

# Current Water Conditions in Massachusetts

## January 8, 2015



- December precipitation was above normal
- December streamflows were above normal
- December groundwater levels were normal and above normal
- December reservoir levels were generally normal

### Precipitation Conditions

Estimated December state-wide average precipitation is 5.55 inches, which is 141 percent of the long-term average for the month. Rainfall in the regions of Massachusetts ranged from 162 percent (Cape Cod and islands) to 117 percent (Western) of the long term average. December 2014 was the 21<sup>th</sup> wettest December in the last 120 years in Massachusetts according to the National Climate Data Center. A table of December 2014 estimated precipitation statistics, based on preliminary 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 areal distribution of December rainfall

Soil Moisture percentiles for Massachusetts were normal or slightly above normal at the beginning of January. Soil moisture information is valuable to a wide range of government agencies and private companies concerned with weather and climate, runoff potential and flood control, soil erosion and slope failure, reservoir management, geotechnical engineering, and water quality.

### Ground-Water Levels

Based on preliminary data, ground-water levels reported by the U.S. Geological Survey at the end of December or beginning of January were generally above normal in the northeast and north central areas and normal in the rest of the state. An assessment of ground-water conditions in the Massachusetts drought regions is shown in a table at the end of this report. The Northeast region is assessed as having above normal groundwater levels and the remaining regions as having normal levels. The USGS Groundwater Conditions for the end of December 2014 can be viewed at the web site:

<http://groundwaterwatch.usgs.gov/StateMapsNet.asp?ncd=crn&sc=25>

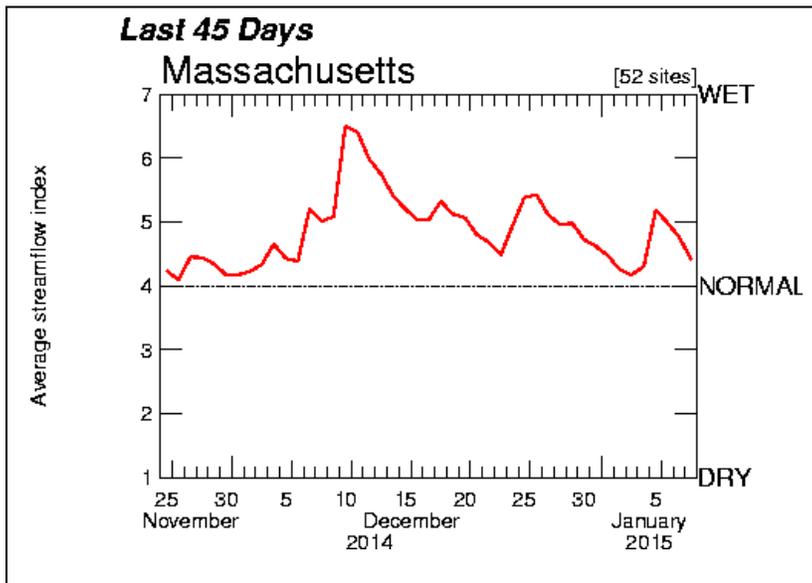
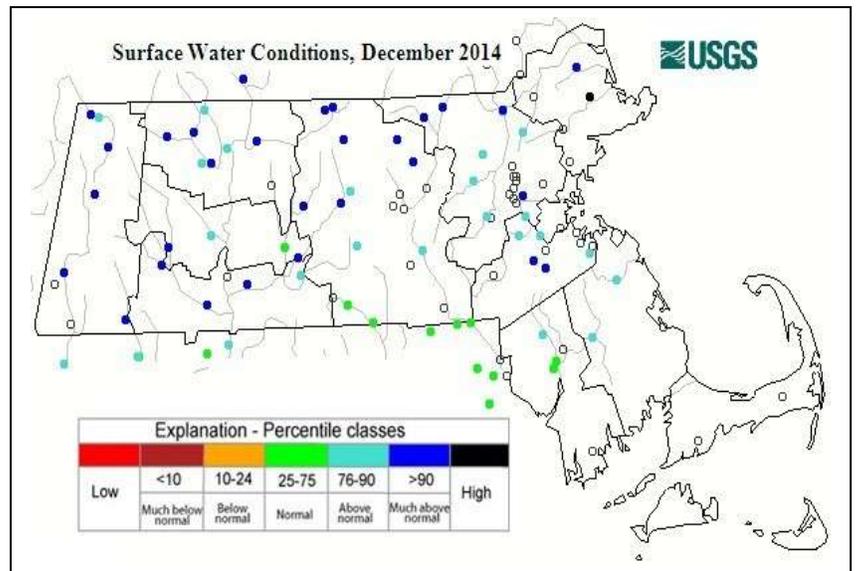


## Streamflow

Average December 2014 streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were generally normal to much above normal state-wide.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of November 25, 2014 to January 8, 2015. Stream flows were in the high normal and above normal range during December and early January. The graph is a composite of 52 real-time gages across the state with a long period of record. This streamflow plot can be found at:

[http://waterwatch.usgs.gov/index.php?map\\_type1=pa07d&map\\_type2=&map\\_type3=&map\\_type4=&web\\_type=pa07d%2Cplot&state=ma&huc=us&xinfo=&map\\_type=real&group\\_idx=1&region\\_cd=ma&group\\_idx\\_changed=1&sel\\_nm=map\\_type1&sel\\_va=real](http://waterwatch.usgs.gov/index.php?map_type1=pa07d&map_type2=&map_type3=&map_type4=&web_type=pa07d%2Cplot&state=ma&huc=us&xinfo=&map_type=real&group_idx=1&region_cd=ma&group_idx_changed=1&sel_nm=map_type1&sel_va=real)



### KEY:

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

## Water Supply Reservoir Levels

Selected surface water reservoir percent-full values for water supply sources provided by water suppliers are listed below. These levels are generally normal for this time of year. The reservoir percent-full values listed are for the end of December 2014 or the beginning of January 2015.

*December 2014 / January 2015 Massachusetts Reservoir Status*

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	93.2	Beverly/Salem	97.9
Worcester	97.1	Lynn	76.5
Cobble Mt./ Springfield	89.7	Taunton/New Bedford/Assawompsett	101

Note: NA Indicates data not available for this report

## Drought Indices/Forecasts

### US Drought Monitor

The National Drought Mitigation Center's (NDMC's) January 6, 2015 Drought Monitor Map shown at right indicates no drought conditions in all of New England.

### Standardized Precipitation Index (SPI)

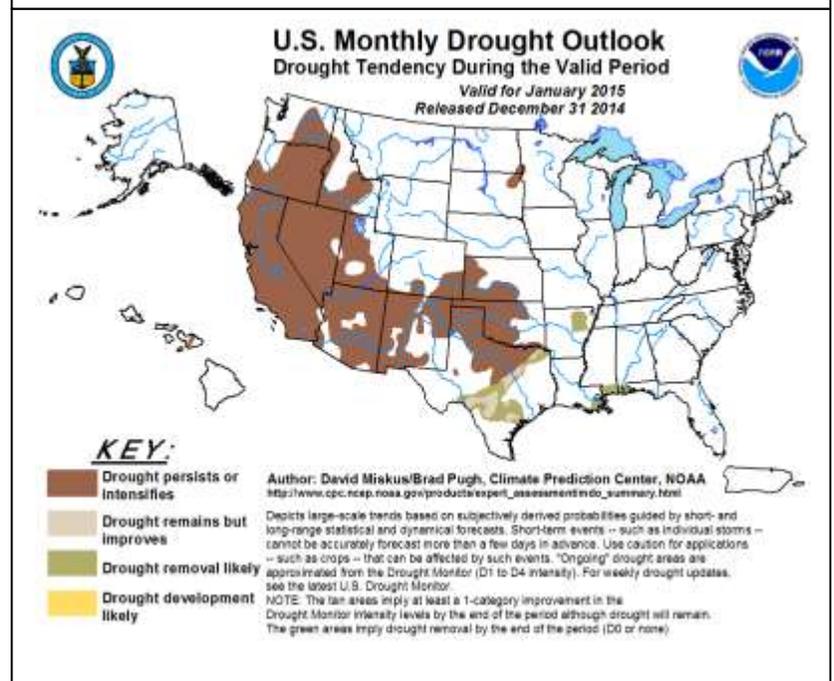
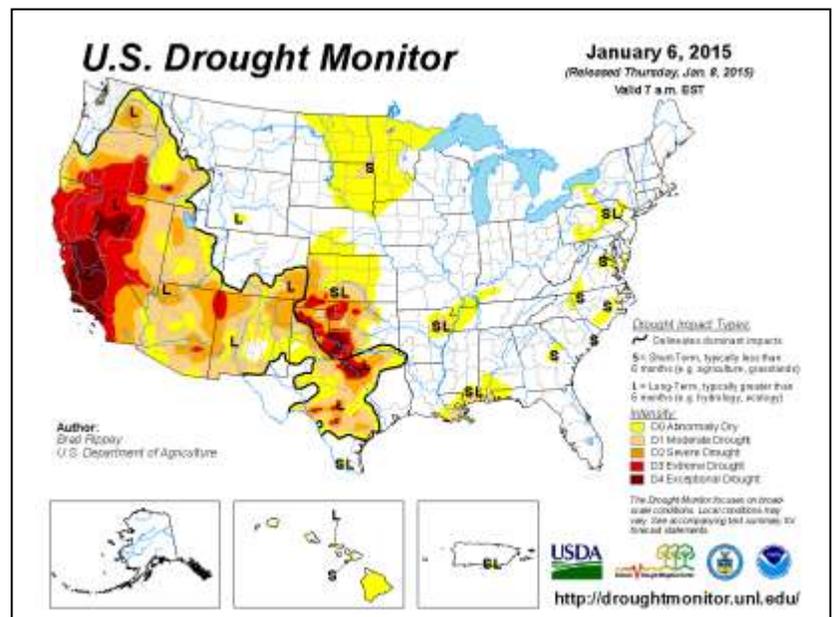
All the Standardized Precipitation Index values for the regions used for the Massachusetts Drought Management Plan are in the normal range.

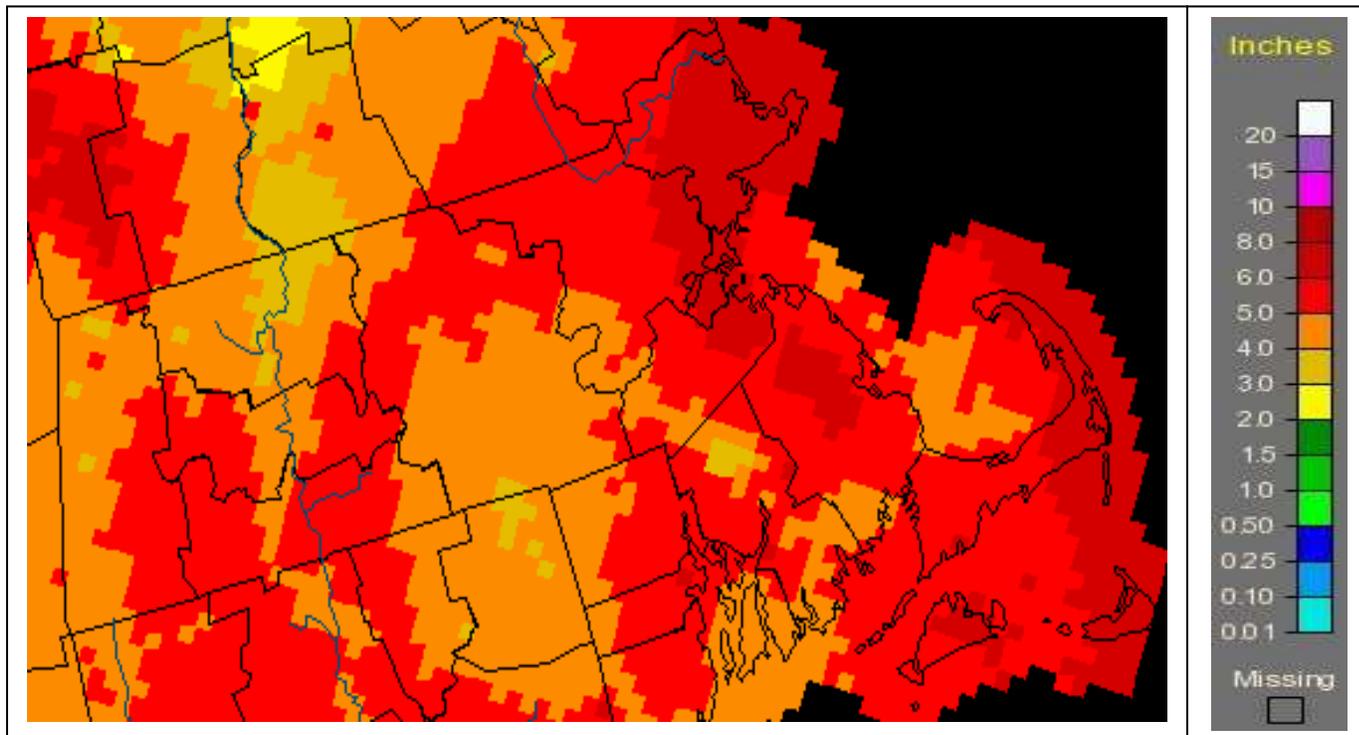
### NWS/NOAA's Climate Prediction Center

The U.S. Monthly Drought Outlook for January (shown at the right) forecasts that drought conditions will probably not develop during January 2015. The seasonal drought outlook (not shown) predicts that there will likely be no development of drought conditions through the end of March in Massachusetts.

### Extended Forecasts

A Low pressure system will pass well south of MA Wednesday night and Thursday with a slight chance of light snow in SE MA. A cold front, with possible flurries, will pass over the region on Friday bringing cold windy conditions into Saturday. A coastal low may affect the region Sunday night and Monday with rain or snow, but specifics are vague at present. Another low may impact the region mid-week. The National Weather Service Climate Prediction Center's extended 6 to 10-day forecast is for normal rain and above normal temperatures. The 8 to 14-day forecast is for above normal rain and temperatures. The 1- and 3-month forecasts are for normal precipitation 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 2014**



**GENERAL WATER CONDITIONS IN MASSACHUSETTS - DECEMBER 2014**  
EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS

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

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/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html>