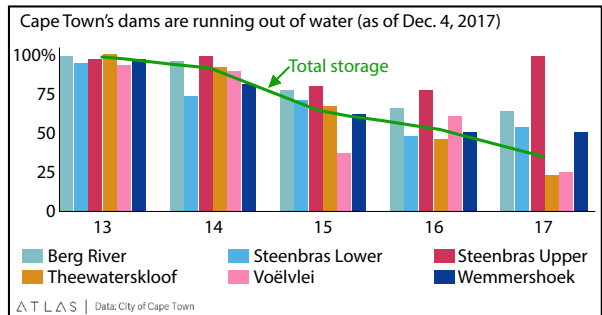


WATER CRISIS IN CAPE TOWN: NATURAL DISASTER OR MAN-MADE?

By Dr. Stephanie M. Burchard

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Percentage of total capacity of water stored in dams serving Cape Town.
(Source: <https://www.theatlantic.com/charts/rk0S3k7-M>.)

Dr. Stephanie M. Burchard is a Research Staff Member in the Africa Program at the Institute for Defense Analyses.

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By Sarah Graveline

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Map of Hala'ib Triangle between Egypt and Sudan. (Source: https://commons.wikimedia.org/wiki/File:Map_of_Halaib_Triangle-en.png.)

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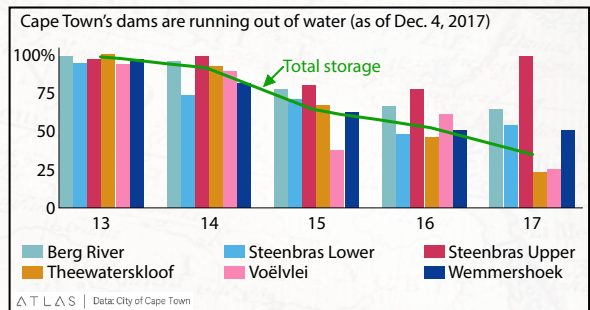
IDA's three federally-funded research and development centers provide objective analyses of national security issues and related national challenges, particularly those requiring scientific and technical expertise.

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Crisis Looming

Experts say that climate change and the increasing size of the region's population are to blame for the crisis. The city's current approach to water management relies almost exclusively on surface water, which renders the city heavily dependent on rainfall. Due to three consecutive years of drought-like conditions, the coastal town has seen its water reservoirs rapidly decrease. According to Dr. Kevin Winter, a senior lecturer in environmental and geographical science at the University of Cape Town, the rainy season in Cape Town is [occurring](#) later and later every year, and rainfall is also less frequent. What typically used to begin in April, now doesn't start until late June or July. Coupled with increases in consumption due to [population growth](#) over the past few decades, the city is increasingly unable to match its dwindling supply with its growing demand.

Countdown to Day Zero

Officials say they will be forced to turn off the water when the city's reservoirs drop to [13.5 percent](#) of their total capacity, an event many are terming "Day Zero." At that level, most of the remaining water will be silt and other detritus that are not fit for use. Close to [4 million](#) residents will be affected. Day Zero was initially forecast for some time in May, but in late January, city officials revised their estimate to [April 16](#). After Day Zero, residents will be allotted a maximum of 25 liters (roughly 6.6 gallons) of water per day, which they will be able to pick up from one of the city's 200 municipal water points.

Anticipating the possibility of a shortage, the city began [reducing](#) water pressure in March 2017. In May, Cape Town Mayor Patricia De Lille created a drought crisis team composed of experts and city planners to help draft a new plan. The city also adopted a variety of voluntary and mandatory water restrictions over the past several months to stave off Day Zero. In September, Cape Town officials approved "[level five](#)" water restrictions, limiting residential water usage to 87 liters per day (about 23 gallons) to help prolong the supply. In January 2018, official approved "[level six](#)" water restrictions, banning additional new activities related to domestic water consumption and imposing fines for those found to be in excess of the water limits.

On January 18, Mayor De Lille informed residents that the measures to reduce water consumption to date had not worked. More than [60 percent](#) of residents were believed to be in violation of the restrictions. She said the city had "reached a point of [no return](#)" and as of February 1 further reduced water consumption to 50 liters per day. Officials are hoping the upcoming winter season (June through August), which is typically when the region receives the most rain, will help to alleviate the shortfall.

Early Signs and Government Response

Although the situation is critical now, the potential for a water shortage in Cape Town is not new. In 2007, the national Department of Water and Sanitation issued a warning, based on projected water demands and rainfall trends, that Cape Town would need to identify additional water sources by 2015. City officials took several steps to address the projected water shortage, and by the early 2010s, it appeared that Cape Town was in good shape to manage its upcoming water needs. In 2013, the deadline for identifying new water sources was even [extended](#) to 2019. But, in 2015 at the earliest signs of the current drought, the provincial government requested funds from the national government to search for water. That request was [rejected](#) as premature. The local government also asked for disaster relief funding in 2016. That request was similarly [denied](#). (It should be noted that the national Department of Water and Sanitation was [accused](#) of substantial financial mismanagement and fraud during this same period.)

There are complicated partisan political dynamics at play in the water crisis. Both the national government and the local government are pointing fingers. Cape Town is the capital of the Western Cape Province, the only province controlled by the opposition Democratic Alliance (DA). The city government is also controlled by the DA. The DA is currently besieged with infighting, calling into question its ability to lead. Mayor De Lille was suspended from all DA party activities in December due to allegations of [divisive leadership](#), favoritism, and [corruption](#). The city council is now considering a [motion of no confidence](#) against her. Deputy Mayor Ian Neilson was given responsibility for [handling](#) the water crisis in mid-January. National DA party leader Mmusi Maimane claimed he took “[political](#)” control over the water crisis in late January. Maimane also said that, constitutionally, the national government was ultimately [responsible](#) for water provision. In response, the national Water and Sanitation Minister, Nomvula Mokonyane, said that Maimane and the DA were attempting to shield themselves from blame for the crisis.

Many residents allege that [government](#) at all levels has not done enough to prepare for this crisis. De Lille [disbanded](#) her drought crisis team quietly in January without issuing a final report or any recommendations. Residents are also critical of local officials’ failure to share timely information about preparations for Day Zero. In fact, six of the seven “alternative water sources” projects, including desalination plants, are [reportedly](#) running behind schedule. None of the projects are expected to be complete by Day Zero.

Impact

Because this is such an extraordinary event—no other major city has [ever run out of water](#)—the impact of the crisis is hard to predict. The severity of the impact will depend on how long it takes for the water supply to return to normal levels and how the city manages the water-rationing process. It is believed that there will be at least some [negative impact](#) on the local economy, which depends largely on tourism and agriculture. In a worst-case scenario, water-collection points could become the locations for fighting and riots the longer water remains scarce. There are also public health issues related to contaminated water, poor sanitation, and hygiene practices that could accompany the water shortage. Communal taps in townships will continue to run to help [prevent](#) the transmission of diseases.

Cape Town’s extreme income inequality, already one of the [highest in the world](#), could add fuel to an already combustible situation if scarce water resources are not shared fairly and equitably. The potential for conflict during this crisis is great and successful mitigation will require a coordinated and transparent effort by all levels of government.

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Halayeb Triangle Exacerbates Long-standing Tension

Egypt and Sudan have long had a rocky diplomatic relationship. Egypt blames Sudan for a 1995 [assassination attempt](#) on then-president Hosni Mubarak. More [recently](#), Egypt accused Sudan of harboring Muslim Brotherhood members, while Sudan accused Egypt of [providing weapons](#) to rebel groups in its western region of Darfur.

This underlying mistrust colors both countries' approach to the Halayeb (or Hala'ib) Triangle, a 20,500-square-kilometer territory on the Egypt-Sudan border that has been under [dispute](#) for a half century. The disagreement has grown particularly tense over the past two years as overall relations between Egypt and Sudan worsened.

In [2016](#), Egypt negotiated a deal with Saudi Arabia over two Red Sea islands that led Egypt to re-demarcate its maritime border, including its southern border with Sudan, resulting in Egypt's [claiming sovereignty](#) over the entire Halayeb territory. While Sudan initially responded by pushing for negotiations, in April 2017, it formed a [committee](#) to unilaterally demarcate the border and began requiring that Egyptians have visas to enter the country.

In December 2017, Sudan continued to press the issue by sending a [letter](#) to the UN objecting to Egypt's claims to the Halayeb Triangle, which Egypt [dismissed](#). In response, Sudan [withdrew](#) its ambassador from Egypt on January 4, 2018. The same day, Sudanese press reported that Egyptian [troops](#) arrived at a UAE base in Eritrea, which borders Sudan. While the troop movement was likely not in direct response to the Halayeb Triangle dispute, the presence of troops further [elevated tensions](#) between the two countries.

Saudi-Qatar Crisis Puts Egypt and Sudan on Opposing Sides of Regional Discord

Saudi Arabia's [June 2017](#) decision to cut diplomatic ties with Qatar pulled Egypt and Sudan onto opposing sides of a regional dispute. While Egypt followed Saudi Arabia, the United Arab Emirates, and Bahrain in cutting diplomatic ties with Qatar, Sudan maintained its ties, perhaps [calculating](#) it had built enough goodwill with Saudi Arabia by sending troops to Yemen and cutting ties with Iran. Since June 2017, Sudan has grown closer with Turkey, which also supports Qatar.

In December 2017, Turkish President Recep Tayyip Erdogan visited Khartoum and signed several agreements with Sudanese President Omar al-Bashir. Among them was a controversial agreement to give Turkey [temporary control](#) of a Sudanese Red Sea Island, ostensibly so that Turkey could overhaul its port. Egypt and Saudi Arabia harshly [criticized](#) the agreement, arguing that Turkey would establish a military base on the island.

The same week that Turkey and Sudan signed their agreement, Qatari and Russian military leaders met in [Khartoum](#) with their Sudanese counterpart to discuss Red Sea security issues. This, combined with the announced deal with Turkey, may have been the driving force behind Egypt's decision to move troops to Eritrea.



Map of Hala'ib Triangle between Egypt and Sudan. (Source: https://commons.wikimedia.org/wiki/File:Map_of_Halaib_Triangle-en.png.)

Nile Dam Project Affected

The recent flare-up between Egypt and Sudan put further strain on a long-running source of tension: the [Grand Ethiopian Renaissance Dam](#) (GERD). The GERD, which when completed will have cost an estimated \$5 billion, is currently under construction in Ethiopia and will control water flow along the Nile, upstream of both Sudan and Egypt.

While the GERD has the potential to transform Ethiopia's economy, Egypt views its construction as a threat to agricultural production and urban livelihood. The Nile currently supplies [90 percent](#) of Egypt's water, of which 60 percent originates in Ethiopia. Egypt claims rights to over [two-thirds](#) of the water from the Nile under agreements it signed with Ethiopia and Sudan in 1929 and 1959, notably while both Ethiopia and Sudan were under British colonial control.

Egypt has always opposed the GERD. [Construction](#) of the dam began in 2011, when Egypt was politically weakened and distracted by the Arab Spring. By 2015, Egypt appeared prepared to accept the inevitable, signing a [preliminary agreement](#) with Ethiopia and Sudan on management of the GERD. The agreement soon [stalled](#), however, over disagreement on how to measure the GERD's impact and the speed at which the dam should be filled.

Sudan's recent push to [increase its use](#) of Nile water to boost its agricultural sector contributed to the breakdown of the 2015 agreement by sparking Egyptian fears that Sudan could team up with Ethiopia to pressure Egypt to relinquish some of its water rights. While the dispute must be resolved soon, as the dam is already 60 percent complete, Egypt's turbulent domestic politics [may limit](#) its president's ability to make any concessions on what the country deems a vital interest.

Conclusion

Despite many long-running points of contention, Egypt and Sudan have proven able in the past to put aside their disputes when convenient. In [October 2016](#), Sudanese president Bashir visited Cairo and signed a partnership agreement with Egyptian president Sisi. Currently, it seems likely both countries will reach for a short-term solution to the recent discord, as true conflict is in neither nation's strategic interest.

On [January 26, 2018](#), Egyptian and Sudanese ministers met on the sidelines of meetings to prepare for the African Union Summit, and on [January 29](#), the presidents of Egypt, Ethiopia, and Sudan met to discuss Nile issues. While these overtures will not resolve the deep-seated issues driving Egypt and Sudan apart, they may lead to reduction in the tension that built up over the past month and bring the relationship back to its usual state of uneasy peace.

Sarah Graveline is a Research Associate in the Africa Program at the Institute for Defense Analyses.

Key Dates:

April 2011 – Nile dam (GERD) construction begins

March 2015 – Egypt, Ethiopia, Sudan sign preliminary agreement on Nile dam

April 2016 – Egypt announces territory deal with Saudi Arabia and demarcates maritime border to include all of Halayeb Triangle territory in the south

April 2017 – Sudan committee demarcates border, claiming Halayeb for Sudan

December 21, 2017 – Sudan sends letter of complaint on Halayeb to UN, Egypt objects

December 26, 2017 – Turkey, Sudan sign agreement on Red Sea territory

December 27, 2017 – Qatar, Russia attend military summit in Sudan

January 4, 2018 – Sudan withdraws Ambassador from Egypt

January 4, 2018 – Egyptian troops reportedly arrive in Eritrea

January 26, 2018 – Egyptian and Sudanese ministers meet to discuss disputes

January 27, 2018 – Egyptian, Ethiopian, Sudanese Presidents meet to discuss Nile river issues