

Current Water Conditions in Massachusetts

July 8, 2010



- June precipitation was below normal
- June streamflows were normal to below normal
- June ground-water levels were above normal to below normal
- June reservoir levels were near normal

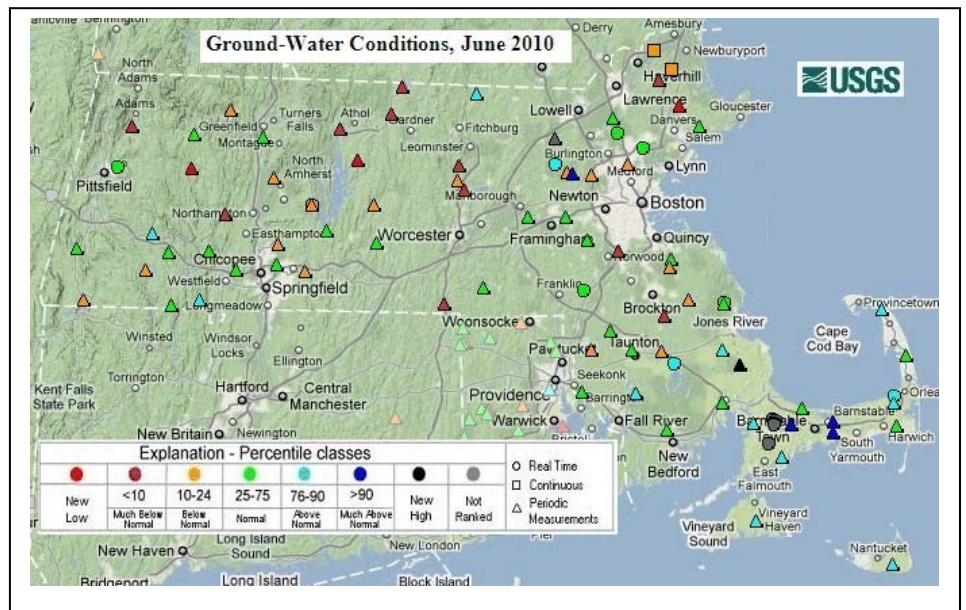
Precipitation Conditions

June state-wide average precipitation was about 3.08 inches, which is about 83 percent of the long-term average for the month. The regions of Massachusetts received between 102 (Cape Cod and islands) and 60 percent (Northeast) of average precipitation during June. Statewide, the June rainfall occurred in 5 to 10, mostly small, convective events, during the 1st two-thirds of the month. Rainfall during the end of June and early July has been very low with almost no rain for the last 14 days. Massachusetts experienced a heat wave during the last week with three consecutive days with temperatures above 90 degrees. The fire danger index across the State has increased during this period especially in the NE and SE parts of the State. A table of June 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 June total rainfall in Massachusetts and adjacent areas of New England.

Ground-Water Levels

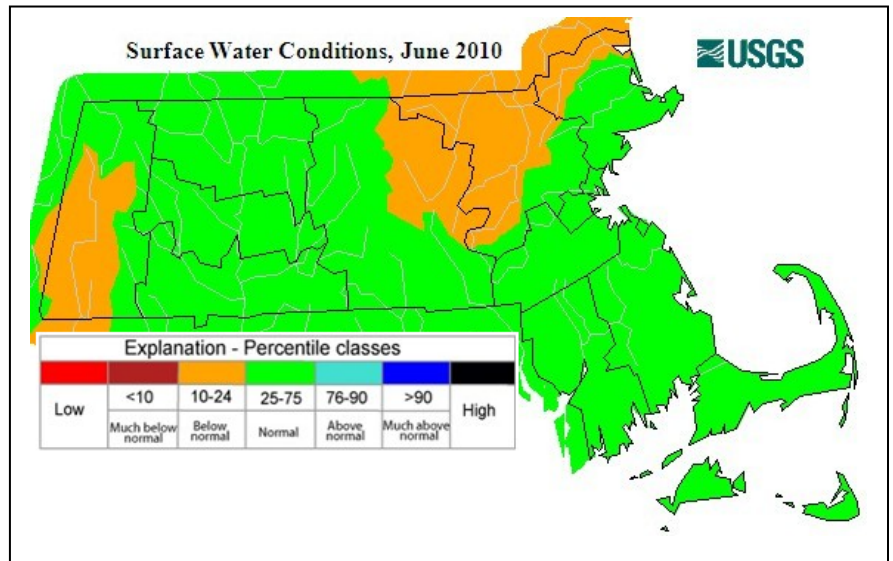
Ground-water levels reported by the United States Geological Survey (USGS) at the end of June were generally normal across most of the southern part of the State including Cape Cod and the Islands. With some exceptions, generally below and much below normal ground-water levels were recorded in the northern tier of the State. The USGS assessment of ground-water levels is based on 89 wells in Massachusetts with 10 or more years of record. Ground-water conditions in Massachusetts drought regions range from above normal to below normal (Central Region) and are shown in a table at the end of this report.

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



Streamflow

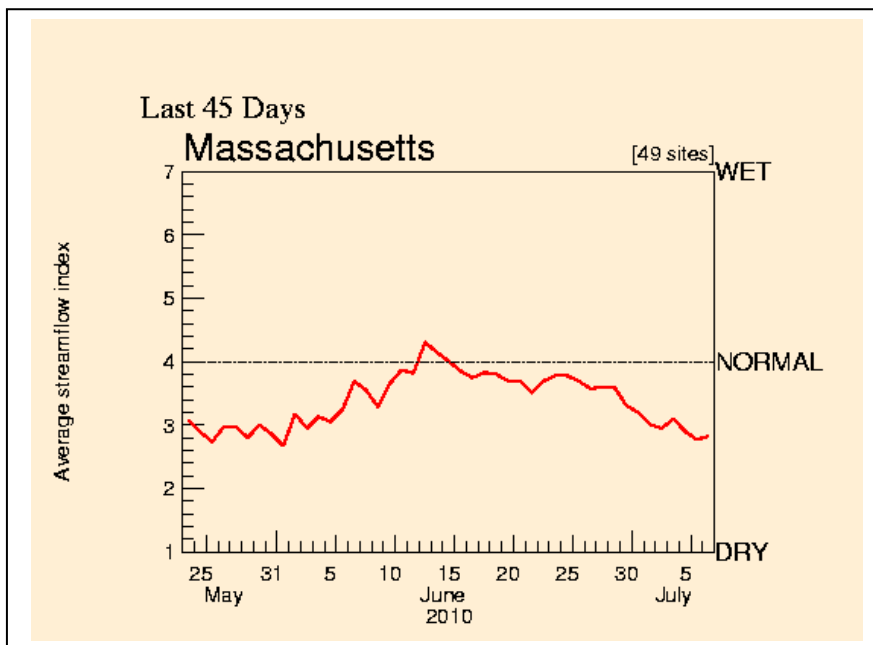
During June 2010, streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program ranged from normal to below normal. The Concord, Nashua River, and Housatonic River basins had below normal streamflows in June. Streamflows in the rest of the State were generally normal. As shown in a table at the end of this report, the USGS has listed the drought regions of Massachusetts as having normal and below normal (Northeast and West Regions) surface-water conditions for June.



The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of May 23 to July 6, 2010. During June generally moderately below-normal flows at the beginning of the month rose to just above normal at mid month and then declined to moderately below normal flows at the end of June. 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 June. Reservoirs in the Northeast and Central Regions are slightly below normal for this time of year. As of June 30th 37 water suppliers had initiated water use restrictions in Massachusetts (see enclosed map).

June / July 2010 Massachusetts Reservoir Status

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	97	Beverly/Salem	92.2
Worcester	90.7	Lynn	74.3
Cobble Mt./ Springfield	78	Taunton/New Bedford/Assawompsett	97

Note: NA Indicates data not available for this report

Drought Indices/Forecasts

US Drought Monitor

The National Drought Mitigation Center's (NDMC's) July 6, 2010, Drought Monitor Map for the northeast shown at right indicates no drought conditions in Massachusetts or New England.

Standardized Precipitation Index

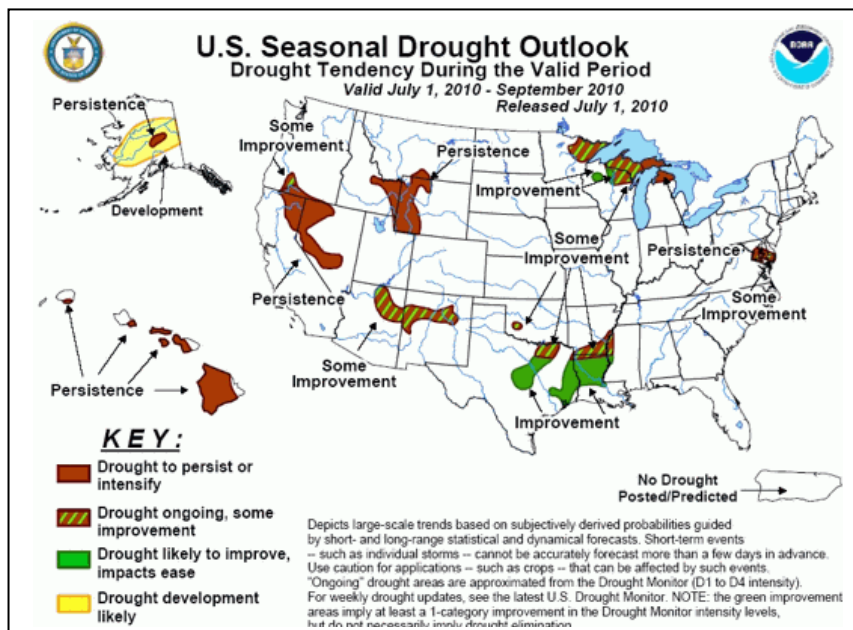
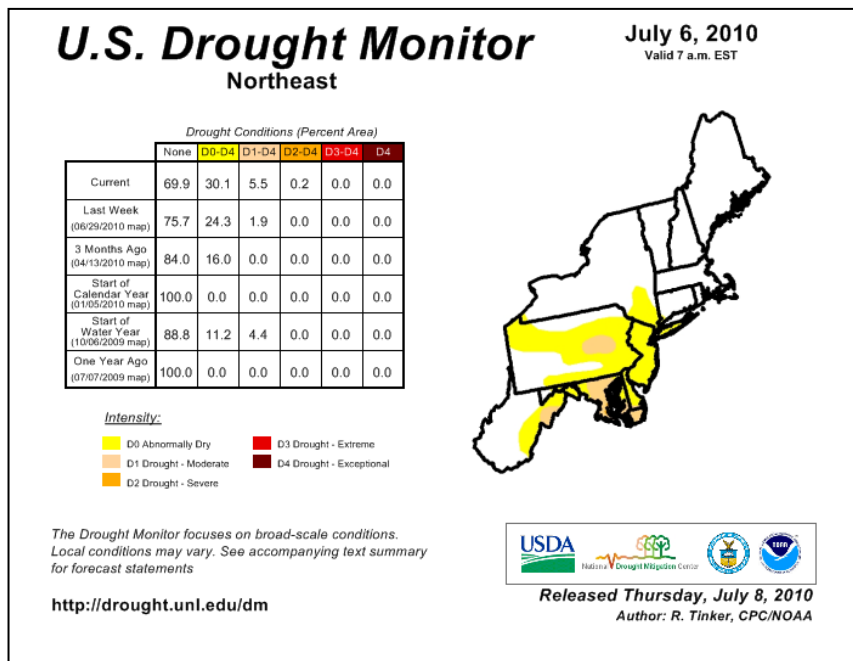
The Western Regional Climate Center's (Desert Research Institute, University and Community College System of Nevada) 1-, 3-, 6-, and 12-Month Standardized Precipitation Index across Massachusetts at the end of June were near normal, moderately dry (east)/normal(west), moderately wet/very wet, and very wet(west)/extremely wet(west and central).

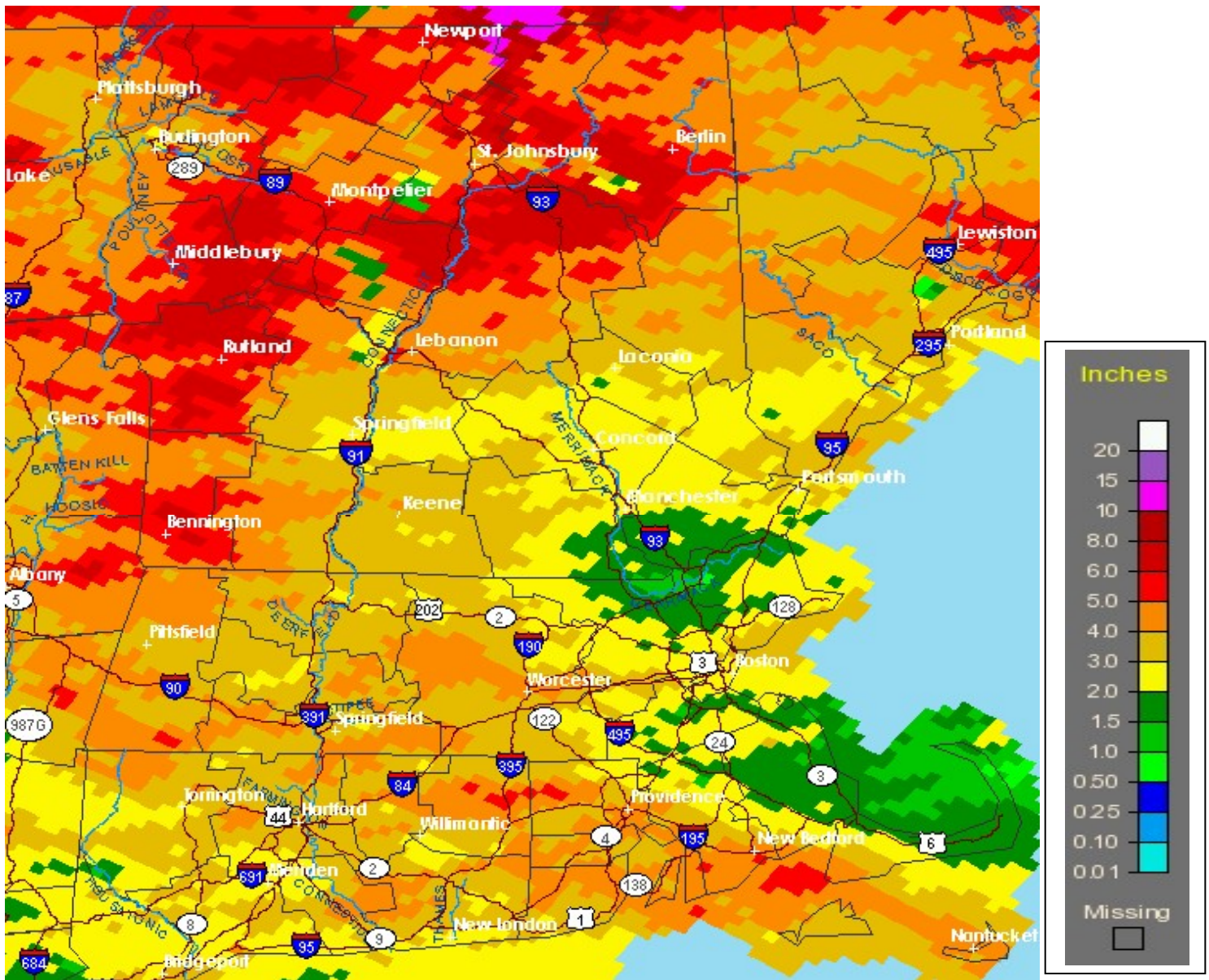
NWS/NOAA's Climate Prediction Center

The U.S. Seasonal Drought Outlook dated July 1, 2010, predicts no tendency for drought conditions to develop in Massachusetts through September 2010.

Extended Forecasts

Generally dry, hot, and humid conditions today and Friday will give way to an increasing probability of showers and rain on the weekend as a frontal system approaches the region. There is a possibility that a low will form along the front and bring a more general rain to southern NE. Clearing late Sunday, hot and dry for the first part of next week. A frontal system will approach the area mid-week with increased probability of showers and thundershowers. The National Weather Service Climate Prediction Center's extended 6 to 10- and 8-14 day forecasts are both for normal rainfall and above normal temperatures. The 1-month extended forecast is for normal temperatures and rainfall. 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
JUNE 2010**



GENERAL WATER CONDITIONS IN MASSACHUSETTS - JUNE 2010
 EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS

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

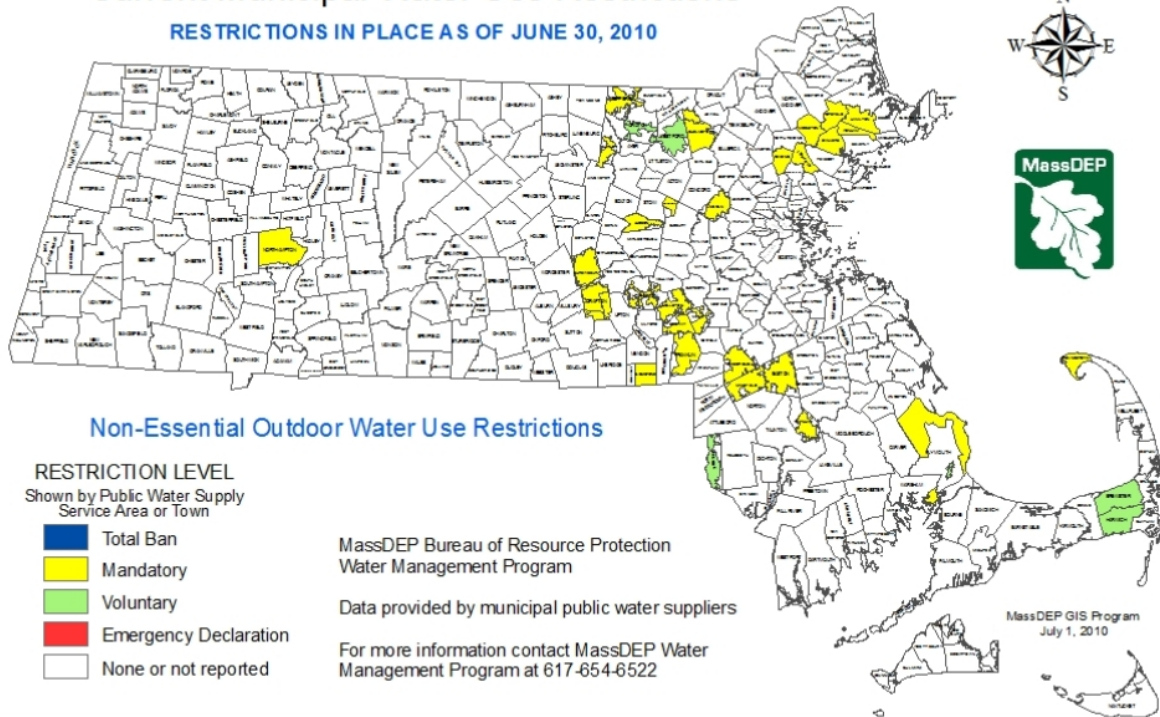
Note: Surface- and ground-water conditions for individual streamflow-gaging stations and wells may differ from general conditions.

Weather Ramblings ---

Tropical Cyclones that made landfall in New England, 1900-2009				
Storm Name	Date	Intensity at Landfall	Forward Speed	
			mi/hr	km/hr
Unnamed	July 1916	Category 1 Hurricane	18	29
Unnamed	Sept 1938	Category 3 Hurricane	51	82
Unnamed	Sept 1944	Category 3 Hurricane	29	47
Carol	Aug 1954	Category 3 Hurricane	35	56
Edna	Sept 1954	Category 3 Hurricane	46	74
Diane	Aug 1955	Tropical Storm	15	24
Donna	Sept 1960	Category 2 Hurricane	24	39
Belle	Aug 1976	Category 1 Hurricane	20	32
Gloria	Sept 1985	Category 2 Hurricane	45	72
Bob	Aug 1991	Category 2 Hurricane	32	51
Bertha	July 1996	Tropical Storm	30	48
Floyd	Sept 1999	Tropical Storm	35	56

Current Municipal Water Use Restrictions

RESTRICTIONS IN PLACE AS OF JUNE 30, 2010



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/>