

Current Water Conditions in Massachusetts

May 12, 2011



- April precipitation was above normal
- April streamflows were generally normal
- April ground-water levels were generally normal and above normal
- April reservoir levels were normal

Precipitation Conditions

Estimated April state-wide average precipitation is 5.17 inches, which is 136 percent of the long-term average for the month. The regions of Massachusetts received between 172 (Cape Cod and Islands) and 114 percent (Northeast) of average precipitation during April. April 2011 was the 15th wettest April in the last 117 years in Massachusetts according to the National Climate Data Center. Rainfall occurred throughout the month in many small to moderate events that were accompanied by cool below normal temperatures. The many rainfall events have kept the fire danger generally low. May precipitation to date is below normal generally ranging from 0.25 to 1.0 inches.

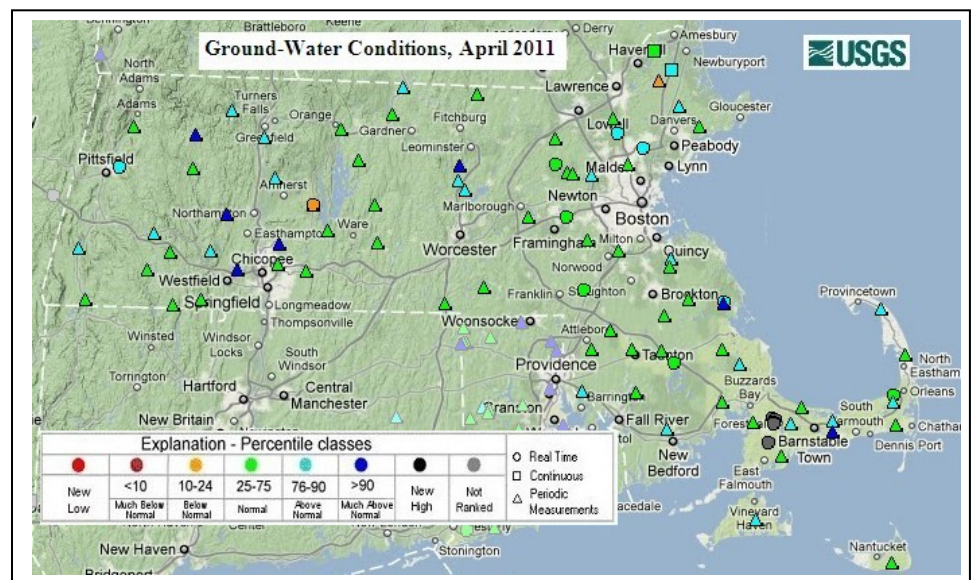
A table of April 2011 estimated precipitation statistics, based on precipitation data from the Department of Conservation and Recreation and National Weather Service precipitation monitoring networks, is attached. A map at the back of this report shows the distribution of April rainfall in Massachusetts.

Ground-Water Levels

Ground-water levels reported by the United States Geological Survey (USGS) at the end of April were above normal on Cape Cod and generally normal in the southeast, northeast and central areas of the State. Levels were above normal in the Connecticut Valley and western areas of the State. This assessment of ground-water levels is based on 89 wells in Massachusetts with 10 or more years of record. An assessment of ground-water conditions in the Massachusetts drought regions is shown in a table at the end of this report.

The USGS Groundwater Conditions for the end of April 2011 can be viewed at the web site:

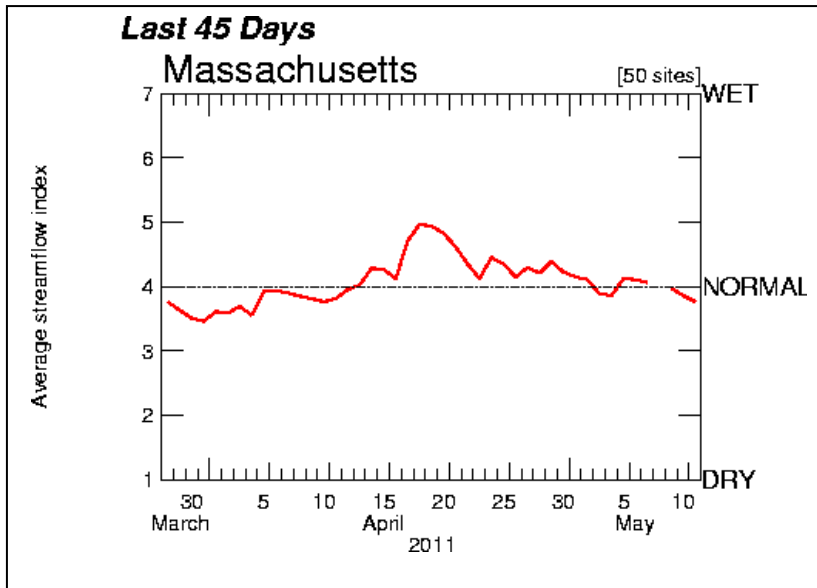
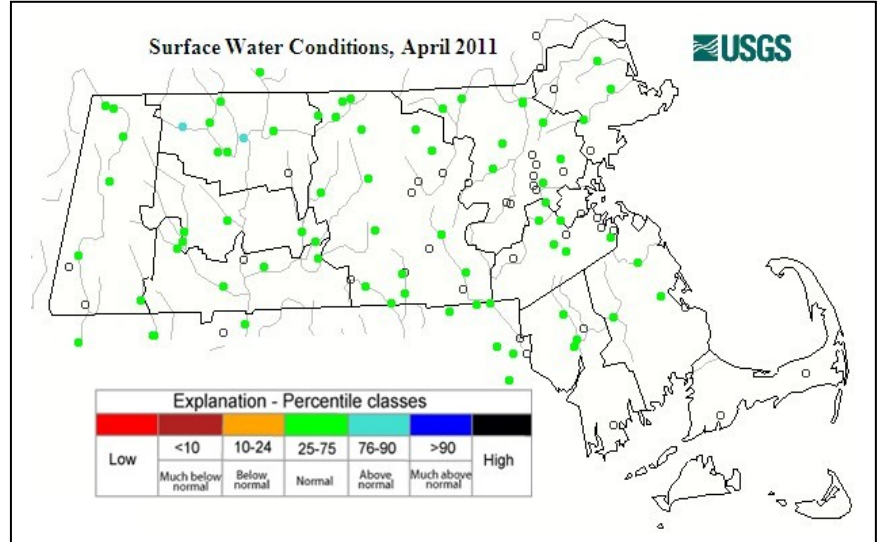
http://ma.water.usgs.gov/water_statement/2011_04/index.html



Streamflow

Average April 2011 streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were generally normal throughout the State. As shown in a table at the end of this report MA DCR has listed the drought regions of Massachusetts as having normal and no data (Cape Cod and Islands) surface-water conditions for April.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of March 28 to May 10, 2011. Generally slightly below normal flows during the first third of the month rose to slightly above normal at mid month and slowly declined to near normal at the end of the month and the first part of May. The graph is a composite of 50 real-time gages across the state with a long period of record.



KEY:

- 1 = New record low for day
- 2 = < 10th percentile
- 3 = 10th – 24th percentile
- 4 = 25th – 74th percentile
- 5 = 75th – 89th percentile
- 6 = ≥ 90th percentile
- 7 = New record high for day

Water Supply Reservoir Levels

Surface water reservoir percent-full values for water supply sources provided by water suppliers are listed below. The reservoir percent-full values listed are for the end of April. Reservoirs are generally normal for this time of year.

April / May 2011 Massachusetts Reservoir Status

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	98.9	Beverly/Salem	99.1
Worcester	102	Lynn	81.9
Cobble Mt./ Springfield	95.4	Taunton/New Bedford/Assawompsett	99.8

Note: NA Indicates data not available for this report

Drought Indices/Forecasts

US Drought Monitor

The National Drought Mitigation Center's (NDMC's) May 10, 2011 Drought Monitor Map for the United States shown at right indicates no drought conditions in Massachusetts.

Standardized Precipitation Index (SPI)

The Western Regional Climate Center's (Desert Research Institute, University and Community College System of Nevada) 1-Month Standardized Precipitation Index values across Massachusetts at the end of April were moderately wet. The 3-month values were very wet (west)/normal. The 6-month values were very wet (west)/moderately wet (central)/normal. The 12-month values were normal (west)/moderately wet (central)/very wet. Massachusetts SPI values for the drought regions are all normal.

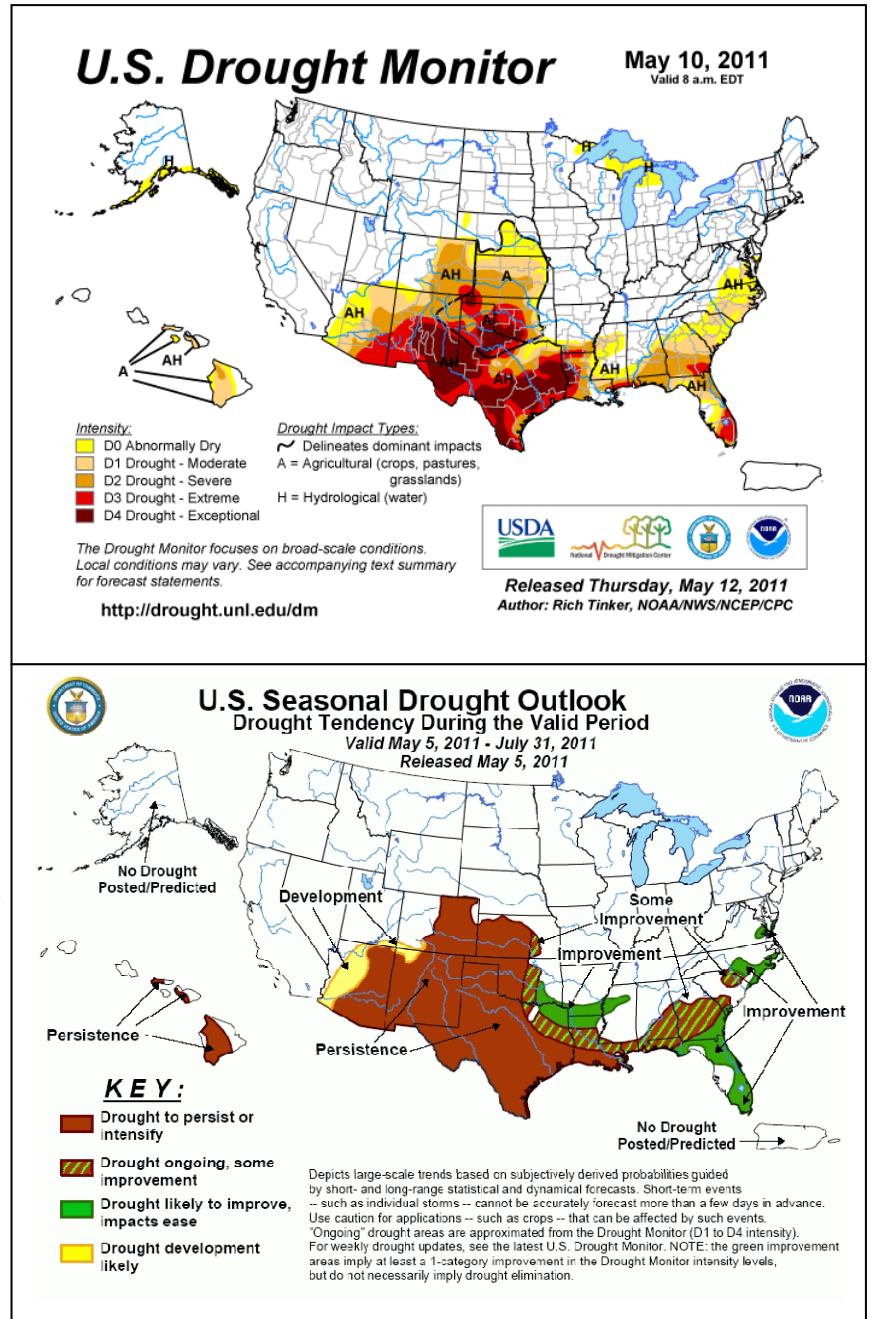
NWS/NOAA's Climate Prediction Center

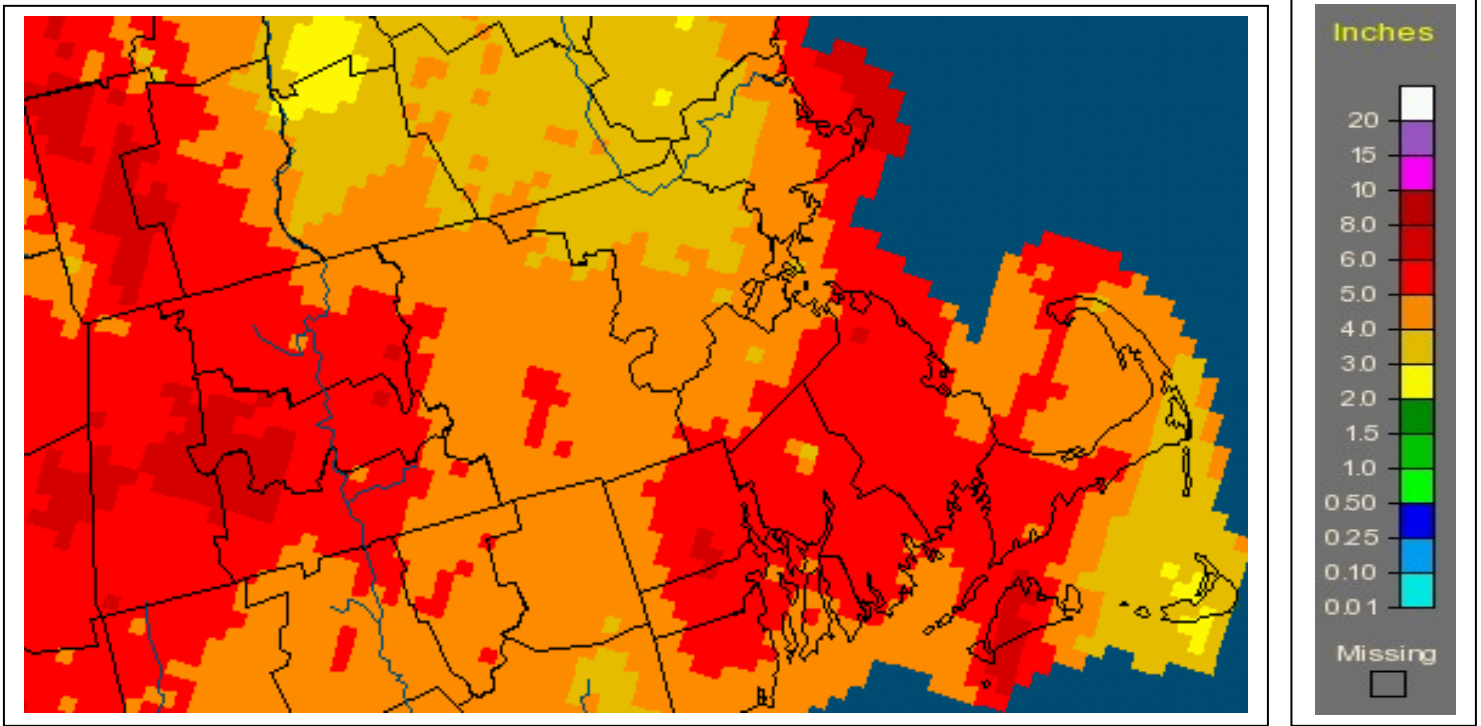
The U.S. Seasonal Drought Outlook dated May 5, 2011, predicts no tendency for drought conditions to develop in Massachusetts through July 2011.

Extended Forecasts

Persistent cloudy drizzly conditions of the last few days in eastern MA should give way to dry seasonable conditions Friday and Saturday with the warmest weather in western sections. Backdoor cool front brings unsettled conditions starting late Saturday. Unsettled weather persists into at least middle part of next week. The National Weather Service Climate Prediction Center's extended 6 to 10-day forecast is for above normal rainfall and normal temperatures. The 8 to 14-day forecast is for normal rainfall and above normal temperatures. The 1-month forecast is for normal rainfall and temperatures. The NWS Climate Prediction Center Information can be found at:

<http://www.cpc.noaa.gov/index.php>





<http://water.weather.gov/precip/>

**TOTAL RAINFALL
APRIL 2011**



GENERAL WATER CONDITIONS IN MASSACHUSETTS - APRIL 2011
EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS

Massachusetts Regions	Surface-Water Conditions	Ground-Water Conditions
Cape and Islands	ND	Above Normal
Southeast	Normal	Normal
Northeast	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Above Normal
Western	Normal	Above Normal

Note: Surface- and ground-water conditions for individual streamflow-gaging stations and wells may differ from general conditions. ND, no data

Weather Ramblings --- Storms unlikely to follow last year's patterns

<http://www.heraldtribune.com/article/20110419/ARTICLE/110419427/-1/news?Title=Storms-unlikely-to-veer-away-from-U-S-coast-again>

By [Kate Spinner](#)

ATLANTA - Count on a busy hurricane season, forecasters say, but not on the same fortunate weather that shunted last year's storms — including four extremely powerful hurricanes — away from the U.S. coast.

Last year's hurricane season was unusual. It was one of the busiest on record, with 12 hurricanes — five of them major — and seven tropical storms, but none caused significant widespread damage in the U.S.

The story could have been much different had the hurricanes followed a more typical weather pattern, said Bill Read, director of the National Hurricane Center, during a speech at the National Hurricane Conference on Tuesday.

Instead, large high pressure areas formed over the middle of the U.S. and over the Atlantic, steering most of the season's storms — and all of the hurricanes — away from the east coast and the Gulf of Mexico states.

That unusual pattern is unlikely to be repeated this year.

"In the peak of summer it's not unusual to get stuck in a pattern," Read said in an interview after his speech. "But to have the same pattern back-to-back would be very unusual."

Read and Federal Emergency Management Agency Administrator Craig Fugate urged people — including newly elected state governors and local leaders — to have emergency plans in place, as well as supplies of food, water and first aid in preparation for the six-month season that begins June 1.

In all, four major hurricanes, three lesser hurricanes and two tropical storms were steered away from the U.S. coast as they approached from the Atlantic in 2010. Two storms — Earl and Igor — struck Canada.

Different weather patterns pushed the season's remaining 10 storms of the season, including one other major storm, into Mexico and the Caribbean. One tropical storm — Bonnie — passed briefly over Florida's southern tip. Hermine caused severe flooding in Texas and Oklahoma.

Several meteorologists have predicted a very active season this year. Forecasts range from 15 to 16 named storms, including eight to nine hurricanes, three to five of which produce winds higher than 110 mph.

The forecasts are based on warmer-than-normal temperatures in the tropical Atlantic and weaker-than-normal upper level westerly winds, among several other factors. Warmer seas give storms more fuel and weaker upper level westerlies allow hurricanes an easier ride across the ocean.

Hurricane track forecasts are becoming more accurate, helping community leaders and residents to make better evacuation decisions.

This report was prepared by the Massachusetts Department of Conservation and Recreation. Data were obtained from the sources described in the report and may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site: <http://www.mass.gov/dcr/watersupply/rainfall/>