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Well, well, well . . . look what the drought's doing now

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By **Matt Rocheleau**

GLOBE STAFF SEPTEMBER 22, 2016

Officials are urging private well owners to conserve water as the [drought](#) has caused ground-water levels across most of the state to fall below normal, with some gauges even dropping to record lows.

Ground water typically drops to its lowest point in the fall before rebounding. This year, low levels have been reached prematurely, said Jonathan Yeo, director of water supply protection for the Massachusetts Department of Conservation and Recreation.

“The question over the next month or two is, can the wells hold on? Is there enough water?” Yeo said. “We’re certainly recommending everyone conserve.”

It may take longer than usual for ground-water levels to rebound. Forecasters have said they [expect drought conditions and below-normal precipitation to persist](#) through the end of November. Even once we start to consistently get more normal amounts of precipitation, [it can take a while for that water to soak](#) in and replenish aquifers, the underground storehouses of water that wells tap into.



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There's no centralized way to track how many of the wells, which are regulated by local boards of health, may be facing issues across Massachusetts, officials said.

Yvonne Abraham: Our drought plan is all wet

The state's drought plan is inadequate and slow, and it will only be more so as climate change makes summers more severe.

Drought takes major toll on region's wildlife and crops

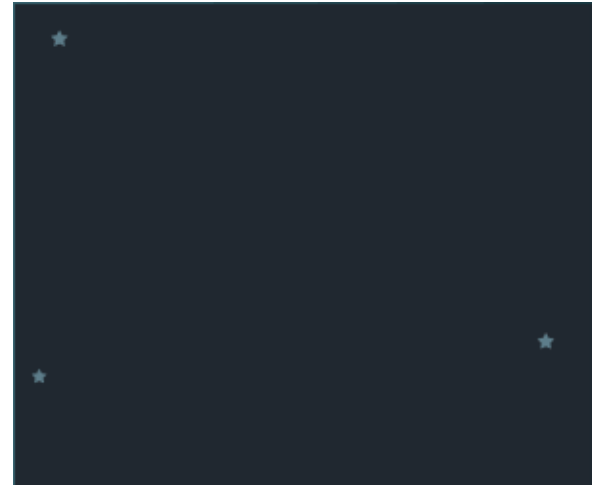
Drought conditions stay stable last week

Worcester moves to crack down on water use

But Yeo said that officials at the state level are aware of some wells that have dried up.

“We've heard of some isolated cases, but we've not heard of a large number so far,” he said.

In a recent [update](#) on drought conditions, officials at the National Weather Service bureau in Taunton said that some privately owned wells had reportedly gone dry in Burrillville, R.I., a town bordering both Massachusetts and Connecticut.



There were more than 171,000 wells across Massachusetts as of 2015, according to data tracked by the state Department of Environmental Protection.

Across New England, about 2.3 million people, or 20 percent of the total population, rely on private well water, according to the US [Environmental Protection Agency](#).

Conditions can vary significantly from well to well, depending on a host of factors, including how deep the well penetrates into the aquifer, how large the aquifer is, and whether multiple wells are extracting water from the same aquifer.

Scientists measure ground-water levels at a network of 75 sites around the state. At 29 of the sites, gauges provide data in real time; the rest are checked monthly.

The US Geological Survey posts the [ground-water data online](#). Individually, each site can only tell ground-water levels for that exact point, but collectively, the network of sites can show rough patterns of conditions in broader areas.

“They’re really like snapshots,” said Cliff Treyens, director of public awareness for the [National Ground Water Association](#). “But the rationale behind it is, if you take enough of those points you can start to see trends.”

For the 29 sites where conditions can be monitored in real time, all but three sites last week were “below normal” or lower. Six sites were “much below normal,” and seven others were labeled “low,” the lowest possible classification.

“

“The question over the next month or two is, can the wells hold on?”

Jonathan Yeo, DCR official

At the 46 other sites, where measurements were last taken in late August, 34 had readings that were “below normal” or lower, including 15 that were “much below normal” and 10 others that had the lowest possible designation.

“We’ve been monitoring [the gauges] very closely this year, and all regions of the state, with the exception of Cape Cod, have been below normal for the last four or five months,” said Yeo, adding that record-low readings have been measured at a number of sites recently.

Some areas of the Cape have started to see ground-water levels fall below normal, too, he said.

Experts said that there can be warning signs that a well is getting low on water, including lower water pressure, air entering the plumbing system, and sudden changes in water quality.

If those signs start cropping up, specialists recommended that well owners cut their water use as much as possible and consult a professional to see what steps they can take to resolve the issue. Fixes can include deepening the well or digging a new one.

Paul Quirk, president of the Massachusetts Ground Water Association, said in an e-mail that “Deepening and developing wells has been keeping many drillers in the Commonwealth busy this year. Definitely busier than usual and many have said they think it’s due to the dry weather.”

The ongoing drought — the [worst in more than a decade](#) — has also [lowered water levels at reservoirs](#) around the state and prompted a growing number of public water suppliers to request emergency supplies. Many communities have imposed [restrictions on outdoor water use](#) and stressed the need for residents and businesses to conserve.

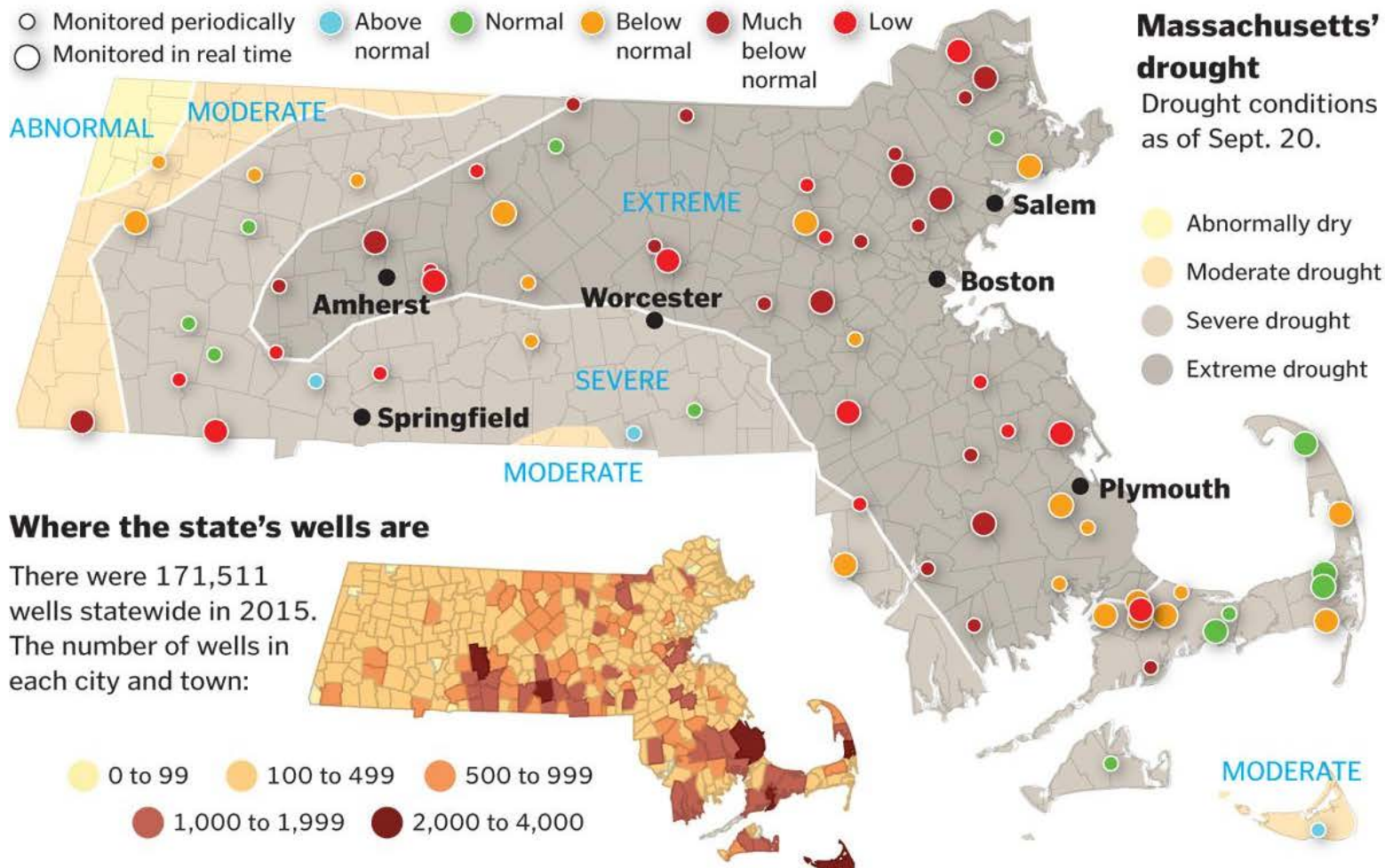
The drought has had adverse effects on [crops](#), [waterways](#), and [wildlife](#), and may [shorten the region’s fall foliage season](#).

Monitors document below-normal ground-water levels

Most of the wells in a network of 75 sites scientists use to measure ground-water levels indicate they are below normal or low.

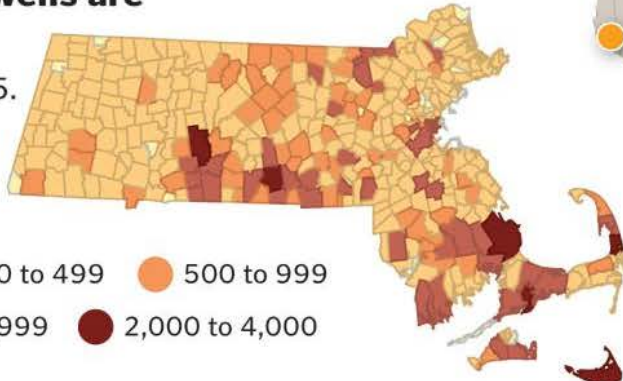
Scientific ground-water monitors (AS OF SEPT. 23)

- Monitored periodically
- Monitored in real time
- Above normal
- Normal
- Below normal
- Much below normal
- Low



Where the state's wells are

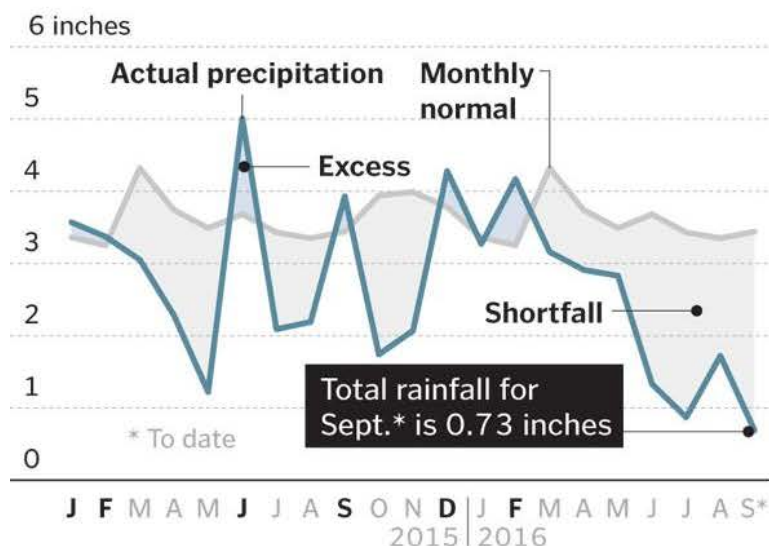
There were 171,511 wells statewide in 2015. The number of wells in each city and town:



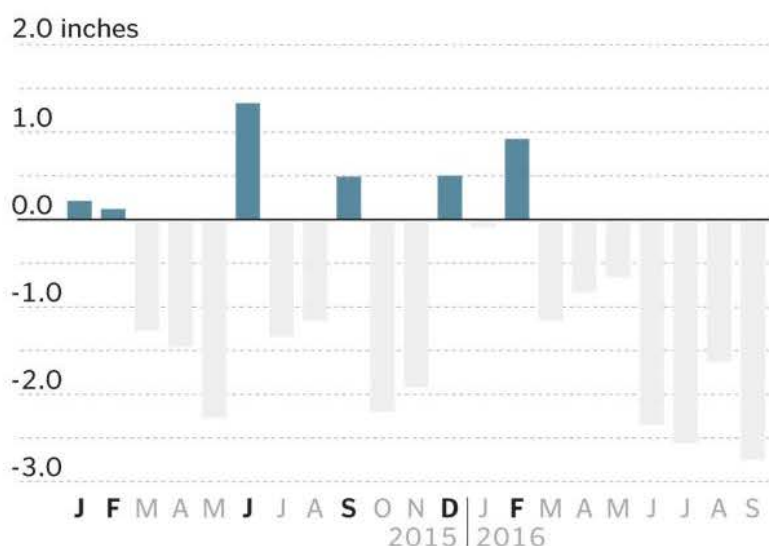
- 0 to 99
- 100 to 499
- 500 to 999
- 1,000 to 1,999
- 2,000 to 4,000

TRACKING BOSTON'S RAINFALL

Compared to normal



Rain shortfall



SOURCE: Massachusetts Department of Environmental Protection, National Drought Mitigation Center

MATT ROCHELEAU, JAMES ABUNDIS/GLOBE STAFF

Matt Rocheleau can be reached at matthew.rocheleau@globe.com. Follow him on Twitter [@mrochele](https://twitter.com/mrochele).

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