

**DROUGHT MONITORING TASK FORCE**  
Drought Status Report  
May 22, 2006

During the most recent evaluation period, May 1 through May 17, areas of the Commonwealth west of the Blue Ridge and the Roanoke River basin experienced lower than normal precipitation while the eastern portion of the Commonwealth experienced normal to above normal precipitation. This pattern coupled with the relatively wet end of April has significantly reduced short term drought impacts in Virginia. While statewide precipitation for the current water year (beginning October 1, 2005) is in the normal range, statewide precipitation since January 1, 2006 is only 66% of normal. Appendix A contains precipitation tables for periods going back to the beginning of the current water year. The long-range climatological outlook calls for equal chances of below average, average, and above average precipitation and temperatures through August of 2006.

The latest NOAA drought monitor indicates the occurrence of moderate drought conditions in the south central portion of the Commonwealth and is included as Appendix B. Appendix C contains information from the national drought monitor with only Virginia displayed. The NOAA seasonal drought outlook through August 2006 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 central portion of the Commonwealth and the lower James River basin are below normal and are in the 10<sup>th</sup> to 24<sup>th</sup> percentile when compared to average flows for May 19. It should be noted that streamflows have reacted very quickly to precipitation events between April 1 and May 19. Streamflows will likely decline rapidly without periodic precipitation and this decline will be compounded by the onset of evapo-transpiration demands of actively growing vegetation. Ground water levels are below normal in 10 of the 19 real-time drought monitoring wells across the Commonwealth and the remaining 9 wells are in the lower portion of the normal range. Ground water levels are generally below normal levels in the area of the Commonwealth west of Route 95. Levels of large reservoirs such as Lake Moomaw, Smith Mountain Lake, Kerr Reservoir, and Philpott Reservoir are near full but inflows are much below normal and reservoir levels are likely to decline very early during the spring-summer season.

No reports of impacts to public water supplies have been received at this time.

The Department of Game and Inland Fisheries reports that access has not been affected at any of the public boat ramps in the Commonwealth and the stocking from coldwater and warm water hatcheries is near completion and on schedule. Department lakes are currently at full pool.

While precipitation in the last six weeks has eliminated most short term drought impacts in Virginia continued vigilance is warranted. The general shortage of rainfall during January, February and March prevented long term storage of excess moisture in the deep soil horizon and also prevented significant ground water recharge. It is likely that below normal precipitation for relatively short durations will result in rapid onset of drought conditions.

Detailed reports from the State Climatologist and the Virginia Department of Agriculture and Consumer Services follow.

**Report of the State Climatologist**

Despite a persistent jet-stream pattern that would normally be conducive to above-normal rainfall, the statewide average rain from May 1-17 was 75% of normal, or 1.74 inches. However, mid-term moisture status (since April 1) is largely within the normal range, with a statewide average of 96% of the long-term mean.

This mid-term moisture, along with cooler than normal temperatures for the first half of May, has minimized the direct agricultural effects that might normally be associated with the longer-term precipitation deficit.

It is probably appropriate to reference January 1, 2006, as the benchmark for the current situation, as rainfall in late 2005 was quite plentiful. The statewide average since January 1 is 10.95 inches, or 66% of the long-term average of 16.57 inches.

In terms of historical perspective, this is a precipitation shortfall that is not as severe as the shortfall that was maintained in the last major drought that began in 1999. However, the 5.5-inch shortfall will now be superimposed upon a normal increase in evapo-transpiration due to the onset of the growing system. The rate of evapo-transpiration has been limited to a certain degree due to the below normal temperatures during the first half of May.

It is important to emphasize that the seasonal transition to more scattered precipitation has been somewhat delayed this year, but can certainly be expected to become more evident in coming weeks. It will be very difficult to recover accumulated deficits in deep-layer soil moisture (despite fairly moist shallow-layer conditions as of this writing) as summer progresses. In a *normal* year, there is only a 30% probability that mid-summer rainfall exceeds evapo-transpiration, which is why agricultural drought can develop so rapidly in this region. This year, because of the accumulated deficit, June and July rainfall would have to be both unusually uniform and in the 90th or higher percentiles of observation in order to prevent the appearance of at least localized areas of significant agricultural impacts.

Long range weather forecasting models indicate normal rainfall averaged across Virginia through the first few days of June, about 1.75 inches. However, even if this is realized, the distribution is likely to become increasingly scattered with potential drought impacts occurring in areas that do not receive the benefit of localized showers.

## **Virginia Department of Agriculture and Consumer Services**

### Overview

Significant rainfall in the past 3 weeks in most areas of Northern Piedmont (2 to 3 inches) has eased some concerns of short pasture early in the growing season. The first cuttings of hay have already been cut, but continued rainfall will be required to satisfy current grazing needs in these areas. Areas of Central and Southside Virginia have not received these same rainfall totals and are still in a higher level of drought stress than the Northern Piedmont. Fieldwork in all areas of the state is proceeding. For the week ending May 15, 2006, topsoil moisture was adequate or in surplus in 76% of fields, which was an improvement from the 21% level experienced in the week ending April 16, 2006.

### Impact on Crops and Soil Quality

The moisture situation is nearly back to normal, but a couple of weeks of hot dry weather could put the area back into a serious situation. This comment is common to all parts of the state. Recent rains have improved soil moisture and helped tremendously.

### Southwest

- No cold weather damage or drought effect to fruit to report at this time.
- A good crop of peaches is expected.
- Some apple growers are reporting a much lighter bloom or set. This is not usual because trees do not produce as many apples the year after a heavy crop.
- There are some drought concerns for vegetables in Patrick, Floyd, and Montgomery Counties.
- There is concern that early cabbage in Patrick County will not be able to overcome dry and cold conditions to make a good crop this year. As of late April, Patrick County was 8.29 inches of rainfall behind the norm.
- Other vegetable crops currently appear to be doing fair.
- There are some areas reporting the first hay crop is at only about fifty percent of normal with conditions causing early seeding and dropping the nutrient value twenty to twenty five percent.

- Dry weather has caused some loss to nursery stock and Christmas tree transplants. This appears to be on a farm-to-farm basis which makes it difficult to obtain a percent of loss for the area right now.

### Southside

- Topsoil moisture is currently adequate. Moisture levels range from being barely adequate to being too wet to get into fields to cultivate.
- Subsoil moisture continues to be lacking and in a deficit situation. Most of the tobacco crop has been transplanted and some cultivation is taking place. The crop looks fine at this point time.
- First cutting hay yields have been reduced significantly, 50-75% of normal, due to dry weather. Dry weather and short hay crops in Southside Virginia are causing producers to sell some breeding cattle, which is depressing prices for replacement cows. Small grain yields are expected to be reduced due to dry weather conditions as well.

### Northern

- There has been ample rainfall in the past three weeks in most areas of Northern Piedmont (2 to 3 inches) that has eased some concerns of short pasture early in the growing season. First cuttings of hay have already been cut, but continued rainfall will be required to satisfy current grazing needs in these areas. The recent rains came at just the right time. However, another hot, dry spell could make the situation critical again.

### Central

- Conditions are improving. The corn crop is growing nicely as the recent storms brought precipitation to most of the state. The wheat crop is somewhat shorter than normal due to the dry conditions last winter which may lead to some slight yield reduction but overall the crop is progressing nicely. If the rainfall continues on some regular basis, growers will experience optimal conditions for soybean planting.

### Southeast

- The area is still about 5 inches below the average rainfall for this time of year. Some areas have had only 1.5 inches of rain over the last few weeks but other areas have had 6 inches of rain. The ground moisture levels are holding stable due to the cool days and nights. There has been good planting moisture for soybeans, cotton, and peanuts and many farmers are now wishing for 10 days of sunny warm weather to finish planting. The corn crop is off to a good start.
- Cotton plants do not grow well in cool, damp weather. The recent weather is forcing some growers to replant. This will be particularly challenging to individual producers due to the cost of cotton seed (\$335/bag). Thrips are a problem in North Carolina and are moving to Virginia. The rainy weather has delayed spray treatments for this pest.
- The strawberry crop is also suffering due to the rains and cool temperatures. Berries are spoiling because people are less willing to visit berry farms and pick in cool weather. The rains are damaging the berries as well.

### Impact of Continued Drought Conditions

The Governor has received one request from Rappahannock County for assistance in obtaining federal disaster designation. USDA personnel are processing the damage assessment report (DAR) for that locality. Once the DAR is received, the Governor will make an official request on behalf of Rappahannock County to the U.S. Secretary of Agriculture for disaster designation. If drought conditions continue, the Governor can expect that additional localities will seek disaster declarations.

# APPENDIX A

## Precipitation departures by Drought Evaluation Region.

PRELIMINARY PRECIPITATION SUMMARY

Prepared:  
5/19/06

DROUGHT REGION	OBSERVED	MAY 1, 2006 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1 Big Sandy	1.42	2.64	-1.23	54%
2 New River	1.37	2.31	-0.94	59%
3 Roanoke	1.31	2.38	-1.06	55%
4 Upper James	0.91	2.35	-1.44	39%
5 Middle James	1.93	2.33	-0.39	83%
6 Shenandoah	1.33	2.11	-0.78	63%
7 Northern Virginia	2.06	2.38	-0.32	87%
8 Northern Piedmont	1.82	2.31	-0.50	79%
9 Chowan	2.58	2.24	0.34	115%
10 Northern Coastal Plain	2.89	2.28	0.61	127%
11 York-James	2.96	2.34	0.62	127%
12 Southeast Virginia	2.89	2.12	0.77	136%
13 Eastern Shore	1.86	1.93	-0.07	96%
Statewide	1.74	2.34	-0.59	75%

DROUGHT REGION	OBSERVED	APR 1, 2006 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1 Big Sandy	7.78	6.40	1.38	121%
2 New River	5.23	5.86	-0.63	89%
3 Roanoke	4.18	6.18	-2.00	68%
4 Upper James	4.47	5.75	-1.28	78%
5 Middle James	4.80	5.67	-0.87	85%
6 Shenandoah	3.88	5.03	-1.15	77%
7 Northern Virginia	6.17	5.68	0.49	109%
8 Northern Piedmont	5.79	5.60	0.19	103%
9 Chowan	6.61	5.67	0.95	117%
10 Northern Coastal Plain	7.63	5.37	2.26	142%
11 York-James	6.58	5.64	0.95	117%
12 Southeast Virginia	6.68	5.36	1.32	125%
13 Eastern Shore	5.86	4.85	1.01	121%
Statewide	5.52	5.76	-0.23	96%

DROUGHT REGION		OBSERVED	MAR 1, 2006 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1	Big Sandy	10.01	10.65	-0.63	94%
2	New River	6.15	9.53	-3.38	65%
3	Roanoke	4.80	10.45	-5.65	46%
4	Upper James	5.33	9.54	-4.21	56%
5	Middle James	5.19	9.73	-4.54	53%
6	Shenandoah	4.28	8.23	-3.94	52%
7	Northern Virginia	6.63	9.34	-2.70	71%
8	Northern Piedmont	6.17	9.41	-3.24	66%
9	Chowan	6.98	10.04	-3.05	70%
10	Northern Coastal Plain	8.15	9.65	-1.50	84%
11	York-James	7.03	10.32	-3.29	68%
12	Southeast Virginia	7.14	9.57	-2.43	75%
13	Eastern Shore	6.28	9.16	-2.87	69%
	Statewide	6.26	9.80	-3.53	64%

DROUGHT REGION		OBSERVED	FEB 1, 2006 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1	Big Sandy	11.90	14.23	-2.33	84%
2	New River	7.45	12.46	-5.01	60%
3	Roanoke	6.37	13.76	-7.39	46%
4	Upper James	6.55	12.39	-5.84	53%
5	Middle James	6.89	12.85	-5.96	54%
6	Shenandoah	6.87	10.63	-3.76	65%
7	Northern Virginia	9.10	12.01	-2.90	76%
8	Northern Piedmont	8.04	12.38	-4.34	65%
9	Chowan	8.30	13.20	-4.90	63%
10	Northern Coastal Plain	9.97	12.79	-2.82	78%
11	York-James	7.98	13.85	-5.87	58%
12	Southeast Virginia	8.23	13.07	-4.84	63%
13	Eastern Shore	7.26	12.35	-5.09	59%
	Statewide	7.90	12.93	-5.02	61%

DROUGHT REGION		OBSERVED	JAN 1, 2006 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1	Big Sandy	15.16	17.96	-2.80	84%
2	New River	10.52	15.67	-5.15	67%
3	Roanoke	9.35	17.67	-8.33	53%
4	Upper James	9.67	15.66	-6.00	62%
5	Middle James	9.80	16.51	-6.71	59%
6	Shenandoah	9.39	13.49	-4.10	70%
7	Northern Virginia	11.92	15.28	-3.36	78%
8	Northern Piedmont	10.62	15.90	-5.28	67%
9	Chowan	10.64	17.31	-6.67	61%
10	Northern Coastal Plain	13.13	16.54	-3.41	79%
11	York-James	12.06	17.98	-5.92	67%
12	Southeast Virginia	11.60	17.23	-5.63	67%
13	Eastern Shore	9.95	15.91	-5.96	63%
	Statewide	10.95	16.57	-5.61	66%

DROUGHT REGION		OBSERVED	DEC 1, 2005 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1	Big Sandy	18.49	21.60	-3.11	86%
2	New River	12.92	18.38	-5.46	70%
3	Roanoke	12.92	20.92	-8.01	62%
4	Upper James	12.26	18.61	-6.35	66%
5	Middle James	13.93	19.69	-5.75	71%
6	Shenandoah	10.96	16.08	-5.12	68%
7	Northern Virginia	14.54	18.38	-3.83	79%
8	Northern Piedmont	13.76	19.18	-5.42	72%
9	Chowan	16.32	20.34	-4.01	80%
10	Northern Coastal Plain	17.50	19.82	-2.32	88%
11	York-James	16.15	21.37	-5.22	76%
12	Southeast Virginia	15.65	20.41	-4.75	77%
13	Eastern Shore	13.86	19.15	-5.29	72%
	Statewide	14.42	19.69	-5.26	73%

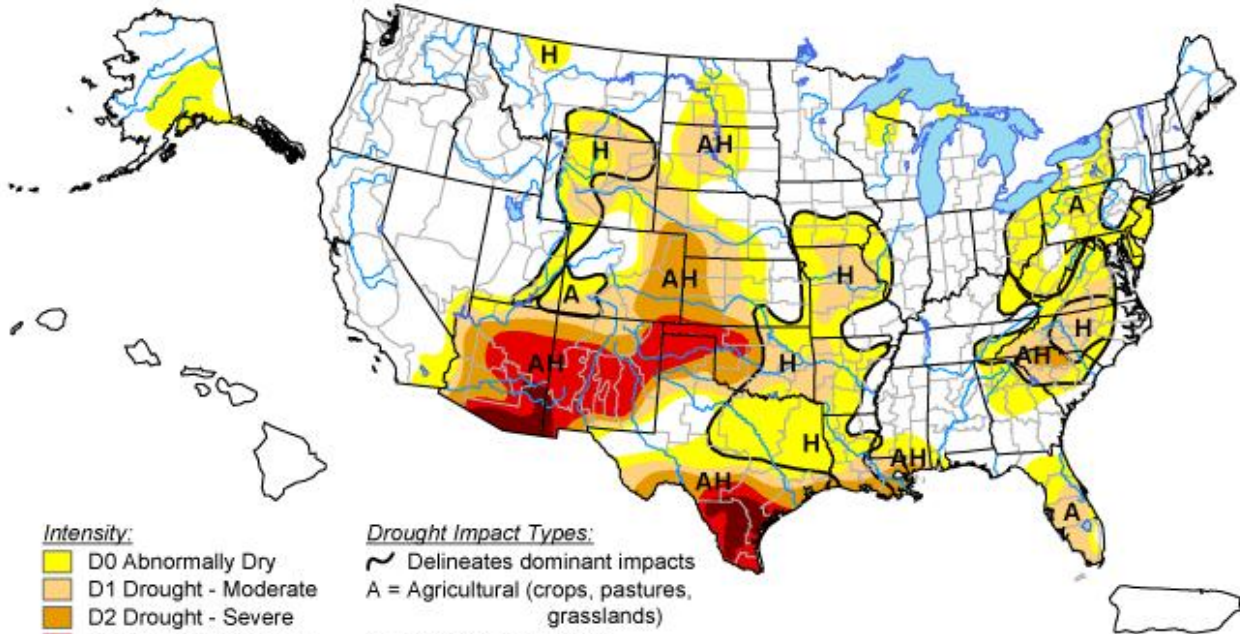
DROUGHT REGION		OBSERVED	NOV 1, 2005 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1	Big Sandy	21.45	24.89	-3.44	86%
2	New River	16.65	21.42	-4.76	78%
3	Roanoke	16.86	24.28	-7.43	69%
4	Upper James	17.37	21.97	-4.60	79%
5	Middle James	17.39	23.19	-5.80	75%
6	Shenandoah	15.66	19.12	-3.46	82%
7	Northern Virginia	17.47	21.79	-4.31	80%
8	Northern Piedmont	17.44	22.97	-5.54	76%
9	Chowan	19.91	23.45	-3.54	85%
10	Northern Coastal Plain	21.03	22.95	-1.92	92%
11	York-James	19.30	24.74	-5.44	78%
12	Southeast Virginia	19.44	23.48	-4.03	83%
13	Eastern Shore	16.44	22.10	-5.66	74%
	Statewide	18.02	22.92	-4.89	79%

DROUGHT REGION		OBSERVED	OCT 1, 2005 NORMAL	- MAY 17, 2006 DEPARTURE	% OF NORM.
1	Big Sandy	23.51	27.77	-4.26	85%
2	New River	20.67	24.58	-3.91	84%
3	Roanoke	23.13	28.00	-4.87	83%
4	Upper James	22.36	25.22	-2.86	89%
5	Middle James	23.83	27.03	-3.20	88%
6	Shenandoah	20.71	22.31	-1.60	93%
7	Northern Virginia	26.11	25.26	0.85	103%
8	Northern Piedmont	25.79	26.97	-1.18	96%
9	Chowan	24.38	27.03	-2.64	90%
10	Northern Coastal Plain	27.84	26.46	1.38	105%
11	York-James	25.80	28.27	-2.47	91%
12	Southeast Virginia	26.11	27.14	-1.02	96%
13	Eastern Shore	22.38	25.31	-2.93	88%
	Statewide	23.49	26.42	-2.92	89%






# APPENDIX B

## U.S. Drought Monitor


May 16, 2006  
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)
- (No type = Both impacts)

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

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

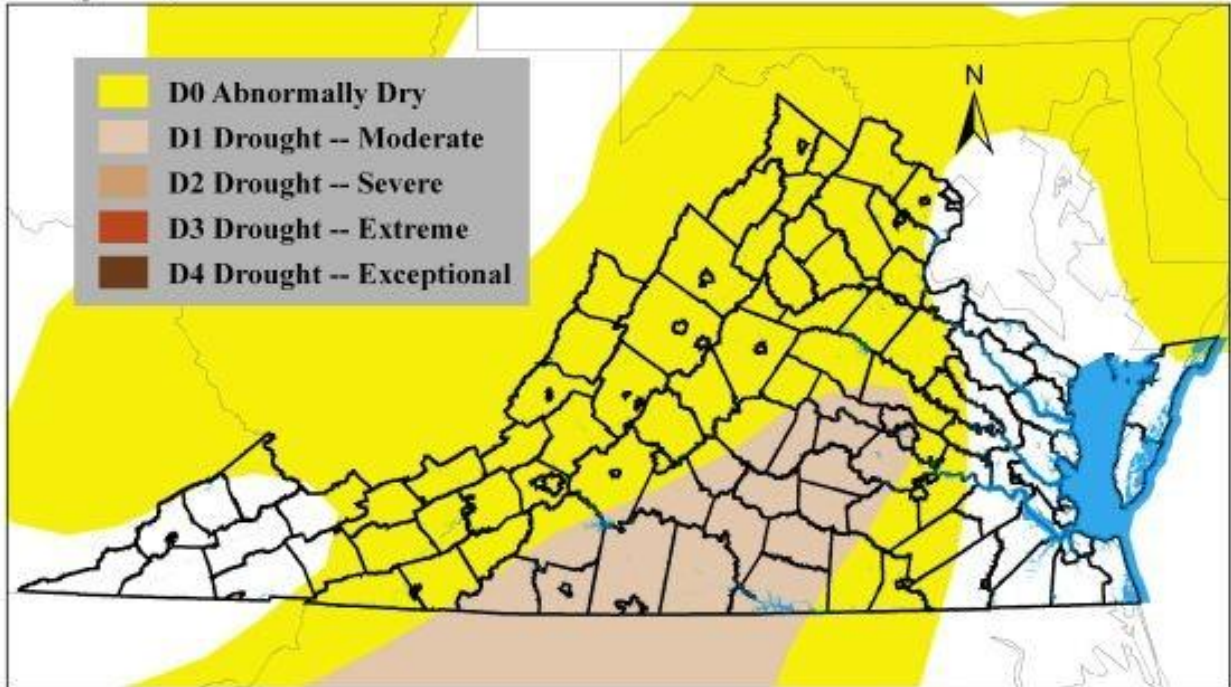


Released Thursday, May 18, 2006  
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# APPENDIX C

## U.S. Drought Monitor - Virginia May 16, 2006



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

