



Situation update since January 2018

This briefing builds on the previous report published by GDO¹, please refer to it for more insight on the precipitation pattern and causes that led to the ongoing drought. There are no major updates since, as January and February are the driest months of the year in the southwestern regions of South Africa.

- Most municipalities in Western Cape region saw an increase of the alert level² in early February, as reservoirs keep drying up (Table 1).
- Cape Town is currently the most exposed town, but thanks to the tight water restrictions in force, the "day zero"³ was moved forward to July⁴ (Figure 1). According to authorities the crisis will not be over any time soon, as this depends on the replenishment of existing reservoirs and the operational availability of alternative sources (e.g. desalinization plants).
- January got less than the average monthly rain, but within normal fluctuations, as it is usually a very dry month in Cape Town area. So is February, although there were a couple of showers during the first half of the month, but unable to give any relief. Very little precipitation may be expected before April, when the wettest period of the year begins.

¹ http://edo.jrc.ec.europa.eu/documents/news/GDODroughtNews201801_South_Africa.pdf

² <https://www.westerncape.gov.za/general-publication/latest-western-cape-dam-levels>

³ The day when tap water will not be guaranteed and water use will be restricted further to 25 litres per day per person, from distribution points across the city.

⁴ <http://coct.co/water-dashboard/>

- Indicators for soil moisture anomaly and fAPAR anomaly (for vegetation greenness) are not very meaningful for the first two/three months of the year, albeit they look slightly lower than average, but not as bad as in the previous months. This is not due to any improvements of the drought, but to the fact that January and February are the driest months of a relatively dry region, therefore even under normal conditions soil moisture is very low during this period, while natural vegetation dries up towards the end of the dry season.
- The outlook for precipitation on Western Cape is poor until April (no big issue as it is still a relatively dry period), then normal to above average entering the wet winter months, when precipitation may compensate the short term lack of rain. For the deep water deficit that accumulated in the long term (Figure 2), a long recovery period may be expected.
- For the rest of the country, the precipitation outlook is about normal overall until May, then slightly above average as well. More details and local seasonal forecasts can be found on the South African weather services website:
 - http://www.weathersa.co.za/media/data/longrange/gfcsa/PCP_SEA.gif
 - <http://www.weathersa.co.za/media/data/longrange/gfcsa/scw.pdf>

Table 1 – Current Dam Water Levels in Western Cape, 21/02/2018⁵.
Units of volume are megaliters (MI).

Major dams	Storage	
	MI Capacity	% 24/1/2018
Berg River	130 010	53.3
Steenbras Lower	33 517	38.4
Steenbras Upper	31 767	88.1
Theewaterskloof	480 188	11.1
Voëlvlei	164 095	16.4
Wemmershoek	58 644	47.2
Total Stored MI	898 221	218 195
% Storage	100.0	24.3

⁵ From: <http://www.capetown.gov.za/Family%20and%20home/residential-utility-services/residential-water-and-sanitation-services/this-weeks-dam-levels>

GDO Analytical Report

Drought in Western Cape Province – February 2018

JRC Global Drought Observatory (GDO)

Date of report 22-02-2018

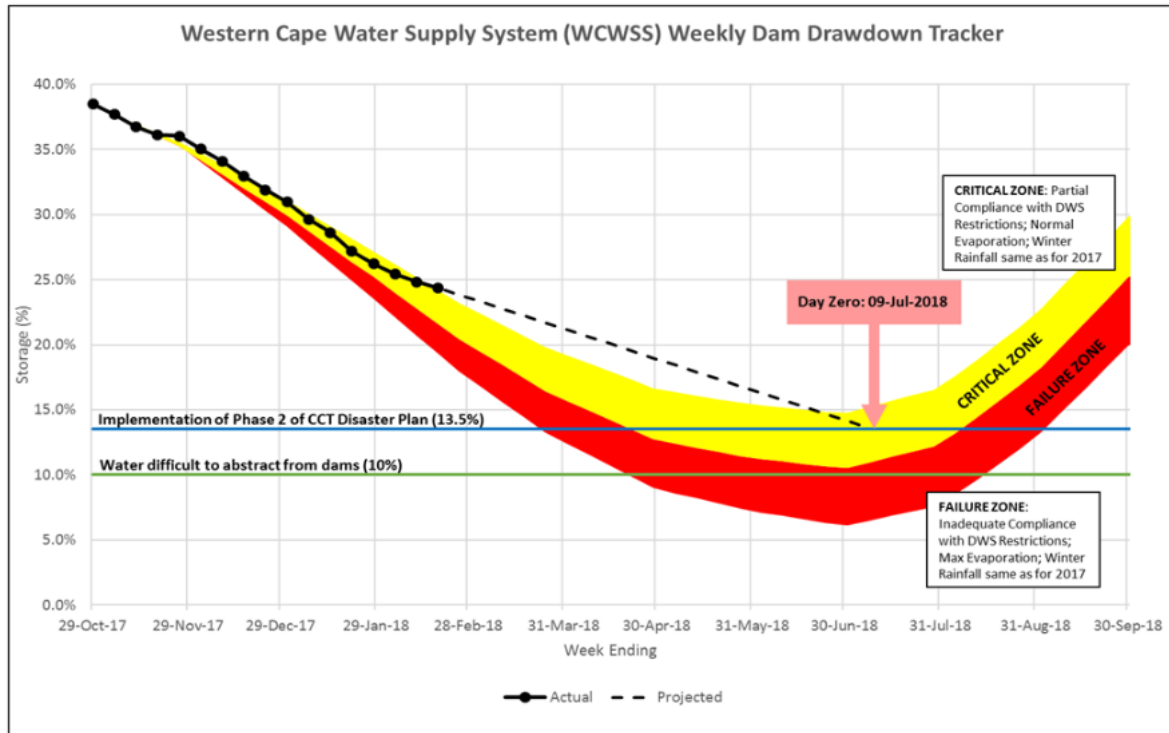


Figure 1: Projection of overall dam levels in Western Cape, as % of total capacity⁶.

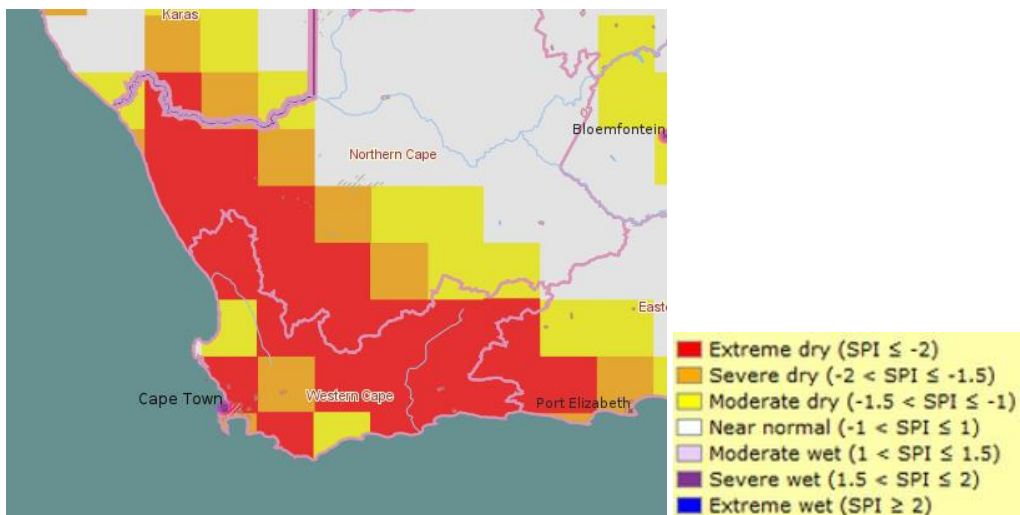


Figure 2 - SPI for a cumulative period of 24 months (February 2016 – January 2018) over Western Cape.

⁶ From: <http://resource.capetown.gov.za/documentcentre/Documents/City%20research%20reports%20and%20review/damlevels.pdf>

Figure 3 below shows the situation of the Theewaterskloof Dam, as pictured by Sentinel 2 across three years. The reservoir holds roughly 50% of the storage capacity of Western Cape Province. The figure clearly illustrates the progressive reduction of the water volume.



17 January 2016



17 January 2017



16 January 2018

Figure 3 - Progressive reduction of the water volume of Theewaterskloof Dam, South Africa.

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Media Coverage

- The Washington Post. 8 February 2018. "After years of drought, Cape Town is about to run out of water".
https://www.washingtonpost.com/graphics/2018/world/capetown-water-shortage/?utm_term=.a427ae5c59ce
- Reuters. 21 February 2018. "Drought-hit Cape Town dreads 'Day Zero' when taps will run dry". <https://www.reuters.com/article/us-safrica-drought/drought-hit-cape-town-dreads-day-zero-when-taps-will-run-dry-idUSKCN1G51DL>
- BBC News. 13 February 2018. "Cape Town drought declared a national disaster".
<http://www.bbc.com/news/world-africa-43047833>

Information Sources

- Joint Research Centre (European Commission): Global Drought Observatory (GDO) -
<http://edo.jrc.ec.europa.eu/gdo/>
- Global Precipitation Climatology Centre (GPCC) -
http://gpcc.dwd.de/pub/data/gpcc/PDF/GPCC_intro_products_v2011.pdf
- Cape Town city Council
<http://www.capetown.gov.za/>

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