



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Water Scarcity and Drought Status

14 January 2016



SYNOPSIS OF CHANGES

An update to the weekly Dam Status Report published by DWS has been received and the total weekly status of storage for the dams has dropped from 56.5% to 55.4%.

Relatively good flows are being recorded in the upper Orange River and the problems experienced with access to water in the river at the Aliwal and Bethule pumping stations are now resolved, mostly due to the water released from Katse and rainfall in the Orange River catchment in Lesotho and South Africa, upstream of Aliwal.

SAWS reported a welcome increase in rainfall compared to December, reports for rainfall observed for the 10 days up to 11 January as well as those taken at 08:00 this morning for 24 hours have been received and summaries are included in this report.

New maximum rainfalls are observed, the 88 mm measured at Ventersdorp (yesterday's report) improved on the previous record of 47 mm in 24 hours for January recorded in 2004.

SAWS reports on high temperatures also indicates some cooling, a report received for Tuesday 12 January indicates that the highest temperature of 43⁰C was recorded at Augrabies (NC). Very few temperatures was recorded above 40⁰C, only at 4 weather stations in the Northern Cape.



2.2 DEPARTMENT OF WATER AFFAIRS AND SANITATION

As a dynamic, people centred department, the DWS will be leading the effective management of nation's water resources, to meet the needs of current and future generations

The DWS will continue to monitor and assess the hydrological conditions and the status and trends of water resources and its management with particular emphasis on areas where the supply of water is under stress, it will also identify areas where interventions are necessary and take the necessary actions to support local authorities and will investigate and implement the necessary interventions to ensure a sustained supply of water for as long as possible.

2.2.1 Sector status

The complete Status of Dams Report published by the DWS is available at:

<https://www.dwa.gov.za/Hydrology/Weekly/Province.aspx>. The table below is based on the most recent report based on readings taken at 08:00 on Monday 11 January 2016.

Province	FSC in 10 ⁶ m ³	Last Year %	Last Week %	This Week %	Annual Median %
Eastern Cape	1 826	77	73	72	63
Free State	15 971	87	57	55	73
Gauteng	115	101	79	78	89
Kwazulu-Natal	4 669	73	55	52	72
Lesotho*	2 376	72	49	48	**
Limpopo	1 508	90	65	64	72
Mpumalanga	2 538	93	62	61	75
Northern Cape	146	92	63	61	90



Province	FSC in 10 ⁶ m ³	Last Year %	Last Week %	This Week %	Annual Median %
North West	825	70	43	42	65
Swaziland*	334	89	38	36	**
Western Cape	1 853	73	53	51	77
Total	32 162	82.5	56.5	55.4	67

*Not in South Africa ** Not available and not included in the total

Levels for the 7 largest dams (> 1 000 m³), from the same report indicates the following:

Names		FSC in Million m ³	Last Year %	Last Week %	This Week %	January %	
Dam	River					Median	Max (y)
Free State Province							
Gariep	Orange	5 196	88.9	48.6	47.6	74	122 ('11) 20 ('93)
Bloemhof	Vaal	1 240	79.0	25.1	22.3	55	118 ('10) 4.0 ('86)
Sterkfontein	NuwejaarSpruit	2 617	98.4	87.7	87.3	84	101 ('05) 20 ('87)
Vaal	Vaal	2 604	84.7	54.0	53.0	80	115 ('41) -
Vanderkloof	Orange	3 171	94.0	73.3	71.2	81	115 ('11) 31 ('94)
Kwazulu-Natal Province							
Pongolapoort	Pongolo	2 267	62.5	50.1	49.4	61	103 ('00) 27 ('93)
Lesotho*							
Katze	Malibamatso	1 519	86.8	61.4	60.5	96	103 ('09) 50 ('06)

*Not in South Africa ** Data not available, not included in the median of the total.



Selected significant rainfall (>10 mm) for the 24- hr period ending at 08:00 on 14 January 2016 unverified, provided by the SAWS: is indicated below.

Available from: http://www.weathersa.co.za//media/data/climate/nr_daily_rai.pdf

Province	Station	Rainfall in mm
Gauteng	Wondeboom	11
Mpumalanga	Ermelo	51
Limpopo	Thabazimbi	26
	WarmbadTowoomba	27
North West	Buffelspoort	23
	Hartebeespoort Dam	18
	Klipfontein ARS	15
	Lichtenburg	26
	Marico	12
	Pilansberg	15
Free State	Fauresmith	16
Western Cape	Mossel Bay	12
KwaZulu-Natal	Giants Castle AWS	67
	Newcastle	25
	Royal national Park	23
	Van Reenen	12

Highlights from the 10 days accumulated rainfall report ending at 08:00 on 11 January based on rainfalls > 50% or the highest per province, are the following:

Province	Station	Rainfall in mm
Gauteng	Springs	54
Mpumalanga	Belfast	54
	Ermelo	64
	Oudestad	76
	WarmbadTowoomba	112
North West	Hartebeespoort Dam	80
Free State	Cornelia	26
Northern Cape	Postmasburg	11



Province	Station	Rainfall in mm
Western Cape	George	101
	Knysna	83
	Mossel Bay	75
	Wilderness	114
Eastern Cape	Stormrivier	92
KwaZulu Natal	Giants Castle	85
	Greytown	54
	Margate	53
	Nagle dam	67

The Water Research Commission has also launched a website with a number of information services and links to other informative sites, at the following link: <http://www.droughtsa.org.za/>

2.2.2 Progress to date

2.2.2.1 Achievements in the last 24 hrs

Adequate water has arrived at Aliwal and Bethule abstraction points in the Orange River.

2.2.2.2 Cumulative achievements to date.

See the narratives per province below

GAUTENG

While the impact on restrictions implemented by the Johannesburg, Tshwane and Ekurhuleni due to the increased water consumption because of the heatwave has had a positive impact on reservoir levels it is necessary to maintain the current levels of restrictions.



KZN

In KZN the water supply situation has not improved in any following light rains during December. Currently 6 of the 18 large supply dams are critically low, namely Albert Falls, Goedertrouw, Hazelmere, Klipfontein, Hluhluwe and Midmar. The drought is affecting 51 of the 151 water supply schemes in the KZN province. Although restrictions are not currently necessary on the bigger Umgeni system, supplying eThekweni Metro and surroundings, the Joint Operations Committee has been established to closely monitor the situation and the Department has requested the water services providers to alert its customers of the possible water restrictions.

Due to the low level of the Hazelmere dam restrictions were increased from 30% to 50% from 24 November. This affects in particular consumers in Verulam, Waterloo, Sea Tides, Westbrook, Ballito, Ndwedwe, Umhlali and Groutville. Augmentation from the uThongathi River into Hazelmere dam continues.

The City of Mhlathuze and areas of the uThungulu District Municipality which are supplied from the Goedertrouw Dam are also under 10%, 30% and 70% restrictions for Industry, Domestic and Irrigation respectively. Restrictions are having a positive effect. Water is also being transferred from the Upper Tugela River into the dam to supplement supply.

Areas of the Zululand District Municipality which are supplied from Klipfontein Dam are also under 15% restrictions. The level of effectiveness of restrictions in these areas is not yet evident. It is reported that Vryheid town can now abstract water from the dam down to 15% after changes to the pump installations were made. Klipfontein dam is this week reported at 19.2 %.

The DWS has deployed 45 motorized water tankers and to date some 8million litres of water has been delivered to approximately 49200 people. 652 static water tanks have been installed. Water conservation and demand measures are being intensified with 16000 water restrictors installed in a number of areas in eThekweni, uGu,

Zululand and uMzinyathi and the “Drop a Block” launched for use in toilet cisterns to reduce the amount of water used for flushing.

FREE STATE

Water is still being released from the Lesotho Highlands Water Scheme into the Caledon River to supplement the water supply to Mangaung. Water is transferred to the Knellpoort and Rustfontein Dams. Currently 15% restrictions are in place and through the current leak detection and repair programme, pressure management and community awareness campaigns are seeing positive results with a reduction of water consumption. The Municipality are also actively policing the adherence to the restrictions and already dealt with 123 transgressions with spot fines also having been issued.

Fifteen Municipalities are implementing forced restrictions with water supply from the main storage reservoirs being closed from 21:00 to 05:00 each day and 13 of the municipalities have requested assistance to providing water tanker services.

The Senekal and Qwaqwa areas are also under stress. It is reported that 10 water tankers were provided to address the situation and more are dispatched, there would be at least 12 tankers in operation by the end of this week. The local clinic is also reported as finding it difficult to address the number of patients reporting with stomach ailments. It is further reported that all three dams from where Senekal received water have dried up, the LM is purchasing water from 14 farmers in the district.

NORTH WEST

In North West restrictions are being applied on water supplied from 7 of the supply dams, these restrictions range from 15% to 60% for domestic use and 75% for



agriculture depending on the current capacity of the dams. The dams affected are: Wentzel, Sehujwane, Pella, Molatedi, Koster, Swartruggens and Kromellenboog. A total of 151 settlements are the worst affected by the drought with majority of these being in the Bojanala and Dr Ruth SegomotsiMompoti District Municipalities. The municipalities are providing water tanker services, while the Department of Water and Sanitation together with the Sedibeng and Magalies water boards are providing assistance with the repair of borehole pumps. Mahikeng water supply interruptions have been addressed. See the attached media release.

LIMPOPO

Of the 245 water schemes, 24 are currently impacted by the drought. The dams that are of concern are Luphephe Dam, Nwanedzi Dam, Middle Letaba Dam, Nsami Dam, Tzaneen Dam and Modjadji Dam. Restrictions have been imposed on these schemes. Most of the other schemes are also at risk due to poor operation and maintenance and many experience regular interruptions, which are not related to the drought. Groundwater is an important and strategic water resource in the province.

Areas of concern are related to uncontrolled abstraction, as well as declining groundwater levels in the Molototsi, Klein and MiddelLetaba River areas. Interventions measures include rehabilitation and drilling of boreholes.

Modimolle LM was experiencing intermittent electrical failure in December 2015. The main electrical supply lines were stricken by lightning affecting the whole Modimolle town and command reservoir pumps. The municipality was attending to the problem.

MPUMALANGA

The drought stricken area in this province is primarily located in the south bordering KwaZulu Natal and Swaziland. Ohrigstad and Rhenosterkop Dam are at low levels,



leading to water shortages for Ohrigstad and the surrounding areas. Municipalities most affected include Chief Albert Luthuli, Dr JS Moroka, Dr PixleykaSeme, Mkhondo, Msukalingwa and Thembisile.

Despite below average rainfall the domestic water supply systems are still in a good state. Main impacts are on irrigated agriculture, forestry and associated industries.

NORTHERN CAPE

Three of the 5 District Municipalities: Namakwa, Francis Baard and ZF Mgcawu has declared drought disaster areas and a proposal to declare the entire province is being prepared. Although releases from Vanderkloof Dam (turbines for power generation) do provide relief to those areas with access to Orange River water, others have to make do with dwindling groundwater resources. Williston, Loeriesfontein, BrandvleiKai!Gariband Mier are a cause of concern and will require assistance with tankering soon. Water levels in boreholes monitored has dropped significantly.

EASTERN CAPE

Although this Province has the best overall reserves of surface water in storage, areas in the interior and especially those depending on Orange River water are concerned about an increasing risk when inflows to Gariep Dam reduces to almost nothing. As indicated, Joe Gqabi District Municipality has declared a disaster and serious concerns have been expressed regarding Eskom's practice of restricting electricity to non-paying local authorities, it impacts on the capacity to purify drinking water, transfer water by pumping and treating waste water. Water has been released from Katse Dam. Some rain has also fallen in the upper Orange catchment and some water was released from the Aliwal diversion weir to the Free State towns upstream from Gariep Dam to fill the water holes used for pumping.



The flow at the Aliwal North and Bethule abstraction points is now adequate for pumping due to relatively good rains on top of the releases from Katse Dam.

2.2.3 Plans

Municipalities in the affected provinces are paid in accordance with their approved drought intervention plans once work has been completed and on receipt of valid invoices with the necessary supporting documentation.

Funding is prioritized according to need, level of stress (criticality), expected effectiveness, viability & speed of interventions, and numbers of households being affected.

2.2.4 Challenges and Corrective Measures

Challenge description	Solution(s) and corrective measures.
A possibility of insufficient water to sustain use from water supply systems.	DWS water restrictions Gazetted and implemented and operating rules revised.
	Water restrictions implemented by provincial and Local Authorities
	Voluntary water restrictions agreed to on user ad other forums.
	Close monitoring and assessment of river flows and water in storage,
	Installing flow restrictors.
	Supplementing water supplies form alternative water schemes where feasible.
	Increasing runoff where feasible, by eradicating alien vegetation.
	Improving the capacity of existing water supply schemes by expediting refurbishment and upgrades to existing infrastructure, e.g. raising dam walls where



Challenge description	Solution(s) and corrective measures.
	feasible, in the long term. Revising and bringing forward longer term plans for new water supply infrastructure.
Water supply systems with very limited water to meet future needs.	Water supplies from schemes restricted by water-shedding (temporary shutting down) Drilling and equipping new boreholes Refurbishing exiting boreholes where required. Intensive water conservation and water demand management like the War on Leaks. Protecting existing water resources like the spring protection programmes.
Inadequate water supplies.	Tankering of water Establishing standing water tanks at strategic points. Implement water re-use where feasible Implement desalination where feasible Installing temporary pipelines from alternative resources.
Users not saving water	Raising-awareness campaigns Speeches by politicians Stepped, punitive tariffs

This report is based on the best information currently available.