

The impact of Cape Town's water shortage on public health

February 6 2018, by Atif Kukaswadia

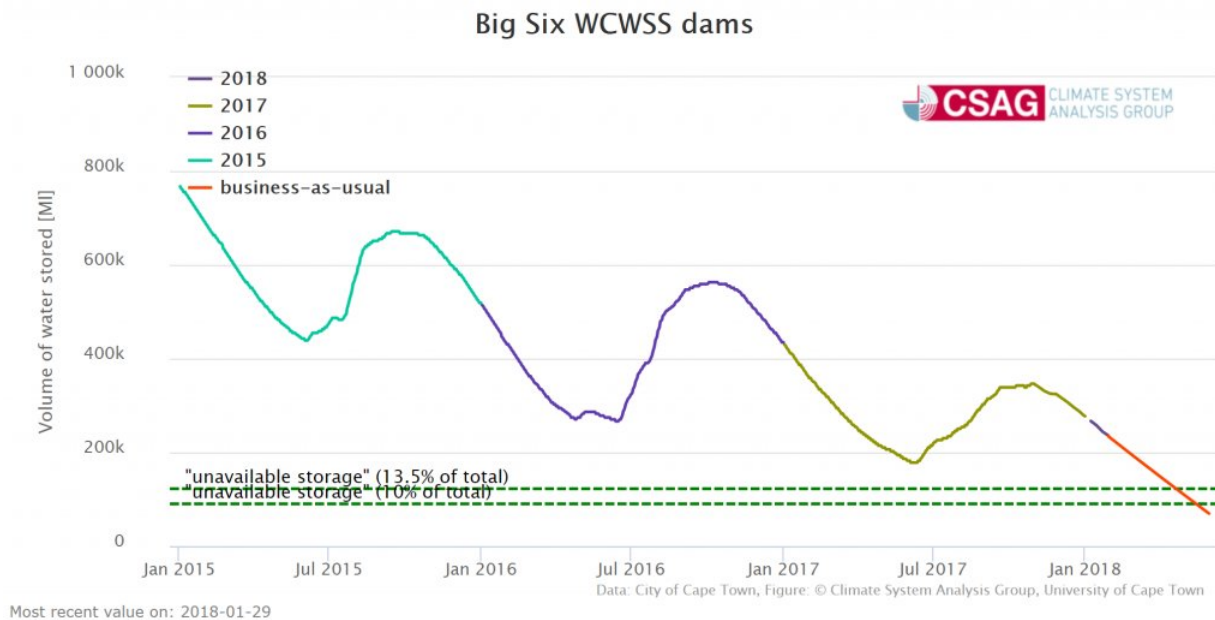


A story that's been making the rounds recently is the impending water shortage in Cape Town. Multiple years of droughts have resulted in lower and lower water levels in the reservoirs that supply the city with water, and while there have been efforts to reduce consumption by residents of the city, the decrease hasn't been enough to mitigate the effects of the drought. As a result, the mayor and city council have been warning citizens that there will soon be a day when the entire [metro area](#) will be without running water, and the taps will be turned off. This

affects a huge number of people; the Cape Town metro area has about [3.7 million residents](#) that will be impacted, about the same as the population of Connecticut, or the Seattle-Tacoma metro area.

The city council has referred to the day that the taps will be turned off as "Day Zero," and have set up a website to encourage residents to use less than 50 L per day. In comparison, a shower typically uses 2 gallons per minute, and so a 6 minute shower is the same as the entire amount of [water](#) someone in Cape Town has for all their activities. This includes cooking, bathing, laundry, drinking, etc. The [USGS estimates](#) that an average American uses around 80-100 gallons a day (300 – 380 L), between 6-8 times more than those in Cape Town.

The [water shortage](#) has important ramifications for research and healthcare. Simple things we take for granted – like being able to wash our hands before and after preparing food or going to the bathroom, now become more difficult with the lack of running water. In [basic science research](#), this is further exacerbated by how studies can require caring for lab animals, or a steady supply of water in the event of a chemical injury. In Canada, the Canadian Centre for Occupational Health and Safety required that all emergency showers be able to pump [75 litres per minute for a minimum of 15 minutes](#), which would go through around three weeks of water in that time. Since researchers deal with highly corrosive chemicals in which minutes matter, it would be unsafe and unethical to continue to conduct research if you cannot provide a safe environment for your staff.



Water levels in the Western Cape Water Supply System levels from Jan 2015 through Jan 2018

Researchers in Cape Town also do a lot of work in the areas of tuberculosis and HIV, and an interruption to the water supply, and the demands of going to line up daily for water, would have huge ramifications for the research being performed. As per an interview in Nature:

Linda-Gail Bekker, deputy director of the Desmond Tutu HIV Centre, says there would be consequences to interrupting her group's efforts to provide reproductive health services to young women at high risk of teen pregnancy and HIV. Bekker worries that her staff will be unable to work if they must also wait in long lines each day to collect water for their households. "I plan to get ahold of the mayor's office this week to see if we can figure something out," she says.

Unless something drastic happens, the taps in Cape Town will be turned off on [April 16, 2018](#). At this point, public health officials will have an essential job in preventing the spread of disease and ensuring residents have the education they need to minimize potential outbreaks. If they do suspect there is an outbreak happening, running samples/tests will require water, which means either prioritizing tests within the limited water available, or sending them elsewhere to be analyzed – further delaying the results. And all of this takes place with extreme water shortages in the background, which some suspect may lead to growing [black market](#) and associated problems.

While the water shortage is currently limited to Cape Town, we have seen droughts all over the world in recent years, albeit less severe in nature. However, unless we change our lifestyles to decrease our water consumption, or plan for a time when the taps don't flow, we won't be watching Cape Town, we'll be living it.

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