Current Water Conditions in Massachusetts
September 16, 2010

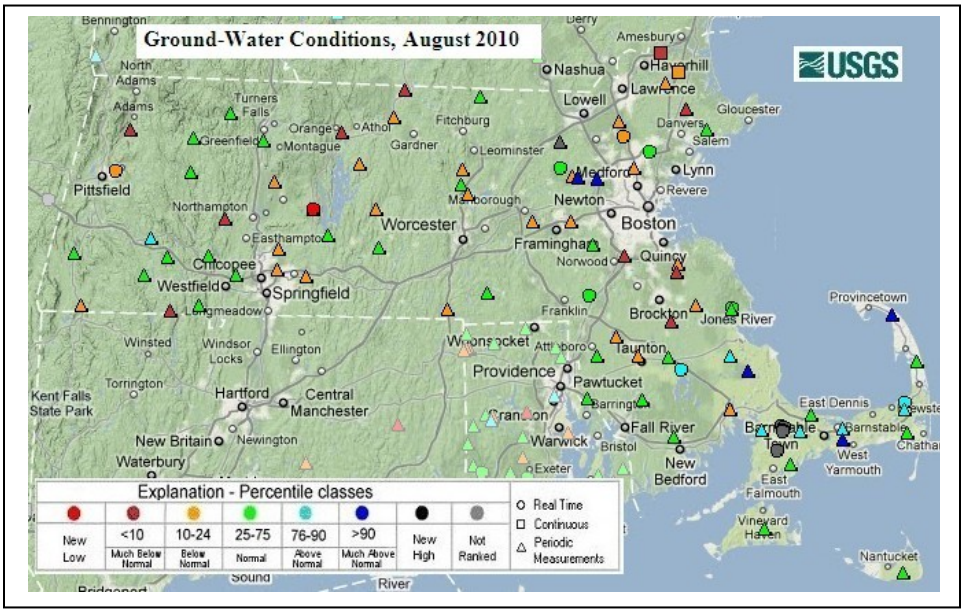
- August precipitation was above normal to below normal
- August streamflows were normal to much below normal
- August ground-water levels were above normal to below normal
- August reservoir levels were near normal and below normal

Precipitation Conditions

August was the 32nd wettest and 22nd warmest in the last 116 years in Massachusetts according to the National Climate Data Center.
Estimated August state-wide average precipitation was 3.87 inches, which is 100 percent of the long-term average for the month. The regions of Massachusetts received between 149 (Northeast) and 63 percent (Connecticut River) of average precipitation during August. In general, during most of the month the State received rainfall as a result of small, regionally and locally variable convective rainfall events. Toward the end of the month a series of passing low pressure systems brought heavy and beneficial rain mainly to the eastern part of the State. Generally low rainfall during early September has ranged from 0.1 to above 4 inches. The higher amounts of rainfall which occurred mostly in coastal regions were the result of the passage of hurricane Earl off the east coast on September 3 and 4. Fire danger across the State remains high and because of deep drying of soils fire suppression is difficult and time consuming. A table of August 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 August total rainfall in Massachusetts and adjacent areas of New England.

Ground-Water Levels

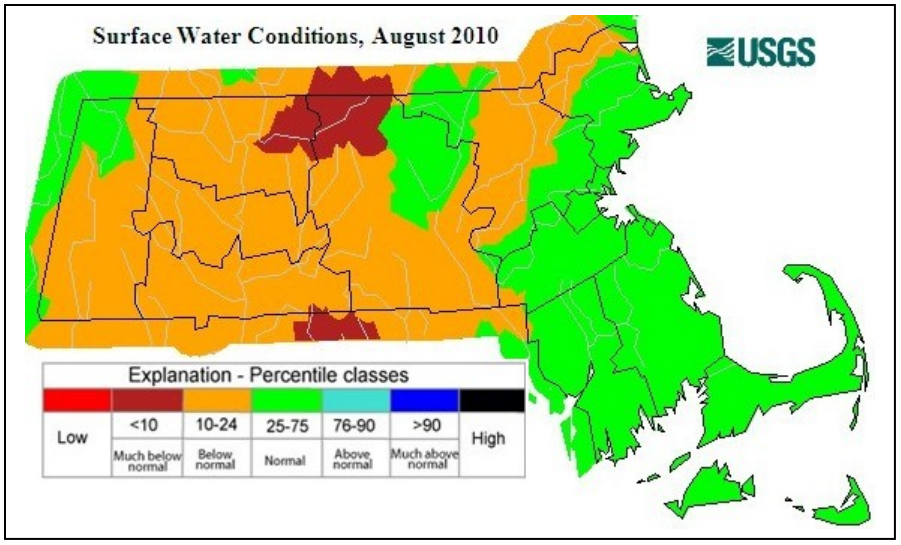
Ground-water levels reported by the United States Geological Survey (USGS) at the end of August were generally above normal on Cape Cod, normal in the southeast area, and below normal in the rest of Massachusetts. This assessment of ground-water levels is based on 89 wells in Massachusetts with 10 or 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.

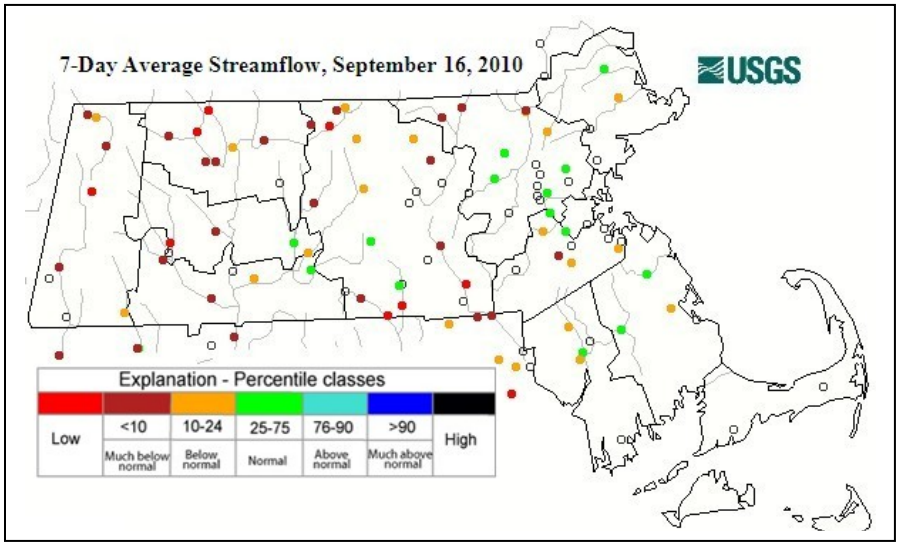


The USGS Groundwater Conditions Statement for the end of August 2010 can be viewed at the web site: http://ma.water.usgs.gov/water/water_g.htm

Streamflow

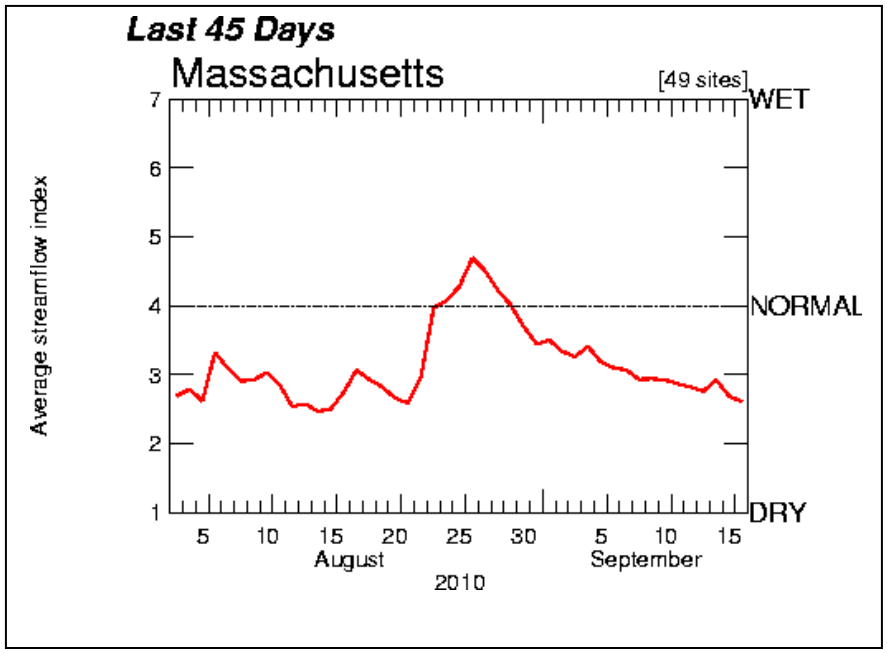
During August 2010, streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program ranged from much below normal to normal. Basins with normal flows included the Hoosic, Nashua, and eastern coastal basins. The Millers River basin had much below normal flows. On the map to the right, areas on Cape Cod and The Islands, have no data. As shown in a table at the end of this report, MA DCR has listed the drought regions of Massachusetts as having below normal, normal, and no data (Cape Cod and islands) surface-water conditions for August. During the beginning of September flows in the river basins of western Massachusetts have declined significantly and record low daily-flows are being recorded on some streams. The map at right shows the 7-day average streamflow conditions as of September 16th.





The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of August 2 to September 15, 2010. During August generally moderately below-normal flows occurred until the 21st when heavy rain occurred and caused flows to rise above normal for several days. Flows have decreased to well below normal since that time. The graph is a composite of 49 real-time gages across the state with a long period of record.

Additional information on streamflow is available from the USGS web page:
http://ma.water.usgs.gov/water/water_s.htm



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 August. Reservoirs in the Northeast and Central Regions are below normal for this time of year. The Springfield Cobble Mountain reservoir value is also below normal. As of August 26th, 105 water suppliers had initiated water use restrictions in Massachusetts (see attached map). Some of these restrictions are likely due to ongoing summer permit conditions.

August / September 2010 Massachusetts Reservoir Status

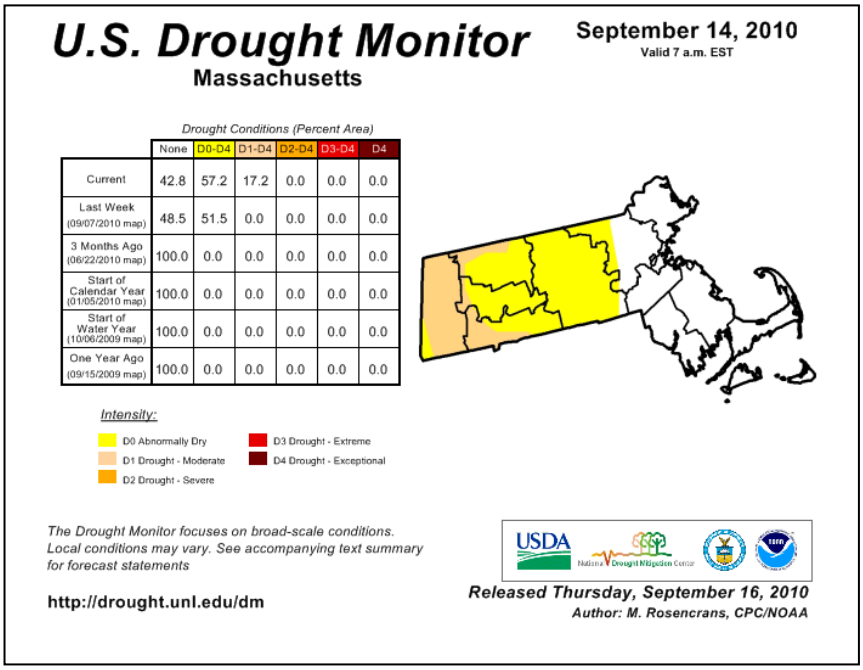
Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	91.9	Beverly/Salem	77.1
Worcester	70	Lynn	56.9
Cobble Mt./ Springfield	63	Taunton/New Bedford/Assawompsett	89.6

Note: NA Indicates data not available for this report

Drought Indices/Forecasts

US Drought Monitor

The National Drought Mitigation Center's (NDMC's) September 14, 2010, Drought Monitor Map for Massachusetts shown at right indicates moderate drought conditions in western areas and abnormally dry in central Massachusetts. The NE, SE, and the Cape and Islands are near normal.



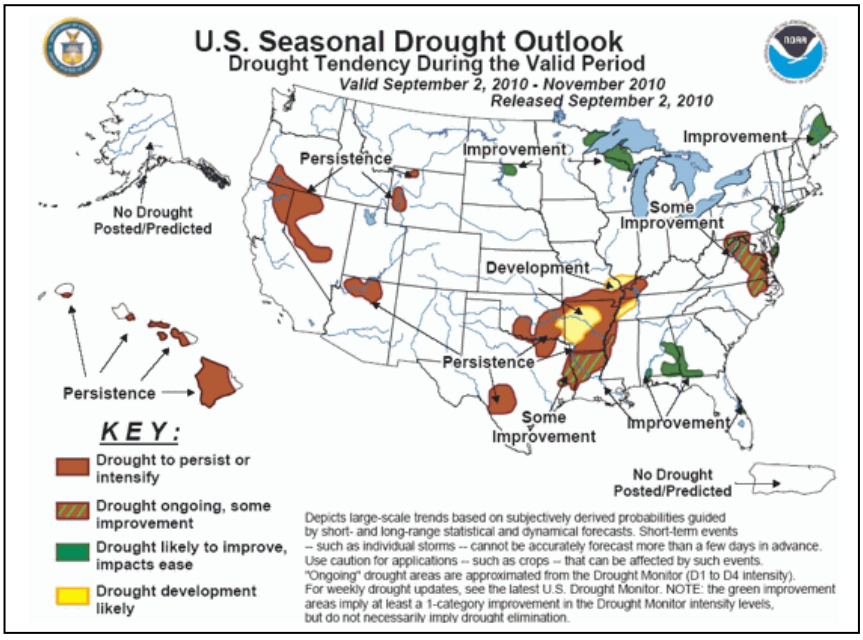
Standardized Precipitation Index (SPI)

The Western Regional Climate Center's (Desert Research Institute, University and Community College System of Nevada) 1-, 3-, 6-, and 12-Month Standardized Precipitation Index values across Massachusetts at the end of August were near normal to very wet.

Massachusetts SPI values for the drought regions are all in the normal range.

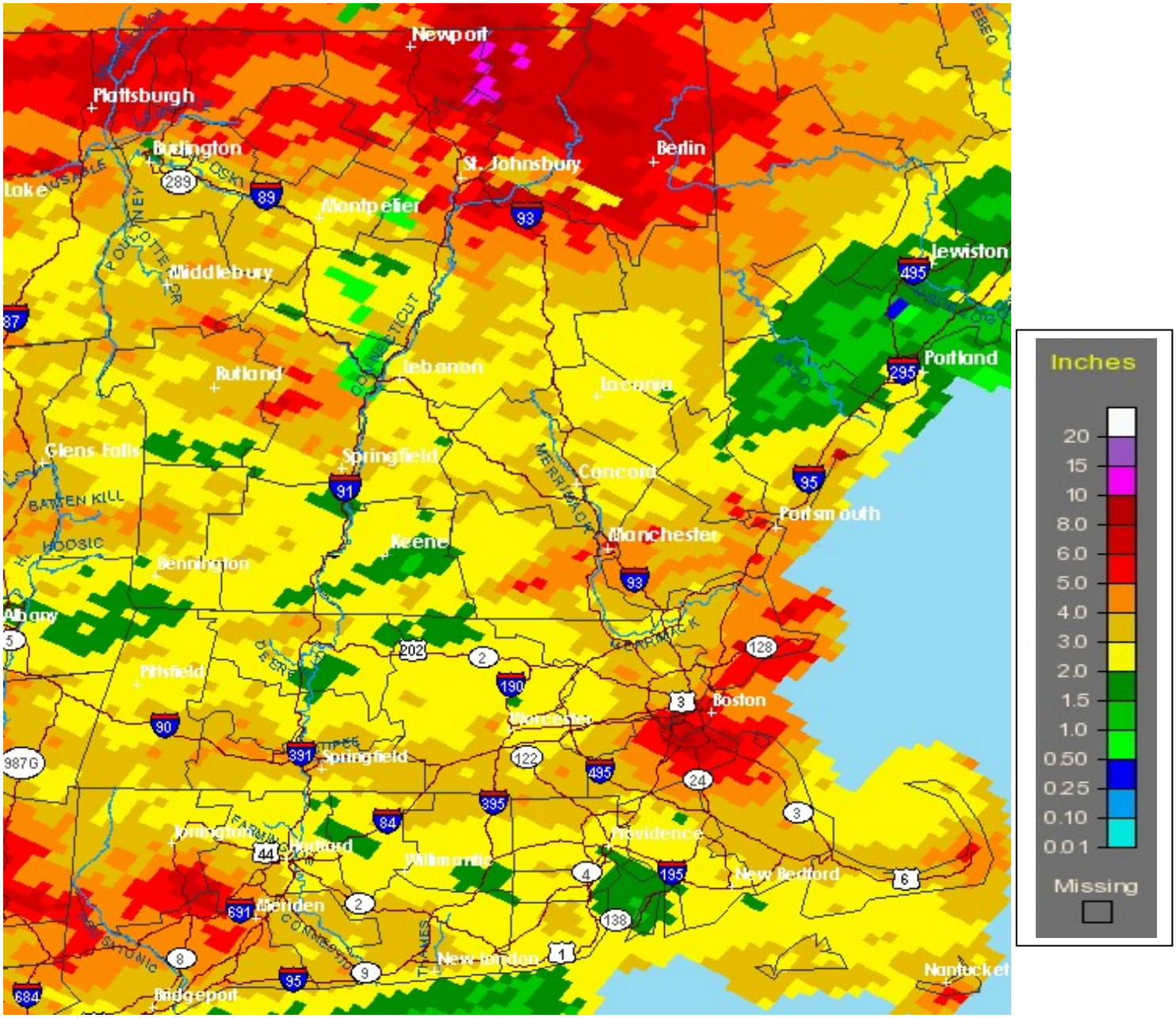
NWS/NOAA's Climate Prediction Center

The U.S. Seasonal Drought Outlook dated September 2, 2010, predicts no tendency for drought conditions to develop in Massachusetts through November 2010.



Extended Forecasts

A period of rainfall forecast for late Thursday and early Friday is expected to produce a little over 1-inch of rain. This weather system will also bring a period of high wind to sections of the SE. Clear dry weather will follow through the middle of next week. The National Weather Service Climate Prediction Center's extended 6 to 10, 8 to 14 day, and 1-month forecasts are for normal rainfall. The 6 to 10 day forecast is for below normal temperature and the 8 to14 day and 1-month forecasts are for normal temperatures. The NWS Climate Prediction Information can be found at: http://www.cpc.noaa.gov/index.php



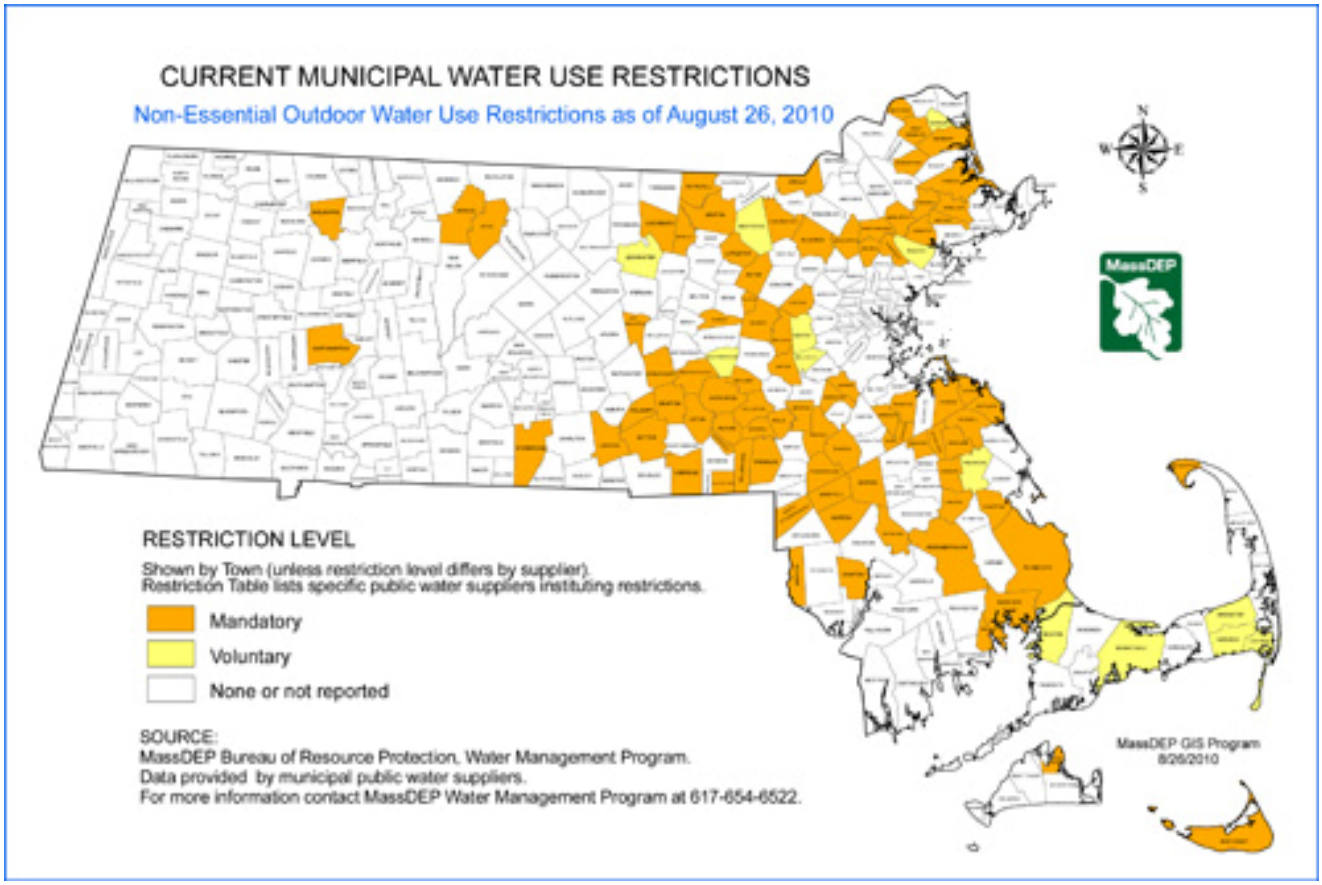
http://www.srh.noaa.gov/rfcshare/precip_analysis_new.php

TOTAL RAINFALL
AUGUST 2010

GENERAL WATER CONDITIONS IN MASSACHUSETTS - AUGUST 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	Below Normal
Central	Below Normal	Below Normal
Connecticut River	Below Normal	Below Normal
Western	Below Normal	Below 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/dcr/watersupply/rainfall/