

Current Water Conditions in Massachusetts

January 13, 2011



- December precipitation was above normal
- December streamflows were normal and above normal
- December ground-water levels were normal
- December reservoir levels were a little below normal

Precipitation Conditions

Estimated December state-wide average precipitation was 4.35 inches, which is 112 percent of the long-term average for the month. The regions of Massachusetts received between 150 (Western) and 81 percent (Cape Cod and Islands) of average precipitation during December. December was the 42nd wettest December in the last 116 years in Massachusetts according to the National Climate Data Center. As of January 12th there has generally been about 2 to 3 inches of liquid precipitation mainly as snow, except on Cape Cod and the Islands where it was mostly rain.

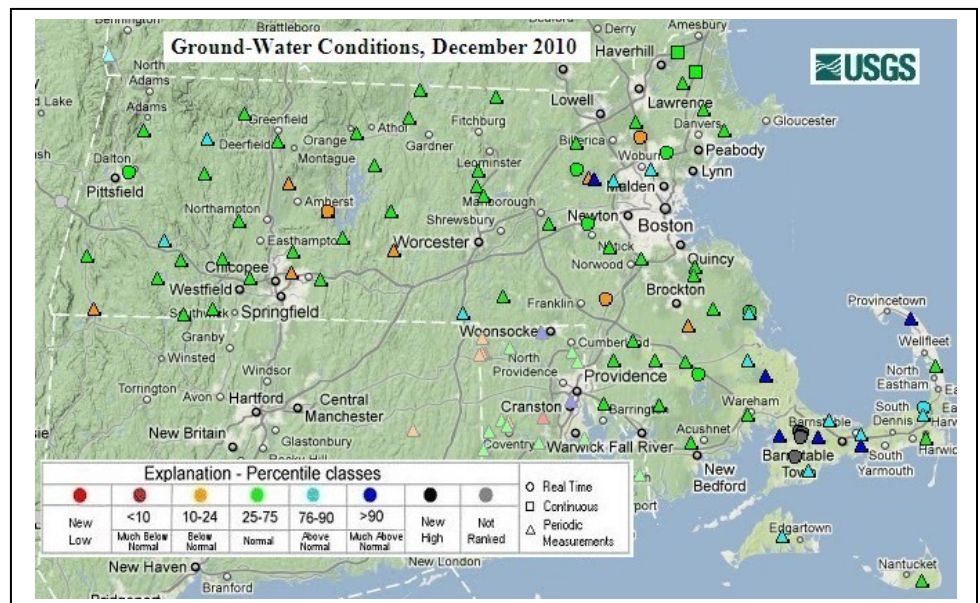
A table of December 2010 estimated precipitation statistics, based on precipitation data from the Department of Conservation and Recreation and National Weather Service precipitation monitoring networks, is attached. A map at the back of this report shows the distribution of December rainfall in Massachusetts.

Ground-Water Levels

Ground-water levels reported by the United States Geological Survey (USGS) at the end of December were generally above normal on Cape Cod and normal across the rest 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 December 2010 can be viewed at the web site:

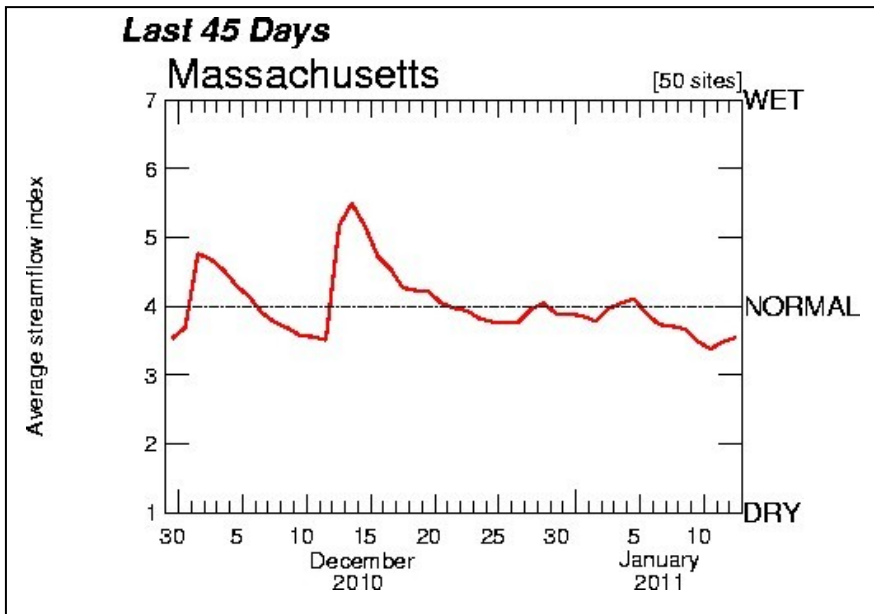
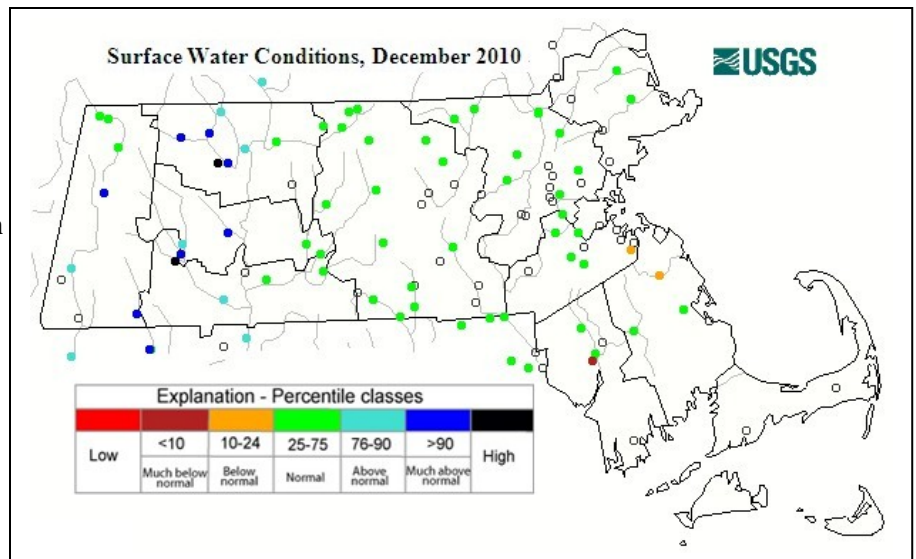
http://ma.water.usgs.gov/water_statement/2010_09/index.html



Streamflow

Average December 2010 streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were normal throughout the eastern and central areas and generally above normal in the western area of 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 December.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of November 30 to January 12, 2011. Generally above normal flows during the 1st part of the month declined to near normal at mid month and were a little below normal at the end of the month. Streamflows have continued to decline during the 1st part of January. 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 December. Reservoirs with the exception of Quabbin and Assawompsett are generally a little below normal for this time of year.

December 2010 / January 2011 Massachusetts Reservoir Status

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	88.3	Beverly/Salem	77.5
Worcester	80	Lynn	55.4
Cobble Mt./ Springfield	73	Taunton/New Bedford/Assawompsett	90.9

Note: NA Indicates data not available for this report

Drought Indices/Forecasts

US Drought Monitor

The National Drought Mitigation Center's (NDMC's) January 11, 2011 Drought Monitor Map for the United States shown at right indicates no drought conditions in Massachusetts or New England.

Standardized Precipitation Index (SPI)

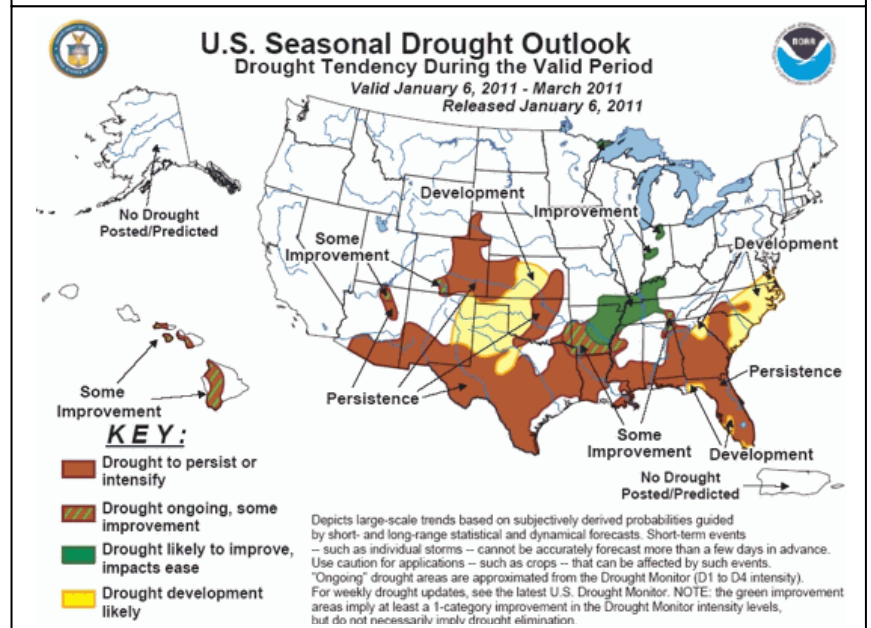
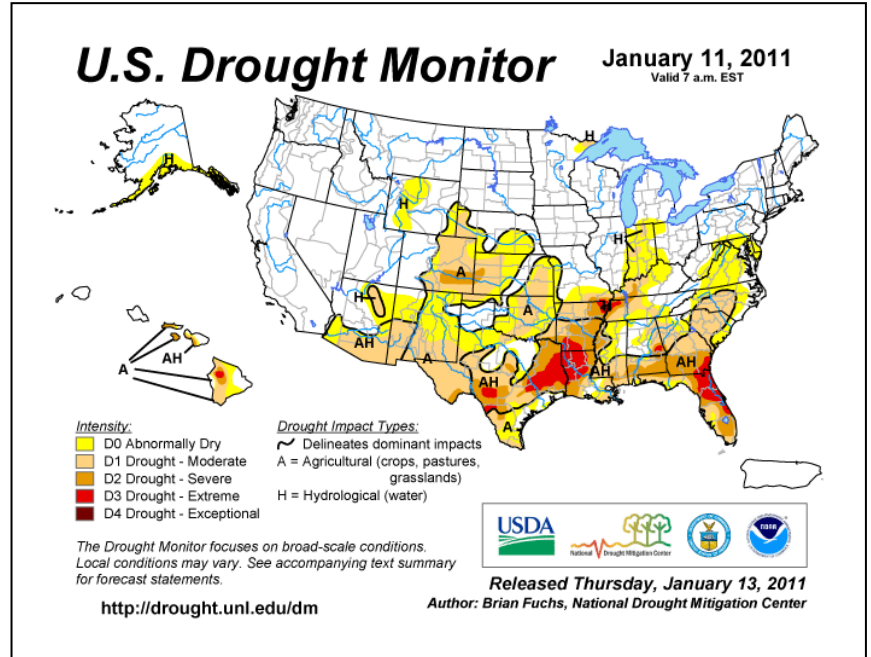
The Western Regional Climate Center's (Desert Research Institute, University and Community College System of Nevada) 1-, 3-, and 6-Month Standardized Precipitation Index values across Massachusetts at the end of December were normal/moderately wet (west), moderately wet/normal (east), and normal. The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

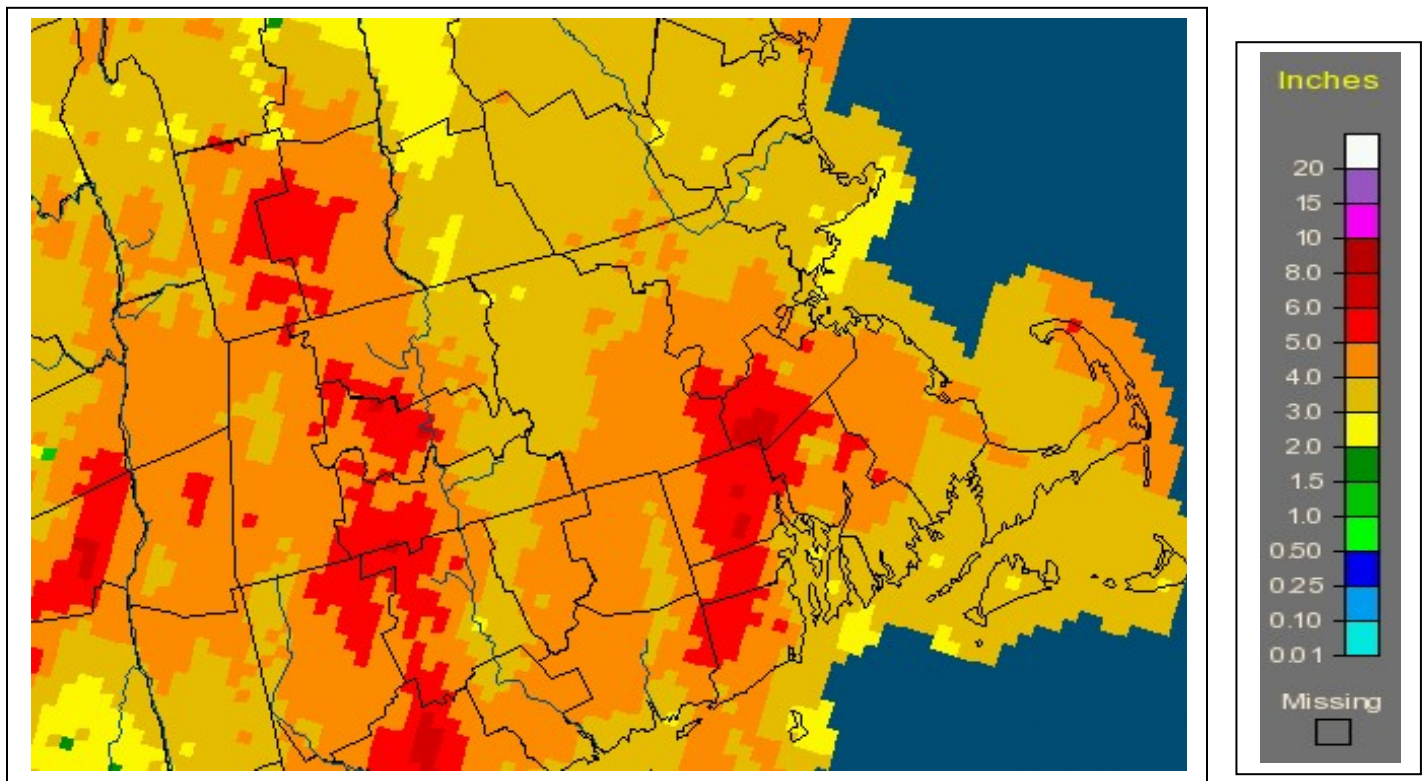
NWS/NOAA's Climate Prediction Center

The U.S. Seasonal Drought Outlook dated January 6, 2011, predicts no tendency for drought conditions to develop in Massachusetts through March 2011.

Extended Forecasts

Clear and cold is forecast through early Saturday. A low pressure passing to our north may bring a period of snow showers late Saturday. A cold front will pass through on Sunday. Another storm system may affect the region on Tuesday with mixed precipitation. The National Weather Service Climate Prediction Center's extended 6 to 10-day forecast is for normal temperatures and above normal rainfall. The 8 to 14-day and 1-month forecasts are 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
DECEMBER 2010**



GENERAL WATER CONDITIONS IN MASSACHUSETTS - DECEMBER 2010
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	Above Normal	Normal
Western	Above Normal	Normal

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

Weather Ramblings --- NOAA: 2010 Tied For Warmest Year on Record

http://www.noaanews.noaa.gov/stories2011/20110112_globalstats.html

According to NOAA scientists, 2010 tied with 2005 as the warmest year of the global surface temperature record, beginning in 1880. This was the 34th consecutive year with global temperatures above the 20th century average. For the contiguous United States alone, the 2010 average annual temperature was above normal, resulting in the 23rd warmest year on record.

This preliminary analysis is prepared by scientists at [NOAA's National Climatic Data Center](#) in Asheville, N.C., and is part of the suite of climate services NOAA provides government, business and community leaders so they can make informed 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/>