.72	-3.09	60%
Northern Piedmont	4.79	8.29	-3.50	58%

Chowan	5.53	8.72	-3.19	63%
Northern Coastal Plain	3.76	8.60	-4.84	44%
York-James	5.13	9.30	-4.17	55%
Southeast Virginia	7.12	9.09	-1.97	78%
Eastern Shore	6.78	8.40	-1.62	81%
Statewide	5.08	8.33	-3.24	61%

DROUGHT REGION	OBSERVED	Nov 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	10.08	12.44	-2.36	81%
New River	8.14	10.42	-2.27	78%
Roanoke	7.26	12.19	-4.92	60%
Upper James	6.94	11.02	-4.08	63%
Middle James	7.24	11.90	-4.66	61%
Shenandoah	6.20	9.70	-3.49	64%
Northern Virginia	6.33	11.13	-4.79	57%
Northern Piedmont	7.07	12.09	-5.02	58%
Chowan	7.38	11.83	-4.45	62%
Northern Coastal Plain	5.78	11.74	-5.96	49%
York-James	6.70	12.67	-5.96	53%
Southeast Virginia	8.84	12.16	-3.32	73%
Eastern Shore	7.99	11.34	-3.35	70%
Statewide	7.41	11.56	-4.14	64%

DROUGHT REGION	OBSERVED	Oct 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	12.50	15.32	-2.82	82%
New River	10.06	13.59	-3.52	74%
Roanoke	10.08	15.90	-5.81	63%
Upper James	9.16	14.27	-5.11	64%
Middle James	9.98	15.74	-5.76	63%
Shenandoah	7.45	12.89	-5.44	58%
Northern Virginia	8.98	14.61	-5.63	61%
Northern Piedmont	9.36	16.08	-6.72	58%
Chowan	9.93	15.41	-5.48	64%
Northern Coastal Plain	8.48	15.25	-6.77	56%
York-James	10.25	16.20	-5.94	63%
Southeast Virginia	11.88	15.82	-3.94	75%
Eastern Shore	10.64	14.55	-3.91	73%
Statewide	9.86	15.06	-5.19	66%

DROUGHT REGION	OBSERVED	Sep 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	14.81	18.78	-3.97	79%
New River	14.02	17.00	-2.98	82%
Roanoke	16.34	20.13	-3.79	81%
Upper James	14.68	17.77	-3.09	83%
Middle James	16.08	19.87	-3.79	81%
Shenandoah	12.45	16.56	-4.11	75%
Northern Virginia	15.39	18.68	-3.28	82%
Northern Piedmont	15.65	20.36	-4.71	77%

Chowan	18.22	19.84	-1.61	92%
Northern Coastal Plain	16.16	19.34	-3.18	84%
York-James	19.52	21.10	-1.58	93%
Southeast Virginia	25.16	20.25	4.91	124%
Eastern Shore	15.20	18.16	-2.96	84%
Statewide	15.90	19.06	-3.15	83%

DROUGHT REGION	OBSERVED	Aug 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	19.94	22.61	-2.67	88%
New River	19.26	20.31	-1.04	95%
Roanoke	22.77	23.85	-1.07	95%
Upper James	17.65	21.10	-3.44	84%
Middle James	20.27	23.69	-3.42	86%
Shenandoah	15.14	19.89	-4.74	76%
Northern Virginia	19.66	22.53	-2.87	87%
Northern Piedmont	19.06	24.18	-5.12	79%
Chowan	22.49	24.15	-1.65	93%
Northern Coastal Plain	20.50	23.20	-2.70	88%
York-James	21.22	25.97	-4.75	82%
Southeast Virginia	28.36	25.37	2.99	112%
Eastern Shore	19.98	22.03	-2.05	91%
Statewide	20.27	22.89	-2.62	89%

DROUGHT REGION	OBSERVED	Jul 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	23.68	27.09	-3.41	87%
New River	22.10	24.10	-1.99	92%
Roanoke	26.03	28.24	-2.21	92%
Upper James	21.31	25.14	-3.83	85%
Middle James	22.14	28.10	-5.96	79%
Shenandoah	18.53	23.65	-5.12	78%
Northern Virginia	23.12	26.30	-3.17	88%
Northern Piedmont	21.38	28.58	-7.19	75%
Chowan	24.18	28.66	-4.47	84%
Northern Coastal Plain	21.96	27.65	-5.69	79%
York-James	24.59	31.07	-6.48	79%
Southeast Virginia	32.08	30.44	1.64	105%
Eastern Shore	22.06	26.03	-3.96	85%
Statewide	23.04	27.23	-4.18	85%

DROUGHT REGION	OBSERVED	Jun 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	28.46	31.23	-2.77	91%
New River	24.67	27.95	-3.27	88%
Roanoke	28.12	32.13	-4.01	88%
Upper James	23.16	28.85	-5.69	80%
Middle James	24.01	31.61	-7.60	76%
Shenandoah	20.35	27.36	-7.00	74%

Northern Virginia	24.46	30.16	-5.69	81%
Northern Piedmont	23.79	32.59	-8.79	73%
Chowan	26.70	32.31	-5.60	83%
Northern Coastal Plain	23.97	31.21	-7.24	77%
York-James	25.52	34.48	-8.96	74%
Southeast Virginia	35.32	34.05	1.27	104%
Eastern Shore	23.59	29.01	-5.42	81%
Statewide	25.41	31.02	-5.61	82%

DROUGHT REGION	OBSERVED	May 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	33.91	36.05	-2.14	94%
New River	28.48	32.16	-3.67	89%
Roanoke	32.76	36.46	-3.70	90%
Upper James	26.96	33.13	-6.16	81%
Middle James	28.06	35.85	-7.79	78%
Shenandoah	23.41	31.20	-7.78	75%
Northern Virginia	29.10	34.50	-5.39	84%
Northern Piedmont	27.46	36.81	-9.34	75%
Chowan	32.12	36.40	-4.28	88%
Northern Coastal Plain	26.37	35.37	-9.00	75%
York-James	30.41	38.75	-8.33	78%
Southeast Virginia	39.52	37.91	1.61	104%
Eastern Shore	25.70	32.53	-6.82	79%
Statewide	29.57	35.28	-5.70	84%

DROUGHT REGION	OBSERVED	Apr 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	36.59	39.81	-3.22	92%
New River	30.33	35.71	-5.38	85%
Roanoke	34.52	40.26	-5.73	86%
Upper James	28.67	36.53	-7.86	78%
Middle James	29.81	39.19	-9.38	76%
Shenandoah	24.76	34.12	-9.35	73%
Northern Virginia	30.70	37.80	-7.10	81%
Northern Piedmont	29.00	40.10	-11.10	72%
Chowan	33.56	39.83	-6.27	84%
Northern Coastal Plain	27.96	38.46	-10.50	73%
York-James	31.36	42.05	-10.68	75%
Southeast Virginia	40.71	41.16	-0.45	99%
Eastern Shore	26.89	35.45	-8.56	76%
Statewide	31.29	38.70	-7.41	81%

DROUGHT REGION	OBSERVED	Mar 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	39.46	44.06	-4.60	90%
New River	34.40	39.38	-4.98	87%
Roanoke	39.65	44.53	-4.87	89%
Upper James	32.77	40.32	-7.55	81%
Middle James	34.95	43.25	-8.30	81%

Shenandoah	29.48	37.32	-7.83	79%
Northern Virginia	34.44	41.46	-7.01	83%
Northern Piedmont	33.92	43.91	-9.98	77%
Chowan	38.14	44.20	-6.05	86%
Northern Coastal Plain	34.11	42.74	-8.63	80%
York-James	36.98	46.74	-9.76	79%
Southeast Virginia	47.02	45.36	1.66	104%
Eastern Shore	33.12	39.76	-6.64	83%
Statewide	35.98	42.74	-6.75	84%

DROUGHT REGION	OBSERVED	Feb 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	42.23	47.64	-5.41	89%
New River	36.82	42.31	-5.49	87%
Roanoke	42.31	47.84	-5.53	88%
Upper James	35.09	43.17	-8.08	81%
Middle James	38.17	46.37	-8.20	82%
Shenandoah	32.36	39.73	-7.37	81%
Northern Virginia	38.48	44.13	-5.64	87%
Northern Piedmont	36.45	46.88	-10.43	78%
Chowan	41.39	47.37	-5.97	87%
Northern Coastal Plain	37.41	45.88	-8.47	82%
York-James	40.67	50.27	-9.60	81%
Southeast Virginia	50.77	48.86	1.91	104%
Eastern Shore	37.00	42.95	-5.95	86%
Statewide	38.96	45.87	-6.91	85%

DROUGHT REGION	OBSERVED	Jan 1, 2010 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	46.47	51.37	-4.90	90%
New River	41.32	45.52	-4.19	91%
Roanoke	47.38	51.76	-4.38	92%
Upper James	39.41	46.45	-7.04	85%
Middle James	42.56	50.03	-7.47	85%
Shenandoah	36.17	42.58	-6.41	85%
Northern Virginia	41.18	47.41	-6.22	87%
Northern Piedmont	40.37	50.40	-10.02	80%
Chowan	45.41	51.48	-6.06	88%
Northern Coastal Plain	41.11	49.63	-8.52	83%
York-James	45.10	54.41	-9.31	83%
Southeast Virginia	55.09	53.02	2.07	104%
Eastern Shore	40.02	46.51	-6.49	86%
Statewide	43.16	49.51	-6.35	87%

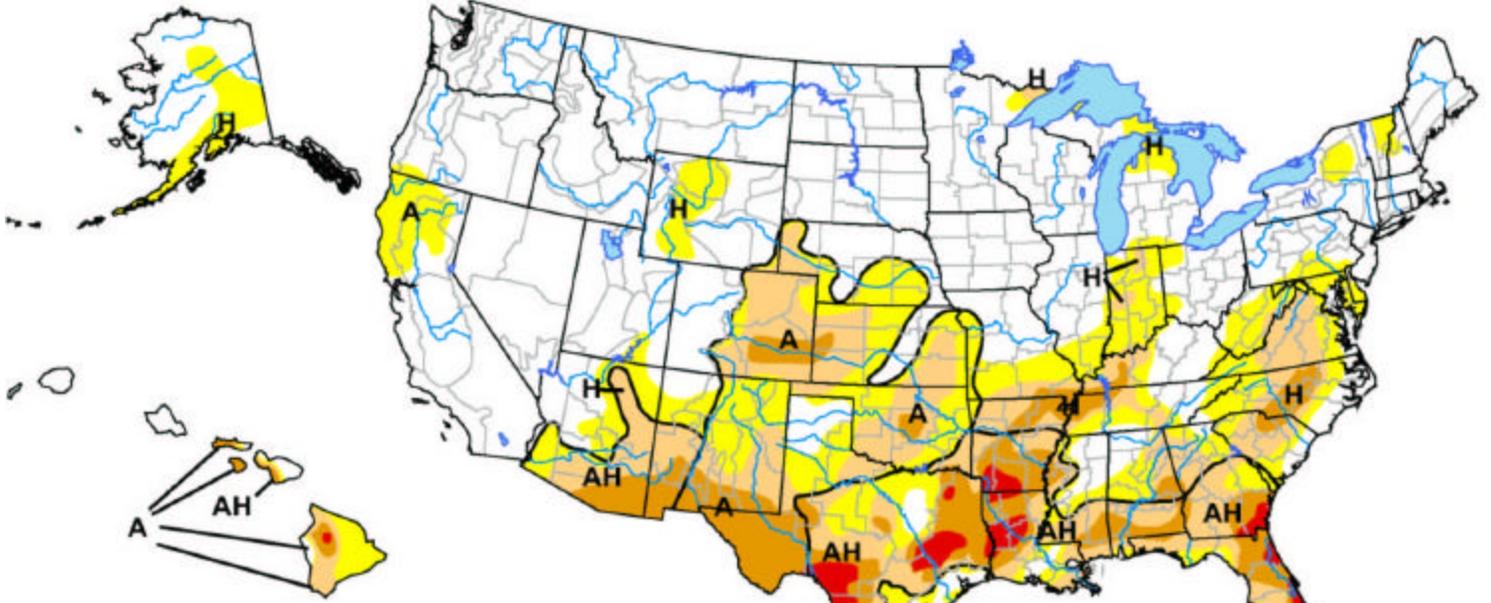
DROUGHT REGION	OBSERVED	Dec 1, 2009 NORMAL	- Feb 14, 2011 DEPARTURE	% OF NORM.
Big Sandy	52.16	55.01	-2.85	95%
New River	48.61	48.23	0.39	101%
Roanoke	54.94	55.01	-0.06	100%
Upper James	46.80	49.40	-2.60	95%

Middle James	50.71	53.20	-2.49	95%
Shenandoah	41.41	45.17	-3.75	92%
Northern Virginia	47.43	50.51	-3.07	94%
Northern Piedmont	46.87	53.68	-6.81	87%
Chowan	53.36	54.50	-1.14	98%
Northern Coastal Plain	49.02	52.91	-3.89	93%
York-James	52.05	57.80	-5.75	90%
Southeast Virginia	62.90	56.20	6.70	112%
Eastern Shore	48.54	49.75	-1.20	98%
Statewide	50.30	52.63	-2.32	96%

APPENDIX B

U.S. Drought Monitor

February 8, 2011
Valid 7 a.m. EST



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, February 10, 2011

Author: Matthew Rosencrans, NOAA/NWS/NCEP/CPC

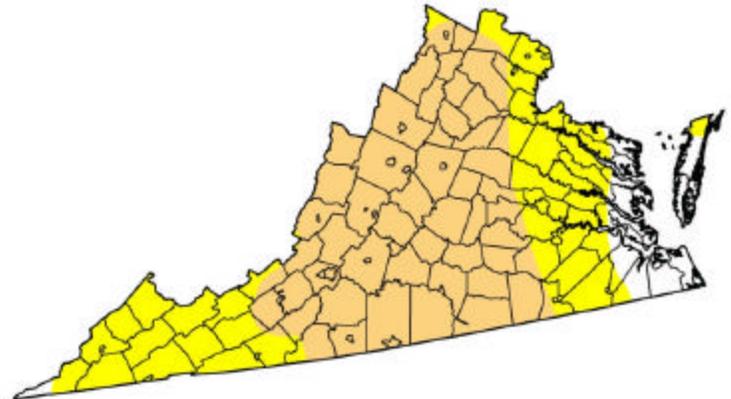
APPENDIX C

U.S. Drought Monitor Virginia

February 8, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.74	92.26	57.32	0.00	0.00	0.00
Last Week (02/01/2011 map)	18.30	81.70	55.04	0.00	0.00	0.00
3 Months Ago (11/09/2010 map)	63.20	36.80	3.37	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	81.67	18.33	0.00	0.00	0.00	0.00
Start of Water Year (09/28/2010 map)	13.71	86.29	49.67	28.15	0.79	0.00
One Year Ago (02/02/2010 map)	100.00	0.00	0.00	0.00	0.00	0.00



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>

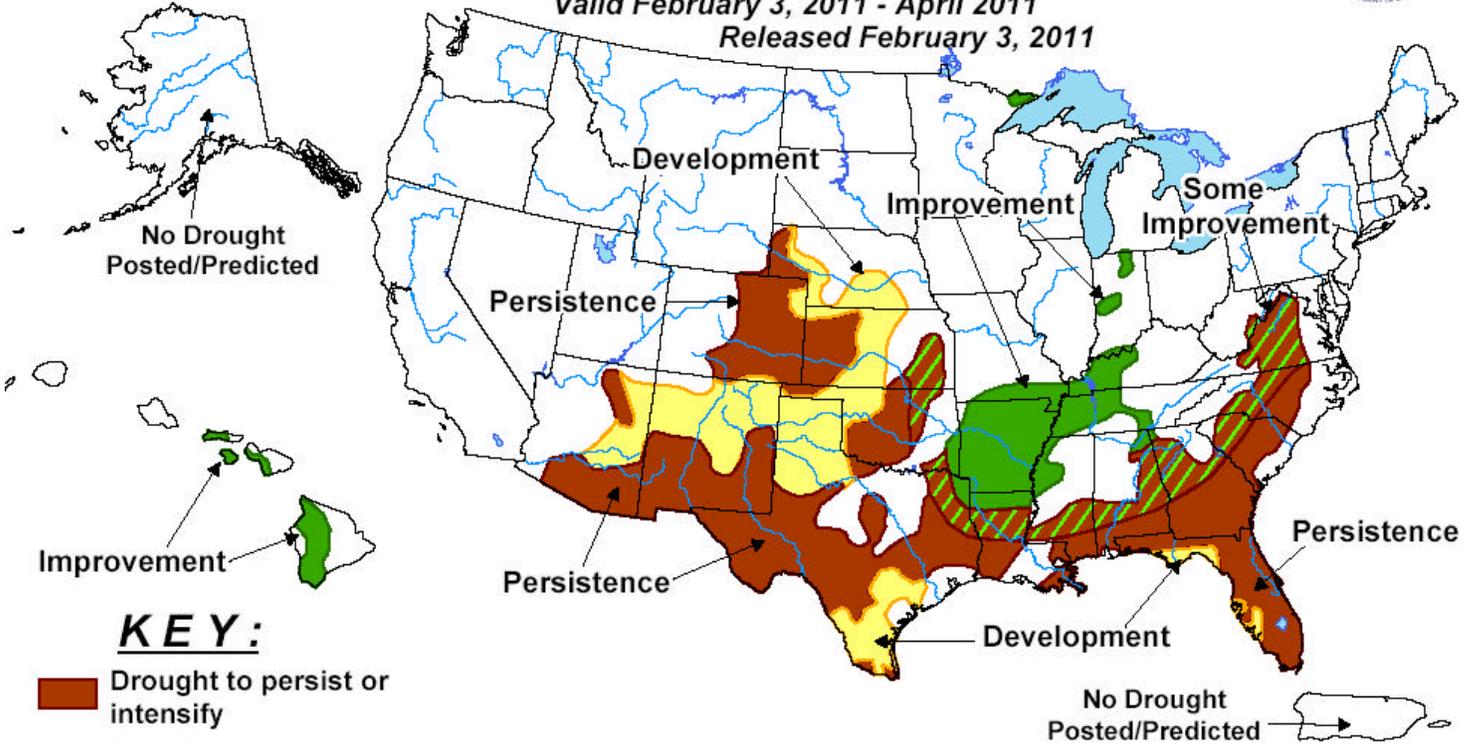


Released Thursday, February 10, 2011
M. Rosencrans, CPC/NOAA

APPENDIX D



U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid February 3, 2011 - April 2011 Released February 3, 2011

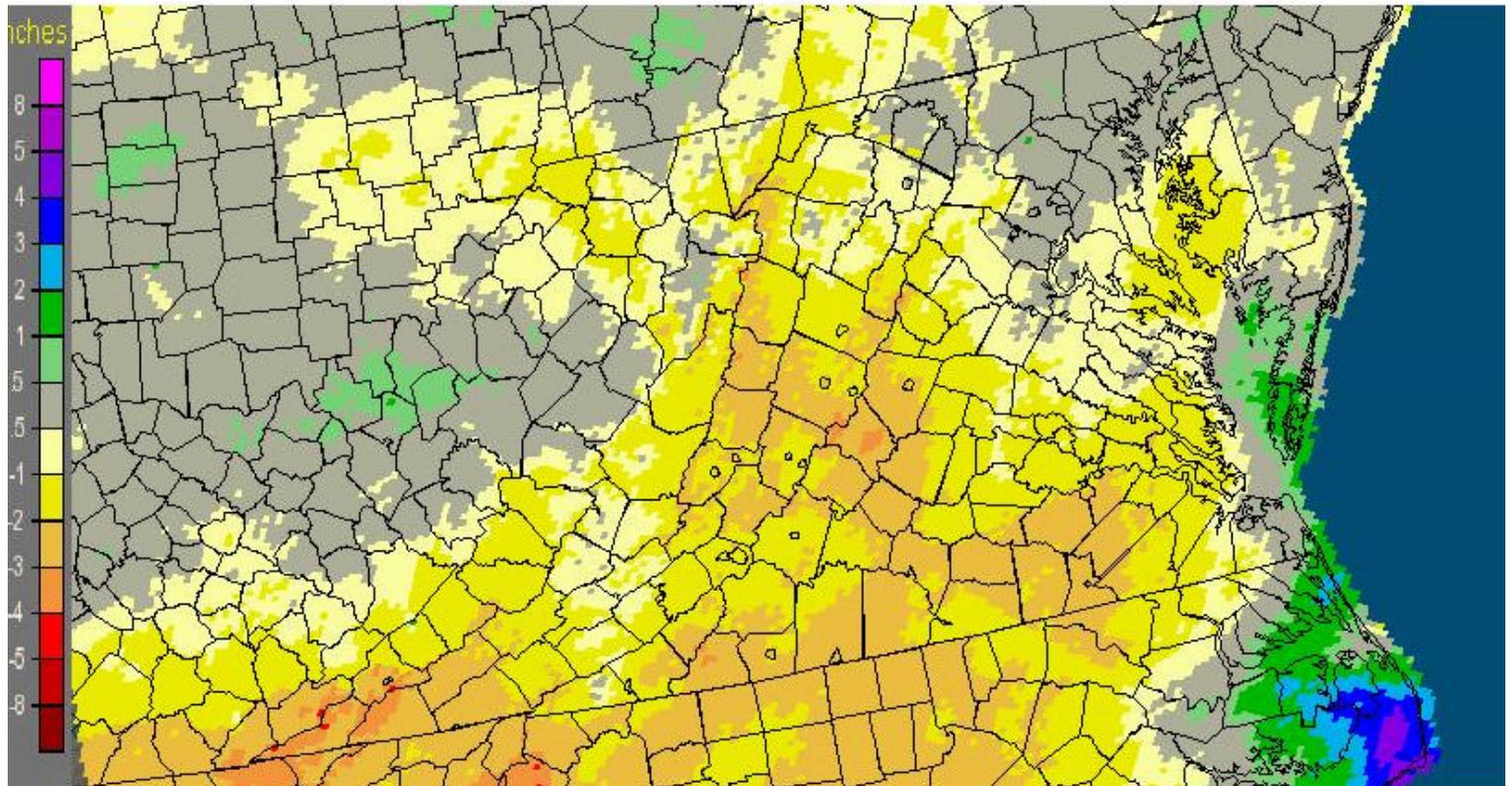


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

APPENDIX E

30-Day Departure from Normal Precipitation Valid February 10, 2011

Virginia: Current 30-Day Departure from Normal Precipitation
Valid at 2/10/2011 1200 UTC- Created 2/10/11 18:15 UTC



APPENDIX F

Condition of Public Water Supplies

December 15, 2010

ODW Drought Situation Report

Date: **2/9/11**

	Restriction totals	Population Totals
Mandatory	1	2,134
Voluntary	9	92,665
Total	10	94,799

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

PWSID	Waterworks	Source Name	Restrictions	Situation	Population Served
3053280	DCWA Central (Dinwiddie County)	Appomattox River Water Authority (ARWA)	V	S - 2/07/2011 - Went to voluntary conservation status as 11/5/10	6,800
3081550	GCWSA - Jarratt	Nottoway River	N	S - 02/07/2011 - River level sufficient to allow plant operation at 1.9 mgd. Gage at Stony Creek indicates 3.98 feet.	7,190
3149700	Puddledock Road	ARWA	V	S - 2/07/2011 - ARWA lifted restrictions - voluntary conservation as of 11/5/10.	9,723
3550051	Chesapeake	Northwest River, City of Norfolk Raw Water (Lake Gaston)	N	S -02/08/2011 Total rainfall for February is 1.53 inches. There are no water restrictions in Chesapeake. Chlorides are used as an indicator of drought, the higher the levels the more concentrated the contaminant in a lesser amount of surface water.	104,722

				They remain low at 34 mg/l. Continuing to purchase raw water from Norfolk (7.0 MGD average). NWR averages 2.5 MGD. The Intown Lakes remain full and there are no irregularities in the tidal patterns in NWR.	
3570150	Colonial Heights	ARWA	V	S - 2/08/2011 - ARWA lifted restrictions - voluntary conservation as of 11/5/10.	17,286
3595250	Emporia	Meherrin River	N	S - 2/07/2011 - Reservoir level sufficient for normal operation.	5,600
3670800	Virginia-American Water Company (Hopewell)	Appomattox & James Rivers	N	S - 02/07/2011 - Level at intakes sufficient to supply plant. MIB (taste & odor) detected in raw water, but less than 10 ng/L.	28000 - Primary / 45463 Total including Consecutive System (Ft. Lee)
3700500	Newport News	Chickahomony River, Skiffs Creek, Diascand, Little Creek, Harwoods Mill, Lee Hall	N	B - 2/6/11 * Reservoir Status: 96.8 % Full * 35.2 Million Gallons Delivered	414,000
3710100	Norfolk	Lake Prince, Lake Burnt Mills, Western Branch reservoir, Nottoway River, Blackwater River, 4 western wells; Little Creek reservoir, Lakes Smith, Lawson, Whitehurst, and Wright. Lake Gaston.	N	S - As of 01/31/11, reservoirs at 89.1% (up from 86.7% on 12/15/10). Historic reservoir capacity is 90.5% at this time of year. Avg. pumping from Lake Gaston = 38.9 MGD. Total Reservoir Storage = 13,543 MG.	261,250 - Primary / 755,617 - Total including consecutive systems (Va Beach + military bases).

3730750	Petersburg	ARWA	V	S - 2/07/2011 - Mandatory restrictions lifted as of 11/09/2010. City requesting residents voluntarily use conservation measures.	33,740
3740600	Portsmouth	Lakes Cohoon, Meade, Kilby, and Speights Run	N	S - As of 02/4/10, reservoirs at 100% (from 99% on 12/10/10). Median reservoir capacity is 100% for the month and historical average capacity is 96% (period of 1969-2008). The emergency wells are OFF.	100,400 - Primary / 120,400 Total including consecutive systems (military bases)
3800805	Suffolk	Lone Star Lakes, Cumps Mill Pond	N	B -02/08/2011- Will follow Portsmouth's lead and the region as far as conservation. Received 0.84 inches of rain from 01/31/2011 through 02/06/2011. Average reservoir levels : Southern Lakes at 87.5% capacity, for the Northern Lakes at 103.53% and Crumps Mill Pond at 95.24% . No conservation measures implemented at this time but will continue to monitor.	66,631
3830850	Williamsburg	Waller Mill Reservoir	N	"B" 2/7/11: 4" above primary spillway - about 93% of usable capacity.	16,400
4041035	APPOMATTOX RIVER WATER AUTHORITY	Surface water; Lake Chesdin	N	B- Wholesaler to Chesterfield County, Prince	200,000

				George County, Dinwiddie County; Cities of Petersburg and Colonial Heights. All restrictions have been lifted.	
4041845	CHESTERFIELD CO CENTRAL WATER SYSTEM	Surface water; Swift Creek reservoir; purchases finished water	N	B- Purchases water from the City of Richmond and the Appomattox River Water Authority. All restrictions have been lifted.	286,000
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 is full.	12,000
4075283	EASTERN GOOCHLAND CENTRAL WATER SYSTEM	Purchased surface water	V	S -purchases water from Henrico County	2,500
4075735	JAMES RIVER CORRECTIONAL CTR	Surface water; James River	N	S - Conservation at all DOC facilities	9,300
4085398	HANOVER SUBURBAN WATER SYSTEM	Surface water; North Anna River; some groundwater wells; purchases finished water	N	S (see Richmond)	71,000
4085770	SPRING MEADOWS-MEADOW GATE	Groundwater wells	N	S	2,300
4087125	HENRICO COUNTY WATER SYSTEM	Surface water; James River	N	S (see Richmond)	289,000
4101900	WEST POINT, TOWN OF	Groundwater wells	N	S	3,000
4127110	DELMARVA PROPERTIES	Groundwater wells	N	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 do not affect intake; James River Regional Flow Management Plan set restrictions based on James River level for counties of Henrico, Chesterfield, Goochland, and Hanover counties, which purchase water from the City.	197,000
6033085	Caroline Utility	Groundwater	N	S - Mandatory water use restriction of High-Level 3 went into effect 7/13/2010. On 9/14/2010, restriction level was reduced to Low - Level 1 due to decreased customer demand. On 11/16/2010, restrictions were lifted. (Updated 12/08/10)	3,600 Primary
6047500	Town of Culpeper	Surface water - Lake Pelham	N	S - Lake Pelham level was 9.5" above overflow invert on 2/7/11.	14,200
6059501	Fairfax Water	Surface Water - Potomac River and Occoquan Reservoir	N	B - 2/8/11 - Potomac River is flowing at about 9000 cuft/sec, which is safely above the watch level. Occoquan Reservoir is full.	823,216 primary 1.8MM total
6061200	Marshall	Groundwater	M	S - The WSA Alert Messaging Service maintains the Water Use Restriction Notice as of 2/8/2011. The mandatory water	2,134

6,600
Total
(incl
Lake
Caroline)

				use restriction is not directly drought related but depends on water source development.	
6061600	Town of Warrenton	Surface (Cedar Run) and groundwater	V	S-On Tuesday February 8, Warrenton Reservoir surface was at 442.8 ft vs full level of 445.3 ft. Water transfer from Airlie Reservoir was discontinued yesterday, 2/7/11.	11,160
6107150	Town of Hamilton	Groundwater	V	S - 2/8/11 Voluntary water use restrictions initiated 7/6/2010. No supply problems.	2,000
6107300	Town of Leesburg	Surface Water - Potomac River	N	B - 2/8/11 - Potomac River is flowing at about 9000 cuft/sec, which is safely above the watch level.	46,300
6107600	Town of Purcellville	Surface water/groundwater	V	B - 2/8/11 - Surface water reservoir is full and is overflowing. Voluntary water conservation initiated 7/2/10. No water supply problems.	6,300
6107650	Town of Round Hill	Groundwater	V	S - 2/8/11 - Voluntary water use restrictions replaced mandatory on 10/21/10. No problems.	3,156
6137500	Town of Orange	Surface: Rapidan River	N	S - 14-day average of Rapidan River flow was 379 cfs on 2/8/11.	4,500
6137999	Wilderness	Surface - Rapidan River	N	S	11,331

6600100	City of Fairfax	Surface Water	N	S - 2/8/11 Goose Creek flow has increased sufficiently to take Beaver Dam Reservoir off-line 9/29/10. Beaver Dam is refilling.	24,000
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APPENDIX G

USGS Streamflow Conditions for February 9, 2011

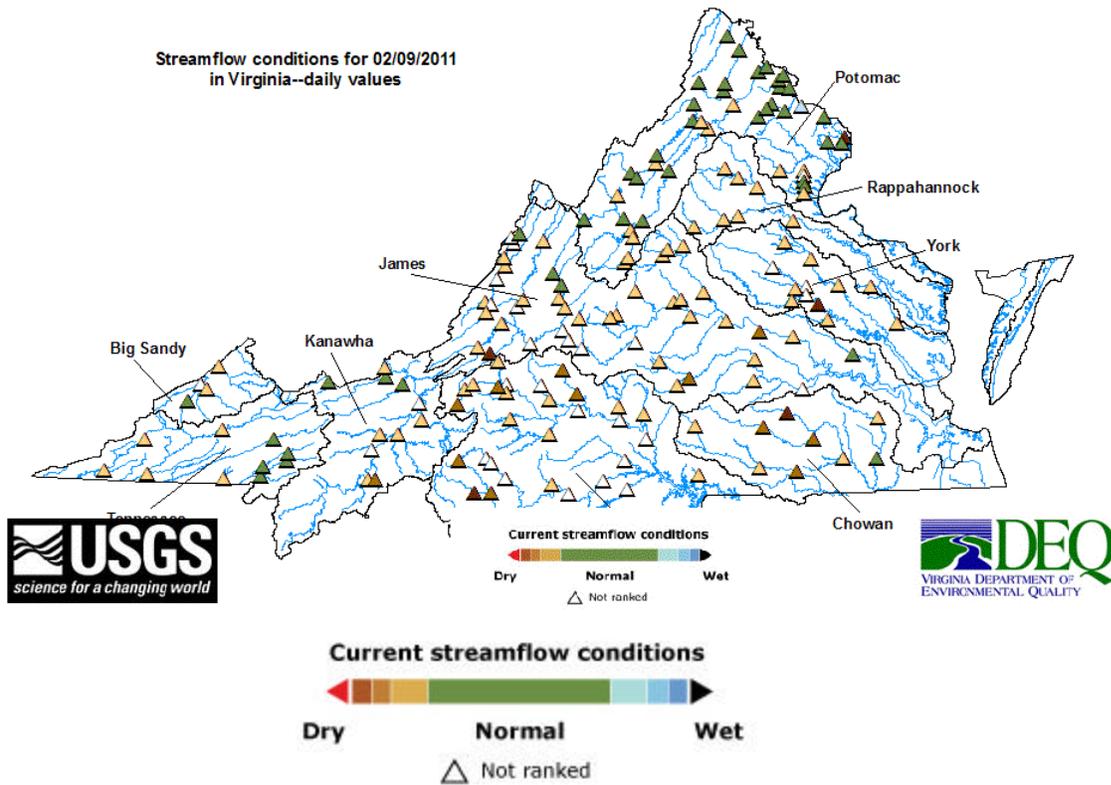


Figure 1. Streamflow conditions in Virginia for February 9, 2011

APPENDIX H

Drought Watch -- USGS State Information on Drought Map of below normal daily average streamflow February 9, 2011

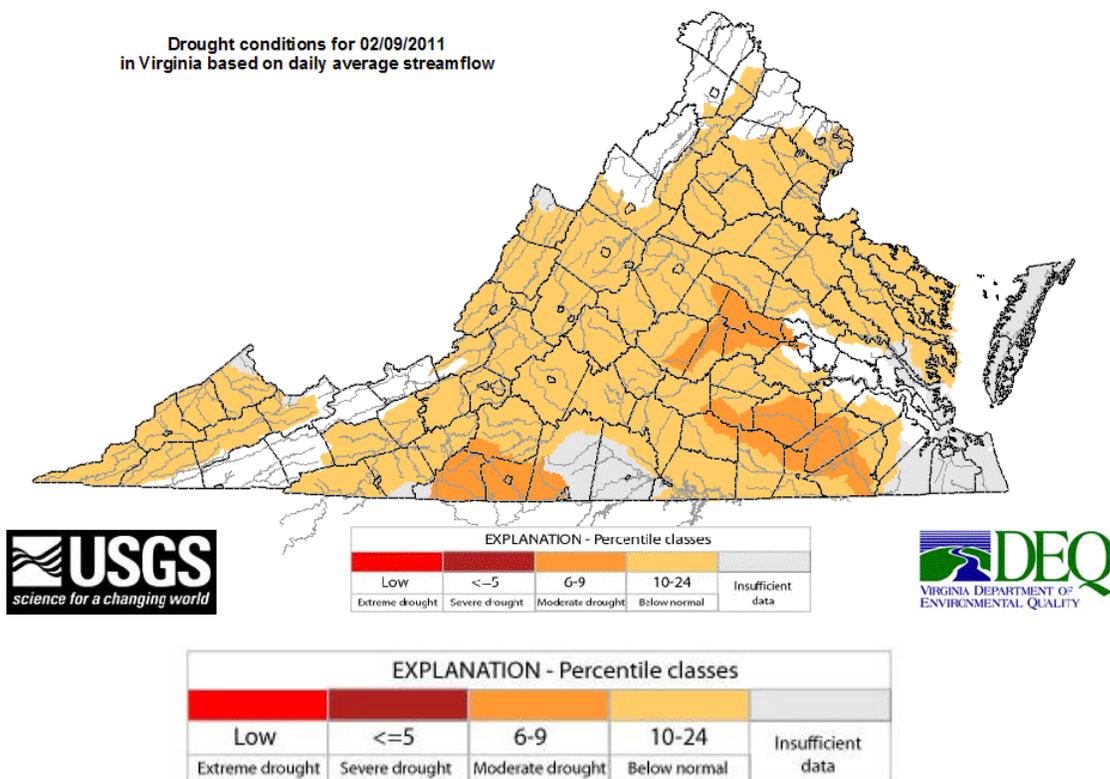


Figure 2. Drought conditions in Virginia for February 9, 2011 based on daily average streamflow

APPENDIX I

Groundwater level conditions for in Virginia February 9, 2011

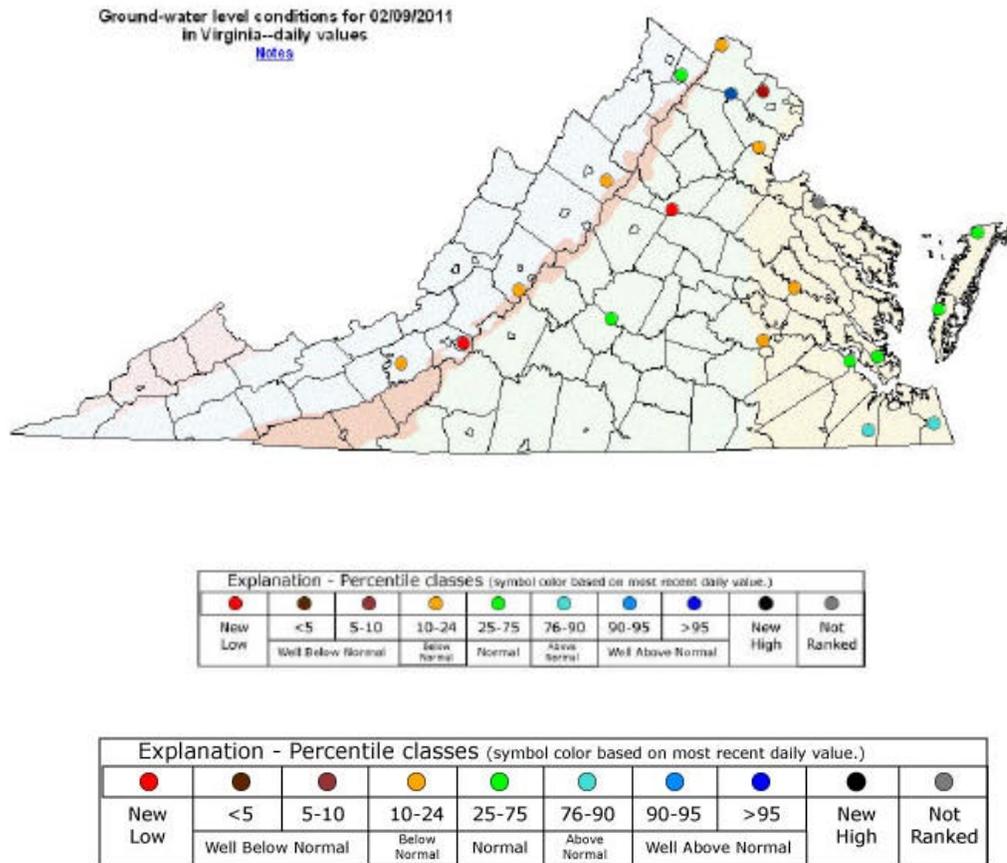


Figure 3. Groundwater-level conditions in Virginia for February 9, 2011