

Massachusetts Water Resources

Commission Hydrologic Conditions in Massachusetts for August 2025

Due to below-normal precipitation, significantly below-normal streamflows are emerging along with low groundwater levels especially on Cape Cod and Nantucket.

Monthly average temperatures were below normal to normal with some record lows in Southeastern Massachusetts. While August was on the cool side, June and July were on the warm side and, according to the Northeast Regional Climate Center, Massachusetts had its 14th hottest summer (June through August) on record.

August precipitation was mostly below normal with some areas of normal precipitation. Most Regional medians were below normal for the month of August. June and July also had a mix of normal and below-normal precipitation across the state such that the 3-month look-back period has deficits in all Regions except the Islands, which is at the low end of normal. The accumulated precipitation departure from normal starting September 1, 2024 to August 31, 2025 ranges from approximately five inches to ten inches below normal across the state.

At the end of August, the 2-month and 1-month Evaporative Demand Drought Index Regional percentiles were in the above-normal range in all Regions except for the Southeast Region, which was in the normal range. The Keetch Byram Drought Index was at Index Severity Level (ISL) 2 in all Regions except the Central Region, which was at ISL 3.

Streamflow ranged from below normal to normal with most gages below normal especially in the northern part of the state. At the beginning of the month most of the gages were in the normal range to above-normal range due to rain on July 31st. Streamflow declined and most gages were below normal for most of the month.

The Boston/Norton and Albany National Weather Service E-5 Monthly Reports of Hydrologic Conditions did not indicate river flooding at forecast points in Massachusetts nor were there any river flood warnings or areal flood warnings. There were two local flash flood warnings issued and three reports of local flooding. On August 13th-14th, flash flood warnings were issued in Essex and Hampden Counties. Reports were received of minor local flash flooding in Topsfield and Lawrence and of urban flooding in Abington.

National Oceanic and Atmospheric Administration (NOAA) released an article on August 7th titled “[Prediction remains on track for above-normal Atlantic hurricane season](#) .”

The [NOAA Climate Prediction Center Weeks 2-3 Global Tropics Hazards Outlook](#) contains maps that include the lower half of the United States showing cyclone formation, rainfall, and temperature probabilities.

Two articles about flash flooding were released during the summer and include a discussion of the phenomena behind the rainfall events: One is a [CNN article](#), "[This is the summer of flooding across the US, and scientists know why.](#)" The other is a Yale Climate Connections: "[As flash floods rage, the tropical Atlantic stays mellow.](#)"

Groundwater levels ranged from below normal to above normal with only four wells in the above-normal range. The Cape Cod and Islands Regions are at ISL 2.

Lakes & Impoundments at the end of August had ten of the 17 sites below their 30th percentile. The Central and Northeast Regions are at ISL1, and the Cape Cod Region is at ISL 2.

The latest State Drought Declaration continued elevated drought levels in the Cape Cod Region and Nantucket County and added the Northeast, Southeast, Central, Connecticut River Valley, and Western Regions at elevated levels. Dukes County (Martha's Vineyard) is the only area of the state in Normal status.

United States Drought Monitor (USDM) status since the end of July indicates that conditions have gotten drier and the areas of D1 (Moderate Drought) and D0 (Abnormally Dry) expanded during August. The map released September 11, 2025 expands D1 further west to the state border.

NOAA Climate Prediction Center's September outlook indicates no strong signal for temperature and precipitation. NOAA's 3-month outlook indicates chances likely for above-normal temperatures and no strong signal for precipitation.

NOAA Climate Prediction Center's drought outlook indicates drought will likely persist for Cape Cod, Nantucket, and northern parts of northeastern and central to western MA. The seasonal drought outlook released 8/31 shows drought removal likely in the same areas, which correspond to the areas of D1 on the USDM map at the end of August.